TRUMAN DRIVE GREENWAY PROJECT

SNEP Watershed Grant

Final Report Abstract

Truman Drive is an underutilized four lane road located between historic Downtown Woonsocket's Main Street and the Blackstone River. There are large parking areas on either side of the road with a recently constructed bikeway one the southern-most traveled lane of Truman Drive, ultimately guiding users out of the downtown area, rather than spend more time enjoying what the city has to offer. The Truman Drive Greenway Project funded by the 2021 SNEP Watershed Grant established the preliminary site assessment, environmental testing and permitting, and economic develop elements necessary to build a construction foundation moving forward.

City of Woonsocket

SNEPWG21-2-WOONSOCK

Behind every construction project is an incredible story to be told. Construction, in a lot of ways, is the easy work. There is a mountainous level of foundation work needed to complete prior to breaking ground for construction. This is the case for Truman Drive Greenway Infrastructure Project. The under-utilized four-lane road, found in the historic Downtown area of the City of Woonsocket, is the mountain chosen to tackle. This infrastructure project, funded by the SNEPWG21 Grant supported the foundation to provide the City of Woonsocket with a tangible, permittable, economic development, environmental, and most rewardingly, beautiful, concept plan to transform Truman Drive.

Truman Drive is a minor arterial roadway with two southbound travel lanes and one single northbound lane. The goal of this project is to remove one and a half lanes to create a single lane north and southbound respectively, while transforming the removed lane into a linear park and bike path to address environmental storm water concerns, socioeconomic improvements, and generalized beautification of the city. Before anything, an assessment of this area was evaluated to determine the traffic demand and feasibility of reducing the number of traffic lanes.

Following the appropriate bidding process, Fuss & O'Neill was the awarded contracting engineer firm to take on this vital fundamental workload. Partnering with Rhode Island Department of Transportation, the firm summarized the traffic assessment and proceeded forward with the environmental assessment of the watershed surrounding Truman Drive. The stormwater runoff surrounding this area flows directly into the Blackstone River. According to the current RIDEM 303(d) list, the impervious surfaces linked to Truman Drive and its surrounding parking lots contribute fecal

coliform, enterococcus, total phosphorus, identified pollutants, and soil erosion. In addition to the environmental downfalls, the physical structures disconnect the residents from accessing the current bikeway.

Fuss & O'Neill conducted a quality assessment along with evaluating the existing conditions for this project. The firm delivered a full boundary/topographic survey including topography, boundary limits, utility lines, and visible structures. Soil, utility information, drainage infrastructure, and conflict assessments were mapped and provided to the city for further discussion on design. There were two major design milestones available for input during this project. A public meeting was held to collect feedback at the start of 30% design phase and again at 70% design phase.

Site Before	Site Rendition After
	
	

There were limitations on what could be changed due to the necessary engineering and green infrastructure requirements. Ultimately, these meetings kept stakeholders in the conversation with tangible presentation slides, meeting summaries, schematic drawings, and graphic renderings. The preliminary design at 70% incorporated the necessary information for a Rhode Island Department of Environmental Management (RIDEM) permit application to be submitted. The final submission of

deliverables from Fuss & O'Neill were a full Quality Assessment report, renditions of the site in color, estimated construction costs, long term maintenance guidelines, and a completed RIDEM wetlands permit submission. While it seems small, each submitted deliverable is a significant milestone for the City of Woonsocket. The goal of a beautiful linear park easily accessible to downtown shopping, environmental remediations, and economic development on the horizon, Woonsocket is excited to carry this project through construction in the upcoming months. The exciting work has yet to come.

Next Steps for the Truman Drive Greenway Infrastructure Project

Long term goals of this project are in progress following the completion of this grant funding. The next step of Truman Drive Greenway Project is to complete construction and transform the space following the visual renditions. The thorough assessment by the engineering firm was the foundation for each milestone moving forward.

The construction element of the Truman Drive Greenway project is planned to progress through the fall of 2024. The linear park is anticipated to be substantially completed before December 31, 2024. Construction is currently out to bid and in the awarding process.

Truman Drive Greenway construction element is estimated to cost $3,000,000. A grant has been awarded by Rhode Island Infrastructure Bank for $2,000,000 planned to fund the construction site preparation, landscape cap, streetlights, drainage and green infrastructure, remove and dispose contaminated soil, pedestrian access, and road restoration. An additional grant for $500,000 has been awarded from the USEPA Southeast New England Program Watershed Implementation Grants 2023 (SNEPWIG23), and a $1 million cash match from the Rhode Island Department of Transportation. Both will contribute to the construction, traffic control, insurance, and engineering of the Truman Drive Greenway Infrastructure Project.

The critical assessment work done by Fuss & O'Neill was crucial to the success of the construction to come. The work completed by this firm set the foundation for all work to be completed moving forward. The diligence in reporting directly supports the protection of the local watershed ecosystems.

Truman Drive Greenway Project is supported by Southeast New England Program (SNEP) Watershed Grants. SNEP Watershed Grants are funded by the U.S. Environmental Protection Agency (EPA) through a collaboration with Restore America's Estuaries (RAE). For more on SNEP Watershed Grants, see www.snepgrants.org

SNEP Watershed Grants
Final Report

1. Cover Information

Truman Drive Greenway
SNEPWG21-2-WOONSOCK
Grant and Reporting Period Final

City of Woonsocket

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Report Type: Final

2. Project Report Narrative

The Truman Drive Greenway Project created a new vision for the City of Woonsocket. The work done through this project brought ideas to life and visually transformed an underutilized multi-lane road into a right-of-way green space with landscaping elements designed to treat stormwater. The scope of work completed through this grant sufficiently prepared the linear park's design, permitting and public engagement.

From the grant agreement beginning, preliminary site assessments were performed. The City of Woonsocket signed a contract with an engineering firm, Fuss & O'Neill, following the appropriate bidding process. From this agreement, a strategic team of experts were put together to implement landscape architecture, transportation engineering, environmental and watershed engineering. Together with the principal project manager, a framework for the Truman Drive Greenway Project was developed.

The project team at Fuss & O'Neill executed the scope of work through two phases. Leading phase one on Concept Design, the firm had three tasks to complete. First, a Quality Assurance Project Plan (QAPP) was completed to detail the Quality Assurance and Quality Control procedures necessary for the site. Then, the firm collected information on the existing conditions of the site. This produced a topographic land survey, a wetland delineation map, and a soils borings investigative report. The data collected during phase one allowed for the third task to commence, Public Engagement. Two in-person workshops were set up with the city stakeholders and neighboring businesses, and a public webpage was created for public forums and comments.

The second phase of the project established the schematic design of the Truman Drive Greenway. Within this phase, the first facilitated workshop was held following 30% preparation of the design stage. This preliminary design aligned project values

and environmental goals for Truman Drive. Following the consensus of the workshop, Fuss & O'Neill prepared a concept plan with technical design considerations. A colored rendition of the concept plan was created as a visual guide for the project moving forward.

The firm additionally integrated designs ideal to qualify for water quality credits from Rhode Island Department of Transportation (RIDOT). Fuss & O'Neill provided the City with 30% design drawings, graphic renderings, both 3D and plan views, opinions of construction cost, and estimates for pollutant removal. The second Workshop occurred with the City Council at 70% preliminary design. From this, the final design was created, suitable for permitting. These plans included site conditions, site layout, grading and drainage, planting, traffic, and maintenance.

The final phase of this project occurred concurrent to phases one and two. This was the creation and submittal of the Rhode Island Department of Environmental Management's application for a Freshwater Wetlands Permit. Fuss & O'Neill completed each task on schedule with thorough detail. Each task was delineated on each invoice with a percentage of completion.

2.A. Project Results

The goals of this project were to create a thorough review of the proposed project area (Truman Drive) and create a visual rendition of the site's potential. Truman Drive Green Infrastructure Project addresses social, environmental, and economic goals of the City of Woonsocket. The transformation will create a recreational bikeway, while managing stormwater influx and deferring discharge to the heavily polluted Blackstone. The aesthetic of this infrastructure construction will be inviting for local communities and guide parkgoers to the downtown area.

Over the six-month period starting from bidding and ending with project completion, the general scope of the project remained the same. Fuss & O'Neill incorporated permitting applications in their bid, which was critical in keeping the project focus on track. The only changes from the bid until the final scope of the work agreement were in the engineer's assessment and including a thorough environmental assessment to ensure the project would qualify for green tax credits. Additionally, the firm included waste disposal plans (particularly with contaminated soils), and long-term maintenance plans for site care in the construction projects to follow.

2.B. Next Steps & Recommendations

Long term goals of this project are in progress following the completion of this grant funding. The next step of Truman Drive Greenway Project is to complete construction and transform the space following the visual renditions. The thorough assessment by the engineering firm was the foundation for each milestone moving forward.

The construction element of the Truman Drive Greenway project is planned to progress through the fall of 2024. The linear park is anticipated to be substantially completed before December 31, 2024. Construction is currently out to bid and in the awarding process.

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fund the construction site preparation, landscape cap, streetlights, drainage and green infrastructure, remove and dispose contaminated soil, pedestrian access, and road restoration. An additional grant for $500,000 has been awarded from the USEPA Southeast New England Program Watershed Implementation Grants 2023 (SNEPWIG23), and a $1 million cash match from the Rhode Island Department of Transportation. Both will contribute to the construction, traffic control, insurance, and engineering of the Truman Drive Greenway Infrastructure Project.

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2.C. Compliance

- The Quality Assurance Project Plan (QAPP) was completed in December 2022 following the USEPA guidelines. It was approved and signed on December 14, 2022.
- The RIDEM Freshwater Wetland Permits required for the Project were approved on February 28th, 2024, Application No. 24-0007

2.D. Project Partners

Partners for the Truman Drive Greenway project outside of the City of Woonsocket's planning department remained consistent throughout the project. However, within the department, there was a significant changeover in individuals responsible for reporting. Changes from the original agreement are as follows:

- The previous Mayor of Woonsocket, Lisa Baldelli-Hunt, was replaced by Mayor Christopher Beauchamp.
- The Director of Planning and Development, Bianca Policastro, was replaced by Michael Debroisse.
- The city planner, Kevin Proft, was replaced by Kenneth Kirkland.
- The person responsible for reporting, Kevin Proft, has been replaced by Lara Auclair.

Despite heavy turnover in essential roles, the well-structured project was executed to completion. The planning department worked closely with the Public Works Department and the engineering division for technical support and in-kind data services.

Additional partner organizations who were key stakeholders in the success Truman Drive Greenway are Rhode Island Department of Transportation (RIDOT), the Economic Development Foundation of Rhode Island, and Thundermist Taskforce. RIDOT contributed a significant cash match to support development along with providing feedback on designs to align with permitting and green credits. The Economic Development Foundation works heavily on Main Street, which is near by the

linear park. The Foundation provided an abundance of pro-bono expertise and tips throughout the project. They were included in the initial public workshop. The Thundermist Taskforce organization centers around improving water quality in and around the Blackstone River through public education and engagement. They provided funded expertise in water quality in the concept plan stages of this project, along with being heavily invested in the design phase.

2.E. Volunteer and Community Involvement

There were no volunteer opportunities for this project, however, there were attempts
at community engagement. On March 20th, a Public Meeting was held with fliers to advertise the open meeting. The Valley Breeze, a free local newspaper, advertised the open access meeting. Community engagement and opinion is critical in the long-term success of large projects. Although there was not much room for engagement on the engineering element, there is plenty of room for input for the park's usage moving forward.

2.F. Outreach & Communications

A City Council workshop was conducted on December 18, 2023, to review the proposed 70% plans and solicit feedback which included an opportunity for public comment. No substantial changes were proposed to the design. As mentioned previously, there are infrastructure elements of this project designed for environmental remediation and soil erosion prevention. Communication and education of these elements are critical.

The City Council workshop at the 70% stage was designed to have supporting long-term operating and maintenance plans, designs structured for permitting, environmental reports, and sufficient visuals to support the Truman Drive Greenway Project. Without city council approval at each major milestone, the city would be disconnected from the work being done. It was critical to maintain open communication for the entirety of this project. Fuss & O'Neill provided exceptional concept designs covering all aspects of the project, with organized explanations for any potential the council might have brought attention to.

3. Project Budget Report

3.A. Summary Budget Tables

Summary Budget Table 1: Report #3, Final Expenditures by Federal Cost Category

Budget Category	Total Budgeted Funds	Total Budgeted Match	Grant Funds Expended This Period	Grant Funds Expended Cumulative	Match Funds Expended This Period	Match Funds Expended Cumulative	Match Source (note cash or in-kind)
Personnel							
Fringe							
Travel							
Equipment							
Supplies							
Contracts	$187,500	$62,500	$3,050	$187,500	$26,915.03	$62,500	Cash
Other							
Total Direct	$187,500	$62,500	$3,050	$187,500	$26,915.03	$62,500	Cash
Indirect							
Total	$187,500	$62,500	$3,050	$187,500	$26,915.03	$62,500	Cash

Summary Budget Table 2: Expenditures by Project Task (Grant Funds Only)

Budget Category	Budgeted Grant Funds	Expended Progress Period 1 Detailed 7/23/2024		Expended Progress Period 2	Expended Progress Period 3	Expended Progress Period 5	Actual Expended to Date
Task 1 – Prepare QAPP	$0	$0	0	0			$0
Task 2 – Collect Existing Conditio ns Info	$46,400	$41,760	0	$4,640.00			$46,400
Task 3 – Public Engagem	$15,900	$795	$7,155	0			$7,950
Task 4- Prepare Preliminary 30% Design	$74,000	$64,380	$9,620	0			$74,000
Task 5 – Prepare Preliminary 70% Design	$48,400	$2,904	$11,616	$33,880			$48,400
Task 6 – Prepare RIDEM Permit Application	$7,700	$1,925	0	$5,775			$7,700
Task 7 – Final Design and Specifications	$3,050	$0	0	0	$3,050		$3,050
Total	$187,500	$111,764.00	$28,391	**$44,295**	**$3,050**		$187,500
		$140,155.00					

3.B. Budget Narrative

Summary Budget Table 1 is the expenses from Period 3. This includes the final expense of Grant Funds, along with the final Match Funds with the cash invoice attached in Related Documents below. Summary Budget Table 2 is the corrected Grant Expenditure completed through Periods 1, 2, and 3. It is important to note, period 1 had an invoice unaccounted for in Report #1. The funds for this invoice were accounted for, but not the breakdown. To ensure continuity in reimbursement and recordkeeping, the breakdown of task per the invoice missed on that period of reporting is documented in Table 2. Period 2 additionally was not filled out prior to submitting Report #2. Funding breakdown is accumulated and divided according to the related invoices from the firm in the appropriate column. Expenses for Period 3 are finalized in this report, and together the Budget Table 2 provides an accurate scope of spending of the grant from start to finish.

4. Supporting Materials

All Supporting Materials are attached to this report. A chart for reference is provided for convenience.

	Document	Brief Explanation
Attachment 1	Signed Grant Agreement	Contains the initial Scope of Work on Pages 22-24.
Attachment 2	30% Design Review Workshop Presentation	Presentation of Proposed Layout for Truman Drive 30% Complete
Attachment 3	Concept Plan Map	Layout Rendering following Workshop #1
Attachment 4	Public Meeting Advertisement	Copy of flyer for public meeting announcement
Attachment 5	Public Meeting Advertisement	Public Meeting announced in Valley breeze
Attachment 6	Public Meeting Presentation	Slideshow presented at public meeting
Attachment 7	Deliverable by Fuss & O'Neill	Operating and Management plan for after construction
Attachment 8	QAPP Report	Quality Report delivered by Fuss & O'Neill
Attachment 9	Deliverable by Fuss & O'Neill	RIDEM Freshwater Permit Application
Attachment 10	RIDEM Permit	Approval of permit recorded
Attachment 11	Invoice # 3	Final invoice with Match information recorded
Attachment 12	24-R-15	Resolution approved by City Council to accept SNEPWIG23 Grant to continue Truman Drive Greenway Project through construction

5. Certification

Include this language: *The undersigned verifies that the descriptions of activities and expenditures in this progress report are accurate to the best of my knowledge; and that the activities were conducted in agreement with the grant contract. I also understand that matching fund levels established in the grant contract must be met.*

Grantee Signature:

Name: Michael Debroisse

Job Title: Director of Planning & Development

Date: July 31, 2024

Organization: City of Woonsocket

Summarize the workplan, including principal tasks and realistic schedule. Clearly explain how the proposed work will address the problem. Describe the deliverables clearly and concretely. What is the geographic scope of the project? Note the watershed, receiving waters, and affected communities, as well as the area in which the work will be accomplished.

This will be completed in two phases to better align funding with the scale of project and to maximize neighborhood benefits. This grant application is focused on the first phase--finalizing the design and permitting of the project. Phase two will be public bidding and construction, and will be funded independently from this project, likely from a mix of grant programs. RIDOT has committed to providing cash match for both phases of the project.

The City has completed a conceptual design for this project that will be the basis for this design. This conceptual design is included as an attachments to this application. Key tasks that are proposed as part of the design and permitting of this project include the following (timeframes begin after consultant is retained by City):

o FINALIZE AGREEMENTS & PROCURE CONTRACTOR: The City will finalize agreements with SNEP & RIDOT, develop an RFP/bid the project, select the most responsible bidder, and finalize a contract with the selected firm.
 Deliverables: Finalized agreements with SNEP and RIDOT. Proposal/contract for selected bidder. (4 months)

o PREPARE QAPP: QAPP will follow USEPA guidance documents.
 Deliverables: Approved RAE and USEPA QAPP. (3 months)

o EXISTING CONDITIONS INFORMATION: Collect field survey information within the right-of-way and project limits. Field survey information to include: topography, ROW and boundary limits, utilities, and visible structures. In-situ soil evaluation will be included to appropriately size green infrastructure controls. Utility information will be critical (this site has substantial buried infrastructure from past mill operations) to ensure proposed improvements do not create conflicts. Also, existing drainage infrastructure from upgradient neighborhoods (i.e. Main Street watershed) will be mapped so the potential to divert additional runoff to proposed green infrastructure controls may be assessed.
 Deliverables: Boundary/Topographic Survey. Soil Reports. (5 months)

o PUBLIC ENGAGEMENT: Conduct two public workshops to collect feedback on design and build consensus and support for the project design and approach. These workshops will be developed to engage both the people and businesses in the adjoining neighborhoods-- EJ communities--as well as other stakeholders like bikeway users and DPW staff who will maintain the new assets. Workshops to take place at the start of the 30% and 70% design phases in order to incorporate the community's vision into this project. This task will also include the creation of a public webpage where people can download updated project information and leave feedback.
 Deliverables: Two public workshops, PowerPoint slide deck, meeting summaries, public webpage. (webpage and first workshop at 5 months, second workshop at 8 months)

o PRELIMINARY DESIGN (30% DESIGN): Schematic drawings of proposed design, incorporating public comments, will be created. Schematic drawings will include: layout, grading, drainage, and planting. Visual graphics/renderings will be produced to aid the public engagement process. Assessment of the potential for diverting stormwater from upgradient neighborhoods to proposed green infrastructure improvements will be conducted. Expected water quality improvements will be calculated to confirm that the goals of this grant will be met. A workshop with City staff, including DPW who will eventually be responsible for maintenance and long-term success of these new assets, will be conducted. An opinions-of-construction cost will be developed.
 Deliverables: 30% design drawings, graphic renderings (plan view and 3d images), opinions of construction cost, estimates of pollutant removal effectiveness (7 months)

o PRELIMINARY DESIGN (70% DESIGN): Prepare preliminary designs suitable for permitting, incorporating comments from City and the second public meeting. Schematic drawings to include: layout, grading, drainage, and planting. Opinions of construction cost, estimates of pollutant removal effectiveness, and visual graphics/renderings will be updated. A workshop with City staff, including DPW who will eventually be responsible for maintenance and long-term success of these new assets, will be conducted.
 Deliverables: 70% design drawings, graphic renderings, opinions of construction cost, estimates of pollutant removal effectiveness (10 months)

o PREPARE AND SUBMIT RIDEM PERMIT APPLICATION: An application for wetlands permitting will be prepared and submitted to RIDEM, including stormwater permitting requirements. This task includes the preparation of the permit application and supporting the application through the permitting process.
 Deliverables: Completed RIDEM permit application and RIDEM issued wetlands authorization (Submit permit applications at 10 months, estimate securing permits at 14 months)

o PREPARE FINAL DESIGNS AND SPECIFICATIONS: These documents will be suitable for public bidding and construction.
 Deliverables: Final design drawings and specifications incorporating permit conditions (18 months)

Project Team

List project partners and describe the role of each partner. Note that partners are those directly involved and contributing to the project, not simply supporting it. Partners may be funded under the grant and/or match contributors. Federal agencies may be off-budget partners.

This project will be led by the City of Woonsocket's Planning Department. Under the supervision of Bianca Policastro, Planning Director, Kevin Proft, City Planner, will be responsible for managing the project for the City. The City's Public Works Department and Engineering Division will provide technical support and in-kind services such as data collection. The City will hire a qualified consultant to develop project deliverables. Between the City's Planning Department and DPW and the qualified consultant, the team will have significant experience conducting road and utility infrastructure projects within the public-right-of way.

RIDOT will contribute $62,500 cash match to the project in order to support development of the green infrastructure elements of the project.

Main Street, which abuts the project area, has seen significant public and private investment in recent years. Two significant mixed-use redevelopment projects have added 37 new residential units and five new commercial spaces along Main Street. Another large-scale adaptive reuse project of the deteriorating Bernon Mills is undergoing permitting and could add another 50 residential units and three commercial spaces. Many new businesses have opened on Main Street including restaurants, a brewery, clothing stores, and salons, complementing the existing restaurants and attractions -- such as the Stadium Theatre and the Museum of Work and Culture. As noted, RIDOT recently constructed the Blackstone River Bikeway along Truman Drive and across Main Street. RIDOT also improved traffic circulation via a new roundabout at the corner of Bernon Street and Truman Drive. Design of additional circulation improvements to Monument Square are underway. Finally, the State recently committed to opening a higher-education facility in the heart of Main Street that will drive additional visitors to the area. The improvement of Truman Drive into a linear park, will help maintain this momentum by attracting more investment to this ongoing revitalization effort. The Economic Development Foundation of Rhode Island will provide pro-bono economic development expertise throughout the project.

The Thundermist Taskforce will provide pro-bono water quality expertise throughout the project. Thundermist Taskforce provided funding for the concept plan stage of this project and is invested in contributing to the design phase in an advisory role. The organization's mission centers around improving water quality in the Blackstone River through projects and public education and engagement.

Outreach & Communications

Provide an outreach plan; describe your target audience(s). Who are your stakeholders and how will you inform them about the project? Will this project serve community members, including historically under-represented groups? Consider all community, professional, and regional audiences – how will you communicate with each of these groups about the project?

The City of Woonsocket is an Environmental Justice community based on EPA New England's identified Environmental Justice areas. The goal of this project is to better serve this community by improving a local recreational facility – the Blackstone River Bikeway along Truman Drive – in a manner that reduces heat island effect, improves water quality, and increases green and recreational space in this hardened urban neighborhood. Engagement of residents and stakeholders in these neighborhoods will be an essential part of this project in order to develop a design that best serves the needs of this community. Community engagement will include:

o COMMUNICATIONS: Development of a project webpage on the City's website that is accessible to community members, provides people with access to project information, and encourages public comment.

o NEIGHBORHOOD WORKSHOPS: Two neighborhood workshops are proposed, during preliminary and final design. The purpose of these workshops will be to directly solicit feedback from the community. The City will maximize awareness of these workshops by leveraging existing electronic mailing lists and social media accounts of City Divisions and local NGOs, including the Parks Division, the Public Library, Downtown Woonsocket Collaborative, Neighborworks BRV, the Woonsocket Health Equity Zone, nearby homeowners associations, and the Blackstone River Coalition.

o PLANNING BOARD MEETING: A public meeting will be held with the Woonsocket Planning Board to engage City stakeholders and provide another opportunity to solicit public feedback.

Impact

Describe what, ultimately, will be the impact of the work, how it aligns with SNEP priorities, and how it will be sustained. Note the expected impact within the period of the grant, as well as any expected impacts beyond the grant period. You may use both quantitative and qualitative measures as appropriate. Note that the purpose of this section is to describe the overall impact of the project; the "Performance Metrics" section of this application allows you to provide more detailed information on project results.

The Truman Drive Green Infrastructure Parkway is an opportunity for the City to transform an underutilized road into an asset that provides benefits to city residents and businesses. This project will convert existing paved surfaces within the right-of-way into green space. That green space will be utilized as follows:

o Stormwater Treatment. The new green infrastructure is expected to manage 7.3 acres of impervious cover, including 1.28 acres of removed pavement and 6.06 acres of impervious area within and adjacent to the right-of-way. There is an additional 29 acres of impervious cover upgradient of the project area that could also potentially be diverted to the new green infrastructure.

o Linear Park. Today's bikeway through the downtown area is a hardened corridor that limits enjoyment of and discourages stopping along this segment. Greening the bikeway will improve people's experience and maximize the value of this regional asset. The linear park will increase greenspace and tree canopy cover, reduce heat island effect, and improve air/water quality and overall aesthetics. It will improve safety for bikeway users by creating greater separation from vehicles, shortening crosswalks, and calming traffic, which currently speeds due to poor road design.

o Improved bikeway access for EJ communities. Physical barriers, including 3.5 vehicle lanes and a concrete barrier, will be removed or significantly reduced, thereby improving access to the bikeway from downtown Woonsocket and improving safety.

o Improved economic conditions in Downtown Woonsocket. Making the bikeway more inviting and reducing physical barriers will encourage more people to use the bikeway and spend time in Downtown Woonsocket. The project will benefit existing and future local businesses in this EJ community. It will also encourage private investment in the neighborhood, including along Truman Drive itself, by significantly improving a well-established regional asset.

This project is consistent with several SNEP priorities:

o Demonstrates a non-traditional approach for stormwater controls to reduce pathogens and nutrients by using green infrastructure to create a new linear parkway. This will be valuable for planners, designers, and political leaders that are trying to find creative ways to improve the landscape in their communities.

o Uses green infrastructure within an urban landscape to create co-benefits for EJ communities, including improved water/air quality, new green open space, and improved access for neighborhood residents to the river/bikeway and for bikeway users to Downtown Woonsocket.

o Engages local EJ community members and business owners to develop a project that serves the communities interests, while communicating the value of green infrastructure approaches. The project will include educational signage along the new greenway to engage bikeway users.

o Establishes partnerships including between the City, RIDOT, Thundermist Taskforce & EDFRI.

This project is consistent with and implements various City plans, each of which included a public participation process and recommended converting Truman Drive to a two-lane road to increase greenspace along the bikeway. These include:

o 2010 Wayfinding Master Plan
o 2012 Comprehensive Plan
o 2013 Main Street Livability Study
o 2020 Municipal Resiliency Program & Local Food, Local Places technical assistance reports

Maps & Images

File Upload
Woonsocket - Truman Drive - Project Area Map and Design.pdf

File Upload
Woonsocket - Truman Drive - Concept Plan, before and after.pdf

File Upload
Woonsocket - Truman Drive - Concept Plan, Final Report.pdf

Woonsocket RHODE ISLAND
Getting it Done!

30% DESIGN REVIEW WORKSHOP

TRUMAN DRIVE PARKWAY

PRESENTED BY

CELICIA BOYDEN, EIT, MS

JULY 2023

FUSS & O'NEILL

30% DESIGN RENDERINGS

VIEW LOOKING NORTH TOWARD COURT STREET BRIDGE

VIEW LOOKING NORTH TOWARD COURT STREET BRIDGE

VIEW LOOKING SOUTH TOWARD COURT STREET BRIDGE

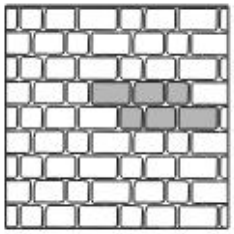
VIEW LOOKING SOUTH TOWARD COURT STREET BRIDGE

PEDESTRIAN BRIDGE

Concrete Boardwalk System

- Long-term solution with low maintenance costs (design life of 50-75 years)
- Concrete provides more strength and durability than timber or composite materials
- Safer option that is slip-resistant, splinter-free, and non-combustible
- Minimal physical impact on surrounding environment

PERMEABLE PAVING



Linear Pattern

Color: Champlain Grey

Techo-Bloc Pure Commercial Pavers

- Durable vehicular permeable paver
- Traditional style
- De-icing salt resistant

Existing View of Allen Street Gated Emergency Egress

Maintain emergency egress through proposed swale with permeable paver system

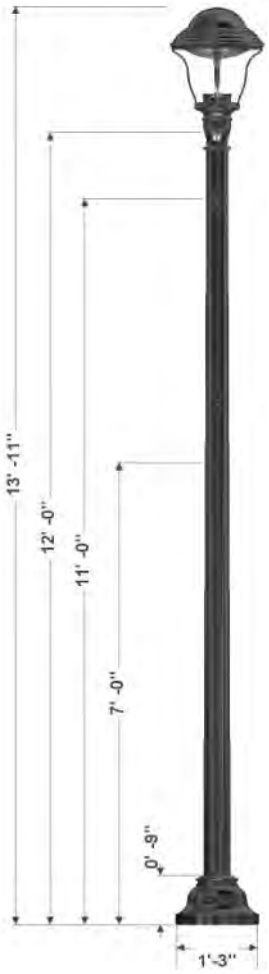
Existing View of Court Street Bridge Underpass

Employ permeable pavers under bridge to reduce stormwater runoff where vegetation cannot grow

LIGHTING: STREET LIGHTS

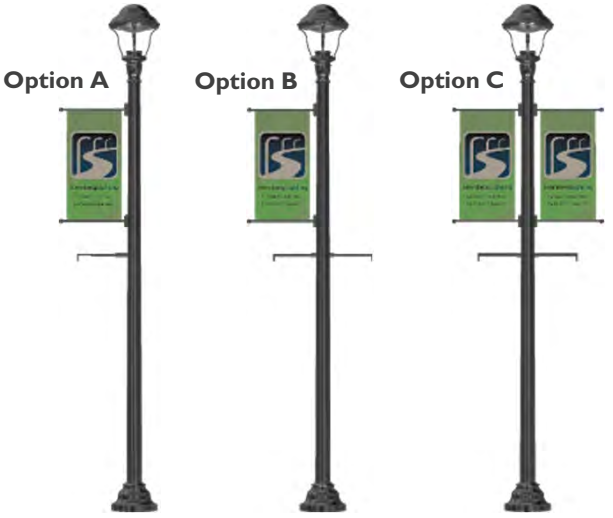
Main Street Existing Light Fixture

- Traditional style consistent with City landscape
- Provide continuity throughout downtown



Lantern Pole Top Light Fixture

- Traditional style consistent with City landscape
- Provide unique identity for Truman Drive
- Less ornate than existing light fixtures on Main Street creating streetscape hierarchy
- Dark sky compliant optics
- Optional house side shield to mitigate light spill near residential properties



Single Banner and Planter Arm

Single Banner and Double Planter Arm

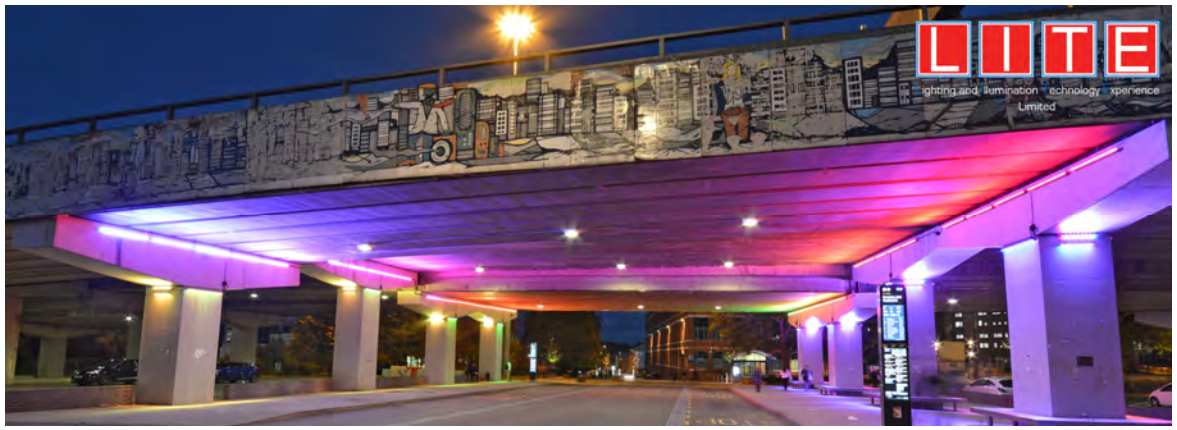
Double Banner and Double Planter Arm

LIGHTING: COURT STREET BRIDGE LIGHTING DESIGN

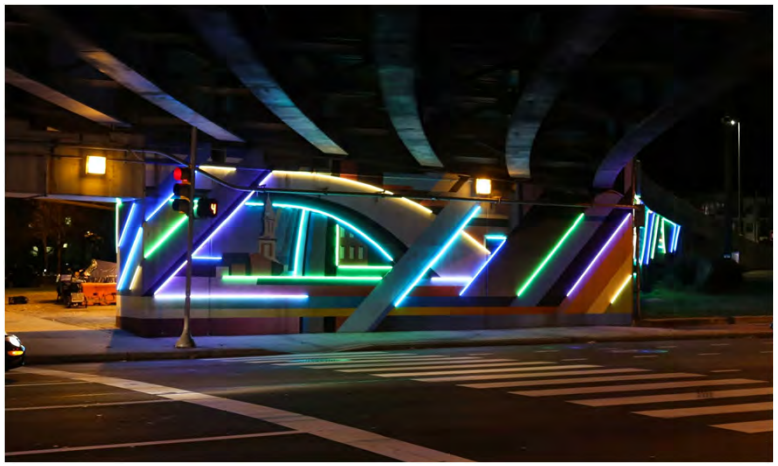
Court Street Bridge Lighting Concept (Rendering)

El Paso Passage Light Sculpture (El Paso, TX)

Electric Philadelphia Mural & Light Installation – Day (Philadelphia, PA)



Gosford Street Underpass Lighting Design (Coventry, UK)



Electric Philadelphia Mural & Light Installation – Night (Philadelphia, PA)

SITE FURNISHINGS

Educational Signage

Site Bench

- Black powder coated steel bench
- 4’ length with intermediate armrests

POTENTIAL RIDOT CREDITS

TREATMENT CREDIT PRIORITY	STORMWATER CONTROL TYPE	IMPERVIOUS CATCHMENT AREA (AC)	EQUIVALENT IC REDUCTION CREDIT (AC)
1	Impervious Cover Removal	1.01	1.0
2	Grass Sand Filters	1.39	1.1
3	Hydrodynamic Separators	1.91	0.4
	TOTAL	4.31	1.5

- RIDOT is offering $200,000 per IC Reduction Credit or IC Catchment Treated
- For 4.31 acres, generate $861,979 as cash match for grant.

SUMMARY OF COSTS

ITEM OF WORK	OPTION OF COST
Demolition and Pavement Removal	$ 151,840
Landscape Cap	$ 30,000
Streetlights	$ 185,400
Drainage & Green Infrastructure	$ 305,479
Contaminated Soils	$ 157,517
Pedestrian Access	$ 98,970
Road Restoration	$ 372,104
Engineering, Environmental and Construction Admin	$ 520,524
Contingency (20%)	$ 364,367
SUBTOTAL	$ 2,186,000
RANGE OF PROBABLE COSTS	$1,530,200 to $3,279,000


THANK YOU!
MAIN STREET
RAILROAD STREET
WORRALL STREET
CLINTON STREET
COURT STREET
BERNON STREET
FUSS & O'NEILL
www.fando.com

CONCEPT PLAN

Mayor Christopher Beauchamp and the Department of Planning & Development invite you to a

Truman Drive Green Infrastructure Parkway

PUBLIC MEETING

Join us!

Learn about this exciting project!

Your participation is important!

WEDNESDAY MARCH 20, 2024 | 7:00PM

Woonsocket City Hall (Harris Hall, 3rd Floor)
169 Main Street | Woonsocket, RI 02895

Looking South Towards Court St Bridge

Looking North Towards Court St Bridge

https://www.valleybreeze.com/news/woonsocket/city-will-hold-public-meeting-on-truman-drive-green-infrastructure-parkway/article_d59216ec-dfba-11ee-849a-ff15cce1988d.html

City will hold public meeting on Truman Drive Green Infrastructure Parkway

Mar 14, 2024

WOONSOCKET – The city of Woonsocket will hold a Truman Drive Green Infrastructure Parkway public meeting on Wednesday, March 20, 7 p.m., at Woonsocket City Hall, 169 Main St., in Harris Hall on the third floor.

According to the meeting's organizers, the project is to conduct a road diet and transform an underutilized public road into a new, linear park providing a number of co-benefits to the city's residents and businesses by removing 1.5 of the road's travel lanes and converting that paved surface into a linear, green infrastructure park.

The park will be complete with native species plantings and human-scale lighting that complements the existing, adjacent Blackstone River Bikeway, notes a news release. These native landscape elements would be used to treat stormwater while providing direct and indirect recreational, economic, and public health benefits to the city and its environmental justice communities.

TRUMAN DRIVE GREENWAY PROJECT
PUBLIC MEETING

WOONSOCKET, RHODE ISLAND

PRESENTED BY:
CELICIA BOYDEN

PROJECT TEAM & PARTNERSHIPS

- Celicia Boyden, EIT, MS – Fuss & O'Neill
- Dean Audet, PE – Fuss & O'Neill
- City of Woonsocket
- Blackstone River Coalition
- RI Department of Transportation (RIDOT)
- Rhode Island Infrastructure Bank (RIIB)
- Southeast New England Program (SNEP)

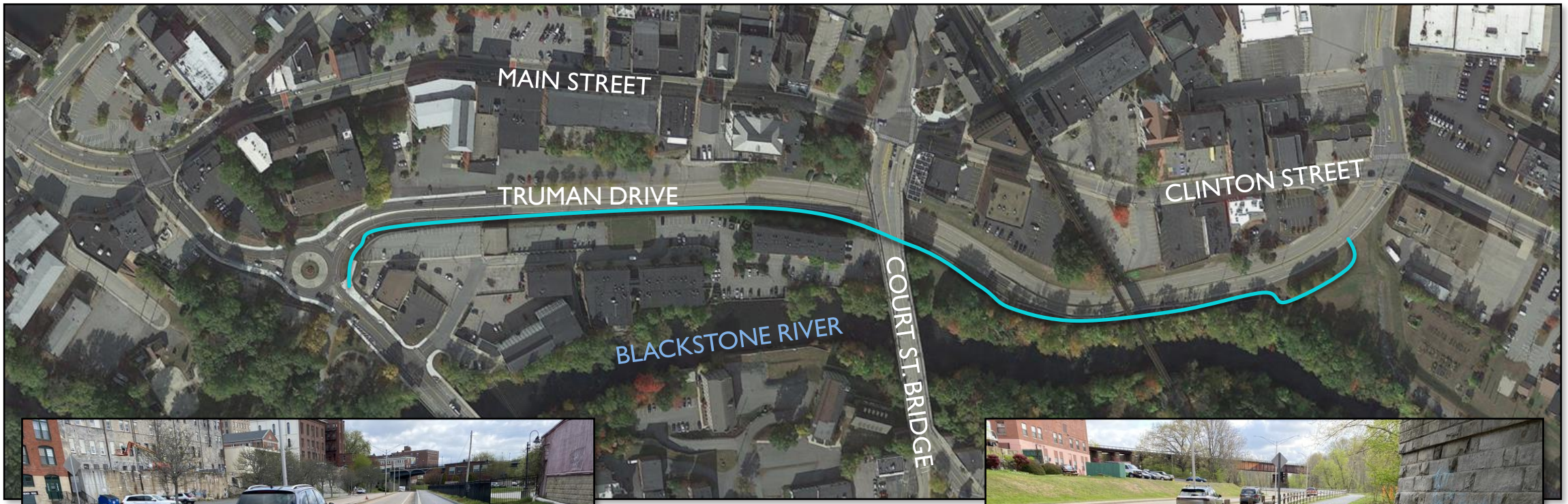
RHODE ISLAND INFRASTRUCTURE BANK

RI dot
Driven to get you there

SNEP NETWORK

Northern Rhode Island Conservation District
Serving Providence County

EXISTING CONDITIONS

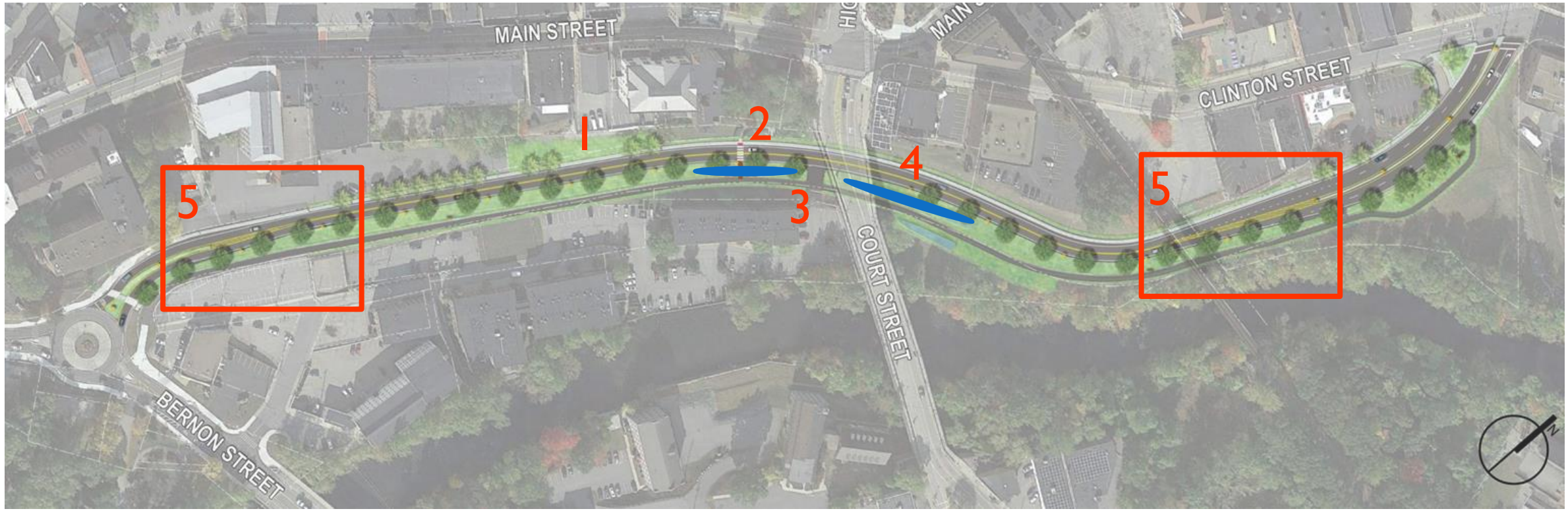


PROJECT GOALS

- Increase greenspace and reduce heat-island effects.
- Improve the pedestrian experience along the Blackstone River bike path.
- Reduce pollutant loadings from stormwater to the Blackstone River.
- Connect residents and businesses on Main Street to the Blackstone River.

PROPOSED CONDITIONS

1. Pavement Removal behind City Hall
2. Crosswalk & Pedestrian Bridge
3. Emergency Access to Allen Street apartments will remain
4. Sand Filters Infiltrate Stormwater (dark blue ovals)
5. Lane shifts occur on Truman Drive (orange rectangles)



VIEW LOOKING NORTH TOWARD COURT STREET BRIDGE

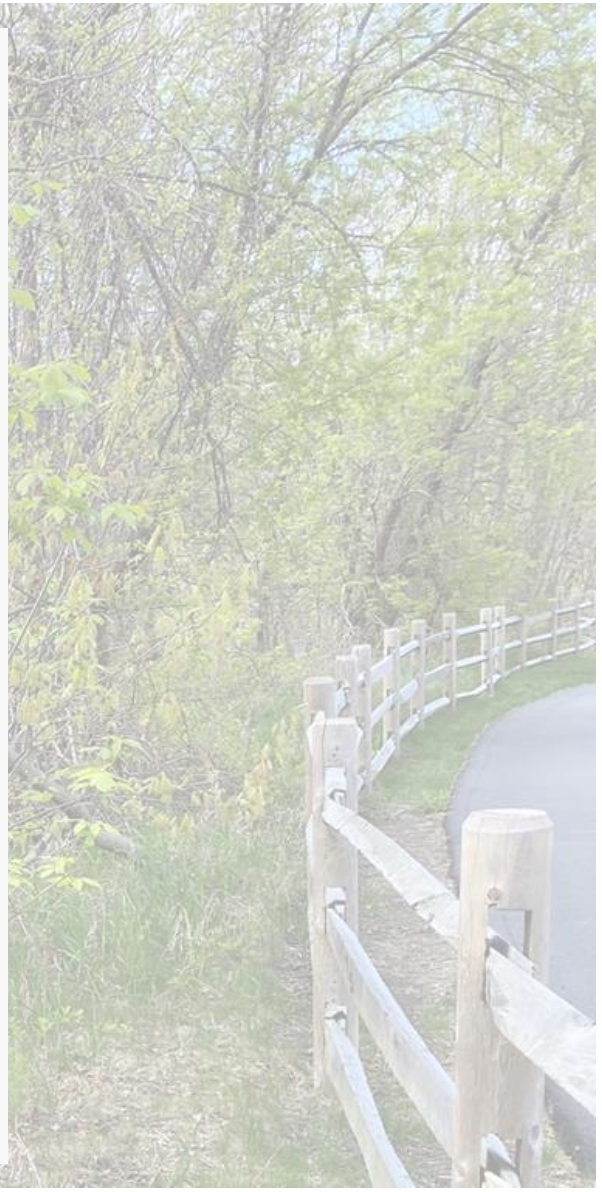
VIEW LOOKING NORTH TOWARD COURT STREET BRIDGE

VIEW LOOKING SOUTH TOWARD COURT STREET BRIDGE

VIEW LOOKING SOUTH TOWARD COURT STREET BRIDGE

PROJECT PLAN & GOALS

- Convert existing paved surfaces within ROW into green space
  - Reduce 3-lanes to 2-lanes
  - Remove impervious concrete median
- Install sand filters to infiltrate stormwater and reduce:
  - Pollutant loading into the Blackstone River
  - Urban heat island effect
- Create a linear park and improve existing bike path
  - Enhance public access to downtown area (Main Street)
  - Improve accessibility to the River for adjacent communities and businesses



THIS PROJECT IS FULLY GRANT FUNDED!

PHASE (SCHEDULE)	FUNDING SOURCE	APPROXIMATE FUNDING BUDGET
Concept & Planning (2020-2021)	Blackstone River Coalition	$25,000
Design & Permitting (2022-2024)	Southern New England Program (EPA)	$320,000
	RIDOT Charter Program & NRICD	
Construction (2024)	Southern New England Program (EPA)	$3,000,000
	RIDOT Charter Program & NRICD	
	Municipal Resilience Program (RIIB)	

FUSS & O'NEILL

PROJECT IMPACTS

- Construction will take four months and start over the summer (2024).

- During construction Truman Drive will be closed to through traffic.
  - The bike path will remain open during construction.
  - Emergency, business and utility related access will be maintained during construction.
  - Construction will not impact parade access for Autumn Fest over Columbus Day weekend.

- Traffic Impacts after Construction
  - How traffic enters and exists Truman Drive will not be changed.
  - There will be no impacts to the flow of traffic at the traffic circle.
  - The speed of the road will not change, and the lanes will remain the same width.

PROJECT NEXT STEPS

- ✓ RIDEM Freshwater Wetland & Stormwater Permits has been Issued
- ✓ Grants are Secured for Construction
- ✓ Finalize Construction Documents (Currently Underway)
- ✓ Project Bidding & Construction (Summer – Fall 2024)

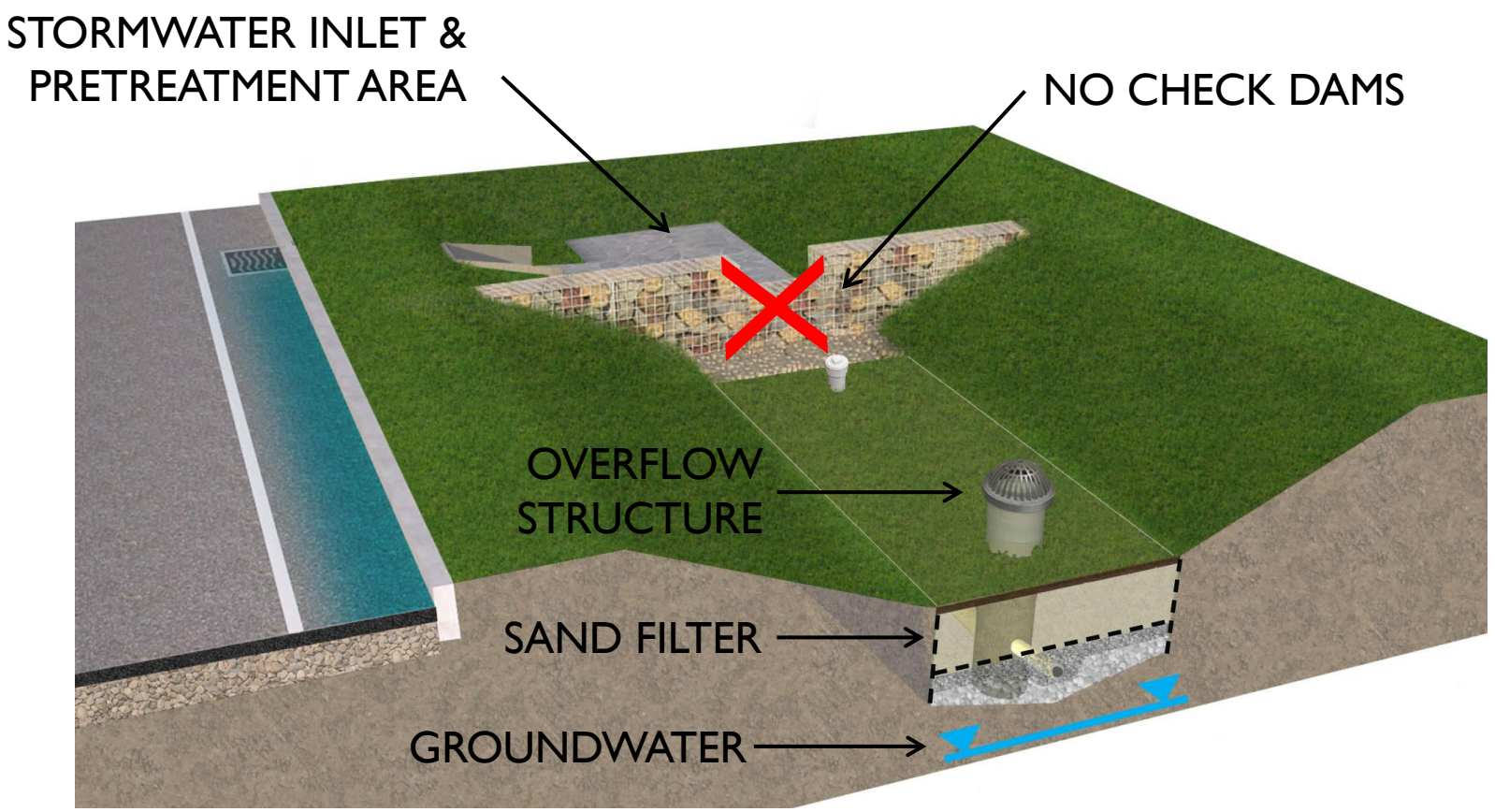
THANK YOU!

FUSS & O'NEILL

www.fando.com

PROJECT FEATURES

TYPCAL SAND FILTER CROSS SECTION VIEW



PROPOSED CROSSWALK,
PEDESTRIAN BRIDGE AND BIKE RACK

Long-Term Operation & Maintenance Plan Truman Drive Greenway

City of Woonsocket

Woonsocket, Rhode Island

December 2023

FUSS & O'NEILL

317 Iron Horse Way
Suite 204
Providence, RI 02908

20200711.B10

FUSS & O'NEILL

Table of Contents

Long-Term Operation & Maintenance Plan
Truman Drive Greenway Project

Appendices **End of Report**

FUSS & O'NEILL

1 Introduction

The purpose this Long-Term Operation & Maintenance Plan (O&M Plan) is to identify specific inspection and maintenance activities that are necessary to ensure the success and minimize deterioration of the stormwater infrastructure that is part of the Truman Drive Greenway. The project location is the right-of-way (ROW) along Truman Drive, and will be referred to as "the site" in this manual. **Greater inspection and maintenance frequencies increase the longevity and functionality of the stormwater infrastructure.**

The Contractor is responsible for implementing this O&M Plan during construction. The Owner is responsible for implementing this O&M Plan in accordance with the frequency and activities outlined herein. In the event the facility becomes owned or operated by different entities, this O&M Plan shall be transferred to the future owners and/or operators.

Site Location: Truman Drive (ROW) & Adjacent City Owned Parcels
Woonsocket, Rhode Island
Plat No. 14, Lots 15, 18 and 398

Owner/Operator: City of Woonsocket
Department of Public Works
169 Main Street
Woonsocket, RI 02895

Estimated Average Annual Cost of Operation: $5,350

2 Pollution Prevention

The following pollution prevention activities shall be conducted to minimize potential impacts on stormwater runoff quality. The Contractor is responsible for all activities during construction. The Owner is responsible thereafter.

2.1 Good Housekeeping

Good housekeeping shall be implemented to minimize the impacts to the area by pollutants, soil, and fugitive sediment. The site shall be kept in good working order. Trash shall be kept in covered containers (i.e., dumpsters) to prevent waste from escaping. Fugitive litter that is deposited on the site shall be removed and placed in a proper enclosed container. Street sweeping shall be performed as needed.

2.2 Chemical and Petroleum Products

2.2.1 Spill Control Practices

Any discharge of waste oil or other pollutant to the stormwater system will be reported immediately to the Rhode Island Department of Environmental Management (RIDEM). The Owner will be responsible for any incident of groundwater contamination resulting from the improper discharge of pollutants to the stormwater system and may be required by RIDEM to remediate incidents that may impact groundwater quality. Should property ownership be transferred, the subsequent owner will be informed of the legal responsibilities associated with operation of the stormwater system, as indicated above.

The following practices shall be implemented to mitigate spills of material and prevent their release to the waters of the State.

- Manufacturers' recommended methods for spill cleanup shall be clearly posted at the DPW facility and personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in material storage areas and vehicles and/or operating equipment. Equipment and materials will include but not be limited to brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- Spills will be cleaned up immediately after discovery.
- Spills of toxic or hazardous material will be reported to the appropriate State and local government agency, regardless of size.

2.3 Snow Management

Stormwater runoff caused by snow melt must be properly managed to prevent erosion and pollution. Snow management operations can vary depending on current weather patterns, available equipment, and previous storm events. Snow removed from the sidewalks and roads will not be stockpiled piled in landscaped areas along Truman Drive or within the footprint of the sand filters. The Blackstone Rive Bike Path is closed during the winter months and no snow removal is required.

3 Inspection & Maintenance Requirements

The following inspection and maintenance activities shall be conducted to ensure the success and minimize the deterioration of the stormwater infrastructure over time. Checklists to assist with the inspection and maintenance activities are in *Appendix A*. A map depicting the location of the components of the stormwater management system is in *Appendix B*.

3.1 Vegetated Lawn Areas

Minimum Inspection Frequency: Four (4) times annually.

Minimum Inspection & Maintenance Activities:

- Monitor vegetated lawn areas for adequate ground coverage. Restore lawn vegetation in bare soil that could promote erosion. If bare areas persist, consider a soil evaluation to examine the pH, fertility, compaction, texture, and earthworm content. These conditions may impact the vitality of lawn vegetation. Do not apply fertilizer.
- Remove trash and debris from vegetated lawn areas. Remove accumulated sediment if it reaches a depth greater than 3 inches. Dispose of trash, debris and sediment in accordance with local, state and federal guidelines and regulations.
- Maintain a healthy stand of grass in vegetated areas. Mow vegetated lawn areas as necessary to maintain a grass height of 4-6 inches. Mowing is mandatory if vegetation height exceeds 10 inches. More frequent mowing may occur to obtain the desired aesthetic appeal.
    - Do not mow when the lawn is overly saturated; this condition may increase the likelihood for rutting and inadvertent erosion and gullying.
    - Dispose of lawn clippings and trimmings in accordance with local, state and federal guidelines and regulations.
- Implement low-impact pest management controls if pest-control is necessary. Remove burrowing animals and other pests in accordance with local, state and federal guidelines and regulations.
- Do not use pesticides unless required to maintain vegetation and prevent erosion. **DO NOT USE PESTICIDES WHEN RAIN IS EXPECTED.**
    - Pesticides shall be screened for their potential to harm water resources, and pesticides that pose the least risk to human health and the environment shall be chosen. Select the least toxic, water soluble, volatile pesticides possible if pesticides are deemed absolutely necessary.
    - Although organophosphate pesticides, such as diazinon and chlorpyrifos, are popular because they target a broad range of pests and are less expensive than newer, less toxic pesticides, they rank among the worst killers of wildlife, and often pose the greatest health risk. Synthetic pyrethroids are more selective and typically much less toxic than organophosphates, yet they can harm beneficial insects.

3.2 Sand Filter (TRU-001 & TRU-002)

Minimum Inspection Frequency:

- Inspect the sand filter, pretreatment inlet structure and grouted riprap splash pad after every rainfall event in the first six months of operation that generates more than one inch of precipitation.
- Inspect annually thereafter and after every rainfall event greater than 2.7 inches over a 24-hour period.
- If standing water frequently occurs more than 48 hours after a rainfall event, this occurrence may indicate that the filter sand needs to be replaced.
    - Replace top 6 inches of sand if drainage issues persist. If discolored or contaminated material is found below removed surface, remove from sand filter. Dispose of sand in accordance with all applicable federal and local regulations.

3.2.1 Pretreatment Inlet Structure

Minimum Inspection & Maintenance Activities:

- Remove sediment and debris from pretreatment inlet structure semi-annually or when sediment depth reaches half the sump depth.
- Remove sediment and debris from grouted cobble forebay when sediment reaches a depth of 3 inches or greater.
- Inspect for structural damage (i.e. cracked or spalled concrete). Restore damaged areas to their original condition.

3.2.2 Sand Filter Basin

Minimum Inspection & Maintenance Activities:

- Remove sediment, debris and organic build-up (e.g., leaves, dead vegetation, etc.) from each sand filter annually.
- Inspect for overgrown grass and weeds; mow grass and remove weeds.
    - Repair/replace vegetation that has died or has not fully established as intended. Develop a reinforcement planting plan if the vegetation in the sand filters generates a vegetative cover of less than 50% within the first two years of operation.
    - Inspect for damage such as erosion, rutting, patches of soil and animal burrows in the basin and surrounding upgradient areas.
    - Remove burrowing animals in accordance with local, state and federal guidelines and regulations.
    - Do not apply fertilizer or pesticides.

- Inspect outlet constructures control structures and grates. Remove sediment, debris and organic build-up (e.g., leaves, dead vegetation, etc.). Repair structural damage (i.e. cracked or spalled concrete) and/or damaged grates.

Operational Requirements:

- Do not dump or store snow in the sand filter basin area.
- Do not drive vehicles and heavy construction equipment into and over the sand filters.
- Do not obstruct access to and around the sand filters. Access is required for maintenance purposes.

3.3 Infiltrating Catch Basin (ICB-001 & ICB-002)

The infiltrating catch basins have two forms of pretreatment: (1) a deep-sump hooded catch basin and (2) a hydrodynamic separator. Both systems must be maintained to ensure the proper function of the infiltrating catch basins.

3.3.1 Pretreatment Systems

Deep-Sump Hooded Catch Basin

Minimum Inspection Frequency: Four (4) times annually.

Minimum Inspection & Maintenance Activities:

- Remove sediment from catch basin immediately prior to the end of construction.
- Accumulated sediment shall be removed at least twice per year, or when the depth reaches half the height between the bottom of the structure and the lowest pipe invert elevation.
- Ensure hoods are securely fastened to catch basin wall. Inspect hoods for cracks or other structural damage; deficiencies must be corrected immediately.
- Inspections shall include checking for debris, sediment, and hydrocarbons, and structural integrity or damage; deficiencies must be corrected immediately.
- Disposal of the accumulated sediment and hydrocarbons must be in accordance with applicable local, state, and federal guidelines and regulations.

Hydrodynamic Separators

Minimum Inspection Frequency:

- Inspect hydrodynamic separators (i.e. proprietary swirl concentrator) after every rainfall event in the first six months following construction that generates more than one-inch of precipitation.
- Inspect annually thereafter and after every rainfall event greater than 2.7 inches over a 24-hour period.

Minimum Inspection & Maintenance Activities:

- Remove sediment from hydrodynamic separators immediately prior to the end of construction.
- Accumulated sediment shall be removed from proprietary pretreatment systems annually and whenever the depth of sediment is greater than or equal to half the sump depth. Dispose of sediment and debris in accordance with local, state and federal guidelines and regulations.
- Any oil or grease found during inspection should be cleaned with oil absorption pads and disposed of in an approved location.
- Inspect the baffles and internal components for damage. Inspect the structural integrity of the structure and report damage. Replace missing or damaged baffles.
- Disposal of the accumulated sediment and hydrocarbons must be in accordance with applicable local, state, and federal guidelines and regulations.
- Refer to O&M manuals for additional maintenance information (Appendix D).

3.3.2 Infiltrating Catch Basin

Minimum Inspection Frequency: Four (4) times annually.

Minimum Inspection & Maintenance Activities:

- Remove sediment from catch basin immediately prior to the end of construction.
- Accumulated sediment shall be removed at least twice per year, or when the depth reaches half the height between the bottom of the structure and the lowest pipe invert elevation.
- Ensure frame and grate are securely fastened to catch basin wall. Inspect frame and grates for cracks or other structural damage; deficiencies must be corrected immediately.
- Inspections shall include checking for debris, sediment, and hydrocarbons, and structural integrity or damage; deficiencies must be corrected immediately.
- Disposal of the accumulated sediment and hydrocarbons must be in accordance with applicable local, state, and federal guidelines and regulations.

4 Party Certification

All parties working at the Truman Drive Greenway are required to comply with the Long-Term Operation and Management Plan (O&M). The site operator is encouraged to advise all employees working on this site of the requirements of the O&M Plan. A copy of the O&M Plan may be obtained by contacting the designated operator.

All parties must sign the following certification statement.

I acknowledge that I have read and understand the terms and conditions of the O&M Plan for the above designated project and agree to follow the practices described herein.

Operator

Steven P. D'Agostino
Director of Public Works
City of Woonsocket
169 Main Street
Woonsocket, RI 028935
(401) 762-6400

_____
Signature/Date

Designated Site Inspector (Please Print)

Name:
Department of Public Works
City of Woonsocket
169 Main Street
Woonsocket, RI 02895
(401) 762-6400

_____
Signature/Date

O&M Plan Contact

Celicia L. Boyden
Fuss & O'Neill, Inc.
317 Iron Horse Way, Suite 204
Providence RI 02908
(401) 533-5973
cboyden@fando.com

_____
Signature/Date

Appendix A

Operation, Maintenance, and Management Inspection Checklist

FUSS & O'NEILL

Sand Filter Basin
Operation, Maintenance, and Management Inspection Checklist

Location: Truman Drive, Woonsocket RI _____ **Inspector:** _____

Date & Time: _____ **Weather Conditions:** _____

Sand Filter (Circle One): TRU-001 OR TRU-002

Deficiency	Present[1]?	Corrective Action[2]?
Sediment, debris or organic build-up in pretreatment inlet structures	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Cracks, scarp or spalling concrete of inlet/outlet control structure	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Sediment, debris or organic build-up on recycled cobble paver scour pad	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Erosion and bare spots in vegetated areas	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Rutting or gullying of vegetated areas	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Sediment, debris or organic build-up of vegetated areas	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Dead vegetation or has not been fully established	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Erosion, rutting or patches of soil in sand filters	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Signs of animal burrows or activity	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Standing water in the sand filter basin	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Sediment, debris or organic build-up in grate of outlet control structure	☐ Y ☐ N	☐ Y ☐ N ☐ N/A

Minimum Inspection Frequency

In first 6 months:
- After each rainfall event greater than 1-in. over a 24-hr. period

After first 6 months:
- Four (4) times annually; and
- After rainfall events greater than 2.7-in. in a 24-hr. period

[1] *If deficiency is present, refer to O&M Plan for corrective action.*
[2] *Utilize the bottom of this form to document corrective actions taken.*

Document observations & correction actions taken:

FUSS & O'NEILL

Infiltrating Catch Basin
Operation, Maintenance, and Management Inspection Checklist

Location: Truman Drive, Woonsocket RI _____ **Inspector:** _____

Date & Time: _____ **Weather Conditions:** _____

Infiltrating Catch Basin (Circle One): ICB-001 OR ICB-002

Instructions: Remove grates/covers and inspect for damage.

Deficiency	Present[1]?	Corrective Action[2]?
Debris, sediment, or hydrocarbons present in inlet catch basin and/or hydrodynamic separator	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Oil or grease in inlet catch basin and/or hydrodynamic separator	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Accumulated debris/sediment within infiltrating catch basin structure	☐ Y ☐ N	☐ Y ☐ N ☐ N/A
Standing water within infiltrating catch basin structure	☐ Y ☐ N	☐ Y ☐ N ☐ N/A

[1] If deficiency is present, refer to O&M Plan for corrective action.
[2] Utilize the bottom of this form to document corrective actions taken.

Minimum Inspection Frequency

In first 6 months:
- After each rainfall event greater than 1-in. over a 24-hr. period

After first 6 months:
- Four (4) times annually; and
- After rainfall events greater than 2.7-in. in a 24-hr. period

Document observations & correction actions taken:

_____

_____

_____

_____

_____

_____

Appendix B

BMP Location Map

MATCH LINE SEE SHEET FIG. 3A

VEGETATED AREA

TRUMAN DRIVE

BERNON STREET

ALLEN STREET

150' WETLAND BUFFER

DRAFT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE:
HORZ.: 1" = 20'
VERT.: -

DATUM:
HORZ.: -
VERT.: -

0 10' 20' 40'
GRAPHIC SCALE

FUSS&O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

CITY OF WOONSOCKET

BMP LOCATION MAP NO. 1

TRUMAN DRIVE

WOONSOCKET RHDE ISLAND

PROJ. No.: 20200711.B10
DATE: DECEMBER 2023

FIG. 3A

MATCH LINE SEE SHEET FIG. 3A

MATCH LINE SEE SHEET FIG. 3C

CITY OF WOONSOCKET
CITY HALL

TRUMAN DRIVE

VEGETATED AREA

CURB INLET
PRETREATMENT
STRUCTURE

PRETREATMENT
INLET
STRUCTURE

PEDESTRIAN BRIDGE

OUTLET CONTROL
STRUCTURE

GRASSED SAND FILTER
TRU-001

PIPE OUTFALL TO
RECYCLED COBBLE SCOUR PAD

VEGETATED AREA

150' WETLAND BUFFER

150' WETLAND BUFFER

FLOODWAY

FLOODWAY

FLOODWAY

FLOODWAY

EXISTING CONCRETE RETAINING WALL

CONCRETE BLOCK RETAINING WALL (TYP)

BITUMINOUS WALK

BITUMINOUS BIKE PATH

6' METAL FENCE

A/P 14 LOT 398
N/F CITY OF WOONSOCKET

A/P 14 LOT 15
N/F CITY OF WOONSOCKET

A/P 14 LOT 17B
N/F JOSEPH PLUTA LLC
D.B. 1468 PG. 592

APPROXIMATE LOCATION
EXISTING CABLE

106+00

107+00

108+00

109+00

110+00

111+00

124.25

DRAFT

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No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE:
HORZ.: 1" = 20'
VERT.: -
DATUM:
HORZ.: -
VERT.: -
0 10' 20' 40'
GRAPHIC SCALE

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317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
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CITY OF WOONSOCKET
BMP LOCATION MAP NO.2
TRUMAN DRIVE
WOONSOCKET RHODE ISLAND

PROJ. No.: 20200711.B10
DATE: DECEMBER 2023

FIG. 3B

MATCH LINE SEE SHEET FIG. 3B

MATCH LINE SEE SHEET FIG. 3D

OUTLET CONTROL STRUCTURE (TYP.)

PRETREATMENT INLET STRUCTURE

GRASSED SAND FILTER TRU-002

INFILTRATING CATCH BASIN (ICB-002)

CATCH BASIN INLET/HYDRODYNAMIC SEPARATOR

VEGETATED AREA (TYP.)

TRUMAN DRIVE

COURT STREET

BLACKSTONE RIVER

150' WETLAND BUFFER

500YR

FLOODWAY

AE

112+00

113+00

114+00

115+00

116+00

117+00

DRAFT

File: J:\DWG\P2020\0711B10\Civil\Figures\20200711B10_BMP01.dwg Layout: FIG3C-BMP Plotted: 2023-12-12 12:30 PM Saved: 2023-12-12 12:28 PM User: EOlchowski
MS VIEW: | LAYER STATE: | PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE:
HORZ.: 1" = 20'
VERT.: -
DATUM:
HORZ.: -
VERT.: -
0 10' 20' 40'
GRAPHIC SCALE

FUSS&O'NEILL
317 IRON HORSE WAY, SUITE: 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

CITY OF WOONSOCKET

BMP LOCATION MAP NO. 3

TRUMAN DRIVE

WOONSOCKET RHDE ISLAND

PROJ. No.: 20200711.B10
DATE: DECEMBER 2023

FIG. 3C

MATCH LINE SEE SHEET FIG. 3C

CATCH BASIN INLET/HYDRODYNAMIC SEPARATOR

INFILTRATING CATCH BASIN (ICB-001)

VEGETATED AREA

CLINTON STREET

TRUMAN DRIVE

BLACKSTONE RIVER

150' WETLAND BUFFER

DRAFT

SCALE:	
HORZ.: 1" = 20'	
VERT.: -	
DATUM:	
HORZ.: -	
VERT.: -	

0 10' 20' 40'
GRAPHIC SCALE

SEAL

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

FUSS & O'NEILL
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PROVIDENCE, RI 02908
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www.fando.com

CITY OF WOONSOCKET

BMP LOCATION MAP NO.4

TRUMAN DRIVE

WOONSOCKET RHODE ISLAND

PROJ. No.: 20200711.B10
DATE: DECEMBER 2023

FIG. 3D

File: J:\DWG\P2020\07\11B10\Civil\Figures\20200711B10_BMP01.dwg Layout: FIG3D-BMP Plotted: 2023-12-11 3:04 PM Saved: 2023-12-11 3:02 PM User: Cboyden
MS VIEW: | LAYER STATE: | PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB

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Appendix C

Opinion of Cost

FUSS & O'NEILL

DRAFT

317 Iron Horse Way, Suite 204
Providence, RI 02908

BUDGETARY OPINION OF COST	DATE PREPARED : 11-29-23	SHEET 1 OF 1
PROJECT : Truman Drive Green Infrastructure Improvements	BASIS :	
LOCATION : Woonsocket, RI		
DESCRIPTION: Long-Term Stormwater O&M Costs	ESTIMATOR : EO	CHECKED BY : CB

Since Fuss & O'Neill has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions, Fuss & O'Neill's opinion of probable Total Project Costs and Construction Cost are made on the basis of Fuss & O'Neill's experience and qualifications and represent Fuss & O'Neill's best judgment as an experienced and qualified professional engineer, familiar with the construction industry; but Fuss & O'Neill cannot and does not guarantee that proposals, bids or actual Total Project or Construction Costs will not vary from opinions of probable cost prepared by Fuss & O'Neill. If prior to the bidding or negotiating Phase the Owner wishes greater assurance as to Total Project or Construction Costs, the Owner shall employ an independent cost estimator.

ITEM NO.	ITEM DESCRIPTION	UNIT MEAS.	NO. UNITS	PER UNIT	TOTAL COST
1	Quarterly Site Inspections[2]	EA	8	$ 125.00	$ 1,000.00
2	Litter/debris pick up and mowing [3]	EA	30	$ 125.00	$ 3,750.00
3	Vacuum Truck - Structures[4]	EA	0.50	$ 1,200.00	$ 600.00
			SUBTOTAL OPINION OF CONSTRUCTION COST		**$ 5,350.00**
				TOTAL COST (-15% TO +30% ROUNDED)	**$4,500 TO $7,000**

Notes

1. The following equipment and labor rates were used for this estimate: Site Inspector - $1,000/day; Laborer - $500/day
2. Assume 4 site inspections per year (2 hours per inspection).
3. Assumes 1 Laborer for a 6 hours, 5 times per growing season.
4. Assumes 2 Laborers and 1 Vaccum Truck for 1 half-day.

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Appendix D

Maintenance Manual (Proprietary Pretreatment System)

Quality Assurance Project Plan – Data Collection and Modeling to Support Stormwater BMP Design for Truman Drive

Revision: 0.1

Federal Award ID Number: SNEPWG-21-2-WOONSOCK

QA Tracking #: 23018

City of Woonsocket, Rhode Island
November 2022

Approvals (A1)

Michael Debroisse City of Woonsocket Director of Planning & Development	11/8/22 Date
Margherita Pryor, EPA Project Officer	Date
Nora Conlon, EPA QA Reviewer	Date
Thomas Ardito, RAE Project Manager	9-Nov-22 Date
Mike Nelson, P.E. Project Manager, Fuss & O'Neill, Inc.	2022-11-08 Date
Stefan Bengtson QA Manager, Fuss & O'Neill, Inc.	2022-11-08 Date

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908

Table of Contents (A2)

A Reserved
B Reserved
C Reserved
D Field Data Sheets for Wetland Edge Delineation
E Project Location

Distribution List (A3)

The approved Quality Assurance Project Plan (QAPP), and any subsequent updates, will be distributed to the following individuals by electronic mail:

City of Woonsocket	**Michael Debroisse** Director of Planning & Development City of Woonsocket 169 Main Street Woonsocket, RI 02895 401-767-9231	**Project Manager**	**mdebroisse@woonsocketri.org**
EPA	**Margherita Pryor** US EPA New England 5 Post Office Square – Suite 100 (OEP06-1) Boston, MA 02109-3912 617-918-1748	**Project Officer**	**pryor.margherita@epa.gov**
	Nora Conlon US EPA New England 11 Technology Drive North Chelmsford, MA 01863 617-918-8335	**Quality Review Officer**	**conlon.nora@epa.gov**
Restore America's Estuaries (RAE)	**Thomas Ardito** PO Box 476 Saunderstown, RI 978-349-2522	**Program Manager**	**tardito@estuaries.org**
Fuss & O'Neill, Inc.	**Mike Nelson, P.E.** 190 High Street Boston, MA 02110 (617) 379-5544	**Project Manager**	**mnelson@fando.com**
	Stefan Bengtson 317 Iron Horse Way Providence, RI 02908 401-861-3070 x4587	**QA Program Manager**	**SBengtson@fando.com**

1 Project Management

1.1 Project Organization (A4)

The project that is the subject of this Quality Assurance Project Plan (QAPP) is being led by the City of Woonsocket. Fuss & O'Neill is assisting with the development of a QAPP and the execution of the project. This initial, limited QAPP focuses solely on the collection of survey data and wetland edge delineation, so that these critical early components of the project can begin during development, review, and approval of the full QAPP covering the remainder of the later phases of the work plan. Principe Company or an equivalent Professional Land Surveyor (PLS) will be used for the collection of survey data. Key individuals and an organizational chart are presented in *Table 1* and *Figure 1*.

Table 1. Project Team Responsibilities

Person/Entity	Project Title/Responsibility
Michael Debroisse Director of Planning & Development City of Woonsocket, RI	Project Officer – Overall manager leading the project for the City of Woonsocket, review/approval of final work products.
Margherita Pryor US EPA – Region 1	EPA Project Officer – General oversight, final review/approval of all final work products.
TBD US EPA – Region 1	EPA Quality Review Officer – Reviews and approves QAPP and subsequent revisions in terms of quality assurance aspects.
Thomas Ardito RAE	RAE Project Officer – General oversight, final review/approval of all final work products.
Mike Nelson, P.E. Fuss & O'Neill	Project Manager – Project management, oversight of all field, data collection, calculations, and reporting activities. Also responsible for oversight of subcontractors. Maintains the official QAPP.
Stefan Bengtson, M.S. Fuss & O'Neill	QA Program Manager – Quality assurance, data evaluation to ensure compliance with this QAPP independent of designers and data collection personnel.
Principe Company	Professional Land Surveyor – Surveying
Applied Bio-Systems, Inc	Professional wetland delineator – Wetland edge delineation

Staff members within the organization will report to their project manager for technical and administrative direction. Each staff member is responsible for the performance of any assigned duties in the course of completing identified sub-tasks within the overall project. The quality control duties include:

- Completing assigned tasks on or before schedule,
- Completing assigned tasks in accordance with established procedures; and
- Assuring that the work performed is technically correct and conforms to the applicable requirements of this QAPP.

Figure 1. Project Organization Chart

1.2 Problem Definition/Background (A5)

Truman Drive is an underutilized resource that can be transformed to create a greenway that would provide significant benefits to the downtown area. Making the Truman Dive bikeway more appealing is an opportunity to improve the downtown area by providing additional public green space, to connect users with businesses and resources, and to create asset that could attract redevelopment.

At present, the Truman Drive bikeway sits between a fence and New Jersey barriers which separates it from the road. These barriers limit access to the bikeway to only a few access points. The bikeway has no room between the fence and New Jersey barriers and leaves no room for users to stop or pull to the side.

The goal of this project is to implement green stormwater infrastructure (GSI) best management practices (BMPs) and convert the bikeway on Truman Drive into a linear park providing both direct and indirect recreational, economic, and public health benefits to the City and, particularly, Main Street and the Downtown core. The approach for achieving this vision consists of removing one of the road's travel lanes and the remainder of the former car-travel lane that was previously converted for the Blackstone River Greenway, and converting that unused paved surface into a linear park with trees, plants, and other landscape design elements.

This will reduce an urban heat island with a greater tree canopy and improve the air and water quality through the green infrastructure as well as create a new and improved public space for multimodal transport. The Blackstone River segment to which stormwater from Truman Drive discharges has a TMDL for Enterococcus, Fecal coliform, and cadmium. Selection of GSI BMPs will be informed by site conditions and suitability for removing these pollutants from stormwater runoff.

Data will be collected during this project to support the design of the GSI elements that are planned for this project. Data collected during this in initial phase of the project includes a topographic survey right of way limits, the location of drainage that contributes to the Truman Drive system, the drainage structure elevations and drainage sizes, and wetland edge delineation. This initial data collection will support the design and location of the GSI elements by allowing a better understanding of the drainage, subsurface, and topography of the project area. Later phases of the project that will be covered under a forthcoming full QAPP include:

- Data collection: soil profiles, seasonal high groundwater measurements, qualitative soil gas detection
- Secondary data use: local, state, and federal GIS data
- Engineering calculations: delineation of drainage subwatersheds and water quality volume

The full QAPP will cover relevant data quality objectives, procedures and standards, and training requirements for the additional data collection and use tasks, which sections are reserved below, and

include relevant elements of *Guidance for Quality Assurance Project Plans QA/G-5 "Chapter 3: Projects Using Existing Data"* (QA/G5).

1.3 Project Description (A6)

The initial phase of this project is to survey, covered by this limited QAPP, while the entirety of this project consists of planning and designing GSI along Truman Drive in the District (Fig. 2). Truman Drive leads into downtown Woonsocket. Along with the additional green infrastructure, the feasibility of diverting stormwater from Main Street to the green infrastructure being developed on Truman Drive will be evaluated. Two public engagement workshops will be held to review the project design and approach, to collect feedback, and build consensus and support. The workshops will engage participating members from adjoining neighborhoods and businesses, the EJ community, and other stakeholders such as bikeway users and DPW staff who will maintain the green infrastructure. A public webpage will also be created to provide public access to project information and a forum for comments.

This project also includes developing final design drawings and specifications incorporating permit conditions.

Project tasks and anticipated project schedule are included in *Table 2*.

Table 2. Project Tasks and Schedule

Task	Schedule
Task 1: Quality Assurance Project Plan	September 2022 to November 2022
Task 2: Collect Wetlands and Survey Existing Conditions Information	November 2022 to January 2023
Task 3: Public Engagement	January 2023 to April 2023
Task 4: Prepare Preliminary 30% Design	November 2022 to March 2023
Task 5: Prepare Preliminary 70% Design	March to June 2023
Task 6: Prepare RIDEM Permit Application	April 2023 to June 2023
Task 7: Prepare Final Design and Specifications	August 2023 to October 2023
Project End Date	December 31, 2023

Data needs for the project can be placed into three (3) categories, which are listed briefly here and described in more detail in the sections below:

- **Direct Measurement Data**
    - Wetland edge delineation will be performed in the project area to identify relevant natural resources and hydrologic characteristics of the site. This data will inform the design and

location of GSI so that it is sited appropriately in accordance with local and state environmental regulations. A qualified wetland scientist will delineate jurisdictional wetlands in accordance with the procedures in the RI Freshwater Wetlands Rules (250-RICR-150-15-3) and RI Department of Environmental Management (RIDEM) document Guidance for Qualified Professionals: Wetland Delineations based on observed wetland indicators. More information on wetland edge delineation procedures is in *Section 1.4.2* and *Section 2.1.2*.

- Class III Survey Data (QAPP will reference Registered Professional Land Surveyor quality assurance required under the Procedural and Technical Standards for the Practice of Land Surveying in the State of Rhode Island). See *Section 1.4.1* for a more detailed description of the surveying task. The survey will confirm the localized subwatershed and inform the design and location of the GSI.

- **Reserved – Secondary Data**
- **Reserved – Calculations**

The geographical location to be studied is located within the City of Woonsocket *(Figure 2 and Appendix E)*.

Figure 2. Project Location

1.4 Quality Objectives and Criteria (A7)

This section identifies the performance/measurement criteria for the initial survey and wetland delineation project tasks which require the use of primary sources of data and surveyed data.

The generation of high-quality data is critical to provide accurate data to characterize the existing site conditions and to design BMPs to appropriately manage and treat stormwater runoff from the site. Data quality objectives (DQOs) specify the quality of data required to support the BMP design process.

DQO's for the survey include developing a survey of the site that contains all site features, topography, right-of-way limits, drainage, available utility information, and wetland flagging that meet the requirements described in *Section 1.4.1*. DQO's for wetland edge delineation includes identifying relevant natural resources and hydrologic characteristics of the site as described in *Section 1.4.2*.

1.4.1 Surveying

The PLS Principe Company, or another equivalently licensed PLS, will be used as a subconsultant to Fuss & O'Neill to collect data for a Class III existing conditions survey of the project area, extending 50 feet past the intersections at each end. The methods and quality assurance for the collection and use of survey data collected by a Professional Land Surveyor registered in the State of Rhode Island is covered under the State Licensing Program, as promulgated under the Rules and Regulations for Professional Land Surveying (435-RICR-00-00-1), specifically § 1.9 Procedural and Technical Standards and not discussed in detail here. The State Licensing Program meets established quality controls.

The surveying task involves a PLS to collect field data of the site topography, right-of-way limits, locate drainage that contributes into the Truman Drive system, drainage structure locations with elevations, drainage structure sizes, and wetland flagging locations. This data will be provided at a level of accuracy from which to base hydraulic modeling or design of new improvements such as delineating watersheds using topography, calculating runoff volumes based on ground cover, siting the stormwater BMP, and designing inlet and outlet elevations. Survey data will be collected using the NAVD88 vertical datum and RI State Plane Coordinate System NAD83 horizontal datum, for at least a 3/100th of a foot vertical accuracy and 1-foot horizontal accuracy. DQOs for survey of topographic features and grading performed are established by the applicable quality assurance required under the Procedural and Technical Standards § 1.9.9 Measurement Specifications for Surveys.

1.4.2 Wetland Edge Delineation Task

The professional wetland delineator Applied Bio-Systems, Inc., or another equivalently experienced professional wetland delineator, will be used as a subconsultant to Fuss & O'Neill to conduct wetland edge delineations within the project area using the Wetland Edge Delineation forms developed by RIDEM (*Appendix C*). A qualified wetland scientist will delineate jurisdictional wetlands in accordance with the procedures outlined in *Section 1.18 Appendix 2: Specific Criteria for Identifying Wetland Edges* in the RI Freshwater Wetlands Rules (250-RICR-150-15-3) and RIDEM document Guidance for Qualified Professionals: Wetland Delineations based on observed wetland indicators. Wetland flags will be hung in the field by the professional wetland delineator and surveyed by the PLS.

1.4.3 Reserved

1.4.4 Reserved

1.4.5 Reserved

1.4.6 Reserved

1.4.7 Reserved

1.4.8 Reserved

1.4.9 Reserved

1.5 Special Training/Certification (A8)

1.5.1 Project Staff

Project staff will be assigned duties based on their qualifications and ability to accomplish the task. All project staff are required to be familiar with this QAPP. The Fuss & O'Neill Project Manager will be responsible for assigning staff to individual tasks and for either training staff or ensuring that staff has adequate training for the completion of all assigned tasks. The Project Manager will maintain a training and qualifications log listing the staff person, assigned duties, and dates and type of training or prior qualifications.

1.5.2 Surveyor

The Professional Land Surveyor will be registered with the Rhode Island State Board of Registration for Professional Engineers and Land Surveyors.

1.5.3 Wetlands Delineator

The professional wetlands delineator will be qualified in accordance with RIDEM's recommendations set forth in its Guidelines for Qualified Professionals: Wetland Delineations.

1.5.4 Reserved

1.6 Documents and Records (A9)

The approved QAPP, and any subsequent revisions, will be distributed to the project personnel listed in *Table 1*. Project-related documents and records (*Table 3)* will be accessible to the project members who need to obtain information or record and disseminate data.

1.6.1 Field Assessment Documentation

Survey crews will keep documentation of their data and provide Fuss & O'Neill with a coordinated AutoCAD drawing and electronic PDF detailing the findings of their survey.

Professional wetlands delineators will provide Fuss & O'Neill with all wetland delineation data forms

(electronic PDF), a report on their findings which describes and classifies all identified wetlands (electronic PDF), and a figure (PDF) and AutoCAD file with GPS located wetland flags.

Table 3. Documentation and Records

Document/ Record	Format	Location	Person Created/ Authorized to Update	Distribution List
Quality Assurance Project Plan (QAPP)	Hard copy	Project Manager	Project Manager/QA Manager	City of Woonsocket, Project Team, QA Manager, all others (upon request)
Final Design Drawings and Specifications	Electronic or Hard copy	Project Manager	Project Manager	City of Woonsocket Project Manager, EPA Project Officer, RAE Project Manager, all others (upon request)

All field crew will maintain field notebooks to document the field conditions and their findings. Crews may take digital photographs to document field conditions. Field crews will share documented data and photos with Fuss & O'Neill.

All documentation, figures, and reports prepared by Fuss & O'Neill and subconsultants will be retained by Fuss & O'Neill as digital copies on their servers for seven (7) years.

1.6.2 Reserved

1.6.3 QAPP Modification

This section addresses procedures to be followed when modifications are needed to this QAPP. Examples of such modifications include changes in procedures, assessments, and reporting. A modification to this initial QAPP addressing the remaining items in the work plan is currently under development and will be submitted in due course.

Discussions involving changes to the QAPP may be initiated at any level. The scope of impact of the proposed change will determine the formality of the approval process but will be subject to approval by RAE. A formal QAPP modification will include reference to the section(s) of text being modified or added to, the reason why the modification is necessary, and the actual replacement/additional language. It will

be the responsibility of the QA Manager to seek review and approval of the modification as needed. Signatories of the original QAPP will receive such updates for approval. Individuals listed in the Distribution List will receive notification of modifications once updates have been approved by QAPP signatories. Notification may be by electronic or regular mail.

The electronic files of the QAPP will be updated as proposed using annotation that indicates a reference to the formal amendment in a designated part of an appendix to the QAPP.

1.6.4 QAPP Distribution

This QAPP will be implemented by Fuss & O'Neill, on behalf of the City of Woonsocket, upon RAE and US EPA approval. This QAPP is to be considered a "working document" and may be periodically updated and revised, in accordance with *Section 1.6.3* of this document, as technology, policy, and protocol change. All QAPP updates will be distributed by the Project Manager according to the Distribution List.

Upon approval and implementation of this QAPP, the original shall be kept at Fuss & O'Neill's office in Providence, Rhode Island. All personnel responsible for implementation will be required to review this QAPP within seven (7) days of approval. As new field, modeling staff, or managers are hired by Fuss & O'Neill, they will be required to review this QAPP within fourteen (14) days of their hiring date if they will be working on this project.

2 Data Generation and Acquisition

2.1 Field Assessments (Direct Measurements)

This section describes the data collection approach, methods, and locations for field measurements. Both mapping and tabular/narrative information summaries will be produced and documented in the final report.

2.1.1 Measurement Process Designing (B1)

The purpose of this field assessment is to collect survey data from the site as is required (critical) to complete the design. These assessments are necessary based on the data required to design the BMPs in the project. Measurements will consist of developing a survey that will document existing features, including property lines, topography, underground utilities with inverts, locating drainage that contributes into the Truman Drive system, drainage structure locations with elevations, drainage structure sizes, and

wetland flagging locations. The surveying task involves a PLS to collect field data of the site topography, right of way limits.

2.1.2 Measurement Methods (B2)

The Professional Land Surveyor (PLS) Principe Company, or another equivalently licensed PLS, will be used as a subconsultant to Fuss & O'Neill to collect survey data. Survey conducted under the supervision of a PLS is assumed to meet or exceed all applicable quality assurance requirements under the Procedural and Technical Standards for the Practice of Land Surveying in the State of Rhode Island and Providence Plantations. The onsite professionals (PLS) are responsible for assuring measurement method requirements have been met.

Wetland edges will be delineated using the methodology described and incorporated within the Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, prepared for: Department of The Army, U.S. Army Corps of Engineers, (Corps) in addition to the Corps' September 9, 1991 regulatory guidance letter regarding Guidance for the Interpretation of Wetland Boundaries Using the 1987 Corps Manual in the Six New England States. Edges will be marked with flagging tape and recorded using a handheld global positioning system (GPS) unit. All field activities will be adequately and consistently documented to ensure the defensibility of any data used for decision-making and to support data interpretation. See field data sheets for Wetland Edge Delineation within wetlands and upland areas in *Appendix D*.

2.1.3 Reserved

2.1.4 Reserved

2.2 Quality Control (B5)

Site survey and measurements will be internally quality controlled through Fuss & O'Neill's in-house review. Anticipated staff members responsible for this process include the Project Manager and QA Manager. Data will be reviewed for deviation from DQOs and compatibility with anticipated results based on known on-site conditions. The Fuss & O'Neill Project Manager will maintain overall responsibility for examining the work to ensure that methodologies and processes used are consistent with the procedures outlined in the QAPP and the overall project goals. This will include monitoring and review of the field measurements (field survey) as well as wetland delineation. The site survey will be reviewed digitally and in the field by comparing onsite conditions to the printed survey. The Project Manager will provide advice to the QA Manager of any deviations from the QAPP so that appropriate actions may be taken either to

correct the problem or amend the QAPP as needed. The QA Manager will monitor the extent to which the QAPP is supporting its intended use.

2.3 Instrument/Equipment Testing, Inspection and Maintenance (B6)

The surveyors will be responsible for noting and reporting equipment issues or problems to the Project Manager or QA Officer. Routine maintenance on-field equipment and measurement devices will be performed by field personnel. Field equipment testing, inspection, and maintenance will be performed according to manufacturer recommendations, as described in the equipment manuals. A list of field equipment required is in *Section 2.5* of this document. Inspection of equipment will take place prior to each use in the field, if any deficiencies in the equipment are found the equipment will be repaired or replaced.

The surveyor will be responsible for maintaining and inspecting survey equipment.

2.4 Instrument/ Equipment Calibration and Frequency (B7)

The surveyor will be responsible for the calibration of survey equipment.

Any noted deficiencies with the equipment will be documented on the field datasheet. Measurements taken with deficient equipment will be flagged and disregarded. If feasible, measurements will be retaken on the same day with functioning equipment, or at a later time with repaired or other properly functioning equipment.

2.5 Inspection/ Acceptance for Supplies and Consumables (B8)

All supplies for measurement and inspection will be inspected for compliance with the acceptance criteria by qualified Fuss & O'Neill staff or the surveyor. Supplies needed for field measurement include:

- Survey Equipment
- GPS Equipment

Supplies or consumables not meeting the acceptance criteria upon inspection will not be used. Any equipment determined to be in unacceptable condition will be replaced. The field supplies and replacement parts associated with the permanent field equipment may require the replacement of wearable parts such as batteries or power cords. Any replacement parts for field equipment will be ordered and replaced by

the Project Manager or Surveyor. Supplies and consumables will be stored in accordance with identified requirements of each item.

2.6 Reserved – Sources of Secondary Data

2.6.1 Reserved

2.6.2 Reserved

2.6.3 Reserved

2.6.4 Reserved

2.6.5 Reserved

2.6.6 Reserved

2.6.7 Reserved

2.7 Data Management (B10)

2.7.1 Field Data and Information Management

The PLS and Professional Wetland Delineator will be responsible for the review of their collected field data for accuracy and completeness prior to submittal. The Project Manager and QA Manager will then review the deliverables from the PLS and Professional Wetland Delineator. If any field data forms are incorrect, incomplete, or missing, the data sheets will be returned to the PLS or Professional Wetland Delineator for completion and/or correction.

The PLS and Professional Wetland Delineator will forward copies of the field data sheets and delineation notes to the Project Manager. Field notebook copies will be forwarded to the Project Manager upon request.

A copy of all data and field forms will be retained by the Project Manager. Copies of this data will be available to all team members.

2.7.2 Reserved – Non-Direct Data (Secondary Data) Management

3 Assessment and Oversight

3.1 Assessment and Response Action (C1)

The Fuss & O'Neill Project Manager and QA Manager are responsible for determining the need for, and implementation of, any corrective action measures to the data collection and calculation procedures. Corrective action will be implemented upon the identification of problems discovered through system audits by analytical data review or calculation oversight. If a problem is identified, the QA Manager will:

- Report the problem to the Project Manager
- Evaluate the problem in accordance with data quality objectives
- Determine whether implementation of corrective action is required
- Assign and implement a corrective action
- Evaluate the effectiveness of the corrective action

The QA Manager will report the findings of any problems and corrective actions to the Project Manager.

The following is a list of possible occurrences that may require corrective action and the corresponding action that would likely take place:

- Review of PLS data indicates a questionable result or an error in data collection procedures. Data will be returned to PLS for correction.
- Review of wetland delineation indicates a questionable result or an error in data collection procedures. Data will be returned to Professional Wetland Delineator for correction.

RAE may implement, at their discretion, various audits or reviews of this project to assess conformance and compliance to the quality assurance project plan in accordance with the RAE Quality Management Plan.

3.2 Reports to Management (C2)

The Fuss & O'Neill Project Manager will make quarterly reports to the City of Woonsocket Project Manager, who in turn will provide quarterly reports to the RAE Project Manager. Those reports will include a summary of progress to date on each of the project tasks, as well as any assessments of quality assurance and, if necessary, any corrective actions recommended or taken. Report filing deadlines shall be as follows:

- January 10 for work performed September – December
- May 10 for work performed January – April
- September 10 for work performed May – August
- February 10 for work performed September – January

Data and/or calculation results that have passed preliminary quality control analysis may be shared with local stakeholders and submitted to the RAE and EPA. A caveat will accompany these or any data released on a preliminary basis, explaining that they are for review purposes only and subject to correction after completion of a full data review occurring at the end of the program.

Fuss & O'Neill will prepare final design drawings and specifications to be sent to the QAPP distribution list. The final design drawings and specifications will include design drawings that can be issued for construction and specifications for construction. These drawings may also be used in other public presentations. The final design drawings and specifications must be submitted to RAE by December 31, 2023.

4 Data Validation and Usability

4.1 Direct Measurement Data

4.1.1 Data Review, Verification and Validation (D1)

Data review, verification, and validation is a multistep process to protect the integrity of the data collected and also reduce the number of data measurements that do not meet the DQOs. Data verification will occur at the field level.

Field data will be reviewed upon completion of collection by the PLS and Professional Wetland Delineator. Once the data has been reviewed by the PLS and Professional Wetland Delineator, the Project Manager will review the field data for completeness and to ensure that it conforms to the DQOs. It is the responsibility of the PLS and Professional Wetland Delineator to ensure that the survey and delineation is conducted with proper equipment in accordance with all state requirements, including the RISDISM. Re-conducting field tests or re-collection of field measurements by the PLS or Professional Wetland Delineator may be performed if it is determined that measurements are inadequate. If re-collection of field data is not possible, the data will be flagged as either unusable, which will exclude the data from any analysis done, or flagged as questionable in which case the data will be reported and used in analysis with a flag. Incomplete data will be noted as necessary. QC results that deviate from the DQOs will call the validity of the individual data or all related data into question.

The final decision on whether to include or reject the data will be made by the Project Manager and QA Manager.

4.1.2 Verification and Validation Methods (D2)

The PLS and external Professional Wetland Delineators will follow their own QA/QC procedures for data collection and report those procedures to the Project Manager and QA Manager.

The verification process for the field data sheets will involve the Project Manager reviewing the results and ensuring the results are reasonable given on-site soil conditions.

4.2 Reserved

4.2.1 Reserved

4.2.2 Reserved

4.3 Reconciliation with User Requirements (D3)

4.3.1 Direct Data Measurements

At the conclusion of the data collection, after quality control checks, and any corrective actions have been taken by Fuss & O'Neill and any subcontracted personnel, the resulting data sets will be compared with the program's DQOs.

The PLS and Professional Wetland Delineator will be responsible for assuring DQOs are met for the survey deliverable. Any unknown data or limitations on information in the survey or delineation, will be conveyed to the contractor within the project Plan Set for bidding and construction. This project will include final design drawings and specifications.

4.3.2 Reserved

5 References

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Appendix A

Reserved

Appendix B

Reserved

Appendix C

Reserved

Appendix D

RIDEM Wetland Edge Delineation Form and Site Evaluation Form

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Environmental Management

TO: Applicants **DATE:** May 26, 1998

FROM: RIDEM, Division of Freshwater Wetlands

WETLAND EDGE DELINEATION FORMS

Pursuant to Section 9.02(E)(3) of the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act (Rules), applicants must complete, and provide to RIDEM, documentation which describes the reasoning used to delineate wetland edges whenever requesting verification of a wetland edge. For this purpose, the applicant must complete the attached Wetland Edge Delineation Forms. These forms (see attached) are not meant to provide quantitative plot data, but rather to provide RIDEM with an outline of the reasoning used to delineate a particular **wetland edge**. While the vegetative community may change abruptly in some circumstances, other plant communities may transition very gradually to upland. In these cases, other hydrologic indicators, such as soil redoximorphic features, often must be considered in determining existing hydrological conditions. Completion of these data forms will provide RIDEM biologists with a clearer understanding of all the factors considered by an applicant or their consultant in delineating the boundary of a given wetland area.

At a minimum, one set of data forms (upland and wetland) must be completed for each wetland on the site. More than one set should be provided wherever changes in vegetative community composition, soil characteristics, topography, or other factor(s) might cause a change in reasoning for determination of the wetland edge. For example, if the edge of wetland "X" is located at the base of a steep slope with a clear vegetative break in one area (Flag Nos 1-27), but within a broad, transitional zone dominated by facultative vegetation in another area (Flag Nos. 28-56), at least two sets of data forms should be filled out for that wetland, since the reasoning behind the delineation (changes in vegetative species, topography and/or soil characteristics) is different in the two areas. If only one set of data forms is provided for a given wetland, it will be assumed that the same reasoning was used for determination of the entire wetland edge and the wetland flagging will be reviewed accordingly.

Properly completed forms which support an accurate edge only increase the speed by which the Division's verification can be completed. This in turn will get a quicker, less troublesome answer back to the applicant. Substantial inaccuracies can often be attributed to a lack of supporting data used to locate the wetland edge. In turn, these inaccuracies only increase delays and problems with verifying the wetland edge.

All wetland edge delineations are to be accomplished in accordance with Appendix 4 of the Rules.

Wetland Edge Delineation Data Form (UPLAND)

Applicant: Wetland No.

Project: Flag No. Sequence:

City/Town: Date:

Vegetation: List the three dominant species in each vegetative strata along with their NWI status:

Tree	Indicator Status	Herbs	Indicator Status
1.		1.	
2.		2.	
3.		3.	

Saplings/Shrubs	Woody Vines
1.	1.
2.	2.
3.	3.

List other vegetative species noted which may have affected determination of the wetland edge: _____.

Soil: SCS Soil Survey Mapping Unit: _____
On Hydric Soils List? (Y/N) _____

Soil Profile (Note wetland flag no. nearest soil test pit): _____

Horizon	Depth	Matrix Color	Mottling Description	Depth to Saturation	Depth to Free Water

Other indicators exhibiting an absence of wetland hydrology (e.g. absence of water marks, lack of redoximorphic features, lack of oxidized rhizospheres, etc.):

Landscape position:

Altered/atypical situation? (describe)

Comments:

Wetland Edge Delineation Data Form (WETLAND)

Applicant: Wetland No.

Project: Flag No. Sequence:

City/Town: Date:

Vegetation: List the three dominant species in each vegetative strata along with their NWI status:

Tree	Indicator Status	Herbs	Indicator Status
1.		1.	
2.		2.	
3.		3.	

Saplings/Shrubs	Woody Vines
1.	1.
2.	2.
3.	3.

List other vegetative species noted which may have affected determination of the wetland edge: _____.

Soil: SCS Soil Survey Mapping Unit: _____
On Hydric Soils List? (Y/N) _____

Soil Profile (Note wetland flag no. nearest soil test pit): _____

Horizon	Depth	Matrix Color	Mottling Description	Depth to Saturation	Depth to Free Water

Other hydrological indicators (e.g. water marks, drainage patterns, root rhizospheres, etc.; see Appendix 4(A)(4) of the Rules): _____

Landscape position: _____

Altered/atypical situation? (describe) _____

Comments: _____

Appendix E

Full Size Project Location Figure

CONCEPT PLAN

FUSS & O'NEILL

SCALE: 1" = 70'

0' 35' 70' 105' 140'

TRUMAN DRIVE PARKWAY
WOONSOCKET, RI
April 2021

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER RESOURCES - Groundwater and Freshwater Wetlands Protection
FRESHWATER WETLANDS PROGRAM

235 Promenade Street, Providence, Rhode Island 02908
Telephone: 401-222-6820; Rhode Island Relay 711
www.dem.ri.gov/wetlands

Place Date Stamp Here

Application No.:

APPLICATION FOR A FRESHWATER WETLANDS DETERMINATION OR PERMIT

PART A - APPLICATION TYPE (See Tables 2, 3, and 4 in 250-RICR-150-15-3.8.9 for more information)

- ☐ Request to Determine the Presence of Jurisdictional Area [250-RICR-150-15-3.9.2] (JADETREC)
- ☐ Request to Verify Wetland Edges [250-RICR-150-15-3.9.3] (WETEDGE)
- ■ New Freshwater Wetlands Permit [250-RICR-150-15-3.11] (FWWAPPREC)
  - ☐ with Variance (VARREC) **OR**
  - ☐ with Joint On-Site Wastewater Treatment System (single-family lot only) (JOINTREC)
- ☐ Application for Significant Alteration [250-RICR-150-15-3.12] (SIGAPPREC)
- ☐ Permit Modification [250-RICR-150-15.3.14.3] (MODIFY)- Existing Permit #: _____

FEE INFORMATION:
To determine your project type and fee amount, use the Fee Assistant Tool.

Table 4 (2)

Permit Fee Amount:
$100.00

Check No.:

PART B - APPLICANT INFORMATION AND CERTIFICATION (Note: The applicant must be the owner of the property or easement which is the subject of this application or must be the government agency or entity with power of condemnation over such property or easement):

Name of Applicant/Organization: Michael F. Debroisse
RIDOT PTSID (if applicable)

Name and Title of Organization Representative (if applicable): City of Woonsocket

Applicant's Mailing Address: 169 Main Street
Street Number and Name or P.O. Box

Woonsocket | RI | 02895
City/Town | State | Zip Code

Applicant's Email Address: Mdebroisse@woonsocketri.org
Applicant's Phone Number: (401) 767-9231

CERTIFICATION/AUTHORIZATION OF APPLICANT:
I hereby certify that I have requested and authorized the investigation, compilation, and submission of all of the information, in whatever form, contained in this Application; that I have personally examined and am familiar with the information submitted herein; and that such information is true, accurate, and complete to the best of my knowledge. I hereby authorize RIDEM personnel access to the property ("site") for purposes of observing conditions pertinent to this application and assessing compliance with any permit or determination resulting from this Application; including any sampling, monitoring, or surveying that may be deemed appropriate, consistent with the RIDEM Administrative Inspection Guidelines.

Applicant's Signature | Date (mm/dd/yyyy)

If more than one property owner is applying, please use the Supplemental Document: Additional Applicant Information and Certification.

PART C - PROPERTY LOCATION SUBJECT TO THIS APPLICATION:

Primary City/Town: Woonsocket

Street Abutting Site, with Address (if applicable): Truman Drive Right-of-Way

Nearest Intersecting Street: Between Bernon St and Clinton St

Distance (in feet) and Direction to Property from nearest street intersection:

Tax Assessor's Plat(s) and Lot Number(s): Plat No. 14, Lots 15, 18, and 398

Closest Utility Pole Number:

Secondary City/Town (if applicable):

Secondary Tax Assessor's Plat(s) and Lot Number(s) (if applicable):

Has a Freshwater Wetlands application been previously submitted for this property? ■ No ☐ Yes _____
If yes, Previous Permit Application #

Have there been previous enforcement actions for this property? ■ No ☐ Yes _____
If yes, Previous Enforcement Action File #

PART D - PROJECT INFORMATION (Note: The Interactive GIS Map can provide helpful information for answering some of the below questions)

Project Name (*must be project specific*): Truman Drive Greenway Project

Project Type: Wildlife/Water Quality Improvement | Project Size: 4 | Unit: Acre(s)

Within which river buffer zone region is the site located? ☒ Urban Region ☐ Region 1 ☐ Region 2

Will the project alter Freshwater Wetlands? *If yes, provide amount to be altered.*	☒ No	☐ Yes	_____ sq. ft.
Will the project alter Buffer Zone? *If yes, provide amount to be altered.*	☒ No	☐ Yes	_____ sq. ft.
Will the project alter Watercourse? *If yes, provide amount to be altered.*	☒ No	☐ Yes	_____ linear ft.
Is the project located within a Drinking Water Supply Reservoir Watershed (DWSRW)?	☒ No	☐ Yes	
Is the project located within a Natural Heritage Area?	☒ **No**	☐ **Yes**	
Have rare wetland types or rare species been documented?	☒ **No**	☐ **Yes**	

If the project proposes any of the following, concurrently submit an *Application for Stormwater Construction Permit and Water Quality Certification*

New or increased impervious cover for property other than a single-family home?	☒ No	☐ Yes
Disturbance of more than 10,000 sq. ft. of existing impervious cover?	☐ No	☒ Yes
Fill in any amount of floodplain or alter storm flowage to a river, stream, or wetland on any lot?	☒ No	☐ Yes
Does this project require a variance from the Freshwater Wetlands Standards?	☒ No	☐ Yes
Has a variance from local zoning setbacks been sought? *If yes, submit documentation of outcome.*	☒ No	☐ Yes
Have you participated in a pre-application meeting with RIDEM on this project? *If yes, provide meeting date.*	☐ No	☒ Yes Provide Date: 5/8/23
Is municipal master plan approval required for this property? *If yes, submit a copy of the approval.*	☒ No	☐ Yes

PART E - SITE WORK AFFIDAVIT

- Wetland flags are present on site and are correctly and legibly labeled
- The wetland flag numbers on site correspond to those depicted on the plans
- The wetland flags have been accurately surveyed and depicted on the plans
- The proposed Limit of Disturbance (LOD) and other proposed activities and features have been staked and labeled on site (see § 3.8.6).

I have inspected the subject property and its surroundings and do hereby attest that to the best of my knowledge, all site work performed above has been accurately completed and certified at the time of application submission and prior to RIDEM inspection, in accordance with the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act, 250-RICR-150-15-3.

PART F - PROFESSIONAL CERTIFICATION

I hereby certify that I have been authorized by the applicant to prepare documentation to be submitted in support of this Application; that such documentation is in accordance with the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act (250-RICR-150-15-3); and that such documentation is true, accurate, and complete to the best of my knowledge.

Note: The Project Manager / Primary Professional should enter their information first.

Name and Title: Dean Audet, PE Senior Vice President/Business Line Leader | d/b/a: _____

Email Address: daudet@fando.com | Phone Number: (401) 533-5978

Signature: _____ | Date: _____

☐ By checking this box, I attest that I have reviewed and certify the Site Work Affidavit in Part E. I last inspected the property on: _____

Name and Title: Celicia Boyden, EIT, MS Senior Water Resources Engineer | d/b/a: _____

Email Address: cboyden@fando.com | Phone Number: (401) 533-5973

Signature: _____ | Date: _____

☒ By checking this box, I attest that I have reviewed and certify the Site Work Affidavit in Part E. I last inspected the property on: 8/1/2023

Name and Title: _____ | d/b/a: _____

Email Address: _____ | Phone Number: _____

Signature: _____ | Date: _____

☐ By checking this box, I attest that I have reviewed and certify the Site Work Affidavit in Part E. I last inspected the property on: _____

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 Promenade Street
Providence, Rhode Island 02908

February 28, 2024

City of Woonsocket
Michael F. Debroisse
169 Main Street
Woonsocket, RI 02895

Freshwater Wetlands Permit

RE: Application No. **24-0007** for the property and project located:

Within and immediately southeast of Truman Drive between its intersection with Bernon and Clinton Streets, Assessor's Plat 14, Lots 15, 18, and 398, Woonsocket, RI

Dear Mr. Debroisse:

Kindly be advised that the Department of Environmental Management's ("DEM") Freshwater Wetlands Program ("Program") has completed its review of your **Application for a Freshwater Wetlands Permit** as described in Rule 3.11 of the Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act, 250-RICR-150-15-3 ("Rules"). This review included a site inspection of the above referenced property ("subject property") and an evaluation of the proposed road pavement removal, stormwater treatment structures, and associated landscaping as illustrated and detailed on site plans submitted with your application. These site plans were received by the DEM on January 16, 2024.

Our observations of the subject property, review of the site plans and evaluation of the proposed project reveals that alterations of jurisdictional areas are proposed. However, pursuant to Rule 3.7 of the Rules, this project meets all Standards, and a **Freshwater Wetlands Permit** may be issued under the following terms and conditions:

Terms and Conditions for Wetlands Application No. 24-0007; RIPDES No. RIR102615; Groundwater Discharge/UIC No. 002224:

1. This letter is the DEM's permit for this project under the R.I. Fresh Water Wetlands Act, R.I. Gen. Laws § 2-1-18 et seq. This application review has also included review of any stormwater infiltration system subject to the DEM Groundwater Discharge Rules (Rules for the Discharge of Non-Sanitary Wastewater and Other Fluid to or Below the Ground Surface), 250-RICR-150-05-4.

2. This determination also includes your final authorization to discharge storm water associated with construction activity under the **2020 RIDPES General Permit for Stormwater Discharge During Construction Activity ("CGP")**. For future references and inquiry, your permit authorization number is RIPDES No. **RIR 102615.** This RIPDES CGP permit is not transferable to any person except after written notice to the Director, in the form of a Permit Transfer Form available on the RIDEM Stormwater Construction Permitting website.

3. This permit is specifically limited to the project, site alterations and limits of disturbance as detailed on the site plans submitted with your application and received by the DEM on January 16, 2024. A copy of the site plans stamped approved by the DEM is enclosed. Changes or revisions to the project that would alter freshwater wetlands are not authorized without a permit from the DEM.

4. Where the terms and conditions of the permit conflict with the approved site plans, these terms and conditions shall be deemed to supersede the site plans.

5. You must notify this Program in writing of the anticipated start date, and of your contractor's contact information, by submitting the Notice of Start of Construction Form prior to commencement of any permitted site alterations or construction activity. You must also notify this Program in writing upon completion of the project. The Start of Construction Form can be found on the webpage: dem.ri.gov/stormwaterconstruction.

6. A copy of the stamped approved site plans and a copy of this permit must be kept at the site at all times during site preparation, construction, and final stabilization. Copies of this permit and the stamped approved plans must be made available for review by any DEM or city representative upon request.

7. Within ten (10) days of the receipt of this permit, you must record this permit in the land evidence records of the City of Woonsocket and supply this Program with written documentation obtained from the City showing this permit was recorded.

8. The effective date of this permit is the date this letter was issued. This permit expires five (5) years from the date of this letter unless renewed pursuant to the Rules.

9. Any material utilized in this project must be clean and free of matter that could pollute any jurisdictional area.

10. Prior to commencement of site alterations, you shall erect or post a sign resistant to the weather and at least twelve (12) inches wide and eighteen (18) inches long, which boldly identifies the initials "DEM" and the application number of this permit. This sign must be maintained at the site in a conspicuous location until such time that the project is complete.

11. Both the owner and the contractor retained to undertake the construction activity are required to comply with all terms and conditions of the CGP. This includes maintaining the Soil Erosion and Sediment Control (SESC) Plan, performing the required inspections and maintenance of the selected Best Management Practices (BMPs), and retaining inspection records. Further information on the requirements of the CGP is available at:

    http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/pdfs/cgp092620.pdf.

12. Temporary erosion and sediment controls detailed or described on the approved site plans shall be properly installed at the site prior to or commensurate with site alterations. Such controls shall be properly maintained, replaced, supplemented, or modified as necessary throughout the life of this project to minimize soil erosion and to prevent sediment from being deposited in any freshwater wetland, buffer, floodplain, area subject to storm flowage, or area subject to flooding or other jurisdictional areas not subject to disturbance under this permit.

13. Upon permanent stabilization of all disturbed soils, temporary erosion and/or sediment controls must be removed.

14. You are responsible for the proper installation, operation, maintenance and stability of any mitigative features, stormwater treatment facilities, and systems of treatment and control that are installed or used in compliance with this permit to prevent harm to adjacent freshwater wetland, buffer or floodplain, area subject to storm flowage, or area subject to flooding or other jurisdictional areas until documentation is provided that this responsibility has been assigned to another entity. The long-term operation and maintenance plan shall be strictly followed. **The long-term operation and maintenance plan shall be that entitled "Long-Term Operation & Maintenance Plan, Truman Drive Greenway, City of Woonsocket, Woonsocket, Rhode Island", dated December 2023, dated received 1/16/2024, indicated as prepared by Fuss & O'Neill, 317 Iron Horse Way, Suite 204, Providence, RI 02908.**

15. You are obligated to install, utilize and follow all best management practices detailed or described on the approved site plans in the construction of the project to minimize or prevent adverse impacts to any adjacent freshwater wetland, buffer or floodplain, area subject to storm flowage or area subject to flooding or jurisdictional areas and the functions and values provided by such freshwater wetlands, buffer or floodplain, area subject to storm flowage or area subject to flooding

16. You must provide written certification from a registered land surveyor or registered professional engineer that the stormwater drainage system including any and all basins, piping systems, catch basins, culverts, swales and any other stormwater management control features have been constructed/installed in accordance with the site plans approved by this permit. This written certification must be submitted to this Program within twenty (20) days of its request or upon completion of the project.

17. This Program has made specific revisions to the approved site plans. These revisions are clearly marked in red on the approved plans. This project must take place in compliance with these revisions. *Specifically, please relocate the proposed stockpile area south of and between bikeway stations 14+44 to 17+68 to the lot slated for removal south of Woonsocket City Hall and north of Truman Drive.*

Pursuant to the provisions in 250-RICR-150-15-3.8.13 and 250-RICR-150-15-3.14.4(A), as applicable, any properly recorded and valid Freshwater Wetlands Permit is automatically transferred to the new owner upon sale of the property.

Please be aware that the RIDEM's Rules and Regulations Governing the Establishment of Various Fees (250-RICR-30-00-1) require that RIPDES CGP permit holders to pay an Annual Fee of $100.00. An invoice will be sent to the owner on record in May/June of each year if the construction was still active as of December 31st of the previous year. The owner will be responsible for the Annual Fee until the construction activity has been completed, the site has been properly stabilized, and a completed Notice of Termination (NOT) has been received by the RIPDES Program.

You are required to comply with the terms and conditions of this permit and to carry out this project in compliance with the Rules at all times. Failure to do so may result in an enforcement action by this Department.

In permitting the proposed alterations, the DEM assumes no responsibility for damages resulting from faulty design or construction.

Kindly be advised that this permit is not equivalent to a verification of the type or extent of freshwater wetlands on site. Should you wish to have the types and extent of freshwater wetlands verified, you may submit the appropriate application in accordance with 250-RICR-150-15-1.8(C).

This permit does not remove your obligation to obtain any local, state, or federal approvals or permits required by ordinance or law and does not relieve you from any duties owed to adjacent landowners with specific reference to any changes in drainage.

Please contact Hunter Trowbridge of this office (telephone: 401-537-4363) should you have any questions regarding this letter.

Sincerely,

Andrew Charpentier, Environmental Scientist III
Office of Water Resources
Freshwater Wetlands Program
AC/HT/ht

Enclosure: Approved site plans

ec: Neal Personeus, DEM Stormwater Program
DEM UIC Program
Dean Audet, P.E., Fuss & O'Neil
Celicia Boyden, Fuss & O'Neil

INVOICE #3

City of Woonsocket

Department of Planning & Development

Check to: City of Woonsocket
Department of Planning & Development
169 Main Street
PO Box 'B'
Woonsocket, RI 02895
Phone 401-767-9237 Fax 401-766-9312

DATE: JULY 24, 2024
PERIOD COVERING: 2/1/2024 – 5/1/2024

TO:
Attn.: Thomas Ardito
Restore America's Estuaries
601 13th ST. NW
12th Floor
Washington, D.C. 20005

FOR:
Truman Drive Greenway Project
SNEPWG21-2-WOONSOCK

DESCRIPTION	QUANTITY	AMOUNT
Contractual – Fuss & O'Neil Completed activities include: Prepare Final Design and Specifications	1	$3,050.00
See 'Attachment 1 – Cost Table'		-
TOTAL		$3,050.00

"By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set fourth in the terms and conditions of the Federal award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statement, false claims, or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812)."

Submitted by: 7/25/24
Title: Director of Planning & Development

Attachment 1 – Cost Table

Invoice Cost Table

Budget Category	Total Budgeted Funds	Total Budgeted Match	Grant Funds Expended This Period	Grant Funds Expended Cumulative	Match Funds Expended This Period	Match Funds Expended Cumulativ e	Match Source (note cash or in-kind)
Personnel							
Fringe							
Travel							
Equipment							
Supplies							
Contracts	$187,500	$62,500	$3,050	$187,500	$26,915.03	$62,500	Cash
Other							
Total Direct	$187,500	$62,500	$3,050	$187,500	$26,915.03	$62,500	Cash
Indirect							
Total	$187,500	$62,500	$3,050	$187,500	$26,915.03	$62,500	Cash

INVOICE #2

City of Woonsocket

Department of Planning & Development

Check to: City of Woonsocket
Department of Planning & Development
169 Main Street
PO Box 'B'
Woonsocket, RI 02895
Phone 401-767-9237 Fax 401-766-9312

DATE: JULY 24, 2024

TO:
Attn.: Molly Allard
Northern Rhode Island Conservation District
2283 Hartford Avenue
Johnston, RI 02919

FOR:
Truman Drive Greenway Project
SNEPWG21-2-WOONSOCK

DESCRIPTION	QUANTITY	AMOUNT
Contractual – Fuss & O'Neil Completed activities include: Collect Existing Conditions Information	1	$4,640.00
Contractual – Fuss & O'Neil Completed activities include: Prepare Preliminary 70% Design, Prepare RIDEM Permit Application	1	$12,870.00
Contractual – Fuss & O'Neil Completed activities include: Prepare Final Design and Specifications	1	$4,600.00
Contractual – Fuss & O'Neil Completed activities include: Public Engagement, Prepare Final Design and Specifications, Additional Survey	1	$8,174.97
See Attachments		
TOTAL		$26,915.03

Figure 1 copy of invoice sent to contract company for MATCH qualifying services

INVOICE #2

City of Woonsocket

Department of Planning & Development

Check to: City of Woonsocket
Department of Planning & Development
169 Main Street
PO Box 'B'
Woonsocket, RI 02895
Phone 401-767-9237 Fax 401-766-9312

DATE: JULY 25, 2024

TO:
Attn.: Molly Allard
Northern Rhode Island Conservation District
2283 Hartford Avenue
Johnston, RI 02919

FOR:
Truman Drive Greenway Project
SNEPWG21-2-WOONSOCK

DESCRIPTION	QUANTITY	AMOUNT
Contractual – Fuss & O'Neil Completed activities include: Collect Existing Conditions Information	1	$4,640.00
Contractual – Fuss & O'Neil Completed activities include: Prepare Preliminary 70% Design, Prepare RIDEM Permit Application	1	$12,870.00
Contractual – Fuss & O'Neil Completed activities include: Prepare Final Design and Specifications	1	$4,600.00
Contractual – Fuss & O'Neil Completed activities include: Public Engagement, Prepare Final Design and Specifications, Additional Survey	1	$8,174.97
See Attachments		
TOTAL		$26,915.03

RIDOT/RISCC Stormwater Partnership
Project Charter

GENERAL PROJECT INFORMATION		
Project Name		**PO No.**
Truman Drive Green Infrastructure Parkway		3613996
		Date Prepared
		04/18/2022
Task Request	**Task**	**Task Order Detail**
$70,000	7	☒New ☐Amendment
RIDOT Project Sponsor	**RIDOT Project Manager**	
Alisa Richardson, Interim Stormwater Administrator	Susan Votta, Supervising Landscape Architect, Environmental Division	
RIDOT Project Sponsor	**RISCC/NRICD Program Manager**	
Maria Mack RISCC Chair	Gina DeMarco, District Manager, Northern Rhode Island Conservation District (NRICD)	
Team Members		
City of Woonsocket Planning Department, Kevin Proft, City Planner City of Woonsocket Engineering Department, Mike Debroisse, Superintendent of Eng. City of Woonsocket Public Works Department, Steve D'Agostino, DPW Director Rhode Island Department of Transportation, Lambri Zerva, PE, Project Manager II		
Other Key Stakeholders		
SNEP - Thomas Ardito		

RIDOT/RISCC Stormwater Partnership Project Charter

SCOPE STATEMENT

Business Need and Problem Statement

The goal of this project is to transform a 4-lane, underutilized public road, Truman Drive, to a 2-lane road and new linear park that incorporates the existing Blackstone River Bike Path, providing several co-benefits to the City's residents and businesses. This vision consists of removing 1.5 of the road's travel lanes, and parking along the road, and converting that unused paved surface into a linear park. These landscape elements would be used to treat stormwater while providing direct and indirect recreational, economic, and public health benefits to the City and Environmental Justice communities. The City has invested in a conceptual design for this project and is now advancing to the design and permitting stage.

RIDOT, via a consent decree with the USEPA, must treat stormwater that flows into the impaired Blackstone River. The impervious area from Truman Drive directly contributes stormwater to the Blackstone River via outfalls from closed conduit drainage systems. Impervious areas in the watershed on and upstream from Truman Drive can be disconnected from the existing discharges into the Blackstone River by diverting runoff into green infrastructure installations which will be developed in the green spaces that are planned to be developed in the Truman Drive ROW. The following design for opportunities for IC Reduction credit will be developed:

1) Removing impervious cover by reducing Truman Drive to two vehicle travel lanes and installing a greenway along the south side of the road.
2) Installing bioretention basins, to capture and treat sheet-flow from Truman Drive and adjacent impervious areas.
3) Further study to develop methods for connecting stormwater flow from the northern side of the existing road to the green infrastructure proposed in the greenway along the southern side of the road.
4) Further study the possibility of diverting stormwater from the Main Street closed conduit drainage system to the linear bioretention swales

Specific tasks for the Project Design and Permitting Phase include:

- **Preliminary Design- 30% Design:** Prepare schematic drawings of proposed design, incorporating public comments. Schematic drawings to include layout, grading, drainage, and planting. Visual graphics and renderings will be produced in this phase to aid in the public engagement process. This phase will also include assessing the potential for diverting stormwater from upgradient neighborhoods to proposed green infrastructure improvements. Expected water quality improvements will also be calculated to confirm that the goals of this grant will be met. This task will also include a workshop with City staff to engage DPW and other City departments who will eventually be responsible for maintenance and long-term success of these new assets, as well as preparation of opinions-of-construction cost.
  - *Deliverables: 30% Design Drawings, graphic renderings (plan view and 3d images), opinions of construction cost, estimates of pollutant removal effectiveness* (7 months)

- **Preliminary Design- 70% Design:** Prepare preliminary designs suitable for permitting of proposed design, incorporating City comments and comments from second public meeting. Schematic drawings to include layout, grading, drainage, and planting. Opinions of construction cost, estimates of pollutant removal effectiveness and visual graphics/renderings will be updated. This task will also include a workshop with City staff to engage DPW and other City departments who will be responsible for maintenance and long-term success.
  - *Deliverables: 70% Design Drawings and graphic renderings, opinions of construction cost, estimates of pollutant removal effectiveness (10 months)*
- **Prepare and Submit RIDEM Permit Application**: An application for wetlands permitting will need to be submitted to RIDEM which will also include stormwater permitting requirements. This task includes the preparation of a permit application and supporting that application through the permitting process.
  - *Deliverables: Completed RIDEM permit application and RIDEM issued wetlands authorization (Submit permit applications in 10 months, estimate securing permits in 14 months)*
- **Prepare final designs and specifications:** These documents will be suitable for public bidding and construction.

Project Goals and Objectives (Deliverables)

1. Conceptual Design	Complete
2. Project Design & Permitting	May 2023
3. Construction Documents	December 2023
4. Start Construction	April 2024
5. Complete Construction Phase I	October 2024
6. Begin Operations and Maintenance	November 2024

Benefits

The treatment of stormwater counts towards RIDOT's Stormwater Control Plan, while benefiting the environment by reducing loadings and offers an opportunity to create green spaces for public use, attract people to the downtown area, and better connect residents in Woonsocket to the bikeway and river.

Metrics

- Provide credit for up to 7.3 acres of impervious cover for the Blackstone River.
- Design cost/treatment acre is approximately $100,000/acre of treatment.

RIDOT/RISCC Stormwater Partnership Project Charter

SUPPORTING BUDGET DETAIL

Cost

A budget of $70,000 is allocated for the design development phase.

Phase	Estimated Cost	Funding Agency	Account #
NRICD Project Management	$6,500	RIDOT	PO# 3613996
RIIB 1.5% fee	$1,000	RIDOT	PO# 3613996
Design	$42,500	RIDOT	PO# 3613996
Permitting	$20,000	RIDOT	PO# 3613996
Construction	TBD	TBD	PO# TBD

Funding Commitments by Agency

Agency	Amount	Account
SNEP Watershed Grant	$187,500	PO# TBD
TBD	TBD	PO# TBD
RIDOT	$70,000	PO# 3613996

Constraints/Assumptions

- The project continues to meet the framework for credits outlined by RIDEM and EPA.
- The project continues to be cost effective.
- RIDOT will continue to have a stormwater program that is adequately funded.

Risks

-

ADDITIONAL INFORMATION

Sponsor Responsibilities

- Provide funding on a timely basis.
- Clear the path for project execution by communicating with organization.
- Follow defined change control procedures.

RISCC/SRICD Program Manager Responsibilities

- Maintain communications with project stakeholders.
- Design, permit, and construct improvements.
- Request reimbursements in accordance with the agreement.

RIDOT Project Manager Responsibilities

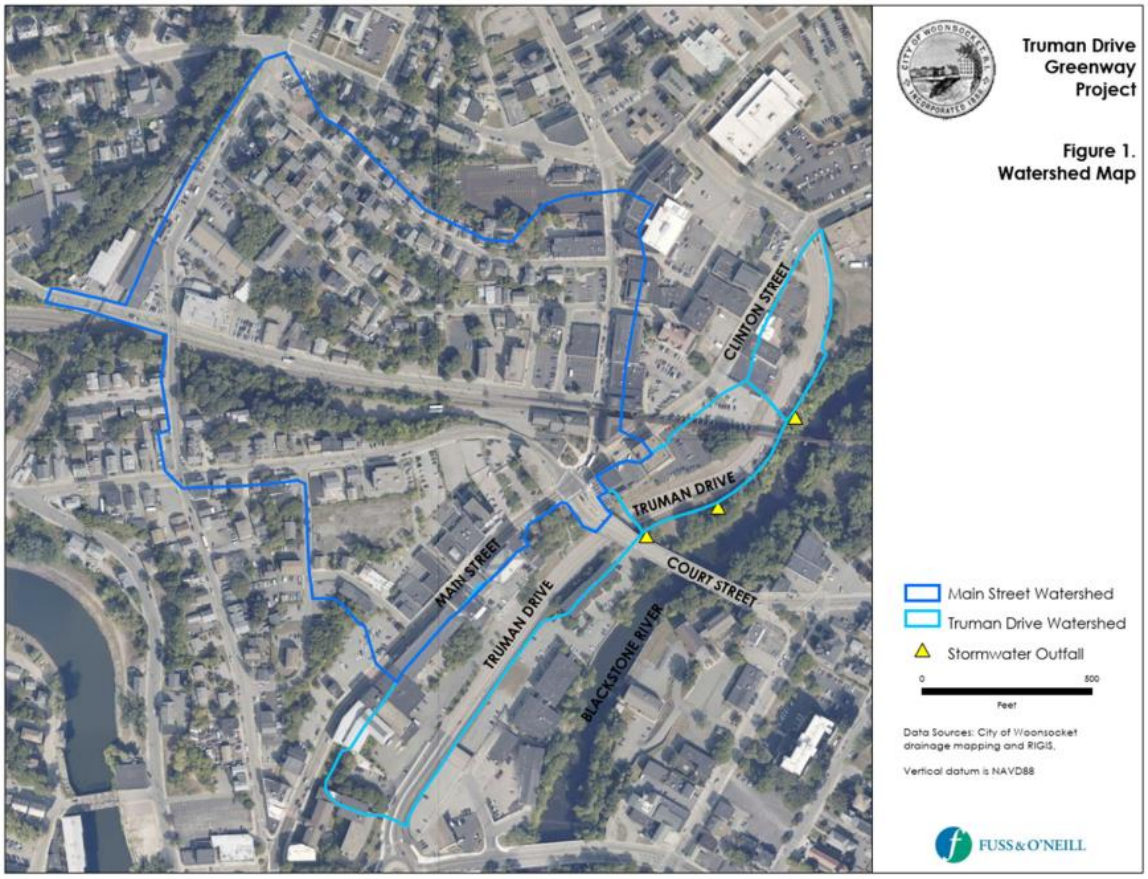
- Make sure that the project is adequately updated into VUEWorks and the relevant Stormwater Control Plans.
- Assure that the project stays on-scope and continues to be in the best and most cost-effective interest of the State.
- Approve reimbursements submitted by the NRICD.

RIDOT/RISCC Stormwater Partnership Project Charter

Links to Other Projects	
This project is part of implementing the Stormwater Control Plans for the Blackstone River.	
We agree that this is a viable project, and we will support it.	
Date: 4-21-22	Date: 4.19.22
Susan Votta, RIDOT PM	**Maria Mack, RISCC Chair**
Date: 4-21-22	Date:
Alisa Richardson, RIDOT Project Sponsor	

RIDOT/RISCC Stormwater Partnership
Project Charter

Project Area: Truman Drive and associated watershed, Woonsocket, RI



City of Woonsocket
Rhode Island

January 22, A.D. 2024

Resolution

AUTHORIZING RECEIPT OF THE 2023 SOUTHEAST NEW ENGLAND PROGRAM (SNEP) WATERSHED IMPLEMENTATION GRANT

WHEREAS, the City's Department of Planning and Development (the "Planning Department") has been working on plans to renovate Truman Drive into a greenway (see Concept Plan attached as Exhibit A) (sometimes, the "Project"); and,

WHEREAS, the Planning Department applied for and has been awarded a 2023 Southeast New England Program ("SNEP") Watershed Implementation Grant (sometimes, the "Grant") in the amount of five hundred thousand dollars ($500,000.00) with a match of one hundred sixty-five thousand dollars ($165,000.00) (the "Matching Funds") which, if accepted by the City, entails a Subrecipient Agreement between Restore America's Estuaries and the City (see "Subrecipient Agreement" attached as Exhibit B); and,

WHEREAS, the Matching Funding must be from non-federal sources and can come in the form of either cash or in-kind services; and,

WHEREAS, if the City accepts the Grant and proceeds with the Project, it is anticipated that the Planning Department will be responsible for administering the Grant and the City's Public Works Department and that department's engineering division will be involved providing technical support and in-kind services; and,

WHEREAS, the goal of the Project is to partially fund the construction of the green infrastructure parkway that is currently under design funded under Grant Agreement #SNEPWG21-2-WOONSOCK which is currently being used for engineering services; and,

WHEREAS, the Project is to conduct a so-called road diet and transform an underutilized public road into a new, linear park providing a number of co-benefits to the City's residents and businesses by, *inter alia*, removing part of the road's existing travel lanes and converting the unused paved surface into a linear, green infrastructure park, complete with native species plantings and human-scale lighting that complements the existing area and adjacent Blackstone River Bikeway.

WHEREAS, in addition to transforming the aesthetics of the immediate area, the native landscape elements would contribute to better stormwater management while also providing direct and indirect recreational, economic, and public health benefits to the City.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WOONSOCKET, RHODE ISLAND, AS FOLLOWS:

SECTION 1. That the City, by and through its Planning Department, is authorized to accept the Grant in the amount of five hundred thousand dollars ($500,000.00) with one hundred sixty-five thousand dollars ($165,000.00) of Matching Funds as permitted by the terms and conditions of said grant.

SECTION 2. That the Mayor or his designee is hereby authorized to sign the Subrecipient Agreement found at Exhibit B as required by Restore America's Estuaries and any other documents reasonably required to formally accept the Grant provided that those additional documents are perfunctory only and do not alter the terms and conditions of the Grant as set forth in the Subrecipient Agreement.

SECTION 3. This Resolution shall take effect immediately upon its passage by the City Council.

John F. Ward
City Council President
By Request of the Administration

IN CITY COUNCIL January 22, 2024 - Read by title and passed unanimously.

CONCEPT PLAN

FUSS & O'NEILL

SCALE: 1" = 70'

0' 35' 70' 105' 140'

TRUMAN DRIVE PARKWAY

WOONSOCKET, RI

April 2021