

# Adaptive Innovation to Design and Construct Trapac Oakland's Expansion within an Operating Terminal

Port & Terminal Technology

USA 2019

# Team Members



**AECOM**

# Project Location



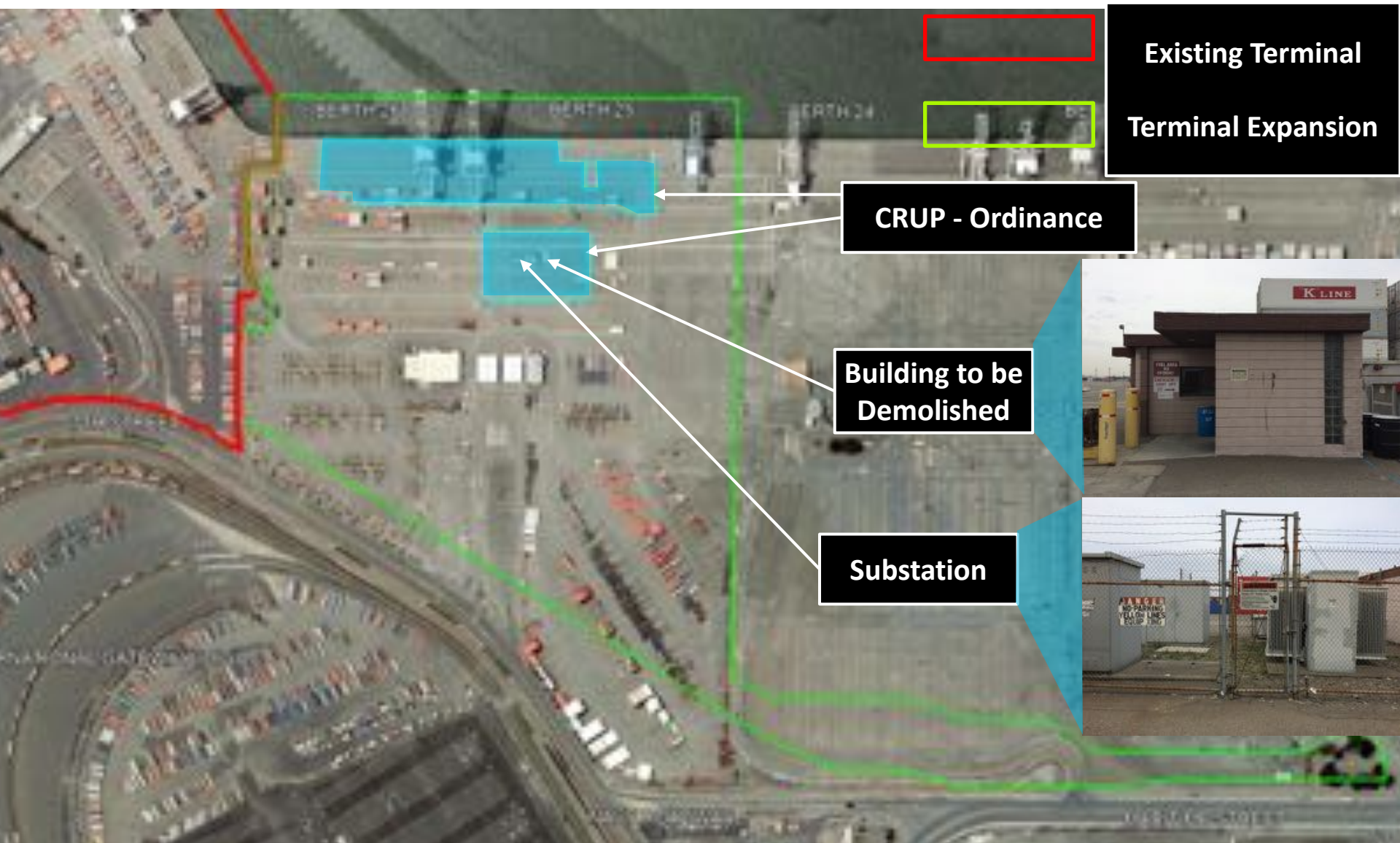
# Project Location





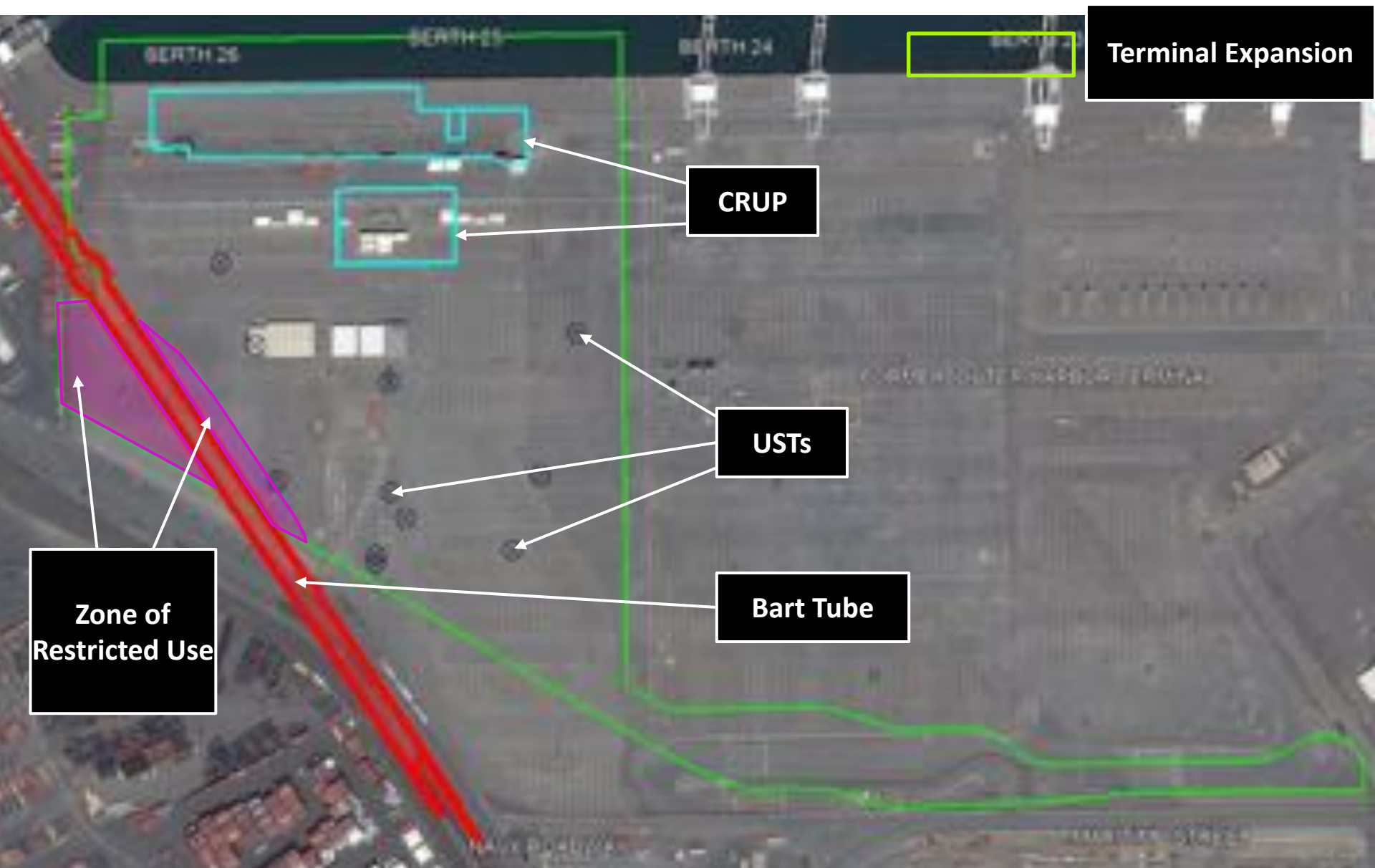


# CRUP Ordinance : 2007 - 2009

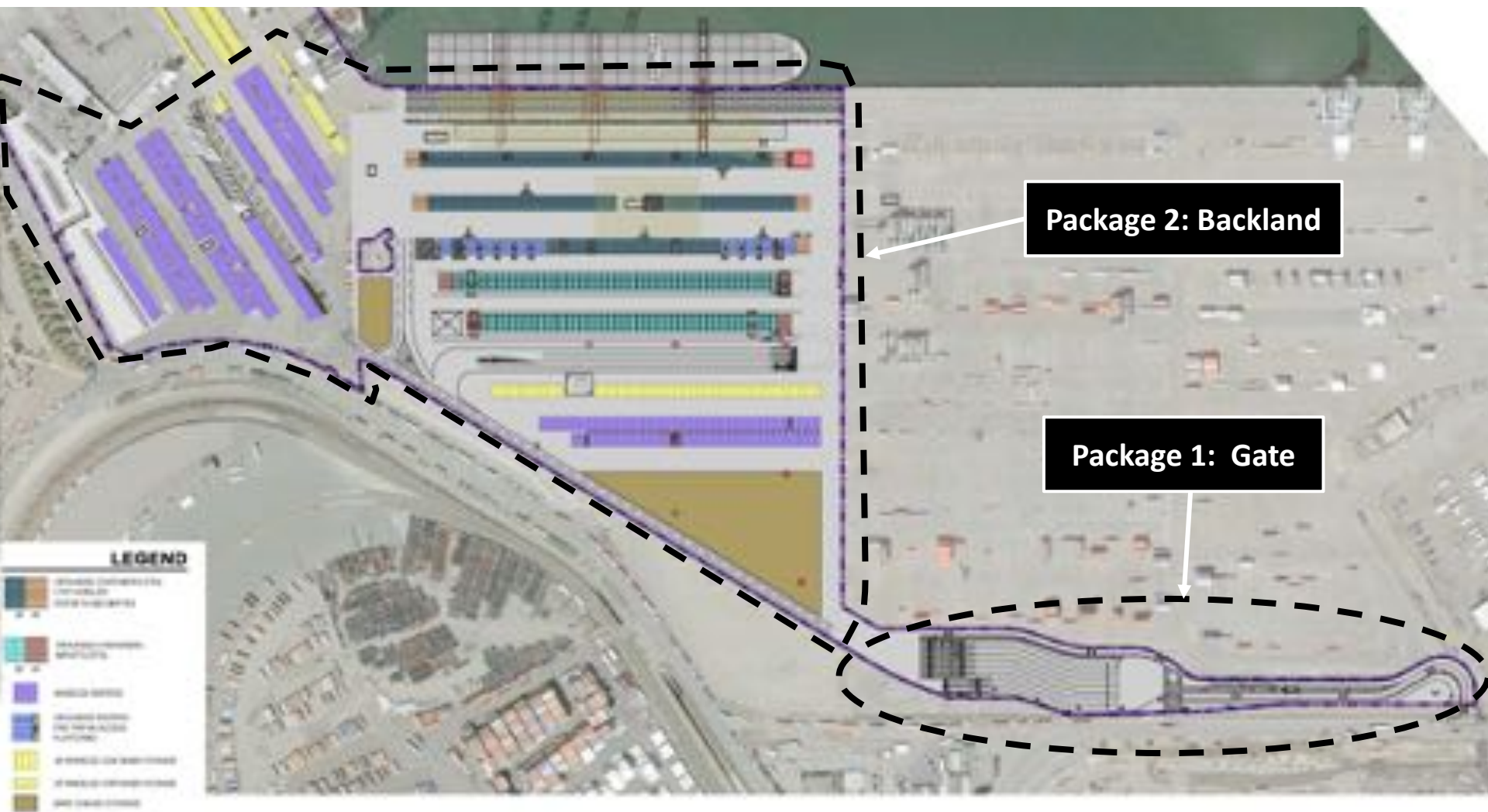




# Site Constraints

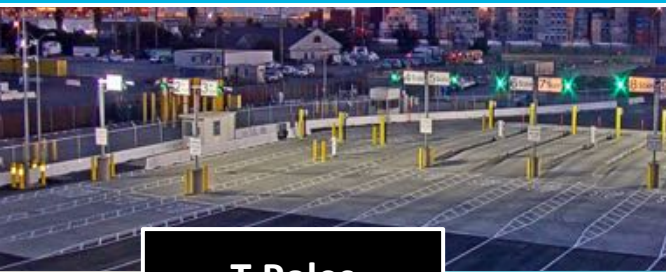


# Project Layout

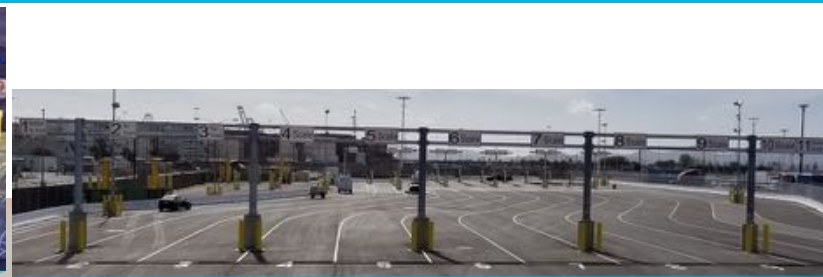




# Gate – Walk Through



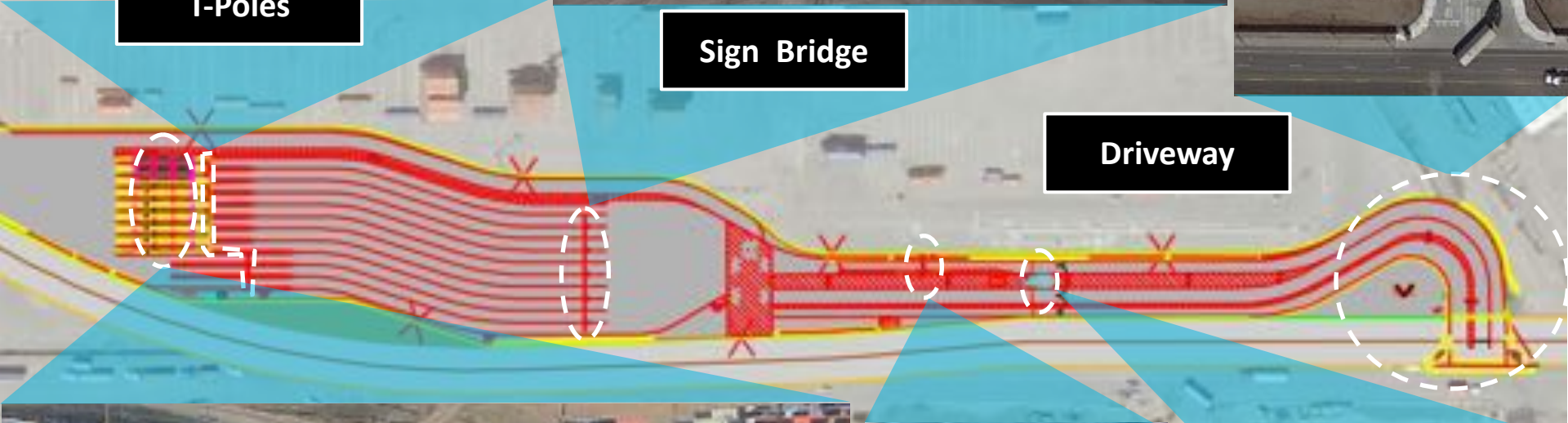
T-Poles



Sign Bridge



Driveway



Scales

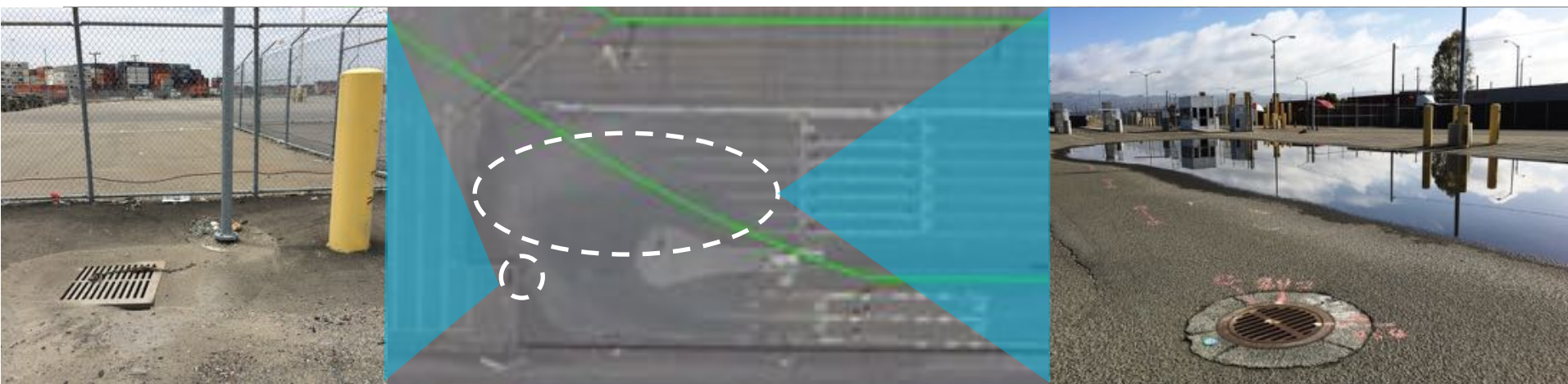


OCR Portal



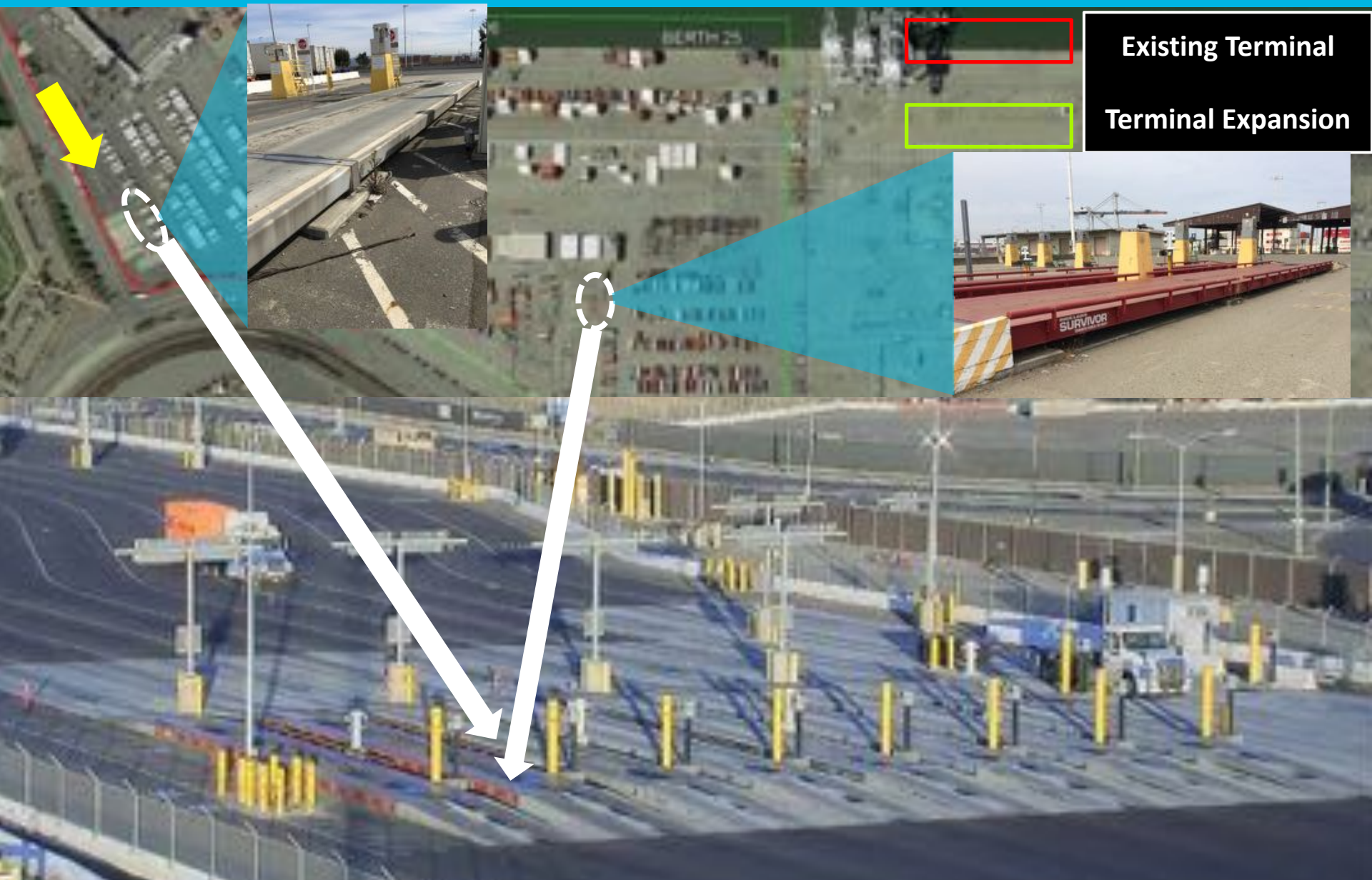
Guard Booth

# Gate - Drainage



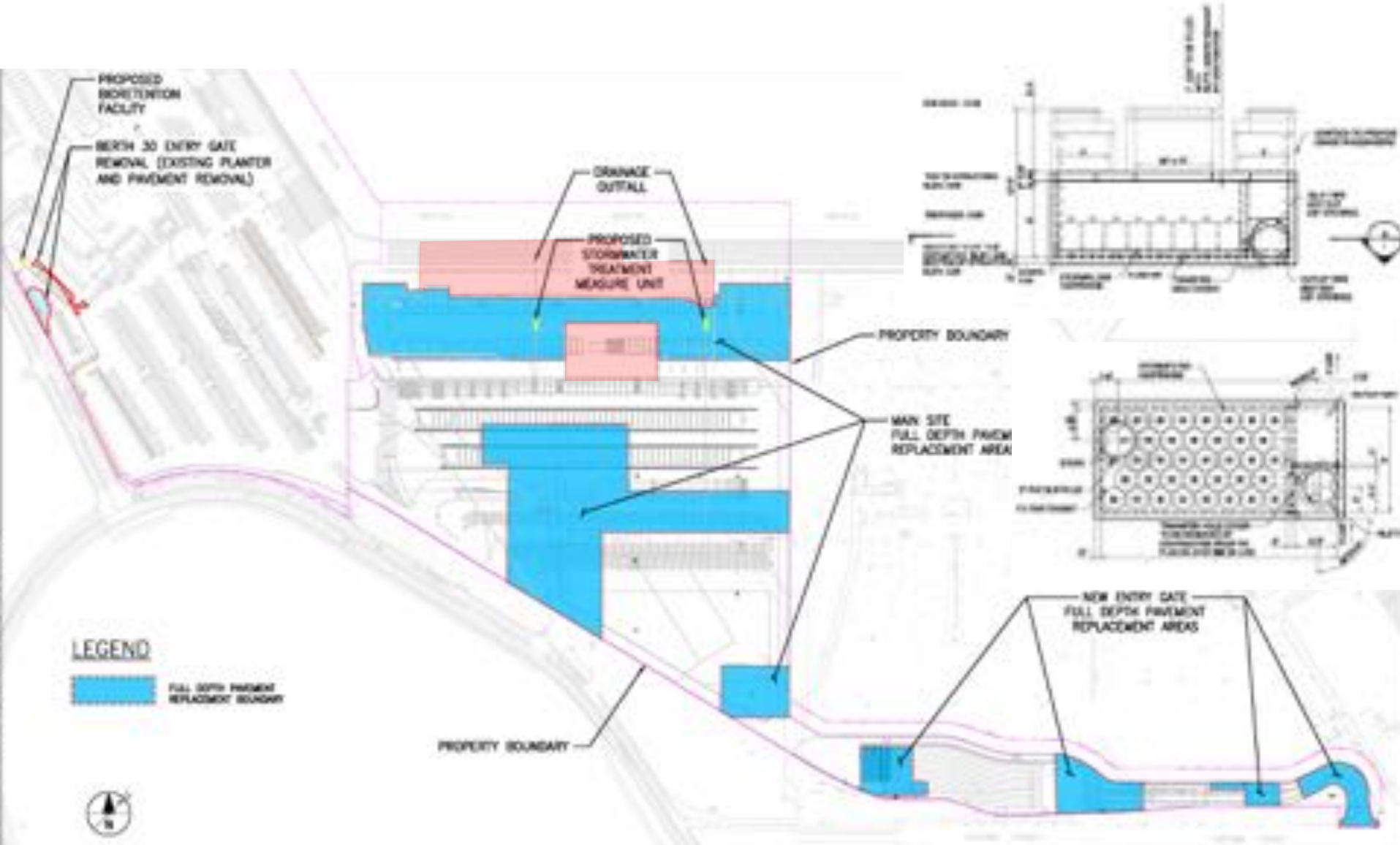


# Gate - Scales





# Post Construction Stormwater Management Plan (PCSWMP) – At Bid

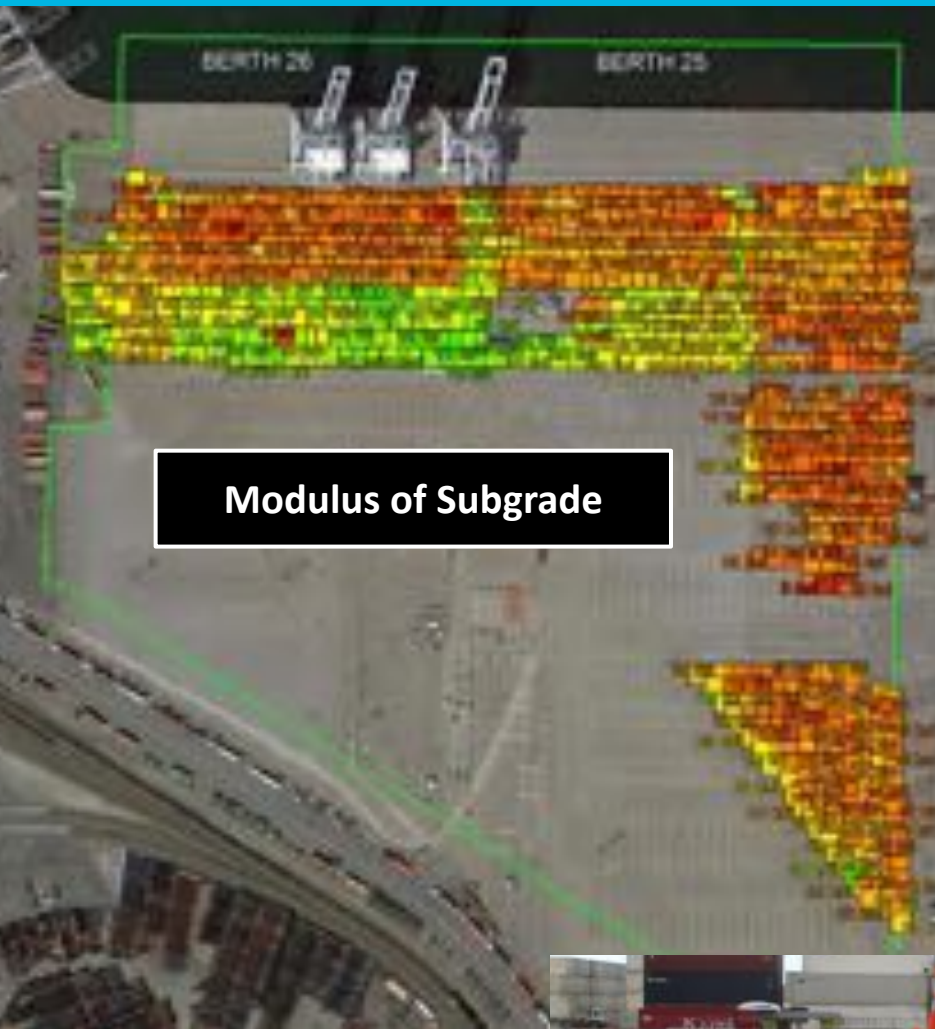


# Unforeseen Subsurface Condition



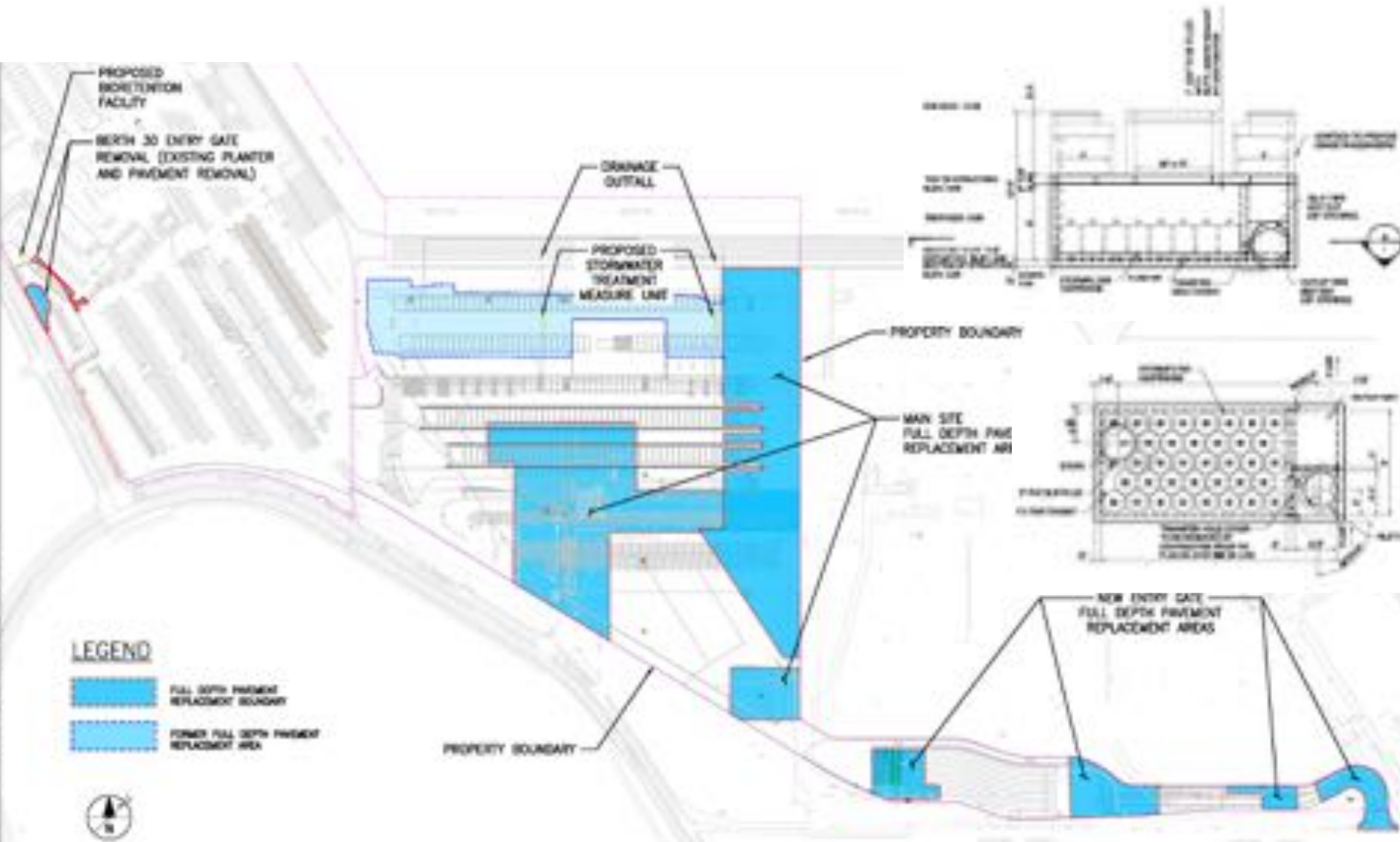


# Falling Weight Deflectometer Analysis





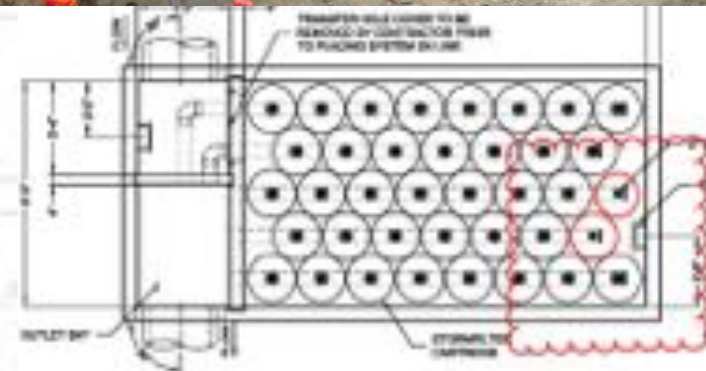
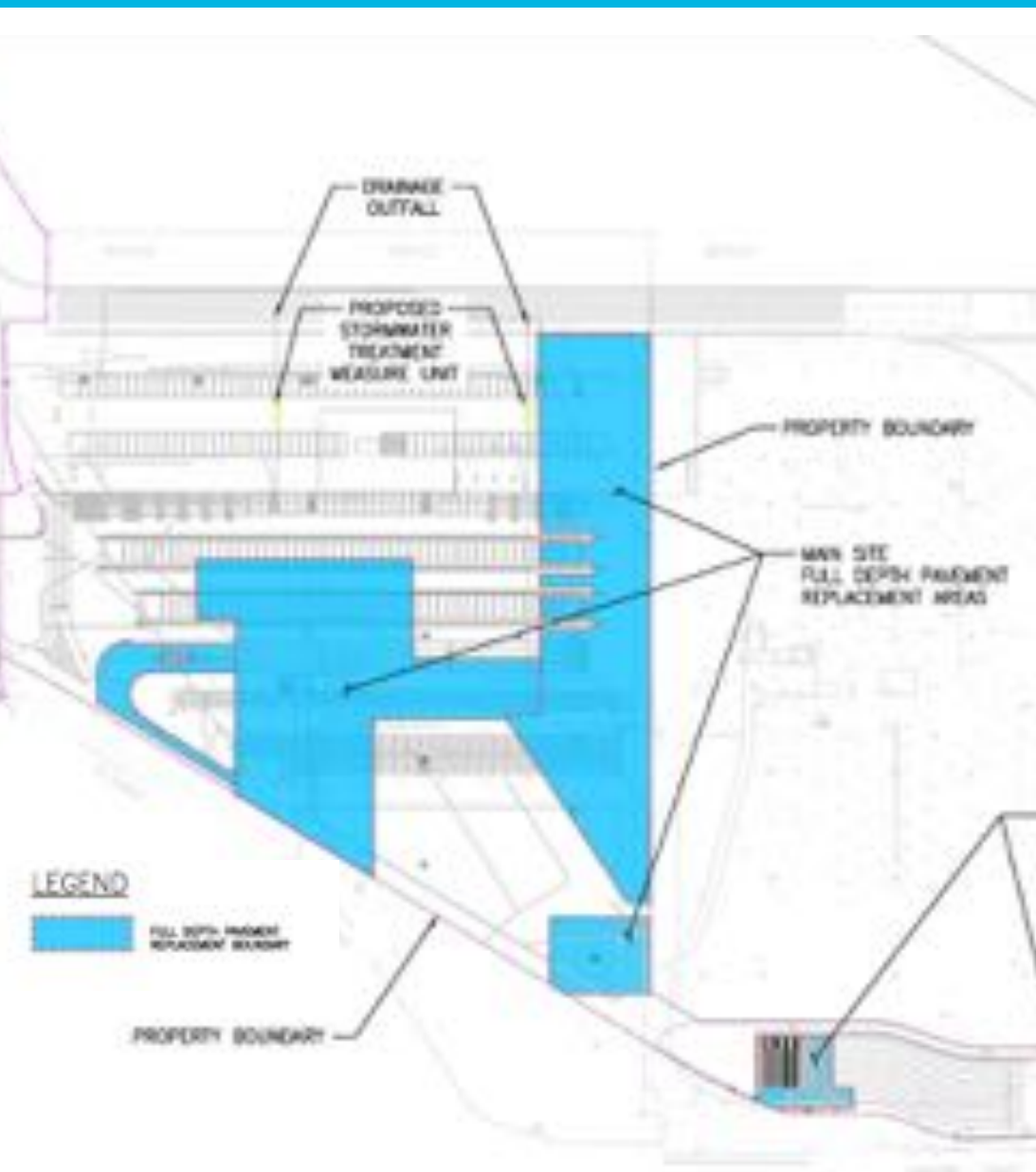
# PCSWMP – Midway Through Construction



# Soil Cement Mixing



# PCSWMP – Amended Again





# Reefer Rack Retrofit & Relocation



# Reefer Rack Retrofit & Relocation



**Mechanical damage to column**



**Bent column Flange**



**Gaps in roof deck**



**Bent beam flange**



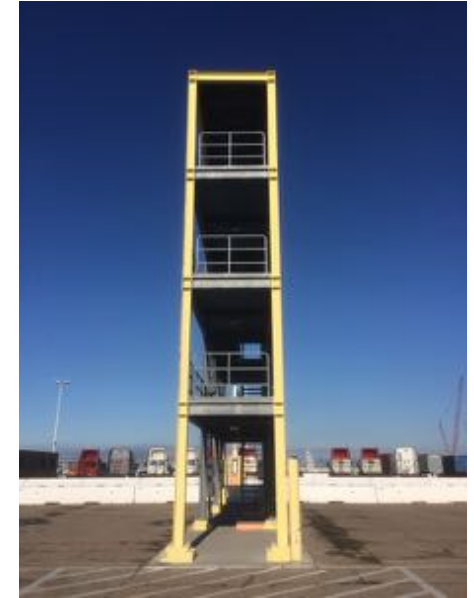
**Damaged beam flanges**



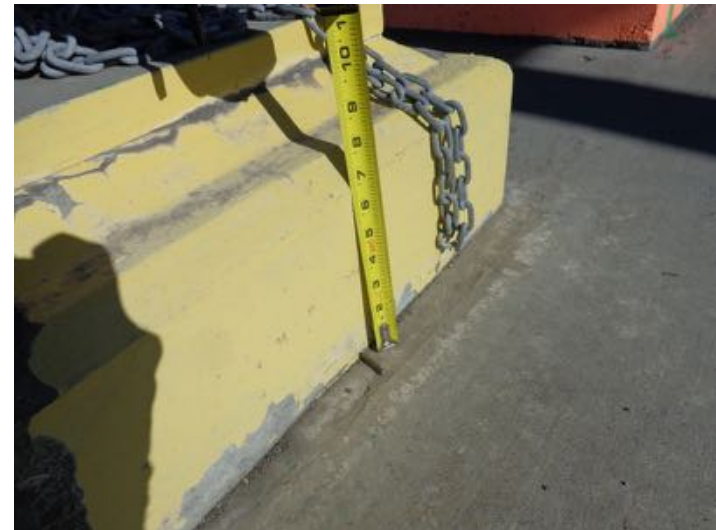
**Bent beam flanges and guardrails**



# Reefer Rack Retrofit & Relocation



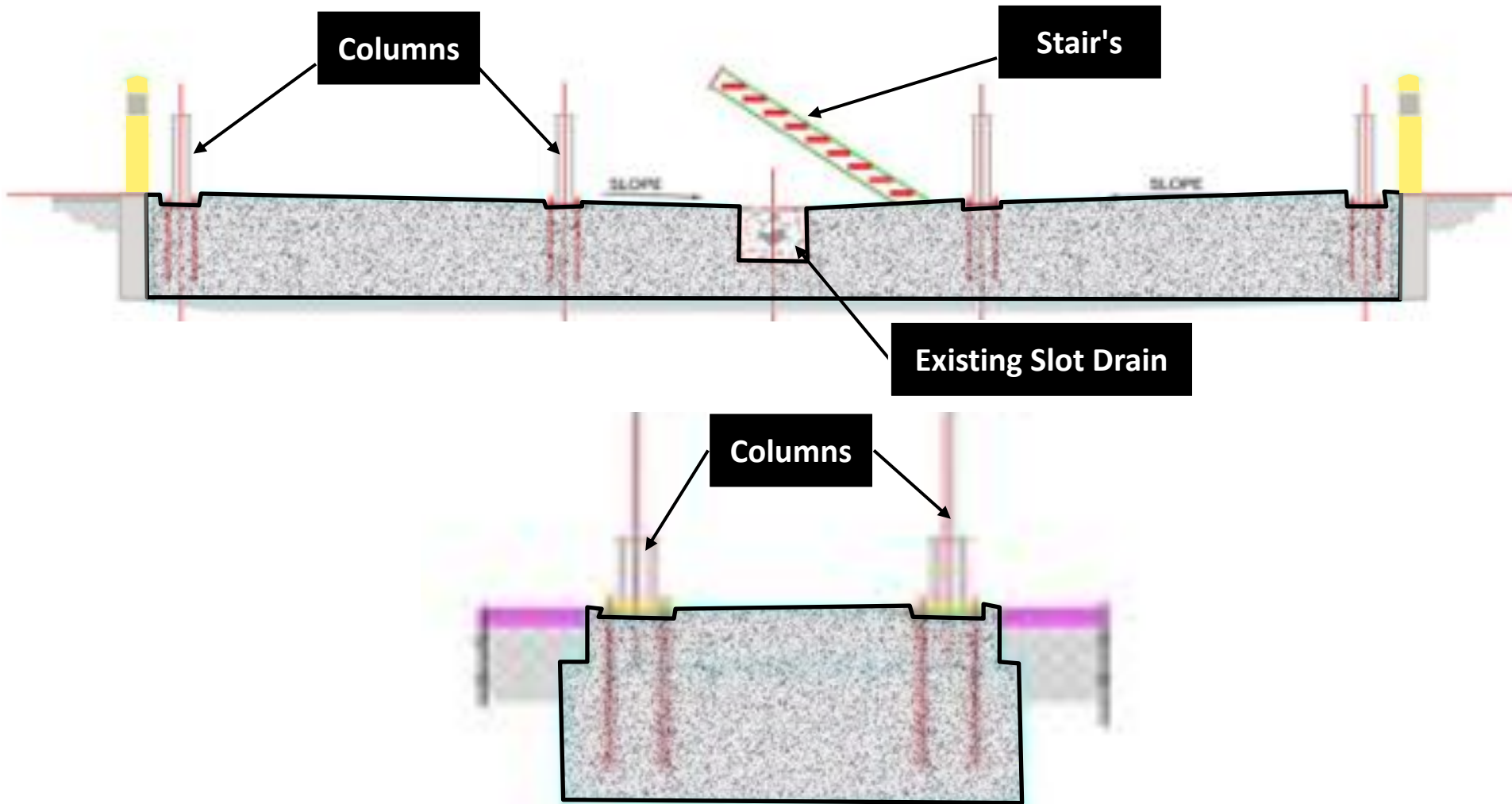
**Foundation Height Varies**



**Foundation height varies**



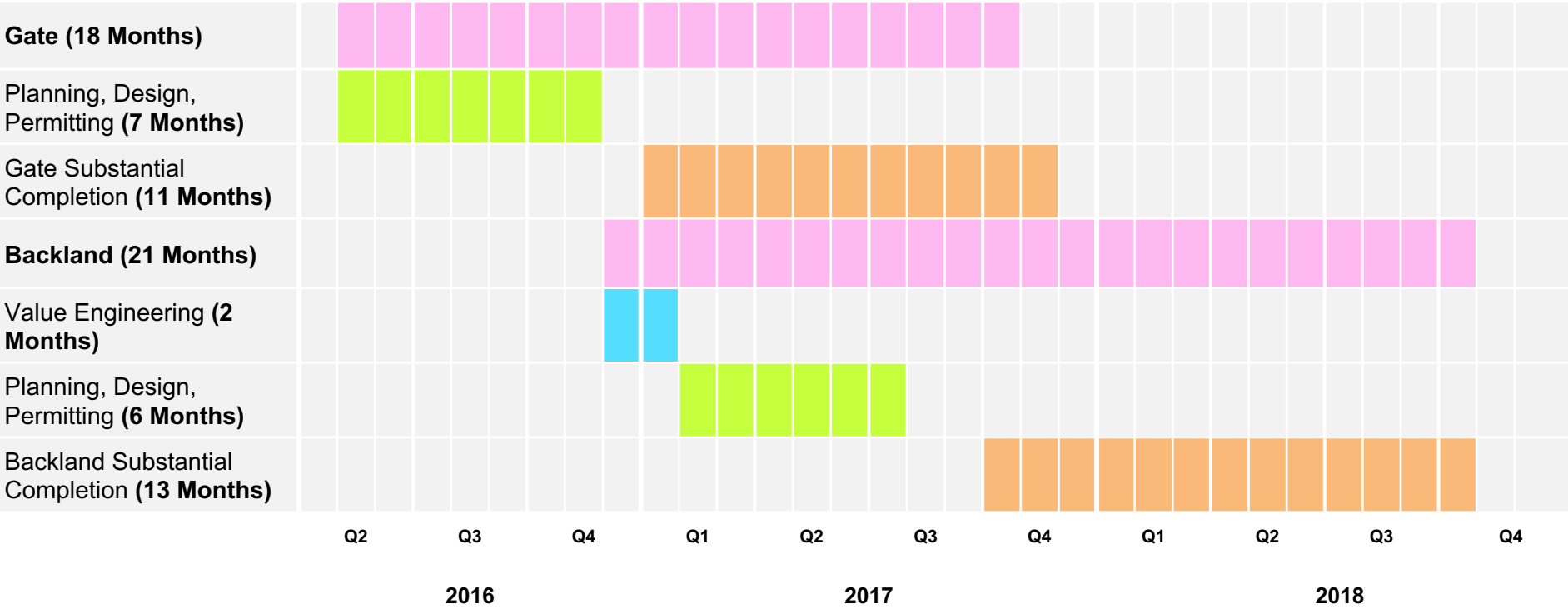
# Reefer Rack Retrofit & Relocation



# Reefer Rack Retrofit & Relocation

# Schedule

## Trapac Oakland Project Duration: 30 Months





# Partnering – The Key

- Respect
- Responsibility
- Trust

# Questions ?