

# Part II: STREETSCAPE PLAN IMPLEMENTATION

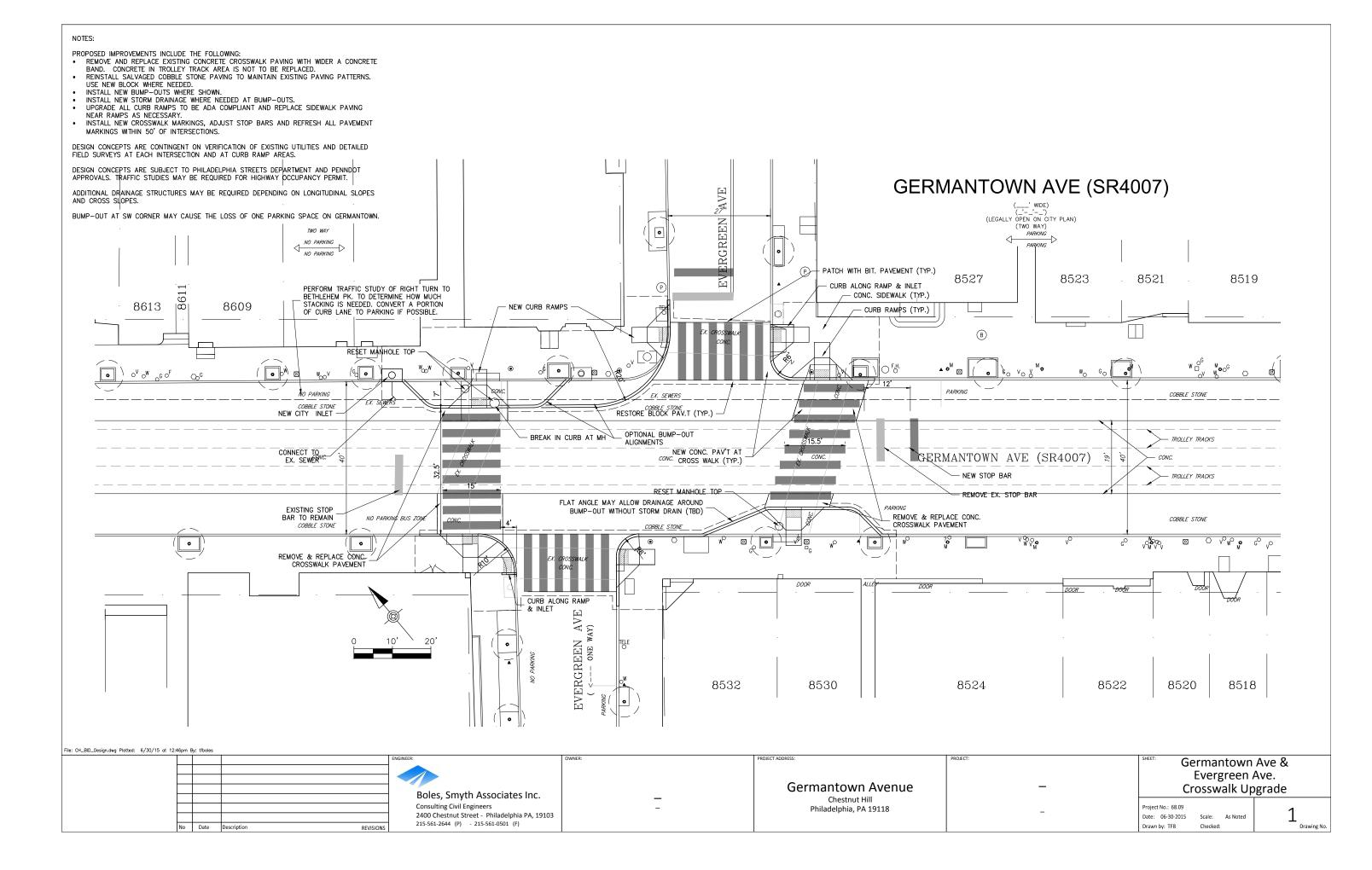


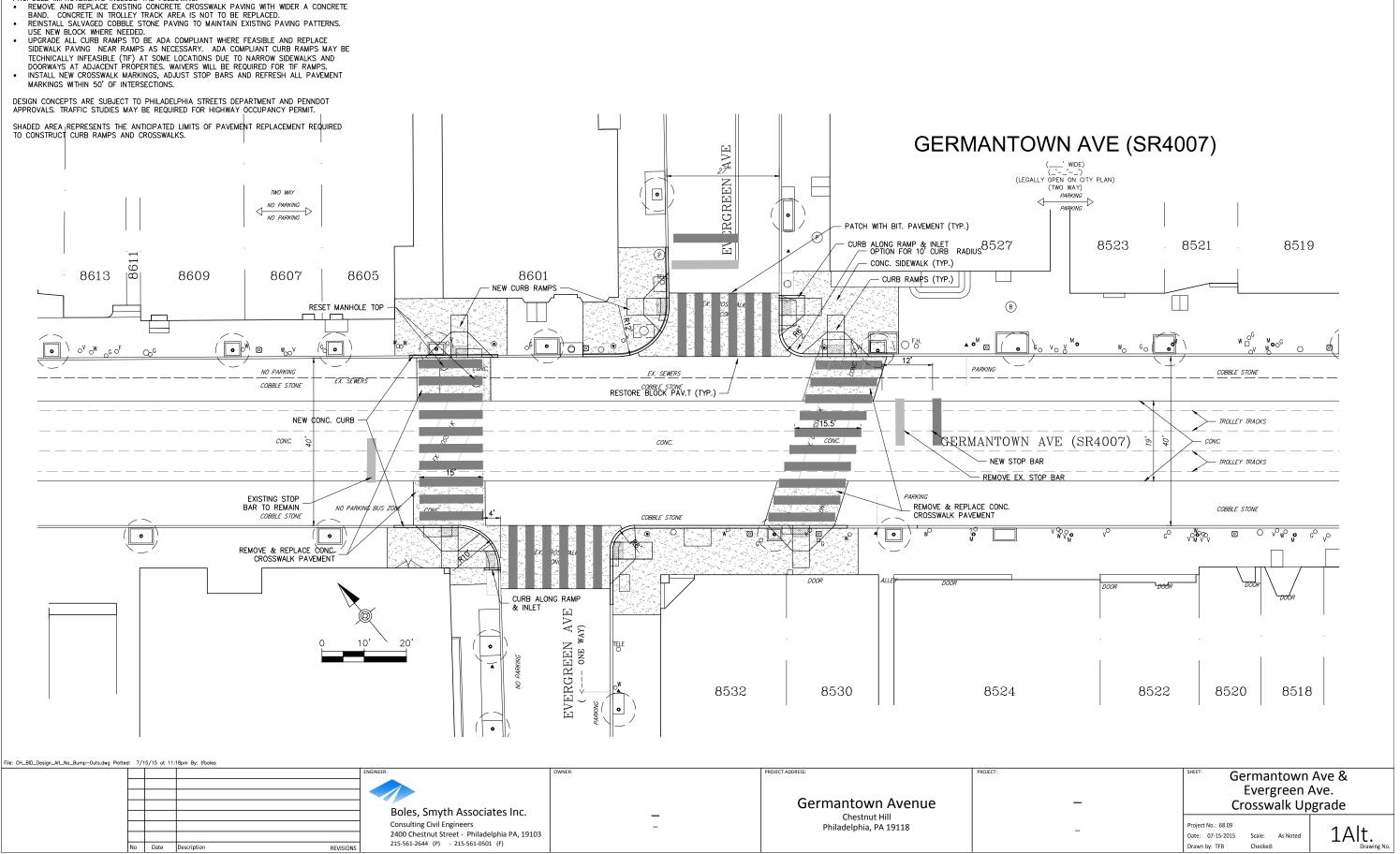
# **Pedestrian Crossings:**

Selected Intersection Improvements

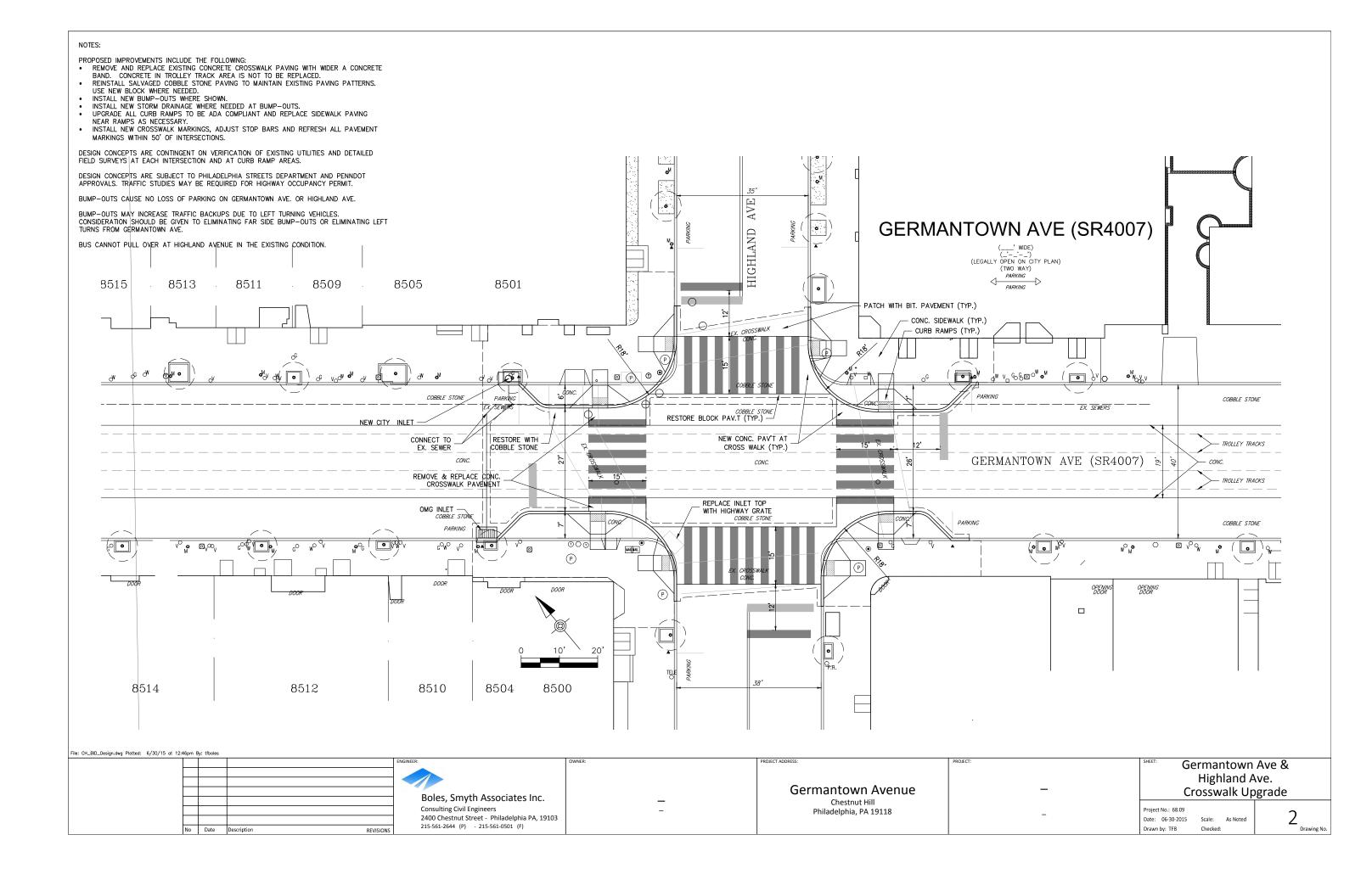


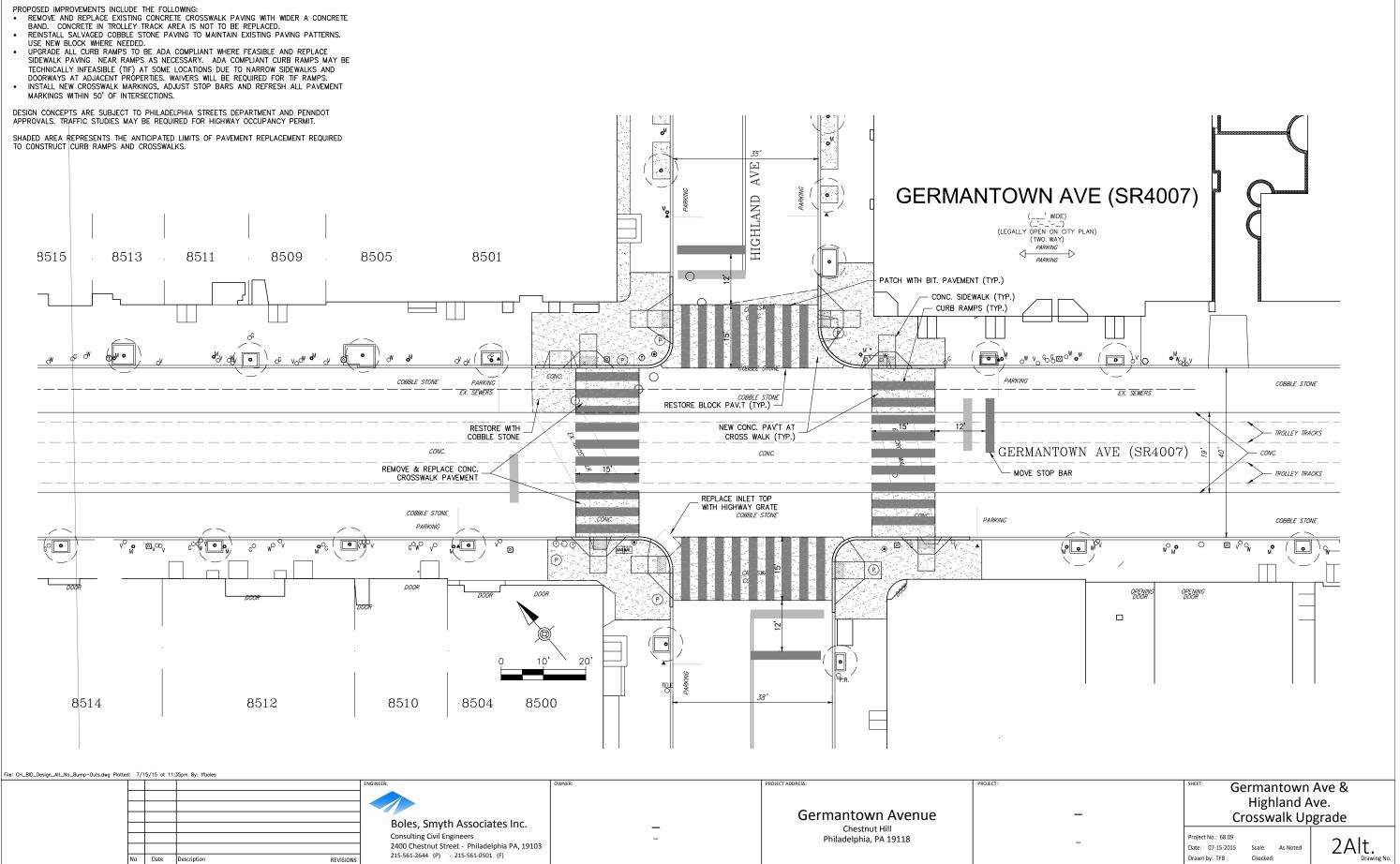
RUNYAN & ASSOCIATES ARCHITECTS

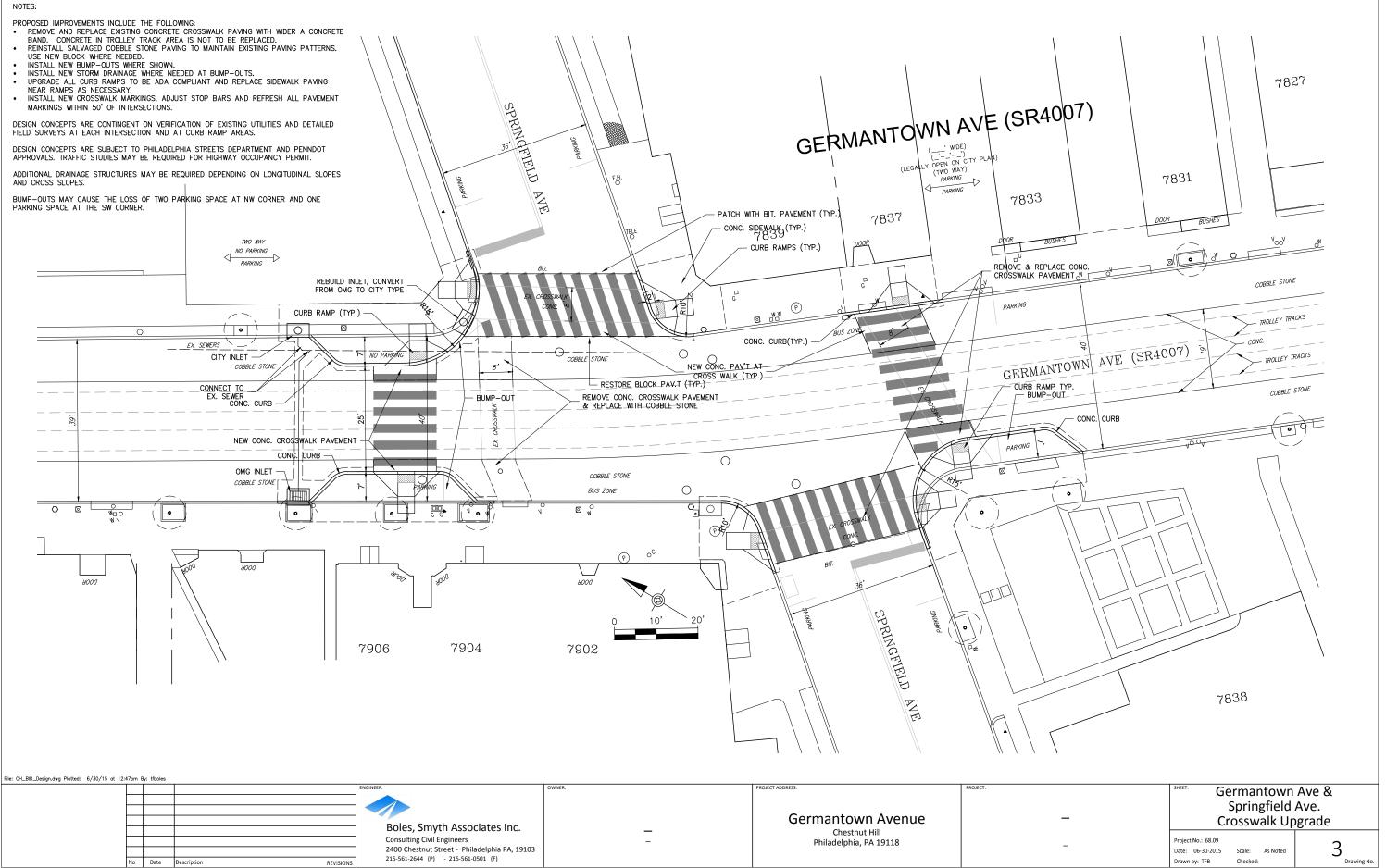


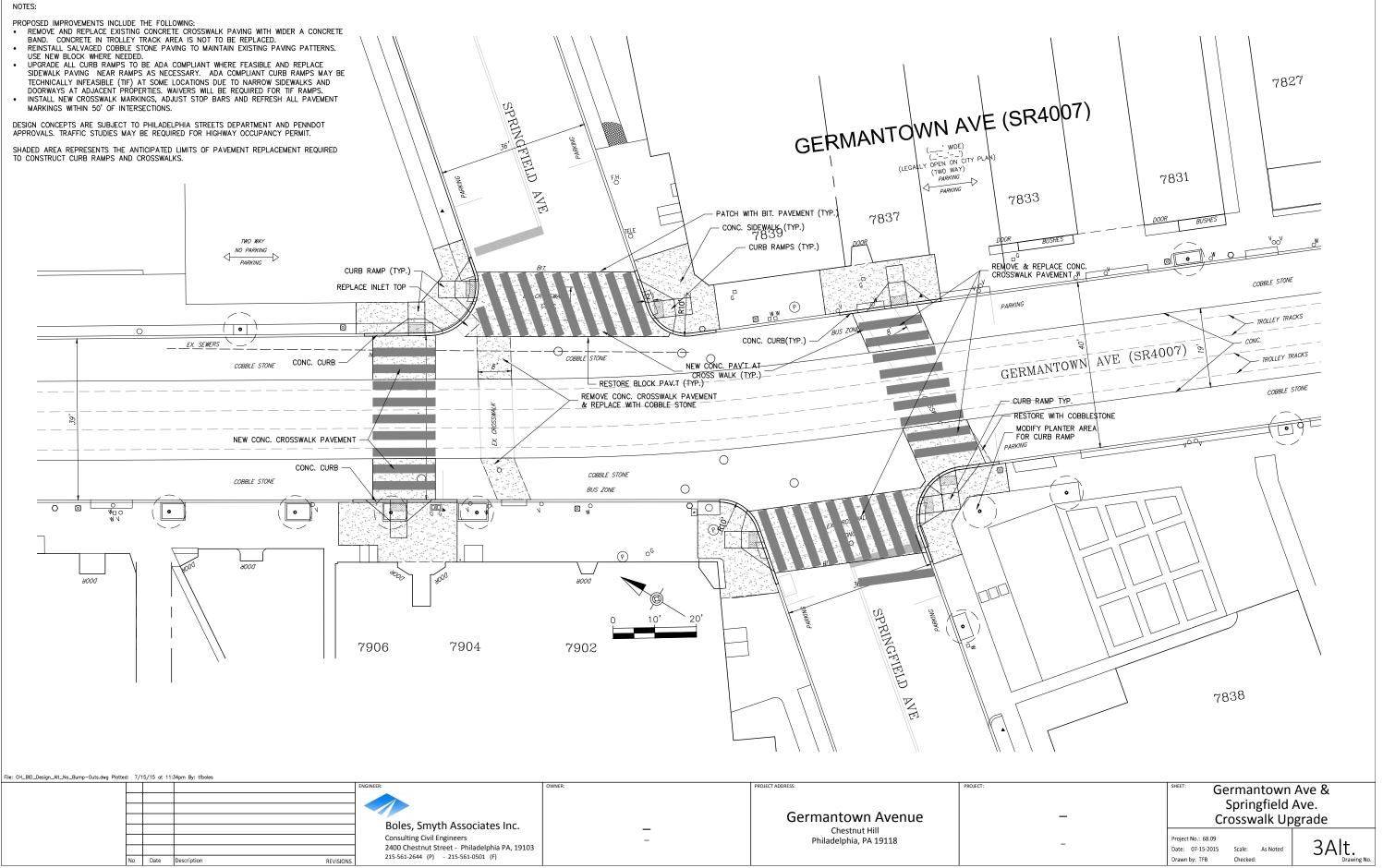


PROPOSED IMPROVEMENTS INCLUDE THE FOLLOWING:

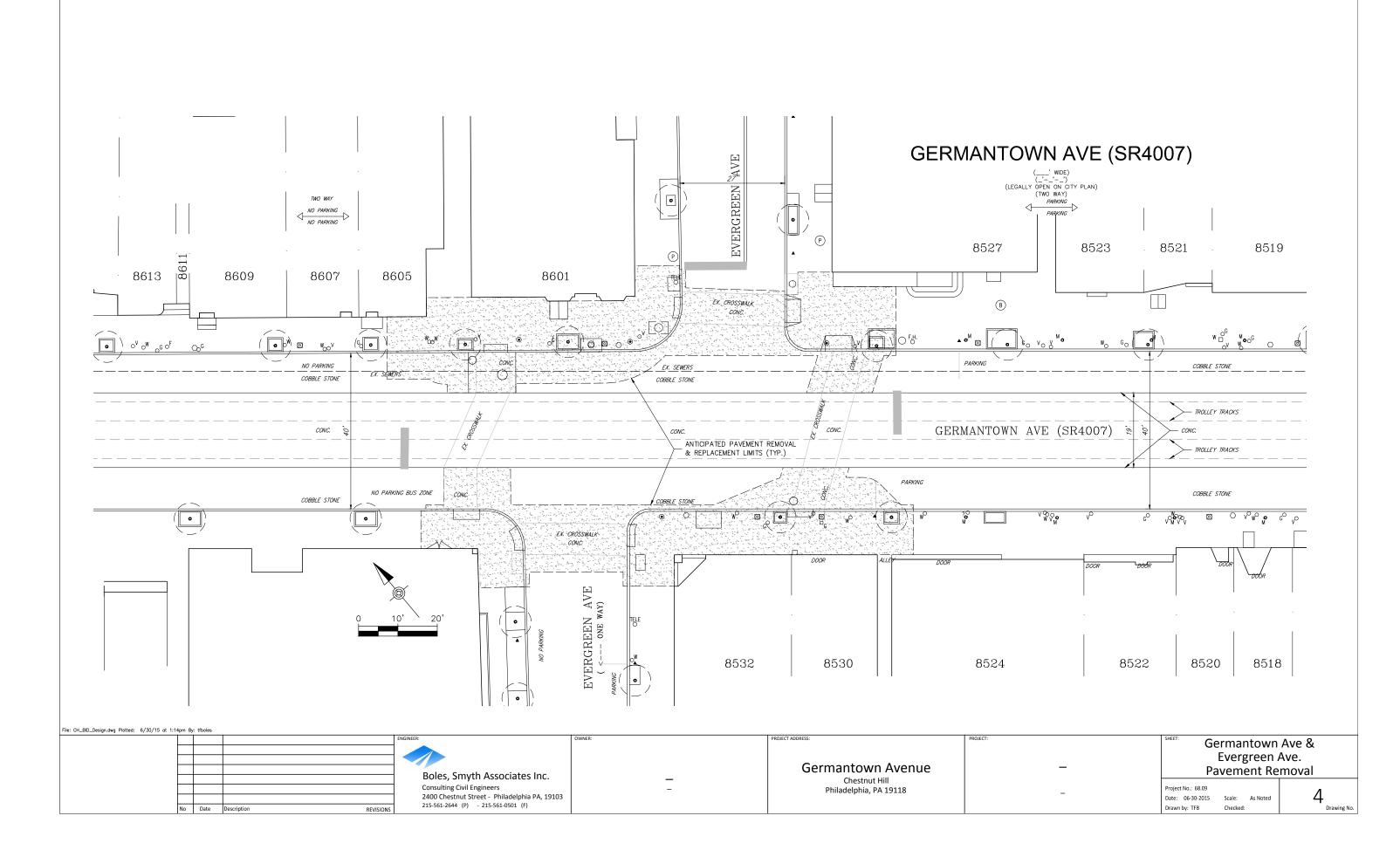


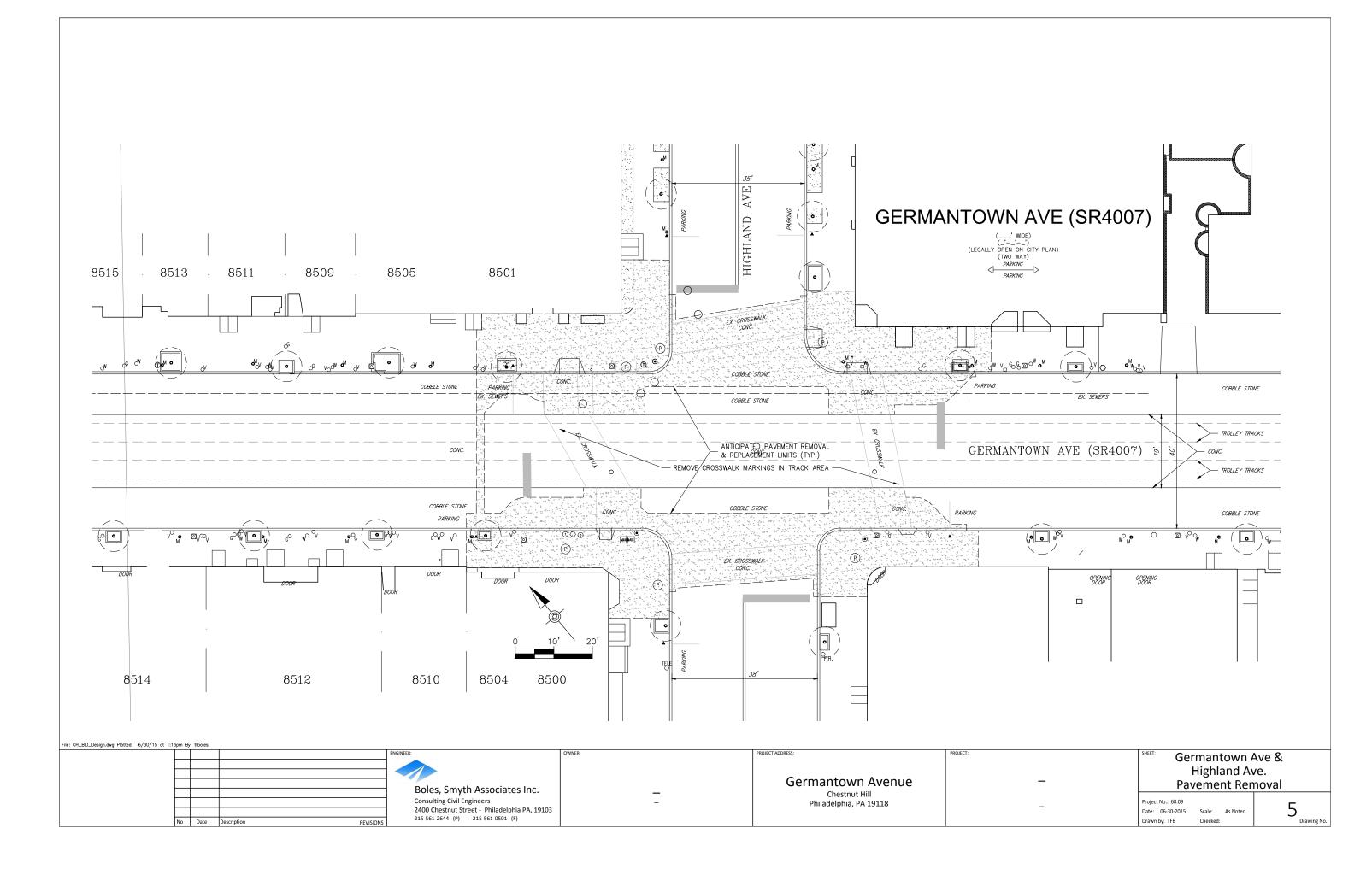


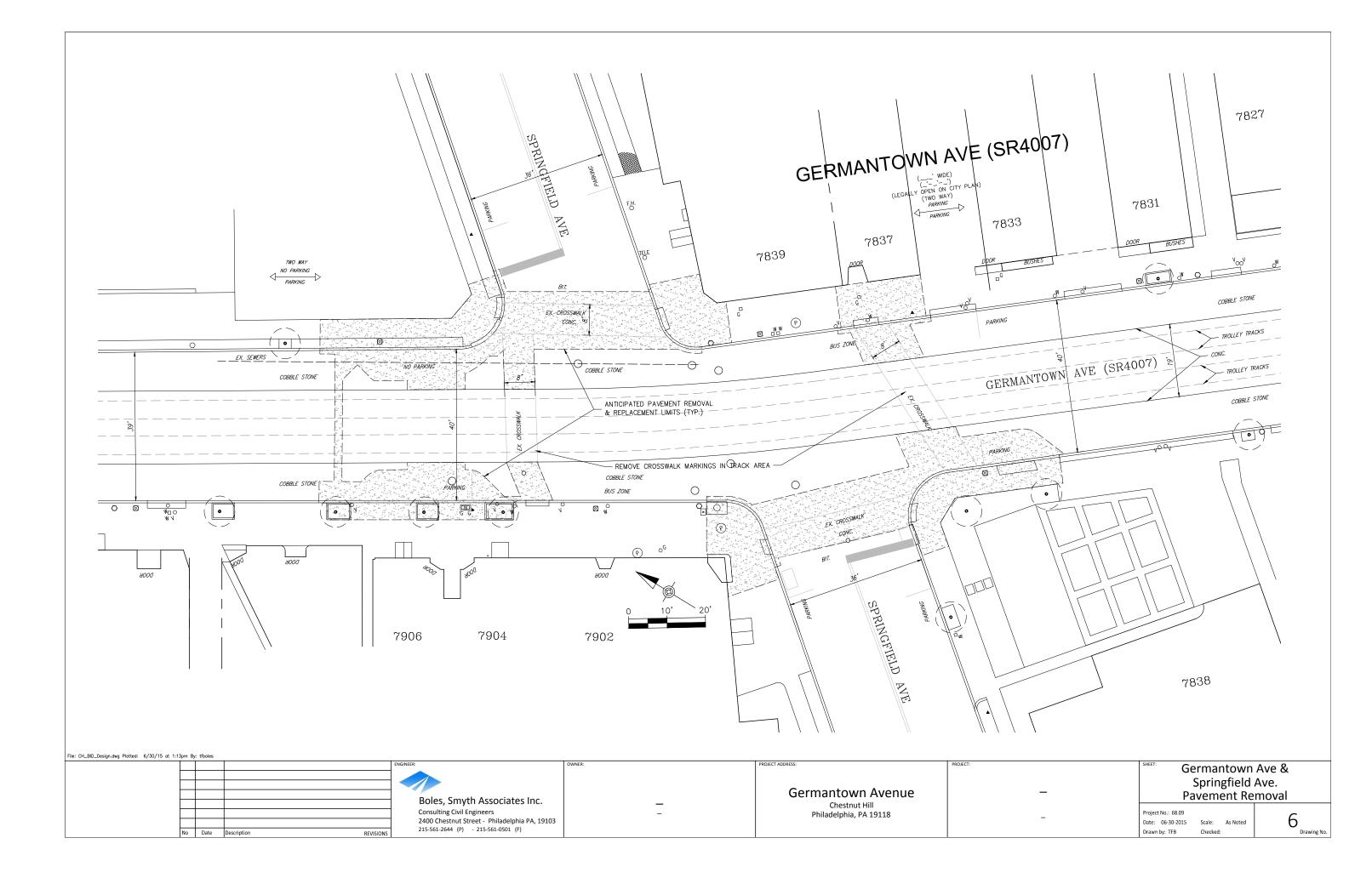


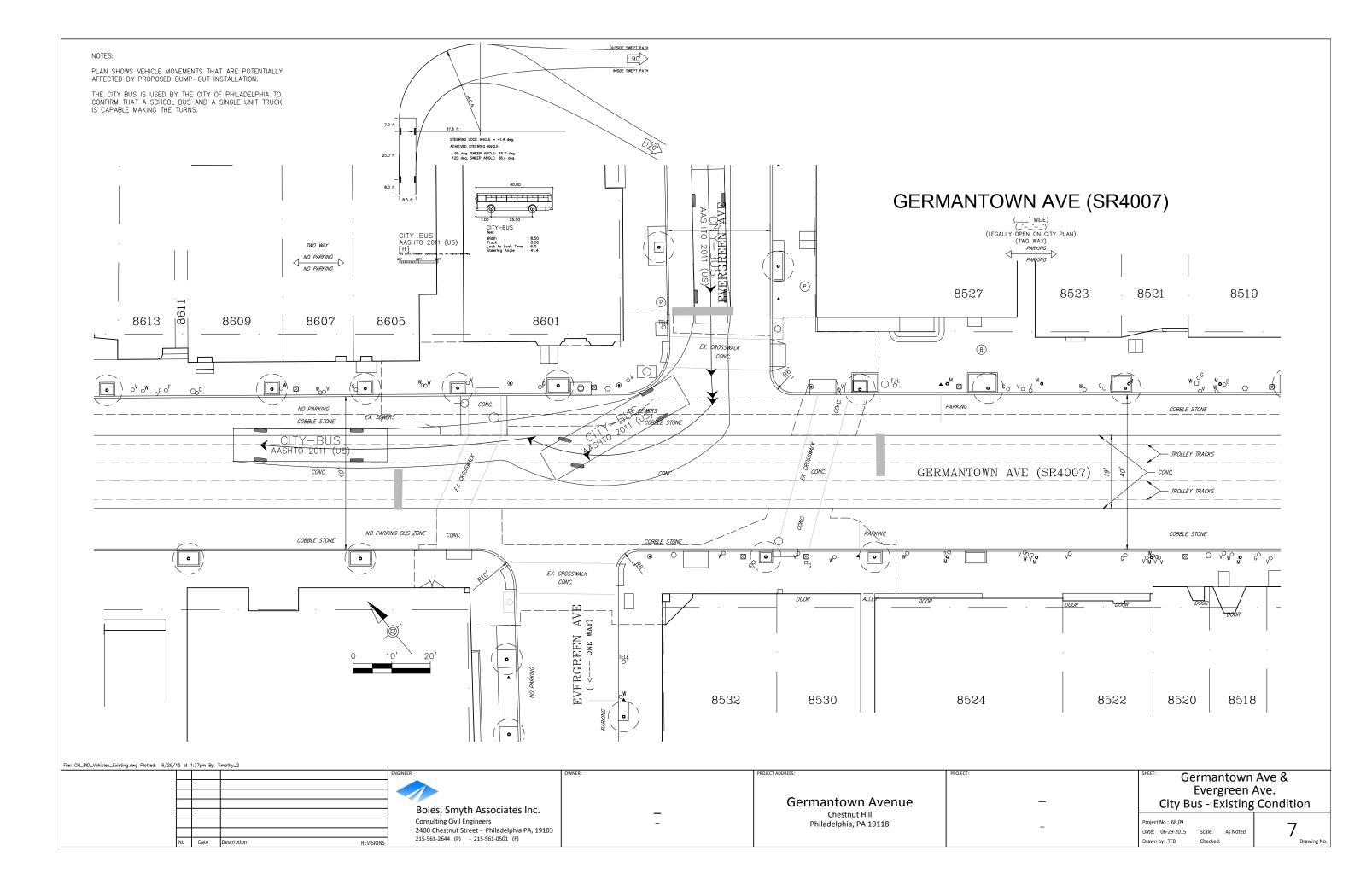


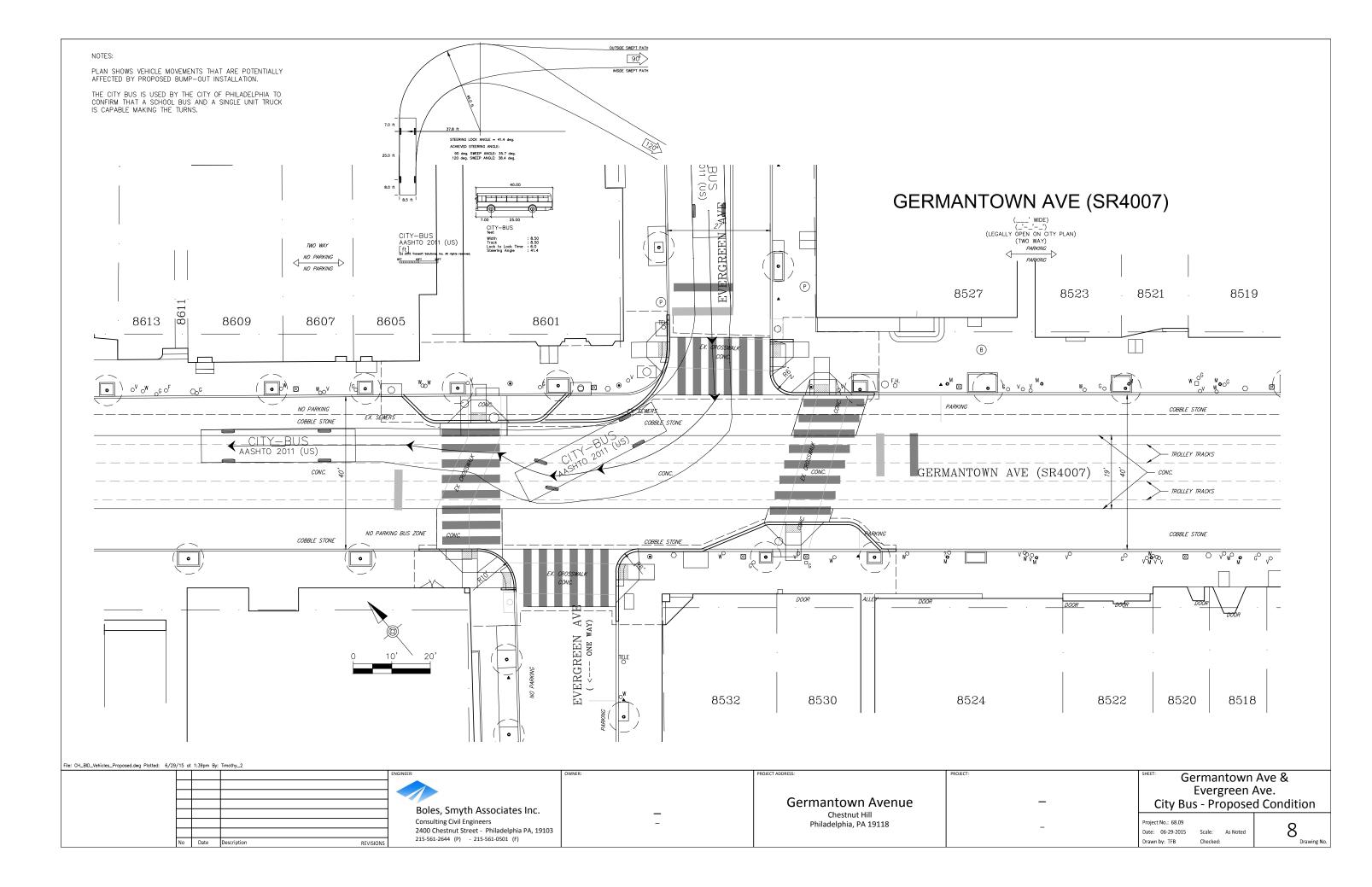
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			ENGINEER:	OWNER:	PROJECT ADDRESS:	PROJECT:
	No Date	Description REVISIONS	Boles, Smyth Associates Inc. Consulting Civil Engineers 2400 Chestnut Street - Philadelphia PA, 19103 215-561-2644 (P) - 215-561-0501 (F)	-	<b>Germantown Avenue</b> Chestnut Hill Philadelphia, PA 19118	

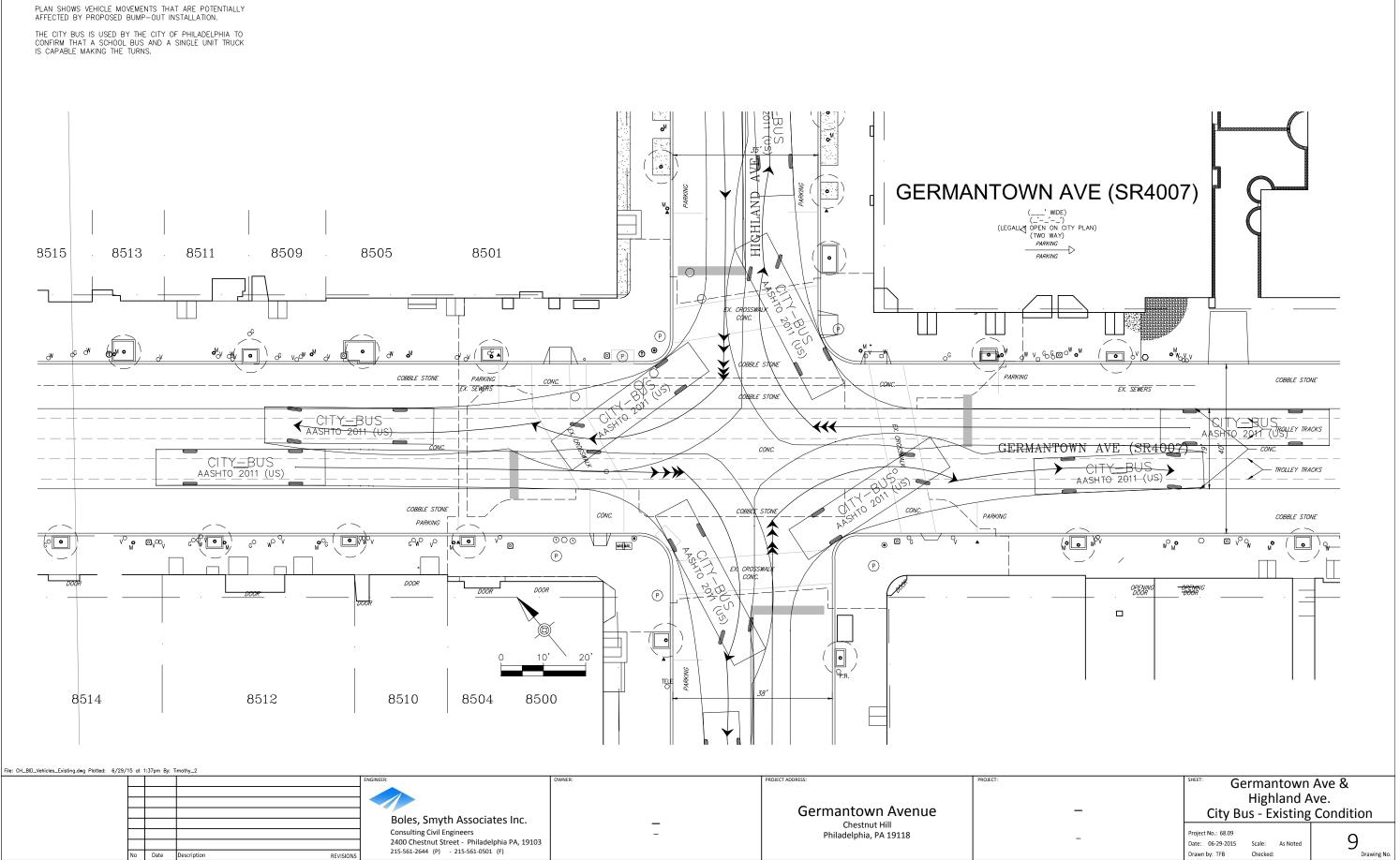


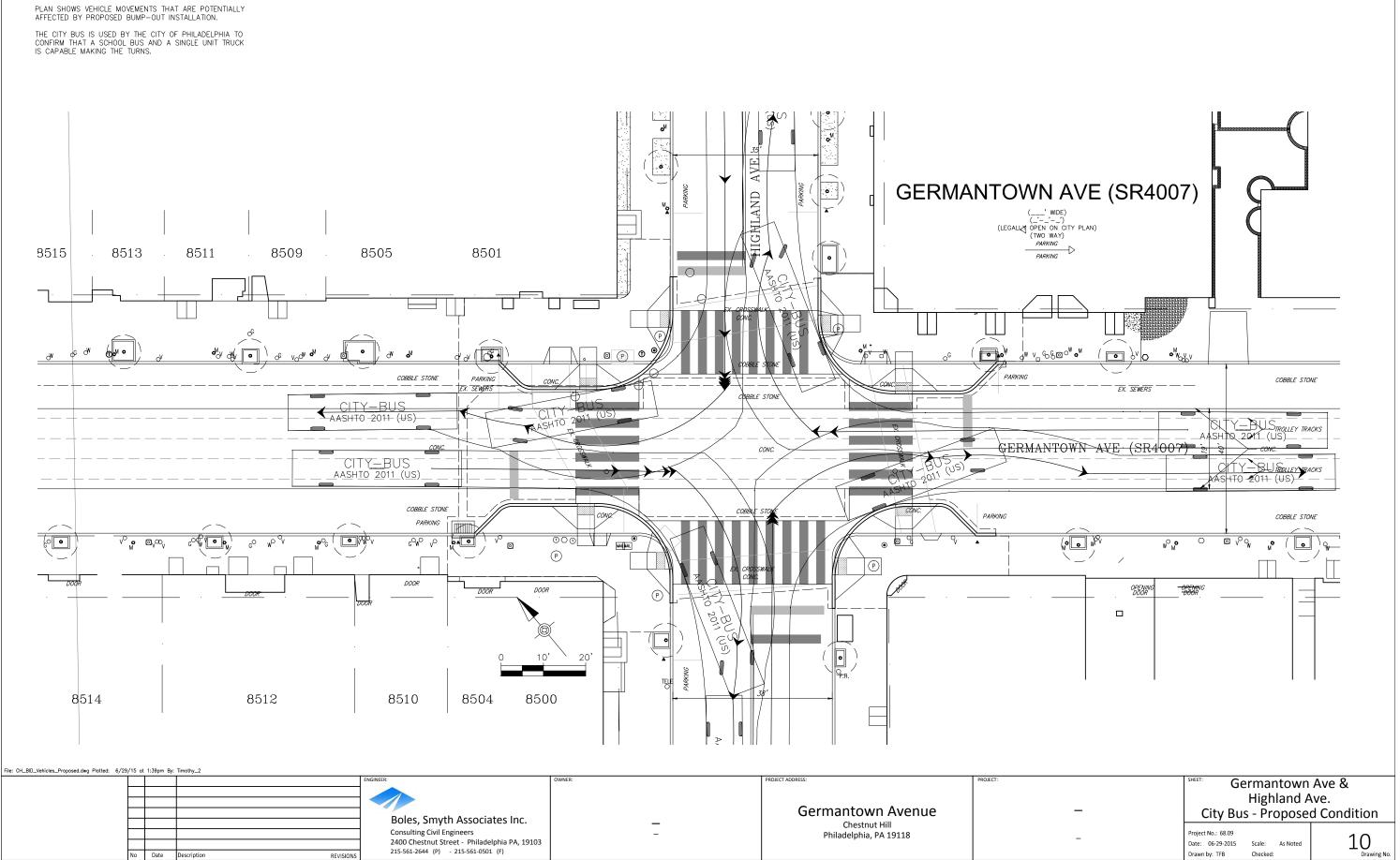


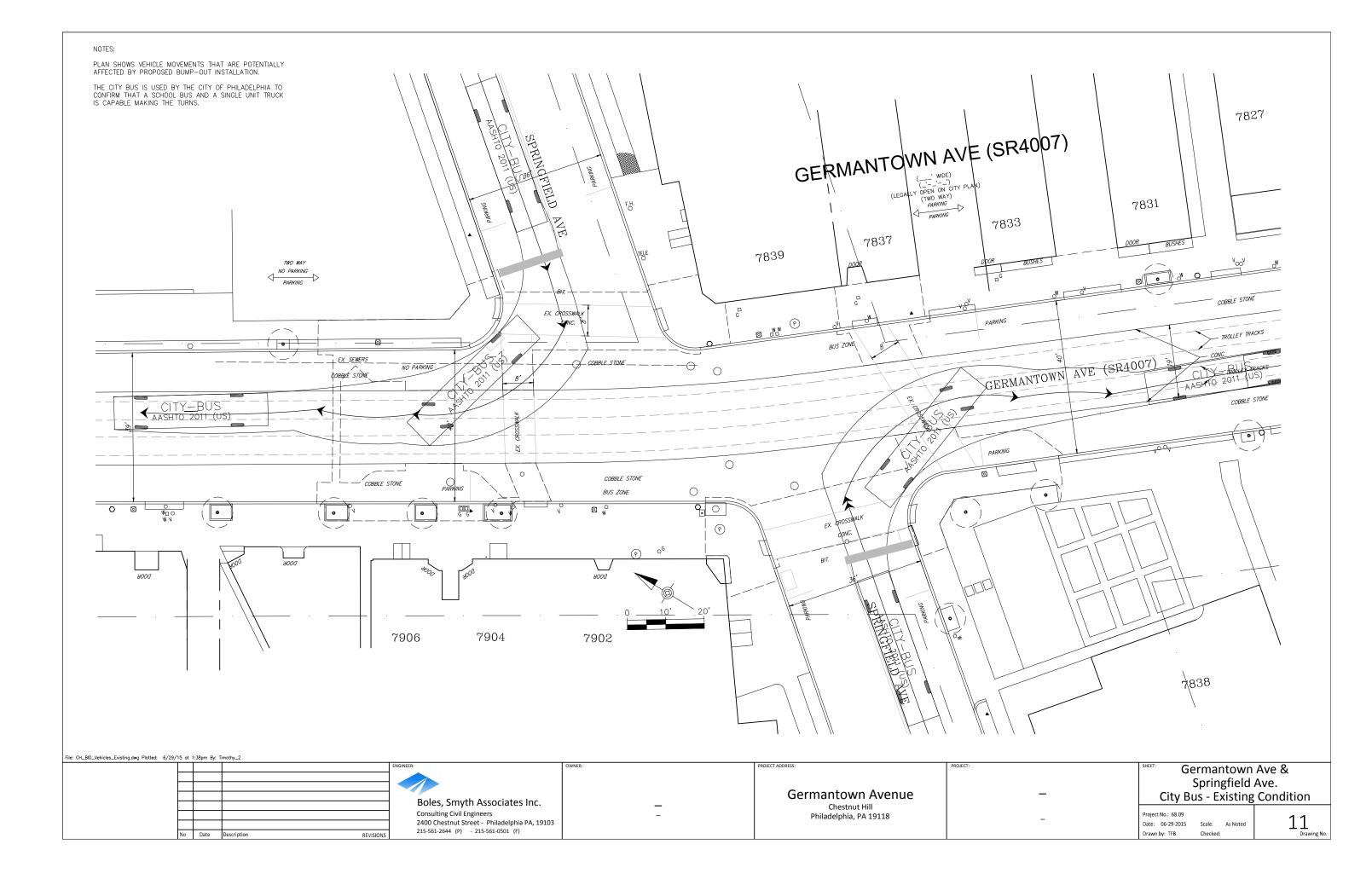


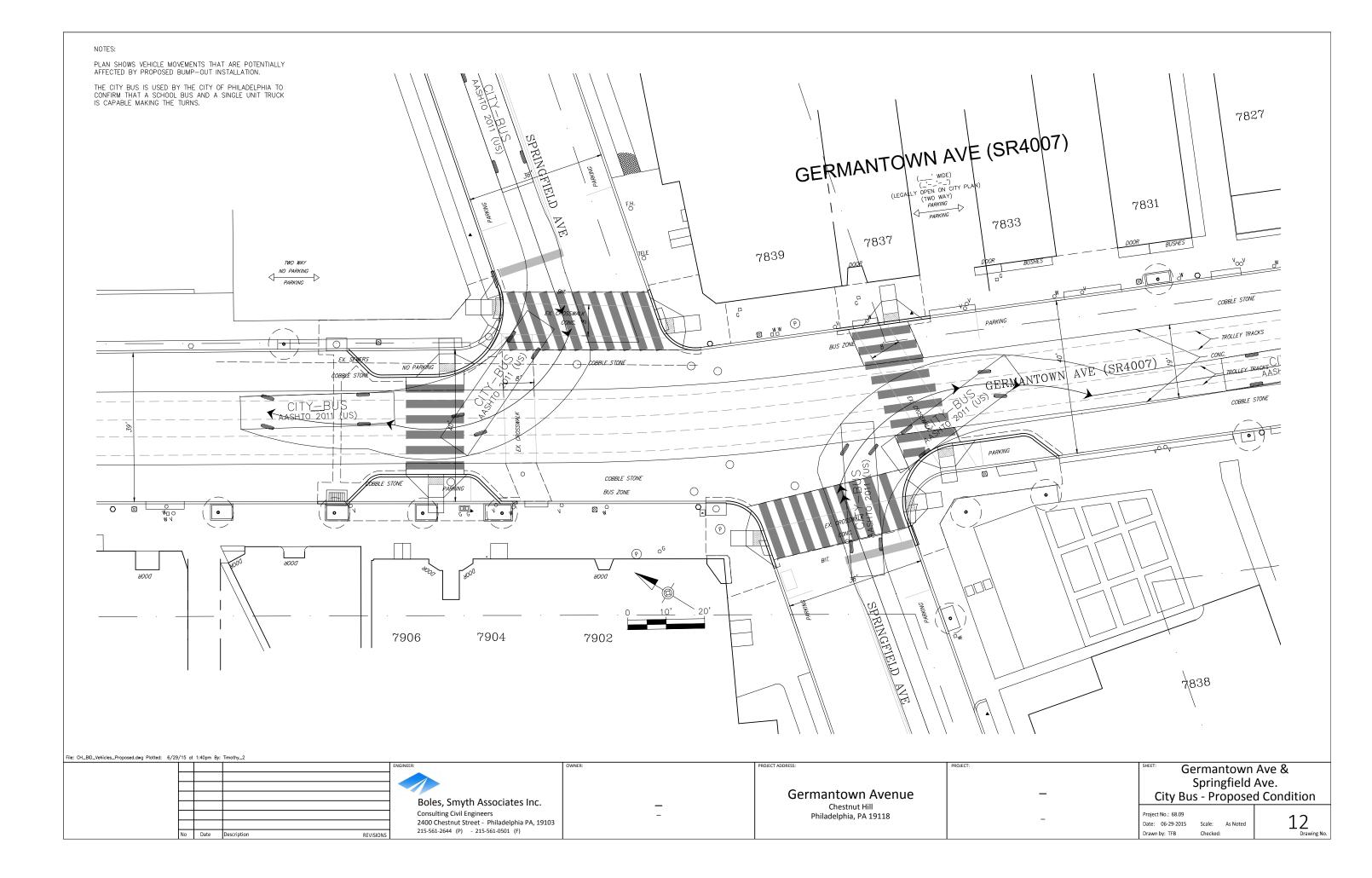














# Streetlighting Plan 2015





Table 2: Illuminance Method - Recommended Values

Road and Pedes Area	Pavement Classification (Minimum Manintained Average Values)			Uniformity Ratio	Veiling Luminance	
Road	Pedestrian Conflict Area	R1	R2 & R3	R4		Ratio
		lux/fc	lux/fc	lux/fc	E <sub>avg</sub> /E <sub>min</sub>	L <sub>vmax</sub> /L <sub>avg</sub>
Freeway Class A		6.0/0.6	9.0/0.9	8.0/0.8	3.0	0.3
Freeway Class B		4.0/0.4	6.0/0.6	5.0/0.5	3.0	0.3
Everegener	High	10.0/1.0	14.0/1.4	13.0/1.3	3.0	0.3
Expressway	Medium	8.0/0.8	12.0/1.2	10.0/1.0	3.0	0.3
	Low	6.0/0.6	9.0/0.9	8.0/0.8	3.0	0.3
Malar	High	12.0/1.2	17.0/1.7	15.0/1.5	3.0	0.3
Major	Medium	9.0/0.9	13.0/1.3	11.0/1.1	3.0	0.3
	Low	6.0/0.6	9.0/0.9	8.0/0.8	3.0	0.3
Collector	High	8.0/0.8	12.0/1.2	10.0/1.0	4.0	0.4
Collector	Medium	6.0/0.6	9.0/0.9	8.0/0.8	4.0	0.4
	Low	4.0/0.4	6.0/0.6	5.0/0.5	4.0	0.4
Local	High	6.0/0.6	9.0/0.9	8.0/0.8	6.0	0.4
Local	Medium	5.0/0.5	7.0/0.7	6.0/0.6	6.0	0.4
	Low	3.0/0.3	4.0/0.4	4.0/0.4	6.0	0.4



- In general the recommended lighting levels should be between 0.6 & 0.7 minumum maintained average depending upon pavement classification and an estimation of conflict potential. (See Chart)
- The current lighting levels with existing poles along Germantown Avenue average ±.3fc

**Pole Replacement** 

- Existing light poles are reaching the end of their useful life. additional money spent to repair beyond minimal maintenance would be better spent on new modern fixtures. New lenses, lamps and ballasts would increase lighting levels but the resulting light would still be deficient and structural pole issues would remain.
- Any new allocation of funds would be better spent with a comprehensive replacement of lighting poles with new Philadelphia City standard fixtures as shown in this document.
- The combination of direct pole replacement and the addition of recommended cobra head poles at intersection will bring the average up to recommended levels

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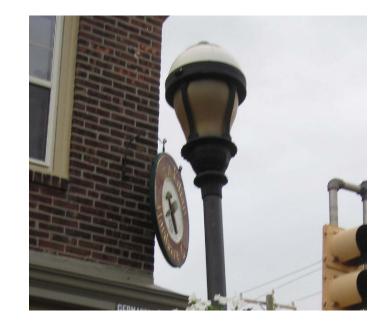
### STREET LIGHTING

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Date: 08.15



Several poles are in danger of falling over and causing damage or injury





Light fixture heads are in very poor shape with opaque yellow lenses and damage. Lens conditions impact efficiency and cause more glare problems.





equate for new poles



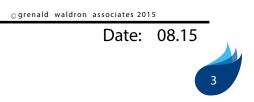
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## **EXISTING POLES**

Undersized Base footing may not be ad-





# City Standard Cobra Head Fixture

- GE Lighting "ERS: Series LED
- Forward throw optics, 4000k color, with dimming recepticle on top

City Standard Pedestrian Scale Fixture

- Sun Valley Lighting "CS-6638" LED head with cast decorative base
- Type III optics rotateable, 4000k color, with concealed LED lamping in cap
- Note: Concrete bases may need replacement based upon appearance of exsiting fixtures.



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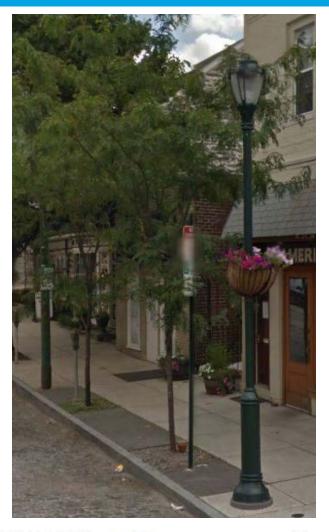
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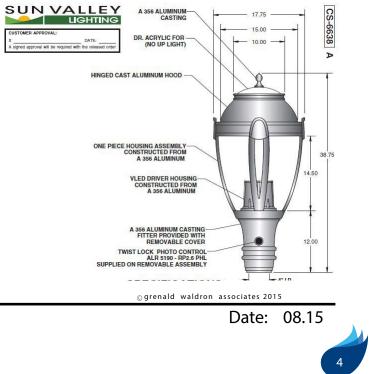
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### **REPLACEMENT FIXTURES**

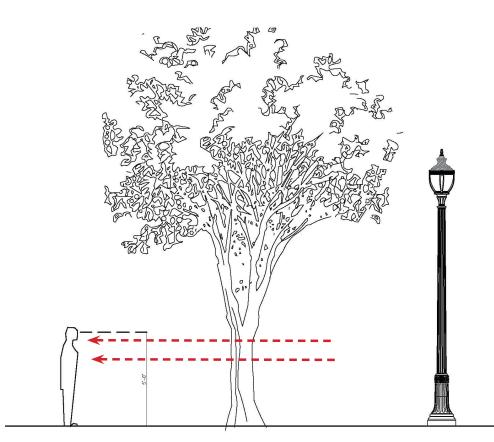




### CALCULATION STUDY LEGEND:

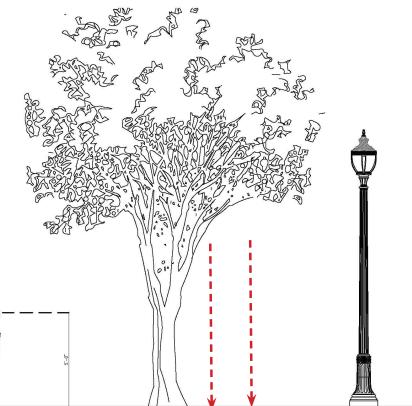
### Vertical View Readings

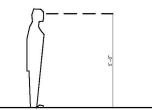
-Measures the amount of light hitting a spot 5' in the air typically in a crosswalk



IESNA recommends .5fc maintained average vertical illuminance at crosswalks and intersections for high pedestrian conflict areas. This is measured at 5' above the roadways surface facing in the direction of traffic.

Horizontal Readings taken at ground level -Measures the amount of light hitting the ground at a point





Note: In our experience the city of Philadelphia uses IES and other industry recognized guidelines for determining lighting levels for lighting projects in addition to practical considerations unique to each location. We are not aware of published city guidelines that detail a different set of criteria.



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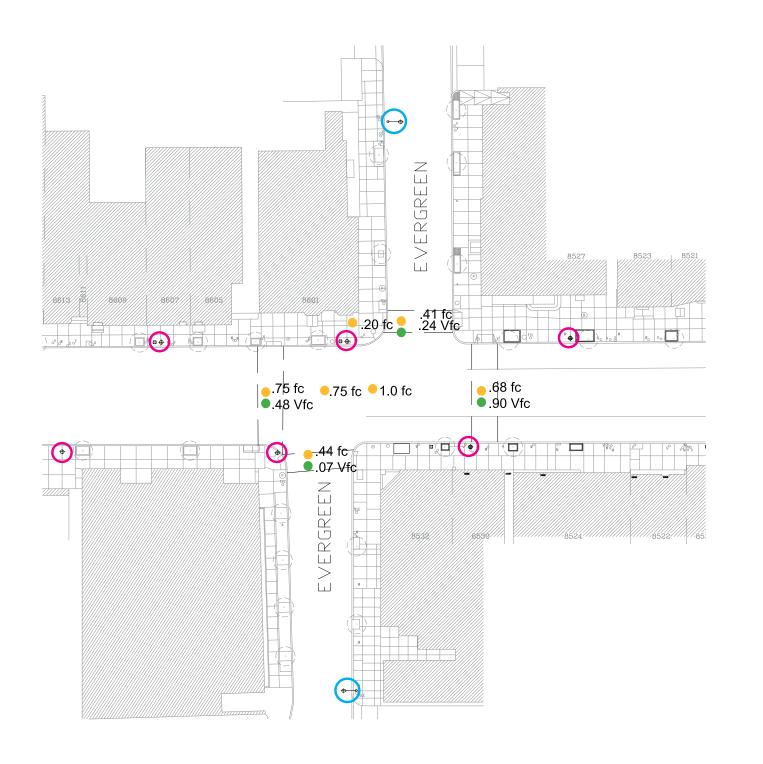
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### CALCULATION LEGEND

IESNA recommends 1.8fc maintained average horizontal illuminance at intersections based on local roadway classification and areas of high pedestrian activity. For roadways in between intersections 0.5FC maintained average is recommended.







Existing Lighting Levels Survey facts • Lighting levels are +50% lower than recommended

- levels
- Vertical lighting levels at crosswalks are adevergreen
- Pedestrians may be difficult to see from vehicles ٠ entering from Evergreen
- glare from existing fixtures is very high further ٠ limiting visibility and compromising comfort



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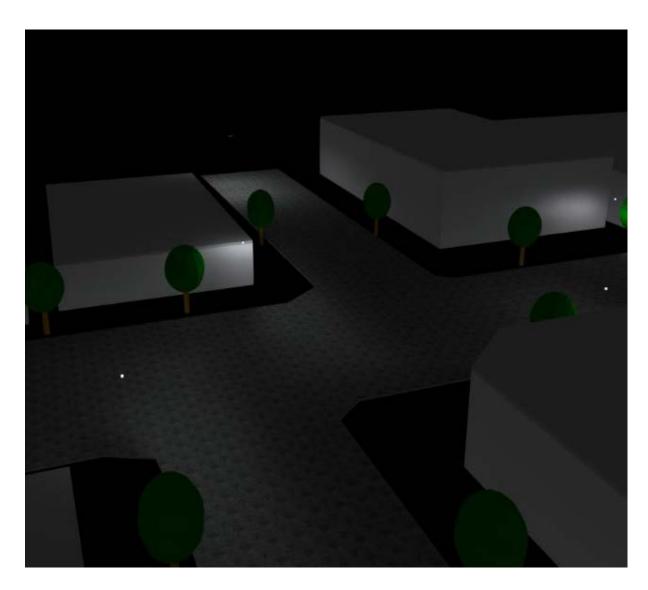
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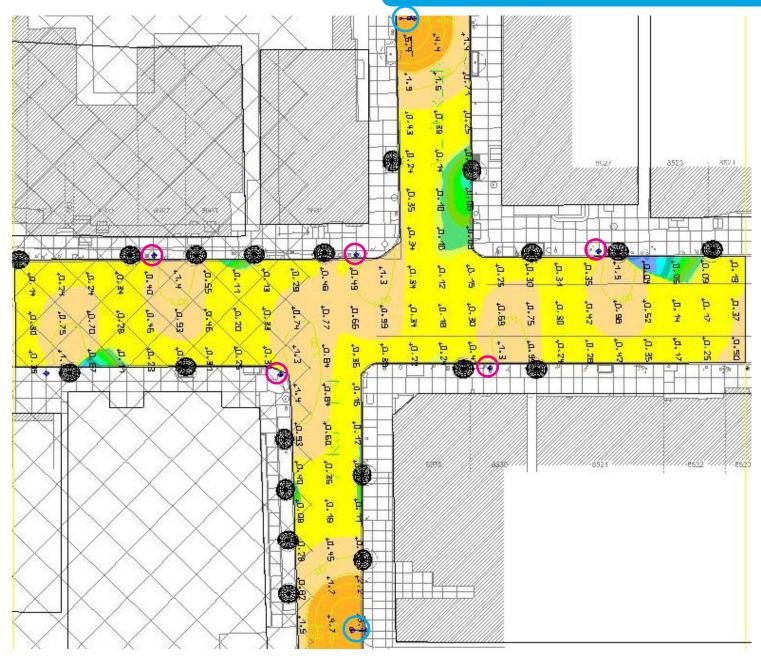
#### **EVERGREEN INTERSECTION**

equate facing Germantown ave but deficient facing

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Simulation using new Philadelphia city standard fixtures in existing locations



Original Layout with new fixtures

• Calculation uses new Philadelphia city standard pole from Sun Valley and GE Cobra head fixture with 400w HPS lamping



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### **EVERGREEN INTERSECTION**

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Improved Layout - Upgrade Lights

- All fixtures are being tested with the city standard pole from Sun Valley and GE Cobra head fixture
- Replace all current fixture with new city standard to increase performance, color, reliability and optical control.
- 2 Cobra head poles have been added to get closer to the IES guideline for 1.8fc at intersections and to increase pedestrian visibility

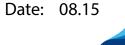
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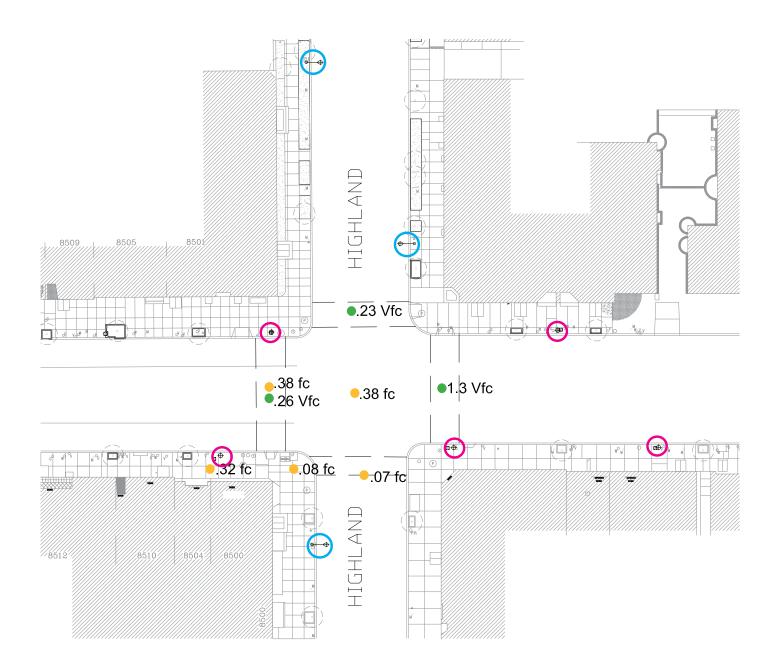
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### **EVERGREEN INTERSECTION**

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Existing Lighting Levels Survey facts • Lighting levels are +50-75% lower than recommended

- levels
- Vertical lighting levels at crosswalks are adequate facing south on Germantown ave. Other directions are 50% lower than recommended levels
- Pedestrians may be difficult to see from vehicles entering from Highland Street
- Glare from existing fixtures is very high further limiting visibility and compromising comfort



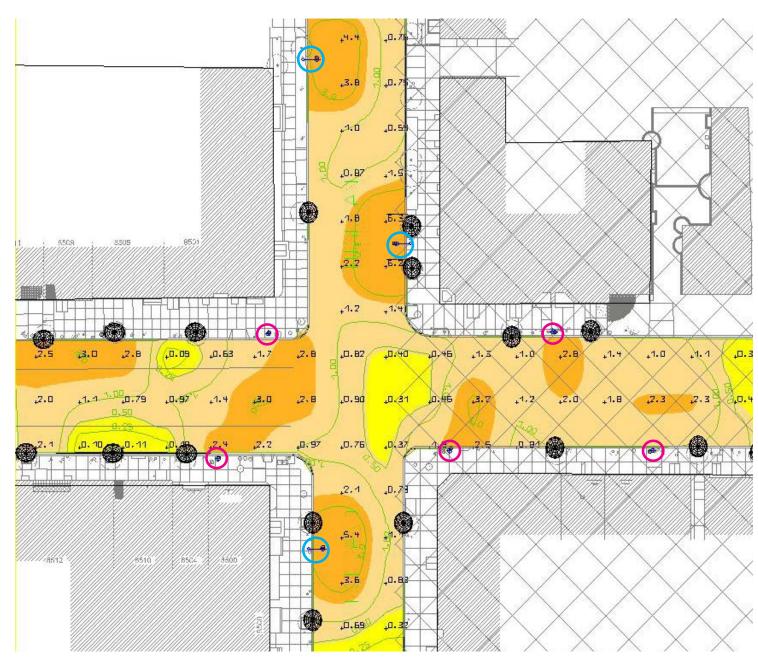
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#### **HIGHLAND INTERSECTION**







Simulation using new city standard fixtures in existing locations

Original Layout with new fixtures

 Calculation uses new Philadelphia city standard pole from Sun Valley and GE Cobra head fixture with 400w HPS lamping



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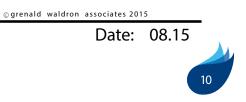
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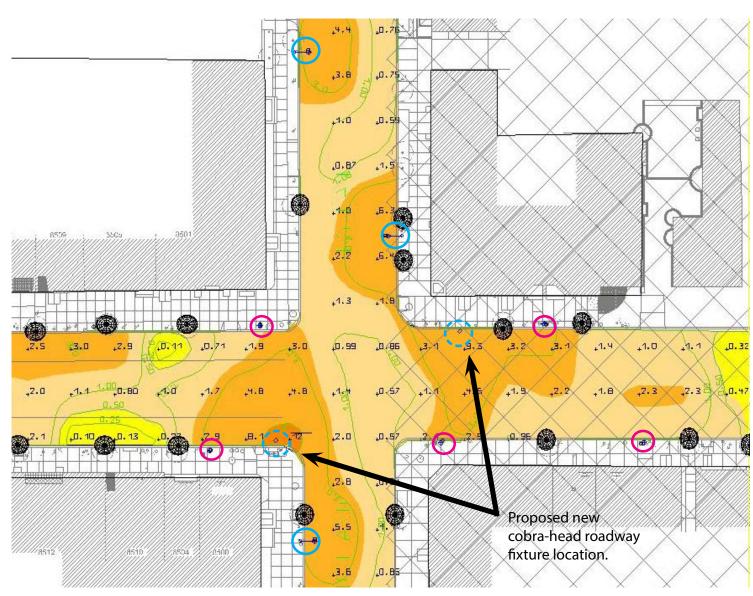
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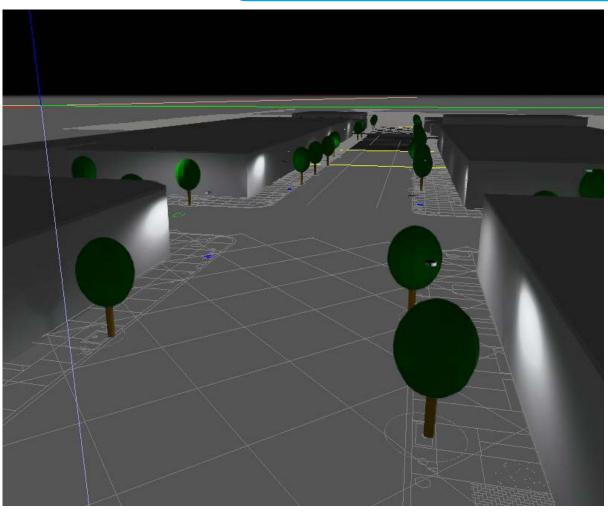
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### **HIGHLAND INTERSECTION**







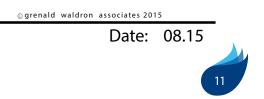
Simulation using new city standard fixtures in existing locations with the addition of 2 cobra heads.

Improved Layout - Upgrade Lights

- All fixtures are being tested with the city standard pole from Sun Valley and GE Cobra head fixture
- Replace all current fixture with new city standard to increase performance, color, reliability and optical control.
- 2 Cobra head poles have been added to get closer to the IES guideline for 1.8fc at intersections and to increase pedestrian visibility



### **HIGHLAND INTERSECTION**







Existing Lighting Levels Survey facts • Most lighting levels are +50-75% lower than recom-

- mended levels
- Vertical lighting levels at crosswalks are adequate facing south on Germantown ave. Other directions are 50% lower than recommended levels
- Pedestrians may be difficult to see from vehicles entering from Springfield
- Glare from existing fixtures is very high further limiting visibility and compromising comfort



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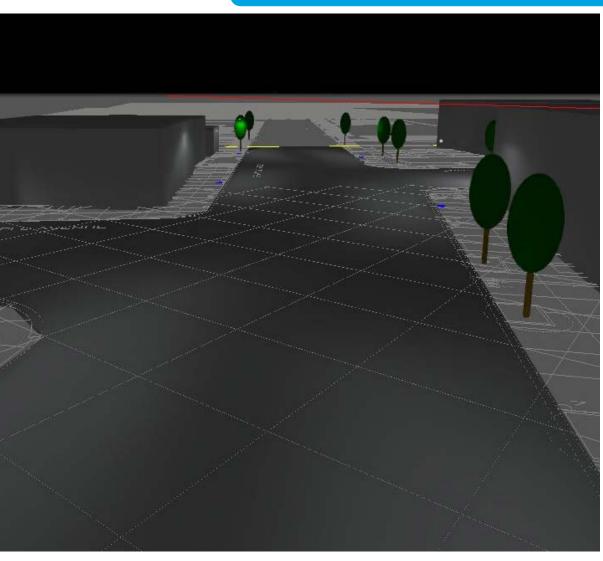
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#### SPRINGFIELD INTERSECTION

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Simulation using new city standard fixtures in existing locations

# Original Layout with new fixtures

 Calculation uses new Philadelphia city standard pole from Sun Valley and GE Cobra head fixture with 400w HPS lamping



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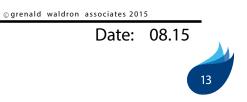
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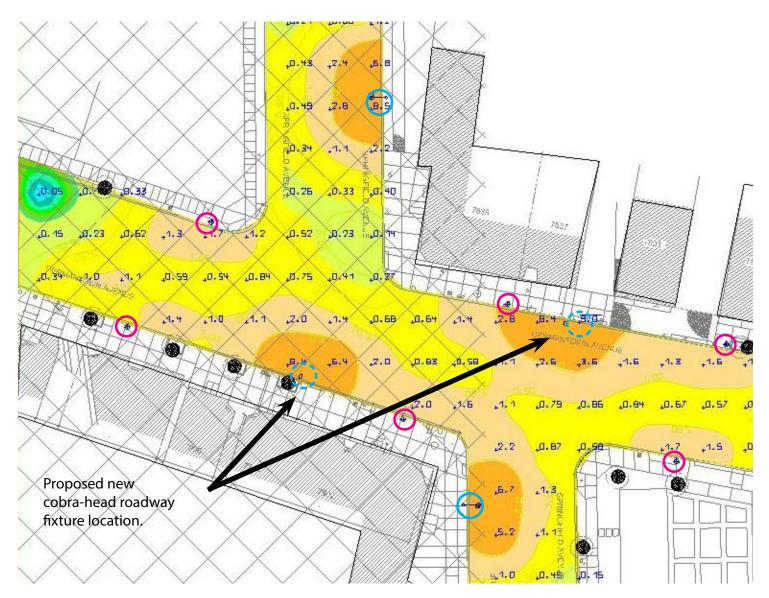
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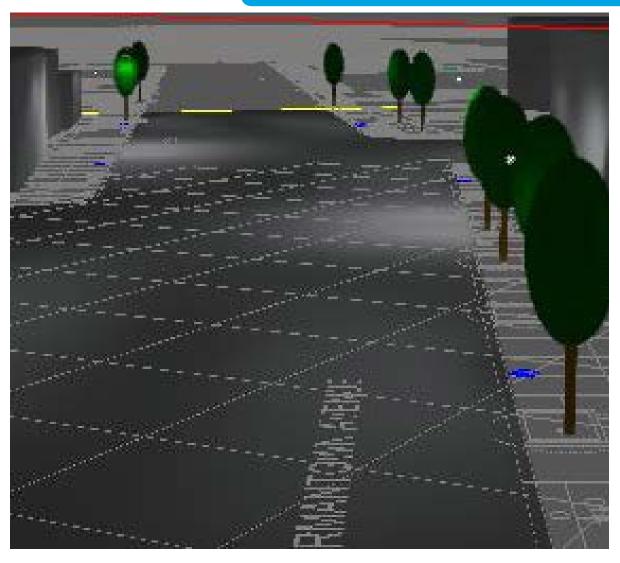
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### SPRINGFIELD INTERSECTION





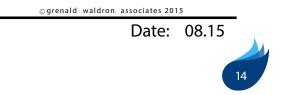


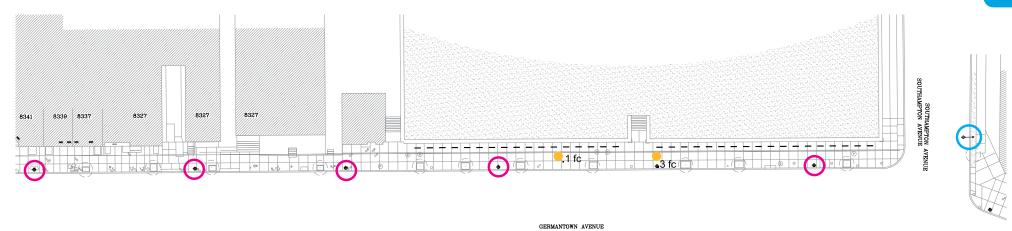
# Improved Layout - Upgrade Lights

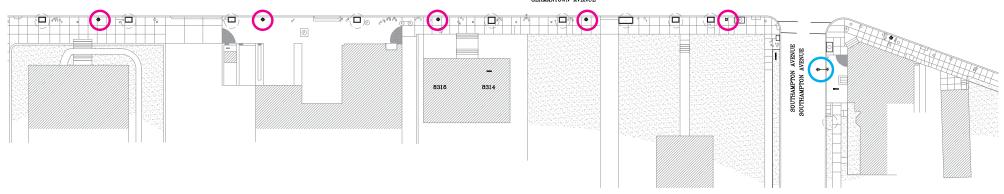
- All fixtures are being tested with the city standard pole from Sun Valley and GE Cobra head fixture
- Replace all current fixture with new city standard to increase performance, color, reliability and optical control.
- 2 Cobra head poles have been added to get closer to the IES guideline for 1.8fc at intersections and to increase pedestrian visibility



#### SPRINGFIELD INTERSECTION







Existing Lighting Levels Survey facts

- Most lighting levels are +75% lower than recommended levels
- Trees block much of the light from the old fixtures
- glare from existing fixtures is very high further limiting visibility and compromising comfort



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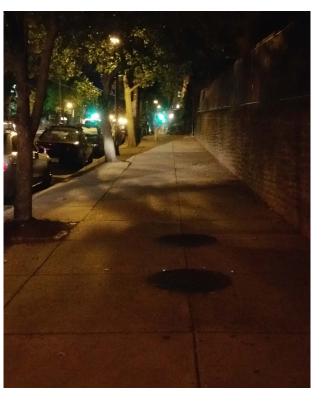
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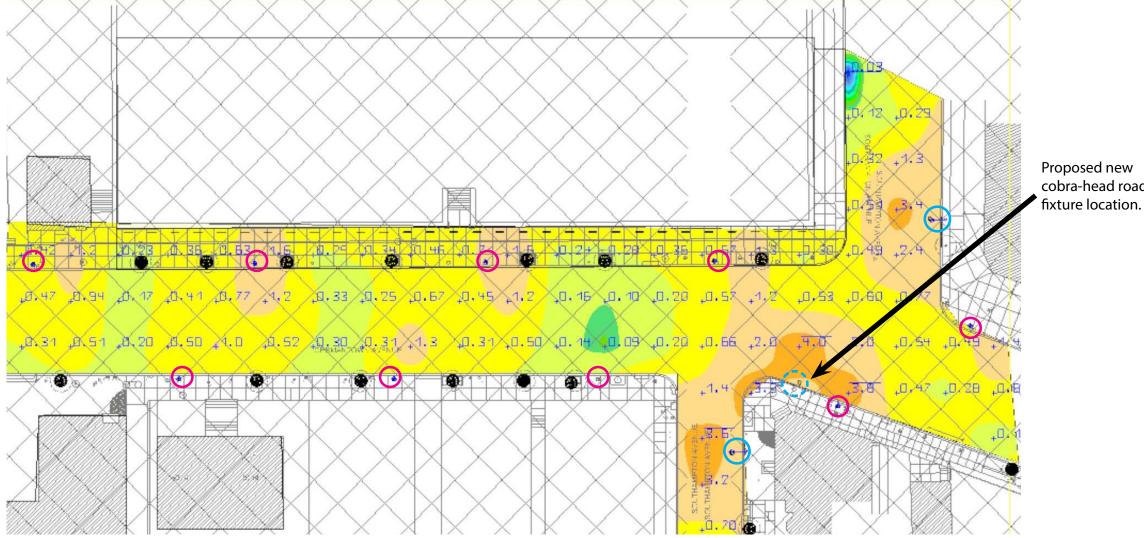
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### JENKS BLOCK





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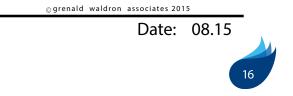
Improved Layout - Upgrade Lights

- All fixtures are being tested with the city standard pole from Sun Valley and GE Cobra head fixture
- Replace all current fixture with new city standard to increase performance, color, reliability and optical control.
- 1 Cobra head pole has been added to get closer to the IES guideline for 1.8fc at intersections and to increase pedestrian visibility



### **JENKS BLOCK**

cobra-head roadway

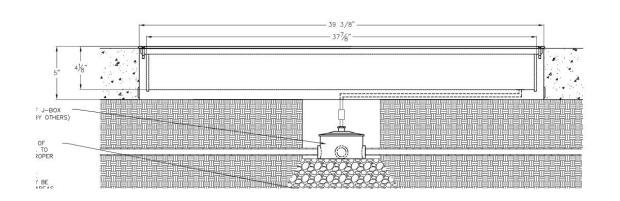


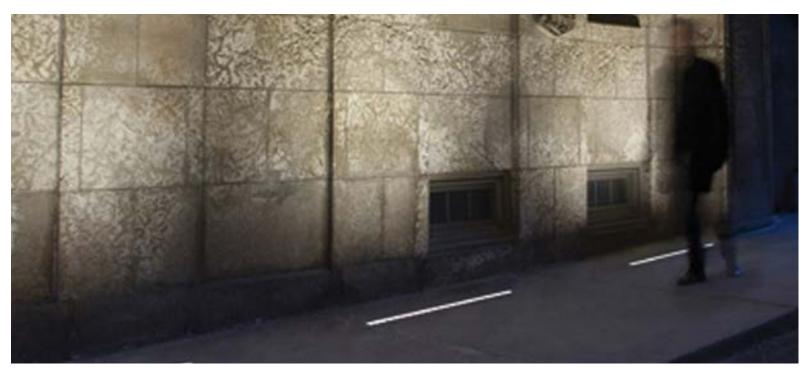


# Wall Lighting Upgrade

- Ingrade linear wallwash fixtures
- with 3.5' between fixtures.

- to "activate" block.







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### **JENKS BLOCK - IMPROVEMENT**

• 39.5" fixtures Spaced ±2.5' away from wall • Sample fixture used- Bega Lighting 7918LED • 35 Fixtures total to light wall along block • Increases brightness in general and helps

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Residences on block

- Create better lighted homes with a few simple lighting upgrades to help make block feel more active and safe
- Request that owners leave lights on until after shopping closes. A simple timer switch could be provided.
- Assist owners to add a small historic porch light at door area
- Add small post mounted walkway light



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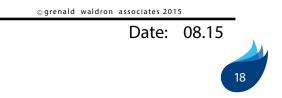
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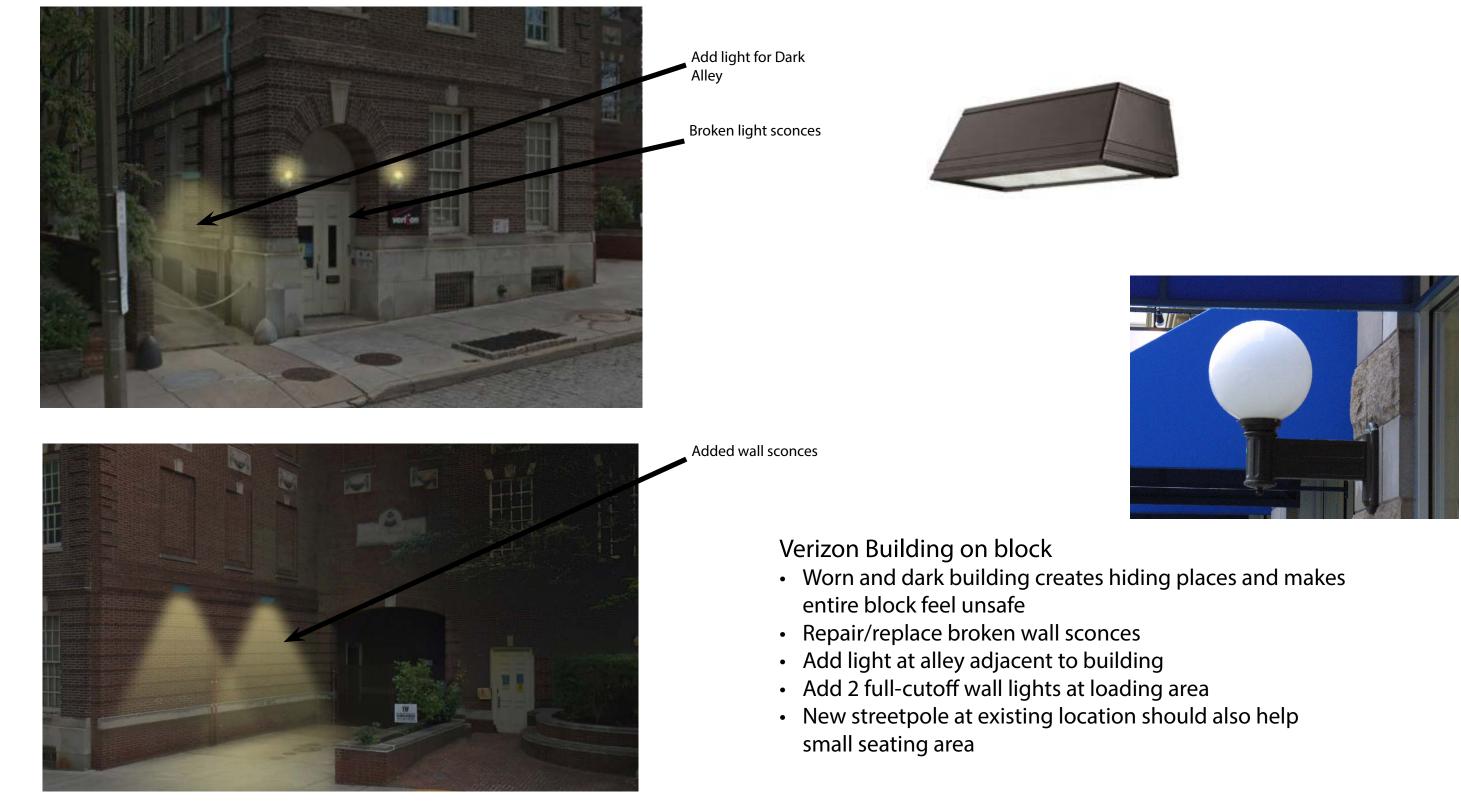
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### JENKS BLOCK - IMPROVEMENT







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## **JENKS BLOCK - IMPROVEMENT**



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# Business owners lighting guidelines

- Ensure store display windows are lighted with inward facing light.
- Whenever possible circuit storefront lighting on independent switch so that display can be left on after hours. A simple timer switch is recommended.
- Exterior wall mounted lighting that matches the historic character of the district is encouraged.
- Storefront window and wall mount sconces are recommended to stay lighted until midnight to be visible to late night restaurant and other patrons.











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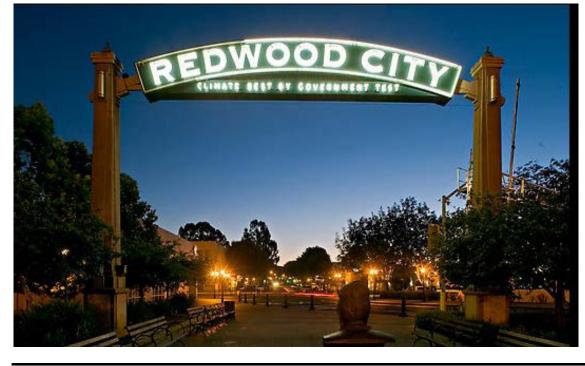
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### **BUSINESS LIGHTING GUIDELINES**

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- help visitors to know where business district is and how to get there
- establish and reinforce identity and brand
- help establish borders and a sense of place for both visitors and residents
- Gateways are commonly established with large scale signage over or adjacent to roadway. However, identity can also be established with consistant signage and matching light poles throughout the business district.





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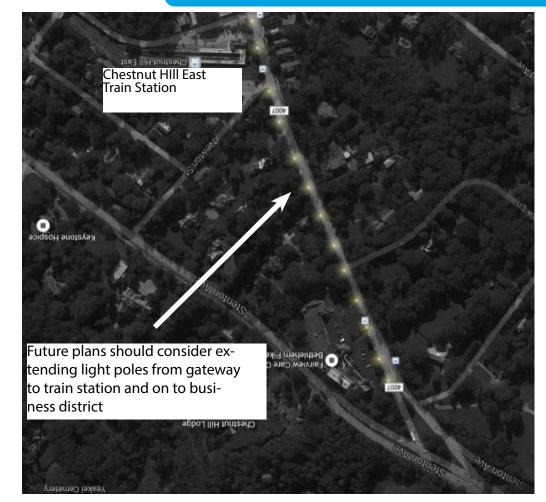
#### **GATEWAY IMPORTANCE**



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Bigger & Better Welcome to Chestnut Hill Sign

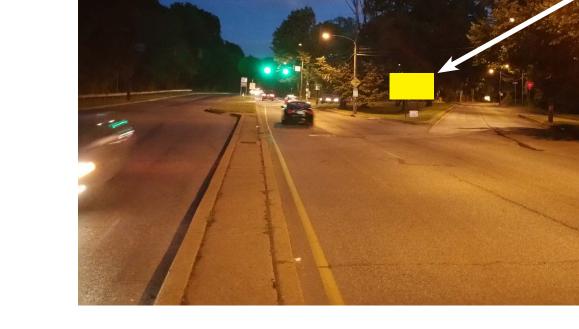


Bigger & Better Welcome to Chestnut Hill Sign

Bethlehem Pike / Stenton Ave intersection

- with high traffic potential this intersection offers the best value for an investment
- the stenton avenue turn is a non-signaled intersection that provides for easy redirection of traffic
- Any sign must be lighted to take full advantage of visibility to traffic at night

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### **BETHLEHEM PIKE/STENTON GATEWAY**

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# Potential Funding Opportunities

A number of public funding sources are available for design, documentation, and implementation of streetscape improvement projects. Political support will be integral to the success of obtaining funds. The following list is not exhaustive.

Pennsylvania Department of Community and Economic Development:

- Funding Finder (Summary of state grant opportunities) www.newpa.com/find-and-apply-for-funding/funding-and-program-finde
- Keystone Communities (KC) Program Grants http://community.newpa.com/programs/keystone-communities-program-kcp

Keystone Community designation must be obtained before applying for an implementation grant. Signage is one of the projects eligible for KC grants.

#### Pennsylvania Department of Transportation (PennDOT) Grants

• Transportation Alternatives Program (TAP) www.dot.state.pa.us/Internet/Bureaus/CPDM.nsf/TAPHomepage?OpenFrameset

TAP provides funding for programs and projects defined as transportation alternatives, including pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, environmental mitigation, safe routes to school projects, etc.

• Multimodal Transportation Fund (MTF) Grants: http://community.newpa.com/programs/multimodal-transportation-fund

MTF provides matching funds for projects ranging from \$100,000 to \$3,000,000. Applications are received between March 31 and July 31 of each year. Funding is intended to benefit transportation systems by mitigating public safety issues and supporting connectivity, integration, or revitalization of at least two different means of transportation.