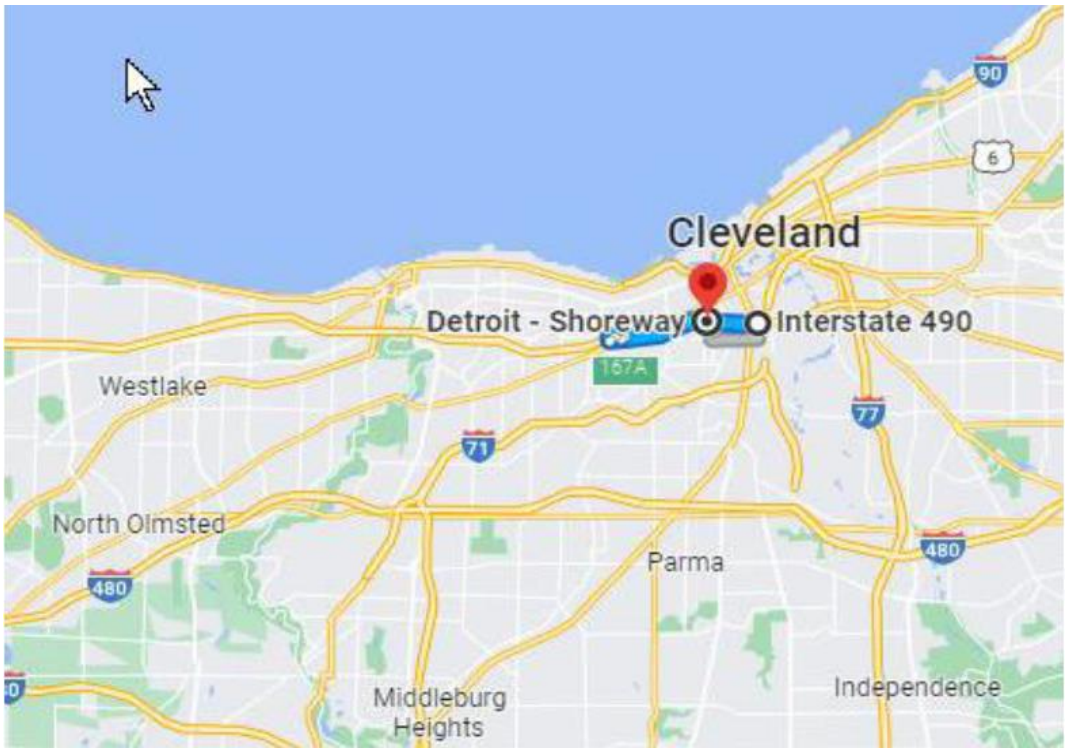
Design Exception Request

CUY-90-6.83

PID: 76779; Request 01

Letting Type: ODOT-Let

Design Designation			
I-90; 6.84-14.94			
Current ADT (2025)	163,000	Td	0
Design Year ADT (2045)	217,000	Design Speed	60
Design Hourly Volume (2045)	21,500	Legal Speed	60
Directional Distribution	58	Design Functional Class	1 - Interstates
Trucks (24hr B&C)	6	Functional Class Area Type	Urban
		NHS Project	Yes



Submitted By:

E-SIGNED by Jim Sima
on 2023-06-14 08:08:32 EST

Jim Sima
(Engineer of Record)

J.S.

Engineer of Record Seal

Approved by:

E-SIGNED by Adam Koenig
on 2023-06-14 14:14:36 EST

Adam Koenig

Approval Date: 6/15/2022

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Controlling Criteria Identification			
Section: I-90; 6.84-14.94			
Controlling Criteria	**Standard**	**Existing (a.)**	**Proposed**
Lane Width			
Shoulder Width			
Horizontal Curve Radius			
Maximum Grade			
SSD (Horizontal & Crest Vertical)			
Pavement Cross Slope			
Superelevation Rate			
Vertical Clearance	16 ft	14.40 ft WB at Wooster Rd 14.60 ft WB at W. 114th St. Ped. 14.40 ft EB at W. 110th St. 14.80 ft EB at W. 106th St. 14.70 ft WB at W. 65th St. 14.70 ft EB ENT from Clark Ave.	14.89 ft at Wooster Rd 14.31 ft EB at W. 114th St. Ped. 14.24 ft EB at W. 110th St. 14.84 ft EB at W. 106th St. 15.03 ft WB at W. 65th St. 14.38 ft EB ENT from Clark Ave.
Design Loading Structural Capacity			
(a.) "Existing" may be N/A (i.e. New alignment or new ramp)			

Project Description

Full depth pavement reconstruction of Interstate 90 from the Hilliard Blvd to I-490 in the cities of Rocky River, Lakewood and Cleveland, OH. Project includes full depth ashpalt concrete pavement for mainline I-90, and full depth concrete pavement for service interchange ramps. Project also includes drainage upgrades including replacement of portions of storm sewer trunk line and laterals, signing, pavement marking and ITS upgrades.

Section Description

Eight locations of deficient existing vertical clearance are proposed to remain. Proposed Vertical clearance requirement per L&D Volume 1 Figure 302-2 is 14.5 feet, but per Note “F”, 16 feet is required if there is no alternate interstate route. The alternate route I80E -I480E - I71N does not provide the required 16 feet of vertical clearance.

Proposed Mitigation
None

Support for Deviation (Benefit-cost, R/W, Environmental, Constructability, Coordination with Other Projects, Relationship between any crash patterns and proposed design exception, etc.):
Hilliard Ramp B: The proposed roadway profile is constrained by the western project limit, the low point located to the west of the overpass and the existing retaining walls along Ramp A and Ramp B. No profile adjustments are planned in this area, and the proposed vertical clearance matches existing. Project does not include replacement of Ramp B superstructure, reconstruction of the retaining walls, or right of way acquisition.
Wooster Rd.: Proposed roadway profile adjustments are limited by the retaining walls on the northwest and southeast corners of the structure. Proposed profile grade is 7.3" below existing grade. Project scope does not include raising of Wooster Road structure.
W. 114th St. Ped Bridge: Profile adjustments are limited by the retaining walls located on both sides of I-90 between W. 110th St.and W. 106th St. Shallow foundations for these retaining walls and existing integral drainage infrastructure prevent profile lowering.
W. 110th St.: Profile adjustments are limited by the retaining walls located on both sides of I-90 between W. 110th St.and W. 106th St. Shallow foundations for these retaining walls and existing integral drainage infrastructure prevent profile lowering.
W. 106th St.: Profile adjustments are limited by the retaining walls located on both sides of I-90 between W. 110th St.and W. 106th St. Shallow foundations for these retaining walls and existing integral drainage infrastructure prevent profile lowering.
W. 65th St.: Profile adjustments are limited by the existing slope adjacent to the roadway section on the south side. Lowering the profile would require costly slope/retaining wall installations that are not part of the scope of the project.
Ramp CL-18: Profile adjustments are limited by the existing slope adjacent to the roadway section on the south side at the east end of the ramp. Lowering the profile requires costly slope/retaining wall installations that are not part of the scope of the project.
W. 41st St., CUY-752-01164 over I-90: Profile adjustments are limited by the surface elevation of the existing pier foundations. Lowering the roadway would require costly reconstruction of the substructure, which is not part of the project scope. Project scope does not include raising of the W. 41 St. structure.

Does the requested Design Exception location fall within a Safety Integrated Project (SIP) Map Location?
Yes, Blue Location;#Yes, Red Location

Does the crash analysis (GCAT and CAM Tool) show any patterns that would be adversely impacted by the proposed Design Exception?
No