

Brighton / Monroe Avenue Green Innovation Grant Program

www.brightonGIGP.org



OPEN HOUSE :: TUESDAY MAY 12TH FROM 4PM-7:30PM

Brighton Town Hall, 2300 Elmwood Avenue, Rochester, NY 14618

COME AND VIEW THE FINAL DESIGN AND UPCOMING CONSTRUCTION SCHEDULE FOR THE MONROE AVENUE GREENWAY

The **Monroe Avenue Green Innovation Grant Program (GIGP)** is designed to incorporate natural systems into the Monroe Avenue corridor to improve stormwater management. Final designs reflect many good ideas and input from Brighton Residents.

The Town of Brighton is retrofitting this vital corridor with sustainable green infrastructure. Green infrastructure improvements can provide real ecological, economic, and social benefits as well as improve quality of life for residents of Brighton.

For more information, please contact:

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The Green Innovation Grant Program (GIGP) supports projects across New York State that utilize unique stormwater infrastructure design and create cutting-edge green technologies. GIGP-funded projects may be found from Buffalo to the end of Long Island, and range from rain gardens to stream "daylighting" projects.

GIGP provides funding for highly-visible projects which:

- Protect and improve water quality
- Spur innovation in stormwater management
- Build capacity locally and beyond by inspiring others to build and maintain green infrastructure
- Facilitate the transfer of new technologies and practices to other areas of the State.

SCAN to find out more about
the GIGP program or visit
www.efc.ny.gov



The Monroe Avenue Green Innovation Grant Program (GIGP) is designed to re-integrate natural systems into the Monroe Avenue corridor. Through the use of rain gardens, vegetated swales and the introduction of permeable paving surfaces, the Town of Brighton is retrofitting this vital corridor with cohesive and sustainable green technologies.

There are two key objectives for this project in order to meet the goals of the Vision Plan and the GIGP project:

- Engage the local community and the affected business owners along the street and continue to solicit input, build consensus, transfer “ownership,” and clarify the methods of beautification improvements to the key stakeholders.
- Develop designs that are aligned with the community’s desires which function as sustainable infrastructure practices that can be completely understood, constructed, and maintained by the Town.

Water Quality Benefit Goals

- Runoff Volume Reduction
- Sediment Reduction
- Road Salt Reduction
- Phosphorus Reduction
- Nitrogen Reduction
- Increased Linear Feet of Streambank/ Shoreline Protection
- Increased Linear Feet of Stream Channel Stabilization



WHY IS STORMWATER RUNOFF AN ISSUE?

As stormwater flows over city streets and sidewalks and through parking lots, it collects debris, chemicals, sediment, and other pollutants that can seriously impair water quality. On the ground, rainwater mixes with these pollutants to create natural and human-made pollutants, which can include contaminants like:

- Oil, grease, metals, and coolants from vehicles
- Fertilizers, pesticides, and other chemicals from farms, gardens, and homes
- Bacteria from pet wastes and failing septic systems
- Soil from construction sites and other bare ground
- Detergents from car and equipment washing
- Accidental spills, leaky storage containers, and whatever else ends up on the ground

The polluted runoff then rushes into nearby gutters and storm drains, where it is eventually discharged into streams, lakes, rivers, bays, and oceans - the same bodies of water we use for swimming, fishing, and drinking water. In many areas, stormwater runoff enters vital surface waters without treatment, conveying contaminants that were collected along the way. Stormwater is a major contributor to urban non-point source pollution.

<http://water.epa.gov/polwaste/green/upload/stormwater2streettrees.pdf>

WATER QUALITY BENEFIT GOALS

RUNOFF VOLUME REDUCTION

- Stormwater discharges are slowed and reduced, thus mitigating flood risk;
- Lower discharge volumes reduces pollutant loads;
- Increases efficiency of the water supply system - water can be reused, reducing water;
- Stormwater discharges are slowed and reduced, allowing for a normal rate of infiltration - infiltration can recharge groundwater.



SEDIMENT REDUCTION

- High volumes and speeds of stormwater runoff increases the amount of sediment washing into storm systems and streams;
- By reducing the volume and speed of runoff through green infrastructure, the amount of sediment is reduced which improves water quality.



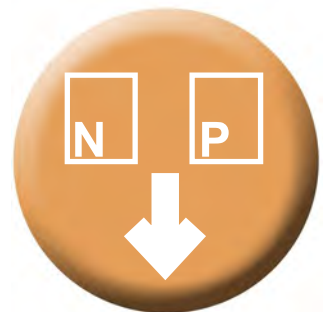
ROAD SALT REDUCTION

- Accumulation and persistence of chloride poses a risk to the water quality;
- Decreasing the amount of road salt utilized every season while increasing the amount of salt tolerant native plants and trees will help improve water quality.



NITROGEN & PHOSPHORUS REDUCTION

- Stormwater runoff contains nitrogen, phosphorus, and other pollutants - decreasing stormwater runoff reduces pollutant loads entering the storm system and streams;
- Incorporating larger quantities of plants and trees can assist with reducing pollutants - plants and trees absorb pollutants, such as nitrogen and phosphorus.



INCREASED LINEAR FEET OF STREAM BANK/Shoreline PROTECTION

- High volumes of stormwater runoff increase the amounts of water, pollutants, and the temperature of water entering the streams;
- Protecting stream banks/shorelines reduces the speed of water entering the stream, allowing for proper infiltration and reduction of pollutants entering the streams.



INCREASED LINEAR FEET OF STREAM CHANNEL STABILIZATION

- High volumes of stormwater runoff increase the amounts of sediment that is washed into streams;
- Stabilizing stream channels through live plantings, bioengineering, and hard armoring reduces the amount of sediment washing into the streams, therefore improving the water quality and habitat.



MONROE AVENUE CORRIDOR COMMUNITY VISION PLAN

The Brighton/Monroe Avenue Corridor Vision Plan is based on the ideas generated in the Brighton/Monroe Avenue community Charrette held on June 5th and the feedback gathered at the subsequent Town Hall meetings held on July 27 and November 4, 2010. The vision plan provides written and visual design plans reflecting the goals and ideas of local residents and community stakeholders for the future development of the Monroe Avenue Corridor.

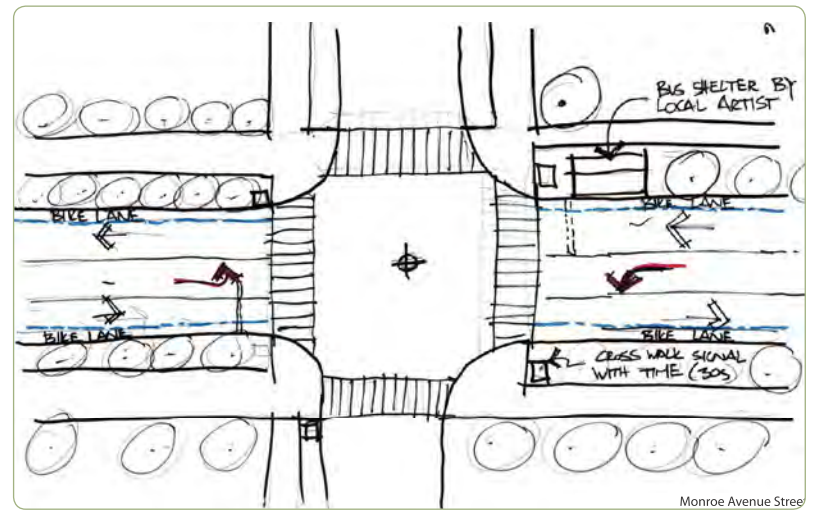
“A goal for the Charrette and Vision Plan was to create a plan for the future of Monroe Avenue, a major thoroughfare in the Town of Brighton.”

Some of the goals for the vision plan include:

- Place a buffer zone between the sidewalk and through traffic, especially near schools;
- Realign existing streets, resulting in a more defined green space and interface with pedestrians;
- Use landscape and trees to beautify and screen parking areas from the street, increase the number of trees along the avenue;
- Respecting, reclaiming and preserving existing historical buildings and green space;
- Enhance and utilize the local and natural resources of Buckland Creek and Allens Creek - utilize existing natural resources such as creeks and green spaces, providing access and improved landscaping and maintenance;
- Integrate and highlight neighborhoods using gateways and improved access;

“Green, sustainable practices should be incorporated where possible along with an emphasis on greening the streets and sidewalks with landscaping and planting.”

“The goal of community members is to make Brighton and Monroe Avenue a destination with gateways defining its identity.”



Monroe Avenue Street
Monroe Avenue Corridor Community Vision Plan



PROPOSED BUCKLAND CREEK REVITALIZATION
Creating vistas at Monroe Avenue as well as rerouting the creek through the parking lot bring focus back to the natural resource.

Monroe Avenue Corridor Community Vision Plan



SCAN to find out more about the project or visit www.townofbrighton.org



Monroe Avenue Corridor Community Vision Plan



BUCKLAND CREEK RESTORATION

Buckland Creek flows through school campuses, backyards, and the 12 corners commercial area in Brighton before discharging into Allens Creek. The Buckland Creek Watershed / drainage area is 2,450 acres in size and contains almost 4,000 homes in central Brighton. The value of the creek had not always been recognized as the community developed. Sections of the creek are piped or channelized and the water quality has declined due to pollution from stormwater runoff.

“Inspired by the efforts of students at Brighton High School to study and protect the Creek, several community partners applied for and received grants from NYS and the Fish and Wildlife Foundation to support restoration activities.”



East Segment—August 2011

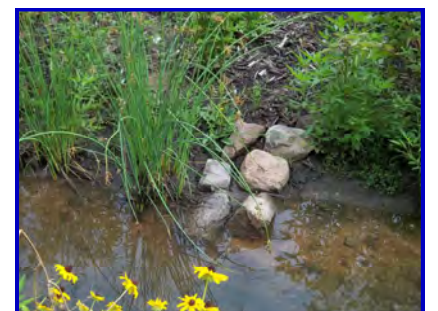


East Segment—July 2012

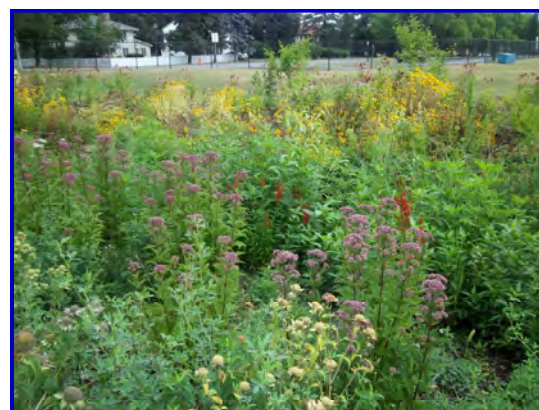


Riffle areas were created to improve habitat.

Rock weirs were constructed to protect the stream banks .



One of two rock cross veins directs flow to the center of the stream to protect the bridge structures.



A diverse plant community has been established including *Eupatorium purpureum*, *Monarda didyma*, and *Lobelia cardinalis*.



A dense stand of *Scirpus validus* and *Iris versicolor* protects the streambank and provides habitat.



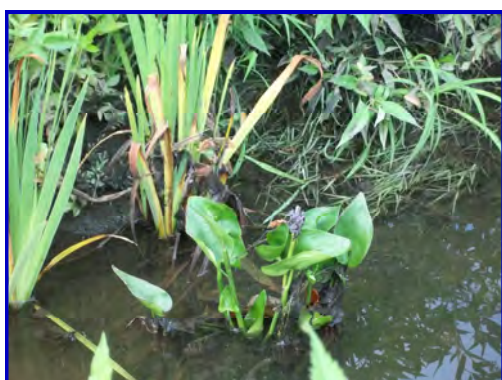
West Segment (adjacent to Winton Road) - August 2011

The Creek had been straightened and the riparian vegetation removed.



West Segment—July 2012
The riparian vegetation has become well established despite serious drought conditions. The stream meander that was created is also visible.

Pontederia cordata



The site will become dominated by trees and shrubs ,such as *Cornus sericea*, as it matures.



Conclusions:

Over the course of a single growing season, a diverse riparian plant community has become established despite serious drought conditions. The use of larger plant material (1 gallon pots or larger), leaf compost, and mulch were likely contributors to success. Large numbers of volunteer plants have appeared but invasive, exotic species have not yet been a serious problem. Some limited infill planting is being planned for the Autumn of 2012.

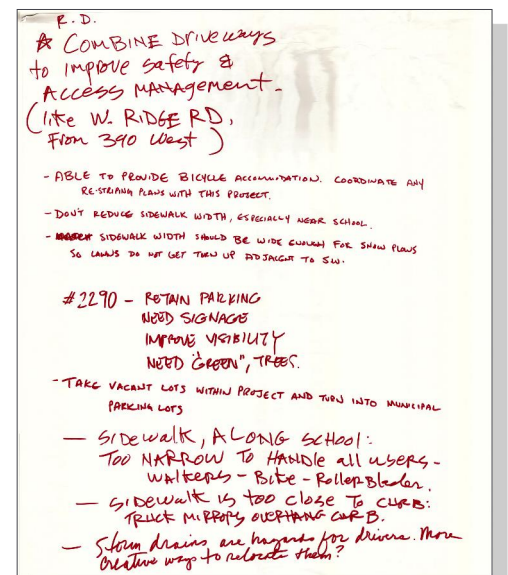
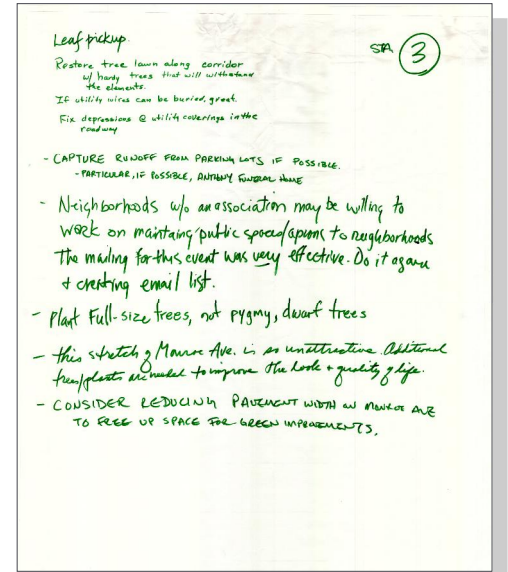
The streambanks appear to be stable with no signs of significant erosion. The rock cross veins, rock weirs, and jute netting are functioning as planned. Seeding in the steeper slope areas was successful.



OPEN HOUSE #1

HELD ON: DECEMBER 10, 2013 FROM 4:00-7:00pm

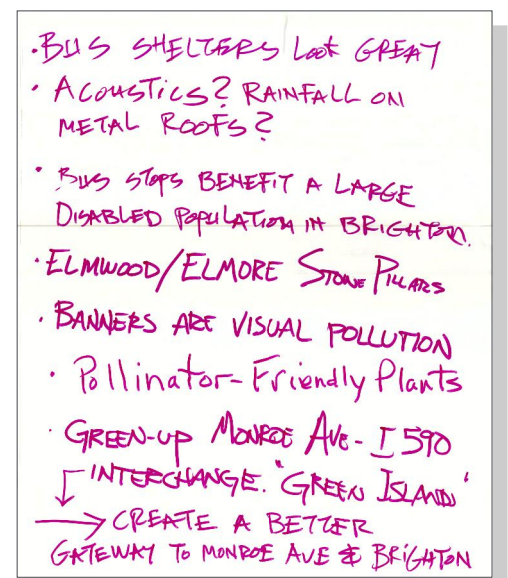
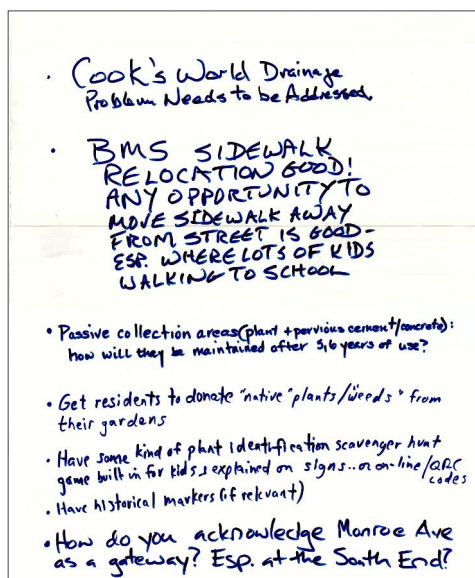
The goal of the open house was to share information about the project with the community and to receive input from the Brighton residents and business owners. Flip charts and comment sheets were provided to receive input.



OPEN HOUSE #2

HELD ON: MARCH 3, 2014 FROM 4:00-7:00pm

Based on the comments from the general public, the Town, GIGP Committee, NYS Department of Transportation (DOT), NYS Department of Environmental Conservation (DEC), the team was able to develop a collection of conceptual design plans. Our second open house was an opportunity to review and discuss the preliminary concept designs. Flip charts and comment sheets were provided to receive input.



GIGP COMMITTEE MEETINGS

Committee meetings have been held regularly throughout the project.

HELD ON

- September 12, 2013
- January 23, 2014
- February 25, 2014



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SCAN to find out more about the project or visit
www.brightonGIGP.org





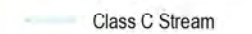
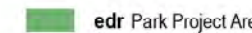
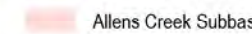
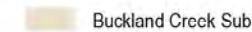


Monroe Avenue Green Innovation Grant Program

Town of Brighton,
Monroe County

Allens Creek Watershed

March 2013

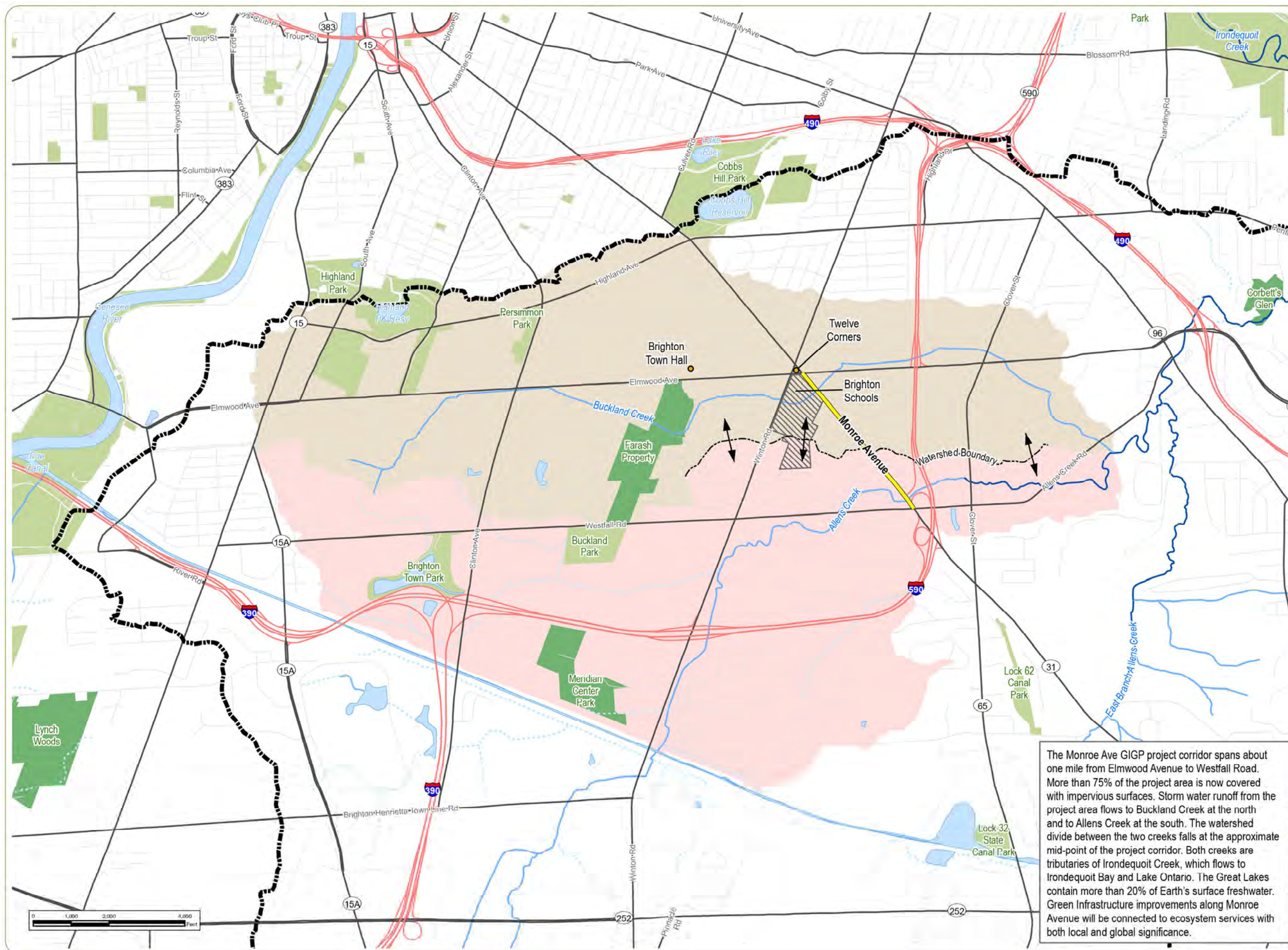
-  GIGP Project Area
-  Allens Creek Watershed
-  Class B Stream
-  Class B(T) Stream
-  Class C Stream
-  Park
-  edr Park Project Area
-  Allens Creek Subbasin
-  Buckland Creek Subbasin

Allens Creek Watershed - 20,188 acres
Buckland Creek Subbasin - 2,450 acres
Allens Creek Subbasin - 2,500 acres



Notes:

1. Basemap: ESRI StreetMap North America, 2008.
2. Waters classified as C(T) and higher are protected by the NYSDEC.



The Monroe Ave GIGP project corridor spans about one mile from Elmwood Avenue to Westfall Road. More than 75% of the project area is now covered with impervious surfaces. Storm water runoff from the project area flows to Buckland Creek at the north and to Allens Creek at the south. The watershed divide between the two creeks falls at the approximate mid-point of the project corridor. Both creeks are tributaries of Irondequoit Creek, which flows to Irondequoit Bay and Lake Ontario. The Great Lakes contain more than 20% of Earth's surface freshwater. Green Infrastructure improvements along Monroe Avenue will be connected to ecosystem services with both local and global significance.

Location Map

January 2014



Legend

- 1 Allens Creek
- 2 Buckland Creek
- 3 Green Strips
- 4 Brighton Schools
- 5 Transit Stops
- 6 Continental Apartments
- 7 Northumberland Road
- 8 Neighborhood Gateway Improvements

Green Strip Improvements
East: 2,190 +/- LF
West: 3,375 +/- LF



Monroe Avenue Greenway Concept



Existing Conditions



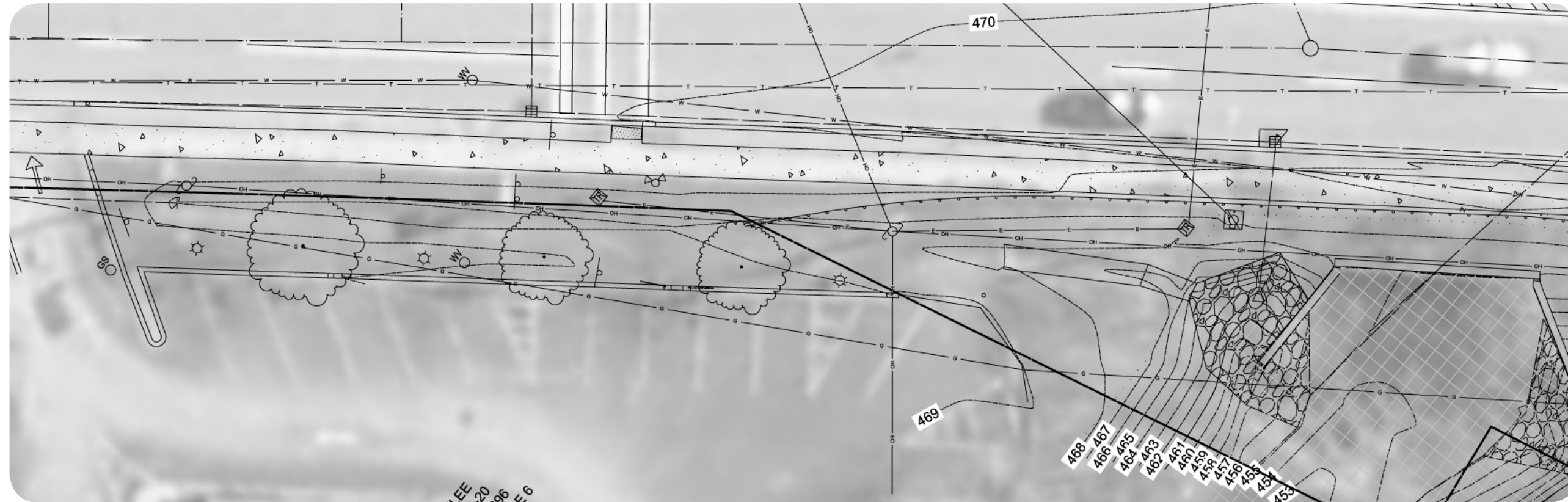
Concept Rendering

GREEN INFRASTRUCTURE TOOLBOX

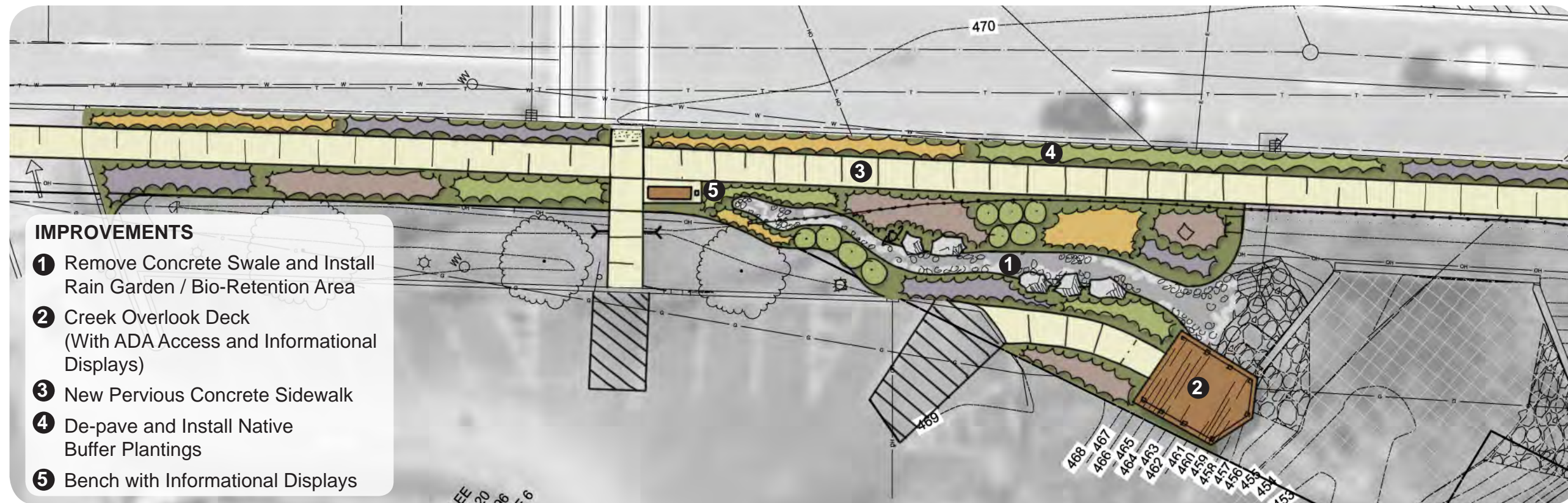
- Pervious concrete sidewalks, under-drained as required
- Storm water tree trenches manage run-off and provide water to street trees
- CU Structural Soils to improve infiltration, root growth and street tree survivability
- De-pave and restore green strips between sidewalk and curb
- New street trees improve air quality, intercept rainwater, enhance micro-climate and provide traffic calming
- Rest spots enhance walkability for residents of all mobility levels
- Bio-retention swales cleanse storm water run-off and enhance urban ecology
- Interpretive displays inform and educate
- Improved visual quality increases property values and economic vibrancy



EXISTING CONDITIONS

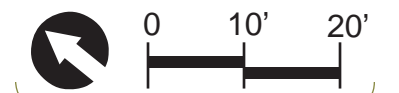


PROPOSED IMPROVEMENTS



IMPROVEMENTS

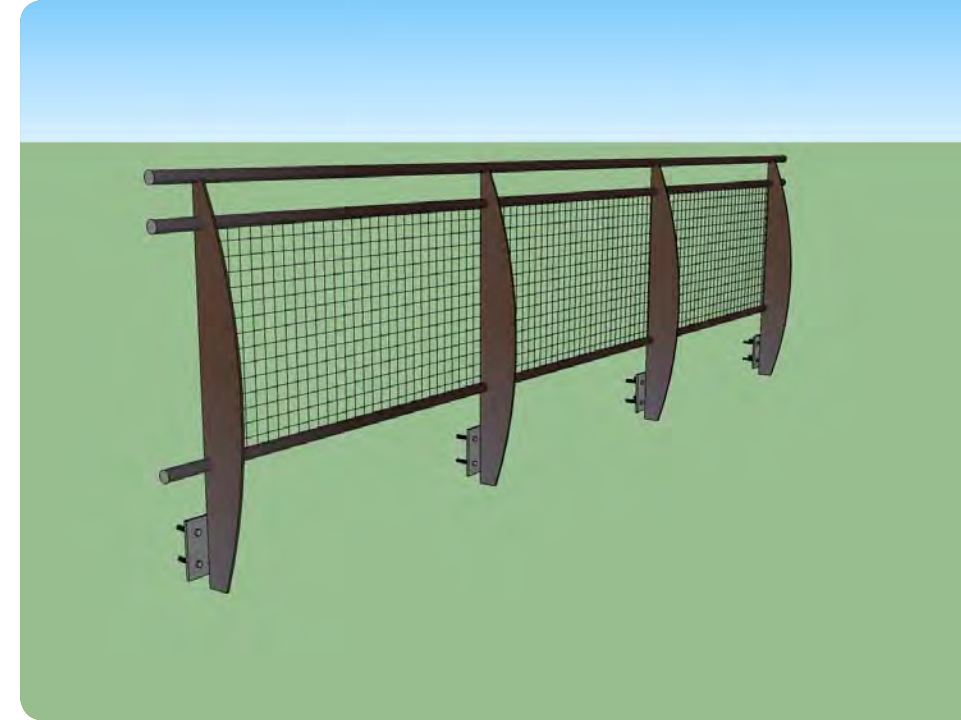
- 1 Remove Concrete Swale and Install Rain Garden / Bio-Retention Area
- 2 Creek Overlook Deck (With ADA Access and Informational Displays)
- 3 New Pervious Concrete Sidewalk
- 4 De-pave and Install Native Buffer Plantings
- 5 Bench with Informational Displays



EXISTING ALLENS CREEK CORBETT'S GLEN OVERLOOK

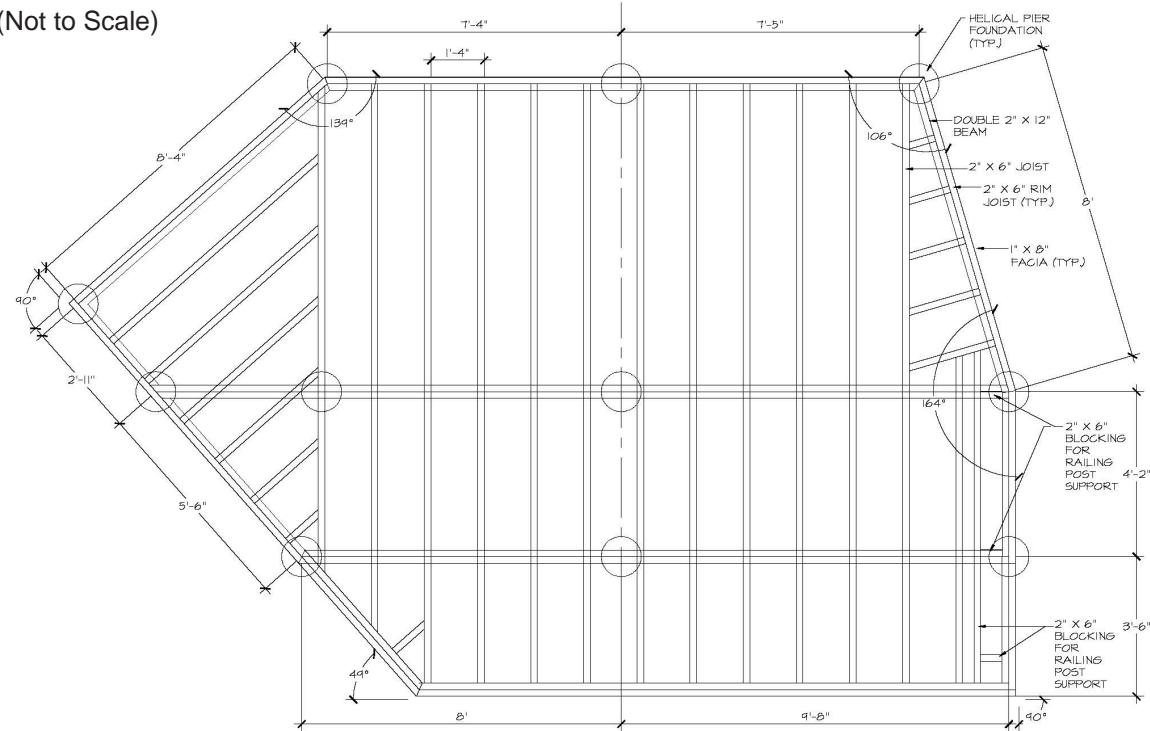


HANDRAIL CONCEPT



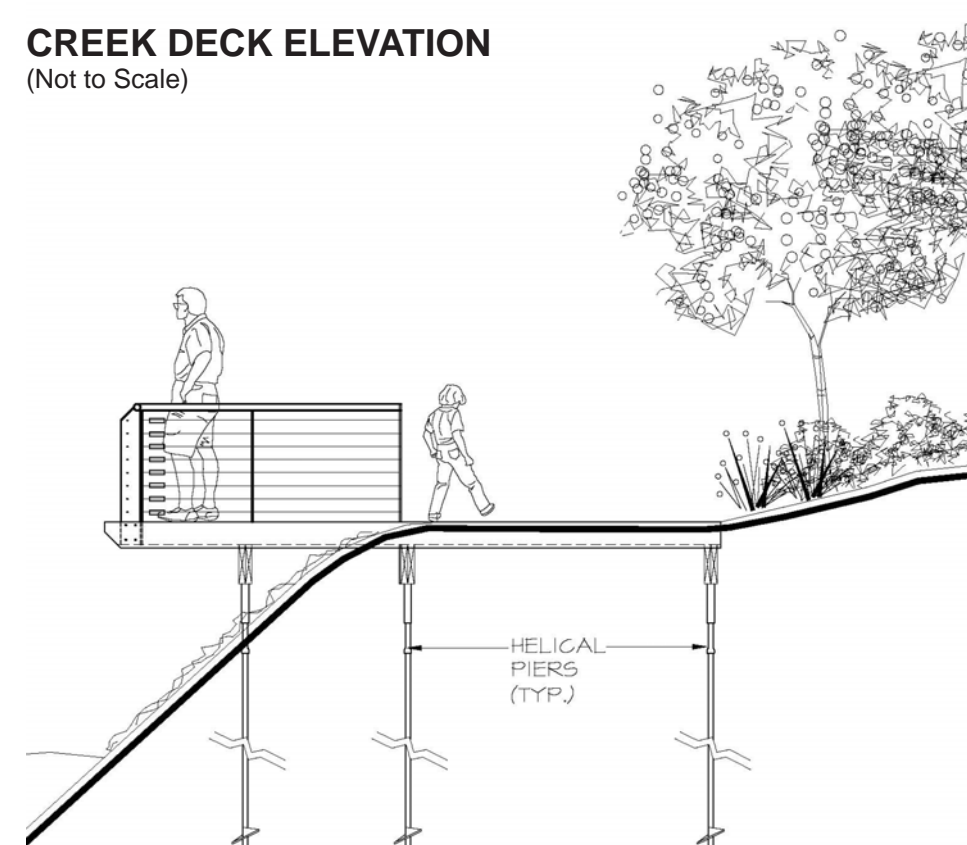
CREEK DECK FRAMING PLAN

(Not to Scale)



CREEK DECK ELEVATION

(Not to Scale)

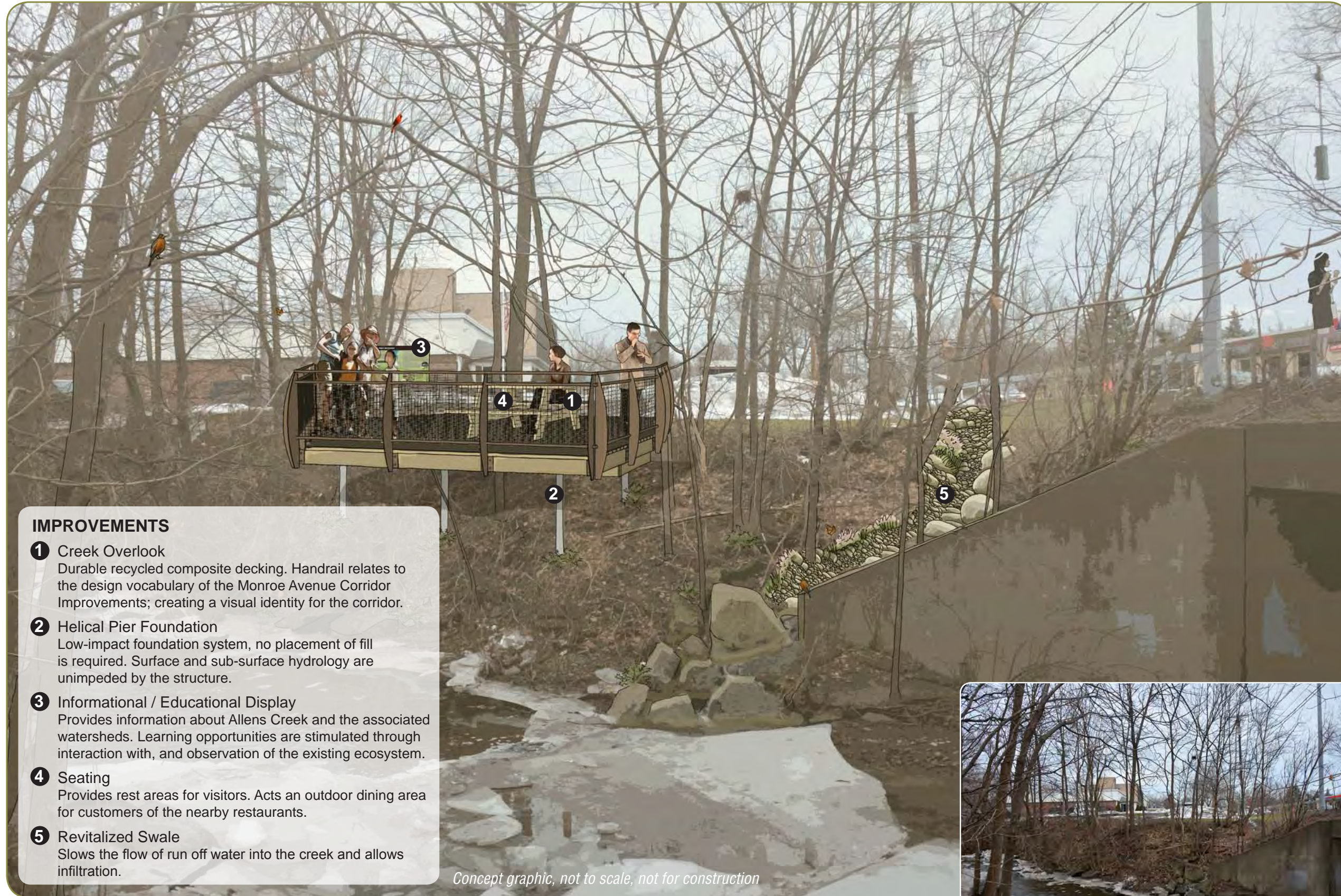


ALLENS CREEK OVERLOOK CONCEPT

Monroe Avenue GIGP
Brighton, Monroe County, New York

Concept Project
Allens Creek Overlook

January 2014



IMPROVEMENTS

- 1** Creek Overlook
Durable recycled composite decking. Handrail relates to the design vocabulary of the Monroe Avenue Corridor Improvements; creating a visual identity for the corridor.
- 2** Helical Pier Foundation
Low-impact foundation system, no placement of fill is required. Surface and sub-surface hydrology are unimpeded by the structure.
- 3** Informational / Educational Display
Provides information about Allens Creek and the associated watersheds. Learning opportunities are stimulated through interaction with, and observation of the existing ecosystem.
- 4** Seating
Provides rest areas for visitors. Acts as an outdoor dining area for customers of the nearby restaurants.
- 5** Revitalized Swale
Slows the flow of run off water into the creek and allows infiltration.

Concept graphic, not to scale, not for construction

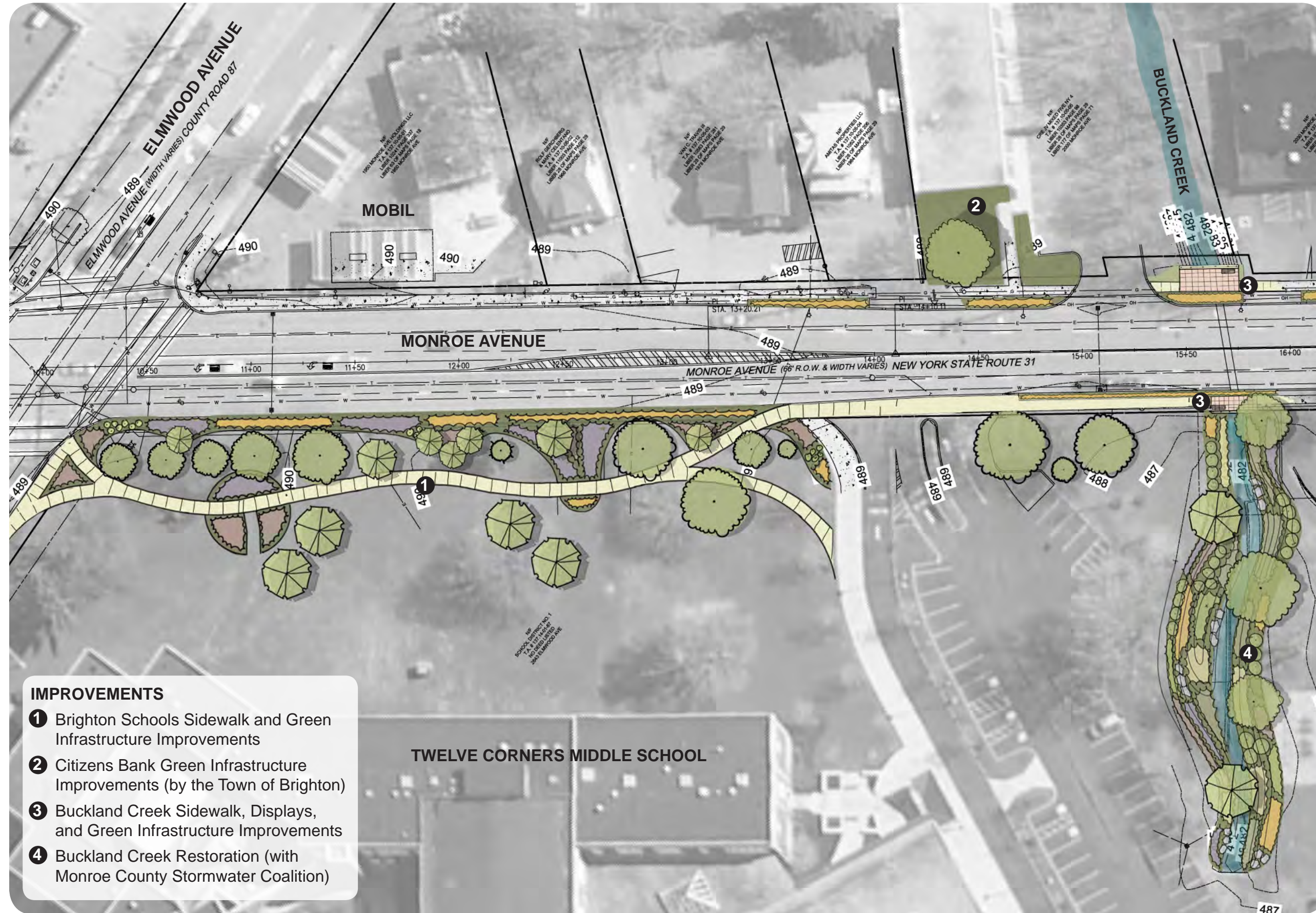


PROPOSED IMPROVEMENTS

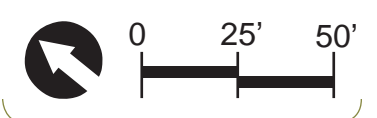
Monroe Avenue GIGP
Brighton, Monroe County, New York

Concept Project
Buckland Creek Area Plan

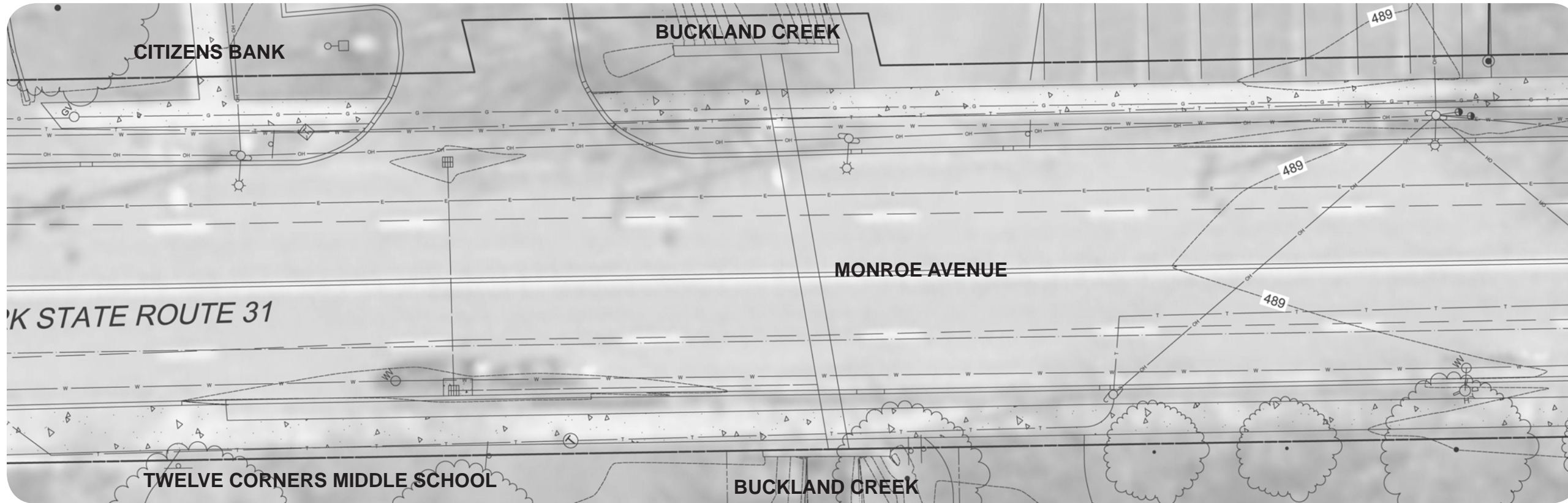
February 2014



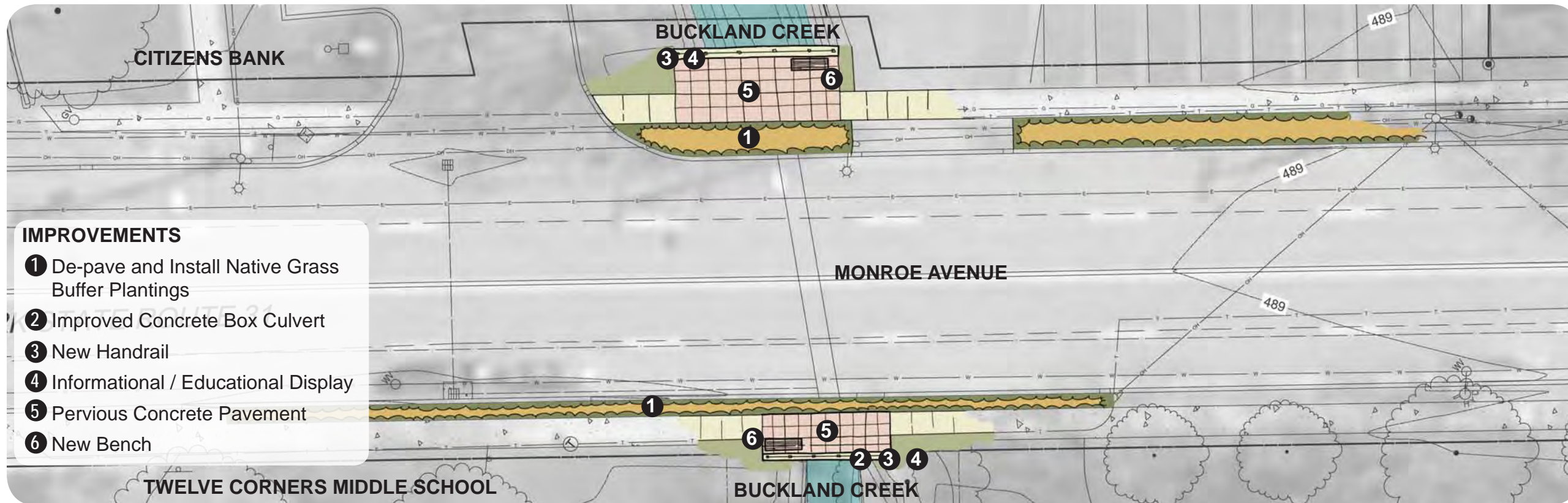
- IMPROVEMENTS**
- ① Brighton Schools Sidewalk and Green Infrastructure Improvements
 - ② Citizens Bank Green Infrastructure Improvements (by the Town of Brighton)
 - ③ Buckland Creek Sidewalk, Displays, and Green Infrastructure Improvements
 - ④ Buckland Creek Restoration (with Monroe County Stormwater Coalition)



EXISTING CONDITIONS



PROPOSED IMPROVEMENTS



PROPOSED IMPROVEMENTS



IMPROVEMENTS

- 1 De-pave and Install Native Grass Buffer Plantings
- 2 Improved Concrete Box Culvert
- 3 New Handrail
- 4 Informational / Educational Display
- 5 Pervious Concrete Pavement
- 6 New Bench
- 7 Buckland Creek Restoration Project

Concept graphic, not to scale, not for construction

EXISTING CONDITIONS

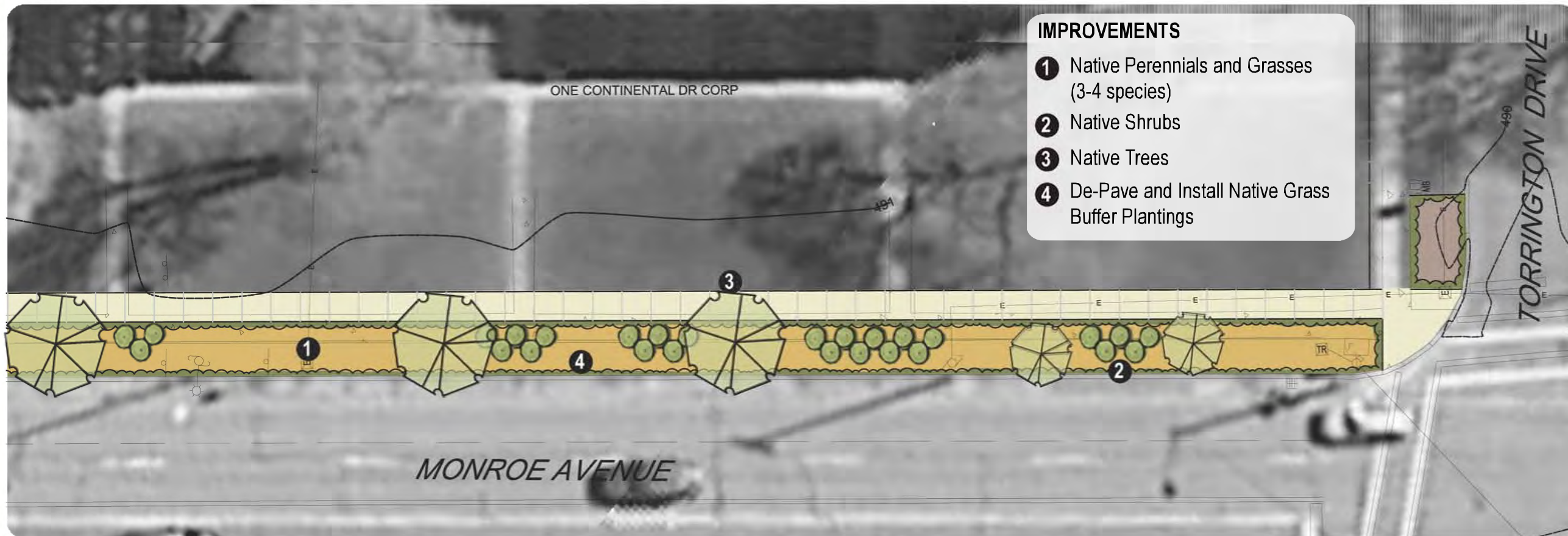


Concept Project

Continental Apartments
Improvements

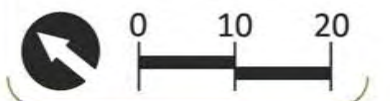
January 2014

PROPOSED IMPROVEMENTS



- IMPROVEMENTS**
- ① Native Perennials and Grasses (3-4 species)
 - ② Native Shrubs
 - ③ Native Trees
 - ④ De-Pave and Install Native Grass Buffer Plantings

Decreased Impervious
2240 +/- SF



Concept Project

**Continental Apartments
Improvements**

January 2014

PROPOSED IMPROVEMENTS



Concept graphic, not to scale, not for construction

Concept Project

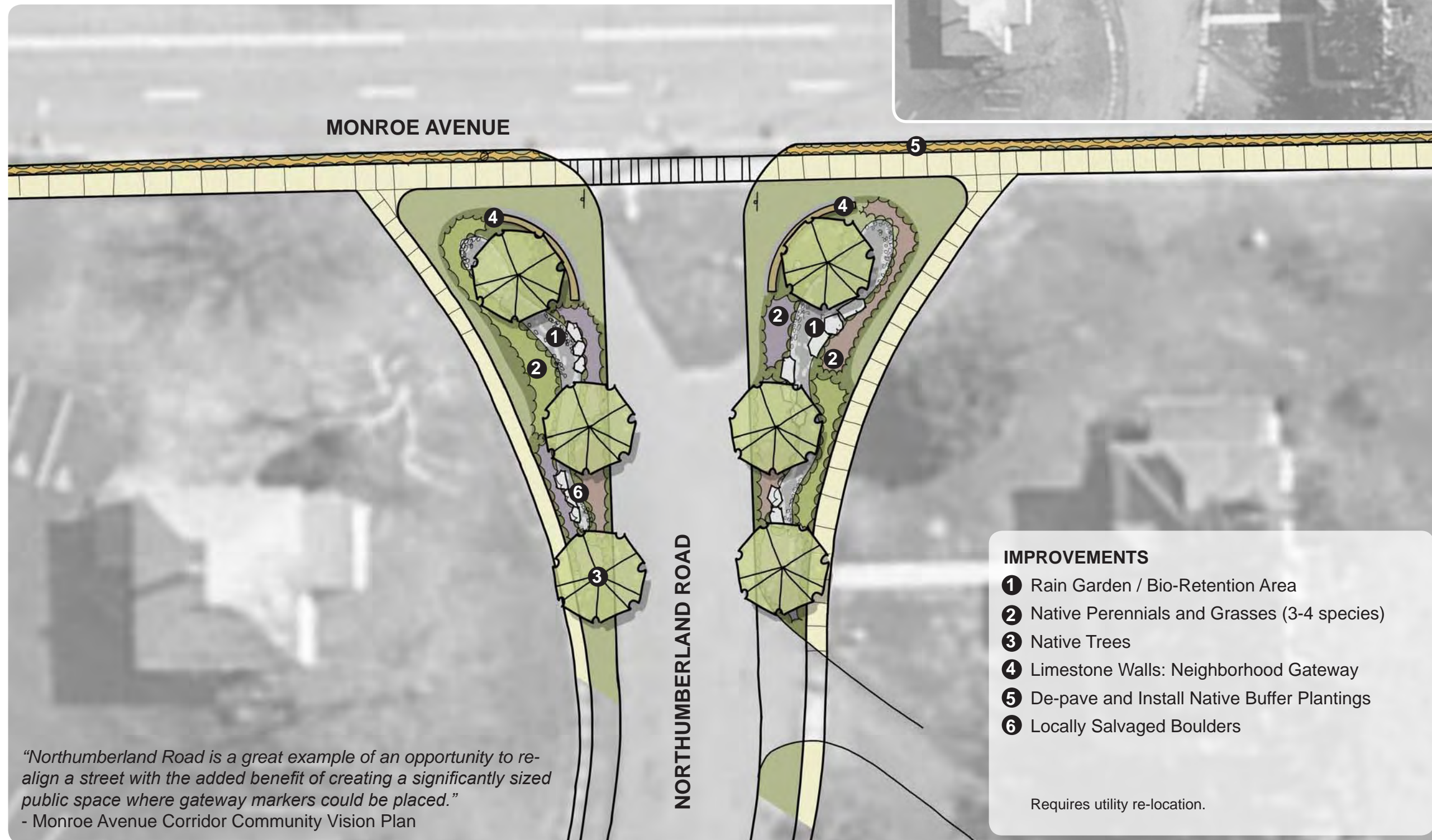
**Northumberland
Road Improvements:
SK 2**

February 2014

EXISTING CONDITIONS



PROPOSED IMPROVEMENTS



IMPROVEMENTS

- ❶ Rain Garden / Bio-Retention Area
- ❷ Native Perennials and Grasses (3-4 species)
- ❸ Native Trees
- ❹ Limestone Walls: Neighborhood Gateway
- ❺ De-pave and Install Native Buffer Plantings
- ❻ Locally Salvaged Boulders

Requires utility re-location.

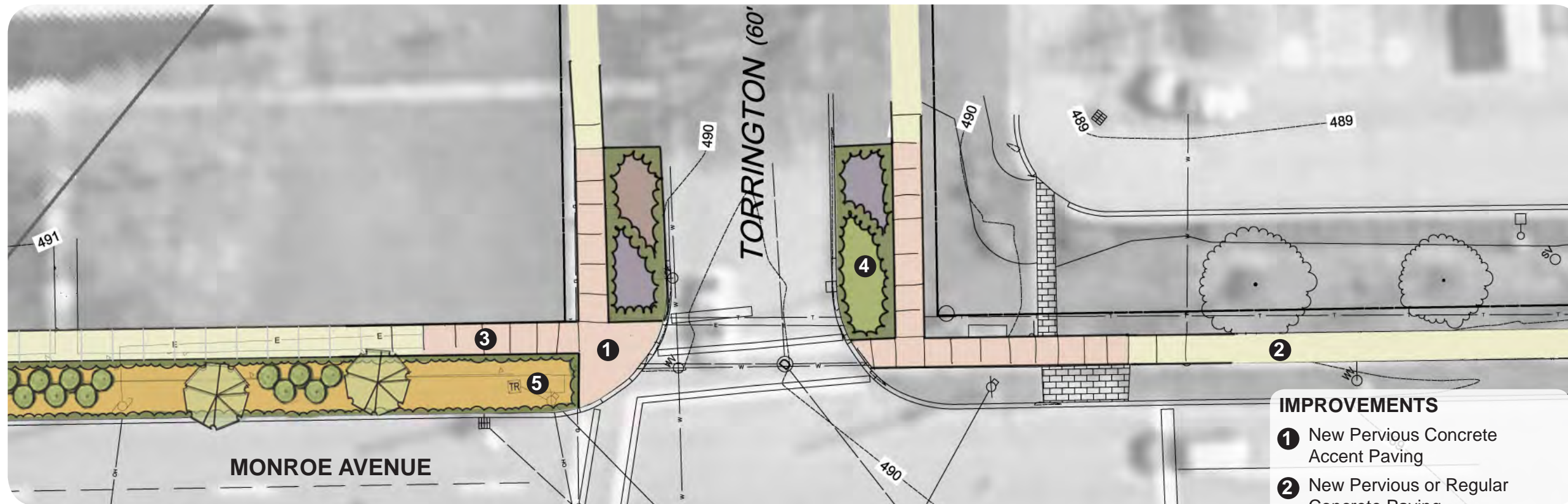
“Northumberland Road is a great example of an opportunity to re-align a street with the added benefit of creating a significantly sized public space where gateway markers could be placed.”
- Monroe Avenue Corridor Community Vision Plan

Existing Impervious
4,920 +/- SF
Proposed Impervious
3,115 +/- SF
Decreased Impervious
-1,890 +/- SF

Existing Pervious
1,560 +/- SF
Proposed Pervious
3,450 +/- SF
Increased Pervious
+1,890 +/- SF

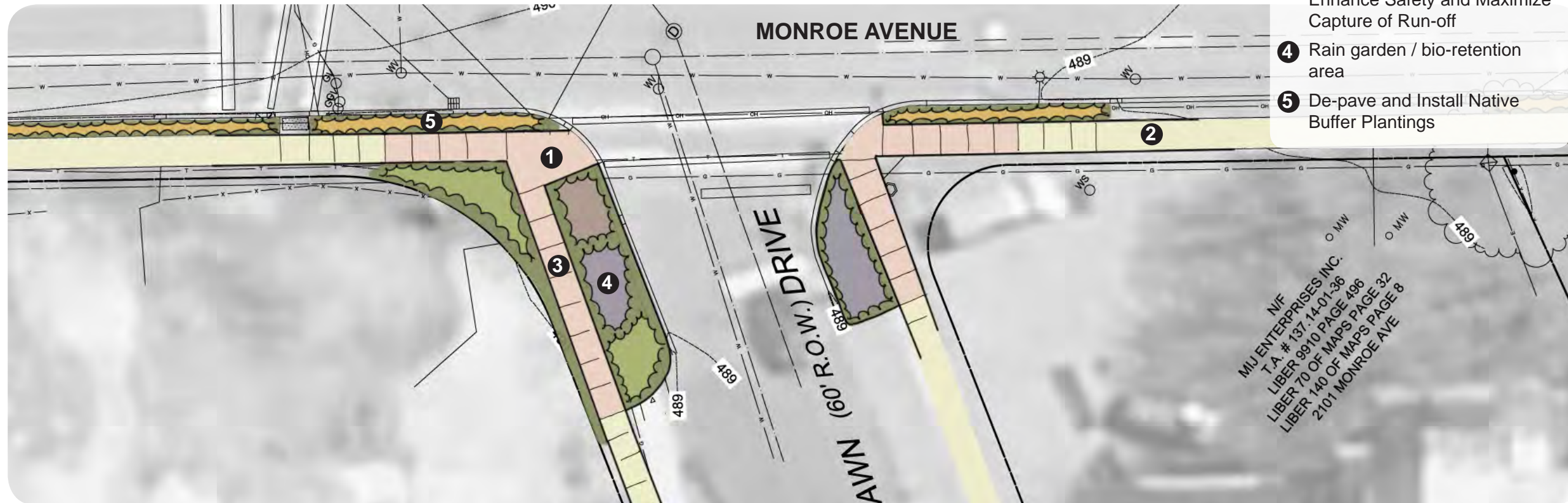


TORRINGTON DRIVE



- IMPROVEMENTS**
- 1** New Pervious Concrete Accent Paving
 - 2** New Pervious or Regular Concrete Paving
 - 3** Relocated Sidewalk to Enhance Safety and Maximize Capture of Run-off
 - 4** Rain garden / bio-retention area
 - 5** De-pave and Install Native Buffer Plantings

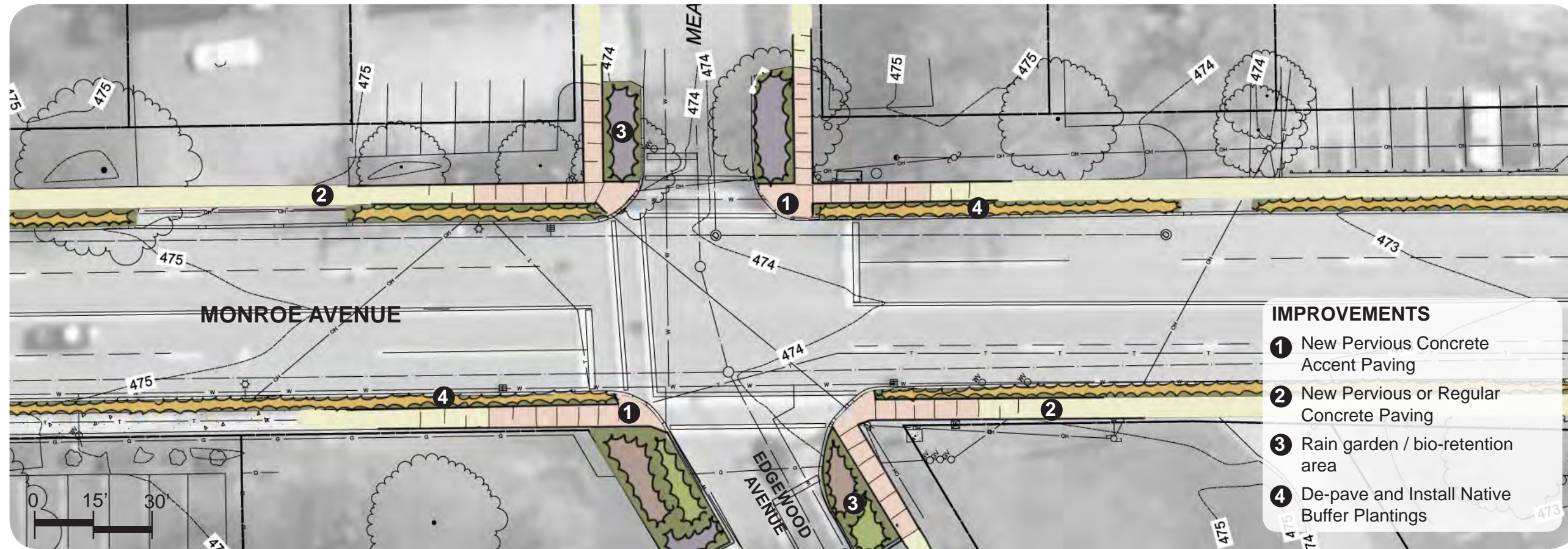
BROOKLAWN DRIVE



N/F
MIJ ENTERPRISES INC.
T.A. # 137.14-01-36
LIBER 9910 PAGE 496
LIBER 140 OF MAPS PAGE 32
2101 MONROE AVE



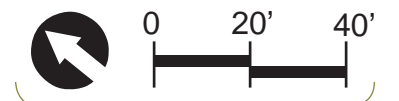
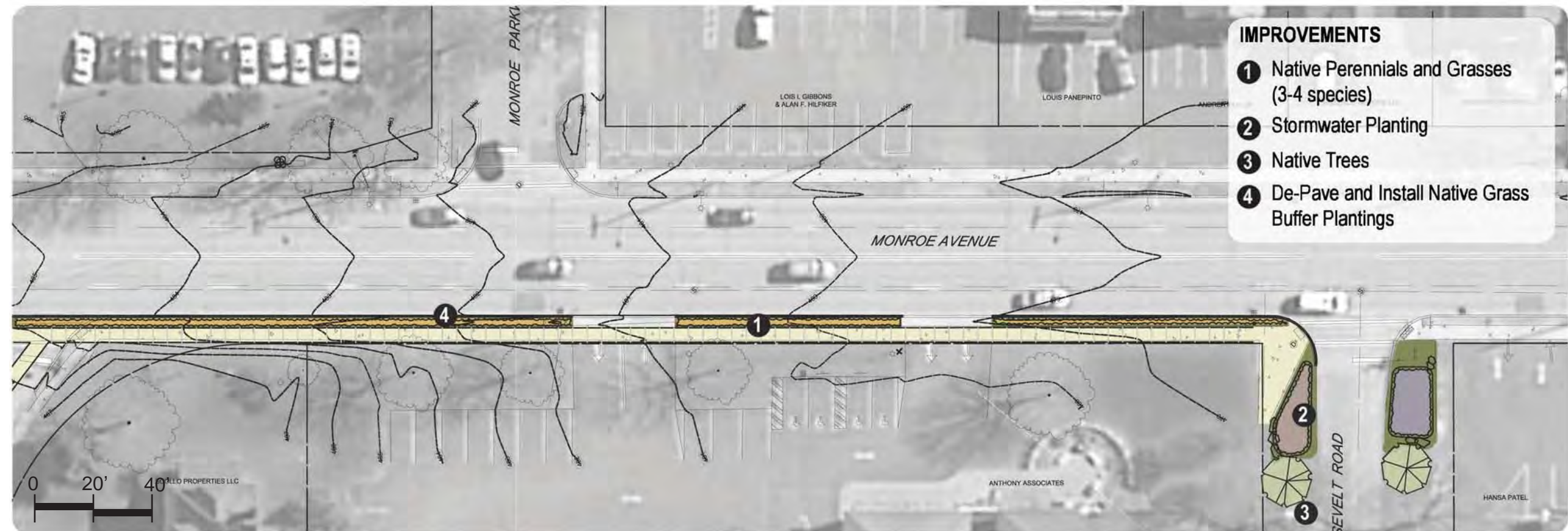
MEADOW DRIVE / EDGEWOOD AVENUE



Monroe Avenue GIGP
Brighton, Monroe County, New York

Concept Project
Neighborhood Gateway Improvements
January 2014

ROOSEVELT ROAD



DECIDUOUS TREES MAJOR



Acer freemanii 'Jeffer's Red'
Autumn Blaze Maple



Betula nigra 'Cully'
Heratige River Birch



Ginkgo biloba 'Halka'
Saratoga Ginko



Gleditsia triacanthos 'Skyline'
Skyline Honeylocust



Liquidambar styraciflua 'Happy Days'
Happy Days Sweetgum



Quercus bicolor
Swamp White Oak

URBAN SOILS WILL BE THE LIFE SUPPORT FOR GREEN INFRASTRUCTURE. A SPECIAL SOIL MIX HAS BEEN DEVELOPED AND WILL BE USED THROUGHOUT THE MONROE AVENUE CORRIDOR. SOME INGREDIENTS INCLUDE:

- **MYCORRHIZA** - Contains a minimum of 12 hardy EndoEctomycorrhizal Fungi providing for broad spectrum applications, enhanced moisture and nutrient uptake and a more fibrous and efficient root system.
- **TRANSPLANT CONCENTRATE** - Rich in soluble sea plant extract and humic substances to enhance root growth, stress tolerance and improve cell wall turgidity.
- **WATER HOLDING GEL** - A Co-Polymer of Polyacrylamide to decrease potential damage from unexpected dry conditions as well as other drought related stress symptoms.
- **VOLCANIC ROCK CRYSTALS**- Adds porosity to soils for greater air infiltration and significantly reduces compaction characteristics.

DECIDUOUS TREES MINOR



Cercis canadensis
Eastern Redbud



Crataegus inermis
Thornless Hawthorne



Nyssa sylvatica
Blackgum



Ostrya virginiana
American Hophornbeam

DECIDUOUS SHRUBS



Cornus sericea 'Baileyi'
Bailey Redstem Dogwood



Salix purpurea 'Nana'
Dwarf Arctic Willow



Carex lurida
Lurid Sedge



Deschampsia cespitosa
Tufted Hairgrass

PERENNIALS & ORNAMENTAL GRASSES



Iris versicolor
Blue Flag Iris



Juncus effusus
Soft Rush



Panicum virgatum
Switch Grass



Hemerocallis
Daylily



Liriope spicata
Lily Turf



Concept graphic, not to scale, not for construction

MONROE AVENUE

MONROE AVENUE CORRIDOR GREEN BUS STOP IMPROVEMENTS

- Upgrade 5-7 existing bus stops at key corridor locations.
- Utilize sustainable design and construction strategies.
- Improve storm water quality with green infrastructure
- Support and encourage transit use and pedestrian flow.
- Improve streetscape aesthetics and help establish a visual identity for Monroe Avenue.

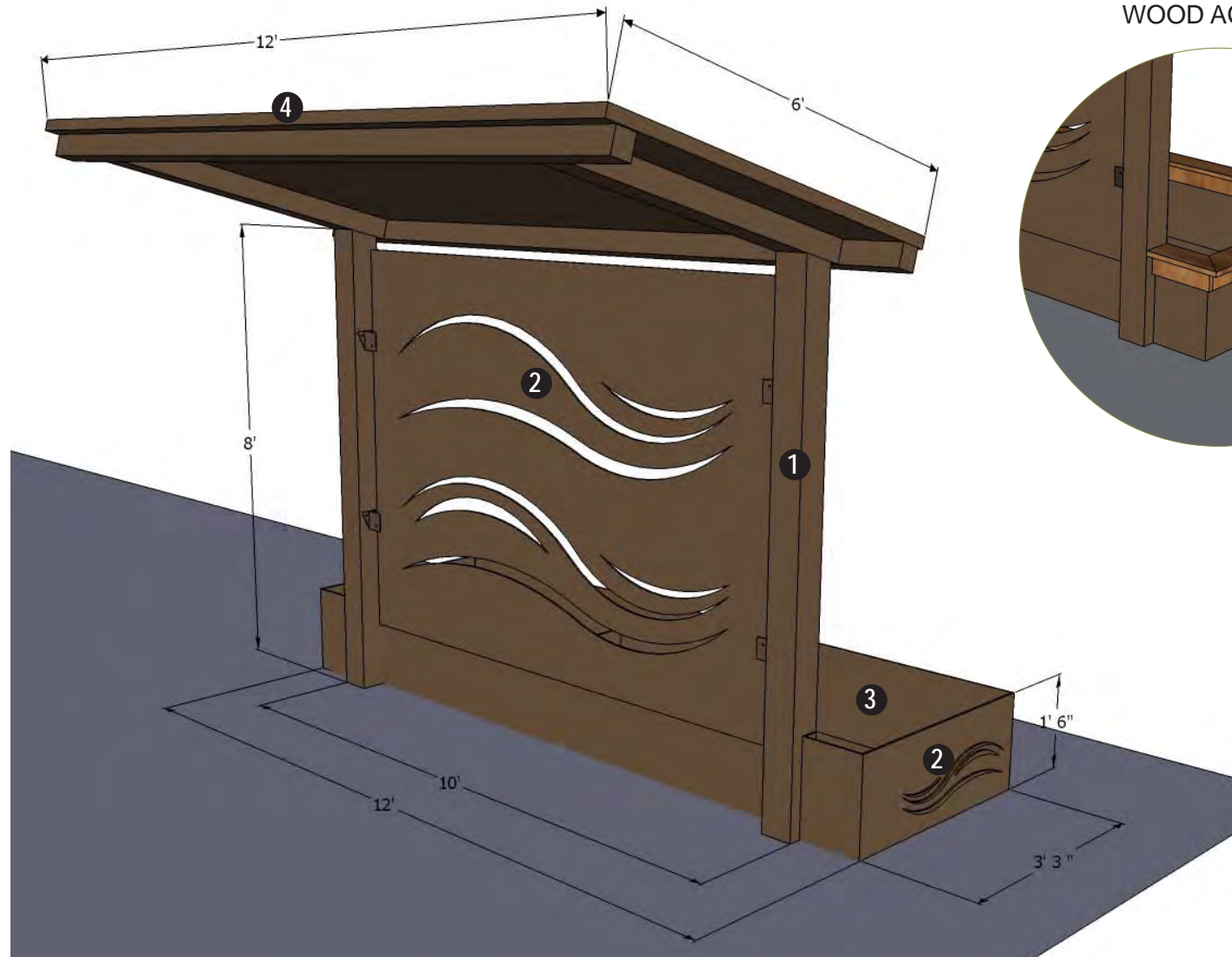
- 1 Remove existing asphalt pavement. Replace existing soils. Install buffer plantings of salt-tolerant native species
- 2 Boulder accents
- 3 Pervious concrete accent paving
- 4 New 5' wide pervious concrete sidewalks
- 5 Restore and reuse existing bench
- 6 Stormwater planter: Capture run-off from shelter roof. Bio-filtration provided by plant materials and special soil matrix.
- 7 Bus stop shelter: Simple, economical design. Durable material, easy maintenance. Signature streetscape architecture for the Monroe Ave. Corridor.
- 8 Informational / Educational Display



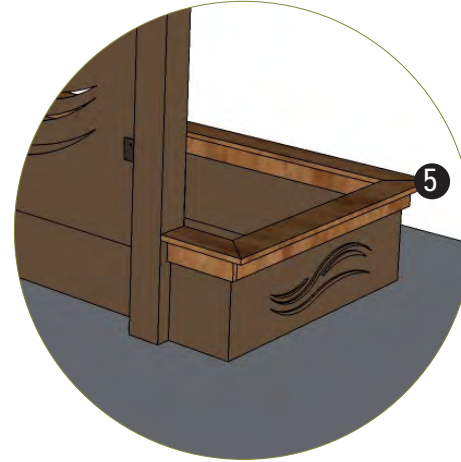
SCAN to find out more about
the project or visit
www.brightonGIGP.org



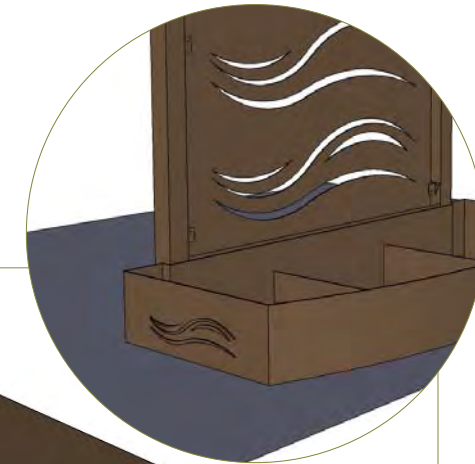
PROPOSED BUS STOP SHELTER



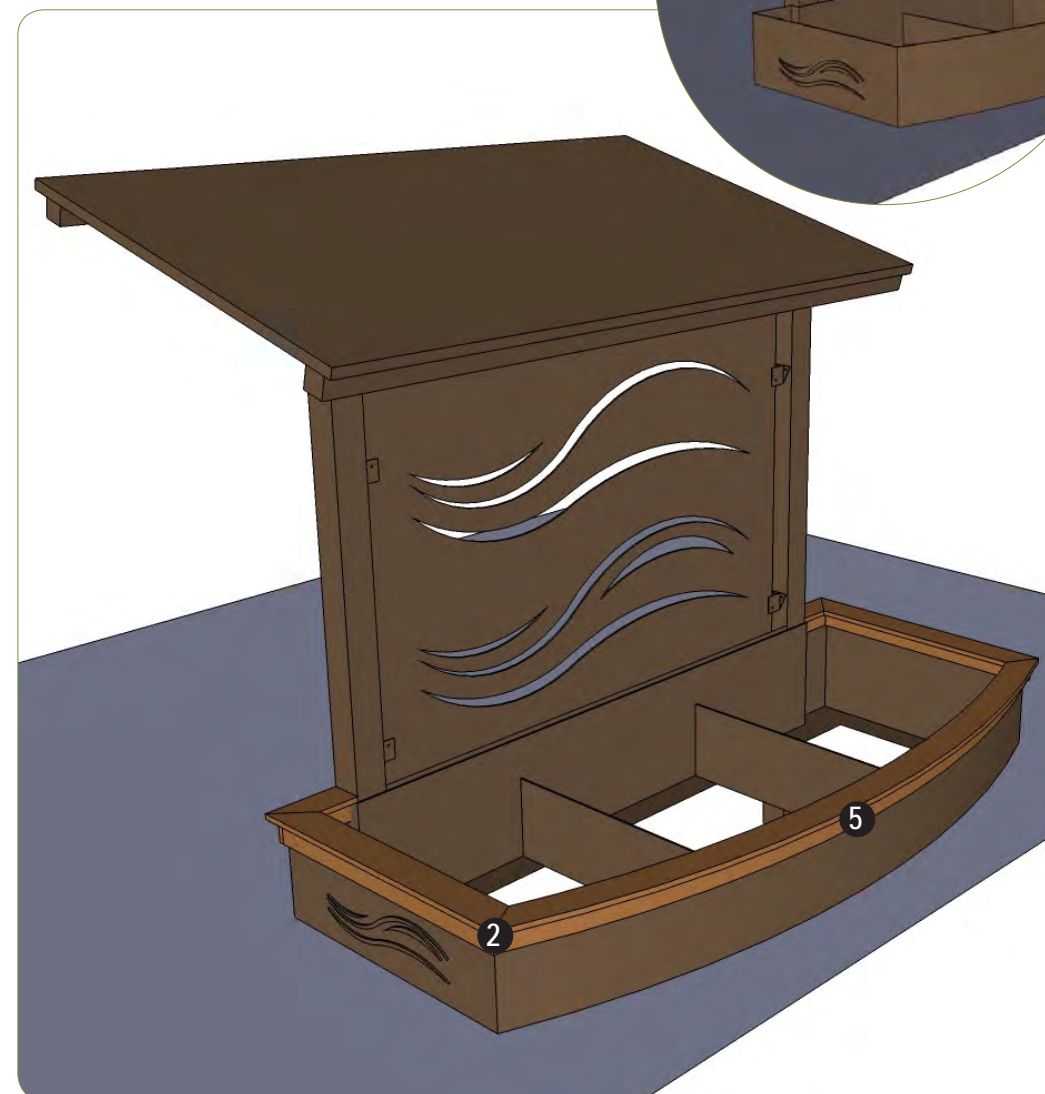
**ALTERNATE OPTION #1:
SQUARED PLANTER WITH
WOOD ACCENT**



**ALTERNATE OPTION #2:
ROUNDED PLANTER**



**ALTERNATE OPTION #3:
ROUNDED PLANTER WITH WOOD ACCENT**



LEGEND

- ① **Corten Steel Posts**
Posts set in concrete footing, below local frost depth.
- ② **Corten Monroe Avenue Corridor Accent / Design**
Helps establish a visual identity for Monroe Avenue, signature streetscape architecture. Potential for local artist involvement.
- ③ **Corten Stormwater Planter**
Capture run-off from shelter roof. Bio-filtration provided by plant materials and special soil matrix.
- ④ **Sheet Metal Roof**
- ⑤ **Wood Accent**
Ipe or equal material.

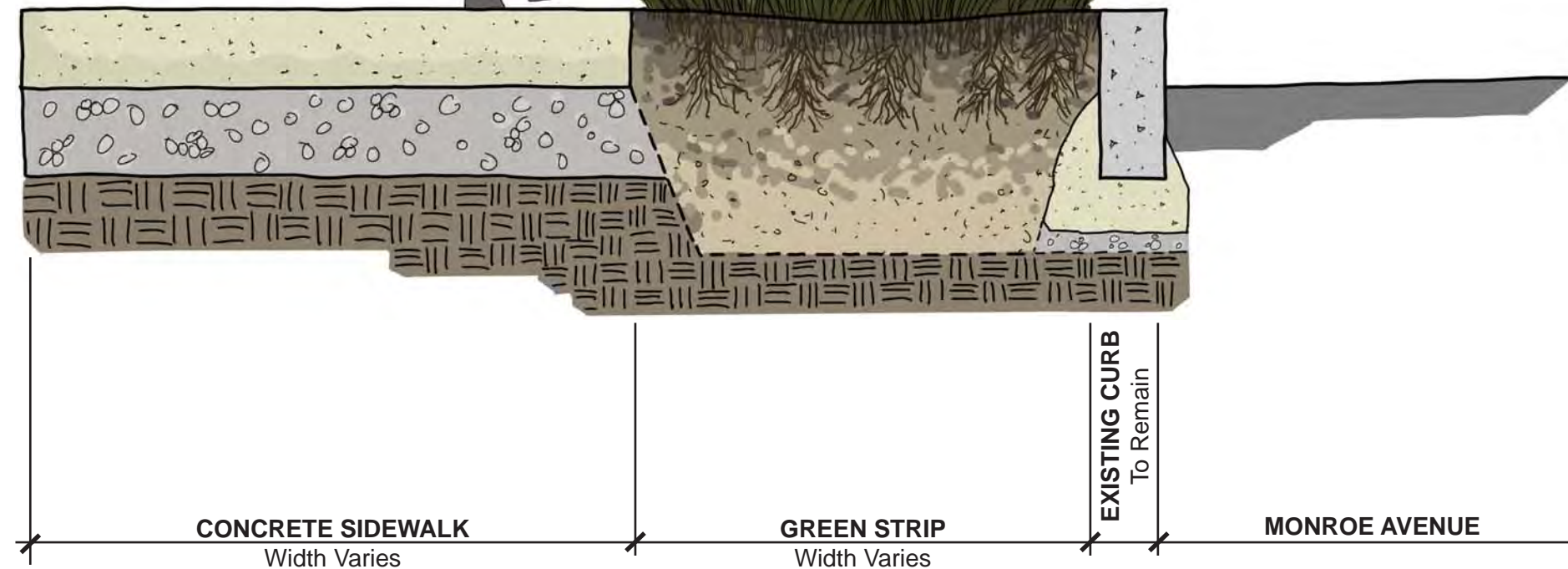
Concept graphics. Shop drawings and structural engineer's approval required prior to construction.



SCAN to find out more about
the project or visit
www.brightonGIGP.org

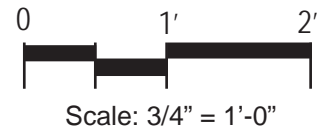


TYPICAL GREEN STRIP ENHANCEMENT



- Existing,
- Replaced, or
- New Pervious Concrete

- Remove existing asphalt
- Remove 2' depth of existing soil
- Replace with new Planting Media: 5% Sorbtive Media, 15% Peat Moss, 80% Sand
- Native, salt tolerant, hardy grasses. Maximum height of 3'.
- Green Strip may receive underdrain in select locations



IMBRIUM SYSTEMS SORBTIVE MEDIA AL 28X48

- High surface area phosphorus-absorbing media
- Media surface comprised of aluminum oxide and iron-oxide
- Sand-like gradation
- Amendment of bioretention soil mix with Sorbtive Media Al 28x48 at levels as low as 3%-5% volume basis can greatly enhance phosphorus removal performance
- Use either 10% or 5% of Sorbtive Media by weight
- A 5% Sorbtive blend will last 15 years
- A 10% Sorbtive blend will last 30 years
- Dissolved Phosphorus removal efficiency will begin at 99% and be termed exhausted at 50%

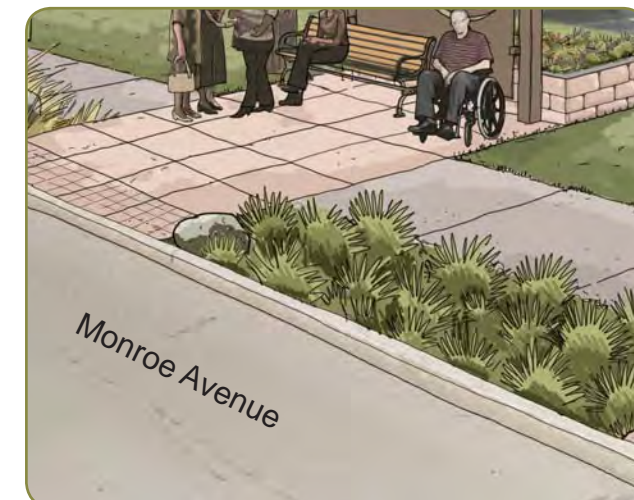
PLANT LIST RECOMMENDATIONS

- Carex aurea - Golden Sedge
- Carex lurida - Lurid Sedge
- Deschampsia cespitosa - Tufted Hair Grass
- Juncus effusus - Soft Rush
- Panicum virgatum - Switch Grass

EXISTING CONDITIONS



LOCATION EXAMPLE



ALLENS CREEK WATERSHED

WELCOME TO THE MONROE AVENUE GREEN CORRIDOR!

The Monroe Avenue Green Corridor spans about one mile from Elmwood Avenue to Westfall Road. The Town of Brighton is purposefully evolving as a sustainable community. Energy conservation, natural resource protection and waste reduction are vitally important to our community. Reintegrating natural systems into the urbanized environment enhances the valuable services that nature provides the human environment, such as filtering stormwater, reducing the heat island effect, creating wildlife habitat, and inviting people to walk, bike, and enjoy their beautiful neighborhoods.

ALLENS CREEK & CORBETT'S GLEN

Allens Creek flows through the historic Corbett's Glen. Carved by glaciers, portions of this valley have been safeguarded from development due to steep slopes that surround and protect it. The secluded valley in Brighton offers an oasis of sight, sound, and remarkable natural features in an otherwise densely developed suburban area. The Glen has walking trails and educational resources to allow for use and enjoyment. The overall intent of Corbett's Glen is to strike a balance between development for passive recreational use and preservation of scenic, natural, and cultural resources.

WHAT IS A WATERSHED?

A watershed is an area of land that drains all the streams and rainfall to a common outlet such as the mouth of a bay or lake, the outflow of a reservoir, or any point along a stream or channel. The watershed consists of surface water – lakes, streams, reservoirs, and wetlands – and all the underlying ground water. The water quality of all bodies of water are affected by things, human-induced or not, happening to all the land area throughout the watershed.

ALLENS CREEK WATERSHED

The Monroe Avenue Green Corridor lies within two watershed areas; the Buckland Creek watershed to the North and the Allens Creek Watershed to the South. The watershed divide between the two creeks falls at the approximate mid-point of the Green Corridor. Allens Creek is a tributary of Irondequoit Creek, which flows to Irondequoit Bay and Lake Ontario. Any stormwater runoff within this watershed seeps into the ground or drains downslope through a network of channels and streams reaching Allens Creek, and ultimately reaching Irondequoit Creek, Irondequoit Bay and Lake Ontario. The Great Lakes contain more than 20% of Earth's surface freshwater. The NYSDEC lists Allens Creek on its Priority Waterbodies List with a state classification of B(t). The best usages of Class B waters are primary and secondary contact recreation and fishing. Allens Creek is designated (t), indicating the support of trout.

LAKE ONTARIO

IRONDEQUOIT BAY

IRONDEQUOIT CREEK

BUCKLAND CREEK

ALLENS CREEK

Corbett's Glen - Postcard Falls



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ALLENS CREEK

STORMWATER RUNOFF IMPROVEMENTS

WHAT IS STORMWATER? WHY IS IT IMPORTANT?

Stormwater is water from melting snow or rain that does not seep into the ground, but runs off of surfaces such as rooftops, paved streets, highways, and parking lots and is released untreated into our waterways. Stormwater runoff is important for two main reasons. First, stormwater runoff transports an assortment of pollutants that are harmful to water bodies, drinking water, and habitat. Second, during large storms or snow melt, the volume of stormwater is increased and could cause flooding, property damage, or harm the fish and wildlife habitat.



DID YOU KNOW?

Based on an average annual local rainfall of 30 inches, 1 acre of impervious surface can produce 600,000 gallons of runoff per year

That's enough runoff to nearly fill one olympic-sized swimming pool!

LETS DO THE MATH

The Monroe Avenue Green Corridor encompasses approximately 17.80 acres, 12.95 acres are impervious surfaces (nearly 73% of the total area!)

The corridor could produce approximately 7.8 million gallons of runoff per year

That's enough runoff to nearly fill 12 Olympic sized swimming pools!

HOW DOES STORMWATER AFFECT WATER QUALITY?

Some of the current stormwater management practices allow for pollution of our water bodies. As it flows, stormwater runoff collects pollutants such as fertilizers, pesticides, automotive fluids, bacteria, sediments, litter, and pet waste and transports these contaminants from parking lots, roads, and driveways to the nearest waterway. Pollution carried by stormwater degrades the quality of drinking water, and damages the habitat of plants and animals that depend on clean water for survival. In addition, large impervious surfaces in urban areas increase the quantity of peak flows of runoff, which end up causing impacts such as eroded stream banks, alteration of natural systems and wetlands, increased sedimentation, and loss of habitat.

Green infrastructure techniques have been installed throughout the Monroe Avenue corridor to promote runoff reduction.

GREEN INFRASTRUCTURE IMPROVEMENTS

1 BIORETENTION RAIN GARDENS

Designed to filter and manage runoff while mimicking natural systems through native plantings. The bioretention swale is a multi-functional green space that provides benefits including effective breakdown and removal/ immobilization of pollutants found in urban runoff, increased stormwater infiltration time, increased wildlife habitat and biodiversity, and decreased reliance on existing stormwater infrastructure and treatment facilities.



Safely take a peak over the handrail to view this!

2 RIPARIAN BUFFER

The bioretention rain gardens act as a riparian buffer / filter strip for Allens Creek. The buffer provides treatment and control of stormwater runoff from the surrounding areas of development.



Safely take a peak over the handrail to view this!

3 POROUS CONCRETE

Designed to infiltrate rainfall through the pavement surface, thereby reducing stormwater runoff quantities.



The majority of sidewalks throughout the corridor are now porous concrete!



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BUCKLAND CREEK WATERSHED

LAKE ONTARIO

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The Monroe Avenue Green Corridor spans about one mile from Elmwood Avenue to Westfall Road. The Town of Brighton is purposefully evolving as a sustainable community. Energy conservation, natural resource protection and waste reduction are vitally important to our community. Reintegrating natural systems into the urbanized environment enhances the valuable services that nature provides the human environment, such as filtering stormwater, reducing the heat island effect, creating wildlife habitat, and inviting people to walk, bike, and enjoy their beautiful neighborhoods.

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BUCKLAND CREEK WATERSHED

The Monroe Avenue Green Corridor lies within two watershed areas; the Buckland Creek watershed to the North and the Allens Creek Watershed to the South. The watershed divide between the two creeks falls at the approximate mid-point of the Green Corridor. The Buckland Creek watershed is approximately 2,450 acres in size and contains almost 4,000 homes in Brighton. The Creek is a tributary of Irondequoit Creek, which flows to Irondequoit Bay and Lake Ontario. Any stormwater runoff within this watershed seeps into the ground or drains downslope through a network of channels and streams reaching Buckland Creek, and ultimately reaching Irondequoit Creek, Irondequoit Bay and Lake Ontario. The Great Lakes contain more than 20% of Earth's surface freshwater.

BUCKLAND CREEK RESTORATION

"Inspired by the efforts of students at Brighton High School to study and protect the Creek, several community partners applied for and received grants from NYS and the Fish & Wildlife Foundation to support restoration activities."

- Buckland Creek Restoration Brochure



Buckland Creek Restoration



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BUCKLAND CREEK

STORMWATER RUNOFF IMPROVEMENTS

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Green infrastructure techniques have been installed throughout the Monroe Avenue corridor to promote runoff reduction.

GREEN INFRASTRUCTURE IMPROVEMENTS

- 1 CONSTRUCTED WETLAND**
 Creating a pocket wetland area helps restore a wetland buffer and allows for permanent conservation of this ecological habitat. The wetland is designed to filter and manage runoff while mimicking natural systems through native plantings. The wetland is a multifunctional green space that provides benefits including:
 - Removal / immobilization of pollutants found in urban runoff
 - Increased stormwater infiltration time
 - Increased wildlife habitat and biodiversity



Safely take a peak over the handrail to view this!

- 2 STORMWATER HARVESTING**
 Stormwater harvesting is the collection and treatment or purification of stormwater. Runoff is collected from Monroe Avenue and the Brighton School campus. The runoff is collected in the pocket wetland where it is treated by native plantings before entering Buckland Creek.

- 3 POROUS CONCRETE**
 Designed to infiltrate rainfall through the pavement surface, thereby reducing stormwater runoff quantities. The majority of sidewalks throughout the corridor are now porous concrete!

- 4 URBAN FORESTRY**
 New trees have been planted throughout the corridor to increase biodiversity, intercept stormwater runoff, reduce urban heat island effect, and absorb carbon, nitrogen, and particulate matter.



Look around the corridor to see all of the newly planted trees!



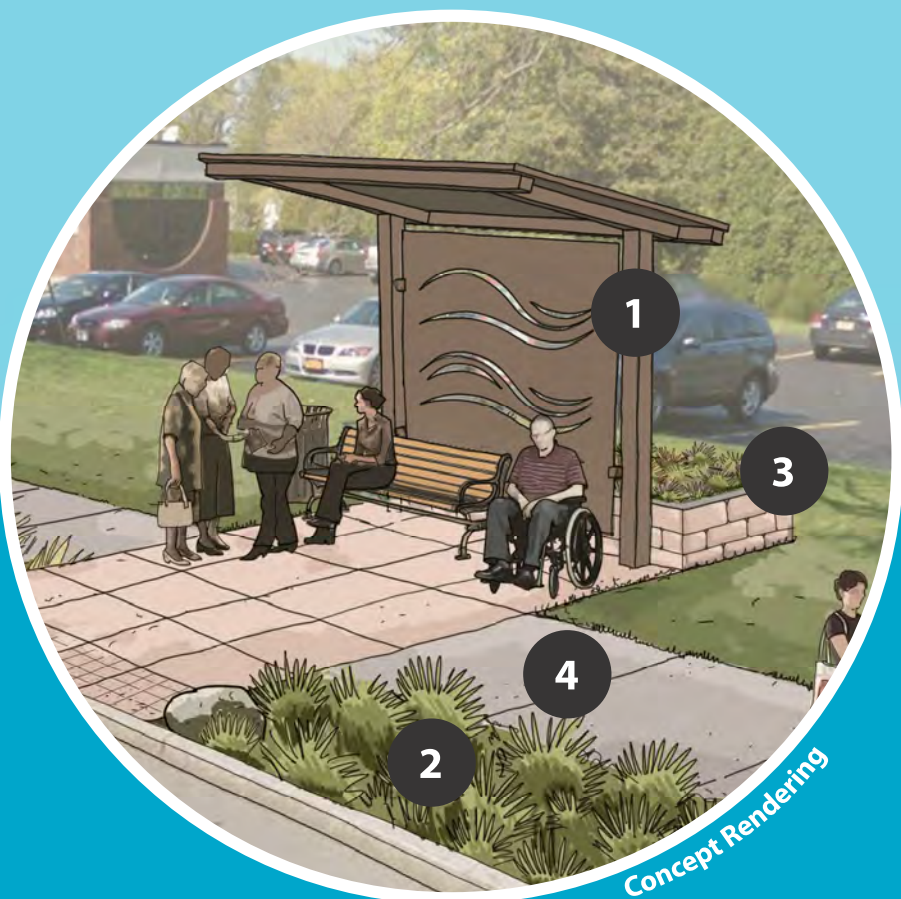
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GREEN TRANSIT IMPROVEMENTS

BUS SHELTER IMPROVEMENTS

The green transit improvements incorporate environmental, aesthetic, and transportation benefits. The improvements meet the goals of the Monroe Avenue GIGP Project as well as the Monroe Avenue Corridor Community Vision Plan. The enhancements improve stormwater quality through green infrastructure, support and encourage transit use and pedestrian flow, improve streetscape aesthetics, and establish a visual identity for Monroe Avenue.

Every trip on public transportation begins and ends with a walk or bicycle ride. The transit stop improvements along the Corridor encourage the use of public transportation and act as a key element in making Monroe Avenue a "complete street." Complete streets enable safe access for people who are walking, bicycling, driving, or riding public transportation.



DID YOU KNOW?

RGRTA oversees public transportation in Monroe, Genesee, Livingston, Orleans, Wayne, Wyoming and Seneca counties.

Every RTS bus is equipped with a bike rack on the front, encouraging commuters and recreational cyclists.

Annual Ridership = 18,175,000

Number of Buses = 405

Service Area Population = 1,083,877

Note: Numbers were gathered in February 2014.

GREEN INFRASTRUCTURE IMPROVEMENTS

1 BUS SHELTER

Simple, economical design. Durable material, easy maintenance. Roof top is angled to allow stormwater to runoff into a stormwater planter. Shelter design represents the two streams within the corridor. Provides a signature streetscape architecture for the Monroe Avenue Green Corridor.

2 VEGETATED BUFFER STRIP

Increases pervious area to capture and filter stormwater runoff. Plants manage and treat small volumes of runoff.

3 STORMWATER PLANTER

Small landscape stormwater treatment devices that use soil infiltration and biogeochemical processes to decrease stormwater quantity and improve water quality. The roof runoff is captured and filtered through plant material and a special soil matrix.

4 POROUS CONCRETE

Designed to infiltrate rainfall through the pavement surface, thereby reducing stormwater runoff from the site and providing some pollutant uptake in the underlying soils.

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B&L
Logo



WATERSHED DIVIDE

BUCKLAND CREEK WATERSHED



Rain and snow falling on this side flows north into Buckland Creek. Buckland Creek flows into Irondequoit Creek which flows to Irondequoit Bay and Lake Ontario

**BUCKLAND
CREEK WATERSHED**
=
2,450 Acres

ELEVATION
=
475.5 Ft. +/-

**ALLENS CREEK
WATERSHED**
=
2,500 Acres

Rain and snow falling on this side flows south into Allens Creek. Allens Creek flows into Irondequoit Creek which flows to Irondequoit Bay and Lake Ontario



ALLENS CREEK WATERSHED

DRAFT

