

DRAFT

COMPARISON OF ALTERNATIVES
Local Concept Development Study for Retaining Wall & Slope Stabilization Improvements
Along Manhattan Avenue, Union City, Hudson County, NJ

Alternative No.	0	1A	1B	2A	2B	3A	3B	4	5
Alternative Description	No Build (Existing Condition)	In-Place Rehabilitation Without Slope Stabilization	In-Place Rehabilitation With Slope Stabilization	Construct New Wall in Front of the Existing Wall & Widen Roadway	Construct New Wall in Front of the Existing Wall & Reduce Lane Widths	Dismantle and Fully Rehabilitate Existing Wall & Widen Roadway	Dismantle and Fully Rehabilitate Existing Wall & Reduce Lane Widths	Remove the Existing Wall (Expose Rock Face) & Construct New Retaining Wall Above Cliff	Construct New Wall in Front of North Wall, Dismantle and Fully Rehabilitate the South Wall ^A
Meets Project Purpose and Need	NO	NO	No	YES	YES	YES	YES	NO	YES
Maintenance and Protection of Traffic									
Ability to Maintain Pedestrian and Bicycle Traffic During Construction	N/A	Yes	Yes	No ¹	Yes	No ¹	Yes	Yes	Yes
Roadway/Lane Width Provided along North Wing Viaduct	36'-0" Total (2) 11'-0" travel lanes (2) 7'-0" parking lanes	Maintain Existing Lane Configuration	Maintain Existing Lane Configuration	Widen Roadway & Maintain Existing Lane Configuration	32'-0" Total (2) 12'-0" travel lanes (1) 8'-0" parking lane ²	Widen Roadway & Maintain Existing Lane Configuration	32'-0" Total (2) 12'-0" travel lanes (1) 8'-0" parking lane ²	Maintain Existing Lane Configuration	Maintain Existing Lane Configuration
Roadway/Lane Width Provided along South Wing Viaduct	36'-0" Total (2) 18'-0" travel lanes	Maintain Existing Lane Configuration	Maintain Existing Lane Configuration	Widen Roadway & Maintain Existing Lane Configuration	32'-0" Total (2) 16'-0" travel lanes	Widen Roadway & Maintain Existing Lane Configuration	32'-0" Total (2) 16'-0" travel lanes	Maintain Existing Lane Configuration	Maintain Existing Lane Configuration
Roadway/Lane Width Provided at South Wing & 14th St. Intersection	36'-0" Total (1) 16'-0" thru lane (1) 10'-0" thru lane (1) 10'-0" turning lane	Maintain Existing Lane Configuration	Maintain Existing Lane Configuration	Widen Roadway & Maintain Existing Lane Configuration	32'-0" Total (2) 11'-0" thru lanes (1) 10'-0" turning lane	Widen Roadway & Maintain Existing Lane Configuration	32'-0" Total (2) 11'-0" thru lanes (1) 10'-0" turning lane	Maintain Existing Lane Configuration	Maintain Existing Lane Configuration
Roadway/Lane Width Provided at South Wing & Paterson Plank Rd Intersection	36'-0" Total (1) 15'-0" thru lane (1) 10'-0" thru lane (1) 11'-0" turning lane	Maintain Existing Lane Configuration	Maintain Existing Lane Configuration	Widen Roadway & Maintain Existing Lane Configuration	32'-0" Total (2) 11'-0" thru lanes (1) 10'-0" turning lane	Widen Roadway & Maintain Existing Lane Configuration	32'-0" Total (2) 11'-0" thru lanes (1) 10'-0" turning lane	Maintain Existing Lane Configuration	Maintain Existing Lane Configuration
Detour Length Required for North Wall Repairs (Nighttime Closures Only)	N/A	Not Required	0.7 miles	0.7 miles	0.7 miles	0.7 miles	0.7 miles	Not Required	0.7 miles
Detour Length Required for South Wall Repairs (Nighttime Closures Only)	N/A	Not Required	2.0 miles	2.0 miles	2.0 miles	2.0 miles	2.0 miles	Not Required	2.0 miles
Detour Impacts, No. of Cars per Night (Nighttime Closures)	N/A	0	8698	8698	8698	8698	8698	8698	8698
Detour Costs (Public Impact)	N/A	\$ 457,000	\$ 2,284,000	\$ 1,828,000	\$ 1,828,000	\$ 1,828,000	\$ 1,828,000	\$ 1,371,000	\$ 1,828,000
Construction Duration									
Duration (Years)	N/A	1 to 1.5	2 to 2.5	1.5 to 2	1.5 to 2	2 TO 2.5	2 TO 2.5	1.5 to 2	2 TO 2.5
Right of Way / Access Impacts									
Required ROW (in fee - Acres)	N/A	0.17 ³	0.17 ³	0	0	0.17 ³	0.17 ³	0.17 ³	0
Number of Temporary Construction Easements Required	N/A	59 ⁴	59 ⁴	9 ⁵	9 ⁵	59 ⁴	59 ⁴	59 ⁴	38
Number of Partial Residential Property Acquisitions Required	N/A	4 ³	4 ³	0	0	4 ³	4 ³	4 ³	0
Potential Access Impacts	N/A	0	0	1 ⁶	0	1 ⁶	0	0	1 ⁶
Maintains Land Use Above Wall During Construction	N/A	No	No	Yes	Yes	No	No	No	Yes (North Wall) No (South Wall)
No. of Parking Spots Temporarily Impacted by Construction	N/A	139 ⁷	139 ⁷	80 ⁸	80 ⁸	139 ⁷	139 ⁷	139 ⁷	98 ⁹
No. of Parking Spots Permanently Impacted by Construction	N/A	0	0	0	40 ²	0	40 ⁹	59 ¹⁰	0
ROW Acquisition / Easements Costs	N/A	\$ 2,909,000	\$ 2,909,000	\$ 513,000	\$ 513,000	\$ 2,909,000	\$ 2,909,000	\$ 2,909,000	\$ 1,295,000
Alternate Parking Costs (Public Impact)	N/A	\$ 212,400	\$ 212,400	\$ -	\$ -	\$ 212,400	\$ 212,400	\$ 212,400	\$ 147,600
Contractor Staging and Storage Costs	N/A	\$ 1,506,000	\$ 1,506,000	\$ 1,506,000	\$ 1,506,000	\$ 1,506,000	\$ 1,506,000	\$ 1,506,000	\$ 1,506,000
Environmental/Historical Impacts									
Green Acres/ Public Park Impacts (Acres)	N/A	0.09 ¹⁰	0.09 ¹⁰	0.09 ¹⁰	0.09 ¹⁰	0.09 ¹⁰	0.09 ¹⁰	0.09 ¹⁰	0.09 ¹⁰
Floodplain and Riparian Zone Impacts	No	No	No	No	No	No	No	No	No
Wetland and Stream Impacts	No	No	No	No	No	No	No	No	No
Hazardous Waste Sites Affected	No	No	No	No	No	No	No	No	No
Threatened or Endangered Species Affected	No	No	No	No	No	No	No	No	No
Avoids Adverse Effects on Eligible Cultural Resources (Yes/No)	Yes	No	No	No	No	No	No	No	No
Level of Adverse Effects on Eligible Cultural Resources (None/Low/High)	None	Low	High	High	High	Low	Low	High	High/Low
Rehabilitation of Historic Wall to Secretary of Interior's Standards Possible? (Yes/No/Maybe)	N/A	Yes	No	No	No	Yes	Yes	No	Yes (South Wall) No (North Wall)
Structural Design									
Increases Reliability and Durability of Wall	No	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes
Ability to Mitigate Future Wall Collapse/Failure	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Improves Drainage Capabilities?	No	No	Yes, Slightly	Yes	Yes	Yes	Yes	N/A	Yes
Stabilizes Palisade Rock Cliffs to Provide Slope Stabilization?	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Ability to Provide Architecturally Pleasing Finish and Appearance	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Estimated Construction Cost (\$ 2019)	N/A	\$ 39,527,000	\$ 49,024,000	\$ 35,505,000	\$ 32,315,000	\$ 50,399,000	\$ 47,232,000	\$ 27,049,250	\$ 43,322,000
Life Cycle Cost	N/A	\$ 8,470,000	\$ 2,876,000	\$ 1,173,000	\$ 1,173,000	\$ 1,173,000	\$ 1,173,000	\$ 9,529,000	\$ 1,173,000
Total Cost	N/A	\$ 53,090,000	\$ 58,820,000	\$ 40,530,000	\$ 37,340,000	\$ 58,030,000	\$ 54,870,000	\$ 42,580,000	\$ 49,280,000
Total Cost Per Square Foot^B	N/A	\$ 509	\$ 632	\$ 457	\$ 416	\$ 649	\$ 608	\$ 348	\$ 558

Notes:

- A. Repair Alternative 5 includes roadway widening and realignment.
- B. The average bid price for the 2008 Nor'easter Repairs was \$354 per square foot (for a concrete Formliner wall system). The equivalent cost, when considering inflation, would be \$490 per square foot.

1. Sidewalk access will be temporarily impacted during roadway widening and retaining wall reconstruction.
2. Southbound parking lane adjacent to the North Wall will have to be eliminated in order to provide the minimum lane width. This will permanently eliminate 40 parking spots.
3. Assumes that property located at 1206-1208 Palisade Avenue (multi-family home with parking lot and swimming pool) will have to be purchased to enable construction access to North Wall and to enable removal and replacement of gravity wall.
4. 31 properties along South Wall and 28 properties along the North Wall will be temporarily impacted during construction.
5. Even if the wall is built in front of existing wall, the north and south ends of the walls will have to be removed and reconstructed to enable tie-in to existing roadway alignment. This work will require 2 easements for the South Wall and 7 for the North Wall.
6. Doric Apartments parking lot will be impacted by roadway realignment work and the reconstruction of the retaining wall in their parking lot.
7. 59 Private parking spots (above the wall) and 80 public parking spots along the North Wing Viaduct will be impacted by the construction.
8. No impact to Private parking spots. However Parking along North Wing Viaduct (80 Spots) will still be impacted by the construction.
9. No impact to Private parking spots along the North Wall. However Parking along North Wing Viaduct (80 Spots) and Private Parking along the top of the South Wall (18 spots) will still be impacted by the construction.
10. Acreage of Washington Park property that will be temporarily impacted during construction.