

TRANSPORTATION

PROJECT REPORT

FINAL DESIGN REPORT

SOUTH TROY RIVERFRONT BIKEWAY/WALKWAY AND
BURDEN IRON WORKS MUSEUM

RENSSELAER COUNTY

P.I.N. 1755.66

October 2005



U.S. Department of Transportation
**Federal Highway
Administration**



NEW YORK STATE DEPARTMENT OF TRANSPORTATION

GEORGE E. PATAKI, Governor

JOSEPH H. BOARDMAN, Commissioner



FINAL DESIGN REPORT

FOR

PIN 1755.66

**BIKEWAY/WALKWAY DESIGN AND
BURDEN IRON WORKS MUSEUM SITE WORK**

**SOUTH TROY RIVERFRONT BIKEWAY/WALKWAY AND
BURDEN IRON WORKS MUSEUM**

CITY OF TROY

RENSSELAER COUNTY

October 18, 2005

Prepared by:

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**CERTIFICATION
Of Design Approval Document**

I, Wayne Bonesteel, P.E. hereby certify that P.I.N. 1755.66 – South Troy Riverfront Bikeway/Walkway and Burden Iron Works Project, has been developed in conformance with the applicable environmental laws, design standards, and accepted engineering and/or architectural practice; all exceptions to accepted standards have been thoroughly analyzed and their retention adequately justified; all permits have been identified and will be secured prior to letting; public participation has been encouraged and included in the project development process; and project costs are reasonable.

DATE

SIGNATURE

074602

LICENSE NUMBER

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I. INTRODUCTION

The South Troy Riverfront Bikeway/Walkway (Bikeway/Walkway) Project is located in the City of Troy, Rensselaer County, New York. The project was initiated as part of the Troy Pedestrian and Bike Trail Program by the Troy Architectural Program (TAP) and Capital District Community Gardens in 1992. The City of Troy and TAP have completed extensive work involving many areas of the Troy Pedestrian Bike Trail over the past 10 years. The Bikeway/Walkway is one section of the trail which has not been addressed until the grant application filed by TAP and the City of Troy in 1999. The federal grant for the project was approved in 2001 and in May of 2002, Erdman Anthony & Associates (Erdman Anthony) was hired to complete preliminary design phases I through IV for the state and federal permitting process. Upon approval of the preliminary design, the city will be prepared to begin the final design phase.

This Design Report (DR) serves as a decision making tool, and documents objectives, identifies the need for the project, reviews alternatives, and identifies the impacts of the proposed Bikeway/Walkway. Existing deficiencies, alternative solutions and analyses, and mitigation measures will be presented. The purpose of this document is to provide sufficient information to evaluate the available alternatives and select the most prudent and feasible alternative for the Bikeway/Walkway design as per Federal Highway Administration regulations 23CFR 77, and to follow the correct process under the NYSDOT Design Procedure Manual according to the project classification. This project is classified as a Class II Action in accordance with the definitions of the National Environmental Policy Act (NEPA) as defined by 23 CFR 771.115.

This project is being processed as a Type II Action in accordance with the State Environmental Quality Review Act (SEQRA) Part 617, Title 6 of the Official Compilation of Codes, Rules, and Regulations of New York State (6NYCRR Part 617).

The Mayor of the City of Troy, under authorization from the Federal Highway Administration (FHWA), will grant Design Approval under the guidelines for locally administered federal aid projects. Eighty percent (80%) of the Bikeway/Walkway project cost is federally reimbursable and twenty percent (20%) will be funded by local monies. The Burden Iron Works portion of the project will be funded with a combination of grants and matches from the Hudson Mohawk Industrial Gateway including federal funding in the amount of \$270,000 and a New York State Office of Parks, Recreation and Historic Preservation (Clean Water Clean Air Bond Act) grant of \$125,000, both to be matched by the Hudson Mohawk Industrial Gateway.

This DR will be distributed to interested Federal, State and Local agencies and officials for review and comment. Copies of this report and additional information regarding this project may be obtained by contacting:

Timothy Mattice
Planning Department
City Hall
One Monument Square
Troy, New York 12180
(518)270-4604
Tim.Mattice@troyny.gov

This project should be referred to as the South Troy Riverfront Bikeway/Walkway in all correspondence when requesting additional information.

II. PROJECT IDENTIFICATION, EVOLUTION, CONDITIONS AND NEEDS, AND OBJECTIVES

A. Project Identification

1. Project Type

This project consists of the construction of a new bikeway/walkway through the South/Central Troy area and site work, roof work and building access improvements to the Burden Iron Works Museum and surrounding property.

2. Project Location/Description

The project is located east of the Hudson River and west of 1st Street in the City of Troy, Rensselaer County. The construction limits are between Water and Grand Streets. The project includes the construction of approximately 5.81 km (3.61 miles) of a 3 m (10 ft) wide paved shared bikeway/walkway. The Project Identification Number (P.I.N.) is 1755.66. A project location map shown in Figure II-1 and an area map illustrated on Figure II-2.

Included as part of this project is the Burden Iron Works Museum project. This project involves the replacement of the office building roof, parking lot paving, utility upgrades, upgrading of the wash facilities for the public, the addition of a handicapped ramp, and other facility improvements. The Burden Iron Works Museum is located in South Troy between Main and Polk Streets, east of the East Industrial Parkway and west of the CSX Railroad tracks.

B. Project Evolution

This project was initiated as a portion of the Troy Pedestrian and Bike Trail (Troy Bikeway/Walkway) in 1992 to improve and expand the pedestrian and bike access routes in the City of Troy. Since then approximately 55% of the planned Troy Bikeway/Walkway is considered public and bikeable (Type I). 30% of the Troy Bikeway/Walkway is in the process of being designed or constructed and is therefore public but not bikeable (Type II) and 15% of the Troy Bikeway/Walkway has not received easements and is not publicly accessible (Type III). The proposed location of the Riverfront Bikeway/Walkway falls into all three categories. In 1999, the City of Troy and TAP submitted an application for a grant to the New York State Department of Transportation (NYSDOT) Transportation Enhancements Program (TEA-21). The grant was received and will assist in funding the preliminary design and construction of the Riverfront Bikeway/Walkway. Table II-1 illustrates the status of individual sections of the proposed bikeway.

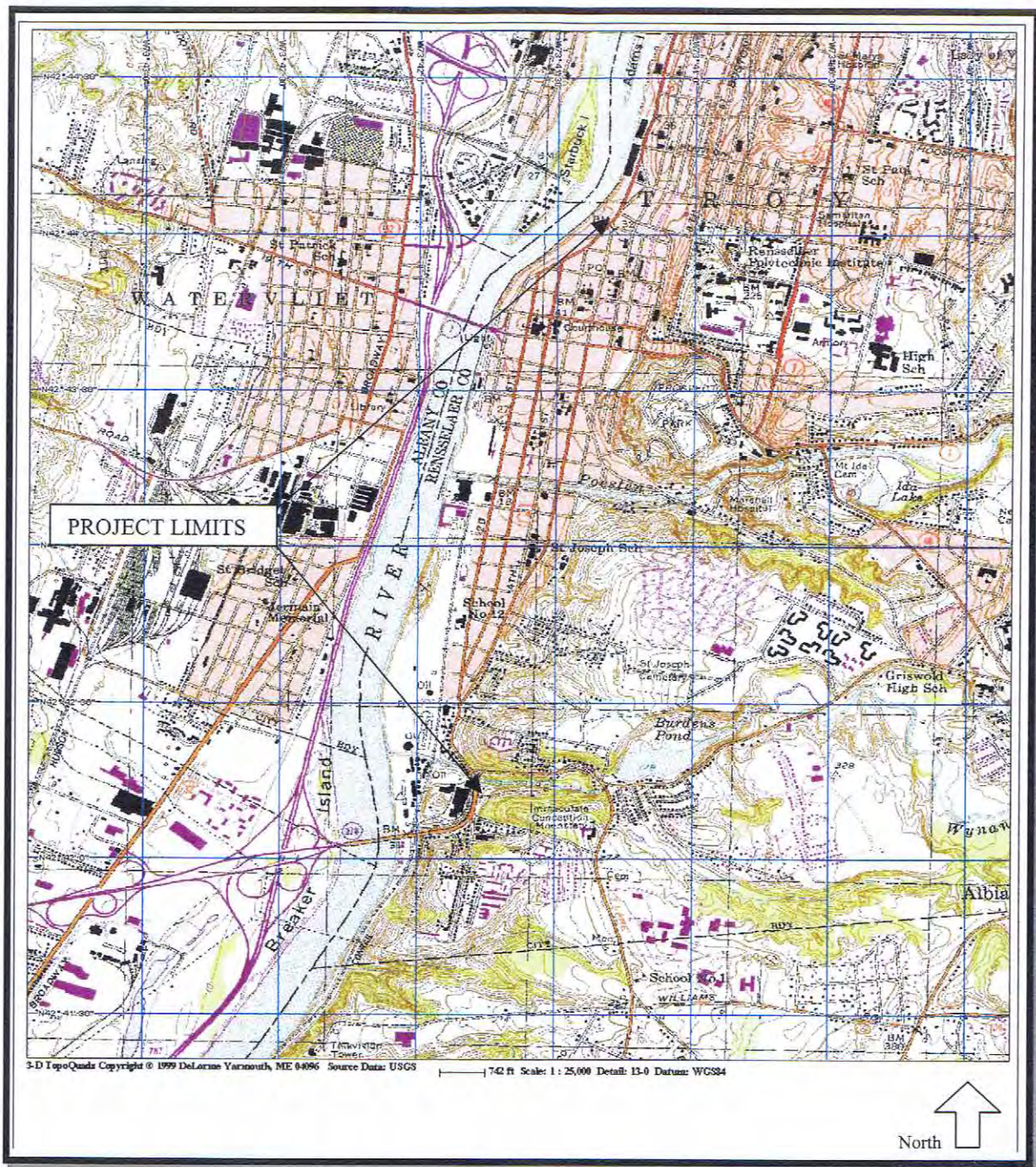


FIGURE II-1
PROJECT LOCATION MAP
 USGS TROY SOUTH, NEW YORK QUADRANGLE
 SCALE: 1" = 2500'

DESIGN SUPERVISOR MCO JOB MANAGER MCO DESIGNED BY MCO CHECKED BY CNT ESTIMATED BY DBI DRAFTED BY JUN CHECKED BY MCO

FED. ROAD REG. NO.	STATE	CONTRACT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.		XX	XX
CITY OF TROY				
RENSSELAER COUNTY				
1755.66				



PLAN
SCALE = 1:5000

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN MILLIMETERS
ALL PAY ITEMS ARE METRIC

AS BUILT REVISIONS	
SIGNATURE	DATE
PROJECT AREA MAP	
SOUTH TROY RIVERFORTH BIKEWAY/WALKWAY	
DATE AUGUST 2004	DRAWING NO. II-2
ERDMAN ANTHONY	

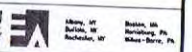


TABLE II-1 BIKEWAY/WALKWAY STATUS			
Location	Distance (km)	Status	Comments
South Troy Boundary-South Main Street	1.06	Type III	Private property
South Main Street-Monroe Street	1.06	Type II	Easements Granted/Not Bikeable
Monroe Street-Madison Street	0.32	Type III	Private property
Madison Street-Adams Street	0.32	Type II	Easements Granted/Not Bikeable
Adams Street-Liberty Street	0.16	Type I	Public/Bikeable, Improvements Needed
Liberty Street-Hudson River-Division Street	1.77	Type III	Private property
Division Street-Congress Street	0.32	Type I	Public/Bikeable, Improvements Needed
Congress Street-Fulton Street	0.64	Type I	Public/Bikeable, Improvements Needed
Fulton Street-Grand Street	0.16	Type I	Public/Bikeable, Improvements Needed

The Burden Iron Works is planned to be a stop along the Riverfront Bikeway/Walkway route. This necessitates that some upgrades be performed on the building and surrounding property.

C. Conditions And Needs

1. Transportation Conditions, Deficiencies and Engineering Considerations

a. Functional Classification and National Highway System (NHS)

This project does not involve the new construction or rehabilitation of any roads. Some roadwork will be required where the Riverfront Bikeway/Walkway is located within or along existing/proposed roads. Most of the roads involved are local.

Interstate 787 is located across the Hudson River less than 400 m (1300') from the proposed Riverfront Bikeway/Walkway. I-787 is a part of the 4.9 m vertical clearance network, a Qualifying or Access Highway on the National network of designated Truck Access Highways, and is on the National Highway System.

b. Ownership and Maintenance Jurisdiction

The Riverfront Bikeway/Walkway will be owned and maintained by the City of Troy. The Burden Iron Works will be owned and maintained by the Hudson Mohawk Industrial Gateway.

c. Culture, Terrain, and Climatic Conditions

- 1.) The project area is industrial, commercial, and institutional with some urban residential.
- 2.) The project area consists primarily of level terrain. There are some areas of small trees and vegetation however; the majority of the area is open land with commercial, industrial and some residential and institutional buildings. Toward the northern and southern ends of the project some steeper grade changes exist.
- 3.) The climatic conditions are typical of northern New York. No unusual conditions exist that may affect project design.

d. Control of Access

The existing roads have uncontrolled access, with many driveways and several intersecting roadways. Existing Bikeway/Walkway access is available at several points along the existing portions of the Bikeway/Walkway. Access at the southern and northern ends of the Bikeway/Walkway are located at Front and River Streets, respectively. In addition, there are several access points along the bikeway/walkway via adjoining sidewalks.

e. Existing Highway Section

This project does not involve the reconstruction or new construction of a highway.

The existing bikeway/walkway consists of a 276 m (905.5 ft) concrete path with several areas of brick inlays. The Bikeway/Walkway is generally 4.5 m (15 ft) wide. Along the existing Bikeway/Walkway there are wider spots with benches and grassed areas. The Bikeway/Walkway is located entirely on property owned by the City of Troy. All of the curve radii and grades are standard.

f. Abutting Highway Segments and Future Plans for Abutting Highway Segments

The South Troy Industrial Park Road is in the preliminary design phase and will be constructed in the vicinity of the Bikeway/Walkway and the Burden Iron Works Museum at the southern end of the project. The road will be constructed between Main and Adams Streets. The Riverfront Bikeway/Walkway may be located along the road to cross the Poesten Kill.

The City of Troy has plans in the future to bypass Main Street and a portion of Burden Avenue with an additional roadway. The plan involves the

design and construction of a road, which will connect the South Troy Industrial Park Road to the Troy-Menands Bridge.

The Troy-Menands Bikeway/Walkway is in the preliminary design phase and is planned to connect to the Bikeway/Walkway at Water Street. The Troy-Menands Bikeway/Walkway is planned to proceed south on Burden Avenue and across the Troy Menands Bridge to connect to the Hudson-Mohawk Bikeway on the west side of the Hudson River.

g. Speeds and Delay

This project does not involve the reconstruction or new construction of a highway.

h. Traffic Volumes

This project does not involve the reconstruction or new construction of a highway.

i. Level of Service

This project does not involve the reconstruction or new construction of a highway.

j. Non-Standard Features and Other Non-Conforming Features

This project does not involve the reconstruction or new construction of a highway. There are not any non-standard features on the existing bikeway/walkway section.

k. Safety Considerations and Accident History and Analysis

This project does not involve the reconstruction or new construction of a highway. There are no safety issues on the existing section of the bikeway/walkway.

l. Pavement & Shoulder Conditions

The existing areas of the Bikeway/Walkway consist of concrete and brick inlays in some areas and bituminous concrete where the Bikeway/Walkway is located along Front Street. The asphalt concrete is generally in fair to good condition. The concrete and brick inlays are generally in good condition.

m. Guide Railing, Median Barrier, Impact Attenuators

There are no areas of guide railing, median barrier, or impact attenuators along the existing areas of the Bikeway/Walkway. There is a fence located

between the existing Bikeway/Walkway and the Hudson River near the northern end of the project.

Concrete barriers and/or fencing are located along the majority of Front Street where the bikeway/walkway is proposed. The concrete barriers are proposed to be removed and the existing fence will either be replaced or relocated.

n. Traffic Control Devices

This project does not involve the reconstruction or new construction of a highway. There are no traffic control devices located along the existing bikeway/walkway section.

o. Structures

Two alternatives for the Bikeway/Walkway involve the use of existing bridges. One alternative is at the Wynants Kill and one is at the Poesten Kill.

BIN 2202330– First Street over the Poesten Kill

The existing structure consists of 3 spans. All of the spans are masonry arches. The first span is 7.9 m (26 ft) in length, the second is 8.5 m (28 ft) in length, and the third is 8.8 m (29 ft) in length. The structure was originally constructed circa 1900.

Conditions

The recent NYSDOT Inspection Report indicates, the decks of all three spans are generally in fair to poor condition. Little of the original curbing remains and the wearing surface contains old railroad tracks and numerous potholes and cracks. The piers and superstructures for the three spans are generally rated in fair condition. No flags were issued for the bridge.

The most recent bridge inspection in June of 2002 gave the bridge a General Recommendation of 4.

The structure has a state condition rating of 3.395.

Bridge over Wynants Kill

The bridge over the Wynants Kill is privately owned and utilized for a driveway. If this alternative is selected, the bridge will be evaluated for structural condition.

The Burden Iron Works Museum

The Burden Iron Works Museum existing roof was previously installed as an interim roof due to budget limitations. The roof is in a very deteriorated condition and requires replacement along with related roof flashings. A recent survey of the building revealed that stone copings have become dislodged and require resetting, the metal work at the existing cupolas requires repair and replacement and the main skylight glazing requires resetting and some replacement.

p. Hydraulics and Hydraulic Vulnerability of Bridges and Culverts

BIN 2202330– First Street over the Poesten Kill

A hydraulic vulnerability review was recommended during the 2002 NYSDOT biennial inspection. No significant increase in scour was noted between the 2000 and 2002 inspections. The stream channel was noted as appearing adequate for higher flood flows, with the third span being filled with gravel and 1-1.5 m higher in streambed than the first two spans. No record of a hydraulic review has been found to date. A hydraulic analysis was not performed to determine the existing freeboard.

Bridge over Wynants Kill

The bridge over the Wynants Kill is privately owned and utilized for a driveway. If this alternative is selected, the bridge hydraulics will be evaluated, if necessary.

q. Drainage Systems

The existing areas of the Riverfront Bikeway/Walkway have an open system and rely on sheet flow for drainage.

r. Soil and Foundation Conditions

Based upon a review of the Rensselaer County Soil Survey there are two types of soils in the project area. One soil type, Udorthents, consists of loamy sand or sand with varying amounts of gravel as a result of dredging from the Hudson. The second type of soil in the project area consists of urban land, which is prevalent in heavily built up residential and commercial areas with streets, buildings, etc. The underlying bedrock is greater than 10 feet below grade. Previous soils investigations indicate that bedrock depths vary from 30-70 feet below grade and the bedrock consists of Ordovician Normanskill Shale.

s. Utilities

No overhead electric, cable or telephone lines run adjacent to the areas of the Bikeway/Walkway located along the Hudson River. Storm sewers out letting to the Hudson River cross the path of the Riverfront Bikeway/Walkway in several locations. An above ground gas pipeline is located at the southern end of the project corridor. One alternative will require crossing the line, the other alternative will run parallel to the pipeline. The sections of the Riverfront Bikeway/Walkway to be located adjacent to existing roads generally contain overhead electric, telephone, and cable and underground utilities.

The Burden Iron Works Museum Site contains overhead electric, sanitary sewer, water, and gas lines.

t. Railroads

The CSX Railroad is located within the project limits at the southern end of the project. The tracks run parallel to portions of the proposed South Troy Industrial Park Road alignment, which may be located adjacent to portions of the Riverfront Bikeway/Walkway and the Burden Iron Works Museum. A railroad bridge also crosses over the Poesten Kill in the vicinity of the proposed bridge alternatives for the Bikeway/Walkway and the Industrial Park Road. Also, the Bikeway/Walkway will pass under a railroad bridge and cross the railroad tracks at an existing crossing near the southern end of the project and upgrades to the railroad track crossings will be performed.

u. Visual Environment and Landscape Development

The general visual characteristics in the project area consist of commercial/industrial properties with some urban residential and institutional properties in the vicinity of the proposed Bikeway/Walkway. The landform is generally flat terrain, gradually sloping west toward the Hudson River. The Poesten Kill and Wynants Kill are located within the project area and consist of steadily flowing water with steep banks. The vegetation consists of small to medium sized trees and shrubs. The majority of the project area is urban in nature.

Starting at the southern project limit, the project area is located along the east side of Water Street. To the east is a steep vegetated embankment leading to Burden Avenue and to the west, are industrial properties comprised of paved lots and large buildings with little vegetation. Overhead utility lines are located along the roadway. The project area proceeds under a CSX Railroad bridge and winds through a fuel oil company property. At the fuel oil property, the project area reaches the Hudson River. Along the east side of the Hudson River, the project area is within 40 meters of the shore, until it must head east to cross the existing bridge over the Wynants

Kill located on an open industrial property. Along the shore of the Hudson River, there are some views of the River however, most of the River bank consists of scrub/shrub vegetation with some trees which obstruct the river views. Subsequent to the Wynants Kill crossing, the project will proceed north, adjacent to the Hudson River until the County Jail Property. In this area, views of the Hudson River are more frequent, however, there is still scrub/shrub vegetation blocking many vistas. At Main Street, the project area will extend to the Burden Iron Works Museum (National Register of Historic Places) and along a portion of the East Industrial Parkway before returning to the edge of the Hudson River. The project area then proceeds along the Hudson River to the Poesten Kill. The general environment from the Wynants Kill to the Poesten Kill consists of a few undeveloped properties with small scrub/shrub vegetation and the remaining properties are developed industrial, institutional (County Jail) and commercial in nature.

At the Poesten Kill, the project area will leave the Hudson River and travel east to meet the proposed Industrial Park Road alignment. From this point, the project area is located adjacent to roadways for over 1000 m (3280 ft). Along the Industrial Park Road and River Street, the area is generally industrial and commercial with little vegetation. As the project area proceeds north adjacent to the Industrial Park Road and then River Street, views will consist of large buildings, parking lots, roadways and sidewalk. Once on River Street, there are overhead utilities located along the project corridor. The corridor follows River Street north and then heads west along Division Street to run adjacent to the Hudson River along Front Street. Along Division Street the project area has tennis courts to the south and the Troy Housing Authority Taylor Apartments to the north. At Front Street, the project corridor proceeds north under the Congress Street Bridge and then leaves Front Street, continuing along the Hudson River to the existing bikeway/walkway located behind Troy City Hall. Along Front Street the project area is surrounded by the Hudson River to the west and Front Street and the Taylor Apartments to the east. Overhead lighting and utilities are located along Front Street. Once no longer adjacent to Front Street, the project area generally consists of the Hudson River to the west and commercial and institutional buildings to the east. In this area there is generally less vegetation than at the southern end of the project and views of the Hudson River are less obstructed. The project proceeds along the existing bikeway to where it ends and then connects to the sidewalk on River Street north of the Troy City Hall. Along the existing bikeway/walkway, there is a park like setting with views of the Hudson River, benches along the project corridor and grassed and brick medians.

v. Provisions for Pedestrians, Persons with Disabilities, and Bicyclists

As illustrated in Table II-1, portions of the Bikeway/Walkway currently exist and require improvements only. These areas are currently available to

pedestrians, persons with disabilities, and bicyclists and are in good condition.

In addition to the existing parts of the Bikeway/Walkway, sidewalks are located along both sides of most city streets. The sidewalks are in poor to good condition. Although the sidewalks adequately accommodate local pedestrian traffic, bicyclists cannot safely travel the sidewalks and the city streets are too narrow for safe bicycle travel.

In addition to the proposed Bikeway/Walkway, the North Central Trail and the Troy-Menands Bikeway/Walkway are planned bikeways/walkways in the City of Troy which would assist in linking the Riverfront Bikeway/Walkway to the Hudson-Mohawk Trail on the west side of the Hudson River and the Uncle Sam Trail in Troy.

Pedestrian generators in the southern area of Troy include the Troy-Menands Bikeway/Walkway and the Burden Iron Works Museum. These facilities are public facilities which are expected to generate pedestrian traffic. Along Front Street, the Taylor Apartments and the tennis courts on Division Street are pedestrian generators. North of Congress Street, the project area enters down town Troy and becomes more commercial in nature. Due to the increased number of businesses and the location of City Hall, this area generates more pedestrian traffic than the remainder of the project area. A completed Pedestrian Generator Checklist is included in Appendix A.

w. Planned Development for Area

The proposed South Troy Industrial Road is expected to encourage industrial/commercial business growth in the area of South Troy through improved access to the properties. It is the intention of the City of Troy to encourage business growth in the area of the proposed road. In addition to the proposed road, zoning changes were implemented in South Troy in the spring of 2004. Figure II-3 illustrates the current zoning.

The zoning changes are anticipated to encourage an influx of a wider variety and greater number of businesses. The Bikeway/Walkway is intended to complement these projects.

Near Adams Street, schematic plans for a Hudson Heritage River Center have been developed. The project is in the conceptual phase and funding is not currently in place for project completion. This proposed facility would encompass most of the property north of the Poesten Kill to Adams Street.

Southern District / Waterfront Trade District

Allowed Uses:

- Green ways and open space
- Light manufacturing
- Heavy manufacturing
- Storing, warehousing, cleaning, testing, repairing or servicing
- Wholesale sales and distributions
- Off-street parking lots & garages
- Water related industrial uses
- Restaurants

Central District / Waterfront Commercial District

Allowed Uses:

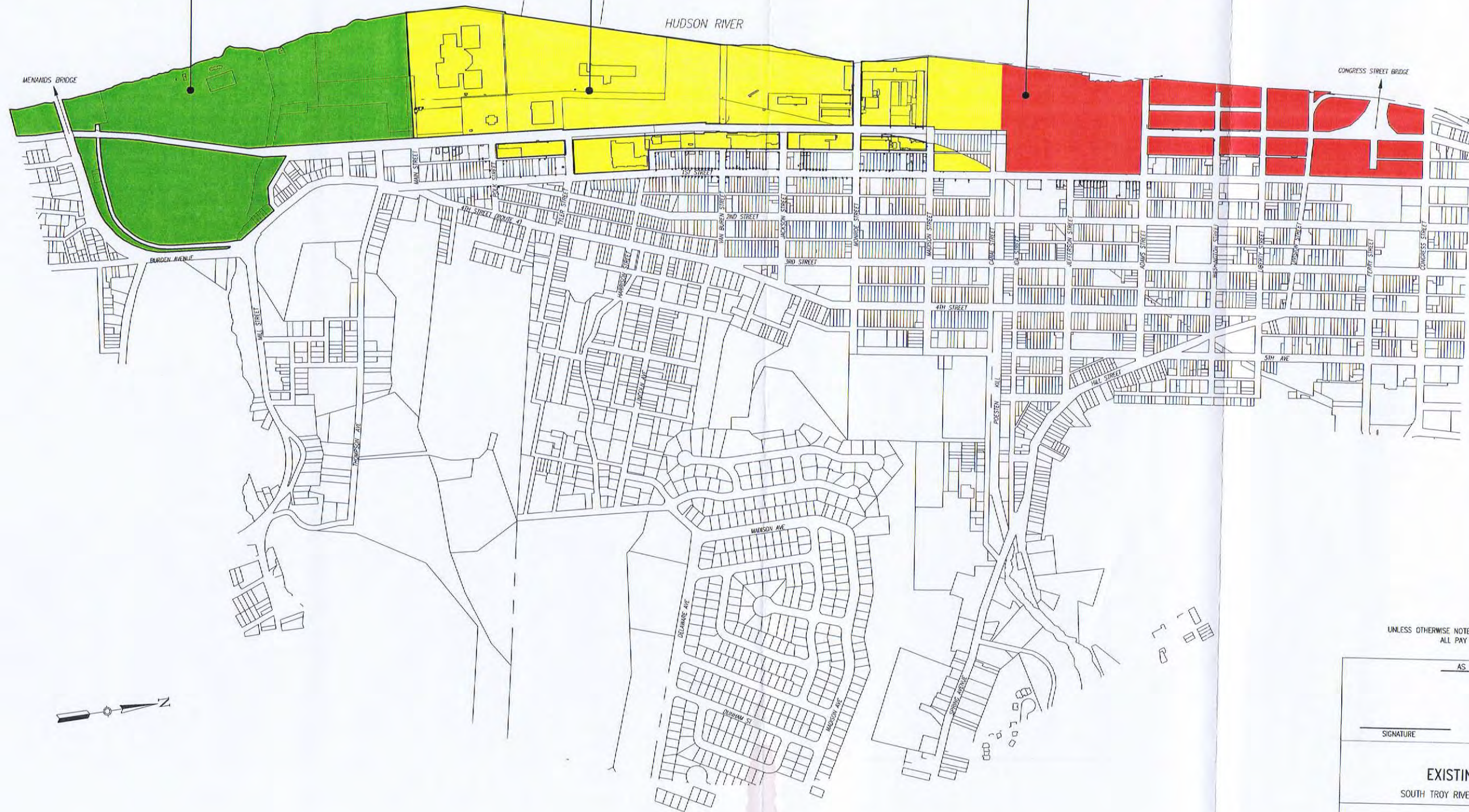
- Greenspace and outdoor recreation
- Water related commercial and recreational
- Research and development facilities
- Professional business offices
- Passenger transportation terminals
- Wholesaling, distributions & commodities
- Restaurants

Northern District / Waterfront Mixed Use District

Allowed Uses:

- Greenspace and outdoor recreation
- Research and development facilities
- Professional business offices
- Passenger transportation terminals
- Water related commercial and recreation
- Multi-family residential
- Limited retail / commercial services
- Personal care services
- Restaurants

FED. ROAD REG. NO.	STATE	CONTRACT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.		1	1
CITY OF TROY				
RENSSELAER COUNTY				
1755.66				



PLAN

SCALE = 1:10000

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN MILLIMETERS
ALL PAY ITEMS ARE METRIC

AS BUILT REVISIONS

SIGNATURE

DATE

EXISTING ZONING

SOUTH TROY RIVERFRONT BIKEWAY/WALKWAY

DATE
DECEMBER 2004

DRAWING NO.
II-3

ERDMAN
ANTHONY



Architect
Engineer

The Upper Hudson River Satellite of the Rivers and Estuaries Center on the Hudson is proposed to be located at the property referred to as the former Rensselaer Iron Works Site (Scolite Site). The Rivers and Estuaries Center on the Hudson is an initiative of Governor George E. Pataki. Rensselaer Polytechnic Institute (RPI) will manage this facility. The Center is dedicated to advancing the understanding of rivers, estuaries, and their watersheds through integrated, collaborative research and education designed to guide policy for conservation and management of these natural systems, from the Hudson River to the rivers and estuaries of the world.

Once it is fully operational, the Center will be a scientific and research facility that also offers unique educational programs, including seminars designed specifically for teachers, students and citizen scientists. The main complex will consist of administrative offices, teaching and training facilities, technical and research laboratories, a boat storage facility, and residential space for visitors. A series of public lectures, forums and special events will be offered, utilizing the expertise of Center staff and visiting professionals. A river monitoring station, docking facilities, and possibly a fluvarium will be associated with the Center.

Another bikeway/walkway is proposed to the south of the proposed Riverfront Bikeway/Walkway. Referred to as the Troy-Menands Bikeway/Walkway, this proposed project will connect the Riverfront Bikeway/Walkway to the Mohawk-Hudson Trail/Bikeway on the west side of the Hudson River. The proposed bikeway/walkway connects to the Riverfront Bikeway/Walkway at the intersection of Water Street and Burden Avenue and then continues south/southwest to cross over the Troy-Menands Bridge. This project is also currently in preliminary design. There is no known development planned north of Adams Street.

x. System Elements and Conditions

The scope of the proposed improvements is not expected to generate additional vehicular traffic through the project corridor. Other planned improvements including the Industrial Park Road may generate additional traffic.

Additional pedestrian/bicycle traffic may be generated through the proposed improvements. The timing of the Bikeway/Walkway construction will be impacted by other planned projects in the study area. Specifically, the Bikeway/Walkway may run along the proposed South Troy Industrial Road in one area. Therefore, the Industrial Road will need to be under construction for the construction of the Bikeway/Walkway to occur in that area.

y. Environmental Integration

No appropriate locations exist near the project site to provide enhanced wetlands. Some habitat improvement will be added through the addition of landscaping along the Riverfront Bikeway/Walkway. Pocket parks, access to the Hudson River, and other areas of interest have been considered in the design of the Bikeway/Walkway. The Bikeway/Walkway may assist in the enhancement of the eastern shore of the Hudson River in the project area and will improve public access to the Hudson River. No other natural or manmade features exist that may provide an opportunity for environmental enhancement.

2. Needs

a. Project Level Needs

The construction of the Riverfront Bikeway/Walkway would address the following project level needs.

Safety Needs

Currently, bicycle traffic is required to use the city streets in the South Troy area. The streets in South Troy are not designated bicycle routes and were not constructed to accommodate bicycle traffic.

Environmental Needs

There is limited public access to the Hudson River. The Bikeway/Walkway will provide additional public access. In addition, little greenspace exists in the South Troy area. The proposed Bikeway/Walkway would add greenspace in the industrial/commercial areas and assist in the beautification of the city and enhancement of the eastern shore of the Hudson River.

The Burden Iron Works Museum site work will provide a public building near the Bikeway/Walkway, which will have restroom facilities. The site work will also improve the existing building which is open to the public as a museum.

The proposed work on the Burden Iron Works Museum would address the following project level needs.

Structural Needs

Currently, the roof of the Burden Iron Works Museum is leaking and is negatively affecting the building interior. The proposed roof replacement/repair would alleviate this issue.

Pavement Needs

There is limited parking and the existing drives are not suitable for bus access at the Burden Iron Works Museum. The proposed parking lot installation would address this project need.

Safety Needs

Currently, there is no handicapped access to the Burden Iron Works Museum and no public handicapped restroom facilities. The proposed site work would provide handicapped accessibility and bathrooms.

b. Corridor Area Needs

Modal Interrelationship

The majority of Troy is adequately serviced by roads, rail and port facilities. Areas which require improved roads, such as South Troy, are currently being addressed. Sidewalks along the existing streets provide adequate pedestrian facilities however there are no bicycle facilities in the area. There is a need in South Troy for a bikeway, which will provide the necessary pedestrian and bicycle links between the various areas of the city and access to the Burden Iron Works Museum.

Mobility Needs

The absence of a bikeway/walkway along the riverfront affects the mobility of pedestrians/bicyclists within the city and along the Hudson River. The current route for pedestrians is via the sidewalks located along the streets located further east and bicyclists must travel the busy city streets. The addition of a bikeway/walkway will improve the mobility of pedestrians/bicyclists through South/Central Troy.

Social Demands and Economic Development

The South Troy Working Waterfront Revitalization Plan was developed by River Street Planning, LLC in 2000. The objective of the plan was to develop improvements to the South Troy area (the waterfront and residential areas) which would improve the quality of life. Plans to be implemented include: the creation of new jobs, improving the tax base, and improving the aesthetic qualities of the residential neighborhoods. A discussion of the proposed Riverfront Bikeway/Walkway is included in the Working Waterfront Revitalization Plan. The Riverfront Bikeway/Walkway is referred to as a waterfront/multi-use trail in this report. The objectives listed for the Bikeway/Walkway included: providing external linkage to the neighborhood and public access to open spaces; maximizing use of lands less suitable for development and of road right of ways; heightening

environmental awareness and demonstrating cleanup technologies and minimizing maintenance and operations costs through the use of natural settings and foliage.

c. Transportation Plans

This project is currently approved on the State Transportation Improvement Program (STIP).

D. Project Objectives

In order to satisfy the needs of this project, cost-effective improvements/solutions to the existing and planned Bikeway/Walkway facilities and the Burden Iron Works Museum must be provided, while minimizing adverse social, economic, and environmental impacts.

The objective of the project is to upgrade the Burden Iron Works Museum building and property and to provide a solution, which will create a pedestrian/bicyclist link between the various areas of Troy while improving pedestrian access to the Hudson River, encouraging business growth, and providing additional greenspace in the safest and most economical method possible.

III. ALTERNATIVES

A. Design Criteria

This project will be designed in accordance with the following; NYSDOT "Bridge Manual", 2002, "A Policy on Geometric Design of Highways and Streets", "American Association of State Highway and Transportation Officials (AASHTO), 1994", the NYSDOT "Highway Design Manual" (HDM); and the AASHTO "Guide for the Development of Bicycle Facilities".

The design criteria for this project are based on the NYSDOT "Highway Design Manual," Chapter 18 and the AASHTO "Guide for the Development of Bicycle Facilities", 1999. The design criteria are presented in Table III-1.

TABLE III-1
Design Criteria

Feature	Design Criteria	Proposed	Reference
Design Speed	30 km/hr (20 mph) 50 km/hr (30 mph) downgrade >4%	30 km/hr (20 mph) 50 km/hr (30 mph) downgrade >4%	AASHTO
Radius	27 m	3 m (non-standard curves listed in Section C.2.a.)	AASHTO
Bikeway/Walkway Width	4 m (13 ft) preferred 2.4 m (8 ft) min	2.4 m (8 ft) min 3 m (10 ft) majority	AASHTO/ HDM
Separation from Road	1.5 m (5 ft) (without barrier) No Separation Required with Barrier	1.5 m (5ft) (without barrier) No Separation Required with Barrier	AASHTO
Barrier Height	1.1 m (3.5 ft)	1.1 m (3.5 ft)	AASHTO
Sight Distance	30 km/hr – 40 m (max.) 50 km/hr – 85 m	30 km/hr – 15 m (non- standard site distances listed in Section C.2.a.) 50 km/hr – 85 m	AASHTO
Horizontal Clearance	0.9 m (3 ft)	0.9 m (3 ft), unless listed in Section C.2.a.)	AASHTO
Vertical Clearance	2.5 m (8 ft)	2.5 m (8 ft)	AASHTO
Maximum Grade	5%	5%	AASHTO
Railing Height (where required)	1.4 m	1.4 m	NYSDOT HDM

B. Alternatives Considered

1. Null Alternative

The null alternative is presented as a description of the existing conditions, which are described in Chapter II, and will serve as a means for comparison with the proposed alternatives. This alternative would maintain the existing multi-use path areas. There will be no improvements made to the existing multi-use path and no new bikeways/walkways will be constructed.

The Burden Iron Works site would only apply the available funds provided by the Hudson Mohawk Industrial Gateway. This amounts to approximately \$84,000.00, which would allow possible replacement of the deteriorated existing asphalt shingle roofing with new similar asphalt shingles and repairs to existing metal flashings. However, this would not be responsive to the objectives and goals of the Owner, which is to allow more efficient use of the building, expansion of their cultural programs and provide support facilities in conjunction with the South Troy Riverfront Bikeway/Walkway project.

This alternative is dismissed from further consideration since it does not meet the project objectives discussed in Chapter II. In addition, the need for the Bikeway/Walkway and Burden Iron Works Museum work has been established and the funding is in place.

2. Shared Bikeway/Walkway and Burden Building and Site Improvement Work

This alternative includes the installation of a Bikeway/Walkway only along existing streets. Where necessary streets would be widened and lined for the Bikeway/Walkway.

The Burden Iron Works Building and Site Improvement project will include construction of a 50-car parking lot, underground utility repair and replacement, roof repair and replacement, and the addition of handicapped access. Roof repair will include the removal of the existing asphalt shingle roof and metal flashings and the installation of new clay tile roofing and lead-coated copper flashings.

Although this alternative will satisfy the need for a Bikeway/Walkway and some of the project objectives, all of the objectives will not be met. The Bikeway/Walkway will not provide access to the Hudson River and will not utilize existing easements in some areas. This alternative also increases the risk of vehicular/bicycle accidents. Therefore this alternative is dismissed from further consideration.

3. Separate Bikeway/Walkway and Burden Building and Site Improvement Work

The separate bikeway/walkway would involve the design and installation of the bikeway/walkway along the river where possible, with shared travel lanes only proposed where a separate bikeway/walkway is not possible.

The Burden Iron Works Building and Site Improvement project will include construction of a 50-car parking lot, underground utility repair and replacement, roof repair and replacement, and the addition of handicapped access. Roof repair will include the removal of the existing asphalt shingle roof and metal flashings and the installation of new clay tile roofing and lead-coated copper flashings.

Bikeway/Walkway Sub-Alternatives:

Several sections of the proposed Bikeway/Walkway include alternative alignments. The alternative alignments are discussed below. The costing for the alternatives is presented in Section III.D.1.

1.) Sub-Alternative A:

This sub-alternative is located at the southern end of the project where the Bikeway/Walkway turns north from its westerly heading. This alignment locates the bikeway/walkway along the Hudson River creating a more scenic vista. This alternative would be more costly as it requires a bridge over a pipeline and the Wynants Kill and would require construction on piers and substantial earthwork. This alignment would hide the industrial areas from view and would offer views of water falls at the Wynants Kill and the Hudson River. The main alignment of the Bikeway/Walkway would travel through the industrial area and would cross the Wynants Kill on an existing bridge. Sheets PL1-2 and PL1-3 in Appendix B illustrate this alternative.

2.) Sub-Alternative B:

This sub-alternative is located along the existing East Industrial Parkway and the Rensselaer County IDA property. This alignment routes the Bikeway/Walkway around the County IDA property currently proposed for future jail expansion. Sheets PL1-5 and 6 in Appendix B illustrate this alternative.

3.) Sub-Alternative C:

This sub-alternative is located on the Rensselaer County IDA and Troy Slag Products Inc. properties. Sub-Alternative C routes the Bikeway/Walkway around the slag pile located on the property and requires 5 m (16.4 ft) of fill. If this alternative is not selected, the

Bikeway/Walkway will continue on a straight path through the slag pile. This would require 5 m (16.4 ft) of cut. Sub-alternative C would cost slightly less than removing the slag. Sheet PL1-7 in Appendix B illustrates this alternative.

4.) **Sub-Alternative D:**

This sub-alternative begins at Madison Street. This alignment routes the Bikeway/Walkway east on Madison Street across the railroad tracks to First Street where it then heads north to Adams Street. At Adams Street, Sub-alternative D will head west on Adams Street and connect to the proposed main alignment on River Street. The decision between Alternative D versus the main alignment will be based on the alignment selected for the Industrial Park Road. Madison and First Streets would be reconstructed under the Industrial Park Road Project and the bikeway/walkway would be constructed adjacent to the roadway. Adams Street would be striped for the bikeway. Sheets PL1-8 through PL1-10 in Appendix B illustrate this alternative.

5.) **Sub-Alternative E:**

This sub-alternative begins immediately south of the Poesten Kill. This alignment routes the Bikeway/Walkway directly north rather than following the alignment of the Industrial Park Road. This alternative would require the construction of a new bridge to cross the Poesten Kill and additional easements. This sub-alternative will also be more costly due to the new bridge. The benefits of this alternative include the separation of the Bikeway/Walkway from the road and the additional views of the Hudson River. Sheet PL1-11 in Appendix B illustrates this alternative.

6.) **Sub-Alternative F:**

This sub-alternative is located west of Front Street and south of the existing Bikeway/Walkway. This sub-alternative would route the Bikeway/Walkway around an existing parking area to address space constrictions between the parking area and the Hudson River. The normal alignment may require the removal of several parking spaces. Sub-alternative F would not affect the parking lot. Sheet PL1-14 in Appendix B illustrates this alternative.

7.) **Sub-Alternative G:**

This sub-alternative is located on the Troy Slag Products, Inc. property. This sub-alternative would route the Bikeway/Walkway closer to the Hudson River, west of the proposed main alignment. This alternative

requires several feet of cut along the property. This alternative would further separate the Bikeway/Walkway from the Troy Slag Products operations and would have less of an impact on the property operations. Sheets PL1-7 and PL1-8 in Appendix B illustrate this alternative.

This alternative will meet all of the project objectives and utilize the easements already in place and will be advanced with several of the Sub-Alternatives for further study as the preferred alternative. A detailed description of this alternative can be found in Section III.C.

C. Preferred Alternative

1. Description of Preferred Alternative

The separate bikeway/walkway alternative will involve the construction of a 5.81 km (3.61 miles) multi-use path separate from the existing roads, where possible. The bikeway/walkway will share existing roadways where it is not feasible to run the alignment elsewhere.

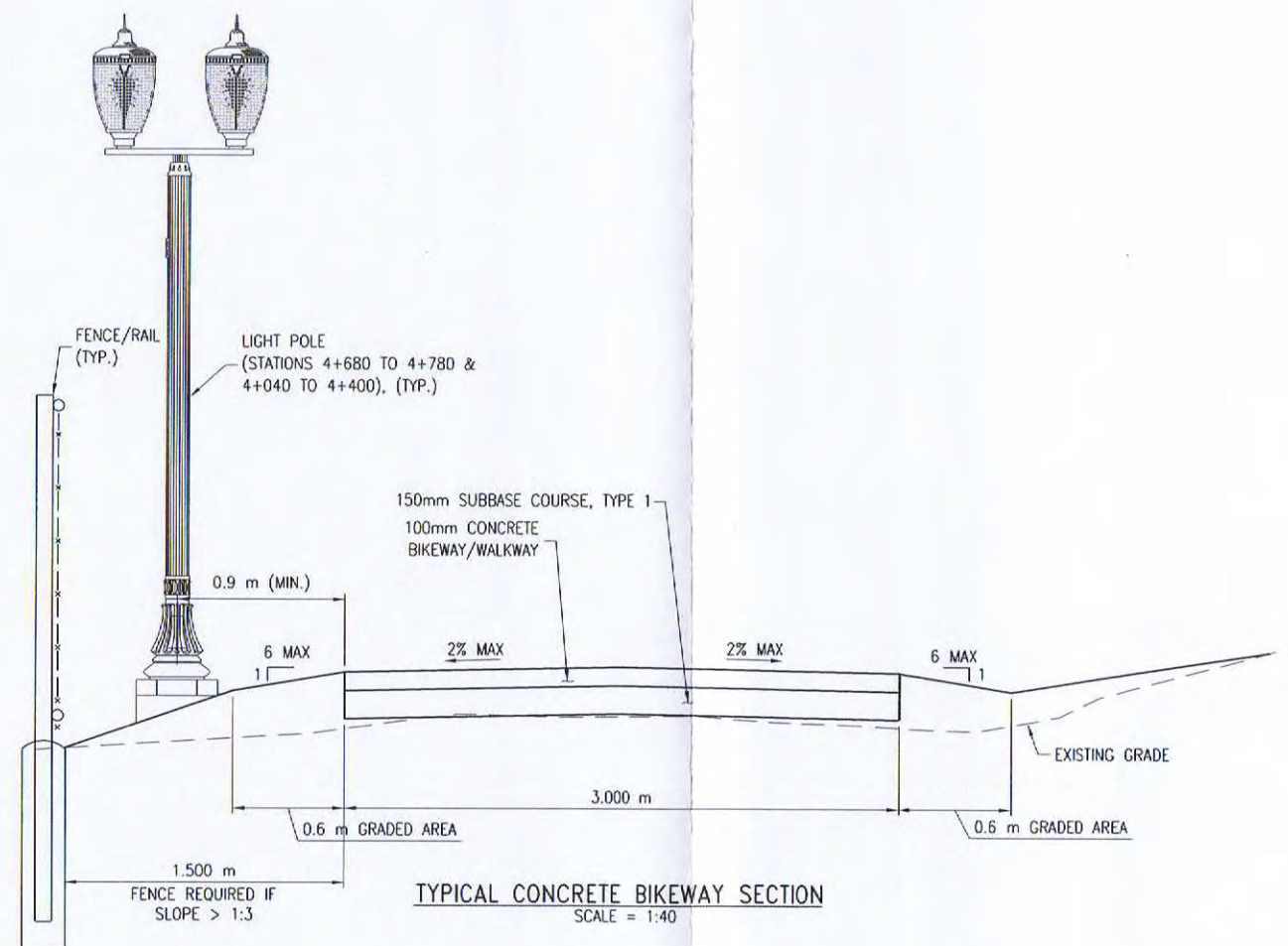
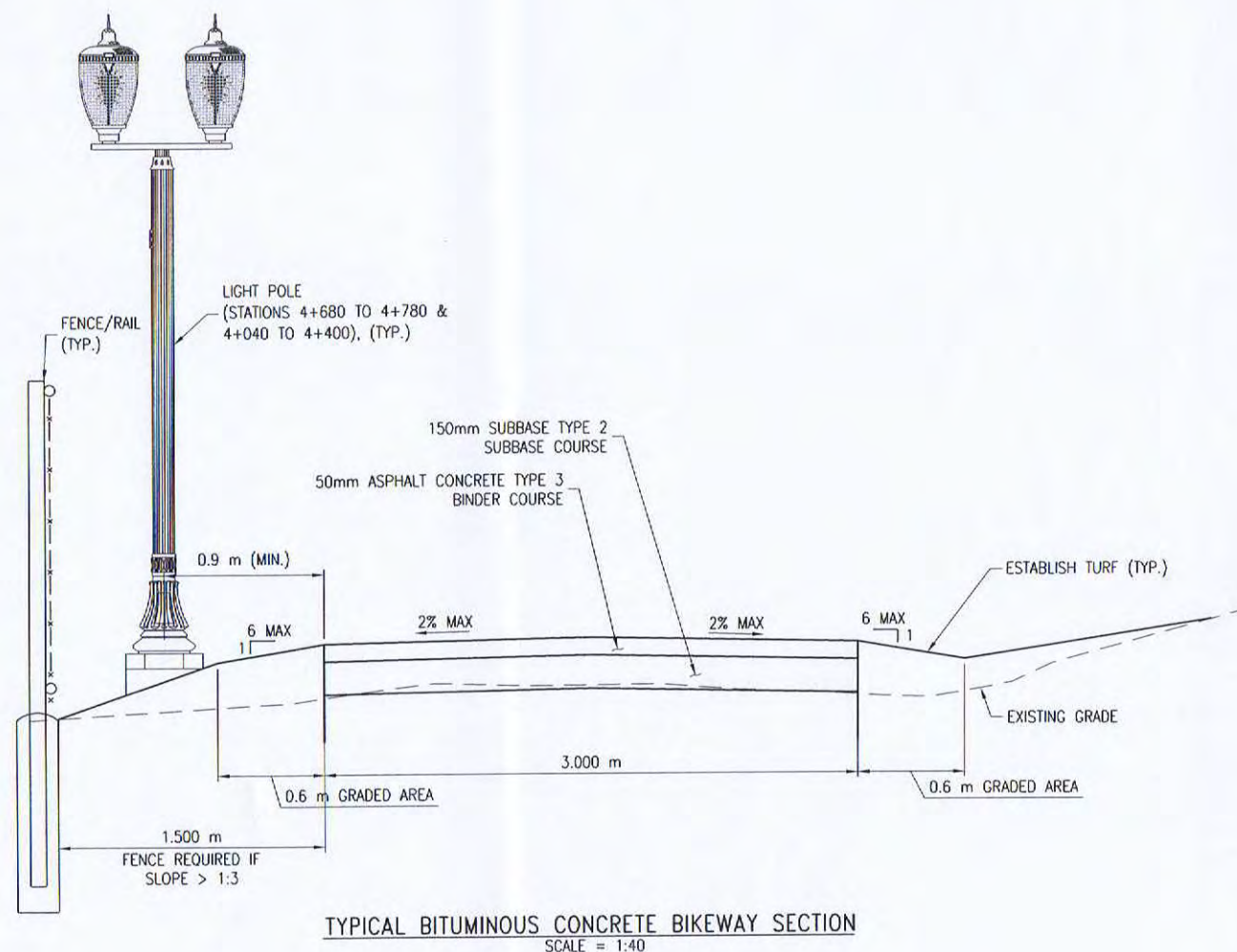
The bikeway/walkway will generally consist of one 3.0 m (10 ft) lane. The typical section is shown in Figure III-1. One or two areas will require the Bikeway/Walkway width be reduced to the minimum (2.4 m/8 ft) due to space constrictions.

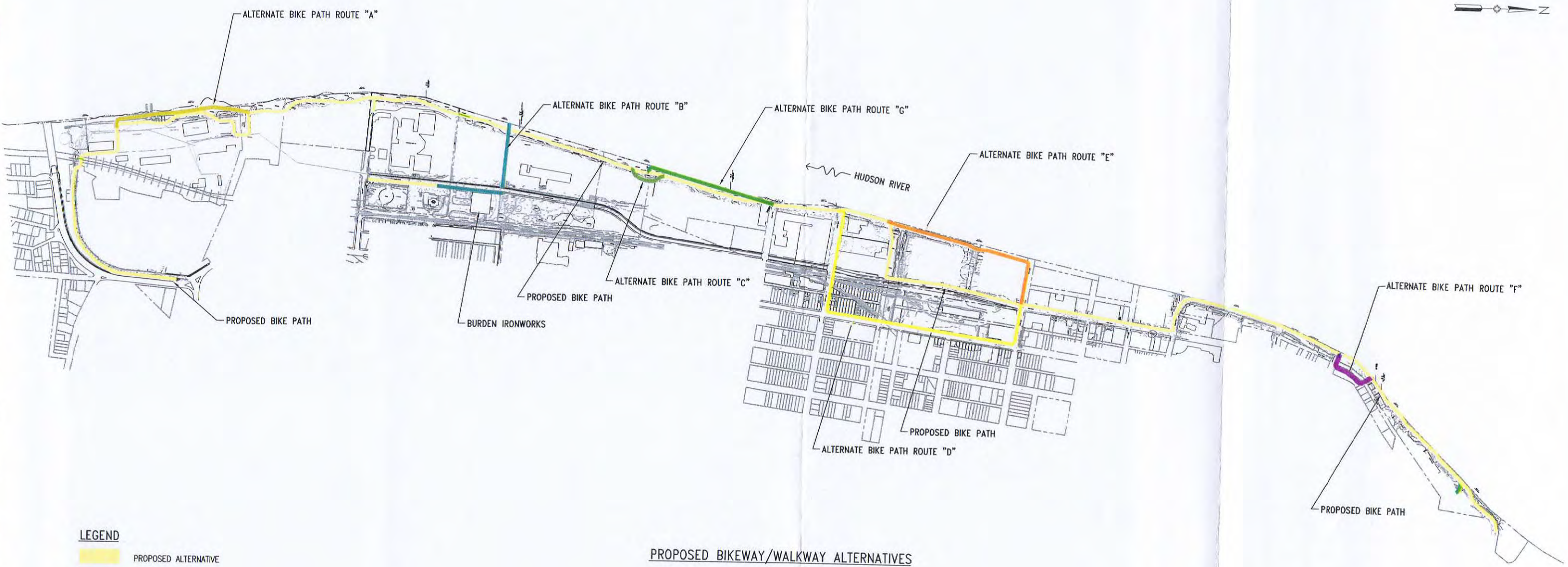
The main alignment utilizing Sub-Alternatives B, C, *F* and G is the preferred alternative. This alignment will follow the preferred Industrial Park Road alignment across the Poesten Kill on a new bridge to Adams Street. In addition, the selection of the Sub-Alternatives will reduce cost and minimize impacts to existing and proposed industrial and commercial activities.

The proposed alignments are illustrated in Figure III-2 and drawings PL-1 through PL-14 in Appendix B. In general, the bikeway/walkway shares the roadway in four areas for a total of 2.1 km (1.3 miles). These areas are along Water Street, the proposed South Troy Industrial Park Road, River Street, and Front Street.

The vertical alignment, shown on drawings PR1-1 through PR1-13 in Appendix C, is relatively flat throughout most of the project corridor. The maximum slope of the bikeway/walkway is 5%.

The Burden Iron Works Building and Site Improvement project will include the construction of a 50-car parking lot, underground utility repair and replacement, roof repair and replacement, and the addition of handicapped access. Roof repair

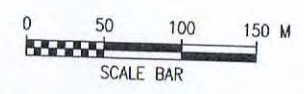




- LEGEND**
- PROPOSED ALTERNATIVE
 - SUB-ALTERNATIVE A
 - SUB-ALTERNATIVE B
 - SUB-ALTERNATIVE C
 - SUB-ALTERNATIVE D
 - SUB-ALTERNATIVE E
 - SUB-ALTERNATIVE F
 - SUB-ALTERNATIVE G

PROPOSED BIKEWAY/WALKWAY ALTERNATIVES

NOTES:
 1. SEE APPENDIX A DWGS PL1-PL14 FOR DETAILS OF EACH ALTERNATIVE.



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CLIENT:
CITY OF TROY
1 MONUMENT SQUARE
TROY, NY 12180

PROJECT NAME:
SOUTH TROY RIVERFRONT
BIKEWAY/WALKWAY

DRAWING TITLE:
BIKE PATH ALTERNATIVES

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE MILLIMETERS

SCALE: AS NOTED	DATE: MARCH 2005
DES. BY: MCO	DR. BY: JAM
CK'D BY: CT	EAA PROJ. NO.: 18990.00
SHEET NO. 1 OF 1	DRAWING NO. FIG III

will include the removal of the existing asphalt shingle roof and metal flashings and the installation of new clay tile roofing on membrane underlayment directly to the existing roof deck and lead-coated copper flashings. In addition, existing stone copings will be removed and reinstalled with new anchors and metal flashing, existing chimneys will be repaired, including resetting of chimney caps and repointing of brickwork. Also, repair of integral roof gutters and relining with lead-coated metal flashings and membrane underlayment, repairs to existing cupola and finials including repair and replacement of terne-coat steel sheathing, flashing and related sheet metal, and repainting and repairs to the existing main skylight including removal and repair of metal caps and retainers, replacement of cracked glass, resealing of glass lights, and repainting will be performed.

In addition to the building roof work, site work including excavation, rough grading and paving for a new 50 car parking lot and vehicle drop-off is proposed. Also proposed is new curbing on the north side of the parking lot and sidewalks extending to the main entrance on the south side and an Americans with Disabilities Act (ADA) compliant entrance on the northeast side. New utilities including extending the sanitary sewer line to the existing sewer in the north access road, and a new storm sewer collection system for drainage of the paved areas and building roof will be installed. The overhead electrical service will be changed to underground service and new seeded areas and landscaping will be provided. Construction of the ramp at the northeast building entrance will consist of a pressure treated wood ramp supported on treated wood framing and concrete piers. Construction of a unisex ADA compliant restroom adjacent to the northeast entrance will also be performed. Appendix D contains the proposed site plans by Mesick, Cohen, Wilson, and Baker Architects.

2. Engineering Considerations of Feasible Alternative:

a. Special Geometric Features:

1.) Non-Standard Features:

The alternatives contain horizontal non-standard curves along the alignments in several locations. Each non-standard curve is required due to site constraints. The following table lists the locations, the non-standard curve radii, and the reasons for the nonstandard curves for the Preferred Alternative. Several of the other sub-alternatives also require non-standard curves due to site constraints.

Table III-2 Non-Standard Curves		
Station	Proposed Radius (m)	Constraint
0+469	3	Road crossing under railroad bridge.
0+482	3	Road crossing under railroad bridge.
0+469	3	Road crossing under railroad bridge.
0+511	3	Railroad track crossing and building/fence avoidance.
0+516	12	Avoid existing building/fence.
0+596	12	Avoid existing building.
0+958	3	Parking lot avoidance to existing bridge.
0+997	3	Cross over existing bridge.
1+034	3	Cross over existing bridge.
1+081	12	Return to River alignment from existing bridge.
2+901	4.5	Along road alignment.
3+637	5	Along road alignment.
4+160	8.5	Site constraints (existing parking lot).
4+189	8.5	Site constraints (existing parking lot).

The remaining curves on the preferred alignment meet the radius requirements listed in Table III-1.

The alternatives contain one vertical curve, which does not meet site distance requirements along the alignment. The vertical curve is located at Station 4+719.5 and does not meet the minimum curve length for site distance. In addition, the alternatives contain several horizontal curves, which do not meet site distance requirements. These curves are located at stations 0+511, 0+596, and 1+034. Each non-standard site distances is required due to site constraints.

Non Standard Feature Justification Forms have been included in Appendix E.

2.) Non – Conforming Features

- a. 2.4 m (8.0 ft) wide multi use path along Water Street at Railroad overpass.
Preferred width = 4.0 m (13 ft)
- b. 3.0 m (10.0 ft) wide multi use path along remaining length of Bikeway/Walkway.

Preferred width = 4.0 m (13 ft)

- c. Fence, Utility Poles, Guide Rail and Building within 0.9 m (3 ft) of Bikeway/Walkway. (See Table III-3)
Minimum horizontal clearance = 0.9 m (3 ft)

Table III-3				
Utility/Structure Clearance Concerns				
Station	Utility	#	Issue	Action
1+590 to 1+620	Fence	N/A	Within Offset	Non-Conforming
2+660 to 2+780	Fence/Retaining Wall	N/A	Within Offset	Non-Conforming
3+320 to 3+330	Guide Rail	N/A	Within Offset	Non-Conforming
3+323.918	Sign	N/A	Within Offset	Non-Conforming
3+340 to 3+410	Building	N/A	Within Offset	Non-Conforming
3+371.571	Sign	N/A	Within Offset	Non-Conforming
3+373.476	Hydrant	N/A	Within Offset	Non-Conforming
3+416.620	Pole	N/A	Within Offset	Non-Conforming
3+450 to 3+520	Building	N/A	Within Offset	Non-Conforming
3+530 to 3+540	Building	N/A	Within Offset	Non-Conforming
3+652	Poles	NIMO 6	Within Offset	Non-Conforming
4+258	Pole	N/A	Within Offset	Non-Conforming
4+359	Pole	N/A	Within Offset	Non-Conforming

The AASHTO Guide for the Development of Bicycle Facilities (1999) recommends a minimum width for a two-way shared multi-use path of 3.0 m (10 ft). The NYSDOT HDM recommends a minimum width of 4.0 m (13 ft) for a two-way shared multi-use path. The 4.0 m width is not proposed due to the constraints of the urban environment in which the Bikeway/Walkway is proposed and the unnecessary burden the additional width would impose on the property owners granting the easements for the Bikeway/Walkway. In addition, the high levels of pedestrian and bicycle traffic that would warrant the additional 1.0 m of width are not anticipated along the proposed Bikeway/Walkway.

b. Traffic Forecasts, Level of Service and Safety Considerations

Traffic Forecasts

This project does not involve the new construction or rehabilitation of any roads.

Design Year Level of Service (LOS)

This project does not involve the new construction or rehabilitation of any roads.

Safety and Traffic Control Considerations

This project does not involve the new construction or rehabilitation of any roads.

c. Pavement

The majority of the Bikeway/Walkway is proposed to be asphalt concrete pavement and some portions at the northern end of the Bikeway/Walkway are proposed to be concrete pavement. The plans included in Appendix B identify areas proposed in asphalt and areas proposed in concrete. Figure III-1 illustrates the proposed pavement depths for the asphalt and concrete.

The parking lot for the Burden Iron Works Museum is proposed to be asphalt concrete. The plans by Mesick, Cohen, Wilson and Baker Architects, LLP illustrating the proposed parking lot pavement depths are included in Appendix D.

d. Structures

Two sub-alternatives for the Bikeway/Walkway involve the construction of a new bridge. Sub-alternative A would require a bridge at the Wynants Kill and sub-alternative E would require a bridge over the Poesten Kill. The remaining alternatives would involve the Bikeway/Walkway crossing over existing bridges at both streams or over the proposed bridge to be built for the Industrial Park Road over the Poesten Kill.

The new bridge alternatives, if selected would involve the use of rehabilitated bridges removed from roadways or the construction of new bridges. The usable width of the bridge would only be required to be the width of the Bikeway/Walkway (3 m/10 ft) plus a 0.6 m (2 ft) clear area to each side.

A complete Coast Guard Jurisdiction Checklist has been completed and is included in Appendix F.

The repair work on the Burden Iron Works Museum roof will include the removal of the existing asphalt shingle roof and metal flashings and the installation of new clay tile roofing on membrane underlayment directly to the existing roof deck and lead-coated copper flashings. In addition, existing stone copings will be removed and reinstalled with new anchors and

metal flashing, existing chimneys will be repaired, including resetting of chimney caps and repointing of brickwork. Also, repair of integral roof gutters and relining with lead-coated metal flashings and membrane underlayment, repairs to existing cupola and finials including repair and replacement of terne-coat steel sheathing, flashing and related sheet metal, and repainting and repairs to the existing main skylight including removal and repair of metal caps and retainers, replacement of cracked glass, resealing of glass lights, and repainting will be performed.

e. Hydraulics

A hydraulic analysis of Poesten Kill in the vicinity of the proposed Industrial Park Road bridge was performed for the South Troy Industrial Park Road. The proposed bridge is a single-span prestressed concrete box beam structure located immediately downstream from the railroad bridge over Poesten Kill. The hydraulic analysis indicated that the proposed Industrial Park Road bridge will not increase the risk of flooding anywhere within the limits of the study. The analysis indicates that the proposed bridge construction will not impact upstream or downstream property owners; the proposed bridge does not increase the water surface profile for the 100-year flood. The detailed hydraulic analysis report has been performed by Erdman Anthony & Associates, Inc. and is available upon request. Table III-4 summarizes the results of the analysis.

Table III-4		
Proposed Hydraulic Data for Poesten Kill		
Drainage Area, 244.75 square kilometers	Design Flood	Base Flood
Recurrence Interval, years	50	100
Peak Discharge, m ³ /s (cfs)	9300 (263)	11800 (334)
Scenario 1		
Existing		
High Water Elevation, m (ft)	5.30 (17.39)	5.86 (19.23)
Freeboard Provided, m (ft)	n/a	n/a
Average Velocity @ Structure, m/s (fps)	1.81 (5.94)	2.05 (6.71)
Proposed		
High Water Elevation, m (ft)	5.14 (16.85)	5.58 (18.31)

Table III-4 Proposed Hydraulic Data for Poesten Kill		
Freeboard Provided, m (ft)	1.05 (3.45)	0.61 (1.99)
Average Velocity @ Structure, m/s (fps)	1.87 (6.15)	2.16 (7.10)
Scenario 2		
Existing		
High Water Elevation, m (ft)	4.54 (14.88)	4.90 (16.06)
Freeboard Provided, m (ft)	n/a	n/a
Average Velocity @ Structure, m/s (fps)	2.16 (7.10)	2.51 (8.25)
Proposed		
High Water Elevation, m (ft)	4.54 (14.88)	4.90 (16.06)
Freeboard Provided, m (ft)	3.26 (10.68)	2.74 (9.00)
Average Velocity @ Structure, m/s (fps)	2.16 (7.10)	2.51 (8.25)

f. Drainage

There will be no improvements made to drainage along the existing Bikeway/Walkway. The new bikeway/walkway will rely on sheet flow to new swales and/or curtain drains, where possible. This will permit some infiltration and storage of the stormwater. In areas of restricted space, stormwater will be allowed to flow overland. Sheet flow to existing drainage structures will be used along the roadways.

A new drainage management system will be installed on the Burden Iron Works property for the management of storm drainage for both the parking lot and the building roof. The storm water system will be connected to the storm sewer located along the north access road.

g. Maintenance Responsibility

The maintenance of the Bikeway/Walkway will be the responsibility of the City of Troy.

The maintenance of the Burden Iron Works will be the responsibility of the Hudson Mohawk Industrial Gateway.

h. Maintenance and Protection of Traffic

Construction of the Bikeway/Walkway where it is separate from existing roads will not affect traffic. Areas where the Bikeway/Walkway will be improved/constructed within or along the roadway, may affect traffic. In these areas, traffic will be maintained with at least one lane remaining open at all times.

Construction on the Burden Iron Works property will not affect traffic.

i. Soils and Foundations

Soil borings were performed in the area of the preferred alignment along the proposed bridge for the Industrial Park Road over the Poesten Kill. A total of fifteen soil borings were progressed along the proposed roadway alignment by SJB Services, Inc. Ten borings were progressed at approximately 100 meter intervals for pavement sub grade evaluation. Four borings were progressed for signal pole foundations, two at the intersection of Main Street and East Industrial Parkway and two at the proposed intersection of the new South Troy Industrial Park Road and Adams Street. One boring was progressed at the location of the proposed bridge over the Poesten Kill.

All 15 borings encountered fill material over naturally deposited subsurface soils. The fill varied in composition and generally consisted of a mixture of sand, gravel, concrete, brick, slag, cinders and ash. The depth of the fill also varied throughout the proposed roadway alignment. Beginning at the southern end at Main Street and proceeding north to Monroe Street, the fill ranged in depth of between ten and fifteen feet. Continuing north from Monroe Street to the Poesten Kill, the fill cover was less and ranged in depths of between 3 and 4 feet. North of the Poesten Kill to the intersection of Adams Street, the fill increased to depths of between 8 and 10 feet.

Below the fill material the natural subsurface soils generally consisted of fine grained flood plain soils over intermittent layers of granular alluvial soils and fine grained lacustrine soils. The fine grained floodplain soils consist of fine sand and silt with, in some locations, trace amounts of organics. The organics are believed to be from root matter of pre-existing vegetations along the bank of the Hudson River, prior to fill placement. The granular alluvial soils were found to be stratified with varying amounts of fine to coarse sand and gravel with some to little amounts of silt. The intermittent layers of fine grained lacustrine soils primarily consist of silt and clay.

One boring was progressed through the fill and overburden soils to bedrock at the proposed bridge location over the Poesten Kill. At a depth of approximately 40 feet, the soil became very compact, consisting of fine to coarse gravel with little amounts of fine to coarse sand and trace amounts of silt. The boring was terminated in weathered shale bedrock at a depth of 55.4 feet.

The density of the upper 4 to 5 feet of fill material was found to be firm to compact. At most locations the fill material density became loose with depth.

No foundation problems are anticipated at the proposed bridge location over the Poesten Kill. The structure may be supported on either shallow spread foundations, founded on the natural sub grade soils or steel H-piles driven to refusal on shale bedrock. Any additional loading on the existing laid stone walls along the Poesten Kill should be avoided.

Soil borings for the Burden Iron Works parking lot will be performed prior to construction.

i. Utilities

The Bikeway/Walkway project will require relocation of overhead and/or underground electric, telephone and cable lines particularly in the areas near roadways. Any utility work required would be performed in accordance with the "Rules and Regulations Governing the Accommodation of Utilities within the State Highway Right of Way." All utility work will be performed in a manner that would minimize the number and length of interruptions of service to utility users. All proposed work will be coordinated with the affected utility owners during detailed design. Table III-5 lists the utilities proposed to be relocated.

The Burden Iron Works portion of the project plans on relocation of the overhead electric to underground. All utility work will be performed in accordance with the "Rules and Regulations Governing the Accommodation of Utilities within the State Highway Right of Way."

Table III-5 Utility/Structure Relocations Preferred Alternative				
Station	Utility	#	Issue	Action
0+030	Gate	N/A	Within Offset	Remove
0+072.314	Sign	N/A	Within Offset	Move
0+087.313	Hydrant	N/A	Within Bikeway	Move
0+142	Pole	NYT 49	Within Bikeway	Move
0+170	Pole	N/A	Within Bikeway	Move

Table III-5
Utility/Structure Relocations
Preferred Alternative

Station	Utility	#	Issue	Action
0+401.346	Pole	N/A	Within Offset	Move
0+408.040	Hydrant	N/A	Within Offset	Move
0+512.485	Pole	N/A	Within Offset	Move
0+851	Pole	N/A	Within Bikeway	Move
1+600 to 1+620	Guide Rail	N/A	Within Offset	Move
3+200	Pole	N/A	Within Offset	Move
3+270	Pole	NIMO 4	Within Bikeway	Move
3+289.071	Sign	N/A	Within Bikeway	Move
3+387.531	Pole	NIMO 4A	Within Bikeway	Move
3+435.066	Pole	N/A	Within Bikeway	Move
3+513.749	Pole	NIMO 9	Within Bikeway	Move
3+542	Pole/Sign	N/A	Within Bikeway	Move
3+557.3	Pole/Hydrant	N/A	Within Bikeway	Move
3+586	Pole	NIMO 53	Within Bikeway	Move
3+632	Pole	N/A	Within Bikeway	Move
3+652	Sign	N/A	Within Bikeway	Move
3+682	Poles	N/A	Within Bikeway	Move
3+760 to 4+010	Fence	N/A	Within Offset	Replace
3+985	Pole	N/A	Within Bikeway	Move
4+035	Pole	N/A	Within Bikeway	Move
4+157	Pole	N/A	Within Bikeway	Move
4+360	Pole	N/A	Within Bikeway	Move
4+722	Pole	N/A	Within Bikeway	Move

k. Railroads

The proposed Riverfront Bikeway/Walkway will cross under one railroad bridge near the southern end of the project, this should not affect the railroad. The Bikeway/Walkway will also cross railroad tracks at the southern end of the project at an existing crossing. Improvements to the crossing are proposed as part of this project. The Bikeway/Walkway may also cross with the proposed South Troy Industrial Park Road at the existing crossing(s) along Madison Street. In addition, a new crossing is proposed at Polk Street onto the Burden Iron Works property if permission from CSX rail is granted.

The proposed Burden Iron Works project is located adjacent to the railroad tracks. The project is not expected to affect the railroad's tracks or operations.

l. Right-of-Way

Several permanent easements will be necessary for the construction of the Bikeway/Walkway. Many of the easements have been secured and more are in negotiation. The City of Troy is securing all of the easements for the proposed alignment(s). Right-of-way will only be acquired if a bridge for the bikeway/walkway is proposed (Sub-Alternatives A and E).

The Burden Iron Works project will be performed on the existing Burden Iron Works property.

m. Landscape Development

Although some clearing of vegetation will be required for the Bikeway/Walkway, mostly at the southern end, this project will have minimal impact on the general landscape environment since the majority of the surrounding area is open and developed land. All disturbed areas will be graded and seeded. Additional landscaping, including pocket parks, is included as alternative options for the project.

The Burden Iron Works project will require some clearing for the installation of the parking lot. Landscaping is proposed as part of this project.

n. Provisions for Pedestrians, including Persons with Disabilities

The Riverfront Bikeway/Walkway will be designed to accommodate pedestrians, including persons with disabilities. This project will provide access to the Hudson River and the Troy downtown area to pedestrians including persons with disabilities.

As a part of the Burden Iron Works project, an ADA compliant access ramp and restroom are planned.

As discussed in Section II.C.1.v, there are few existing pedestrian generators along the southern portion of the project. The existing generators include the Burden Iron Works Museum and the Hudson Mohawk Bikeway/Walkway. Near the northern portion of the proposed Bikeway/Walkway, existing pedestrian generators include Troy City Hall, the Taylor Apartments, and many small commercial establishments in downtown Troy.

The proposed South Troy Industrial Park Road is expected to encourage industrial/commercial business growth in the area of South Troy through improved access to the properties. It is the intention of the City of Troy to

encourage business growth in the area of the proposed road. In addition to the proposed road, zoning changes were implemented in South Troy in the spring of 2004.

The zoning changes are anticipated to encourage an influx of a wider variety and greater number of businesses. The future businesses are expected to be larger pedestrian generators in South Troy.

Near Adams Street, schematic plans for a Hudson Heritage River Center have been developed. This proposed facility would encompass most of the property north of the Poesten Kill to Adams Street and would be a large pedestrian generator.

The Upper Hudson River Satellite Rivers and Estuaries Center is proposed to be located at the property referred to as the former Rensselaer Iron Works Site (Scolite Site). The Center is dedicated to advancing the understanding of rivers, estuaries, and their watersheds through integrated, collaborative research and education designed to guide policy for conservation and management of these natural systems, from the Hudson River to the rivers and estuaries of the world.

Once it is fully operational, the Center will be a scientific and research facility that also offers unique educational programs, including seminars designed specifically for teachers, students and citizen scientists. The Center is expected to be another pedestrian generator in South Troy. A completed Pedestrian Generator Checklist is included in Appendix A.

The initial expected traffic along the proposed Bikeway/Walkway is expected to be a Walkway Level of Service A. There are few pedestrian generators in the southern project area and observations of the northern existing walkway indicate that there will be fewer than 20 persons per meter of width per minute (pmm). The proposed South Troy growth and the additional bikeways will increase the generated pedestrian traffic along the Bikeway/Walkway, however it is not anticipated that the traffic rate along the Bikeway/Walkway will increase above 35 ppm (Level of Service B). Therefore, the proposed 3 m (10 ft) width for the walkway is anticipated to be more than sufficient for the existing and future anticipated pedestrian traffic.

o. Provisions for Bicycling

The Riverfront Bikeway/Walkway will be designed to accommodate bicyclists and will provide access to the Hudson River and the Troy downtown area. As discussed above and in Section II.C.1.v, there are few existing bicyclist generators along the southern portion of the project. The existing generators include the Burden Iron Works Museum and the Hudson

Mohawk Bikeway/Walkway. Near the northern portion of the proposed Bikeway/Walkway, existing generators include Troy City Hall, the Taylor Apartments, and many small commercial establishments in downtown Troy.

The proposed South Troy Industrial Park Road is expected to encourage industrial/commercial business growth in the area of South Troy through improved access to the properties. It is the intention of the City of Troy to encourage business growth in the area of the proposed road. In addition to the proposed road, zoning changes were implemented in South Troy in the spring of 2004.

The zoning changes are anticipated to encourage an influx of a wider variety and greater number of businesses. The future businesses are expected to be larger bicyclist generators in South Troy.

Near Adams Street, schematic plans for a Hudson Heritage River Center have been developed. This proposed facility would encompass most of the property north of the Poesten Kill to Adams Street and would be a large pedestrian generator.

The Upper Hudson River Satellite Rivers and Estuaries Center is proposed to be located at the property referred to as the former Rensselaer Iron Works Site (Scolite Site). The Center is dedicated to advancing the understanding of rivers, estuaries, and their watersheds through integrated, collaborative research and education designed to guide policy for conservation and management of these natural systems, from the Hudson River to the rivers and estuaries of the world.

Once it is fully operational, the Center will be a scientific and research facility that also offers unique educational programs, including seminars designed specifically for teachers, students and citizen scientists. The Center is expected to be another pedestrian generator in South Troy. A completed Pedestrian Generator Checklist is included in Appendix A.

The initial expected traffic along the proposed Bikeway/Walkway is expected to be a Walkway Level of Service A. There are few pedestrian generators in the southern project area and observations of the northern existing walkway indicate that there will be fewer than 20 persons per meter of width per minute (pmm). The proposed South Troy growth and the additional bikeways will increase the generated pedestrian traffic along the Bikeway/Walkway, however it is not anticipated that the traffic rate along the Bikeway/Walkway will increase above 35 ppm (Level of Service B). The relatively small amount of traffic expected along the Bikeway/Walkway indicates that the proposed 3 m (10 ft) width for the Bikeway/Walkway will be more than sufficient for the existing and future pedestrian and bicycle traffic.

In addition, the proposed Bikeway/Walkway will remove existing bicycle traffic from some of the local streets. Most of the streets in the City of Troy are narrow, were not designed for bicycle traffic and are not designated bicycle routes. The addition of the Bikeway/Walkway will offer an alternative to the unsafe roadway conditions for bicyclists.

p. Lighting

Lighting from the northern project limit, south to Front Street has been included in the costs. The proposed lighting will be placed along the bikeway/walkway where lighting is not currently located. Lighting for the remainder of the project has been included as a separate alternative cost in the following section. If lighting is not installed during construction, other alternatives available include installing the cable for future lighting and/or signing the Bikeway/Walkway for dawn to dusk use only.

No lighting is planned for the Burden Iron Works project.

D. Project Costs And Schedule

1. Costs

The estimated costs for the various elements of this project are shown below in Table III-6. The detailed cost estimate for the project is included in Appendix G.

TABLE III- 6	
Project Costs	
Standard Bikeway/Walkway Construction	
Construction	\$1,890,000
Detailed Design	\$280,000
Construction Inspection	\$200,000
Burden Iron Works Bikeway/Walkway	\$15,000
Total	\$2,385,000
Burden Iron Works Construction	
Site work	\$170,000
Roof Work	\$210,000

TABLE III- 6 Project Costs	
ADA Work	\$25,000
Total	\$405,700
Total Funding from Bikeway/Walkway Funds	\$270,000
Total Project Cost	\$2,675,000
Additional Costs	
Alternative A Additional Costs (excavated)	\$320,800
Alternative A Additional Costs (elevated)	\$422,400
Alternative B Additional Costs	\$30,000
Alternative C Additional Costs	(\$78,600)
Alternative D Additional Costs (asphalt)	\$18,000
Alternative D Additional Costs (concrete)	\$116,400
Alternative E Additional Costs	\$42,300
Alternative F Additional Costs	(\$61,400)
Alternative G Additional Costs	\$69,500
Rest Areas (each)	\$1,000
Lighting Unit (each)	\$2,800
Railroad Crossing (each)	\$60,000
<i>Preferred Alternative Cost (with BIW)</i>	\$2,700,000.00

This project is 80% federally reimbursable. The remaining 20% will be provided by the City of Troy.

2. Schedule

Design Approval:	February 2006
Letting:	October 2007
Completion of Construction:	November 2008

IV. SOCIAL, ECONOMIC, & ENVIRONMENTAL CONSIDERATIONS

A. Introduction

The purpose of this chapter is to identify the social, economic, and environmental consequences, which would result from the construction of this project. This section will also identify any feasible avoidance and/or mitigation measures. This chapter shows how the project satisfies all the applicable social, economic, and environmental laws and identifies all of the permits and approvals which are necessary for this project.

1. SEQOR:

This action is classified as an Unlisted Action in accordance with 6 NYCRR Part 617, State Environmental Quality Review (SEQOR) Act. The City of Troy is the Lead Agency. The NYSDOT, as an involved agency, was sent a notice establishing the City as Lead Agency. A Short Environmental Assessment Form (EAF) and a Draft Negative Declaration form were completed for the project and are included Appendix H. The NYSDOT, as an involved agency, was sent a copy of this report.

2. NEPA:

The project complies with the requirements of a Categorical Exclusion with Documentation under USDOT/NEPA Regulations, 23 CRF 771.115(c). It will follow the Class II procedure under the "Design Procedure Manual" (DPM). Therefore, concurrence with the NYSDOT Regional Local Project Liaison and FHWA is required. A NEPA checklist along with supporting documentation was prepared for the project and is attached in Appendix H.

B. Social, Economic, And Environmental Consequences

1. Social Consequences

a. Affected Population

Lands in the immediate vicinity of the project generally consist of industrial/commercial properties at the southern end and urban residential and institutional properties further to the north. The Hudson River is located directly west of the project area. There are a maximum of approximately forty (40) properties in the immediate vicinity that will be affected by the project during construction, depending on the alternative selected. Access to properties will not be affected during the project construction.

b. Local Planning

As discussed in Section II.C.2.b, The City of Troy had a Waterfront Revitalization Plan developed in 2001. The plan, which has been adopted by the City, includes the construction of the Riverfront Bikeway/Walkway and improvements to the Burden Iron Works Museum. This project is consistent with the goals and objectives of the municipality.

c. Community Cohesion

The only changes to existing neighborhoods which occur from the construction of the Riverfront Bikeway/Walkway will be positive. The Bikeway/Walkway will improve access to the Hudson River and downtown Troy and will supply additional recreational areas. Every effort will be made to meet all of the residences needs.

The Burden Iron Works Museum will continue functioning as it currently does. The planned improvements will repair structure deficiencies and improve the museum's accessibility. The project will not affect community cohesion.

d. Changes in Travel Patterns or Accessibility

There are pedestrian generators or destinations located within the project limits. These include places of employment, housing, and commercial establishments, other multi-use paths and the Hudson River. It is a goal of the project to change pedestrian access between pedestrian trip generators. The project will not result in social effects due to increased traffic congestion, but will substantially change pedestrian access to the Hudson River, downtown Troy, and other multi-use paths. The changes to the pedestrian access will be positive with the addition of the bikeway/walkway and the Burden Iron Works Museum improvements.

e. Impacts on School Districts, Recreation Areas, Churches or Business

The project will not negatively affect any school districts, recreation areas, churches, or businesses. Easements will be required from businesses at the southern end of the project for the Bikeway/Walkway. The Bikeway/Walkway has been positioned to avoid negative impacts to the businesses. The Burden Iron Works Museum project will not negatively affect any school districts, recreation areas, churches, or businesses.

f. Impacts on Police, Fire Protection, and Ambulance Service

The primary ambulance service and police protection, are located east of the project site. During construction, the police and ambulance services will not

be affected. Access to the properties will be maintained for the emergency services, as it will for the property owners.

The City of Troy Fire Department's closest station is Station 6. Station 6 is located at the intersection of Canal and Third Streets. The station is located approximately 0.3 km (1000 ft) from the project.

A letter was sent to the City of Troy Fire Chief requesting that any concerns regarding ambulance and fire services and the proposed Bikeway/Walkway be sent in writing at their earliest convenience. To date no response has been received. The letter is included in Appendix F.

g. Impacts on Highway Safety, Traffic Safety and Overall Public Safety and Health

The addition of the Riverfront Bikeway/Walkway will improve the traveling conditions for pedestrians and bicyclists in the South/Central Troy area. The Bikeway/Walkway will also assist in a positive impact on public and traffic safety by removing the bicycle traffic from the roads in many areas. The Burden Iron Works Museum improvements will not impact Highway Safety, Traffic Safety and Overall Public Safety and Health.

2. Economic Consequences

This project will not displace any residences, businesses, or farms in the area, and will have no adverse economic impact on any of the following:

- The Regional and/or Local Economy
- Existing Highway-Related Businesses
- Established Business Districts

3. Environmental Consequences

a. Surface Waters / Wetlands

1.) Water Bodies

The major surface water bodies in the project area are the south-flowing Hudson River, the west-flowing Poesten Kill, and the west flowing Wynants Kill. The Poesten Kill and Wynants Kill are tributaries to the Hudson River. No other significant water bodies are located in the project area.

2.) Federal Jurisdictional Wetlands (Section 404)

The project area has been evaluated for the presence of federally regulated wetlands in accordance with the Army Corps of Engineers Wetland Delineation Manual (1987). No wetlands were observed during the site walk conducted.

3.) State Jurisdictional Wetlands (Article 24)

According to the New York State Department of Environmental Conservation (NYSDEC) Freshwater Wetlands Maps (South Troy Quadrangle) there are no NYSDEC wetlands within the project limits.

4.) Floodplain Management

Actions undertaken by the New York State Department of Transportation and funded from Federal and State sources must be evaluated and constructed in compliance with the requirements of 6 NYCRR Part 502 Flood Plain Management and Executive Order 11988 Flood Plain Management.

Executive Order 11988 requires that long and short-term adverse impacts to flood plains be avoided to the extent possible.

The Flood Hazard Boundary Map for the City of Troy was reviewed. Flood plains are defined as lowland areas adjoining inland and coastal waters, which are periodically inundated by floodwaters. The 100-year flood plain is that area which has a one percent chance of being inundated in any one year.

The Federal Emergency Management Agency (FEMA) mapping indicates that the project site is located almost completely within the 100-year flood zone. In accordance with Executive Order 11988, alternatives were first examined which would avoid flood plain impacts. The only alternatives, which avoid the floodplain, are the Null and Shared Bikeway Alternatives. These alternatives were not considered feasible due to their inability to meet the project objectives. During development of the remaining alternatives, flood plain avoidance was considered. Due to the location of the flood plain, the Separate Bikeway/Walkway Alternative could not avoid the flood plain. A new Bikeway/Walkway avoiding the floodplain would require placement east of Second Street. This is not possible due to the developed, urban nature of the area.

Subsequent to the avoidance alternative, alternatives that would minimize impacts were investigated. The Main Construction

Alternative and applicable sub-alternatives are described herein. North of Adams Street, the Main Alternative bikeway/walkway is located along existing roadways and areas of existing multi-use path. Little to no fill will be used in these areas and therefore the flood zone will not be affected. South of Adams Street, there is little to no fill anticipated to be utilized until the area of the County IDA property. From the County IDA property, south to the end of the Bikeway/Walkway, up to two feet (0.6 m) of fill will be utilized to avoid contact with potentially industrially impacted soils during construction and to protect the persons utilizing the Bikeway/Walkway from contact with potentially industrially impacted soils. The fill will only be placed within the area of the Bikeway/Walkway (just over 3 meters (10 feet) wide). This will remove a maximum of approximately 1,470 cubic meters (52,000 cubic feet) of flood storage space in the South Troy Area. The alternative that has the least flood plain impact is the Main Alternative with Sub-Alternative G. Alternative G requires some cut within the floodplain which will assist in minimizing the overall impact to the flood plain. The cut is required along the area of "slag mountain". The amount of excavation required is approximately 700 cubic meters (24,000 cubic feet), reducing the overall flood plain impacts to 770 cubic meters (28,000 cubic feet). The flood plain in this area is approximately 963,600 square meters. The amount of flood storage compromised by the Bikeway/Walkway will be much less than 1% of the available flood storage in the area. This will have a minimal impact on the flood zone. No mitigation is proposed. To prevent damming, culverts are proposed where filling greater than 0.5 m is planned.

In accordance with Executive Order 11988, the impacts of the various alternatives on the flood plain were evaluated. As discussed above, alternatives which avoid the flood plain were examined first. The Null and Shared Bikeway Alternatives avoid the floodplain, however they do not meet the project objectives. Aligning the Bikeway/Walkway out of the flood zone would require an alignment east of Second Street. This area is urban and there is not any available space for the Bikeway/Walkway. Subsequent to examining the above Alternatives, Construction Alternatives were examined. The alternatives, which were determined to be feasible with the least amount of flood plain impact are the Main Alternative with Sub-Alternative G. The preferred alternative is the Main Alignment with sub-alternatives B, C, F and G which, as discussed above, will have a minimal impact on the floodplain, therefore, an "only practicable alternative" finding will not be needed.

The National Flood Insurance Program Floodway Map, which includes the project corridor, was reviewed. The floodway defined on the FEMA maps is not affected by the project.

The Burden Iron Works Museum improvements will require minimal filling and grading. Filling and grading will only be required for the parking lot and sidewalk. In total, 840 CM of gravel for the parking lot sub base, 290 CM of pavement, and 23 CM of concrete sidewalk are planned for the project. This will have a minimal impact on the flood zone. No mitigation is proposed.

5.) Coastal Zone Management

The project is located within a Coastal Area as defined by the New York State Department of State (NYSDOS) Coastal Zone Management regulations, 19 NYCRR Part 600. The project information and a Consistency Assessment Form (CAF) for the Bikeway/Walkway were sent on February 10, 2003 to the NYSDOS for review and evaluation with respect to potential impacts to this waterway area and for consistency with the Inland Water Act. A response was received on March 3, 2003 requesting additional information. The additional information was sent to the NYSDOS on March 7 and on March 19 a finding of "General Concurrence, no objection to funding" was received. The correspondence is included in Appendix F.

The project information and a Federal Consistency Assessment Form (FCAF) for the Burden Iron Works project were sent on November 10, 2003 to the NYSDOS for review and evaluation with respect to potential impacts to this waterway area and for consistency with the Inland Water Act. A telephone call was received on December 1, 2003 requesting additional information. The additional information was sent to the NYSDOS on January 9, 2004 and on January 13, 2004 a finding of "General Concurrence, no objection to funding" was received. The correspondence is included in Appendix F.

6.) Navigable Waters

The Hudson River is a navigable waterway located in the vicinity of the project area. No work will be performed in the Hudson River. The Poesten Kill is also considered navigable by the USACOE south of the Mount Ida Dam. One of the proposed alignments will cross the Poesten Kill via a new bridge. An ACOE Section 10 permit would be required if the new bridge alternative is selected. The remaining alternatives will cross on an existing bridge or on a bridge constructed and permitted for the South Troy Industrial Park Road.

Per 23 U.S.C. 144(h), the US Coast Guard does not classify the Poesten Kill as a navigable waterway as defined by 33 CFR Subpart 2.05-25; therefore, a permit pursuant to Section 9 of the Rivers and Harbors Act of 1899 is not required.

b. Water Source Quality

1.) Surface Water Quality

The Poesten Kill is located within the project area. The Poesten Kill is classified as a class C(T) stream. The Wynants Kill is also located within the project area. The Wynants Kill is classified as a class C stream. No other rivers, wetlands, or other surface water resources are located within the project site. The Hudson River bounds the site to the west. The project area is within the 100-year flood plain and the coastal management zone.

The impacts to the Poesten Kill will be short-term impacts. The impacts will result from the construction of the bridge if Alternative E is selected. Appropriate sedimentation and erosion control measures will be implemented during construction to minimize the impacts.

The impacts to the Wynants Kill will be short-term impacts. The impacts will result from the construction of the bridge if the new bridge alignment (Alternative A) is selected. Appropriate sedimentation and erosion control measures will be implemented during construction to minimize the impacts.

The Hudson River in the area of the site is classified as a class C surface water by the NYSDEC. The only impacts anticipated to the Hudson River would be during construction in the areas where the Bikeway/Walkway is located adjacent to the River. Additional sediment and erosion controls should be employed during construction in these areas to ensure that impacts to the Hudson River are avoided.

The City of Troy Floodplain Management and Flood Damage Ordinance identifies requirements for construction in a floodplain. These requirements should be followed during the design and construction process to minimize impacts and maximize safety.

2.) Ground Water / Aquifers

Impacts to the groundwater/aquifers will be minimal. According to the hydrogeologic evaluation performed by Clough Harbour and Associates, groundwater is 15 to 25 feet below grade. Construction

activities are not anticipated to reach near these depths and therefore groundwater will not be encountered during construction unless the bridge alternatives are selected. If groundwater is encountered, impacts are not anticipated. Some additional impervious surface will be added with the Riverfront Bikeway/Walkway and Burden Iron Works parking lot construction. This will decrease the amount of recharge due to infiltration. This is anticipated to be a minimal impact, no mitigation is proposed.

c. General Ecology and Wildlife

The lands in the immediate vicinity of and adjacent to the proposed Riverfront Bikeway/Walkway, include institutional, residential, and light commercial areas at the northern end of the project. The southern end of the project corridor including the area of the Burden Iron Works Museum generally consists of industrial and commercial uses.

The NYSDEC Wildlife Resources Center was contacted regarding the presence of significant habitat areas and endangered and threatened species. The NYSDEC responded that in the vicinity there are no known occurrences of rare or state listed animals, plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of the project site.

The United States Department of the Interior Fish and Wildlife Service was also contacted regarding the possible presence of threatened and endangered species and habitat areas. The Fish and Wildlife Service responded that except for transient individuals, there are no Federally listed or proposed endangered or threatened species or significant habitats located in the project impact area.

See Appendix F for a copy of Correspondence.

d. Historical and Cultural Resources

The Burden Iron Works Office Building (Museum) is listed on the National Register of Historic Places. The Riverfront Bikeway/Walkway design includes a bikeway/walkway to the Burden Iron Works Office Building. The alignment of the Bikeway/Walkway will be entirely within the existing East Industrial Parkway right-of-way in the area of the Burden Iron Works. Also, as a part of this project, site and building improvements are planned on the Burden Iron Works Museum. All building improvements are planned to be as similar to the original building as possible. The New York State Office of Parks, Recreation and Historic Preservation (NYS OPRHP) is providing some funding for the project.

A Phase 1A Archeological Study has been conducted throughout the project area. The report was submitted to NYS OPRHP on May 13, 2003. The report recommended that in the southern project area, hand shovel test pits be conducted along Water Street and the brick feature south of the jail should be documented, should it require filling. In the area of the Burden Iron Works, archeological reconnaissance was recommended for any subsurface impacts. Backhoe excavated trenches in paved areas and hand excavated shovel testing in grassy areas was recommended for the northern project area. SHPO's comments on the report were received on July 14, 2003. SHPO agreed with all of the report recommendations.

The Phase 1B for the Bikeway/Walkway and Burden Iron Works was conducted in the fall of 2003. No archeological resources were discovered during the Phase 1B. One property, south of Main Street required property owner permission for access. This property was investigated in April 2004. Upon completion of this investigation, the Phase 1A/1B for the Burden Iron Works and the Phase 1B for the Riverfront Bikeway/Walkway were submitted to OPRHP for review. A letter was sent by OPRHP on June 10, 2004, stating that the project will have No Effect on historic properties in or eligible for inclusion in the State and National Registers of Historic Places.

The complete Phase 1A and Phase 1B Historic and Cultural Resources Reports are included in Appendix I and NYS OPRHP's correspondence is included in Appendix F.

e. Visual Resources

There are four Landscape Units along the project corridor (i.e., character areas): Industrial /Institutional Properties, Vacant Land, Downtown Troy and Roadways and four viewer groups: Recreation Viewer Group, Local Motorist Viewer Group, Employee Viewer Group, and the Commercial/Institutional Patron Viewer Group.

The project area was analyzed for key views which may be impacted by the project. The Industrial/Institutional properties generally consist of large buildings with extensive paving surrounding the facilities. Viewers in this area will consist of employees and patrons. The proposed Bikeway/Walkway is a 3 m (10 ft) wide asphalt or concrete facility which, where possible, will be at grade. This narrow strip of paving will not impact the views afforded the industrial/institutional facilities and their employees and patrons.

The Vacant Land Landscape Unit generally has no viewer group. This land is located in South Troy and will eventually be developed into a light industrial/commercial use. As with the Industrial/Institutional Landscape Unit discussed above, properties will generally consist of large buildings

with extensive paving surrounding the facilities. Viewers in the area will consist of employees and patrons. The proposed Bikeway/Walkway is a 3 m (10 ft) asphalt or concrete facility which where possible, will be at grade. This narrow strip of paving will not impact the views afforded the future light industrial/commercial facilities and their employees and patrons.

Along Downtown Troy, viewer groups will consist of the Recreation Viewer Group, Local Motorist Viewer Group, Employee Viewer Group, and the Commercial/Institutional Patron Viewer Group. Approximately half of the Bikeway/Walkway in this area is already constructed. Most of the remaining areas are expected to be constructed at or near the existing grades and will have minor impacts on the visual environment.

The Roadways Landscape Unit encompasses the portions of the project which travel along Water Street, Main Street, the South Troy Industrial Park Road, River Street, Division Street, and Front Street. Viewers along these roadways will mostly consist of the Local Motorist Viewer Group. The South Troy Industrial Park Road is a new proposed roadway. The Bikeway/Walkway will be constructed along the roadway with a small median between the trail and the road. The visual environment is not expected to be impacted. The area where the Bikeway/Walkway will be added to River Street currently consists of concrete and asphalt sidewalk and parking areas. The Bikeway/Walkway will be installed at grade along the previously paved areas. The proposed project will not change the visual environment. Along Division and Front Street, the Bikeway/Walkway will be constructed within grassed areas, sidewalks and on part of the roadway (Front Street will be moved east). Minor visual impacts will occur due to the removal of some grassed areas. The vistas of and access to the Hudson River, recreational opportunities, and added safety are expected to outweigh the minor impacts created by the removal of small grass strips along this section of roadway.

The proposed project will not change or introduce features that would have a significant adverse impact on the visual quality of the project area. Viewer groups consisting of the roadway users, industrial/commercial property owners and employees, institutional employees, persons on the Hudson River, pedestrians/bicyclists and area residents will not be adversely impacted by a change in visual quality. The removal of trees and/or vegetation, if necessary, will be minimized and provisions to replace plantings will be incorporated into the landscape plans as appropriate. In addition, the Bikeway/Walkway alignment will require the removal of debris on several of the industrial properties. This will improve the visual landscape from both the land and river. The addition of a bridge structure, if the new bridge alternative is selected at the Wynants Kill or Poesten Kill, will have a minimal impact on the visual quality of the area.

f. Parks and Recreational Facility

The project will not require acquisition of right-of way (ROW) that is currently used as a public park, recreation area, wildlife or waterfowl refuge, or significant historic site. In addition, the potential bridge construction will not impact lands with noted uses; therefore, Section 4(f) evaluations are not required with regard to park and recreational facilities.

The project will not require acquisition of, nor does it impact, any recreational parks federally funded by the United States Department of the Interior. Therefore, Section 6(f) evaluations are not required with regard to park and recreational facilities.

g. Farmland Assessment

Based on a general site reconnaissance and review of available documentation, there appears to be no protected farmlands or agricultural districts situated at the project site or in close proximity, which will be affected by the project. The Rensselaer County Agricultural District #2 map, which covers the project area was reviewed. According to the map, no agricultural districts are located within the project area.

h. Air, Noise, and Energy

1.) Air Quality

Since this project will not increase traffic volumes, reduce source-receptor distances by 10%, or change other existing conditions to a degree that will jeopardize attainment of the National Ambient Air Quality Standard, an air quality analysis is not required under the Clean Air Act Amendment of 1990. The project is in an attainment area.

2.) Noise Analysis

The project design will be advanced in accordance with the NYSDOT, Federal Highway Administration (FHWA), and AASHTO standards, including noise standards. This project is defined as a Type II project because it does not exceed Type I project classifications that include projects with "...physical alteration of an existing highway which significantly changes ... or increases the number of through traffic lanes". Therefore, a noise analysis will not be required for this project.

3.) Energy

This project will not change travel patterns or alter vehicle operating speed in the project corridor and area. Therefore, an energy evaluation

will not be required. The addition of the Riverfront Bikeway/Walkway will positively impact energy usage by encouraging more people to bike/walk rather than utilize vehicles for travel through the City of Troy.

i. Contaminated Materials Assessment

A preliminary environmental screening has been performed for this project in order to identify any existing or potential environmental concerns, and to assess the nature and possible extent of any contamination associated with the project corridor.

Seven sites were identified during the preliminary screening, which were in close proximity to the proposed bikeway/walkway location. Four of the seven sites did not involve impacted subsurface soils or groundwater and are therefore not considered a concern. The remaining three sites involved impacted soil or groundwater. These sites were identified as 35 to 41 River Street (Clemente property), Main and King Street (Abandoned property), and Water Street (Chevron/Portec property).

The spills and tanks listed for the Clemente and Chevron/Portec properties are all closed. The one spill listed on the abandoned property is not closed. The work planned in the vicinity of the above properties does not involve deep excavation (over 1 meter). Groundwater and contaminated soils are not anticipated to be encountered at that shallow depth. Most of the Bikeway/Walkway in the area near the industrial properties will involve filling, not excavating soil.

The northern area of the County IDA Property and the entire Troy Slag Products (CD Perry) property is the only southern portion of the Bikeway/Walkway expected to be cut more than 1 m. The excavation planned will involve a deep (6 m/19 ft) cut. This is where the large slag pile is located and it is expected that slag will be the majority of what is excavated in this area. The slag pile has been tested for the 8 RCRA metals. Five grab samples were taken from random areas of the pile and analyzed. The results indicated that the metals levels did not exceed standards. The correspondence and analytical results are included in Appendix F.

Due to the nature of the work planned (shallow excavation or fill) and the closed status of most of the impacted properties, subsurface impacts are not expected to be encountered along the remainder of the Bikeway/Walkway alignment. No further testing is recommended.

The Burden Iron Works improvements only require some deeper excavation in the narrow trenches for storm sewer and sanitary sewer installation. There was no historical evidence found to suggest that impacts will be

encountered on this property. In addition, the Phase 1B Archeological Investigation did not result in the identification of impacted soil or groundwater. Therefore, no sampling is recommended. However, since this is a historically industrial area and the property will receive deeper excavation, care should be taken when performing the site work. Any indication of contaminated soil or groundwater should be addressed appropriately.

j. Regional and Local Land Use Plan

The proposed project is part of a local land use plan to revitalize the South Troy Area and create a bikeway/walkway network throughout the City of Troy. The project will not result in any adverse impacts to proposed or existing regional or local land use plans.

k. Construction Impacts

The construction of the proposed project will involve only short-term impacts to the project area. These will come in the form of temporary inconveniences for the property owners in the areas where the bikeway/walkway is not along the road and temporary inconveniences that the general public will experience as a result of the construction activities for the bikeway/walkway where it is located along existing roads. The Burden Iron Works Museum improvements will only impact the employees and patrons of the museum.

l. Anticipated Permits and Approvals

If one of the new bridge alternatives is selected, the proposed project will require a New York State Department of Environmental Conservation (NYSDEC) 401 Water Quality Certification and an Article 15 Stream Disturbance Permit. If a cofferdam is required to work in the stream, an Army Corps of Engineers (ACOE) Section 404 Permits (Nationwide 33 – Temporary Construction, Access and Dewatering) will also be required.

The Programmatic Executive Order 11990 applies to Federally Aided Highway Projects that are classified as Categorical Exclusions pursuant to 23 CFR 772.117 and that only require an ACOE Section 404 Nationwide Permit for work in Waters of the United States.

Since this project will disturb more than one acre of land, a SPDES General Permit for Storm Water Discharges from Construction Activities will be required.

4. Indirect / Secondary and Cumulative Impacts

This project will not have any indirect, secondary or cumulative negative impacts on the project area.

V. EVALUATION OF ALTERNATIVES

Alternatives considered during the preliminary project design phase included the null alternative and a Shared Bikeway/Walkway and Burden Building and Site Improvement Work Alternative. These alternatives are discussed in detail in Section III. As discussed in Section III, due to their inability to meet all of the project objectives, these alternatives were removed from further consideration.

The alternatives that will be compared and evaluated in this chapter are:

- 1) Sub-Alternative A
- 2) Sub-Alternative B
- 3) Sub-Alternative C
- 4) Sub-Alternative D
- 5) Sub-Alternative E
- 6) Sub-Alternative F
- 7) Sub-Alternative G

A comparison of these alternatives is included in Table V-1.

A. Fulfillment of Project Objectives

All of the sub-alternatives are considered feasible and would adequately address the project objectives. The alternatives would provide a new Bikeway/Walkway that would create a pedestrian/bicyclist link between the various areas of Troy while improving pedestrian access to the Hudson River, encouraging business growth, and providing additional greenspace in the safest and most economical method possible.

B. Cost Estimate

Sub-Alternatives A, B, D, E, F and G all increase the cost of the Bikeway/Walkway by varying degrees. Sub-Alternative C reduces the cost of the Bikeway/Walkway by approximately \$78,600.00 and Sub-Alternative F reduces the cost of the Bikeway/Walkway by approximately \$61,400.00. The selection of any of the alternatives utilizing concrete rather than asphalt drastically increases the cost of the proposed Bikeway/Walkway. The total project cost for the preferred alternative will be approximately \$2.4 million.

C. Comparison of Alternatives

Table V-1 provides a comparison of the impacts and benefits associated with each of the alternatives.

**TABLE V-1
COMPARISON OF SUB-ALTERNATIVES**

CATEGORY	NULL ALTERNATIVE	SHARED ALTERNATIVE	MAIN ALTERNATIVE	SUB-ALT A	SUB-ALT B	SUB-ALT C	SUB-ALT D	SUB-ALT E	SUB-ALT F	SUB-ALT G
<i>Fulfillment of Project Objectives</i>										
Provides a link to existing Multi-use Paths	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Provides access to the Hudson River	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Provides a link to downtown Troy	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Displacements</i>										
Area of Wetlands Impacted	0	0	0	0	0	0	0	0	0	0
Historic Structures Directly Impacted	0	0	0	0	0	0	0	0	0	0
Commercial/Industrial Buildings Displaced	0	0	0	0	0	0	0	0	0	0
Residential Units Displaced	0	0	0	0	0	0	0	0	0	0
<i>Cost</i>										
Cost Reduced	N/A	Yes	N/A	No	No	Yes	No	No	Yes	No
<i>Characteristics</i>										
Aligned along Roadway	N/A	Yes	N/A	No	Yes	No	Yes	No	No	No
Reduces property impacts	N/A	Yes	N/A	No	Yes	No	No	No	Yes	Yes

VI. PROJECT COORDINATION

During the course of the preparation of this Design Report, various agencies, departments and individuals were contacted. Pertinent correspondence with several of these agencies and individuals are included in Appendix F.

Also, Public Informational Meetings were held on October 29, 2001 at Public School 12 and on November 25, 2003 at the Polish American Club in conjunction with the South Troy Industrial Park Road Project. A public informational meeting was also held on September 20, 2005 at Troy City Hall. Comments regarding the bikeway/walkway from residents are included in Appendix F.

APPENDIX A

Attachment A

PEDESTRIAN GENERATOR CHECKLIST

Note: The term "generator" in this document refers to both pedestrian generators (where pedestrians originate) and destinations (where pedestrians travel to)

A check of yes indicates a potential need to accommodate pedestrians and coordination with the Regional Bicycle and Pedestrian Coordinator is necessary during project scoping. Answers to the following questions should be checked with the local municipality to ensure accuracy.

1.	Is there an existing or planned sidewalk, trail, or pedestrian crossing facility?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
2.	Are there bus stops, transit stations, or depots/terminals located in or within 800 m of the project area?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
3.	Is there more than occasional pedestrian activity? Evidence of pedestrian activity may include a worn path.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
4.	Are there existing or approved plans for generators of pedestrian activity in or within 800 m of the project that promote or have the potential to promote pedestrian traffic in the project area, such as schools, parks, playgrounds, places of employment, places of worship, post offices, municipal buildings, restaurants, shopping centers or other commercial areas, or multiuse paths?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
5.	Are there existing or approved plans for seasonal generators of pedestrian activity in or within 800 m of the project that promote or have the potential to promote pedestrian traffic in the project area, such as ski resorts, state parks, camps, amusement parks?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
6.	Is the project located in a residential area within 800 m of existing or planned pedestrian generators such as those listed in #4?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
7.	From record plans, were pedestrian facilities removed during a previous highway reconstruction project?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
8.	Did a study of secondary impacts indicate that the project promotes or is likely to promote commercial and/or residential development within the intended life cycle of the project?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
9.	Does the community's comprehensive plan call for development of pedestrian facilities in the area?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

Note: This checklist should be revisited due to a project delay or if site conditions or local planning changes during the project development process.

APPENDIX B

Riverfront Bikeway/Walkway Plans

LEGEND

- PROPOSED ALTERNATIVE
- SUB-ALTERNATIVE A
- SUB-ALTERNATIVE B
- SUB-ALTERNATIVE C
- SUB-ALTERNATIVE D
- SUB-ALTERNATIVE E
- SUB-ALTERNATIVE F
- SUB-ALTERNATIVE G
- EXISTING PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED SUB-ALTERNATIVE EASEMENT
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED GUIDERAIL

LOCATION OF PROPOSED RETAINING WALL



VIEW 1A

EXISTING VEGETATION TO BE CLEARED ON EAST SIDE OF ROAD LIGHTING SHOULD BE PROVIDED.



VIEW 1B

EXISTING VEGETATION TO BE CLEARED FOR SIGHT DISTANCES & PUBLIC SAFETY. DEBRIS TO BE REMOVED AND NEW PLANTINGS TO BE INSTALLED ALONG SLOPE.

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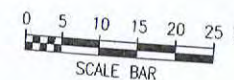
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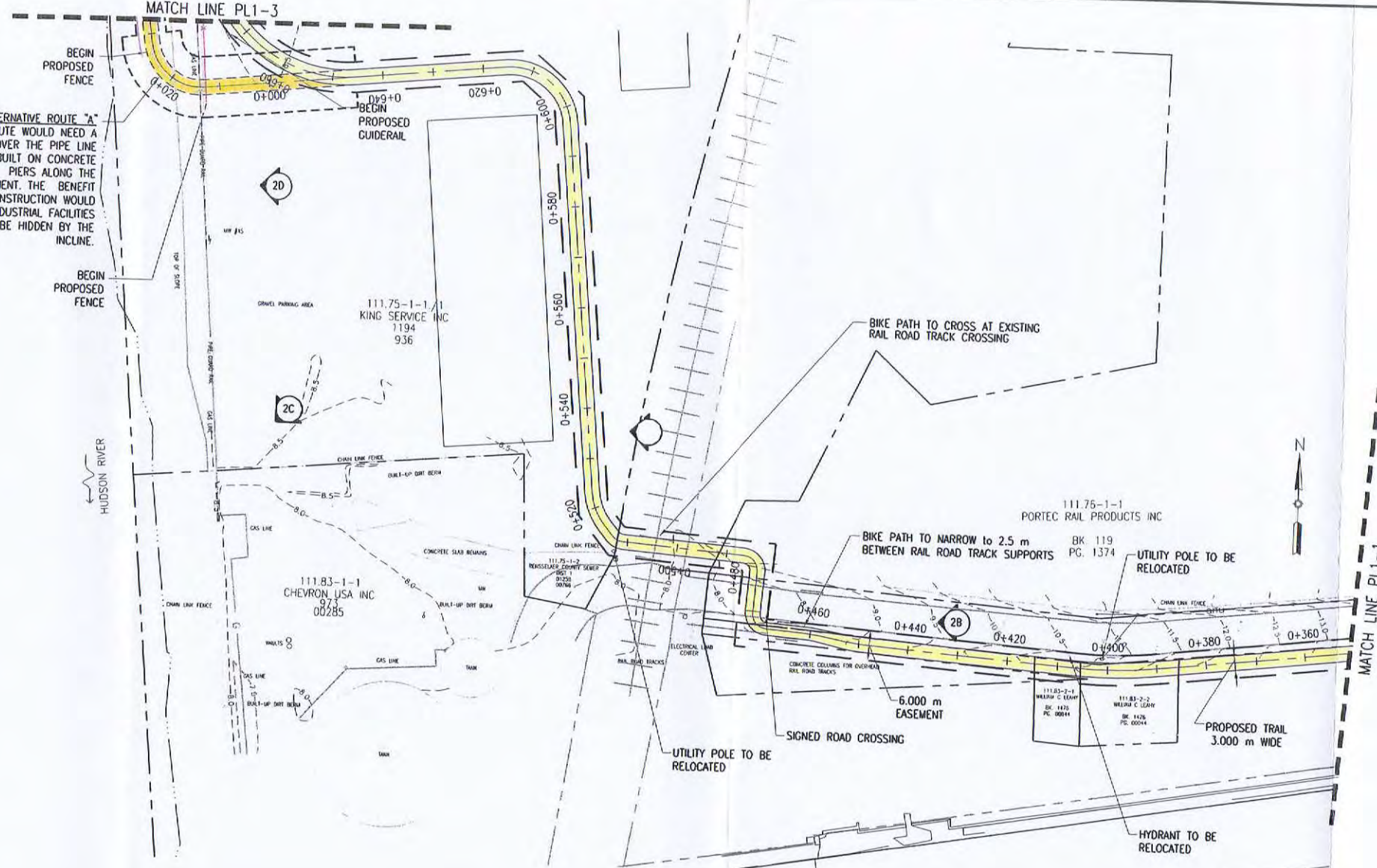
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LEGEND

- PROPOSED ALTERNATIVE
- SUB-ALTERNATIVE A
- SUB-ALTERNATIVE B
- SUB-ALTERNATIVE C
- SUB-ALTERNATIVE D
- SUB-ALTERNATIVE E
- SUB-ALTERNATIVE F
- SUB-ALTERNATIVE G
- EXISTING PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED SUB-ALTERNATIVE EASEMENT
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED GUIDERAIL

ALTERNATIVE ROUTE "A"
THIS ROUTE WOULD NEED A
BRIDGE OVER THE PIPE LINE
AND BE BUILT ON CONCRETE
PIERS ALONG THE
EMBANKMENT. THE BENEFIT
OF THIS CONSTRUCTION WOULD
BE THE INDUSTRIAL FACILITIES
WOULD BE HIDDEN BY THE
INCLINE.



VIEW 2D

PIPELINE EASILY MARKED WILL NEED MORE PROTECTION
THAN EXISTING GUIDERAIL.



VIEW 2A

VIEW INTO KING SERVICE, INC. INQUIRE IF SECURITY
FENCING WILL BE NEEDED TO BORDER THE TRAIL.



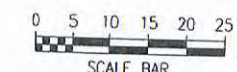
VIEW 2B

EXISTING VEGETATION TO BE CLEARED ALONG WITH THE
DEBRIS BY THE SOUTH SIDE OF ROAD. AREA TO BE
ILLUMINATED FOR PUBLIC SAFETY.



VIEW 2C

PIPELINE FROM CHEVRON USA, INC. NOT FEASIBLE TO
BRIDGE OVER ONTO 8' WIDE STRIP AT TOP OF BANK.



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VIEW 3A
PIPE RETURNS TO DOCK ON HUDSON. POSSIBLE LOCKED GATE FOR AUTHORIZED ACCESS TO DOCK.



VIEW 3B
RUINS TO BE DEMOLISHED AND REMOVED.



VIEW 3C
PATH TO FOLLOW TOP OF BANK. SUMAC AND BRUSH TO BE REMOVED. STRUCTURES SHOULD BE EVALUATED FOR SAFETY.



VIEW 3D
AN IDEAL LOCATION TO BRING PEOPLE TO THE RIVERS EDGE.



VIEW 3E
LESS THAN 6' WIDE BETWEEN TOP OF BANK AND FENCED FACILITY. PATH TO DIVERT AWAY FROM RIVERS EDGE TO CROSS AT EXISTING BRIDGE.



VIEW 3F
OPEN AREA FOR ACCESS TO EXISTING CROSSING OF WYANNTSKILL.



VIEW 3G
RUIN TO BE DEMOLISHED AND REMOVED DEBRIS PILES TO BE REMOVED.

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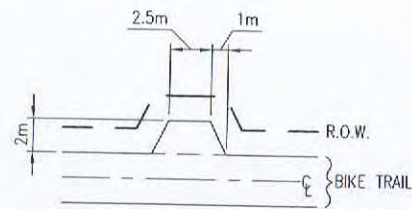
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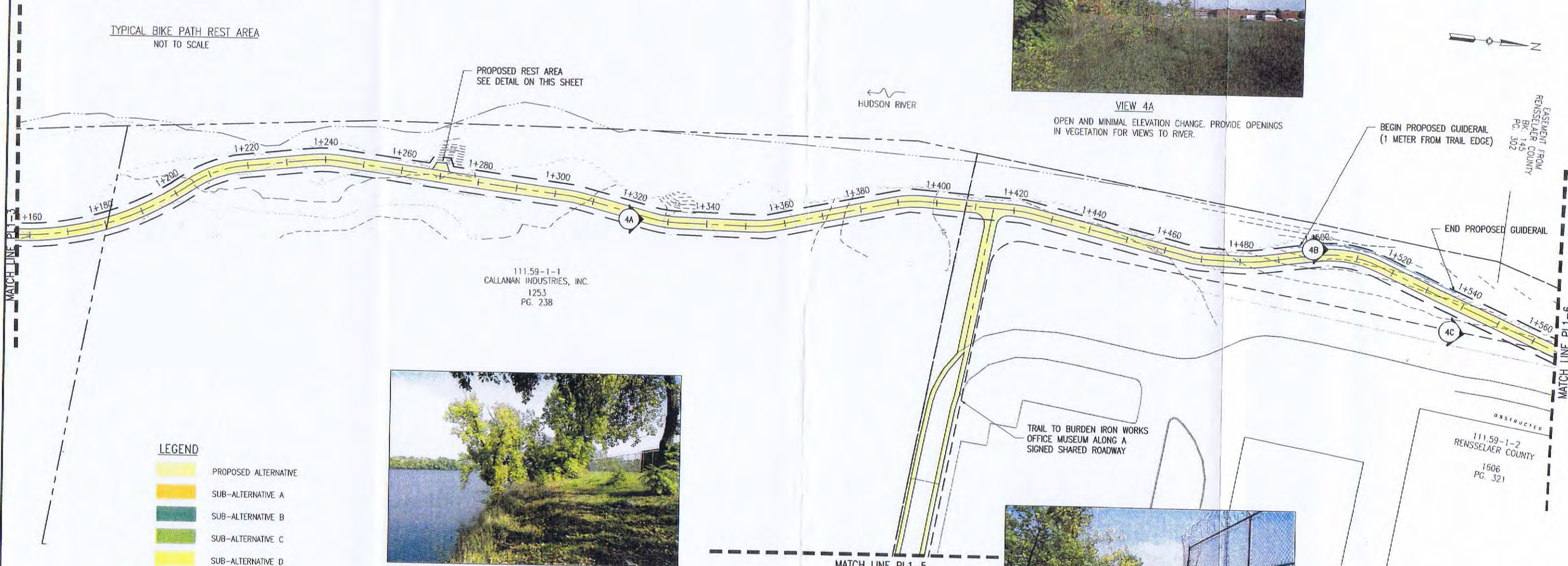
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TYPICAL BIKE PATH REST AREA
NOT TO SCALE



VIEW 4A
OPEN AND MINIMAL ELEVATION CHANGE. PROVIDE OPENINGS
IN VEGETATION FOR VIEWS TO RIVER.



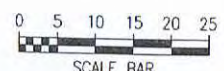
VIEW 4B
OPEN VIEW OF THE HUDSON TO THE WEST THE WESTERN
SIDE OF THE COUNTY JAIL SHOULD BE BUFFERED.



VIEW 4C
STEEP EMBANKMENT TO THE WEST AND RAZOR WIRE FENCE
TO THE EAST.

LEGEND

- PROPOSED ALTERNATIVE
- SUB-ALTERNATIVE A
- SUB-ALTERNATIVE B
- SUB-ALTERNATIVE C
- SUB-ALTERNATIVE D
- SUB-ALTERNATIVE E
- SUB-ALTERNATIVE F
- SUB-ALTERNATIVE G
- EXISTING PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED SUB-ALTERNATIVE EASEMENT
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED GUIDERAIL



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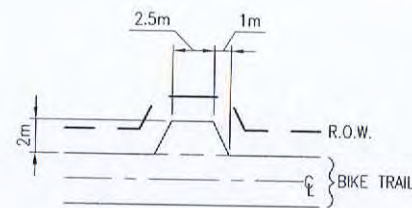
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TYPICAL BIKE PATH REST AREA
NOT TO SCALE

LEGEND

- PROPOSED ALTERNATIVE
- SUB-ALTERNATIVE A
- SUB-ALTERNATIVE B
- SUB-ALTERNATIVE C
- SUB-ALTERNATIVE D
- SUB-ALTERNATIVE E
- SUB-ALTERNATIVE F
- SUB-ALTERNATIVE G

- EXISTING PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED SUB-ALTERNATIVE EASEMENT
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED GUIDERAIL



VIEW 5A

MINOR GRADING AND CLEARING FOR PROPOSED PATH. SOME REMOVAL OF TRASH SHOULD BE DONE TO IMPROVE PATH AESTHETICS.



VIEW 5B

SOME REMOVAL OF FILL ALONG TOP OF BANK. RECENTLY LANDSCAPED BY RENSSELAER COUNTY IDA.



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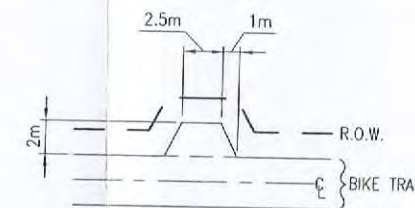
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VIEW 6A
SHEET PILING WILL NEED TO BE RELOCATED.



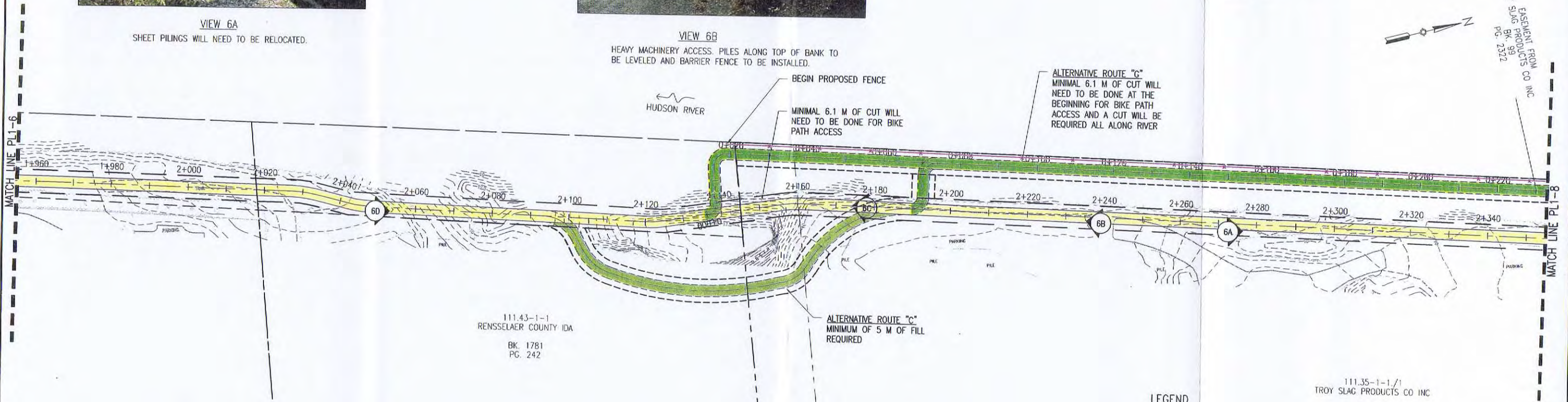
VIEW 6B
HEAVY MACHINERY ACCESS. PILES ALONG TOP OF BANK TO BE LEVELED AND BARRIER FENCE TO BE INSTALLED.



TYPICAL BIKE PATH REST AREA
NOT TO SCALE



EASEMENT FROM CO INC
TROY SLAG
BK. 99
PG. 2322



VIEW 6C
MAJOR GRADING OF SHALE MOUND AND SLOPE STABILIZATION WITH RETAINING WALLS.

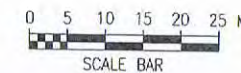


VIEW 6D
DEBRIS PILES TO BE LEVELED, EXCESS FILL WILL BE REQUIRED.

LEGEND

- PROPOSED ALTERNATIVE
- SUB-ALTERNATIVE A
- SUB-ALTERNATIVE B
- SUB-ALTERNATIVE C
- SUB-ALTERNATIVE D
- SUB-ALTERNATIVE E
- SUB-ALTERNATIVE F
- SUB-ALTERNATIVE G
- EXISTING PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED SUB-ALTERNATIVE EASEMENT
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED GUIDERAIL

111.35-1-1/1
TROY SLAG PRODUCTS CO INC
BK. 1235
PG. 801



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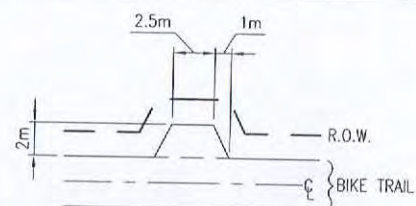
VIEW 7A

EXISTING EQUIPMENT TO BE RELOCATED AND NEW FENCING TO BE INSTALLED.



VIEW 7B

VEGETATION TO BE CLEARED AND POSSIBLE RETAINING WALLS TO BE CONSTRUCTED.

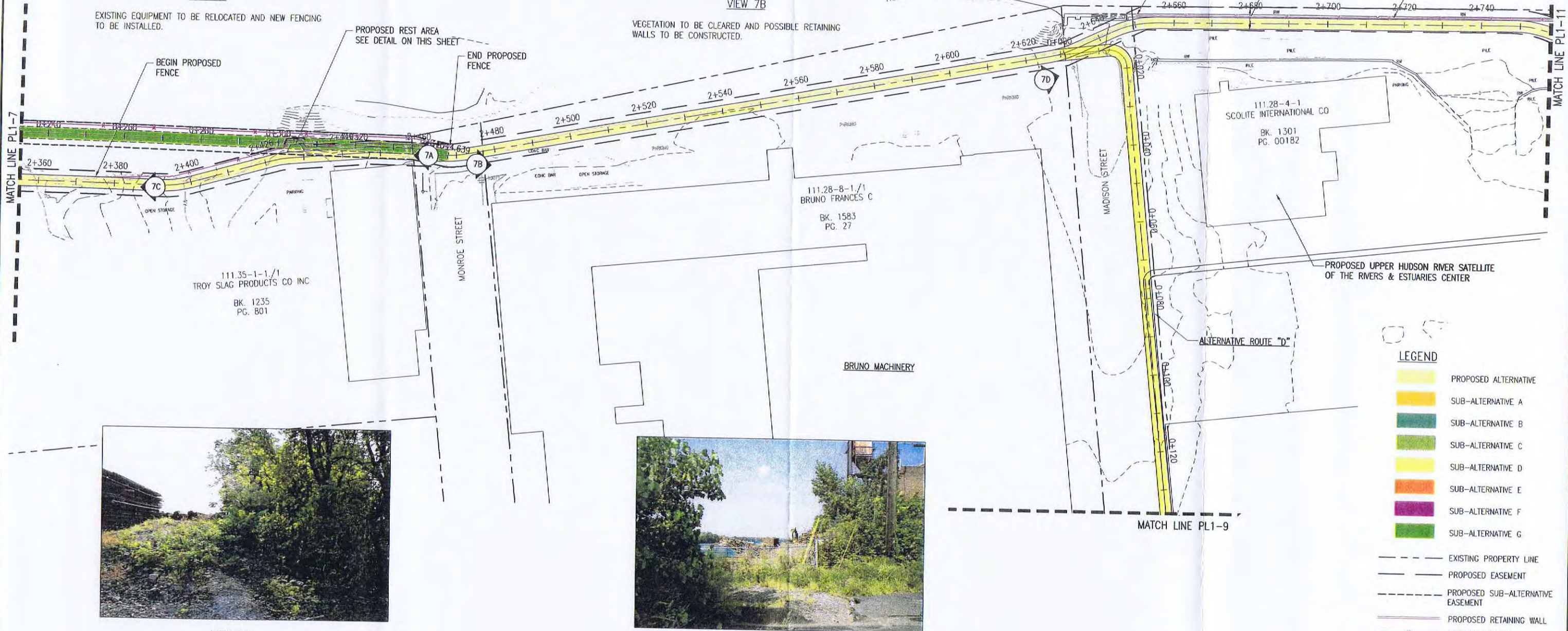


TYPICAL BIKE PATH REST AREA
NOT TO SCALE

START PROPOSED FENCE
(CENTERED ON CONC. WALL)

PROPOSED 3m WIDE TRAIL (ALONG RETAINING WALL)

6.000 m R.O.W.



VIEW 7C

LOOSE PILES TO BE GRADED AND POSSIBLE SLOPE STABILIZATION WILL BE REQUIRED.



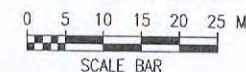
VIEW 7D

BUSINESS WILL NEED TO BE RELOCATED FOR ACCESS ALONG RIVER FRONTAGE.

LEGEND

- PROPOSED ALTERNATIVE
- SUB-ALTERNATIVE A
- SUB-ALTERNATIVE B
- SUB-ALTERNATIVE C
- SUB-ALTERNATIVE D
- SUB-ALTERNATIVE E
- SUB-ALTERNATIVE F
- SUB-ALTERNATIVE G

- EXISTING PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED SUB-ALTERNATIVE EASEMENT
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED GUIDRAIL



UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE MILLIMETERS

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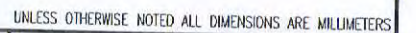
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TROY, NY 12180

PROJECT NAME:
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BIKEWAY/WALKWAY

DRAWING TITLE:
PROPOSED ALTERNATIVE
PLAN

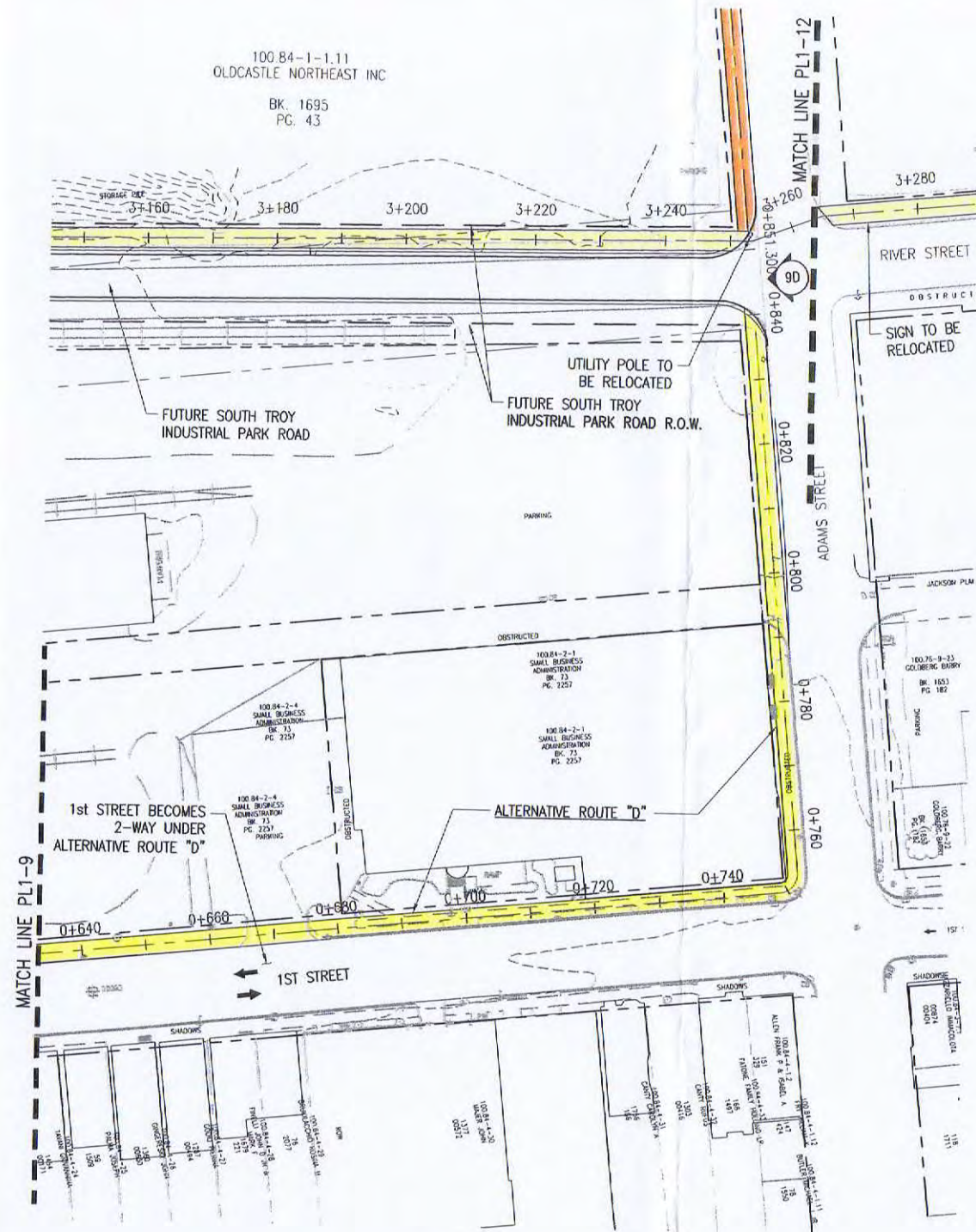
SCALE: 1:1000	DATE: MARCH 2005
DES. BY: MCO	DR. BY: JAM
CK'D BY: CT	EAA PROJ. NO.: 18990.00
SHEET NO.: 8 OF 15	DRAWING NO.: PL1-8



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PROPOSED ALTERNATIVE
PLAN

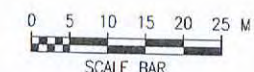
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DES. BY: MCO	DR. BY: JAM
CK'D BY: CT	EAA PROJ. NO. 18990.00
SHEET NO. 9 OF 15	DRAWING NO. PL1-9



VIEW 9D
VIEW DOWN WHERE PROPOSED SOUTH TROY INDUSTRIAL ROAD WILL START. BIKE PATH TO PARALLEL THE ROAD WITHIN ITS R.O.W.

LEGEND

- PROPOSED ALTERNATIVE
- SUB-ALTERNATIVE A
- SUB-ALTERNATIVE B
- SUB-ALTERNATIVE C
- SUB-ALTERNATIVE D
- SUB-ALTERNATIVE E
- SUB-ALTERNATIVE F
- SUB-ALTERNATIVE G
- EXISTING PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED SUB-ALTERNATIVE EASEMENT
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED GUIDERAIL



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SHEET NO. 10 OF 15	DRAWING NO. PL1-10

LEGEND

- PROPOSED ALTERNATIVE
- SUB-ALTERNATIVE A
- SUB-ALTERNATIVE B
- SUB-ALTERNATIVE C
- SUB-ALTERNATIVE D
- SUB-ALTERNATIVE E
- SUB-ALTERNATIVE F
- SUB-ALTERNATIVE G

- EXISTING PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED SUB-ALTERNATIVE EASEMENT
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED GUIDERAIL



VIEW 9A

BARRIER WILL BE NEEDED TO BE INSTALLED TO PREVENT VEHICLE PARKING ON THE PROPOSED TRAIL.



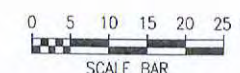
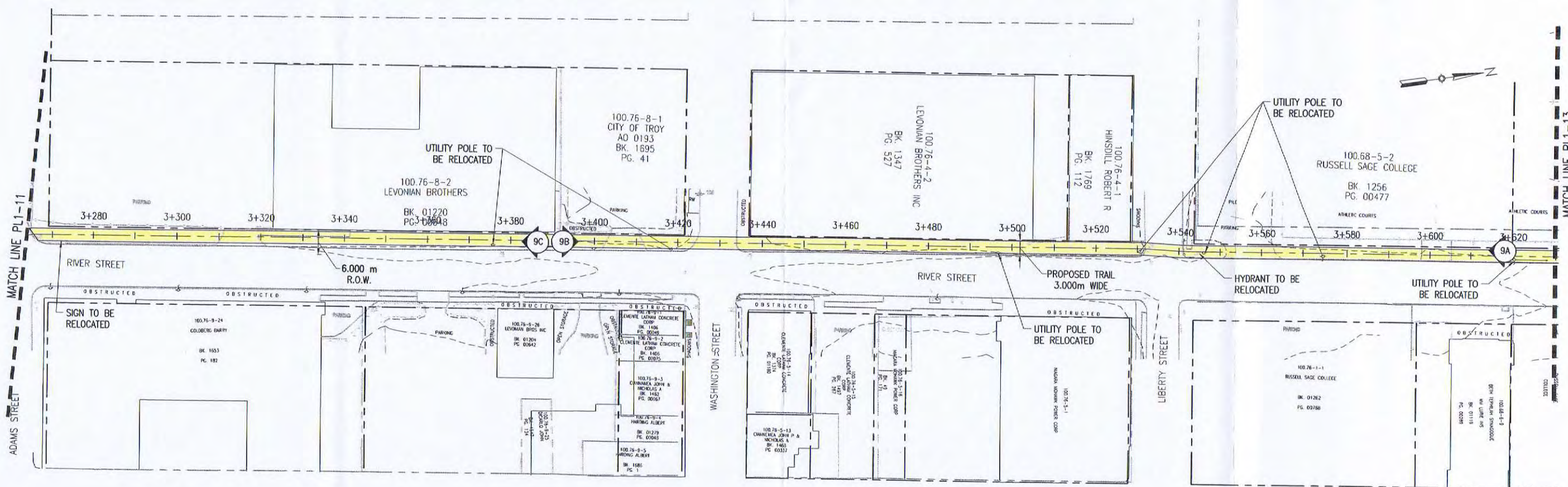
VIEW 9B

MODIFICATION TO PAVEMENT SURFACE TO SEPARATE FROM THE ROAD.



VIEW 9C

INSTALLATION OF CURBING CAN BE ENOUGH TO DELINEATE THE TRAIL FROM THE ROAD.



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DRAWING TITLE:
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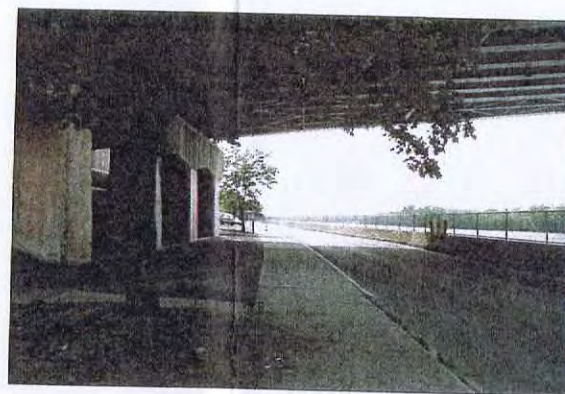
VIEW 10A

FRONT STREET BEGINS TO MEET HUDSON RIVER WALL.
RELOCATION OF DUMPSTER AND REPLACEMENT OF TREES
WILL BE NECESSARY.



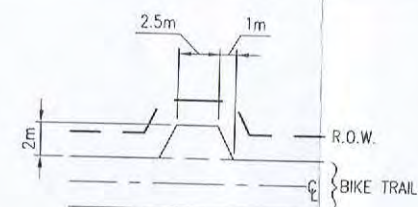
VIEW 10B

FRONT STREET WILL NEED TO SHIFT 10' EAST. JERSEY BARRIER AND FENCE TO BE REPLACED WITH DECORATIVE STEEL FENCING.

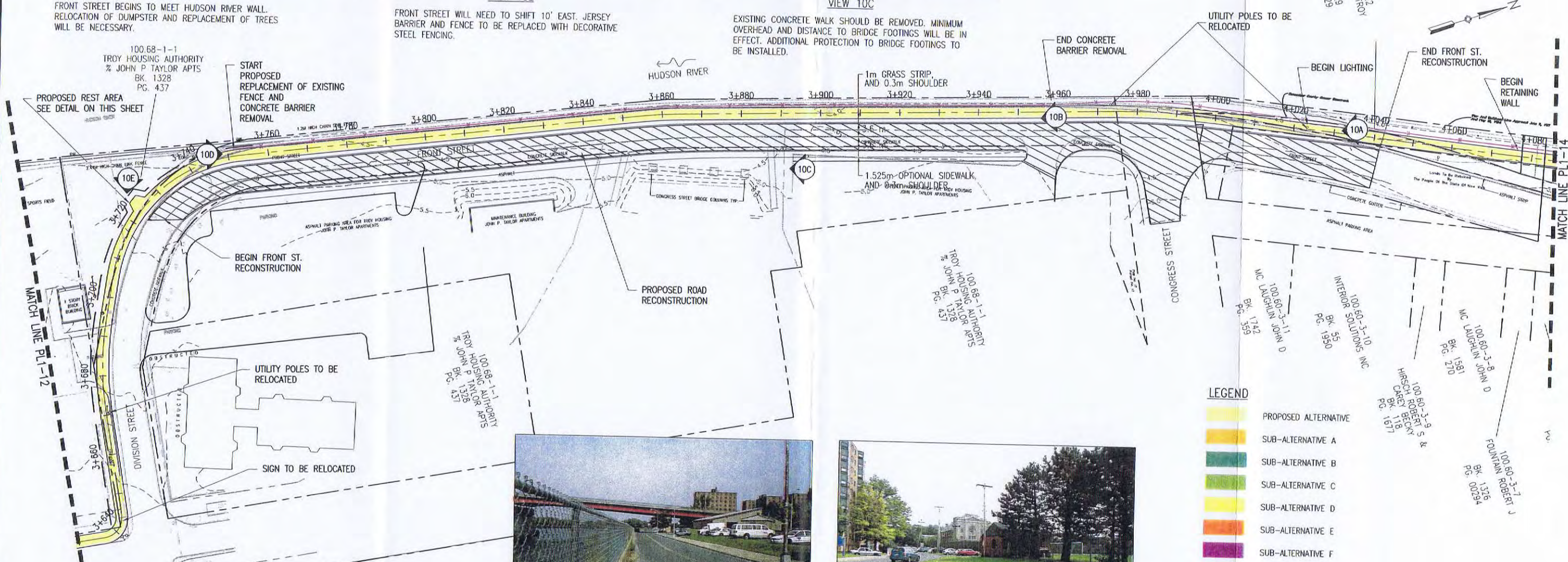


VIEW 10C

EXISTING CONCRETE WALK SHOULD BE REMOVED. MINIMUM OVERHEAD AND DISTANCE TO BRIDGE FOOTINGS WILL BE IN EFFECT. ADDITIONAL PROTECTION TO BRIDGE FOOTINGS TO BE INSTALLED.



TYPICAL BIKE PATH REST AREA
NOT TO SCALE



VIEW 10D

EXISTING LIGHTPOLES TO BE RELOCATED, EXISTING CONCRETE BARRIER
AND CHAIN LINK FENCE TO BE REMOVED AND REPLACED WITH DECORATIVE
STEEL FENCING.

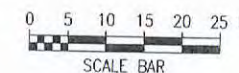


VIEW 10E

THE PARKING AREAS TO THE SOUTH OF DIVISION STREET WILL
NEED TO BE RELOCATED. POSSIBLY WIDEN THE ROAD FOR
PARALLEL PARKING

LEGEND

-
- PROPOSED ALTERNATIVE
- SUB-ALTERNATIVE A
- SUB-ALTERNATIVE B
- SUB-ALTERNATIVE C
- SUB-ALTERNATIVE D
- SUB-ALTERNATIVE E
- SUB-ALTERNATIVE F
- SUB-ALTERNATIVE G
- EXISTING PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED SUB-ALTERNATIVE EASEMENT
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED GUIDERAIL
- 0 10 20 30 40 50 60 70 80 90 100



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DRAWING TITLE:

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VIEW 11A

EXISTING PAVED SURFACE ADEQUATE FOR FUTURE TRAIL, NO MODIFICATIONS NEEDED.



VIEW 11B

EXISTING WALKWAY REDUCED TO 1.5 METERS WIDE (5 FEET) TRAIL WOULD NEED NEW SURFACE AND PINES WOULD NEED TO BE LIMBED UP.



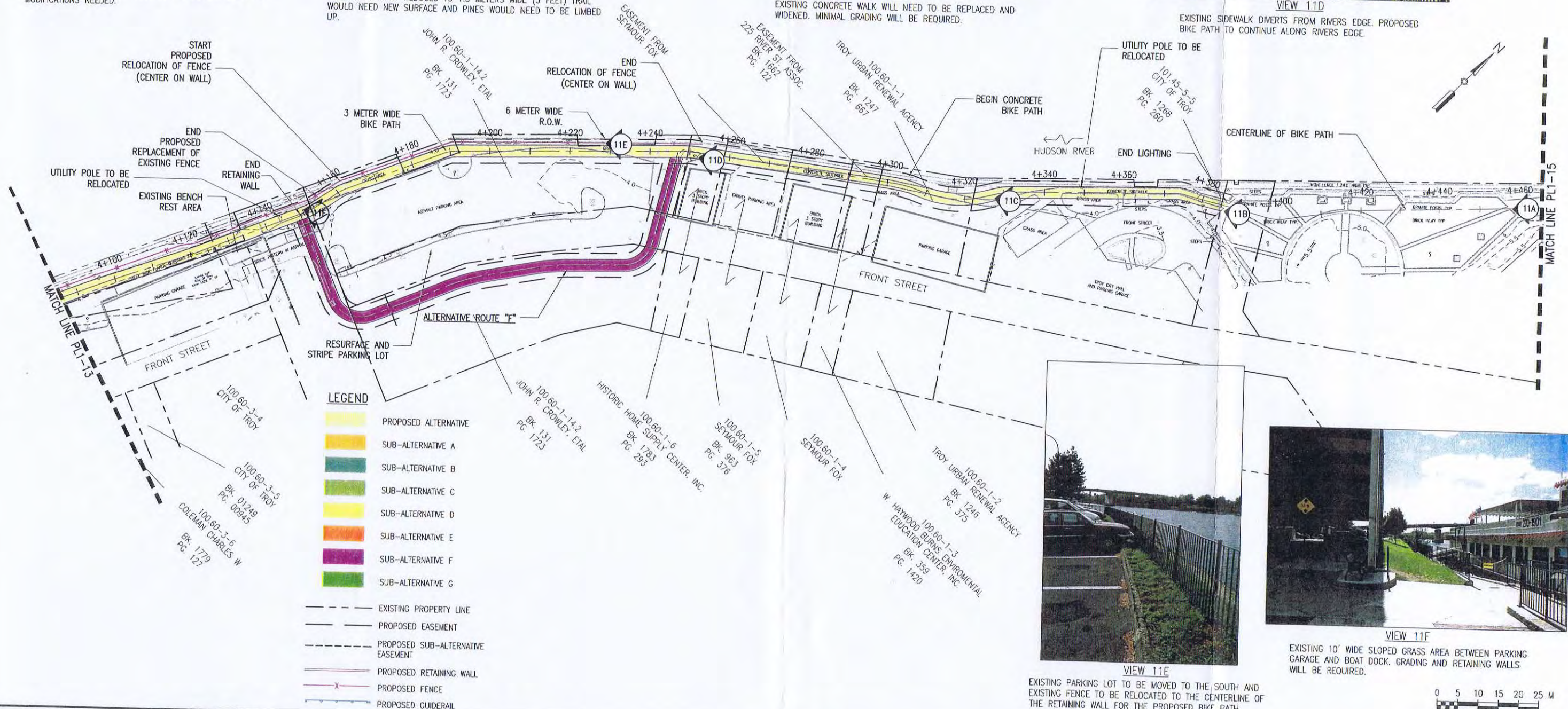
VIEW 11C

EXISTING CONCRETE WALK WILL NEED TO BE REPLACED AND WIDENED. MINIMAL GRADING WILL BE REQUIRED.



VIEW 11D

EXISTING SIDEWALK DIVERTS FROM RIVERS EDGE. PROPOSED BIKE PATH TO CONTINUE ALONG RIVERS EDGE.



LEGEND

- PROPOSED ALTERNATIVE
- SUB-ALTERNATIVE A
- SUB-ALTERNATIVE B
- SUB-ALTERNATIVE C
- SUB-ALTERNATIVE D
- SUB-ALTERNATIVE E
- SUB-ALTERNATIVE F
- SUB-ALTERNATIVE G

- EXISTING PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED SUB-ALTERNATIVE EASEMENT
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED GUIDELINE



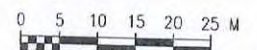
VIEW 11E

EXISTING PARKING LOT TO BE MOVED TO THE SOUTH AND EXISTING FENCE TO BE RELOCATED TO THE CENTERLINE OF THE RETAINING WALL FOR THE PROPOSED BIKE PATH.



VIEW 11F

EXISTING 10' WIDE SLOPED GRASS AREA BETWEEN PARKING GARAGE AND BOAT DOCK. GRADING AND RETAINING WALLS WILL BE REQUIRED.



SCALE BAR

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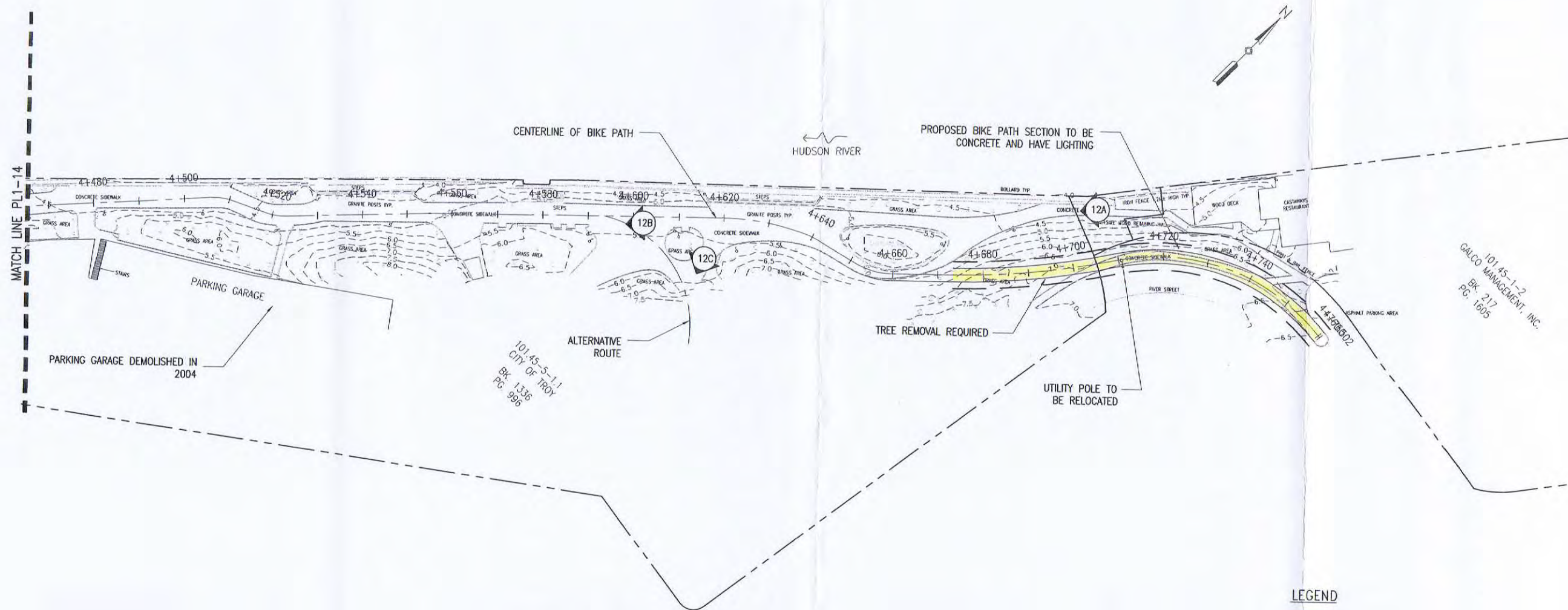
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BIKEWAY/WALKWAY**

DRAWING TITLE:
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PLAN**

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CK'D BY: CT	EAA PROJ. NO.: 18990.00
SHEET NO. 14 OF 15	DRAWING NO. PL1-14



101-45-1-2
BK. 217
PG. 1605
CALCO MANAGEMENT, INC.



VIEW 12A

ACCESS TO FRESNO'S RESTAURANT. EXISTING WALK TO BE WIDENED FOR PROPOSED BIKE PATH.



VIEW 12B

EXISTING PEDESTRIAN/BIKE ACCESS WIDE ENOUGH FOR FUTURE TRAIL. NO MODIFICATIONS NEEDED. SIGNS WILL NEED TO BE POSTED AND INFORMATION MAP WILL NEED TO BE UPDATED.



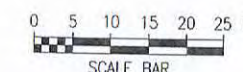
VIEW 12C

VIEW OF ALTERNATE ROUTE THAT WOULD DIRECT PEOPLE TO THE UNCLE SAM STATUE AT FRONT STREET INTERSECTION.

LEGEND

- PROPOSED ALTERNATIVE
- SUB-ALTERNATIVE A
- SUB-ALTERNATIVE B
- SUB-ALTERNATIVE C
- SUB-ALTERNATIVE D
- SUB-ALTERNATIVE E
- SUB-ALTERNATIVE F
- SUB-ALTERNATIVE G

- EXISTING PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED SUB-ALTERNATIVE EASEMENT
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED GUIDERAIL



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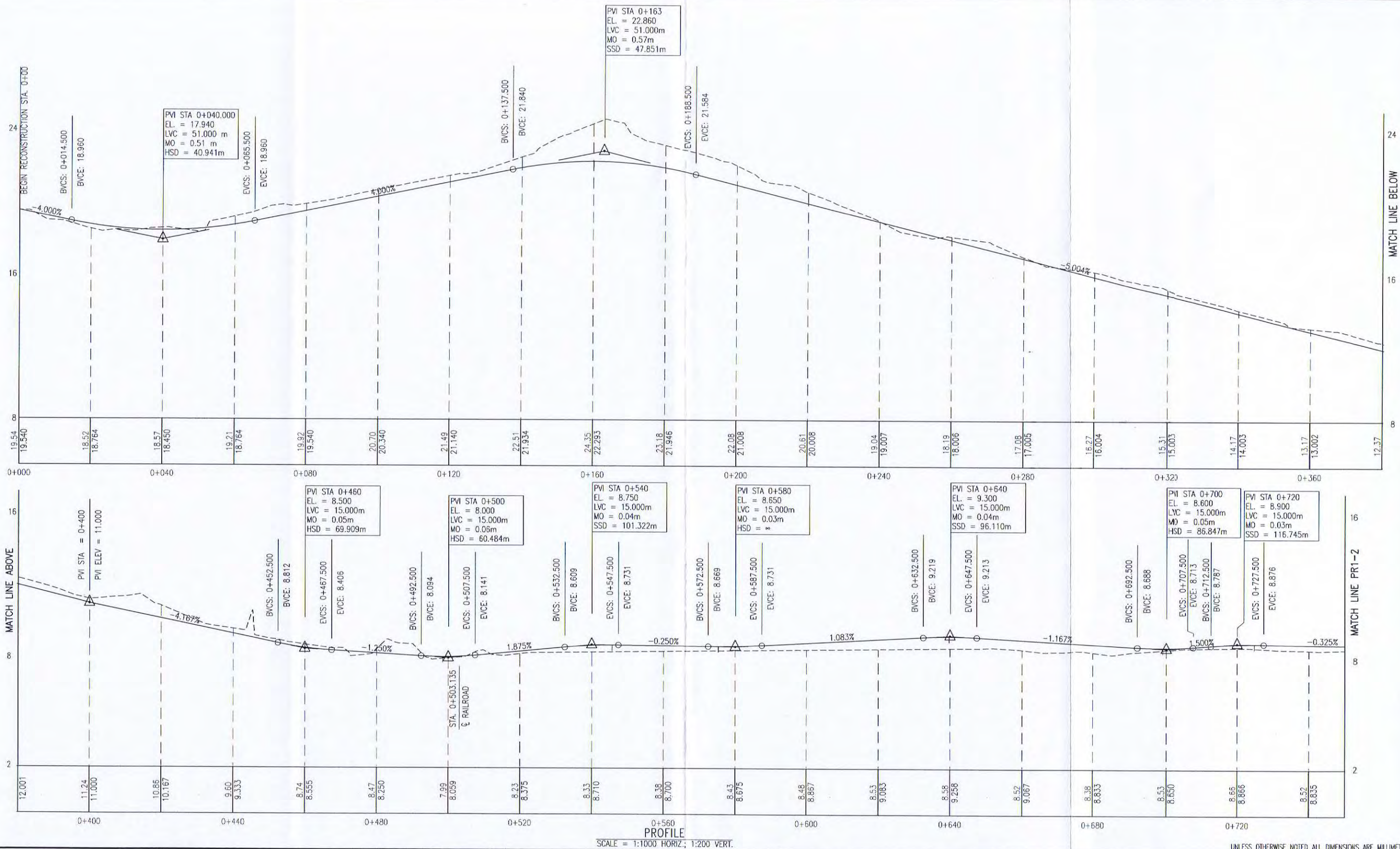
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APPENDIX C

Riverfront Bikeway/Walkway Profiles



PROFILE
SCALE = 1:1000 HORIZ.; 1:200 VERT.



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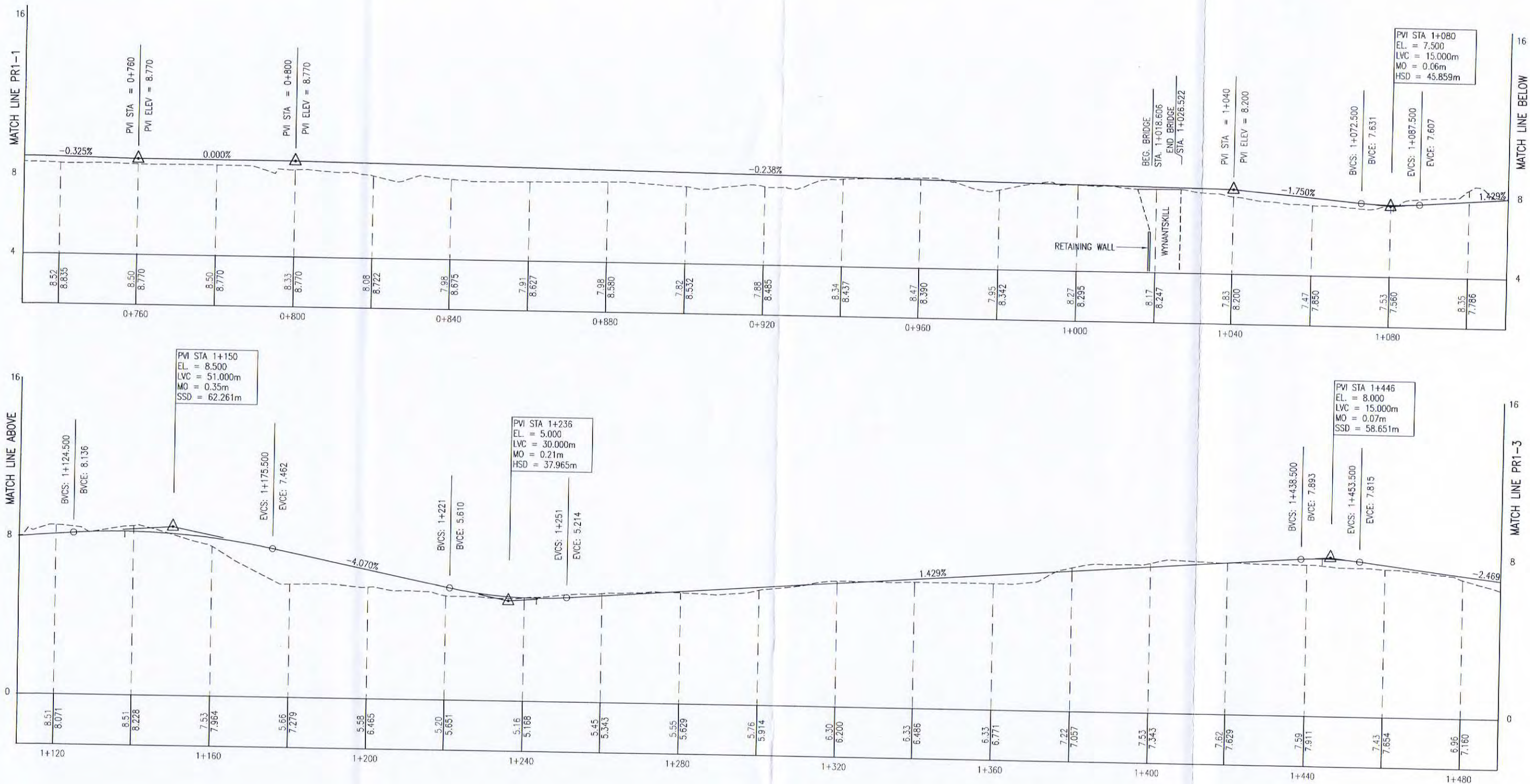
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BIKEWAY/WALKWAY

DRAWING TITLE:
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PROFILE

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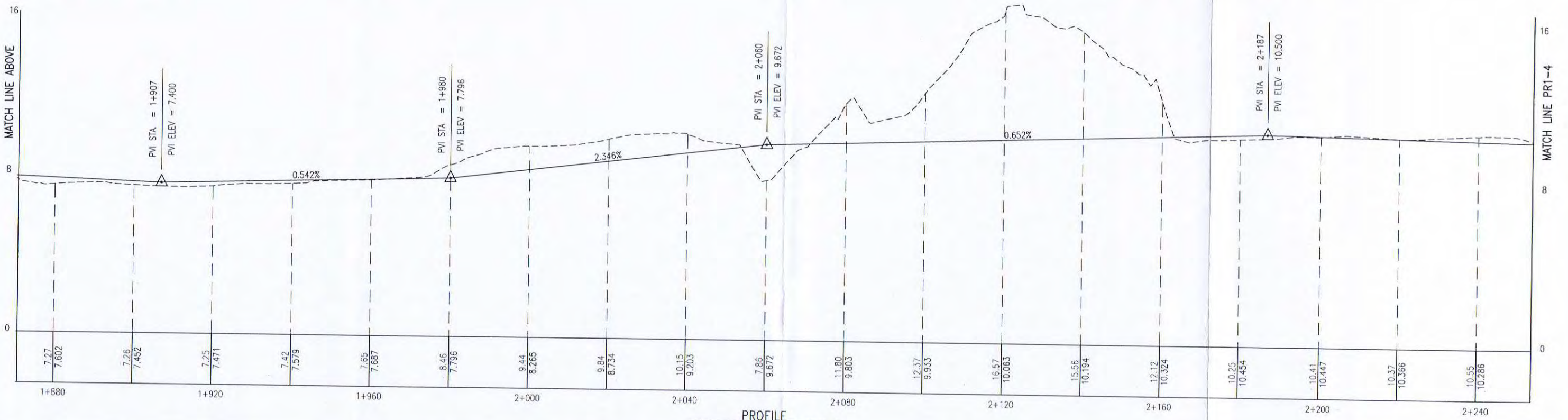
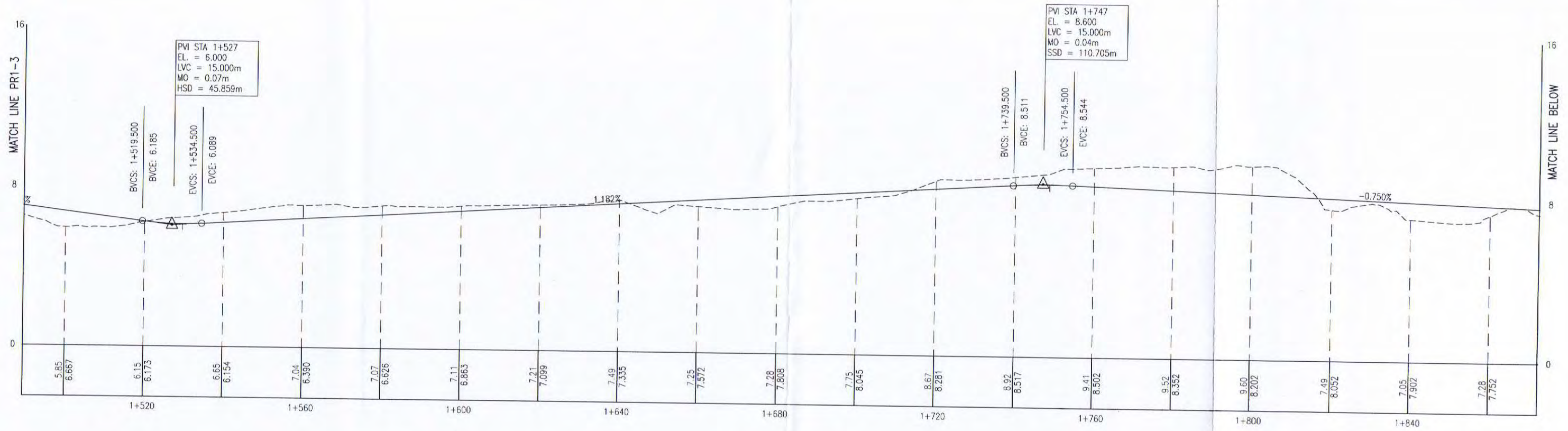
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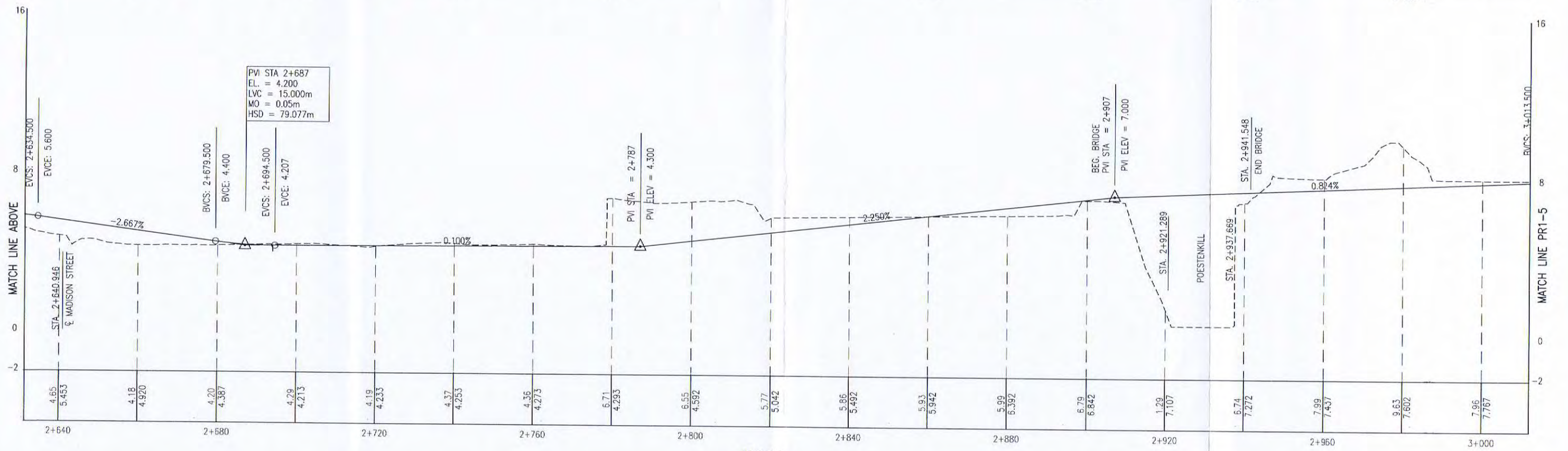
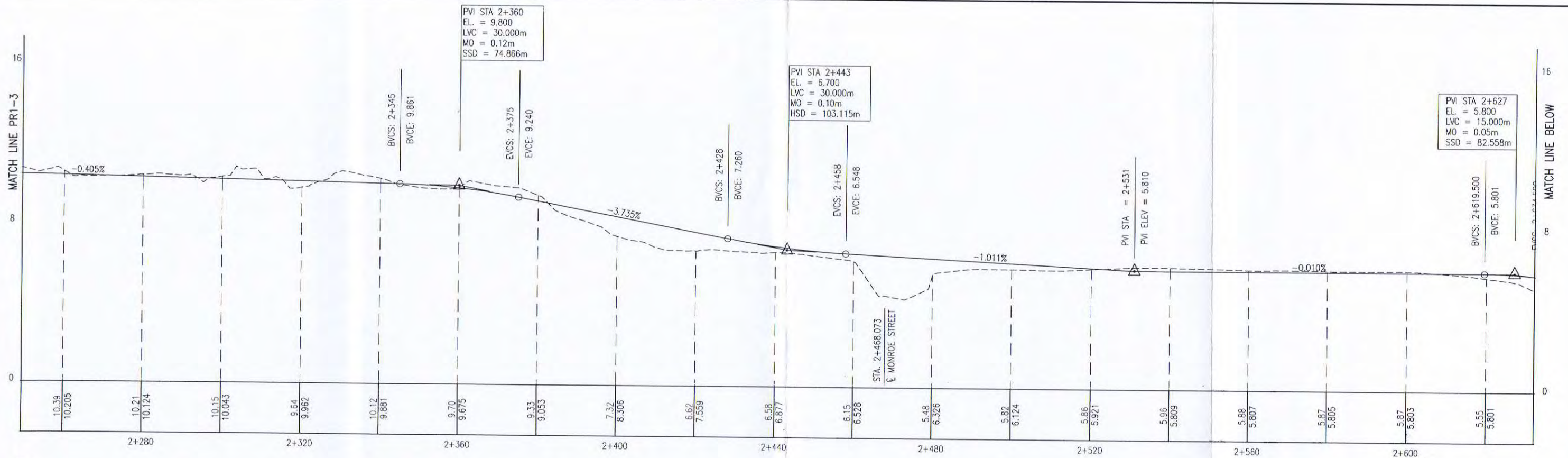
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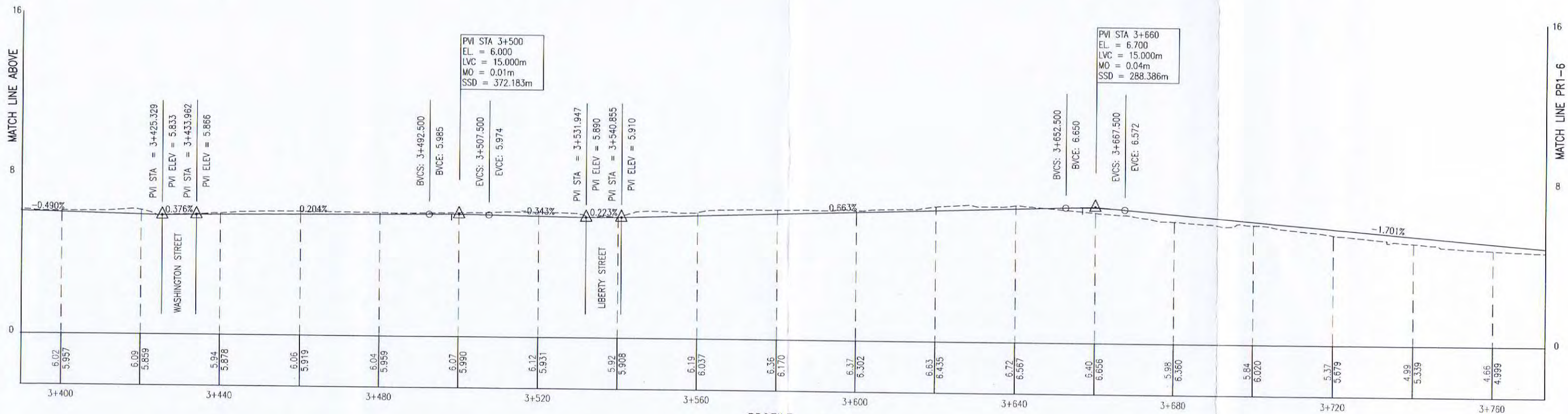
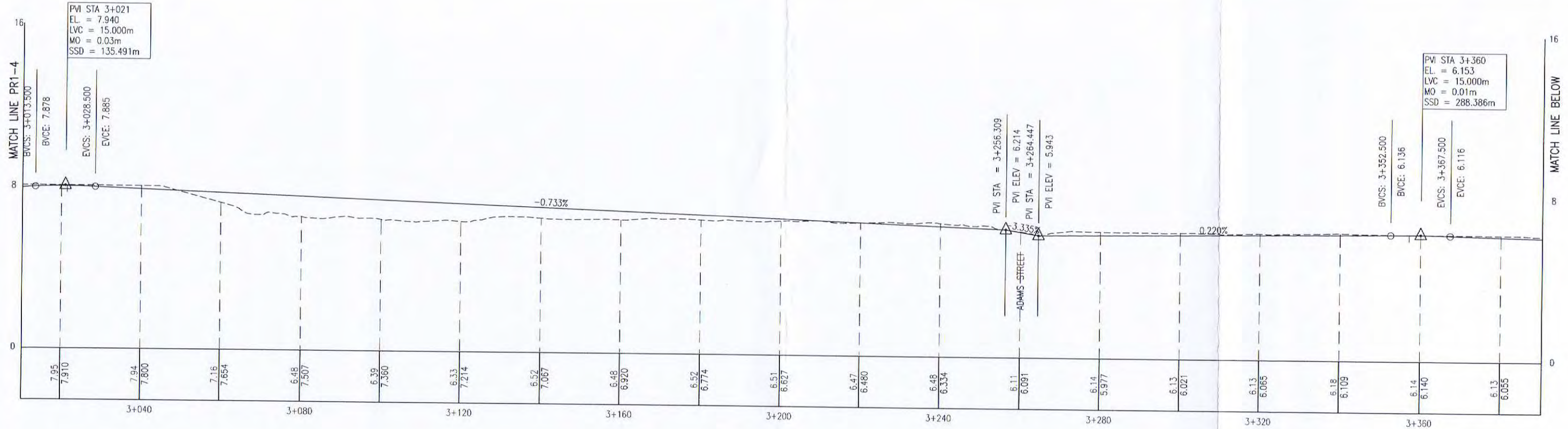
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FILENAME: N:\18990-00-WEB\18990-00.dwg Construction\PR-1.dwg DATE: MAR 14, 2003 TIME: 1:13 PM



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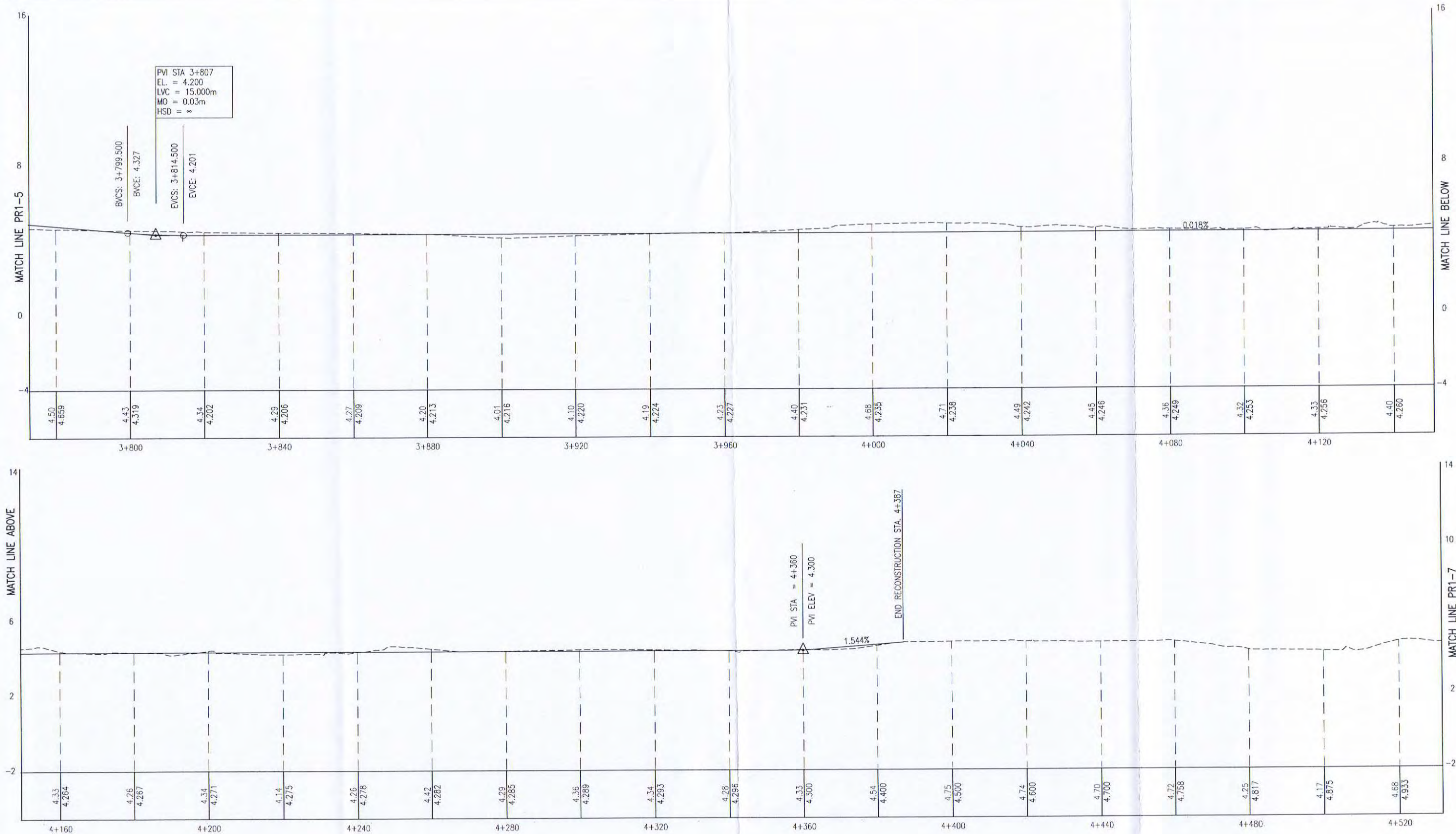
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PROFILE

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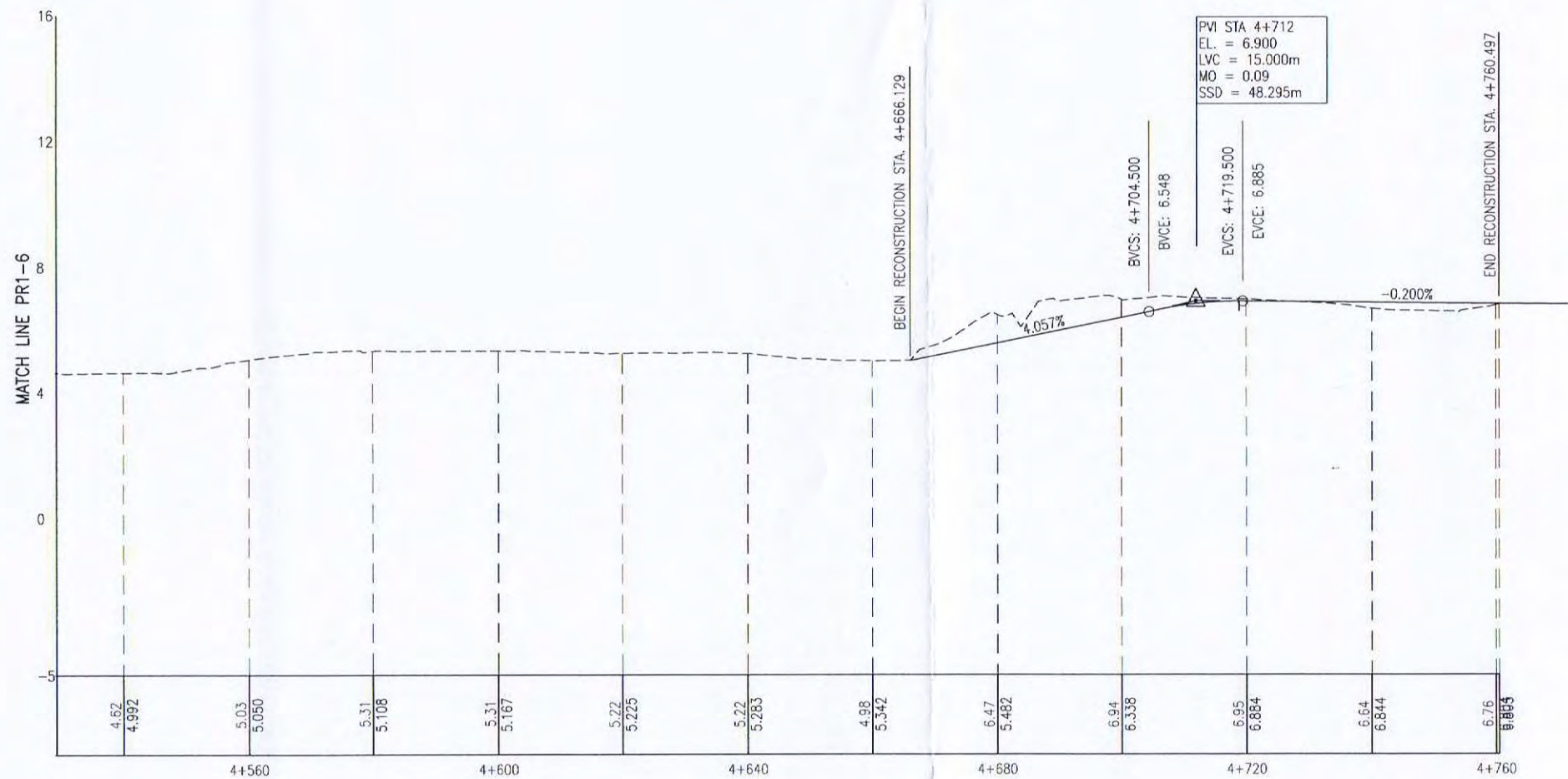
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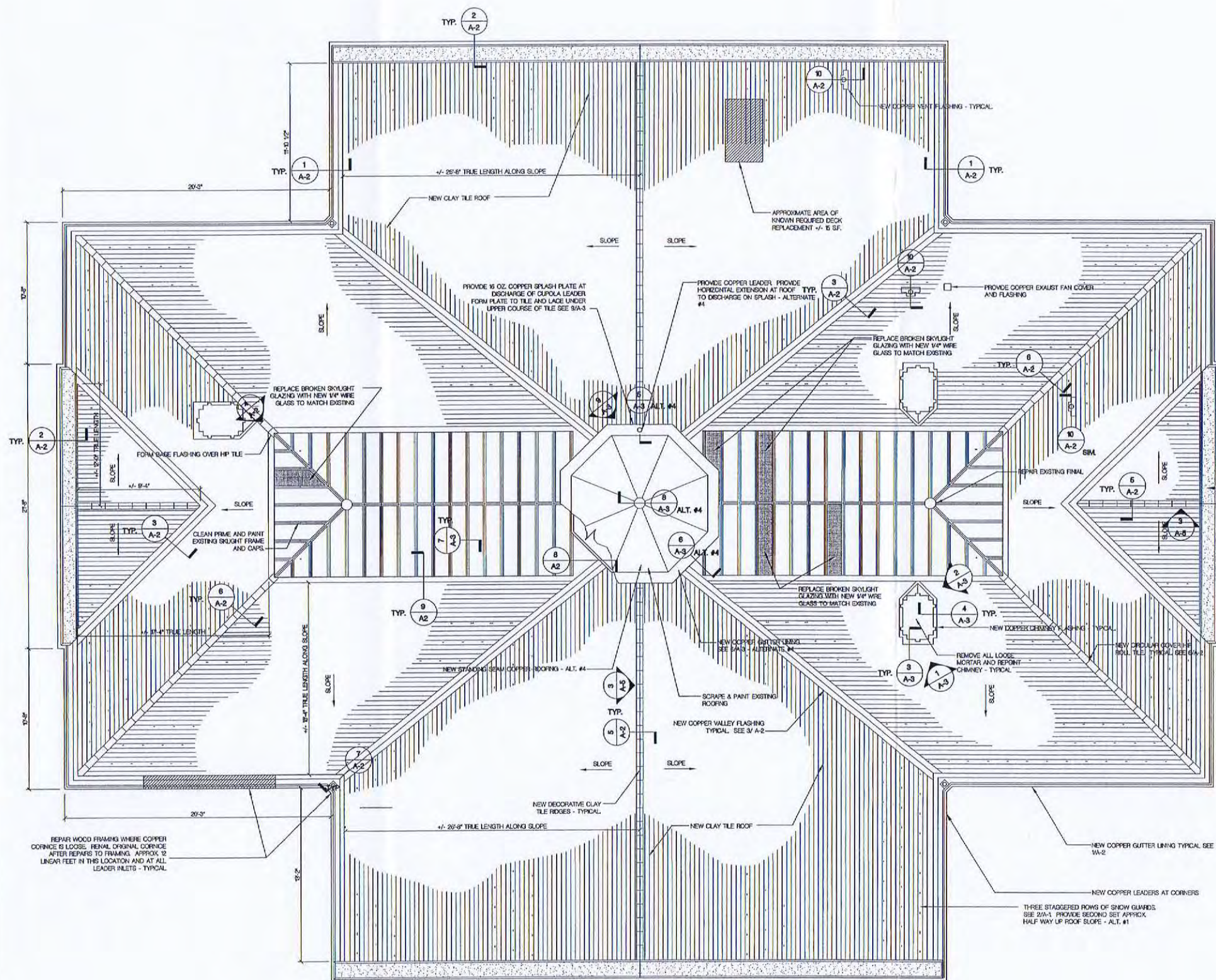
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PROFILE

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE MILLIMETERS

SCALE: AS NOTED	DATE: MARCH 2005
DES. BY: MCO	DR. BY: JAM
CK'D BY: CT	EAM PROJ. NO. 18990.00
SHEET NO. 7 OF 7	DRAWING NO. PR1-7

APPENDIX D

Burden Iron Works Plans



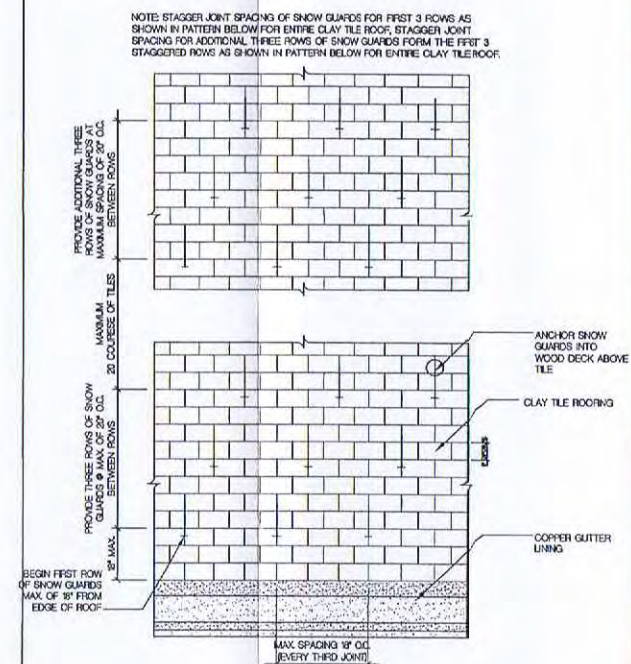
1 ROOF PLAN
SCALE: 1/4" = 1'-0"



GENERAL NOTES:

1. REMOVE EXISTING ROOFING SYSTEM AND FLASHINGS DOWN TO EXISTING ROOF DECK AS REQUIRED FOR INSTALLATION OF NEW FLAT SLAB CLAY TILE ROOFING SYSTEM.
2. REPAIR AND REPLACE ALL DAMAGED AND ROTTED WOOD ROOF DECKING AS REQUIRED TO PROVIDE A SOUND SUBSTRATE PRIOR TO INSTALLATION OF NEW ROOF SYSTEMS. CONTRACTOR SHALL EVALUATE AND DETERMINE EXTENT OF DAMAGED AND/OR DETERIORATED ROOF DECKING REQUIRING REPLACEMENT. CONTRACTOR MUST OBTAIN PRIOR APPROVAL FROM THE ARCHITECT BEFORE PROCEEDING WITH ANY DECK REPLACEMENT WORK.
3. PRIOR TO INSTALLATION OF NEW MEMBRANE AND UNDERLAYMENT, THE CONTRACTOR SHALL CHECK AND SET ALL EXISTING NAIL HEADS AND FASTENERS IN THE EXISTING AND NEW ROOF DECKING. SECURE ALL LOOSE ROOF DECKING BOARDS AND PROVIDE ANY ADDITIONAL SUPPORT BLOCKING AND/OR FRAMING TO PROVIDE A SOUND AND LEVEL SUBSTRATE SURFACE FOR THE ALL NEW ROOFING SYSTEMS.
4. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT ALL WOOD WINDOWS AND GLASS SKYLIGHTS FROM DAMAGE FOR THE DURATION OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES THAT OCCUR AND REPAIRS REQUIRED AS A RESULT OF DAMAGE TO THE SATISFACTION OF THE OWNER AND THE ARCHITECT.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ENTIRE BUILDING WATER TIGHT FOR THE DURATION OF CONSTRUCTION, AND SHALL BE RESPONSIBLE FOR ALL REPAIRS AND RESTORATIONS OF ANY AND ALL DAMAGE TO BUILDING DUE TO WATER INFILTRATION DURING CONSTRUCTION, TO THE SATISFACTION OF THE OWNER AND ARCHITECT.
6. FIELD VERIFY ALL EXISTING CONDITIONS, IMMEDIATELY NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN CONDITIONS IN FIELD AND INFORMATION SHOWN.
7. PRIOR TO REMOVAL, CAREFULLY NUMBER, REMOVE, AND STORE COPING STONE FOR REINSTALLATION IN THE EXACT SAME LOCATIONS.
8. PROVIDE NEW FLAT SLAB CLAY TILE ROOFING AS DETAILED IN DOCUMENTS AND FOLLOWING ALL RECOMMENDATIONS OF MANUFACTURER.
9. REMOVE EXISTING LEADERS AND OUTLET TUBES AND PROVIDE NEW COPPER LEADERS AND OUTLET TUBES. PROVIDE CONNECTION TO DRAINAGE SYSTEM FOR EACH LEADER AT GRADE.

ALTERNATE NO. ONE



2 PLAN - SNOW GUARDS
SCALE: 3/4" = 1'-0"

DRAWING NO.

A1

ROOF PLAN

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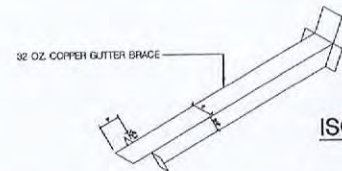
THE BURDEN IRON WORKS
RESTORATION
ONE EAST INDUSTRIAL PARKWAY
TROY, NEW YORK

SCALE
AS NOTED
COMMISSION NO.
034
DRAWN BY
RSC/RSB
DATE
REVISED

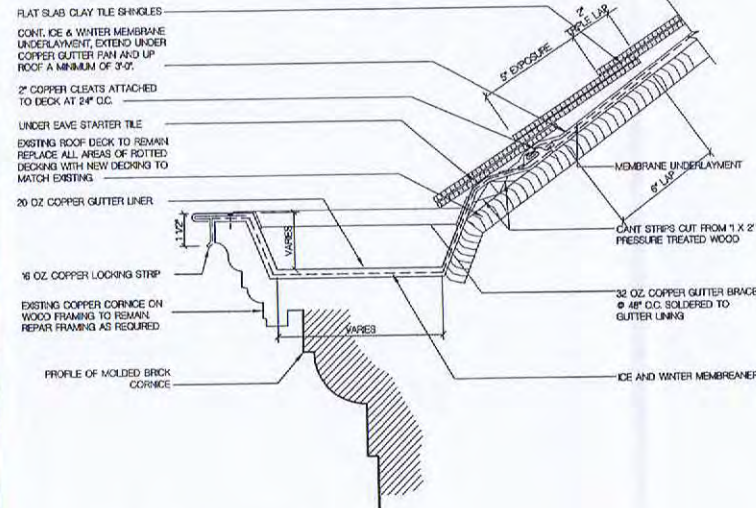
DRAWING NO.

A1

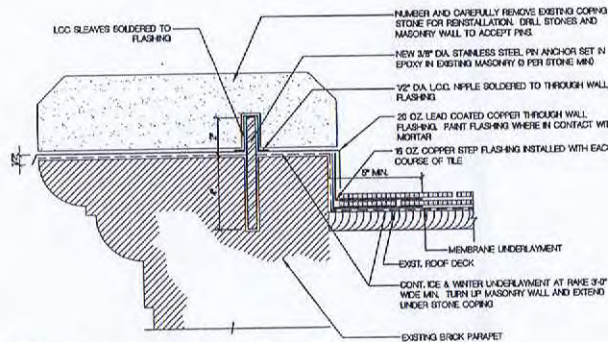
0314-ROOF PLAN



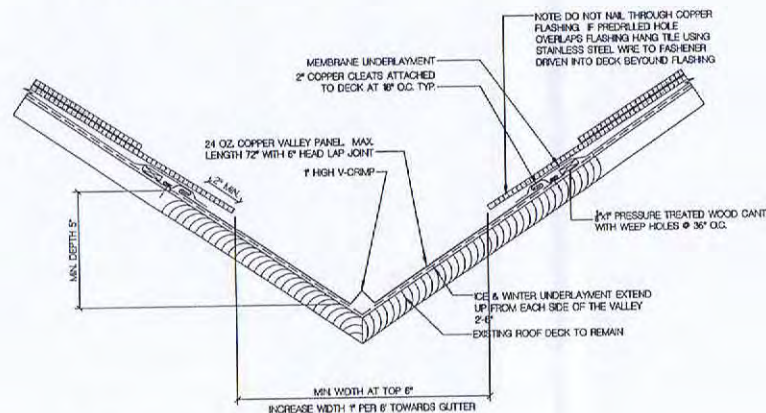
ISOMETRIC - GUTTER BRACE
NTS.



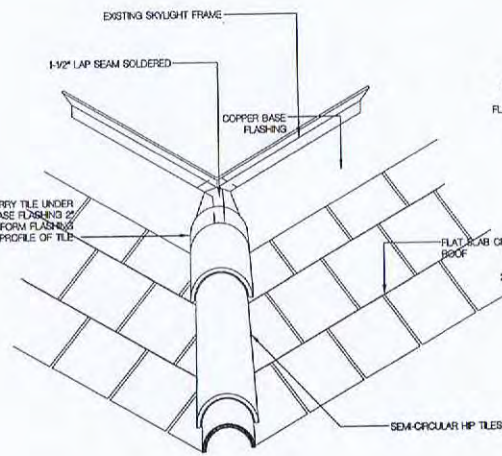
1 GUTTER DETAIL
SCALE: 3" = 1'-0"



2 COPING DETAIL
SCALE: 3" = 1'-0"

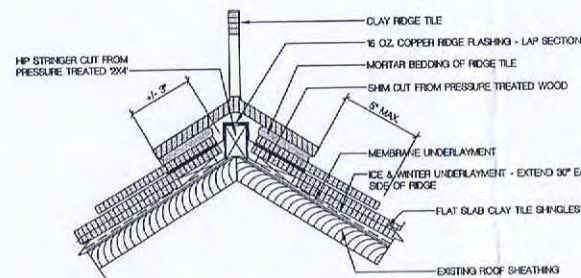


3 VALLEY DETAIL
SCALE: 3" = 1'-0"

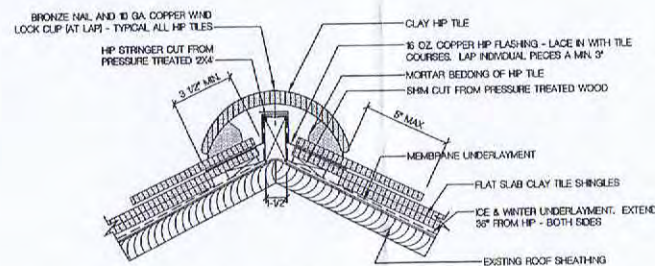


4 HIP/ SKYLIGHT JUNCTION
NTS

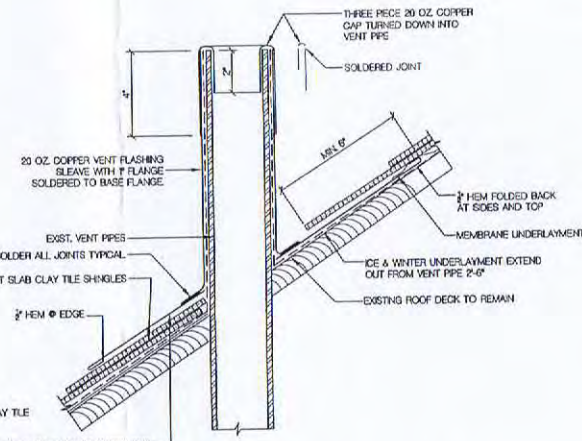
NOTE: ALL MATERIALS LISTED ON DRAWINGS
ARE NEW UNLESS LABELED EXISTING



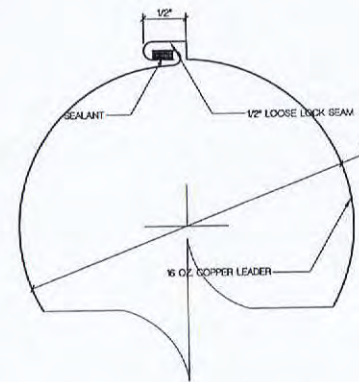
5 RIDGE CAP DETAIL
SCALE: 3" = 1'-0"



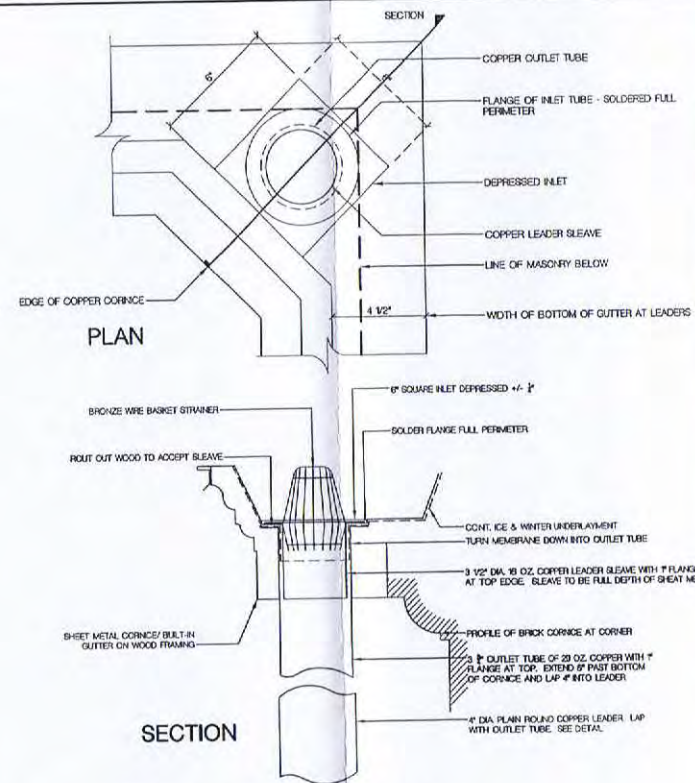
6 HIP CAP DETAIL
SCALE: 3" = 1'-0"



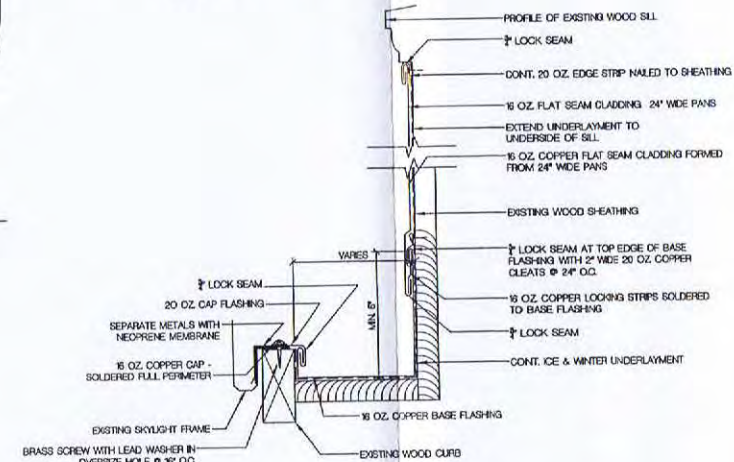
10 ROOF VENT DETAIL
SCALE: 3" = 1'-0"



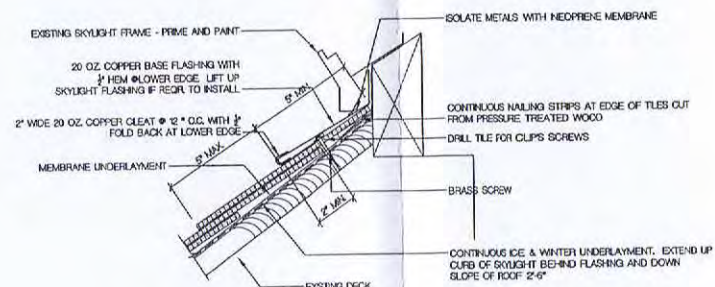
LEADER DETAIL
SCALE: 6" = 1'-0"



7 LEADER INLET DETAILS
SCALE: 3" = 1'-0"



8 CURB & WALL DETAIL AT CUPOLA
SCALE: 3" = 1'-0"



9 SKYLIGHT CURB DETAIL
SCALE: 3" = 1'-0"

DRAWING NO.

A2

ROOF DETAILS

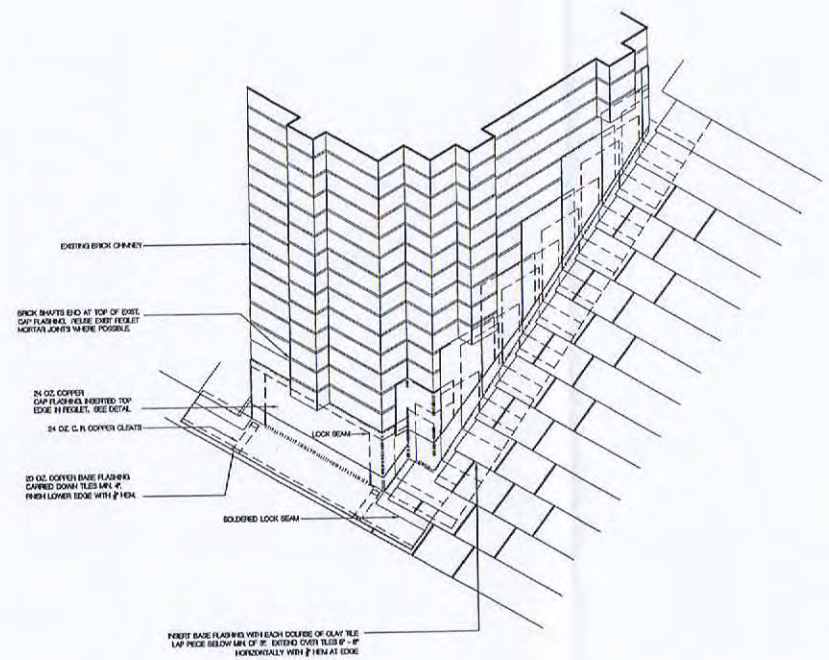
MESICK • COHEN • WILSON • BAKER ARCHITECTS, LLP
388 BROADWAY ALBANY, NEW YORK 12207
(518) 439-6884

THE BURDEN IRON WORKS
RESTORATION
ONE EAST INDUSTRIAL PARKWAY
TROY, NEW YORK

SCALE
AS NOTED
COMMISSION NO.
0314
DRAWN BY
PST/JP
DATE
REVISED

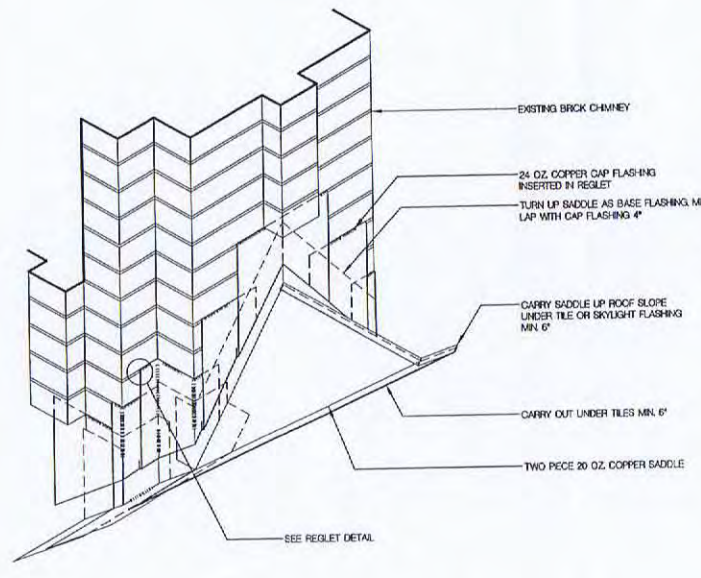
DRAWING NO.

A2

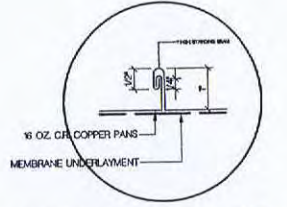


1 CHIMNEY FLASHING ISOMETRIC DETAIL
A3 NOT TO SCALE

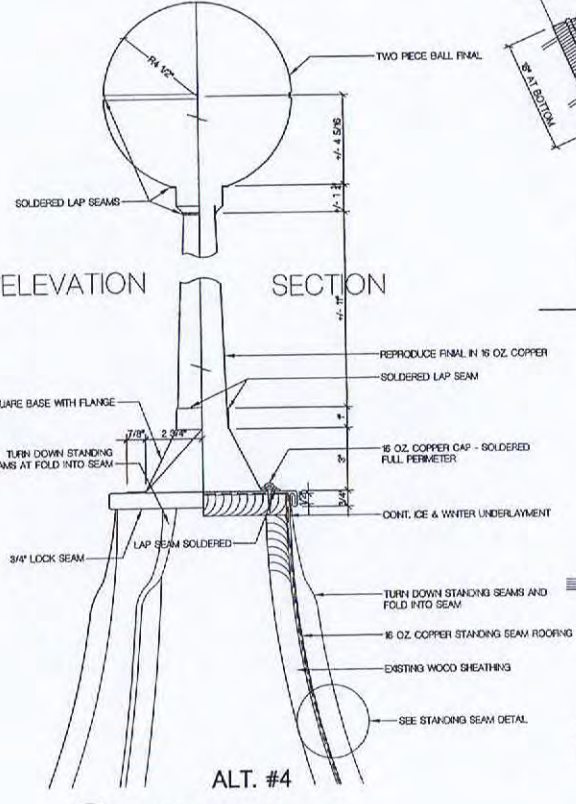
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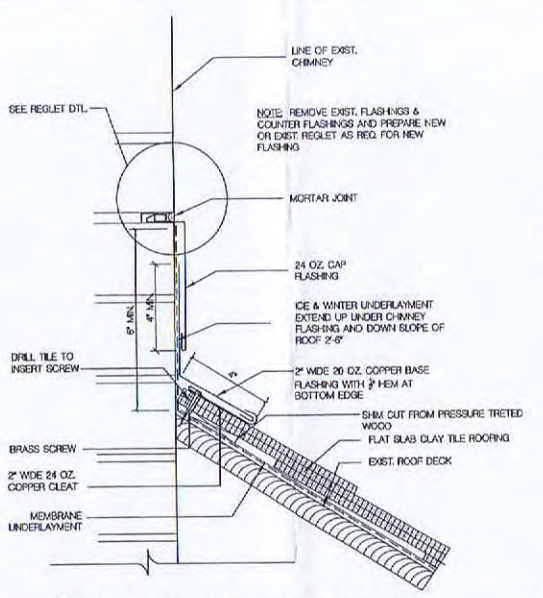
2 CHIMNEY SADDLE ISOMETRIC DETAIL
A3 NOT TO SCALE



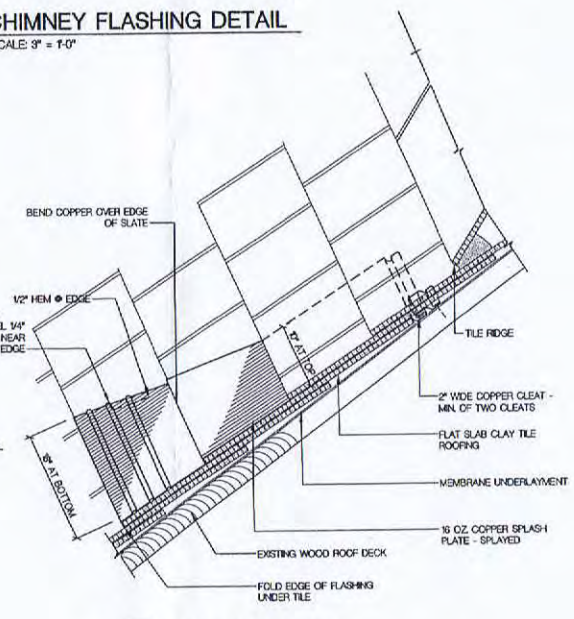
STANDING SEAM DETAIL
SCALE: 6" = 1'-0"



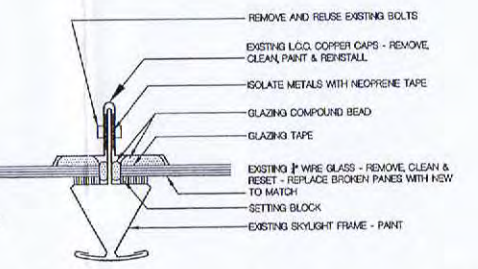
8 FINAL DETAIL
A3 SCALE: 3" = 1'-0"



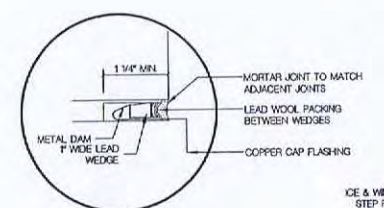
3 CHIMNEY FLASHING DETAIL
A3 SCALE: 3" = 1'-0"



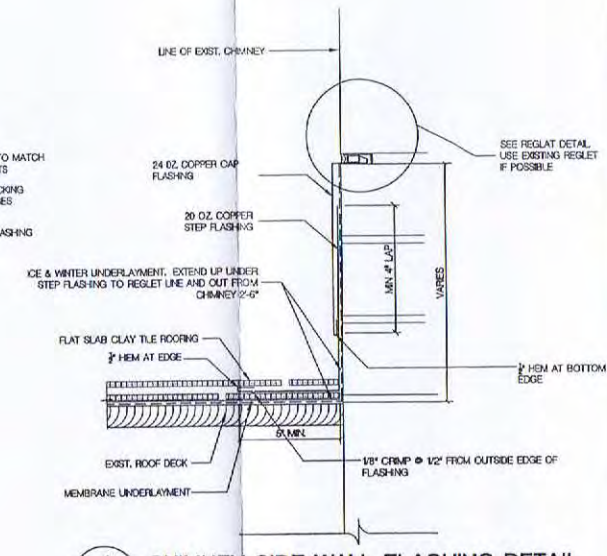
9 SPLASH PLATE
A3 NOT TO SCALE



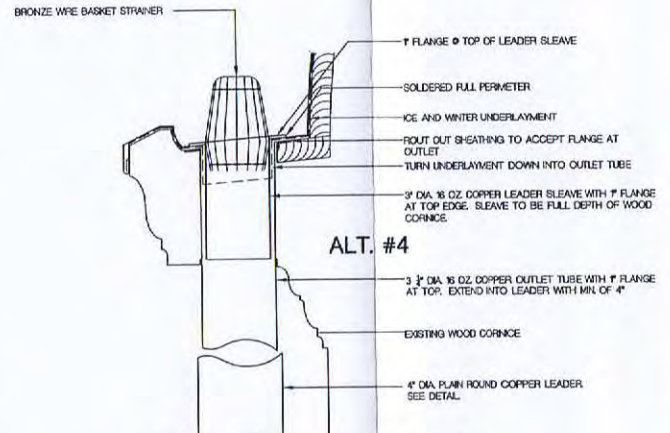
7 TYPICAL SKYLIGHT MULLION DETAIL
A3 SCALE: 6" = 1'-0"



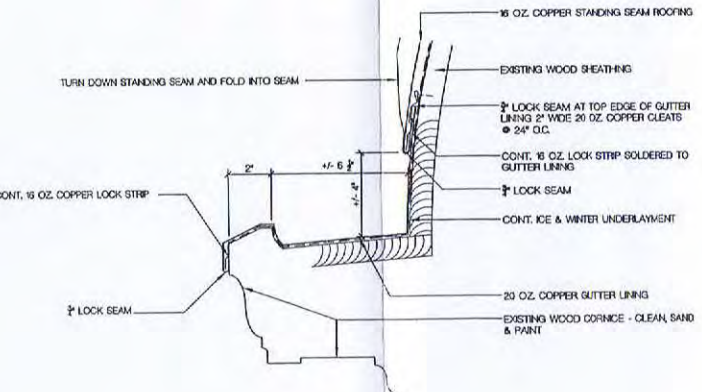
REGLET DETAIL
SCALE: 6" = 1'-0"



4 CHIMNEY SIDE WALL FLASHING DETAIL
A3 SCALE: 3" = 1'-0"



5 CUPOLA LEADER DETAIL
A3 SCALE: 3" = 1'-0"



6 CUPOLA GUTTER DETAIL
A3 SCALE: 3" = 1'-0"

DRAWING NO. **A3**

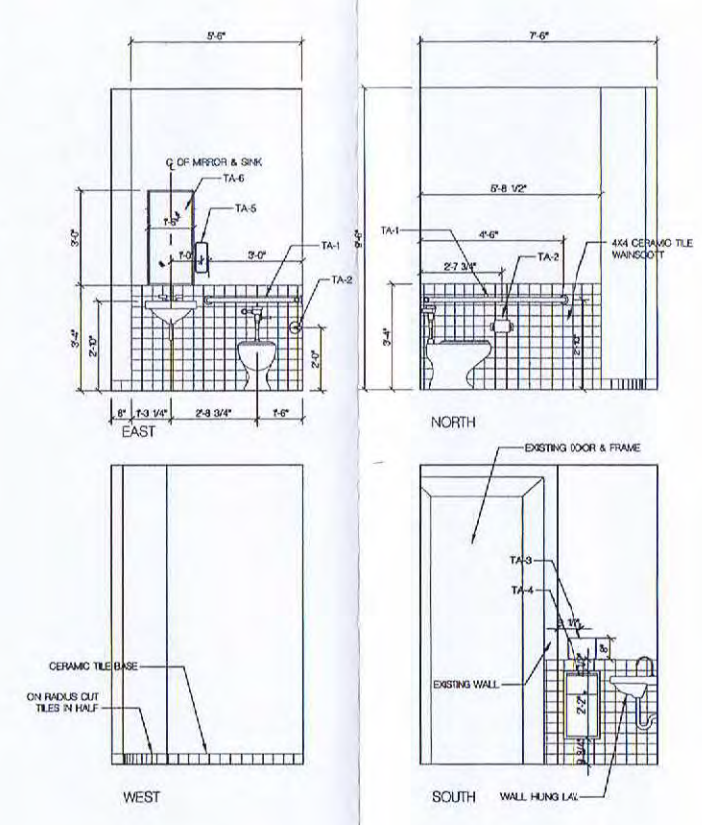
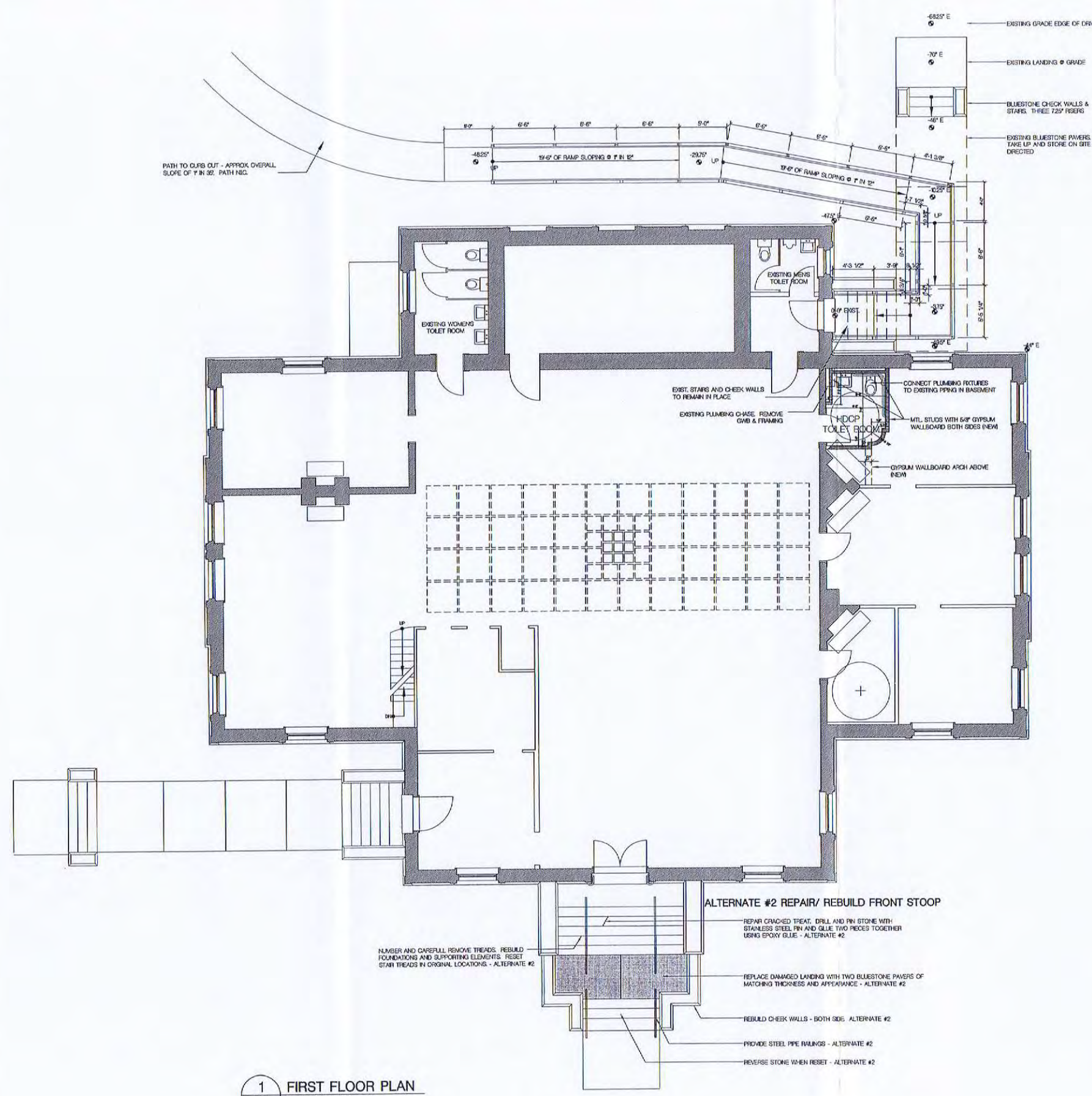
ROOF DETAILS
THE BURDEN IRON WORKS RESTORATION

MESICK • COHEN • WILSON • BAKER ARCHITECTS, LLP
ONE EAST INDUSTRIAL PARKWAY

ALBANY, NEW YORK 12207
TROY, NEW YORK

SCALE AS NOTED
 COMMISSION NO. 0314
 DRAWN BY R.P.
 DATE
 REVISED

DRAWING NO. **A3**



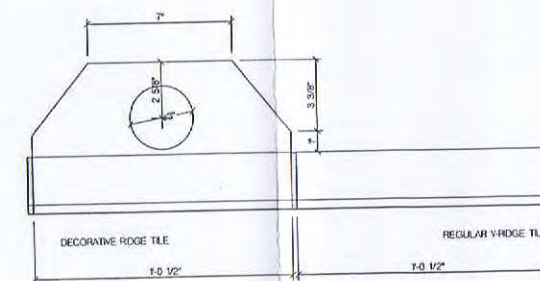
INTERIOR ROOM ELEVATIONS
SCALE 3/8" = 1'-0"

TOILET ACCESSORIES

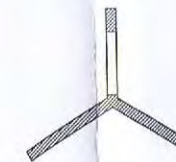
- ALL TOILET ACCESSORIES BY AMERICAN SPECIALTIES, INC.
- TA-1 GRAB BAR-PROVIDE BACKING IN WALL
AS REQUIRED - TYPE 56
 - TA-2 TOILET TISSUE DISPENSER 0710
 - TA-3 SURFACE MTD PAPER TOWEL DISPENSER - #0215
 - TA-4 WASTE RECEPTACLE - #6459
 - TA-5 SOAP DISPENSER - #0343
 - TA-6 MIRROR 0600T

1
A4 FIRST FLOOR PLAN
SCALE 3/16" = 1'-0"

DRAWING NO. A-4	
MESICK • COHEN • WILSON • BAKER ARCHITECTS, LLP (518) 433-6384 388 BROADWAY ALBANY, NEW YORK, 12207	
BURDEN IRON WORKS MUSEUM RESTORATION TROY, NEW YORK ONE EAST INDUSTRIAL PARKWAY	FIRST FLOOR PLAN
SCALE 3/16" = 1'-0"	
COMMISSION NO. PROJECT	
DRAWN BY RSP	
DATE	
REVISED	
DRAWING NO. A-4	



SECTION



3 RIDGE TILE
A5 SCALE: 3" = 1'-0"

Architectural drawing of a building elevation showing roof and exterior details. The drawing includes the following callouts and notes:

- NEW COPPER OUTLET TUBE AT LEADER - ALT. #1** (Pointing to a small cupola on the roof)
- REPLACE BROKEN BROOKLITE GLAZING WITH NEW 1/2" WIRE GLASS TO MATCH EXISTING** (Pointing to a window on the roof)
- NEW COPPER BRUSH OVER TILES AT DISCHARGE OF LEADER** (Pointing to a detail on the roof)
- NEW WOOD LOUVER - BRATT OF ALTERNATE #3** (Pointing to a detail on the roof)
- REMOVE CORING STONES, PROVIDE THROUGH WALL FLASHING AND PWS, RESET CORING STONES IN SAME LOCATION - TYPICAL ALL GABLES** (Pointing to a gable end)
- CONNECT LEADER TO EXISTING CAST IRON HUB & RING, PROVIDE NEW COPPER OUTLET TUBE, CAST IRON PIPE, AND PVC PIPING IN BASEMENT, LOT TO DRAINAGE SYSTEM OUTSIDE BASEMENT.** (Pointing to a downspout)
- NEW COPPER LEADER - TYPICAL, PROVIDE HORIZONTAL EXTENSION TO AVOID EXISTING SHED ROOF, CONNECT TO DRAINAGE SYSTEM AT GRADE - TYPICAL.** (Pointing to a downspout)

2 WEST ELEVATION
A5 SCALE: 3/16" = 1'-0"

A-5

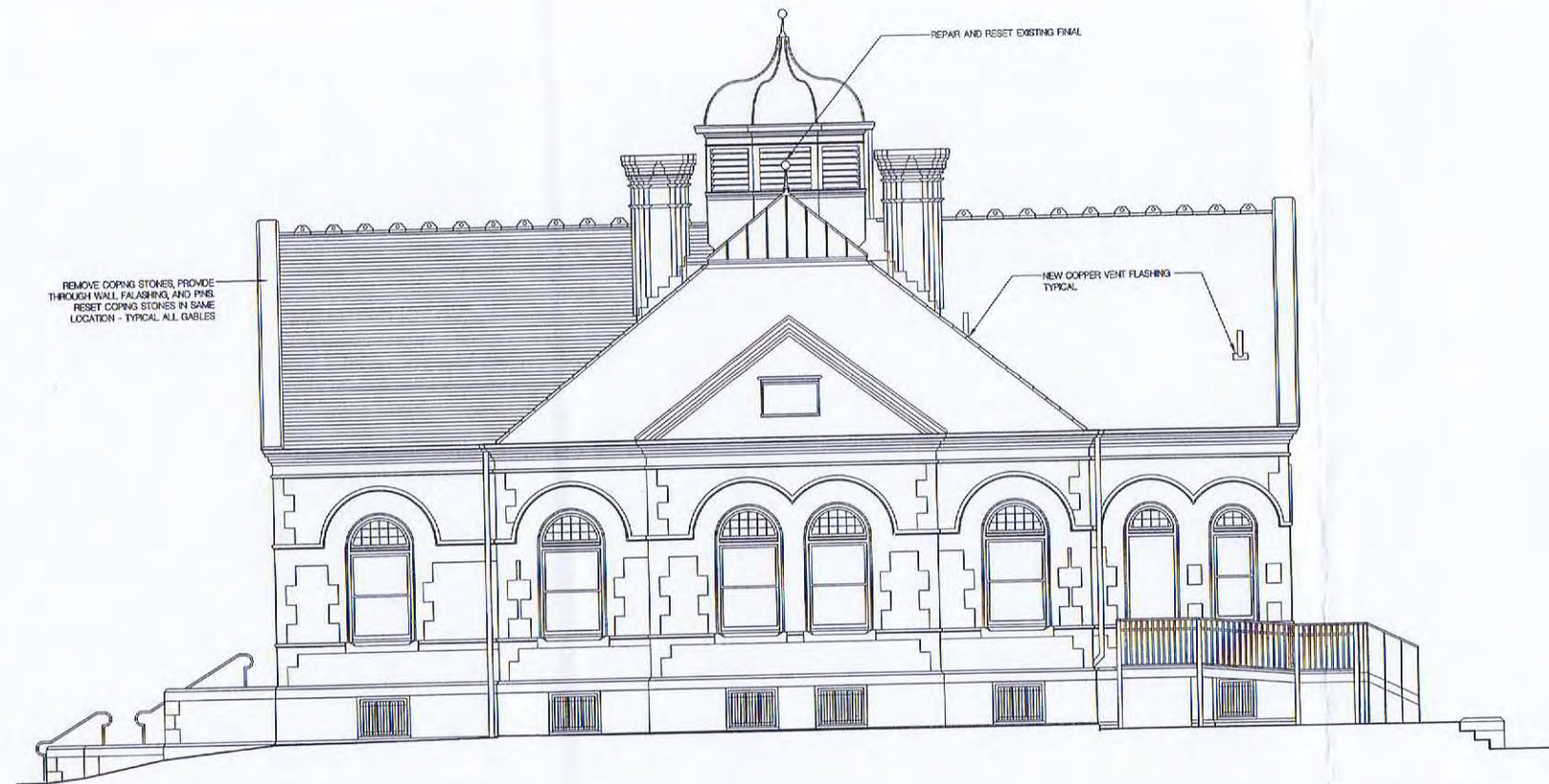
BURDEN IRON WORKS MUSEUM RESTORATION
TROY, NEW YORK
ONE EAST INDUSTRIAL PARKWAY

ELEVATIONS

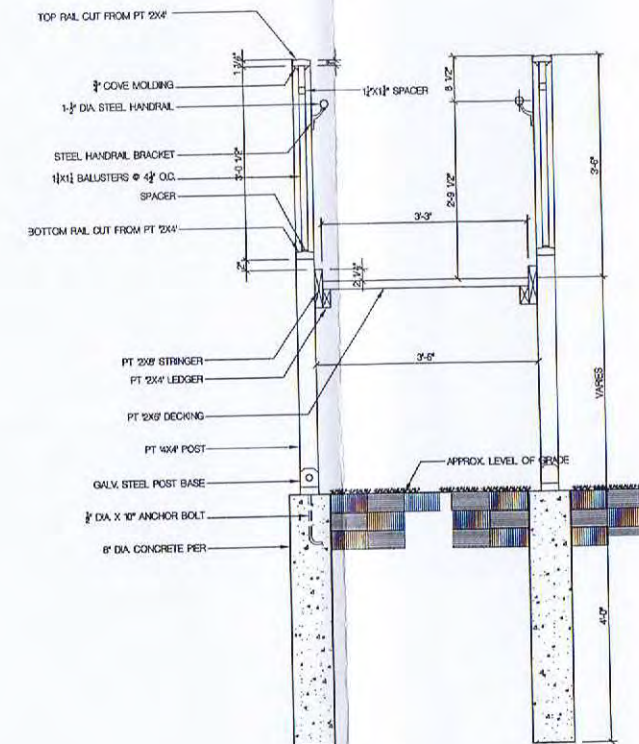
SCALE
3/16"=1'-0"
COMMISSION
PROJNO
DRAWN BY
RSR
DATE
DATE
REVISED

DRAWING NO.

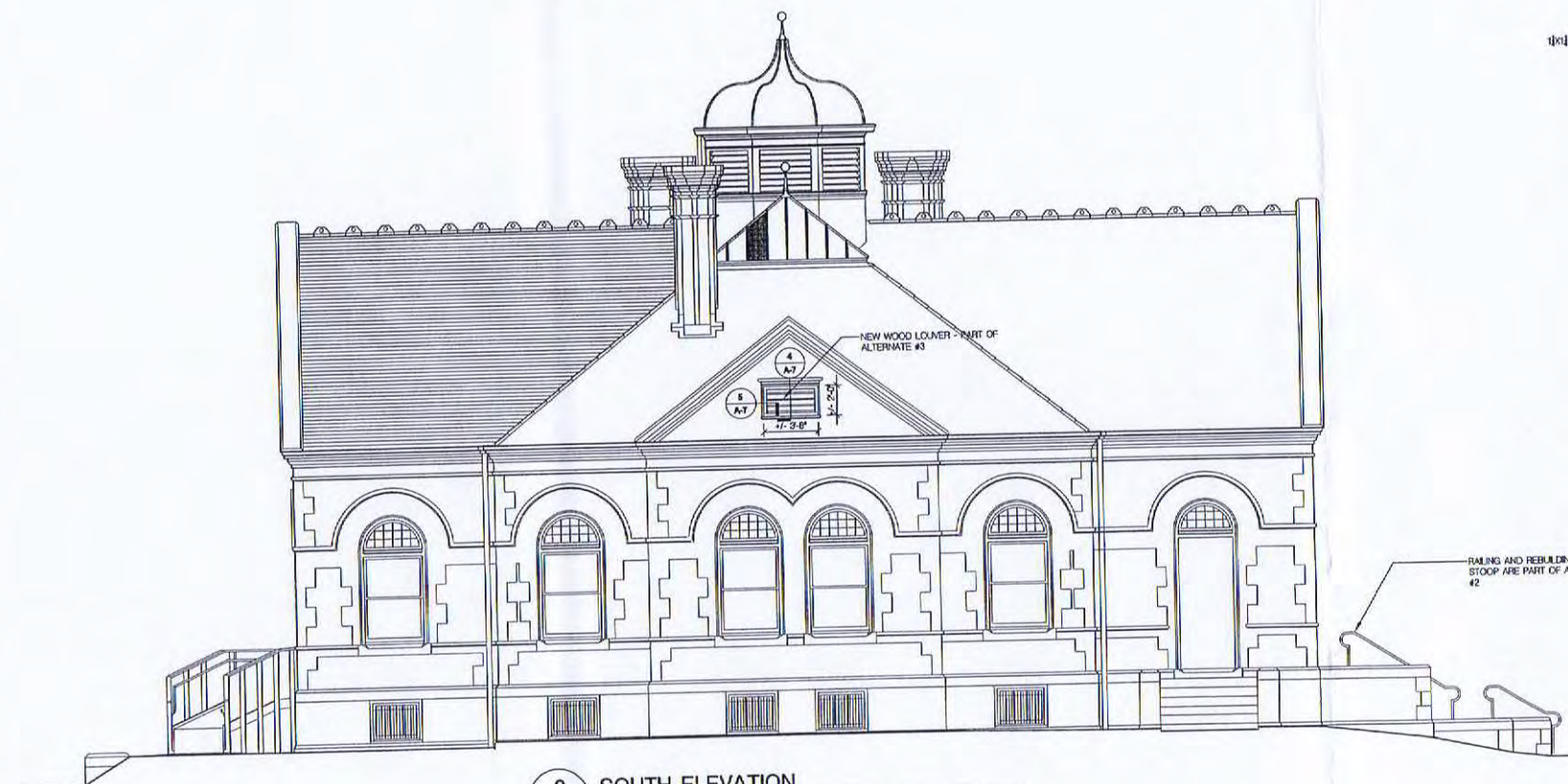
A-5



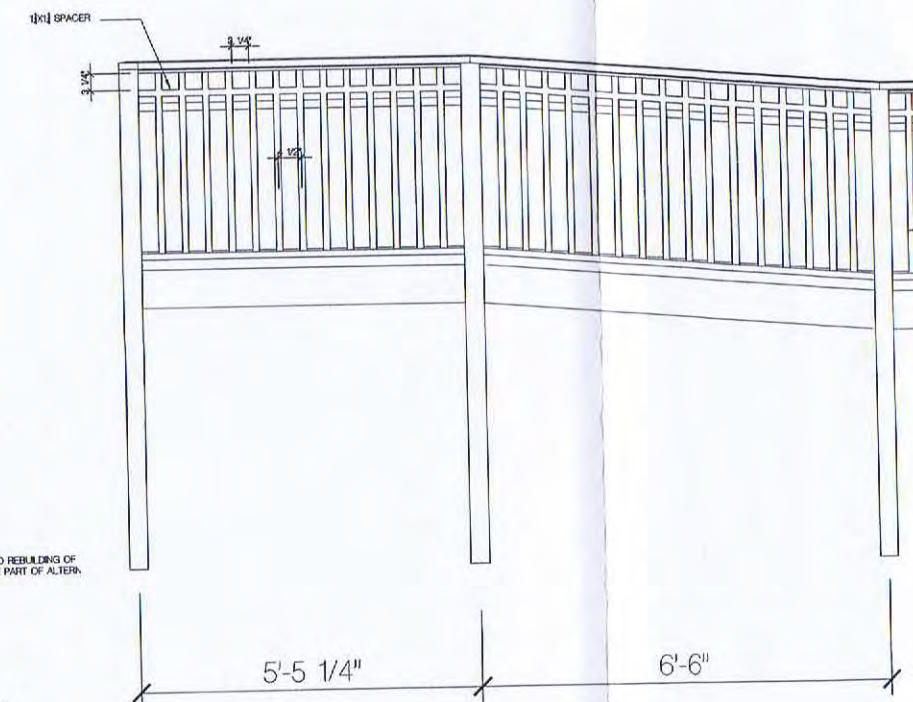
1 NORTH ELEVATION
A6 SCALE: 3/16" = 1'-0"



3 SECTION OF RAMP
A6 SCALE: 3/4" = 1'-0"



2 SOUTH ELEVATION
A6 SCALE: 3/16" = 1'-0"



4 PARTIAL ELEVATION
A6 SCALE: 3/4" = 1'-0"

DRAWING NO.

A-6

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TROY, NEW YORK
ONE EAST INDUSTRIAL PARKWAY

ELEVATIONS

SCALE
3/16" = 1'-0"
COMMISSION NO.
PROJ. NO.
DRAWN BY
R.P.
DATE
REVISED

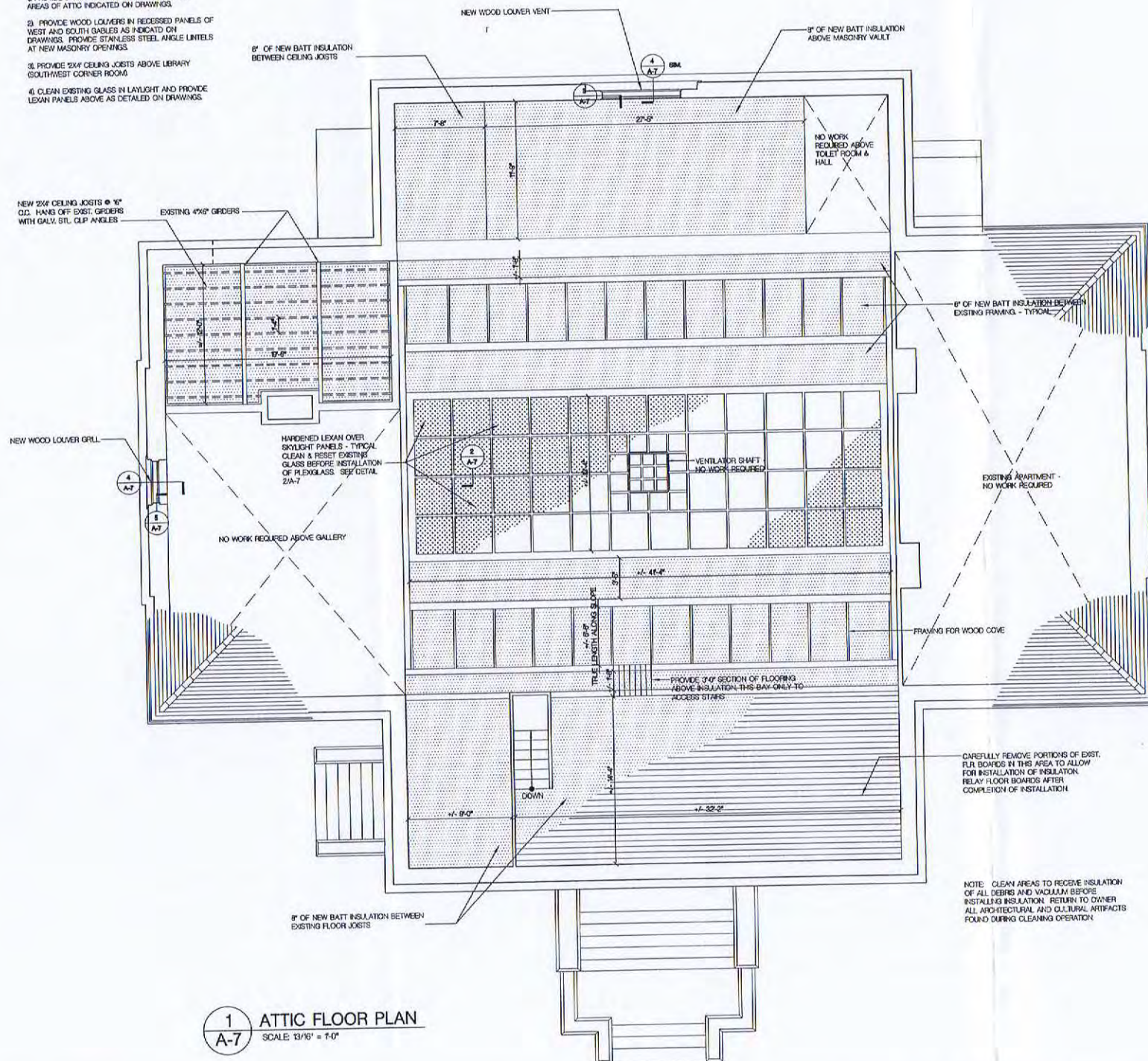
DRAWING NO.

A-6

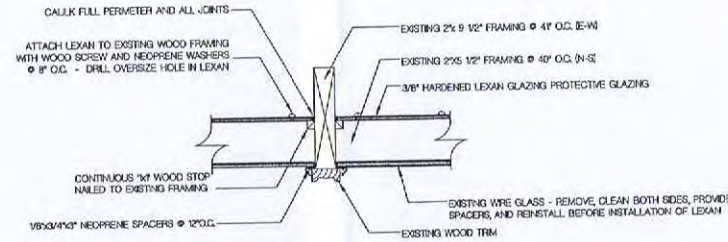
ALTERNATE # 3

ALTERNATE #1

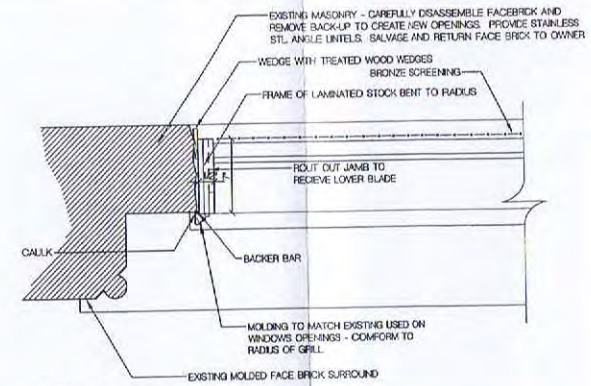
1. PROVIDE 8" WRAFT FACED BATT INSULATION IN AREAS OF ATTIC INDICATED ON DRAWINGS.
2. PROVIDE WOOD LOUVERS IN RECESSED PANELS OF WEST AND SOUTH GABLES AS INDICATED ON DRAWINGS. PROVIDE STAINLESS STEEL ANGLE UNTELS AT NEW MASONRY OPENINGS.
3. PROVIDE 2"x4" CEILING JOISTS ABOVE LIBRARY (SOUTHWEST CORNER ROOM).
4. CLEAN EXISTING GLASS IN LAYLIGHT AND PROVIDE LEXAN PANELS ABOVE AS DETAILED ON DRAWINGS.



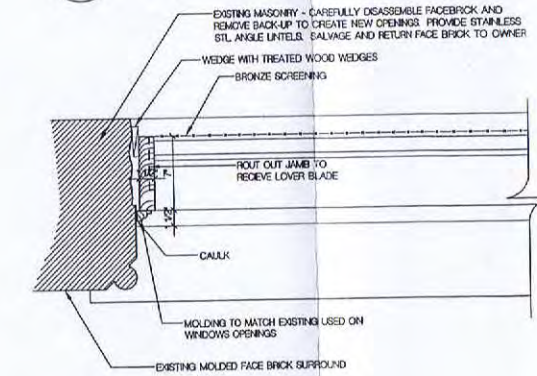
1 ATTIC FLOOR PLAN
SCALE: 3/16" = 1'-0"



2 SECTION - SKYLIGHT
SCALE: 1-1/2" = 1'-0"

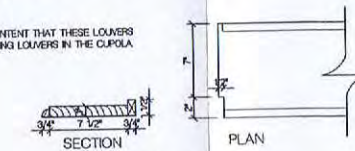


3 JAMB - LOUVER
SCALE: 1-1/2" = 1'-0"

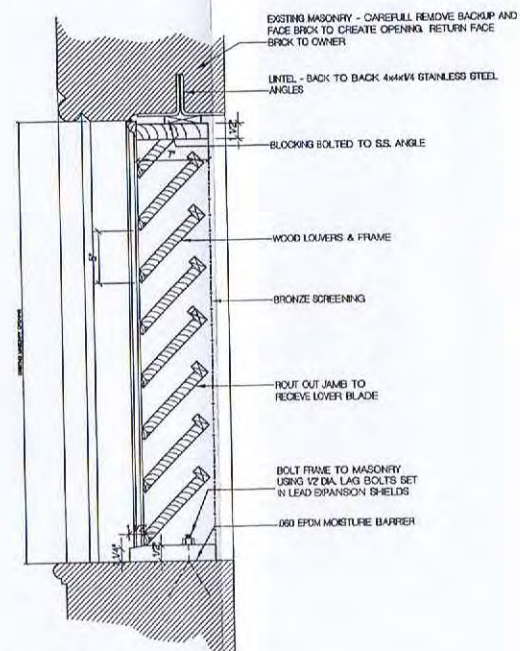


5 JAMB - LOUVER
SCALE: 1-1/2" = 1'-0"

IT IS THE DESIGN INTENT THAT THESE LOUVERS MATCH THE EXISTING LOUVERS IN THE CURIA.



TYPICAL LOUVER
SCALE: 1-1/2" = 1'-0"



4 SECTION - LOUVER
SCALE: 1-1/2" = 1'-0"

DRAWING NO.
A-7

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ALBANY, NEW YORK 12207

BURDEN IRON WORKS MUSEUM RESTORATION
TROY, NEW YORK
ONE EAST INDUSTRIAL PARKWAY

ATTIC PLAN & DETAILS - ALTERNATE #1

SCALE
3/16"=1'-0"
COMMISSION NO.
PSCJND
DRAWN BY
R.P.
DATE
REVIEWED

DRAWING NO.

A-7

1. GRADE OF GRAVITY SEWER IS CALCULATED BY THE FOLLOWING CRITERIA:
 - A. ALL INVERT ELEVATIONS SHOWN ARE AT THE INSIDE WALL OF THE STRUCTURES.
 - B. ALL LENGTHS OF PIPE SHOWN BETWEEN STRUCTURES ARE FROM INSIDE WALL TO INSIDE WALL.
 - C. PERCENT GRADE SHOWN IS THE ACTUAL GRADE OF THE PIPE AND IS CALCULATED USING DIFFERENCE OF SHOWN INVERT ELEVATIONS DIVIDED BY PIPE LENGTH AS SHOWN.
2. BEGIN NEW SEWER LATERAL INSTALLATION AT 2500N (10") SANITARY SEWER IN STREET. NEATLY SAWCUT PAVEMENT AND RESTORE AS FOUND. INTENT WITH (2) VERTICAL BENDS IS TO INSTALL LATERAL DEEP ENOUGH TO ALLOW GRAVITY FLOW FROM A DEEPER BUILDING SEWER IF RESTROOMS ARE RELOCATED IN A FUTURE PHASE.
3. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING AND COORDINATING WITH THE RESPECTIVE UTILITIES PRIOR TO EXCAVATING. CONTRACTOR IS ALSO RESPONSIBLE FOR DETERMINING EXACT LOCATION OF DEPTH OF ALL UTILITIES BEFORE EXCAVATING.
4. EXISTING SEPTIC TANK AND LEACH FIELD ARE CURRENTLY ACTIVE. INSTALL NEW SANITARY LATERAL PRIOR TO ABANDON EXISTING SEPTIC TANK AND FIELD. SUGGESTED SEQUENCE ALSO INCLUDES AT LEAST SEVERAL DAYS OF FLOW DIVERSION (VIA NEW LATERAL TO PUBLIC SEWER) FROM THE SEPTIC SYSTEM PRIOR TO INSTALLING 2500N (10") STORM SEWER TO STREET CATCH BASIN. THIS PERIOD WOULD HOPEFULLY ALLOW PERCOLATION OF EFFLUENT TO IMPROVE INSTALLATION CONDITIONS. ALTHOUGH NEW STORM SEWER COULD BE ENTIRELY OVER THE TOP OF THE SEPTIC LATERALS (REPUTEDLY (3) 15.24CM (60R) LATERALS) THE CONTRACTOR IS RESPONSIBLE FOR TREATING ODOROUS SOILS / CONDITIONS WITH LIME OR OTHER MEANS TO SATISFACTORILY REDUCE ODORS. CONTRACTOR IS ALSO RESPONSIBLE FOR ALL HEALTH AND SAFETY ISSUES OF WORKMEN AND ALL ON-SITE PERSONNEL.
5. ABANDON SEPTIC TANK AFTER NEW LATERAL INSTALLATION BY PUMPING ALL LIQUID AND SOLIDS AND FILLING TANK WITH FLOWABLE FILL (LOW STRENGTH CONCRETE) OR CONSOLIDATED SAND. ENLARGE LID OPENINGS OR REMOVE TO FACILITATE UNIFORM FILLING. CONCRETE CAN REMAIN FROM FINISH GRADE LESS 0.457m (18in) OR BELOW.
6. FINISHED PAVEMENT ALONG PROPERTY LINE SHALL BE 0.046m (0.15ft) ABOVE THE STREET GUTTER GRADE FOR ENTIRE WIDTH OF DRIVEWAY.
7. ALL STORM SEWER PVC PIPE SHOWN SHALL BE SDR-35.

RRAILROAD

EXISTING UNPAVED DRIVEWAY

EXISTING PAVED ROADWAY

EXISTING PARKING

PROPOSED PARKING

INDEX CONTOUR

INTERMEDIATE CONTOUR

PROPOSED MAJOR CONTOUR

PROPOSED MINOR CONTOUR

EXISTING SPOT ELEVATION

PROPOSED SPOT ELEVATION
IN METERS (FT)

PROPERTY LINE

EXISTING OVERHEAD ELECTRIC
TREE LINE / WOODED AREA

SILT FENCE

EXISTING GUIDRAIL

PROPOSED GUIDRAIL

EXISTING GAS/ELECTRIC/TELEPHONE

EXISTING ELECTRIC

PROPOSED FORCE MAIN

PROPOSED COMBINED SEWER

EXISTING STORM SEWER

PROPOSED STORM SEWER

EXISTING SANITARY SEWER

PROPOSED SANITARY SEWER

EXISTING OVERHEAD UTILITY

EXISTING TELEPHONE LINE

EXISTING WATER

EXISTING DOWN SPOUT

EXISTING CATCH BASIN

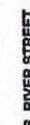
PROPOSED CATCH BASIN W/ INLET PROTECTION

EXISTING SANITARY MANHOLE

EXISTING DECIDUOUS TREE

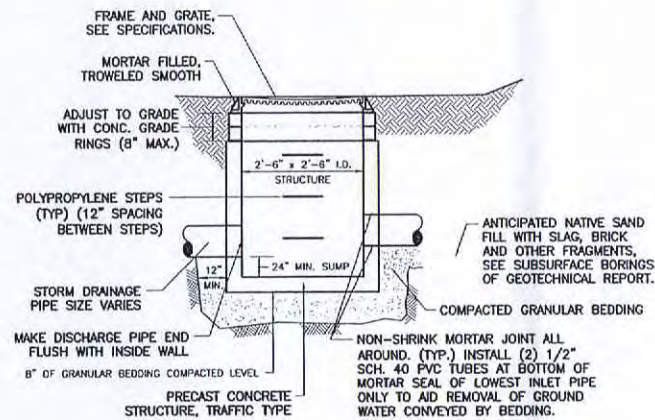
EXISTING CONIFEROUS TREE

EXISTING WATER VALVE

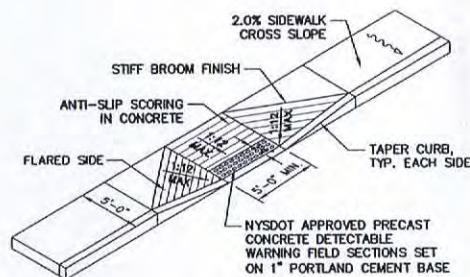


**LANDS N/F OF
KING SERVICE, INC.**

S-



CATCH BASIN DETAIL
SCALE: N.T.S.

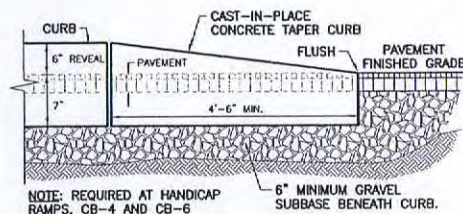


NOTES:

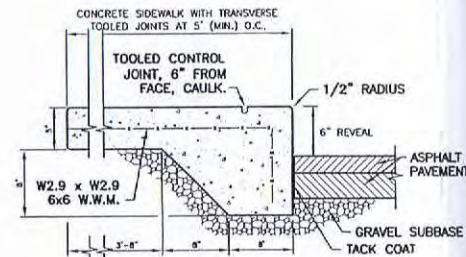
1. THE SURFACE OF ALL CURB RAMPS SHALL BE STABLE, FIRM AND SLIP RESISTANT. A COURSE BROOM FINISH RUNNING PERPENDICULAR TO THE SLOPE IS RECOMMENDED ON CONCRETE RAMP SURFACES, EXCLUSIVE OF THE DETECTABLE WARNING FIELDS.
2. RAMP TRANSITIONS BETWEEN WALKS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT VERTICAL CHANGES (1/4" MAX).
3. DOME ALIGNMENT: DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PROMINENT DIRECTION OF TRAVEL.

TYPE H

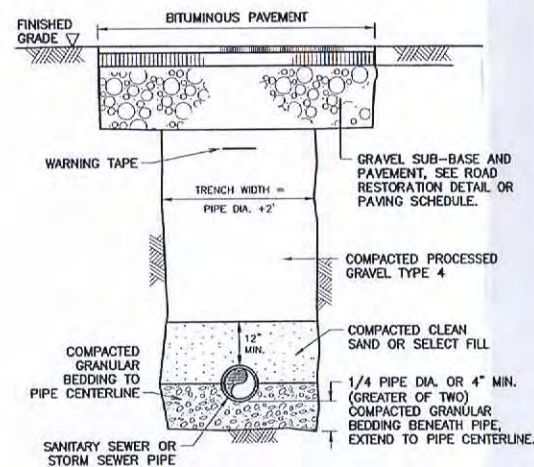
SIDEWALK CURB RAMP - TYPE H



TAPER CURB
SCALE: N.T.S.



INTEGRAL CONCRETE CURB
SCALE: N.T.S.



NOTE: TRENCH/SIDE SLOPE STABILIZATION AND JOB SAFETY ARE THE RESPONSIBILITY OF THE CONTRACTOR. COMPLY WITH ALL APPLICABLE STATE AND FEDERAL REGULATIONS.

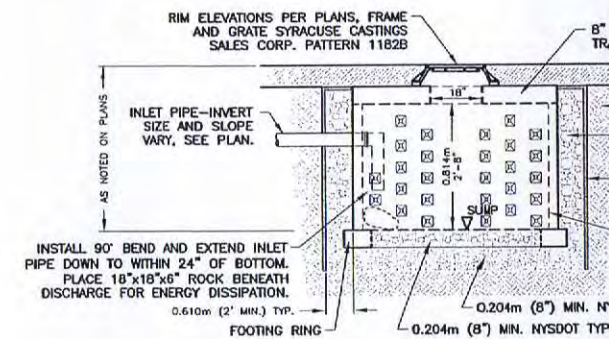
TRENCH DETAIL - PAVED AREAS

SCALE: N.T.S.

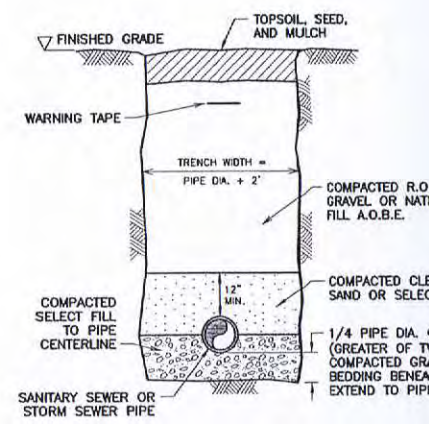
PAVING SCHEDULE		
KEY	TYPE	SECTION: N.T.S.
a	CONCRETE	
b	ASPHALTIC CONCRETE	

NOTES:

1. GRADE SUBGRADE AND GRAVEL BASES AT SAME SLOPES AS F...
2. PROOF ROLL SUBGRADE AND REPORT UNSTABLE AREAS TO AR...
3. EXTEND GRAVEL BASE MATERIALS AND STABILIZATION FABRIC F... CONCRETE PAVEMENTS 12" BEYOND LIMITS OF PAVING. EXTEND BEYOND LIMITS OF CONCRETE WALKS, ON EACH SIDE.



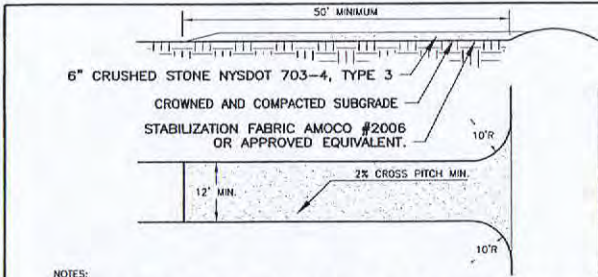
DRYWELL DETAIL
N.T.S.



NOTE: TRENCH/SIDE SLOPE STABILIZATION AND JOB SAFETY ARE THE RESPONSIBILITY OF THE CONTRACTOR. COMPLY WITH ALL APPLICABLE STATE AND FEDERAL REGULATIONS.

TRENCH DETAIL - UNPAVED AREAS

SCALE: N.T.S.

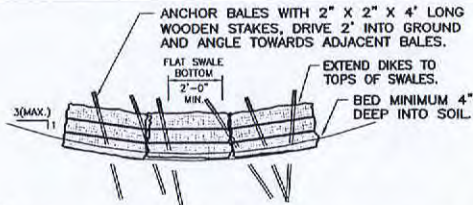


NOTES:

1. STABILIZATION FABRIC SHALL BE PLACED OVER THE ENTIRE ENTRANCE AREA PRIOR TO PLACING OF STONE. OVERLAP FABRIC PER MANUFACTURER'S SPECIFICATIONS.
2. ALL SURFACE WATER FLOWING OR DIVERTED TOWARDS THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE ROAD.
3. WHEN EQUIPMENT WASHING IS REQUIRED IT SHALL BE DONE ON A SEPARATE AREA ADJACENT TO THE ENTRANCE ROAD AND STABILIZED WITH STONE.
4. KEEP ROADS CLEAR OF STONES, MUD, AND OTHER CONSTRUCTION DEBRIS. CLEAN PAVEMENT AS ACCUMULATIONS WARRANT AND AS ORDERED BY ENGINEER.
5. REMOVE SILT ACCUMULATIONS ROUTINELY AND DISPOSE OF PROPERLY SUCH THAT WATER QUALITY IS NOT IMPAIRED. DO NOT INTRODUCE SILT INTO TOPSOIL/RESTORATION AREAS.

I1 CONSTRUCTION ENTRANCE

N.T.S.

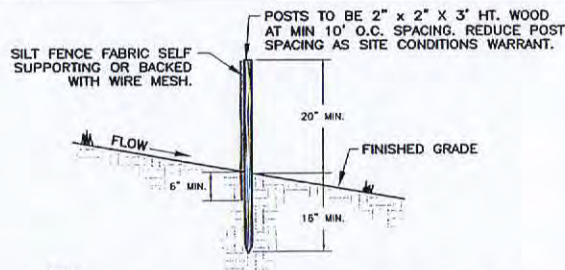


NOTES:

1. BALES SHALL BE TIGHTLY PLACED IN ROW WITH ENDS BUTTED AND CENTERED ON SWALE CENTERLINE.
2. EACH BALE SHALL BE EMBEDDED INTO THE SOIL A MINIMUM OF FOUR (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARDS THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER.
4. STOCKPILES OF SOIL MATERIALS SCHEDULED FOR STORAGE MORE THAN 1 WEEK SHALL BE RINGED WITH SILT FENCE OR STRAW BALES.
5. INSPECTION SHALL BE AS SPECIFIED IN THE "GENERAL MAINTENANCE PLAN" AND SWPPP.
6. GRADE DITCH PER GRADING PLAN. ESTABLISH TURF AS SOON AS POSSIBLE, PER SWPPP.
7. REMOVE SILT ACCUMULATIONS ROUTINELY AND DISPOSE OF PROPERLY SUCH THAT WATER QUALITY IS NOT IMPAIRED. DO NOT INTRODUCE SILT INTO TOPSOIL/RESTORATION AREAS.

F1 STRAW BALE DIKE

N.T.S.

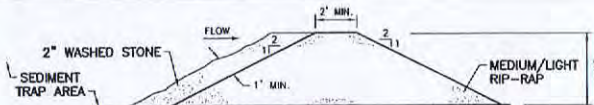


NOTES:

1. SILT FENCE FABRIC SHALL BE FIRMLY ATTACHED TO POSTS USING WIRE TIES OR STAPLES.
2. ENDED FILTER CLOTH A MINIMUM OF 6" BELOW FINISHED GRADE.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED A MINIMUM OF SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED IN ACCORDANCE WITH THE "GENERAL MAINTENANCE PLAN" OR WHEN BULGES OF MATERIAL DEVELOP IN FENCES.

C1 SILT FENCE

N.T.S.



SEDIMENT DIKE

1. AREA UNDER SEDIMENT DIKE SHALL BE CLEARED, CRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE STONE USED IN THE DIKE SHALL BE LIGHT RIP-RAP ALONG WITH A 1'-0" THICKNESS OF 2" AGGREGATE PLACED ON THE UP-GRADE SIDE ON THE RIP-RAP.
3. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 6".
4. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.

A1 SEDIMENT CONTROL DIKE DETAIL

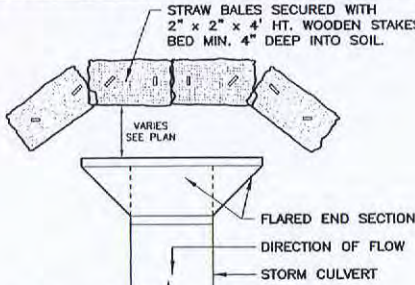
N.T.S.

SWPPP
(STORMWATER POLLUTION PREVENTION PLAN)

☐ * HAS BEEN DETERMINED TO BE REQUIRED BASED ON SCOPE OF PROJECT. SWPPP REQUIRES DOCUMENTS FROM CONSTRUCTION TEAM.

☒ * HAS BEEN DETERMINED NOT TO BE REQUIRED BASED ON SCOPE OF PROJECT.

* REFER TO REQUIREMENTS LISTED ON THIS SHEET AND SPECIFICATION SECTION 01560. IF SCOPE OF PROJECT CHANGES, THE REQUIREMENT FOR A SWPPP AND NYSDC PERMITTING MAY REQUIRE RE-EVALUATION.

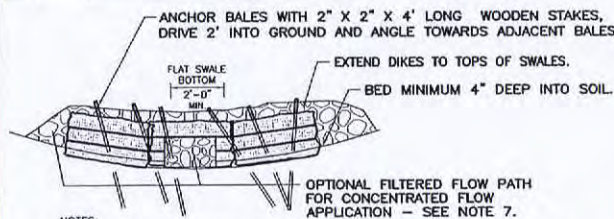


NOTES:

1. BALES SHALL BE PLACED TIGHTLY WITH ENDS BUTTED AT UPSTREAM FLARED END SECTION OF ALL CULVERTS.
2. INSTALL BALES AS SHOWN IN STRAW BALE DIKE DETAIL.
3. AFTER SITE IS STABILIZED AS SPECIFIED IN THE "GENERAL MAINTENANCE PLAN" REMOVE THE STRAW BALES.
4. REMOVE SILT ACCUMULATIONS ROUTINELY AND DISPOSE OF PROPERLY SUCH THAT WATER QUALITY IS NOT IMPAIRED. DO NOT INTRODUCE SILT INTO TOPSOIL/RESTORATION AREAS.
5. ESTABLISH VEGETATION AT ALL DISTURBED AREAS.

H5 END SECTION SEDIMENT BARRIER

N.T.S.

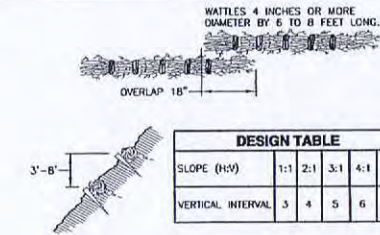


NOTES:

1. BALES SHALL BE TIGHTLY PLACED IN ROW WITH ENDS BUTTED AND CENTERED ON SWALE CENTERLINE.
2. EACH BALE SHALL BE EMBEDDED INTO THE SOIL A MINIMUM OF FOUR (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARDS THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER.
4. STOCKPILES OF SOIL MATERIALS SCHEDULED FOR STORAGE MORE THAN 1 WEEK SHALL BE RINGED WITH SILT FENCE.
5. INSPECTION SHALL BE AS SPECIFIED IN THE "GENERAL MAINTENANCE PLAN".
6. GRADE DITCH PER GRADING PLAN. ESTABLISH TURF AS SOON AS POSSIBLE.
7. FOR DITCHES WHERE SIGNIFICANT CONCENTRATED FLOWS CAN OCCUR, CUT PORTIONS OF BALES AND BACKFILL OPENING WITH LIGHT RIP-RAP AND FILTER STONE ON UPSTREAM SIDE. ENVELOP BALES IN RIP-RAP AND STONE. OVERFLOW ELEVATION SHALL BE AT LEAST 2 FEET BELOW ADJACENT ROAD WHEREVER POSSIBLE.

E5 SEDIMENT DIKE DETAIL

N.T.S.



CONSTRUCTION SPECIFICATIONS

1. WILLOW WATTLES SHALL BE 4" MINIMUM DIAMETER AND BUNDLED WITH TAPERED ENDS TO AN OVERALL LENGTH 18 INCHES LONGER THAN THE STEMS.
2. STRUCTURAL MEASURES SUCH AS RETENTION, DRAINAGE, SURFACE DITCHES WILL BE INSTALLED PRIOR TO WATTLING. SLOPE SHALL BE GRADED AND SMOOTHED WITH OBSTRUCTIONS REMOVED.
3. ANCHOR STAKES WILL BE PLACED ON THE SLOPE AT THE DESIRED CONTOUR INTERVAL.
4. WORKING FROM THE BOTTOM OF THE SLOPE TO THE TOP, EXCAVATE WATTLE TRENCH JUST ABOVE THE STAKES. TRENCH SHALL BE HALF THE DIAMETER OF THE WATTLES. PLACE WATTLES IN TRENCH ANCHORING WITH ADDITIONAL STAKES AT 18 INCH INTERVALS. LOWER WATTLES WITH SOIL LEAVING ABOUT 10% EXPOSURE.
5. SOIL SHALL BE WORKED INTO THE WATTLES AND COMPACTED BY FOOT TRAFFIC.
6. ALL DISTURBED AREAS SHALL BE RESTORED WITH VEGETATION UPON COMPLETION OF WATTLING OPERATIONS.

A5 WATTLING DETAIL

N.T.S.

SWPPP
(STORMWATER POLLUTION PREVENTION PLAN)

CROSS SECTION

SWALE A: 1' C, 4' D
SWALE B: 1' C, 6' D

2:1 OR FLATTER
C MIN.
D MIN. LEVEL
EXISTING GROUND
SLOPE GRADE TO DRAIN 0.5% OR STEEPER

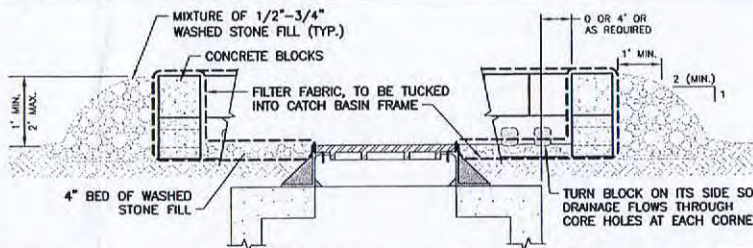
1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED ON CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE CHART BELOW:

TYPE OF TREATMENT	CHANNEL GRADE	SWALE A (50c. OR LESS)	SWALE B (50c.-100c.)
1	0.5 - 3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1 - 5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1 - 8.0%	SEED WITH JUTE OR EXCELSIOR; SOD	LINED RIP-RAP 4'-8" RECYCLED CONCRETE EQUIVALENT
4	8.1 - 20%	LINED 4'-8" RIP-RAP	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.
10. FLOW CHANNEL STABILIZATION SHOWN ABOVE WILL REQUIRE SUBSEQUENT MAINTENANCE AND ATTENTION. SINCE RUNOFF PATTERNS, QUANTITY, QUALITY AND SEDIMENT CONTENT VARY WIDELY FROM SITE TO SITE, ACTUAL STABILIZATION MAY EXCEED THAT SHOWN IN THE CONTRACT DOCUMENTS. REMOVE SILT ACCUMULATIONS ROUTINELY AND DISPOSE OF PROPERLY SUCH THAT WATER QUALITY IS NOT IMPAIRED. DO NOT INTRODUCE SILT INTO TOPSOIL/RESTORATION AREAS.
11. REMOVE TEMPORARY SWALE WHEN SITE IS SUBSTANTIALLY OR COMPLETELY STABILIZED AND SWALE IS NO LONGER REQUIRED. PERFORM FINAL GRADING AND ESTABLISH VEGETATION AT ALL DISTURBED AREAS.

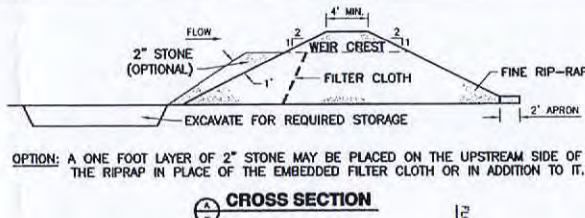
H8 TEMPORARY SWALE

N.T.S.

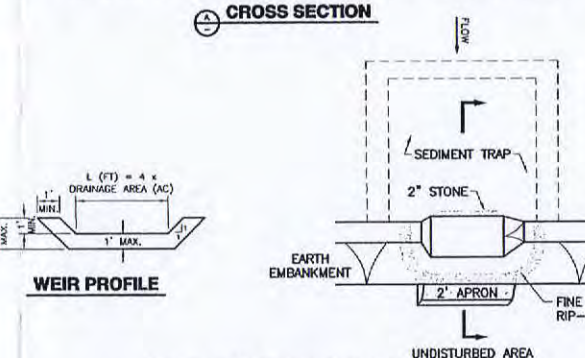


F8 STONE AND BLOCK DROP INLET PROTECTION STRUCTURE

N.T.S.



OPTION: A ONE FOOT LAYER OF 2" STONE MAY BE PLACED ON THE UPSTREAM SIDE OF THE RIPRAP IN PLACE OF THE EMBEDDED FILTER CLOTH OR IN ADDITION TO IT.



CONSTRUCTION SPECIFICATIONS OF ST-V

1. AREA UNDER DRAINAGE SHALL BE CLEARED, CRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE DRAINAGE SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE DRAINAGE SHALL BE COMPACTED BY TRAVELING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. ALL OUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. THE STONE USED IN THE OUTLET SHALL BE SMALL RIP-RAP, 4'-8", ALONG WITH A 1'-0" THICKNESS OF 2" AGGREGATE PLACED ON THE UP-GRADE SIDE ON THE SMALL RIPRAP AND/OR EMBEDDED FILTER CLOTH IN THE RIPRAP.
5. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH TO THE TRAP.
6. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
7. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
8. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
9. MAXIMUM DRAINAGE AREA = 5 ACRES

A8 STONE OUTLET SEDIMENT TRAP: ST-V

N.T.S.

SUGGESTED EROSION CONTROL CONSTRUCTION SCHEDULE:

1. FLAG THE GRADING LIMITS AND MARK A 10' BUFFER AREA BEYOND THE GRADING LIMITS FOR PROTECTION.
2. INSTALL TEMPORARY CONSTRUCTION ENTRANCE AT APPROXIMATE LOCATION OF DRIVEWAY IF DRIVEWAY STONE HAS NOT YET BEEN PLACED.
3. INSTALL PROTECTIVE MEASURES AROUND TREES TO BE RETAINED WITHIN GRADING LIMITS.
4. INSTALL BRIGHTLY COLORED CONSTRUCTION FENCE ALONG ROAD TO LIMIT VEHICULAR ACCESS TO STONE DRIVEWAY OR CONSTRUCTION ACCESS DRIVE.
5. INSTALL INLET PROTECTION DEVICES AT CATCH BASINS DOWN SLOPE FROM THE SITE THAT ARE VULNERABLE TO SEDIMENT ACCUMULATIONS.
6. COMPLETE SITE CLEARING, STOCKPILE SAVED MATERIALS IN DESIGNATED AREAS.
7. INSTALL SILT FENCES IN LOCATIONS AROUND THE PERIMETER OF SITE WORK, STOCKPILE AREA AND ALONG THE CONTOUR OF ALL DISTURBED SLOPES AT A MINIMUM OF EVERY 50' OF HORIZONTAL DISTANCE OR AS SPECIFIED, MEASURED PERPENDICULAR TO THE SLOPE.
8. ROUGH GRADE SWALES AROUND PROPOSED EARTHWORK AND STRUCTURES TO EXTENT POSSIBLE WITHIN GRADING LIMITS. INSTALL SILT FENCES, STRAW BALE DIKES, DIVERSION SWALES AND OTHER EROSION CONTROL MEASURES AS SHOWN ON PLANS, AND AS NECESSARY TO COMPLY WITH THE SWPPP AND ENSURE WATER QUALITY OF RUNOFF.
9. CONTRACTOR MUST ROUTINELY INSPECT AND MAINTAIN EROSION CONTROL DEVICES AND BEST MANAGEMENT PRACTICES (BMP'S). DOCUMENT WEEKLY INSPECTIONS IN SEPARATE CONTRACTOR'S LOG.
10. ROUTE ALL DEWATERING AND SUMP PUMP OUTFALLS, OF TURBID QUALITY, DIRECTLY TO SEDIMENT BASINS OR OTHER APPROPRIATE BMP.
11. THE CONTRACTOR SHALL INITIATE STABILIZATION OF ANY BARE SOIL AREAS, AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN 14 DAYS AFTER INITIAL DISTURBANCE OF THE RESPECTIVE AREAS OF THE SITE. THE CONTRACTOR SHALL REPAIR ANY EROSION OF THE EARTHWORK AND STABILIZATION WORK PERFORMED. EXCEPTIONS TO THIS POLICY CAN BE GRANTED UNDER NORMAL CONDITIONS IN THE FOLLOWING INSTANCES:
 - a. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
 - b. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN TWENTY-ONE (21) DAYS, TEMPORARY STABILIZATION MEASURES NEED NOT BE INITIATED ON THAT PORTION OF THE SITE IF REQUESTED IN WRITING AND APPROVED BY THE ENGINEER.
12. ALL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION IS ATTAINED. REMOVAL OF ANY EROSION CONTROL MEASURES MUST FIRST BE APPROVED BY THE ENGINEER AND/OR THE JURISDICTION HAVING AUTHORITY.
13. WHEN WEATHER CONDITIONS PROHIBIT SEED GERMINATION, DISTURBED GROUND SHOULD BE MULCHED WITH STRAW OR FIBER MULCH AND RECEIVE A BINDER/TACK APPLICATION OR EQUIVALENT.
14. THE SCHEDULE DESCRIPTIONS ABOVE ARE SUGGESTIONS PROVIDED TO ASSIST THE CONTRACTOR(S) IN DEVELOPING THEIR STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SCHEDULE SPECIFIC TO THE PROJECT. THE ACTUAL SCHEDULING AND IMPLEMENTATION OF THE SWPPP AND MAINTENANCE OF REQUIRED WATER QUALITY IS THE RESPONSIBILITY OF THE CONTRACTOR(S). THE EROSION AND SEDIMENT CONTROL PLAN AND DEVICES SHOWN ARE CONSIDERED TO COMPRISE THE MAJORITY OF EFFORTS NEEDED, BUT NOT NECESSARILY ALL THAT WILL BE REQUIRED. WEATHER, SITE AND UNFORESEEN CONDITIONS CAN DICTATE THAT GREATER EFFORTS WILL BE NECESSARY. IN THE CASE OF PROJECTS THAT DISTURB MORE THAN 1 ACRE OF LAND, THE OWNER, OR OWNER'S REPRESENTATIVE, WILL DEVELOP THE SWPPP WITH SUBMITTED CONTRIBUTIONS FROM THE ASSIGNED CONTRACTORS PERFORMING PROJECT SITE WORK. THESE CONTRIBUTIONS WILL CONSIST OF AN EROSION AND CONTROL SCHEDULE (AS SPECIFIED IN THE PROJECT MANUAL), SHORT NARRATIVE OF ANTICIPATED EROSION CONTROL ACTIVITIES, INSPECTION REPORTS AND LOGS AND SIGNED CERTIFICATION STATEMENTS AND PRE-CONSTRUCTION PHOTOGRAPHS AS SPECIFIED.

GENERAL MAINTENANCE PLAN:

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF PRODUCING RAINFALL, BUT IN NO CASE LESS THAN ONCE EVERY WEEK, IN ACCORDANCE WITH THE SWPPP AND NYSDC SPODES GENERAL PERMIT NO. GP-02-01. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. SEDIMENT WILL BE REMOVED FROM BEHIND STRAW BALE DIKES AND BEHIND SILT FENCES WHEN IT BECOMES 6" DEEP AT THE DIKE/FENCE OR WHEN ACCUMULATIONS HAVE ADVERSELY AFFECTED ITS FUNCTION. STRAW BALE DIKES AND SILT FENCES WILL BE REPAIRED BY REMOVING SILT AND SEDIMENTS AND THEN TAMPING LOOSE SOIL ALONG BASE, REPLACING DAMAGED OR WEAKENED POSTS AND STAKES, OR AS NECESSARY TO MAINTAIN A BARRIER.
3. SEDIMENT WILL BE REMOVED AND FILTER DEVICES CLEANED OR REPLACED AT CATCH BASINS WHEN THE SEDIMENT POOL NO LONGER DRAINS FREELY. SEDIMENT ACCUMULATIONS WITHIN DRAINAGE STRUCTURES AND PIPING SHALL BE CLEANED OUT AT THE PROJECT COMPLETION AND AS ORDERED BY ENGINEER WHEN DETERMINED THAT PRE-COMPLETION INSTALLATIONS NO LONGER FUNCTION PROPERLY DUE TO SEDIMENT OR DEBRIS. EVENTUAL SYSTEM CLEANING IS NOT AN EXCUSE TO NOT IMPLEMENT APPROPRIATE CONTROLS UPSTREAM. THE ENGINEER SHALL BE THE FINAL JUDGE REGARDING WHETHER THE PIPING SYSTEM REQUIRES CLEANING. THE CONTRACTOR CAN MINIMIZE THE NECESSITY OF EXTENSIVE SILT AND SEDIMENT ACCUMULATION REMOVALS BY EFFECTIVE IMPLEMENTATION OF THE SWPPP.
4. ALL DISTURBED AREAS WILL BE FERTILIZED, SEEDED AND MULCHED ACCORDING TO LANDSCAPE RESTORATION SPECIFICATIONS TO MAINTAIN VIGOROUS, DENSE VEGETATION, REPAIR ANY ERODED SLOPES, REAPPLY TOPSOIL, RESEED AND STABILIZE REPAIR AREA AS REQUIRED FOR PERMANENT OR TEMPORARY MEANS. REPAIR SOIL AREAS DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT.
5. IMMEDIATELY REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION EQUIPMENT, MAINTENANCE OR OTHER ACTIVITY TO ANY EROSION CONTROL MEASURE, OR BEST MANAGEMENT PRACTICE OR DEVICE.
6. THE PRIME CONTRACTOR(S) ARE RESPONSIBLE FOR THE PERFORMANCE AND COMPLIANCE OF THEIR SUB-CONTRACTOR'S ACTIVITIES RELATING TO THE SWPPP. THEY SHALL MAKE FREQUENT INSPECTIONS OF THEIR WORK AND COORDINATE APPROPRIATE INSTALLATION AND MAINTENANCE OF EROSION CONTROL AND WATER QUALITY DEVICES.

DRAWING NO. S3



MESICK COHEN WILSON & BAKER ARCHITECTS, LLP
ALBANY, NEW YORK 12207
(518) 433-9394

BURDEN IRON WORKS MUSEUM RESTORATION
TROY, NEW YORK
ONE EAST INDUSTRIAL PARKWAY

SCALE
N.T.S.
COMMISSION NO.
DRAWN BY
DEV
DATE
12/10/04
REVISED

DRAWING NO. S3

APPENDIX E

NON-STANDARD FEATURE JUSTIFICATION
(in accordance with HDM §2.8)

1. Description of Non-Standard Feature

Type of Feature (e.g., horizontal curve radius):	Design Speed/Horizontal Curve Radius		
Location:	South Troy Riverfront Bikeway/Walkway		
Standard Value:	30 km/h/27.0 m	Design Speed:	30 km/h
Existing Value:	N/A	Safe Operating Speed:	N/A km/h
Proposed Value:	10 km/h/3.0 m	Safe Operating Speed:	10 km/h

2. Accident Analysis

Current Accident Rate:	Not applicable
Statewide Rate:	Not applicable
Is the non-standard feature a contributing factor?	Not applicable
Potential for Future Accidents and Accident Severity:	Low

3. Cost Estimates

Cost to Fully Meet Standards:	Not Applicable
Cost(s) For Incremental Improvements:	-

4. Mitigation (e.g., increased superelevation and speed change lane length for a non-standard ramp radius):

Signage prior to non-standard curves.

5. Compatibility with Adjacent Segments & Future Plans:

Not Applicable

6. Other Factors (e.g., Social, Economic & Environmental):

Not Applicable

7. Proposed Treatment (i.e., Recommendation):

It is recommended to utilize the proposed non-standard features to ensure a safe RR Crossing, to utilize the existing roadway and bridge and to avoid impacting existing property operations and structures.

NON-STANDARD FEATURE JUSTIFICATION
(in accordance with HDM §2.8)

1. Description of Non-Standard Feature

Type of Feature (e.g., horizontal curve radius):	Site Distance		
Location:	South Troy Riverfront Bikeway/Walkway		
Standard Value:	40 m	Design Speed:	30 km/h
Existing Value:	N/A	Safe Operating Speed:	N/A km/h
Proposed Value:	15 m	Safe Operating Speed:	20 km/h

2. Accident Analysis

Current Accident Rate:	Not applicable
Statewide Rate:	Not applicable
Is the non-standard feature a contributing factor?	Not applicable
Potential for Future Accidents and Accident Severity:	Low

3. Cost Estimates

Cost to Fully Meet Standards:	Not Applicable
Cost(s) For Incremental Improvements:	-

4. Mitigation (e.g., increased superelevation and speed change lane length for a non-standard ramp radius):

Signage prior to non-standard curves.

5. Compatibility with Adjacent Segments & Future Plans:

Not Applicable

6. Other Factors (e.g., Social, Economic & Environmental):

Not Applicable

7. Proposed Treatment (i.e., Recommendation):

It is recommended to utilize the proposed non-standard features to ensure a safe RR Crossing, to avoid requiring additional reconstruction of existing walkways and to avoid impacting existing property operations and structures.

APPENDIX F

COAST GUARD JURISDICTION CHECKLIST

- PIN 1755.66 ROUTE South Troy BRIDGE New Bridge
 Riverfront
 Bikeway/Walkway
- WATERWAY Poesten Kill COUNTY Rensselaer
1. WILL THIS PROJECT UTILIZE FEDERAL FUNDS?
 YES X NO
2. IS Poesten Kill SUBJECT TO THE EBB AND FLOW OF TIDE?
 YES NO X
3. IS Poesten Kill PRESENTLEY USED OR SUSCEPTIBLE TO USE IN ITS NATURAL
 CONDITION OR BY REASONABLE IMPROVEMENT TO BE USED AS A
 MEANS TO TRANSPORT SUBSTANTIAL INTERSTATE COMMERCE?
 YES NO X
4. IS THE NAVIGABLE CHARACTER OF Poesten Kill SUCH THAT MARINE
 TRAFFIC IS LIMITED TO VESSELS LESS THAN 21' LONG?
 YES X NO
5. DESCRIBE TYPE OF NAVIGATION PRESENT:
 COMMERCIAL RECREATIONAL X NONE
6. MARINE CRAFT UTILIZING THIS WATERWAY AT OR IN VICINITY OF PROJECT SITE:
 NONE CANOES/ROWBOATS X SMALL MOTOBOATS (15' MAX) X
7. IS THERE NIGHTTIME NAVIGATION THROUGH EXISTING BRIDGE? YES NO X
 DOES THE EXISTING BRIDGE HAVE NAVIGATION LIGHTS? YES NO X
 IS THERE ANY REASON TO INSTALL NAVIGATION LIGHTS? YES NO X
8. GIVE AVERAGE WATER DEPTHS IN VICINITY OF BRIDGE:
 0'-2' 3'-5' X OVER 5'
9. GIVE MINIMUM VERTICAL CLEARANCE AT ORDINARY HIGH WATER THROUGH:
 EXISTING BRIDGE N/A DOWNSTREAM BRIDGE N/A
 UPSTREAM BRIDGE TBD PROPOSED BRIDGE TBD
10. ARE THERE OBSTACLES TO NAVIGATION SUCH AS DAMS, RAPIDS, ETC. WHICH WILL
 PREVENT INTERESTATE COMMERCE THROUGH THE SITE? YES X NO
11. COAST GUARD BRIDGE PERMIT REQUIRED?
 YES NO X TO BE DETERMINED



**RENSSELAER COUNTY
OFFICE OF THE EXECUTIVE
NED PATTISON GOVERNMENT CENTER
TROY, NEW YORK 12180**

**Kathleen M. Jimino
County Executive**

**Phone: (518) 270-2900
Fax: (518) 270-2961**

TO: Timothy Mattice, Troy Planning Department

FROM: Jeff Anderson, Criminal Justice Coordinator

RE: South Troy Bike Path

DATE: September 20, 2005

Thank you for your courtesy during the planning period for the bike trail in Troy. Public family recreation areas are an important part of city life and improvements to the southern area of Troy are certainly welcome.

I am a criminal justice coordinator in the County Executive's office and a member of a Jail Expansion Committee responsible for making recommendations to the County Executive and County Legislature on a planned expansion of our existing jail.

The existing plans call for the bike path to use a right-of-way between the Hudson River and the Rensselaer County Correctional Facility at 4000 Main Street. We would like you to consider modify those plans for a portion of the trail to accommodate some serious concerns.

Built in 1992, the Rensselaer County Correctional Facility has been required in the past 10 years to house more prisoners than its capacity would allow. Rather than overcrowd the facility, the county pays other counties to board its excess inmates. Recently, the cost of boarding prisoners has exceeded \$2 million annually and it has become practical to plan a jail expansion. The planned expansion and the attendant construction will occupy the now vacant area to the north of the jail along the river. The area to the immediate south of the jail will house some services that will be moved from the jail itself. Although we hope to begin enjoying the benefits of the expansion by 2008, construction could continue there for the next 10 years.

With this new jail configuration, 'Alternative B' seems to hold the most promise, but the bike path would have to leave the waterfront to the north of the jail expansion area and return to the river either using Main Street or some other route to the south of the jail facility. Perhaps this would provide an opportunity to include the historic Burden Iron building.

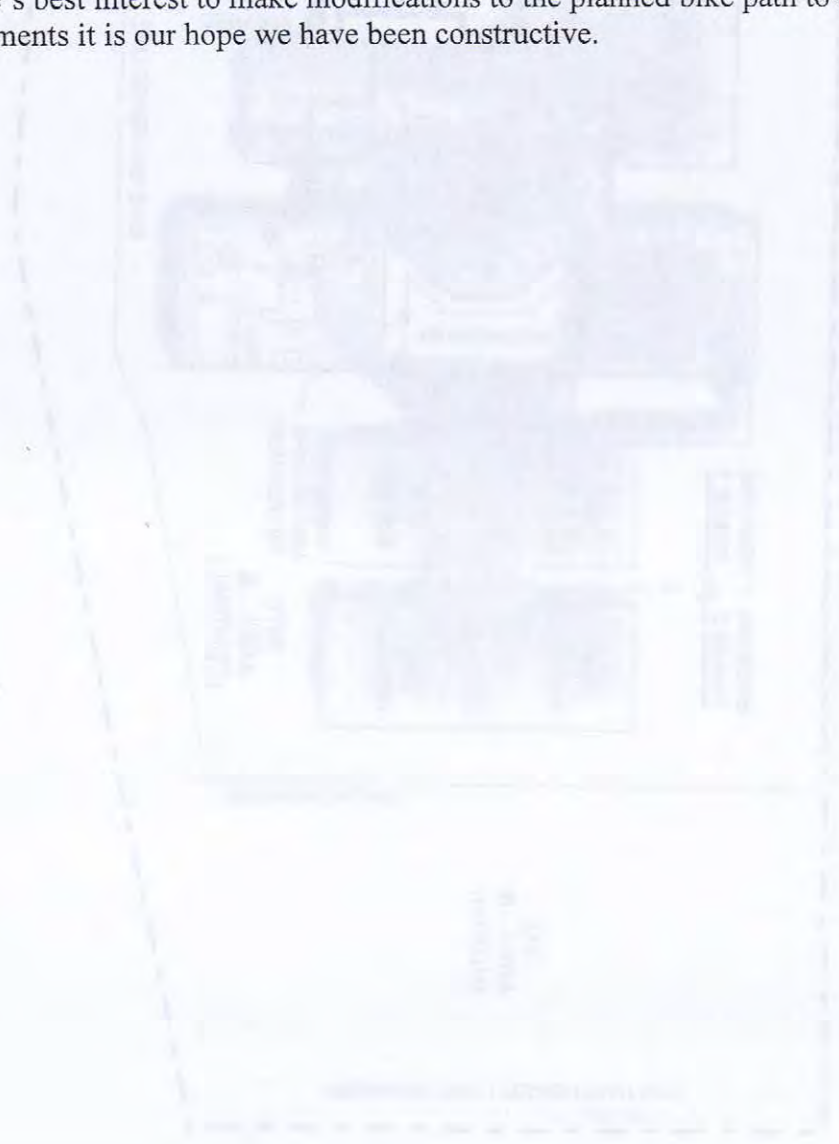
The relatively new field of Crime Prevention Through Environmental Design has a design consideration called "territorial reinforcement" that dictates that we clearly signal to people areas where they would not be welcome. The perimeter of the jail security fencing is one such area.

The juxtaposition of the jail and the bike path would be inconsistent with the needs of jail security and might result in unwelcome exchanges between people using the bike path and jail inmates. Since we would anticipate that cycling in this area would be a family activity, this is an especially serious concern.

We must also guard against opportunities for the bike path to be used to convey contraband. Currently, corrections staff would respond to someone lingering near the fence or throwing objects inside the fence. This would be difficult when we have invited the public to use the area.

Placing the bike path next to the jail fence would compromise security at the jail as strangers (perhaps in large numbers) would be riding along the fence line of the jail at all hours. In addition, the creation of the bike path itself would create disruption to the jail construction project as the jail expansion would disrupt the bike path.

I believe it is in everyone's best interest to make modifications to the planned bike path to avoid the jail. Thank you for inviting our comments it is our hope we have been constructive.



NEW PARKIN
SITE AREA - D
(EAST)

MANDATORY
ACCESS RIGHT OF WAY

NEW
PARKING

VISITOR PARKING

OPERATIONS
CENTER (2 STORES)
1ST - TRAINING, ETC.
2ND - E.O.C.
AUTOMOTIVE
MAINTENANCE
EVIDENCE

COUNTY
VEHICLES
SITE AREA - C
(SOUTH)

POTENTIAL
INFILL /
EXPANSION
AREAS

PARKING
AREA

NON-SECURE
AREA

SECURE
AREA

EXISTING
FACILITY

RECREATION

NEW
PROGRAM

NEW
HOUSING

NEW
HOUSING

NEW SECURE
RECREATION

NEW
HOUSING

NEW
HOUSING

SITE AREA - A
(CENTRAL)

HOUSING | HOUSING
PHASE 2 | PHASE 1

NEW FENCE LINE

SITE AREA - B
(NORTH)

REROUTE BIKE / PEDESTRIAN WAY

EXISTING FENCE LINE

SERVICE
AREAS

HISTORIC
BUILDING