

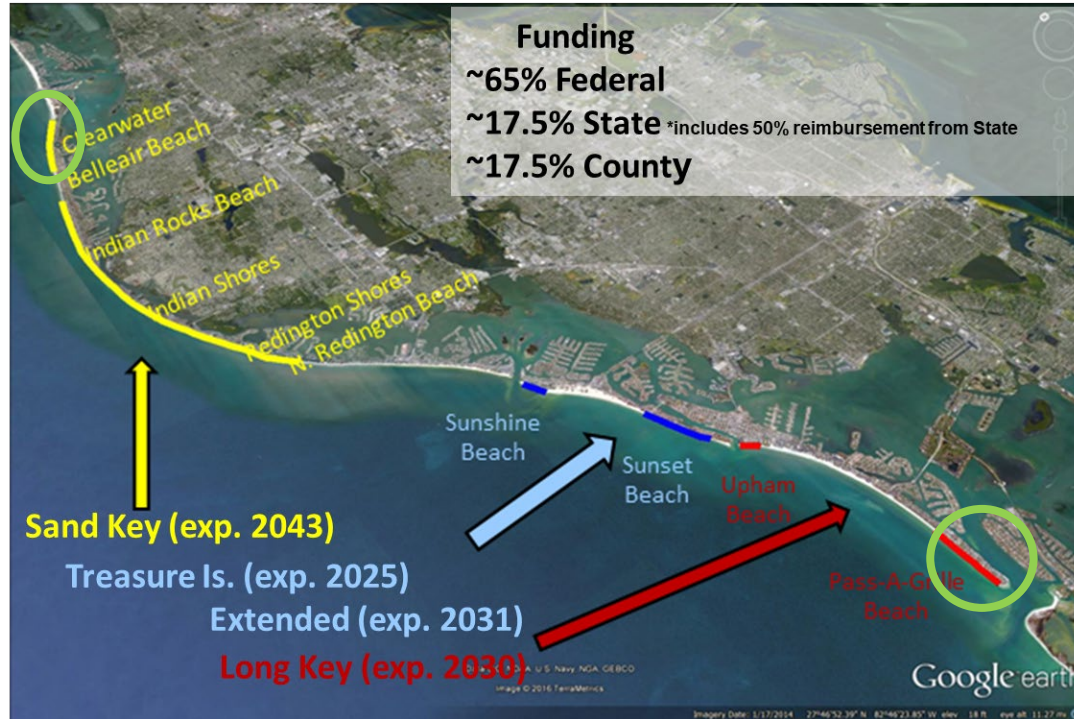


Two's Company, Three's a Crowd: Beach Performance and Recovery Efforts After Debby, Helene and Milton

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Federal Project Segments



Background



Area 1: Clearwater/Belleair Beach

- **Characterized by high erosion rates**
- **Northern most updrift end of nourishment**
- **6-year renourishment interval**
- **Wave refraction around Clearwater Pass Ebb Shoal causes a localized reversal around R59**

Area 2: Pass-a-Grille Beach

- **Characterized by lower erosion rates**
- **Southern most downdrift end of nourishment**
- **10-Year renourishment interval**

Timeline of Events



Beach
Renourishment
at Pass-a-Grille
Begins
(06/11/2024)

Annual
Monitoring
Survey
(08/30/2024)

Hurricane
Helene makes
landfall in Big
Bend as Cat 4
(09/26/2024)

Hurricane
Milton makes
landfall in
Siesta Key as
Cat 3
(10/09/2024)

(08/05/2024)
Hurricane
Debby makes
landfall in Big
Bend as Cat 1

(09/24/2024)
Beach
Renourishment
at Pass-a-Grille
stop work

(2024/10/06)
Post Helene
Monitoring
Survey

2024/10/26
Post Milton
Monitoring
Survey



Area 1: Belleair Beach and Clearwater

Harrison Ave Belleair Beach

R-61



September 2024

September 1985



Dan's Island Condo Belleair Beach

R-60A



**After
Nourishment**

Dan's Island Condo Belleair Beach

R-61



September 1985



September 2024



Dan's Island Condo Belleair Beach

R-60A



Date & Time: Fri Jul 27 12:40:50 EDT 2018
Position: +027.938652° / -082.839802°
Altitude: 7ft
Datum: WGS-84
Azimuth/Bearing: 010° N10E 0178mils (True)
Elevation Angle: +00.0°
Horizon Angle: -00.0°
Zoom: 1X



**After
Nourishment**

18th Ave Belleair Shore

R-66



September 1985



September 2024

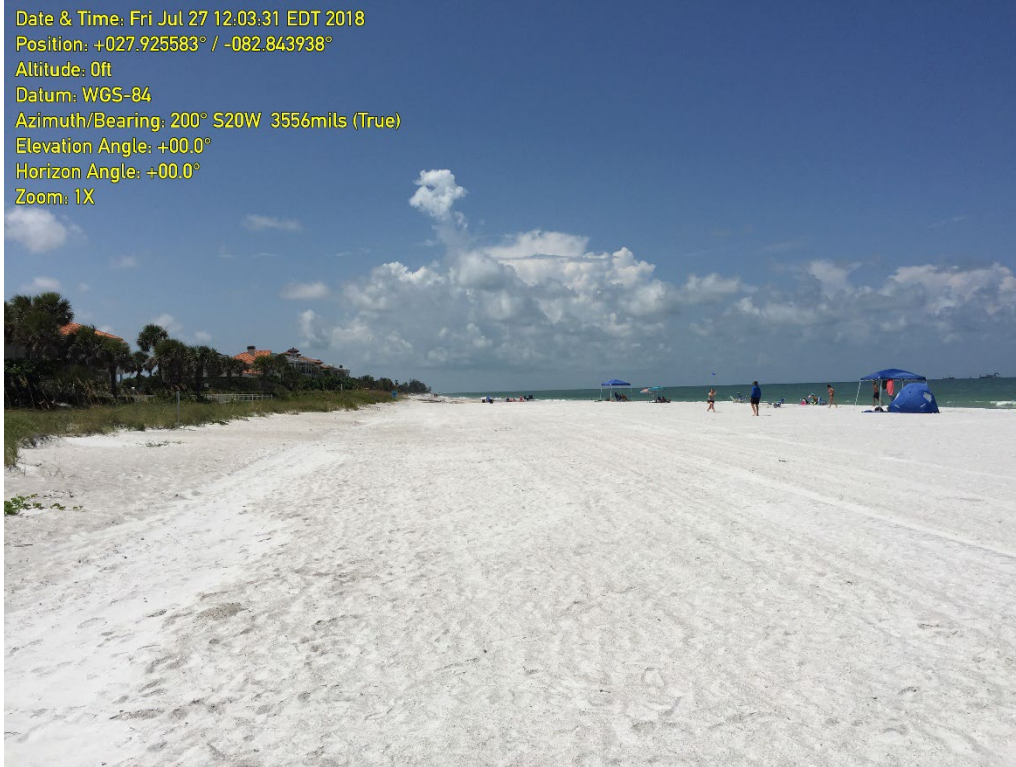


21st Ave Belleair Beach

R-65A



Date & Time: Fri Jul 27 12:03:31 EDT 2018
Position: +027.925583° / -082.843938°
Altitude: 0ft
Datum: WGS-84
Azimuth/Bearing: 200° S20W 3556mils (True)
Elevation Angle: +00.0°
Horizon Angle: +00.0°
Zoom: 1X



**After
Nourishment**



7-25-2024
Pre Debby
R-60



8-05-2024
Post Debby

R-60



9-24-2024
Pre Helene
R-60



9-28-2024
Post Helene
R-60



10-10-2024
Post Milton
R-60

R-59

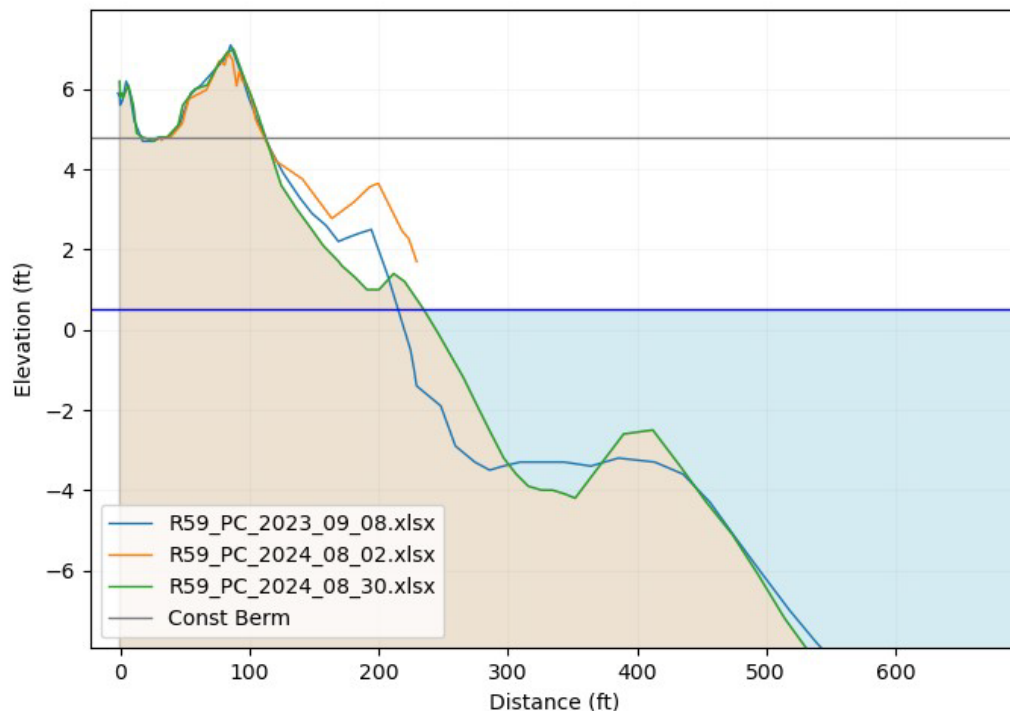
Blue profiles 09/08/2023 Post Idalia

Orange profiles 08/02/2024 Pre Debby

- Pre storm profiles (RTK).
- Shows natural recovery post Idalia
- Recovery berm almost reaches 4 ft

Green profiles 08/30/2024 Post Debby

- Recovery berm is lost, and beach is back to the post Idalia profile
- Change of about -6CY/FT



R-59

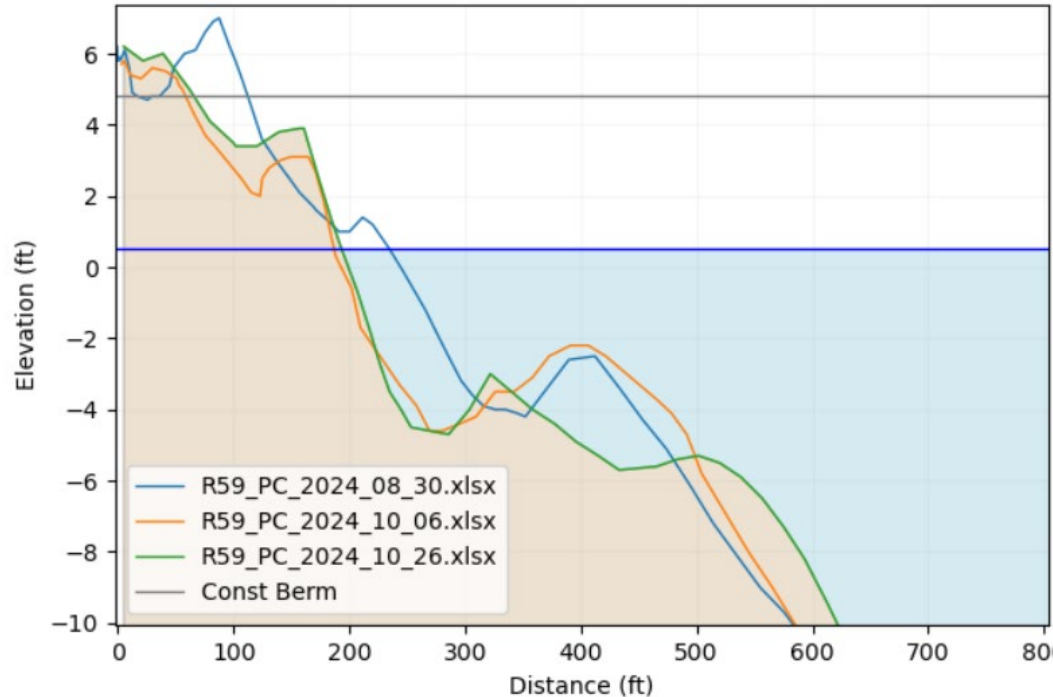
Blue profiles 08/30/2023 Pre Helene

Orange profiles 10/06/2024 Post Helene

- Washover of sand
- Extensive erosion of the beach and upper shoreface

Green profiles 10/26/2024 Post Milton

- Loss of the off shore bar
- Some beach recovery
- Dune, beach and upper shoreface change -19CY/FT



R-60

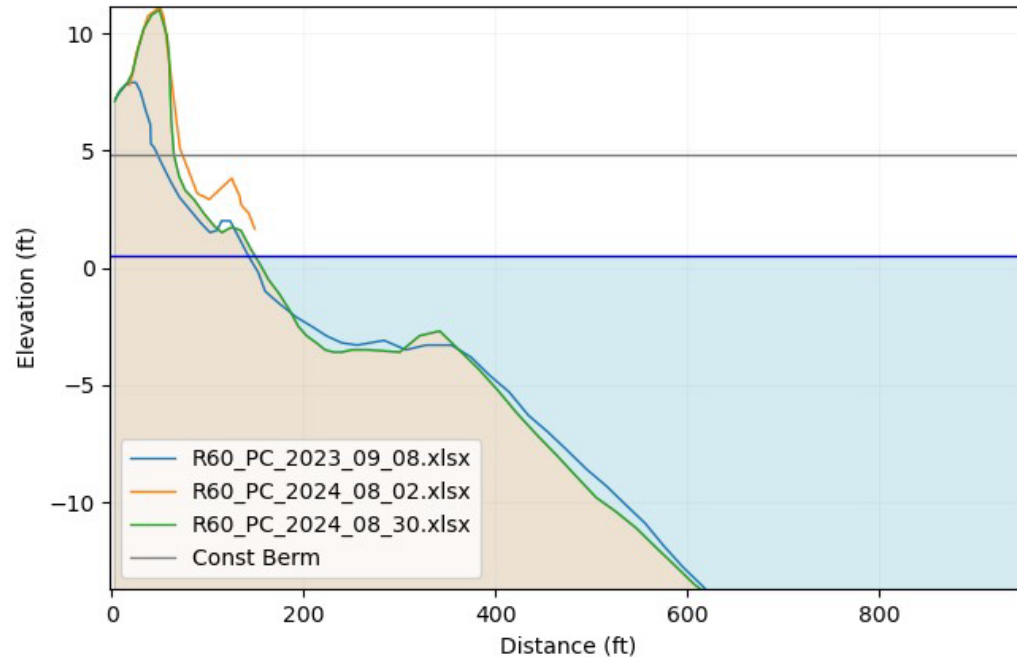
Blue profiles 09/08/2023 Post Idalia

Orange profiles 08/02/2024 Pre Debby

- Pre storm profiles (RTK)
- Shows emergency dune and natural recovery post Idalia
- Recovery berm reaches ~4 ft

Green profiles 08/30/2024 Post Debby

- Recovery berm is lost
- beach back to the post Idalia profile
- Emergency dune remains
- Change of about -6CY/FT



R-60

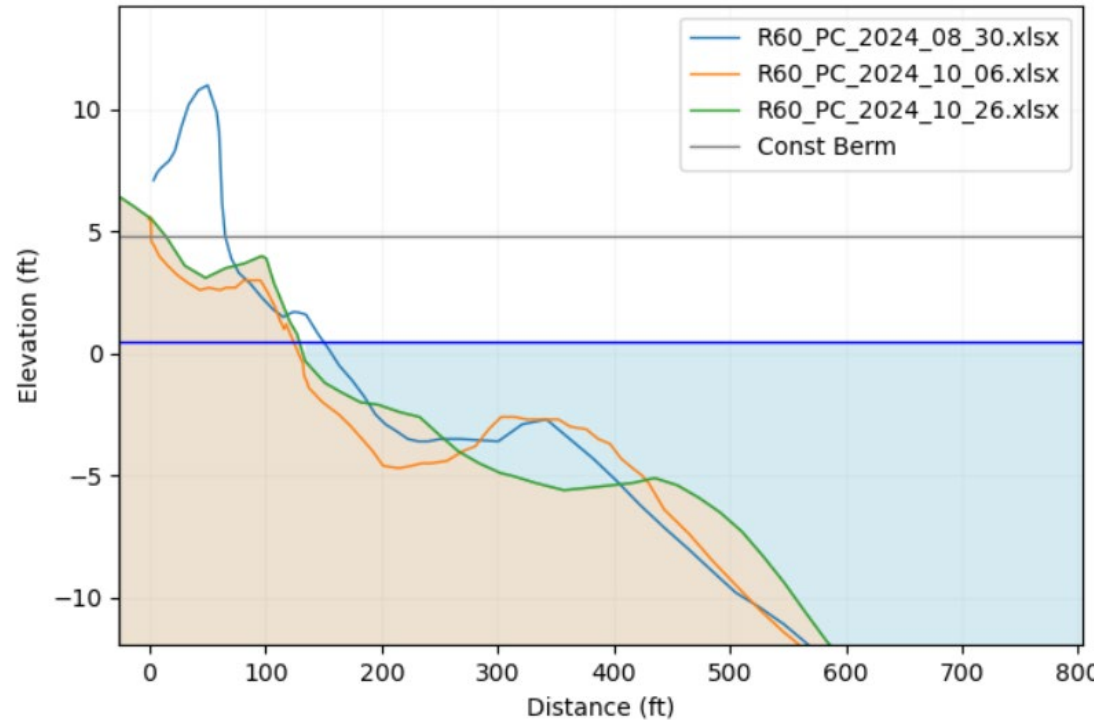
Blue profiles 08/30/2024 Pre Helene

Orange profiles 10/06/2024 Post Helene

- Extensive erosion of the beach and upper shoreface
- Total loss of the dune

Green profiles 10/26/2024 Post Milton

- Erosion of the off shore bar
- Some beach recovery
- Dune, beach and upper shoreface change -20CY/FT



A large yellow circle is partially visible on the left edge of the slide.

Area 1: Pass-a-Grille Beach

Post Helene



in places the wash over was 2-4 feet thick and reached hundreds of feet inland covering streets and entering buildings

Post Milton





7-16-2024
Pre Debby
R-163



8-5-2024
Post Debby
R-163



9-24-2024
Pre Helene
R-164



10-01-2024
Post Helene
R-164



10-11-2024
Post Milton
R-164

R-164

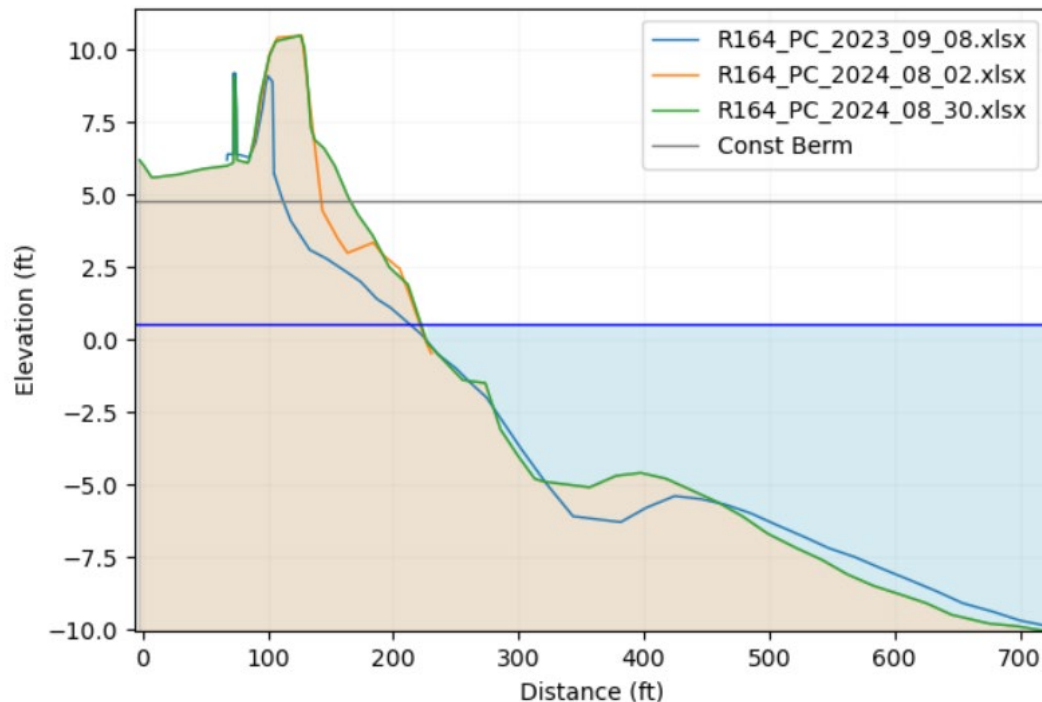
Blue profiles 09/08/2023 Post Idalia

Orange profiles 08/02/2024 Pre Debby

- Pre storm profiles (RTK).
- Shows natural recovery post Idalia and Emergency Dune
- Recovery berm reaches ~2.5 ft

Green profiles 08/30/2024 Post Debby

- Sand washed up to +7 FT
- Change of about -6CY/FT



R-164

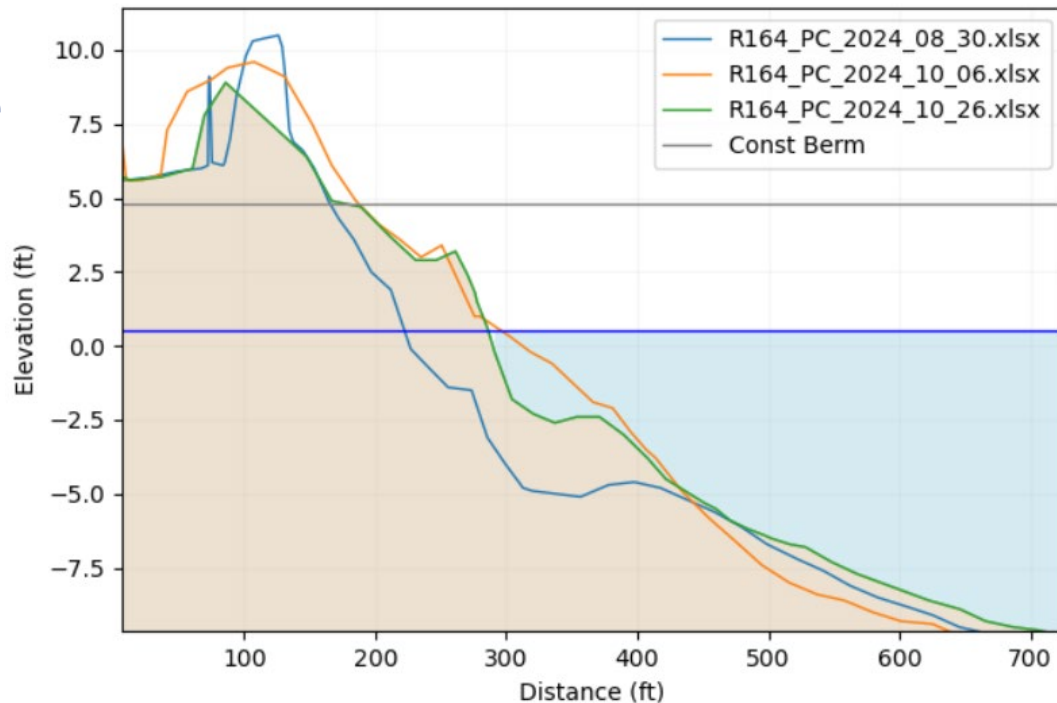
Blue profiles 08/30/2024 Pre Helene

Orange profiles 10/06/2024 Post Helene

- **Extensive erosion of the dune**
- **Post storm wash over sand replacement already underway**

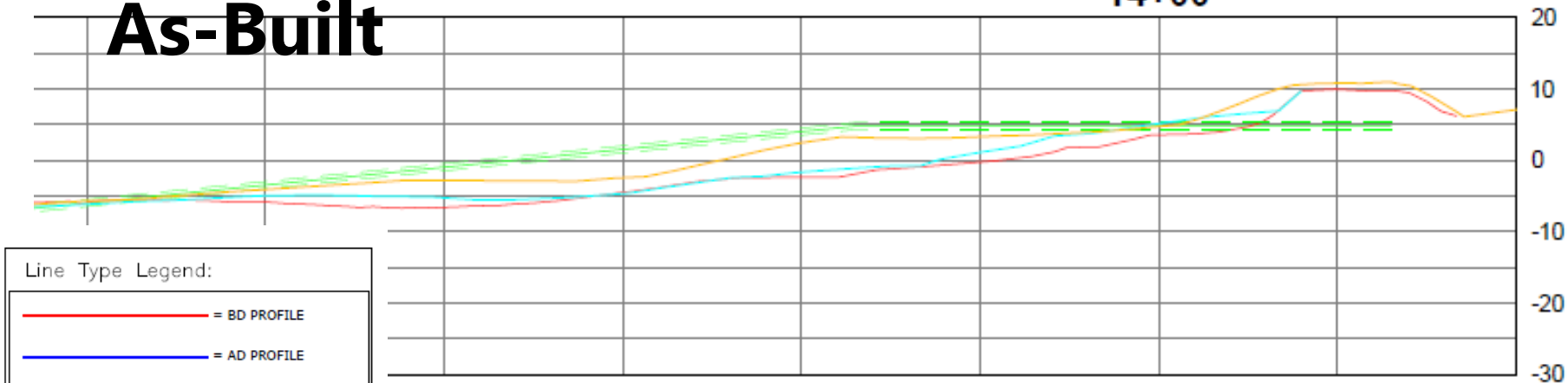
Green profiles 10/26/2024 Post Milton

- **Erosion of the upper shoreface**
- **Some dune erosion**
- **dune, beach and upper shoreface change +22CY/FT**

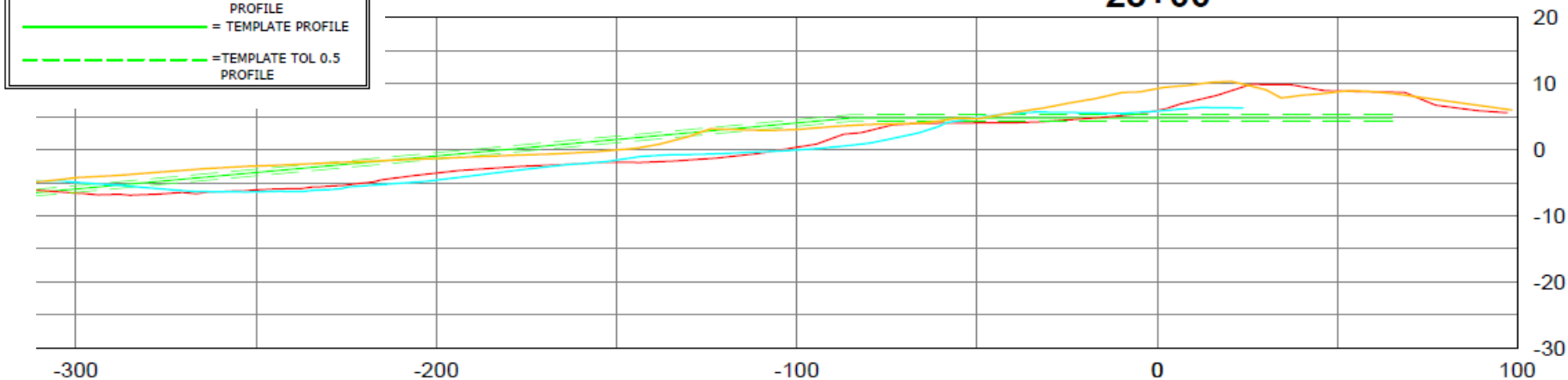


As-Built

14+00



28+00



A large yellow circle is partially visible on the left side of the slide.

Questions?

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