

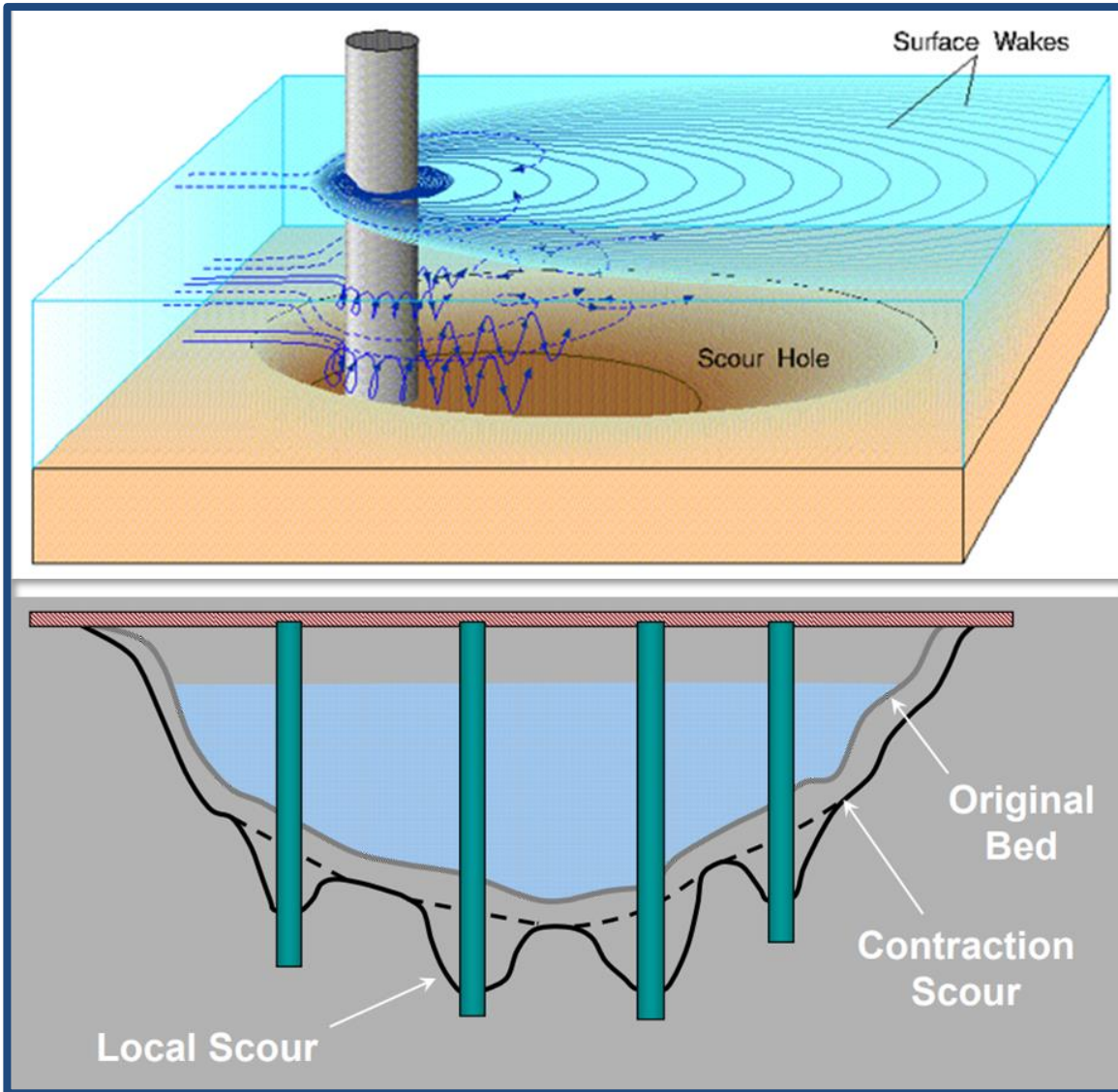


Florida Department of
TRANSPORTATION



**Tampa Bay Bridge Crossings
Resiliency Overview
November 6th, 2023**

Bridge Scour



Scour

- Loss of sediment/soil by swift flowing water
- Local scour results from pilings, piers & abutments
- Contraction scour is due to channel contracting or bending

Courtney Campbell Main Bridge



Tropical Storm Eta (2020)

Slope damage at west end

Courtney Campbell Main Bridge



Tropical Storm Eta (2020)

Slope damage at west end

Courtney Campbell Main Bridge



Tropical Storm Eta (2020)

Slope Repair

Courtney Campbell Main Bridge

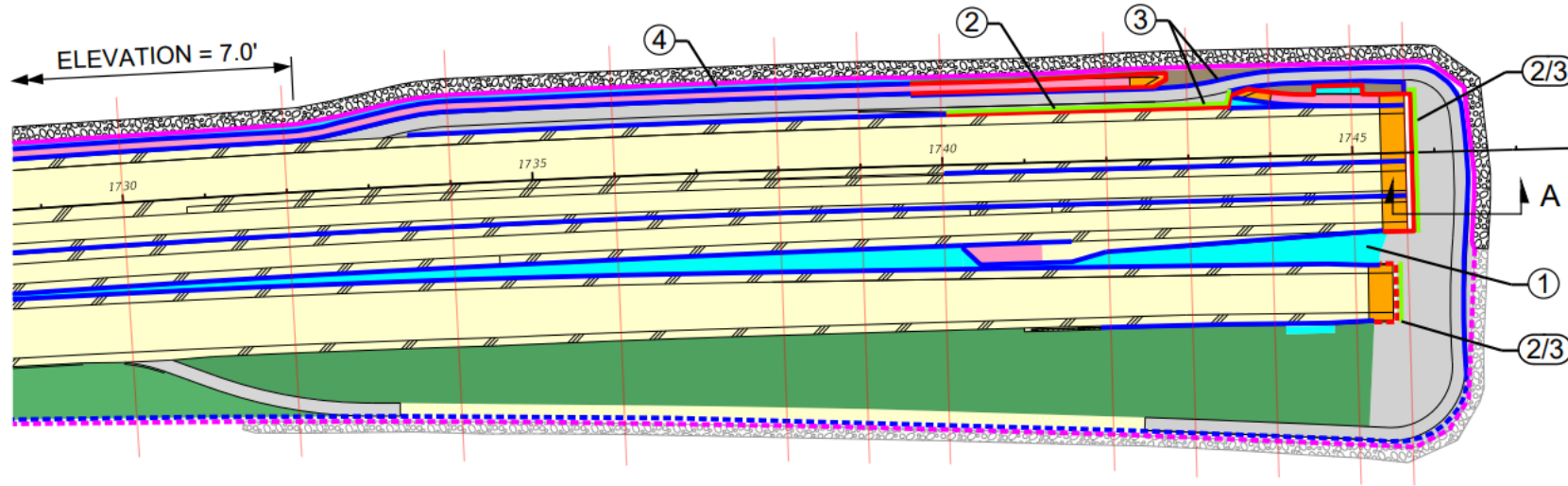


Tropical Storm Eta (2020)

Displacement of
rubble riprap protection

New Howard Frankland Bridge

HARDENING MEASURES FOR NORTHSIDE OF CAUSEWAY (PINELLAS END)



- WALL SHIELDING BARRIER (SEE NOTE 2) —
- ROADWAY BARRIER (PROP. / EXIST.) —
- BULKHEAD WALL (PROP. / EXIST.) —
- MSE WALL (PROP. / EXIST.) —
- RIP RAP AREA (PROP. / EXIST.) —
- 6" CONCRETE —
- 6" FIBER REINFORCED CONCRETE —
- 4" CONCRETE CAP —
- UNPAVED AREA —
- FLOWABLE FILL —
- ASPHALT PAVEMENT —
- APPROACH SLAB —

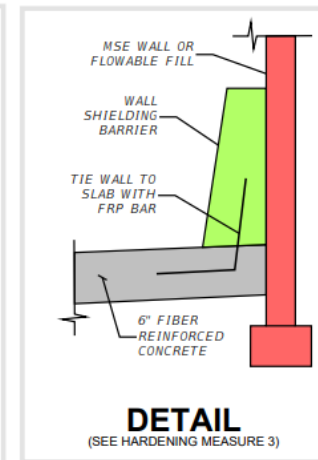
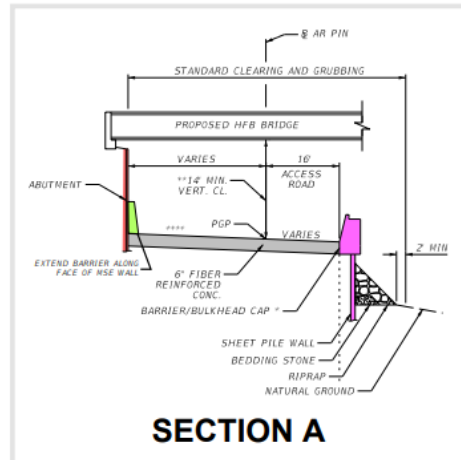
HARDENING MEASURES:

- ① INCREASE FROM 4" TO 6" THICK CONCRETE
- ② EXTEND BARRIER ALONG MSE WALL FACE
- ③ CONNECT BARRIER TO 6" CONC. PAVEMENT WITH FRP REBAR (SEE DETAIL)
- ④ ELIMINATE GAP BETWEEN BULKHEAD CAP AND BARRIER WALL/SIDEWALK SLAB (SEE SECTIONS)

ELEVATIONS:

- MLW ELEVATION = -1.14'
- MHW ELEVATION = 0.70'
- 100-YEAR WAVECREST = 17.5'
- PINELLAS APPROACH CSWY PROFILE ELEVATION = 7.0'
- DESIGN FLOOD 50-YEAR NEW BRIDGE LOW MEMBER = 18.5'
- 1990 BRIDGE LOW MEMBER = 13.6'

DESIGN FLOOD	BASE FLOOD	GREATEST FLOOD
50-YEAR: +7.9'	100-YEAR: +9.0'	500-YEAR: +10.3'

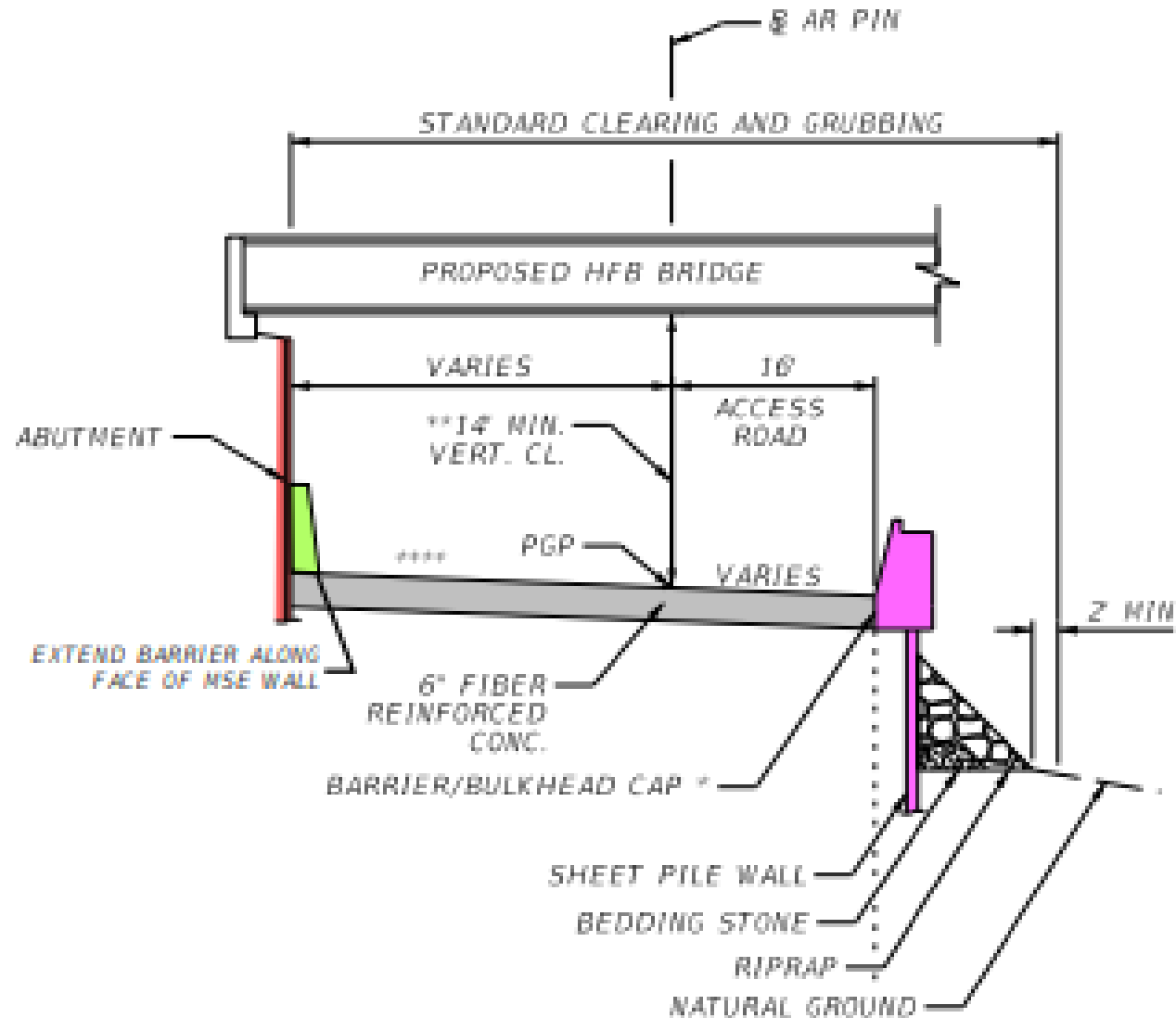


New Howard Frankland Bridge

Resiliency Features

- 6" Concrete slab (standard and fiber reinforced)
- New riprap
- Roadway barrier wall
- New seawall and bulkhead
- Flowable fill
- New Barrier Wall to protect new MSE wall/footing
- Designed to provide 1-ft of freeboard above the anticipated wave height of a 100-yr storm event
- Buried marine mattress

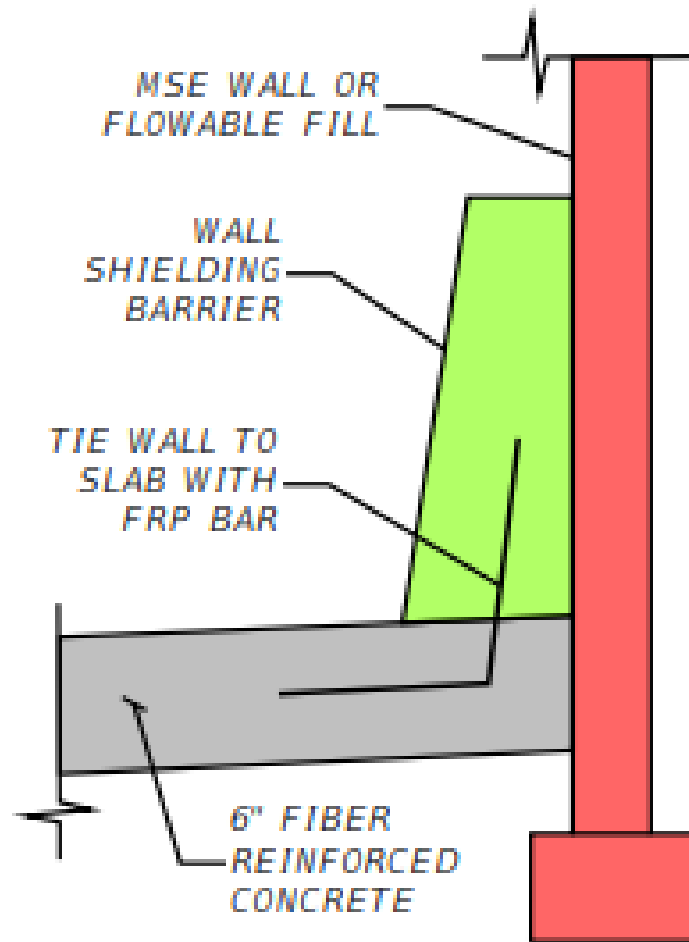
New Howard Frankland Bridge



Hardening Measures:

- Increase from 4" to 6" thick reinforced concrete
- Extend barrier along MSE wall face
- Eliminate gap between bulkhead cap and barrier wall/sidewalk slab

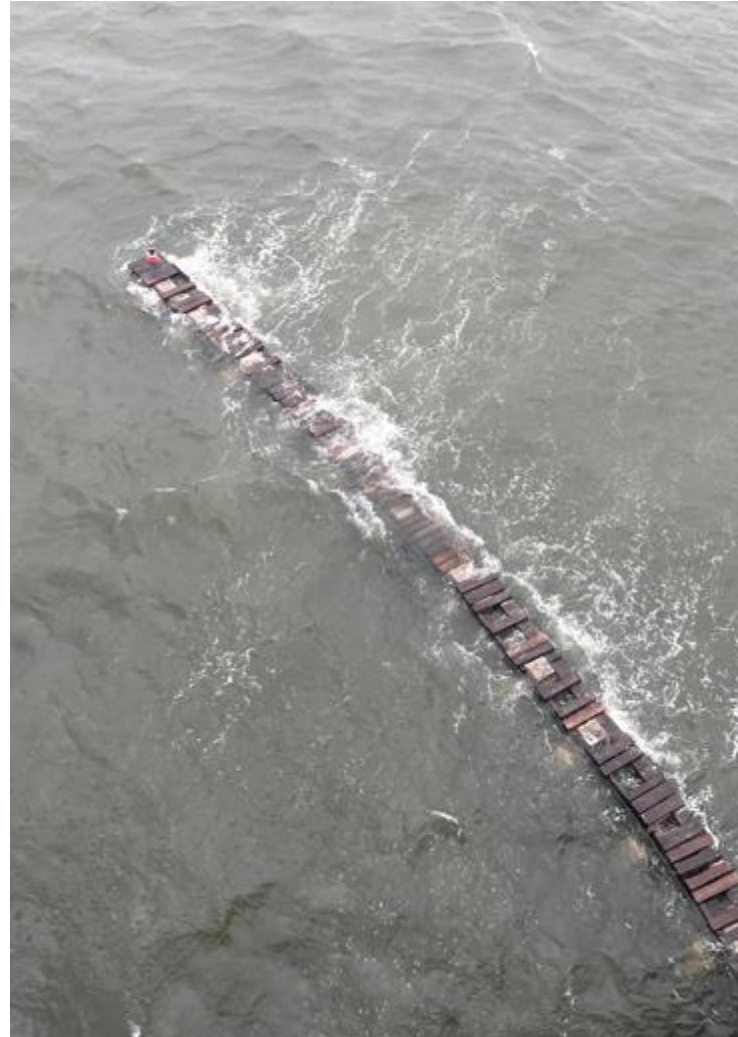
New Howard Frankland Bridge



Hardening Measures:

- Extend barrier along MSE wall face
- Connect barrier to 6" concrete pavement with FRP rebar
- Eliminate gap between bulkhead cap and barrier wall/sidewalk slab

Courtney Campbell Main Bridge



Hurricane Idalia (2023)

- Fender system damage
- Will be repaired via Emergency Contract

Courtney Campbell V.C. Bridge



Hurricane Idalia (2023)

- Damage to gravity wall and concrete cap/seawall
- Undermining
- Will be repaired via Emergency Contract



Thank you!

*ANY
QUESTIONS*

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