

MASTER PLAN

for the

SCHUYLKILL RIVER TRAIL

BOROUGH OF PHOENIXVILLE CHESTER COUNTY, PENNSYLVANIA

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I. EXECUTIVE SUMMARY

The Schuylkill River Trail (SRT) is part of the Schuylkill River National Heritage Area that includes former industrial towns along the Schuylkill River from Philadelphia to Pottsville, Pennsylvania. The Borough of Phoenixville is one such former industrial town, having been the home of the Phoenix Iron and Steel Company for over a century. The Schuylkill River Greenway Association (SRGA), the managing agency of the Schuylkill River National Heritage Area, was the recipient of grant funding from the Pennsylvania Department of Conservation and Natural Resources (DCNR) for the preparation of this Trail Master Plan for the Borough of Phoenixville's portion of the SRT.

Previous Planning

Previous Borough SRT planning was prepared with the assistance of the Chester County Planning Commission (CCPC) in the *Strategic Plan for the French Creek Corridor (2000)*. The *Strategic Plan* included a conceptual trail corridor plan, which proposed that the trail follow along the south side of French Creek roughly from the eastern Borough line west to the area of Paradise Street. The proposed trail corridor then turned north and followed a railroad corridor north of High Street, beyond the *Strategic Plan's* study area boundary.

The Master Plan produced for the proposed French Creek Center mixed-use redevelopment project at the former steel site also included more specific alignment of sections of the SRT. This document was also consulted during the trail master planning process.

Trail Master Plan

The Plan's background inventories include Borough demographic and socio-economic data, and site-specific environmental resources and manmade features information. The environmental resources and manmade features information and the implications of these inventories are shown on Existing Conditions/Site Analysis Plans (Maps 1B to 7B).

Using the *Strategic Plan* and information from the inventories and Site Analysis Plans as a guide for the Trail Master Plan, specific trail alignment was determined. The plan includes information on properties from which rights-of-way will be required, previously constructed trail sections, proposed trail crossings, widths, surfacing and other trail design criteria, the locations of trailheads and the alignment of the trail north of High Street.

Alignment and Design

Map 1A shows the proposed SRT alignment and construction phasing and Map ES-1 shows trail alignment and trailhead locations with details. It was determined that the SRT will follow a route similar to the one proposed in the *Strategic Plan* with adjustments made to the alignment at the parcel level as needed. North of High Street, the trail is proposed to follow the east side of the railroad tracks within the railroad right-of-way. The trail is to be constructed of bituminous asphalt, twelve feet (12') in width and is to be located at the top of the bank of French Creek to avoid the need for stream bank excavation or other expensive engineering techniques. The recommended trail specification is shown on Map 10D. The estimated total project cost to construct the SRT in Phoenixville is \$834,501 and recommended project phasing is described below.

Construction Phasing

A total of three (3) construction phases are proposed, as follows:

1. Phase 1: Railroad Bridge to Taylor Alley/Reeves Crossing.

Cost: \$140,599

Description: In the spring of 2004, the Borough applied for grant funding from Chester County's Landscapes 21st Century Fund to help support costs for construction of the first segment of the SRT. This segment will start just east of the area beneath the railroad bridge over Bridge Street. The SRT will turn north and then west through Phoenix Property Group (PPG) land. In the area of the Superintendent's Building, the SRT will tie into an existing trail section extending through the Foundry Building parcel to Taylor Street Alley. Construction of the Bridge Street, Foundry and Reeves Crossing Trailheads are also proposed for Phase 1.

2. Phase 2-West of Taylor Alley/Reeves Crossing to High Street.

Cost: \$410,325

Description: The second construction phase of the SRT should continue after the existing portion of the trail at Taylor Alley and follow along the creek north of the District Justice Building tract, the lumberyard, Morgan Foods, Barto Pool and Spa, and the former Weiland Meat Plant. The SRT will cross to the north/east side of French Creek via the Paradise Street Bridge, and follow along the railroad right-of-way to High Street. Construction of the Paradise Street and High Street Trailheads are also proposed for Phase 2.

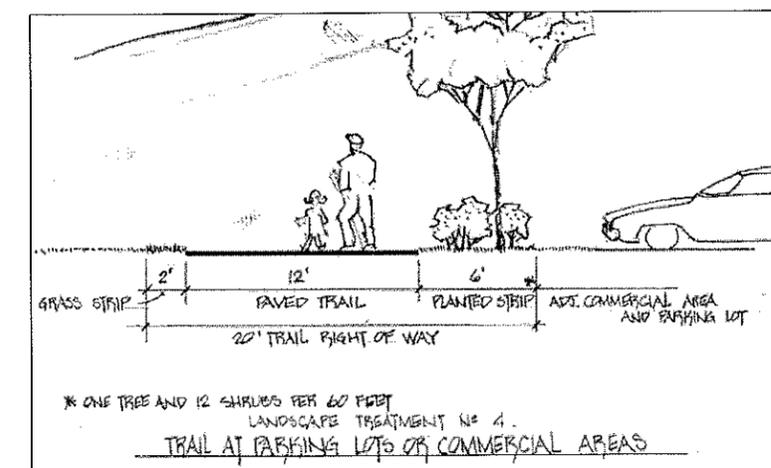
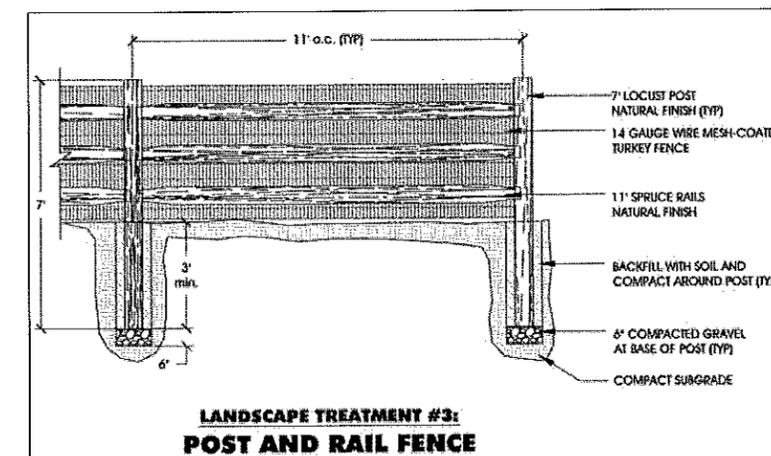
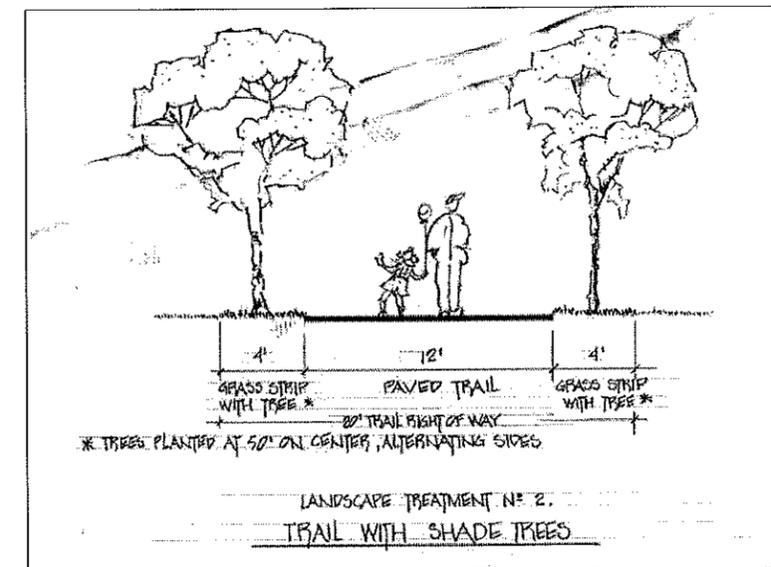
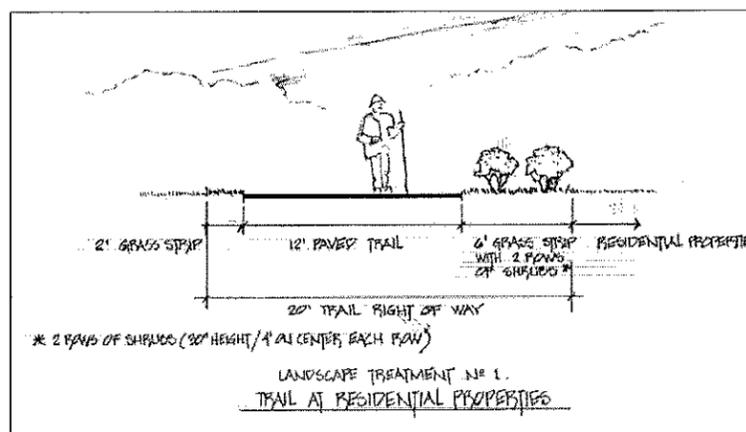
3. Phase 3- High Street to Township Line Road.

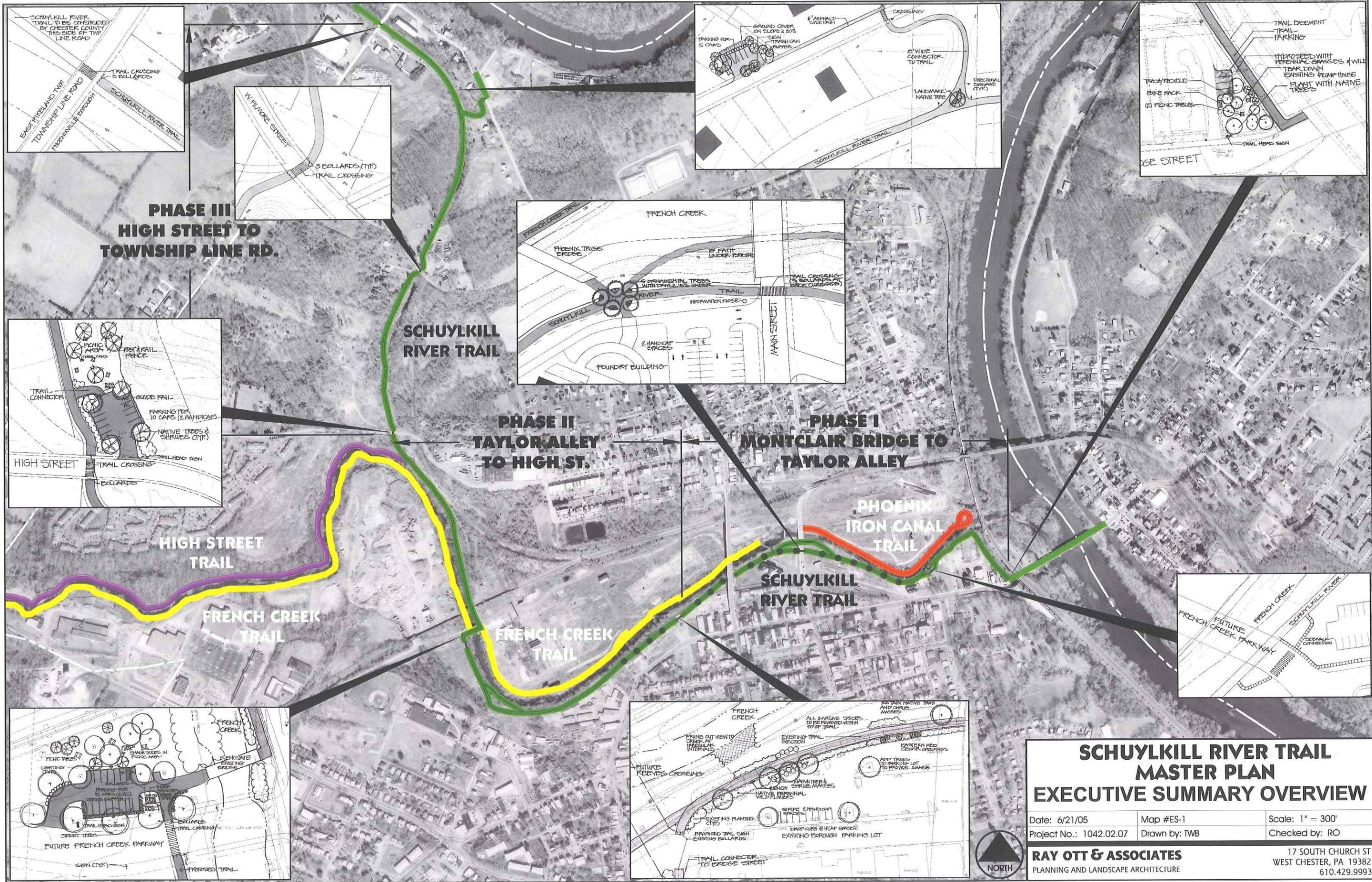
Cost: \$283,576

Description: The final SRT construction phase will cover the area from High Street to the terminus of the trail within Phoenixville Borough at Township Line Road. Construction of the Lock 59 Trailhead is also proposed for Phase 3.

The Master Plan also recommends four standard types of landscaping along the trail, which are shown in the following details:

Recommended Trail Landscape Treatments





SCHUYLKILL RIVER TRAIL MASTER PLAN EXECUTIVE SUMMARY OVERVIEW

Date: 6/21/05	Map #ES-1	Scale: 1" = 300'
Project No.: 1042.02.07	Drawn by: TWB	Checked by: RO

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II. INTRODUCTION AND BACKGROUND

A. COMMUNITY DESCRIPTION

The Borough of Phoenixville is an urban community with a traditional downtown commercial district, historic areas, industrial sites, and a variety of residential neighborhoods. It has a land area of 3.6 square miles, a population of 14,788¹, and an average population density of approximately 4,107 residents per square mile, (roughly 6.4 residents per acre). As such, it is one of the more densely populated communities in Chester County.

The Schuylkill River forms Phoenixville Borough's northern boundary and the boundary between Chester and Montgomery Counties. East Pikeland Township borders the Borough's eastern side and Schuylkill Township lies to the south and east of the Borough. French Creek meanders through the Borough, dividing the town into two (2) sections that are connected by two (2) bridges, the Gay Street Bridge to the west and the Main Street Bridge to the east.

Phoenixville Borough is one of the communities through which the SRT will pass. This project involves the master planning process for the Borough's portion of the SRT.

B. PROJECT SCOPE

1. Objectives.

The SRT Master Plan project scope of work is to prepare a trail plan consisting of a report and drawings for Phoenixville Borough's portion of the SRT. This Master Plan will examine existing conditions along the trail corridor to help ensure that the trail is developed with a functional design that is sensitive to both the environment and the potential trail users. The plan's objective is to recommend how the trail should ultimately be developed, used and maintained. The Master Plan's two (2) principal components are the Trail Alignment Plans that show trail alignment, amenities and surfaces, and this report, which documents the trail planning process. The report includes cost estimates for trail construction, together with a schedule of estimated labor and material costs needed to ensure the proper maintenance of the SRT.

2. Community Involvement.

This Plan was prepared under the direction of a Project Steering Committee, and the project was funded by a grant from the Pennsylvania DCNR and SRGA, and by Phoenixville Borough.

¹ U.S. Bureau of the Census, 2000.

C. POPULATION CHARACTERISTICS

Table 1 provides an overview of the Borough's population characteristics as recorded in the 2000 Census and compares the results with those reported for Chester County.

1. Age, Race and Ethnicity.

Although the Borough is a relatively densely settled urban community within a primarily suburban and rural county, its age and racial/ethnic composition is quite similar to the County's. Even the Borough's average household and family sizes, 2.25 and 2.99 people respectively, are very similar to the county averages of 2.96 and 3.15 people. With many more attached, row home, townhouse and multi-family apartment dwelling units, one would expect average family and household sizes to be significantly smaller.

2. Socio-economics.

On the surface, the "Educational Attainment" and "Income" statistics appear to be somewhat contradictory. While the Borough has a larger proportion of residents with bachelor or graduate degrees, which exceeds the county statistic by ten percent (10%) in both categories, the Borough household and family income figures (\$42,500 and \$54,424) are significantly lower (about \$20,000 less) than those reported for the county. This illustrates the Borough's appeal in the suburban housing market: it provides a supply of affordable housing for low and moderate income households, and a sufficient stock of high quality older housing within a town setting that also attracts young professionals.

The 2000 census reported 14,788 Phoenixville Borough residents, 30.3% of whom are under twenty-five (25) years old, 48.6% between the ages of twenty-five (25) to fifty-four (54) and 21.3%, fifty-five (55) or older. The racial origin of almost ninety (90%) of the population is Caucasian/white, with African-Americans making up the next largest group (7.7%).

Trail development will help to address the recreation needs of the anticipated population by facilitating travel through the Borough and by providing a unique recreational experience for residents and visitors of all ages and physical abilities. The SRT, together with the existing sidewalk system, will link neighborhoods together and to the central business district, which will stimulate the local economy, enhance a sense of place within the Borough and bring residents from different areas of the Borough together. The SRT will increase educational opportunities by providing direct access to and interpretation of important Borough historic resources related to the past iron and steel industries.

Table 1: Population Characteristics

Age	2000	[County]	Race/Hispanic Origin	2000	[County]
Under 5	989	6.7%	White	12,857	86.9%
5-9	959	6.5%	African-American	1,133	7.7%
10-14	911	6.2%	Native-American	22	0.1%
15-19	710	4.8%	Asian	358	2.4%
20-24	897	6.1%	Native Hawaiian / Pacific	3	0.0%
25-34	2,701	18.3%	Other	173	1.2%
35-44	2,658	18.0%	Hispanic or Latino	432	2.9%
45-54	1,818	12.3%	<i>Place of Birth</i>		
55-59	604	4.1%	State of residence	11,161	75.3%
60-64	493	3.3%	Different state	2,475	16.7%
65-74	1,018	6.9%	Foreign born	1,015	1.2%
75-84	779	5.3%	<i>Households</i>		
85+	251	1.7%	Total Households	6,460	
Total	14,788		Family households	3,673	56.9%
Median Age	36	36.9	Non-family households	2,787	43.1%
<i>School Enrollment</i>			Living alone	2,304	35.7%
Nursery school, preschool	317	9.3%	Average household size	2.25	2.65
Kindergarten	110	3.2%	Average family size	2.99	3.15
Elementary School (grades 1-8)	1,526	44.6%	<i>Educational Attainment (Population 25+ years)</i>		
High School (grades 9-12)	601	17.6%	High school	14.3%	26.0%
College or Graduate school	866	25.3%	Bachelor's degree	36.0%	26.6%
	3,420		Graduate of professional degree	26.6%	15.9%
			<i>Income</i>		
			Median household income	\$42,500	\$65,295
			Median family income	\$54,424	\$76,916
			Per capita income	\$22,911	\$31,627

Source: 2000 U.S. Census, as reported in "General Characteristics of Population and Housing for Chester County."

3. Population Projections.

The Borough's population is expected to steadily increase over the next three (3) decades, as shown in Table 2, despite a loss in population in the previous ten year period. In 2030, the Borough's population is projected to be in excess of 16,000 people.

Table 2: Population Projections

2000	2010	Percent Change	2020	Percent Change	2030	Percent Change	Percent Change, 2000-2030
14,788	15,140	2.4%	15,680	3.6%	16,080	2.5%	8.7%

Source: Chester County Planning Commission, 06/12/02.

D. BOROUGH PARK AND RECREATION SYSTEM

1. Parks.

The Borough currently owns 12 parks and a community center building that occupy approximately 37 acres of park and recreation land distributed throughout the Borough. Five (5) parks are classified as urban parks, which are typically one (1) acre or less in size and have a service area of ¼ mile. These parks often contain specialized facilities appropriate to the recreational needs of the immediate neighborhood.

Phoenixville has four (4) neighborhood parks, which are typically five (5) acres or more in size and with a service radius of a ½ mile.

Generally, these parks provide athletic fields, play equipment, picnic areas, etc.

Community parks, generally twenty (20) acres or larger, serve an entire community within a 2½ mile radius. These parks typically provide athletic fields, swimming pools, open fields and other play opportunities as their larger size allows.

The Borough also owns the Civic Center, an indoor recreation center located on Main Street. Its facilities include a basketball court/multi-purpose room, weight lifting area and boxing ring.

Borough parks have the closest proximity to the SRT corridor are Andre Thornton and C'Jon Saunders Parks. The Civic Center is located about three blocks from the trail and Reeves Park is about five blocks from the trail corridor. Other important recreation areas in the Borough are Friendship Field, currently owned by the Friendship Fire Company and located across from Reservoir Park on Fillmore Street, and DeSanno Field, owned by the Babe Ruth League of Phoenixville. In the fall of 2003, the County's 119-acre Black Rock Sanctuary, located in the Borough's northern loop section, was opened as a nature preserve with trails.

Most Borough parks, with the exception of Black Rock Sanctuary, are connected to the proposed SRT through the existing sidewalk system, which will link neighborhoods and commercial areas to each other. It has not yet been determined whether a trail facility will be developed along the Schuylkill River within the Borough, which would provide a link to Black Rock Sanctuary and its trails.

2. Trails.

Certain trail segments that will become part of the SRT network have already been constructed in the Borough. Currently, a paved trail segment extends west from the Superintendent's Building, crosses Main Street, runs through the Foundry Building site to Taylor Alley, terminating at Bridge Street.

The French Creek Trail is proposed to parallel the north side of the French Creek and cross to the south side of the French Creek on the Paradise Street bridge, which is proposed for renovation. The High Street Trail is proposed to run along the north side of French Creek beginning on the south side of High Street. The Phoenix Iron and Canal Rail Association (PICTA) trail is proposed to parallel the north side of French Creek from the area of the canal to Main Street.

E. BOROUGH AND COUNTY PLANNING DOCUMENTS

Borough planning documents that discuss trails are summarized below.

1. A Greenway System for Phoenixville, Pennsylvania.

Adopted in 1987, this document included recommendations for the development of a Greenway Overlay District that could be used as a basis for trail master planning.

2. Phoenixville Junction Trail Feasibility and Vision Plan.

In 1997, the *Phoenix Iron Canal and Trail Association* (PICTA) prepared this Plan using matching grant funding from DCNR. The plan studied "the feasibility of extending the Schuylkill River Trail Bikeway through town" by utilizing inactive railroad rights-of-way for the trails. The Plan acknowledged the need to work with the Borough and the owners of the former steel site in order to implement linkage of the proposed trails and greenways. Recommendations of this plan are being implemented. Specifically, the former steel site property is planned for unified redevelopment, and new adaptive reuse, "flex space", and downtown overlay district zoning regulations have been adopted to stimulate reuse and infill development, especially in the Downtown Commercial (D-COMM) Zoning District.

3. Phoenixville Strategic Plan: French Creek Corridor and Downtown Business District.

In 2000, Phoenixville Borough used grant funding from Chester County's Vision Partnership Program, to prepare a strategic plan for the use of the former Phoenix Steel site and the downtown area. The Strategic Plan divided the French Creek Corridor into eight (8) planning areas and included many recommendations and implementation strategies for parks, open space and trails in these planning areas. The recommendations pertinent to trail development are paraphrased below.

- Continue to allow the same uses as are currently permitted in the Greenway Overlay District. Allow enough impervious surface to accommodate the paved portions of the trail.
- Revise the trail width requirements of the Subdivision and Land Development Ordinance to reflect the trail and right-of-way widths recommended in this Plan.
- Ensure that all Planning Areas have adequate access to the trail.
- Orient land uses toward the creek and trail.
- Finalize and preserve the recommended trail system.
- Encourage dialogue and communication regarding trails with interested groups.

- Develop and adopt standards associated with the recommended trail system.
- Finalize the location of trailheads and access points.
- Finalize the number and location of river crossing facilities.
- Apply for grant funding for land acquisition, and implementation of the trail and trail facilities.

Implementation of these recommendations has begun through redevelopment of the former steel site, ordinance amendments facilitating revitalization efforts, and the pursuit of grant funding for trail planning, land acquisition and trail development.

4. Landscapes: Chester County Planning Commission.

In 1996, Chester County adopted *Landscapes*, its comprehensive policy plan which contains recommendations and implementation strategies regarding parks, recreation and open space. The policy statements regarding trails are paraphrased below:

- Establish a County-wide greenway system of protected natural resources.
- Provide new land for open space and recreational facilities to meet forecasted needs.
- Establish a trail and bikeway network to link residential areas, business uses, community facilities, and parks.
- Ensure that special needs populations have access to parks, recreational facilities, and neighborhood parks.
- Cooperate with surrounding areas to link the County open space system to a regional network.
- Link concentrations of development through a network of corridors for non-motorized travel.
- Enhance pedestrian and bicycle connections within and between residential, commercial, and employment areas, and between community facilities.
- Provide separate bicycle and pedestrian facilities to avoid user conflicts.

5. Comprehensive Recreation, Park and Open Space Plan.

In 2001, the Borough updated its *Comprehensive Recreation, Park and Open Space Plan*. This Plan recommended that the Borough implement the SRT regional system.

6. Schuylkill River National and State Heritage Area's Management Plan.

In 2000, Congress designated the Schuylkill River Heritage Corridor as a National Heritage Area. The SRGA indicated in its 2004 *Management Plan and Environmental Impact Statement* that Phoenixville Borough is a priority area for Schuylkill Heritage Trail

development. SGRA is the non-profit organization that manages the Heritage Area.

7. Linking Landscapes.

In 2002, CCPC adopted its open space plan, *Linking Landscapes*. A portion of the proposed SRT in Phoenixville is shown in the plan as a proposed "Regional Recreation Corridor." The Plan also shows it as an existing informally used trail corridor. *Linking Landscapes* also discusses abandoned rail rights-of-way for use as possible trail corridors. The SRT may utilize the abandoned Phoenixville Secondary Branch for a portion of the trail within the Borough.²

F. PUBLIC PARTICIPATION AND GOALS AND OBJECTIVES

Public participation in this project included work sessions with the Trail Master Plan Steering Committee and public presentations to present the draft and final plans to residents, the Borough Planning Commission and Borough Council. The Steering Committee also formulated project goals and objectives to guide the trail planning process, set forth below.

1. SRT Master Plan Steering Committee.

The SRT Master Plan Steering Committee was formed to work with the project consultants in developing the Master Plan. The Committee members, listed below, consisted of Borough officials, representatives of park user groups and community residents.

Christopher Swenda, *Borough Council Representative*
John Messina, *Borough Council Member, Planning Commission Chair*
Donald T. Edwards, P.E., *Borough Manager, Borough Engineer*
Robert McTamney, *Borough Recreation Director*
Robert Elmer, *Borough Resident*
John MacPhee, *Project Coordinator-French Creek Center, Borough Resident*

2. Goals and Objectives.

Goal 1: Determine the proper alignment of the SRT through the Borough, from the Railroad Bridge to Township Line Road near the PECO Cromby Generating Station.

Objectives:

- a) Investigate trail right-of-way ownership issues.
- b) Investigate compatibility issues with respect to adjacent land uses.
- c) Accommodate linkages to other trails.

² *Linking Landscapes*, Chester County Planning Commission, 2002, pp. 12.3, 12.43, and 14.3.

- d) Accommodate linkages to commercial and recreational facilities in the Borough.

Goal 2: Provide trailheads along the SRT.

Objectives:

- a) Locate areas for trailheads.
- b) Recommend facilities to be provided at the various trailheads.

Goal 3: Provide design parameters for the SRT.

Objectives:

- a) Establish trail cartway width and surface.
- b) Determine trail right-of-way width.
- c) Provide examples for adjacent landscaping.

Goal 4: Estimate trail development costs and funding opportunities.

Objectives:

- a) Identify all trail and trailhead land and easement acquisition needs and their associated acquisition costs.
- b) Estimate trail and trail head construction costs.
- c) List potential private, public and grant funding opportunities for the trail project.
- d) If necessary, recommend a construction phasing plan in concert with available project funding.

Goal 5: Estimate operation and maintenance issues associated with the completed trail.

Objectives:

- a) Assess lighting needs along the trail.
- b) Determine police and emergency services access needs.
- c) Quantify trail surface maintenance needs, costs and responsibilities.
- d) Quantify landscape maintenance needs, costs and responsibilities.

III. TRAIL MASTER PLAN RECOMMENDATIONS

This chapter determines the specific SRT alignment through Phoenixville and provides specific design parameters for trail sections. Pending land development and transportation projects that may affect SRT alignment through the Borough of Phoenixville is also discussed.

A. FACTORS AFFECTING TRAIL ALIGNMENT

Several proposed land development and transportation projects that may affect the alignment of the SRT through Phoenixville are described below.

1. Schuylkill Valley Metro Commuter Rail Line.

The implementation of the SVM commuter/light rail line within an existing railroad right-of-way through Phoenixville Borough may affect trail alignment in the western half of the trail, approximately in the area north of High Street to the western Borough boundary. Paramount to trail design in this area is the determination of alignment through or around the existing Pennsylvania Railroad tunnel. This segment of the track including the tunnel, is inactive and is currently partially under water. SVM is proposed to consist of two (2) tracks until it meets the tunnel, where it will become one track to the Borough boundary and beyond. Since the eastern trail segment should follow the French Creek until it crosses it at Paradise Street, the implementation of the SVM should not effect the SRT through the French Creek Center redevelopment site.

2. French Creek Center.

Phoenixville Borough Council adopted the French Creek Center (FCC) Master Plan in 2001 as the conceptual design plan for the French Creek Center project. Council must approve any significant change to the Master Plan. The FCC Plan contains many public space areas, which includes portions of the SRT.

3. Right-of-Way Acquisitions.

Map ROW-1 shows the right-of-way analysis for the SRT in Phoenixville. Since most of the former PA railroad right-of-ways have been assumed by adjacent development projects who have agreed to provide an easement for the SRT, it is anticipated that right-of-way acquisition will only be needed for a short section of trail north of Fillmore Street.

B. RECOMMENDED TRAIL ALIGNMENT

Map KEY-1 shows trail segments 1 through 7 and proposed project phasing. Maps 1C through 7C show SRT segment alignment at a scale of 1" = 100'. The maps show the corridor beginning in the

eastern end of the Borough at the railroad bridge over the Schuylkill River and ending in the northwest corner of the Borough at Township Line Road. Proposed trail alignment for the SRT is described below.

Trail Segment 1-Map 1C

Proposed Trail Route: It is recommended that 1,577 feet of trail run through PPG and Borough land, and Bridge Street right-of-way. Beginning on the west side of the railroad bridge, the SRT should run west along Bridge Street until it reaches the Borough pump station parcel, where it should turn north and run through the parcel. The SRT should then turn northeast for approximately 500 feet, within the PPG Gateway tract. It is recommended that the SRT then turn west and run along the south side of French Creek, within PPG land. It should then run southwest for roughly 500 feet along the creek until it crosses beneath the future French Creek Parkway, and also crosses it at grade on the south side of the Parkway. The trail should continue southwest for another 110 feet, and then turn northwest, running along the creek.

Trailheads: Borough Pump Station Parcel (minor trailhead).

Trail Segment 2-Map 2C

Proposed Trail Route: This segment is roughly 1,833' in length and approximately 1,200 feet of SRT should traverse PPG land. It is recommended that the SRT run northwest along French Creek for roughly 400 feet, then turn west and cross Main Street at grade. The SRT should then enter the Foundry parcel and travel west for another 250 feet, then turn to the southwest for approximately 400 feet. The trail passes under the Gay Street Bridge and across the future Reeves Crossing at grade. The constructed portion of this trail segment extends from the Superintendent's Building west to Taylor Alley.

Trailheads: Foundry Building (major trailhead), Reeves Crossing (minor trailhead).

Trail Segment 3-Map 3C

Proposed Trail Route: It is recommended that roughly 1,979 feet of trail cross Valley Forge Railways (VFR) land. From Reeves Crossing, the trail is recommended to run southwest along the creek for roughly 1,200 feet, until it turns west for approximately 700 feet. The trail should then turn northwest and reenters PPG land.

Trailheads--access only. West of the District Justice Building site, a 20-foot wide Borough easement can provide trail access, but will provide no trailhead facilities.

Trail Segment 4-Map 4C

Proposed Trail Route: It is recommended that roughly 1,104 feet of SRT should traverse PPG land. The SRT should continue to run north on the south side of French Creek for roughly 200 feet, and

then turn east to cross to the north side of French Creek on the renovated Paradise Street Bridge. It should continue north until it reenters the VFR land on the west side of the tracks. It should then run north-northwest for roughly 600 feet.

Trailheads: None

Trail Segment 5-Map 5C

Proposed Trail Route: It is recommended that this entire SRT segment (1,551 feet) continue to traverse VFR land on the west side of the tracks. The SRT runs north/northeast, away from French Creek and crosses High Street.

Trailheads: West of the trail, on the north side of High Street.

Trail Segment 6-Map 6C

Proposed Trail Route: It is recommended that this entire SRT segment (1,492 feet) continue to traverse VFR land on the west side of the tracks. The trail should continue to run north/northeast, and pass the railroad tunnel on the west, then cross West Fillmore Street.

Trailheads: None

Trail Segment 7-Map 7C

Proposed Trail Route: It is recommended that this trail section continue to traverse VFR land on the west side of the tracks. The trail should run north, then turn northwest in the area of the PennDOT right-of-way. Phoenixville's SRT will terminate at Township Line Road.

Trailheads: It is recommended that Lock 59 be a SRT trailhead to be accessed from the trail via a connector trail to Cromby Road and then following Cromby Road north to the Schuylkill River.

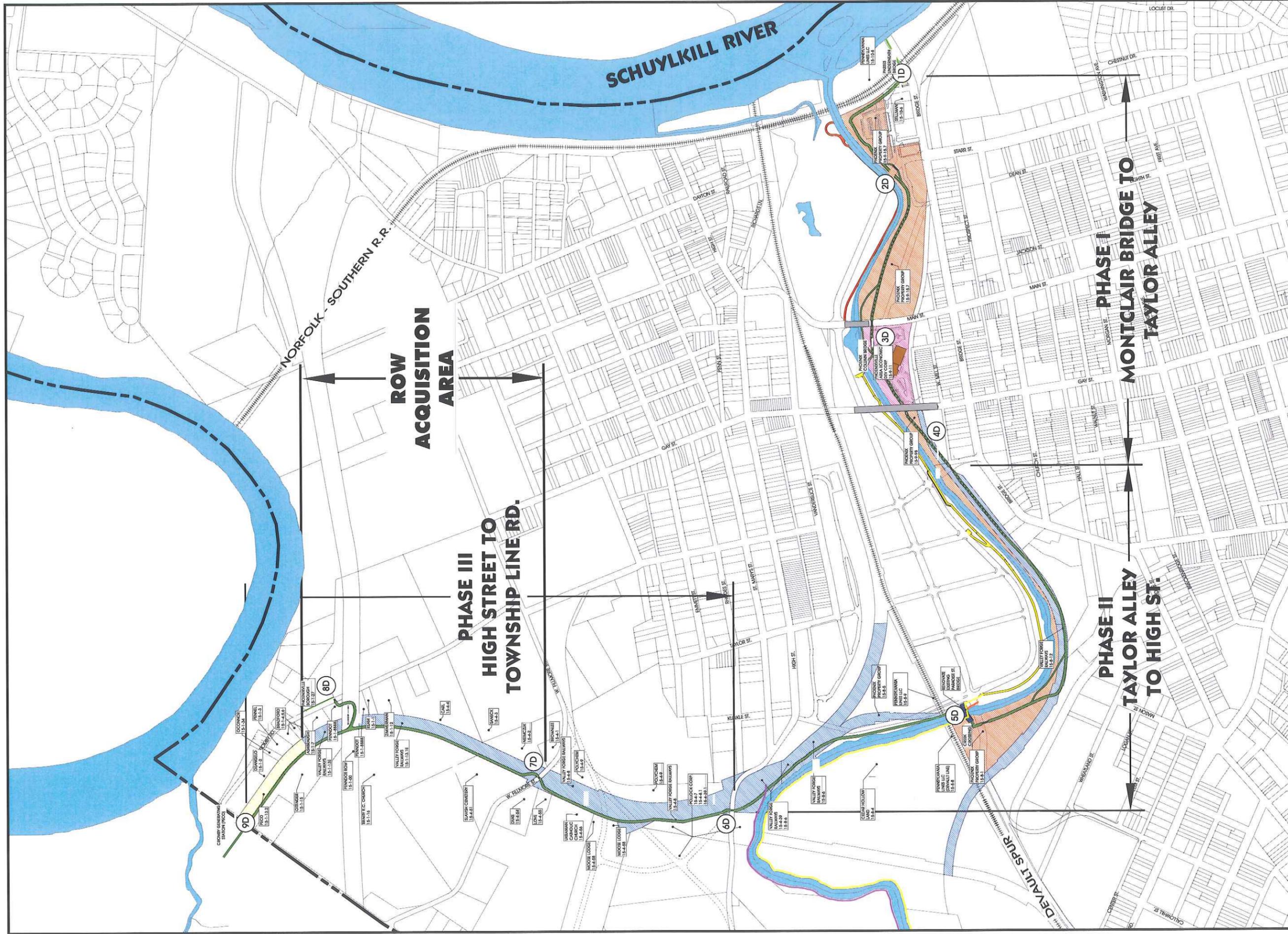
C. SPECIAL DESIGN AREAS

Maps 1D-9D show the recommended locations for trailheads and areas where the trail will cross roadways. Each trailhead and road crossing is discussed below.

1. Trailheads.

Pump Station

Map 1D shows the design for the area of the former pump station building on East Bridge Street. Map 1D shows the building as raised and the area planted with native trees, grasses and wildflowers with a parking area, bike rack and picnic tables. It will serve as a minor trailhead.



LEGEND

- SCHUYLKILL RIVER TRAIL
- FRENCH CREEK TRAIL
- PHOENIX IRON CANAL TRAIL (PICTA)
- HIGH STREET TRAIL
- TRAILHEAD AND ROAD CROSSINGS

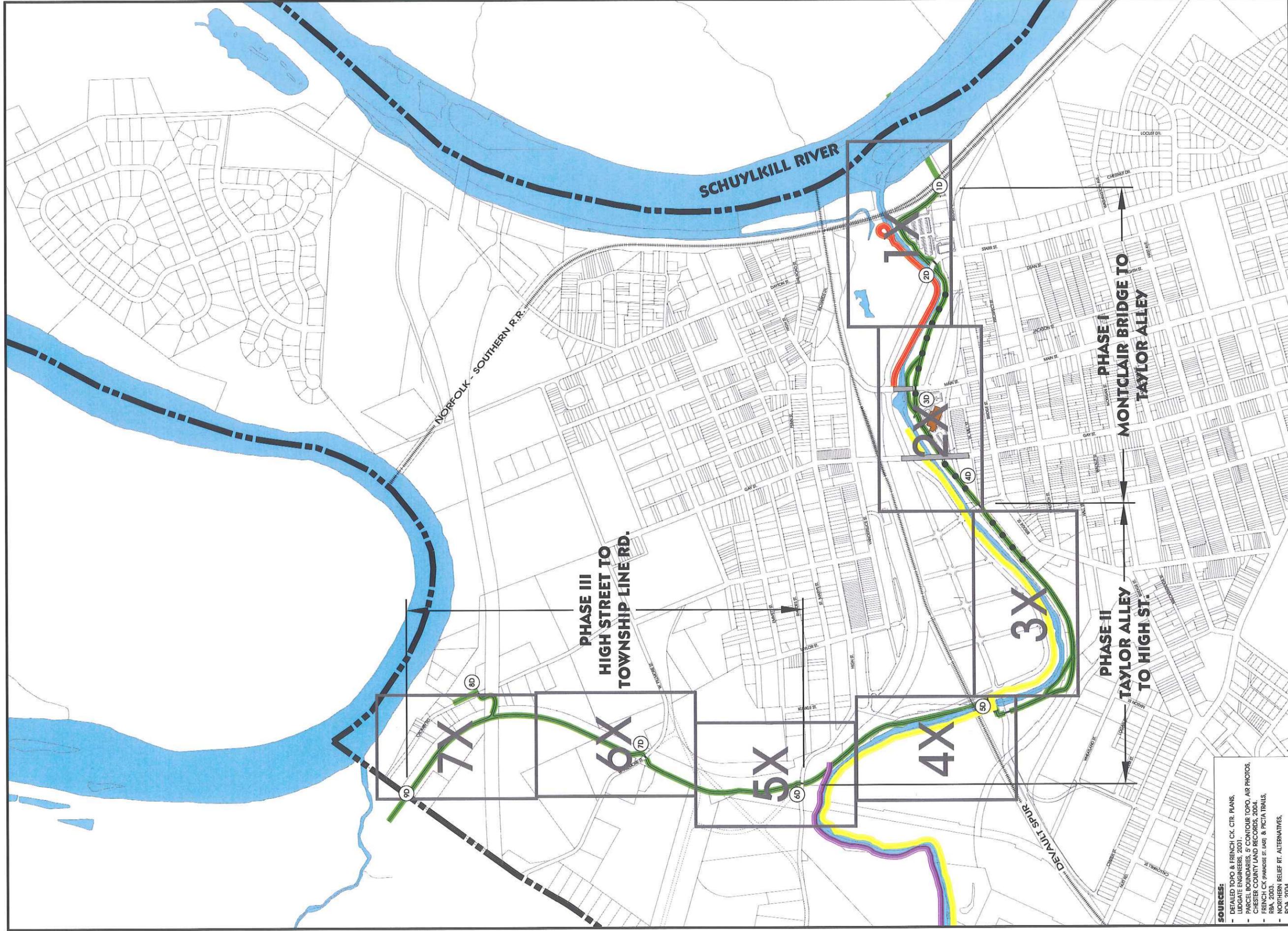
SRT RIGHT OF WAY PROPERTY OWNERS

- PHILADELPHIA ELECTRIC COMPANY (PECO)
- VALLEY FORGE RAILWAYS
- PHOENIX AREA ECONOMIC DEVELOPMENT CORP.
- PHOENIX PROPERTY GROUP (PPG)
- BOROUGH OF PHOENIXVILLE

**SCHUYLKILL RIVER TRAIL
MASTER PLAN
ROW ANALYSIS**

Date: 6/21/05
 Project No.: 1042.02.07
 Scale: N.T.S.
 Map # ROW-1
 Drawn by: TWB
 Checked by: ROA
 17 SOUTH CHURCH STREET
 WEST CHESTER, PA. 19382
RAY OTT & ASSOCIATES
 PLANNING AND LANDSCAPE ARCHITECTURE
 610.429.9993





SOURCES:
 - DETAILED TOPO & FRENCH CK. CTR. PLANS, LUDGATE ENGINEERS, 2001.
 - PARCEL BOUNDARIES, 5' CONTOUR TOPO, AIR PHOTOS, CHESTER COUNTY LAND RECORDS, 2004.
 - FRENCH CK (PARADISE ST. EAST) & PICTA TRAILS, RBA, 2003.
 - NORTHERN RELIEF RT. ALTERNATIVES, ROA, 2004.

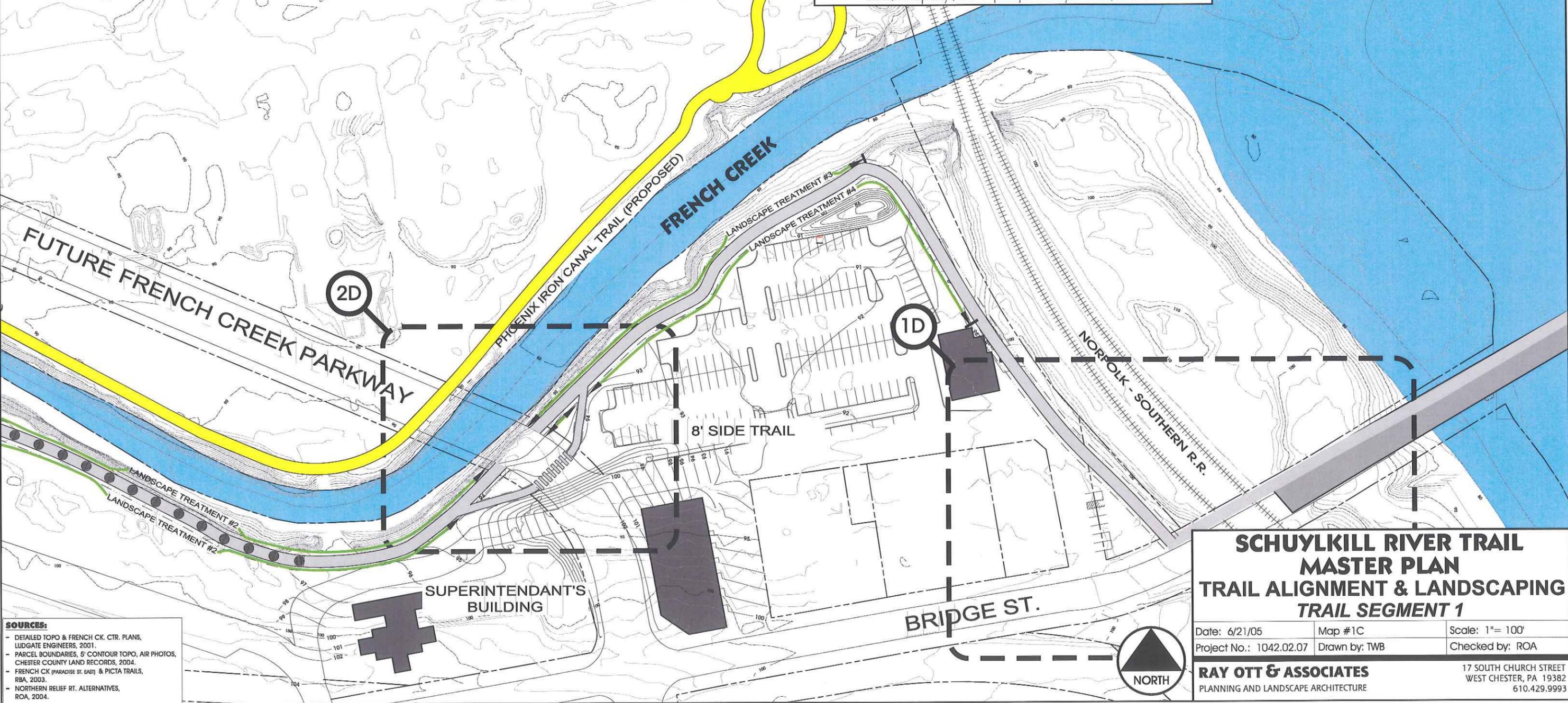
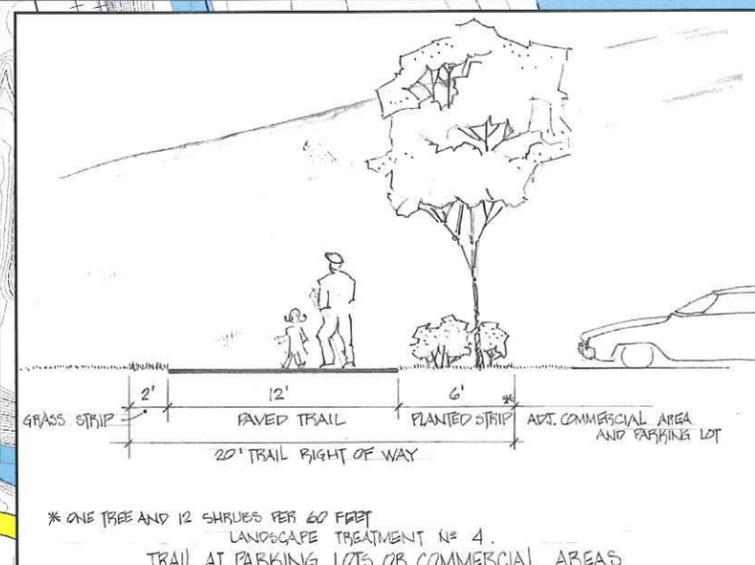
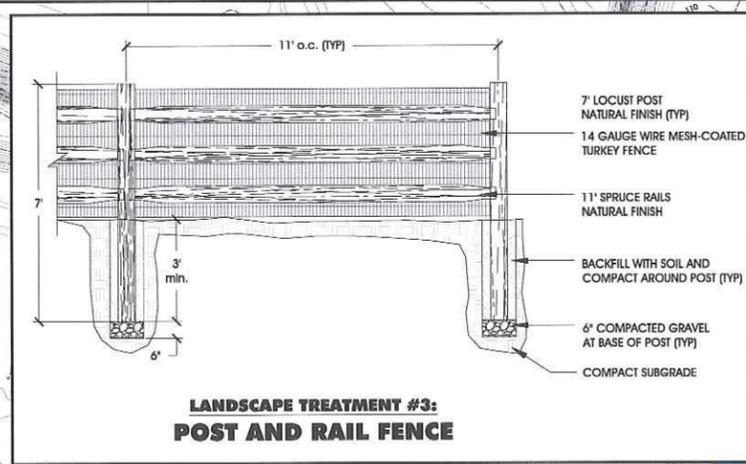
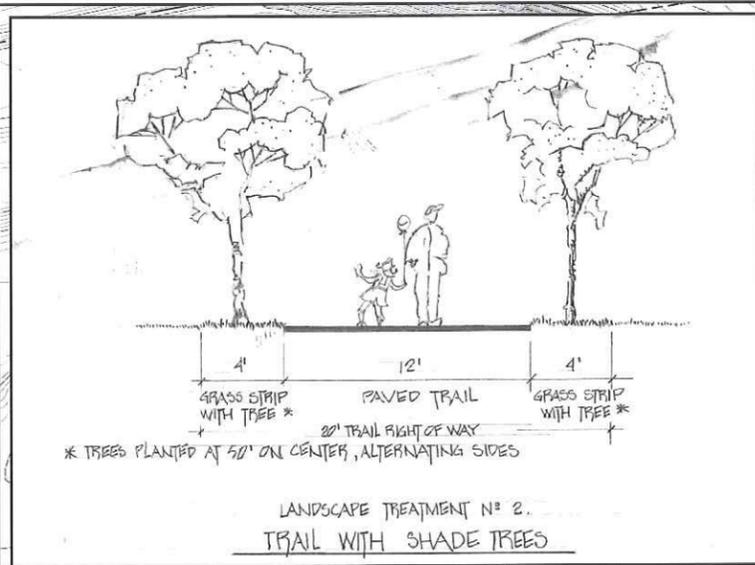
- LEGEND**
- SCHUYLKILL RIVER TRAIL (COMPLETED)
 - SCHUYLKILL RIVER TRAIL (PROPOSED)
 - FRENCH CREEK TRAIL (PROPOSED)
 - PHOENIX IRON CANAL TRAIL (PICTA) (PROPOSED)
 - HIGHT STREET TRAIL (PROPOSED)

- TRAILHEADS AND ROAD CROSSINGS
- TRAIL SEGMENT MAPS



SCHUYLKILL RIVER TRAIL MASTER PLAN KEY & PHASING PLAN

Date: 6/21/05 Map # KEY - 1 Scale: N.T.S.
 Project No.: 1042.02.07 Drawn by: TMB Checked by: ROA
RAY OTT & ASSOCIATES
 PLANNING AND LANDSCAPE ARCHITECTURE
 17 SOUTH CHURCH STREET
 WEST CHESTER, PA 19382
 610.429.9993



SOURCES:
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 - NORTHERN RELIEF RT. ALTERNATIVES, ROA, 2004.

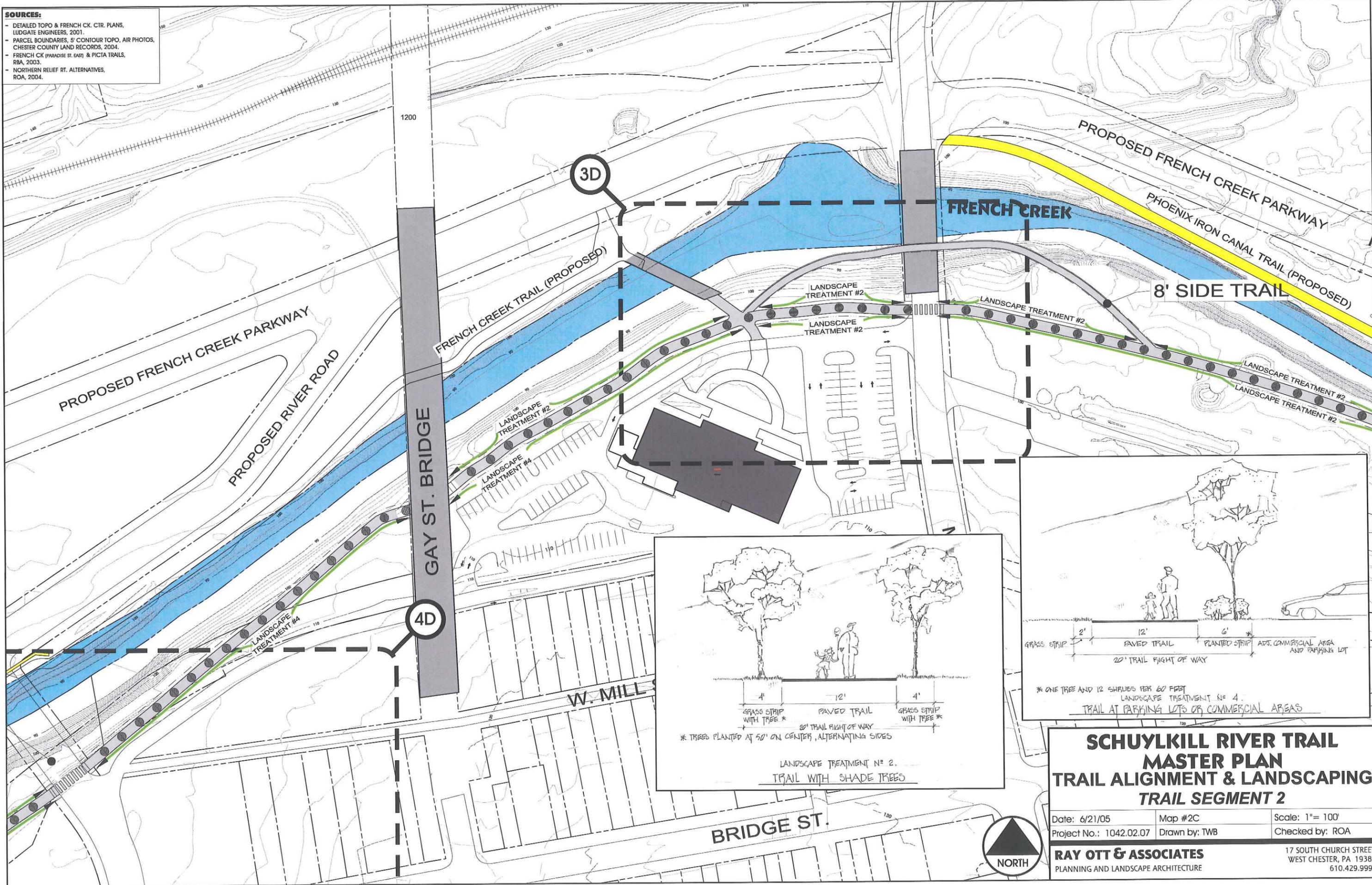
**SCHUYLKILL RIVER TRAIL
 MASTER PLAN
 TRAIL ALIGNMENT & LANDSCAPING
 TRAIL SEGMENT 1**

Date: 6/21/05	Map #1C	Scale: 1"= 100'
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA

RAY OTT & ASSOCIATES
 PLANNING AND LANDSCAPE ARCHITECTURE

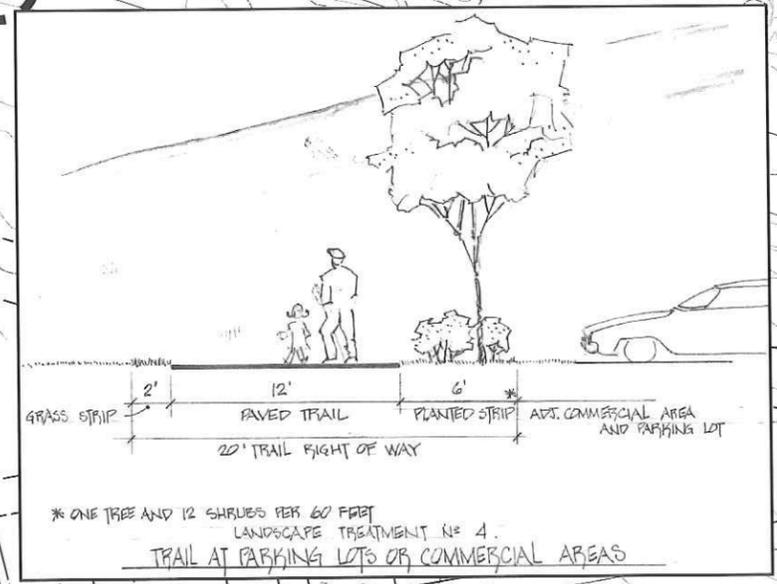
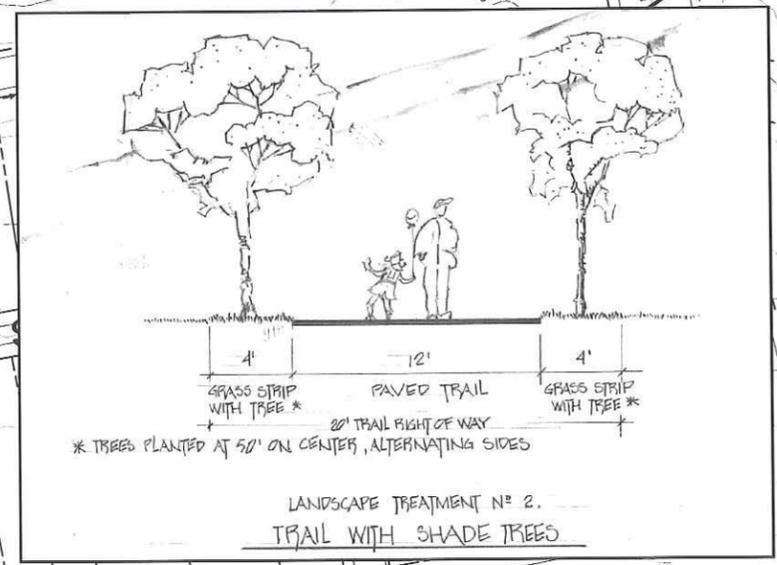
17 SOUTH CHURCH STREET
 WEST CHESTER, PA 19382
 610.429.9993

- SOURCES:**
- DETAILED TOPO & FRENCH CK. CTR. PLANS, LUDGATE ENGINEERS, 2001.
 - PARCEL BOUNDARIES, 5' CONTOUR TOPO, AIR PHOTOS, CHESTER COUNTY LAND RECORDS, 2004.
 - FRENCH CK (PARADISE ST. EAST) & PICTA TRAILS, RBA, 2003.
 - NORTHERN RELIEF RT. ALTERNATIVES, ROA, 2004.



3D

4D



**SCHUYLKILL RIVER TRAIL
MASTER PLAN
TRAIL ALIGNMENT & LANDSCAPING
TRAIL SEGMENT 2**

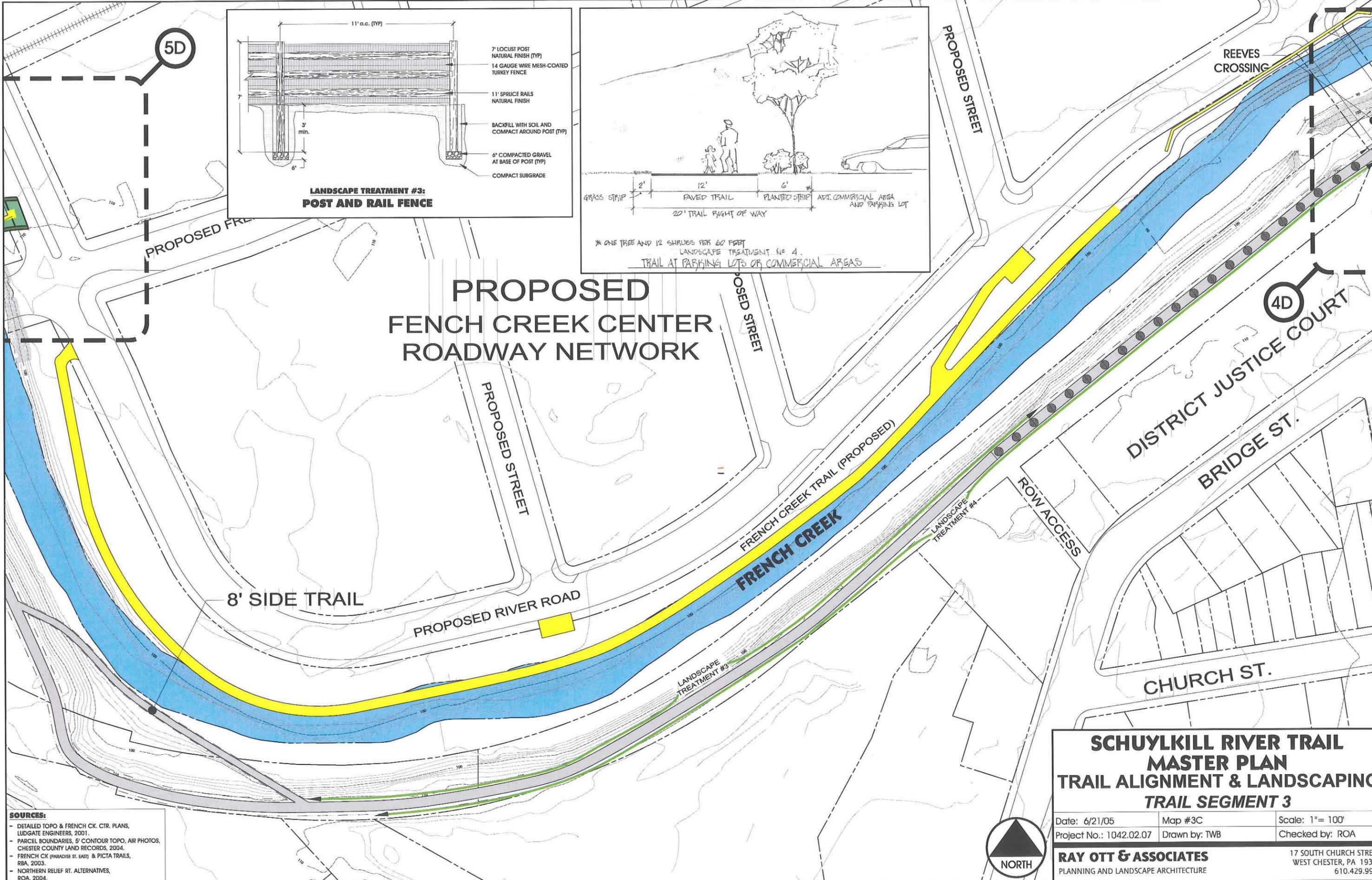
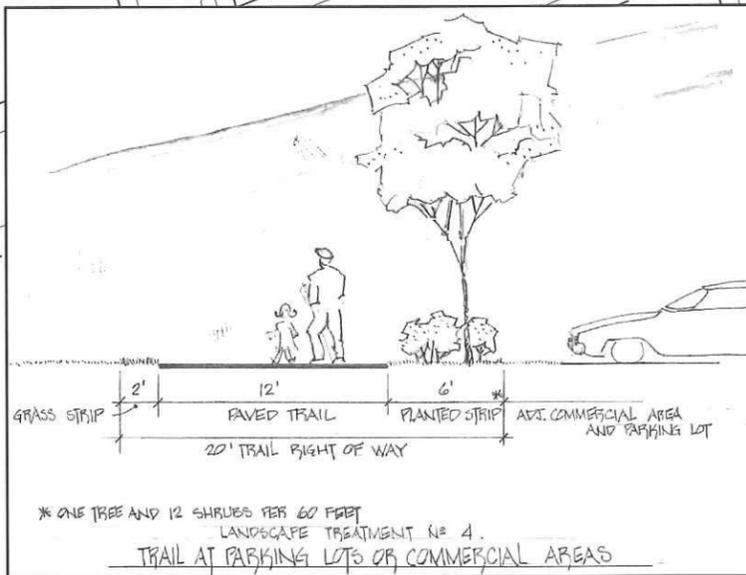
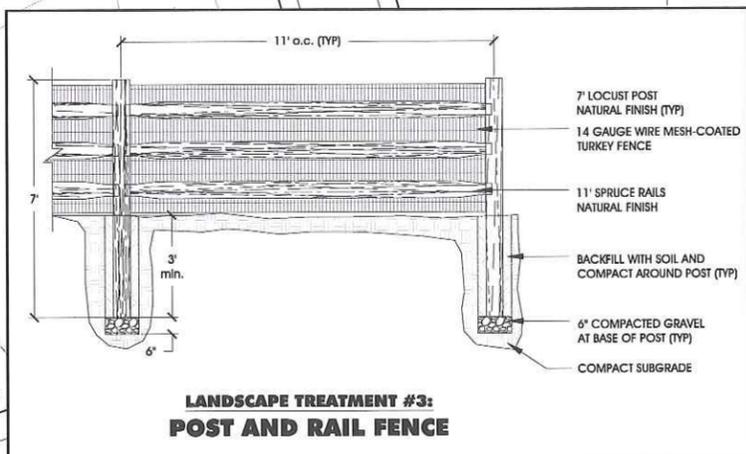
Date: 6/21/05	Map #2C	Scale: 1"= 100'
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA

RAY OTT & ASSOCIATES
PLANNING AND LANDSCAPE ARCHITECTURE

17 SOUTH CHURCH STREET
WEST CHESTER, PA 19382
610.429.9993



PROPOSED FENCH CREEK CENTER ROADWAY NETWORK



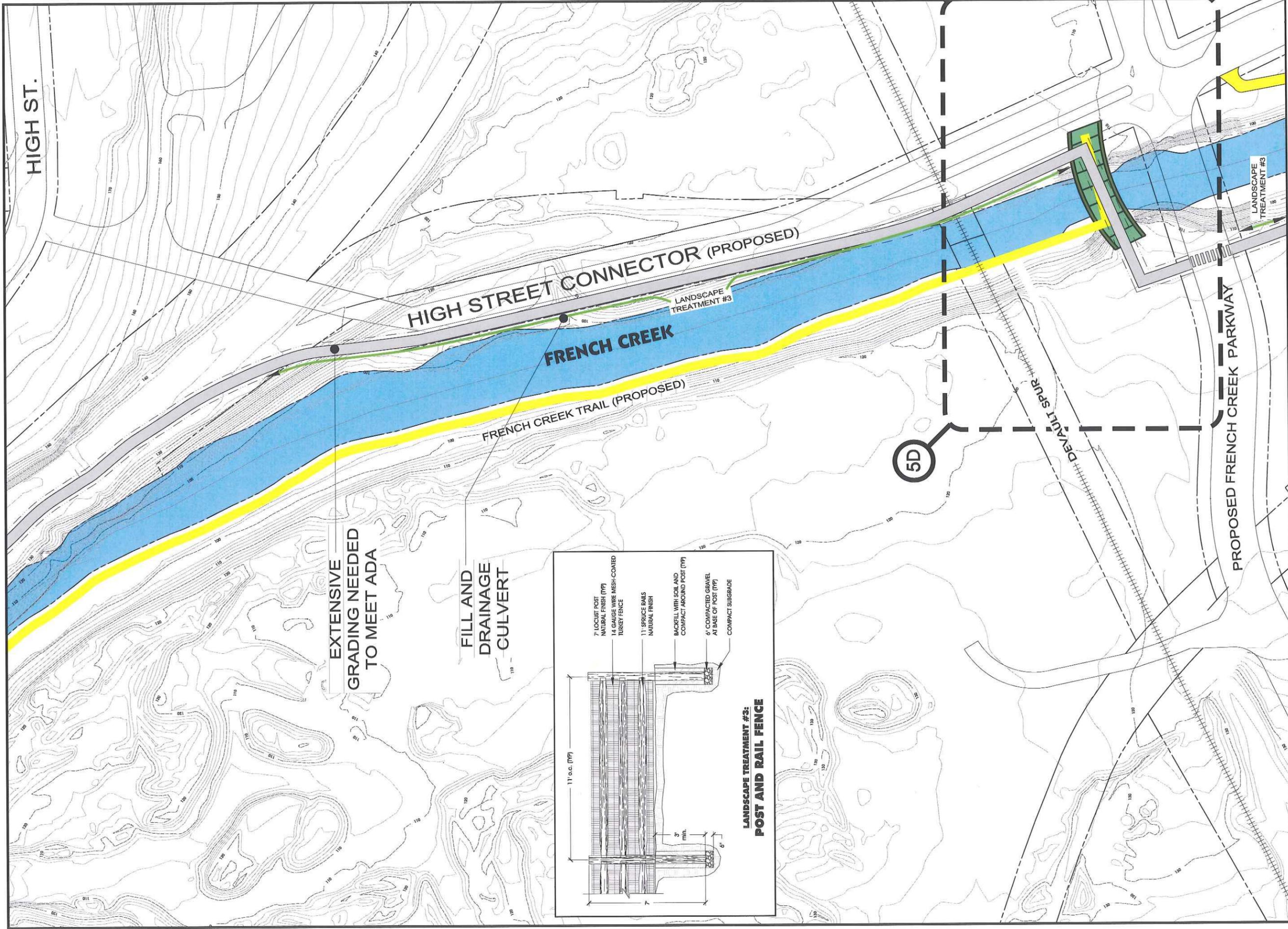
- SOURCES:**
- DETAILED TOPO & FRENCH CK. CTR. PLANS, LUDGATE ENGINEERS, 2001.
 - PARCEL BOUNDARIES, 5' CONTOUR TOPO, AIR PHOTOS, CHESTER COUNTY LAND RECORDS, 2004.
 - FRENCH CK (PARADISE ST. EAST) & PICTA TRAILS, RBA, 2003.
 - NORTHERN RELIEF RT. ALTERNATIVES, ROA, 2004.

**SCHUYLKILL RIVER TRAIL
MASTER PLAN
TRAIL ALIGNMENT & LANDSCAPING
TRAIL SEGMENT 3**

Date: 6/21/05	Map #3C	Scale: 1"= 100'
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA

RAY OTT & ASSOCIATES
PLANNING AND LANDSCAPE ARCHITECTURE

17 SOUTH CHURCH STREET
WEST CHESTER, PA 19382
610.429.9993



HIGH ST.

HIGH STREET CONNECTOR (PROPOSED)

FRENCH CREEK

FRENCH CREEK TRAIL (PROPOSED)

EXTENSIVE GRADING NEEDED TO MEET ADA

FILL AND DRAINAGE CULVERT

5D

DEVILT SPUR

PROPOSED FRENCH CREEK PARKWAY

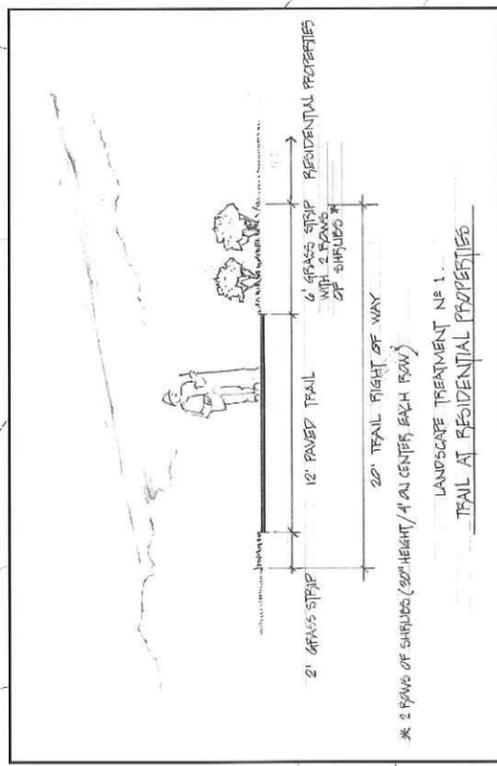
LANDSCAPE TREATMENT #3

**SCHUYLKILL RIVER TRAIL
MASTER PLAN
TRAIL ALIGNMENT & LANDSCAPING
TRAIL SEGMENT 4**

Date: 6/21/05 Map #4C Scale: 1" = 100'
 Project No.: 1042.02.07 Drawn by: TWB Checked by: RO
RAY OTT & ASSOCIATES
 PLANNING AND LANDSCAPE ARCHITECTURE
 17 SOUTH CHURCH STREET
 WEST CHESTER, PA 19382
 610.429.9993



- SOURCES:**
- DETAILED TOPO & FRENCH CK. CTR. PLANS, LUDGATE ENGINEERS, 2001.
 - PARCEL BOUNDARIES, 5' CONTOUR TOPO, AIR PHOTOS, CHESTER COUNTY LAND RECORDS, 2004.
 - FRENCH CK (PARADISE ST. EAST) & PICTA TRAILS, RBA, 2003.
 - NORTHERN RELIEF RT. ALTERNATIVES, ROA, 2004.



**SCHUYLKILL RIVER TRAIL
MASTER PLAN
TRAIL ALIGNMENT & LANDSCAPING
TRAIL SEGMENT 5**

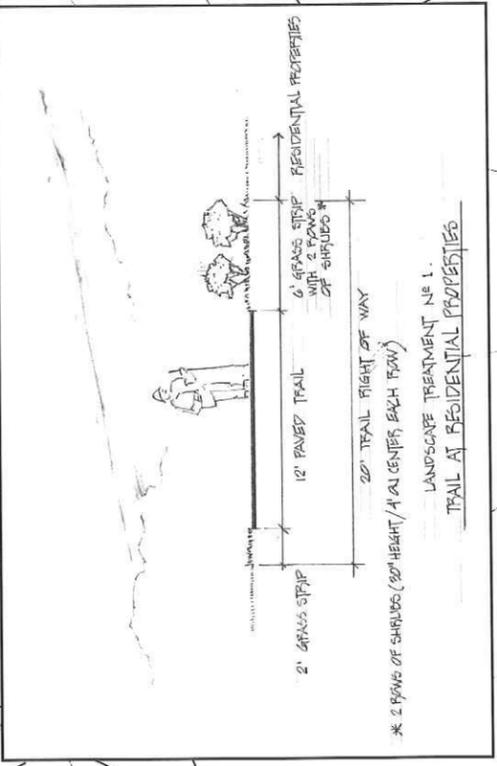
Date: 6/21/05 Map #5C Scale: 1"= 100'
 Project No.: 1042.02.07 Drawn by: TMB Checked by: RO

RAY OTT & ASSOCIATES
 PLANNING AND LANDSCAPE ARCHITECTURE

17 SOUTH CHURCH STREET
 WEST CHESTER, PA 19382
 610.429.9993



- SOURCES:**
- DETAILED TOPO & FRENCH CK. CTR. PLANS, LUDGATE ENGINEERS, 2001.
 - PARCEL BOUNDARIES, 5' CONTOUR TOPO, AIR PHOTOS, CHESTER COUNTY LAND RECORDS, 2004.
 - FRENCH CK (PARADISE BR BRG) & PICIA TRAILS, RBA, 2003.
 - NORTHERN RELIEF RT. ALTERNATIVES, ROA, 2004.



**SCHUYLKILL RIVER TRAIL
MASTER PLAN
TRAIL ALIGNMENT & LANDSCAPING
TRAIL SEGMENT 6**

Date: 6/21/05 Map #6C Scale: 1" = 100'
 Project No.: 1042.02.07 Drawn by: TWB Checked by: RO



RAY OTT & ASSOCIATES
 PLANNING AND LANDSCAPE ARCHITECTURE
 17 SOUTH CHURCH STREET
 WEST CHESTER, PA 19382
 610-429-9995

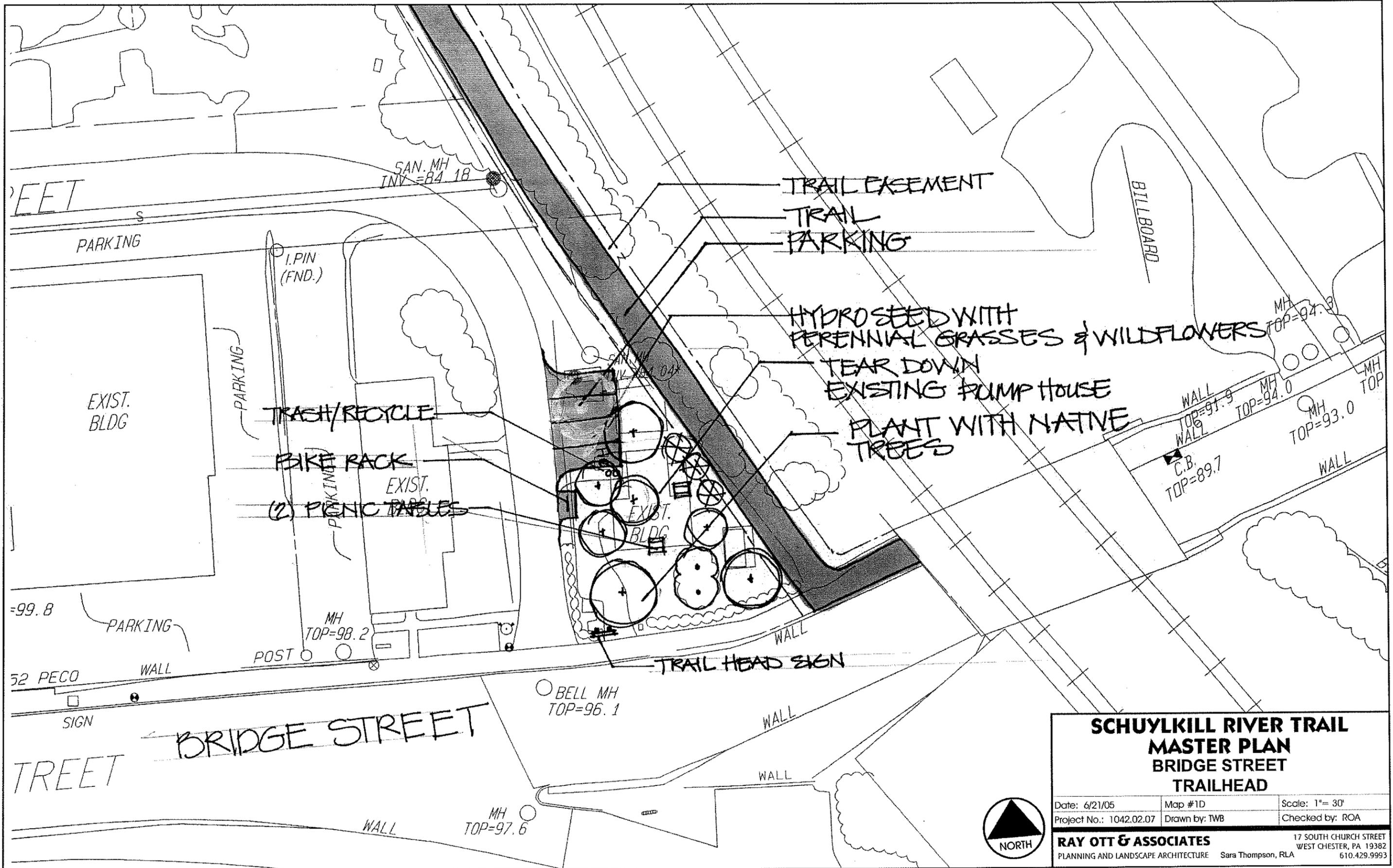


- SOURCES:**
- DETAILED TOPO & FRENCH CK. CTR. PLANS, LUDGATE ENGINEERS, 2001.
 - PARCEL BOUNDARIES, 5' CONTOUR TOPO, AIR PHOTOS, CHESTER COUNTY LAND RECORDS, 2004.
 - FRENCH CK (PARADISE ST EAST) & PICTA TRAILS, RBA, 2003.
 - NORTHERN RELIEF RT. ALTERNATIVES, ROA, 2004.

**SCHUYLKILL RIVER TRAIL
MASTER PLAN
TRAIL ALIGNMENT & LANDSCAPING
TRAIL SEGMENT 7**

Date: 6/21/05 Map #7C Scale: 1" = 100'
 Project No.: 1042.02.07 Drawn by: TWB Checked by: RO
RAY OTT & ASSOCIATES
 PLANNING AND LANDSCAPE ARCHITECTURE
 17 SOUTH CHURCH STREET
 WEST CHESTER, PA 19382
 610-429-9993



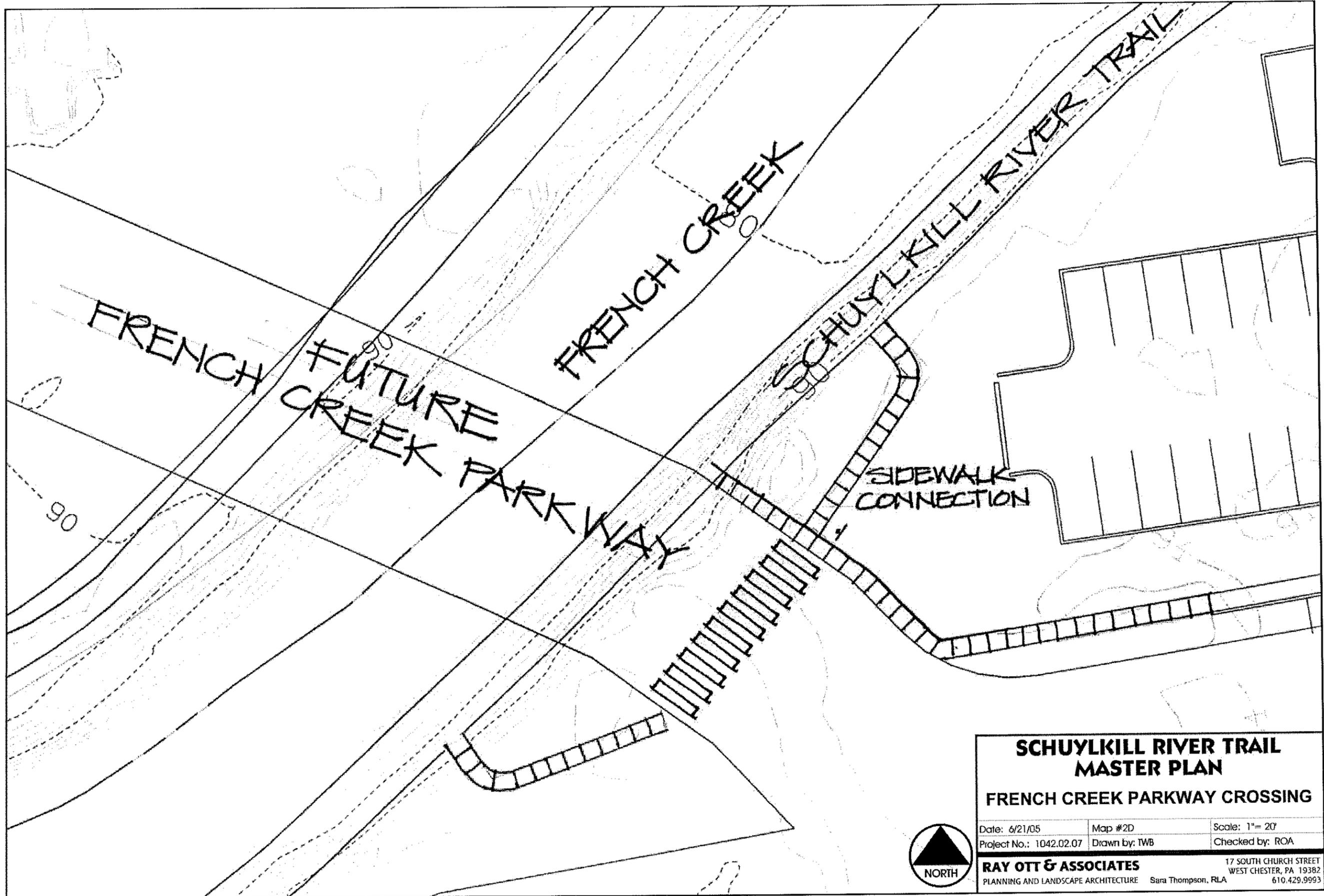


**SCHUYLKILL RIVER TRAIL
MASTER PLAN
BRIDGE STREET
TRAILHEAD**

Date: 6/21/05	Map #1D	Scale: 1" = 30'
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA

RAY OTT & ASSOCIATES
 PLANNING AND LANDSCAPE ARCHITECTURE
 Sara Thompson, RLA
 17 SOUTH CHURCH STREET
 WEST CHESTER, PA 19382
 610.429.9993





**SCHUYLKILL RIVER TRAIL
MASTER PLAN**

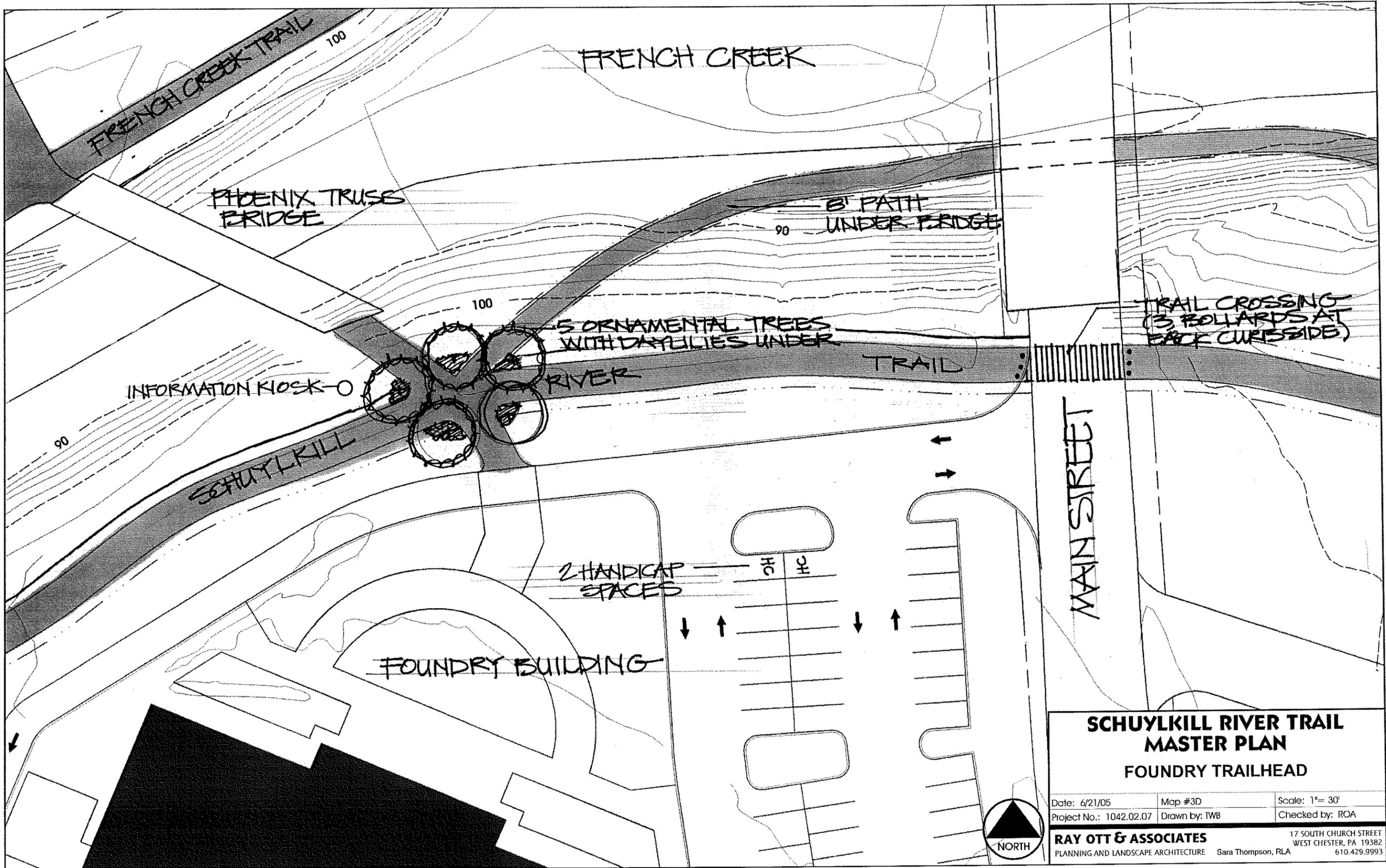
FRENCH CREEK PARKWAY CROSSING

Date: 6/21/05	Map #2D	Scale: 1" = 20'
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA

RAY OTT & ASSOCIATES
 PLANNING AND LANDSCAPE ARCHITECTURE
 Sara Thompson, RLA

17 SOUTH CHURCH STREET
 WEST CHESTER, PA 19382
 610.429.9993





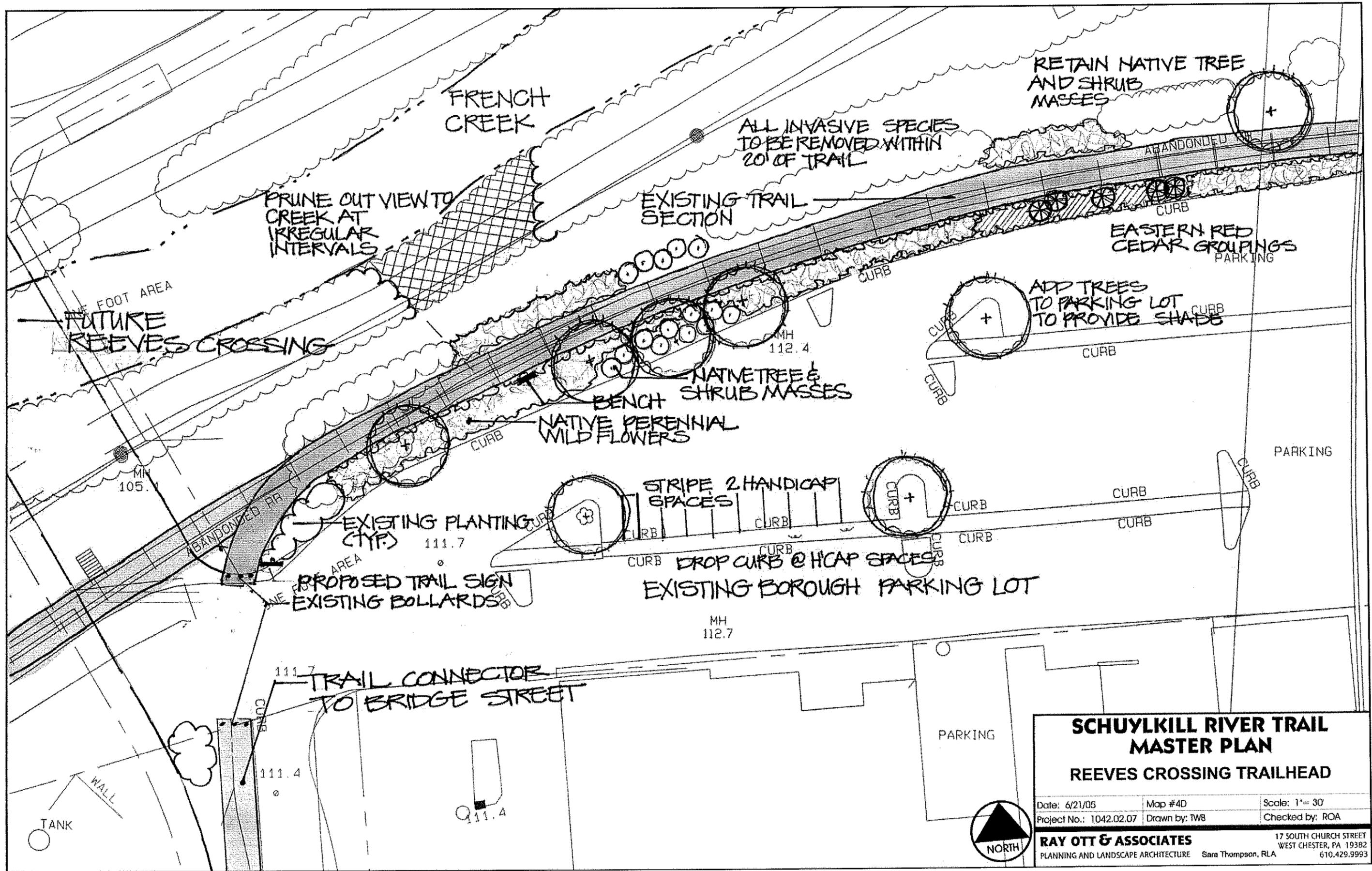
**SCHUYLKILL RIVER TRAIL
MASTER PLAN
FOUNDRY TRAILHEAD**

Date: 6/21/05	Map #3D	Scale: 1"= 30'
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA

RAY OTT & ASSOCIATES
PLANNING AND LANDSCAPE ARCHITECTURE Sara Thompson, RLA

17 SOUTH CHURCH STREET
WEST CHESTER, PA 19382
610.429.9993





RETAIN NATIVE TREE AND SHRUB MASSES

FRENCH CREEK

ALL INVASIVE SPECIES TO BE REMOVED WITHIN 20' OF TRAIL

PRUNE OUT VIEW TO CREEK AT IRREGULAR INTERVALS

EXISTING TRAIL SECTION

EASTERN RED CEDAR GROUPINGS PARKING

ADD TREES TO PARKING LOT TO PROVIDE SHADE

FOOT AREA FUTURE REEVES CROSSING

NATIVE TREE & SHRUB MASSES BENCH

NATIVE PERENNIAL WILD FLOWERS

STRIPES & HANDICAP SPACES

EXISTING PLANTING (TYP)

DROP CURB @ HCAP SPACES EXISTING BOROUGH PARKING LOT

PROPOSED TRAIL SIGN EXISTING BOLLARDS

TRAIL CONNECTOR TO BRIDGE STREET

SCHUYLKILL RIVER TRAIL MASTER PLAN
REEVES CROSSING TRAILHEAD

Date: 6/21/05	Map #4D	Scale: 1"= 30'
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA

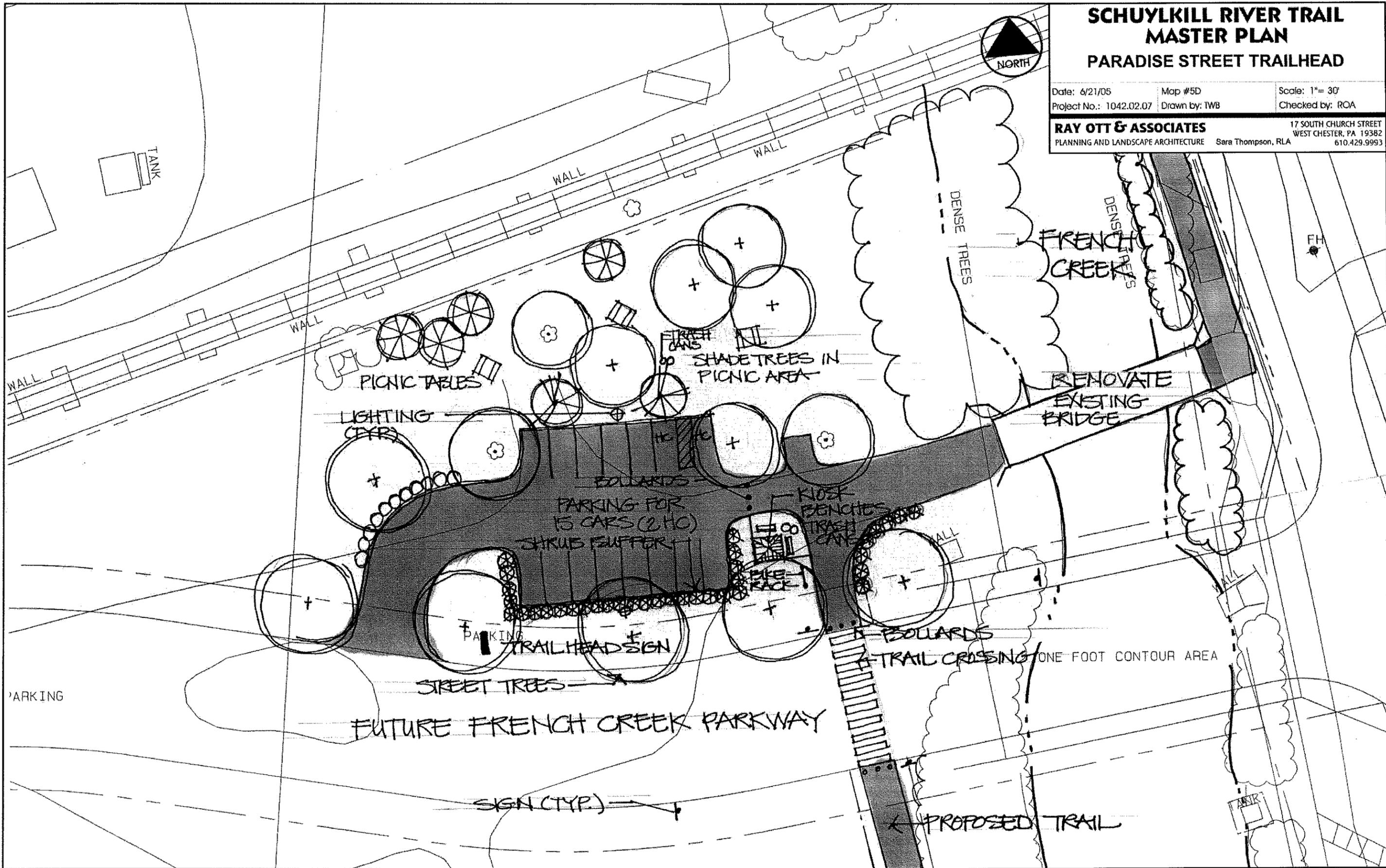
RAY OTT & ASSOCIATES
 PLANNING AND LANDSCAPE ARCHITECTURE Sara Thompson, RLA
 17 SOUTH CHURCH STREET WEST CHESTER, PA 19382 610.429.9993

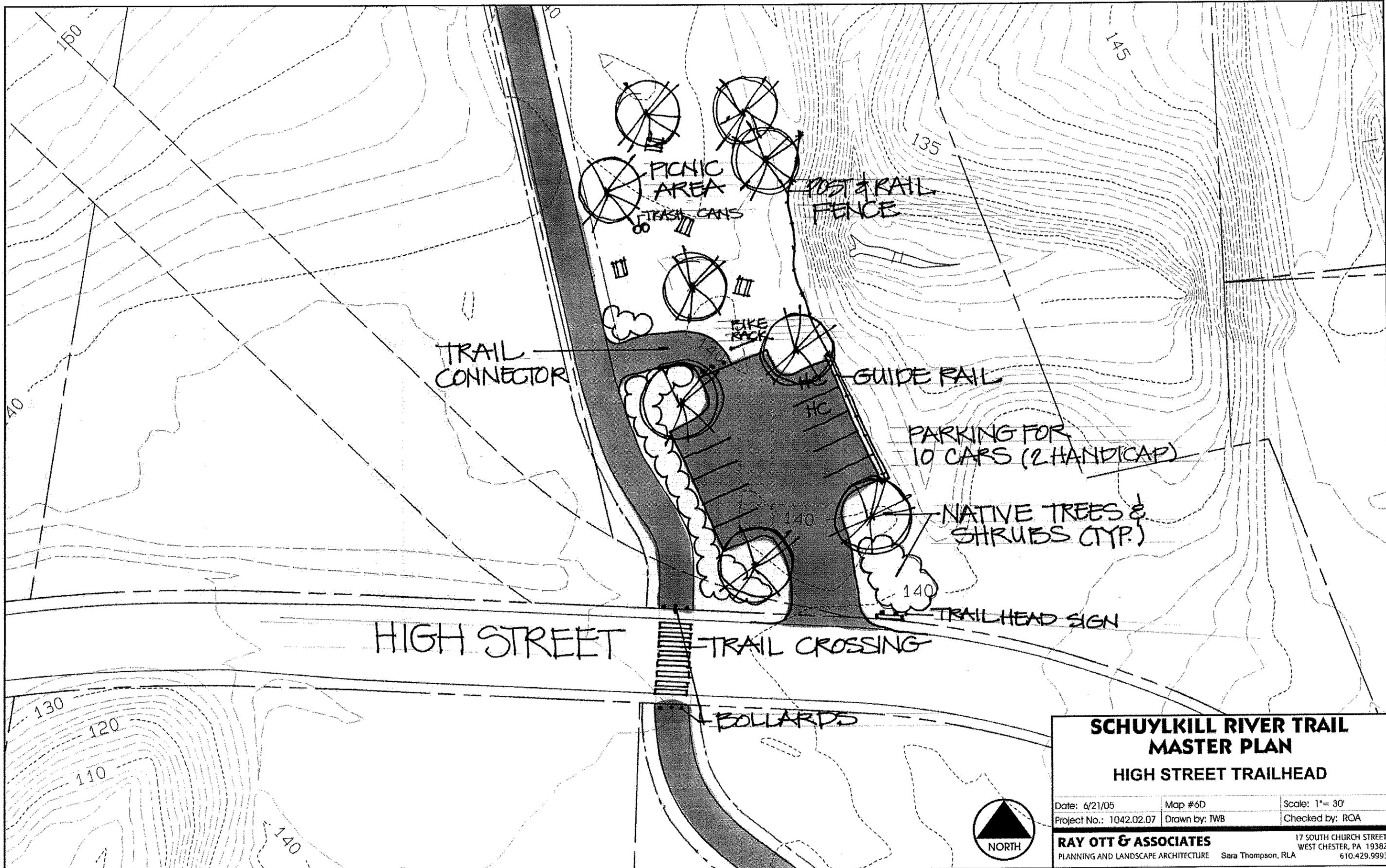


SCHUYLKILL RIVER TRAIL MASTER PLAN PARADISE STREET TRAILHEAD

Date: 6/21/05 Map #5D Scale: 1"= 30'
Project No.: 1042.02.07 Drawn by: TWB Checked by: ROA

RAY OTT & ASSOCIATES 17 SOUTH CHURCH STREET
PLANNING AND LANDSCAPE ARCHITECTURE Sara Thompson, RLA WEST CHESTER, PA 19382
610.429.9993



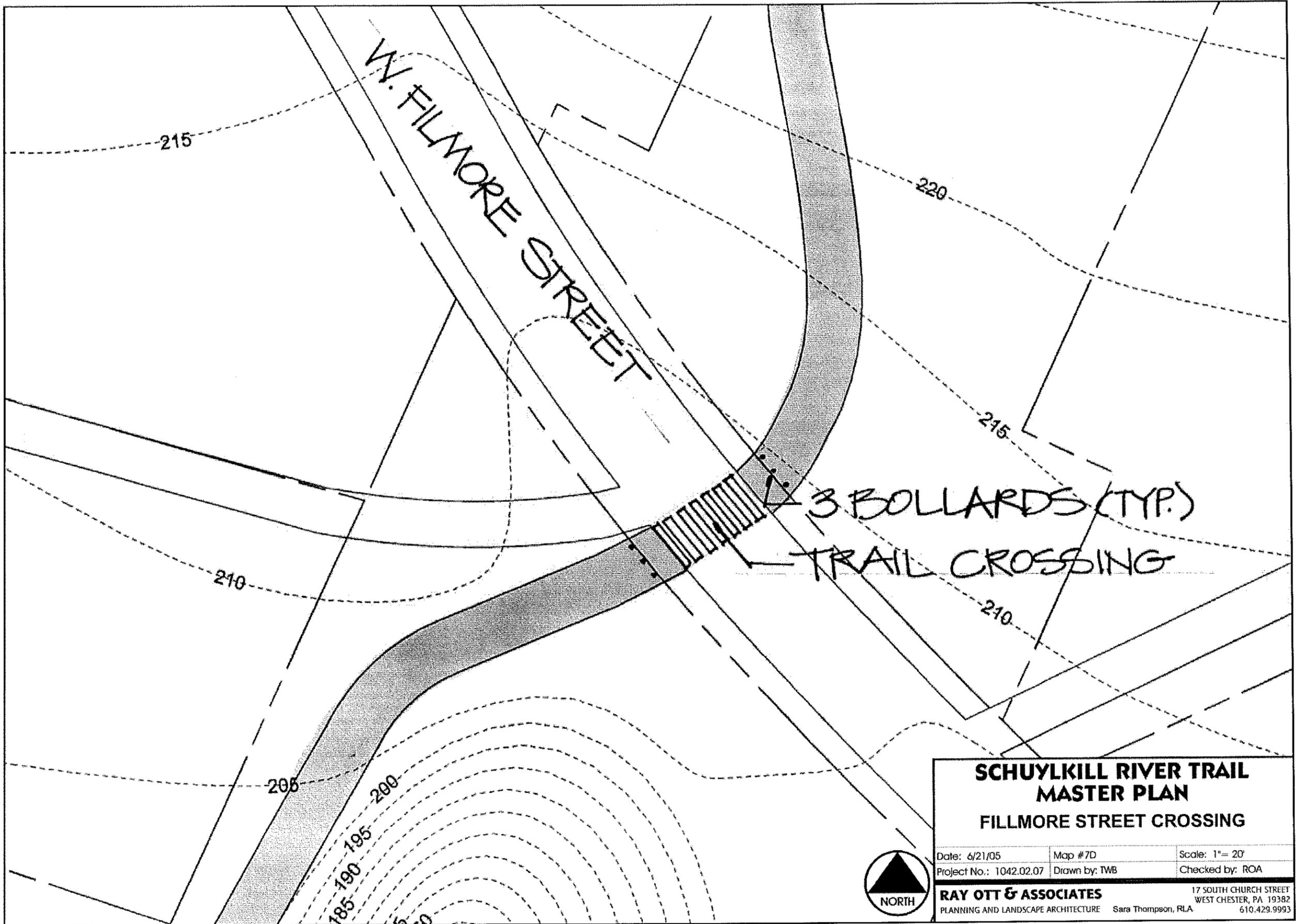


**SCHUYLKILL RIVER TRAIL
MASTER PLAN
HIGH STREET TRAILHEAD**

Date: 6/21/05	Map #6D	Scale: 1" = 30'
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA

RAY OTT & ASSOCIATES
PLANNING AND LANDSCAPE ARCHITECTURE Sara Thompson, RLA

17 SOUTH CHURCH STREET
WEST CHESTER, PA 19382
610.429.9993

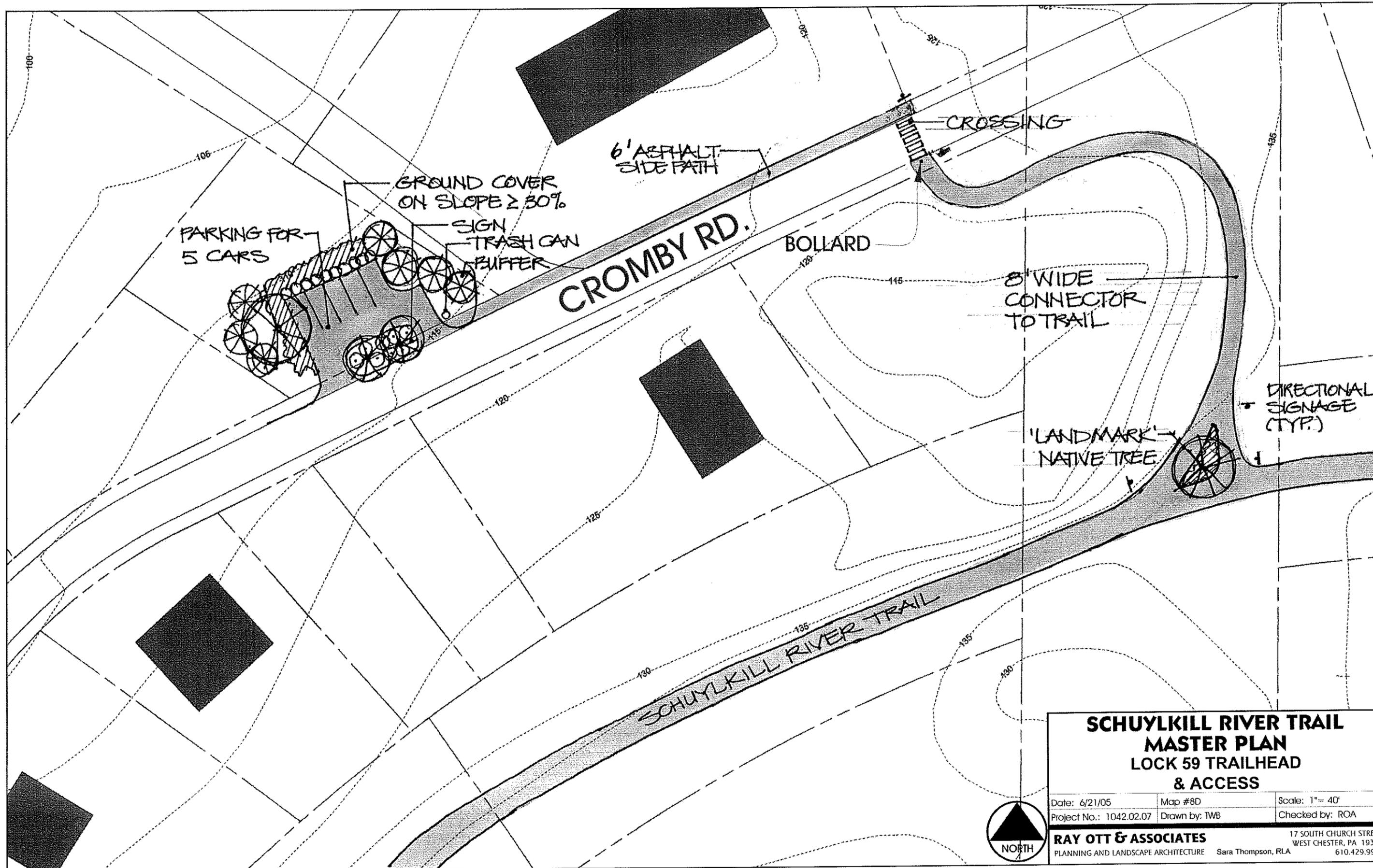


W. FILMORE STREET

3 BOLLARDS (TYP.)
 TRAIL CROSSING

SCHUYLKILL RIVER TRAIL MASTER PLAN		
FILLMORE STREET CROSSING		
Date: 6/21/05	Map #7D	Scale: 1"= 20'
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA
RAY OTT & ASSOCIATES		17 SOUTH CHURCH STREET WEST CHESTER, PA 19382
PLANNING AND LANDSCAPE ARCHITECTURE		Sara Thompson, RLA 610.429.9993

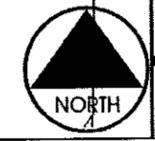




**SCHUYLKILL RIVER TRAIL
MASTER PLAN
LOCK 59 TRAILHEAD
& ACCESS**

Date: 6/21/05	Map #8D	Scale: 1" = 40'
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA

RAY OTT & ASSOCIATES
PLANNING AND LANDSCAPE ARCHITECTURE Sara Thompson, RLA
17 SOUTH CHURCH STREET
WEST CHESTER, PA 19382
610.429.9993



**SCHUYLKILL RIVER TRAIL
MASTER PLAN**

TOWNSHIP LINE RD. STREET CROSSING

Date: 6/21/05	Map #9D	Scale: 1"= 20'
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA

RAY OTT & ASSOCIATES
PLANNING AND LANDSCAPE ARCHITECTURE
17 SOUTH CHURCH STREET
WEST CHESTER, PA 19382
Sara Thompson, RLA
610.429.9993



SCHUYLKILL RIVER
TRAIL TO BE CONSTRUCTED
BY CHESTER COUNTY
THIS SIDE OF TWP.
LINE ROAD

EAST PIKELAND TWP.
TOWNSHIP LINE ROAD
PHOENIXVILLE BOROUGH

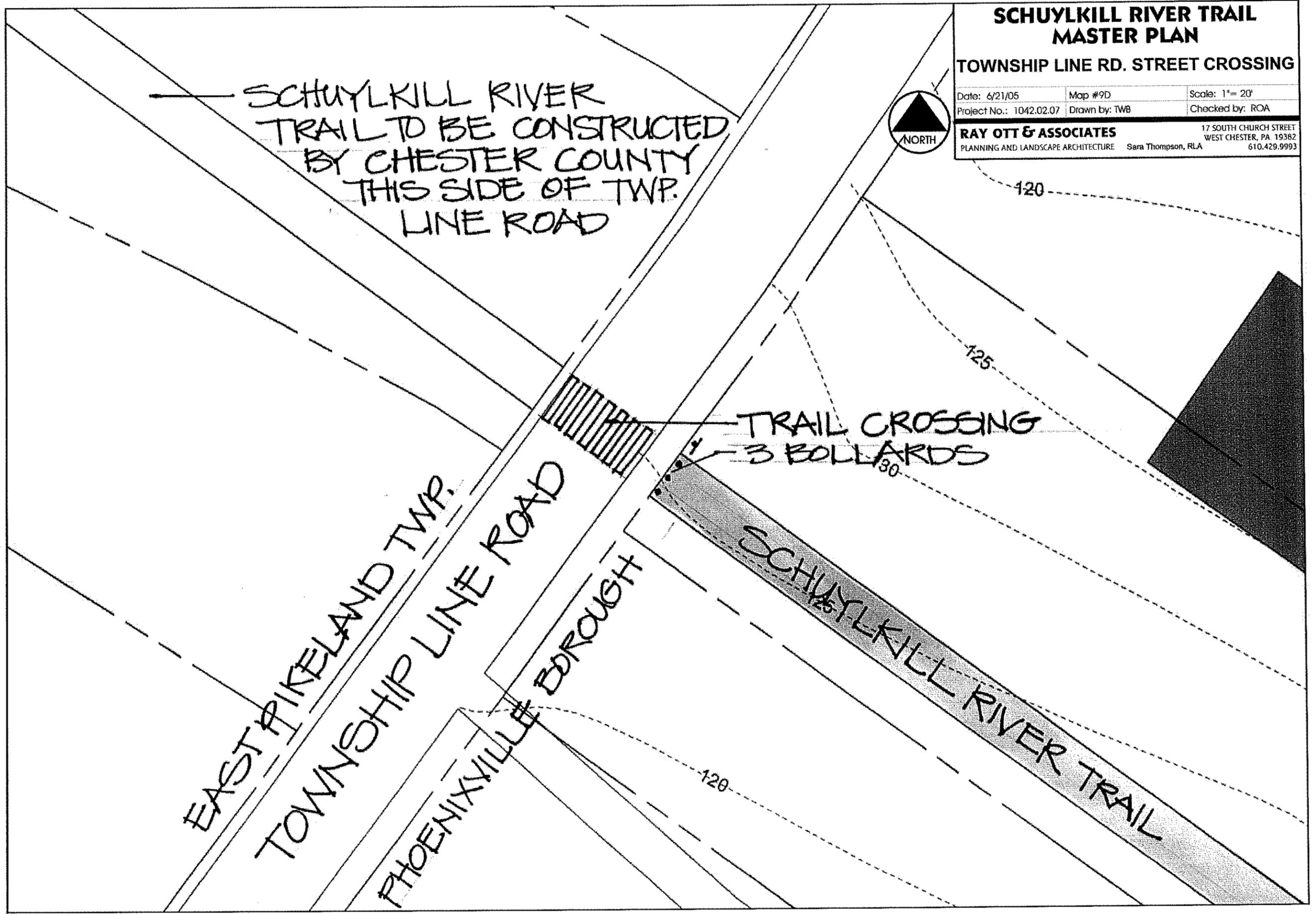
TRAIL CROSSING
3 BOLLARDS

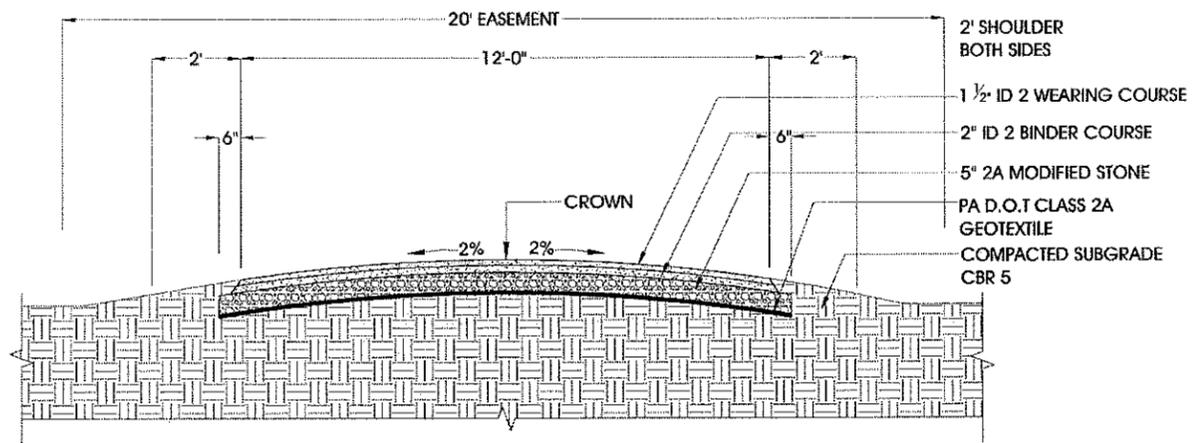
SCHUYLKILL RIVER TRAIL

120

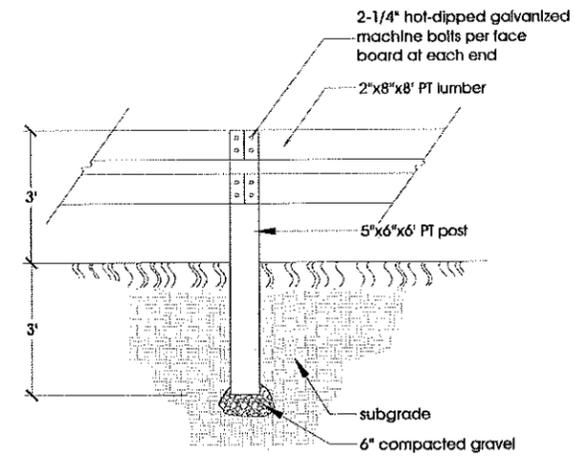
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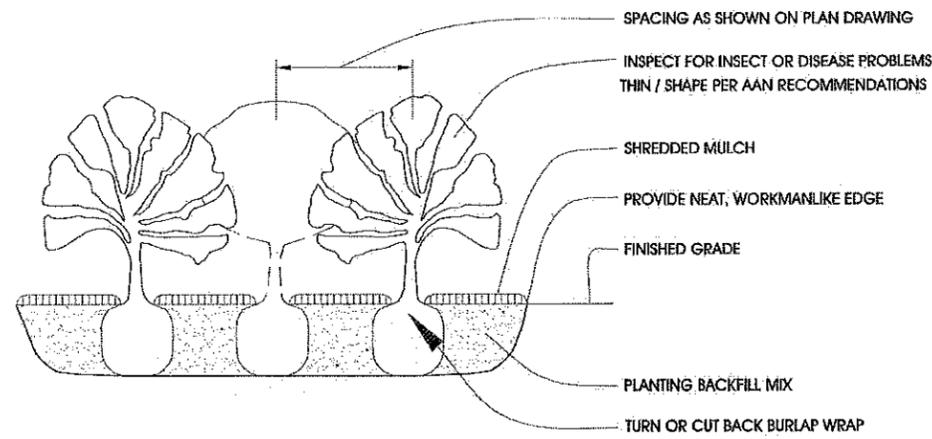




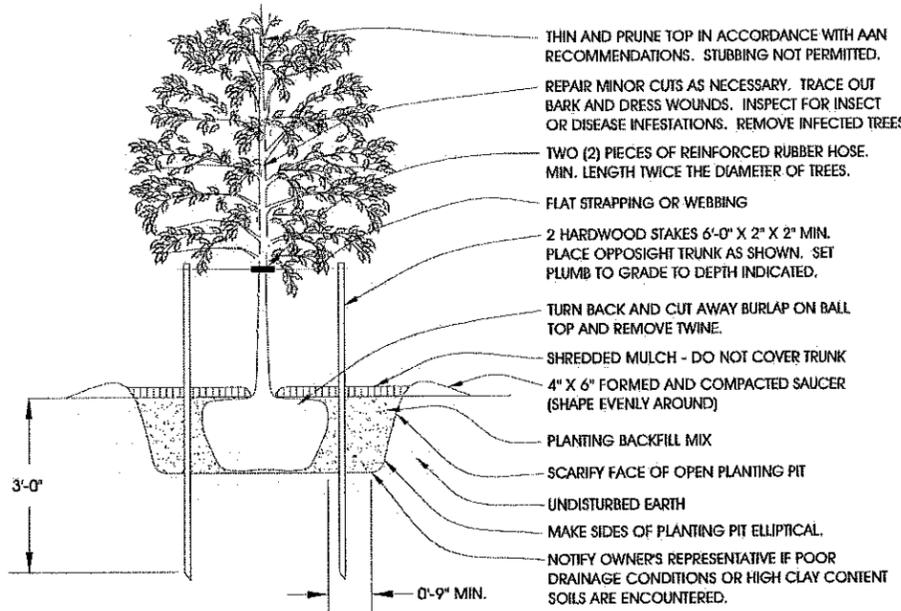
MULTI-PURPOSE TRAIL DETAIL
SCALE: 1/4" = 1'-0"



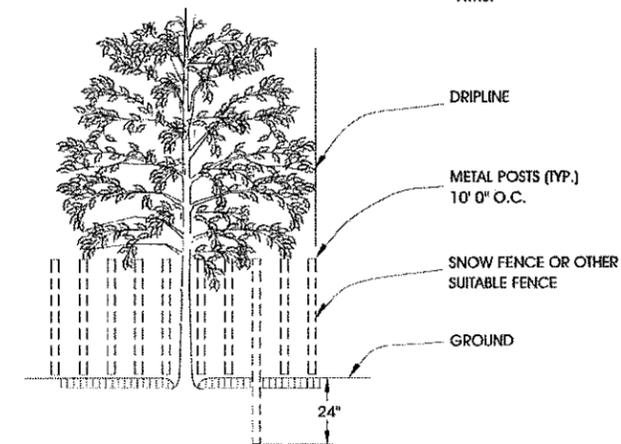
GUARDRAIL DETAIL
SCALE: 1/4" = 1'-0"



MASSED SHRUB PLANTING DETAIL
N.T.S.



TYPICAL TREE PLANTING DETAIL
N.T.S.



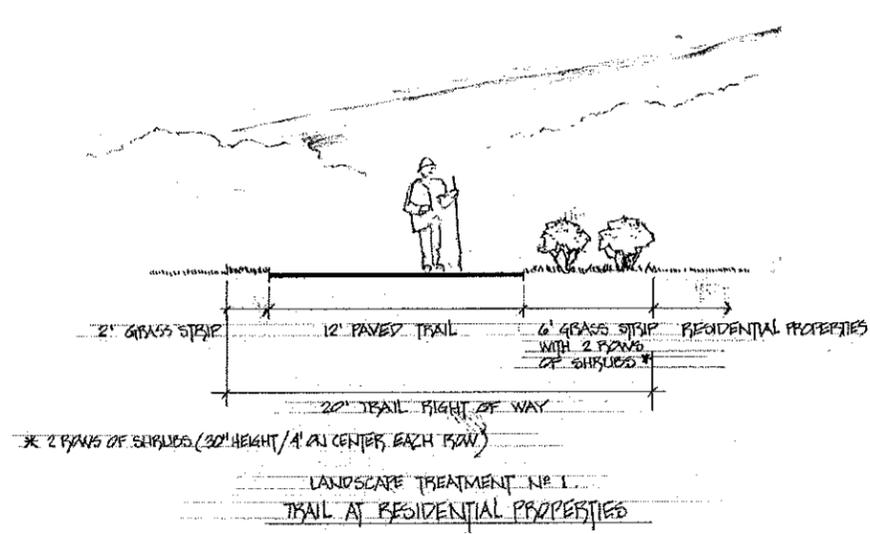
TYPICAL TREE PROTECTION DETAIL
SECTION - N.T.S.

**SCHUYLKILL RIVER TRAIL
MASTER PLAN
TYPICAL DETAILS**

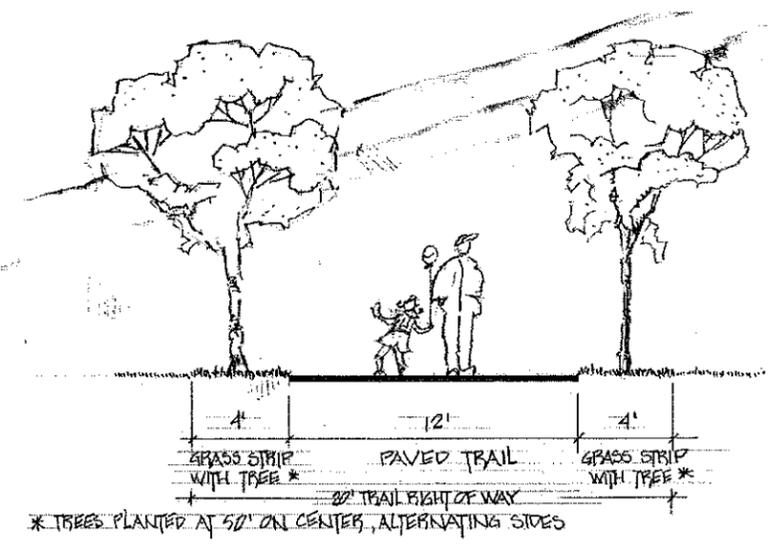
Date: 6/21/05	Map # 10D	Scale: Varies
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA

RAY OTT & ASSOCIATES
PLANNING AND LANDSCAPE ARCHITECTURE

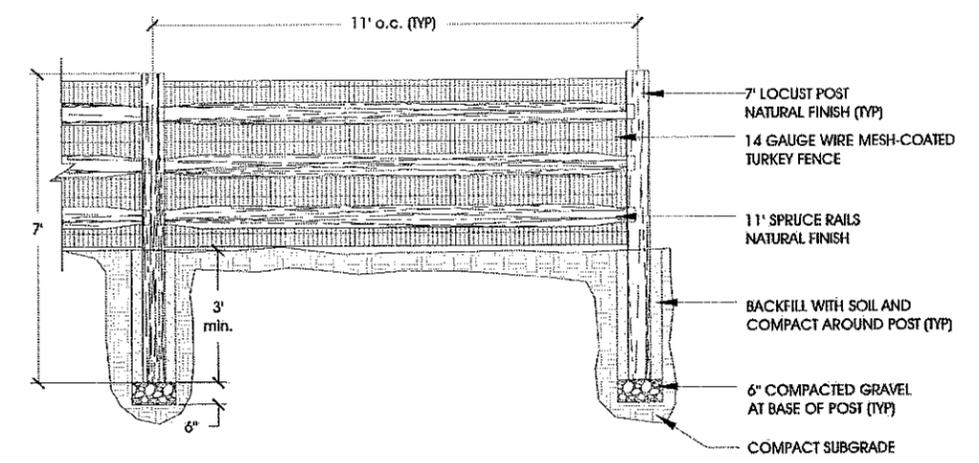
17 SOUTH CHURCH STREET
WEST CHESTER, PA 19382
Sara Thompson, RLA 610.429.9993



LANDSCAPE TREATMENT #1
TRAIL AT RESIDENTIAL PROPERTIES



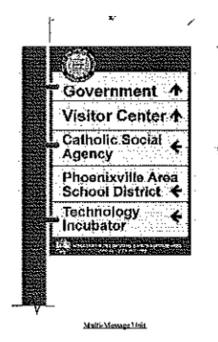
LANDSCAPE TREATMENT #2
TRAIL WITH SHADE TREES



LANDSCAPE TREATMENT #3:
POST AND RAIL FENCE
SCALE: 1/4" = 1'-0"



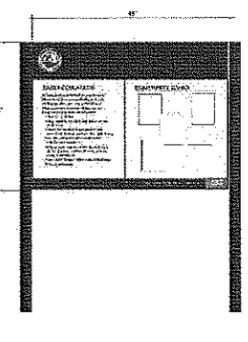
WAYFINDING SIGNAGE I
N.T.S.



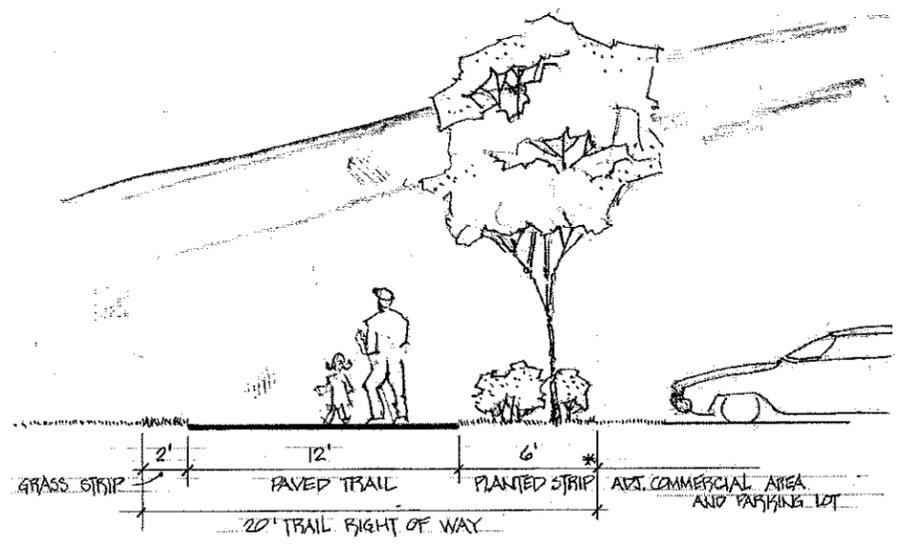
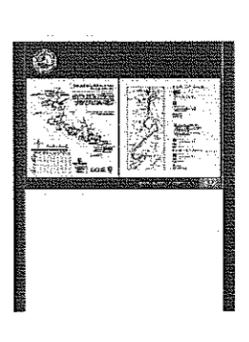
WAYFINDING SIGNAGE II
SECTION - N.T.S.



WAYFINDING SIGNAGE III
SECTION - N.T.S.

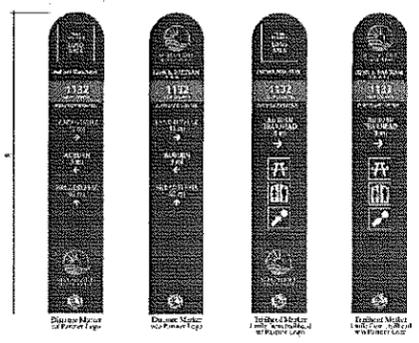


TRAILHEAD KIOSK
N.T.S.



LANDSCAPE TREATMENT #4
TRAIL AT PARKING LOTS OR COMMERCIAL AREAS

INFORMATION/HIST. SIGN. KIOSK
N.T.S.



DISTANCE AND DIRECTIONAL SIGNAGE
N.T.S.



SRT LOGO

**SCHUYLKILL RIVER TRAIL
MASTER PLAN
TYPICAL DETAILS**

Date: 6/21/05	Map #11D	Scale: Varies
Project No.: 1042.02.07	Drawn by: TWB	Checked by: ROA

RAY OTT & ASSOCIATES
PLANNING AND LANDSCAPE ARCHITECTURE

17 SOUTH CHURCH STREET
WEST CHESTER, PA 19382
610.429.9993

Foundry

Map 3D shows the Foundry Building, which will function as the primary trailhead for Phoenixville's portion of the SRT. Trail construction is complete on the Foundry site, however trailhead amenities such as bike racks, benches, and signage should be installed to facilitate pedestrian and bicyclist use. Additional landscaping is recommended in the area where the SRT intersects the approach to the Phoenix Column Bridge and the eight-foot (8') wide footpath.

Reeves Crossing Trailhead and Road Crossing

Map 4D shows the future Reeves Crossing trailhead. Americans with Disabilities Act (ADA) compliant parking stalls will be designated in the existing parking lot and new landscaping will be installed. The SRT will cross the proposed Reeves Crossing at grade.

Paradise Street Trailhead

Map 5D shows the Paradise Street trailhead on the north side of the future French Creek Parkway. Fifteen (15) parking stalls are proposed including two (2) ADA spaces. Approximately twenty (20) trees will be added, together with picnic tables, trash receptacles, benches, a bike rack, and an information kiosk. This design also includes the French Creek Parkway crossing and renovation of the Paradise Street Bridge.

High Street Trailhead

Map 6D shows the High Street trailhead on the north side of High Street. Ten (10) parking spaces are proposed, including one (1) ADA space. Landscaping, picnic tables, and post and rail fence are also proposed. This design also includes crossing High Street.

Lock 59 Trailhead

Located off-trail, on the east side of Cromby Road, is the proposed Lock 59 trailhead, as shown on Map 8D. An eight-foot (8') wide trail connects the SRT to the proposed trailhead. A Cromby Road pedestrian crossing is also shown. The trailhead will include a total of five (5) parking spaces, including one (1) ADA parking space, and landscaping.

2. Road Crossings.

Areas where the SRT will cross roadways that are not directly associated with trailhead areas are discussed below.

French Creek Parkway at Gateway

The SRT will cross French Creek Parkway just north of the proposed "Gateway" portion of the French Creek Center redevelopment project, east of the Superintendent's Building, as shown on Map 2D. Landscaping is proposed where the crossing approaches meet the trail.

Fillmore Street

The SRT will also cross West Fillmore Street, as shown on Map 7D. Bollards, signage and striping are proposed.

Township Line Road-End of Trail

Heading west, the last road crossing the SRT will make in the Borough is Township Line Road, as shown on Map 9D. Bollards, signage and striping are proposed. The trail crosses into East Pikeland Township on the west side of Township Line Road.

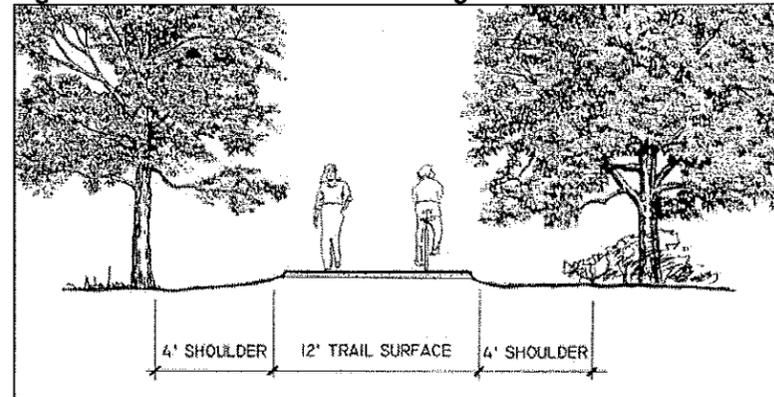
D. SPECIFIC TRAIL DESIGN PARAMETERS

1. Trail Tread Design.

Figure 1 shows the recommended trail design cross-section for the SRT. As stated above, the Brandywine Conservancy provides recommended trail construction specifications in its 1997 publication *Community Trails Handbook*. The following specifications are recommended for an urban community like Phoenixville Borough for non-motorized trail use:

- Twelve foot (12') trail surface width
- Eight foot (8') vertical clearance
- Two foot (2') to five foot (5') cleared shoulder area

Figure 1: Recommended Trail Design



Source: *Trails for the Twenty-First Century*, Rails to Trails Conservancy, 2001, p. 61.

Although the Brandywine Conservancy recommends the use of crusher fines for trail surfacing, this type of trail surface is not recommended for Phoenixville's SRT because it does not accommodate in-line skating.³

In keeping with these standards, the SRT is recommended to be constructed as a 12-foot (12') wide, bituminous asphalt paved trail. A minimum 4-foot (4') wide, cleared shoulder should be maintained on both sides of the trail. The trail should be crowned slightly to

³ *Community Trails Handbook*, The Brandywine Conservancy, 1997, pp. 52-53.

facilitate stormwater drainage. A sixteen-foot (16') vertical clearance is recommended so that trucks with dump bodies (used for trail maintenance) can operate freely along the trail.

2. Other Trail Design Considerations.

Trail design is influenced by many factors including terrain/slope, landscaping and existing vegetation, trail safety and security, lighting and signage, which are discussed in this section.

Slopes

Most of the eastern half of the SRT will be located at the top of bank of the French Creek. On steep portions of the bank, attractive fencing such as split rail fence, or wooden guide rail should be installed to prevent trail users from slipping or falling over the bank. Fence and guide rail details are shown on the detail sheets included in the plan.

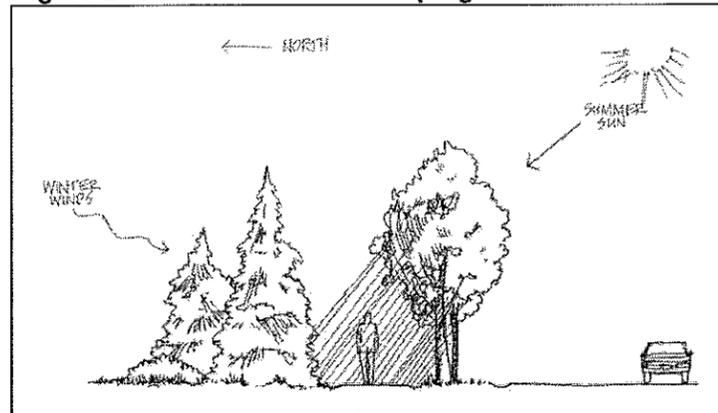
Landscaping

Figure 2 on the following page depicts the effects of trail landscaping placement on summer sun and winter winds. Landscaping can be designed and placed to enhance safety. As stated in the previous section dealing with landscaping, a five-foot (5') groomed area should be provided adjacent to both sides of the trail to reduce the opportunity for hiding areas. Deciduous trees should be planted along the trail in areas where quality trees do not exist to provide shade in the summer months. Evergreen trees can be planted to create wind blocks, but evergreen tree copses should be avoided. Trees should be installed to appear as though they have grown naturally, rather than at regular intervals. Certain areas along French Creek have become overgrown with vines and other invasive plant and tree species, and will require clearing and replanting with native species. This will also provide for better views of the creek. Low landscaping should be used at all road crossings.

Four (4) different landscaping treatment types, shown on Map 10D, were prepared to address the various kinds of buffering issues along the SRT in Phoenixville. The four landscape types are:

- Residential Screening;
- Shade Trees;
- Wood Fence/Guide Rail; and,
- Parking and Commercial Area Screening.

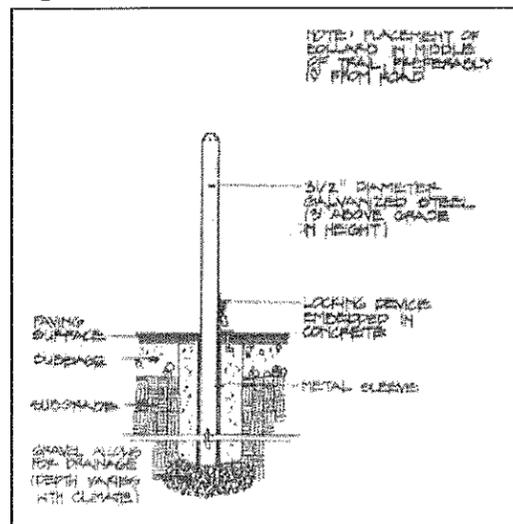
Figure 2: General Trail Landscaping



Traffic Control

The SRT will cross several roads at grade in the Borough, including Main Street, Reeves Crossing, French Creek Parkway, and High Street. Bollards should be placed where the trail meets the roadway to dissuade unauthorized vehicle access and to slow bicycle riders. Figure 3 provides a standard bollard detail. Additionally, several types of signage will be needed along the trail to enhance safety. Sign types are discussed below.

Figure 3: Bollard Detail



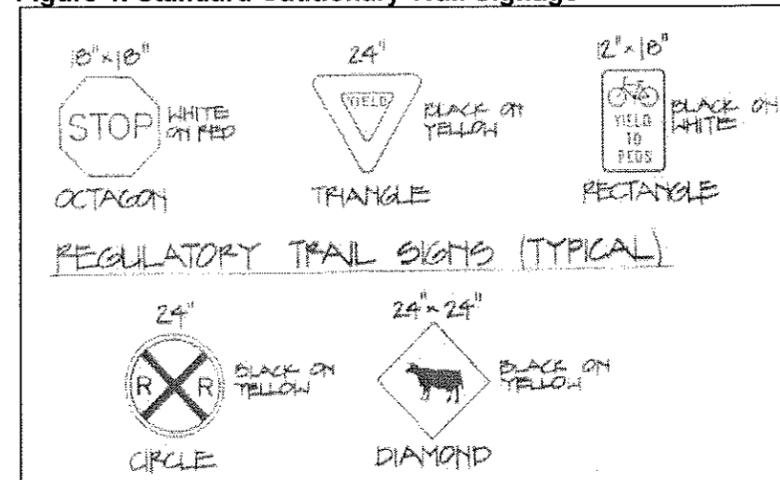
Source: *Trails for the Twenty-First Century, 2nd Ed., Rails to Trails Conservancy, 2001, p.86*

Regulatory Signage

Regulatory signs are used for traffic control, and include stop, yield, right-of-way and speed limit signs.⁴ Stop signs should be installed for trail users where the trail intersects with roads, and cautionary traffic signs should be installed on roadways to warn vehicles of potential pedestrian and bicycle traffic. Figure 4 provides a detail for standard cautionary trail signage.⁵ Detailed information regarding sign dimensions, color, shape and size can be found in the Federal Highway Administration's Manual on Uniform Traffic Control Devices. Additionally, crosswalk striping should be painted across roadways to indicate the pedestrian and bicycle right-of-way.

Placement of signage along the trail is also a consideration in trail development. Figure 5 shows proper sign placement.

Figure 4: Standard Cautionary Trail Signage



Source: *Trails for the Twenty-First Century, Rails to Trails Conservancy, 2001, p. 89.*

Informational Signage

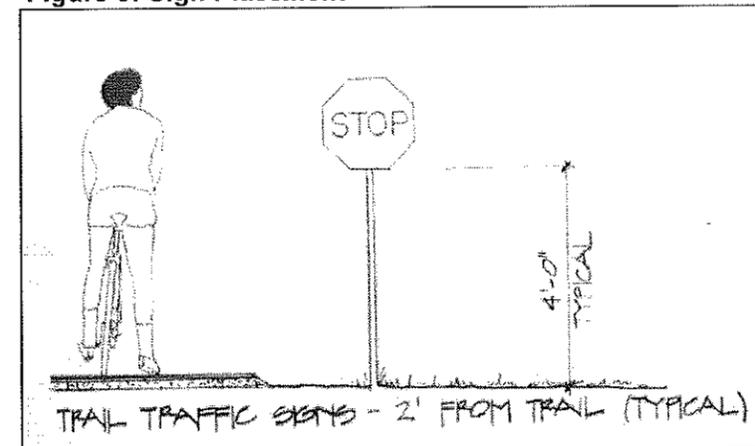
Informational signage provides trail users with information about trailheads, artifacts and historic resources, connecting trails and destinations. Directional signage should be located along the trail indicating where other trails intersect, and signs should also be provided that describes unique natural and historic features. Informational signs should be grouped together especially at trailheads and rest areas.⁶ Mile markers are also considered informational signage which should consist of a simple wooden or metal post showing the mile number along the SRT system.

⁴ *Trails for the Twenty-First Century, 2nd Ed., Rails to Trails Conservancy, 2001, p.88.*

⁵ *Trails for the Twenty-First Century, 2nd Ed., Rails to Trails Conservancy, 2001, p.89.*

⁶ *Trails for the Twenty-First Century, 2nd Ed., Rails to Trails Conservancy, 2001, p.91.*

Figure 5: Sign Placement



Source: *Trails for the Twenty-first Century, Rails to Trails Conservancy, 2001, p.91.*

Schuylkill River Trail Signage

The Schuylkill River Greenway Association has prepared a Master Signage Plan to provide a consistent look for informational and directional signage to be used on the SRT. The Borough intends to incorporate this recommended signage system into its portion of the SRT. Examples of these signs are shown on Map 11D.

E. SPECIFIC TRAILHEAD DESIGN PARAMETERS

As discussed above, Phoenixville's SRT portion will contain several trailheads. Proposed trailhead locations are shown on Map 1A, and individual trailhead designs are shown on Maps 1D-8D. As discussed above, trailhead facilities can be categorized as major or minor trailheads depending on their location, amenities and parking availability. Proposed trailhead location and design for the SRT is discussed below.

1. Major Trailheads and Facilities.

Foundry Building Trailhead

As discussed in the previous section, the primary trailhead along the SRT in Phoenixville Borough will be the Foundry Trailhead (Map 4D). The Foundry Building is a significant historic resource within the Borough and has contributed to Borough revitalization. The Foundry Building will offer a trailhead with a welcome/interpretive center, restrooms, and parking, and possible retail uses. It is also recommended that the Foundry Building Trailhead contain outdoor trash receptacles, directional signage, benches, and a connector trail to the SRT.

High Street Trailhead

The second proposed major trailhead should be located on the north side of High Street, on the west side of the trail. This trailhead will contain ten (10) parking spaces, a picnic area, and landscaping. The proposed concept design for this trailhead is shown on Map 7D.

2. Minor Trailheads and Facilities.

Several minor trailheads will be located along the SRT in Phoenixville. The first will be located east of Reeves Crossing and north of Taylor Alley. A quasi-public parking lot with ninety (90) spaces is located north of Taylor Alley that may be utilized for trailhead parking. This trailhead will also consist of benches, trash receptacles and landscaping (see Map 5D for the trailhead design).

The terminus of Paradise Street should be the location for the second minor trailhead (Map 6D). This trailhead should be located on the south side of Paradise Street. Parking should be provided together with an information kiosk, benches, picnic area, trash receptacles and landscaping.

F. TRAIL OWNERSHIP AND RISK MANAGEMENT.

1. Ownership.

The Borough of Phoenixville will have fee simple ownership of portions of the SRT, meaning that Phoenixville will retain all property rights including possession, enjoyment and disposal. These areas include portions of the trail within Borough-owned land or that are dedicated in fee simple to the Borough from new land development projects. New development project land dedications will include the trail section through the Superintendent's Building tract and the French Creek Center Gateway tract on the eastern side of the Borough. However, for certain portions of the trail the Borough will need to obtain easements (a grant of select property rights from a fee simple holder to a second party).⁷ Areas where right-of-way acquisitions are needed are shown on Map 2A.

2. Risk Management.

Accidents are part of recreational activities. Risk management involves proactively approaching the minimization of accidents by recreation facility owners. The crux of risk management is the effort made to minimize the likelihood of injury during trail use. Risk management can be thought of as a five (5) step process, consisting of the following steps:

- (1) Identify exposures
- (2) Review current practices
- (3) Decide on needed improvements
- (4) Implement changes

- (5) Monitor results of changes.⁸

The first step involves identifying areas or pieces of equipment that may pose a danger. This is achieved by the implementation of a *regular inspection program* performed by Borough or County staff. Inspections should be well documented in case of a claim of injury. Inspections should be monthly or more frequent. Another way to identify these dangers is to review past accident/incident reports (if available) that may have been filed.

The second step in successful risk management involves the review of current Borough recreation facility maintenance policy and procedure, specifically, the inspection reports and accident/incident reports. If no written policy is in place, one should be developed. The third step in the risk management process involves finding solutions to problems or making improvements or adjustments to reduce or eliminate risk. Implementation of the solutions or improvements is the fourth step in the process. It is crucial that the Borough Council, Recreation Department, and Borough staff understand and support risk management procedures. The final step, monitoring the results of risk management initiatives will provide a means to evaluate the success of the program and make adjustments as needed.

One of the most useful risk management tools for trails is warning or cautionary signage. On multi-use trails, signs can play a key role in warning users of hazards.⁹ Other risk management situations involve treating the injured and proper documentation of incidents. Road crossings present a hazard to trail users. The conceptual designs for existing roads to be crossed are shown on Maps 7D, 8D, and 10D.

⁸ *Risk and Recreation*, D. R. Wyseman, 2001.

⁹ *Trails for the Twenty-First Century*, Rails to Trails Conservancy, 1993, p. 156.

⁷ *Community Trail Handbook*, Brandywine Conservancy, 1997, p. 55.

IV. CONSTRUCTION PHASING, COST ESTIMATES AND OPERATION AND MAINTENANCE

A. CONSTRUCTION PHASING

As stated earlier in this report, several trail sections have been constructed, including the SRT within the Foundry Building tract, from Main Street east to the area of the Superintendent's Building, and from the Foundry tract west to Taylor Alley. The rest of the Borough's SRT needs to be constructed, and it is recommended that construction take place in phases, commensurate with the availability of grant and other sources of funding. Recommended construction phases are shown on Map 1A.

1. Construction Phasing and Costs.

Phase 1: Railroad Bridge to Reeves Crossing

Cost: \$140,599

Description: In the spring of 2004, the Borough applied for grant funding from Chester County's Landscapes 21st Century Fund to help support costs for construction of the first segment of the SRT. This segment will start just east of the area beneath the railroad bridge over Bridge Street. The SRT will turn north and then west through Phoenix Property Group (PPG) land. In the area of the Superintendent's Building, the SRT will tie into an existing trail section extending through the Foundry Building parcel to Taylor Street Alley. Construction of the Bridge Street, Foundry and Reeves Crossing Trailheads are also proposed for Phase 1.

Phase 2-West of Taylor Alley/Reeves Crossing High Street

Cost: \$410,325

Description: The second construction phase of the SRT should continue after the existing portion of the trail at Taylor Alley and follow along the creek north of the District Justice Building tract, the lumberyard, Morgan Foods, Barto Pool and Spa, and the former Weiland Meat Plant. The SRT will cross to the north/east side of French Creek via the Paradise Street Bridge, and follow along the railroad right-of-way to High Street. Construction of the Paradise Street and High Street Trailheads are also proposed for Phase 2.

Phase 3- High Street to Township Line Road

Cost: \$283,576

Description: The final SRT construction phase will cover the area from High Street to the terminus of the trail within Phoenixville Borough at Township Line Road. Construction of the Lock 59 Trailhead is also proposed for Phase 3.

B. CONSTRUCTION COST ESTIMATE

Table 3 on the following page provides a cost estimate for each construction phase, a breakdown for trailhead and road crossing construction and a summary table for SRT development. The SRT should be developed commensurate with the availability of public funding to support project costs. The total SRT trail construction project costs are estimated to be \$834,501. The following report section discusses trail operations and maintenance.

Table 3: Phased Construction Cost Estimate and Summary

Item	Unit	Unit Cost	PHASE I Mont Clare bridge - Reeves Crossing		PHASE II Reeves Crossing to High Street		PHASE III High Street to Township Line Rd.	
			Main Trail: 3,285 linear ft.		Main Trail: 4,450 linear ft.		Main Trail: 3,888 linear ft.	
			Side Trails: 765 linear ft.		Side Trails: 363 linear ft.		Side Trails: 583 linear ft.	
			Quant.	Amount	Quant.	Amount	Quant.	Amount
TRAIL								
Right-of-way acquisition allowance, 20' wide trail easement	SF	\$2					2,000	\$4,000
Trail - 12', geotextile fabric, 5" stone, 3" bituminous cnrt.	SY	\$18	4,380	\$78,840	5,933	\$106,800	5,184	\$93,312
Shoulder - 4' each side, grading / ground cover allow.	SY	\$5	2,920	\$14,600	3,956	\$19,778	3,456	\$17,280
Side Trail - 8' bituminous concrete	SY	\$18	1,020	\$18,360	484	\$8,712	777	\$13,992
Landscape plantings / fencing:								
#1 - Residential screen (2 rows 30" shrubs, 4' OC/row, \$60 ea.)	LF	\$30					1,500	\$45,000
#2 - Shade Trees (100' OC each side, alternating*, \$250 ea.)	LF	\$5	1,550	\$7,750				
#3 - Fence / Guide Rail (3' wood)	LF	\$25	1,000	\$25,000	1,400	\$35,000	1,050	\$26,250
#4 - Commercial / parking screen (1 tree, 12 shrubs/60', \$60 ea.)	LF	\$13	1,250	\$16,250	1,400	\$18,200	1,000	\$13,000
Signs - distance and side trails (avg. 1 per 1/4 mile)	EA	\$400	2	\$995	3	\$1,348	3	\$1,178
				\$161,795		\$189,838		\$214,012
<i>note: * South side only for trail segment #1</i>								
STREET / STREAM CROSSINGS								
Bollards	EA	\$250	12	\$3,000				
Crosswalk Striping	LF	\$1	82	\$82				
Crossing Signage	EA	\$800	2	\$1,600				
Paradise St. Bridge Rehab	LS							
Drainage culvert								
				\$4,682		\$88,148		\$10,733
TRAILHEADS								
			1. Bridge Street		2. Foundry Bldg. 3. Reeves Crsng.		4. Paradise St.	
			Quant.	Amount	Quant.	Amount	Quant.	Amount
Parking Areas: 8" stone, 2" bituminous concrete	SY	\$15	65	\$975		\$0	620	\$9,300
Painted Handicapped Symbol	EA	\$44	1	\$44	4	\$176	2	\$88
Curb, 6 in x 18 in concrete	LF	\$7	50	\$350			460	\$3,220
Guide Rail / Post & Rail Fencing	LF	\$20						\$0
Bollards	EA	\$250		\$0		\$0	3	\$750
Bike Rack	EA	\$250	1	\$250	1	\$250	1	\$250
Benches	EA	\$500		\$0		\$0	2	\$1,000
Information Kiosks	EA	\$9,300		\$0	2	\$18,600	1	\$9,300
Picnic Tables	EA	\$1,000	2	\$2,000		\$0	3	\$3,000
Trash/Recycling Receptacles - 1 ea.	EA	\$850	1	\$850	1	\$850	2	\$1,700
Landscaping allowance	SY	\$5	195	\$975	400	\$2,000	1,000	\$5,000
Lighting	EA	\$2,500					2	\$5,000
				\$5,444		\$21,876		\$38,608
								\$19,738
								\$7,694
								\$232,439
Sub-total, Construction Costs						\$193,797		\$336,332
Less Completed trail segment (Superintendent Building to District Court)			i.f.	s.y.				
			3,273	4,364	-78,552			
					\$115,245			\$336,332
								\$232,439
Fees and Contingency								
Equipment Mobilization/Demobilization		2%				\$2,305	\$6,727	\$4,649
Design / Construction Documents		10%				\$11,525	\$33,633	\$23,244
Contingency		10%				\$11,525	\$33,633	\$23,244
						\$25,354	\$73,993	\$51,137
GRAND TOTAL						\$140,599	\$410,325	\$283,576
PHASING SUMMARY								
			Main Trail	Side Trails	Total Cost			
Phase I: Mont Clare Bridge to Reeves Crossing			3,285 l.f.	765 l.f.	\$140,599			
Phase II: Reeves Crossing to High Street			4,450 l.f.	363 l.f.	\$410,325			
Phase III: High Street to Township Line Road			3,888 l.f.	583 l.f.	\$283,576			
			11,623 l.f.	1,711 l.f.	\$834,501			
			2.2 miles	0.3 miles				

C. TRAIL OPERATIONS AND MAINTENANCE

1. Trail Maintenance Costs.

An estimated Trail Operations and Maintenance Budget was developed for the SRT project in order to determine future costs associated with maintenance and repairs. Table 4 provides typical tasks and costs associated annual trail maintenance.

In keeping with Table 4, Table 5 indicates that trash and debris removal are the most frequently performed maintenance tasks, and will vary based on weather and level of use. Volunteer assistance should be sought from local trail and civic groups in order to help offset trail maintenance costs.

Table 4: Typical Annual Maintenance Costs

Task	Avg. Cost [1]	SRT Cost[2]
Drainage and storm channel maintenance	\$500	\$1,000
Sweeping/blowing debris from trail tread	\$1,200	\$2,400
Pickup and removal of trash	\$1,200	\$2,400
Weed control and vegetation management	\$1,000	\$2,000
Mowing of 3 ft grass shoulder along trail [3]	\$1,200	\$1,600
Minor repairs to trail furniture/safety features	\$500	\$1,000
Maintenance supplies for work crews	\$300	\$600
Equipment fuel and repairs	\$600	\$1,200
Total	\$6,500	\$12,200
Trail Resurfacing (asphalt) \$10/LF[4]	\$52,800	\$105,600

[1] Based on national average for 1-mile of trail. Costs may vary for individual trail.

[2] Total Phoenixville SRT Trail length-2 miles.

[3] Cost for SRT is for 4' grass shoulders.

[4] Every 7-15 Years, resurface with top coat and replace sections.

Source: Trails for the Twenty-First Century, Rails to Trails Conservancy, 2001, p. 157.

Table 4 indicates that total annual maintenance costs is estimated to be \$12,200 for the SRT. The most costly maintenance items are those associated with trash and debris pick-up/removal. The table also provides a figure for trail resurfacing, which will be needed approximately every ten years.

2. Maintenance Schedule.

As stated above, trail resurfacing will need to be performed about every ten years. The routine maintenance listed in Table 4 will need to be performed throughout the year, depending on weather conditions and the level of trail use, as set forth in Table 5.

Table 5: Routine Maintenance

Task	Schedule
Drainage/ channel maintenance	3-5 times/year
Sweeping/blowing debris	16-24 times/year
Trash removal	16-24 times/year
Vegetation Management	8-12 times/year
Shoulder mowing	8-24 times/year

Source: Trails for the Twenty-First Century, Rails to Trails Conservancy, 2001, p. 159.

V. PROJECT FUNDING

Potential sources of public grant and reimbursement funding to support trail development and construction costs are discussed below.

A. COUNTY FUNDING

1. Chester County Landscapes 21st Century Fund.

This program supports park and open space acquisition, park facilities development, greenways acquisition and trails development in Chester County municipalities. The Borough has utilized this funding in the past for park development projects. The maximum per-project amount of funding that can be awarded through this program ranges between \$250,000-\$350,000 annually, depending on project types. A maximum of three (3) grants can be open and active with the County in any one year.

B. STATE FUNDING PROGRAMS

1. Department of Conservation and Natural Resources.

Pennsylvania Recreational Trails Program

The Pennsylvania Recreational Trails Program (PRTP) provides funds to develop and maintain recreational trails and trail related facilities for motorized and nonmotorized recreational trail use. Federal funding for the program is through the Federal Highway Administration (FHWA) and the Transportation Equity Act for the 21st Century (TEA 21).

In 2000, DCNR had approximately \$2 million available for grants. This funding must be distributed among motorized, non-motorized, and diverse trail use, as follows:

- 40% minimum for diverse trail use
- 30% minimum for motorized recreation
- 30% minimum for non-motorized recreation

Match requirements for Pennsylvania Recreational Trails Program Grants are eighty percent (80%) grant money, up to a maximum of \$100,000, and twenty percent (20%) project applicant money. "Soft match" (credit for donations of funds, materials, services, or new right-of-way) is permitted from any project sponsor, whether a private organization or public agency (DCNR website, 2000).

Department of Conservation and Natural Resources Keystone Park and Recreation Fund

This program funds the conservation of nature preserves and wildlife habitats and improvements to and expansion of state parks, community parks and recreation facilities, historic sites, zoos and public libraries. The Keystone Fund is currently supported by a fifteen percent (15%) allocation from the State Realty Transfer Tax revenues. Between \$11-12 million was available in 2000 under the Community Conservation Partnership Grant Program, and \$1 million each in the Rails-to-Trails and Rivers Conservation grant programs. The grant also supports planning and technical assistance and acquisitions and development projects.

C. FEDERAL FUNDING PROGRAMS

Penn DOT administers three (3) programs which utilize federal funding for surface transportation projects, which include trail design and construction. These programs include:

- Transportation Enhancement Program (TE)
- Home Town Streets and Safe Routes to School Program
- Congestion Mitigation/Air Quality Improvement Program (CMAQ).

The three programs are funding reimbursement programs with a 80% program-20% municipality split.

D. PUBLIC-PRIVATE PARTNERSHIPS

Significant opportunities are available for the Borough to form public-private partnerships in order to fund the construction and maintenance of the SRT. Private landowners along the trail may consider donating some or all of the right-of-way needed by the Borough to construct the trail. The Borough has many civic groups which should be approached to determine the level of interest and ability to help perform routine maintenance and organize trail cleanup events. Individuals and organizations can be approached to purchase a memorial tree or bench along the trail.