CITY COUNCIL STUDY SESSION

FEMA OPEN PACIFIC COAST STUDY UPDATE

Background:

FEMA - Open Pacific Coast Study for 1% chance annual flooding.

- **Mapping project to produce new Flood Insurance Rate Maps (FIRM) for the National Flood Insurance Program (NFIP)**
- **Still water levels from tide peaks at 7.88 ft. for the Newport Harbor**
- **Total water levels and Wave overtopping for coastal flooding from Pacific open coast.**

WAVES ORIGINATE FROM:

1) **WIND DRIVEN WAVES AND**
2) **OCEAN SWELLS TRAVELLING FROM STORMS**

National Flood Insurance Program

- NFIP is voluntary and Newport Beach currently participates along with approx. 550 other communities in California.

- NFIP provides federally backed affordable flood insurance to ALL participants.

- Compliance with NFIP requires the City to regulate development in the special hazard flood zones. Don't build below the flood line.

National Flood Insurance Program

- Home owners insurance does not cover storm flood damage.
- Federal law requires flood insurance for federally backed loans (Conforming - Fannie Mae or Freddie Mac). Jumbo Loans Too.
- Mortgage refinance or map change would trigger the requirement for flood insurance.

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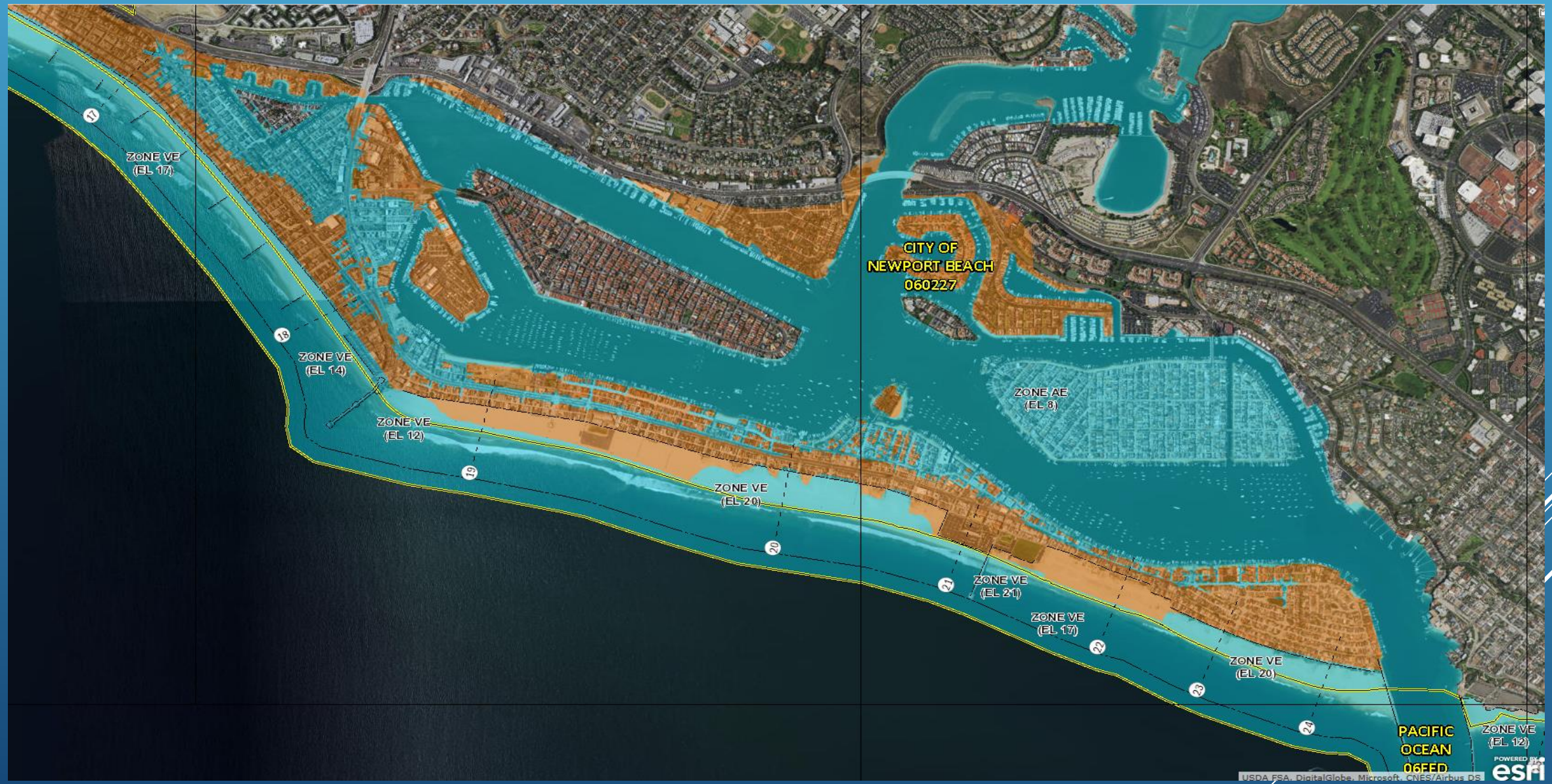
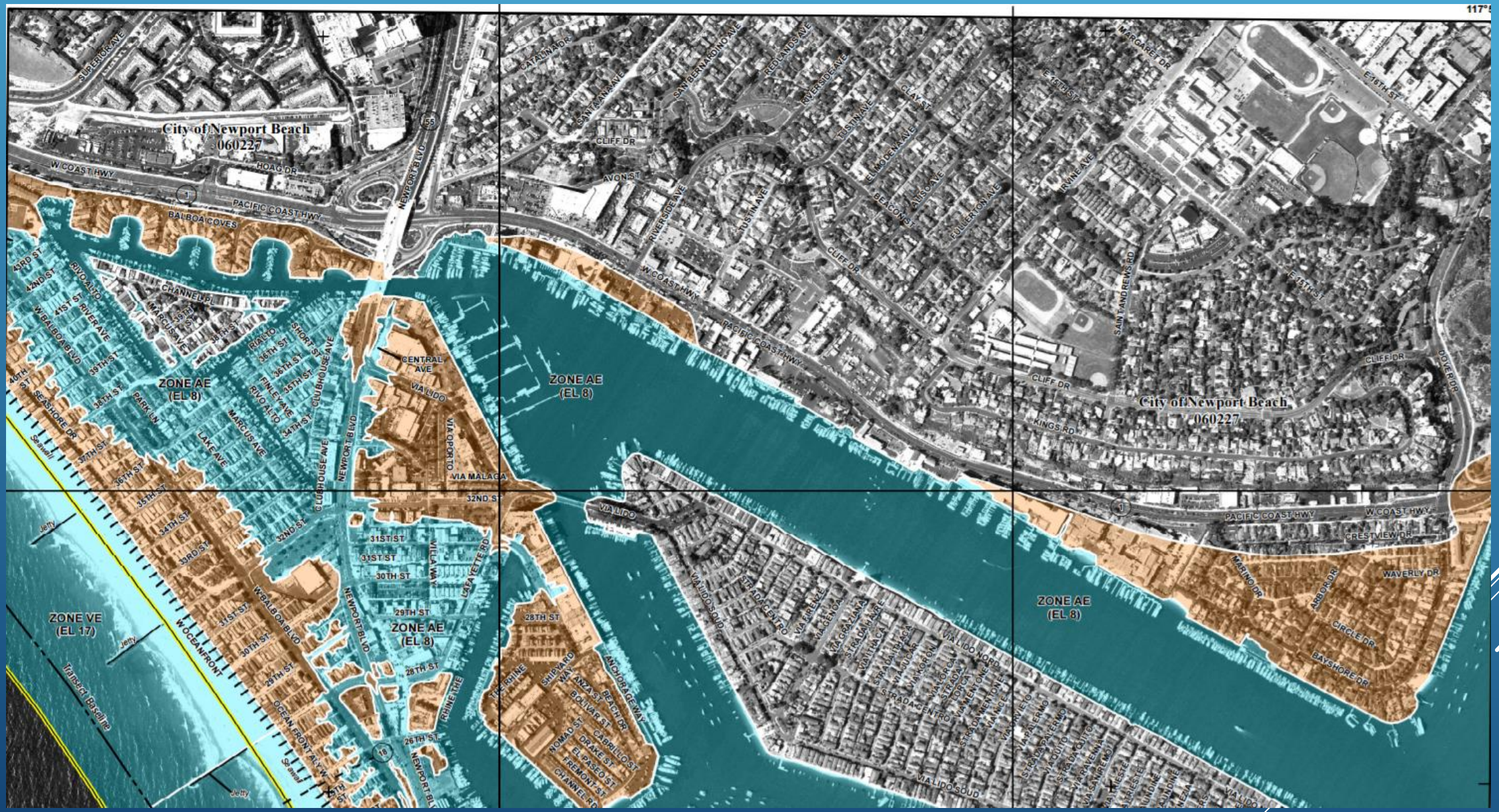


PROPOSED FEMA FLOOD INSURANCE RATE MAPS



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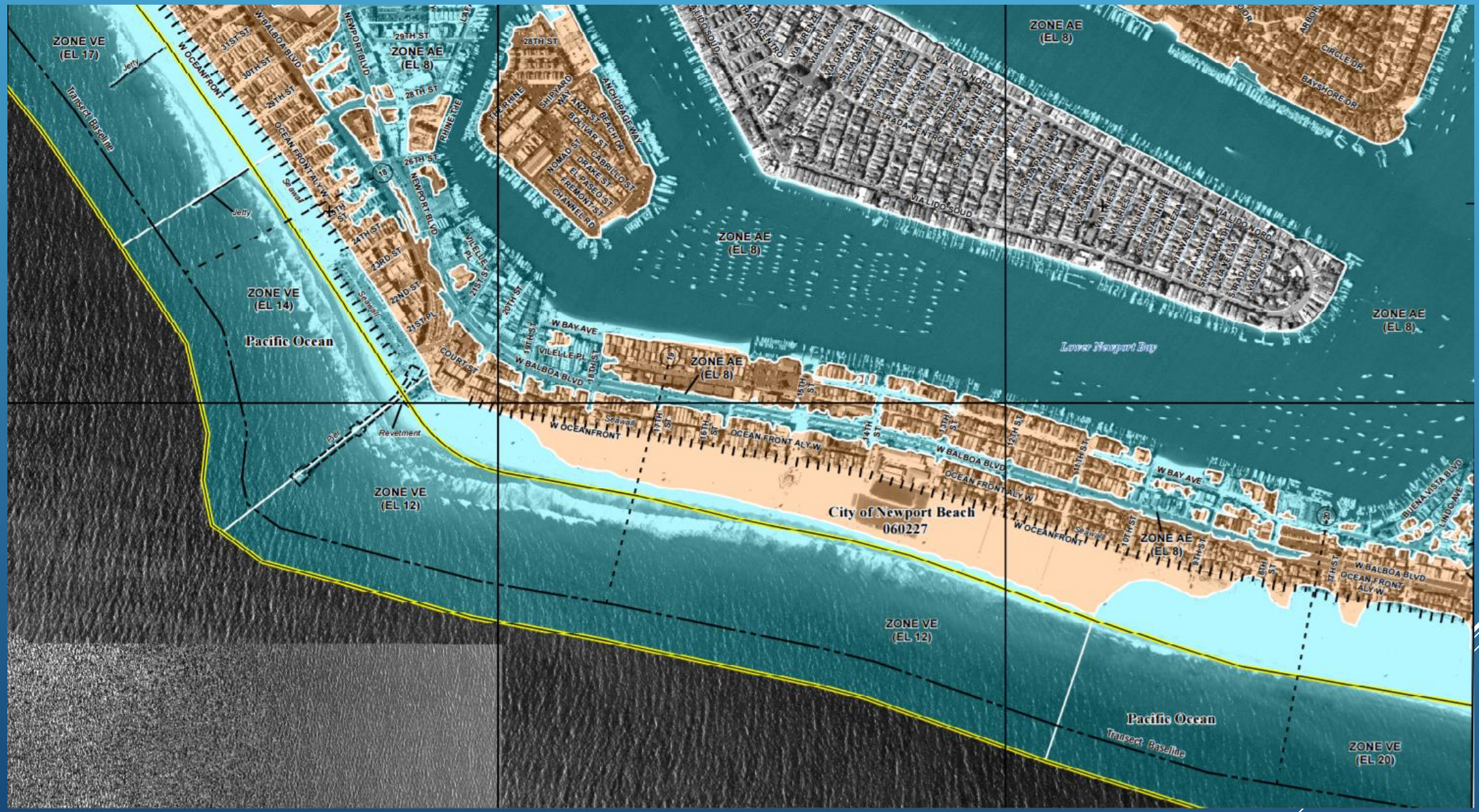

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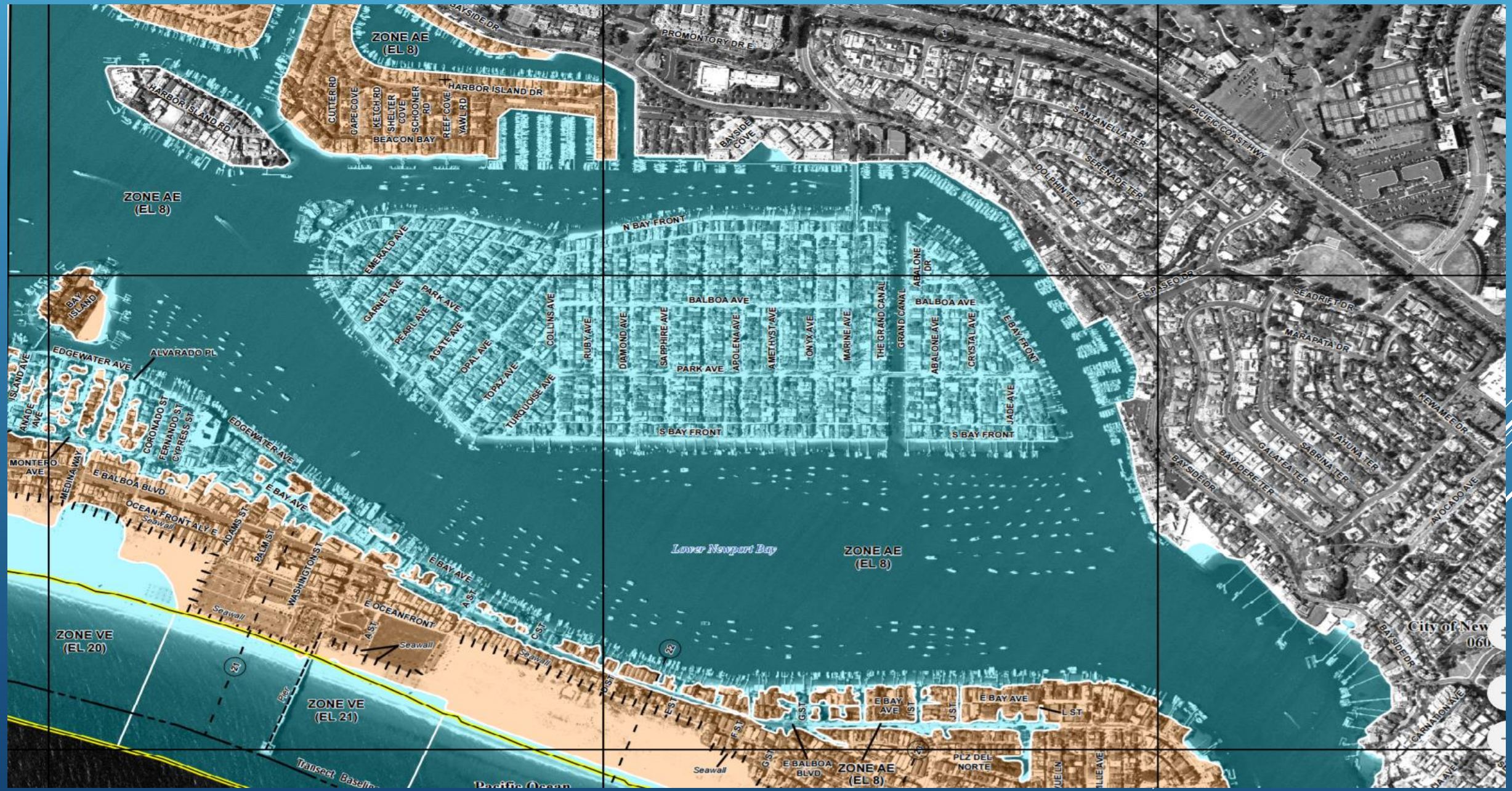


PROPOSED FEMA FLOOD INSURANCE RATE MAPS

- Staff engaged with Everest International Consulting Inc. to conduct an in-depth analysis of FEMA's assumptions.

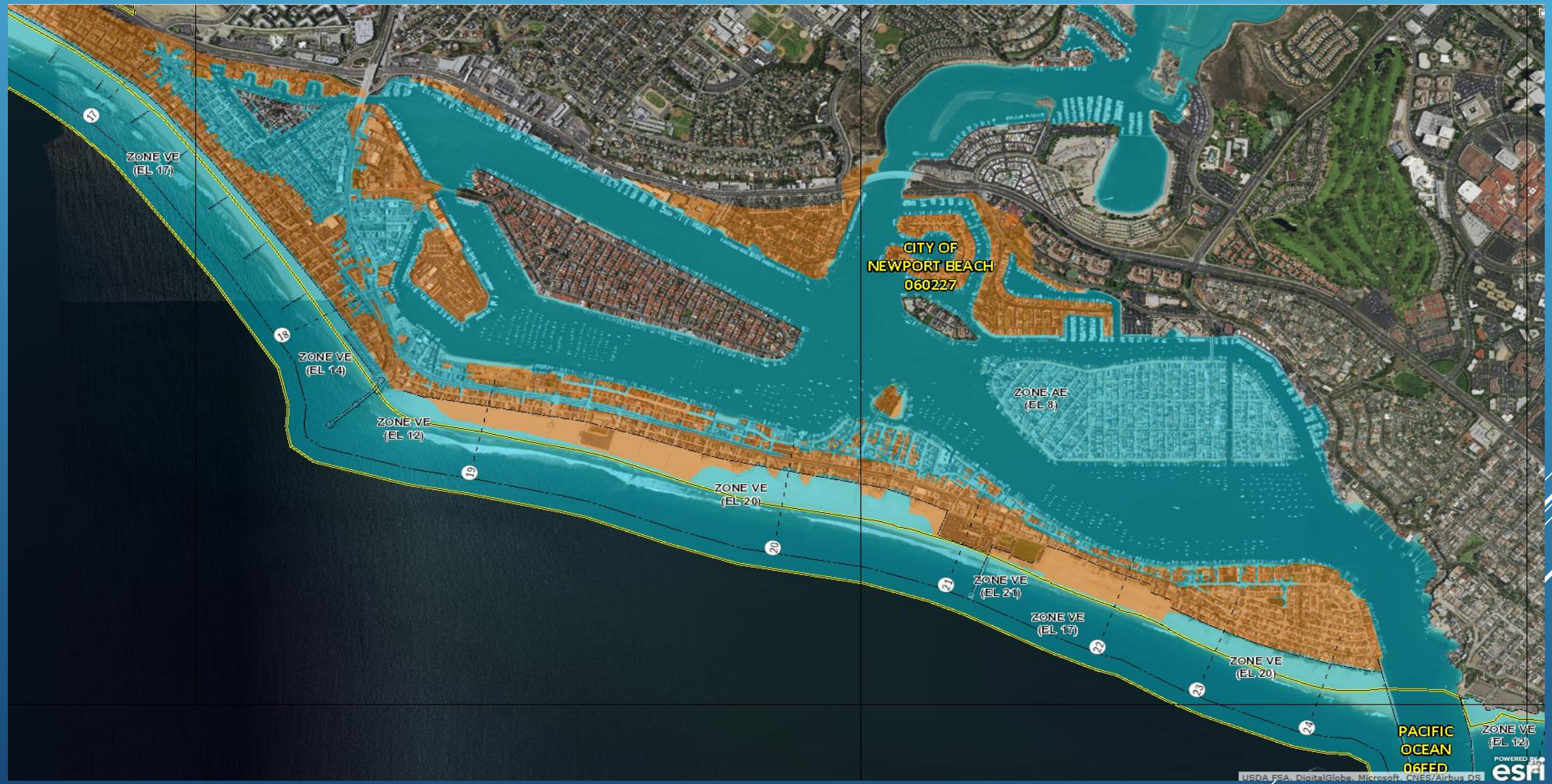
- The Everest study focused on two distinct components:
  - 1) Newport Harbor
  - 2) Coast Line

EARLY CONCLUSIONS

- FEMA did not take into account the height of our seawalls.

- FEMA did not use Hydrodynamic modeling to calculate flood elevation. They only compared the elevation of grade to water level.

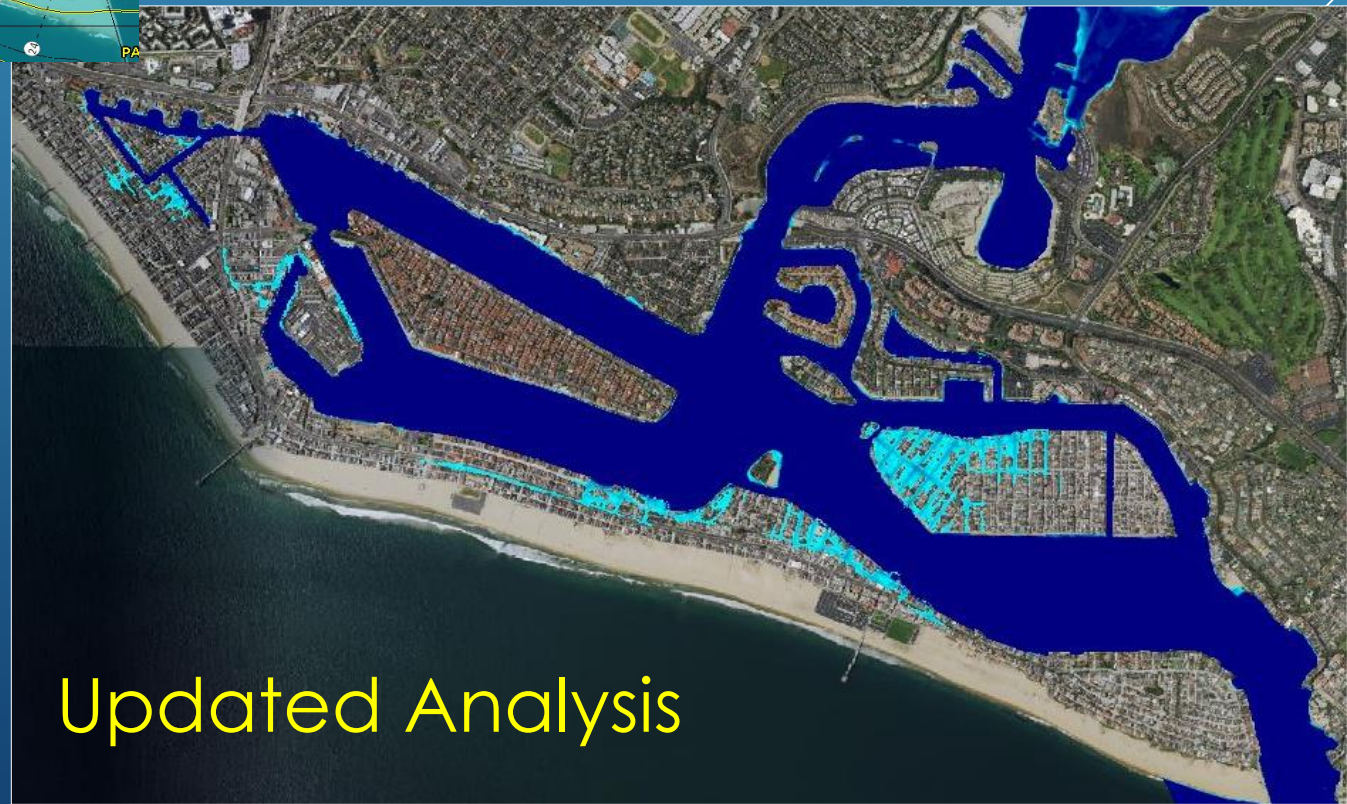
SEA WALL SURVEY LOCATIONS



FEMA PRELIMINARY MAPS

PROPOSED AE FLOOD ZONE

FEMA Preliminary Map



Updated Analysis

Open coastline study /Ocean front Properties

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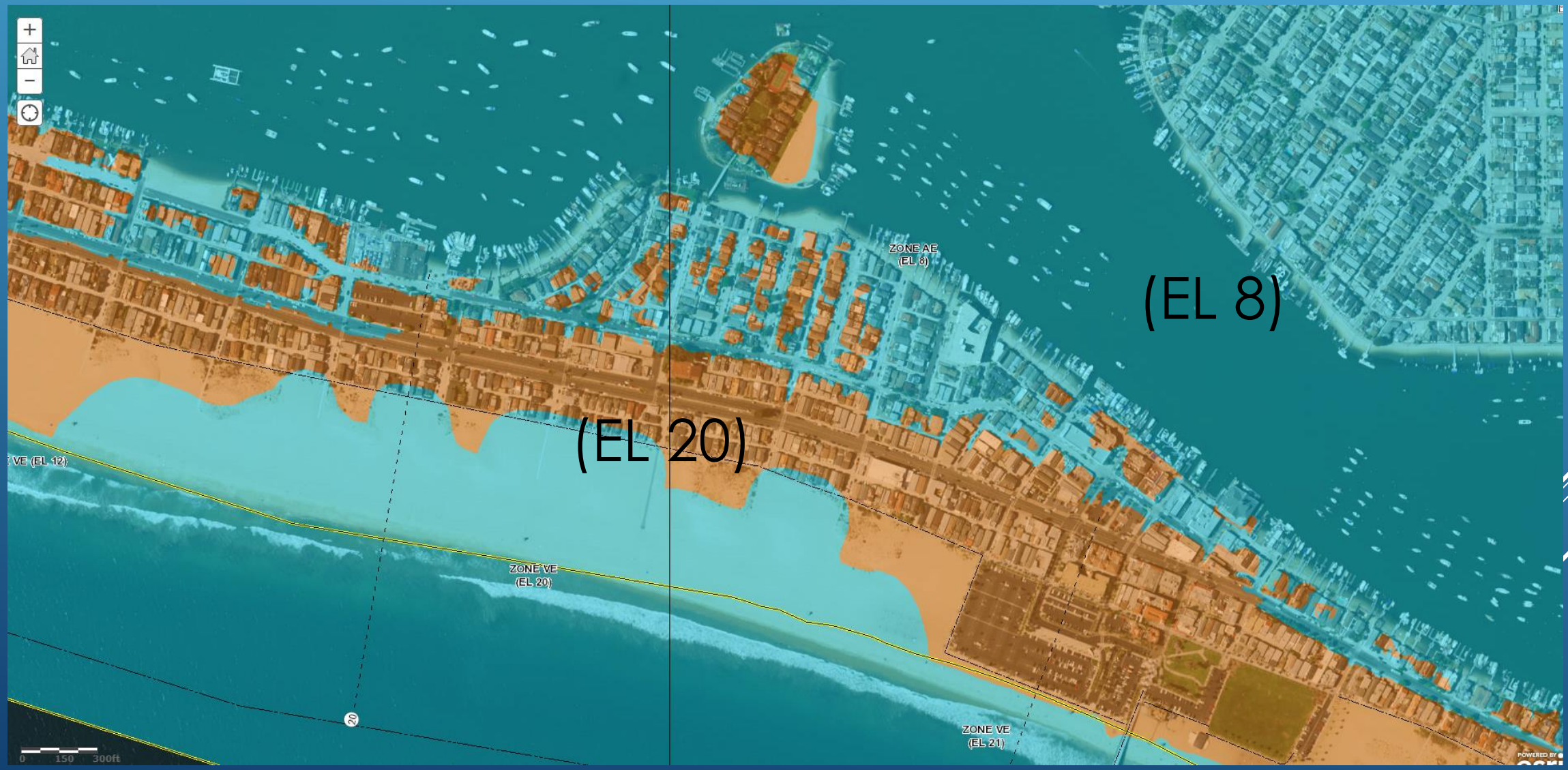
The following was evaluated:

1. Established an average beach profile at 200 foot intervals vs. FEMA's one non-representative beach profile.

2. Modeled Berming as a select "backshore" feature that are created in advance of large ocean swells (City's Existing Practice)

EVEREST INTERNATIONAL STUDY

Proposed FIRM



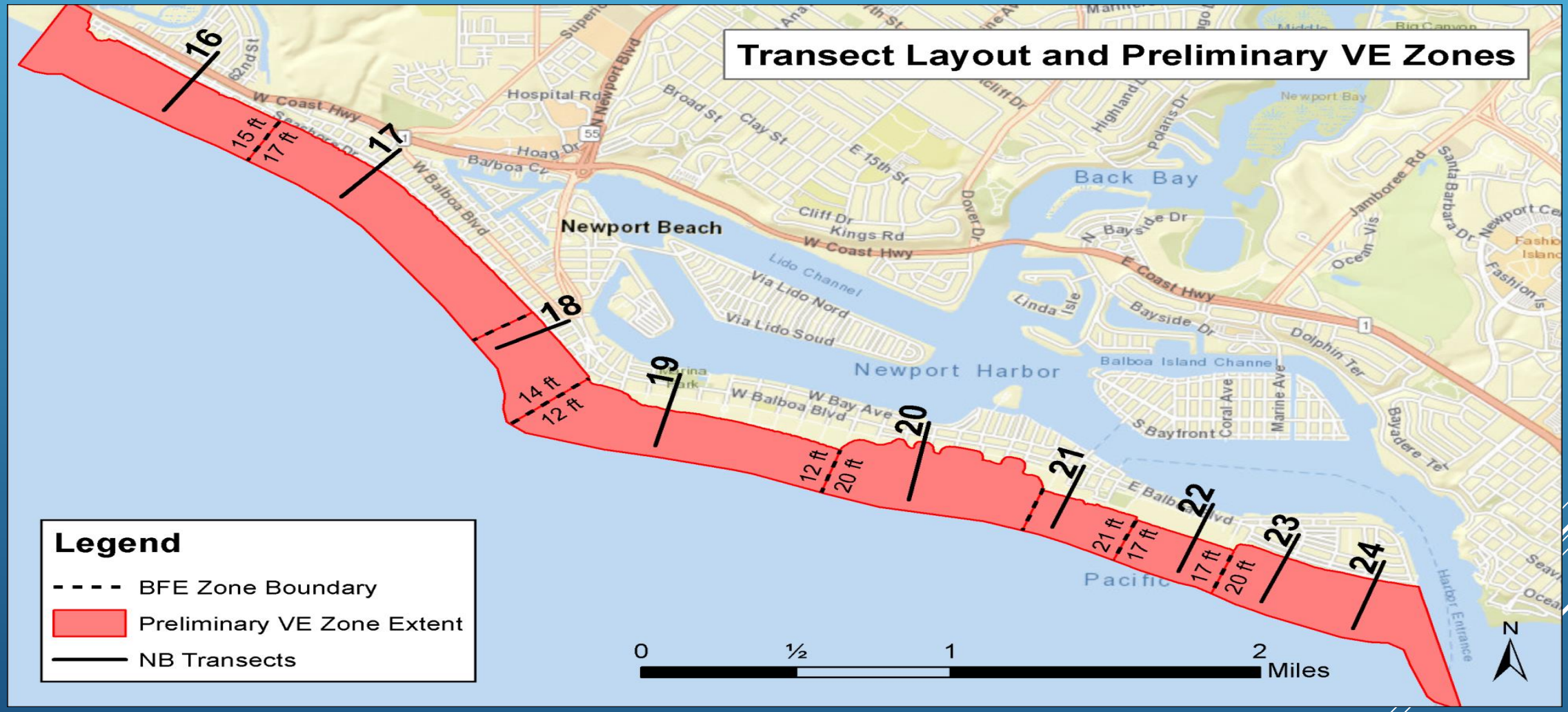


Figure 5. The Newport Beach (NB) transects and preliminary VE Zone extent. The black, dashed lines show the BFE zone boundaries, or the transition between different BFEs defined by transects within the shoreline reach. Shoreline reaches are the areas between BFE zone boundaries. The BFEs, in feet NAVD88, are shown within their respective shoreline reaches.

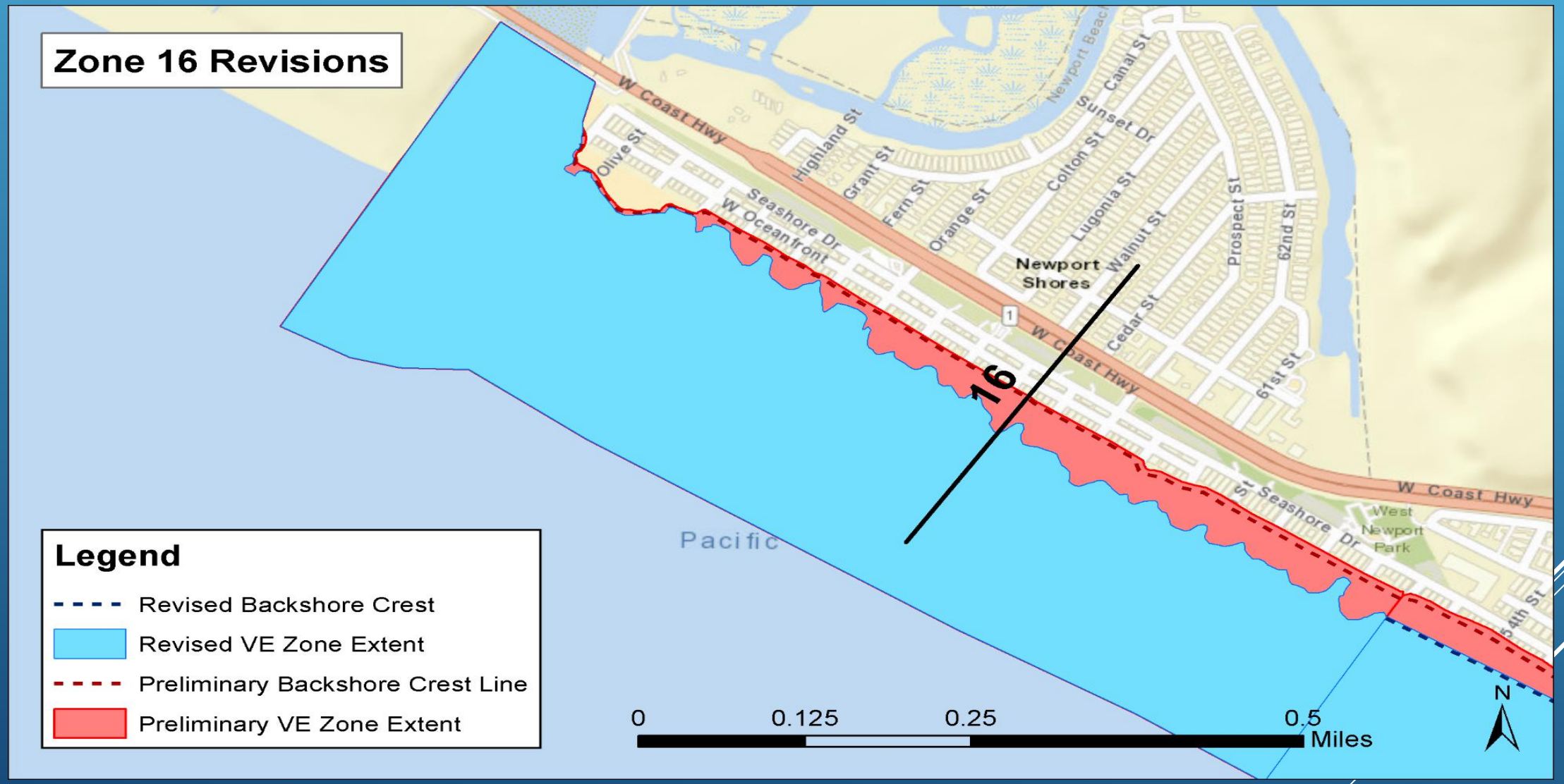


Figure 9. Proposed Revised VE Zone Extent for Zone 16

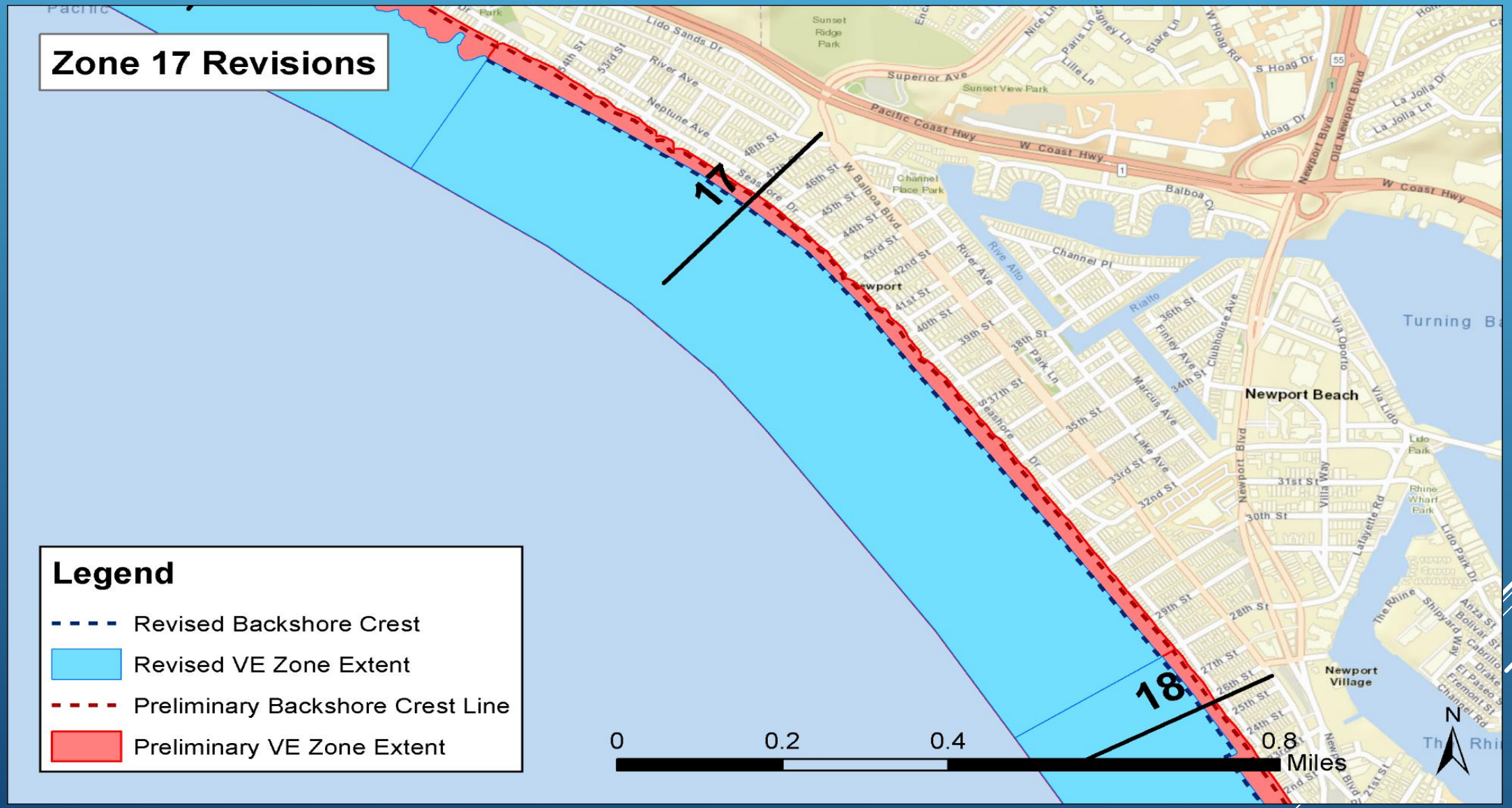


Figure 10. Proposed Revised VE Zone Extent for Zone 17

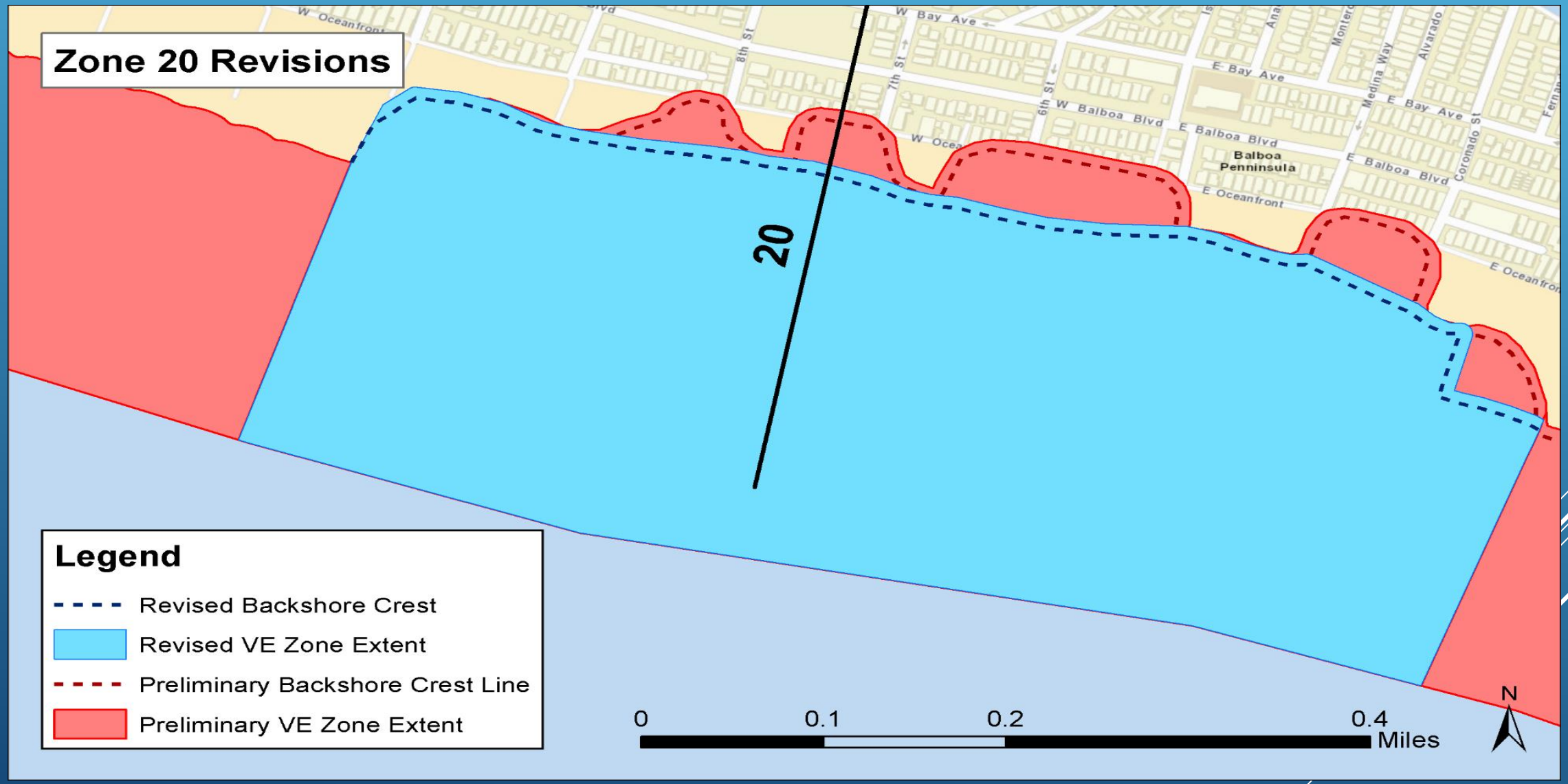


Figure 12. Proposed Revised VE Zone Extent for Zone 20

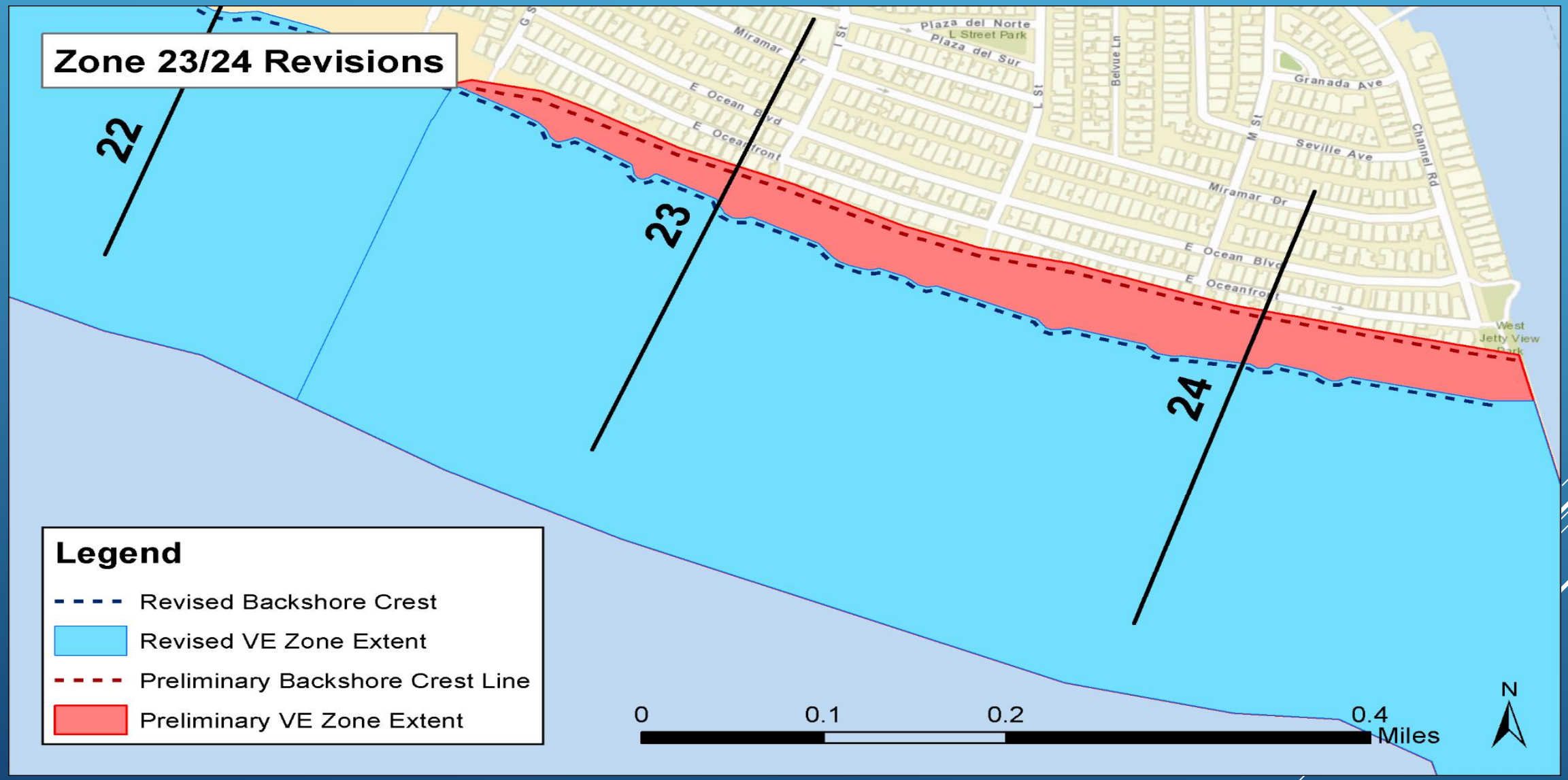


Figure 14. Proposed Revised VE Zone Extent for Zone 23/24

Conclusion:

1. Newport Harbor: FEMA study use of “bathtub methodology” over predicts flooding extent.

2. Open Coast: Consideration of Average Slope Transect and Berming will improve the wave crest line.

   Berm Location is more critical than its height.

Next Steps:

Send FEMA all of the latest analysis and seawall height elevations, during this public comment stage for their review.

Should hear back from them in the next 45 days.

Risks:

- More of Balboa Peninsula will be located in a designated flood zone, requiring flood insurance.

- Coastal properties will be required to be built above the wave height, ranging from 4 feet to 13 feet above grade.

REFERENCE INFORMATION

- www.smartflood.gov Flood Insurance
- http://arcg.is/106fejt Pacific Coast Study
- Ying Poon, Everest Inc. City Consultant
- Samir Ghosn – City Staff / Project Manager sghosn@newporbeachca.gov
- Seimone Jurjis City Staff sjurjis@newportbeachca.gov
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QUESTIONS?