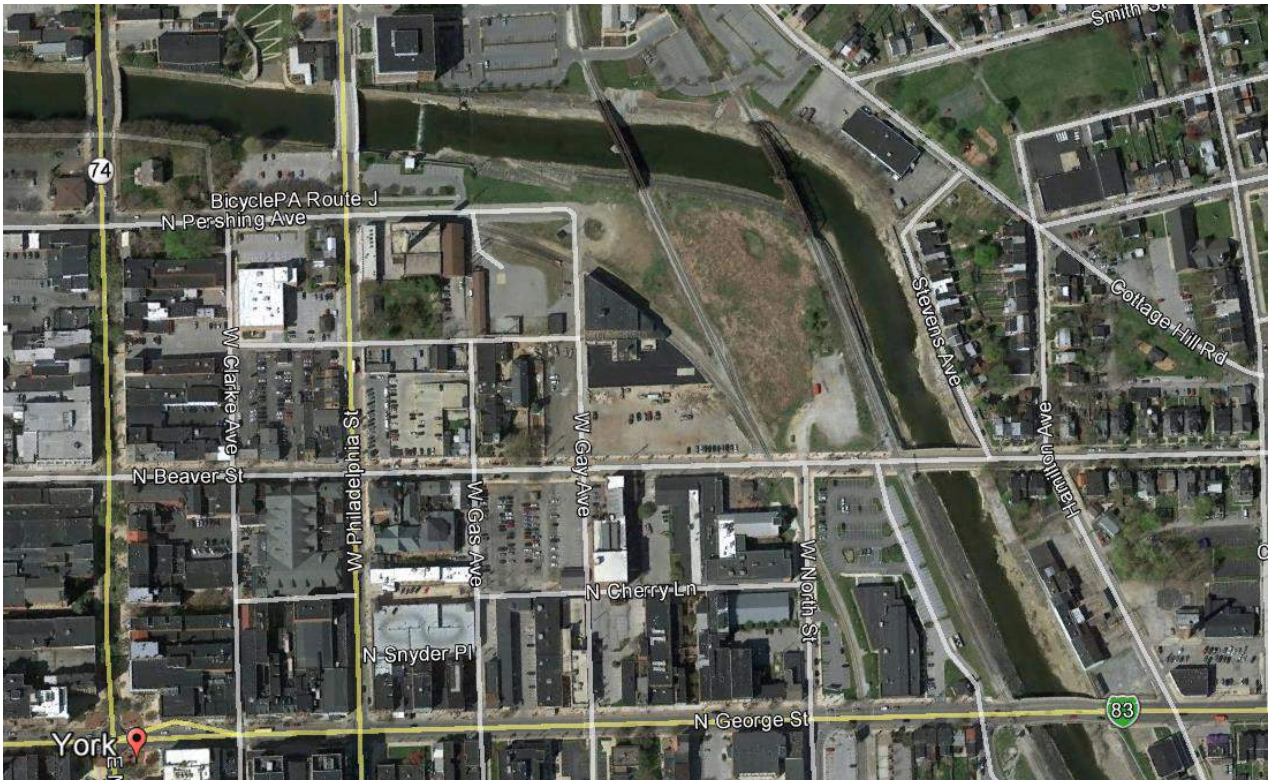
North Bend Opportunity Area Greenway Planning

MASTER PLAN



November 2016
Revised February 2017
Revised May 2017

C.S.Davidson, Inc.
Excellence in Civil Engineering

York (717) 846-4805 •Lancaster (717) 481-2991 •Gettysburg (717) 337-3021

TABLE OF CONTENTS

North Bend Opportunity Area Greenway Planning

1. Introduction

North Bend Opportunity Area is located in the northwestern quadrant of York City, within walking distance of the center of town. The portion of the Opportunity Area that is addressed in this Master Plan includes the eastern bank of the Codorus Creek from the Colonial Courthouse at the intersection of Market Street and Pershing Avenue to the George Street bridge, and then across the Codorus to the Amory property on the north west bank east of George Street. The area adjacent to the Codorus Creek's southern banks will incorporate the extension of the York County Heritage Rail Trail within the established greenway. Adjacent to the greenway will be a road that will connect North Street and Pershing Avenue. The road is potentially a "green" road designed to incorporate environmental infrastructure to minimize stormwater runoff and maintenance and maximize opportunity for groundwater infiltration. Two arterial bike/pedestrian connections between the Rail Trail and the downtown will be identified and developed in order to connect Rail Trail users with downtown amenities.

The project area is immediately adjacent to, and will provide an extension of, the existing York County Heritage Rail Trail Park. The Master Site Plan will be developed to ensure that future infrastructure investments protect and enhance the project area's natural resources, improve accessibility, and increase the flexibility of the area to expand opportunities for education, recreation, and wellness. It is prudent to have a Master Plan to guide future investments to make them worthwhile. Decisions concerning new amenities, how they're connected, and how they might be mutually supportive need to be made holistically.

York City's mission includes enhancing the quality of community life and educating the public about how the quality of their lives is inextricably linked with the quality of the environment. Environmental improvements such as integrating stormwater Best Management Practices (BMP's) can minimize maintenance of the park, and provide compliance with MS-4 requirements that are currently needed by the city. By including these improvements and showcasing their use with permanent descriptive displays, the community has the opportunity to see how blended designs produce a more holistic value.

In order to ensure a sustainable park, the city was encouraged to provide input as to their experience with park maintenance. Targeted, complementary partnerships working together to augment the functional and cultural relevance can boost use. The Master Plan included community planning exercises to allow the public to have input in the design of the park, in accordance with DCNR requirements for future funding opportunities.

While special annual events attract visitors to the park, it is even more important to provide opportunities for daily activities to occur. Providing facilities that will attract daily use supports an economically, socially, and environmentally healthy community. Pedestrian access from the downtown, the adjacent neighborhoods and the Heritage Rail Trail are important in promoting and building a walkable community.

The Master Plan needs to address both short-term and long-term improvements and reflect what the City and York County envisions for its community now and in the future.

The objectives of this Master Site Development Plan include:

- Meet or exceed PA Department of Conservation and Natural Resources (DCNR) requirements so that proposed improvements may qualify for future matching construction funding from DCNR;
- Establish priorities for park improvements;
- Engage the York City community in a public participation process for the Master Plan design of the park;
- Consider the critical potential development elements of the adjacent North Bend Opportunity Area;
- Enhance the natural resources and complement the adjacent historic assets;
- Extend the York County Heritage Rail Trail to be a continuous trail from the Maryland State line to York County Park's John Rudy Park;
- Provide for the phased implementation of improvements;
- Incorporate green infrastructure and appropriate BMPs into the greenway to provide compliance with city MS4 permit requirements;
- Tailor the plan to the unique needs of the many user groups who will care for and utilize the park for a variety of activities and events under the guidance and stewardship of the city; and
- Build a safe, sustainable and highly-active destination to improve the quality of life in York and continue the renaissance of the entire downtown.

In addition to the NBOA Greenway, the Master Plan also includes several other related improvement plans. First, an analysis was conducted to explore opportunities for enhancing multi-modal transportation connectivity between the planned greenway and York's downtown. The analysis includes design proposals for a cycle track on Market Street and the redevelopment of Mason Avenue as a multi-modal path for linking the Heritage Rail Trail to downtown York. In addition, the Master Site Development Plan charts a path for a greener York City through the creation of a Green Action Plan (GAP). The GAP includes the results of a street tree analysis, conceptual designs for the development of green infrastructure improvements at five sites within the city, and templates for urban Best Management Practices to be incorporated into public works projects and future city development projects.

2. Background Information and Data

Existing background information review included the York County Comprehensive Plan, York City Strategic Comprehensive Plan 2030; the York County Watershed Implementation Plan, York County Open Space and Greenways Plan, City of York City ordinances; Codorus Creek River Conservation Plan: York NWT Parking Study Update (V1.2) 2014; and Codorus Creek Watershed Restoration report, Feb 2007.

The base map was generated using the available GIS information, aerial photography, and PA LIDAR contour mapping. An evaluation was completed of existing land use and existing zoning, assessment of the land features, conversations with the Steering Committee, on-site investigations; in determining if any site features may be of concern to the Pennsylvania Historical & Museum Commission, a PNDI (Pennsylvania Natural Diversity Inventory) report, and a wetland field investigation.

York City is centrally located in York County, Pennsylvania, founded in 1741 and incorporated in 1787. York is known as an industrial town and still has large manufacturing facilities in the county. As early as the 1800's, York's manufacturing economy outstripped its agricultural production. At that time, much of the industry was built near the city to be close to employee population.

York is a third class city with a proposed 2016 budget of $99 million, with a General Fund Budget of over $43 million. The City North Bend Opportunity Area (previously known as Northwest Triangle) is listed in the budget as an active community development area.

2.1 Demographics:

York City has a population of over 40,000 people within 5.2 square miles, and is the county seat of one of the fastest growing counties in Pennsylvania. Recently eclipsing 400,000 people, York County is poised to grow to 500,000 people in the decade ahead.

As of the 2010 census, the city was 51.2% White, 28.0% Black or African American, 0.6% Native American, 1.2% Asian, and 6.3% were two or more races. 28.5% of the population was of Hispanic or Latino ancestry.

As of the census of 2000, there were 40,862 people, 16,137 households, and 9,246 families residing in the city. The population density was 7,852.2 people per square mile (3,034.0/km²). There were 18,534 housing units at an average density of 3,561.6 per square mile (1,376.2/km²). The racial makeup of the city was 59.75% White, 25.13% African American, 0.42% Native American, 1.40% Asian, 0.07% Pacific Islander, 9.40% from other races, and 3.83% from two or more races. Hispanic or Latino of any race was 17.19% of the population.

There were 16,137 households out of which 30.9% had children under the age of 18 living with them, 31.0% were married couples living together, 20.6% had a female householder with no husband present, and 42.7% were non-families. 33.1% of all households were made up of individuals and 10.7% had someone living alone who was 65 years of age or older. The average household size was 2.48 and the average family size was 3.17.

In the city, the population was spread out with 28.4% under the age of 18, 11.4% from 18 to 24, 30.1% from 25 to 44, 19.1% from 45 to 64, and 10.9% who were 65 years of age or older. The median age was 31 years.

The median income for a household in the city was $26,475.00, and the median income for a family was $30,762.00. Males had a median income of $26,792.00 versus $20,612.00 for females. The per capita income for the city was $13,439.00. About 20.0% of families and 23.8% of the population were below the poverty line, including 31.8% of those under age 18 and 15.8% of those ages 65 or over.

2.2 York City Park System:

The York City Parks and Recreation Plan inventories the Recreation Facilities in York City.

Foundry Plaza, the southernmost section of the Master Site Plan project area, is listed on the map. There are twenty-five open space /recreational facilities within York City, not including those areas associated with the public school system. Foundry Plaza/Codorus Boat Basin is located immediately across the Codorus from the Heritage Rail Trail's current terminus in the city. The Regional Heritage Rail Trail County Park is partially located in York City, and is adjacent to North Bend Opportunity Area at the South and North borders of the NBOA area. The parks within the city are open between 6:00 am and 10:00 pm unless altered by permit. The two city regional parks are Farquhar Park, which is on the west side of the Codorus, and Veterans Memorial Park, which includes many active recreational facilities and is located in the Southeastern corner of the city. Fourteen (14) of the parks shown below include neighborhood playgrounds.

The NBOA Greenway area will be a city open space that incorporates a trail segment to link the two finished sections of the Regional Heritage Rail Trail north and south of the greenway.

2.3 North Bend Opportunity Area History:

A historic city map shows the original city limits to be approximately 200' north of W. Gay Alley. The limits of the city grew to extend past the Codorus Creek, and rail lines were added to the North Bend area, effectively servicing what appears to be the industrial part of the city in 1903. The north Bend area included the Keystone Farm Machinery Company, a coal yard, Variety Iron Works, which would eventually become the Smyser-Royer; manufacturing and designing ornamental and structural metalwork, and light fixtures and several railroad freight houses. The Steam Plant property at the corner of Pershing and W. Gas Avenues was owned by Edison Electric Light Company. Gerber Coal Yard was located on the eastern bank of the Codorus Creek.

In 1937, aerial photographs show the Codorus Creek levee work was either completed or underway in the North Bend area. Fill material had been placed in the area to increase grades to be above the floodplain. Industrial uses continued for an additional 50 years, utilizing the local rail access. Some of the industrial uses generated hazardous materials that were allowed to leach into the area soils.

The recent demolitions of structures and site clearing of the NBOA for redevelopment of the area included environmental evaluations and remediation of the area. The summary of this work is provided below.

Brownfields Remediation and Redevelopment Project
Sponsor: The City of York Economic Development Department & Redevelopment Authority

PROJECT DESCRIPTION: The Northwest Triangle (NWT) is a multi-block area of separate properties that cover approximately 14.5 acres in the northwestern corner of the City or York. Various commercial and industrial activities occurred at many of these properties since the early 1900s, and contaminated historic fill materials had been placed to increase their grades. This project consisted of the environmental investigation and remediation of these properties.

PROJECT GOALS: The City of York Redevelopment Authority is rehabilitating and/or redeveloping these impacted and underutilized properties as part of the city's revitalization program. The goals of this project were to investigate and remediate the impacted properties as necessary to attain the applicable environmental cleanup standards, and to facilitate their redevelopment and productive reuse for residential and commercial purposes.

PROJECT RESULTS: Among other accomplishments, 8 monitoring wells were installed and sampled, hundreds of soil samples were collected and analyzed, and approximately 15,000 tons of contaminated soil, including an estimated 4,500 pounds of lead and 750 pounds of arsenic, were excavated and transported off-site for proper disposal or approved beneficial reuse. The cleanup activities were approved by the Pennsylvania Department of Environmental Protection and the United States Environmental Protection Agency under the Act 2 Program.

	B&C Fasteners	York Rail	Entire NWT Area
Before:			
After:			

Red = Extent of Soil Remediation

PROJECT COSTS: $1,050,000 GGII Brownfields Grant

LESSONS LEARNED: Close communications, shared goals, and cooperation between the project stakeholders and the regulatory agencies were key to ensuring the successful and cost-effective completion of the project.

PARTNERS: City of York Economic Development Department and Redevelopment Authority; Pennsylvania Department of Environmental Protection; United States Environmental Protection Agency; Kinsley Construction, Inc.; Enterprise Homes, Inc.; ARM Group Inc. (consultant); and remediation contractors: Horizon Environmental Services; Lewis Environmental; and Environmental Compliance Management.

2.4 Railroad:

York Railway Company operates 42 miles of short rail in and west of the City of York, with connections to CSX and Norfolk Southern. There are two rail lines within the NBOA: one that effectively divides the site in half, and the other that runs along the northern border of the site. The southern rail is used more often than the northern rail, as there are weight restrictions on the latter. The use of the rail in the NBOA varies, but on an average day in 2016, there might be six (6) train movements over the bridge. There had been some preliminary designs and discussions with York Rail in 2011; however, agreement on a trail crossing concept was not reached. Public crossing of the rail line needs to be combined with the crossing of the proposed roadway that will connect Pershing Avenue with Beaver Street, as that minimizes individual crossings and provides a safer and more visible location for the trail crossing. At a minimum, the trail and road crossing should be a minimum of 61' from the rail bridge in order to ensure safe sight distances by the train engineer. Crossing design should meet the requirements set forth by the US Department of Transportation, Federal Highway Administration's Railroad-Highway Grade Crossing Handbook, latest edition and the Manual on Uniform Traffic control Devices. Any crossing of the York Rail by the Heritage Rail Trail will need to be approved by the Public Utility Commission.

2.5 York City Redevelopment Authority:

The York City Redevelopment Authority (RDA) worked for many years to get the NBOA site to the point where the hazardous materials have been removed to exceed the residential statewide health standards. 15,000 tons of contaminated soil, including an estimated 4,500 pounds of lead and 750 pounds of arsenic were excavated and transported off-site for proper disposal. Several buildings and silos were also removed. Contaminated soils were excavated from areas where the Statewide Health Standards were exceeded, and backfilled with clean fill.

Areas cleaned to residential health standards did not include the area west of Pershing Avenue. That area was part of the development of an office building complex, which is located at a former manufacturing gas plant site immediately across the creek. The associated parking lot on the east side of the Codorus is part of the engineering controls for that site, which serves as an environmental cap. A summary of the Remediation Plan that outlines the remediation area efforts by the RDA is provided in Appendix A.

2.6 Moving Plans Into Action:

PROPOSED CREEK PROMENADE.
Sketch shows walk on easterly side of the creek.

Formed in 2010, Moving Plans into Action (MPA) is a coalition of prominent York County public and private sector actors working to build a robust urban core in downtown York. Through a one-year analysis of 30+ community plans and two and a half years of community outreach and engagement, the NBOA was identified as the place to focus the efforts of MPA. Since then, there has been much activity within the NBOA that helps to close the financing gap for advantageous projects such as redevelopment of the existing York City portion of the Heritage Rail Trail, the extension of the Trail through the NWT, and has helped to spur renewed interest from the private and non-profit sectors to further buildout and redevelop the NBOA site. Further, MPA remains committed to leveraging York's assets as well as concentrating and coordinating efforts through collaborative governance networks and public-private partnerships. The recent reconstruction of the city's section of the Heritage Rail Trail provides an example of the MPA's ability to define meaningful projects that are supported by both the public and private sectors to completion.

2.7 Ordinances Pertaining to North Bend Opportunity Area:

There is currently a city ordinance that makes it unlawful for any persons to use, ride, propel or otherwise operate a skateboard on the public sidewalks, streets, alleys and City-owned property except areas specified by recreation council. At this time, the only areas specified for skateboarding is the skate park in the Memorial Park Complex at Rockdale & Vander Avenues.

Existing park hours are from 6:00 am Eastern Standard Time to 10:00 pm. Ordinance 741.03

Ordinance 741.02 prohibited acts in a park;

(a) Perform any disorderly or immoral act.

(b) Throw any stones or missiles.

(c) Gamble or play any game of chance.

(d) Practice fortunetelling.

(e) Solicit a contribution or subscription of money or other valuable thing.

(f) Cast or deposit any rubbish, refuse, ashes, garbage, stones or sand, except in a container provided by the City for such purpose.

(g) Ride or drive any motorized vehicle except on highways.

(h) Sell or offer or display for sale any goods, wares, merchandise, refreshments, or any other thing.

(i) Remove any seats or benches from their resting places.

(j) Willfully deface, injure, break, cut or destroy any building, seats, benches, trees, plants, shrubbery, grass, flowers, monuments, fountains, or other property pertaining to such parks, or dig any hole or cut any sod therein.

(k) Post any sign, banner, advertisement or circular, except as provided in Section 741.05.

(l) Play any game or engage in any sport or contest except at places designated and set aside by the City as a public playground for such purposes.

(m) Obstruct any roadway or path.

(n) Ride or drive any horse or other animal in any park except on the highways thereof.

(o) Bring any dog into a public park unless such dog is on a leash.

(p) Be on park premises before 6:00 a.m. or after 10:00 p.m. unless participating in activities sponsored by the City and/or the Advisory Council on Recreation and Parks.

(q) Tobacco Use: No person shall smoke at any city facility designated as a park, playground or pool by Exhibit A attached to original Ordinance 22-2008 and incorporated herein by reference. Exemptions are listed in subsection (q)(3) hereof. All city facilities in which smoking is prohibited shall be posted to prohibit smoking. For the purposes of this subsection, "smoking" means the carrying by a person of a lighted cigar, cigarette, pipe or other lighted smoking device used for tobacco. "Tobacco use" means the smoking of tobacco products in any form. Failure to comply with this subsection shall result in penalty.

2.8 Flood proofing and Codorus Creek History:

The Indian Rock dam/Codorus Creek Flood Control project was authorized by the Flood Control Act of June 22, 1936, just months after the devastating Susquehanna River flood of March 18-19, 1936. Indian Rock Dam, located three miles upstream of the City of York, controls a drainage area of 94 square miles, equivalent to 41 percent of the watershed upstream of York. The Codorus Creek project consists chiefly of 22,969' of channel widening and deepening, flood walls, levees, protection of bank slopes, and removal of a mill dam which increased channel capacity to 24,000 cubic feet per second. Material dredged/removed from the Codorus Creek channel widening between the dam and US Route 30 was used to build Indian Rock Dam. The streambed was excavated down to bedrock in order to maximize the channel capacity. The excavation of the streambed changed the character of the Codorus, and its relationship to the city, as normal flow elevations were significantly lowered. The project was in place by 1937, and provided protection from flooding until the city again suffered significant flood damage in 1972 from Hurricane Agnes. Following Agnes, additional flood protection measures were added to the low lying areas adjacent to the levees, including a redirection of the storm sewer system to an emergency pumping system to be enacted during high stream levels. With this added protection, 2011 Tropical Storm Lee dumped more than 10" of rain in York; although the creek rose to historical levels, the flow was contained within the channel and levees and the pumping system was again not tested. As of 2014, flood damages prevented by the Army Corps' work are estimated at $54,618,000.00.

The main stem of the Codorus Creek begins directly below the outfall of Indian Rock Dam, where the flow from the West Branch joins with the flow from the South Branch of Codorus Creek. The creek is then a single channel as it flows through the City of York and onwards to the Susquehanna River outfall in Hellam Township near Codorus Furnace, PA.

In 2006, the Baltimore District, U.S. Army Corps of Engineers prepared an Aquatic Ecosystem restoration study to investigate the potential to revise the existing channel to allow the integration of a natural stream channel, compatible with the ongoing watershed improvements while maintaining the flood control efforts, which would improve in-stream habitat. The draft feasibility report was completed in fiscal year 2006 and was approved in fiscal year 2009. The project received a congressional naming in the fiscal 2009 and fiscal 2010 appropriations bills; however, the non-federal sponsor has been unable to financially support signing a project partnership agreement. The 9.9 million dollar project is currently on hold until the sponsor is able to financially support the project. The feasibility study did not involve investigating changes to the Local Flood Project (LFP) (in York), or its associated facility at Indian Rock Dam. The feasibility study did

investigate stream restoration opportunities within the flood protection channel and levee corridor. It should be noted that any changes to the flood protection channel or levee corridor would not only require a Joint Permit from the US ACOE, but also an act of Congress.

2.9 Access/Connections:

A desire to leverage the NBOA as an important multi-modal transportation link has been expressed by various organizations over the years: the Pennsylvania Department of Conservation and Natural Resources has identified the area including the NBOA as a priority gap to fill in the York County Heritage Rail Trail system; York College of Pennsylvania has supported the redevelopment efforts to connect their campus and students with the downtown; the City of York has recognized the need to complete the 0.5 mile transportation gap in its bicycle network; and various education-based non-profits have expressed their interest in leveraging the proposed public green space as educational/recreation areas. Public space enhancements and development can also work to create the conditions necessary to improve the connection between the City of York and its 43,718 residents with the rest of the 26-mile Rail Trail. This, in turn, will open up a myriad of opportunities to connect these residents with jobs in and around the Central Business District (CBD) as well as recreational spaces adjacent to the Trail throughout the County of York.

The NBOA is also part of York's CBD which is home to numerous places to eat and drink, several entertainment venues, as well as an array of shops and offices. Facilitating safe connections for pedestrians and bicyclists to access these amenities is a key part of the economic development strategy for the downtown. A multi-modal friendly downtown is an important marketing tool that can spur tourism, incentivize development, and encourage potential new residents to choose downtown York.

2.10 City MS4 Permit Obligations:

The city has been designated as a MS-4 (Municipal Separate Storm Sewer System) community based on population density. The requirements for such a classification cause the City to evaluate all of their activities and opportunities to improve the receiving stream characteristics through and downstream from the city.

The requirements include six (6) Minimum Control Measures (MCM); public education, public involvement, illicit discharge detection, construction activity regulations, inspection of constructed BMPs and management of public works facilities and activities. The regulations also require activities that show the city is actively improving impaired watersheds, defined as Pollution Reduction Plans (PRP). PRPs are required for watersheds defined as impaired, including the large watershed of the Chesapeake Bay and the many smaller watersheds that contribute flows to the Bay.

In the past, the city's compliance activities have evaluated additions to planned infrastructure improvements and regular public works activity. Additions or modifications to incorporate BMPs into otherwise planned or necessary city actions provide a "value added approach" to impact water quality. As the regulations shift to be focused on metrics to show quantitative water quality improvements within the impaired watersheds, the city must too change the approach to success.

The approach of adding water quality efforts to existing or past planned infrastructure projects and activities was not showing the gains and quantitative improvements required under the growing required quantitative reporting regulations of this program. The concept of identifying opportunities solely addressing water quality and then adding public works improvements to the newly identified water quality projects reverses the past thinking. This new approach presented the potential to make significant positive impacts to water quality. The challenge of such an approach required two issues to be addressed; identify the projects and the associated benefits to define the best candidates and define funding sources and amounts to bring the projects to reality.

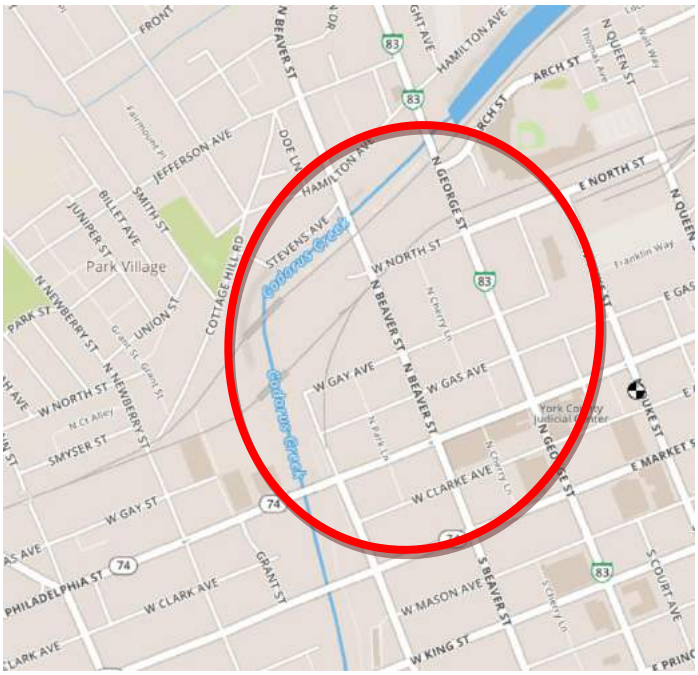
Past infrastructure driven planning was funded largely through the city's budgeting process with supplementation of grants. The infrastructure improvement needs of the city do not change with the addition of the water quality efforts outlined above so funding the proactive water quality driven planning requires a stronger leveraging of grants to make the efforts viable.

The decision to become more proactive with watershed improvements caused the Green Action Plan to be initiated; identify the best watershed activities, conceptualize the projects, define their benefits and costs and find funding sources to take them to construction. In short, use the best watershed improvement projects to secure targeted funding intending to address MS-4 compliance and watershed impairments while adding city needed public works projects to improve quality of life in the city (trails, recreational areas, etc.).

3. Site Information and Analysis

3.1 NBOA Greenway Site Conditions and Analysis:

The North Bend Opportunity Area Greenway is a five (5) acre area located in central York City, within walking distance of the Central Business District. The site is linear; approximately ½ mile long with a variable width of 20 to 176', averaging 80'. The site follows the eastern edge of the Codorus Creek between Market Street on the southwestern end and George Street at the Northeastern end.



The site is bound on the west and north by the Codorus Creek, and further bound by the existing railroad tracks between the creek and the greenway area along the northern edge. The east and south boundary of the greenway will be further defined by the Master Plan process. The area immediately adjacent to this flexible boundary is slated for redevelopment, through the York City Redevelopment Authority's direction. One of the goals of this Master Site Plan project is to define and plan an open space boundary that relates well to any potential development on this site. Ultimate success of this planning effort requires critical consideration of the greenway to the access and connections to neighboring redevelopment activity, creek access for the public, connections to other city neighborhoods and the integration of the core downtown area.

The only existing public street frontage of the undeveloped North Bend Opportunity Area is at the northeastern end at Beaver Street, and at the Southwestern edge along Pershing Avenue, which is currently a dead end terminating at W. Gay Avenue. The entire site is zoned Central Business District, as are the areas immediately adjacent to the site.

The block between Market Street and Philadelphia Street houses the Colonial Courthouse, a replica of the courthouse originally located in the center of town. The Colonial Courthouse is adjacent to a group of historic buildings, which together are identified locally as the Colonial Complex. The York County History Center incorporates colonial era interpretations within the complex to articulate the local history. This block also includes a municipal parking lot. The area that is considered the greenway in this block includes all the land between the creek bank and Pershing Avenue, which has an average width of 150'. Planning is currently underway to expand and consolidate the historical efforts of the City to create a campus of buildings within this area.

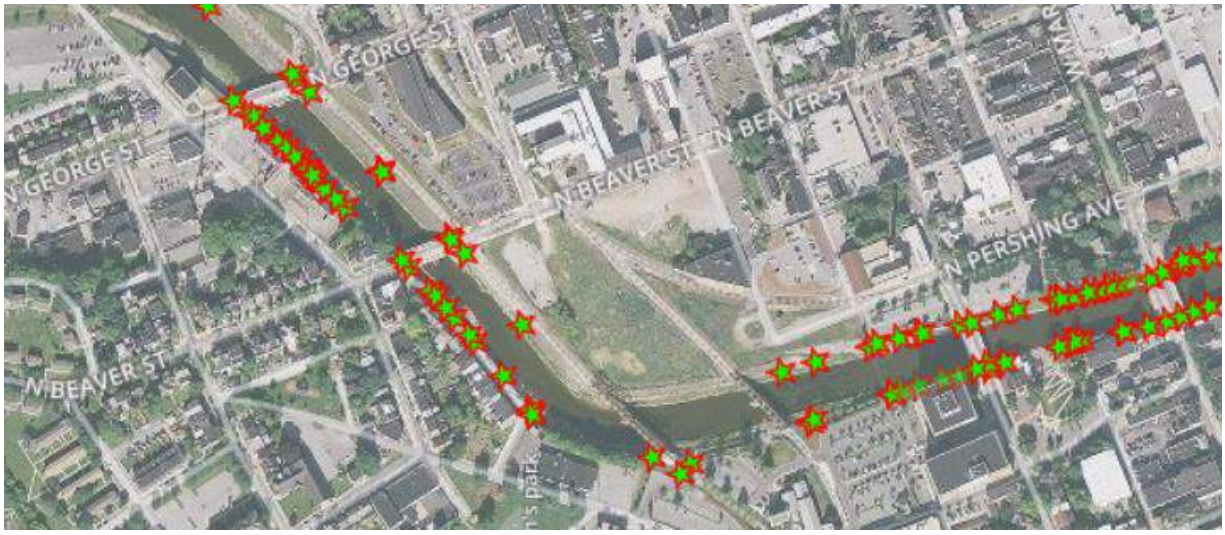
North Bend Opportunity Area Greenway Planning

Between Philadelphia and Beaver Streets, the greenway area is barren of any permanent vegetation, and has no formal vehicular access past the end of Pershing Avenue. The greenway site is a former industrial zone. The existing cover is gravel and some perennial ryegrass that was sowed to stabilize the site when the contaminant cleanup was completed. The area is further bisected by the southern rail line.

The greenway area north of Beaver street is limited to a 20 to 25 foot wide narrow lawn area that is situated between the northern rail line and a large parking lot for the office building that fronts George Street.

There are multiple storm drain outfalls that drain streets in the adjacent segment of the city directly into the Codorus along the southwest portion of the site. The site is very flat, except for an excavation along the northern side of the site. There are areas along the creek that are higher than the lands to the east, most likely graded to a specific elevation as part of the flood protection system. Floodway elevations on the site vary from 365 to 363.4. The remaining greenway area is indicated by the FIRM to be an area with reduced flood risk due to the construction of the levee. Flood area limits are shown on the site analysis. Site drainage is further modified by the two railroad tracks that bisect the site; the northern track generating a physical boundary and barrier to the creek.

The graphic below was generated for MS-4 reporting and inspection requirements within the MS-4 program. It indicates with stars stormwater discharge locations into the creek.



The US Army Corps of Engineers (USACOE) maintains a creek access for maintenance and inspection of the creek banks south of the railroad/stream crossings. One of the ramps is shown in the photo to the left. The existing conditions of the access cut in the streambank include large rip-rap rock that lines the banks, and a 12’ wide turf access ramp.

There is FEMA designated floodplain delineation on the property. The Creek and the floodplain are considered Waters of the Commonwealth, and therefore any changes to the streambed or banks must be approved by the Department of Environmental Protection. Codorus Creek is classified as WWF, impaired by municipal nutrient and urban sediment.

3.1.1 NBOA Existing Parking

There are two existing parking lots within the confines of the North Bend Opportunity Area: the 75 car parking lot at the southwest intersection of Pershing Avenue and Philadelphia Street owned and operated by the General Authority, and the parking lot located on the northwest corner of that same intersection, which is currently used by the tenants in the Susquehanna Commerce Center. There is a current lease agreement with the Center that allows the tenant use of that lot. The 2016 downtown parking capacity and utilization report by Desman Consulting provides parking baseline information for the greenway study area and is detailed later in this Master Site Plan narrative.

RDA parking areas within the developable area adjacent to the greenway are temporary and subject to the private development plans currently being assembled.

3.1.2 NBOA Environmental Issues

A Pennsylvania Natural Resources Inventory Assessment was conducted to identify any critical habitat area of special interest or sensitive species within or adjacent to the greenway area. The area was cleared of potential impact to threatened or endangered species by the PA Game Commission, the PA Department of Conservation and Natural Resources, & the PA Fish and Boat Commission. Wetlands are confined to the streambed of the Codorus Creek. There are no existing riparian buffers as the stream banks are generally rip-rap or stone walls that are incorporated into the stream bank. A qualified environmental scientist investigated the site and found no wetlands present beyond the existing mapped streams and stormwater swales (existing maintained swales created solely for stormwater runoff are not regulated). The PNDI clearance is included in Appendix A. The PNDI and Bog Turtle evaluation is valid for two years from its issuance.

3.1.3 Vegetation

There is turf grass and a variety of shade and ornamental trees on the section of greenway between Market Street and Philadelphia Street that is the Colonial Complex, although many of the ornamental trees are in a stressed condition. Zelkova Serrata shade trees line both sides of the existing trail in this area. There is little native vegetation on the site between Philadelphia Street and Beaver Street. Turf grass is the only vegetation on the section between Beaver Street and George Street.

A written agreement was established recently to allow a small volunteer group, coordinated by the non-profit Stewarts for the Lower Susquehanna (SOLS) to hand trim the stream banks verses the Army Corps past practices of spraying to kill all bank vegetation. This effort has allowed a more natural look to the corridor, in keeping with the related efforts and improvements above the banks.

3.1.4 NBOA Greenway Historic Features

The Pennsylvania Historic Museum Commission's Cultural Resources Geographic Information system (CRGIS) was referenced to determine whether there are any eligible structures on or adjacent to the NBOA Greenway site. The site is included in the PA CRGIS as being within the York Historic District, Key No. 001118. Nearby structures listed as a PA Historic Resource is the York Meetinghouse at 135 W. Philadelphia Street, and Gates, General Horatio House & Golden Plough Inn. Other buildings adjacent to the greenway area and along W. Market Street, Pershing Avenue and Philadelphia Street are considered eligible. There are several other buildings adjacent to the site that are of the correct age, but are not indicated on the system. No buildings or structures within the boundaries of North Bend Opportunity Area Greenway are identified as historic. Because there are buildings adjacent to the site, the Pennsylvania Historic Museum Commission will review any publicly funded construction activities within the site for appropriateness within the view shed of the historic resources.

3.1.5 NBOA Site Analysis Summary

The linear, and sometimes narrow site, limits use of this property for long stretches to the trail connection proposed. The connection presents a significantly important link to the existing segments of the Heritage Rail Trail to the north and south of the city. Because the property is immediately adjacent to the Codorus Creek, it is logical to consider including natural buffer areas that would support environmental protection and public access to Codorus Creek. The proximity to existing and Plan urban education centers makes it beneficial to include outdoor instruction area and open spaces that would be flexible for other uses. The proximity to the existing historic structures and proposed expanded historic campus underscores additional potential for educational connections.

As the site is long and narrow, the space is not conducive to typical park facilities such as soccer fields or baseball fields. However, the creek access does provide opportunity for fishing, wading and other passive water recreation. At this time, there is no residential development immediately adjacent to the site, but there is housing within short walking distances. This site is a blank slate that has the opportunity to set the character or tone for this part of the city.

The key to maximizing this areas value to the city is recognizing the critical nature of establishing the boundaries and allocation of the proposed open space, recreational areas, transportation corridors and developed areas on the site. The master planning drawings and text within this report aim to direct such balance and define the partners to participate in the implementation.

3.2 Access and Potential Connectors:

A key element of the revitalization of the downtown is to implement the Complete Streets Policy through a series of multimodal connector improvements focusing on pedestrians and bicyclists. The benefits of walking and bicycling are numerous and include health, safety, environmental, transportation and the quality of life. As part of the NBOA Master Plan development, two potential multi-modal connector type improvements consisting of a cycle tract and alleys between the York County Heritage Rail Trail Park and the downtown were evaluated by the consultant team. A Transportation Sub-Committee provided guidance and input in the development and evaluation of the multimodal connector improvements.

The existing retail shops, restaurants and downtown attractions within the framework of the bus transit station, existing and proposed bike lanes, and existing roadway infrastructure were reviewed to clearly define missing connections. The evaluation took into account past recommendations and current urban trends. The evaluation considered both alignments and strategies to make connections for all modes of travel. In the end, the recommendations blended existing opportunity with the abilities of the city to both create and maintain new and useful connections within the study areas.

The proposed connections represent plausible improvements that will positively impact connectivity within the city. The improvements propose the first steps while recognizing their success will increase the possibilities for additional and possibly more progressive connections in the future.

Much like the NBOA site evaluation, the creek access and associate Rail Trail connection through the city along the creek's bank represented the spine of the system under consideration. The ongoing success of the Heritage Rail Trail provides access to users of the trail both to and from the Central Business District. As a result, strong connections of the users to and from the residential, commercial, retail and occupations to this regional trail is vital to further support the city's healthy growth and sustainability.

3.3 Green Action Plan:

The current federal MS-4 requirements coupled with the urban trends to focus on sustainable and holistic designs for redevelopment have impacted the focus and actions of the city. Specifically, the city officials and staff realize the need for environmental actions to not just be add-ons to public works projects or redevelopment actions but to be integrated and lead the actions. Such was the thinking in integrating the Green Action Plan (GAP) into the grant funding of the NBOA master planning and study of urban transportation connections. The GAP had three initiatives:

- Integrate environmental design into the NBOA Master Plan,
- Create strategies for use in current and future public works and development activities, and
- Define existing opportunities within the city for larger and meaningful water quality projects within the city, requiring only funding to move them forward.

The goal of the GAP was to "flip" the thinking of how water quality improvements can be achieved. The proactive verses reactive approach with these actions allows better odds to allow integration of meaningful water quality improvements into developments, finding funding within preconceived projects that can quantitatively defined watersheds benefits and in the case of the NBOA site, integrate water quality into the design in the early stages of planning. This approach was seen as a way to positively change the City's thinking within the MS-4 program from strictly compliance driven to meaningful actions which lead the City to compliance.

4. Summary of Public Participation

Involving community members in the planning process with regard to the creation, redesign, and ongoing management of parks results in parks that more effectively balance the needs of specific population groups (i.e., sociocultural and gender- and age-specific groups) and user preferences (Low et al., 2005). Moreover, involving community members and local residents in the planning process may provide them with a sense of place and guardianship over parks, contributing to greater use of parks and to higher levels of physical activity across populations. Ensuring that parks provide opportunities for participation in different types of activity while serving the needs of different populations is challenging, yet this approach to planning and design is needed if more people are to be encouraged to use parks. The following is a summary of the steps taken to provide maximum opportunity for participation in the Master Site Plan process:

4.1 Committees:

In order to provide opportunities to the area's interested groups that would be impacted by changes to the park as well as contribute to the development of the site Master Plan, a Master Steering Committee and three additional subcommittees were established. The committees were volunteer groups comprised of representatives from the local public, private, and non-profit sectors. The Master Steering Committee, which was an extension of Downtown Inc.'s Urban Landscapes Committee, met two times. Each subcommittee met at least three times throughout the process, and its members were charged with working on more focused areas of the planning effort: the extension of the Heritage Rail Trail and Lafayette Plaza; the multi-modal transportation connectors and the green road through the Northwest Triangle; and the development of the City's Green Action Plan (GAP) specifically identifying five site locations throughout the City of York.

The kick-off meeting of the Master Steering Committee was held at C. S. Davidson in 2015. The discussion included a description of the Steering Committee's scope of work; an introduction of the Steering Committee members and their particular interests and concerns; a review of the project work plan and schedule; a review of the project site and findings to date; and a review of the public participation strategy.

In the end, two meetings were held with the Steering Committee and ten meetings total were held among the three subcommittees to review the final site analysis findings, and to go over the process for the public meeting. Meeting minutes are included in the appendix.

4.2 Public Meetings:

On January 28, 2016, the first public meeting was held to present the findings of the site analysis, and ask the attendees for ideas on what type of facilities they would like to see within the NBOA. The public meeting gave the public a venue to provide personal or interesting tidbits of history or information prior to establishing the plan elements.

A virtual tour of the NBOA was presented using a PowerPoint presentation that featured many photographs of the area to orient the participants. The conditions of the existing features were reviewed, as well as the environmental conditions. A detailed list of uses, needs and concerns was developed at the meeting by all participants. The full list is included in the meeting minutes. At the end of the meeting, the participants were thanked for their attendance and invited to the next public meeting to review alternative designs and to provide further input.

On March 31, 2016, a charrette was held at LSC Design to build upon the public's feedback provided during the January 28 meeting. The charrette included Mahan Rykiel Associates of Baltimore to assist with the effort. A brief summary of the existing conditions and the original 'wish list' was reviewed, and the conceptual park design was presented. Discussions during the two days of intensive meetings included the topics of history, art, environmental concerns, economic development, and adjacent land users. Adjacent land users, in this case, were individuals and organizations whose property abutted the project area. These groups were consulted regarding their expectations for improving the project space as well as ways in which it could be sustainably maintained upon completion. This latter point further underscores the importance of community buy-in and collaboration. In the end, approximately 65 people attended the public presentation which summarized the outcome of the focused group meetings.

On July 26, 2016, a second public meeting was held at City Hall with approximately 25 people in attendance. For the second meeting, representatives from the three planning areas set up separate tables to display the alternative NBOA Master Site Plans, the Green Action Plan and the alternative Multi-Modal Connector Plans. Participants were encouraged to visit each location at their own pace. This method of holding the meeting facilitated a casual yet direct line of communication between the public and the planning team, and it allowed participants to focus on the areas of planning for which they had the most interest. A survey handout was distributed to the participants and collected at the end of the meeting which asked them to prioritize specific projects and offer suggestions about the design elements that they liked and disliked. The comments from the second public meeting were incorporated into the final Master Site Plan.

On September 15, 2016, a Rail Trail Subcommittee meeting was held at City Hall to discuss the three alternative site design drawings for the Lafayette Plaza and the Northwest Triangle. Of the three site design drawings presented, the group unanimously chose Option #3 to be presented at the final public meeting as the one that offered the best and most realistic use of the project space.

Following this meeting, the report was compiled in a preliminary completion. The stakeholders discussed the best method to build consensus and support for the options and recommendations within the study. At this point, it was agreed that the delineation of open space verses developed land within the NBOA should be formally presented and endorsed by the York City Redevelopment Authority, having the ownership of the land in question, before taking the plan before the City Council. The concept of both land owner support ratified by the governmental officials provided the best opportunity for the plan's success.

The final public meeting was held at the regularly scheduled City Council meeting on _____ 2017. This meeting presentation illustrated what alternatives considered, and why certain alternatives were included or modified and incorporated into the final plan. The plan was approved by City Council and Council directed the city staff to move forward with an application for a Communities Development Grant due to DCNR on April 12, 2017.

Meeting minutes and sign-in sheets of the public meetings are provided in Appendix C.

4.3 Surveys:

In order to gather information about user preferences, a short survey questionnaire was created through Survey Monkey and distributed by email to dozens of local partners. Recipients were encouraged to distribute the survey to any group or individual that may be interested in taking it. The survey questions addressed how respondents access the Trail, the ways in which they ordinarily use the Trail, and the types of amenities/programs they would like to see included along the Trail in the future. The survey ran from May 11 to May 25, 2016, and 43 individuals completed the questionnaire. The survey questions are included in the appendix.

4.4 Key stakeholder interviews:

In order to provide community leaders from the private, non-profit, and public sectors an opportunity to voice their concerns, a standard set of questions was created and one-on-one interviews were conducted either in person or over the phone with members of Downtown Inc.'s staff. Of the 16 individuals approached, 14 agreed to be interviewed. Because the March 31, 2016 charrette had provided a concept design that was slightly ahead of schedule, the questions were developed around respondents' perspective of the design. Additional questions addressed issues of connectivity and access, ways to secure funding for ongoing maintenance, and ways in which the respondents could envision their organization making best use of the space. Interview questions are included in the appendix.

5. Activities and Facilities Analysis

The purpose of this analysis is to determine the proposed uses for this site, and the type, size and standards for facilities to be developed based on the public participation process, community needs, and site analysis. The following is a description of the community needs and uses for the site as identified by the public participation process:

The public meeting participants desired an attractive and inviting park that has flexible facilities for all ages. The city park system has some history of vandalism and potential for criminal activities, so the park must be designed to minimize security issues. There needs to be environmental improvements, trees and native plantings that support the City's vision and mandated actions toward water quality improvements. The park must be able to accommodate various festivals and events that take place along the Heritage Rail Trail and allow for expansion of these events, while providing a meaningful open space to the public year round.

Specific needs/desires identified by the Public

- Continue/connect Heritage Rail Trail County Park
- Address railroad tracks
- Provide Wayfinding from trail to downtown.
- Native plants – "Living Lungs of York" waves of color, Pollinator gardens, birds, wildlife
- Arboretum
- Consider Soil composition
- Identify Environmental impacts & improvements
- Consider Water elements, fountains.
- Raise creek to street level
- Leave open space for city dwellers.
- Continue tree canopy
- Flexible space – Outdoor room
- Flood zone considerations
- Connection to water
- Consider Impact of bridges & streets
- Green space interplay with development
- Add boulders/Visuals more appealing.
- Foot bridges
- Sense of place at Water's Edge
- Maximize open space width along the creek.
- Recreation- fishing, boating, kayak launch
- Outdoor stage – Performance
- Complete something already begun.
- Hints at bigger picture yet to be defined.
- Family friendly places
- Destination points
- Green Infrastructure
- Rail Trail Extension
- Public Art
- Support current recreational uses
- Opportunities for Food trucks
- Shade, access, picnic tables, biking
- Low tables with information/directions.
- Armory/ Penn Supreme – Highest and best uses.
- Parking access that connects to downtown amenities.
- Improved views
- Eliminate parking lots at water's edge.
- Steam Plant/York Heritage Trust shared parking (80 parking spaces)
- Trust – trade for green space
- service restrooms
- Recognize the History/Heritage
  - Large pieces of industrial history
  - Local Train History
  - Steam into History connections.
  - Start the heritage story outside
  - Grand entrance for future Trust Museum (Steam Plant)

5.1 Stormwater Management:

When it comes to stormwater management and recreation, the streambank can be a very good place to incorporate the two needs together. Best Management Practices (BMPs) in a park can make the parks more environmentally productive, which adds a second funding opportunity to the fundraising arsenal. The land control by ownership or agreement allow for alteration of the property as secondary benefits without the burden of acquisition and maintenance of additional property. Pennsylvania communities have the history of partnering with DCNR and DEP, and using Transportation Enhancement and EPA grants to match funding sources for park development projects. There is no doubt that the fusion of stormwater management and parks will become more common for both ecological and economic reasons.

In the construction document preparation for the area, sustainable standards and materials should be incorporated into the final design. Pervious concrete and bituminous pavement wears as well as more traditional options while offering the potential of generating less runoff. As mentioned previously, stormwater runoff can be reduced through both structured and non-structured methods within the park's design. While the structured methods have historically been used in the city for past park designs, the City has and will strongly consider non-structured methods moving forward. Promoting native and natural landscaping in all areas where active recreation does not require a lawn cover along with other non-structured design elements should be considered to reduce the volume of runoff and increase water quality into the Codorus Creek with this park in particular.

5.2 Health and Wellness:

Walking and jogging are among the most popular forms of recreation in the County and across the nation. It's an inexpensive activity that may be enjoyed whenever it's convenient. The County Health Coalition encourages families to walk together and make walking a regular activity for all ages.

Quantitative research suggested that parks with walking paths and trails were visited more often than parks containing sports-related facilities (Reed et al., 2008). Parks that support passive activities such as sitting may contribute to incidental physical activity if individuals seeking these activities use an active mode of transport to travel to or through the park. Moreover, the provision of amenities such as water fountains and washrooms may allow parks to be used for longer periods (Ries et al., 2008), which in turn may encourage increased levels of physical activity.

5.3 York County Heritage Rail Trail:

It is imperative that the Heritage Rail trail be extended through this site to make the link between the north and south legs of the County Park. Bicycle speeds on this trail outside the city limits tend to exceed 10 mph, however, the road crossings and the multi-modal user types including runners, walkers and stroller pushers and tend to slow the trail traffic in the City's Business District. A primary route for the regional trail users should be provided and considered when planning the adjacent spaces. Bicyclists trying to maintain higher speeds can be daunting to a walker, or a child learning to ride a bike; therefore, it is prudent to provide secondary trails to allow for slower speeds. Benches should be intermittently placed in order to provide opportunity for resting. Those benches (and possibly water fountains) can also be placed strategically to provide for other facilities adjacent to the trail.

A serpentine trail with shorter radii will slow bike traffic down through the urbanized area while still meeting the goal of a primary connection of the regional trail. The slower speeds promote both safety and provide a que of movement through the urbanized area with more scenery and opportunities to observe by the user. It was recognized at the public meetings that the connection of this regional trail through the city does not disqualify the city section to be designed with unique characteristics that address the benefits of an urbanized area for both the city and the user.

5.4 Public Art:

Art can be intimidating. Wealthy people have private art collections. Famous art is many times locked in galleries, or cordoned off from interaction. Sometimes it is unavailable. If you have to pay funds for admittance, it is sometimes impossible to even see it in person.

Public art gives everyone access to art. Public art can also have a participatory role, inviting people to interact with it in some way, and can tell a story. Public Art in the NBOA can be used to educate visitors on historical and environmental fronts.

Community art can also create attachment to one's community. Studies have looked at the economic development benefits of art, but only just recently have there been wider examinations of the effect of art on a community's sense of place. The Knight Foundation's Soul of the Community initiative surveyed some 43,000 people in 43 cities and found that "social offerings, openness and welcome-ness," and, importantly, the "aesthetics of a place – its art, parks, and green spaces," ranked higher than education, safety, and the local economy as a "driver of attachment." (Penny Balkin Bach, Fairmount Park Assoc.)

The idea of artful rainwater design is based on the premise that new stormwater management techniques focusing on non-point source pollution and small-storm hydrology can be used to create projects resulting in greater user satisfaction and perceived value. Communities are recognizing that artful rainwater design can add value far beyond the required hydrological function. These artful Best Management Practices can reflect the objectives and values of prospective users and not be viewed simply as stormwater disposal systems. (Stuart Echols and Eliza Pennypacker, From Stormwater Management to Artful Rainwater Design, June, 2008) This message to join art and stormwater regulations was mentioned during the public meetings both to send the message of environmental awareness and as a way to connect the creek with the park through the presence of standing water that can be seen and touched.

Because of the proximity to the Colonial Complex and the Codorus, the NBOA Greenway provides a unique opportunity to interpret historical and environmental stories into meaningful public art. Connection though public art can connect the presence of the creek and rail lines to the history of local industry or the role York served in the underground railroad.

5.5 York History:

5.5.1 York History in Motion

York has a long and diverse history which begins before the settlement of the city. Historic York has an extensive and comprehensive collection of artifacts and narratives that can be referenced and showcased as part of the greenway.

The area history includes an industrial component and an earlier Colonial component which is interpreted by the Colonial Complex campus maintained and operated on site by the York Heritage Trust. Because the Colonial Courthouse, the Plough Tavern, and the future museum are in close proximity to each other and part of the proposed greenway, it is prudent to include those facilities as part of the greenway and incorporate them into a historic campus. The historic properties and educational components are an appropriate use of the greenway area, and act as a destination for visitors as well as residents. The York Heritage Trust would like to see a cohesive interpretation between the colonial period and the industrial period, however, they understand that the interpretation needs to be relevant and appeal to families. The Master Plan should consider that the interpretation could extend from the museum site both north and south along the Codorus and the Heritage Rail Trail extension.

There is also history associated with the Codorus Creek itself. There are layers of history in the stone walls that make up the stream channel. There were many mills along the creek- some roadways in the vicinity remain named after the area's mills.

History can be made interesting when little pieces are incorporated into the landscape and discovered along the way. One component of the history is the transportation modes, which begins with the use of the Codorus as a travel mode and moves to current day. The contemporary transportation component in this site is the trail extension along an active rail line.

Steam Into History is a historic train interpretation/destination in New Freedom, PA. Steam Into History has indicated interest in rehabilitating the rail north of Hanover Junction in order to do occasional excursions into the city. They are interested in making a connection up to the Steam Plant, the proposed home of the York Heritage Trust. The group is currently fundraising for a wooden, manual turntable, approximately 60' in diameter. The track will need to be extended to the turntable at two points, and other modifications would need to be made. These modifications and the coordination with the current rail owners is not part of this Master Plan project and would be funded separately. However, the concept plans created with this Plan have identified a location that would be appropriate for the turntable being considered.

5.5.2 Articles of the Confederation

York played an important role in the ratification of the Articles of the Confederation, which ultimately affected the formation of the United States. There is a particular interest in interpreting this event/episode here in York and specifically in the vicinity of the future museum.

In September of 1777, the Second Continental Congress, under threat of the advancing British, moved the location of Congress from Philadelphia to Lancaster. Delegates held one brief meeting in Lancaster but quickly moved to York, on the other side of the Susquehanna.

> John Hancock wrote to George Washington, "... it was judged most prudent to adjourn to this place (YorkTown), where we now are, and where we can deliberate and prosecute business without interruption and where your dispatches will meet us."

Congress stayed for nine months, with representatives of the 13 independent states hammering out agreements on the wording of the Articles of Confederation and Perpetual Union. The Articles, adopted in York on November 15, 1777 and sent to the states for ratification, represent the first attempt to bring these sovereign states into an agreement on common purpose and governance. The "United States of America" confederacy, finally ratified by the last hold-out state in 1781, served to guide the country until the nation and its government was formed by passage of the U.S. Constitution in September 1787.

There is current research and interest in creating a piece of public art that draws further awareness and education to York's role in this portion of history. A location along the creek within the Layette's Plaza has been noted by this group as the ideal location. Such a location would place it adjacent to the proposed extension of the regional non-motorized trail.

5.6 Current Area Activities:

The Colonial Complex at Pershing and W. Market includes the only existing established green space within the project area. There is no recreational or public use of the currently vacant North Bend Opportunity Area from Philadelphia to George Street, except for the fishing that takes place in the Codorus. The Colonial Complex and the adjacent Heritage Rail Trail County Park are home to several fundraising events each year. York Fest is an annual fine arts festival that takes place the last weekend in August, and there are various charities that utilize the Rail Trail for racing events.

And while the fundraising is a primary reason for the events, the value of community fundraising goes beyond immediate financial returns. Group and individual volunteers make these events possible. The effort provides the indirect and long-term benefits of creating trust, developing relationships, and raising awareness of the work of the charities. Volunteering also provides opportunity for personal satisfaction of making a community contribution. Involving young people as volunteers develops their understanding of the cause, builds support for the future and involves their families and the wider community as well. In the age of electronics, where it can be argued that smartphones and personal web access can actually isolate people from participating in society because they are looking at a screen, events provide opportunity for socialization and being present in the community.

5.7 Potential Park Use:

Unfortunately, parks don't always provide for activity for those adolescents that are too old for the playground and too young for a part-time job that fills their time or the independence that a driver's license provides. Studies show that eighty percent (80%) of adolescents globally do insufficient physical activity. Studies have been completed to examine which environmental park features, and combination of features, were correlated with higher levels of park use for physical activity among adolescents. Results show that only 27% of participants reported using their closest park for physical activity. Park use was associated with specific features: presence of walking paths, picnic table(s), public access toilets, lighting and trees. When combined to create an overall attractiveness score, every additional 'attractive' feature present, resulted in a park being nearly three times more likely to be in the high use category.

The opportunity for teenagers to socialize in the park independent of adults is an important contributor to park use for adolescents. Developing parks that facilitate active play and opportunities for social interaction may encourage greater park use among children and adolescents, both male and female, which in turn may result in more physical activity participation.

The park should be designed such that there is clear sight distances from adjacent public spaces, in order that adolescent activities are informally observed, but provide for social interaction that is not overly supervised. (See the CPTED component of this narrative.)

5.8 Merging Recreation/Conservation/Education:

There is a renaissance in an interest in 'nature play', the concept of spontaneous, nature-based play, allowing children to enjoy unstructured, free-will play in open space areas. While it seems obvious to those that have had the opportunity to climb trees, dig dirt and upend rocks in streams, many children in York City do not have natural areas within a walkable distance in which they are allowed to play. The intent is to promote and advance nature play as a powerful conservation strategy, fostering children's love of nature as the emotional flashpoint for lifetimes of caring about our environment. Opportunities for this type of play should be incorporated into the park.

It is also beneficial to include naturalizing landscaping in those areas that are not slated for structured use. In perimeter areas adjacent to the Codorus, it is logical to install native plants, and consider the installation of aesthetic Best Management Practices (BMP). This will also minimize the amount of lawn mowing that will be required at the park, which saves time, reduces fuel consumption, and decreases particulate matter, hydrocarbons, and other air pollutants.

Pedestrian access in, around and potentially through the BMPs will connect the public with the sense of water and environment otherwise disconnected by the vertical separation from top of bank to the creek surface. As mentioned previously, the need for flood protection requires this vertical separation in normal conditions from top of bank to water surface, reconnecting the public to the physical water source subtly revalues the creeks anchor to the city.

Once established, native plants typically need minimal irrigation beyond normal rainfall. Low maintenance landscaping methods are a natural fit with native plants, and use less water, little-to-no fertilizer, little-to-no pesticides, less pruning, and less maintenance effort. Native plants have developed their own defenses against many pests and diseases. Since most pesticides kill indiscriminately, beneficial insects become secondary targets in the fight against pests. Birds will be reintroduced to the site, as shade trees planted in the park will restore nesting conditions. All of these improvements can be identified to the public by incorporating environmental education into the park's components.

5.9 Pets:

People love their dogs and want to include them in their daily activities. Allowing people to walk their dogs on the Trail would be consistent with Heritage Rail Trail County Park rules and provide additional population in the park and support exercise for the dog walker as well. Dog clean up stations should be considered, which would provide materials to dog owners to clean up after their dogs. The stations would require maintenance in terms of stocking the stations with materials. Rules for leashed dogs would need to be incorporated into existing ordinances, such as regulated leash lengths, vaccination and licensing requirements.

While urban parks have been incorporating off-leash dog areas to allow the dogs to run free, play fetch, and socialize with other dogs, there was minimal interest in providing such an area at the North Bend Opportunity Area.

5.10 Comfort Station:

Restrooms have been a bone of contention at the North Bend Opportunity Area because of issues with maintenance and vandalism. However, as previously noted in this report, restrooms are an important component of a successful and highly used urban park. Alternative restroom facilities such as composting toilets, and waterless fixtures were researched, but this type of facility has vandal issues just as a traditional restroom. It is more prudent to install traditional restrooms if public sewer and water are available on-site, as is the situation here. Restrooms required daily inspection and cleaning, which is expensive.

As previously indicated, the York Heritage Trust is planning major renovations to the former Steam Plant property at Pershing Avenue and Gas Avenue. The Trust has stated that they would be willing to incorporate public restrooms into their renovated facility that would be available to the greenway visitors. This arrangement is beneficial, as it provides supervision to the restroom facilities as well as operation and maintenance support.

Vandal resistant elements can be incorporated into the restroom design. The obvious need for privacy dictates certain limitation in use and placement of surveillance equipment. Motion sensors inside the restrooms can be set to detect usage or can be set to detect only those quick motions associated with misuse. Acoustic sensors can detect breakage and calls for help. Low cost wireless CCTV cameras with motion detection can be installed OUTSIDE the entrances to restrooms and be set to record the exit when the motion or acoustic sensors generate a reason. Image files would then be sent via email to authorized personnel or the police. The design of the structure can help as well to minimize the vulnerability to damage. These issues should be addressed in the public restroom design regardless of where they are located.

5.11 Wayfinding:

When people attempt to navigate a place for the first time, they face a series of decisions as they follow a path to their destination. There is a sequential pattern to this wayfinding process— in effect, a series of questions that people ask themselves along the way. [1]

Wayfinding systems are broken down into four categories of signs: Identification, directional, orientation, and regulatory. Identification signs provide the first impression of a destination and are the visual markers of a place or space. Directional signs constitute the circulatory system, providing necessary clues to keep visitors on the move. Directional signs route pedestrians between entrances, key decision points, destinations and exit points. Orientation signs offer overviews of the surroundings in the form of site maps and directories. Regulatory signs describe the rules and regulations of a place. Regulatory signs should be unobtrusive and enhance the experience of a place, but large enough to communicate instructions or warnings.

The programming of sign locations and messages requires answering specific questions: Where are people going? Where do they need information? How can verbal signs help the wayfinding process? Sometimes it is a more complex matter of anticipating needs and interpreting communication requirements.[2]

In increasingly multicultural American cities, it is often critical that signs be bilingual. Selective translation is a powerful way to communicate to minority populations and make everyone feel welcome.

In the 21st century when electronic devices are used as often as signs and maps to find a place, wayfinding relates to branding by developing comprehensive visitor-service programs. Branding fosters awareness, enthusiasm, loyalty, and participation. In recent years branding has also been embraced by cities which are not traditionally associated with this kind of marketing approach. Environmental graphics and wayfinding design have become powerful tools to help build or enhance both public and private brands, from universities to civic downtowns.[3] The website for the City of York or the North Bend Opportunity Area will compel people to form an impression about a place before they visit it. It is important that these resources are coalesced.

5.12 Pedestrian Access:

Qualitative evidence suggests that the accessibility of parks is important. Accessibility is not just the ADA issue, but whether the adjacent neighborhoods afford a safe opportunity to get to the park. Is there infrastructure in place (sidewalks, crosswalks, minimal motor vehicular traffic, clear sight lines, (field of view)) that allows maximum accessibility for all ages? The primary component to be incorporated into the NBOA is the connecting link of the regional Rail Trail, which would be the access exclusively for non-motorized vehicles.

The regional Rail Trail is connected to sidewalks within the city, which does allow for pedestrian access to the park. The proximity of the Trail adjacent to the bus transfer station also provides a cross-modal connection.

York College has made a commitment to introduce their students to the downtown area, and annually include a walk during freshmen orientation to the downtown via the Heritage Rail Trail County Park that passes immediately adjacent to their campus.

[1] Gibson, David. Wayfinding Handbook : Information Design for Public Places. New York, US: Princeton Architectural Press, 2009. ProQuest ebrary. Web. 19 October 2016.
[2] Ibid
[3] Ibid

5.13 Maintenance:

When something is not maintained, it gives the perception that no authorized person visits or checks on the park at any regular interval, therefore the park is unsafe. While poor maintenance and condition in and of themselves can discourage park use, poor maintenance likely negatively affects aesthetics, perceptions of safety, functionality, and the overall perception of park quality as well. Unsafe or poorly maintained parks may discourage use even when they are located within easy walking distance of home. Moreover, a decline in general usage may decrease informal monitoring of park activities, further increasing the risk of encountering undesirable behaviors (e.g., vandalism, graffiti, drug dealing and drug use). Thus, poorly maintained park environments may discourage general usage but encourage usage by people, who commit minor incivilities which then may spiral into more serious crimes—reflecting the ‘‘broken windows’’ scenario whereby the appearance of the physical condition of the environment can act to encourage either permitted or prohibited behaviors.

Specific park attributes identified as influencing safety from crime included the presence of lighting, presence of law-enforcement, increased security and surveillance, presence of homeless and drug users/dealers, and the presence of secluded paths and areas. Park attributes related to safety from injury included the presence of glass, rocks, debris, and other users of paths (e.g., cyclists).

5.14 Parking:

5.14.1 NBOA Parking

Currently, there is one formal public parking lot within the NBOA along the Codorus and between Market and Philadelphia Streets that is managed by the City’s General Authority. The lot includes 75 spaces and is by permit only from 9-5 pm, but available to the public after business hours. The lot is used by Heritage Rail Trail County Park after work and on evenings, and is commonly used during downtown special events.

The small lot along the Codorus on the north side of Philadelphia Avenue is leased by the Glatfelter Insurance Company from the Redevelopment Authority. There are Glatfelter employees that prefer this lot to the lots on the north side of their office building (on the west side of the Codorus). This lot is generally open for public use after the business day.

The baseball stadium located at the northeast end of the project limits requires large amounts of parking for three (3) hours at a time for 50 afternoons or nights a year. As it would not be prudent to construct 1000 parking spaces for this type of limited use, the stadium currently shares adjacent parking through private agreement, or utilizes the public parking available within a 10 minute walk.

There is existing private parking associated with the Steam Plant property which is proposed to be converted to a historical museum. It has been stated by representatives from York County Heritage Trust that the museum parking could be publically shared with the public green open space within the NBOA.

5.14.2 Central Business District Parking Study

The City of York (City) and the City of York General Authority (CYGA) conducted an analysis of the City’s Parking System to formulate a PARKING SYSTEM STRATEGIC PLAN (the PSSP). The study area included the NBOA, which was designated as parts of Blocks 4 and 14 in the study.

The CYGA is responsible for the management, operations and maintenance of three high-rise parking garages in the downtown business district, all within a 10 minute (1/2 mile) walk of the NBOA; 16 surface parking lots throughout the city (the farthest being a 16 minute walk) and over two hundred parking meters in the core business district and surrounding commercial and neighborhood districts within the study area. The lot depicted as Lot 8 in the study is located within the NBOA, between Market and Philadelphia Streets. The total of number of parking spaces in this group is over 2600 parking spaces.

In addition, there is an additional 1500 spaces that are non-city operated parking that are open to the public. In addition to these spaces are additional spaces within a five minute walk to the NBOA that are privately owned, but are available after business hours without issue. (The parking facility behind the Susquehanna Commerce Center at 220 W. Philadelphia Street, and the lot west of 320 N. George Street.)

The PSSP clearly revealed that there is not a parking supply deficit in the downtown area.[4] The consultant surveyed the parking on Thursday, March 31, 2016, as a typical business day and Friday, April 1, 2016, (which was a York 'First Friday') until 7:00pm, and found that parking occupancy in the Central Business District did not exceed 57%. Lot 8, which provides 75 spaces was occupied during the business day at a maximum of 24%, then shot up to 78% at 5:00 pm on 'First Friday', was completely full at 6:00 pm, and was still at 97% at 7:00 pm. It should be noted that while the Philadelphia garage generally reflected the swell in parking for 'First Friday', the other two parking garages within easy walking distance of the event were at less than 25% occupancy.

The common local perception that downtown York has an inadequate supply of public parking is completely unfounded. This misperception is largely due to the fact that most convenient on-street parking spaces in highest activity areas of downtown are quickly consumed and access wayfinding signage to the three General Authority parking garages all in the same areas is inadequate and confusing particularly to unfamiliar downtown visitors.[5]

5.14.3 Parking conclusion

The desire derived from the charrette held at LSC's office during the term of this study reinforced the national trends of cities to retake the open spaces along their waterbodies for pervious public areas. Removing the parking from these waterfront areas and relocating parking or educating the public to other existing parking options is the preferred goal to allow the best land planning.

Beyond the open space value to the public to make the environmental connections to the waterway, the disconnection of paved areas from the edge of bank reduces oil and grit pollutants and promotes infiltration of runoff. As the study summarized above indicates that there is more than adequate parking in the Central Business District, the Master Site Plan will be developed to convert Lot 8 into a green open space with passive recreational facilities. In order to compensate for the reduction in on-site parking, better signage and public education to existing underutilized parking facilities is needed to be included in the greenway development.

[4] Desman Design Management, 2016, City of York, PA, Parking System Strategic Plan, Technical Memorandum #1: Parking Inventory and Survey Summary
[5] Ibid., 23

6. Design Considerations

In determining the uses and facilities to be planned for the site, the site limitations and positive points, as well as accepted design standards related to the proposed areas, facilities, and activities have been considered. Applicable laws and regulations relating to public health and safety including the Uniform Construction Code and handicap accessibility standards as prescribed by the Americans with Disabilities Act of 2010 are incorporated into the Master Site Plan. Because the project site is in the Chesapeake Bay watershed, the Plans should be in accordance with, and help to achieve, the goals of the Chesapeake Executive Council's Adoption Statement on Riparian Forest Buffers dated October 10, 1996.

Social and physical environments appear to affect one another in ways that influence park use and park-based physical activity. The direction of influence may be negative or positive. For example, one study identified organized festivals and celebrations in a local park as bringing together people from divergent backgrounds, thereby encouraging democratic park use. Opportunities to socialize in safe and supportive social environments are important. The following are the considerations specific to this site

6.1 Greenway Boundary:

The North Bend Opportunity Area is the previously industrial 15 acre area that generally encompasses the area between the Codorus Creek and Beaver Street, south to Gas Avenue. As described earlier in this Plan, the City has been anxious to have this area developed as mixed use. The City also sees an opportunity to incorporate "Smart Growth", meaning incorporating economics, social equality, and environmental improvements into this area which is immediately adjacent to the Codorus Creek. The implementation of locally based, long-term open-space conservation plans has been touted as a critical element of "Smart Growth" in the United States (U.S. Environmental Protection Agency, 2009).

> **Refinement plus livability equals economic vitality. - *Mayor Richard M. Daley*.**

Cities are intricate economic and sometimes fragile engines, but ultimately they are living organisms of free will and respond to people's desires for livable environments. It is imperative that this section of undeveloped water's edge be continued from the south as a meaningful space in order to meet the open space needs of the future NBOA inhabitants as well as the region's citizens and visitors.

There has been some concern expressed by the York City Economic and Community Development staff that maximizing the greenway area will decrease the amount of developable land, and therefore minimize the total amount of property taxes available to the city. This is a real concern; however, it is also valid that if the greenway is too narrow, it does not have the effect of being an open space. Because this area has been cleared of the previous industrial use, there's a unique opportunity to develop the North Bend Opportunity Area with care and balance.

The fiscal and land value impacts of public open-space conservation in a budget-constrained city will likely increase total land values and municipal services in areas that have stringent land use regulations, high development densities, and relatively little open space. (Wu, J. (2014). Public open space conservation under a budget constraint. Journal of Public Economics, 111, 96–101.) The alternative plans will consider various widths of the greenway and realize equilibrium between development and open space that will be beneficial to the city's fiscal condition.

6.2 Railroads and the Public Utility Commission:

The Public Utility Commission (PUC) is involved in any request for a new crossing of the railroad rails that are associated with the York County Heritage Trail and a new roadway. There had been preliminary correspondence with York Rail and the York City Redevelopment Authority to discuss alterations of the crossing within the NBOA; however, a final design and location of the proposed trail and an adjacent proposed road crossing was never agreed upon by all parties. York Rail's preference is that there is no new rail crossing in the NBOA. The City's posture is that there is an existing Pershing Avenue right-of-way that extends 41' over the rail that was evidenced when the city was first laid out in 1768. The City is open to negotiations to move the crossing east of the original right-of-way in order to provide additional sight distance from the rail bridge in order to increase safety. Any change to the rail crossing will need to be approved by the PUC. The approximate location proposed for the new crossing is shown above.

6.3 Sustainability:

Proposed programs and projects need to reflect sound management and stewardship principles and a strong organizational commitment to innovation and public service. This goes hand-in-hand with the concept of sustainability. Sustainable design should be incorporated into all new infrastructures. Sustainable design does not only include stormwater Best Management Practices, LEED standards, and native landscaping but a real look at how design can support the economic health of the community as well. Care needs to be taken to ensure the capital investments do not require ongoing maintenance, excessive energy, or are not staff/labor intensive. Park improvements should be determined based on life cycle cost, not initial cost, as life cycle cost can easily surpass capital investment.

As this site is immediately adjacent to the Codorus, there is a unique opportunity to incorporate Stormwater Best Management Practices (BMPs) into the waterway's upper banks. Stormwater quality facilities, BMP strategies considered for incorporation into the open spaces along the Codorus include infiltration areas, filter strips, Stormwater Tree Trenches, porous pavement, and Stormwater Tree Pits. BMP's improve the surface runoff water quality and also provide opportunities for environmental education, which is a component of the city's compliance with their MS4 permit. In addition, pervious pavement is recommended for the Trail as well as the roadway that will be constructed as part of the NBOA mixed use development. Soil amendment and native vegetation will be planted between the Trail and the Codorus. Because a portion of the banks are flood control areas, there will be some restrictions as to the height of the vegetation immediately adjacent to the creek, and also the location of trees at the top of bank. Tree root zones must not infringe on the structures of the levees. Native plants will not only help to create a buffer between the development and the Codorus,

but as they are only mowed one or two times a year, there is a savings on maintenance and carbon emissions. Mowing should occur in late winter, (late February/early March, dependent upon the weather) in order to ensure that grassland nesting species are not disturbed. If an interim mowing is desired for aesthetics or weed control, follow the PA Game Commission's recommendations for summer mowing.

Trails that are built with a substantial stone section, high quality pavement, and designed to protect the trail edges from rolling will have a longer life cycle than a section built to meet minimal standards. It is important that the trail be constructed to minimize pavement flexing and settling in order to maximize life cycle and maintenance.

6.4 Flexible space and amenities:

Parks containing a variety of features and amenities support a wider range of users (Kaczynski et al., 2008; Giles-Corti et al., 2005a). Studies show that both adults and children report multiple attributes within parks that encourage use, including those that support active and passive pursuits. Washrooms, water fountains, barbeques, picnic areas, seating, signage, and shade were all identified as important amenities within parks.

Certain park features of the attractiveness score (such as lighting, buildings and equipment, the presence of walking paths that provide space for roller skating, skateboarding, bicycling, walking and running) provide physical activity opportunities. Conversely, other features (such as barbeques, picnic tables and a high number of trees) may potentially reduce physical activity by encouraging sedentary behavior. Yet, study results indicate if these features are present, the park is more likely to be used for physical activity. This may be in part, because those who visit a park for physical activity may also require social amenities (such as toilets, picnic tables for seating and trees for shade) to remain in the park for longer periods of time, thus providing opportunity for prolonged participation in physical activity. Moreover, the presence of these amenities may encourage greater use by the community for a wide range of activities: greater use may attract other park users.

6.5 Security:

Security responsibility for this segment of the greenway will be treated as an extension of the existing Heritage Rail Trail greenway area from the South. That is, the City of York will respond to emergencies and other calls, as it is within the city boundaries. City park rules, safety policies and insurance that are in place for other city parks and open spaces areas will apply here as well. The Trail within the city limits, joined to a county trail on either end as it leaves the city limits, will require coordination between the City and County for signing and communication of rules to trail users. The City and County staff should discuss the potential of support of the York County Department of Parks & Recreation Park Ambassadors within the city's section of trail; the volunteers currently serve as an extra set of eyes and ears for the County's Park Rangers. In addition, this Master Plan has promoted that the Trail be developed using design concepts of CPTED directed at decreasing crime opportunity with minimal additional policing costs.

6.5.1 Crime Prevention through Environmental Design

Crime Prevention Through Environmental Design, or CPTED (pronounced sep-ted), is the idea of using the physical environment as protection, or creating a defensive environment by utilizing physical and the psychological aspects at the same time. The goal of CPTED is the reduction of opportunities for crime to occur. This reduction is achieved by employing physical design features that discourage crime, while at the same time encouraging legitimate use of the environment.

Traditional access control focuses predominantly on denying access through physical or artificial barrier techniques such as wells, fences, gates, locks, and the like. This often leads to constrains on use, access and enjoyment of the hardened environment. Traditional surveillance is the use of police, security guards, and mechanical means such as cameras. It is expensive to employ these measures, and many time, ineffective. For example, street lighting alone is ineffective against crime without the conscious and active support of citizens (in reporting what they see) and of police (in being able to respond and conduct surveillance).

The physical environment can be manipulated to produce behavioral effects that will reduce the incidence and fear of crime, thereby improving the quality of life. There is a relationship between the things that people do naturally and the amount of surveillance and access control that exists. Both offenders and normal users of space recognize the environmental cues that say, "this is a safe place or an unsafe place".

CPTED makes possible designs that offer protection without resorting fortress-type construction and integrating security into the overall design, reducing negative visual impact. The components of CPTED include creating defensible space, fostering an individual's perception of control, public surveillance, lighting, landscaping, physical security, and territorial reinforcement. This is termed natural access control and natural surveillance, which refers to deriving access control and surveillance as a byproduct of the normal and routine use of the environment.

The following specifies the approaches and strategies that were incorporated into the Master Site Plan.

6.5.2 CPTED 3D Approach

Designation - What is the designated purpose of this space?

Definition - Is it clear who owns the space; can the space user figure out the borders?

Design - How well does the physical design support the intended functions? How well does the physical design support the definition of the desired or accepted behaviors?

6.5.3 Strategies of CPTED[6]

1. Provide clear border definition of controlled space. Underlying principle is that it must be clear when someone is transitioning from public to private space.
2. Providing clearly marked transitional zones that indicate movement from public to semipublic to private space. As transitional definition increases, the range of excuses for improper behavior is reduced. The user must be made to acknowledge movement into control space.
3. Locate gathering areas to locations with natural surveillance and access control.
4. Placing safe activities in unsafe locations to bring along the natural surveillance of these activities and to increase the perception of safety for normal users and of risk for offenders.
5. Placing unsafe activities in safe spots to overcome the vulnerability of these activities with the natural surveillance and access control of the safe area. This is for existing facilities that have issues.
6. Conflicting activities may be separated by distance, natural terrain, or other functions to avoid fear-producing conflict. For instance, the sounds emanating from a basketball court may be disruptive and fear producing for a senior citizen or a toddler gathering/play area. The threat does not have to be real to create the perception of risk for the normal user.
7. Effective and productive use of space reduces risk and the perception of risk for normal users. Conversely, abnormal users feel at greater risk of surveillance and intervention in their activities. (school groups, cyclists)

[6] Timothy D. Crowe, and Lawrence Fennelly. 2013. Crime prevention through environmental design Butterworth Heinemann.

8. Design space to increase the perception of natural surveillance. Perception of surveillance is more powerful than its reality. Slow speed roadways and windows provide clear lines of sight and are often as effective as the use of mechanical or organized methods.
9. Overcome distance and isolation. Design efficiencies increase the perception of natural surveillance and control.
10. On street parking is a good crime reduction strategy. Two-way streets are also better than one-way streets.
11. Outdoor sitting areas; benches and picnic tables in open spaces are better than planter walls. Walls create areas in which to hide behind and serve as a barrier to effective surveillance.
12. Elevation drops and terraces sitting areas reduce perceived opportunities for natural surveillance.
13. Terraces sitting or staging areas should be oriented so that they are clearly visible from the street.

Incorporating these strategies with the site analysis, traffic needs, desired open space, and environmental improvement opportunities, it was apparent that the proposed connector road from Pershing Avenue to Beaver Street would create the optimal public border to control the space and provide natural access and surveillance. This concept was incorporated into all the alternatives.

7. NBOA Site Design Alternatives

The design team developed three alternative site designs; one conceptual site design that was completed in March and presented at a public charrette meeting, and two alternative plans that were generated in May and presented at a public open house. Review of Conceptual Site Design at the March 32, 2016 public meeting was positive, with only some concerns about the area (size/configuration) of the greenway, the loss of public parking and whether the residual area on the south and east side of Pershing Avenue Extended is large enough to make development practicable. Based on the concepts of good urban planning, safety & security (CPTED), and sustainability, all three plans utilize a new connector road that extends Pershing Avenue to intersect with Beaver Street at the intersection of North and Beaver. This provides a clear boundary between the public and private land, and natural surveillance of the greenway from a public road, thereby minimizing improper behavior. It also identifies the space as public, such that all greenway views and right to use are obvious to both the city's citizens and any future residential use of the NBOA. Brief descriptions of each alternative are provided below.

7.1 Conceptual Site Design –Alternate 1:

This plan provides the most 'green' or open space of all the alternatives. The bike trail in the Colonial Complex is extended along the Codorus, then cuts east on the existing Philadelphia Street sidewalk to meet with the crosswalk at Philadelphia Street and Pershing Avenue. The existing Susquehanna Commerce parking lot located in front of the Steam Plant is completely removed in this plan and the space is left relatively open. There are provisions for a rail roundtable as requested by the "Steaming into History" Corporation in the vicinity of the Steam Plant.

There is a primary multiuse trail that generally runs parallel with the proposed Pershing Avenue extension, with secondary trails that weave into the open space between the trail and the Codorus, and then come back to meet the primary trail. A secondary trail wraps around an amphitheater area and meets the existing USCOE access road to the bottom of the Codorus. The primary trail crosses the rail approximately 120' from the York Rail bridge. The green space is approximately 140' wide and 250' long between the Codorus and Pershing Avenue Extended. The concept plan indicates the green area to be utilized as a manmade wetlands garden with a boardwalk. The manmade wetlands or Best Management Practices garden outfitted with educational panels could help the city meet their MS4 requirements for education and outreach, public involvement and participation, and post-construction stormwater management for the development proposed for the NBOA.

At the second rail line, the green space is narrowed to an area approximately 60' long and 25' wide, sandwiched between the rail line and the proposed Pershing Avenue Extended. Pershing Avenue Extended takes a sharp 90-degree turn to the east, duplicating the city's street grid system. This sharp turn in the road will also slow traffic and maximize the developable area between Pershing Avenue Extended and the southern rail line.

The green space continues east between the northern rail line and Pershing Avenue Extended to the intersection with Beaver Street. The area widens from its narrow point at the turn to a maximum width at Beaver Street of 170'. Conceptual Site Plan One indicates landscaping along the rail line to create a buffer, with the primary trail winding through the space to the existing crosswalk at Beaver Street. There is a secondary trail connecting the primary trail to the sidewalk along Pershing Avenue Extended.

North of Beaver Street, the green space for the next block is severely limited by the existing large parking lot that serves the adjacent office/retail building that fronts on George Street. Improvements are limited to the primary trail and some additional shade trees.

At George Street, the trail user will cross the street on the crosswalk at the traffic light, then have the option of using a north bound lane along George Street, or continue to the sidewalk. The concept plan indicates that the unused area on the

northeast corner of George and Arch Streets could be used as a small pedestrian plaza. This area provides a direct connection between the Heritage Rail Trail and the Revolution Stadium at 5 Brooks Robinson Way.

The Heritage Rail Trail continues to the North over the George Street bridge, utilizing the existing 5' wide sidewalk for pedestrians, and the bike lanes for cyclists. The Trail crosses in front of the original PA Army National Guard Armory building, then turns east on existing Hamilton Avenue, to connect to Small Athletic Field, and the proposed northern extension of the Heritage Rail Trail under design by the York County Rail Trail Authority.

7.2 Alternative Two:

In accordance with the feedback at the March public meeting, Alternative Two adjusts the street alignment slightly, takes a closer look at the landscape of the Colonial Complex, stream access improvements and additional public parking. The new street alignment reduces the public greenway by adjusting the road further west to incorporate some of the 'wish list' items of the Historic York, Inc.

The Colonial Complex is intersected by W. Clarke Avenue, which serves as a regular pedestrian connection between the shops and restaurants on Beaver Street. An iconic feature in the area that aligns with the views from W. Clarke Avenue would strengthen that line of site. An overlook was included as an extension of that sight line at the creek.

As in the conceptual site plan, there is an effort to separate the pedestrians and cyclists by providing an additional path along the Codorus. This alignment suggests a design with two paths, one closest to the creek not intended for pass through trail users moving at higher speeds.

Narrowing Pershing Avenue between the City of York School parking lot and Gas Avenue will allow the sidewalk to be widened on the east side of the street at the existing restaurant. Narrowing the road north of Philadelphia Street will create a better defined pedestrian space near the museum site, and provide traffic calming and additional parallel parking in this area. The rail line will be incorporated into pavement and curbing design; however, it will not be the driving force in the design. It is not prudent to incorporate bike lanes in this 250-foot segment of Pershing Avenue, as the parallel rail line will make it difficult if not dangerous to limit cyclists to a 5' section of the road. However, sharrows are utilized for this segment to allow bicycles to maneuver around the rails, and then bike lines could begin once the road extension is north of the rail lines.

Upon crossing Philadelphia Street, the green space would incorporate a grand entrance that would extend across Pershing Avenue to the main entrance of the new museum. This area might include a plaza with an outside sculpture to identify the museum.

Rendering of the proposed retaining walls at Codorus Access ramp

Moving northward, the existing driveway to the remaining parking lot is realigned to create a safer intersection with Gas Avenue. A sidewalk is added to the north side of the parking lot access that intersects the 12' multi-use trail, and extends to an existing stone stair set in the bank of the Codorus. The stone stair set is rehabilitated and extended in order to provide access to the water's edge. At this point along the Codorus, long range plans (shown on the Plan) include retaining walls constructed in the eastern embankment, which allow for a wide creek side access and additional volume for flood events in this area of the creek.

Pershing Avenue with bike lanes continues north, deviating from the conceptual plan alignment, adding a stronger "S-Turn" in order to circumvent the existing gas utility building at the intersection of Gay Avenue, and also to maximize the opportunity for more parking along the east side of Pershing Avenue. The greenway side of Pershing Avenue includes the Trail with manicured lawn on the east side and native plantings on the west side. This concept of keeping the greenway between the Trail and the Codorus in native plantings is continued to Beaver Street. The east side of Pershing Avenue includes two sections of back-in parking on either side of Gay Avenue. The Gay Avenue intersection is realigned to provide a 90-degree intersection.

YMCA Historic Stone BMP Garden

An outdoor classroom is designed to incorporate a historic component into the Best Management Practices garden as well as provide a connection to the creek access drive. There are 36 stone tread sections that were salvaged when the Downtown York YMCA replaced the main stair treads with concrete. The tread sections are 18" by 48" stone blocks and are used in an art/pavement/stormwater quality/play area installation. The treads are placed in a slight depression which would be located such that surface runoff would be conveyed to the area. The stone treads would be fixed atop of concrete footers that would allow the treads to be 6" to 8" above the surface. Short sedges would be planted in the area to provide vegetation between the sections. The concrete footers would provide baffles in the depression for the surface runoff to navigate before the rainwater got to the creek. This would extend the time it takes for the water to reach the Codorus and allow any solids and grit to settle in the 'garden' prior to the water being conveyed off site. The stone treads at the closest end of the installation could be placed such that a person could step easily from one step to the other. As the person stepping on the stone would get further from the beginning, the treads could be set further apart in order to make it more challenging. This provides an opportunity to reflect on the original use of the stone slabs, using the step stone as touch stones to the past. The YMCA's adage for healthy living and social responsibility is accentuated as the recycled materials continue that legacy by challenging people to be active in the space, and learn the importance of taking care of the environment.

The primary trail continues north and crosses the rail approximately 120' from the York Rail bridge, similar to the concept plan alignment. The green space is approximately 110' wide and 250' long between the Codorus and Pershing Avenue Extended. Continuing north there is a public plaza between Pershing Avenue and the Codorus that claims all the space between the two rail lines. This public area is shown to be graded to provide some slight mounding, and would include passive recreational opportunities by way of a secondary loop trail. There are also shade trees incorporated into the site using tree grates when located adjacent to a proposed trail or roadway. The concept plan indicates the green area to be utilized as a manmade wetlands garden with a surrounding boardwalk style loop path. The manmade wetlands or Best Management Practices garden outfitted with educational panels could help the city meet their MS4 requirements for education and outreach, public involvement and participation, and post-construction stormwater management for the development proposed for the NBOA.

The width of the greenway is relatively narrow, averaging approximately 50' at the turn, and meanders towards Beaver Street to a defined pedestrian crosswalk. In order to make up for some of the developable land lost with this increase in green space, the new northwest corner of Pershing Avenue Extended and Beaver Street is allocated to future development.

North of Beaver Street, the green space for the next block is severely limited by the large parking lot that serves the adjacent office/retail building that fronts on George Street. Improvements are limited to the primary trail and some additional shade trees.

At George Street, the trail user will cross the street on the crosswalk at the traffic light, then have the option of using a north bound bike lane along George Street, or continue to the sidewalk. The concept plan indicates that the unused area on the northeast corner of George and Arch Streets could be used as a small pedestrian plaza. This area provides a direct connection between the Heritage Rail Trail and the Revolution Stadium at 5 Brooks Robinson Way.

The Heritage Rail Trail continues to the North over George Street, utilizing the existing 5' wide sidewalk for pedestrians, and the roadway surface for cyclists. The Trail crosses in front of the original PA Army National Guard Armory building, then turns east on existing Hamilton Avenue, to connect to Small Athletic Field, and the proposed northern extension of the Heritage Rail Trail being developed by the York County Rail Trail Authority.

7.3 Alternative Three:

Alternative Three increases the distance from the intersection of the path's rail crossing by approximately 50', increasing the public open space on the creek side while decreasing the developable area to the west of the road and trail.

The Colonial Complex is intersected by W. Clarke Avenue, which serves as a regular pedestrian connection between the shops and restaurants on Beaver Street. An iconic feature in the area that aligns with the views from W. Clarke Avenue would strengthen that line of site. A covered overlook was included as an extension of that sight line at the creek. The shelter would provide historic York with an inclement weather gathering place for large tour groups.

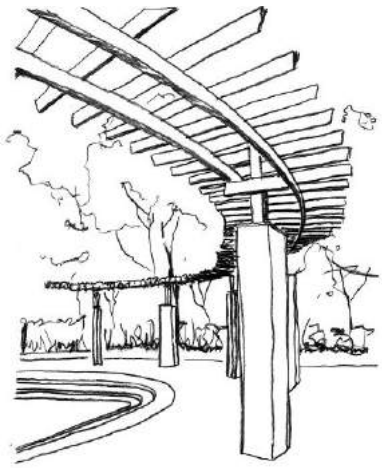
Alternate 3 makes an effort to slow the pedestrians and cyclists through the area south of Philadelphia Street by providing a path with short radii located closer to the Codorus Creek but still utilizing the existing crosswalk at the Pershing Street intersection. The plaza area provides an alternative path to connect back to the Philadelphia Street sidewalk, which will also connect back to the Philadelphia Street crosswalk.

Like Alternate 2, narrowing the road north of Philadelphia Street will create a better defined pedestrian space at the museum site, and provide traffic calming and additional parallel parking in this area. Also like Alternate 2 a grand entrance would extend across Pershing Avenue to the main entrance of the new museum, the possibility to propose an outside sculpture to identify the museum and alter the existing driveway to the remaining parking lot to create a safer intersection with Gas Avenue.

Similar to Alternate 2, a sidewalk is added to the north side of the parking lot access that intersects the 12' multi-use trail, and extends to an existing stone stair set in the bank of the Codorus is proposed. The stone stair is rehabilitated and extended in order to provide access to the water's edge. At this point along the Codorus, long range plans include retaining walls constructed in the eastern embankment, which allow for a wide creek side access and additional volume for flood events in this area of the creek.

The alignment of Pershing Avenue deviates from the conceptual plan alignment, but much like Alternate 2. In order to circumvent the gas utility building at the intersection of Gay Avenue "S-Turn" geometry was built into the alignment. This alternative results in the trail and roadway increasing the distance between the railroad bridge and the railroad crossing in order to increase the safe site distance for both the trail user and the train operator. The distance shown on Alternative 3 is approximately 170', which moves the combination trail/road railroad crossing significantly further into the developable area of the NBOA. The east side of Pershing Avenue, as with Alternate 2, includes two sections of back-in parking on either side of Gay Avenue and realignment of the Gay Avenue intersection to provide a 90-degree intersection.

The increased distance of the road and path from the railroad bridge also results in additional open space north and south of the rail crossing.



In accordance with the request for outdoor education, the widest part of the greenway south of the southern rail line bridge includes a widened paved area that also provides a connection to the existing Codorus access ramp. The proposed outdoor classroom includes a conceptual metal trellis around the outside that emanates a rail line with ties, which will also serve to add some shade to the area in early morning, or later afternoon. This trellis is the backdrop to a small amphitheater space fashioned with wide concrete steps that could serve as seating. In front of the seating area to the south is a Best Management Practices education garden. In addition to functioning as an MS4 for the area, it would include ADA accessible paths and information boards or signs to describe the necessity of Best Management Practices, the plant genus and species used for this type of facility, and a sample of the various types of environmental improvement facilities that can be incorporated into a park or community.

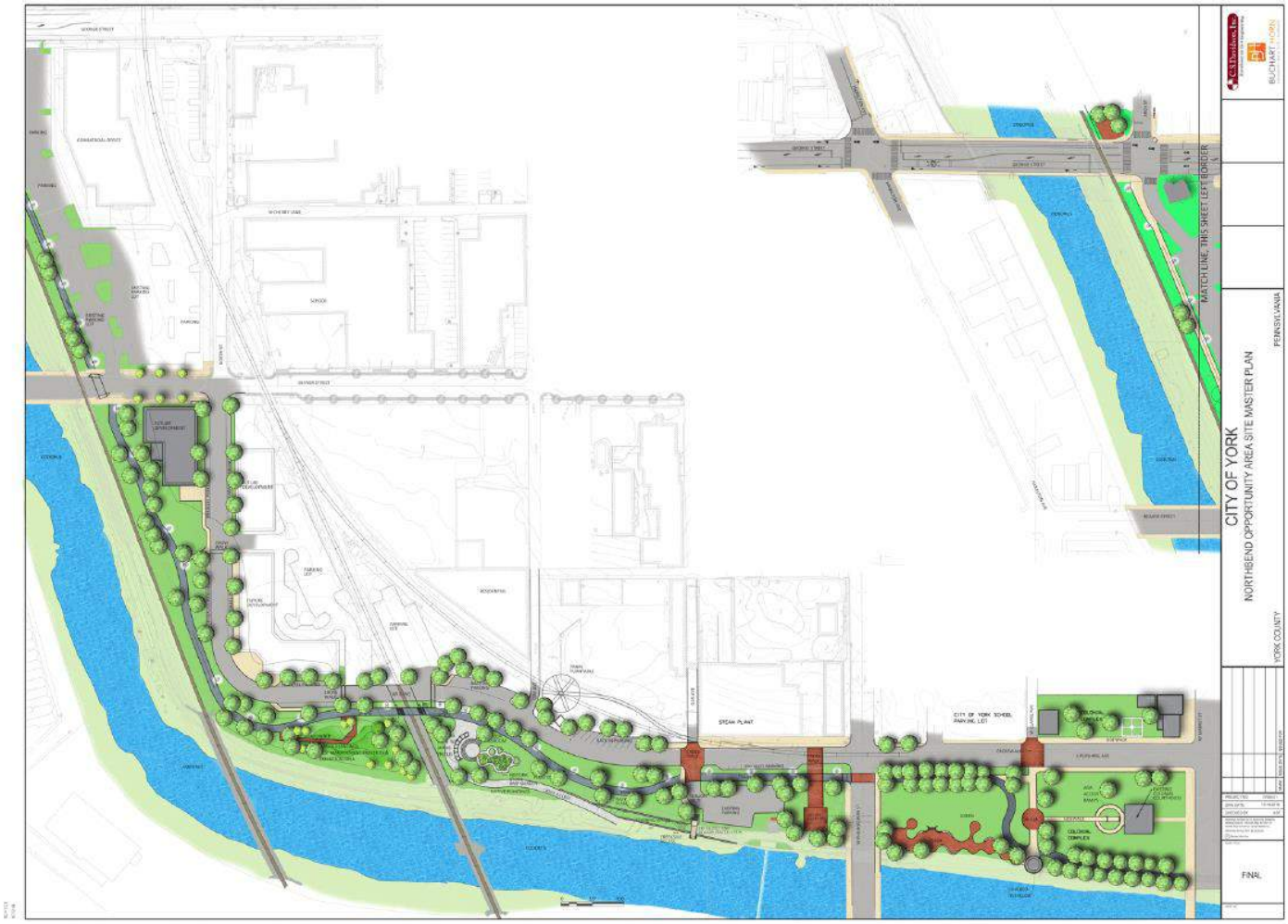
To the north of the rail crossing the design proposes a freeform blue tile pattern on the plaza pavement that imparts moving water. A small building or shelter could be incorporated into the site to block the noise from the occasional train on the southern rail line. A retaining wall along the northern rail line could function as a noise barrier and round out the space.

At the second rail line, the green space is narrowed, similar to Alternate 2 to an area approximately 80' long and 25' wide, sandwiched between the rail line and the proposed Pershing Avenue Extended. Pershing Avenue takes a sharp 90-degree turn to the east, duplicating the city's street grid system. This sharp turn in the road will also slow traffic and maximize the developable area between Pershing Avenue Extended and the southern rail line.

The green space continues east between the northern rail line and Pershing Avenue Extended to the intersection with Beaver Street. As with Alternative Two, the new northwest corner of Pershing Avenue Extended and Beaver Street is allocated to future development. The primary trail winds through the remaining space behind the future development to the existing crosswalk at Beaver Street.

The remaining section to North George Street mirrors Alternate 2 proposal.

7.4 Final Design:



The public open house consensus and subsequent Steering Committee reviews combined components of all of the plans into a final Master Plan. Generally, Alternative Two's roadway alignment was combined with many of the path features of Alternate 3 to produce the final concept design. Combinations of the BMP gardens from both Alternatives Two and Three are also incorporated into the design.

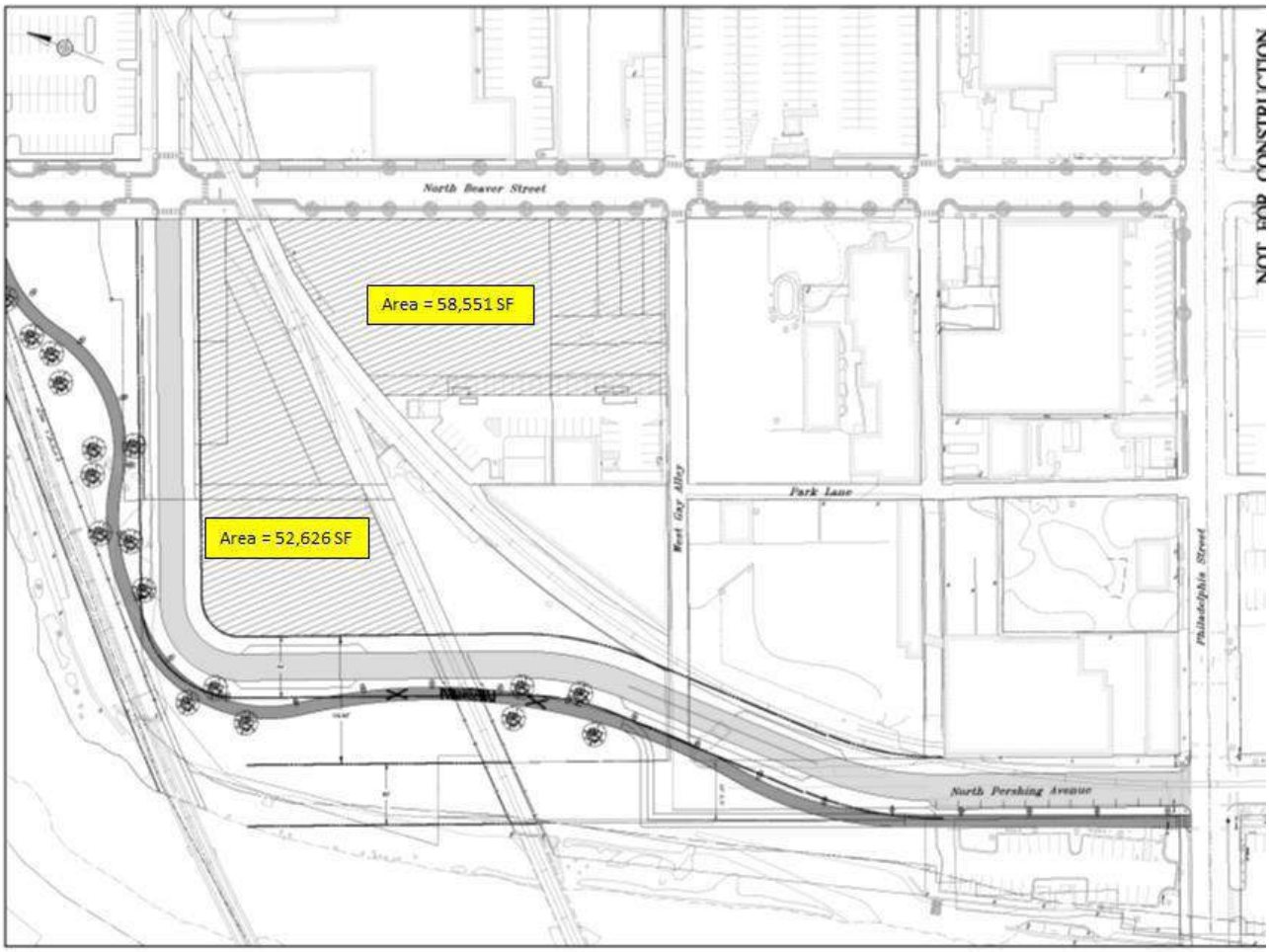
North Bend Opportunity Area Greenway Planning

The balance between the development area and open space was a large factor in producing a design that allows consensus of the best use of this redevelopment area. The preferred location for the proposed road and trail to cross the rail line address the safety concerns for the crossing and have a strong factor in the overall alignment of this infrastructure.

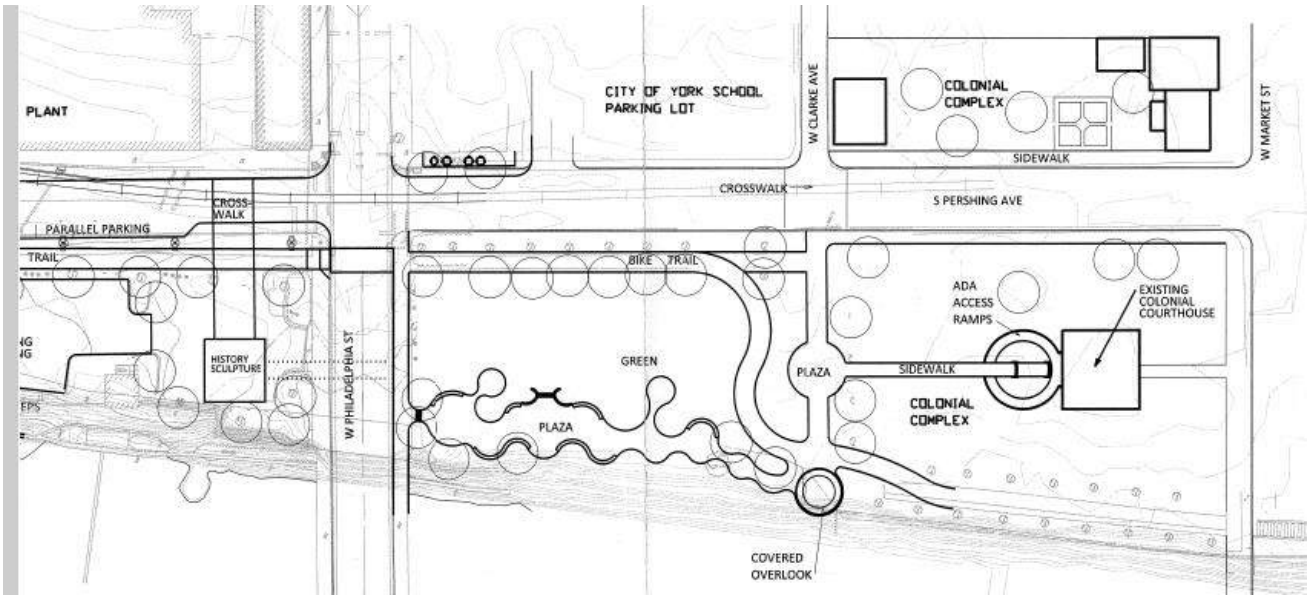
The remaining alignment of both the road and trail define the open space verses development area for the tract. In the public meetings, one of the most critical elements to the planning was to define the creekside portion of the site for public open space and recreation.

In presenting the information to the City's Redevelopment Authority who currently controls this land, the exhibit below used to show the Authority the remaining building envelopes for development (shown as hatched areas below). Based on the Authority's approval of this planning work they and the City have authorized a subdivision of the property to allow the creekside portion of the NBOA to be deeded to the City for recreation and open space development.

One caveat to the plan shown below is that the Authority will retain the property between the proposed road and on the western side of Beaver Street, as shown on the final design and to the right.

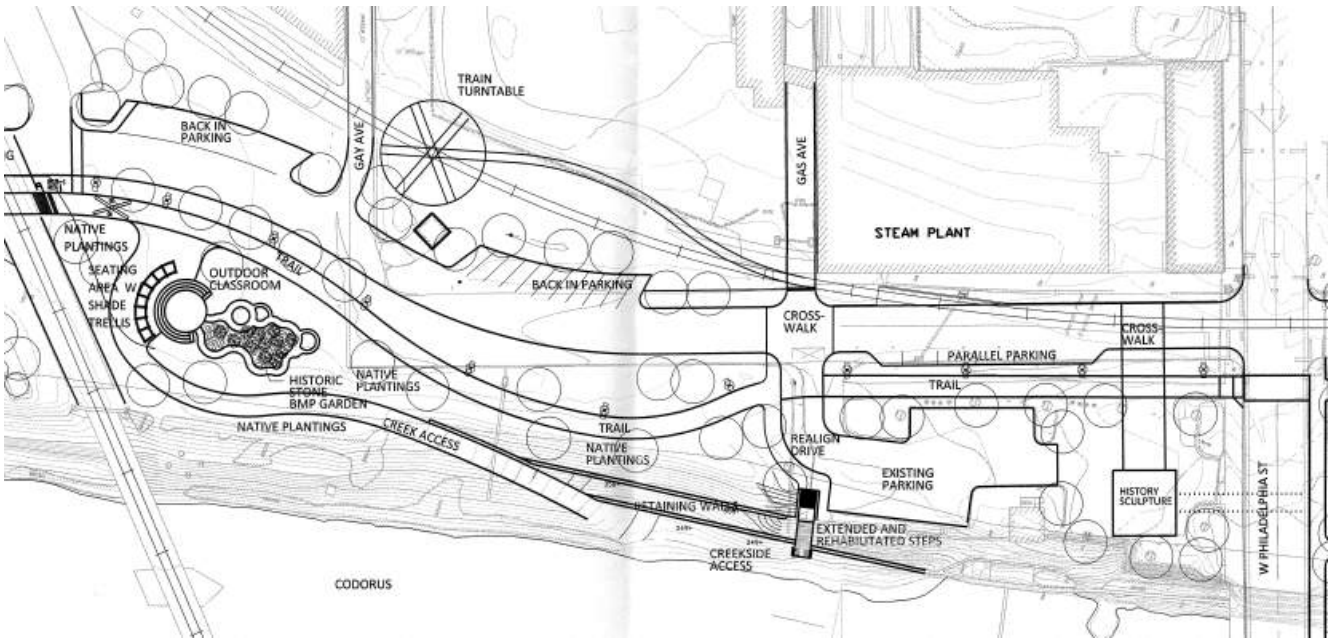


The more detailed plans representing the elements associated with the final design are shown below.



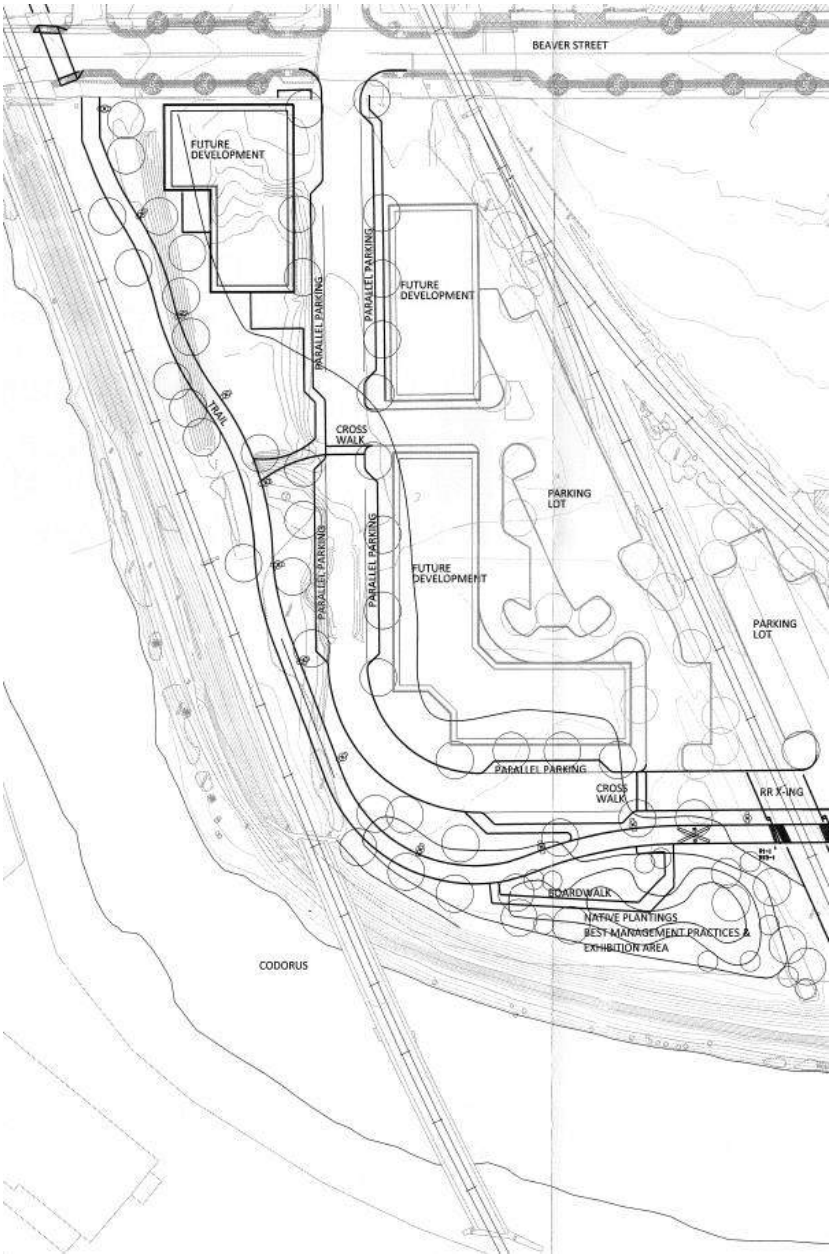
The plan above shows the primary trail curving through the current Layfette Plaza parking area with the proposed covered overlook adjacent to the trail alignment. In addition a separate plaza area is proposed along the creek edge for a more passive exposure to the creek.

Moving across Philadelphia Street, the alignment of the trail, street narrowing and other improvements proposed to Pershing Avenue, creekside open space development and the possible location for the trail turntable are all shown below.



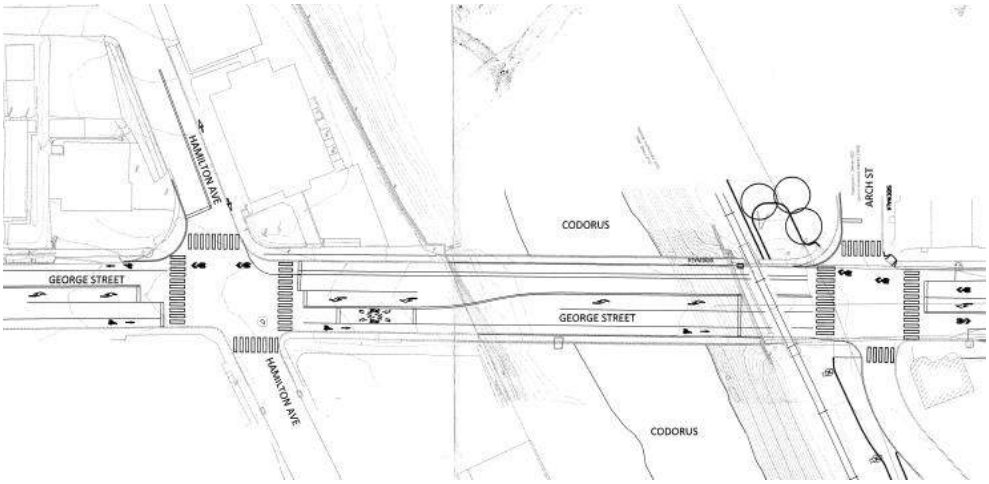
North Bend Opportunity Area Greenway Planning

The portion of plan below shows the trail and road proposed to cross the railroad and proceed toward Beaver Street. Immediately after the rail crossing open space improvements are shown on the creek side of the trail while the proposed street alignment and possible development is depicted on the opposite side of the trail and roadway. The potential for development along Beaver Street on the creek side of the proposed roadway is also depicted below.



North Bend Opportunity Area Greenway Planning

The proposed North George Street and trail improvements to allow the trail connection to Hamilton from Arch Street are shown below.



The improvements where ultimately defined within three phases;

- Phase 1 - the initial trail extension and North George Street improvements, which has been funded through a Transportation Enhancement Grant and DCNR Grant. The construction cost estimate for this phase is $1,200,000.
- Phase 2 – Roadway construction and open space development efforts –currently unfunded. The construction cost estimate for this phase is $2,020,000.
- Phase 3 – Creek access improvements and Arch Street plaza improvements – currently unfunded. The construction cost estimate for this phase is $ 94,000.

8. Multi-modal connector Site Design

8.1 Alternatives:

A key element of the revitalization of the downtown is to implement the Complete Streets Policy and continue with American League of Bicyclists through a series of multi-modal connector improvements focusing on pedestrians and bicyclists. The benefits of walking and bicycling are numerous and include health, safety, environmental, transportation and the quality of life. As part of the NBOA Master Plan development, two potential multi-modal connector type improvements consisting of a cycle tract and alleys between the York County Heritage Rail Trail Park and the downtown were evaluated by the consultant team. A Transportation Sub-Committee provided guidance and input in the development and evaluation of the multi-modal connector improvements.

Cycle Track

A cycle track is a form of a separated-protected track that is an exclusive bike facility, physically separated from motor traffic and the distinct sidewalk (see photo). These types of on-street bike facilities are often preferred by the casual rider and are viewed as a means to encourage more on-street bicycling. Three cycle tract options noted below were developed and evaluated with input from the Sub-Committee.

- Two-way Cycle Track (one side)
- One-way/Contra Flow (both sides)
- One-way (one-side)

The consensus of the Sub-Committee was that pedestrians are considered the priority user and the best use of the sidewalk space, and a 10-foot pedestrian throughway and space for outdoor café seating should be maintained. As a result, with this design guidance, the construction of a cycle track would involve major reconstruction of Market Street and the streetscape with utility impacts and costs significantly high. After further review, the Transportation Committee chose to drop the cycle track as a component of the master plan and focus on the alleys for multi-modal connector improvements for pedestrians and bicyclists.

Alley

Mason Avenue (alley) was chosen by the Transportation Sub-Committee from a list of candidates for development of a template for multi-modal connector pedestrian and bicycle improvements between the Rail Trail and the downtown. The consensus was that Mason Avenue had the best chance of success and implementation, especially with the redevelopment efforts (Royal Square Neighborhood and the Yorktowne Hotel) along the alley and the connection to several major destinations/attractions including the York County Court House and offices, King Street Parking Garage, Post Office, 18 and 96 South George Street offices, Rabbit Transit Bus Transfer Center and the Rail Trail.

Mason Avenue is a typical alley found in most cities; low traffic volumes and speeds, narrow right-of-way and travel width, and used primarily for rear vehicular and pedestrian access to properties/buildings, utilities, and trash receptacles (see photo). Hence, the following design elements that would enhance the pedestrian and bicycle travel safety and connectivity were selected by the Sub-Committee and presented at a public meeting as desirable to include:

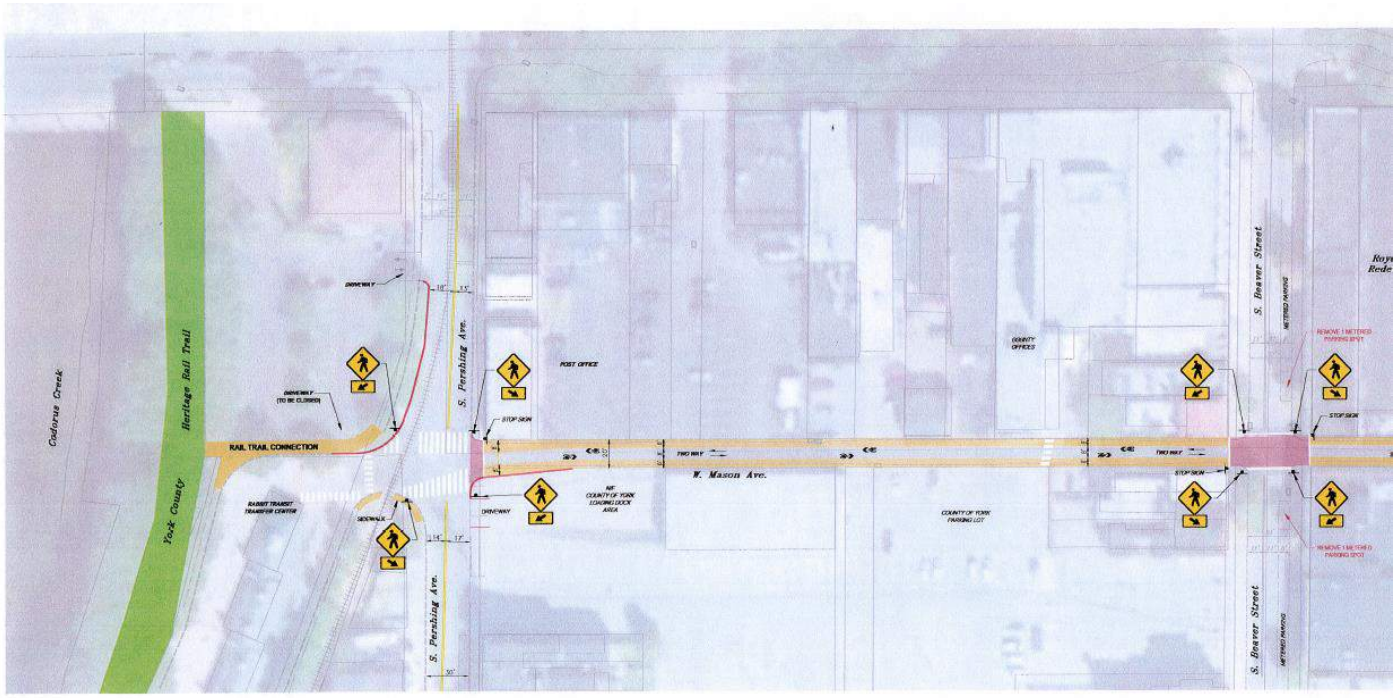
- Enhanced shared alley traffic operations for pedestrians and bicycles
- Less than 15 mph design/speed limit
- 18-foot paved width (allows oncoming small trucks and passenger cars to pass each other)
    - Two 5-6 foot shared pedestrian flush walkways/building edge zone (ADA compliant)
    - 8-10 foot travel lane (use pedestrian walkway for oncoming vehicle)

- Drainage – inverted crown/gutter with inlets/subsurface drainage infrastructure
- Shared intersection and high visibility crossings (signage and pavement markings) and ADA compliant
- Utility relocations – where feasible and required for proper drainage
- Pedestrian level lighting at street crossings and throughout alley
- Wayfinding signage to major destinations
- Green features where feasible and cost-beneficial
- Improved connections
    - Pedestrians and bicycles to Rail Trail and Transfer Center
    - Bicycles to Market Street, Cherry Lane Court and Central Market
    - Pedestrians and Bicycles to King Street Parking Garage/bicycle parking

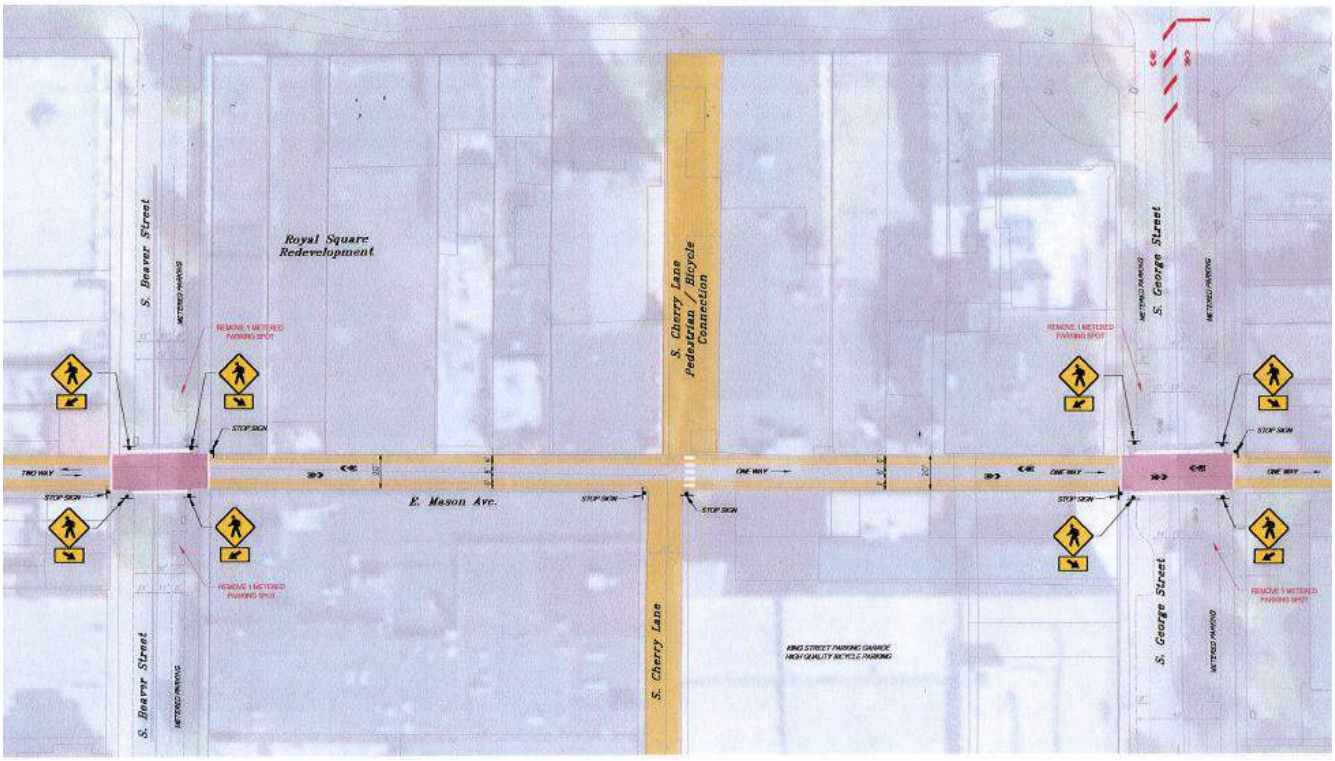
- Bicycle parking
    - Short term curb racks at intersection corners
    - Long term/secure bike lockers at King Street Parking Garage and Bus Transfer Center

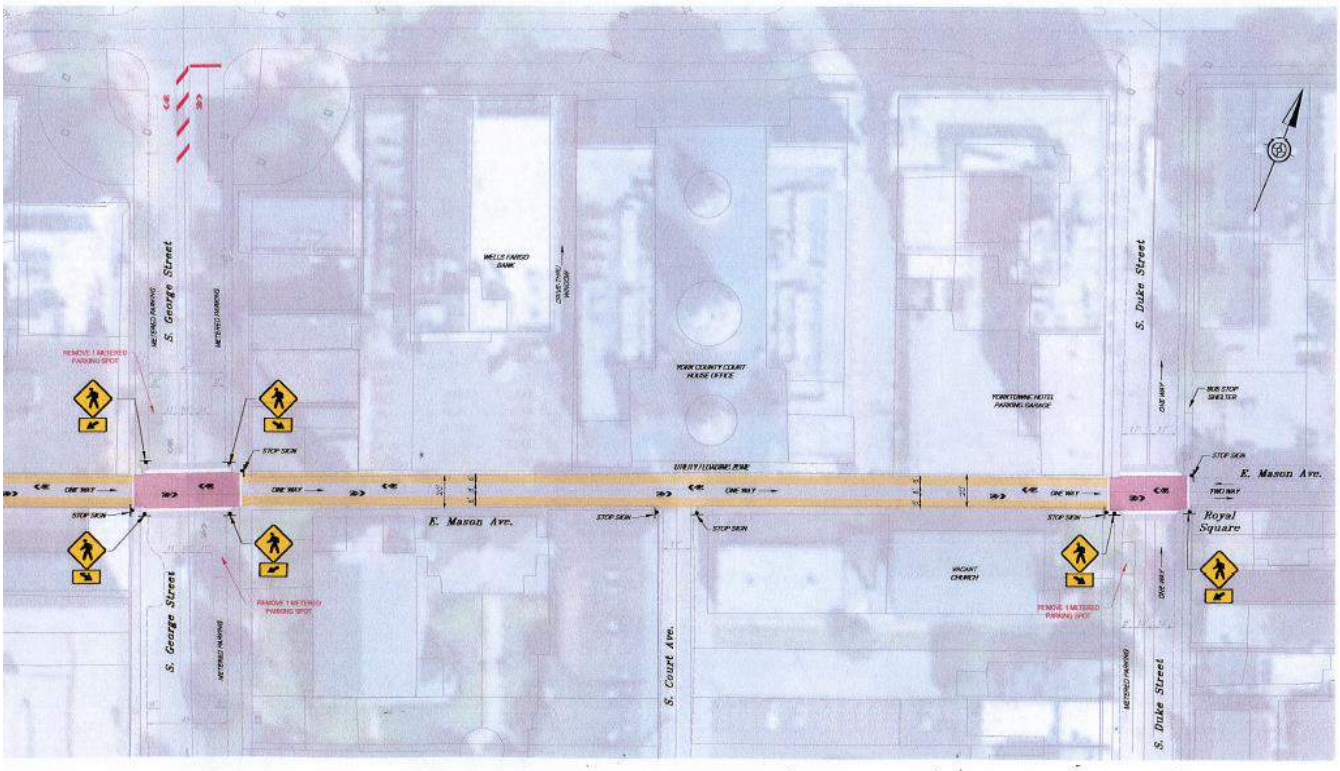
- Consolidated trash receptacle areas

The conceptual plans are located below.



North Bend Opportunity Area Greenway Planning





8.2 Final Multi-modal connector:

Public comment of the proposed alley enhancements was minimal, but overall positive. The intersection of North Pershing Avenue and Mason Avenue, which includes the Rabbit Transit Bus Transfer Center main driveway, needs to be redesigned to narrow the street crossing, but in such a manner as not to impede buses turning in and out of the access. The cost to engineer/design and construction will be largely impacted by the presence of underground utilities. Thus, it is recommended that subsurface utility engineering activities be included in the project as part of the preliminary phase. Also, sufficient utility construction contingency costs to be included in the project cost estimate.

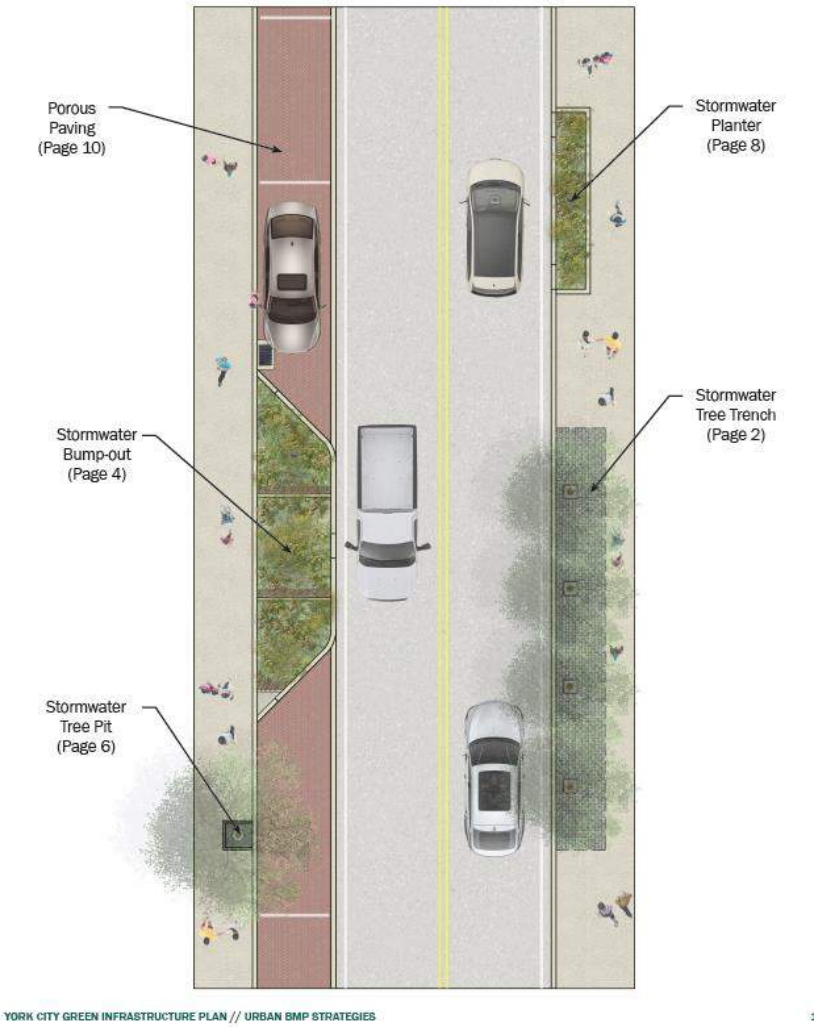
Appendix C includes the Final Multi-modal Plan and cost estimate.

9. Green Action Plans

The Green Action Plan looks at two (2) major approaches to addressing and increasing environmental improvements within the City;

- Integrating runoff infiltration and water quality efforts into public works and development activity,
- Identify and conceptualize five (5) projects within the City and review regulatory constraints within categories of See Appendix D for the entire plan.

The belief among City staff is that if urban strategies were developed, developers and public works planners would be more apt to consider inclusion of such additions within the core scope of work of all projects. The creation of standards for some basic urban strategies was created within the green action plan. These elements are shown with details and approximate costs, pollution reduction estimates and information related to best applications. A single graphic showing all of the standards is provided below. As noted on this graphic detailed information (noted by the page references) for each possibility is defined within a standalone document provided in Appendix D.



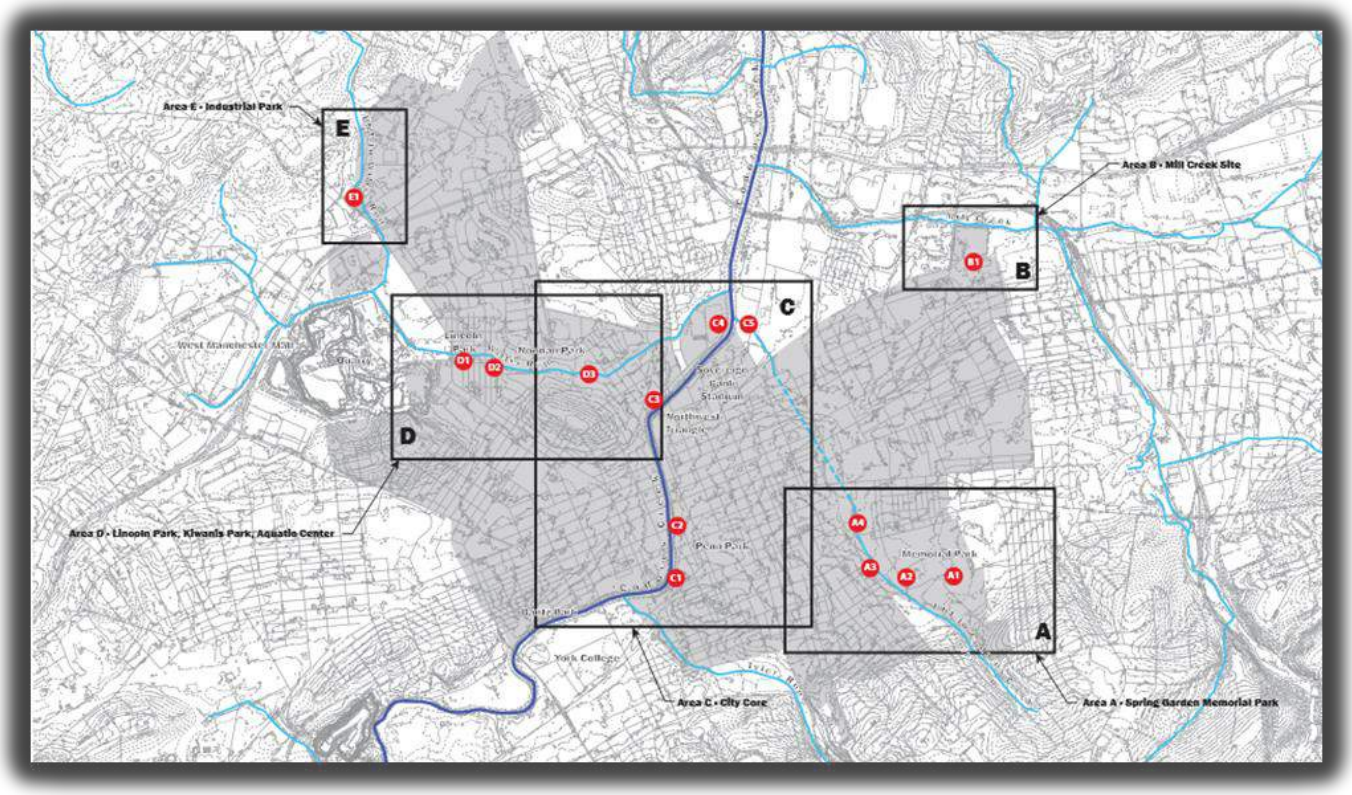
North Bend Opportunity Area Greenway Planning

The other major effort of the Green Action Plan (GAP)was creation of five (5) conceptualized plans for environmental improvement projects within the City. For the most part these projects were selected based on three characteristics:

- A relistic opportunity for the City to control the land proposed for improvement (i.e. City parks, public spaces, non-profits, re-development areas)
- The presence of a enviromental problem and defined opportunity to quantify reduced plolution to watercourses (i.e. eroded stream or water quality threat)
- The possibility to stack benefits to the environmental work (i.e. addition of recreational benefits such as a linear trail along the stream to be restored, create economic benefit to the surrounding property)

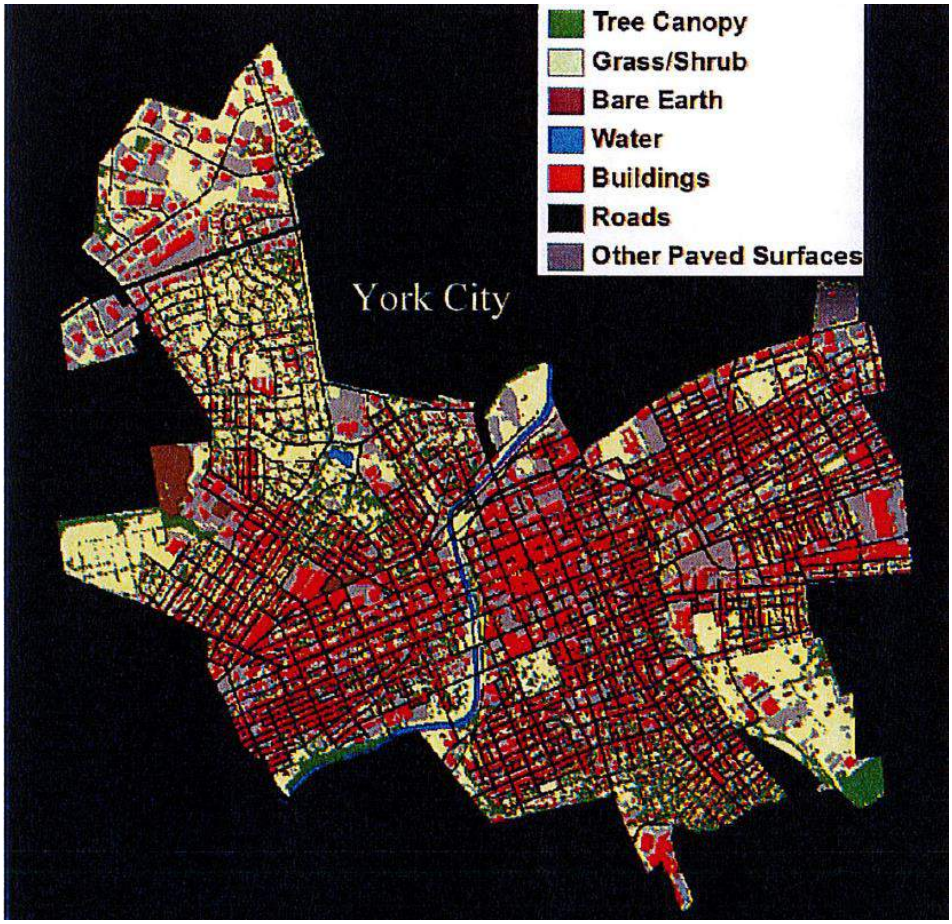
The belief in completing the exercise of creating this conceptual plans was that it would provide documentation to be available to better position the City to acquire funding through grants and create clear awareness of potential projects. For example, with the awareness of a stream project within a park it can be paired with a recreactional improvement project.

The 5 project sites were selected to meet the characteristics identified above while they also covered the five watersheds within the City and as a result were well distributed throught the City's boundary. A graphic of the projects considered is shown below.



The plans and supporting information for all of the sites is shown within Appendix D.

Lastley, the work within this study looked at the existing City's tree canopy. The Tree Canopy Report studied the coverages within the City and evaluated the impacts and data within several subsets; such as by watershed or land uses. This evaluation is both helpful for future City planning and addresses a requirement for completion defined with several State and Federal grant sources.



The full report can be found in Appendix D

10. Implementation and Funding Strategy

The Master Plan improvements recommended for North Bend Opportunity Area will be built over a period of 10 to 15 years and will be dependent on the success of fundraising that will include private sources, as well as local, county, state and federal sources of funding. North Bend Opportunity Area is fortunate to have a number of partner organizations that contribute funds and manpower to park improvements. The importance of these organizations cannot be overstated as the City moves forward with implementation of the recommended Master Plan improvements.

Total estimated costs for improvements as recommended by the Master Plan are $1,200,000 for the first phase of trail construction. Subsequent phases of construction will require additional funding through grants and other contributions. (The cost estimate in Appendix F includes an estimate of all construction costs)

10.1 Phasing Plan:

The NBOA project has been divided into construction phases based on the priorities and the sequence of development. For a complete inventory of facilities in each phase, see cost estimates in Appendix F. Also included in Appendix F is a color coded phasing plan to identify the general areas of the NBOA phases.

NBOA Greenway

Phase I: 12' wide trail from Philadelphia Street to George Street with traffic signs, pavement markings and lighting, pedestrian railroad crossing, native/meadow plantings on West and north side of trail Turf planting on East and South side of trail, and George Street Improvements as per the "Road Diet" plan. Construction costs estimated at $1,200,000.

Phase II: Colonial Complex improvements, including 12' wide trail, ADA improvements to the Colonia Courthouse, sidewalks, plazas, covered overlook, decorative Pershing Avenue crosswalks, realignment of 500 linear feet of Pershing Avenue from Philadelphia Street to Gas Avenue, outdoor education area, Best management practices garden, and Best management practices exhibition area. Construction costs estimated at $2,020,000.

Phase III: Creek Access, Creek bank retaining walls and plantings, and extended and rehabilitated steps from existing parking lot to creek access area, and the small pedestrian plaza on the SE corner of the George Street bridge. Construction costs estimated at $94,000.

Non-construction costs (soft costs) are surveying, geo-technical investigations, permitting, construction document preparation, engineering and project management. A 20% cost should be added to each construction estimate in order to include soft costs. The tasks associated with these requirements are briefly described below:

- Topographic survey will be completed for the park to verify all existing conditions, elevations, and utility information. This survey will be utilized as the base map for land development and construction document preparation.
- Contact Pennsylvania One Call to coordinate earthwork with any utilities in or adjacent to the park.
- Land development preparation for submission and review by York City and York County. Land development documents will include a stormwater management strategy that is supported by plans and calculations to ensure that all regulations are being met.
- Preparation of construction documents to include plans, details and specifications for the proposed amenities and all infrastructures required to be bid and built. This includes any coordination for new or modified utilities.
- Preparation of an Erosion and Sediment Control Plan and NPDES permit to be approved by York County Conservation District and Pennsylvania Department of Environmental Protection. (PA DEP)

- Preparation of plans and permits for any work within the Waters of the Commonwealth to be submitted to PA DEP. This includes any streambank stabilization, stormwater outfalls, or any earth moving within the banks and floodplain. Joint Permits are costly and time consuming. Projects involving channel modifications requires a Joint Permit. Projects located where there would be an impact on species of special concern listed under the Endangered Species Act of 1973, the Wild Resources Conservation Act, the Fish and Boat Code or the Game and Wildlife Code are not eligible. At this date, a PNDI search has been was completed for the Master Plan. Any work within the streambank will need to be cleared by NFWS. No impact is anticipated to threatened or endangered species and/or special concern species and resources, however there may be avoidance measures to be taken. The PNDI must be updated prior to the permit being submitted, as clearances are valid for a maximum of two years.
- Verification of bidding requirements from any funding sources that may affect the methods and means of bidding or bid document preparation.

10.2 Funding Strategy:

Phase I: The Heritage Rail Trail Ext/ Downtown Connection has been partially funded through the 2014 TAP in the sum of $1,006,526.00. A DCNR Grant application has been awarded for $472,978.65. Bidding for Phase I is slated for the Spring of 2018.

Phase II: Phase II includes improvements to the Colonial Complex and also assumes that the commercial development of the North Bend Opportunity Area will come to fruition within the next 2-3 years.

There were a total of 21 private/public entities that made contributions ranging from $1000.00 to $140,000.00 for a total of $492,000.00 for the improvements to an earlier phase of the Heritage Rail Trail. It is anticipated that many of these entities would be amenable to making additional contributions to the NBOA Greenway. In addition, York County Heritage Trust is doing a capitol campaign for the rehabilitation of the former Met-Ed Steam Heat Generating Plant into a downtown history center. The Trust is forecasting that they will be able to raise five million dollars of the fourteen million dollar project. They would also seek federal historic tax credits, state grants and redevelopment dollars. Rent payments from tenants currently in the Steam Plant building also provide an income stream, as do the cell phone towers on the building's chimney. Renovations are to begin in 2018 and should be completed by 2020. The Trust has expressed some interest in taking over the operations of the Colonial Complex property. The Trust considers the Colonial Courthouse area and the area between the Steam Plant and the Codorus as the 'Proposed York county Heritage Trust Campus."[7] Improvements to this portion of the greenway that would benefit the Trust would also benefit the city. Specific discussions concerning whether the Trust will be able to include the campus improvements in their plans are required. The expected commercial development north of the Steam Plant will require some BMP practices in order to obtain an NPDES permit from the State. There is an opportunity to utilize some of the greenway as a BMP/education area that would benefit both the developer and the city. It is expected that some of the costs of the BMP/education area would be borne by the developer as typical for required Best Management Practices installation/maintenance.

The city would be eligible to use the cost of proposed improvements to the greenway made by the Trust or by the developer (as long as they were public improvements) as match funds for state or federal grants.

[7] York Daily Record, Gary Haber, 'Heritage Trust buys old Met-Ed steam plant', December 16, 2015.

Phase III: USACE Baltimore District has a Planning Assistance to State program, which is a 50-50 cost shared program that allows planning activities to be investigated under one federal authority. This would potentially provide funding for the detailed studies and computations that would need to be completed in order to make the proposed changes to the Codorus streambanks. This funding should be applied for as soon as possible in order that the proposed work be ready for construction within the next five years. As this project would provide water access to the public for recreation al purposes, these improvements would also be eligible for various state and federal funding.

See Section 12 of this report for potential funding sources.

11. Design Cost Estimates/Maintenance & Operating Cost

The mission of the York City Recreation and Parks Bureau is to meet the recreation needs of York City residents by providing direction, planning and coordination of services to enhance their quality of life through year-round leisure programs and facilities that will develop and enhance the individual's physical, emotional, mental and social well-being.

The York City Recreation and Parks Bureau consists of 11 full-time staff who manage 25 parks, greenways, athletic venues and open spaces on an annual expenses budget of approximately $1.7 million dollars.

Support services such as business operations and administration, secretarial support, volunteer coordination, marketing and information, park planning, special projects, programs, reservations for department-managed facilities, and resource development fall under the auspices of the Parks and Recreation Director and staff.

The improvements to the North Bend Opportunity Area will require the investment of significant capital investment and commitment of the municipal staff, potentially the County Park staff and others to bring the project to fruition. Cost opinions have been broken into two distinct parts. The first part is the estimated capital construction costs associated with the implementation of the Master Plan. The second is the projected operating and maintenance costs attributed to use of the finished facility.

The detailed cost estimate for the development of the proposed areas was derived using published construction cost data, recent project return bids, and knowledge of construction practices. The estimate was prepared in conjunction with the phased construction plans. The cost estimate includes: surveying, engineering and other professional services cost; construction and materials cost; project administration cost; and, a contingency of 20% of the construction cost estimate. This cost is included in the overall cost estimate in Appendix D. The cost estimates for each phase include only materials and construction cost.

The operations and maintenance cost analysis is prepared using projected costs. Normally, a projection of anticipated revenues from the use of the park and its facilities, and other sources such as seasonal or use permits, and facility rental and concessions is included. However, the facilities for which the city could generate revenue are minimal. O&M cost evaluation will consider Administration. (e.g., public relations, rentals, training, etc.), personnel needs, maintenance equipment, supplies, programming costs, and potential for capital outlay for major equipment. Planning for the maintenance and management ensures that York City's investment to the park is protected.

The total open space area of the colonial courthouse/NBOA Greenway is approximately 4.7 acres. 2.1 acres is occupied by what would be the Colonial Complex from Market Street to Gay Avenue, including the proposed green space in front of the future museum site (the Steam Plant). The National Recreation and Park Association identifies 5 Modes to define the level of maintenance for parks, dependent upon the usage level. Mode descriptions are as follows:

Mode I: State of the art maintenance applied to a high quality diverse landscape usually associated with high traffic urban areas such as public squares, malls, governmental grounds or high visitation parks.

Mode II: High level maintenance – associated with well-developed park areas with reasonably high visitation.

Mode III: Moderate level maintenance – associated with locations with moderate to low levels of development, moderate to low levels of visitation or with agencies that because of budget restrictions can't afford a higher intensity of maintenance.

Mode IV: Moderately low level – usually associated with low level of development, low visitation, undeveloped areas or remote parks.

Mode V: High visitation natural areas – usually associated with large urban or regional parks. Size and user frequency may dictate resident maintenance staff. Road, pathway or trail systems relatively well developed. Other facilities at strategic locations such as entries, trail heads, building complexes and parking lots.

Maintenance costs can also be estimated by estimating acreage for each maintenance level. Per acre maintenance costs were based on the National Recreation and Park Association maintenance labor standard of 118 staff hours per acre per year. Per acre maintenance cost = average hourly wage ($12.00/hr.) + 75% for equipment and supplies.

Maintenance Level	Factor	Cost/acre/year
One	+50%	$3,720.00
Two	+20%	$2,980.00
Three	average	$2,480.00
Four	-10%	$2,240.00
Five	-20%	$1,990.00

Maintenance for the trail has been negotiated with York County Parks and Recreation. Any other green space outside a 20' easement for the trail will be the responsibility of others. The maintenance program provides quantitative information on the personnel, equipment and materials required to maintain the park in an effective and efficient manner. Unless some agreement can be reached with any future adjacent developer, a Public Department must provide an appropriate number of trained staff, equipped with the needed mechanized equipment and supplies to perform each maintenance function.

Turf Care Mowing is the most basic and time consuming of all turf maintenance activities. Mowing will help to maintain an aesthetic appearance and to produce a surface that will support a variety of activities. Turf should be mowed weekly and fertilized and aerated as needed to maintain a vigorous stand of turf. Spraying for weeds should only take place when there is a serious threat of damage to the turf.

The NBOA greenway has been identified as a Mode 2 or Mode 3 service level (depending on level of use), which will allow the area to be clean, well maintained, and in proper working condition. Those standards are described in the table below. The following table includes all facilities illustrated in the Master Plan, which is divided into construction phases, therefore this table reflects maintenance for facilities that may not constructed immediately.

MODE 3

Maintenance Item	Frequency/Duration	Cost
Lighting		
Annual contract for repair	As needed	$1200.00
Electrical bill	365 nights/ year	$2400.00
Hard Surfaced trail		
Police area for graffiti, glass	2/week – March 1 – November 30 1/week – December 1 – February 28	$1950.00
Snow and mud removal	As needed, after completion of other assigned snow routes	$1000.00
Inspect gates or bollards	1/two weeks	$650.00
Paint trail markings, trail signs	As needed	$500.00
Landscape Maintenance		
Prune	1/year	$1200.00
Inspect for Disease/Insects	1/two months – March 1-November 30	$800.00
Weed	Approx. 1/two months; March 1–Nov. 30	$800.00

Mulch (specify type)	Up to 1 application/year	$2400.00
Leaf Removal		
Leaf removal/mulching	2/month –November 1 – December 31	$1200.00
Litter		
Police entire area	1/week – March 1 – November 30 2/month – December 1 – February 28	$1125.00
Empty trash cans	2/week – March 1 - November 30 1/week – December 1 – February 28	$3640.00
BMP gardens	1/week- March 1- Nov. 30 2/month- Dec. 1- Feb 28	$1125.00
Park Benches/Picnic Tables		
Inspect	2/month – March 1 - November 30	$450.00
Clean	2/month – March 1 - November 30	$1800.00
Pressure wash	1/season – March	$200.00
Remove graffiti	Within 5 days of notification of existence	$500.00
Paint/stain/sand	1/year	$800.00
Shelter/Outdoor education area		
Sweep/blow	2/month – March 1 – Nov 30 and/or prior to reservations	$1000.00
Pressure wash	1/year – March	$400.00
Remove graffiti	Within 5 days of notification of existence	$500.00
Trees		
Prune	1/four years	$300.00
Inspect	1/four years	$200.00
Turf/Grounds		
Aerate	1/year between April 1 – October 31	$1600.00
Park/Open Space		
Mow/Trim Turf	1/week, March 1 – Nov 30	$5250.00
Mow/native Plantings	1-2/year; late Feb & July if needed	$640.00
Weed Control	1/ year (High use open areas only within select locations)	$500.00
Remove sticks/rocks/debris/etc.	1/year; late winter	$200.00

Annual Total: $34,330.00

Although the park is provided to the public free of charge, it is acceptable to recover program costs through user fees and charges and sponsorships, while directing tax revenues towards the parks and recreation programs and facilities that benefit the community at-large. For example If A particular facility is used by a private group for a party or family reunion, a user fee may be charged to cover the costs incurred for cleaning and power usage. The philosophy should be to keep user fees low. The goal is to recover the cost of providing the program through a fee charged to the participant without making the fee a burden to the user. Fees may be charged for the reserved use of the shelter or pavilion.

In addition to those regular maintenance duties that are required each year there are other tasks that must be completed during the lifetime of any facility. These tasks deal with periodic maintenance such as painting, sealing, etc. and the normal replacement of minor and major equipment such as park benches, picnic tables, etc. The timing for these repairs/replacements is determined largely by the materials used, weather, use of the facility, and the maintenance performed during its life. Costs are not estimated because the time frame is years away and an exercise in projecting these expenses would not be accurate. The American Public Works Association recommends budgeting two to four percent of the capital development costs annually to establish as a capital reserve account for the major capital repairs/replacements needed for each park.

12. Potential Funding Sources:

PA Department of Recreation and Natural Resources (DCNR) Community Conservation Partnership Program

The DCNR Community Conservation Partnership Program (C2P2) provides funding for communities and nonprofit organizations to acquire, plan and implement open space, conservation and recreation resources, including trails. DCNR has grant application periods annually, with applications typically due in mid-April. DCNR requires a 50-50 match (cash or in kind services) to its grant awards for park development projects. More information on this program can be found at the DCNR website: www.dcnr.state.pa.us/brc/grants

Pennvest

Pennvest oversees the administration and finance of the Clean Water State Revolving Fund (CWSRF) and the Drinking Water State Revolving Fund (DWSRF) for the state of Pennsylvania. The CWSRF program provides funding to projects throughout Pennsylvania for the construction and maintenance of stormwater management projects, nonpoint source pollution controls, and watershed and estuary management. The program offers low interest loans with flexible terms to assist a variety of borrowers that include local governments, municipalities, and privately owned entities and to establish partnerships to leverage other funding sources. This may be an excellent funding source for the stormwater management improvements, stream restoration and improvements associated with the necessary NPDES permit for the park improvements. Additional information available at:
http://www.portal.state.pa.us/portal/server.pt/community/%20funding_programs/9322

Alternative and Clean Energy Program

The Alternative and Clean Energy Program (ACE) provides financial assistance in the form of grant and loan funds that will be used by eligible applicants for the utilization, development and construction of alternative and clean energy projects in the state. The program is administered jointly by the Department of Community and Economic Development (DCED) and the Department of Environmental Protection (DEP), under the direction of the Commonwealth Financing Authority (CFA). Activities to promote the utilization, development and construction of alternative and clean energy projects, energy efficiency and energy conservation projects in the state. There is a 50/50 match required, and an application fee. Additional information available at:
http://www.newpa.com/find-and-apply-for-funding/apply-for-programs-funding

The Pennsylvania Department of Community and Economic Development (DCED) Greenways, Trails and Recreation Program (GTRP)
Act 13 of 2012 establishes the Marcellus Legacy Fund and allocates funds to the Commonwealth Financing Authority (the "Authority") for planning, acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects using the greenways, Trails and Recreation Program (GTRP). Because this project could be considered a trail head for the York County Heritage Rail Trail, North Bend Opportunity Area may be eligible.

The application deadline for the program is June 30, 2015, for consideration at the Sept. 2015 CFA board meeting. Projects which involve development, rehabilitation and improvements to public parks, recreation areas, greenways, trails and river conservation are eligible. Grants shall not exceed $250,000.00 for any project. A 15% local match of the total project cost is required. Municipalities, Councils of Governments, Authorized Organization, Institution of Higher Education, and Watershed Organizations are eligible. Additional information available at:
http://www.newpa.com/find-and-apply-for-funding/funding-and-program-finder/greenways-trails-and-recreation-program-gtrp

Pennsylvania Environmental Education

The Pennsylvania Environmental Education Grants Program awards funding to schools, nonprofit groups and county conservation districts to develop new or expand current environmental education programming. Administered through the Pennsylvania Department of Environmental Protection, the funds are used for projects ranging from creative, hands-on lessons for students and teacher training programs to ecological education for community residents. Educational resources, including exhibits, educational signage, and demonstration projects, also qualify for funding. While York City might not be an ideal recipient of this grant, perhaps a partner organization that is interested in environmental education at the park might be a successful applicant. Additional information available at:
http://www.portal.state.pa.us/portal/server.pt/community/environmental_education/13903/grants/588549

Community Partnership Grants:

WellSpan Health provides grants for endeavors that improve the health status of communities in York County, PA. projects that are consistent with WellSpan Health's vision to improve the health and well-being of the people we serve are eligible. Health is broadly defined as a state of complete physical, mental and social well-being—a positive concept emphasizing social and personal resources, as well as physical capabilities. Priority areas include those that address overweight/obesity issues, that a park with opportunity for exercise and socialization are available. Project budget should not exceed $50,000.00. Most grants are less than $20,000.00. It may be prudent to have the Lions club apply for this grant in association with other contributions toward the walking trail. Additional information is available at:
https://www.wellspan.org/about-wellspan/wellspan-in-the-community/community-health-wellness/community-partnership-grants/

York County Community Foundation, Strategic Community Grant:

The Fund for York County provides flexibility to focus resources on the most pressing issues facing our community. Quality education, thriving downtowns and an effective nonprofit sector make York a great place to live, work and play. Grants up to $10,000.00 are available to the city to support projects that attract and retain residents, businesses and visitors. Improvements to a park within walking distance of York City's business district falls within the parameters of the focus of this grant. Additional information available at:
http://www.yccf.org/strategic-community-grants

York County Community Foundation, Embracing Aging Grant:

The embracing aging grant purpose is to fund programs and services for older adults that help achieve Embracing Aging's priority areas, which include community engagement and Health and well-being. Facilities that promote physical activity and strengthen cognitive brain functions are eligible for grants up to $20,000.00. Additional information available at:

http://www.yccf.org/Embracing_Aging_Grants

Metropolitan Edison Company Sustainable Energy Fund:

The purpose of the Met Ed Fund is to promote the development and use of renewable energy and clean energy technologies, energy conservation and efficiency, the development of projects that improve the environment in Metropolitan Edison's service territory. (Southern York County Library was a recipient in 2003). Maximum award amount is $50,000.00. This fund could be used for lighting and security needs for the park if sustainable practices are incorporated into the design. Additional information available at:
https://bccfgrants.academicworks.com/opportunities/83

York County Act 13 Impact fee

York County Commissioners, under Act 13 of 2012, have the authority to distribute money collected from natural gas drilling fees in other areas of the state. The impact fee has brought in about $630 million in revenue statewide, Gov. Tom Corbett's administration said earlier this month. A portion of that is dedicated to counties for parks and preservation projects.

In York County, commissioners have approved more than $1.7 million for preservation and park and recreation project initiatives through 2016. The county can reimburse municipalities for projects. Contact the York County Commissioners to request a grant.

Greenways, Trail and Recreation Program (GTRP)

Act 13 of 2012 establishes the Marcellus Legacy Fund and allocates funds to the Commonwealth Financing Authority (the "Authority") for planning, acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects using the greenways, Trails and Recreation Program (GTRP). Maximum award amount is $250,000.00, and requires a local match of the project cost. Municipalities are eligible. Eligible projects include rehabilitation and development of public indoor or outdoor park, recreation and conservation areas and facilities. Additional information available at:
http://www.newpa.com/find-and-apply-for-funding/funding-and-program-finder/greenways-trails-and-recreation-program-gtrp

Transportation Alternatives Program

The Transportation Alternatives Program (TAP) was authorized by the most recent Federal Transportation Act – Moving Ahead for Progress in the 21st Century (MAP-21) that was signed into law on July 6, 2012. The Transportation Alternatives Program Redefines the former Transportation Enhancements activities and consolidates these eligibilities with the Safe Routes to Schools and Recreational Trails Programs. The Transportation Alternatives program builds upon a legacy of the TE program by expanding travel choices, strengthening the local economy, improving the quality of life, and protecting the environment. These funds may be available to the North Bend Opportunity Area if a direct connection is made to the York County Heritage Rail Trail as indicated on the Master Plan. The connection would allow the park to be considered a trail head, and certain amenities such as the parking lot improvements, rest room facilities, walkways, bike racks; drinking fountains and other trail service related support facilities may be eligible. Matching requirements are 20%. There are certain PennDOT requirements that need to be taken into consideration when submitting for this funding. Funding is coordinated through the York County Planning Commission and the York County Metropolitan Planning Organization. For more information, contact the York County Chief of Transportation.

Exelon HIP Program

York County Conservation District is encouraging landowners to implement priority Habitat Improvement Projects. Priority funding will be given to projects that include forested stream buffers of at least 50' in width and wetlands creation projects. In addition, projects that provides long term protection and/or maintenance (through deed restrictions, conservation easement or other maintenance protection) are preferred. The District will seek to leverage the Exelon HIP Funds with other funding sources and will work with government and non-government organization to implement habitat improvement projects. Maximum grant is $75,000.00. PA-DEP must approval all projects. Annual grants for the next few years, possibly 2 rounds/year. Additional information available at:
http://www.yorkccd.org/watersheds/habitat-improvement/

13. APPENDIX A STUDY MAPS

NOT FOR CONSTRUCTION

LOCATION MAP
Scale: 1"=2000'

NOTES:
1. ALL SOILS WITHIN THE PROJECT BOUNDARY ARE URBAN LAND (Uc).
2. THIS SITE IS WITHIN THE CENTRAL BUSINESS DISTRICT (CBD) ZONING DISTRICT.

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 INCH = 20 FT.

CITY OF YORK

LAFAYETTE PLAZA

CITY OF YORK — YORK COUNTY , PENNSYLVANIA

NBOA MASTER PLANNING

C.S.Davidson, Inc.
Excellence in Civil Engineering
38 NORTH DUKE STREET , YORK, PA • PHONE (717) 846-4805 • FAX (717) 845-5811
50 WEST MIDDLE STREET , GETTYSBURG, PA • PHONE (717) 337-3021 • FAX (717) 337-0762
315 W. JAMES STREET, SUITE 102, LANCASTER, PA • PHONE (717) 481-2991 • FAX (717) 481-8690
WWW.CSDAVIDSON.COM

NO.	DATE	DESCRIPTION

DRAWN BY	MPA
CHECKED BY	
SCALE	1" = 20'
DATE	1/4/2016
DWG. NO.	040710900_FIELD
FILE NO.	0407.1.09.00
SHEET NO.	1 OF 1

K:\040710900\dwg\040710900_FIELD.dwg, 3/7/2016 4:37:15 PM

K:\040710900\dwg\040710900_FIELD.dwg, 3/7/2016 4:37:26 PM

NO.	DATE	DESCRIPTION

DRAWN BY: MPA
CHECKED BY:
SCALE: 1" = 60'
DATE: 1/4/2016
DWG. NO.: 040710900_FIELD
FILE NO.: 0407.1.09.00
SHEET NO.: 1 OF 1

C.S.Davidson, Inc.
Excellence in Civil Engineering
38 NORTH DUKE STREET, YORK, PA. • PHONE (717) 846-4805 • FAX (717) 846-5811
50 WEST MIDDLE STREET, GETTYSBURG, PA. • PHONE (717) 337-3021 • FAX (717) 337-0782
315 W. JAMES STREET, SUITE 102, LANCASTER, PA. • PHONE (717) 481-2991 • FAX (717) 481-8690
WWW.CSDAVIDSON.COM

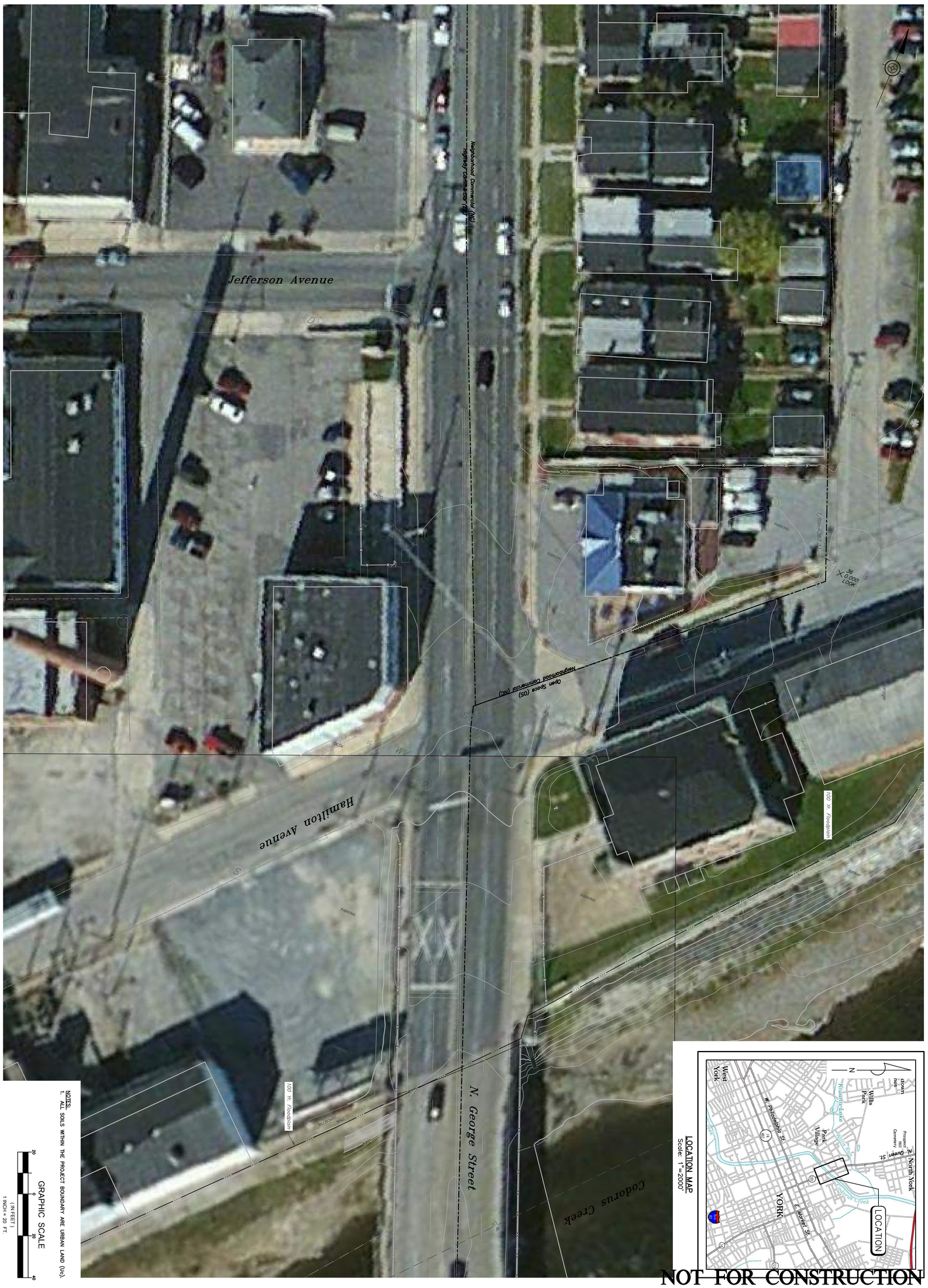
CITY OF YORK

NORTHWEST TRIANGLE

CITY OF YORK — YORK COUNTY , PENNSYLVANIA

NBOA MASTER PLANNING

K:\040710900\dwg\040710900_FIELD.dwg, 3/7/2016 4:37:36 PM



NO.	DATE	DESCRIPTION

DRAWN BY: MFA
CHECKED BY:
SCALE: 1" = 20'
DATE: 1/4/2016
DWG. NO.: 040710900_FIELD
FILE NO.: 0407.1.09.00
SHEET NO.: 1 OF 1

C.S.Davidson, Inc.

Excellence in Civil Engineering

38 NORTH DUKE STREET, YORK, PA • PHONE (717) 846-4805 • FAX (717) 846-5811
50 WEST MIDDLE STREET, GETTYSBURG, PA • PHONE (717) 337-3021 • FAX (717) 337-0782
315 W. JAMES STREET, SUITE 102, LANCASTER, PA • PHONE (717) 481-2991 • FAX (717) 481-8690
WWW.CSDAVIDSON.COM

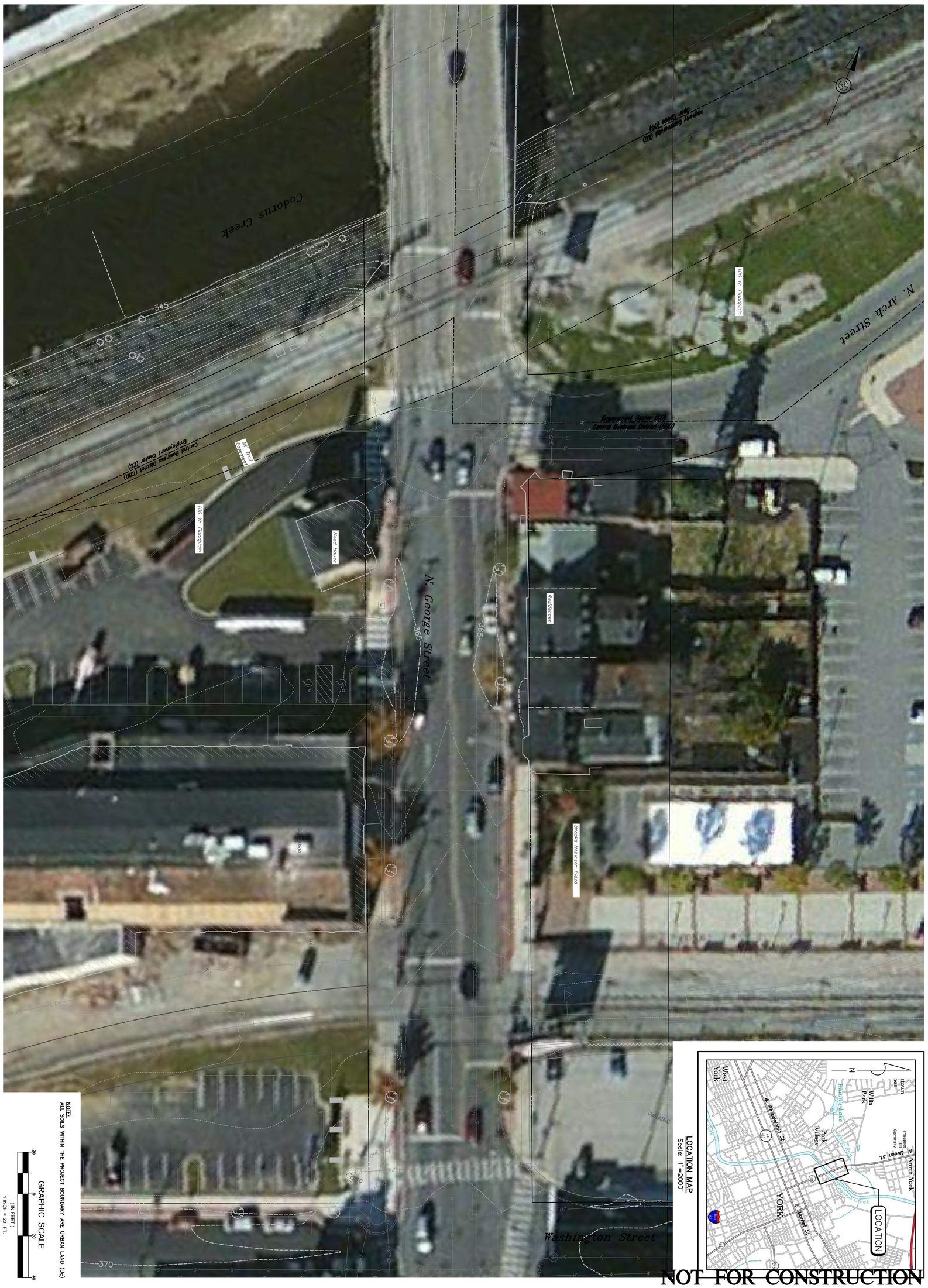
CITY OF YORK

NORTH GEORGE STREET
FROM NORTH WEST TRIANGLE TO JEFFERSON STREET

CITY OF YORK — YORK COUNTY , PENNSYLVANIA

NBOA MASTER PLANNING

K:\040710900\dwg\040710900_FIELD.dwg, 3/7/2016 4:37:46 PM



NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION

DRAWN BY: MPA
CHECKED BY:
SCALE: 1" = 20'
DATE: 1/4/2016
DWG. NO.: 0407\0900_FIELD
FILE NO.: 0407.1.09.00
SHEET NO.: 2 OF 2

C.S.Davidson, Inc.
Excellence in Civil Engineering
38 NORTH DUKE STREET, YORK, PA. • PHONE (717) 846-4805 • FAX (717) 846-5811
50 WEST MIDDLE STREET, GETTYSBURG, PA. • PHONE (717) 337-3021 • FAX (717) 337-0782
315 W. JAMES STREET, SUITE 102, LANCASTER, PA. • PHONE (717) 481-2991 • FAX (717) 481-8690
WWW.CSDAVIDSON.COM

CITY OF YORK

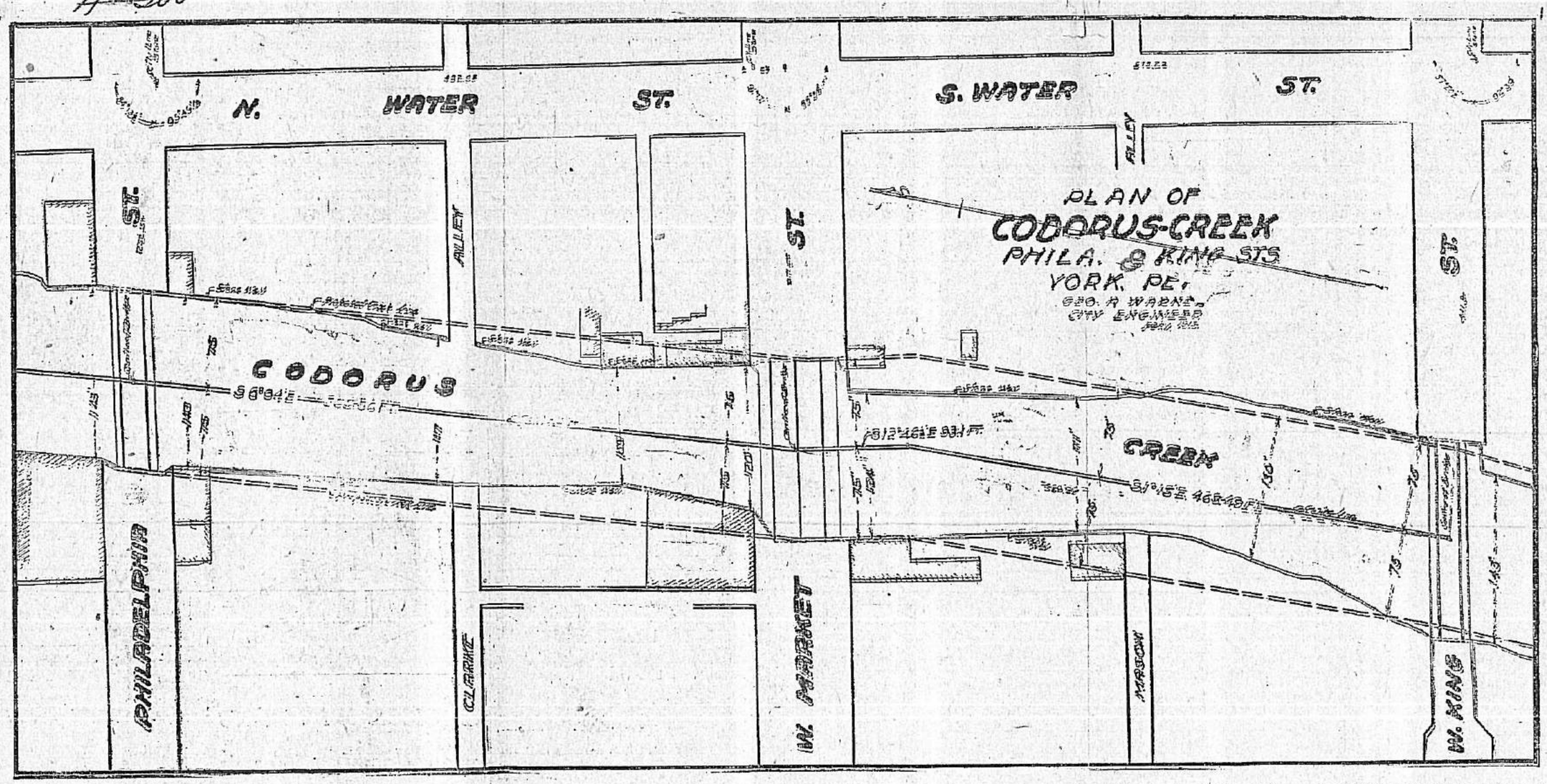
NORTH GEORGE STREET
FROM NORTH WEST TRIANGLE TO JEFFERSON STREET

CITY OF YORK — YORK COUNTY , PENNSYLVANIA

NBOA MASTER PLANNING

A-300

Plan For Proposed Widening of Codorus Creek to 150 Feet Between King and Philadelphia Streets



The present ordinance before city council, providing for the widening of the Codorus creek between Philadelphia and King streets, marks the first step toward the eventual restoration of some of the natural beauty which this stream once had. The measure, as planned by Mayor Lafean and introduced before the council by President George O. Leese, of common branch, came before common branch for final action last Friday night but was held up because the attendance lacked the two-thirds majority required to pass it.

The creek widening is contemplated in conection with the proposed erection by the county of a new bridge across Market street. Restoring the stream to its original width of 150 feet will, it is believed, greatly reduce the flood danger in a district which almost annualy suffers damage amounting to many hundreds of dollars from the overflowing of the stream during freshets. At some points, as shown by the accompanying plan of restoration, encroachments upon the creek have reduced its width by almost 50 feet, thus choking up the water during floods. It is expected that whatever expense will fall upon the city in connection with the improvement can be appropriated from the proposed $300,000 loan for permanent improvements. The mayor is authorized by the ordinance to confer with property owners whose land is taken and enter into an agreement upon the amount of damages suffered. In case such agreement cannot be reached, the city solicitor is instructed to apply to court for the appointment of viewers to ascertain damages and benefits according to law.

Beginning at King street, as shown by the accompanying plan, prepared by City Engineer Warner, the proposed lines of widening would cut into property upon both sides of the stream, on the west side at a point a short distance south of King, extending across Mason alley and cutting away almost entirely the frame stable at the rear of the Codorus hotel, and belonging to that property. On the east side the line only cuts into the shore at Mason alley, continuing in an angle of increasing width through the Croll property to Market street, where half of a one-story store building of this property is sliced away. Continuing beyond Market street on the west side, the line takes a portion of the old Palace of Amusement, owned by C. W. Wilson, and continues to shear off a strip of land of decreasing width to Philadelphia street, where a small portion of the brick building of the Eyster, Weiser company property, on the south side of Philadelphia street, is intersected. On the east side of the creek, between Market and Philadelphia streets, the frame building of the John Schall estate, on Market street, and the frame stable behind it, are cut almost entirely away, but the line continues through the shore only to a distance about half way between Clarke alley and Philadelphia street, where a normal width is attained.

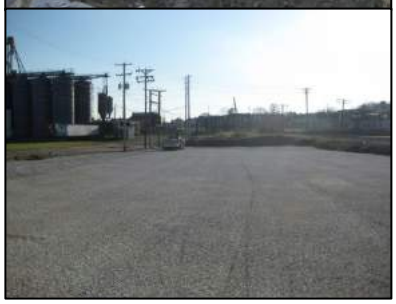

Revolution Stadium
NORTH ST
GEORGE ST
Court-house
Continental Square
PHILA. ST
Strand Capitol
York Academy
Central Market
BEAVER ST
MARKET ST
Colonial Courthouse

Northwest Triangle (NWT) Initiative
Brownfields Remediation and Redevelopment Project
Sponsor: The City of York Economic Development Department & Redevelopment Authority

PROJECT DESCRIPTION: The Northwest Triangle (NWT) is a multi-block area of separate properties that cover approximately 14.5 acres in the northwestern corner of the City or York. Various commercial and industrial activities occurred at many of these properties since the early 1900s, and contaminated historic fill materials had been placed to increase their grades. This project consisted of the environmental investigation and remediation of these properties.

PROJECT GOALS: The City of York Redevelopment Authority is rehabilitating and/or redeveloping these impacted and underutilized properties as part of the city's revitalization program. The goals of this project were to investigate and remediate the impacted properties as necessary to attain the applicable environmental cleanup standards, and to facilitate their redevelopment and productive reuse for residential and commercial purposes.

PROJECT RESULTS: Among other accomplishments, 8 monitoring wells were installed and sampled, hundreds of soil samples were collected and analyzed, and approximately 15,000 tons of contaminated soil, including an estimated 4,500 pounds of lead and 750 pounds of arsenic, were excavated and transported off-site for proper disposal or approved beneficial reuse. The cleanup activities were approved by the Pennsylvania Department of Environmental Protection and the United States Environmental Protection Agency under the Act 2 Program.

	B&C Fasteners	York Rail	Entire NWT Area
Before:			
After:			

Red = Extent of Soil Remediation

PROJECT COSTS: $1,050,000 GGII Brownfields Grant

LESSONS LEARNED: Close communications, shared goals, and cooperation between the project stakeholders and the regulatory agencies were key to ensuring the successful and cost-effective completion of the project.

PARTNERS: City of York Economic Development Department and Redevelopment Authority; Pennsylvania Department of Environmental Protection; United States Environmental Protection Agency; Kinsley Construction, Inc.; Enterprise Homes, Inc.; ARM Group Inc. (consultant); and remediation contractors: Horizon Environmental Services; Lewis Environmental; and Environmental Compliance Management.

CONTACT INFORMATION: The City of York Department of Economic & Community Development, Shilvosky Buffaloe, Deputy Director at sbuffaloe@yorkcity.org.

T:\07214 NWT Act 2 Project_Drwg\Post-excavation sampling\Sheet 1_E & S Plan-rev3.dwg

ARM Group Inc.
Earth Resource Engineers and Consultants
1129 West Governor Road • Hershey, PA 17033-0797

REMEDIATION SUMMARY
NORTHWEST TRIANGLE
CITY OF YORK, PA

10/22/08	Figure
1" = 80'	13
07214	

Looking Toward Philadelphia Street at Rail Crossing

Looking West Toward Beaver Street Along the Proposed Trail Alignment

Looking South at Beaver Street Crossing

Looking North at Beaver Street Crossing

Looking Down at the Proposed Creek Access

Looking South at the Proposed George Street Crossing

Looking West at the Proposed Road Intersection at Beaver Street

Potential Arch Street Plaza Site

Looking West From Beaver Street Crossing Along Proposed Trail Alignment

Train Onsite of Proposed Crossing

Looking North on George Street Toward Hamilton

Existing Sidewalk at Lafayette's Plaza

14. APPENDIX B NBOA ALTERNATIVE & FINAL MASTER SITE PLANS


1

2

3

$DATE$
$SIGN$

FINAL

MARK	ISSUE DATE	ISSUED FOR

PROJECT NO. 2708.01
DWG DATE: 10-16-2015
CHECKED BY: KSF

CITY OF YORK

NORTHBEND OPPORTUNITY AREA SITE MASTER PLAN

YORK COUNTY PENNSYLVANIA

C.S.Davidson, Inc.
Excellence in Civil Engineering

BUCHART HORN
ENGINEERS | ARCHITECTS | PLANNERS

$DATE$
DGN

MATCH LINE, THIS SHEET LEFT BORDER

FINAL

SHEET NO:

SHEET TITLE:

PROJECT NO:	77083-01
DWG DATE:	10-18-2016
CHECKED BY:	KSF

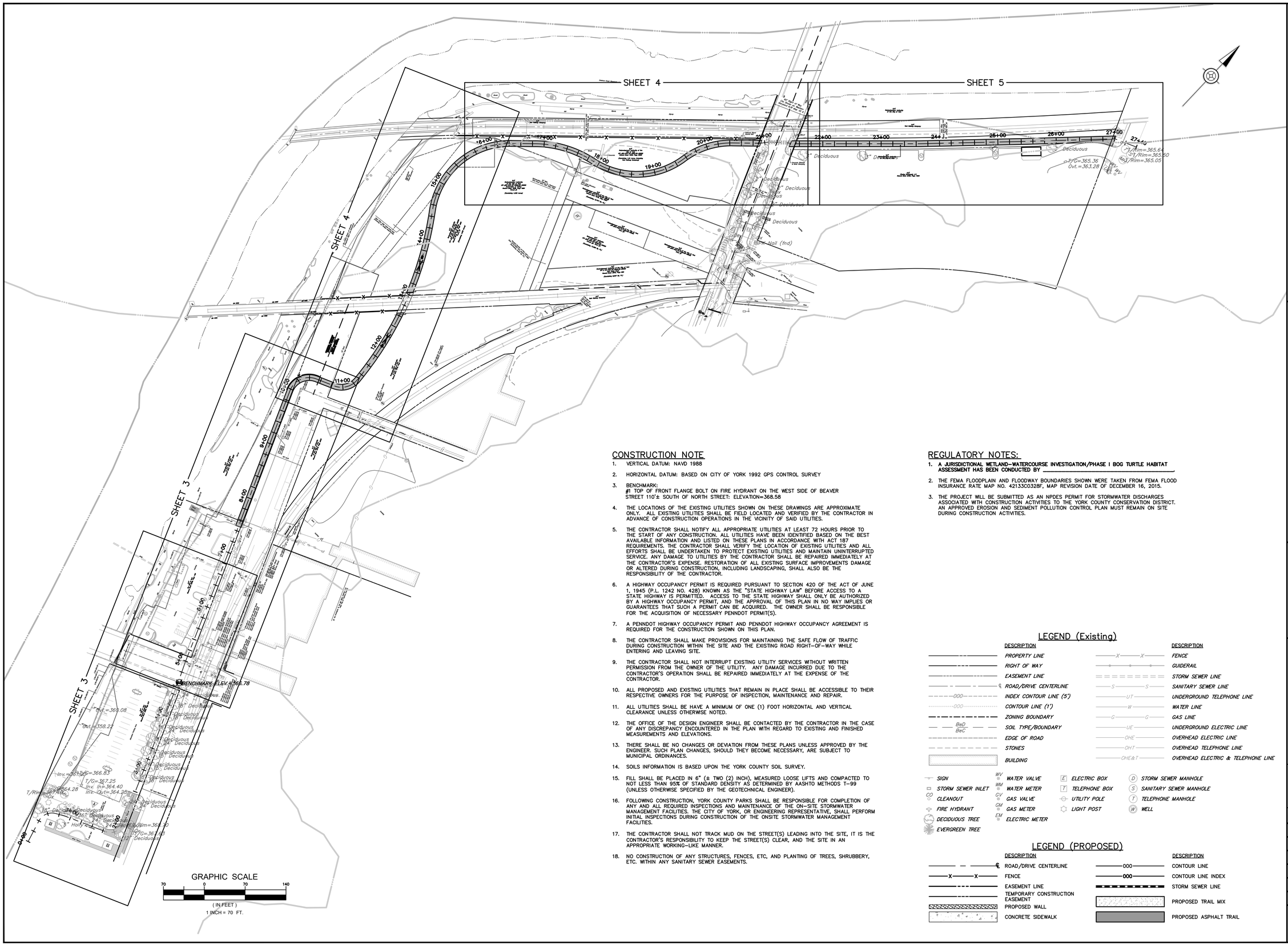
MARK	ISSUE DATE	ISSUED FOR

CITY OF YORK

NORTHBEND OPPORTUNITY AREA SITE MASTER PLAN

YORK COUNTY

PENNSYLVANIA



CONSTRUCTION NOTE

1. VERTICAL DATUM: NAVD 1988
2. HORIZONTAL DATUM: BASED ON CITY OF YORK 1992 GPS CONTROL SURVEY
3. BENCHMARK:
   #1 TOP OF FRONT FLANGE BOLT ON FIRE HYDRANT ON THE WEST SIDE OF BEAVER STREET 110'± SOUTH OF NORTH STREET: ELEVATION=368.58
4. THE LOCATIONS OF THE EXISTING UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE ONLY. ALL EXISTING UTILITIES SHALL BE FIELD LOCATED AND VERIFIED BY THE CONTRACTOR IN ADVANCE OF CONSTRUCTION OPERATIONS IN THE VICINITY OF SAID UTILITIES.
5. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITIES AT LEAST 72 HOURS PRIOR TO THE START OF ANY CONSTRUCTION. ALL UTILITIES HAVE BEEN IDENTIFIED BASED ON THE BEST AVAILABLE INFORMATION AND LISTED ON THESE PLANS IN ACCORDANCE WITH ACT 187 REQUIREMENTS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES AND ALL EFFORTS SHALL BE UNDERTAKEN TO PROTECT EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE TO UTILITIES BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. RESTORATION OF ALL EXISTING SURFACE IMPROVEMENTS DAMAGE OR ALTERED DURING CONSTRUCTION, INCLUDING LANDSCAPING, SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. A HIGHWAY OCCUPANCY PERMIT IS REQUIRED PURSUANT TO SECTION 420 OF THE ACT OF JUNE 1, 1945 (P.L. 1242 NO. 428) KNOWN AS THE "STATE HIGHWAY LAW" BEFORE ACCESS TO A STATE HIGHWAY IS PERMITTED. ACCESS TO THE STATE HIGHWAY SHALL ONLY BE AUTHORIZED BY A HIGHWAY OCCUPANCY PERMIT, AND THE APPROVAL OF THIS PLAN IN NO WAY IMPLIES OR GUARANTEES THAT SUCH A PERMIT CAN BE ACQUIRED. THE OWNER SHALL BE RESPONSIBLE FOR THE ACQUISITION OF NECESSARY PENNDOT PERMIT(S).
7. A PENNDOT HIGHWAY OCCUPANCY PERMIT AND PENNDOT HIGHWAY OCCUPANCY AGREEMENT IS REQUIRED FOR THE CONSTRUCTION SHOWN ON THIS PLAN.
8. THE CONTRACTOR SHALL MAKE PROVISIONS FOR MAINTAINING THE SAFE FLOW OF TRAFFIC DURING CONSTRUCTION WITHIN THE SITE AND THE EXISTING ROAD RIGHT-OF-WAY WHILE ENTERING AND LEAVING SITE.
9. THE CONTRACTOR SHALL NOT INTERRUPT EXISTING UTILITY SERVICES WITHOUT WRITTEN PERMISSION FROM THE OWNER OF THE UTILITY. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE EXPENSE OF THE CONTRACTOR.
10. ALL PROPOSED AND EXISTING UTILITIES THAT REMAIN IN PLACE SHALL BE ACCESSIBLE TO THEIR RESPECTIVE OWNERS FOR THE PURPOSE OF INSPECTION, MAINTENANCE AND REPAIR.
11. ALL UTILITIES SHALL BE HAVE A MINIMUM OF ONE (1) FOOT HORIZONTAL AND VERTICAL CLEARANCE UNLESS OTHERWISE NOTED.
12. THE OFFICE OF THE DESIGN ENGINEER SHALL BE CONTACTED BY THE CONTRACTOR IN THE CASE OF ANY DISCREPANCY ENCOUNTERED IN THE PLAN WITH REGARD TO EXISTING AND FINISHED MEASUREMENTS AND ELEVATIONS.
13. THERE SHALL BE NO CHANGES OR DEVIATION FROM THESE PLANS UNLESS APPROVED BY THE ENGINEER. SUCH PLAN CHANGES, SHOULD THEY BECOME NECESSARY, ARE SUBJECT TO MUNICIPAL ORDINANCES.
14. SOILS INFORMATION IS BASED UPON THE YORK COUNTY SOIL SURVEY.
15. FILL SHALL BE PLACED IN 6" (± TWO (2) INCH), MEASURED LOOSE LIFTS AND COMPACTED TO NOT LESS THAN 95% OF STANDARD DENSITY AS DETERMINED BY AASHTO METHODS T-99 (UNLESS OTHERWISE SPECIFIED BY THE GEOTECHNICAL ENGINEER).
16. FOLLOWING CONSTRUCTION, YORK COUNTY PARKS SHALL BE RESPONSIBLE FOR COMPLETION OF ANY AND ALL REQUIRED INSPECTIONS AND MAINTENANCE OF THE ON-SITE STORMWATER MANAGEMENT FACILITIES. THE CITY OF YORK, OR ENGINEERING REPRESENTATIVE, SHALL PERFORM INITIAL INSPECTIONS DURING CONSTRUCTION OF THE ONSITE STORMWATER MANAGEMENT FACILITIES.
17. THE CONTRACTOR SHALL NOT TRACK MUD ON THE STREET(S) LEADING INTO THE SITE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO KEEP THE STREET(S) CLEAR, AND THE SITE IN AN APPROPRIATE WORKING-LIKE MANNER.
18. NO CONSTRUCTION OF ANY STRUCTURES, FENCES, ETC, AND PLANTING OF TREES, SHRUBBERY, ETC. WITHIN ANY SANITARY SEWER EASEMENTS.

REGULATORY NOTES:

1. **A JURISDICTIONAL WETLAND-WATERCOURSE INVESTIGATION/PHASE I BOG TURTLE HABITAT ASSESSMENT HAS BEEN CONDUCTED BY**
2. THE FEMA FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN WERE TAKEN FROM FEMA FLOOD INSURANCE RATE MAP NO. 42133C0328F, MAP REVISION DATE OF DECEMBER 16, 2015.
3. THE PROJECT WILL BE SUBMITTED AS AN NPDES PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES TO THE YORK COUNTY CONSERVATION DISTRICT. AN APPROVED EROSION AND SEDIMENT POLLUTION CONTROL PLAN MUST REMAIN ON SITE DURING CONSTRUCTION ACTIVITIES.

LEGEND (Existing)

DESCRIPTION		DESCRIPTION	
PROPERTY LINE		FENCE	X X
RIGHT OF WAY		GUIDERAIL	
EASEMENT LINE		STORM SEWER LINE	
ROAD/DRIVE CENTERLINE	℄	SANITARY SEWER LINE	S S
INDEX CONTOUR LINE (5')	000	UNDERGROUND TELEPHONE LINE	UT
CONTOUR LINE (1')	000	WATER LINE	W
ZONING BOUNDARY		GAS LINE	G G
SOIL TYPE/BOUNDARY	BeD / BeC	UNDERGROUND ELECTRIC LINE	UE
EDGE OF ROAD		OVERHEAD ELECTRIC LINE	OHE
STONES		OVERHEAD TELEPHONE LINE	OHT
BUILDING		OVERHEAD ELECTRIC & TELEPHONE LINE	OHE&T

SIGN	WATER VALVE (WV)	ELECTRIC BOX (E)	STORM SEWER MANHOLE (D)
STORM SEWER INLET	WATER METER (WM)	TELEPHONE BOX (T)	SANITARY SEWER MANHOLE (S)
CLEANOUT (CO)	GAS VALVE (GV)	UTILITY POLE	TELEPHONE MANHOLE (T)
FIRE HYDRANT	GAS METER (GM)	LIGHT POST	WELL (W)
DECIDUOUS TREE	ELECTRIC METER (EM)		
EVERGREEN TREE			

LEGEND (PROPOSED)

DESCRIPTION		DESCRIPTION	
ROAD/DRIVE CENTERLINE	℄	CONTOUR LINE	000
FENCE	X X	CONTOUR LINE INDEX	000
EASEMENT LINE		STORM SEWER LINE	
TEMPORARY CONSTRUCTION EASEMENT		PROPOSED TRAIL MIX	
PROPOSED WALL		PROPOSED ASPHALT TRAIL	
CONCRETE SIDEWALK			

YORK COUNTY RAIL TRAIL AUTHORITY

KEY MAP

CITY OF YORK — YORK COUNTY , PENNSYLVANIA

NORTHWEST TRIANGLE RAIL TRAIL DESIGN

C.S.Davidson, Inc.
Excellence in Civil Engineering
38 NORTH DUKE STREET, YORK, PA • PHONE (717) 846-4805 • FAX (717) 846-5811
50 WEST MIDDLE STREET, GETTYSBURG, PA • PHONE (717) 337-3021 • FAX (717) 337-0762
315 W. JAMES STREET, SUITE 102, LANCASTER, PA • PHONE (717) 481-2991 • FAX (717) 481-8690
WWW.CSDAVIDSON.COM

NO.	DATE	DESCRIPTION

DRAWN BY	MPA
CHECKED BY	
SCALE	AS SHOWN
DATE	9/6/2016
DWG. NO.	0407U900_A
FILE NO.	0407.4.U9.00
SHEET NO.	2 OF 10

K:\0407\4\U900\dwg\Civil\0407U900_A.dwg, 9/27/2016 2:18:17 PM

15. APPENDIX C MULTI-MODAL CONNECTOR PLAN

Codorus Creek

York County Heritage Rail Trail

DRIVEWAY

18'

13'

DRIVEWAY (TO BE CLOSED)

RAIL TRAIL CONNECTION

RABBIT TRANSIT TRANSFER CENTER

SIDEWALK

14'

17'

S. Pershing Ave.

30'

STOP SIGN

DRIVEWAY

POST OFFICE

NF COUNTY OF YORK LOADING DOCK AREA

TWO WAY

W. Mason Ave.

COUNTY OF YORK PARKING LOT

COUNTY OFFICES

S. Beaver Street

METERED PARKING

REMOVE 1 METERED PARKING SPOT

STOP SIGN

TWO WAY

STOP SIGN

E. Mason Ave.

REMOVE 1 METERED PARKING SPOT

S. Beaver Street

METERED PARKING

Royal Square Redevelopment

S. Beaver Street

METERED PARKING

REMOVE 1 METERED PARKING SPOT

Royal Square Redevelopment

S. Cherry Lane Pedestrian / Bicycle Connection

METERED PARKING

S. George Street

METERED PARKING

REMOVE 1 METERED PARKING SPOT

WELLS FARGO BANK

DRIVE-THRU

YORK COUNTY COURT HOUSE OFFICE

STOP SIGN

TWO WAY

STOP SIGN

E. Mason Ave.

STOP SIGN

STOP SIGN

ONE WAY

ONE WAY

STOP SIGN

STOP SIGN

ONE WAY

UTILITY / LOADING ZONE

ONE WAY

E. Mason Ave.

STOP SIGN

STOP SIGN

REMOVE 1 METERED PARKING SPOT

S. Beaver Street

METERED PARKING

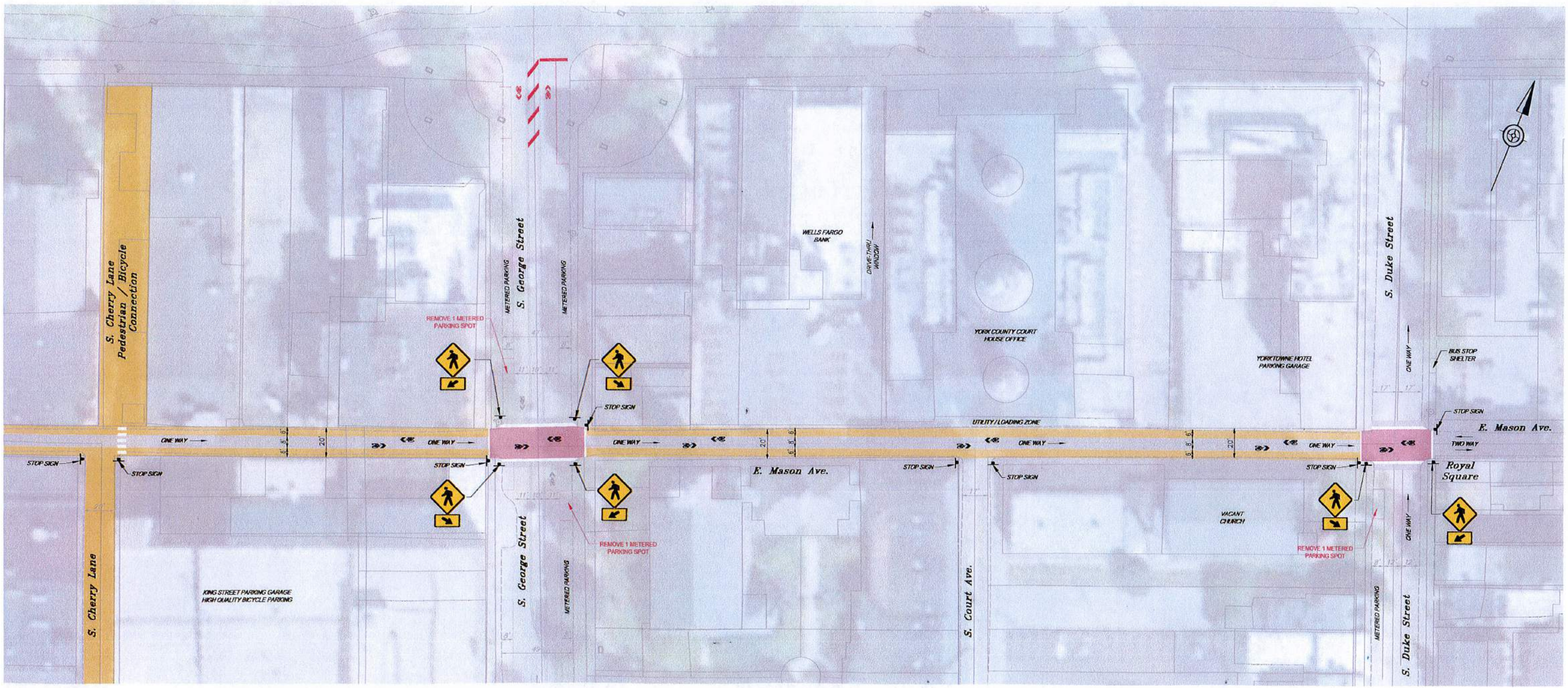
S. Cherry Lane

KING STREET PARKING GARAGE
HIGH QUALITY BICYCLE PARKING

S. George Street

METERED PARKING

S. Court Ave.



MASON AVENUE
MULTI-MODAL CORRIDOR

16. APPENDIX D GREEN ACTION PLAN

York City Green Infrastructure Plan:
BMP Typical Strategies

October 7, 2016

Prepared for:
The City of York
101 South George Street
York, PA 17401

Prepared by:
LandStudies, Inc.
315 North Street
Lititz, PA 17543
717-627-4440
www.landstudies.com

Land Studies

C.S.Davidson, Inc.
Excellence in Civil Engineering

THIS PAGE INTENTIONALLY LEFT BLANK

URBAN BMP STRATEGIES

Introduction:

The following strategies are tailored to the unique needs of the City of York. They are proposed to provide not only water quality benefits, but improved aesthetics, while providing options that could fit into various streetscape environments.

The information and material specifications identified in this manual are for planning and budgeting purposes only. All BMP's should be designed by a licensed professional (PE, RLA, PLS) in accordance with applicable local, state and federal regulations.

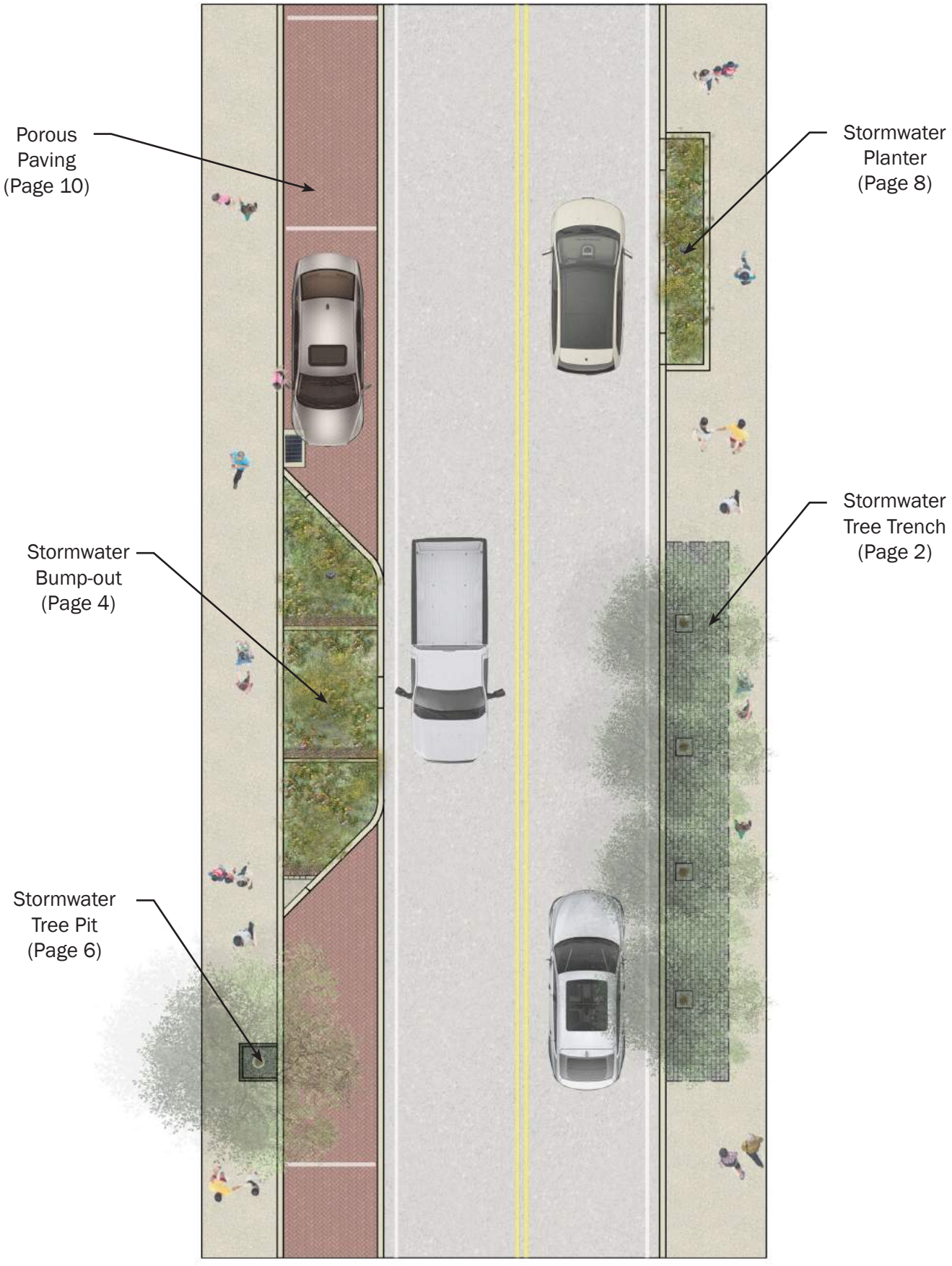
General Considerations:

Utilities - The location, size and type of overhead and sub-surface utilities must be considered when selecting a BMP.

Lighting - Do not block street lights or plant trees in locations that will interfere with the light standards.

Visibility - Consider sight lines at intersections and along streets by keeping mature height of proposed ground level planting below 36". Likewise, trees should be kept limbed up to a minimum of 6' above the ground surface.

Maintenance - The type and frequency of maintenance must be considered when selecting a BMP strategy.

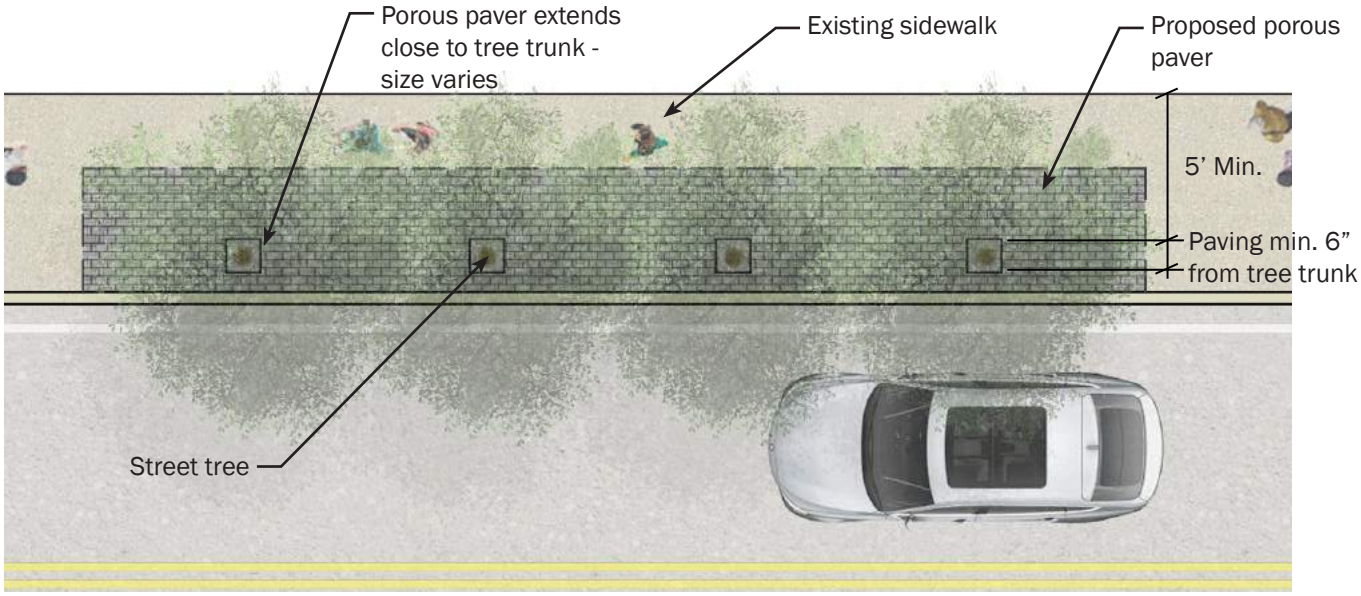

Porous Paving (Page 10)
Stormwater Planter (Page 8)
Stormwater Bump-out (Page 4)
Stormwater Tree Trench (Page 2)
Stormwater Tree Pit (Page 6)

TREE TRENCH

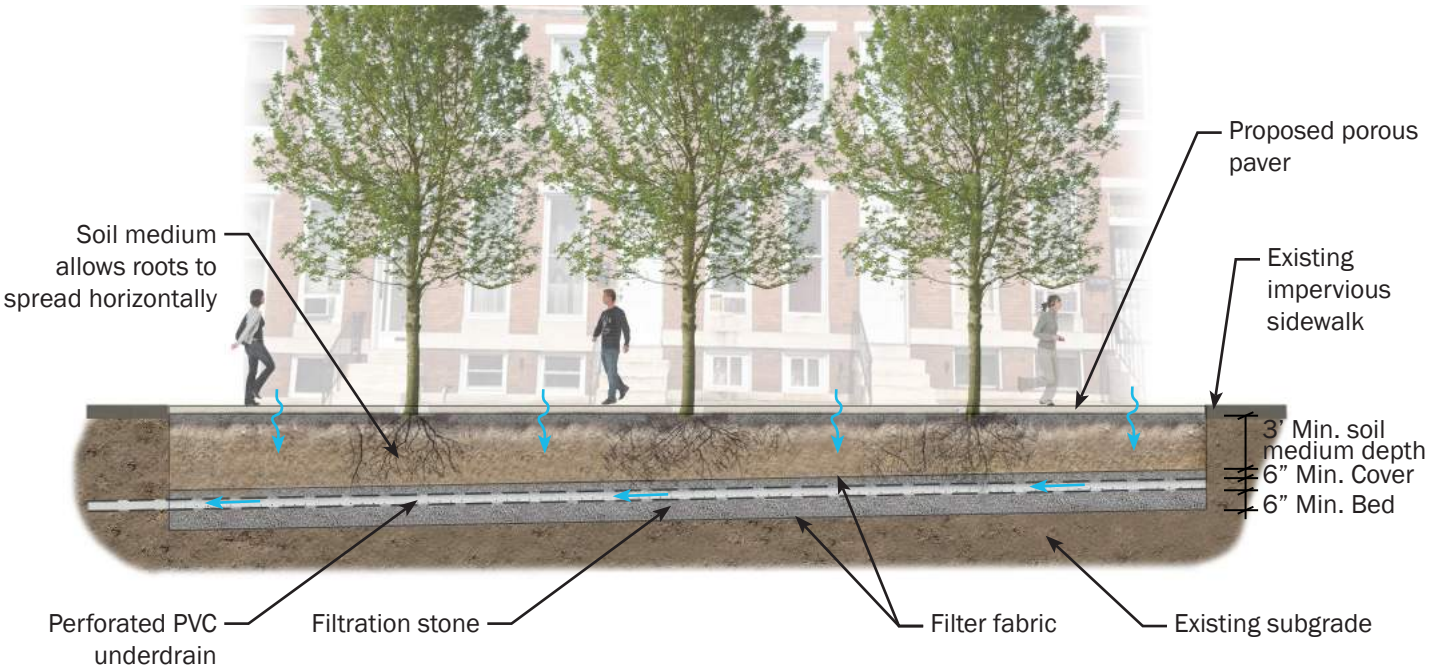
// DESCRIPTION

The Tree Trench is a BMP that reduces impervious surfaces and converts these areas into porous, infiltrating surfaces. Trees provide additional water quality benefits while also increasing canopy cover. Tree Trenches can store large volumes of runoff in relatively smaller areas depending on the space available. With proper installation these trenches provide street trees a greater horizontal area of growing medium, improving root spread, increasing stabilization, and allowing them to survive longer than the more restrictive street tree pits.

// PLAN



// SECTION



TREE TRENCH

// CONSIDERATIONS

- Provide 5' min. width of sidewalk between the tree and the edge of sidewalk
- Determine location and depth of utilities within the drainage area
- Simple retrofit that promotes sustainable canopy cover and infiltration
- Flexibility allows it to be used in tight location

// BENEFITS

- Decreases impervious surface
- Increases tree canopy
- Decreases runoff into the street
- Street tree survival rate increases
- Lower cost with high water quality benefit

// MATERIALS

- Porous pavers: EP Henry ECO Pavers



- Soil Medium: CU Engineered Soils
- Filtration Stone: No. 2 Stone
- Perforated PVC Underdrain: To be sized based on drainage area
- Filter fabric: Non-woven Geotextile
- Optional: Silva Cell Root Zone Protection to protect soil porosity
- Optional: Silva Cell Soil Medium

- Recommended Tree Species (see Plant List on page 12)

// EXAMPLE IMAGES



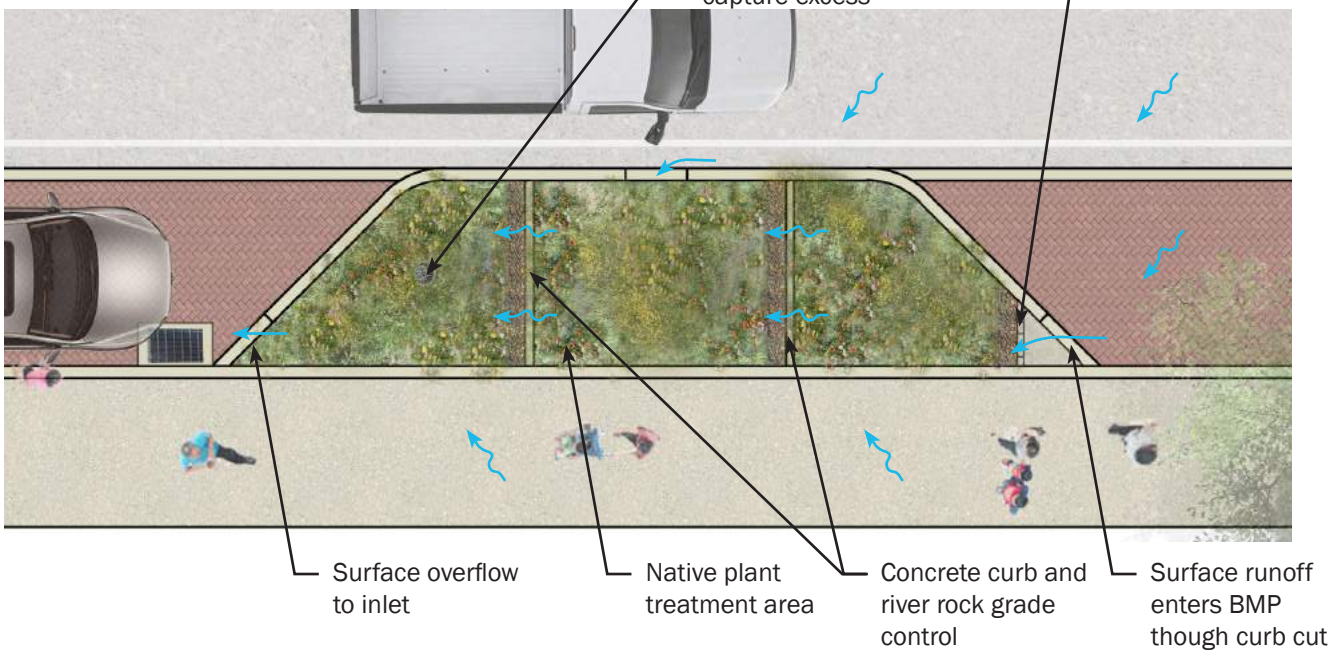


STORMWATER BUMP-OUT

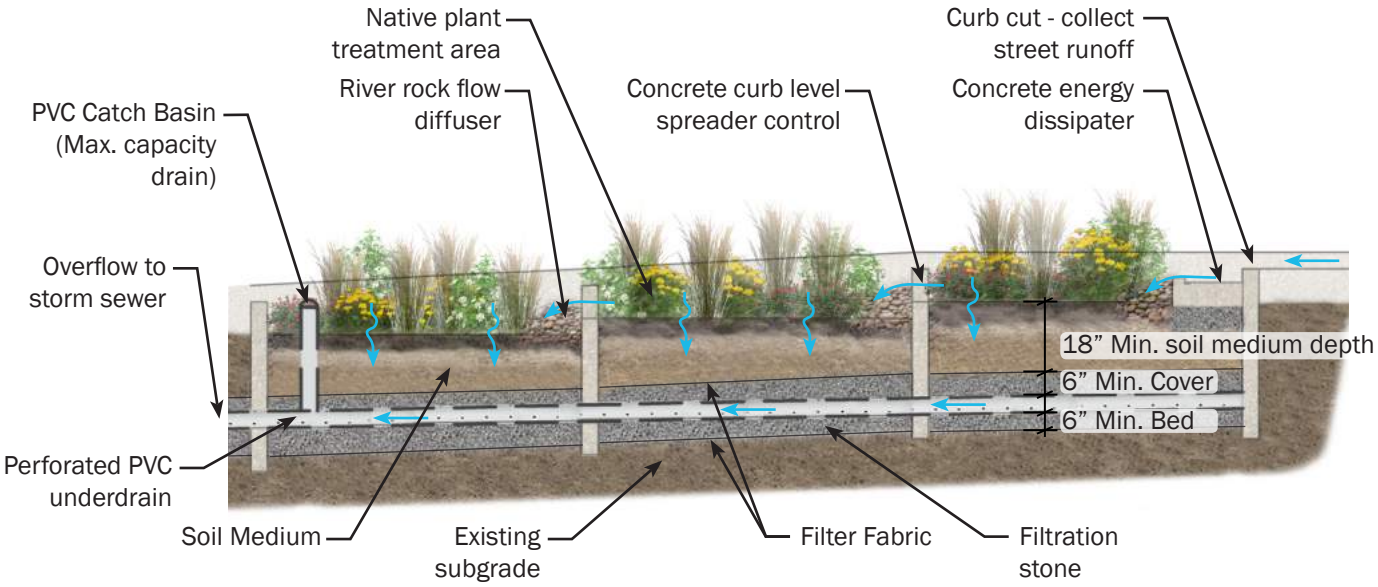
// DESCRIPTION

The Stormwater Bump-Out is a rain garden built into the street in place of parking spaces or unused pavement area. Runoff is captured by curb cuts in the bump-out and held to infiltrate and filter pollutants. Excess water overflows the lowest end and into the next bump-out or is captured through a domed inlet. Stormwater Bump--Outs provide multiple environmental benefits as well as improved aesthetics in the urban environment. For roads with slopes greater than 5%, the BMP can be stepped to create multiple levels of filtration.

// PLAN



// SECTION



STORMWATER BUMP-OUT

// CONSIDERATIONS

- 5’ Min. width of sidewalk between tree and edge of sidewalk
- Location and depth of utilities within the drainage area
- Snow storage
- Use existing stormwater infrastructure/ retrofitting existing inlets
- Maintenance, Trash/debris collection
- Use available space outside of defined parking

// BENEFITS

- Decreases impervious surface
- Increases tree canopy
- Decreases runoff into street
- Water quality improvements
- Street aesthetics
- Biodiversity within urban setting

// MATERIALS

- Curb Cut and Energy dissipater: Custom poured in place concrete


- Soil Medium: CU - Engineered Soil or amended soil (<10% clay)
- River Rock: Size varies per flow volume
- PVC Catch Basin: With raised dome inlet
- Filter fabric: Non-woven Geotextile

- Recommended Plant Material
  - Native shrubs, grasses, herbaceous material
  - Species that tolerate proposed hydrologic conditions
  - Low height for visibility and safety (<36” @ maturity)
  - Minimize use of trees and shrubs if snow storage is anticipated
  - Salt tolerant species
  - See Plant List on page 12 for recommended species

// EXAMPLE IMAGES

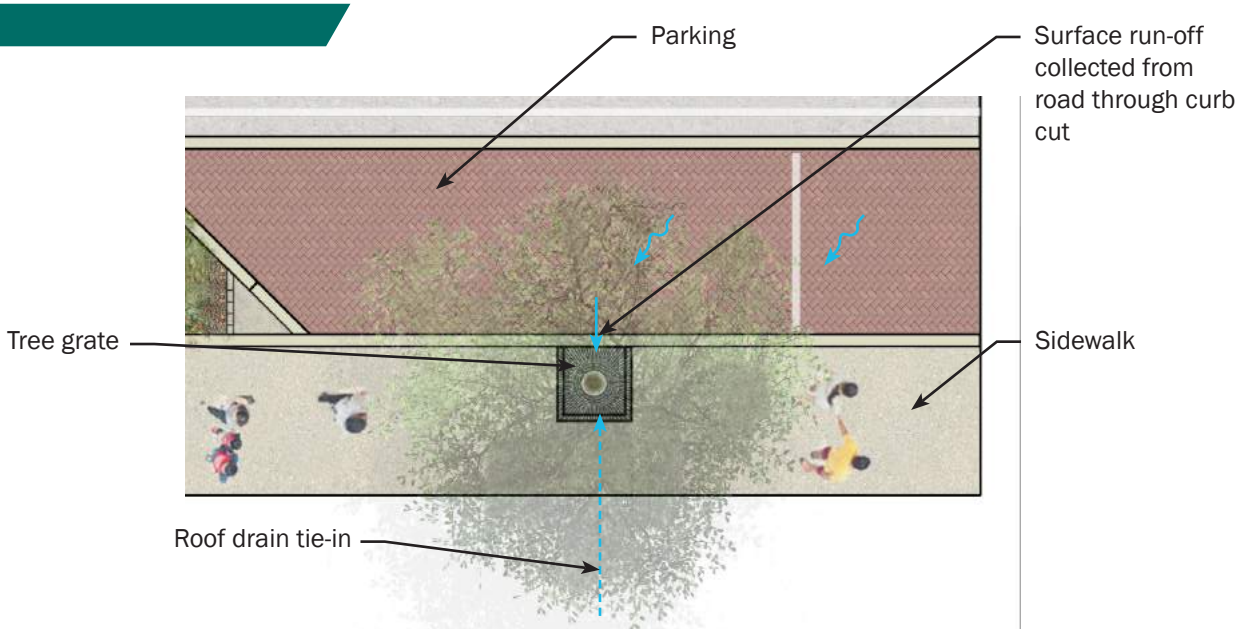



STORMWATER TREE PIT

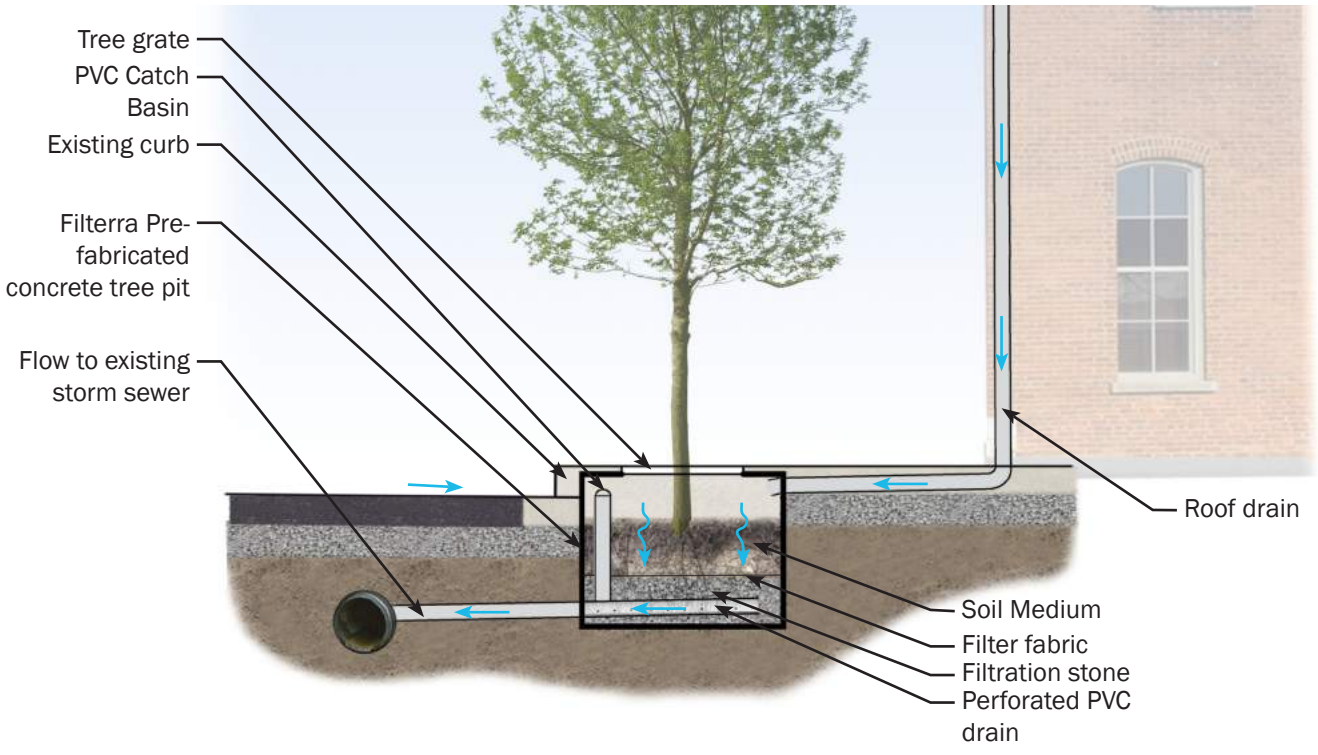
// DESCRIPTION

The Stormwater Tree Pit is an efficient small scale BMP used for capturing and filtering downspout runoff from a typical city row home. Tree Pits are installed concrete boxes that contain a single tree in engineered soil to capture and filter roof runoff. These BMP's can be connected directly to roof downspouts to minimize run-off onto sidewalks and into the street. They can also collect stormwater runoff, depending on drainage area, from the street through curb-cuts or grates. Run-off is infiltrated through the soil and in to a perforated PVC drain before returning to the stormwater system. Excess water during larger storms will collect in the overflow inlet before being routed through the stormwater system.

// PLAN



// SECTION



STORMWATER TREE PIT

// CONSIDERATIONS

- The width of sidewalk: Distance between the building and street
- Utilities within the drainage area
- Pre-fabricated drop in place system with connection to stormwater drainage system
- Smaller capacity system that is easily replicated

// BENEFITS

- Decreased impervious surface
- Increased tree canopy
- Decreased runoff into street
- Improved water quality
- Small footprint
- Reduced maintenance

// MATERIALS

- Soil Medium: Filterra Engineered Soil
- Filtration stone: No. 2 Stone
- Filter Fabric: Non-woven geotextile
- Perforated PVC Underdrain: To be sized based on drainage area
- PVC Catch Basin: With raised dome inlet
- Concrete Tree Pit: Filterra Concrete Container (www.conteches.com)
- Recommended Tree Species
  - Non-seed or fruit bearing trees
  - Native trees
  - Suitable for compact planting area with a small root zone
  - See www.conteches.com for recommended species list

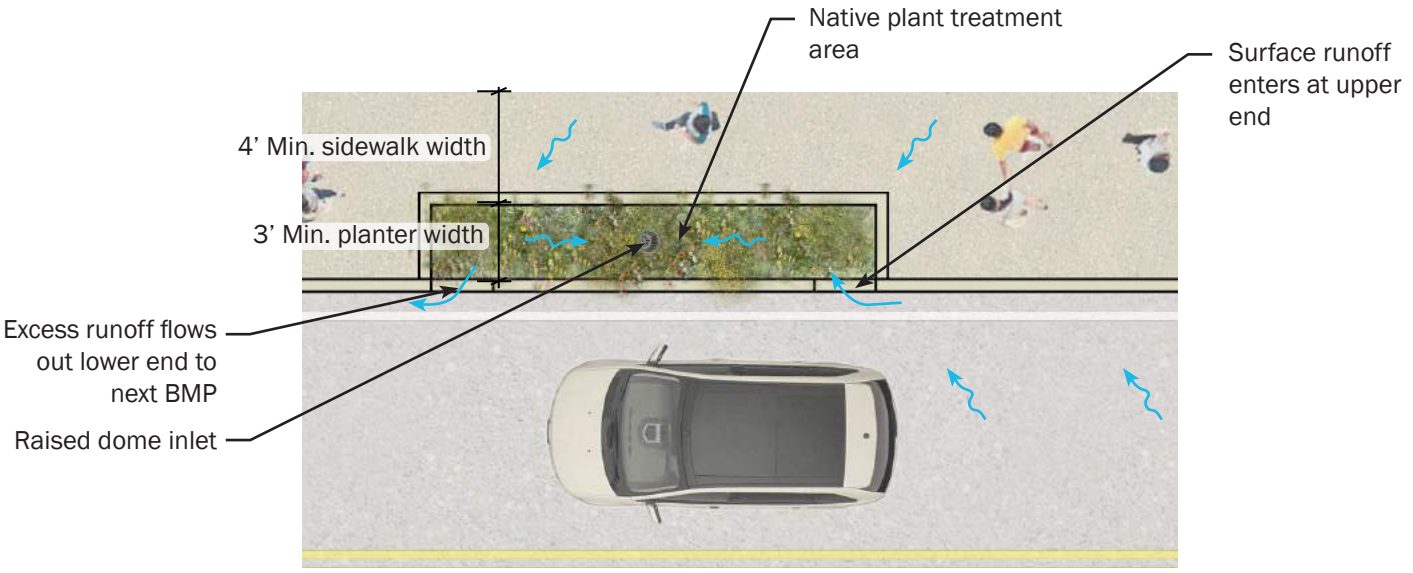
// EXAMPLE IMAGES

STORMWATER PLANTER

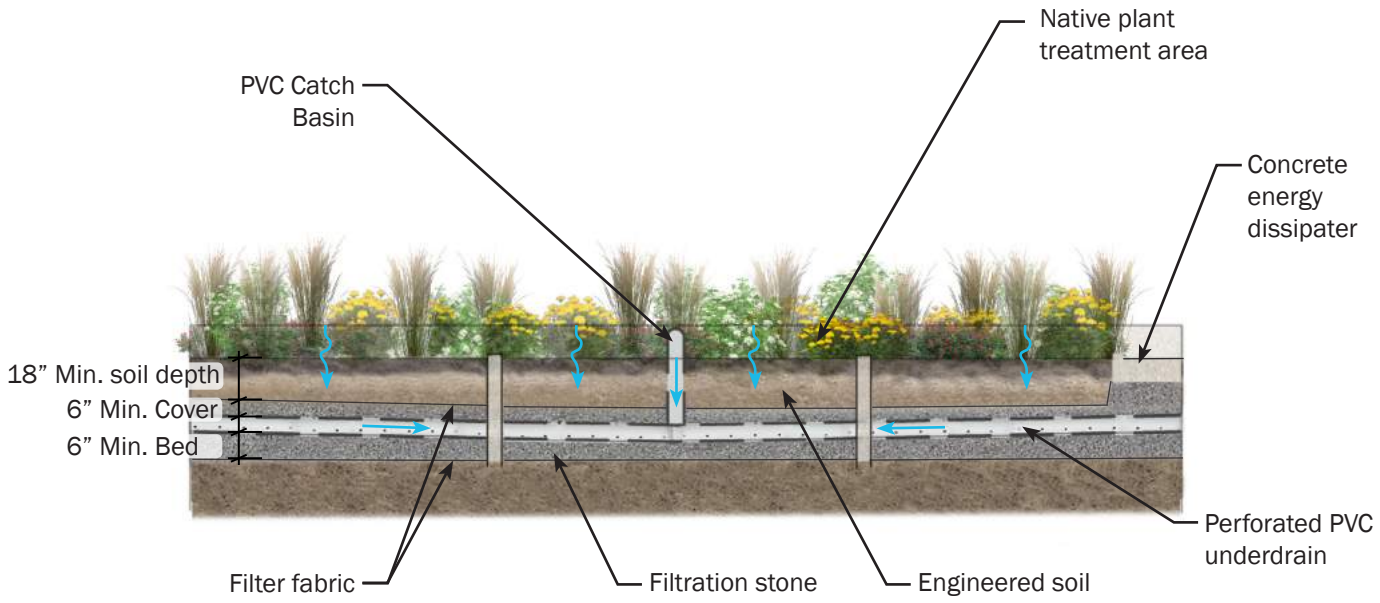
// DESCRIPTION

Stormwater Planters are used where sidewalks are wide enough to support pedestrian traffic and a minimum 3' planter width. Built into the sidewalk, this BMP collects runoff from the street and sidewalk, filters and infiltrates the water and returns excess to the gutter system to flow into the next BMP. Stormwater planters can be used with or without street parking. They add biodiversity and aesthetics to the urban setting and can increase tree canopy when space is adequate. An efficient BMP where space in the street is limited, but space is abundant adjacent to the road.

// PLAN DETAILS



// SECTION DETAILS



STORMWATER PLANTER

// CONSIDERATIONS

- Can be installed where width of sidewalk will be min. 4' after retrofit
- Utilities within the drainage area
- Parking along the street may require step out sidewalk between car and planter - 2' min. width
- Maintenance, Trash/debris collection
- 3' min. planter width

// BENEFITS

- Decrease impervious surface
- Can increase tree canopy
- Decreased runoff into street
- Detention of small amounts of water during larger storms

// MATERIALS

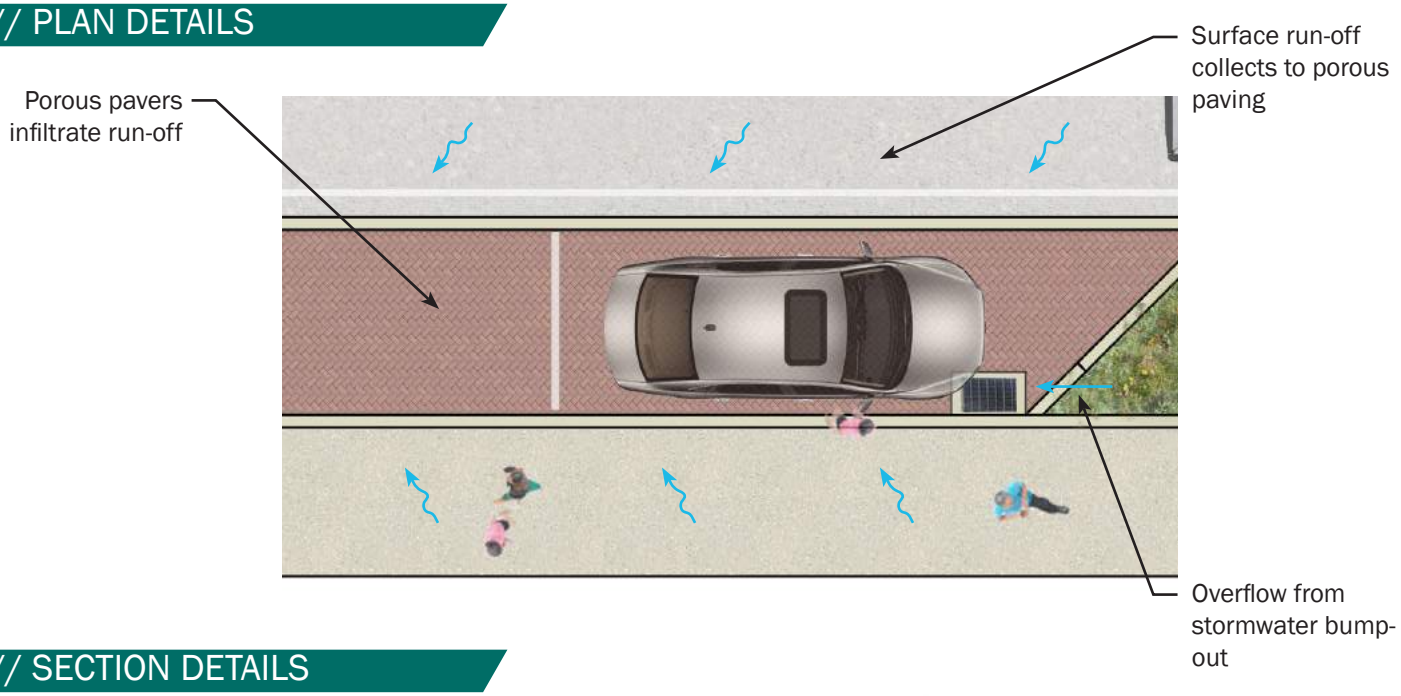
- Soil Medium: CU Engineered soils or amended soil (<10% clay)
- Filtration Stone: No. 2 Stone
- Filter Fabric
- PVC Catch Basin: With raised dome inlet
- Perforated PVC Underdrain: To be sized based on drainage area
- Recommended Plant Species
  - Non-seed or fruit bearing trees
  - Native trees, shrubs, grasses, and herbaceous
  - Low height for visibility and safety (<36" @ maturity)
  - Salt tolerant species
  - Minimize use of trees and shrubs if snow storage is anticipated
  - See plant list on page 12 for species recommendations

// EXAMPLE IMAGES

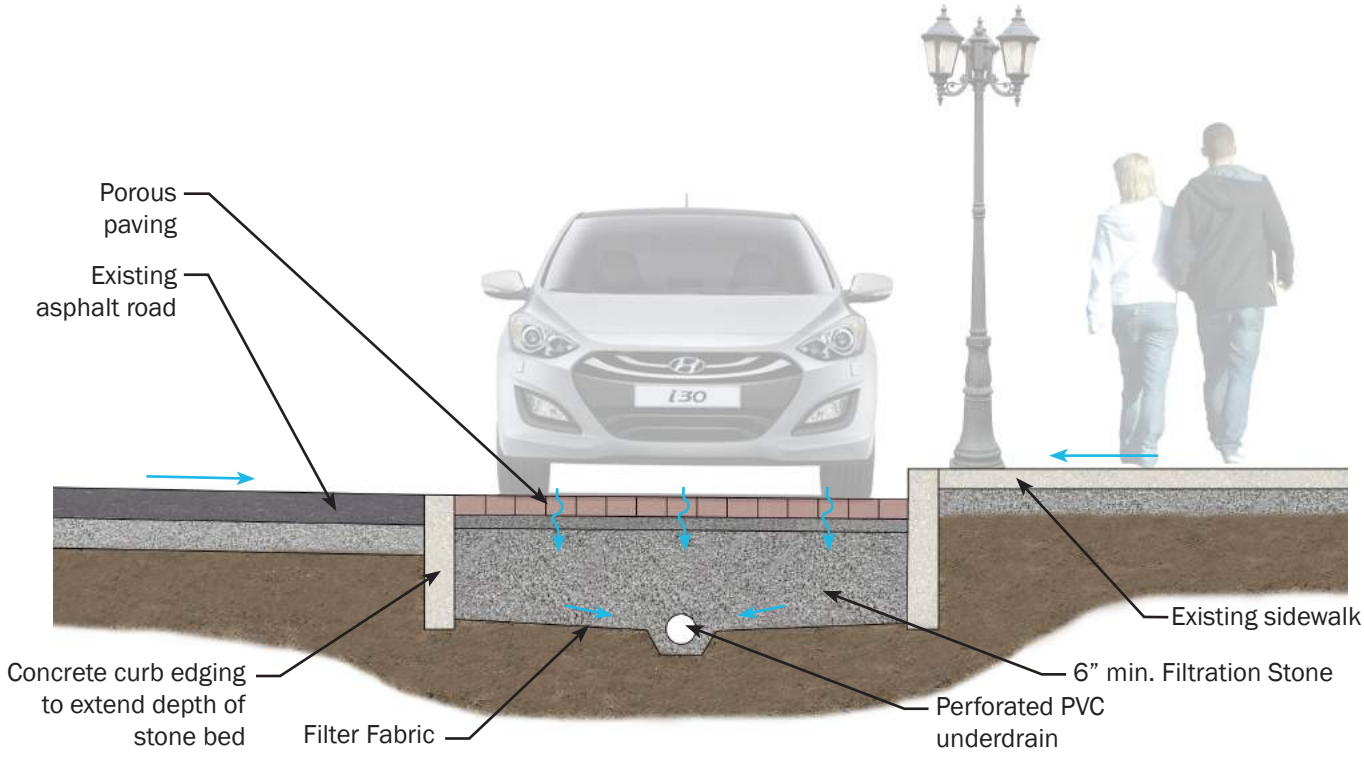
// DESCRIPTION

Porous Paving reduces impervious cover while allowing run-off to infiltrate, reducing surface run-off to an inlet. Combined with subsurface storage, porous paving can be an efficient way to reduce or slow the release of runoff in the urban setting where space is limited. Efficient uses include parking lots, street parking, and sidewalks.

// PLAN DETAILS



// SECTION DETAILS



POROUS PAVING

// CONSIDERATIONS

- Wear - Recommended for low volume parking areas and roads
- Understand hydrology and potential impacts of infiltration - install impervious subsurface barrier with outfall drain
- Utilities within the drainage area
- Maintenance includes vacuuming
- Compaction/vehicle weight loads may reduce efficiency

// BENEFITS

- Decreases impervious surface
- Decreases runoff into street
- Does not require extra space - Replaces existing Impervious material
- Pavers provide alternative to asphalt for improved aesthetics

// MATERIALS

- Porous Pavers: EP Henry - ECO Brick Stone Recommended
- Brushed stone in joints: ASTM NO. 8, 89, or 9



- Filtration stone: No. 2 Stone
- Perforated PVC Underdrain: To be sized based on drainage area
- Filter Fabric: Non-woven Geotextile
- Separation Geotextile to be used where porous material abuts impervious surfaces and base materials

// EXAMPLE IMAGES




THIS PAGE INTENTIONALLY LEFT BLANK

// TREES

BOTANICAL NAME	COMMON NAME
Acer rubrum	Red Maple
Acer saccharum	Belle Tower Sugar Maple
Amalanchier grandiflora	Servicberry
Alnus serrulata	Smooth Alder
Carpinus betulus	Fastigate European Hornbeam
Cercis canadensis	Eastern Redbud
Ginko biloba - Male only	Autumn Gold Ginko (male)
Gledistsia triacanthos var inermis	Shademaster Honey Locust
Gymnocladus diocus	Kentucky Coffee Tree
Nyssa sylvatica	Black Gum
Platanus acerifolia	London Plane Tree
Quercus bicolor	Red Oak
Quercus rubra	Swamp White Oak

// SHRUBS

BOTANICAL NAME	COMMON NAME
Ceanothus americanus	New Jersey Tea
Clethra alnifolia 'Hummingbird'	Sweet Pepperbush
Fothergilla gardenaii	Dwarf Fothergilla
Ilex glabra 'Shamrock'	Inkberry
Itea virginica 'Little Henry'	Virginia Sweetspire
Rhus aromatica	Fragrant Sumac

// HERBACEOUS AND GRASSES

BOTANICAL NAME	COMMON NAME
Andropogon virginicus	Broomsedge
Amsonia 'Blue Ice'	Blue Star
Asclepias incarnata	Swamp Milkweed
Aster novi-belgi	New York Aster
Bouteloua gracilis 'Blonde Ambition'	Blue Grama
Carex radiata	Eastern Star Sedge
Chelone glabra	White Turtlehead
Conoclinium coelestinum	Blue Mistflower
Coreopsis verticillata	Threadleaf Coreopsis
Echinacea purpurea	Purple Coneflower
Iris versicolor	Blue Flag
Juncus effusus	Common Rush
Lobelia cardinalis	Cardinal Flower
Osmunda regalis	Royal Fern
Onoclea sensibilis	Sensitive Fern
Verbena hastata	American Blue Vervain

*Species recommendations based on recommended soil amendments.
**Plant selection shall be based on proposed site conditions.
***Plant selection recommendations includes but is not limited to the above species.

THIS PAGE INTENTIONALLY LEFT BLANK

// COST-BENEFIT

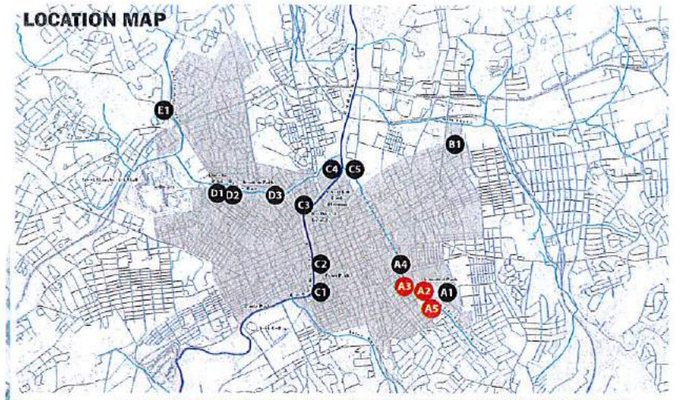
Treatment Strategy	BMP Size (sf)	Drainage Area (sf)	Probable Cost (+/- 25%)	Sediment Removal ($/lb)	Anticipated Pollutant Removal (lbs/yr) Nitrogen Removal	Phosphorus Removal	Sediment Removal
Porous Paving	600.0	3,000.0	$37,000	$425.29	0.80	0.050	87
Bump-Out	300.0	1,500.0	$35,800	$832.56	0.63	0.030	43
Planter	80.0	400.0	$22,300	$1,858.33	0.17	0.008	12
Tree Trench	100.0	500.0	$29,500	$1,966.67	0.13	0.008	15
Tree Pit	16.0	80.0	$28,500	$14,250.00	0.02	0.001	2

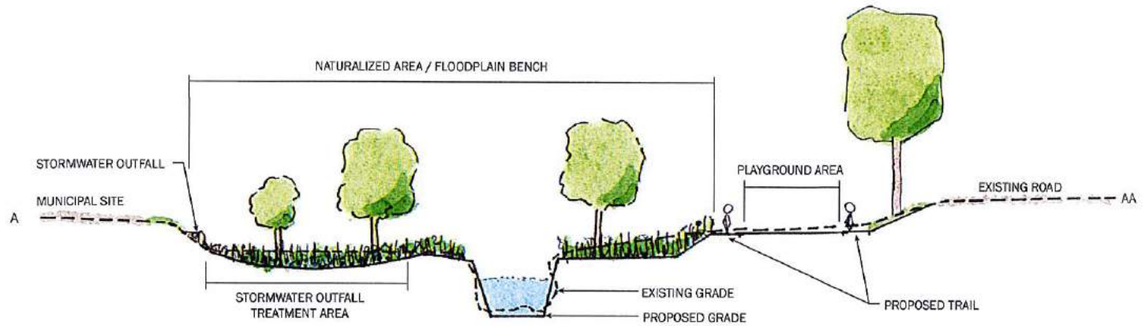
*General Assumptions:

1. Assumes drainage area is 5x the size of BMP and all ground cover within the drainage area is impervious.
2. Sizes of BMPs are standard for representation only
3. Excludes traffic control
4. Price assumes installation of a single unit. Installation of multiple units may decrease cost.
5. Excludes design/ permitting
6. Excludes post construction monitoring and maintenance
7. Excludes utility relocation, or work associated with utility conflicts.
8. Price assumes prevailing wage
9. Excludes erosion control blanket
10. This information does not constitute a quote, contract, or proposal for services by LandStudies, Inc. Cost data is derived from current and past market data for similar projects and does not include a factor for future price inflation.

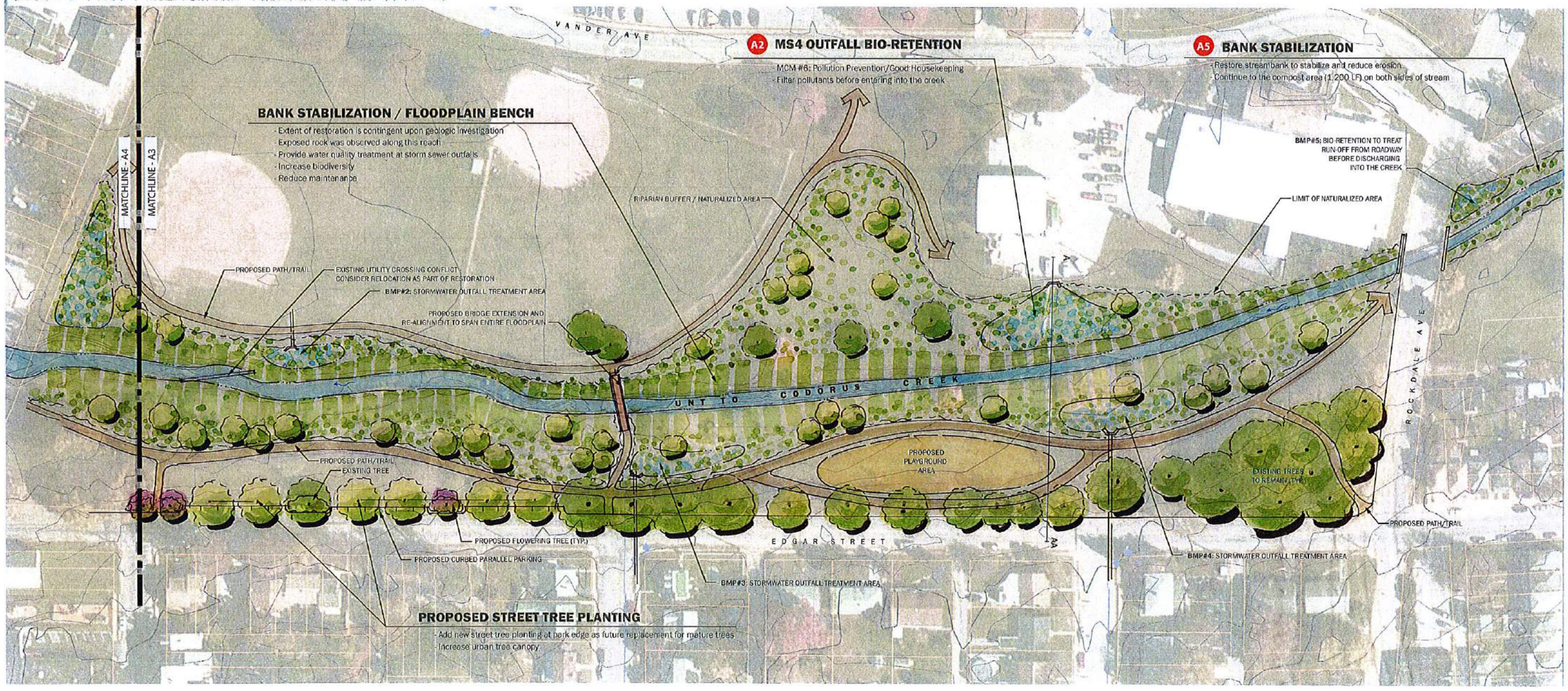
*Pollutant Removal References:

1. Based on Recommendations of the Expert Panel to Define Removal Rates for Urban Stormwater Retrofit Projects. Chesapeake Stormwater Network. January 20, 2015





PROPOSED FLOODPLAIN IMPROVEMENTS - TYPICAL SECTION



QUANTIFICATION OF BENEFITS

POTENTIAL STREAM LOAD REDUCTIONS

Stream Length:	Nitrogen (lbs/yr)	Phosphorus (lbs/yr)	Suspended Solids (lbs/yr)
2361 LF	177.08	160.55	105,961.68

**Source: Schueler, T and C. Lane. Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects. 2014. Retrieved April 28, 2016.

POTENTIAL BMP LOAD REDUCTIONS

BMP #	Nitrogen (lbs/yr)	Phosphorus (lbs/yr)	Suspended Solids (lbs/yr)
2	80.26	3.14	1,793
3	22.02	1.49	1,054
4	41.61	2.4	1,795
5	64.82	2.42	1,321
A2	152.79	6.71	4,335

**Source: Schueler, T and C. Lane. Recommendations of the Expert Panel to Define Removal Rates for Urban Stormwater Retrofit. 2015. Retrieved April 28, 2016.

GREEN INFRASTRUCTURE CONCEPT PLAN

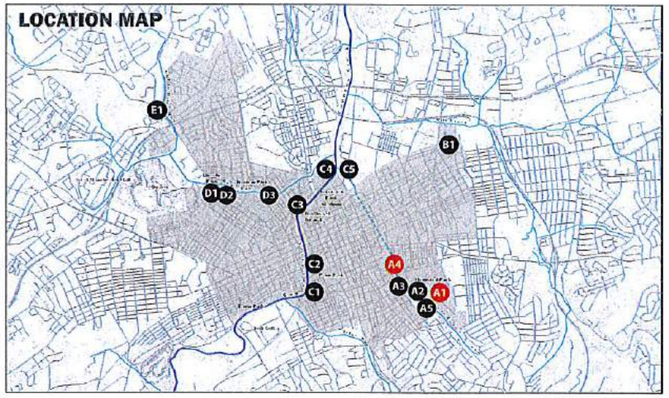
SITE A3 - VETERANS MEMORIAL PARK

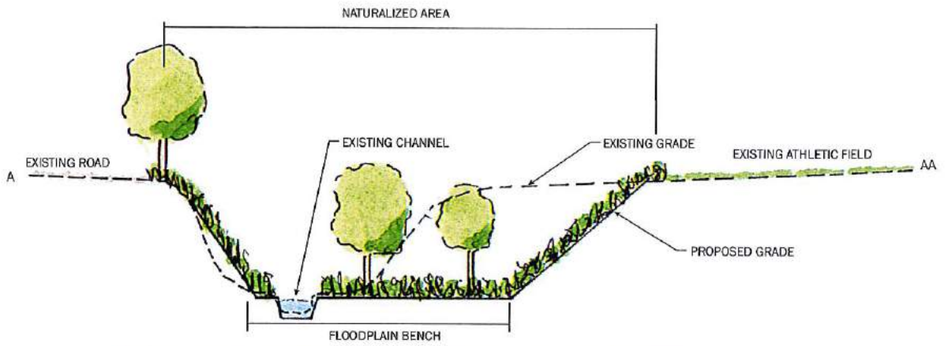
YORK CITY GREEN INFRASTRUCTURE ACTION PLAN

MAY 16, 2016

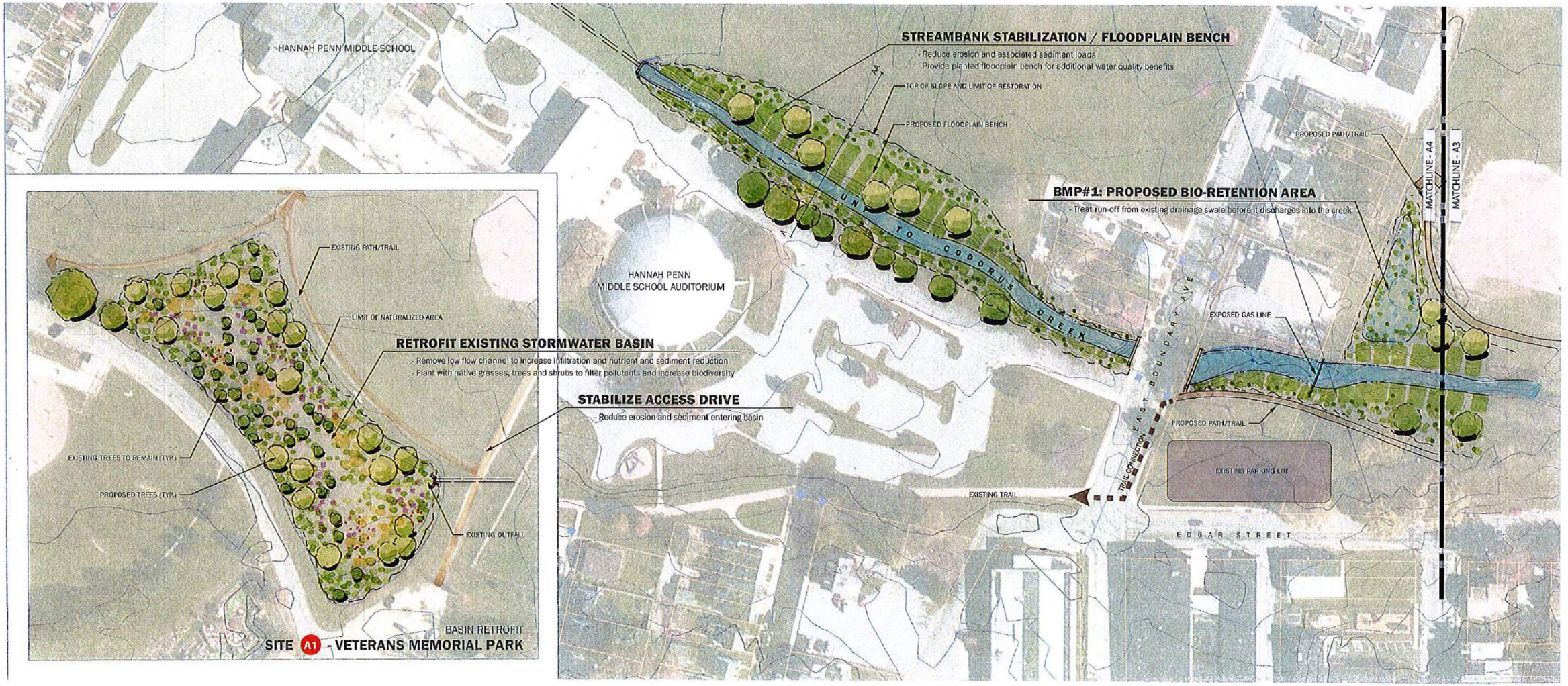
Land Studies

C.S. Davidson, Inc.





PROPOSED FLOODPLAIN IMPROVEMENTS - TYPICAL SECTION



QUANTIFICATION OF BENEFITS

POTENTIAL BMP LOAD REDUCTIONS

BMP #	Nitrogen (lbs/yr)	Phosphorus (lbs/yr)	Suspended Solids (lbs/yr)
1	52.80	2.30	2,266

**Source: Schueler, T and C. Lane. Recommendations of the Expert Panel to Define Removal Rates for Urban Stormwater Retrofit. 2015. Retrieved April 28, 2016.

GREEN INFRASTRUCTURE CONCEPT PLAN

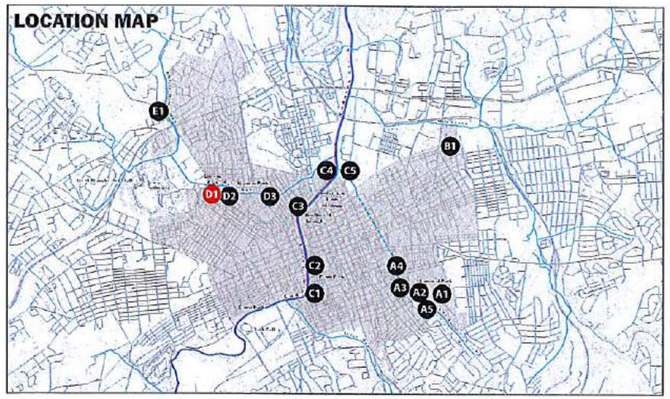
SITE A4 - VETERANS MEMORIAL PARK

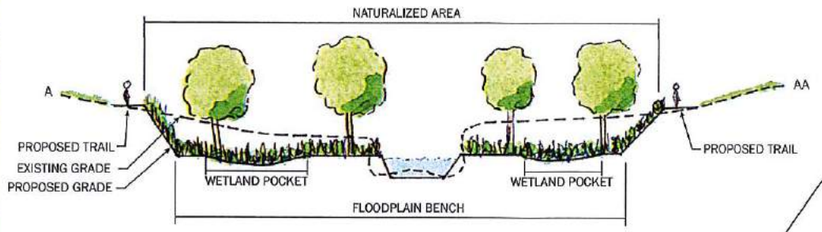
YORK CITY GREEN INFRASTRUCTURE ACTION PLAN

MAY 16, 2016

Land studies

C.S. Davidson, Inc.





PROPOSED FLOODPLAIN IMPROVEMENTS - TYPICAL SECTION

STREAMBANK / FLOODPLAIN RESTORATION

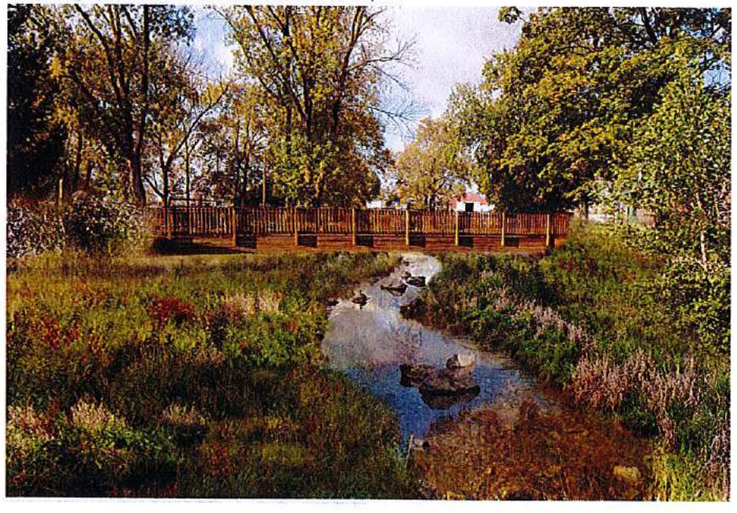
- Reconnect stream channel to floodplain
- Provide increased flood storage capacity in restored floodplain
- Provide water quality treatment at storm sewer outfalls
- Increase biodiversity
- Reduce maintenance

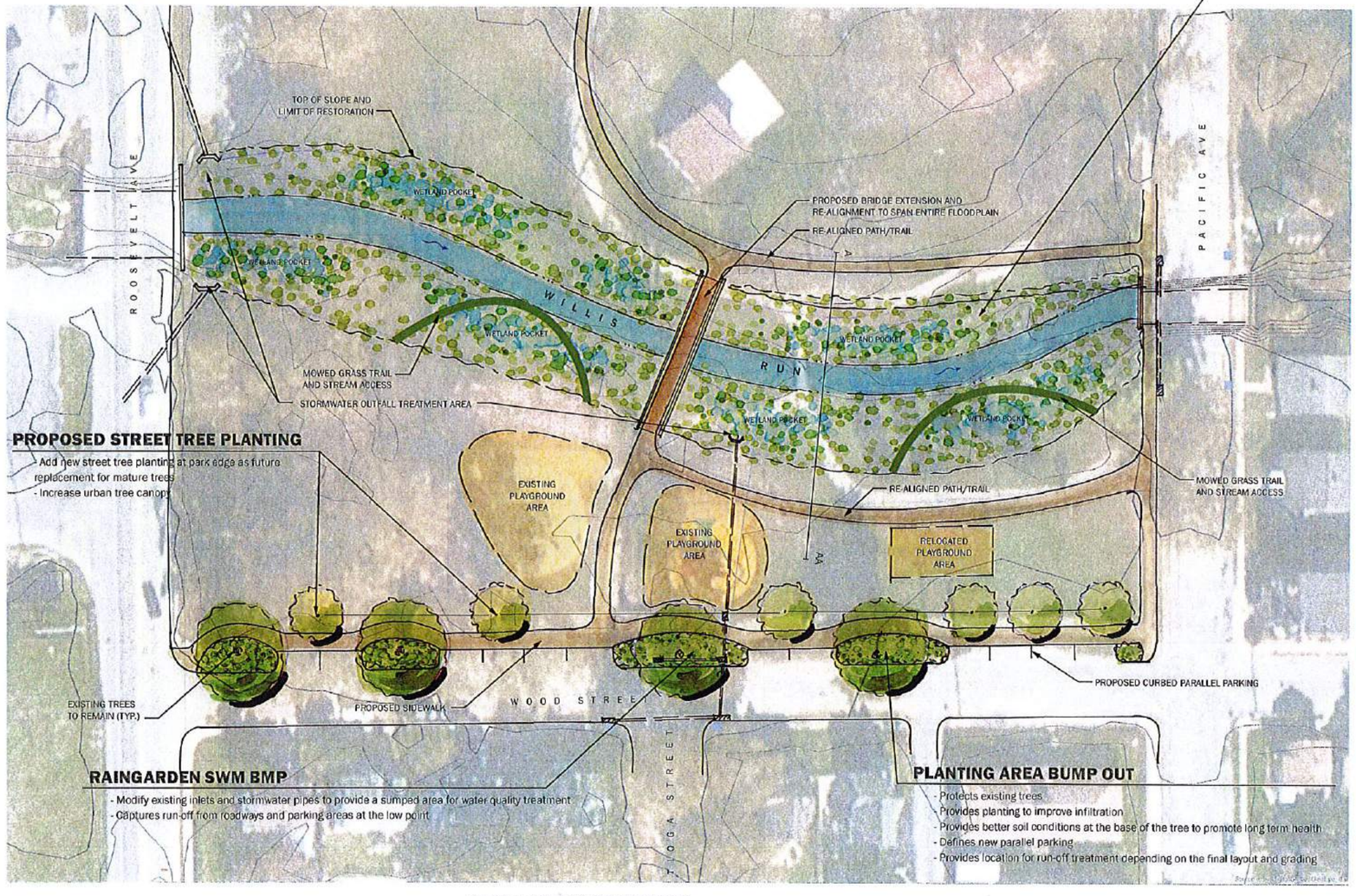
EXISTING CONDITIONS

- Unstable streambanks continue to erode, adding sediment to the stream.
- Pedestrian bridge constricts flows and reduces flood storage capacity

PROPOSED CONDITIONS

- Floodplain is reconnected to the stream channel, minimizing erosion and improving flood storage capacity and infiltration.
- The bridge span is extended the full width of the restored floodplain.





PROPOSED STREET TREE PLANTING

- Add new street tree planting at park edge as future replacement for mature trees
- Increase urban tree canopy

RAINGARDEN SWM BMP

- Modify existing inlets and stormwater pipes to provide a sumped area for water quality treatment
- Captures run-off from roadways and parking areas at the low point

PLANTING AREA BUMP OUT

- Protects existing trees
- Provides planting to improve infiltration
- Provides better soil conditions at the base of the tree to promote long term health
- Defines new parallel parking
- Provides location for run-off treatment depending on the final layout and grading

QUANTIFICATION OF BENEFITS

POTENTIAL STREAM LOAD REDUCTIONS

Stream Length:	Nitrogen (lbs/yr)	Phosphorus (lbs/yr)	Suspended Solids (lbs/yr)
526 LF	39.45	35.77	23,606.88

**Source: Schueler, T. and C. Lane. Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects. 2014. Retrieved April 28, 2016.

GREEN INFRASTRUCTURE CONCEPT PLAN

SITE D1 - LINCOLN PARK

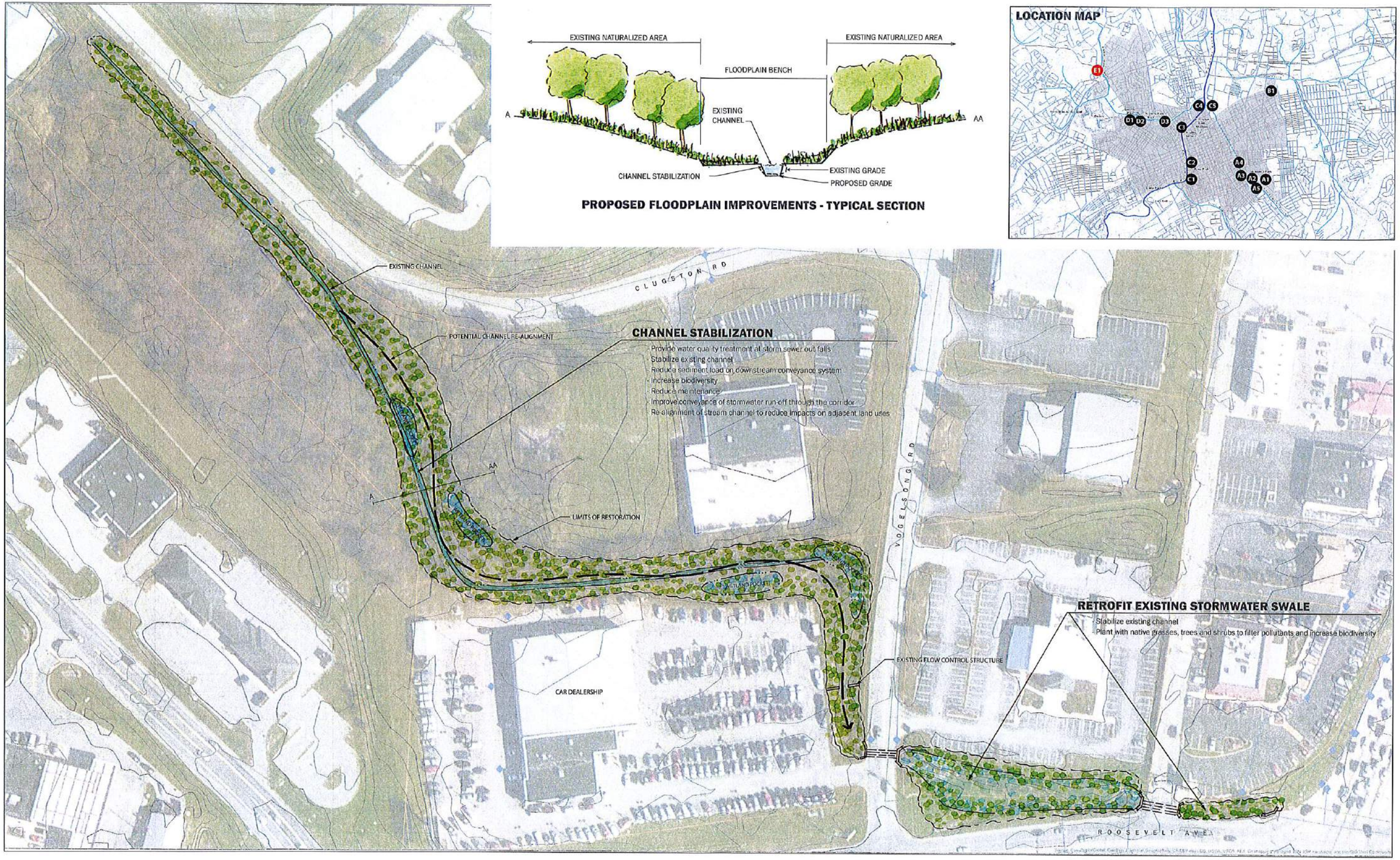
YORK CITY GREEN INFRASTRUCTURE ACTION PLAN

MAY 16, 2016

Land Studies

C.S. Davidson, Inc.

PROPOSED FLOODPLAIN IMPROVEMENTS - TYPICAL SECTION



QUANTIFICATION OF BENEFITS

POTENTIAL STREAM LOAD REDUCTIONS

Stream Length:	Nitrogen (lbs/yr)	Phosphorus (lbs/yr)	Suspended Solids (lbs/yr)
1,962 LF	147.15	133.42	88,054.56

**Source: Schueler, T. and C. Lane. Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects. 2014. Retrieved April 28, 2016.

GREEN INFRASTRUCTURE CONCEPT PLAN

SITE E1 - INDUSTRIAL PARK

YORK CITY GREEN INFRASTRUCTURE ACTION PLAN

MAY 16, 2016

Land Studies

C.S. Davidson, Inc.

Site C4 - York High Athletics Fields

Opportunities:
- Riparian Buffer along Codorus Creek
- SWM BMP at the confluence at Willis Run

Issues:
- Levee likely constructed by ACOE
- Project likely limited to planting adjacent to the stream and trail

Priority:
- Medium

Site C3 - Stevens Ave

Opportunities:
- Green infrastructure to disconnect existing downspouts and runoff from Codorus Creek
- Consider porous paving for infiltration of runoff
- Rain barrel implementation

Issues:
- Infiltrating behind existing wall would require further subsurface study
- Costs would likely exceed value of benefit
- Potential destabilization of existing wall adds significant risk

Priority:
- Very Low

Site C5 - Loucks Mill Rd

Opportunities:
- Regrade site to increase stability of stream banks and provide limited flood storage
- Well suited for this type of project - incised banks is a sediment source to Codorus Creek

Issues:
- Disposal of excavated potentially hazardous material
- Site is not large enough to provide significant flood storage

Priority:
- Medium

Site C2 - Heritage Rail Trail Open Space (W King St to W College Ave

Opportunities:
- Good area and layout for typical green infrastructure project
- Intercept stormwater before discharge into Codorus Creek

Issues:
- Access to existing drainage and runoff limitation
- Majority of runoff is directed into stormwater inlets around the site
- Excavation removal of soil would be required to connect inlets
- Large construction costs vs limited return

Priority:
- Low

Site C1 - Stormwater Outfall to Codorus Creek

Opportunities:
- Retrofit existing concrete swale to vegetated swale
- Retrofit outfall for improved water quality

Issues:
- High cost with minimal benefits
- Steep concrete swale would require large step-pools
- Plunge pool appears to be stable
- Not much appeal, difficult access and coordination with railroad

Priority:
- Very Low

Potential MS4 Opportunity for York City

Neighborhood Strategy for SWM

BMP Opportunity

Low-Head Dam

Penn Park

Loucks Mill Rd
Queen Street
George Street
Beaver Street
Philadelphia Street
Market Street
King Street
Pershing Ave
Newberry Street
Penn Street
Prince Street
College Ave

0 50 100 150 200 300 400 600
Scale: 1" = 200'

Legend

- Parcels
- Maintained Grass Slope
- SWM BMP
- Riparian Buffer
- Stone Slope Stabilization
- Major Contour
- Stormwater Outfall
- Stormwater Pipe
- Stormwater Inlet
- Sanitary Sewer Pipe
- Floodway
- 100 year Floodplain
- York City Boundary
- Existing Wall
- Rail Trail BMP

YORK CITY GREEN ACTION PLAN

EXISTING CONDITIONS

AREA C - CITY CORE

DECEMBER 22, 2015

315 North Street, Lititz, PA | (717) 627-4440

Land Studies

Tree Canopy Report: City of York

Why is Tree Canopy Important?

Trees provide many benefits to communities, such as improving water quality, reducing stormwater runoff, lowering summer temperatures, reducing energy use in buildings, reducing air pollution, enhancing property values, improving human health, and providing wildlife habitat and aesthetic benefits[1]. Many of the benefits that trees provide are correlated with the size and structure of the tree canopy (TC) which is the layer of branches, stems, and leaves of trees that cover the ground when viewed from above. Therefore, understanding tree canopy is an important step in urban forest planning. A tree canopy assessment provides an estimate of the amount of tree canopy currently present as well as the amount of tree canopy that could theoretically be established. These tree canopy products can be used by a broad range of stakeholders to help communities plan a greener future.

[1]National Research Council. *Urban Forestry: Toward an Ecosystem Services Research Agenda: A Workshop Summary*. Washington, DC: The National Academies Press, 2013.

How Much Tree Canopy Does York Have?

An analysis of York based on land cover data (Figure 1) derived from high-resolution aerial imagery and lidar found that 854 acres of the study area were covered by tree canopy (termed Existing TC). This represents 12% of all land in the study area (Figure 2). An additional 51% (2,133 acres) of York's land area could theoretically be modified to accommodate tree canopy (termed Possible TC). Within the Possible TC category, 25% (891 acres) of total land area was classified as Vegetated Possible TC and another 26% as Impervious Possible TC (1242 acres). Establishing tree canopy on areas classified as Impervious Possible TC will have a greater impact on water quality and summer temperatures while Vegetated Possible TC, or grass/shrub, is more conducive to establishing new tree canopy (where such lands are not prairie and grassland habitat).

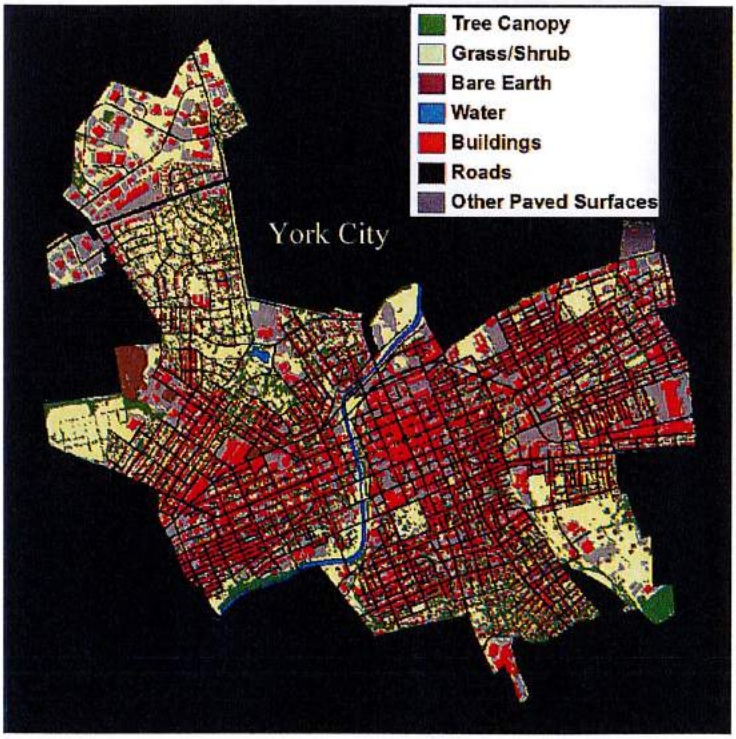


Figure 1: Study area and land cover derived from high-resolution imagery and lidar for this project.

Project Partners

This project applied the USDA Forest Service's Tree Canopy Assessment protocols to the York City, PA area. The analysis was conducted using imagery and lidar that was acquired in 2014. The Spatial Analysis Laboratory (SAL) at the University of Vermont's Rubenstein School of the Environment and Natural Resources carried out the assessment in collaboration with the USDA Forest Service.

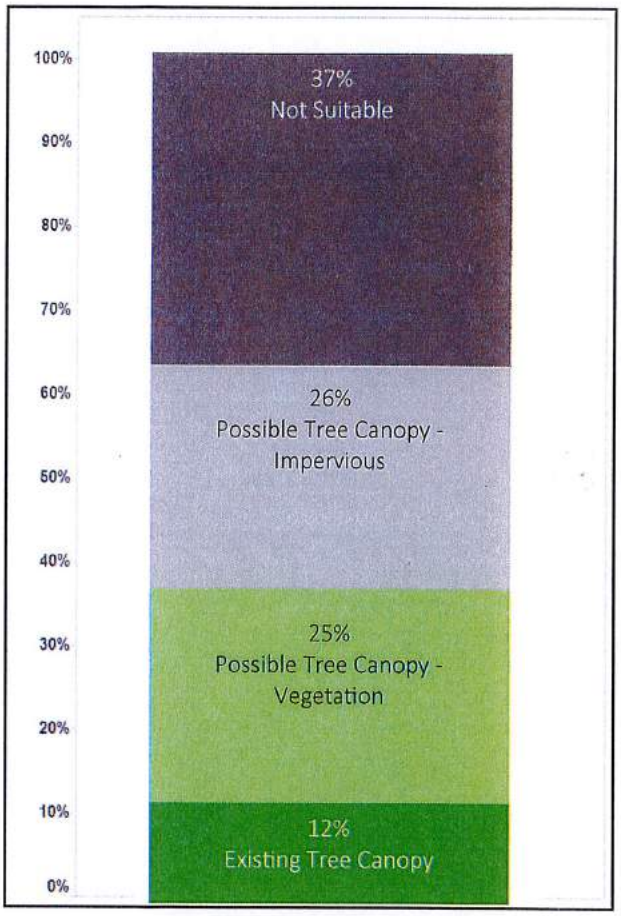


Figure 2: Tree Canopy metrics for York City, PA on percent of land area covered by each tree canopy type.

Key Terms

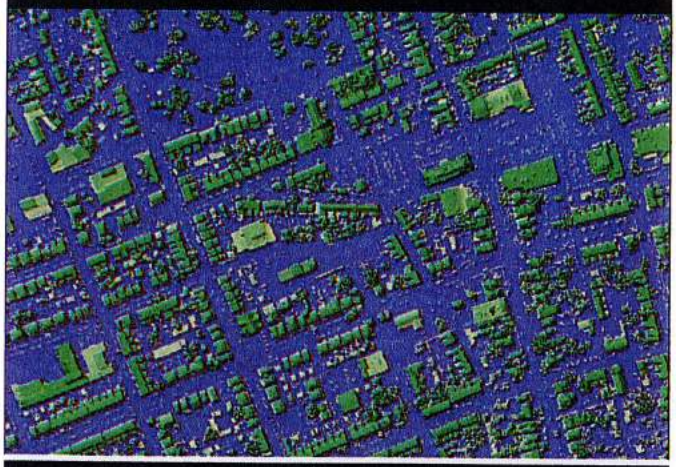
TC: Tree canopy (TC) is the layer of branches, stems, and leaves of trees that cover the ground when viewed from above.
Land Cover: Physical features on the earth mapped from aerial or satellite imagery, such as trees, grass, water, and impervious surfaces.
Existing TC: The amount of urban tree canopy present when viewed from above using aerial or satellite imagery.
Impervious Possible TC: Asphalt or concrete surfaces, excluding roads and buildings, that are theoretically available for the establishment of tree canopy if improvements were made.
Vegetated Possible TC: Grass or shrub area that is theoretically available for the establishment of tree canopy.
Not Suitable: Areas where it is highly unlikely that new tree canopy could be established (primarily buildings and roads).

Mapping York's Trees

Using high-resolution imagery (Figure 3a) and lidar from 2014 (Figure 3b), land cover for the City of York was mapped with such detail that individual trees were detected (Figure 3c). This new tree canopy dataset represents the most accurate accounting of tree canopy ever done for York.

a. 2014 Aerial Imagery

b. 2014 Lidar-derived surface model



c. 2014 Tree Canopy

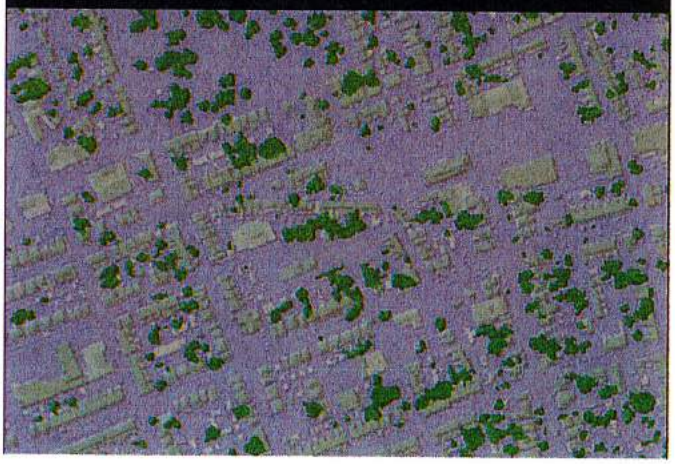


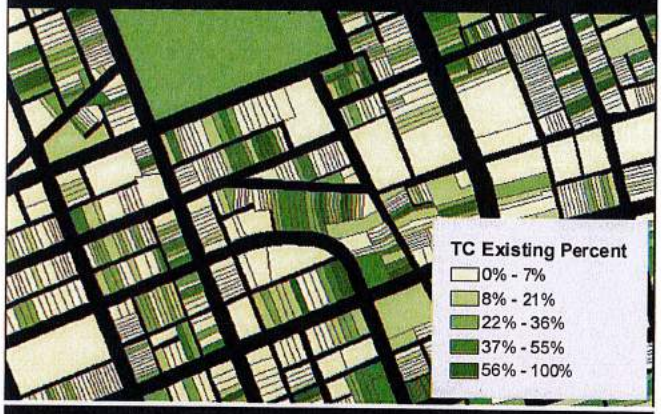
Figure 3: High-resolution imagery (a), lidar surface model (b), and tree canopy (c) derived for this study

Parcel Summary

Tree Canopy (TC) metrics, produced from the land cover data provide insight into the Existing and Possible tree canopy at units of analysis at various units of analysis. Existing TC and Possible TC metrics were calculated for each parcel, both in terms of total area (square footage) and as a percentage of the land area within each parcel (Tree Canopy area divided by land area of the parcel) (Figure 4). These data can be used to understand the current tree canopy and tree planting opportunities for every property in York.

Parcels

Existing Tree Canopy



Possible Tree Canopy

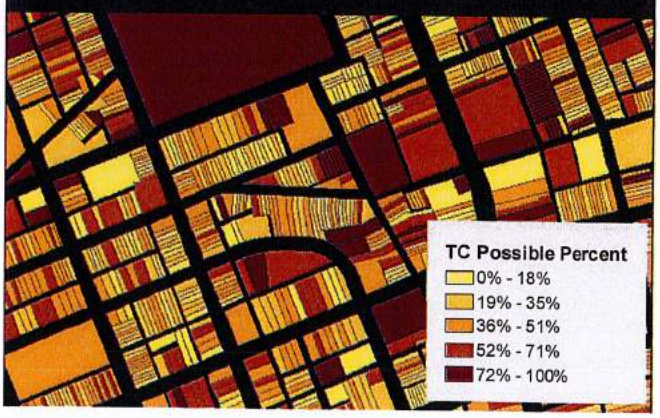


Figure 4: Parcel-based tree canopy metrics. Tree canopy metrics are generated at the parcel level, allowing each property to be evaluated according to its Existing TC and Possible TC.

Land Use

Tree Canopy metrics at the property parcel level were grouped according to land use values extracted from the parcel feature class (Figure 5). The most existing tree canopy was found in Residential (16%) and Apartment (16%) land uses. Farm land use had the most possible tree canopy—vegetated (69%). At the low end, Utility had <1% existing tree canopy, < 1% possible tree canopy—vegetated, and 8% possible tree canopy—impervious. This indicates that land uses with large amounts of tree canopy generally have less open space to plant new trees, but this relationship does not always hold true in more urbanized areas where select parcels with low Existing Tree Canopy also have low Possible Tree Canopy. An approach that considers all land use types is crucial for York to maintain and increase its tree canopy, with governments, residents, non-profits, and the private sector all playing a role.

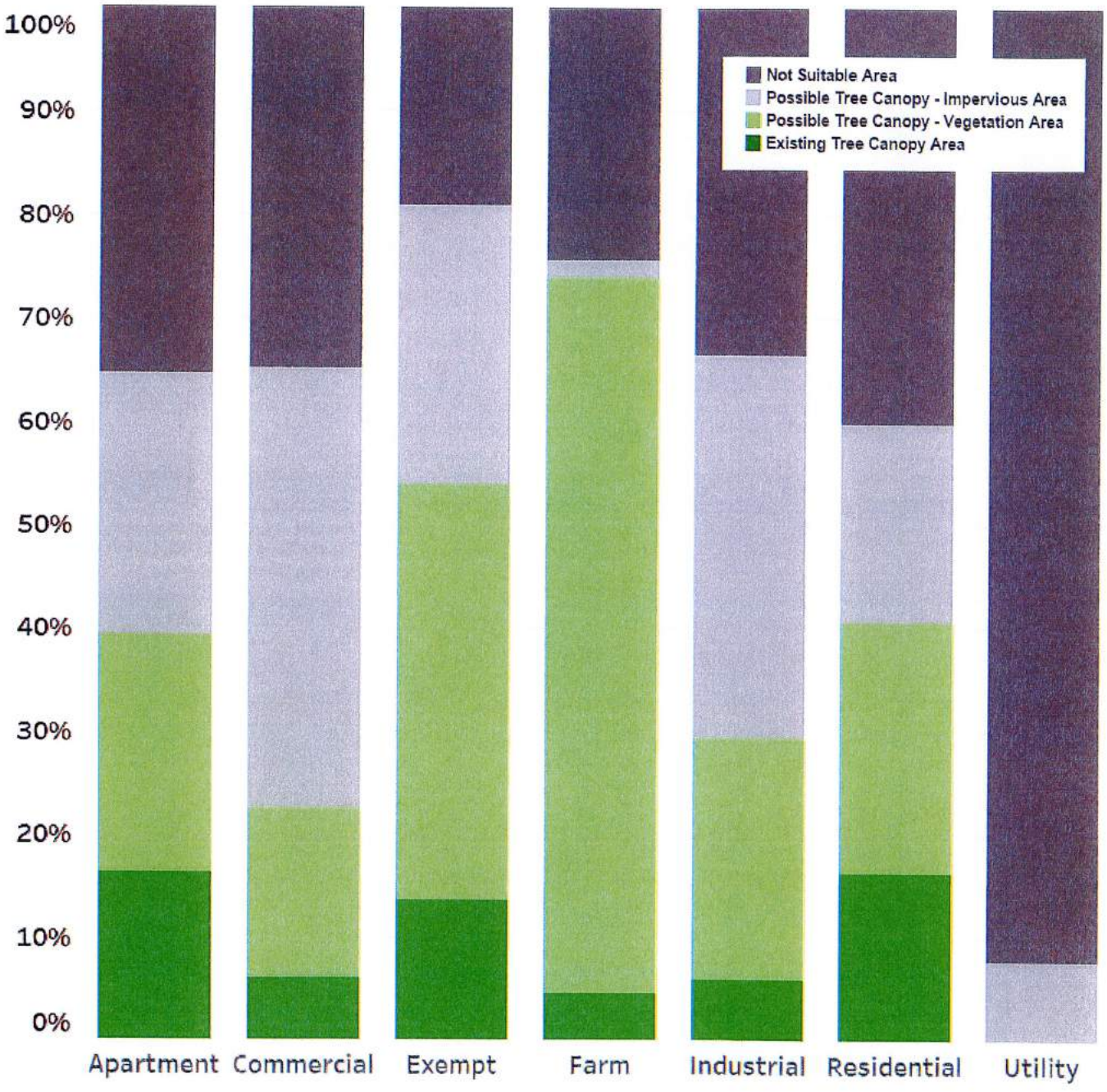


Figure 5: Percent of existing tree canopy, possible tree canopy, and not suitable areas for each land use class in relation to total land area. Percentages were calculated based on the amount of tree canopy relative to land area (i.e. water is excluded).

Zoning

Zoning areas covering York were used for summarizing Existing and Possible TC by percent category (Figure 6). Based on the percent category Conservation/Open Space had the most Existing TC (22% / 63 acres) followed by Medium Density Residential (21% / 95 acres) (Figure 7). These two zoning areas had the highest percent Possible TC (53% / 47 acres and 43% / 56 acres).

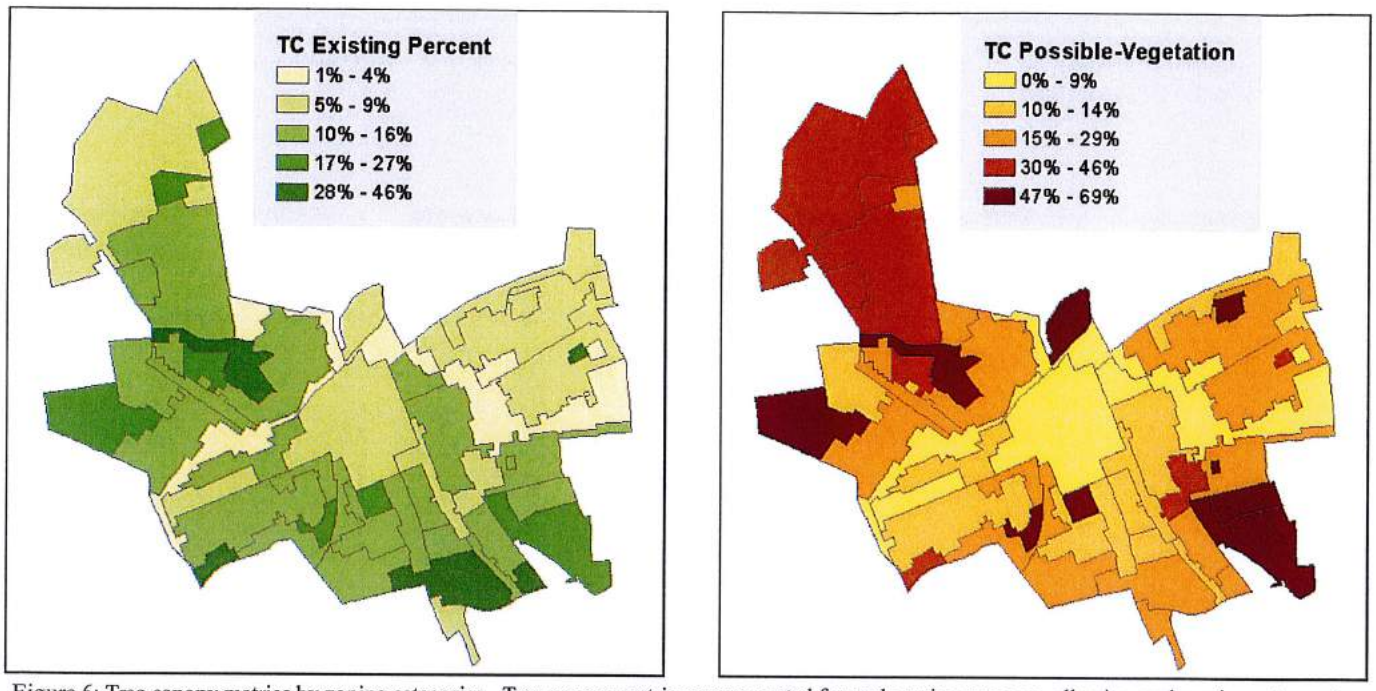


Figure 6: Tree canopy metrics by zoning categories. Tree canopy metrics are generated for each zoning category, allowing each zoning category to be evaluated according to its Existing TC and Possible TC and compared with other zoning categories.

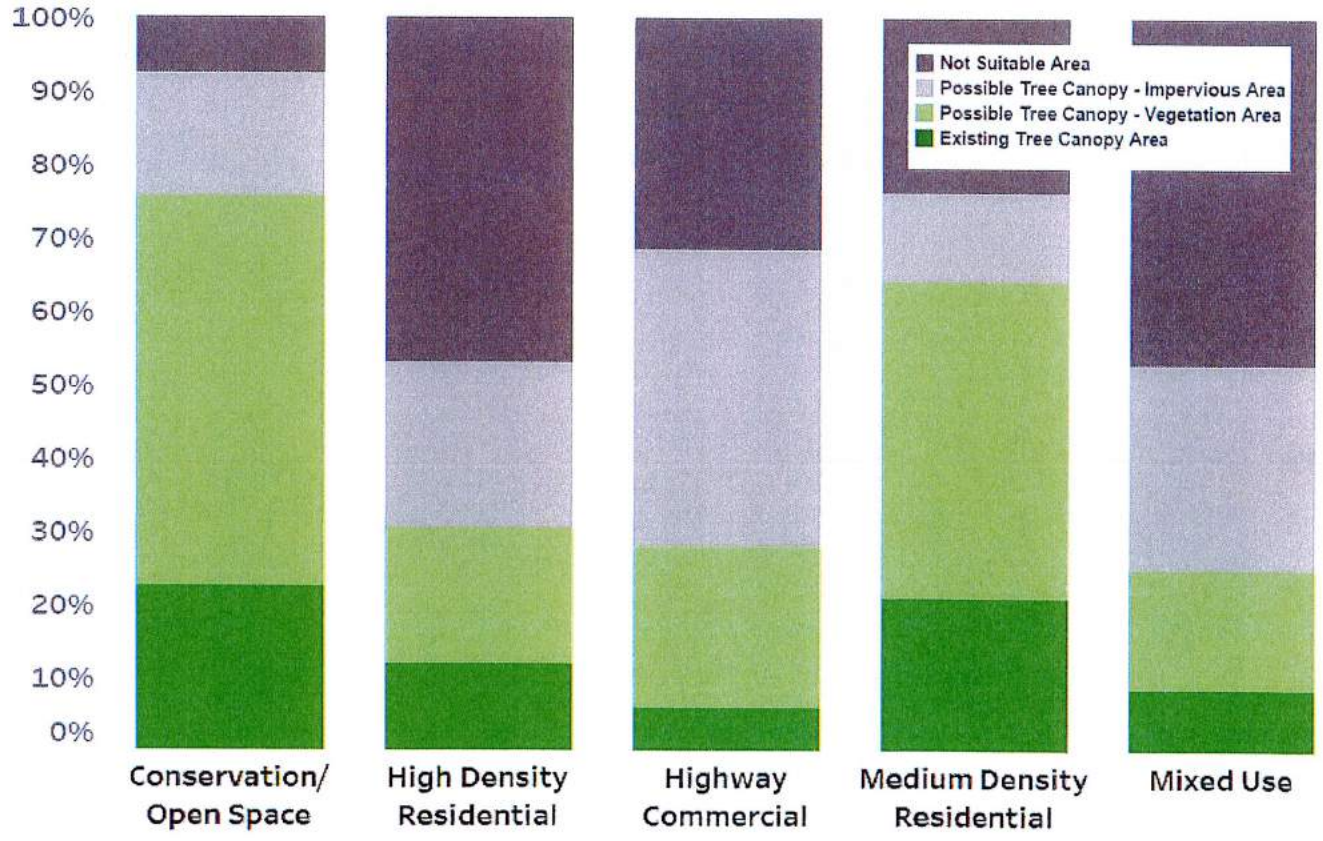


Figure 7: Tree canopy metrics summarized by zoning category.

Watersheds

Watershed boundaries within York were used for summarizing Existing and Possible TC by percent category (Figure 8). Based on the percent category Willis Run (13% / 119 acres) had the most Existing TC followed by Codorus Creek (12% / 266 acres) (Figure 9). Willis Run had the most possible tree canopy (64% / 349 acres). It should be noted the watersheds only represent the area within York and did not include the watershed area outside the city.

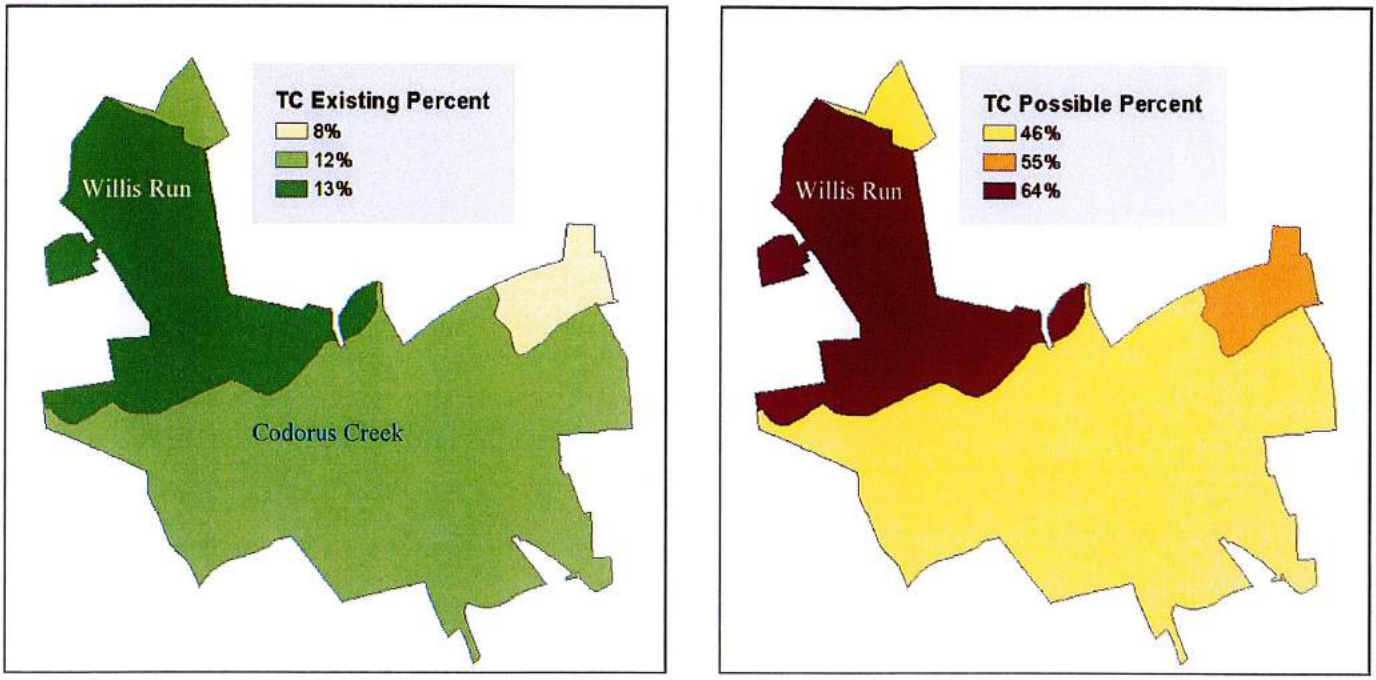


Figure 8: Tree canopy metrics by watershed. Tree canopy metrics are generated for each watershed, allowing each watershed to be evaluated according to its Existing TC and Possible TC and compared with other watersheds.

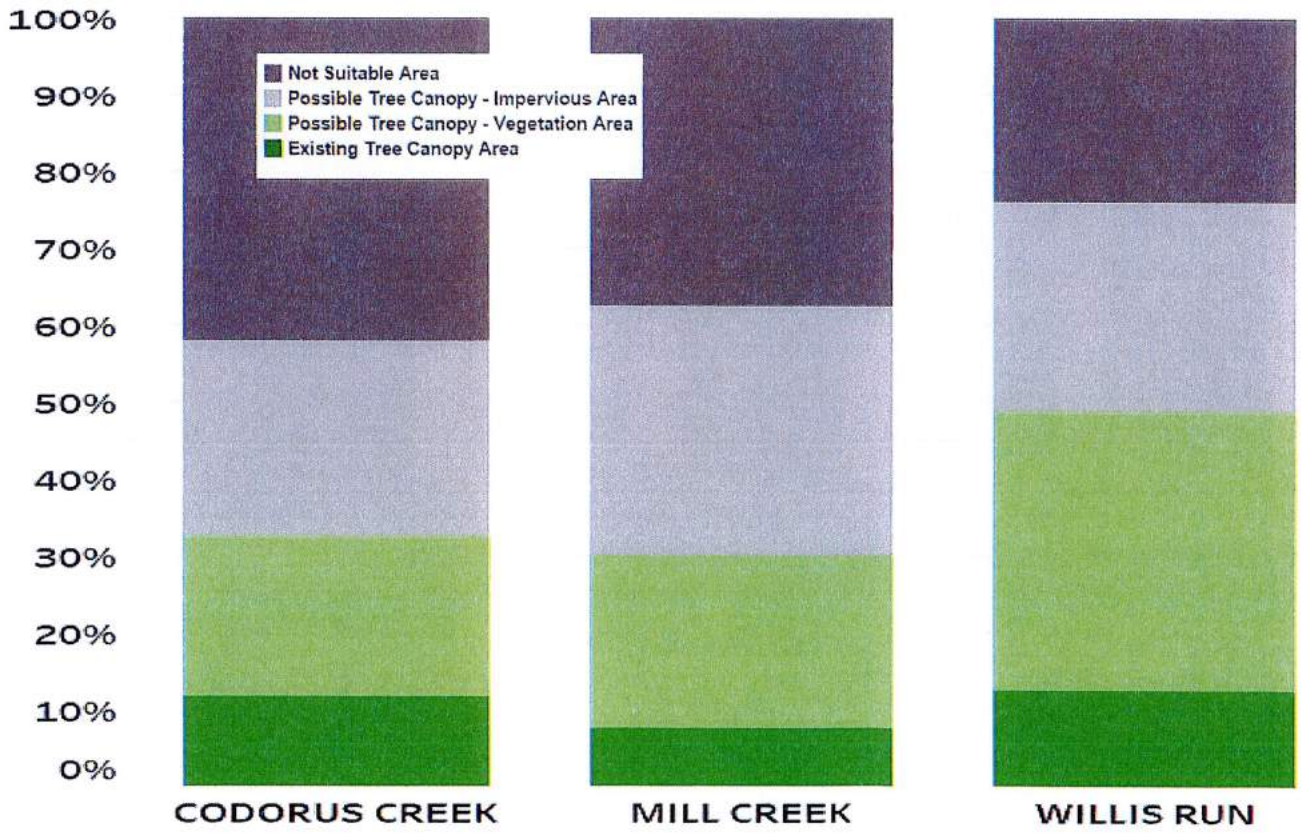


Figure 9: Tree canopy metrics summarized by watershed.

Conclusions

- This study provides the foundation for understanding the quantity, distribution, and configuration of tree canopy within York. It is recommended that an Urban Forestry Master Plan be established with stakeholders of the urban canopy. The true value of the study will be realized when the analyses are used to drive and specify goals to conserve existing tree canopy in addition to establishing new tree canopy. Tree canopy in York is a vital asset that provides ecosystem services such as stormwater runoff reduction, improved air quality, decreased carbon footprint, enhanced quality of life, savings on energy bills, and habitat for wildlife.
- The distribution of ecosystem services varies with the trees producing those services. The data from this study can be used to establish localized canopy goals and targeted plantings and conservation efforts to maximize limited resources. Selecting a specific ecosystem benefit to build an engagement campaign can increase the success in tree planting action, particularly when such an audience is already galvanized around a particular issue (e.g. engaging residents concerned about stormwater in a specific neighborhood in tree planting efforts).
- Tree canopy is correlated with lower surface temperatures. Increasing canopy cover in York will help reduce summer temperatures, thereby reducing energy use, improving health, and saving businesses and homeowners money by lowering energy bills. Targeting tree planting in sites with high surface temperatures would maximize these benefits.
- York's residents are paramount to preserving existing tree canopy and increasing canopy cover in the future. There is currently more tree canopy on residential land than any other land use type and more room to plant trees on residential property than on any other land use type.
- Preserving tree canopy is just as important as new planting initiatives. Efforts to maintain larger forested areas will facilitate natural regeneration in addition to insuring the preservation of the unique ecosystem services provided by these areas.
- When planning tree planting projects the socio-demographic market analysis data can provide key insights to better inform such efforts. The native language, culture, willingness to volunteer, and other factors are key considerations for any outreach activities.
- Future tree canopy assessments should be planned to assess changes to the tree canopy in York. Such assessments can provide crucial information on how effective tree planting and preservation efforts are, in addition to understanding how other factors (e.g. development) may be impacting tree canopy. Future assessments will only be made possible if continued investments in high-resolution remotely imagery and LiDAR are made.

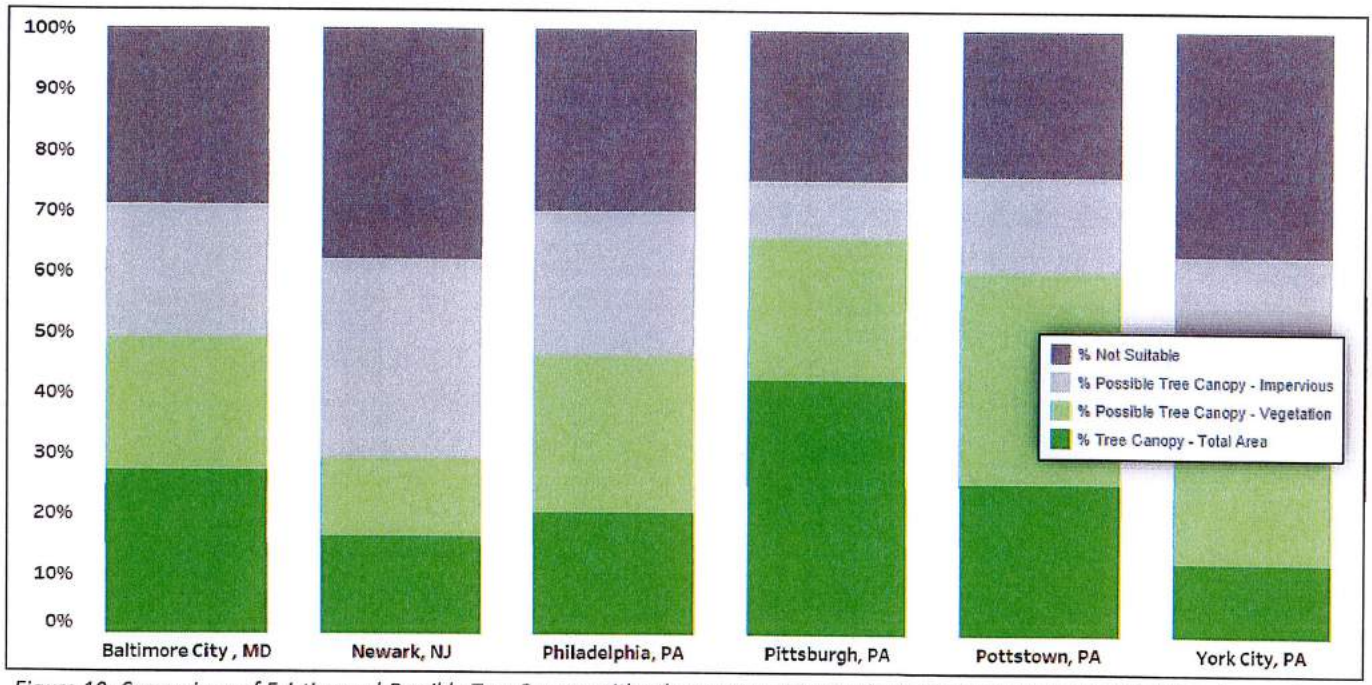


Figure 10: Comparison of Existing and Possible Tree Canopy with other communities similar in size that have completed Tree Canopy Assessments.

Prepared by:

Jarlath O'Neil-Dunne
University of Vermont
Spatial Analysis Laboratory
joneildu@uvm.edu
802.656.3324

Additional Information

For more info on the Urban Tree Canopy Assessment please visit http://nrs.fs.fed.us/urban/UTC/

University of Vermont
Spatial Analysis Lab

Tree Canopy Assessment Team: Noah Ahles, Luke Ban, Jarrett Barbuto, Noah Bell, Jason Black, Paige Brochu, Ernie Buford, Emma Butterfield, Jacob Cioffi, Kristine Corey, Jose Pablo Brenes Coto, Kai Darke, Karyn Dukes, Tayler Engel, Emma Estabrook, Mike Fahey, Mike Franck, Lindsey Freitag, Nathaniel Fuchs, Daniel Gordon, Jacob King, Sean MacFaden, Jared Maher, Elisabeth McElwee, Owen Moseley, Jarlath O'Neil-Dunne, Keith Pelletier, Anna Royar, James Rambone, Kelly Schulze, Matthias Sirch, Connor Sullivan, Patrick Sullivan.

17. APPENDIX E PUBLIC PARTICIPATION

MEETING REPORT

Meeting Date:	March 30, 2016
Project Name:	North Bend Opportunity Area (NBOA) – Art Focus Group
Project Number:	77083-01
Report Prepared By:	Karla Farrell
Meeting Location:	LSC Design, George St
Participants:	Ophelia Chambliss, Patrick Sells, Annalisa Gojmerac, Gale Jamiesom, Kelly Gibson, Joan Mummert, Dan Roe, Tim Miller, Karla Farrell, Rob Kinsley, Tom McGilloway, Andy Kalbak

Summary:

After a brief introduction about the meeting from Tom McGilloway, participants provided the following information:
Again, the concept of movement and transportation was discussed.
They would like to see the creek brought up to the level of the city- if not literally, than with art. They would like to see people be able to get down to the creek on an attractive access.
There are palpable boundaries between the city and the county.
They would like to see the production of art be by the public/or families. Something like Peter Jon Snyder did in Reading. The kids made the square stepping stones and they were arranged in an art form by the artist.
York Wire makes several mesh fabrics and other metal materials that could be incorporated into art and the landscape. Someone brought up the idea of chain link fencing that has been woven to look like oriental rugs.
There are those that would like to get away from the industrial theme. The Heritage Trust may be able to help with artistic diversity.
Most other parks in the city are oriented to adjacent neighborhoods and are designed to support the immediate neighborhood and are not necessarily destination parks for visitors. Example- Penn Commons.
The NBOA is more conducive to becoming a public park in the sense of a regional park.
There needs to be new shade in the area.
We want to make what is already there (water, open space) more useful and inviting.
Lighting is a form of art.
The group suggested a diversity of uses along the trail as a desirable goal.

Downtown Inc
DowntownYorkPa.com

Rail Trail Subcommittee
01/05/2016

Minutes

Present: Karla Farrell, Casey Deller, Barry Meyers, Tammy Klunk, Ken Martin, Jim Gross

Staff: Tim Fulton, Tim Miller

Agenda Item	Discussion	Action / Result
Project Updates	Deller reported that Rail Trail redevelopment schedule remains on track to begin as planned.	
DCNR Planning Grant	Miller introduced the scope of work for the DCNR planning grant as pertains to the Rail Trail Subcommittee which is to inform the conceptual plans for the Rail Trail extension through the Northwest Triangle and the design of Lafayette Plaza. Miller reported that Downtown Inc and the City of York are working towards finishing the inventory and the street tree analysis with Pennsylvania Bureau of Forestry. Miller reported that local artist Ophelia Chambliss is officially committed to joining the planning efforts as relate to the development of Lafayette Plaza. Farrell reported on her work related to the Rail Trail extension and the drafts of the presentation that will be shared at the public meeting. Miller mentioned that the announcement about the public meeting will need to go out soon.	Downtown Inc will publicize the information about the public meeting.
Next Meeting Date: February 2, 3:30pm		
Location: City Hall, Pullo Room		

MEETING REPORT

Meeting Date:	March 30, 2016
Project Name:	North Bend Opportunity Area (NBOA) History and Train Focus Group meeting
Project Number:	77083-01
Report Prepared By:	Karla Farrell
Meeting Location:	LSC Design, George St
Participants:	Joan Mummert, Steve Feldman, Dan roe, Bob Gotwals, Carl Knoch, Ophelia Chambliss, Tim Miller, karla Farrell, Rob Kinsley, Tom McGilloway, Andy Kalbak

Summary:

After a brief introduction about the meeting from Tom McGilloway, participants provided the following information:

York's history includes a primarily industrial component, however, there is a Colonial component as well, as interpreted by the Colonial complex campus that is part of this project site. The York Heritage Trust would like to see a cohesive interpretation between the colonial period and the industrial period.
However, the interpretation needs to be relevant and appeal to families. An example from Lowell, Massachusetts was indicated as a good way of incorporating contemporary art into historic interpretation.
York Heritage artifacts that can be outdoors could be included as part of the landscape. The trust would like to see historic interpretation happen along the Codorus between the Armory and College Ave bridges.
There is also history associated with the Codorus Creek. Layers of history in the stone wall that make up the channel. There were many mills along the creek- some roadways in the vicinity named after the various mills in the area (e.g. Reynold's Mill).
The creek and later the railroad are why York was established and managed to thrive in this location. The creek and the railroads provided transportation for industry during different periods of history. One of the most fundamental elements of US history is the role of transportation infrastructure.
The city can function as the historic hub, and then the trail will send people out to experience the history of adjacent areas such as Hanover Junction and New Freedom.
History can be made interesting when little pieces are incorporated into the landscape and discovered along the way.
Trail needs movement- a serpentine trail will slow bike traffic down and provide movement in the site.

Why is there no significant demarcation of the Mason Dixon line along the trail?

Steam into History a train destination in New Freedom, PA. - would like to rehab the rail that is north of Hanover Junction and do occasional excursions into the City. They are interested in making a connection up to the Steam Plant, which is the proposed home of the York Heritage Trust. Getting to the baseball field seems much less feasible. Currently doing fundraising for a wooden, manual turntable, which will be approximately 60' in diameter. The track will need to be extended to the turntable at two points. This train would be using the tracks in on Pershing, so coordination needs to happen with the current owners of York Rail. York Rail still uses the Pershing rail south to Richland Ave. The York Rail facilities connect to Norfolk Southern rails to the North. Long term Steam Into History plans are to start in York with excursions. Both bridges in the NBOA are currently used. The Southern Bridge is able to take heavier loads.

The Grand History Trail is a 165 mile loop planned between York/Baltimore/Annapolis/DC/Frederick/Gettysburg/Hanover and back to York. At this time, there are no trails in Frederick.

Meeting Date: January 28, 2016

Project Name: North Bend Opportunity Area (NBOA)

Prepared by: Downtown Inc

Participants: Approximately 70 attendees from the public, Sonia Huntzinger, Tim Miller, Karla Farrell, Tom McGilloway, Shilvosky Buffaloe, Tim Fulton

Summary:

The first public meeting began with Sonia Huntzinger and Tim Miller delivering remarks to introduce the team, the purpose of the planning effort, and the overall expected scope of work.

Shilvosky Buffaloe gave a presentation about NBOA development opportunities and focused on the interplay between public and private investments. Impactful public and private development can and should be realize in the NBOA and the planning effort currently getting underway will help to frame and enhance both.

Karla Farrell gave the main presentation which focused on the Codorus Corridor past, present, and future. Farrell focused on the greenway, trail, and public park opportunities.

Tom McGilloway spoke more generally about the elements of a great and dynamic space.

Tim Fulton discussed best ways to facilitate and frame a productive discussion about what the community would like to see come from developing such a unique space.

After the formal presentations many of the attendees remained to ask questions which spurred discussions with the presenters about the following: how to address concerns about railroad crossing rights of way; the types of environmental amenities that could be included; the importance of recreation; trail access to the Codorus Creek; the need to address concerns about parking availability; and ways in which educative elements could be included in the final designs or programmed into the space.

Downtown Inc
DowntownYorkPa.com

Transportation Subcommittee
03/03/2016

Minutes

Present: Jim Gross, Tom Austin, Danielle Stehman, Karla Farrell, Craig Walt, Nicole Gallup, Mike Pritchard

Staff: Tim Miller, Tim Fulton

Agenda Item	Discussion	Action / Result
Transportation Scope of Work	Austin reported that the transportation committee will be working towards the development of conceptual designs for two multi-modal connectors, a green road through the Northwest Triangle (NWT), and the alignment for the extension of the Heritage Rail Trail.	
Market Street Cycle Track	Austin presented the options for and challenges to installing a dedicated cycle track on Market Street from the Rail Trail to Duke Street. Discussion included the need to maintain a minimum 10 foot sidewalk as well as an area for café style seating on the north side of Market Street, the potentially high costs of construction, and the desire to have a two-way cycle track.	TRG will explore further the physical constraints and cost estimates of developing a Market Street cycle track.
Multi-Modal Alley Improvements	Austin presented the alleys in the downtown under consideration for redevelopment and the types of improvements that would likely be proposed. There was a discussion about which alley would be best suited for the planning project. Mason Avenue is heavily used by County employees, has a direct connection to the Heritage Rail Trail, and is not already slated for improvements.	Mason Avenue was chosen as the multi-modal alley connector to focus on for the master site plan effort.
Green Road	The scope of work was discussed for the development of a green road to run through the NWT and connect North Pershing Avenue from West Philadelphia Street to North Beaver Street. Since the NWT is a former brownfield site, some green infrastructure elements may not be appropriate depending on existing soil conditions. The width of the road was discussed along with best practices for transit friendly features.	
Heritage Rail Trail	Austin reported on the proposed alignment of the Trail and the $1,000,000 PA DOT Transportation Alternatives Program monies that are available to fund the project.	
Next Meeting Date: Mid-Late June	Location: Downtown Inc	

#2 PUBLIC MEETING REPORT

Meeting Date:	March 31, 2016
Project Name:	North Bend Opportunity Area (NBOA) Masterplan
Project Number:	77083-01
Report Prepared By:	Karla Farrell
Meeting Location:	LSC Design, George St
Participants:	Tim Miller, Jess Brubaker, Denny Baughman, Seth Predix, Eric Menzer, Gary Sonke, Joan Mummert, Dan Roe, Meagan Feeser, Pam Zerba, Jeff Shue, Casey Deller, Karla Farrell, Rob Kinsley, Tom McGilloway, Andy Kalbak, Tim Fulton

Summary:

After a brief introduction from Tom McGilloway, a description of the process, and presentation of the charrette plan, participants provided the following information:

Genevieve Ray supported no parking in the two existing parking lots adjacent to Philadelphia St. Rob Kinsley stated that the General Authority may support the idea that the parking that is taking place on those lots could be relocated.
Tom Landis likes the grid of Pershing and North Streets. The new road provides for events, which could be easily closed without too much of a problem. He also likes the green space extended along the creek.
Carl Knoch would like to see Pershing Ave as one way, and provide a separate cycle track for bicyclists. The road is drawn as two way, as that works better for traffic. We can keep it two way and still have a separate or protected bikeway.
Terry wanted to know why the road followed a 90 degree angle instead of the Creek. Rob answered that it worked better to balance the open space and development area.
Brian thinks we gave too much green space away at the pinch point between the 90 degree turn in North/Pershing Street where it gets very close to the railroad.
Brian from HIvely thought the pinch point would direct attention to a focal point at that location in the development.
It was pointed out that there was substantial parallel parking along the new road.
Promenades from green spaces to parking facilities were requested. Also wayfinding signage.
Michael Helfrich was concerned that the city school admin and the Capitol (bar) was losing parking. Rob pointed to the General Authority's upcoming parking study. Michael also didn't like the on–street parking between the park and the potential retail/restaurant use on the first floor. Tim miller pointed out that restaurants with parallel parking between the road and the outdoor eating area are much more successful because patrons feel protected from traffic by the parked cars.
There will need to be short term and long term plans for improvements for access to the water. The corps of engineers will need to approve any changes to the established bed and banks of the Codorus.
The Susquehanna Commerce center has 600 parking spaces within their complex that are open to the public after the work day and on weekends.
Jane Heller asked how many houses will be knocked down to develop this site. Rob Kinsley answered that zero would be demolished.
Phil would like to see the view improved from the boat basin across the creek to Lafayette Plaza.
It was suggested that the Gay Street connection should be more prominent.
It was asked if the NBOA development would be required to be green or LEED certified.
Consider back in angled parking where there is space rather than parallel parking.
Genevieve would like to see a grander entrance for the historic trust at the steam plant. She would like to see terracing of the creek embankment if possible.
Michael Helfrich and tom Landis were both concerned about the Operations and Maintenance cost and effort. Tom mentioned an endowment would be a good start.

Carl Knoch mentioned 'Friends of the Riverfront' in Pittsburgh who take care of much of the operations and maintenance of the riverfront trail.
Blanda liked the concept of lighting the bridges in order to make a perception that the water is closer to the road surface than it is. He would also like to see the railroad bridges lit.
Genevieve wants dense housing and no townhouses.
The final design needs to be of high quality. There should be no compromises the configuration of the trail is very important. Would like to see the Armory building and the Penn Supreme building included in the master plan.
The traffic/configuration of George Street was questioned, particularly in the area of the bridge. Rob told the audience that the city is looking at a traffic study for N. George that would include a look at the width of the bridge and how it might accommodate the trail. Michael Helfrich wanted to know if there will be a traffic study that will include the intersection of Pershing and Beaver Streets. Unknown at this time. Would depend on the development.

MEETING REPORT

The Russell E. Horn Building
445 West Philadelphia Street
PO Box 15040
York, PA 17405-7040
T: (717) 852-1400
F: (717) 852-1401

Meeting Date:	March 30, 2016
Project Name:	North Bend Opportunity Area (NBOA) Economic Development Discussion
Project Number:	77083-01
Report Prepared By:	Karla Farrell
Meeting Location:	LSC Design, George St
Participants:	Tim Miller, Jess Brubaker, Denny Baughman, Seth Predix, Eric Menzer, Gary Sonke, Joan Mummert, Dan Roe, Meagan Feeser, Pam Zerba, Jeff Shue, Casey Deller, Karla Farrell, Rob Kinsley, Tom McGilloway, Andy Kalbak

Summary:

After a brief introduction about the meeting from Tom McGilloway, participants provided the following information:

Adjacent land users will help to activate the space.
York academy would put green space to good use. They are also planning on building a high school at the intersection of George and Hamilton Avenues (the north side of the Codorus). Their educational programming could include water studies, water testing, and Chesapeake Bay initiatives. At the present time, their outdoor classroom is held on a paved surface adjacent to the school.
The future use of the Armory is for a children's education museum. Emphasizing the family use of the corridor.
The railroad lines will likely require at least a 30' wide rights of way. Fencing and safety are obviously an issue.
At the intersections of George and North, consider reducing the radii in order to slow traffic and force motor vehicles to be more deliberate in their movements. Will be safer to understand what they are doing.
Eric Menzer would like to see a green space of 30-50 feet (semi-public space) between the houses and the trail.
Consideration of budget for operations and maintenance and the need for a plan was discussed. Consideration of York College's agreement to maintain their section of trail between Richland and Jessop Place was discussed as a model to be applied in the NBOA.

MEETING REPORT

The Russell E. Horn Building
445 West Philadelphia Street
PO Box 15040
York, PA 17405-7040
T: (717) 852-1400
F: (717) 852-1401

Meeting Date:	March 30, 2016
Project Name:	North Bend Opportunity Area Economic Development Discussion
Project Number:	77083-01
Report Prepared By:	Karla Farrell
Meeting Location:	LSC Design, George St
Participants:	Tim Miller, Natalie Williams, Blanda Nace, Jack Kay, Shilvosky Buffaloe Eric Menzer, Anne Druck, Jeff Shue, Casey Deller, Karla Farrell, Rob Kinsley, Tom McGilloway, Andy Kalbak

Summary:

After a brief introduction about the meeting from Tom McGilloway, participants provided the following information:
There needs to be a fluid line between the green space and the development. Eric Menzer does not want to see surface parking from the 'green space'. Would like to see primarily residential higher end housing. Trail green space will be the front yard of the residential space. The trail needs to be part of a great urban space. Consider infrastructure, sight lines, and entry points.
Establish/identify Keystones. The space should include mixed use development.
Barton engineers do not typically use their upper parking lot.
Glatfelter uses the small lot on this site next to Philadelphia St regularly. It is a closer walk from this small parking lot to their building than it is from some of the parking areas on the same side of the creek as the building.
There have been some security issues with parking on the back lot that is close to Cottage Place.
The parking area associated with the Steam Plant could be shared with other uses in the NBOA.
The stadium parking is a shared parking opportunity. They need large amounts of parking for 3 hours 50 nights a year.
What will happen organically verses spending a lot of money and not seeing a change in the economic development landscape?
Eric suggested that high quality public space raises the value of the adjacent development.
The trail and the NBOA need intentional signage. Cherry Lane/Clark connections would be helpful.
Because the trail is part of the development, it extends the recreational use to new areas. The space needs to be multi-use and have various types of space.
We need a baseline planning precept for the prospective developer for the NBOA.

MEETING REPORT

The Russell E. Horn Building
445 West Philadelphia Street
PO Box 15040
York, PA 17405-7040
T: (717) 852-1400
F: (717) 852-1401

Meeting Date:	March 30, 2016
Project Name:	North Bend Opportunity Area (NBOA)
Project Number:	77083-01
Report Prepared By:	Karla Farrell
Meeting Location:	LSC Design, George St
Participants:	Jeff Shue, Jim Gross, Jack Longstreet, Michael Helfrich, Gary Peacock Tammy Klunk, Barry Myers, Gwen Loose, Kelly Gutshall, Ophelia Chambliss Tom Austin, Tim Miller, Karla Farrell, Rob Kinsley, Tom McGilloway, Andy Kalbak

Summary:

After a brief introduction about the meeting from Tom McGilloway, participants provided the following information:
The NBOA has been cleaned of subsurface hazardous materials, except for perhaps the area of the Susquehanna Commerce Center parking lot adjacent to Philadelphia Street which may have been paved to cap the environmental hazards within.
There is sediment and debris build up behind the 'movable' dam at the access point on the west side of the site. The dam used to be able to be raised up and down. It is currently in the up position and is not able to be lowered as it is malfunctioning. There is a scour well on the downstream side of the dam. The small building houses the hydraulic equipment.
The United States Army Corps of Engineers (COE) does not mind people using the access ramp to get to the creek and fishing is good below the dam. There is an old stone stair in the side of the eastern embankment.
If it were possible to obtain permission to put an access trail under the trail bridge, any trail or access would be prone to being submerged/flooded. Any sediment that would be deposited on the trail would need to be removed from the area rather than simply returning the debris into the Codorus Creek.
Consider best management practices when developing the NBOA. For example, it was suggested that the new Thackston Park neighborhood includes stormwater retention cisterns.
The parking lot at Lafayette is used by trail users.
It would be desirable to reserve approximately 1/3 of the NBOA space for open space.
Annalisa Gojmerac mentioned the use of sunflower plants to remove toxins from the soil. Sunflower plants were discussed and ultimately rejected as an effective measure to remove substances that remained after the site clean-up.

Downtown Inc
DowntownYorkPa.com

Rail Trail Subcommittee
May 3, 2016

Minutes

Present: Karla Farrell, Kim Hogeman, Casey Deller, Jim Gross, Tammy Klunk, Ken Martin, Barry Meyers

Staff: Tim Miller, Tim Fulton, Adam Walters

Agenda Item	Discussion	Action / Result
Trail Redevelopment	Deller reported on added costs to the current project result in the need for a $150,000 budget increase with DCNR committing half of that amount and the remainder is to be matched. $55,000 of that is expected to come from the County's liquid fuels tax. Overall, the redevelopment work is moving along nicely and is almost at the halfway mark. Deller does not foresee issues that would incur additional costs. Deller noted that the lights are behind schedule due to the time required for them to be ordered and shipped. The expected delivery of lights is mid-July, and the Trail is not officially opened until the lights are installed. Miller reported that the City's Bureau of Public Health will be using its own grant money to install signs along the downtown portion of the Trail to help guide users to the Grantley Rd. and Kings Mill Rd. access points. Fulton noted that the ceremony for the completion of the Trail redevelopment should be considered moving forward.	Downtown Inc will contact Craig Walt at Bureau of Health to discuss signage placement.
DCNR Planning Grant **-Northwest Triangle Development**	Deller reported that an MOU is currently being drafted between Bureau of Forestry and City to conduct a tree assessment. Miller noted that the survey questionnaire is the next step in the planning process. The committee discussed the possible role of the future developer in assisting with public space design, development, and maintenance. Everyone recognized that it is dependent on which developer is chosen by the RDA. Miller asked which aspects of the future Trail	Downtown Inc will have the survey finalized before the end of May.

	development project have the longest lead times to which Deller suggested that the working with the PUC should be prioritized to determine railroad crossing locations. Gross suggested that the current proposed location for the rail crossing is likely to remain unchanged due to safety requirements.	Overall, planning grant administration is on track, and no action is required beyond what is currently happening.
Next Meeting Date: July, 5 at 3:30		
Location: City Hall, Pullo Room		

Stakeholder Survey review and findings

On May 11th, a survey questionnaire was delivered by email to over 75 stakeholders throughout the community and recipients were encouraged to distribute the survey to anyone they thought might have been interested. The survey questionnaire was intended to address things like frequency of use, primary activities, and users' preferences in regards to the prioritization of resources, specific amenities, and types of programming. The survey results were collected via Survey Monkey over a period of two weeks, and when the survey was closed on May 25th, 43 individuals had responded.

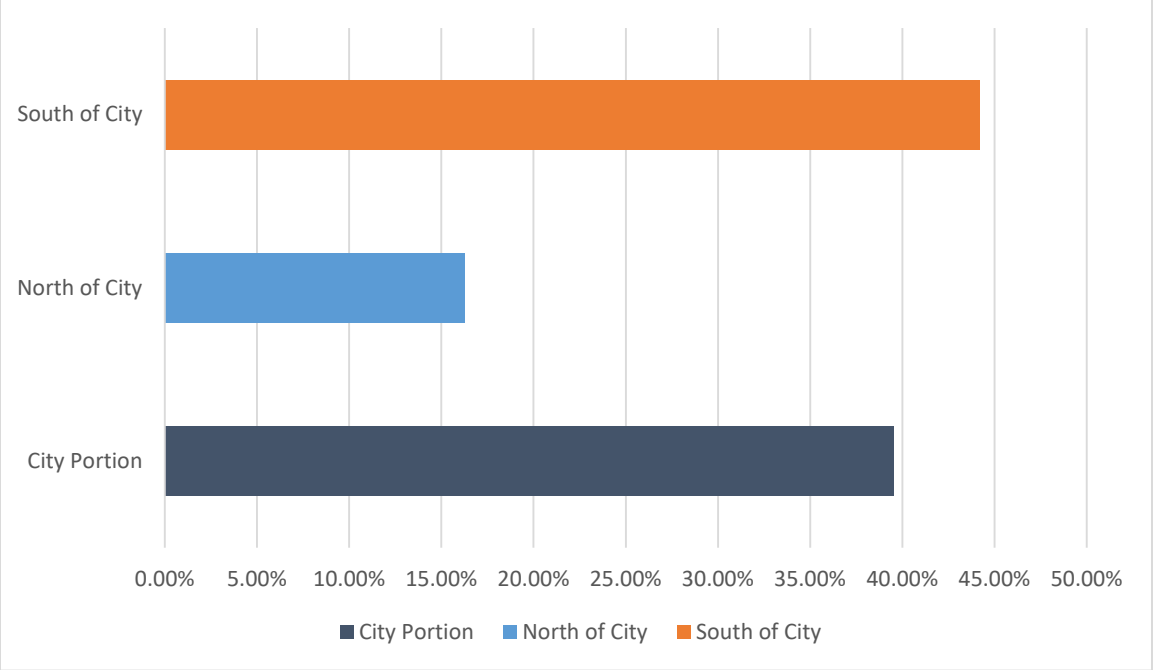
One of the takeaways from the survey was the degree to which respondents (local Rail Trail users) emphasized using the Trail for fitness and encouraging the development of fitness related amenities. Also notable was respondents' low emphasis on establishing public art in the Trail design.

*The survey questions and full results are below

Results from 2016 North Bend Opportunity Area Master Planning community survey questionnaire

What portion of the Trail do you most frequently use?

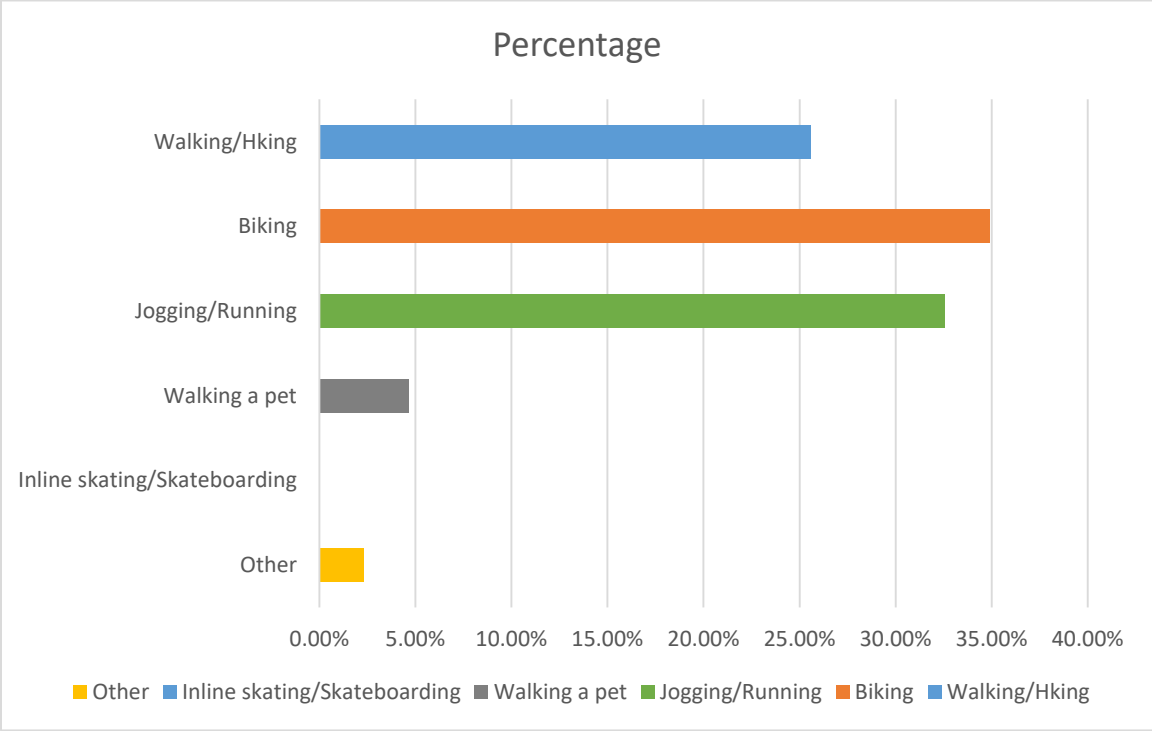
Answered: 43 Skipped: 0



Answer Choices	Responses
City Portion (between York College and Philadelphia Street.)	39.53% 17
North of the City Portion	16.28% 7
South of the City Portion	44.19% 19
Total	43

What is your primary activity on the Trail?

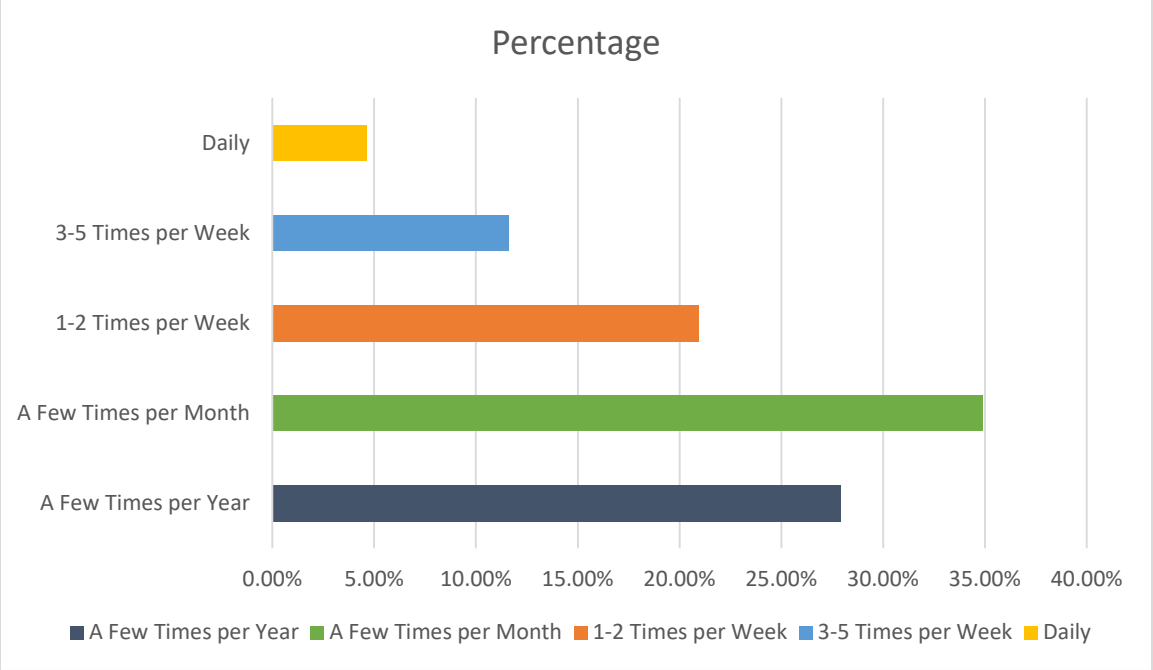
Answered: 43 Skipped: 0



Answer Choices	Responses
– **Walking/hiking**	**25.58%** 11
– **Biking**	**34.88%** 15
– **Jogging/running**	**32.56%** 14
– **Walking a pet**	**4.65%** 2
– **Inline skating/skateboarding**	**0.00%** 0
– **Responses** **Other (Train Excursion)**	**2.33%** 1
Total	**43**

How frequently do you use the Trail?

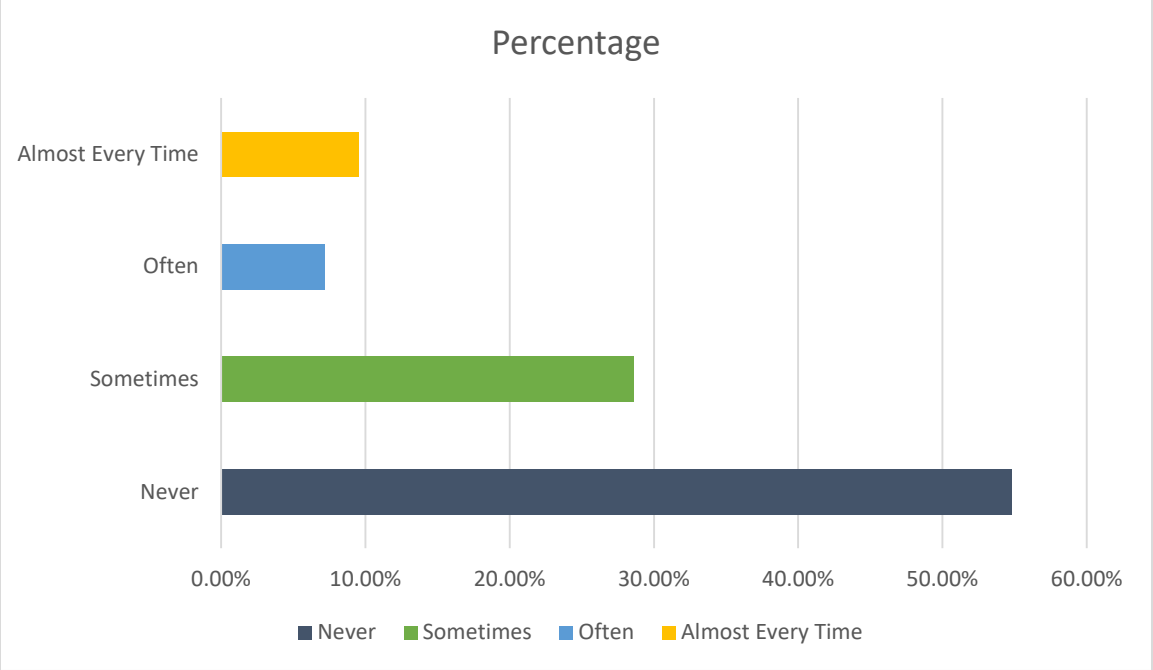
Answered: 43 Skipped: 0



Answer Choices	Responses
Daily	**4.65%** 2
3-5 Times per week	**11.63%** 5
1-2 Times per week	**20.93%** 9
A few times per month	**34.88%** 15
A few times per year	**27.91%** 12
Total	**43**

How frequently do you bring children with you on the Trail?

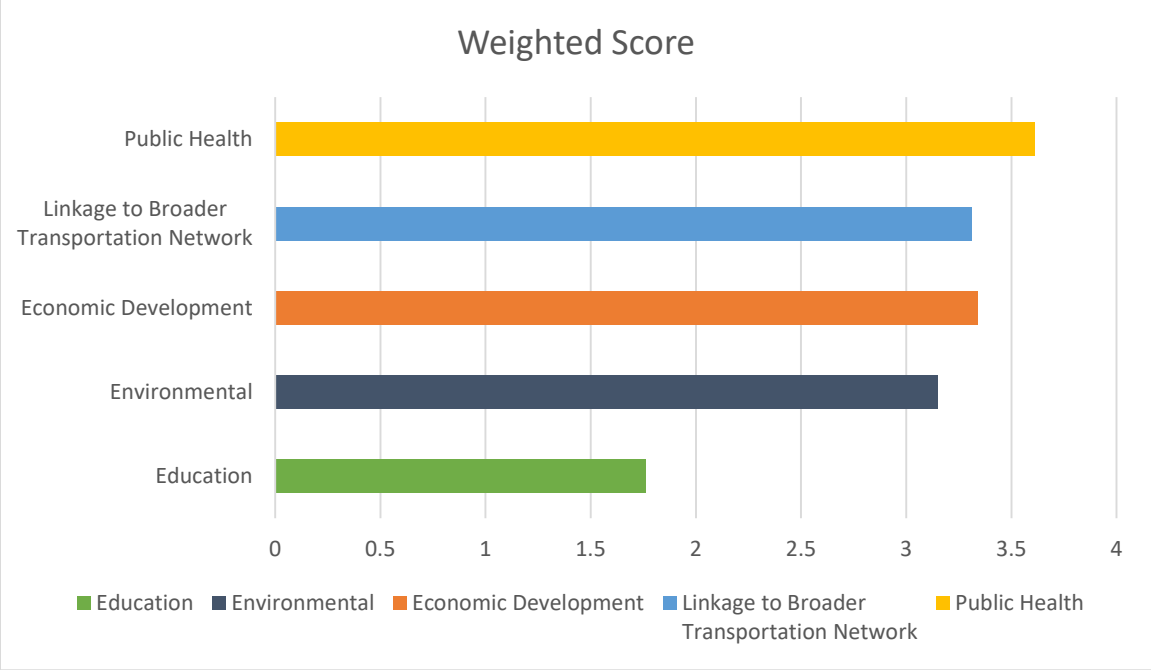
Answered: 42 Skipped: 1



Answer Choices	Responses
– **Almost every time**	**9.52%** 4
– **Often**	**7.14%** 3
– **Sometimes**	**28.57%** 12
– **Never**	**54.76%** 23
Total	**42**

Please rank the following options in order of importance from 1 to 5 regarding the prioritization of resources for improvement of the Trail where 1 is the most important and 5 is the least important.

Answered: 40 Skipped: 1

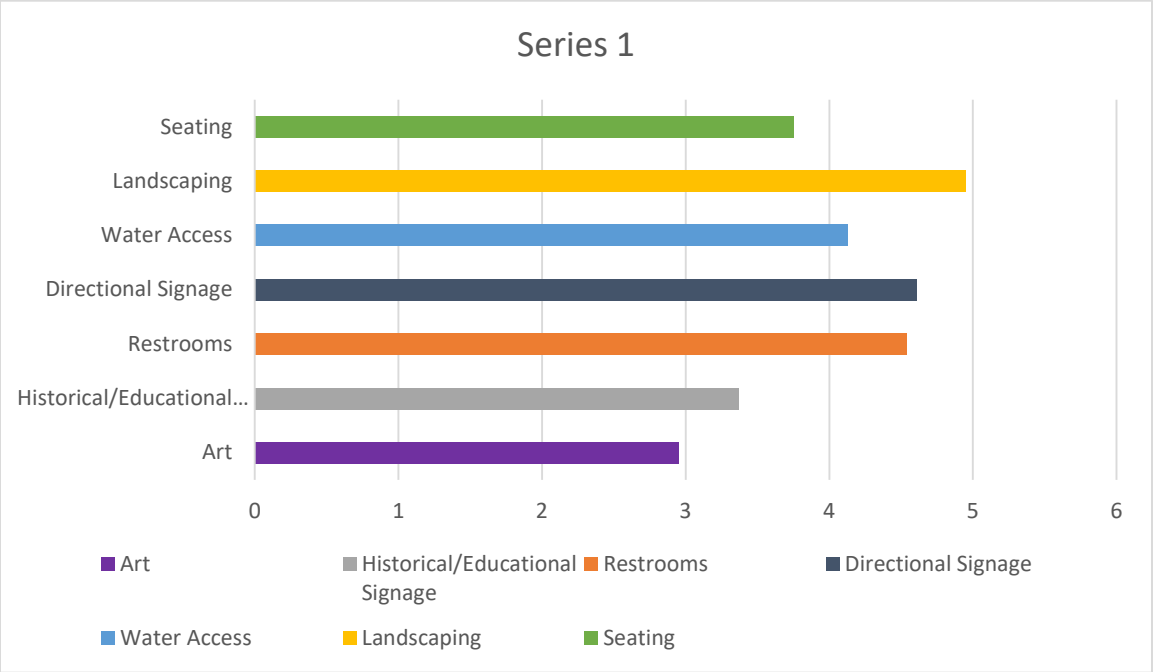


	1	2	3	4	5	Total	Score
Public Health	**36.59%** 15	**19.51%** 8	**17.07%** 7	**21.95%** 9	**4.88%** 2	41	**3.61**
Linkage to broader downtown transportation infrastructure	**28.21%** 11	**15.38%** 6	**28.21%** 11	**15.38%** 6	**12.82%** 5	39	**3.31**
Economic Development	**24.39%** 10	**31.71%** 13	**14.63%** 6	**12.20%** 5	**17.07%** 7	41	**3.34**
Environmental	**10.26%** 4	**28.21%** 11	**30.77%** 12	**28.21%** 11	**2.56%** 1	39	**3.15**
	2.44%	**7.32%**	**12.20%**	**19.51%**	**58.54%**		

	1	2	3	4	5	Total	Score
Education	1	3	5	8	24	41	**1.76**

Please rank the following options in order of importance from 1 to 7 regarding the amenities that could be installed on the Trail where 1 is the most important and 7 is the least important.

Answered: 43 Skipped: 0

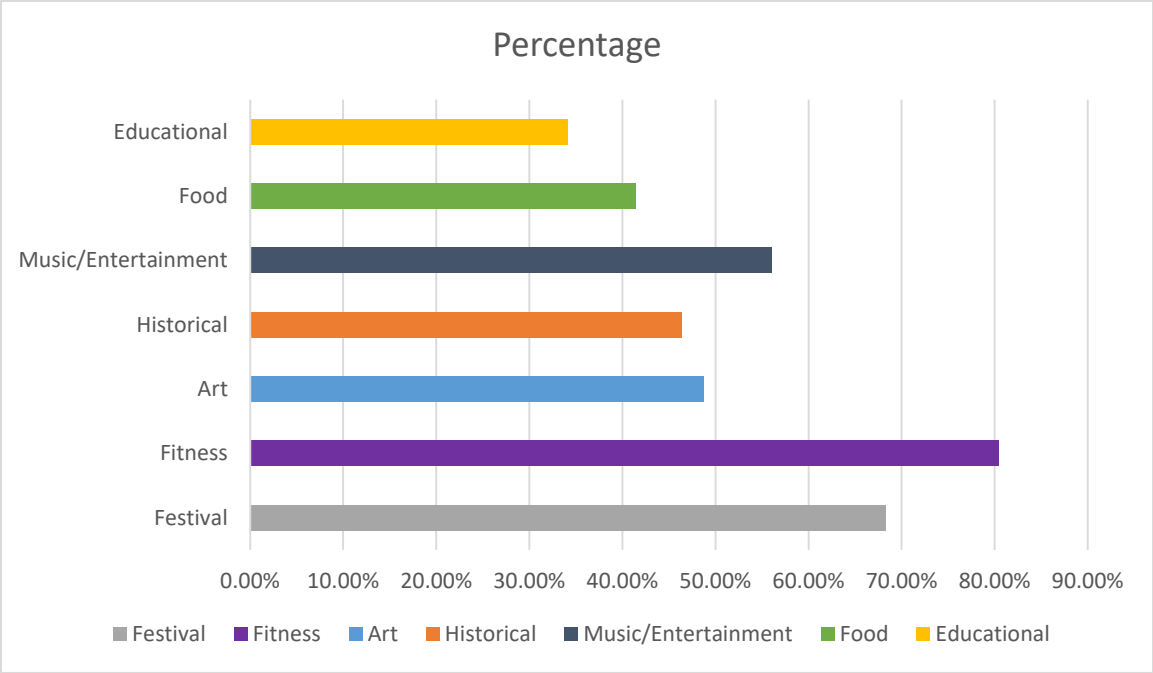


	1	2	3	4	5	6	7	Total	Score
Seating	**10.00%** 4	**10.00%** 4	**15.00%** 6	**15.00%** 6	**20.00%** 8	**20.00%** 8	**10.00%** 4	40	**3.75**
Landscaping	**28.21%** 11	**15.38%** 6	**17.95%** 7	**12.82%** 5	**12.82%** 5	**12.82%** 5	**0.00%** 0	39	**4.95**
Water Access	**17.50%** 7	**15.00%** 6	**20.00%** 8	**10.00%** 4	**2.50%** 1	**17.50%** 7	**17.50%** 7	40	**4.13**
Directional Signage	**17.07%** 7	**26.83%** 11	**12.20%** 5	**17.07%** 7	**9.76%** 4	**4.88%** 2	**12.20%** 5	41	**4.61**
Restrooms	**24.39%** 10	**19.51%** 8	**12.20%** 5	**9.76%** 4	**14.63%** 6	**2.44%** 1	**17.07%** 7	41	**4.54**
	2.33%	**6.98%**	**13.95%**	**25.58%**	**16.28%**	**23.26%**	**11.63%**		

	1	2	3	4	5	6	7	Total	Score
Historical/ Educational Signage	1	3	6	11	7	10	5	43	**3.37**
Art	**2.38%** 1	**9.52%** 4	**11.90%** 5	**9.52%** 4	**21.43%** 9	**14.29%** 6	**30.95%** 13	42	**2.95**

What types of programming would you like to see, help develop, and/or participate in on the Trail? (Select all that apply)

Answered: 41 Skipped: 2



Answer Choices	Responses
Educational	**34.15%** 14
Food	**41.46%** 17
Music/Entertainment	**56.10%** 23
Historical	**46.34%** 19
Art	**48.78%** 20
Fitness	**80.49%** 33

Answer Choices	Responses
Festival	68.29% 28

'Other' responses include: Circuit training; partnerships with schools; outdoor movies; very little programming – preference for solitude on the Trail; programs geared to residents of the City.

Appendix A

Answer to question: Where do you most often park to access the Trail?

Answered: 39 Skipped: 4

Six respondents identified their home as the point from where they access the Trail. Five responses were eliminated due to either being too vague or n/a.

1. Grantley St.
2. Pershing Ave.
3. Downtown
4. Loucks Mill Road (Rt. 30)
5. Crist Field
6. Downtown/Rt. 30
7. Downtown/Rt. 30
8. John Rudy County Park
9. Brillhart Station
10. York College
11. Days Mill
12. Hanover Junction Train Station
13. Burkholder Rd. parking lot
14. Wellspan lot on Richland Ave.
15. Loucks Mill Rd. (Rt. 30)
16. Brillhart Station
17. Brillhart Station
18. Brillhart Station
19. Lafayette Plaza
20. Colonial Courthouse
21. Philadelphia St./Pershing Ave.
22. Brillhart Station
23. Across from Indian Rock Elementary
24. New Freedom
25. Loucks Mill Rd./Rt. 30
26. Lafayette Plaza/City garage
27. Glatfelter Station

28. Brillhart Station

Appendix B

Answer to question: If you do not park, from where do you leave to access the Trail?

Answered: 25 Skipped: 18

Seven responses were eliminated due to either being too vague or n/a.

1. Market Street
2. Lafayette Plaza
3. LSC Design
4. Downtown apartment
5. Duke St.
6. Windsor Park neighborhood in Spring Garden Township
7. South George Street
8. Seven Valleys
9. Near Lincoln Highway Garage
10. Springdale neighborhood
11. 200 block of West Market Street
12. 300 block of East Market Street
13. Downtown York
14. South Beaver Street
15. North Newberry Street
16. Continental Square
17. Spring Garden Township
18. Continental Square

Key Person Interviews

Between June 6th and July 18th, interviews were conducted with 14 community and organizational leaders to engage them in the planning process. Stakeholders were selected from a broad swath of community leadership to include elected officials and public managers, non-profit leaders, business owners, and adjacent land users. Interviews were conducted either in person or over the phone with a Downtown Inc staff member and were based on a standard set of questions (included below). The interviews were held after the creation of the "Codorus Corridor Greenway Illustrative Concept Plan" which was distributed in advance of the interviews to the key stakeholders. The set of questions played off of the plan to gauge a respondent's overall perception of the design and ways in which it could be improved. The list of interviewees is as follows:

- Jessica Brubaker, Keystone Kidspace Board Chair
- David Cross, Redevelopment Authority of the City of York Board Chair
- Felicia Dell, York County Planning Commission Director
- Sharon Dorn, Steam Into History CEO
- Jack Kay, York County Industrial Development Authority Chairman
- Robert Kinsley, LSC Design CEO
- Tammy Klunk, York County Department of Parks & Recreation Director
- Sue Krebs, York Academy Regional Charter School Board Member
- Eric Menzer, York Revolution President
- Joan Mummert, York History Center President/CEO
- Seth Predix, Distinct Property Management Co-Owner
- Kevin Schreiber, PA House 95th Congressional District Representative
- Gary Sonke, Susquehanna Commerce Center, Condominium Association President
- Pam Zerba, York City General Authority Board Chair

Interview Questions

Question 1: Earlier this month we sent you the conceptual design for the Codorus Corridor Greenway along with some general background information. The design depicts the trail following the curve of the river through the Northwest Triangle and the creation of a dynamic green space between the Trail and the river. I was hoping that you might just give me your first impressions about the design, what you see in it, and perhaps what you do not see in it.

Question 2: The Trail is a linear path for recreation and transportation creating a north – south connection in the County through the City. What types of additional connections would you like to see made to and from the trail to enhance recreation and transportation?

Question 3: What do you think is the best way to secure funding for ongoing maintenance, programming, and improvements to the Trail and greenway?

Question 4: Do you foresee ways in which the work of your organization could intersect with making the best possible use of the City's greenspace along the Codorus?

Question 5: Is there anything we haven't talked about, anything you hope for with relation to this important community space, or anything you are concerned about that needs to be considered when moving this work forward?

Findings

- Overall, the respondents saw the design in a very positive light.
- Parking was an overarching concern throughout the interviews. There is a conflict between respondents who feel that if parking in Lafayette Plaza is removed it will have to be replaced and those who believe that it is a good idea to retool the Plaza without needing to replace the parking because there is already sufficient parking throughout downtown York.
- Many respondents identified ways in which the work of their organizations could intersect with the Trail (especially adjacent land users) by assisting with programming and/or using it as a tool for connectivity.
- Many suggested that the County take responsibility for the maintenance of the Trail.
- Respondents are anxious about the exact type of private development that will occur on the NWT and its proximity to the Trail/Creek/new road.
- There is also a sense that the private developers should be proactively involved in funding/building/maintaining the new public space.
- While many believe that green space is the most desirable there are a few that felt that the public area should have a very “urban” feel to it and include more stone and concrete design elements.

Downtown Inc
DowntownYorkPa.com

Transportation Subcommittee
06/23/2016

Minutes

Present: Tom Austin, Karla Farrell, Nicole Gallup, Jim Gross, Mike Pritchard, Danielle Stehman, Craig Walt,

Staff: Tim Fulton, Tim Miller, Adam Walters

Agenda Item	Discussion	Action / Result
Purpose/Role in Study Process	Austin stated that the current leg of the planning efforts are intended to inform what is presented at the next public meeting to be held on July 26, 6:30 – 8:30pm at City Hall in the Council Chambers.	
Mason Avenue Multi-Modal Corridor	Austin presented conceptual design for the proposed multi-modal corridor on Mason Avenue between the Heritage Rail Trail and South Duke Street. Plans include redeveloping Mason Avenue to facilitate bicycle, pedestrian, and vehicular traffic as well as improved pedestrian and bicycle crossings to Rabbit Transit's Bus Transfer Center.	Mason Avenue plans will be presented at July 26 public meeting.
Market Street Multi-Modal Corridor	Austin presented the various options for developing Market Street into a multi-modal corridor to include a dedicated bicycle track. Feasibility of each option was discussed. Due to the high construction costs and physical limitations of the space, it was agreed that none of the Market Street options were feasible. The committee agreed that it was not appropriate to unveil plans for public input that were unachievable.	Market Street plans will not be presented at the public meeting.
NWT Connector Road Update	Farrell reported that the plans for the Northwest Triangle connector road/greenway will be ready for the public meeting. The alternative concept designs are being informed by the results of the key stakeholder interviews being conducted by Downtown Inc.	
Next Meeting Date: TBD, Late August		
Location: Downtown Inc Offices		

Downtown Inc
DowntownYorkPa.com

Rail Trail Subcommittee
07/05/2016

Minutes

Present: Casey Deller, Ken Martin, Barry Meyers, Tammy Klunk

Staff: Tim Fulton, Tim Miller, Adam Walters

Agenda Item	Discussion	Action / Result
Rail Trail Redevelopment -Ribbon cutting ceremony	Deller reported that the lighting issue has been resolved and work on the Trail continues at a fast pace. The expected date of completion is July 20. The logistics of the electric lighting along the York College portion of the Trail were discussed as well as new safety measures the College will be implementing this semester. Dates for the opening ceremony were discussed. Miller reported that the plan for the event is to begin at the Agricultural Industrial Museum and have participants walk the newly redeveloped Trail to York College of Pennsylvania.	Ceremony will be early August. Downtown Inc will plan further details. York College will provide reception on campus.
Public Input -Stakeholder questionnaires and interviews	The stakeholder questionnaires are finished and key stakeholder interviews are almost finished. Miller reported one takeaway from the questionnaire was that respondents placed a high value on fitness amenities along the Trail.	
Public Meeting	Miller reported that the next public meeting for the DCNR Planning Grant will be held July 26, from 6:30 – 8:30pm at City Hall. The organization of the meeting will be an open conversation among the public and the planning partners.	Downtown Inc will publicize the meeting and communicate with CS Davidson about final details.
Trail extension final engineering/ permits/ clearances	The remaining work needed to apply for permits for the Trail extension was discussed. Deller reported that the work is on track to be completed in time for the project to move forward on schedule.	Planning partners to finalize Trail extension designs in August.
Incremental buildout/ working towards grand vision	The need to move forward with smaller projects that do not conflict with broader vision was discussed. Walters presented current proposal for benches to be installed along the redeveloped portion of the Trail. Funding for benches is being sought from the Embracing Aging competitive grants through the Community Foundation.	Downtown Inc will keep the group informed about the seating proposal and grant award announcement.

	Miller suggested that the group continues to think about additional projects for the Trail in order to keep the community engaged in funding efforts.	
Next Meeting Date: September 6, 3:30pm		
Location: City Hall, Pullo Room		

Meeting Date: July 26, 2016
Project Name: Public Meeting – Green Infrastructure Planning for City of York
Prepared by: Downtown Inc
Meeting Location: York City Hall Building
Participants: 25 members of the general public, Tom Austin, Ophelia Chambliss, Karla Farrell, Tim Fulton, Jim Gross, Tim Miller, Jeff Shue, Adam Walters

Summary:

After a brief introduction about the meeting from Tim Miller, a presentation was given by Jeff Shue to highlight the Five Green Action Planning sites throughout the City of York. The remainder of the meeting was set up to be interactive, and attendees were given the opportunity to move from station to station and converse one on one with the planning team about the projects in which they had the most interest. A short, paper survey was collected at the conclusion of the meeting to get an idea of which projects they see as highest priority as well as receive suggestions and concerns about moving these projects forward. One goal of this public meeting was to bring attention to the five sites throughout the City that had been chosen for environmental remediation purposes. Overall, the responses that were collected from the group were positive (8 of the 25 attendees responded to the survey). People were especially excited about the environmental improvements, the Trail extension, and Lafayette Plaza.

Project Prioritization 8 responses total					
Project Order of Importance	**1**	**2**	**3**	**4**	**Standard Scores**
GAP	2	1	3	2	2.38
Multimodal Connectors	0	2	2	4	1.75
Trail Extension	6	1	1	0	3.63
Lafayette Plaza	0	4	2	2	2.25

Some of the concerns:

- Do a better job of presenting plans to/engaging with the broader public (especially around Memorial Park)
- Are we working closely with Army Corp of Engineers
- Some people wanted to see individual project presentations
- What is going to be the cost/strategy to maintain these new spaces?

Some suggestions:

- Two-way Market St.
- Reach out to Rotary Club and adjacent land users as well as business owners more broadly

Downtown Inc
DowntownYorkPa.com

Transportation Subcommittee
8/24/2016

Minutes

Present: Tom Austin, Nicole Gallup, Jim Gross, Mike Pritchard, Craig Walt

Staff: Tim Fulton, Tim Miller, Adam Walters

Agenda Item	Discussion	Action / Result
Purpose of Meeting	Miller reported that this meeting is the final of three meetings for the North Bend Master Planning team's Transportation Subcommittee.	
Public Meeting No. 2 Feedback	Walters presented the survey results of the second public meeting.	
Mason Ave. Multi-Modal Connector	Austin presented the proposals for the Mason Avenue/Pershing Avenue intersection. The impact on pedestrian and bus traffic was discussed.	
Northwest Triangle	Alternative designs for the Northwest Triangle were discussed. Miller reported that Downtown Inc met with Time Group who recently won an opportunity to conduct a feasibility analysis of developing the site.	
Other **-TAP funding update** **-George St. Road Diet Project** **-Moving Plans into Action**	Austin reported that TAP funding will be made available for the signal change at Hamilton Street. Austin reported on the status of the George Street road project which has been proposed to be included in Transportation Improvement Program for 2019. Miller reported on the recent Moving Plans into Action (MPA) Advisory Council meeting which addressed downtown transportation issues and discussed MPA as a resource for future project/policy shifts.	
Next Meeting Date: TBD		
Location: TBD		

Downtown Inc
DowntownYorkPa.com

Rail Trail Subcommittee
09/15/2016

Minutes

Present: Karla Farrell, Jim Gross, Mike Pritchard

Staff: Tim Fulton, Tim Miller, Adam Walters

Agenda Item	Discussion	Action / Result
Rail Trail Redevelopment	Miller noted that the Rail Trail Redevelopment project is almost finished and that the ribbon cutting ceremony went well. There are a few minor punch-list items that must be resolved before the contract is closed out.	
DCNR planning grant	Miller reviewed tentative plans for the fourth and final public meeting which will be held late November or early December.	Downtown Inc will work with partners to decide on a date for the final public meeting.
Benches	Walters reported on the proposed seating project. Funding from the Embracing Aging competitive grant should be announced in the upcoming weeks, and Downtown Inc is working with the City of York to decide on locations and ordering procedures for the benches.	
Site development drawings	Farrell reviewed the site development drawings that show three alternative proposals for the development of the Rail Trail, road, and greenspace through the Northwest Triangle as well as proposals for redeveloping Lafayette Plaza. The group discussed issues related to the alignment of the connector road, the possible phases for project implementation, and projected costs. The group was unanimous in its support for site development drawing #3 as the preferred option based on the best and most realistic use of the planning space.	Downtown Inc will work to set up a meeting between key planning partners and Engineering firm RGS to discuss proposed alignments of the connector road through the Northwest Triangle.
Next Meeting Date: November 1, 3:30pm		
Location: City Hall, Pullo Room		

City of York Green Planning Public Meeting #1 Notes

Railroads

1. How to address railroads.
2. Wayfinding – Directional
    a. Trail – Downtown

Outdoors/Nature (plants, trees, etc.)

3. Native plants – "Living Lungs of York".
4. Native plants/waves of color
5. Pollinator gardens/birds/wildlife
6. Garden area/Arboretum
7. Soil composition
8. Environmental impacts
9. Water elements. Fountains.
10. Raise creek to street level at points
11. The city's yard – Leave plain open space.
12. Continue tree canopy
13. Flexible space – Outdoor room
14. Flood zone considerations
15. How to get people to water – Design.
16. Impact of bridges & streets
17. Flat/electric
18. Green space interplays with developments
19. Add boulders/Visuals more appealing.
20. Foot bridges

21. Sense of place at Water's Edge
22. Width – flexibility depending on uses.

Recreation

23. Outdoor stage – Performance
    a. First step – Complete something already begun.
    b. Speak to what's coming next
    c. Hints at bigger picture yet to be defined.
24. Kayak launches
25. Family friendly places
26. Zip line
27. Some destination points
28. Recreation – Fishing
29. Support current recreational uses
30. Food service – Food trucks
31. Shade, Restrooms, access, picnic tables, bikes
32. Low tables with information/directions.
33. Armory/ Penn Supreme – Highest and best uses.

Parking

34. Parking access connects to downtown amenities.
35. Eliminate parking lots at water.
36. Steam plant> 80 parking spaces
    a. Trust – trade for green space
    b. – service restrooms

History/Heritage

37. Large pieces of industrial history.
38. Recognize the heritage
39. History of trains
40. Steam into history connections
41. Heritage – Story outside

Codorus Greenway Public Meeting
January 28, 2016

McGilloway (Mahan Rykiel) Notes with additional responses to questions by K. Farrell

1. Will Pershing Avenue continue through site or stop ? Response: There is a concept for **Pershing to connect with North Street,** which will provide central access through the site, which will allow for private development to occur as well as utility corridors. We are studying the opportunity for a 'Green' road, which will minimize the runoff into the Codorus and provide an opportunity for infiltration of Stormwater to occur.
2. Some have been working on this 15 years….we are focused on the greenway correct? One: There is a lot of habitat and fish in the creek in this area. Likes to fish under the George Street bridge and hear the noise of the stadium…. a lot of people already utilizing the Codorus for recreation. Kids always in the bend…it's the deepest part (about 6')….**would want to see something that supports people already using the creek today**….don't displace them. Two: The idea of things draining into mother earth….there's a lot of "stuff" in there that isn't good…..highly polluted materials……before doing water infiltration…**need to determine what is in the soil?** *(Tom note: No response provided but didn't someone say at the pre-meeting that the site was clean? If so, we should emphasize this to people). (Karla's response: yes, the site is clean and it was mentioned in the presentation.)*
3. Follow up by Tim Fulton: Access…we are **limited to where we can get down to water's edge**….there are a couple other opportunities we can take advantage of…..access roads by Corp of Engineers. There is opportunity to create sense of arrival/excursion down to creek.
4. When you get into **curve at water level**….you are in a different world….**you become separate from the rest of the city**….take advantage of this and preserve this…..
5. If a centerpiece will be York County Heritage Rail Trail….**4 things attractive to bicycle: shade, restroom, places to eat, access**…..reluctant to lose parking at Lafayette Plaza...parking is important part of the park……perfect place to park for going north or south. (Karla's note: it is important to provide parking at a park, but it may be more prudent to relocate the parking away from the resource of the Codorus.) **Prettiest place of trail is south of Colonial courthouse because of shade**….beauty….would be nice to **continue this through Lafayette Plaza and rest of city.** There are issues with public restrooms but surely this can be accommodated…..Tim Fulton Response: There are **restrooms at the Colonial Courthouse**…there's a resource there, how can we make it work?
6. How wide is this to be ? 10' 15' 40'?…Karla Response: once we define what we want to do here we can determine width. So input tonite will help to inform width…..line between development and green space needs to be fluid. Commentor: if you are going to use this for green space, then you need to provide some kind of development along here to help fund this……**Green space along the frontage with development along the back.** Then you have to think about what's in the flood zone. If this only focuses on green space, **how do we pay for**? Tim Fulton Response: Interface between public and private….we need to be conscious that ultimate **goal on**

part of track is to have private development, but park like atmosphere is important to success of development. Probably 30' or so between the rail line and development area…..it's really a chicken or egg. If we put the greenbelt in, it will **change the perception of the North Bend Opportunity Area.** If we put the greenbelt in, people will be better able to envision the potential for the whole area.

7. Doesn't want to rain on the parade but we'll lose the **current occupancy of the armory. Has this been considered?** Rail trail runs right by it…..has any thought been given to its use? The other thing, the **Penn Supreme building** on other side of George is an eyesore….how can it be incorporated? As an ex school teacher I walked through **York Academy….the collaborative effort** there was great and is so needed in York. Would love to see it continue its residency where it is….and maybe expand. Has that been considered? Tim Fulton Response: What we are doing is "Teeing up" the rail trail…grant money. With regards to armory, people are looking at it. The Penn Supreme building which is vacant has been a focus of the redevelopment authority….challenged by existing owner. Tim Miller Response: One comment about **private development…..we are already seeing them reacting to this urban greenway**. For example, folks looking at armory recognize the opportunity and are already seeing this as a rail-side development.
8. Agree with parking ……**access is important**, particularly within downtown area….particularly to rail trail…..**parking needs to be part of this but maybe not at Lafayette Plaza but somewhere in corridor**. Heritage Trust will provide parking with their plans for renovation of the steam plant. Need opportunity to expose people who find themselves in Downtown and don't know what else is there….**encourage rail trail visitors to go from corridor to downtown**. Another thing, wasn't one of the bridges supposed to be a **pedestrian bridge**? Tim Fulton Response: Yes, there was a study to see how rail lines could be consolidated so one bridge could become pedestrian….**cost of 7-10 million**….Railroad won't pay for. Put on back burner….but it could be brought up again. There were also **challenges with realignment**…..LSC Building creates challenges with realignment. (karla's note: it is not the LSC building that creates challenges. That building has been there for 80 years and wasn't an issue.) Interesting Point: **How do we get people from the trail to downtown?** How do we make the connections for bikes, pedestrians….and direct to points of interest? Person: **Can the creek be raised** at some level in some areas….in a small stretch ….brought up to street level and enjoyed more. She wants an opportunity to take grandson….use rail trail to go somewhere…..arboretum at Penn State….**children's garden**….**maybe an arboretum or garden near school**….**have students be part of it….for families**. Tim Fulton Response: 40 years ago, looked at how to raise water level to get up higher. The problems: **Flood protection levees** not made to have a sustained water level ….they would need to be reconstructed. The **outfalls for storm water**…..pressurized….storm sewer water won't get in. **All can be solved but will be expensive**. (karla's note: the levees were put in place to accommodate for the required stormwater storage volume above the normal water elevations. The Corps of Engineers would not allow the stormwater storage volume to be decreased.) In late 80's the adjustable dam was installed so that the water level **from Philadelphia to Penn Street can be raised for boating**….Tim also suggested improving access roads. Tim Miller Response: A great thing was brought up: **family friendly area**…..we

want to hear what are thing needs you could see met here that you don't see elsewhere….what are the activities you want to see?

9. Tim Fulton: On board of Heritage Trust…..**zip line from smokestack to Market Street**.
10. The creek was here before anything else…..was the center of York in 1741…all commerce happened around the creek….**important to recognize the heritage**…..one of the first communities in Pennsylvania to have train…..the **turntable being devised for Steam into History**….anything else with this? It's a capital opportunity. Bob Gotwols Response: We have started beginning of capital campaign to raise money to rehab RR in Spring Garden township….plan is to negotiate an agreement with York Rail to **bring trains downtown**….**earmarked triangular piece of land**….haven't yet designed….all conceptual….operate into downtown…..about as far as we'll go. **Opportunities for education and recreation to go with this….**
11. **Flexible outdoor room**….have **gathering spaces… program for activities**….outdoor dancing, yoga classes, impromptu **music gatherings**….**flexible space…**can also serve as picnic. Also a **linear feature….waves of color using native plants**…..all year….including greens and browns……St. John's Wort…yellow….pollinators….**children's garden with small path**….trees with **high wildlife value….multi-functional**…not just us but for habitat as well.
12. In terms of cycling….huge fan of trail going through….in terms of parking….Heritage Trust owns **80 spaces as part of steam plant**….she envisions that they could work with community to **make available in exchange for green space in current parking at** Lafayette Plaza….programmable space…..**remove the parking barrier**…..**would love to see restrooms go away….we can serve and manage restrooms at the trust..(Steam plant).** Other activities….likes idea of **history being inside and outside of building**….**story begins just before entering museum**….could go further with the **public art program**.
13. **Footbridges would be important**……**Kayak launch**…..**eliminate Lafayette Plaza…parking on riverfront not very slightly**….could see more **green space with native plants**……swm going in…..see the **creek become more natural**….add boulders…**not just a drainage canal**….Heritage Trust with mini campus….**maybe get a steam engine incorporated**…..
14. Looking at other ideas. Would be great to have **outdoor stage for performance**, outdoor **tables** etc. Tim Fulton Response: Are you envisioning something different from Foundary Park? Yes, she was thinking **more freestanding.**
15. I'd like to introduce something: when going through process of master planning…York is so indicative of whole process….**anything can change**. As you think of different components, **whatever steps you take, complete something already started**. Two: **needs to hint at something next and three it needs to hint at grand vision**…..provides a **stepping path to the future**. Every action you take will change down the road. When looking at area…need to **come to grips with the railroad**….is it utilitarian? **Do you ignore or embrace**? The turntable puts in a whole new category. Topographically….always a challenge. Other thing: **George, Beaver, Streets impact. Also environmental aspect**…can't ignore.
16. I volunteer a lot in York on green spaces. This needs to become everybody's yard…will need to keep a large flat open green space….suggests any swm issues….drain into this area into a series of retention ponds….access to water that gets filtered…..give people contact with water. The

local native plant species is wonderful….provides a pollination highway….creates a greenspace connected with other green spaces in all of York. This impacts all other areas of York. Having a walking path with little **rest stops** and **low tables with information printed on**….tie the person's journey to the historical museum. **All about a sensory experience**….can touch physical relics of the City……look at **composting toilets**….since this will be the city's yard…..people get hungry, **need to generate income**…..somewhere **long before residential development…..have food trucks to activate the empty space before things get built upon it**. Or maybe **leave a paved area to allow for yearly food truck festivals**. Want the **area to be incorporated into peoples' daily lives**….create **healthy lifestyles**……encourage people to walk….**what is at each end**? What does it connect?

17. Focusing back on heritage **rail trail**, need to keep in mind that **80% of users are cyclists**….get complaints that **they move to fast**, don't stop at intersections. In order for this space to work will need to keep in mind for cyclists and pedestrians…..**eliminate conflict** to allow cyclists to move through the area (**separate trails as possible**?).
18. **Harken back to going under the railroads instead of over the railroads**…..the railroads make you think of **Boulder Creek in Boulder CO**….look at this example…… Another thing: We have extended to the armory…..**exposed rock** from George Street back to the bend of the creek….a miraculous areas….down from Beaver Street…**beautiful limestone bedrock**…whites and blues…with minimal efforts …make a path from George street army corp access road so you can **walk on that side of the creek**. The **walleye stack up there**….a **lot of gain for little investment**.
19. Pragmatically….it will take money….why don't we have **rail service connecting to Baltimore and DC…**.could bring people up. What are chances of finding another way to get a train to connect….bring people to York……has anybody looked at this? Tim Fulton: Trail is there by virtue of **rail banking act**….trail could be used as an interim use to preserve corridor for potential future rail use…**way beyond the purview of this effort**.
20. York City not alone in wanting to redevelop industrial area…..recommends to look at **Sites Certification** (outdoor spaces).
21. What about **northern extension**?…..have we given any thought to how this connects? The section now ends at 30. In planning and funding process to build a ramp to go up to Route 30 bridge..8' sidewalk on south side of Rt. 30 bridge.

18. APPENDIX F COST ESTIMATES & PHASING PLAN

GEORGE STREET
PARKING
COMMERCIAL OFFICE
PARKING
N CHERRY LANE
EXISTING PARKING LOT
EXISTING PARKING LOT
PARKING
SCHOOL
NORTH ST
BEAVER STREET
FUTURE DEVELOPMENT
CODORUS
FUTURE DEVELOPMENT
PARALLEL PARKING
PARALLEL PARKING
CROSS WALK
PARKING LOT
FUTURE DEVELOPMENT
RESIDENTIAL
PARKING LOT
TRAIN TURNTABLE
CROSS WALK
PARKING
BACK-IN PARKING
GRANITE CURBING
STEAM PLANT
BACK-IN PARKING
NATIVE PLANTINGS
SEATING WITH SHADE STRUCTURE
BUFFER PLANTINGS
CROSS-WALK
CITY OF YORK SCHOOL PARKING LOT
COLONIAL COMPLEX
W CLARKE AVE
W MARKET ST
SIDEWALK
CROSSWALK
S PERSHING AVE
PARALLEL PARKING
TRAIL
BIKE RACK
ADA ACCESS RAMPS
EXISTING COLONIAL COURTHOUSE
NATIVE PLANTINGS BEST MANAGEMENT PRACTICES & EXHIBITION AREA
HISTORIC AMP GARDEN
NATIVE PLANTINGS
NATIVE PLANTINGS
REALIGN DRIVE
EXISTING PARKING
HISTORY SCULPTURE
W PHILADELPHIA ST
GREEN
PLAZA
SIDEWALK
COLONIAL COMPLEX
PLAZA
EXTENDED AMP
GRADED SEATING STEPS
CREEKSIDE ACCESS
COVERED OVERLOOK
CODORUS
CODORUS
CODORUS
HAMILTON AVE
BEAVER STREET
HAMILTON AVE
ARCH ST
GEORGE STREET
GEORGE STREET
CODORUS
MATCH LINE, THIS SHEET LEFT
BORDER

PHASE I
PHASE II
PHASE III

0 50' 100'

SOATES BOOM

C.S Davidson, Inc
Excellence in Civil Engineering
BUCHART HORN

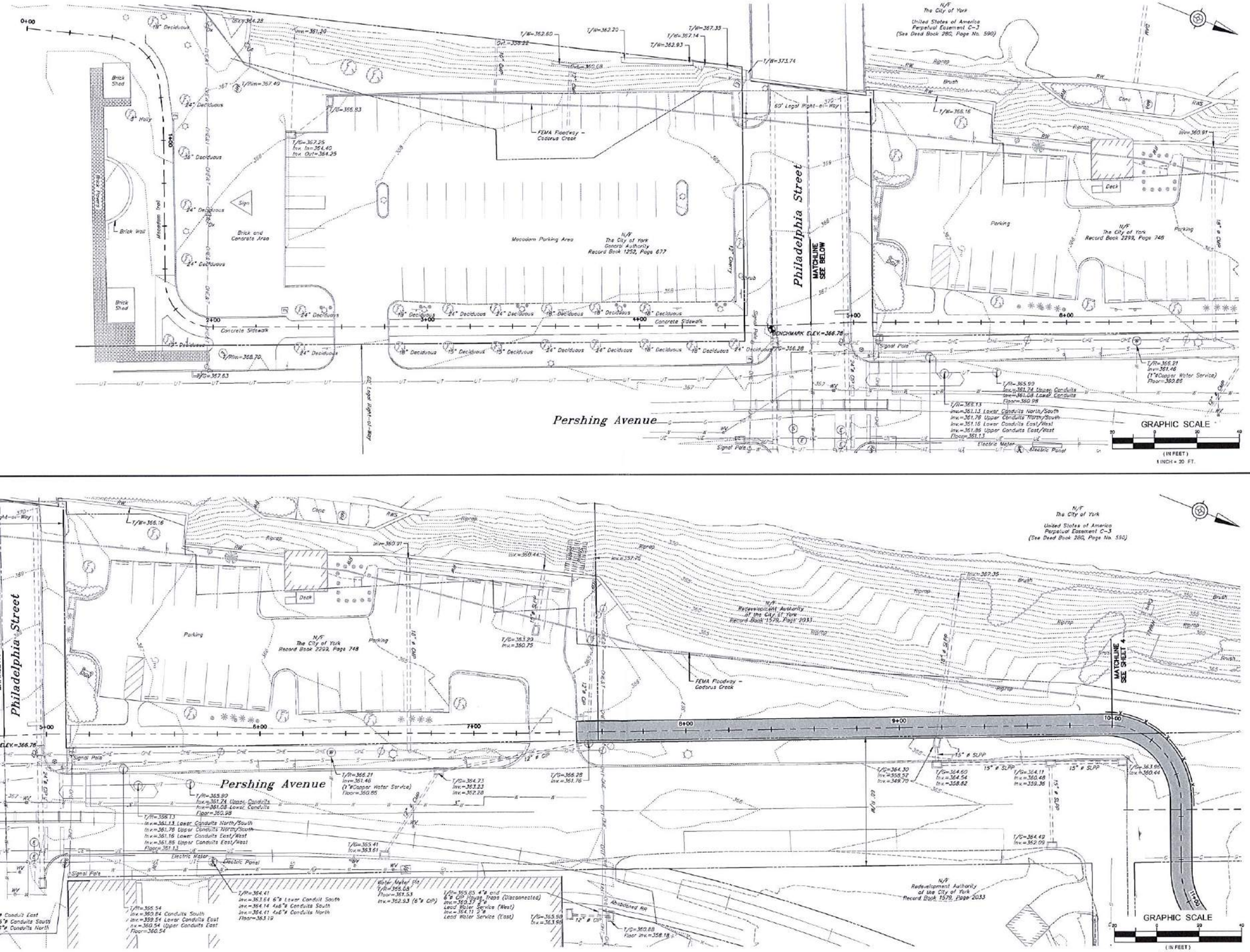
CITY OF YORK
NORTHBEND OPPORTUNITY AREA SITE MASTER PLAN
YORK COUNTY
PENNSYLVANIA

MARK	ISSUE DATE	ISSUED FOR

PROJECT NO: 77083-01
DWG DATE: 10-19-2016
CHECKED BY: KSF

SHEET TITLE:
PHASING PLAN

SHEET NO:



YORK COUNTY RAIL TRAIL AUTHORITY

SESC/ PCSM/ CONSTRUCTION PLANS
SITE PLAN STA. 0+00 TO STA. 10+00

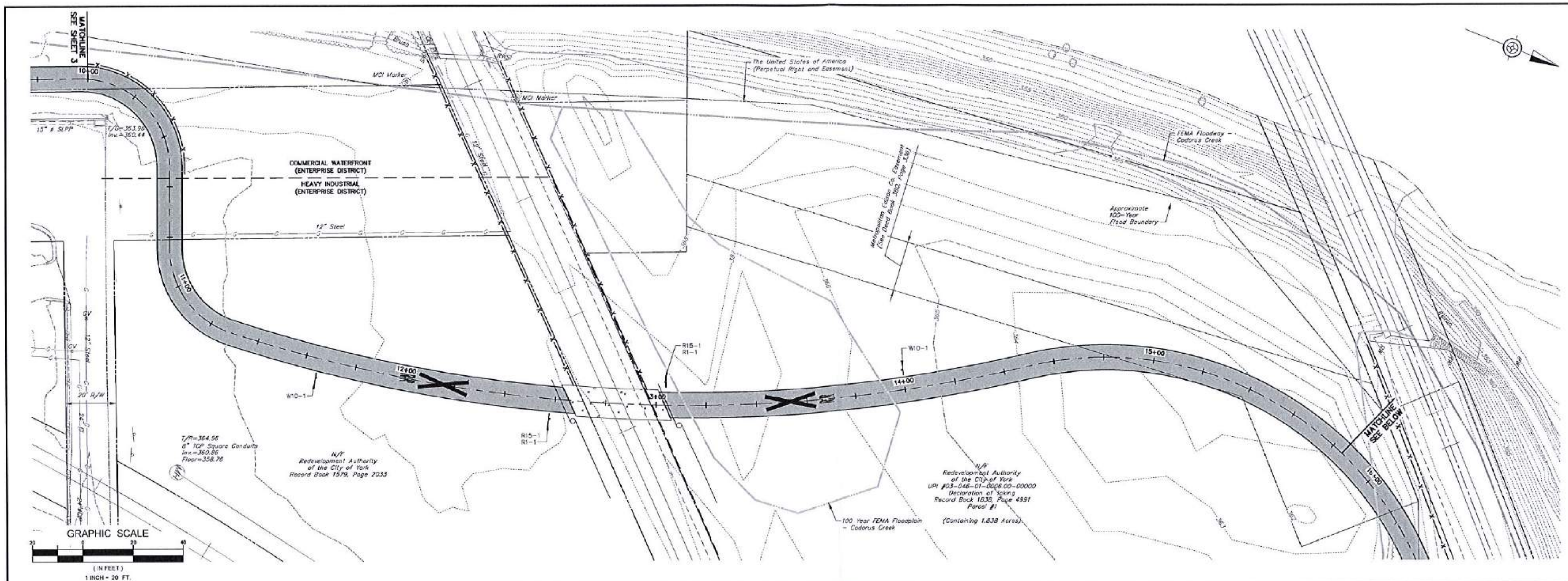
CITY OF YORK — YORK COUNTY - PENNSYLVANIA

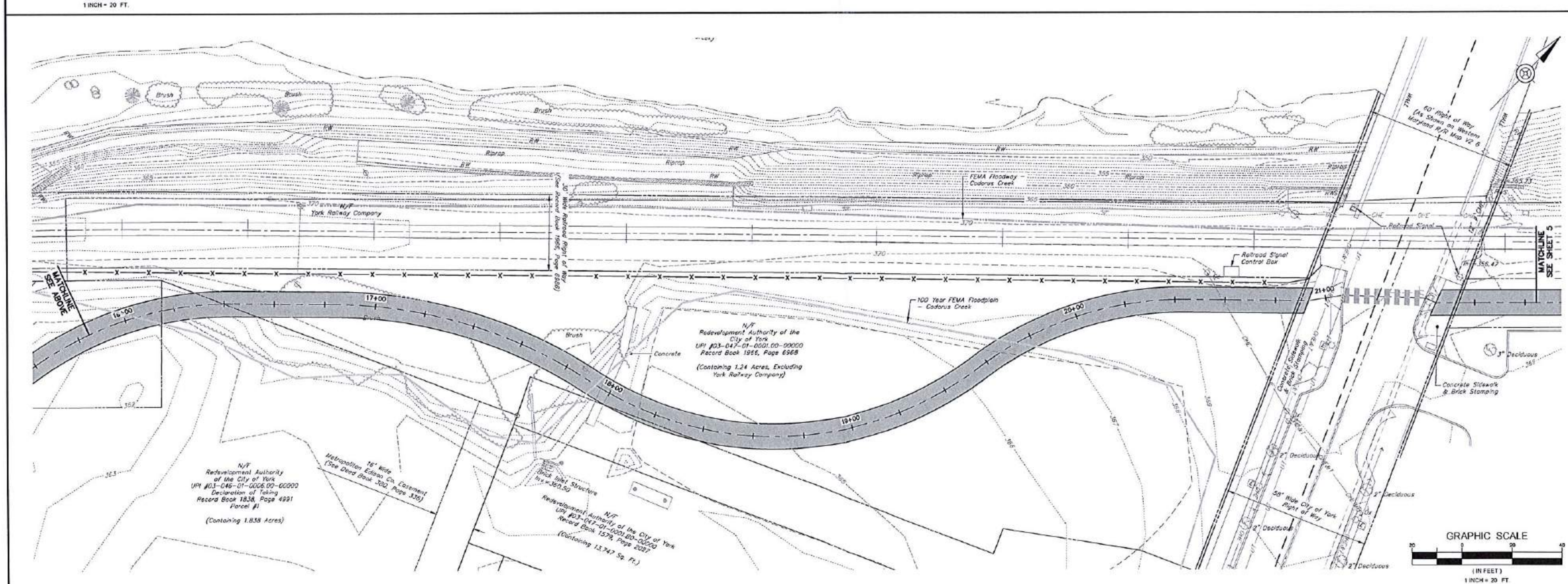
NORTHWEST TRIANGLE RAIL TRAIL DESIGN

C.S. Davidson, Inc.
Excellence in Civil Engineering
38 NORTH DUKE STREET, YORK, PA • PHONE (717) 846-4805 • FAX (717) 846-5811
50 WEST MIDDLE STREET, GETTYSBURG, PA • PHONE (717) 337-3021 • FAX (717) 337-0762
315 W. JAMES STREET, SUITE 102, LANCASTER, PA • PHONE (717) 481-2991 • FAX (717) 481-9660
WWW.CSDAVIDSON.COM

NO.	DATE	DESCRIPTION

DRAWN BY	MPA
CHECKED BY	
SCALE	1"=20'
DATE	4/12/2016
DWG. NO.	0407U900_A
FILE NO.	0407.4 U9.00
SHEET NO.	3 OF 10





YORK COUNTY RAIL TRAIL AUTHORITY

SESC/ PCSM/ CONSTRUCTION PLANS
SITE PLAN STA. 10+00 TO STA. 22+00

CITY OF YORK — YORK COUNTY, PENNSYLVANIA

NORTHWEST TRIANGLE RAIL TRAIL DESIGN

C.S.Davidson, Inc.
Excellence in Civil Engineering
38 NORTH DUKE STREET, YORK, PA • PHONE (717) 846-4805 • FAX (717) 846-5811
50 WEST MIDDLE STREET, GETTYSBURG, PA • PHONE (717) 337-3021 • FAX (717) 337-0782
315 W. JAMES STREET, SUITE 102, LANCASTER, PA • PHONE (717) 481-2991 • FAX (717) 481-8690
WWW.CSDAVIDSON.COM

NO.	DATE	DESCRIPTION

DRAWN BY	MPA
CHECKED BY	
SCALE	1"=20'
DATE	4/12/2016
DWG. NO.	0407U900_A
FILE NO.	0407.4.U9.00
SHEET NO.	4 OF 10

YORK COUNTY RAIL TRAIL AUTHORITY

SESC/ PCSM/ CONSTRUCTION PLANS
SITE PLAN STA. 22+00 TO STA. 27+50

CITY OF YORK — YORK COUNTY, PENNSYLVANIA

NORTHWEST TRIANGLE RAIL TRAIL DESIGN

C.S. Davidson, Inc.
Excellence in Civil Engineering
38 NORTH DUKE STREET, YORK, PA • PHONE (717) 845-8625 • FAX (717) 845-9811
50 WEST MIDDLE STREET, GETTYSBURG, PA • PHONE (717) 337-3021 • FAX (717) 337-0742
315 W. JAMES STREET, SUITE 102, LANCASTER, PA • PHONE (717) 481-2891 • FAX (717) 481-0980
WWW.CSDAVIDSON.COM

NO.	DATE	DESCRIPTION

DRAWN BY	MPA
CHECKED BY	
SCALE	1"=20'
DATE	4/12/2016
DWG. NO.	0407U900_A
FILE NO.	0407.4.U9.00
SHEET NO.	5 OF 10

K:\0407\4.U9\Dwg\Civil\0407U900_A.dwg, 9/27/2016 2:49:46 PM

City of York, York County

Construction Cost Estimate
Engr.'s Project No.: 0407.4.U9.00
Prepared By: MPA
Date: 12/14/2016
Checked By:

C.S.Davidson, Inc.
Excellence in Civil Engineering

Phase 1 Work

Bid Item Description	Quantity	Unit	Unit Price	Estimated Total
Mobilization	1	LS	$5,700.00	$30,000.00
Rough Grading	1	LS	$200,000.00	$200,000.00
Finish Grading & Seeding	5000	SY	$6.00	$30,000.00
12" Compost Filter Sock	1500	LF	$6.00	$9,000.00
Construction Entrance	4	Ea	$750.00	$3,000.00
12.5mm Porous Pavement, 4" Depth	550	Ton	$106.00	$58,300.00
AASHTO #57 Stone - Washed 1" Depth	100	Ton	$40.00	$4,000.00
AASHTO #3 Aggregate, Deep Clean Washed, 7" Depth	1000	Ton	$30.00	$30,000.00
Railroad Crossing	1	LS	$250,000.00	$250,000.00
Landscaping	1	LS	$100,000.00	$100,000.00
Traffic signal alteration, Signing and Pavement Markings	1	LS	$250,000.00	$250,000.00
Handrail	100	LF	$20.00	$2,000.00
Collapsible Bollards	4	Ea	$2,000.00	$8,000.00
ADA Curb Ramp (6" Think Concrete)	6	Ea	$4,500.00	$27,000.00
Surface Mounted Detectable Warning Domes	6	Ea	$400.00	$2,400.00
Non-Woven Geotextile Fabric	5000	SY	$11.00	$55,000.00
Stormwater Mgmt. BMP (Infiltration Stone Bed)	1780	LF	$20.00	$35,600.00
			CONSTRUCTION ESTIMATE	**$1,094,300.00**
			10 % CONTINGENCY	**$109,430.00**
			TOTAL ESTIMATED CONSTRUCTION	**$1,203,730.00**

Phase 2 Work

Bid Item Description	Quantity	Unit	Unit Price	Estimated Total
Mobilization	1	LS	$13,500.00	$30,000.00
Rough Grading	1	LS	$200,000.00	$200,000.00
Finish Grading & Seeding	2000	SY	$6.00	$12,000.00
12" Compost Filter Sock	1000	LF	$6.00	$6,000.00
Construction Entrance	4	Ea	$750.00	$3,000.00
Street construction -paving	1200	Ton	$106.00	$127,200.00
Street construction -subgrade stabilization	1	LS	$50,000.00	$50,000.00
Street construction -stone base course	1500	Ton	$30.00	$45,000.00
Landscaping	1	LS	$100,000.00	$100,000.00
Signing and Pavement Markings	1	LS	$10,000.00	$10,000.00
Hardscaping of the open spaces	2	LS	$100,000.00	$200,000.00
Artwork and hardscaping at the Steam Plant	1	LS	$50,000.00	$50,000.00
Colonial Courthouse Improvements (see detailed estimate)	1	LS	$905,300.00	$905,300.00
Stormwater Mgmt. BMP	1	LS	$100,000.00	$100,000.00
			CONSTRUCTION ESTIMATE	**$1,838,500.00**
			10 % CONTINGENCY	**$183,850.00**
			TOTAL ESTIMATED CONSTRUCTION	**$2,022,350.00**

Phase 3 Work

Bid Item Description	Quantity	Unit	Unit Price	Estimated Total
Mobilization	1	LS	$5,000.00	$30,000.00
Rough Grading	1	LS	$20,000.00	$20,000.00
Finish Grading & Seeding	1300	SY	$6.00	$7,800.00
12" Compost Filter Sock	300	LF	$6.00	$1,800.00
Construction Entrance	1	Ea	$750.00	$750.00
Access stabilization	1	LS	$20,000.00	$20,000.00
Stormwater Mgmt. BMP	1	LS	$5,000.00	$5,000.00
			CONSTRUCTION ESTIMATE	**$85,350.00**
			10 % CONTINGENCY	**$8,535.00**
			TOTAL ESTIMATED CONSTRUCTION	**$93,885.00**

COLONIAL COURT
HOUSE IMPROVEMENTS
(MARKET TO PHILADELPHIA)
PHASE 2

OPINION OF PROBABLE CONSTRUCTION COST

Client: City of York Estimate No.: **77081-01** **07-Feb-17**
Location: Heritage Rail Trail Estimator: BLB
Subject: Colonial Complex Checker:

Burdens:
State Sales Tax: 6.0% 10/24/16 **Approx. cost = $905,300**
Labor Burden (Payroll Taxes & Insur.): 65%

DESCRIPTION OF WORK	QUANTITY	UNIT	UNIT PRICE MATERIAL	TOT. EST. MATERIAL	UNIT PRICE LABOR	TOT. EST. LABOR	UNIT PRICE EQUIPMENT	TOT. EST. EQUIPMENT	UNIT PRICE HISTORICAL	SUBCONT.	TOTAL W/ BURDENS
Demolition				$0		$0		$0		$0	$0
18" Brick Wall	463.5	cf		$0	1.39	$644	1.83	$848		$0	$2,977
Sidewalk	1424	sy		$0	5.82	$8,288	3.32	$4,728		$0	$28,669
Light Fixtures	10	ea		$0	33.31	$333		$0		$0	$856
Paving	2416	sy		$0	1.80	$4,349	1.51	$3,648		$0	$16,862
Curbing	600	lf		$0	2.11	$1,266	1.18	$708		$0	$4,357
Sign	1	ea		$0	61.31	$61	17.96	$18		$0	$186
Bike Racks	5	ea		$0	23.66	$118	13.21	$66		$0	$407
Restroom Building	2500	cf		$0	0.11	$275	0.20	$500		$0	$1,486
Visitor Building	4000	cf		$0	0.11	$440	0.20	$800		$0	$2,377
Disposal	1	ls		$0		$0		$0	10,000.00	$10,000	$15,579
				$0		$0		$0		$0	$0
Construction				$0		$0		$0		$0	$0
Bike Trail	4715	sf		$0		$0		$0	5.00	$23,575	$36,727
Sidewalk	5945	sf		$0		$0		$0	11.00	$65,395	$101,877
ADA Ramp with Cheek Walls	720	sf		$0		$0		$0	11.00	$7,920	$12,338
Steps with Cheek Walls	158	lf	5.38	$850	21.63	$3,418	0.44	$70		$0	$10,297
Shelter	600	sf		$0		$0		$0	100.00	$60,000	$93,473
Plaza Paving	4772	sf	2.36	$11,262	4.73	$22,572		$0		$0	$76,617
Seat Walls	19	cy	141.45	$2,688	119.48	$14		$0		$0	$4,473
Curbing	140	lf		$0		$0		$0	35.00	$4,900	$7,634
Lighting, Trail Fixtures	7	ea		$0		$0		$0	5,500.00	$38,500	$59,978
Site Lighting	10	ea		$0		$0		$0	1,700.00	$17,000	$26,484
Clark Avenue Crosswalk	100	lf		$0		$0		$0	10.00	$1,000	$1,558
Trees	22	ea		$0		$0		$0	450.00	$9,900	$15,423
Native Plantings Seeding	4900	sf		$0		$0		$0	4.00	$19,600	$30,534
Grading	2560	cy		$0		$0		$0	35.00	$89,600	$139,586
Soil Amendment	3000	sy	18.61	$55,830	0.01	$30		$0		$0	$92,272
Topsoil	1540	cy	21.09	$32,479	1.61	$2,479	5.37	$8,270		$0	$72,890
Seeding, Turf	3530	sy	0.40	$1,412	1.55	$5,472	0.43	$1,518		$0	$18,761
18" SLCPP	200	lf		$0		$0		$0	37.00	$7,400	$11,528
Inlets	3	ea		$0		$0		$0	3,650.00	$10,950	$17,059
Bike Racks	2	ea		$0		$0		$0	650.00	$1,300	$2,025
				$0		$0		$0		$0	$0
				==========		==========		==========		==========	==========
				$104,520		$49,758		$21,173		$367,040	$905,290
Mean's Local Cost Adjustment			0.00%	$0	0.00%	$0	0.00%	$0		n/a	
				==========		==========		==========		==========	
				$104,520		$49,758		$21,173		$367,040	
Taxes & Insurance				$6,271		$32,343		n/a		n/a	
				==========		==========		==========		==========	
				$110,791		$82,101		$21,173		$367,040	

ESTIMATE SUMMARY:		
MATERIAL:		$110,791
LABOR:		$82,101
EQUIPMENT:		$21,173
SUBCONTRACTS:		$367,040
		==========
ADD-ONS:		$581,106
GEN. CONDITIONS & OVERHEAD:	10%	$58,111
		==========
		$639,216
PROFIT:	10%	$63,922
		==========
		$703,138
BONDING & INSURANCE:	3%	$21,094
		==========
		$724,232
CONTINGENCY:	25%	$181,058
		==========
		$905,290
INFLATION - ONE YEAR:	0%	$0
		==========
		$905,290
OPINION OF PROBABLE CONSTRUCTION COST		**$905,300**

Driven by Success
TRG
TRANSPORTATION RESOURCE GROUP, INC.

Project: NBOA Master Site Plan
Project No: 113.043.15
Applicant/Owner: City of York/CSD
Location: City of York
Estimate: Conceptual Cost Estimate -DRAFT
Prepared By: TCA.AJE
Date: 11.29.16
Comment: Mason Ave Multimodal Connector

Opinion of Probable Construction Cost

	Description	Unit	Unit Price	Estimated Quantity	Quantity to Date	To Be Completed	Cost	Amount Remaining	Amount Released
A. Miscellaneous									
1	Mobilization	LS	$10,000.00	1	0	1	$10,000.00	$10,000.00	$0.00
2	Maintenance and Protection of Traffic	LS	$20,000.00	1	0	1	$20,000.00	$20,000.00	$0.00
3	Clearing and Grubbing	LS	$0.00	0	0	0	$0.00	$0.00	$0.00
4	Excavation	CY	$20.00	0	0	0	$0.00	$0.00	$0.00
5	Utility Relocations.Adjustments	LS	$100,000.00	1	0	1	$100,000.00	$100,000.00	0
							SUBTOTAL:	$130,000.00	
B. Pavement									
1	Pavement Removal	SY	$2.50	3400	0	3400	$8,500.00	$8,500.00	$0.00
2	Sidewalk Removal	SY	$20.00	220	0	220	$4,400.00	$4,400.00	$0.00
3	Concrete Pavement/ped walkway	SY	$80.00	2300	0	2,300	$184,000.00	$184,000.00	0
4	Bitmuminous pavment	SY	$45.00	1400	0	1,400	$63,000.00	$63,000.00	0
							SUBTOTAL:	$259,900.00	
C. Drainage									
1	Drainage Pipe	LF	$75.00	1600	0	1600	$120,000.00	$120,000.00	$0.00
2	Inlet (Bicycle Safe)-Inverted Crown	EA	$2,000.00	8	0	8	$16,000.00	$16,000.00	$0.00
3	Replace Inlet Top (Bicycle Safe)	EA	$0.00	0	0	0	$0.00	$0.00	$0.00
							SUBTOTAL:	$136,000.00	
D. Incidental Construction									
1	Concrete Vertical Curb	LF	$25.00	3000	0	3000	$75,000.00	$75,000.00	$0.00
2	Concrete Barrier	LF	$70.00	0	0	0	$0.00	$0.00	$0.00
3	Pedestrian Curb Ramps	EA	$3,000.00	17	0	17	$51,000.00	$51,000.00	$0.00
4	Concrete Sidewalks	SY	$60.00	0	0	0	$0.00	$0.00	$0.00
5	Ped Lighting/Streetscape Amentities	LS	$110,000.00	1			$110,000.00	$110,000.00	0
							SUBTOTAL:	$236,000.00	
E. Roadside Development									
1	Topsoil	SY	$5.00	0	0	0	$0.00	$0.00	$0.00
2	Seeding and Mulching	SY	$5.00	0	0	0	$0.00	$0.00	$0.00
3	E&S Control Measures	LS	$20,000.00	1	0	1	$20,000.00	$20,000.00	$0.00
							SUBTOTAL:	$20,000.00	
F. Signals, Signing and Pavement Marking									
1	Post Mounted Signs	EA	$300.00	50	0	50	$15,000.00	$15,000.00	$0.00
2	Pavement markings/ped crossings	EA	$2,000.00	12	0	0	$24,000.00	$24,000.00	$0.00
3	Colored pavement crossings	SF	$8.00	5000	0	5000	$40,000.00	$40,000.00	$0.00
4	W/4" Waterborne Pavement Markings	LF	$1.00	5000	0	5000	$5,000.00	$5,000.00	$0.00
							SUBTOTAL:	$84,000.00	
G. Other									
							Construction Item Subtotal	$865,900.00	
1	Administration and Construction Insp. (15%)	LS	$129,885.00	1	0	1	$129,885.00	$129,885.00	$0.00
							SUBTOTAL:	$129,885.00	
							TOTAL:	995,785.00	
							15% CONTINGENCY:	149,367.75	
							TOTAL WITH CONTINGENCY:	1,145,152.75	

Cost Opinion for:

York City - Green Infrastructure Concept Plan

Created 6.10.16

Based on LSI Concepts Dated 5.16.16

DISCLAIMER - This information does not constitute a quote, contract, or proposal for services by LandStudies, Inc. Cost data is derived from current and past market data for similar projects and does not include a factor for future price inflation. **For planning purposes, we recommend adding a cost contingency of 10-20% to account for unknowns and market fluctuation.**

Item #	Site - A2, A3, A4 Veterans Memorial Park	Quantity	Unit	Unit Cost	Extended Cost
1	Design/ Permit	1	LS	$ 125,000.00	$ 125,000
2	A2 - MS4 Outfall Bio-Retention MCM #6	7,872	SF	$ 8.00	$ 62,976
3	A-5 Bank Stabilization	43,200	SF	$ 6.00	$ 259,200
4	BMP#2 Stormwater Outfall Treatment Area	1,846	SF	$ 14.00	$ 25,844
5	BMP#3 Stormwater Outfall Treatment Area	2,960	SF	$ 11.00	$ 32,560
6	BMP#4 Stormwater Outfall Treatment Area	4,063	SF	$ 10.00	$ 40,630
7	BMP#5 Bio-Retention	1,805	SF	$ 14.00	$ 25,270
8	Floodplain Bench	82,609	SF	$ 7.00	$ 578,263
9	Bridge Extension	65	LF	$ 800.00	$ 52,000
10	Riparian Buffer/ Naturalized Area	86,592	SF	$ 0.35	$ 30,307
11	Curbed Parallel Parking	425	LF	$ 117.00	$ 49,725
12	Street Tree Planting	16	EA	$ 700.00	$ 11,200
	Total for Site - A2,A3,A4 Veterans Memorial Park				***$ 1,292,975.20***

Exclusions:

Proposed Path/ Trail
Installation/ Replacement of Outfall Structures/ Piping
Relocation of existing utility crossing conflict
Export of excess soil from site
Utility relocation/ replacement (underground and/or overhead)
Educational Signage

Item #	Site - A1, A4 Veterans Memorial Park	Quantity	Unit	Unit Cost	Extended Cost
1	Design/ Permit	1	LS	$ 50,000.00	$ 50,000
2	Streambank Stabilization/ Floodplain Bench	45,074	SF	$ 8.00	$ 360,592
3	BMP#1: Proposed Bio-Retention Area	8,194	SF	$ 8.00	$ 65,552
4	Retrofit Existing Stormwater Basin	60,809	SF	$ 0.60	$ 36,485
	Total for Site - A1,A2, Veterans Memorial Park				***$ 512,629.40***

Exclusions:

Relocation/ protection of exposed gas line
Proposed Path/ Trail
Stabilize access drive
Installation/ Replacement of Outfall Structures/ Piping
Export of excess soil from site
Utility relocation/ replacement (underground and/or overhead)
Educational Signage

Item #	Site - B1 Mill Creek	Quantity	Unit	Unit Cost	Extended Cost
1	Design/ Permit	1	LS	$ 85,000.00	$ 85,000
2	Stabilize Existing Drainage Channel	33,890	SF	$ 13.00	$ 440,570
3	Stormwater Outfall Treatment	20,465	SF	$ 11.00	$ 225,115
4	Natural Area Enhancement	92,147	SF	$ 0.30	$ 27,644
	Total for Site - B1 Mill Creek				***$ 778,329.10***

Exclusions:

Investigation, studies, permitting, removal and/or mitigation of contaminated soils/water
Installation/ Replacement of site infrastructure such as Outfall Structures/ Piping/ Fencing
Export of excess soil from site
Utility relocation/ replacement (underground and/or overhead)
Educational Signage

Item #	Site - D1 Lincoln Park	Quantity	Unit	Unit Cost	Extended Cost
1	Design/ Permit	1	LS	$ 115,000.00	$ 115,000
2	Streambank/ Floodplain Restoration	120,724	SF	$ 5.00	$ 603,620
3	Removal/ Disposal of Existing Bridge	1	LS	$ 7,500.00	$ 7,500
4	New Timber Bridge Design/ Build	145	LF	$ 650.00	$ 94,250
5	Raingarden SWM BMP/ Planting Area Bump Out	8,400	SF	$ 35.00	$ 294,000
6	Proposed Curbing/ Sidewalk	850	LF	$ 130.00	$ 110,500
7	Proposed Asphalt Paths (6' width)	7,200	SF	$ 3.75	$ 27,000
8	Proposed Street Tree Planting	10	EA	$ 700.00	$ 7,000
	Total for Site - D1 Lincoln Park				***$ 1,258,870.00***

Exclusions:

Installation/ Replacement of site infrastructure such as Stormwater structures (pipes, catch basins, etc.)
Demolition of existing infrastructure such as sidewalk (bridge is included)
Line striping, asphalt paving
Utility relocation/ replacement (underground and/or overhead)
Export of excess soil from site
Augering/ Drilling for timber bridge supports/ piles. Assumes piles driven clear (no refusal) to 10' minimum depth.
Educational Signage

Item #	Site - E1 Industrial Park	Quantity	Unit	Unit Cost	Extended Cost
1	Design/ Permit	1	LS	$ 85,000.00	$ 85,000
2	Channel Stabilization/ Floodplain Improvements	85,094	SF	$ 6.00	$ 510,564
3	Retrofit Existing Stormwater Swale	23,726	SF	$ 8.00	$ 189,808
	Total for Site - E1 Industrial Park				***$ 785,372.00***

Exclusions:

Installation/ Replacement of Outfall Structures/ Piping
Export of excess soil from site
Utility relocation/ replacement (underground and/or overhead)
Educational Signage

19. APPENDIX G ACKNOWLEDGEMENT PAGE

Acknowledgement Page

This report was completed through the close partnership of the City of York and York's non-profit ambassador Downtown Inc. This cooperative approach drives Downtown Inc. to work with the City government to create committees, fundraise and perform administrative tasks to help complete projects like this study to make York a better place to live, work and play.

The structure of guidance for this study included a Master Steering Committee along with three subcommittees; Transportation, Rail Trail and Stormwater/Green Infrastructure. Each subcommittee focused on various aspects or focuses within the overall effort while the Master Steering Committee provided guidance to ensure all actions best worked together to better the City as a whole. The members of each committee are listed below.

Master Steering Committee:

Tom Landis – Director of City Parks and Recreation
Nicole Gallup – City Planner
Jim Gross – City Public Works Director
Ken Martin – Dean of Operations, York College
Tammy Klunk – York County Parks Director
Will Clark – York County Transportation Chief
Lise Levin – Vice President of Community Investment, York County Community Foundation
Joan Mummert – President/CEO, York County History Center
Rob Kinsley – President, LSC Design Inc.

Transportation Subcommittee:

Craig Walt – York City Bureau of Health
Nicole Gallup – York City Planning
Mike Pritchard – York County Planning
Danielle Stehman – LSC Design Inc.
Jim Gross – York City Public Works

Rail Trail subcommittee:

Ken Martin – York College
Kim Hogeman – York County Economic Alliance
Jim Gross – York City Public Works
Tammy Klunk – York County Parks
Barry Myers – York County Parks
Mike Pritchard – York County Planning

Stormwater/Green Infrastructure Committee:

Jim Gross - City Public Works Director
Tom Landis - Director of City Parks and Recreation
India Banks – York City staff
Cassandra Dennis –York City staff
Steven Buffington –City Building permits Director
Nicole Gallup – York City Planning
Michael Shanabrook -City Emergency Management Coordinator
Thomas King –City IT Director
Veronica Chavez – City Sanitary Sewer Department
Jeffrey Shue - City Consulting Engineer
Derek Rinaldo –City Consulting MS-4 Coordinator

This project was financed in part by a grant from the Community Conservation Partnerships Program, Keystone Recreation, Park and Conservation Fund, under the administration of the Pennsylvania Department of Conservation and Natural Resources, Bureau of Recreation and Con