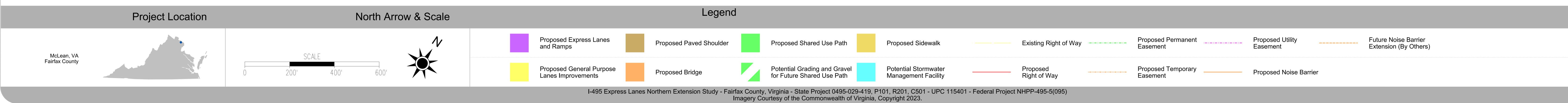
# I-495 Express Lanes Northern Extension Project Design Features at Live Oak Drive - June 2023

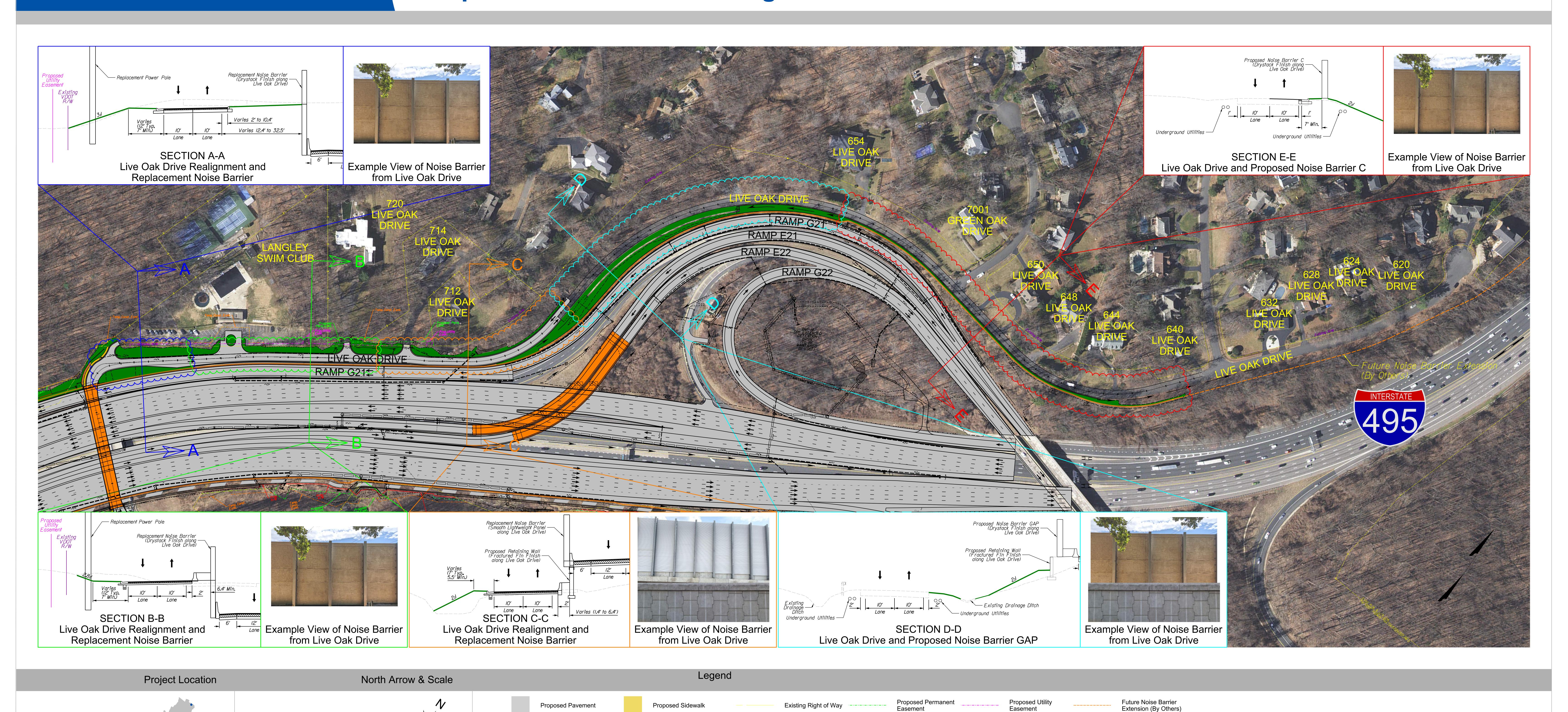




McLean, VA Fairfax County

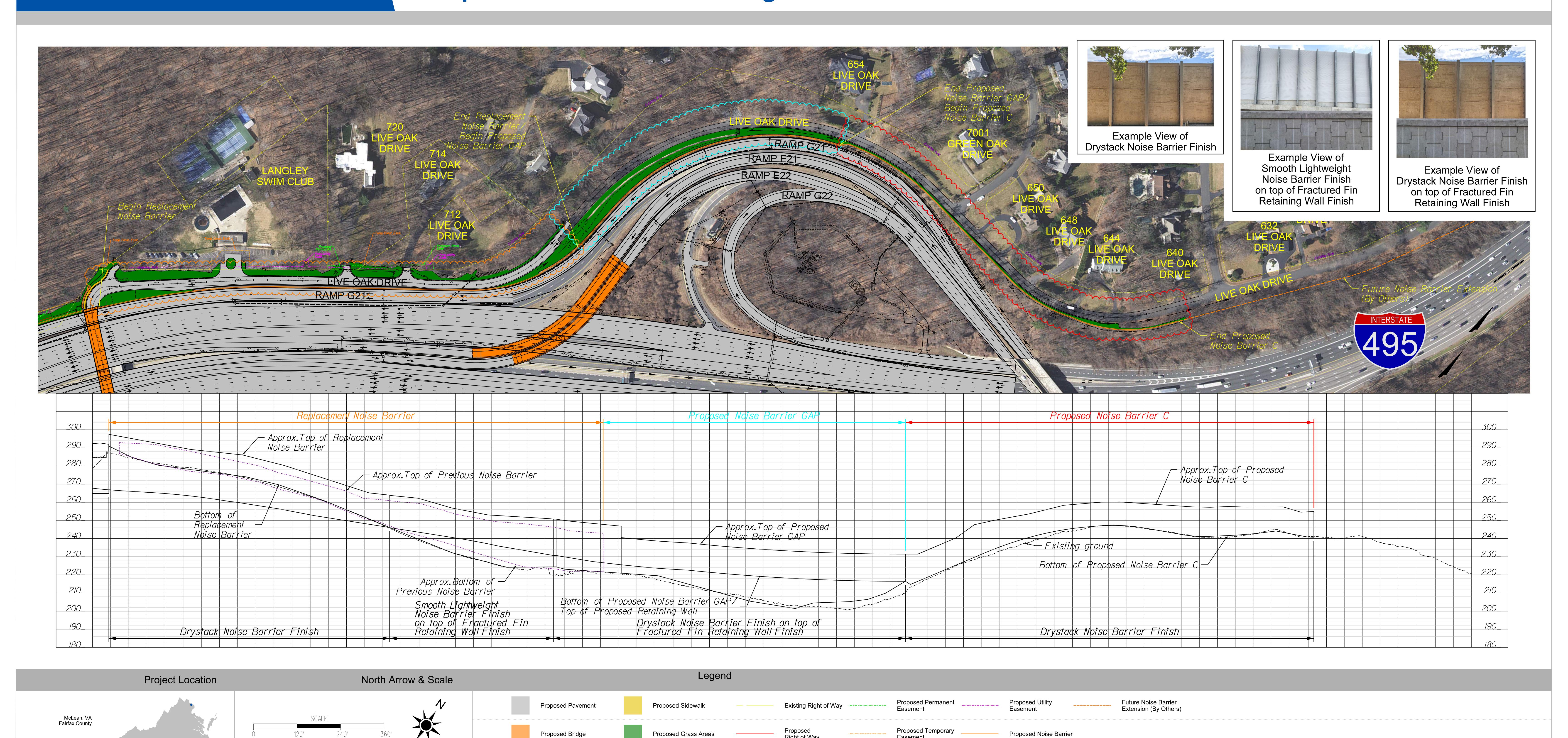
### I-495 Express Lanes Northern Extension

Proposed Noise Barrier along Live Oak Drive - June 2023



Proposed Bridge

## I-495 Express Lanes Northern Extension Proposed Noise Barrier along Live Oak Drive - June 2023







### NOISE ANALYSIS PROCESS

#### Identify noise receptors

- Identify Common Noise Environments (CNE) (typically within 500 feet of the highway)
- Identify noise sensitive receptors within each CNE (such as residences, parks and schools)

#### Perform noise measurements at representative receptors along the corridor

#### Perform noise modeling

- Develop noise models of existing and future roadway conditions using computer modeling (incorporates roadway design, traffic volumes and speed, receptors, topography, and ground type)
- Validate model with noise measurements data
- Compute existing, no-build and build design-year sound level

#### Identify impacts (is noise mitigation warranted?)

- Approach or exceed Federal Highway Administration (FHWA) noise abatement criteria (e.g., 67 dB(A) for residences, parks, or schools) or
- 10 decibel increase above existing noise levels

#### Design and assess mitigation (typically noise walls)

#### Is the wall feasible?

- Does it work acoustically (do 50% or more of the impacted receptors receive a 5 dB(A) or more noise reduction?
- Can it be constructed (e.g. are there safety, drainage, utilities, maintenance, or other issues)?

#### Is the wall reasonable?

- Approach or exceed Federal Highway
   Administration (FHWA) noise abatement
   criteria (e.g., 67 dB(A) for residences, parks, or schools) or
- 10 decibel increase above existing noise

Present noise study results and preliminary noise wall locations at public hearing(s)

Finalize noise barrier designs once the project has received design approval

Obtain VDOT Chief Engineer approval

Obtain FHWA concurrence

Solicit public input from benefited property owners and renters (voting process)

Incorporate approved noise wall(s) into the final road design construction plans