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# Bordentown City Bicycle and Pedestrian Study



## Intersection and Gateway Design Concepts

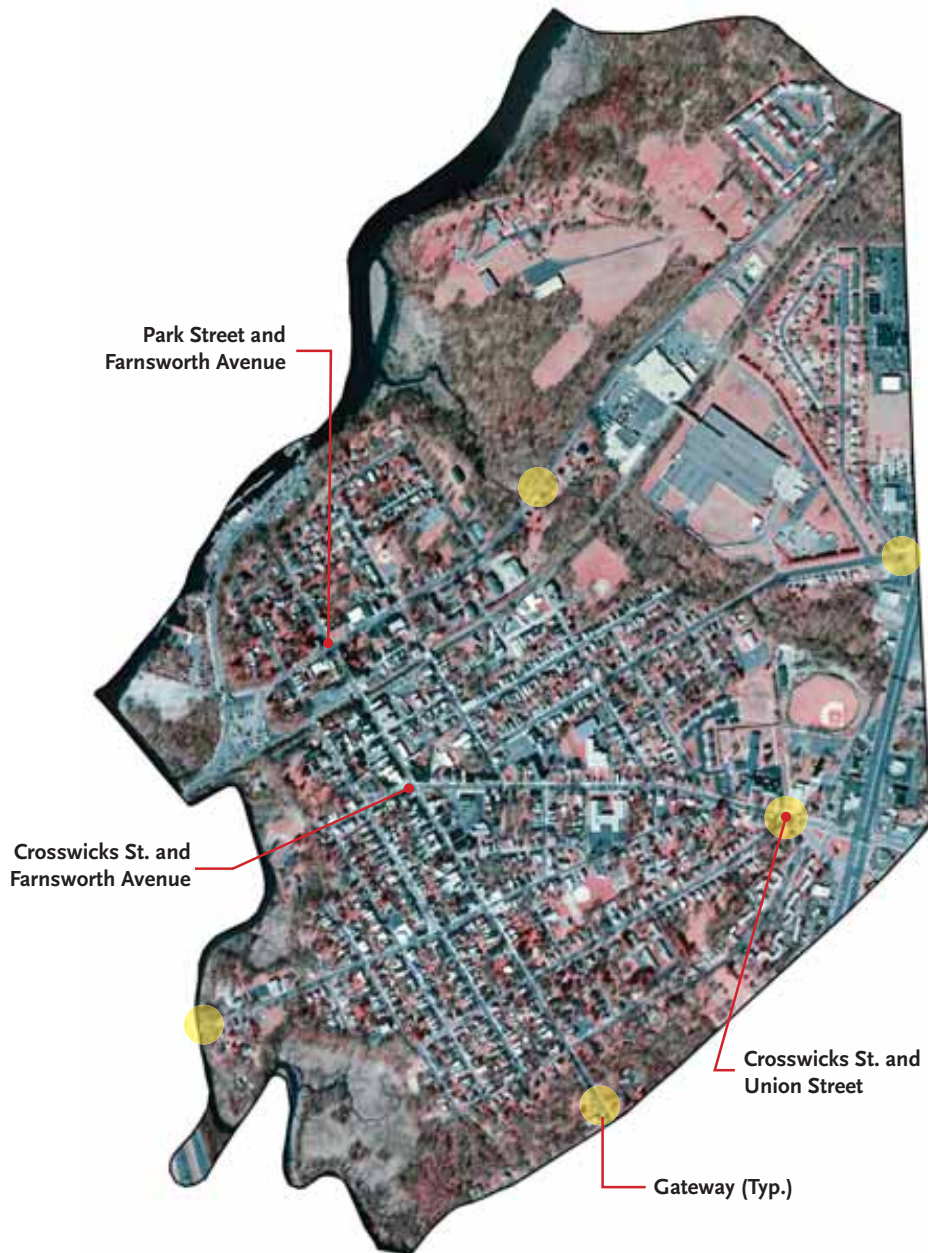
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## Introduction

The City of Bordentown has undertaken the development of a Bicycle and Pedestrian Circulation Study. The purpose of the plan is to promote safe pedestrian and bicycle circulation within the city and to assess current conditions. As part of this Bicycle and Pedestrian Circulation Study, detailed concepts were also developed at key intersections and gateways.

Located along the Delaware River Bordentown City is a small city with a big history. Thomas Paine lived within the City. Napoleon Boneparte's brother also made residence within its borders. It was also the city where the first commercially successful steam locomotive, the John Bull, was built. Though city has capitalized on this rich history with numerous special events scheduled throughout the year, it is lacking an identity at key places within the downtown. The city is also lacking adequate wayfinding signage to direct traffic to important destinations throughout the city.

This document will show conceptual renderings at three main intersections in the city as well as a possible logo to be used on all entrance and wayfinding signage. It also includes various options for gateway signage and crossings to be used at a location that is appropriate to the scale and character of the road. Cost estimates were also included to illustrate the magnitude of these improvements. Because of the scale of these improvements, the implementation should be carried out by professionals who have the experience in the constructing these types of concepts. The concepts generated in this document were developed as guidelines to follow for implementation. The implementation will need more refinement and engineering on a case by case basis.



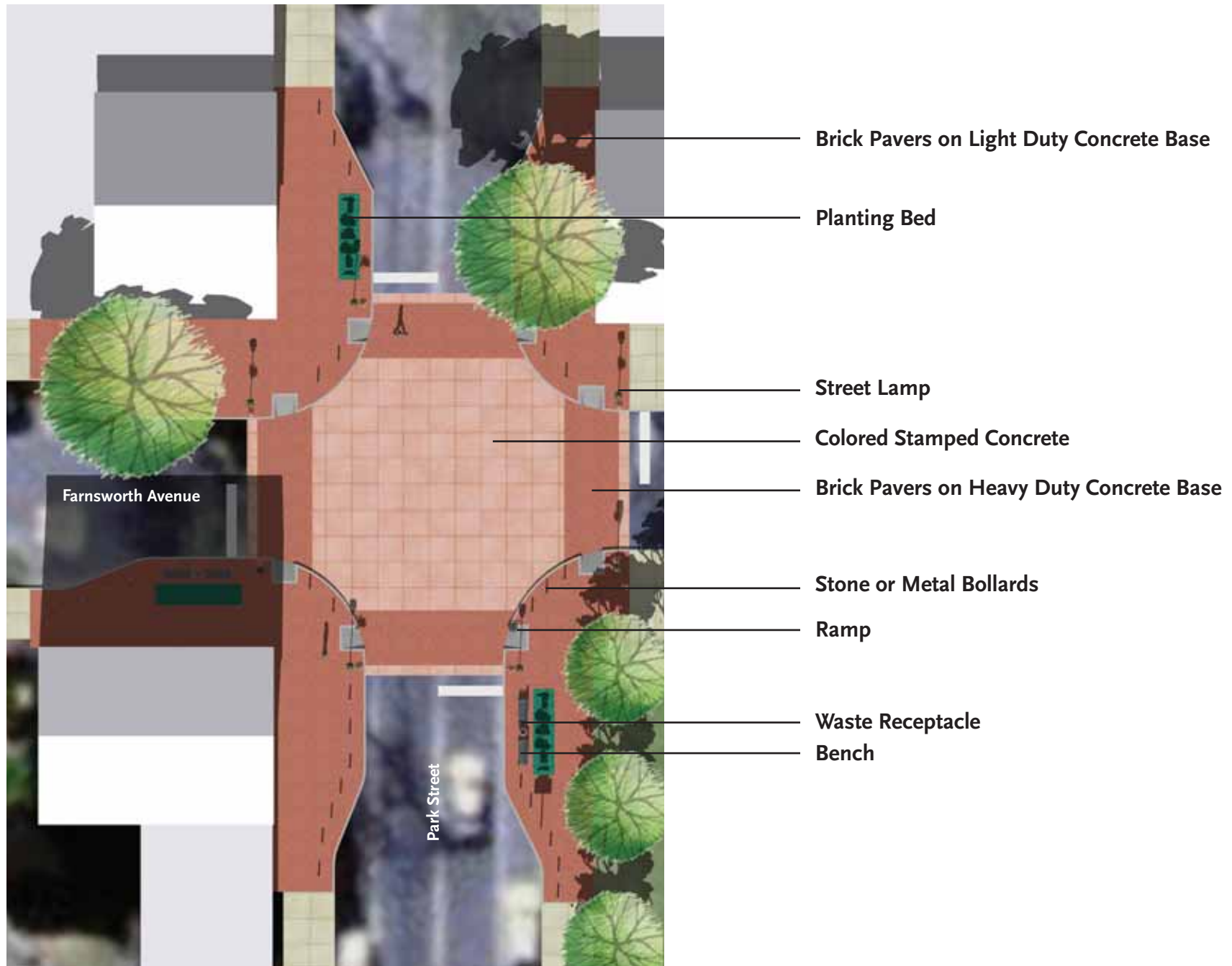
Existing Intersection at Park Street and Farnsworth Avenue

## Park Street and Farnsworth Avenue

- Curb Extensions on corners to shorten pedestrian crossings and slow traffic
- Natural brick pavers laid in concrete base to alleviate lifting on sidewalks and crossings.
- Colored textured concrete to give make intersection a “Place”. Will also provide a visual clue to the arrival of the downtown.
- New signage directing traffic to various destinations such as the downtown, light rail or marina
- New site furnishings to match existing historic building materials; Metal historic bollard, colonial light fixture, brick pavers, cast iron benches and waste cans.
- Careful consideration and engineering should be done to save existing trees where applicable and to minimize cost.



Aerial view of proposed intersection improvements



Plan view of proposed intersection improvements

View of intersection improvements on Park St..  
looking towards the Riverline Station



Ground View of intersection improvements  
showing potential wayfinding sign



## Park Street and Farnsworth Avenue Cost Estimate\*

<u>TRADE ITEMS</u>	<u>Unit Factor</u>	<u>Unit</u>	<u>Cost - Incl. O&amp;P</u>	<u>Total Costs</u>
<b>Paving / Site Furnishings / Structures</b>				
Street Lamps	8	Each	\$2,500.00	\$20,000
Planters	3	Each	\$652.00	\$1,956
Metal Trash Receptacle	2	Each	\$900.00	\$1,800
Cast Iron Bollard	37	Each	\$750.00	\$27,750
Metal Bench	4	Each	\$1,500.00	\$6,000
Brick Pavers on Heavy Duty Conc. Base	1,750	S.F.	\$18.47	\$32,323
Brick Walk on Light Duty Conc. Base	7,500	S.F.	\$14.10	\$105,750
Stamped Conc. Area	3,500	S.F.	\$17.98	\$62,930
Concrete Ramps	180	S.F.	\$4.29	\$772
<b>Total</b>				<b>\$258,509</b>

### Alternative Materials/Methods

Asphalt Pavers on Heavy Duty Conc. Base	3,500	S.F.	\$18.88	\$66,080
Dry Laid Brick on DGA	7,500	S.F.	\$10.55	\$79,125

\* All cost estimates were created using the 2005 RS Means Site Work and Landscape Cost Data book. The estimated cost per line item includes labor and material costs.



Existing Intersection at Crosswicks Street and Farnsworth Avenue

## Crosswicks Street and Farnsworth Avenue

- Curb Extensions on corners to shorten pedestrian crossings and slow traffic Also allows the crossings to be straightened
- Natural brick pavers laid in concrete base to alleviate lifting on sidewalks and crossings.
- Colored textured concrete to give make this intersection a central plaza area. It can be used for special events and give the center of the city a sense of place
- New site furnishings to match existing historic building materials; Metal historic bollard, colonial light fixture, brick pavers, cast iron benches and waste cans.
- The curb extensions allow for the creation of outdoor seating areas where restaurants occur. They also allow for more room for benches and planting areas.



Aerial view of proposed intersection at Crosswicks Street and Farnsworth Avenue



Plan of intersection at Crosswicks Street and Farnsworth Avenue

Aerial view looking towards used book store



Aerial view looking towards monument on the island at crosswicks street



## Crosswicks Street and Farnsworth Avenue Cost Estimate\*

<u>Trade Items</u>	<u>Unit Factor</u>	<u>Unit</u>	<u>Cost - Incl. O&amp;P</u>	<u>Total Costs</u>
<b>Paving / Site Furnishings / Structures</b>				
Street Lamps	9	Each	\$2,500.00	\$22,500
Planters	4	Each	\$652.00	\$2,608
Metal Trash Receptacle	4	Each	\$900.00	\$3,600
Cast Iron Bollard	60	Each	\$750.00	\$45,000
Metal Bench	5	Each	\$1,500.00	\$7,500
Brick Pavers on Heavy Duty Conc. Base	1,600	S.F.	\$18.47	\$29,552
Brick Walk on Light Duty Conc. Base	9,500	S.F.	\$14.10	\$133,950
Stamped Conc. Area	3,200	S.F.	\$17.98	\$57,536
Concrete Ramps	203	S.F.	\$4.29	\$869
<b>Total</b>				<b>\$302,246</b>

### Alternative Materials/Methods

Asphalt Pavers on Heavy Duty Conc. Base	3,200	S.F.	\$18.88	\$60,416
Dry Laid Brick on DGA	9,500	S.F.	\$10.55	\$100,225

\* All cost estimates were created using the 2005 RS Means Site Work and Landscape Cost Data book. The estimated cost per line item includes labor and material costs.



Existing Intersection at Union Street and Crosswicks Street



Existing Intersection at Union Street and Crosswicks Street

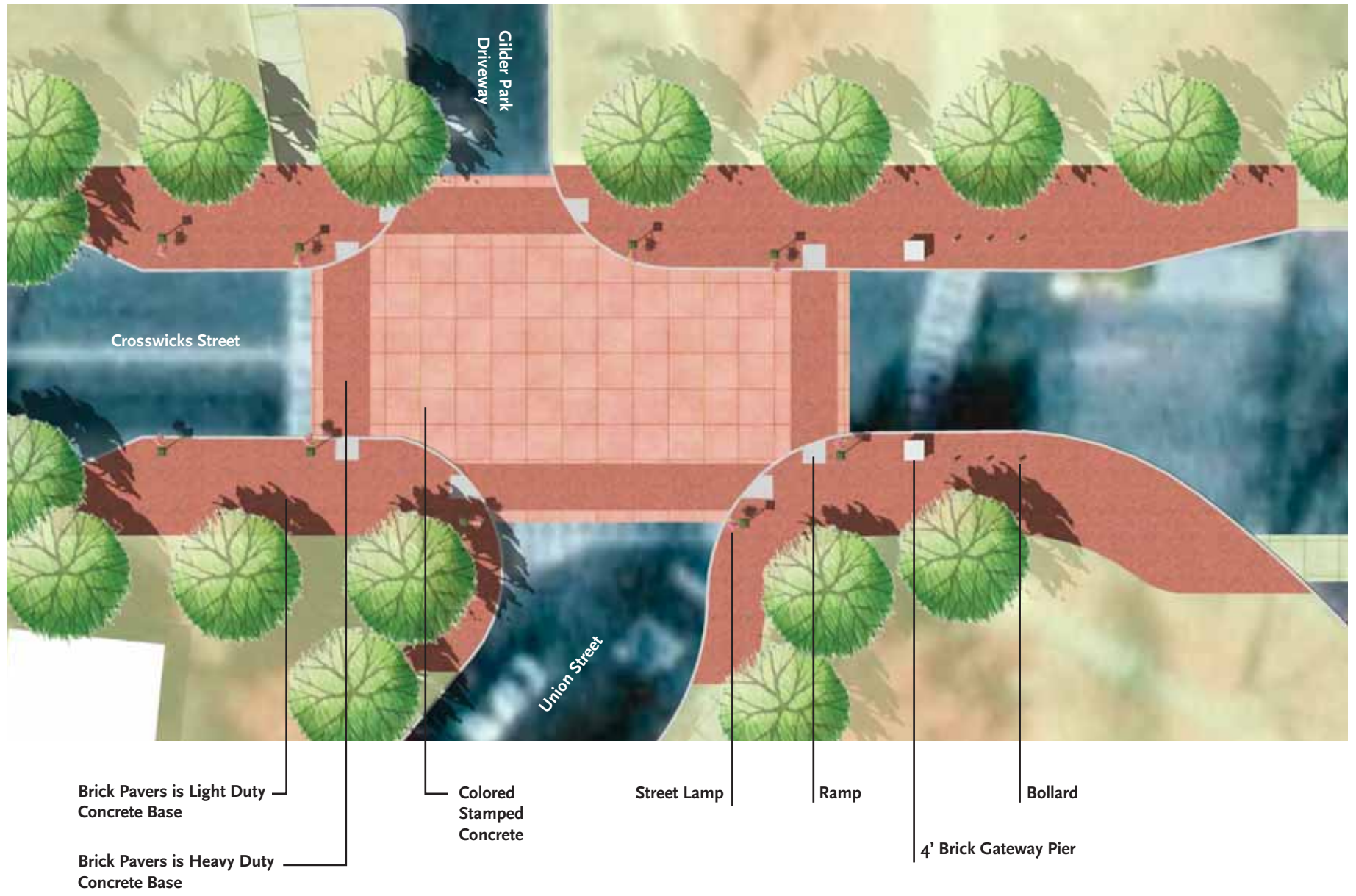
## Crosswicks Street and Union Street

- Curb Extensions on corners to shorten pedestrian crossings and slow traffic Also allows the crossings to be straightened across Crosswicks Street
- Natural brick pavers laid in concrete base to alleviate lifting on sidewalks and crossings
- Colored textured concrete to give make this intersection a gateway to the city
- New site furnishings to match existing historic building materials; Metal historic bollard, colonial light fixture, brick pavers
- Low, brick, “gateway” piers with Bordentown City identity located in the curb extensions to visually reduce the width of the street



Aerial view of proposed intersection at Union Street and Crosswicks Street

Plan of proposed intersection at Union Street and Crosswicks Street





Ground view of intersection improvements with gateway piers

## Crosswicks Street and Union Street Cost Estimate\*

<u>Trade Items</u>	<u>Unit Factor</u>	<u>Unit</u>	<u>Cost - Incl. O&amp;P</u>	<u>Total Costs</u>
<b>Paving / Site Furnishings / Structures</b>				
Street Lamps	8	Each	\$2,500.00	\$20,000
Cast Iron Bollard	6	Each	\$750.00	\$4,500
Brick Pavers on Heavy Duty Conc. Base	1,100	S.F.	\$18.47	\$20,317
Dry Laid Brick on DGA	6,100	S.F.	\$10.55	\$64,355
Stamped Conc. Area	2,800	S.F.	\$17.98	\$50,344
Concrete Ramps	180	S.F.	\$4.29	\$772
4' Pier ea. w/ footing	2	Each	\$1,522.62	\$3,045
<b>Total</b>				<b>\$163,333</b>

### Alternative Materials/Methods

Brick Walk on Light Duty Conc. Base	6,100	S.F.	\$14.10	\$86,010
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\* All cost estimates were created using the 2005 RS Means Site Work and Landscape Cost Data book. The estimated cost per line item includes labor and material costs.



Existing conditions of Park Street Gateway



Proposed Concept of Park Street Gateway

## Gateway Concepts

- Curb bulb-outs to reduce the width of the road to slow traffic entering the city
- Crossings should be natural brick pavers laid in concrete base to alleviate lifting on sidewalks and crossings
- Colored textured concrete to give make an audible clue to slow vehicular traffic down.
- Brick piers with cast stone caps could be used in various gateway locations. Reminiscent of historic estate gateways.
- Size and shape of brick piers to vary depending on appropriate scale of the Right of way width and amount of pedestrian and bicycle traffic.
- New Logo or identity should be created and used throughout the city on the gateway piers and new wayfinding signage



Proposed Concept of Park Street Gateway Alternative

# BORDENTOWN CITY



Example of the new Bordentown City Identity recalling the historic John Bull Locomotive.

## Gateway Cost Estimate\*

<u>Trade Items</u>	<u>Unit Factor</u>	<u>Unit</u>	<u>Cost - Incl. O&amp;P</u>	<u>Total Costs</u>
<b>Paving / Site Furnishings / Structures</b>				
Iron Fence	24	L.F.	\$105.00	\$2,520
Brick Pavers on Heavy Duty Conc. Base	1,000	S.F.	\$18.47	\$18,470
8' Pier ea. w/ footing	4	Each	\$2,646.22	\$10,585
2" wall w/ footing	24	L.F.	\$141.10	\$3,386
<b>Total</b>				<b>\$34,961</b>

### Alternative Materials/Methods

4' Pier ea. w/ footing	2	Each	\$1,522.62	\$3,045
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\* All cost estimates were created using the 2005 RS Means Site Work and Landscape Cost Data book. The estimated cost per line item includes labor and material costs.

# Farnsworth Avenue Gateway Concept



Existing Conditions of Farnsworth Avenue Gateway Signage



Existing Conditions of Farnsworth Avenue Gateway Before



Proposed Concept of Farnsworth Avenue Gateway After

## Materials

The imagery on this page illustrates possible materials and site furnishings for the concepts. The paving material may differ from actual shown. It is used here to show how the site might appear.

The locations of the furnishings and materials may be found on the plan views of each intersection.



Waste Receptacle



Bollards



Bench



Brick Pavers



Stamped Concrete