

Los Angeles International Airport

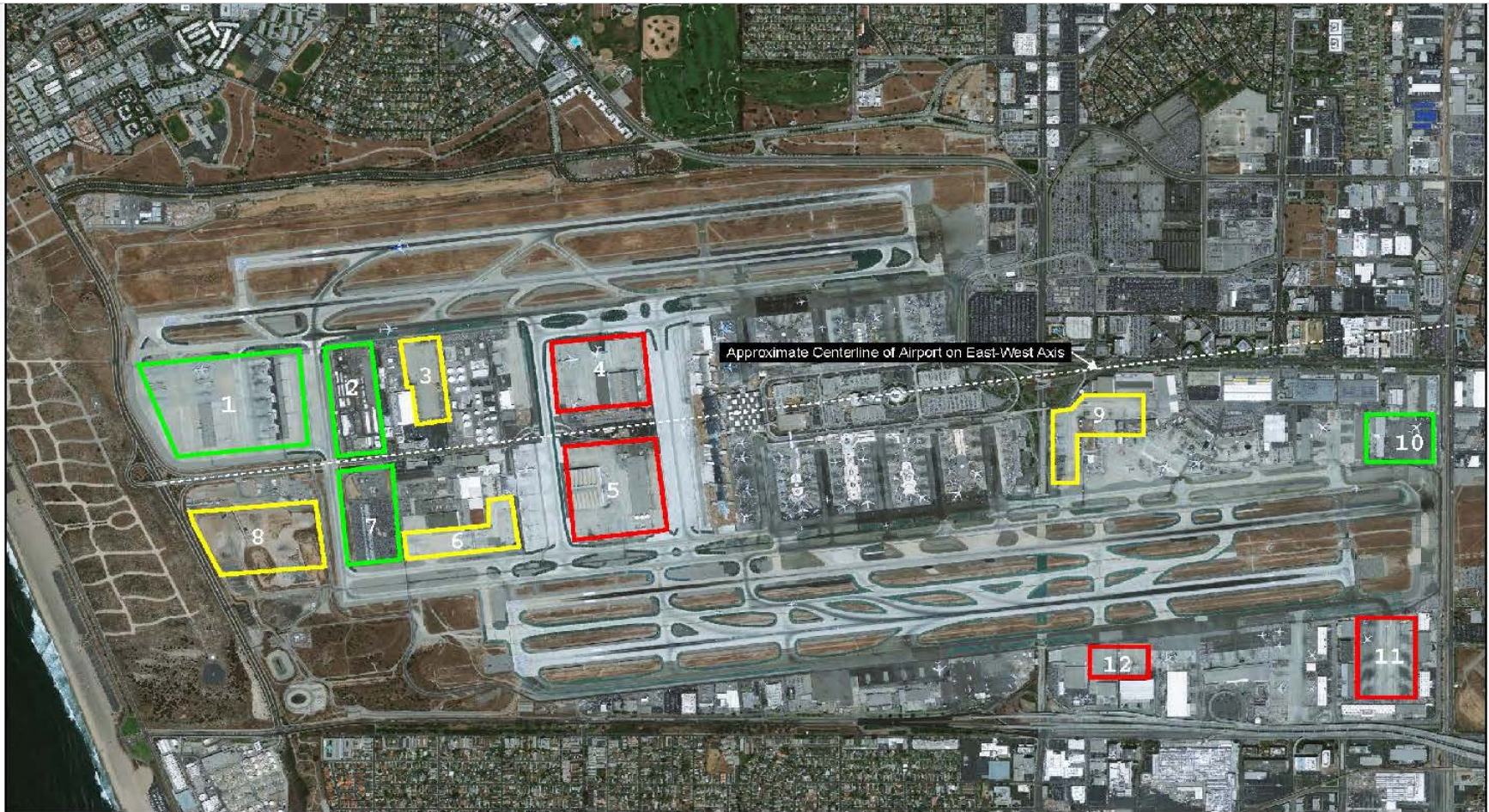
## **LAX Ground Run-up Enclosure Siting and Feasibility Study**

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**LAX/Community Noise Roundtable Meeting**  
**September 9, 2015**

# 2

## Preliminary Screening of 12 Potential Sites



Comparative Ranking of Potential Site - See Screening Matrix for Explanation

High	Medium	Low
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Figure 1  
LAX - Potential GRE Locations

## 3 Preliminary Screening Criteria

### Each Site Was Analyzed Using the Following Criteria:

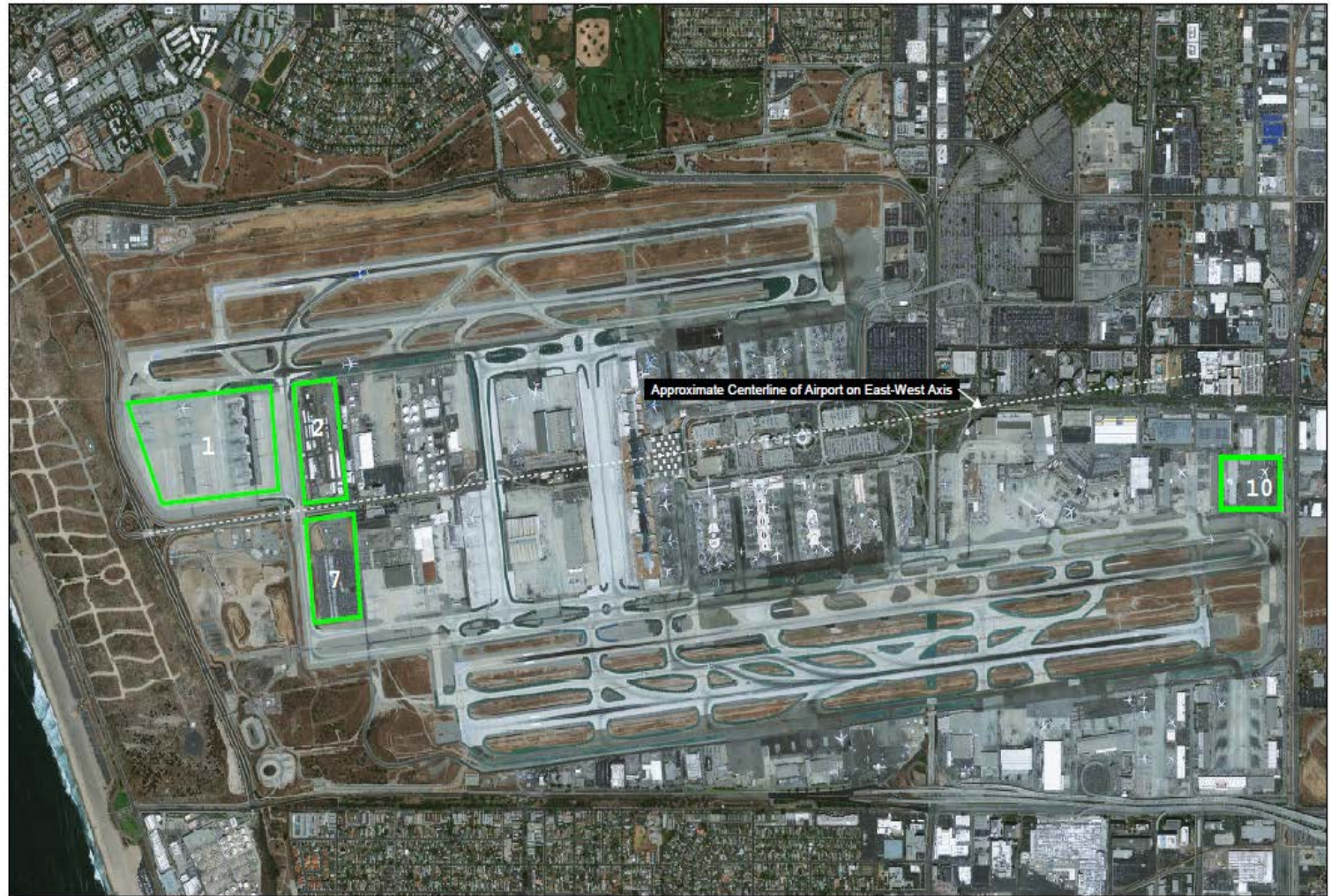
- Existing Land Use
- Compatibility with Future Land Use Plans
- Largest Available Footprint Area
- Distance from the Aircraft East-West Centerline to the Center of the Potential Site
- Distance from the Center of the Potential Site to the Nearest Noise Sensitive Receptor
- Taxiing Access
- Travel Distance Between Each Potential Site and Each Existing High-Power Ground Run-up Area

### *4 Potential Sites Chosen for Further Screening/Evaluation*



4

# Secondary Screening of Potential Sites



### Each Site Was Further Analyzed Against the Following Criteria:

- Maximum GRE Size (ADG VI or lower) with No Penetration to Safety Surfaces or Areas
- Maximum GRE Size (ADG VI or lower) with Mitigated Penetration(s) – Light Only
- Airport Operations – Air Traffic Control Line of Site and Airfield Efficiency
- Efficient Aircraft Movement and Access to/from Taxiways and Taxilanes
- Cost – Qualitative Assessment Related to Airline Operations and Development/Land-Use Considerations

Two of the four sites, Sites 1 and 10, were not carried forward due to the following:

**Site 1:** Over one mile average towing distance; relocation (and possible elimination) of key uses (special aircraft, security needs, highly utilized RON/RAD areas, and important remote passenger gates).

**Site 10:** Only one way to get to Site 10 (via Taxiway B and Taxilane C) – this would severely effect airfield efficiency for aircraft returning to maintenance facilities; over one mile average towing distance



# Potential Sites Chosen for Further Evaluation – Site 2

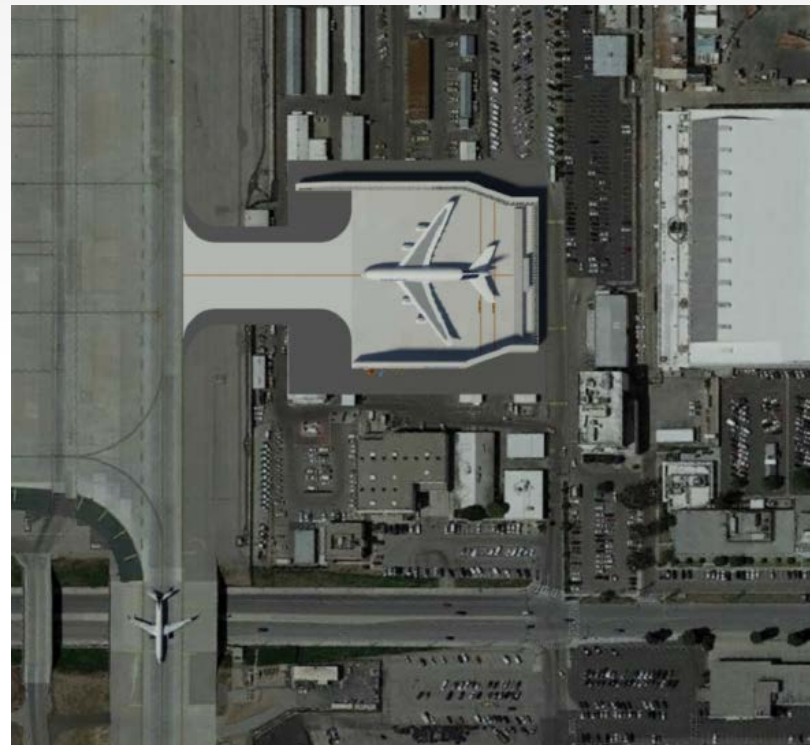
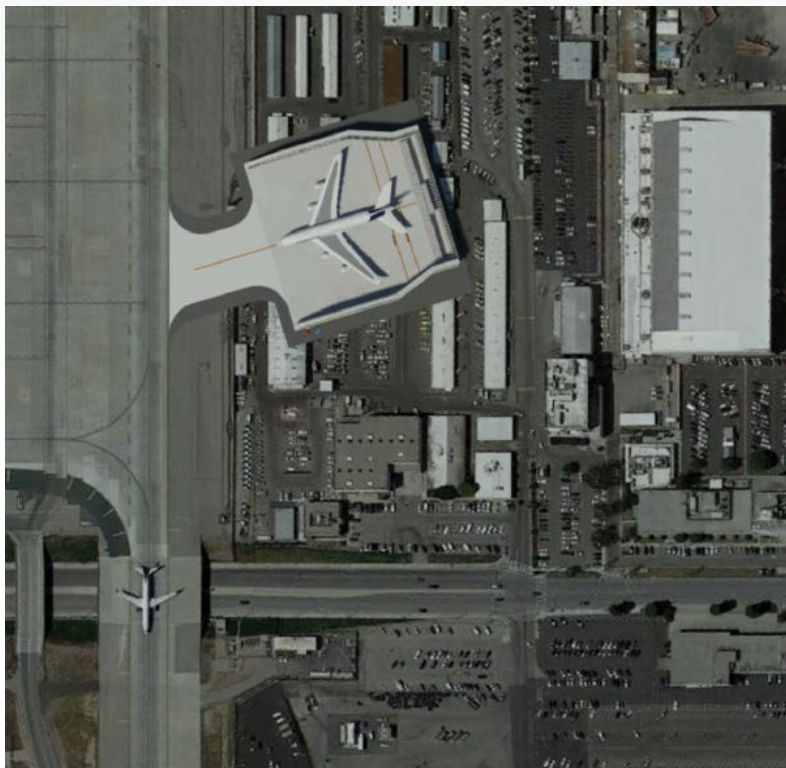
## Site 2. LAWA Construction and Maintenance Area:

- ADG VI GRE will fit without penetrating safety surfaces or impact taxiway/taxilane operations
- Southern portion of Site 2 best for line of site (LOS)
- Site 2 has two points of access: Taxiway AA and Taxilane E17 and several alternative routes to get to either taxiway or taxilane without crossing runways
- An ADG VI or smaller GRE would involve some conflicting taxiway aircraft movements on Taxiway AA (similar exists now)
- Site is between a half to one mile from maintenance areas
- Would need to relocate the existing LAWA Construction and Maintenance Facility



## 7 Variations at Site 2

### Rotated 17 Degrees Southward

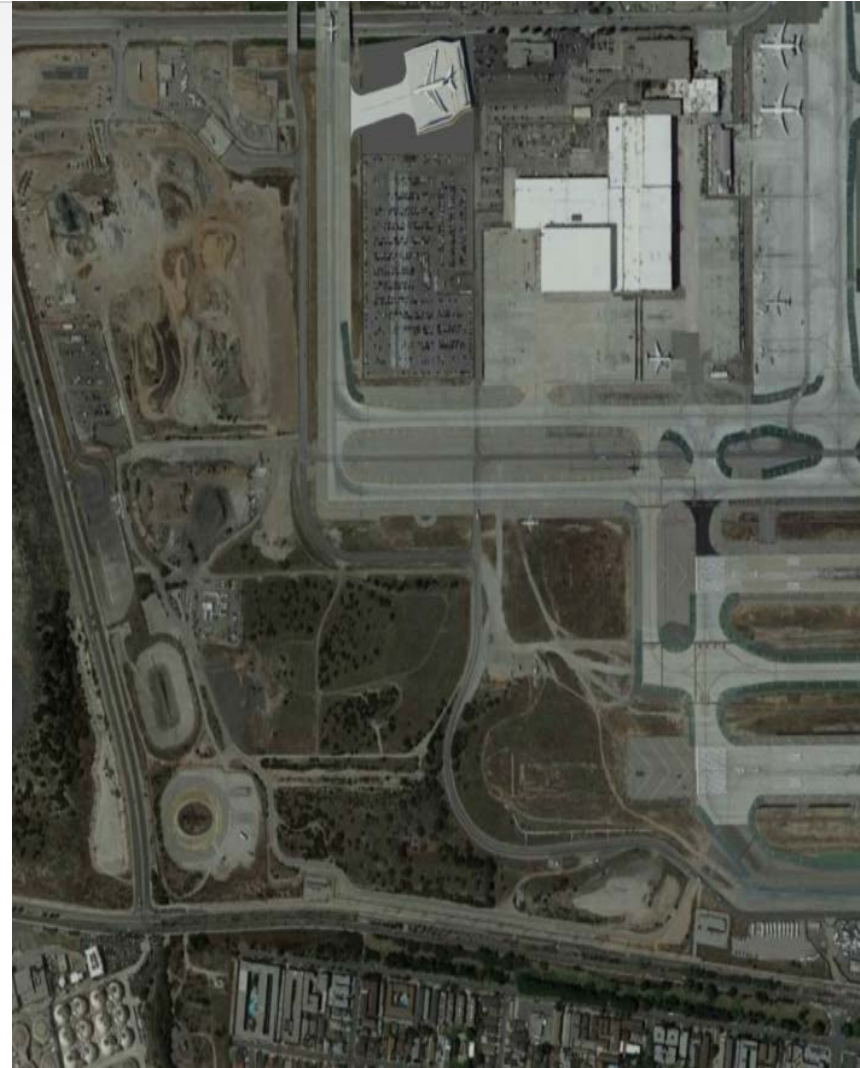


Extended North Wall

## Potential Sites Chosen for Further Evaluation – Site 7

### Site 7. American Airlines Employee Parking:

- ADG VI GRE will fit without penetrating safety surfaces or impact taxiway/taxilane operations.
- A GRE located northern portion of the site would most likely create additional LOS shadows for Taxilane E17 or Taxiway AA, but would not cause additional LOS shadow if located on the southern portion.
- Site 7 has two points of access: Taxiway AA and Taxilane C and several alternative routes to get to either taxiway or taxilane without crossing runways.
- An ADG VI or smaller GRE structure at Site 7 would involve some conflicting taxiway aircraft movements on Taxiway AA (similar exists now)
- Site is between a half to one mile from maintenance areas
- Would need to relocate the existing parking and compressed natural gas (CNG) fueling facility, and might affect existing groundwater wells at the site. Location near the northern portion would reduce affects on parking and groundwater wells





## 9 Variations at Site 7

### Rotated 13 Degrees Southward



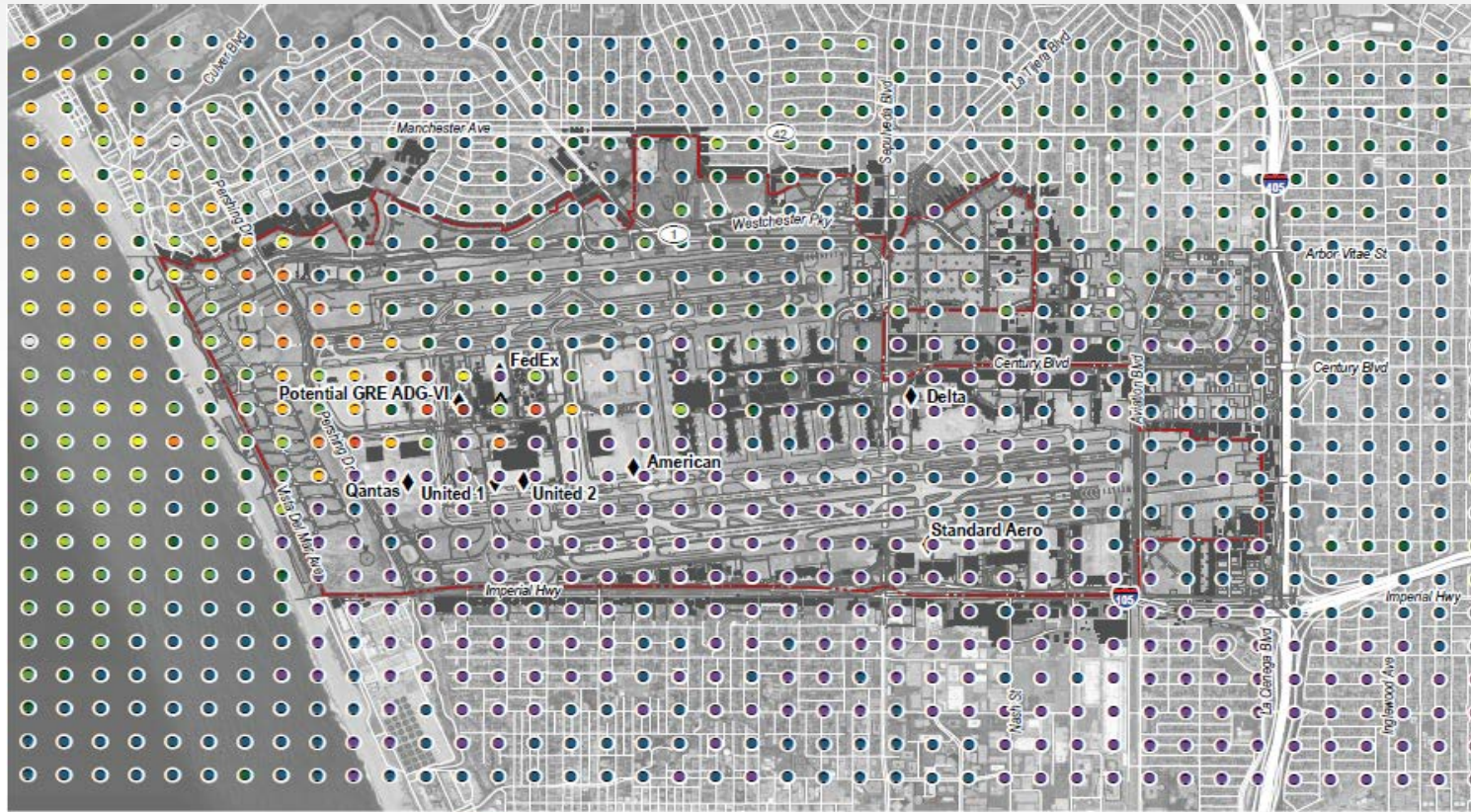
Extended North Wall

## CNEL and Lmax Results

- No GRE-Scenario: CNEL associated with the existing conditions;
- With GRE-Scenario 1: An ADG IV GRE at Site 2 with a requirement that all aircraft in ADG IV and below use the GRE for all high-power run-ups (i.e., any time in day, evening, or night;)
- With GRE-Scenario 2: An ADG IV GRE at Site 2 with a requirement that all aircraft in ADG IV and below use the GRE for evening and night only (7:00 pm to 7:00 am) high-power run-ups; and
- With GRE-Scenario 3: An ADG VI GRE at Site 2 with a requirement that all aircraft in ADG VI and below use the GRE for all high-power run-ups (i.e., any time in day, evening, or night).

CNEL values associated with the scenarios were presented in two ways - high-power ground run-up noise only and high-power ground run-up noise combined with daily flight operations noise.

# Site 2: With-GRE Scenario 3 Compared to No GRE – Run-up Noise Only



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# Site 2: With-GRE Scenario 3 Compared No GRE – Run-up + Flight Operations



Note: Flight operations data results are from the 2015 No Project scenario in the FAA Integrated Noise Model for the LAX Runway Safety Area Study provided by Ricordo & Associates, Inc.



0 3,000 6,000 Feet

Miller & Hanson Inc., 2014

— Airport Boundary

◆ High Power Run-up Locations

■ Modeled Building Location

Differences in CNEL Values

- $\leq -5$  dB
- $\leq -1.5$  and  $\geq -5$  dB
- $\leq -0.5$  and  $\geq -1.5$  dB
- $< 0$  and  $\geq -0.5$  dB
- 0
- $> 0$  and  $< 0.5$  dB
- $\geq 0.5$  and  $< 1.5$  dB
- $\geq 1.5$  and  $< 5$  dB
- $\geq 5$  dB

- **Run-up noise alone – with GRE**

- Reduction between 1.5 decibels (dB) and 20+ dB in most areas around the airport (greatest reduction under Scenario 3)
- Under that scenario, the greatest overall reduction in CNEL for run-up noise alone would occur in El Segundo to the south, where the reduction would be between 10 dB and 20+dB.
- The one notable exception to the CNEL reduction was the area northwest of the airport, particularly the Playa del Rey area, which could experience a CNEL increase between 1.5 dB and 10 dB for run-up noise only (due to relocation of all high-power run-ups at LAX to a single location and wall/GRE configuration) ... can resolve by tilting GRE or extending northern wall)

- **Run-up noise + Flight Operations – with GRE**

- Very little change from existing conditions, generally on the order of 0 to 0.5 dB change in CNEL for all areas around the airport. This result reflects the fact that the CNEL is dominated by noise from flight operations.

# 14 Conclusions, Next Steps and Questions

- Conclusions and Recommendations
  - ADG VI GRE
  - Site 2 (southern area) or Site 7 (northern portion)– either variation (17 degree tilt southward or extended north wall)
  - Further refinements to location, orientation and design, based on additional analysis, as part of the environmental review process
- Next Steps
  - Environmental review process
  - Refine operations, policies associated with GRE implementation
- Questions?