NJTPA - Local Concept Development Study Retaining Wall and Slope Stabilization Improvements Along Manhattan Avenue Union City, Hudson County, NJ

Community Stakeholder's Meeting

July 18, 2018

Meeting Agenda

- Project Team Introduction
- Project Overview and Background
- Purpose & Need Statement
- Development of Alternatives
- Proposed Detour Routes
- Project Contact Information
- Questions and Comments

Project Team Organization Chart

Sascha Frimpong, MPA
NJTPA Program Manager

Richard Brundage, PE
NJTPA Project Manager

Thomas Malavasi, PE, PP, CME, CPWM
Hudson County Engineer

Anthony Pisani, PE
Hudson County Chief Engineer

Pamela Garrett, PMP, CPM
NJDOT-BEPR
Environmental Project Manager

Nabil Ayoub
NJDOT-LA
Local Aid Coordinator

- Pamela Garrett, PMP, CPM
- Nabil Ayoub

- Sascha Frimpong, MPA
- Richard Brundage, PE

- Thomas Malavasi, PE, PP, CME, CPWM

William C. Pyontek, PE, PP
FPA Project Manager
Historic Structures Expert

- William C. Pyontek PE, PP
- Jon Moren, PE

Jon Moren, PE
FPA Deputy Project Manager/ Technical Advisor

- Robert B. Piel, Jr.

Robert B. Piel, Jr.
Amy S. Greene Environmental Consultants
Project Manager

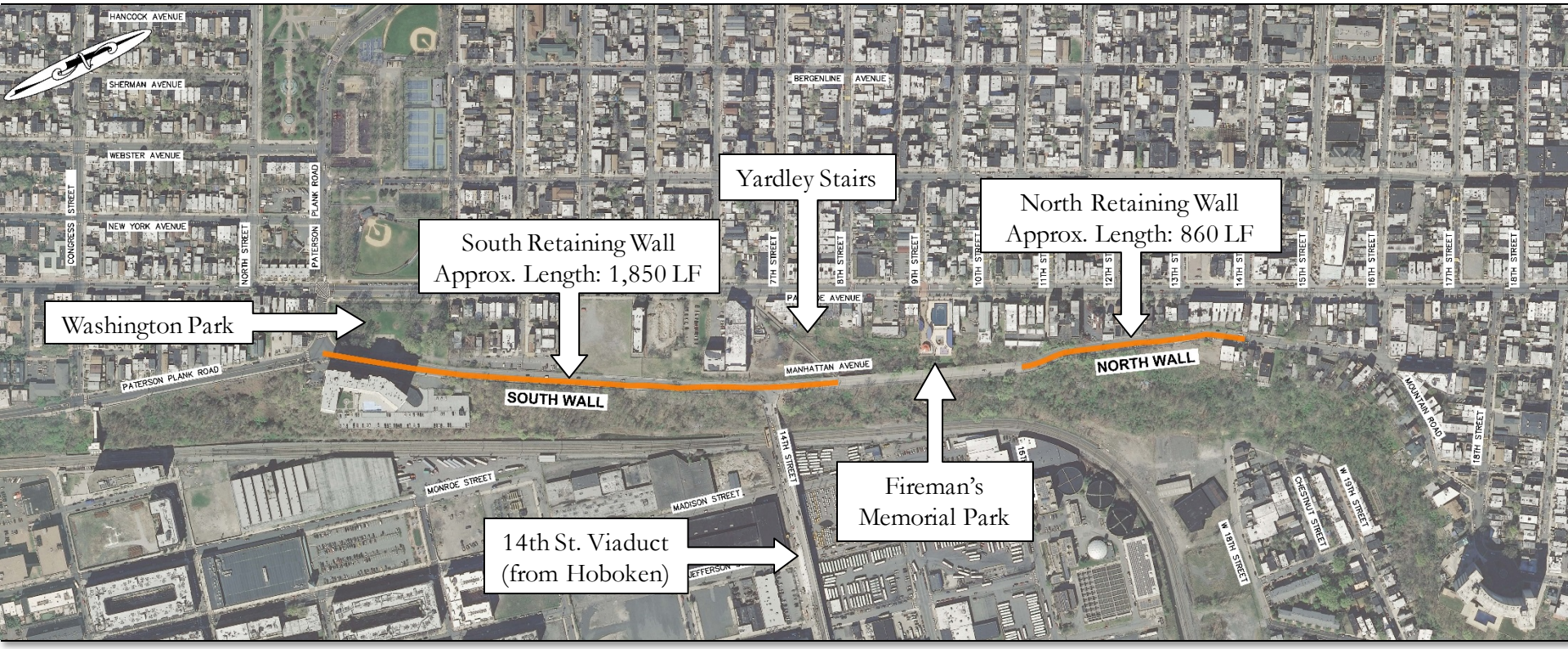
- Nicole Pace-Addeo, MA

Nicole Pace-Addeo, MA
Stokes Creative Group
Community Involvement Facilitator

- Patrick Harshbarger, MA, MPA

Patrick Harshbarger, MA, MPA
Hunter Research Group
Principal Historian

Site Location Map

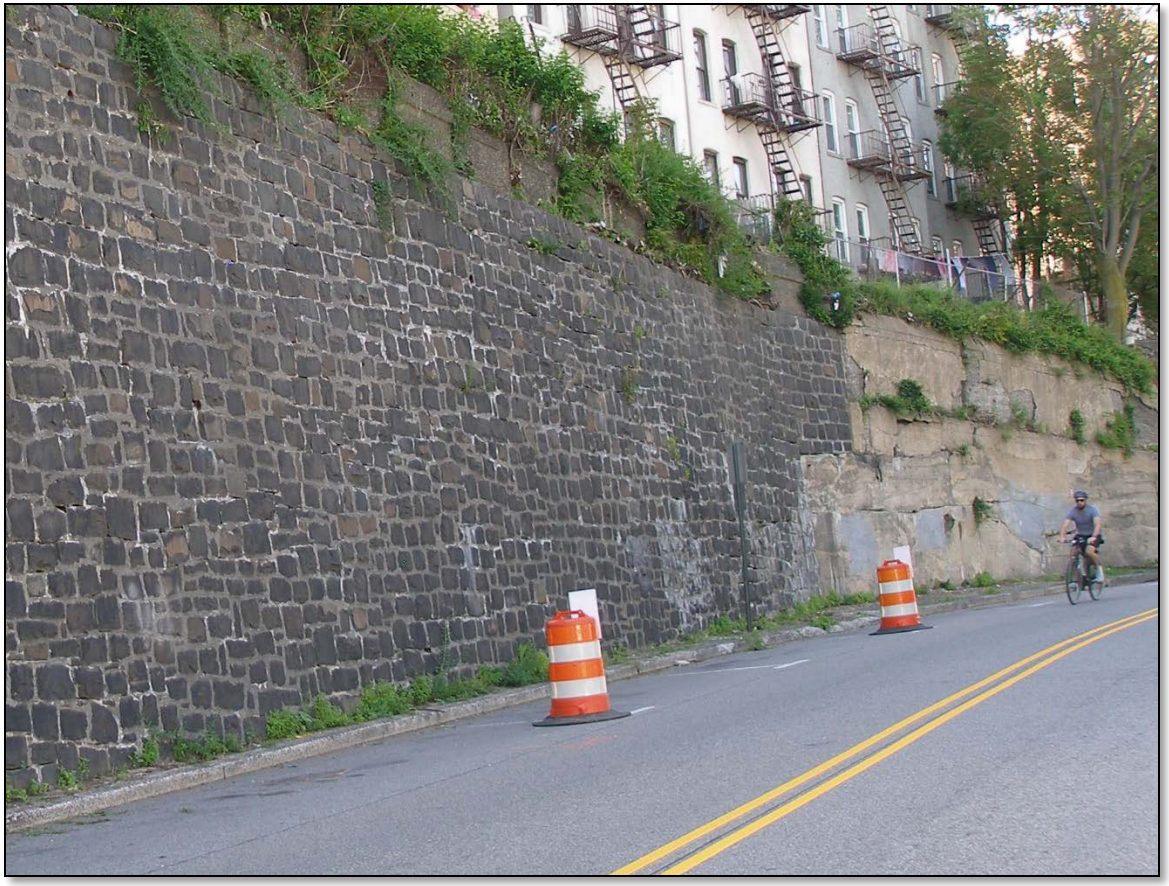


- The Manhattan Avenue Retaining Walls were built between 1912 and 1914.

South Wall Overview

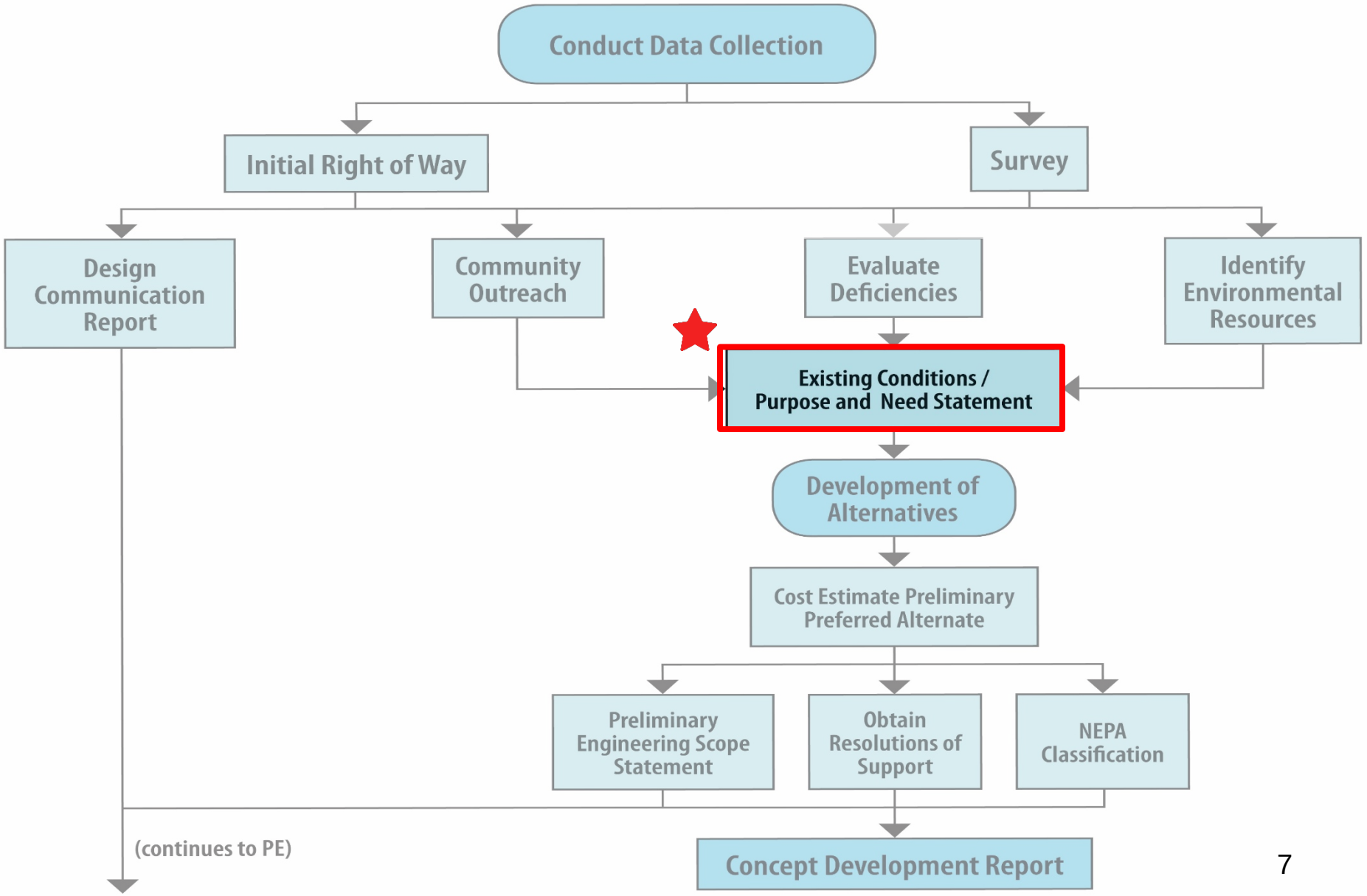
- Average Daily Traffic of more 20,000 vehicles (cars, trucks & buses).
  - Vital Link between the cities of Union City and Hoboken with direct access to the Lincoln and Holland Tunnels

North Wall Overview



- Average Daily Traffic of about 7,000 cars.
  - Manhattan Avenue also has a large amount of pedestrian and bicycle traffic.

Purpose and Need Statement



Purpose and Need Statement

- A well developed Purpose and Need Statement is necessary to secure funding from the Federal Government.
  - Must explain the **PURPOSE** of the project and why it is necessary (the **NEED**).
  - Includes a subsection that describes **GOALS AND OBJECTIVES** of the project.
  - The Project Team has prepared a draft Purpose & Need Statement, based upon online survey responses, but we are seeking additional suggestions and input from **YOU.**

Purpose and Need Statement (cont.)

Purpose:

- To rehabilitate or reconstruct the Manhattan Avenue Retaining Walls, which are over 100 years old, in order to improve public safety.

Need:

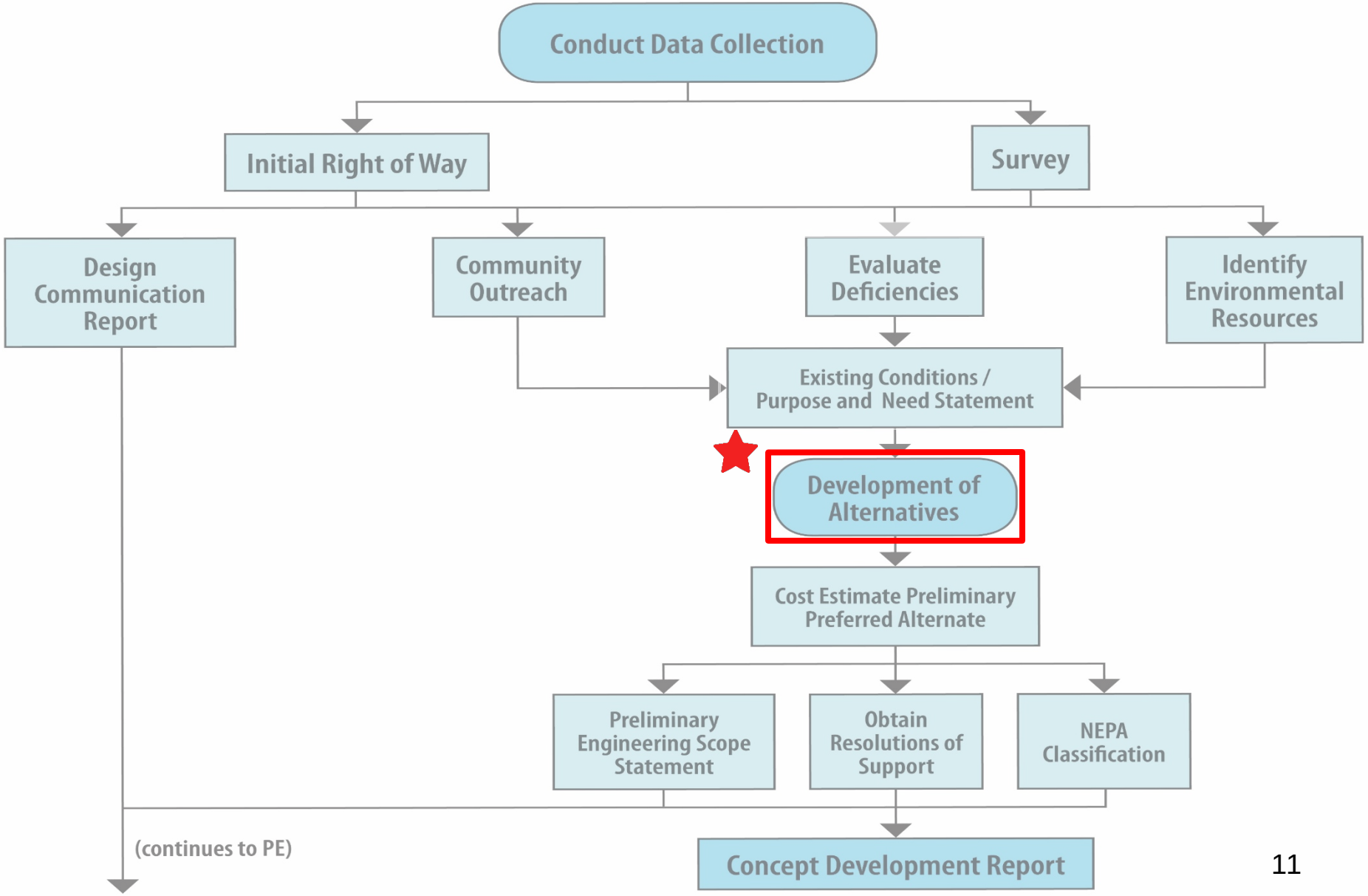
- **Need for Modernization** – The stone masonry walls are over 100 years old and are approaching the end of their useful lives.
- **Need For Constant Maintenance** – Numerous resources have been invested to inspect, maintain, and repair them. Within the last 30 years alone, there have been at least three (3) major rehabilitation projects and other smaller-scale maintenance projects that were implemented.
- **Need For Drainage Improvements** – Most of the weep holes appear to be clogged and not functioning.
- **Need for Safe & Reliable Wall** – A 150-foot-long by 40-foot-high segment of the South Wall collapsed in April 2007, during a major Nor'easter.

Purpose and Need Statement (cont.)

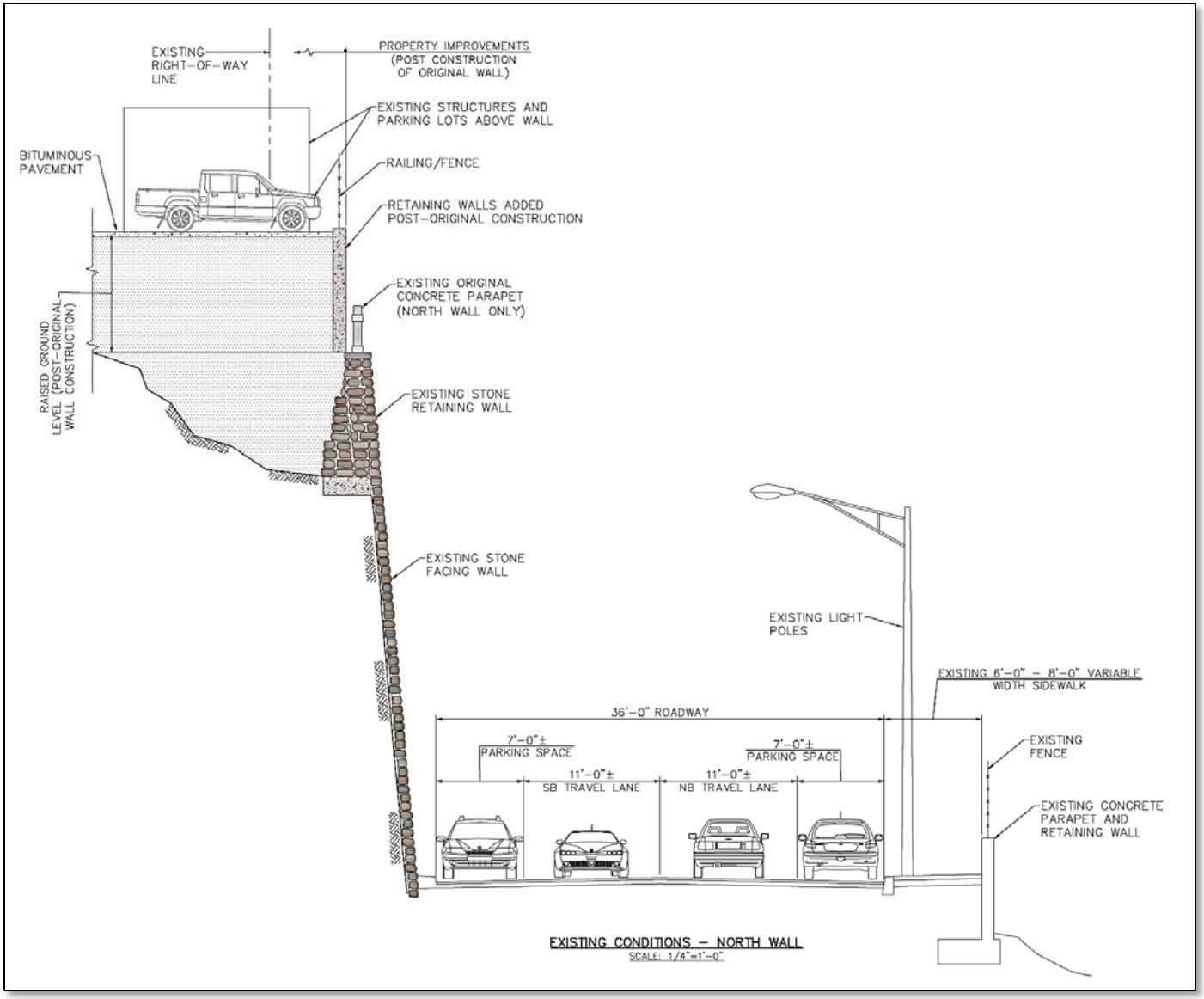
Goals & Objectives:

- Reinforce and modernize the walls
- Improve drainage
- Maintain accessibility to pedestrians, bicyclists and motorists & minimize inconvenience to public
- Provide durable and long-lasting repairs
- Avoid or minimize social, economic, and environmental impacts
- Implement context sensitive design solutions.
- Coordinate construction with other ongoing high-level transportation projects in the region.

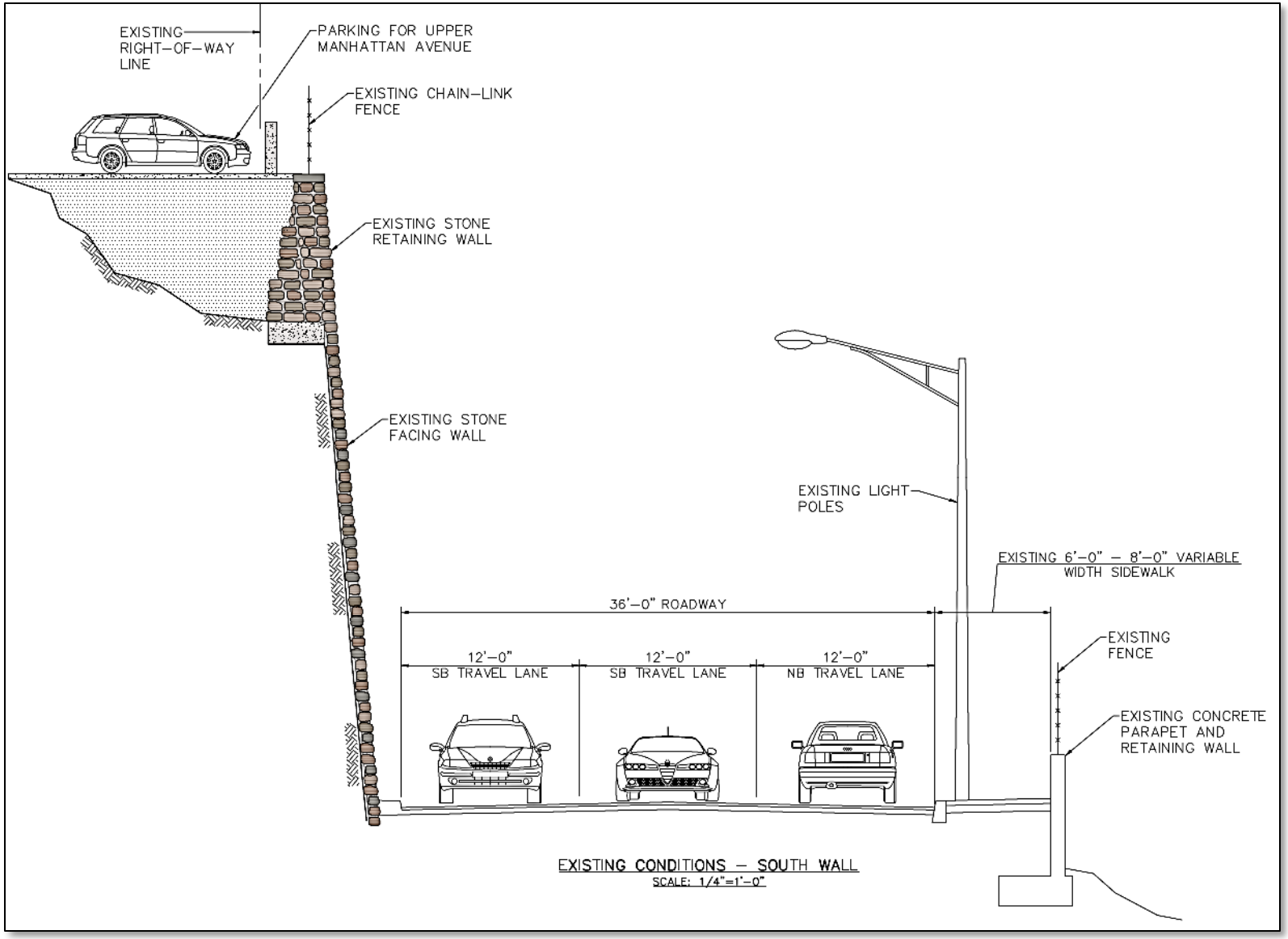
Development of Alternatives



Existing Conditions – North Wall



Existing Conditions – South Wall

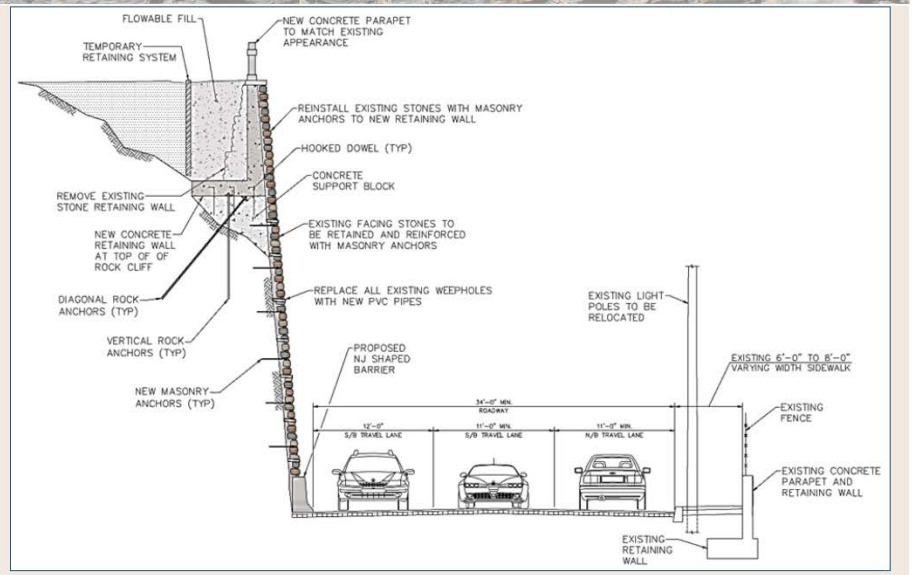


Repair Alternatives

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

Repair Alternative #1A

In Place Rehabilitation Without Slope Stabilization



BENEFITS:

- Reduces wall demolition.
- Maintains existing wall appearance and roadway location.
- Shorter construction duration.
- Can be developed in a manner that meets Secretary of Interior Standards. Assumed to be most desirable to State Historic Preservation Office (SHPO).

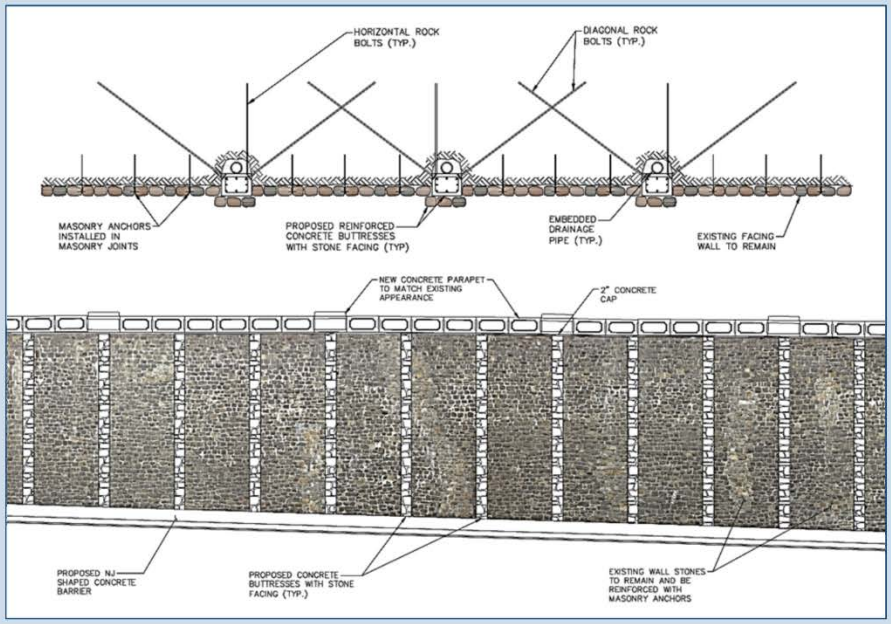
DRAWBACKS:

- Does not improve mismatched appearance of the previous various wall repairs.
- Requires removal of existing retaining wall and property impacts.
- Does not enable installation of new drainage enhanced system behind wall.

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

Repair Alternative #1B

In Place Rehabilitation with Slope Stabilization



BENEFITS:

- Minimizes wall demolition.
- Reinforces the rock cliff behind the existing wall to prevent fractures.
- Enables installation of new drainage system behind wall.

DRAWBACKS:

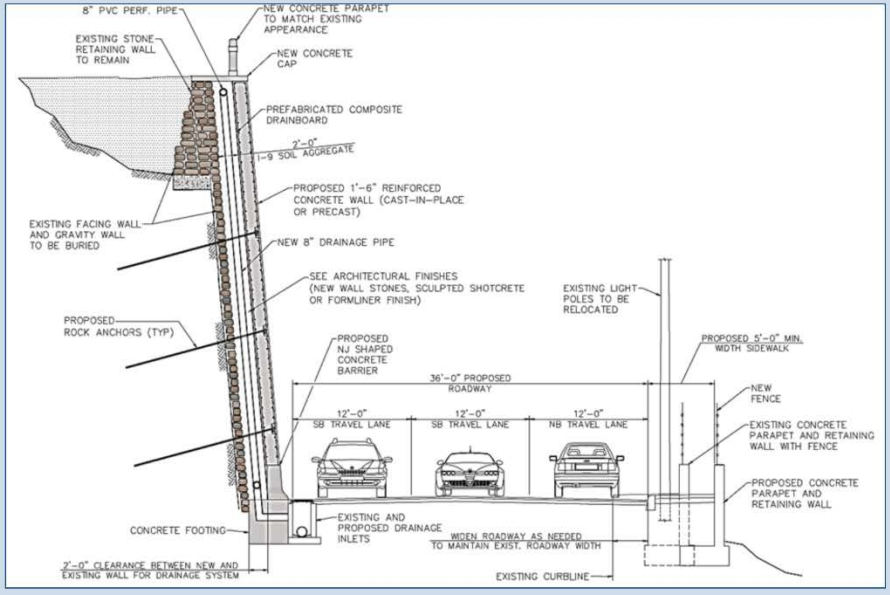
- Modifies existing appearance of wall.
- Requires significant rock excavation to provide enough set-back for buttresses to avoid encroaching on roadway.

Repair Alternatives (cont.)

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

Repair Alternative #2

Construct New Retaining Wall in Front of Existing Wall



BENEFITS:

- Eliminates need for wall demolition & need for temporary retaining system.
- No impact to existing structures above the wall. Structures built on retained soil (parking lots, swimming pool, retaining walls etc.) can remain (if desired).

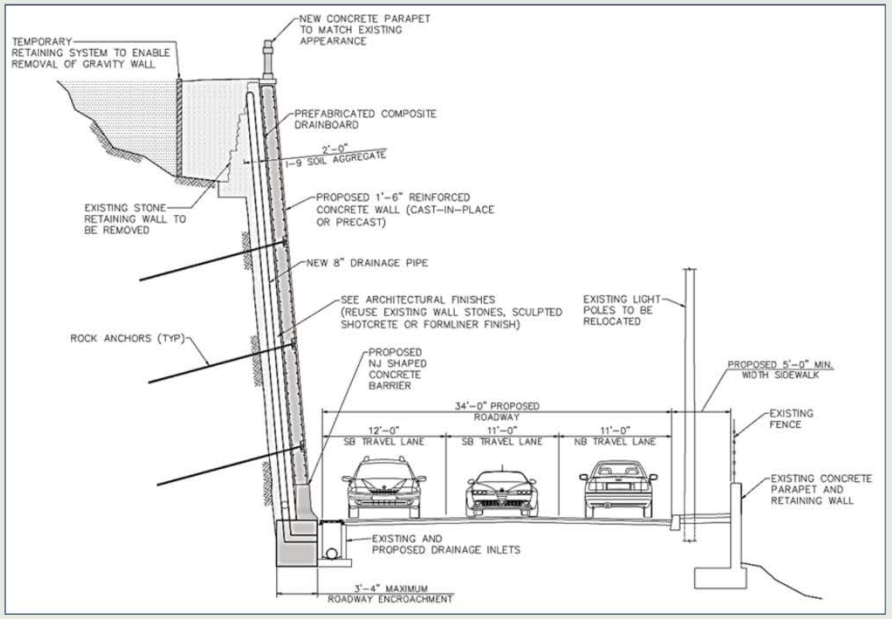
DRAWBACKS:

- Requires roadway realignment and shift (to the east), to provide additional space for new wall.
- Does not maintain existing historic appearance of the walls.
- Requires replacement of some of the existing retaining walls on the east side of Manhattan Avenue.

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

Repair Alternative #3

Remove & Replace Existing Retaining Wall



BENEFITS:

- Maintains existing roadway alignment.
- Eliminates all unknown and hidden risks associated with the existing wall.
- Could reuse existing stones to maintain existing historic appearance.

DRAWBACKS:

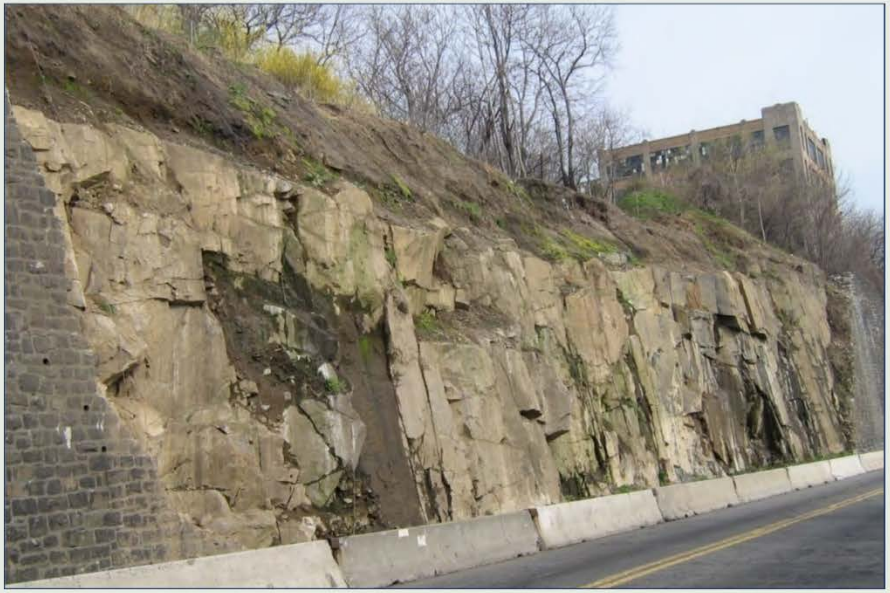
- Will impact existing structures above the wall that were built on retained soil (parking lots, swimming pool, retaining walls etc.).

Repair Alternatives (cont.)

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

Repair Alternative #4

Remove the Existing Retaining Wall



BENEFITS:

- Eliminates the long term need for maintenance of the retaining wall.

DRAWBACKS:

- Impacts aesthetic appearance.
- Unknown profile of rock face behind wall.
- Risk of encountering unknown conditions once demolition work begins. May require additional work to stabilize exposed rock face.

Architectural Finish Alternatives

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

Architectural Finish Alternative #1

Hand Sculpted and Stained Shotcrete

Route 18 Project, New Brunswick, NJ

Sample sculpted shotcrete finishes. Masonry patterns are hand carved and can be customized to replicate the existing look of the Manhattan Avenue Retaining Walls (See sample bottom photo).

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

Architectural Finish Alternative #2

Decorative Concrete Formliner

South Wall Replacement Following 2007 Collapse—Formlined, But Not Stained

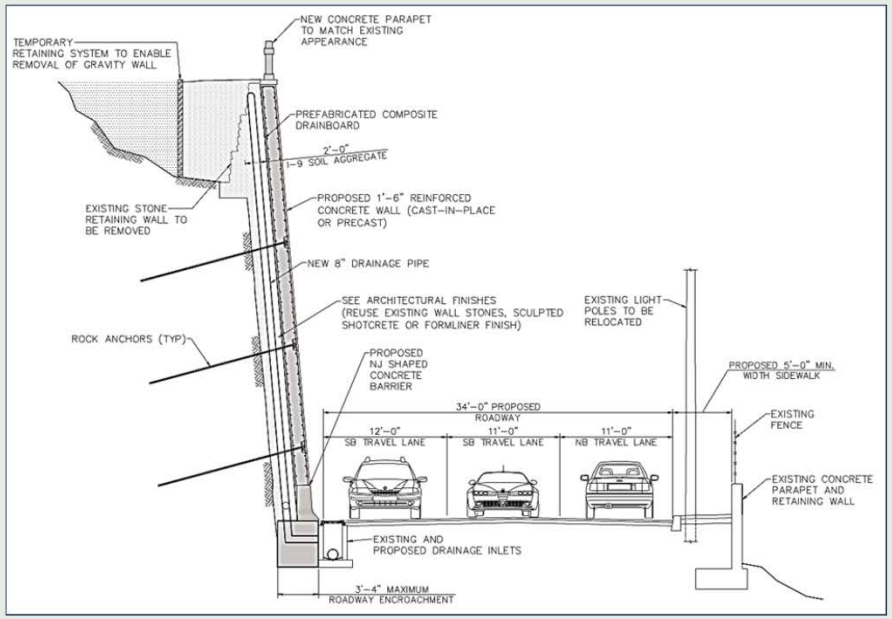
Sample decorative concrete formliner finishes. The 2008 repair utilized this type of wall system, but the concrete was not stained. Staining the concrete could help make it blend in with the adjacent stone masonry.

Architectural Finish Alternatives (cont.)

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

Repair Alternative #3

Remove & Replace Existing Retaining Wall



BENEFITS:

- Maintains existing roadway alignment.
- Eliminates all hidden risks associated with the existing wall.
- Could reuse existing stones to maintain existing appearance.

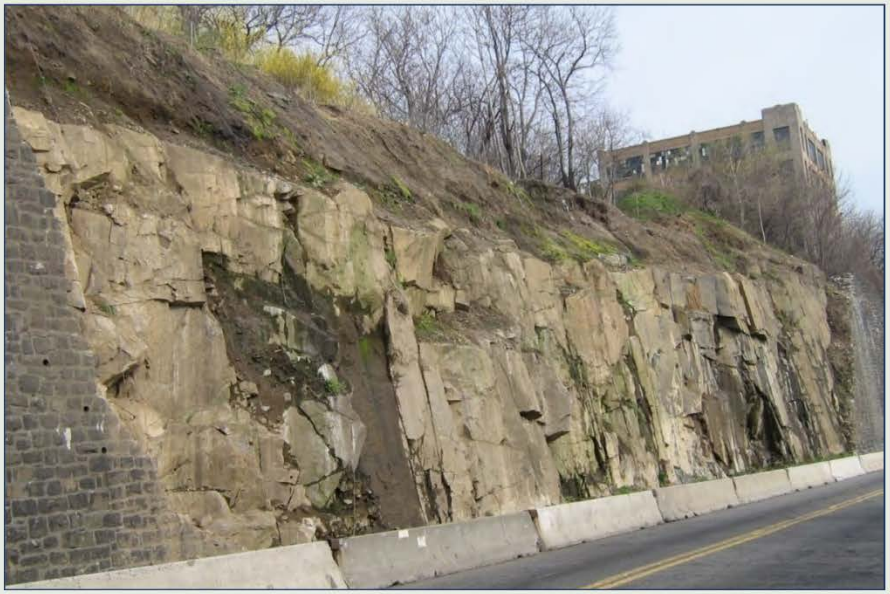
DRAWBACKS:

- Will impact existing structures above the wall that were built on retained soil (parking lots, swimming pool, retaining walls etc.).

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

Repair Alternative #4

Remove the Existing Retaining Wall



BENEFITS:

- Eliminates the long term need for maintenance of the retaining wall.

DRAWBACKS:

- Impacts aesthetic appearance.
- Unknown profile of rock face behind wall.
- Risk of encountering unknown conditions once demolition work begins. May require additional work to stabilize exposed rock face.

Proposed Detour Routes

FY 2017 Hudson, Morris, & Somerset Counties Local Concept Development Studies Contract "B"
Retaining Wall & Slope Stabilization Improvements Along Manhattan Avenue

Proposed Detour Route for North Retaining Wall Repairs

14th Street Viaduct to 16th Street - Existing Route Travel Time and Distance

14th Street Viaduct to 16th Street - Proposed Detour Travel Time and Distance

	Travel Distance	Travel Time (w/o Traffic)
Existing Roadway	0.5 miles	2 minutes
Proposed Detour Route	1.2 miles	5 to 7 minutes
Net Increase	0.7 mile	3 to 5 minutes

FY 2017 Hudson, Morris, & Somerset Counties Local Concept Development Studies Contract "B"
Retaining Wall & Slope Stabilization Improvements Along Manhattan Avenue

Proposed Detour Routes for South Retaining Wall Repairs

14th Street Viaduct to Paterson Plank Road - Existing Route Travel Time and Distance

14th Street Viaduct to Paterson Plank Road - **Proposed Southern Detour**

14th Street Viaduct to Paterson Plank Road - **Proposed Northern Detour**

	Travel Distance	Travel Time (w/o Traffic)
Existing Roadway	0.7 miles	3 minutes
Proposed Detour Routes	2.6 / 2.7 miles	9-12 / 10-16 minutes
Net Increase	1.9 / 2.0 miles	6-9 / 7-13 minutes

Project Contact Information

- Nicole Pace-Addeo, MA – Stokes Creative Group, Community Involvement Facilitator
  - Phone: 201-564-0119
  - Email: npace@stokescg.com

- Manhattan Avenue Project Website and Twitter:
  - www.ManhattanAvenueWall.com/contact/
  - Twitter: @ManhattanAvWall

- Public Comments and Suggestions will be received throughout the project via the project website and hotline.

- **This Power Point Presentation will be posted on the Manhattan Avenue Project website after this Stakeholders meeting.**


Questions
&
Comments