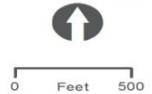


Update on Emergency Railroad Track Stabilization in the Vicinity of Milepost 206.8 on the Orange Subdivision

- Approximate Project Limits
- - - Rail Right-of-way
- · · County Boundary



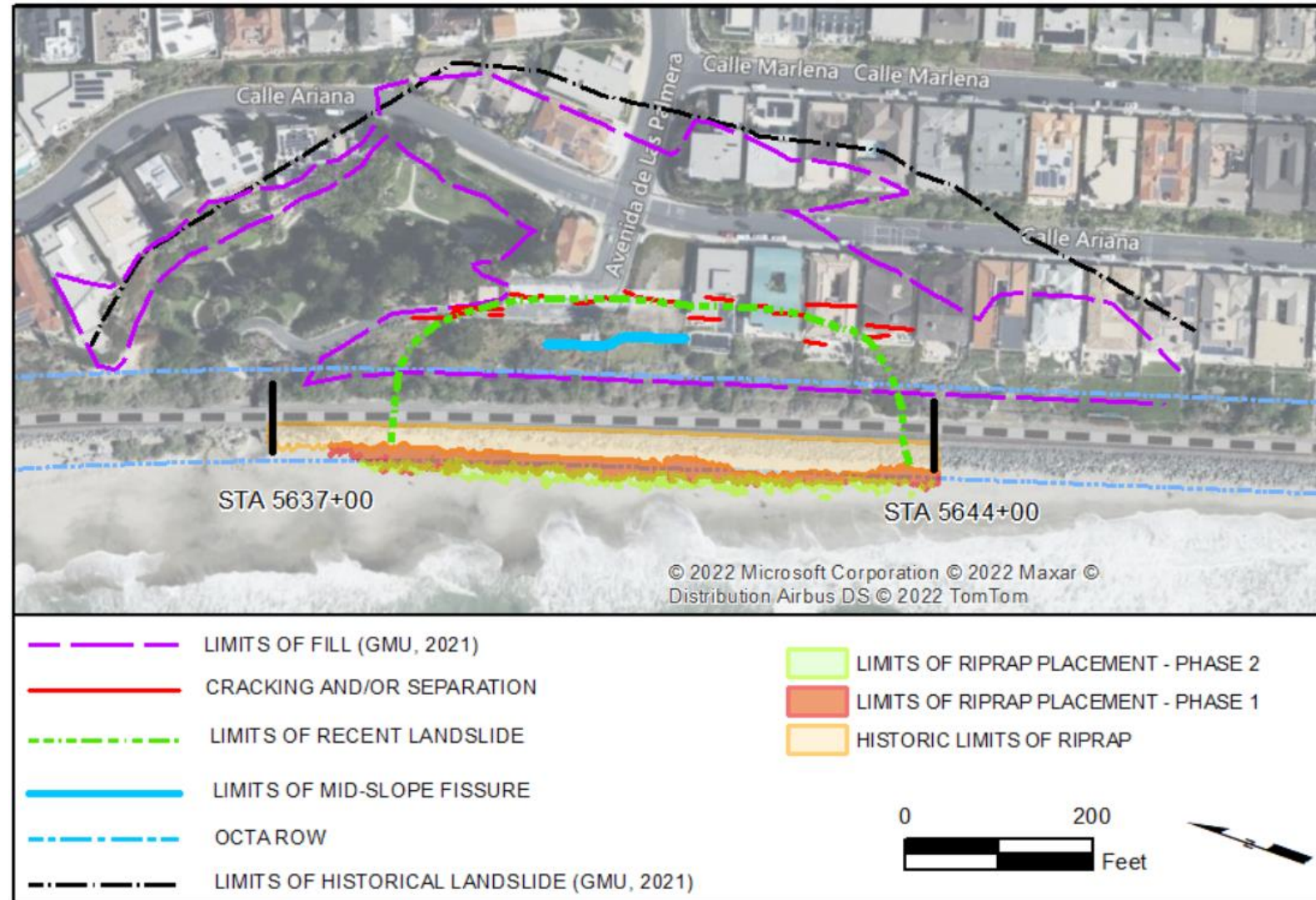
Landslide Background

September 2021

- Significant beach erosion activated historical landslide
- Tracks moved +28-inches laterally toward ocean
- Passenger Train service suspended to stabilize tracks
- Placed +18,000 tons of riprap along 700 feet of track (counteracts mass of slide)
- Monitoring track and slope movement

September 2022

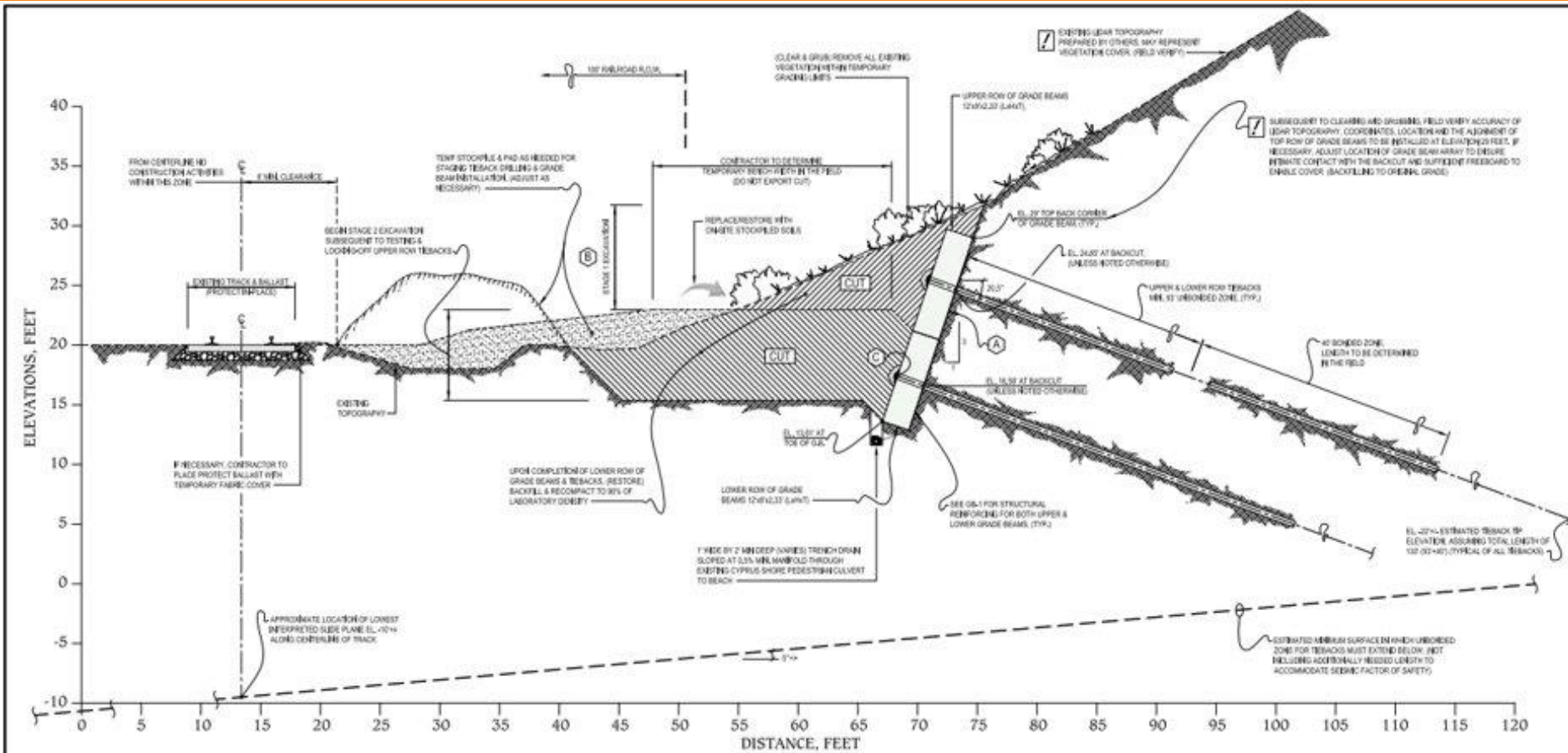
- Additional slope movement due to high tides, waves, and storm surge
- Placed more riprap
- Operating speed reductions
- Assessment of slope movement indicates larger mass of historic slide is beginning to move
- Passenger Train service suspended due to continued incremental movement
- Assessed alternatives to stop slide movement



Actions To Date

- October 3, 2022
 - OCTA Board of Directors adopted Resolution No. 2022-075 and authorized the Chief Executive Officer to take all necessary actions to address the emergency need for railroad track stabilization.
 - Executed contract with Leighton Consulting to provide third-party independent geotechnical engineering review of stabilization plan and tieback system design.
- October 14, 2022
 - Executed contract with Condon-Johnson & Associates (CJ) for design and construction of a tieback system to stabilize the slope. CJ began early mobilization and ordered tieback material.
- October 24, 2022
 - All Possession and Use Agreements with private property owners executed for immediate access to and possession of certain surface and subsurface portions of the effected properties where construction will occur.
- November 4, 2022
 - CJ completed clearing and grubbing of tieback construction area. Constructed grade beam test panels in Basilone yard.
- November 10, 2022
 - Began excavation of slope where upper row of grade beam panels and drilling will take place (expected to take up to a week).
- November 11, 2022
 - Final design of tieback system reviewed and approved.

Tiebacks/Grade Beam Section and Elevation



- 220 Tiebacks
- 110 Grade Beam Panels

NOTES:

- EXCEPT FOR OBJECTIVE AND DELETTERIOUS MATERIALS RESULTING FROM CLEARING & GRUBBING, ALL EXCAVATED SOILS TO REMAIN ON-SITE FOR BACKFILL (NO EXPORT).
- SUBSEQUENT TO COMPLETION OF STABLE TRENCH MEASURES, RESTORE SLOPE FACE BY MEANS OF CONCRETE AND RECONSTRUCT THE APPROVED STOCKPILED SOILS TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY, AS DETERMINED BY THE MOST RECENT VERSION OF ASTM D-1557 OR AN APPROVED ALTERNATE STANDARD.

TYPICAL GRADE BEAM LAYOUT CROSS SECTION 19
SCALE: 1"=4'

- (A) STARTING 12" BELOW TOP OF GRADE BEAM, PLACE 4" WIDE STRIP OF GEOTEXTILE DRAIN BOARD CENTERED BEHIND GRADE BEAM. 1 PANEL PER GRADE BEAM CONNECTED TO TRENCH DRAIN (TYP.).
- (B) TO THE MAXIMUM EXTENT PRACTICABLE, MINIMIZE THE EXTENT AND DEPTH OF THE NECESSARY INITIAL STAGE 1 CUT. DO NOT ADVANCE STAGE 2 EXCAVATION UNTIL UPPER ROW OF GRADE BEAMS ARE LOCKED-OFF.
- (C) ALL TIEBACKS ARE CENTERED ON THE OUTSIDE FACE OF THE GRADE BEAMS (TYP.).



PRELIMINARY DRAFT 11-4-22
Know what's below. Call before you dig.

REVISIONS			
REF.	DATE	BY	DESCRIPTION



OCTA MP 206.8 TRACK STABILIZATION
SHEET TITLE: TYPICAL GRADE BEAM LAYOUT CROSS SECTION

AGREEMENT NO.: C-2-2884
DRAWING SCALES:
FULL SIZE: 1"=4'
HALF SIZE: 1"=8'
SHEET 4 of 15

Completed and Upcoming Activities

Activity	Estimated *
Excavate for 1 st level anchors (Completed)	November 15, 2022
Construct 1 st level grade beam panels	November 15 – December 21, 2022
Install 1 st level tiebacks	November 21 – December 16, 2022
Test 1 st level tiebacks	December 2, 2022 – January 5, 2023
Excavate for 2 nd level anchors	January 6 – January 26, 2023
Construct 2 nd level grade beam panels	January 13 – February 7, 2023
Install 2 nd level tiebacks	January 25 – February 9, 2023
Test 2 nd level tiebacks	January 31 – February 15, 2023
Construction closeout	March to July 2023
Regulatory permitting	Ongoing

**Dates are preliminary and subject to change*

Contract Costs Update

- CJ Design and Construction: \$6,440,000
 - Construction Change Order 1: \$700,602
 - Clear and grub operations, Stormwater Pollution Prevention Plan and implementation, spoils export, water source, permit, use and pipeline, construction survey, temporary construction access, temporary fencing and signage
 - An estimated \$1,740,000 in additional work to be paid by contract change order include:
 - Additional design support, testing, and monitoring: \$400,000
 - Extended tieback lengths and additional strands: \$1,200,000
 - Addition of trench drain: \$140,000
- Leighton Consulting: \$50,000
- HDR (Rail Program management) contract amendment for specific project management and construction management covered under existing contract: estimated at \$800,000
- ROW acquisition: to-be-determined (TBD)
- Coastal development permit fees and mitigation costs: TBD

Grade Beam Construction



November 16, 2022



November 28, 2022

Tieback Installation and Testing



November 28, 2022



December 3, 2022