PHILADELPHIA STREETS ENGINEERING STANDARDS



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INTRODUCTION

GENERAL STANDARDS

The acceptable standards and construction specifications of the Philadelphia Streets Department, Traffic Engineering Division, will be the most recent version of the following documents, except as noted herein, or within separate Traffic Engineering Specifications.

Pennsylvania Code

- 67 PA Code §205 (Municipal Traffic Engineering Certification)
- 67 PA Code §212 (Official Traffic Control Devices)
- 75 PA Code §101 (Vehicle Code)

PennDOT Publications

- Publication 8 – Construction Manual
- Publication 10 – Design Manual Part 1, Transportation Project Development Process
- Publication 13M – Design Manual Part 2, Highway Design
- Publication 14M – Design Manual Part 3, Plans Presentation
- Publication 35 (Bulletin 15) – Approved Construction Materials
- Publication 46 – Traffic Engineering Manual
- Publication 72M – Standards for Roadway Construction
- Publication 111 – Traffic Control – Pavement Markings and Signing Standards TC-8600 and TC-8700 Series
- Publication 148 – Traffic Standards – Signals (TC-8800 Series)
- Publication 149 – Traffic Signal Design Handbook
- Publication 191 – Guidelines for the Maintenance and Operations of Traffic Signals
- Publication 212 – Official Traffic Control Devices

- *Publication 212 is Pennsylvania's Supplement to the MUTCD, per 67 Pa. Cade §212.3*
- Publication 213 – Temporary Traffic Control Guidelines
- Publication 236 – Handbook of Approved Signs
- Publication 383 – Pennsylvania's Traffic Calming Handbook
- Publication 408 – Highway Specifications
- Publication 638 – District Highway Safety Guidance Manual
- Publication 647M - Civil and Structural Standards for Intelligent Transportation Systems, ITS-1000M Series.

Federal Highway Administration (FHWA)

- Manual on Uniform Traffic Control Devices (MUTCD), 2009 edition

National Cooperative Highway Research Program (NCHRP)

- Report 812 – Signal Timing Manual

AUTHORITY

The Chief Traffic Engineer is authorized by 67 PA Code §205, as the City's municipal traffic engineer, to issue and approve traffic signal plans, , Traffic Impact Studies (TIS), and Traffic Impact Assessments (TIA). Additionally, the Chief Traffic Engineer is authorized to approve pavement marking plans, intercity buses, tour busses/trolley/other motorized, and non-motorized vehicle permits.

Departmental authority is included within the Philadelphia Code and Streets Department Regulations. Familiarity with the following sections and regulations will provide all stakeholders with a better understanding of the role of the Streets Department, as reflected within this publication.

Philadelphia Code

- § 9-200 Commercial Activities on Streets
- §11-200 Openings and Excavations in the Streets
- §11-400 City Plan
- §11-500 Paving
- §11-600 Construction, Encroachments, and Projections Over, On & Under Streets
- §12-907 Designation of Public Carrier Stands
- §14-301 Open Air Parking & Parking Garages
- §14-804 Bicycle Parking

Streets Department Regulations

- Regulations Governing Sidewalk Closure Permits for Construction Activity (5-16-2014)
- Regulations Governing Bus Loading Zones (3-14-2013)
- Bicycle Parking Regulations (5-7-2014)
- Regulations Governing Street Openings, Excavations & Restoration (1-9-2015)
- Regulations Governing Construction of ADA-Compliant Curb Ramps (8-25-2014)
- Regulation Governing Applications for the Installation of Curb or Sidewalk Pipe Posts on Paved Streets (2-20-1963)
- Regulations Governing Fees and Charges for Various Permitted Activities (9-25-2012)

A. Regarding Streets Department Approval

Approvals sought by parties outside of the Streets Department, an approval stamp (on plans) or a permit is generally the only proof of approval acceptable by the Department. Most plans that have been given an approval stamp also require a permit or license from either the Departments of License and Inspections, or the Department of Streets. Examples of types of commonly

requested approvals, the method of approval, and the approving unit, are included in Table 1:

Table 1: Streets Department Approvals

Approving Streets Department Unit	Approves	Section References
Right of Way Unit, Permits	Street Closures, Street Openings, Banners, Bike Racks, Special Events (Block Parties)	6.3.13, 7.2, 7.3, 7.5
Right of Way Unit, Plan Review	Streets Zoning Plans*, Streets Building Plans*, Encroachments (with or without legislation)**, MPT/TTC Plans, Roadway Paving Plans, Maintenance Agreements	6.2.2, 6.2.3, 6.2.4, 6.2.6, 6.2.7, 6.3.2, 6.3.3, 6.3.4, 6.3.6, 6.3.7, 6.3.11*, 6.3.13, 6.4.1
Highway Division, District Offices	Sidewalk Post Permits, Curb & Footway Permits	7.5.1, 7.5.2
Transportation Planning & Analysis Section	Major Utility Plans, Private Paving Agreements, ADA Corner Curb Ramps	6.2.8, 6.3.1, 6.4.2
Street Lighting Unit	Private Cost Street Lighting Plans, Signal/Striping/Sign Plans***	6.3.5
Traffic Engineering Unit	Parking Regulations and Roadway Direction, Tourist & Interstate Bus Carrier Zones, Driveway Paint Marking Permits, TIS/TIA/Regulation reviews & approvals, Traffic Calming & Safety requests, Traffic signal plans review & approvals	6.3.10, 7.7.1, 7.7.2
Survey Bureau	City Plan Actions**, Subdivision Plans	6.3.8, 6.3.9

Construction Unit	Notice to Proceed (Related to Private Paving Agreements, Acceptance of All Utility and Private Paving Work	6.4.2
Bridge Design Unit	Special Hauling Permits	7.8.1
Sanitation Division	Does not approve plans or issue permits	7.9

** Permits or Licenses Issued by the Department of Licenses and Inspections*
*** Ordinance of City Council required for certain projects*
**** Approved during the coordinated review of plans by the Right of Way Unit*

B. Information

Design Standards, Permitting and Plan Review documents can be obtained from the Streets Department online: https://www.phila.gov/departments/department-of-streets/design-construction/

SPECIFICATIONS AND STANDARD DETAILS

The Traffic Engineering Division, in cooperation with the Transportation Design Unit, has developed a series of details, listed as Traffic Engineering (TE0XXX), Interconnect (IC0XXX), Signs (SN0XXX), and Pavement Markings (PM0XXX), on the Streets Department's Downloads and Links web page.

Any specifications not included in the list of acceptable construction specifications must be submitted to the Streets Department for review and approval.

A. Acceptable Construction Specifications

The acceptable construction specifications of the Philadelphia Streets Department are as follows.

- Construction Items: PennDOT Publication 408 Construction Specifications (most current edition)
- Street Lighting: Philadelphia Streets Department, Street Lighting and Traffic Division specifications.
- Traffic Signals: Philadelphia Streets Department, Street Lighting and Traffic Division specifications.

- Special Provision: Special Provisions, not included within the PennDOT Publication 408, will be developed and maintained by the Streets Department's Design Unit.

B. Standard Details

Streets Department standard details will be the standard for all roadway construction in the City of Philadelphia. Where no current standard exists, the most recent edition of the PennDOT Roadway Construction Standards and Design Manuals will apply. A list of all current Streets Department Standard details is available in Appendix B.

C. Availability of Standards

Streets Department details and specifications are available online, as discussed within the preface.

DEFINITIONS

All terms utilized will conform to the documents listed in the General Standards section, unless otherwise defined throughout the body of these Standards.

These definitions are provided for informational purposes only. Source materials are, generally, from the Philadelphia Code, Streets Department regulations, and City of Philadelphia publications, or common professional terminologies. References for common terms are not provided in all instances. Most items defined herein are subject to approval by the Streets Department, either by plan approval or permit, and in some instances by ordinance of City Council.

Table 2: Definitions

Term	Definition	Last Revised
ACT 287 (1974)	Underground Utility Line Protection Act, PA Act 287 (1974, and as revised). This is the legal foundation of the Pennsylvania One Call System, Inc.	June 2015
ADA	Americans with Disabilities Act of 1990.	June 2015
ADA Standards	Generally, the various National (U.S. Access Board), State (PennDOT) and City of Philadelphia standards used to ensure compliance with the Americans with Disabilities Act of 1990.	June 2015
Areaways	An opening in the ground level of a building perimeter to allow natural lighting, or for periodic access or to a basement for the purpose of emergency egress, utility access, or the loading or unloading of stored goods or materials. *Also known as egress wells, or bulkhead doors.*	June 2015
Art Commission	A City Commission, having authority to "approve any structure or fixture to be erected by any person upon or to extend over any highway, stream, lake, square, park or other public place within the City." In particular, the code requires Art Commission approval for canopies and marquees.	June 2015
Arterial (Street)	*Per Federal Highway Administration (FHWA) Flexibility in Highway Design, Chapter 3 (Functional Classification):* Arterials provide the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of access control.	June 2015

Auto-Oriented Commercial/Industrial Street	*Per Complete Streets Handbook Section 3.5:* These streets are characterized by an auto-oriented development pattern with buildings set back significantly from the street, generally with parking lots in front of commercial uses. Auto-oriented streets generally do not provide a pedestrian-friendly environment and are not likely to attract high levels of pedestrian activity other than at transit stops and individual activity centers.	June 2015
Awning	*Per §11-601(1) of the Philadelphia Code:* A structure made of cloth, plastic, metal or similar materials with a metal frame not of permanent construction attached to a building and not (*in any way*) supported by the ground or sidewalk, which projects more than 18 inches over a sidewalk or other thoroughfare, but not including signs. *See also Canopy.*	June 2015
Balcony	*Per §11-601(2) of the Philadelphia Code:* A platform, enclosed by a parapet or railing, projecting from the wall of a building.	June 2015
Basement Steps	An opening in the ground level of a building perimeter to allow for regular access to a basement door.	June 2015
Basketball Pole and Backboard	A basketball pole with a backboard generally erected in the grass plot area of the footway. Occasionally, the backboard is attached to a utility pole.	June 2015
Bay	While used synonymously with *Bay Window* by many design professionals, a *Bay* is not defined within, §11-601 of the Philadelphia Code. As observed by the Philadelphia Streets Department, the primary design difference between a bay and a bay window is in the extension of floor space beyond the building line, as seen in bays, but not bay windows. Also, Per Section 14-203(35) - Bay Window: A window structure that projects from the wall of a building and is at least 24 in. above the finished floor surface.	June 2015

Bay Window	*Per §11-601(2) of the Philadelphia Code:* A window above the first story extending beyond the wall of the building. *See also Bulk Window.*	June 2015
Bilco Door	Bulkhead doors, as commonly referred to by the name of a prominent manufacturer.	June 2015
Bicycle Rack	*Per §11-601(4) of the Philadelphia Code:* A fixed rack installed on the sidewalk for parking bicycles.	June 2015
Bike Corral	*Per §11-601(8)(c) of the Philadelphia Code*: A portion of a curbside parking lane that is closed to motor vehicle parking, and equipped with fixed racks so as to permit the parking and securing of bicycles.	June 2015
Bollard	*See Curb or Sidewalk Post.*	
Building Access (ADA) Ramp	Ramps used to provide wheelchair access to buildings, in accordance with ADA Standards.	June 2015
Building Zone	*Per Complete Streets Handbook Section 4.4.1:* The Building Zone is the area of the sidewalk immediately adjacent to the building face, wall, or fence marking the property line, or a lawn in lower density residential areas. The Building Zone includes architectural elements such as steps, bay windows, or planters and commercial activities, such as sidewalk cafes, that intrude into the sidewalk. These elements can enhance the pedestrian environment, but also narrow the walking zone and can limit accessibility.	June 2015
Bulkhead Door	A flush set of metal doors used for basement access.	June
Bulk Window	*Per §11-601(5) of the Philadelphia Code:* A window on the first story extending beyond the wall of the building.	June 2015
Bus/Transit Shelter	A shelter erected on the legal footway to protect the citizens of the City who use public transportation from inclement weather.	June 2015

Business Day	Every standard working day of the week (i.e. Monday through Friday), *excluding* City of Philadelphia holidays, days on which snow operation occur, and the day after the end of any snow operation.	June 2015
Commissioner	*Per §11-701(1)(k): of the Philadelphia Code:* Collectively, the Streets Commissioner and designees.	June 2015
Canopy	*Per §11-601(6) of the Philadelphia Code:* A structure made of cloth, plastic, metal or other similar materials with a metal frame not of permanent construction, extending from a building and (*at least in part*) supported by the ground or sidewalk, projecting more than 18 inches over a sidewalk or other thoroughfare, but not including signs. *See also Awning.*	June 2015
Cartway	*Per §11-101(1) of the Philadelphia Code:* The portion of a street reserved for vehicular use and contained between the curb lines.	June 2015
Cellar Doors	*See Areaways.*	
City Neighborhood Street	*Per Complete Streets Handbook, Section 3.8:* City Neighborhood Streets include the majority of the grid streets in older sections of Philadelphia. These streets serve an equally important role for local vehicle and pedestrian traffic. The fronts of buildings on these streets typically meet the street line (edge of sidewalk), unlike Lower Density Residential Streets where dwellings are set back from the sidewalk.	June 2015
City Plan	A master plan of the City of Philadelphia street network, as created and maintained by the Streets Department's City Plan Section and Survey Bureau, in accordance with §11-400 of the Philadelphia Code. *See also Curb Line and Street Line.*	June 2015
City Plan Action	Any development resulting in changes to the City Plan.	June 2015

Civic/Ceremonial Streets	*Per Complete Streets Handbook, Section 3.2:* This small group of streets includes some of the first mapped streets in the city (e.g., Broad Street, Market Street). These streets have great symbolic importance, house major ceremonial functions, and play a unique role in the life of the City (e.g., the Parkway). Sidewalks on Civic/Ceremonial streets operate as generous pedestrian promenades. As major arterials, these streets also have high vehicle significance.	June 2015
Collector	*Per Federal Highway Administration (FHWA) Flexibility in Highway Design, Chapter 3 (Functional Classification):* Collectors provide a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials.	June 2015
Complete Streets	*See Complete Streets Handbook.* A policy enacted per §11-900 of the Philadelphia Code, as related to roadway development. Complete Streets recognizes that road and sidewalk space is a limited public good that must be shared by public transit service, pedestrians, taxicabs, bicycles, personal, emergency, commercial and utility vehicles, parked vehicles, sidewalk vending and cafes, bicycle racks, newsstands, bus stops and shelters, newspaper boxes and planters, among other things.	June 2015

Complete Streets Handbook	A handbook, the creation and maintenance of which, serves to create a Complete Streets policy for the City that: (a) Gives full consideration to accommodation of the safety and convenience of all users of the transportation system, be they pedestrians, bicyclists, public transit users or motor vehicle drivers; (b) Balances the needs of all users in planning, design, construction, maintenance, and operation of the right of way and facilities therein; and (c) Contributes to a comprehensive and integrated transportation network and prioritize the safety of those traveling in the public right-of-way, and in particular the safety of children, the elderly, and persons with disabilities. A major part of the Complete Streets Handbook, and many references made to it, derive from, or are influenced by, the Philadelphia Pedestrian & Bicycle Plan.	June 2015
Curb	The physical separator between the footway and cartway customarily made of concrete or granite stone.	June 2015
Curb Cut	The portion of a driveway, or ramp, at the curb line, the width of which is measured along the curb line, and without the added length of any grade adjustment, curb returns, or flares, on either end.	June 2015
Curb Line (or Curbline)	The lines on the City Plan demarking the boundary between the cartway and sidewalk(s) on a City street. Curblines are used in the mapping and location of underground utilities, and as such cannot be changed without a City Plan Action.	June 2015
Curb Return	A curb that curves inward towards the sidewalk, typically as a method of grade adjustment for driveways and service ramps. The use of curb returns is no longer permitted by the Streets Department.	June 2015
Curb Reveal	The vertical measurement from the pavement to the top of a curb.	June 2015

Curb or Sidewalk Post	A concrete-filled metal post, permanently mounted within the footway for the purpose of protecting pedestrians and property from vehicular intrusion. Also known as bollard.	June 2015
DRPA	Delaware River Port Authority	June 2015
Driveway	*Per §14-203(100) of the Philadelphia Code:* A paved or unpaved right-of-way strip providing access to a vehicle parking space, loading space, or maneuvering facility.	June 2015
DVRPC	Delaware Valley Regional Planning Commission	June 2015
Egress Wells	*See Areaways*	
Elevator Shaft	Elevator shafts of permanent construction, which extend over the legal street line, are primarily used to transport commercial equipment or material from below to above grade. Occasionally, they may be intended to transport a physically handicapped person, however, if so, they are not to be confused with Wheelchair Elevators which are not structurally attached to the building.	June 2015
Emergency Condition	A condition that constitutes an imminent risk to the health, welfare, or safety of the public, or is likely to cause existing utilities to be unusable and result in loss of the services provided through the facilities.	June 2015
Encroachment	Any privately-owned structure within the public right of way.	June 2015
Encroachment Ordinance	A legislative act of the Philadelphia City Council for permission to encroach upon the Right of Way in a manner not otherwise permitted by the Philadelphia Code.	June 2015

Facility	*Per §11-701(1)(p) of the Philadelphia Code:* Conduit, pipes, cables, wires, lines, towers, optic fiber, antennae, poles, associated equipment and appurtenances, and any other facilities (exclusive of water and sewer pipes in Plumber's Ditches and End User Devices) located in the Right-of-Way and designed, constructed, and/or used, by Telecommunications Providers, Cable Service and OVS Service providers, Information Service Providers, Public Utilities, or other Persons for transmitting, transporting, or distributing communications, telecommunications, electricity, natural gas or manufactured gas, oil, gasoline, steam, water, waste water, or any other form of energy, signal or substance.	June 2015
Footway	*See Sidewalk.*	
Furnishing Zone	*Per Complete Streets Handbook Section 4.4.2:* The furnishing zone is the area of the sidewalk between the walking zone and curb. The furnishing zone provides pedestrians a buffer from traffic and provides a space for plantings, street furniture, and other amenities. These elements can enhance the pedestrian environment, but also narrow the walking zone and can limit pedestrian mobility and comfort.	June 2015
Ground Lights	Lights installed in the footway, generally close to the building wall, for the purpose of providing aesthetics and/or security.	June 2015

High Volume Pedestrian Street	*Per Complete Streets Handbook Section 3.1: S*treets that serve as important pedestrian destinations and connections in high-density commercial, residential, and mixed-use neighborhoods. High-Volume Pedestrian streets serve more than 1,200 pedestrians per hour during the midday. Many of these streets also provide important connections for vehicle traffic and serve high vehicle volumes. As a result, these streets must often be designed to prioritize pedestrian movement and accommodate high vehicle traffic volumes.	June 2015
Houseline	*See Street Lines*	
Large Driveway	A driveway with a curb cut greater than 24'-0". Large driveways are subject to the Complete Streets Standards.	June 2015
LOC	Letter of Credit	June 2015
Local Street	*Per Complete Streets Handbook Section 3.11:* Local streets are streets in residential or non-residential neighborhoods that are smaller than City Neighborhood Streets and Low-Density Residential Streets. This classification includes service streets and minor residential streets. Parking is provided on at least one side of the street and sidewalks are usually present. *Per Federal Highway Administration (FHWA) Flexibility in Highway Design, Chapter 3 (Functional Classification):* Local Streets consist of all roads not defined as arterials or collectors; primarily provides access to land with little or no through movement.	June 2015

Low Density Residential Street	*Per Complete Streets Handbook Section 3.9:* Lower Density Residential Streets include most residential streets outside Center City, North, South Philadelphia, and West Philadelphia. These streets were generally constructed more recently than City Neighborhood Streets and are characterized by dwellings that are set back from the sidewalk. These streets serve local vehicle, pedestrian, and bicycle traffic.	June 2015
Marquee	*Per §11-601(7) of the Philadelphia Code:* An overhanging, substantially horizontal structure of permanent construction attached to a building, whether or not supported by the ground or sidewalk, projecting more than 18 inches over a sidewalk or other thoroughfare, but not including balconies.	June 2015
MPT	Maintenance and Protection of Traffic. *See also: Temporary Traffic Control (TTC)*	June 2015
MUTCD	The Manual on Uniform Traffic Control Devices	June 2015
Paper Street	A street which is on the City Plan, either confirmed or awaiting confirmation by the Board of Surveyors, not legally opened and not physically existing, is considered to be a “paper street” since it exists, in a real sense, only on "paper."	June-2105
Parklet	*Per §11-601(8)(b) of the Philadelphia Code*: A removable platform made available for recreational use by pedestrians that occupies a portion of a parking lane that is closed to motor vehicle parking.	June 2015
Park Road	*Per Complete Streets Handbook Section 3.6:* Park roads provide transportation routes for vehicles and pedestrians within local parks. These streets typically have lower speed limits compared to Scenic Drives. These streets should include shared-use side paths for pedestrians and bicyclists and/or sidewalks and bike lanes or shared roadway facilities.	June 2015

Patio	An uncovered structure of permanent construction extending from the front, side or rear of the building and encroaching onto the legal right-of-way. Also, from the Zoning Code, § 14-203(224)): An open structure less than 12 inches above the ground that is located in the front yard, rear yard, or side yard of a property.	June 2015
Pavement Markings	Lines on the street to channel pedestrian and vehicular traffic, such as crosswalk lines, or single or double yellow lines in the center of the street or parking edge lines.	June 2015
Philadelphia Pedestrian & Bicycle Plan	The Philadelphia Pedestrian & Bicycle Plan was adopted by the City Planning Commission in June 2012. The Plan identifies strategies and specific recommendations to increase the number of people walking and bicycling in the City by improving the safety, connectivity, convenience, and attractiveness of the pedestrian and bicycle networks. Per §11-902 of the Philadelphia Code: All construction projects subject to § 11-901(2) shall conform to the street types and standards set forth in the Pedestrian and Bicycle Plan established by the Philadelphia City Planning Commission, consistent with and subject to the City Plan, classifying street types by intended use and, setting forth minimum dimensional requirements for sidewalk features.	June 2015
Pedestrian Bridge	A pedestrian bridge as used here is generally a privately-owned structure constructed above the 1st floor as a means of transporting people and/or conduits from one building to another over the legal right-of-way.	June 2015
Pedestrian Enhancement	*Per §11-601(8) of the Philadelphia Code*: Any of the following: Pedestrian Plaza, Parklet, Bike Corral	June 2015

Pedestrian Plaza	*Per §11-601(8)(a) of the Philadelphia Code*: An area in the cartway of a street, or in the cartway at the intersection of two or more streets, or an island within the cartway, which is closed to vehicular traffic, and made available for recreational use by pedestrians pursuant to this Chapter. The term excludes any area in or surrounded by a traffic circle. Unlike a parklet, a pedestrian plaza does not include any form of decking, but lies directly upon the surface of the paved or unpaved street.	June 2015
PennDOT	Pennsylvania Department of Transportation (On occasion, referred to as PADOT)	June 2015
Pennsylvania One Call System, Inc.	Pennsylvania One Call System, Inc. is a non-profit 501(c)(6) Pennsylvania corporation created to help protect the underground facilities of members through communication with any person planning to disturb the earth. This communication network receives and processes underground line location requests from excavators, contractors, plumbers, builders, designers, and the general public; and disseminates this work location information to all members based on their service agreements.	June 2015
Planter	Planters as used here are above ground decorative containers, generally constructed with concrete, in which trees, shrubs, or flowers are planted.	June 2015
Plumbing Permit	Authorization to open the street for the purpose of installing a new or replacing a defective water or sewer service.	June 2015
Porch	A covered structure of permanent construction extending from the front, side or rear of the building and encroaching onto the legal right-of-way.	June 2015
PPA	Philadelphia Parking Authority	June 2015
Private Interest Ordinance	*See Encroachment Ordinance*	

Private Paving	The paving of a confirmed and legally-opened City street by a developer for the purpose of providing access to a housing development. All cost for the work is incurred privately by the developer. Not to be confused with the paving of a private street (*See Private Street*).	June 2015
Private Street	A street not placed on the City Plan and not legally opened. A private street is not to be confused with a "paper street." *Per §11-505 of the Philadelphia Code:* The sidewalks of all public streets, and the roadways and sidewalks of all private streets, shall be graded, curbed, paved and kept in repair at the expense of the owners of the land fronting thereon.	June 2015
PROWAG	Public Right of Way Access Guidelines. Published in the *Federal Register* on July 26, 2011, and as revised. Provides guidance establishing specifications for accessible pedestrian paths within the public right of way.	June 2015
PWD	Philadelphia Water Department	June 2015
Retaining Wall	Generally concrete, brick or stone structures of limited height which sits or project over the legal footway and constructed to support the grass area in front or on the side of the property. There is a distinction, and special limitations, relating to the use of retaining walls within the right of way, as opposed to the use within a parcel of land.	June 2015

Right of Way	*Per §11-701(1)(dd) of the Philadelphia Code:* The surface of and space above and below any real property in the City in which the City has a regulatory interest, or interest as a trustee for the public, as such interests now or hereafter exist, including, but not limited to, all Streets, highways, avenues, roads, alleys, sidewalks, pedestrian and vehicle tunnels and passageways, concourses, viaducts, bridges, and skyways under the control of the City, and any unrestricted public or utility easements established, dedicated, platted, improved or devoted for Utility purposes. Provided, that the following lands are not included in the Right-of-Way: lands administered by the Division of Aviation of the Commerce Department; lands owned by the City that are not Streets; and lands, other than the following Streets, that are under the care and jurisdiction of the Fairmount Park Commission: Belmont Avenue, Bells Mill Road, Benjamin Franklin Parkway, Cobbs Creek Parkway, Cresheim Valley Drive, Haverford Avenue, Henry Avenue, Hunting Park Avenue, Kelly Drive, Lansdowne Avenue, Lincoln Drive, Montgomery Drive, Parkside Avenue, Rhawn Street, Roosevelt Boulevard, the Schuylkill Expressway, Southern Parkway, and West River Drive. The phrases "in the Right(s)-of-Way" and "in the right(s)-of-way" mean "in, on, over, along, above and/or under the Right(s)-of-Way" or "right(s)-of-way".	June 2015
Right of Way Boundary	*See Street Lines*	
Roadway	*See Cartway*	

Scenic Drive	*Per Complete Streets Handbook Section 3.7:* Scenic Drives are major or minor arterials that provide a scenic view along parks or waterways. These streets typically have higher speeds than Park Roads and local streets. Scenic Drives often accommodate pedestrian travel via Shared-use paths. Shared-use paths and/or bike lanes or shared roadway facilities may be used to accommodate bicyclists.	June 2015
SEPTA	The Southeastern Pennsylvania Transportation Authority	June 2015
Shared Narrow Street	*Per Complete Streets Handbook Section 3.10:* These streets are very narrow local streets, primarily located in older areas of the City. Sidewalks also tend to be narrow on these streets, but pedestrians and bicyclists can generally walk and ride comfortably in the street similar to pedestrian priority streets. On-street parking is precluded on streets with cartways of 13’ or less.	June 2015
Sheeting & Shoring	A reinforcement of excavation areas in large building projects where the construction of the foundation can weaken or collapse the abutting street. Therefore, the contractor is required to line the excavation with sheeting generally made of wood and held in position with cross-bracing or shoring.	June 2015
Shelter Platform	Similar to scaffolding in that it is a temporary elevated structure for the support of workmen. Differs from scaffolding in that it allows pedestrian movement beneath it. In general, the applicant is the contractor who may be replacing a store-front window, sand-blasting or some other exterior work to the building facade.	June 2015

Sidewalk	*Per §11-101(7) of the Philadelphia Code:* That portion of a street contained between the street line and the nearest curb line and consisting of a paved footway and optional planting strips, the cross-section of which shall be determined by the Department. *Per §11-505 of the Philadelphia Code:* The sidewalks of all public streets, and the roadways and sidewalks of all private streets, shall be graded, curbed, paved and kept in repair at the expense of the owners of the land fronting thereon.	June 2015
Sidewalk Café	A restaurant places tables and chairs on the footway sometimes encompassed by a railing. The portable fixtures are removed at the end of the business day.	June 2015
Sign	*Per §11-601(9) of the Philadelphia Code*: A structure or device, whether or not attached to a building, which is primarily intended to advertise or communicate, including ground signs, illuminated signs, projecting signs, swinging signs, temporary signs and wall signs, but excluding: (a) advertising matter displayed on vehicles, pedestrians or newsstands; (b) information required by law or ordinance to be placed on structures; (c) notice to the public that a property is for sale or rent.	June 2015
Sign, A-Frame	A-Frame signs a.k.a. "ground signs" are signs supported by uprights or braces intended to be placed on ground level of the legal footway for the purpose of advertising parking-lot rates, lottery sales, daily restaurant fare, or any other such commercial use.	June 2015
Sign, Illuminated	Any sign which has characters, letters, figures, designs, or outlines illuminated by artificial lighting. As used here these "flashing-lighted" signs are sometimes mounted on wheels or braces placed on the legal footway to advertise new business openings, sales or any other such commercial use.	June 2015

Sign, Projecting	Any sign attached to a building or other structure which projects in such a manner that both sides thereof are visible.	June 2015
Sign, Wall	Any flat sign which is placed against the building or other structure and attached thereto in such a manner that only one side is visible.	June 2015
Speed, Design	The speed at which the roadway provides the minimum stopping sight distance given the horizontal and vertical curvatures of the roadway. Design speed selection is based on road type, location, and other factors determined by an agency with statutory authority.	December 2023
Speed, Operating	The speed at which vehicles are observed operating at free flow conditions; normally assumed to be the 85th percentile speed of the speed surveys on a given road section.	December 2023
Speed, Target	The highest safe speed at which vehicles should operate on a thoroughfare considering the level of activity of all road users including motor vehicle drivers, vulnerable road users, and public transit users.	December 2023
Speed Cushion	A variation of a speed bump or speed hump, with breaks to allow for larger vehicles to pass over it unaffected. (Refer to PennDOT Traffic Calming Manual)	June 2015
Speed Hump	A variation of a speed bump that generally flatter, and therefore having less impact upon vehicles while remaining an effective traffic calming device.	June 2015
Stairwell, Enclosed	Stairwells, enclosed by any type of building material, leading to the second floor or above and which encroach beyond the street line.	June 2015
State Route	Any route owned and maintained by PennDOT	June 2015
Storm Enclosure	A walled-in area of permanent construction attached to an existing exterior doorway to prevent wind from entering the building.	June 2015

Street	*Per §11-101(8) of the Philadelphia Code*: A strip of land or part thereof within the right-of-way, whether dedicated or not, intended or used for vehicular and/or pedestrian traffic. *Commonly used synonymously with Cartway.*	June 2015
Street, Cul-De-Sac	*Per §14-203(311) of the Philadelphia Code*: A street having but one vehicular access point to another street and terminated by a paved vehicular turn- around.	June 2015
Street, Major	*Per §14-203(312) of the Philadelphia Code*: A street that carries traffic, generally local, to or from the system of major highways or that serves as main circulation for a large area.	June 2015
Street, Major Highway	*Per §14-203(313) of the Philadelphia Code*: A street used primarily for traffic not local in destination.	June 2015
Street, Primary Residential	*Per §14-203(314) of the Philadelphia Code*: A street that serves the prime function of collecting or distributing residential traffic within a neighborhood or area.	June 2015
Street, Secondary Residential	*Per §14-203(315) of the Philadelphia Code*: A street that is used primarily for residential access.	June 2015
Street, Tertiary Residential	*Per §14-203(316) of the Philadelphia Code*: A street that provides access to homes on lots in excess of 20,000 sq. ft., having 100 ft. frontage at the building line, and having no house or garage located within 50 ft. of that right-of-way, or one that serves not more than six lots.	June 2015
Street, Marginal Access	*Per §14-203(317) of the Philadelphia Code*: A minor street, parallel and adjacent to a major street or major highway, providing access to abutting properties and controlling the location of intersections with that major street or highway.	June 2015
Street Frontage	*Per §14-203(319) of the Philadelphia Code*: The edge of a lot that is contiguous to any confirmed street.	June 2015

Street Line	*Per §11-101(9) of the Philadelphia Code*: The lines of demarcation between public and private properties on plotted or legally opened streets, defining the land reserved for use as a street. *Per §14-203(319) of the Philadelphia Code*: The outward edge of a street confirmed on the City Plan.	June 2015
Street Closure Permit	A permit to occupy a portion of the legal right-of-way, including sidewalks, for the purpose of installing and/or maintaining of utilities, pavements, construction fence, or other structures; as well as for the delivery and staging of construction materials & safety equipment, and large equipment such as cranes & helicopters. For Temporary Loading Zone permits, see Chapter 7.2.7.	June 2015
Street Opening Permit	A permit to privately open or perform utility maintenance work in the street. All street restoration is permanently performed, in kind, at the permittees expense. This is not for plumbers. Plumber permits are obtained through Philadelphia Water Department. See Chapter 7.3.	June 2015
Streetscape	*Per §14-203(319) of the Philadelphia Code*: All elements that impact the character of streets and sidewalks, including, but not limited to, paving patterns, curbs and curb cuts, crosswalks, landscape plantings, and street furnishings, such as lighting and bicycle parking facilities.	June 2015
Temporary Traffic Control (TTC)	Self-defining term. Any traffic control measures used for the temporary control of traffic. TTC measures are commonly employed due to control traffic in construction/emergency operations, and civic events. Also known locally as Maintenance and Protection of Traffic (MPT).	June 2015
Traffic Calming, Horizontal Deflection	Treatments that create a horizontal shift in the roadway to slow vehicular speeds.	December 2023
Traffic Calming, Vertical Deflection	Raised roadway measures that change roadway height to slow vehicular speeds.	December 2023

Underground Facility	*Per §11-701(1)(oo) of the Philadelphia Code*: Facilities located under the surface of the ground or pavement, excluding the underground foundations or supports for Aerial Facilities. Also known as an underground utility.	June 2015
Urban Arterial Street	*Per Complete Streets Handbook, Section 3.4:* Urban Arterials are major and minor arterials that carry high through traffic volumes. These streets usually have surface transit routes and must provide adequate pedestrian facilities to allow safe and comfortable access and waiting areas for transit users. Urban Arterials generally have more travel lanes and higher speeds, compared to City Neighborhood Streets. They may have commercial uses, but are not as pedestrian-friendly as Walkable Commercial Corridors.	June 2015
Vault	*Per §11-601(10) of the Philadelphia Code*: An underground room or space. An underground room or compartment beneath the footway generally constructed as an extension of the basement, or as part of a large underground utility system.	June 2015
Veranda	*See Porch*	
Vestibule	Similar to a storm enclosure in that its expressed purpose is to prevent wind from entering the building.	June 2015
Walkable Commercial Corridor	*Per Complete Streets Handbook, Section 3.3:* These streets are active commercial corridors with pedestrian-friendly physical development patterns (e.g., commercial sections of Germantown Ave. and Girard Ave.) On these streets, parking and access needs of local businesses often compete for limited right-of-way with pedestrian and bicycle facility needs. These streets have lower pedestrian volumes than High-Volume Pedestrian Streets, but are more pedestrian friendly than Auto-Oriented Commercial areas.	June 2015

Walking Zone	*Per Complete Streets Handbook, Section 4.3.2:* Walking zone or "clear" width refers to the clear portion of the sidewalk where pedestrians can walk unobstructed. The standard walking zone width depends on the number of pedestrians using or expected to use a particular sidewalk. All sidewalks should provide at least 5' of clear space to allow wheelchair passage.	June 2015
Wheelchair Elevator	*Per §11-601(11) of the Philadelphia Code*: An elevator or other mechanical device designed to facilitate the transfer of a person confined to a wheelchair or otherwise physically handicapped from street or sidewalk level to the entrance of a building. An elevator or other mechanical device designed to facilitate the transfer of a person confined to a wheelchair or otherwise physically handicapped from street or sidewalk level to the entrance of a building. Generally, these low-rise platform lifts are electrically powered, placed adjacent to the front steps, and enclosed.	June 2015

DEVIATION FROM STANDARDS

These Philadelphia Streets Engineering Standards represent the general operational practices of the Traffic Engineering technical staff and field crews. Deviation from these standards, where required for site-specific issues, are to be justifiable and based upon sound engineering judgment and general conformance with the documents listed in the General Standards section, and as may be otherwise applicable.

These Design Standards are maintained by the Streets Department's Transportation Design Unit, with ongoing revision coordinated internally between the various units within the transportation divisions.

A. *Changes to Meet Current Standards*

   Proposed changes to existing pavement markings, traffic control signals & signs, street lighting and pavement markings, including relocation or temporary removal, serve as justification for the Streets Department to require upgrades of such infrastructure to meet current standards.

1. Signs, Traffic Signals & Street Lights: Upgrades of traffic signals and street lighting is a matter of policy, and compatibility with the most current standards.
2. Pavements: Streets Department regulations identify pavement restoration requirements for work within the Right of Way. All new pavements must conform to current Streets Department and PennDOT standards, which have been developed in consideration of ADA requirements.
3. ADA Compliant Corner Curb Ramps: ADA ramps to be upgraded as a matter of federal regulation. Locate ramps should be located off the point of curvature (PC) perpendicular to the curb as blind and visually impaired pedestrians are trained to cross as such, without leaving the crosswalk limits. Paving restoration regulations may create instances when paving requirements will trigger upgrade requirements for ramps not within the frontage of a parcel, or near a utility installation.
4. Pavement Markings: As a matter of pavement maintenance, thermoplastic pavement markings must be applied after the street has been repaved. For non-asphalt (i.e. concrete and cobblestone surfaces), use epoxy paint may be used with black highlights, for proper bonding and visibility (at the discretion of the Streets Department).

B. Park Drives

Improvements on any roadway within the City of Philadelphia with a classification of a Park Drive, as denoted within the Philadelphia Code, are subject to approval by the City of Philadelphia Department of Parks and Recreation. Coordination of any such approvals are the responsibility of the developer. Proof of such approval may be requested by the Department of Streets at any time.

CHAPTER 1 – PLANS AND STUDIES

1.1 TRAFFIC IMPACT STUDIES (TIS)

1.1.1 Roadway Classification

The classification of each roadway is defined in GIS. There are two active classification systems in the City of Philadelphia.

- Functional Class, as used by Federal and State agencies for traffic studies
- Complete Streets, as created by the City's pedestrian and bicycle plan, and used by the City of Philadelphia for the planning of certain roadway/footway design elements

1.1.2 Criteria

A. City of Philadelphia Criteria

Development sites meeting any of the following criteria require Traffic Impact Studies:

- 1,000 trips/day (500 vehicles/day)
- 60 trips/peak hour (entering)
- 60 trips/peak hour (exiting)
- 120 Additional Trips/Peak Hour (Entering & Exiting)
- Residential Building with 100 or more residential units with no commercial/retail
- Residential Building with 75 or more residential units with commercial/retail.
- Fast Food Establishment with Drive Thru
- Gas station
- All grade schools (K-12) are subject to new development, relocation, expansion, enrollment increases of 20% or more, or changes in name or ownership.

- As required by the Chief Traffic Engineer
- Under City Council Regulation X Ordinance
    - *Air Management Regulation X* requires a traffic impact study based on the number of parking spaces being created, and/or commercial vehicle trips. The varying criteria and requirements for the study are codified within the regulation.
- Modal Splits are to be reflective of current existing conditions/observations within the City of Philadelphia County for the intended use or as acceptable to Chief Traffic Engineer.
- Traffic Impact Study Executive Summary should clearly state appropriate safety & congestion mitigation measures when LOS is degraded one level below existing LOS of any movement or intersection.

B. Special Criteria for All Traffic Impact Studies

- All Traffic Impact Studies are to assume current land use is vacant land, except where current use is proposed to be expanded within the same parcel(s).
- All modal splits need to be justified by a local neighborhood-specific study or survey within the City of Philadelphia for similar use and operation.
- All Traffic Impact Studies must include pedestrian impacts, including identifying key pedestrian generators and destinations in proximity to the study area or as scoped by the Chief Traffic Engineer.
- A permit is required for any existing or new curb cut or driveway. When a permit is requested for an existing driveway without a permit, the driveway must conform to all current Department of Streets standards. The applicant must provide documentation to confirm that the parking space of the use served by the curb cut was legally established. (See section 2.2.2).
- All warehouse developments should show truck routes to and from the proposed development to the expressway/major arterial.

1.1.3 Format Requirements

- Provide a concise executive summary within all TIS reports, including all pre-and post-development conditions provided in a table format for comparative purposes. The executive summary should be located at the beginning of the TIS.
- Clearly list all traffic mitigation measures in the executive summary, including measures accommodating impacts by bicycles (count as autos), and pedestrians.

1.1.4 Traffic Impact Assessment (TIA)

- When a Traffic Impact Study is not required, for developments on or within 500 feet of a state route or any major arterial street, a Traffic Impact Assessment (TIA) may be required or as determined by The Chief Traffic Engineer.
- The TIA is a 2 to 3-page document with trip generation values, vehicular and pedestrian level of service of adjoining intersections and abutting sidewalks, and estimates of locally applicable Modal Splits. These Modal Splits are to be reflective of current existing conditions/observations within the City/County of Philadelphia or as acceptable to the Chief Traffic Engineer.
- The TIA is to include a balanced assessment of the impacts of the new development on the level of service of different road users including, but not limited to, drivers, pedestrians, bicyclists, and transit users.
- Include an executive summary within the TIA stating multi-modal congestion management, safety mitigation, traffic calming, and ADA compliance measures to be undertaken by the developer.

1.2 DATA COLLECTION

All information will be transmitted to consultants as follows:

Table 3: Data Collection Departments

Streets Department Unit	**Resources Provided**
City Plan Section	City Plans
Right of Way Unit	Highway Supervisors Plans

Streets Department Unit	Resources Provided
Customer Service, via Streets Department Website: https://www.phila.gov/departments/department-of-streets/design-construction/standards-and-guidelines/#/	Standard Details, Department Standards
City Website (links to available resources)	Philadelphia Code, Department Regulations
Design Unit	All Data not listed above

1.2.1 Volumes

- If corridor borders two counties, additional counts can be obtained through the Delaware Valley Regional Planning Commission (DVRPC).
- Submit all counts obtained by the Design Unit, or a consultant to Traffic Engineering, and DVRPC in a format currently acceptable to both agencies.

1.2.2 Traffic Count Collection

Every project requires both manual and automated counts in 15-minute increments.

A. Manual

Manual counts should be taken at, but not limited to, intersections where we are evaluating geometric or phasing changes or where high turning movements are likely present (arterials). The counts should be taken 7-9 AM or 4-6 PM unless the anticipated peak is mid-day (i.e. shopping centers). Manual counts with thru and turning movements, are to also include pedestrian and bicycle counts. Heavy vehicles like trucks, school buses, SEPTA buses etc. should be counted separately from other vehicles. If a consultant is designing the project, counts are quantified by man-hours.

B. Automated Counts

Automated counting equipment is generally installed over a minimum 48-hour period, 10 days preferred to encompass weekday and weekend traffic, to record volumes and vehicle classifications. Several automated counts should be included in the data collection for every project to provide a more accurate

picture of the 24-hour conditions. This information is invaluable because timings are typically developed for AM peak, PM peak, and off-peak hours.

1.2.3 Crashes

- At a minimum, obtain 3-year crash data from PennDOT reportable data. Non-reportable crash data can be obtained from Philadelphia Police Department Records unit for a fee.
- If a consultant is designing project, the proposal should include condition diagrams for a handful of intersections with the highest crash rates.
- If the corridor borders another county, also obtain data from the appropriate municipality and/or PennDOT.
- Collision diagrams are to conform to the latest requirements of the FHWA and PennDOT.
- All crash data is to include dates.

1.3 SURVEY STANDARDS

1.3.1 City Datum

The City of Philadelphia maintains its own datum. All vertical elevations will be made on the City datum, or the alternate datum provided for any project involving property lines or street work.

1.3.2 Horizontal Standards

Horizontal dimensions and measurements must be identified as being U.S. or District Standard (D.S.), which are distinct and different. Note: District Standard is a standard of measurement unique to the City of Philadelphia. All property line courses and distances of existing and proposed lots are to be shown in Philadelphia District Standard only. Also include tangent bearings, radii, arc length and degree of curve. Dimensions must be in feet and hundredths of a foot. Consult with the Survey Bureau for additional information.

1.3.3 City Plan

- Any changes to the City Plan will be approved prior to construction.
- City Plan information must be provided on all plans, and include:

- Survey monuments
- Street/ROW & curb lines
- Point of (curb) Intersection (P.I.) elevations
- Slump & Summit (High & Low Point) elevations
- Roadway grades, and break in grade distances
- Confirmation of City Plan Status (Legally Open & On City Plan)

1.3.4 Property Plans

Required information:

- Point of Beginning of each property as mentioned in deed and dimensioned to nearest legally opened street intersection.
- Areas of existing and proposed lots shown on plan. Show areas in square feet and acres.
- A surveyor's benchmark, set to Philadelphia Datum.
- Horizontal dimensions and measurements must be identified as being U.S. or District Standard (D.S.). Note: District Standard is a standard of measurement unique to the City of Philadelphia. Consult with the Survey Bureau for additional information.
- Rights-of-Way, dedicated or non-dedicated easements of record completely dimensioned. Alleys, driveways, and easements of record mentioned in deed or use, bounding on or across property.
- Engineer or Surveyor's certification that all valves, vents, manholes, inlets and other utility structures have been field verified and will not conflict with proposed curb alignments.

1.4 SOFTWARE

1.4.1 Turning Plans/Templates

- All proposed radii must be checked for turning radius of appropriate design vehicle using AutoTurn or similar software.

  - See Appendix C for guidelines on design vehicles for turning radii at intersections.
  - The oversteer function in AutoTurn may only be used with advanced approval from Traffic Engineering. Oversteering in this case is defined as turning a design vehicle more sharply than may be possible in actual traffic conditions.
- Turning plans for onsite circulation for loading docks and parking lots may be discontinuous and slower than expected travel speeds for roadways.
- Turning plans for roadway geometries should be continuous and reflect actual expected travel speeds anticipated by the subject vehicle. The design speed must be noted on all turning plans.
- Provide existing and proposed turning maneuvers that properly reflect conditions. Do not worsen existing turning maneuvers in any proposed condition.
- At signalized intersections, stop bar may be offset, to accommodate design vehicle turns, if acceptable to the Chief Design Engineer and the Chief Traffic Engineer.

1.4.2 Capacity Analysis

- Capacity must be checked using the latest version of Synchro compatible with the current Streets Department version. A copy of the file must be submitted to the City along with any plan or traffic impact study submission.
- Consultants are required to use software compatible with the latest version of Synchro compatible with the current Streets Department version.
- Report Presentation:
  - Impact on level of service must be provided in summary form for each movement and must include a comparison between the existing and proposed conditions (Build & No Build conditions).
  - A LOS of E or better is preferred for individual moves, and a LOS of D or better for intersections. If LOS-F currently exists, then overall delay should be reduced, to improve the LOS or maintain the same (in all instances).

CHAPTER 2 – SEGMENT DESIGN

2.1 ROADWAY CONSTRUCTION PLANS

2.1.1 Existing Conditions

A. Recently Constructed Non-Conforming Conditions

There is no obligation for the Streets Department to approve anything constructed without approvals being given. Applications for all such projects may be subject to rejection and are considered as the lowest possible priority.

B. Existing Driveways

For projects involving existing driveways, where no record of approval exists, a Streets Department review is performed as part of any review where existing driveways are noted. There is no guarantee of approval for any existing driveways, their use, or limits upon the controls that may be required to obtain approval by the Streets Department.

C. Street Trees

Trees not conforming with current standards, may be required for removal. In most instances, however, our policy is to request they not be replaced, should they be damaged and removed during construction. The final determination in all cases is related to the impacts of trees upon the visibility and accessibility of vehicles and pedestrians within the Right of Way, reference City Streets Detail FZ0102. Approval by the Department of Parks and Recreation's Urban Street Tree Division is required for the planting of all street trees.

2.1.2 Utility Plans

A. PA One Call

All developers and contractors will comply with the Underground Utility Line Protection Act, PA Act 287 (1974, and as amended). Designers are required to provide this information to demonstrate compliance with State Law, provide adequate conflict resolution and demonstrate conformance with Departmental restoration requirements. The PA One Call System is accessible at *www.pa1call.org*, and via telephone (dial 8-1-1).

B. Temporary Drains (As coordinated with the PWD, Office of Watersheds)

- The standard for temporary drains, as permitted by Section 11-205 (Temporary Drains), will be considered to include underdrains for foundation drains, and rainwater collectors. All such drains are to conform with the Plumbing Code. Responsibility to mark out and maintain any such temporary drain is the sole responsibility of the property owner.
- Only the Philadelphia Water Department is permitted to infiltrate stormwater runoff within the subgrade soils within the Right of Way. No temporary drain may include stone or geotextile fabric, except for the purpose of collecting groundwater for drainage to an onsite collection system, or as may be permitted by the PWD.
- Barrels, Cisterns and Planters, when installed upon the street and used for the purpose of retaining stormwater runoff, are considered temporary drains, provided they can be disconnected on a seasonal basis, do not overflow onto any paved surface, and can be removed when necessary. When employed within the right of way, all such encroachments are required to abut the street line and may not encroach upon the walking zone of the sidewalk.

C. Prohibited Utilities

- No utility line may be placed within the Right of Way without first obtaining an ordinance of City Council, or a Right of Way Use Agreement (Philadelphia Code §11-702 i.e. newsstands).
- Per §11-203(1) of the Philadelphia Code, "No person shall open, break or tunnel any street for the purpose of making a connection with or repairing any sewer or water pipe or other underground service, unless he has obtained a permit from the Department of Licenses and Inspections. Tunneling will not be permitted without the written approval of the Chief Highway Engineer."

2.1.3 Grading Plans

Plans must include and conform to the dimension, cross slope and gutter slope requirements of Standard Details SC0101, SC0105, SC0112, and PP0102. Curb P.C., P.T. and P.I. locations and elevations, surveyor's benchmarks, horizontal measurements (U.S. or District Standard) and vertical datum (City Datum) must also be identified and shown on

the plans. These requirements set a universal, safe and constructible standard for the Right of Way. Grading plans should be presented in accordance with City of Philadelphia Standard Detail PP0102.

2.1.4 Landscaping Plans / Street Trees

- Landscaping or site plans must include dimensions showing conformance to the requirements of Standard Detail FZ0102 (Street Tree Planting Diagram).
- Tree Grates:
    - The use of tree grates and cages must be pre-approved by the Philadelphia Department of Parks & Recreation, due to the long-term impacts upon tree health by such devices.
    - When used, tree grates will be heavy duty cast iron, and cast to a form that is ADA compliant.
- The Streets Department recognizes the requirements set forth in the Philadelphia Zoning Code, §14-705(2) (Street Tree Requirements), and particularly, §14-705(2)I(.2)(.a). The Street Tree Planting Diagram, Standard Detail FZ0102, was developed in cooperation with the Departments of Parks & Recreation, Water and Streets, and is therefore the governing standard.

2.1.5 Roadway Geometry

Roadway geometry for new streets is governed by the Philadelphia Zoning Code, Section 14-708(5), (Subdivision Street Standards), AASHTO, and PennDOT standards for geometric roadway design.

2.1.6 Roadway and/or Footway Cross Sections

Roadway and/or Footway cross section, complying with following City standards, as also called out in Standard Detail SC0101 and SC0112. In all cases, the replacement of materials will be “in-kind”, with restoration requirements for existing conditions superseding current standards, when such conditions exceed current standards.

A. Curb Standards

- Standard section: eight (8) inches wide (concrete) six (6) inches wide (granite), and eighteen (18) inches deep (concrete and granite).

- Double wide section (for narrow streets): sixteen (16) inches wide, and eighteen (18) inches deep.
- Standard curb reveal: four (4) inches (minimum) eight (8) inches (maximum), six (6) inches preferred.“6" x”14" of PennDOT 2A stone must be installed under curb.
- Concrete and granite are preferred for all curb.
- Granite curb joints will be set into concrete chairs.

B. *Footway Standards*

- Cross slopes: 1.0% (min), 2.0% (max), except as noted by Standard Detail SC0101.
- Concrete sidewalk sections will be:
  - Subgrade, as prepared per PennDOT Pub 408 Standards.
  - Four (4) inches of PennDOT 2A stone subbase, compacted per PennDOT Pub 408 Standards.
  - Four (4) inch thick concrete sidewalk (standard).
  - Six (6) inches thick concrete sidewalk (all corners and narrow streets).
- Sidewalk sections for various bricks and pavers will be:
  - Subgrade, as prepared per PennDOT Pub 408 Standards
  - Four (4) inches of PennDOT 2A stone subbase, compacted per PennDOT Pub 408 Standards
  - Four (4) inch thick plain cement concrete base.
  - Bricks and Pavers, at corners: set in thin set mortar
  - Bricks and Pavers, mid-block: set in one (1) inch sand bed
- Sidewalk pavement width(s) will meet the minimum walking zone requirements, as defined within the Complete Streets Handbook and is to be ADA compliant.
- Clear Walking Zones in any legal footway (as shown on the City Plan) will be paved, or upgraded to conform to current footways standards, as defined within this section. Redevelopment sites will require certification

by a licensed design professional to establish where existing conditions conform to current standards.

- Furnishing and Building Zones may be paved in accordance with this section, or be vegetated with grass in accordance with PennDOT specifications. Any encroachment related to landscaping will conform with Section 5.2.
- The use of non-standard sidewalk pavements is discouraged by the Department, due to the difficulty associated with replacement of non-standard sidewalk pavements. The Streets Department will not be responsible for resolving conflicts related to replacement due to construction activity.

C. Cartway Standards

- Cartway restoration standards will be in accordance with the Streets Regulations Governing Street Openings, Excavations & Restoration (1-9-2015, and as revised).
- Cross slopes: 1% (min), 2.0% (preferred)
- Gutter slopes: 0.50% minimum (repaving), 1% minimum (new roadways)
- Cartway cross sections will generally be crowned, though reverse crowns may be considered on an individual bases on roadways with either steep topographies, or of a narrow width.
- Standard asphalt roadway sections will be:
    - Subgrade, as prepared per PennDOT Pub 408 Standards
    - Six (6) inches of PennDOT 2A stone subbase on geotextile, compacted per PennDOT Pub 408 Standards
    - Eight (8) inch thick plain cement concrete base course (10 inches on State and Bus Routes, or as otherwise directed).
    - Two and one half (2.5) inch asphalt super-pave binder course
    - One and one half (1.5) inch asphalt super pave wearing course
- Streets being widened to meet City Plan widths should conform with these cartway standards, regardless of existing pavement sections.

D. Material Restrictions

The following materials are not permitted for use in the public Right of Way.

- Pavement iron/steel reinforcement (curb, footway, or cartway)
- "Modified" versions of the PennDOT 2A stone, as specified in PennDOT Publication 408
- Structural soil, and any soil with an acceptable organic content.
- Asphalt base, without the written approval of the Chief Highway Engineer.

2.2 DRIVEWAY AND RAMP DESIGN

The Streets Department does not issue driveways permits, but rather approves curb cuts for zoning purposes, and issues permits for construction. As such, our approval is strictly technical.

2.2.1 Acceptable Driveway Locations for projects triggered by Complete Streets Philadelphia Code Section 11-90:

- Minimum of 150 feet from the approach to a traffic signal measured from the edge of the stop bar to the nearest corner of the driveway apron.
- Minimum of 60 feet from the approach to a stop-controlled intersection measured from the edge of the stop bar to the nearest corner of the driveway apron.
- At an uncontrolled intersection a minimum of 75 feet measured from the face of the curb or the nearest point of intersection (PI) to the nearest corner of driveway apron.
- All driveways off a State or an Arterial are preferred to be right-in, right-out only and should be geometrically designed as such.
- Submission for a new driveway located on an arterial street should accompany sight distance triangles for all approaches. It should be prepared in accordance with current PennDOT Form M-950S, Driveway Sight Distance Measurements.
    - For separated bike lanes, refer to the Complete Streets Handbook Treatment 4.5.6 for best practices for providing adequate sight distance.

- Per Philadelphia Code Section 11-104 and Streets Department Regulations Section 5.4 - No person shall construct or establish a curb cut within an area designated by the Streets Department by regulation as a Transit Platform Area.
    - Transit Platform Area Map: https://phl.maps.arcgis.com/home/webmap/viewer.html?webmap=d2ef8c6d87dd4b9ab96f30ccb23c0e00
    - Transit Types
        - Bus Stop Areas
            - Typical curbside bus zone length is 90 feet for far-side stops, 100 feet for near-side stops, and 150 feet for midblock stops.
                - An additional 20 feet should be provided for articulated buses, plus appropriate transition zones where traffic speeds are higher
                    - Typical bus bay turnout length is 170 feet
                    - Confirm designs with the SEPTA Bus Stop Design Guidelines (October 2012)
                        - https://nacto.org/docs/usdg/septa_bus_stop_design_guidelines_delaware_valley.pdf
                - Trolley Stop Areas
                    - 80 feet minimum, 100 feet preferred, at stop area (from the approach to the nearest intersection, if site applicable)
                    - Confirm transit stop designs with the Modern Trolley Station Design Guide (December 2017)
                        - https://www.dvrpc.org/reports/15014.pdf

2.2.2 Additional Location Requirements

- A permit is required for any existing or new curb cut or driveway.
- For any site subject to redevelopment or change of ownership where a curb cut legally exists on the property, that curb cut, and the access it provides to parking, is permitted to remain, regardless of whether it is compliant with the current base zoning district or overlay requirements, if the following conditions are met:
  - The applicant must provide documentation to confirm that the parking space or the use served by the curb cut was legally established.
  - Parking or the use served by the curb cut on the property cannot have been abandoned for more than 3 years (e.g., If the previous use was a repair garage and that garage has been vacant for 3+ years).
- When a permit is requested for an existing driveway without a permit, which is not legally a prior nonconforming use, the driveway must conform to all current Department of Streets standards.
- Streets Department Right-of-Way Unit will stamp all approved curb cuts prior to L&I Zoning Permit issuance, in accordance with the Zoning Code.

2.2.3 Acceptable Driveway Designs

A. Non-Signalized Driveways
Concrete aprons, in accordance with the latest revision of Standard Detail SC0105.

- Detectable warning surfaces (DWS) are required at all heavy-duty driveways, and as determined necessary by the Streets Department.
- A 6’-0” minimum (10’-0” preferred) spacing is required between curb cuts/driveways.

B. Signalized Driveways
Asphalt aprons, with flush/header curbs, ADA compliant ramps and thermoplastic crosswalks.

2.2.4 ADA Accessible Curb Ramps

ADA ramps must be upgraded to conform to the latest ADA standards, as required by Streets Department regulations, or as proposed conditions may warrant. They are required

on all street corners, and must be called out, with the ADA Unit's package designation, on all site plans.

ADA ramps are preferred off the PC and perpendicular to the curb, as blind and visually impaired pedestrians are typically trained to cross as such, without leaving the crosswalk limits. Crosswalk alignment and location can be adjusted to accommodate the ramp, which is primary.

ADA Ramp designs must meet current PennDOT District 6.0 guidelines, and applicable design standards, and are subject to Streets Department approval through the ADA Unit, per Section 6.3.1. The preference of the Streets Department is to install ramps at a minimum length, but with allowable tolerances for construction. All designs must consider the prevention of ponding in proximity to the ramp.

2.2.5 Service Curb Ramps

Service ramps are permitted only for the safe movement of material in and out of a building.

Service ramps have a four (4)-foot maximum width and be located no less than six (6) feet from any driveway or ADA corner ramp.

- No service ramp will be constructed flush with the paved roadway.
- Detectable warning surfaces are not permitted.
- No signage or other devices may be installed that encourage service ramps to be used for the purpose of pedestrian access.

2.2.6 ADA and Service Ramps for Buildings (Encroachments)

See Building Zone Encroachments, Section 5.2.4

2.3 TRAFFIC CALMING

Refer to PennDOT Publication 383 and the Complete Streets Manual.

2.3.1 Traffic Calming Design Guidelines

The purpose of traffic calming is to reduce the operating speeds of vehicles to bring them into compliance with the posted speed limit. Ideally, the target speed, design speed, and

operating speed should be the same. In situations where the operating speed is higher than the target speed, traffic calming measures can be introduced to reduce the operating speeds of vehicles throughout the corridor to achieve the target speed. Successful traffic calming design often uses a combination of vertical and horizontal deflection measures.

Typically, drivers cross traffic calming measures at a particular speed and increase their speed between those measures. To achieve the target speed, the design must consider both the distance between traffic calming measures and the speed at which the measures are traversed.

In some cases, such as local residential streets with a posted speed of 25 MPH, traffic calming measures may be designed to be traversed at a lower speed than the posted speed to ensure that operating speeds do not exceed the posted speed between measures. In these cases, engineering judgement, roadway context, and land use context should be used to determine the target speed and associated design parameters that will achieve the target speed. Traffic calming measures must be designed to provide adequate sight distance and cross slope.

Warning signs may be posted for traffic calming measures with design speeds that are lower than the rest of the corridor. Vertical traffic calming measures are often designed with design speeds lower than the posted speed, but engineering judgment should be used to determine if horizontal treatments can use this approach to achieve the target speed.

2.3.2 Project Ranking System

Guidance regarding traffic calming associated with pavement markings is provided separately.

Table 4: Traffic Calming Criteria

Criteria	Points	Basis for Point Assignment
Speed	0 – 30	Extent by which 85th percentile speeds exceed posted speed limit; 2 points assigned for every 1 mph
Volume	0 – 20	Average daily traffic volumes (1 point assigned for every 120 vehicles)

Criteria	Points	Basis for Point Assignment
Crashes	0 – 10	1 point for every crash reported within past 3 years
Elementary or Middle Schools	0 – 10	5 points assigned for each designated school crossing guard location on the block
Pedestrians Generators	0 – 15	5 points assigned for each public facility like parks, rec centers, playfield, high schools, business, strip mall, etc. generating a significant number of pedestrians, abutting the block
Pedestrian Access	0 – 5	5 points assigned if there is no continuous sidewalk on either side of the street
High Injury Network (Vision Zero)	0 – 10	10 points assigned if the block falls within High Injury Network (HIN) as developed under Mayor's Vision Zero initiative

Snow emergency routes in many cases also serve as the City's emergency evacuation routes. Some traffic calming measures on a snow emergency route may be discouraged for third-party development projects but encouraged for corridor-wide capital improvement projects. Similarly, most traffic calming measures cannot be considered on arterial highways and State Routes.

2.3.3 Approved Traffic Calming Measures

The following measures are currently approved for use on City Streets. All proposed traffic calming measures are subject to written approval of the Chief Traffic Engineer.

Measures Currently Approved for Use

Table 5: Traffic Calming Measures and Approval

Traffic Calming Measure	Pub. 383 Page No.	Complete Streets Section	Approval via
Curb Extensions (Bump-outs/Bulb-outs)	*26*	*4.9.4*	*Traffic/Design/City Plan Action*
On-Street Parking (Lanes)	*33*	*4.7.3*	*Traffic Engineering/Ordinance of City Council (typical)*
Raised Speed Reducers (Speed Cushions, Speed Slots, Speed Tables, Raised Intersections)	*38, 48, 50*	*4.7.2*	*Traffic Engineering*
Raised Crossings/Crosswalks	*68*	*4.9.11*	*Traffic Engineering*
Raised Medians/Pedestrian Refuges	*71*	*4.7.3, 4.9.5*	*Traffic Engineering*
Signs & Pavement Markings	*75*	*References MUTCD*	*Traffic Engineering*
Gateways (not a stand-alone treatment)	*32*	*No specific section*	*Variable*
Chicanes	*29*	*4.7.4*	*Traffic Engineering*
Traffic Diverters	*N/A*	*4.9.13*	*Traffic Engineering*
Right-In; Right-Out Island	*58*	*No specific section*	*Traffic Engineering*
Raised Median Through Intersection	*61*	*No specific section*	*Traffic Engineering*

Traffic Calming Measure	Pub. 383 Page No.	Complete Streets Section	Approval via
Parking Restriction (Daylighting)	*N/A*	*No specific section*	*Traffic Engineering*

2.3.4 Traffic Circles & Roundabouts

- Roundabouts are considered by Traffic Engineering to be traffic controls, and result in traffic calming. Their implementation is subject to the approval of Traffic Engineering, which can be coordinated as part of the City Plan Action necessary to complete the curb line changes as well as any Right of Way dedications.
- Prepare roadway, signage, and pavement marking plans in accordance with PennDOT and Streets Department current standards.
- Refer to PennDOT standards regarding these traffic controls.

2.4 SIGNAGE

These standards will apply to all signs for which the Department of Streets, Traffic Engineering Division is responsible.

2.4.1 General

- See Appendix A for guidelines on signs commonly used. Use symbols listed in Appendix A for sign designations on all plans.
- Refer to the MUTCD, latest version, and/ or PennDOT Publication 236M. All parking and street name signs are special, as noted in Appendix A.
- Any sign pertaining to the intersection design must be included on the signal plan. This includes regulatory and street name signs (metro and overhead). All other signs, such as parking, bike lane, center lane left, or speed limit signs, must be shown on a separate pavement marking and signing plan.

- Ensure that speed limit and school signs are included in the scope of work for traffic signalization projects.
- Overhead sign heights & widths are to be 6-inches larger than post-mounted signs.
- Retroreflectivity
    - The Traffic Engineering Division replaces all existing signs with retroreflective signs conforming to current MUTCD and PennDOT requirements.
    - All new signs will conform to current PennDOT retroreflectivity requirements, regardless of sign type, or entity responsible for replacement.
- Mounting Height
    - The minimum installed height for all street signs should be 8-feet (measured from finished grade/sidewalk to bottom of sign), unless otherwise approved by the District Traffic Engineer or Traffic Engineering Construction Unit.
- Guidance: The 7-foot minimum height established within the MUTCD, Section 2A.18 (Mounting Height) does not generally provide signs sufficient protection from vandalism and are often blocked by parked cars. Vandal proof bolts are preferred for all such signs. Riders/plaques may be below the 8-foot standard, but must be above 7-feet. Standard butting posts for sign placement whenever possible, including utility poles.
- New sign posts will conform to current MUTCD and PennDOT breakaway standards. See the Standard Details for the current City standard.
- Whenever possible, combine signs and plaques/rider assemblies onto a single sign blank.
- Removal and Replacement of Street Signs by Contractors
    - Any project involving the temporary removal of any signs will receive written approval from the District Traffic Engineer prior to removal. Projects subject to plan review approval will not be considered an acceptable alternative to written approval for sign removal by the District Traffic Engineer.

- Any sign or sign post not to be replaced should be returned to the Traffic Engineering Division, for re-use or to be recycled; as directed by the District Traffic Engineer or Traffic Engineering's Construction Engineer.
- Signs and sign posts that are to be replaced will be replaced with signs and posts meeting all applicable standards.
- An inventory of all existing signs and the plans for their removal/protection/replacement/etc. will be included on any construction documents prepared for the project and subject to approval by the Department of Streets.

2.4.2 Street Name Signs

A. Metro Street Name Signs

- Street name signs must be in accordance with Standard Details SN0101 and SN0102.
- Sign details for all faces, specific to intersection or corridor, must be shown on the plan.
- All street name signs and designators (i.e. St, Rd, Dr, etc.) must be confirmed from the City Plan.
- Hundred block numbers are to be shown for all approaches on all Metro street name signs, even when no property fronts the segment.
- Cut sheets and street name sign layouts must be submitted to the Traffic Engineering Construction Engineer for approval, prior to fabrication. See specifications for current contact information.
- Direction:

  The following can be used as a rough guide in determining the direction of a street:

  - These corridors are considered North-South, and any street crossing them most likely runs East-West:
    - Roosevelt Boulevard (Northeast of Tacony Creek)
    - Broad Street
    - Germantown Avenue

- All corridors with a numbered or lettered street name and 'Street' designation are considered N/S and anything crossing most likely runs East-West.
- All corridors with a numbered street name and 'Avenue' designation are considered East-West.

- Street Name Cardinal Direction Designation:
  - Include the 100 block in all applicable directions on one or two sides of the cardinal direction designation.
  - The 'N,S,E,W', or vertical line, designation should be on all metro street name signs based on the direction in which they are addressed. The following corridors designate the boundaries street name designations:
    - North-South:
      - Market Street. Any street North of Market receives an 'N' designation and any street South of Market receives and 'S' designation.
    - East-West:
      - Front Street. Any street East of Front receives an 'E' designation and any street West of Front receives and 'W' designation.
      - Germantown Avenue (North of Windrim Avenue)
      - There are additional minor baselines throughout the City.
    - Vertical Lines (i.e. "1000 | 1100") that are located:
      - On all East-West streets
        - North of the Wissahickon Creek
        - North of the Tacony/Frankford Creek
      - On all streets running diagonally where the N, S, E, W designations may be confusing.
      - On boundary streets separating the N-S, E-W designations noted above (i.e. Market, Front, Germantown)

- Riders:
    - One Way: One-way streets must receive the ‘one way’ rider, regardless of the direction of the street. The use of one-way riders supersedes all other riders.
    - Highway Designations: State and US Routes must be placed as riders on all metro signs. Use appropriate directional arrows and “To” as required.
    - Arterials & Park Roads: All arterial streets and Park Roads will receive the ‘arterial’ or ‘park road’ rider, unless there is a highway or one-way designation.
    - Cautionary riders are used for informational purposes (ex. No Outlet, Loop Street, etc.).
    - Dedication (“AKA”) riders: Authorization (City Council Resolution) is required for new AKA riders.
    - Dimensions and colors of all signs and riders can be found in the specifications.
    - Two-Street Name Riders: For use where a street changes names. Use arrows as needed to convey location of each street.
- Placement
    - Install back to back metro street name signs at appropriate locations.
    - Street name signs are installed for the minor street at every intersection.
    - Street name signs are installed for major streets, if the hundred block changes, for all streets at a signal or an all-way stop, and at the end of a corridor.
    - When placing a street name sign, visibility is the most important factor in determining location. Beyond visibility, vulnerability and pole availability are considered. Preferences are as follows:
        - Install street name signs diagonally across from each other.
        - Install street name signs far- side.

        - Install street name signs on the mast arm poles, D-poles, or other poles with foundations.
        - Install 2 sign assemblies, if viable.
        - If there are mast-arms on all comers, place for visibility.
        - If mast arms are being installed on select comers (C-posts on all others), install 4-sign assemblies on the mast arms.
        - If new street name sign poles are required, install 4 sign assemblies.
    - Use existing poles which will accommodate signs whenever possible.
- Number of Signs
    - Two 4-sign assemblies at all signalized intersections.
    - At least one 4-sign assembly at intersections controlled by an all-way stop.
    - Two 2-sign assemblies at all intersections where the main street is *40 feet or wider*.
    - One 4-sign assembly at all intersections where a change in hundred block occurs on the street which is not stopped.
    - One 2-sign assembly, for the minor street, at intersections which do not meet any of the criteria listed above.
- The use of the Liberty Bell symbol will be as directed in the Standard Details.

B. Overhead Street Name Signs

- Overhead street name signs are to conform to the current MUTCD and PennDOT Pub 236 standards. See Standard Details for overhead street name sign sizes.
- Signs are double-sided when mounted below the mast arm, and single sided when mounted to the mast arm.
- The installation of overhead street name signs does not affect the placement of metro street name signs.

- Install signs between the right signal head and the curb line.
- Include cardinal direction designations, and hundred blocks, per the standards for Metro street name signs.
- Sign submission shall be made for Traffic Construction approval, prior to fabrication and installation.

C. Other Owners (Private Roads/Driveways)

- Street name signs for private streets and driveways are designated by green lettering on white background.
- If a corridor is shared with another county, the type of street name signs installed on the county side must be coordinated with the Township Engineer.

2.4.3 Regulatory & Parking Signs

- Stop signs will be installed on both corners of the approach.
- 'One Way' signs will be installed on near-side right and far-side left of the approach when appropriate.
- If parking is restricted, include 'No Parking Anytime' signs.
- Utilize existing poles for sign placement when available.

See Appendix A for detailed guidance by sign type.

2.5 PAVEMENT MARKINGS

Updates to Traffic Engineering's Pavement Markings Guidelines is in development, with an anticipated release date in early 2019.

2.5.1 Plan Presentation & Coordination

- All pavement markings relevant to the intersection (lane lines, transition, etc.) must be shown on the traffic signal plan.
- If there is a separate pavement marking plan in the project, the markings reflected on the signal plan must be consistent with those on the pavement

marking plan. Where discrepancies between the traffic signal and pavement marking plan exist, the pavement marking plan will be used.

2.5.2 Line Striping

A. Material

- Thermoplastic pavement markings are required on all asphalt roadways. Markings on concrete surfaces should consist of approved high contrast materials.
- Contrast Epoxy paint should be used for long lines on concrete roadways & bridge decks.
- All other line striping materials are subject to approval of the Chief Highway Engineer.

B. Long Line Striping Preferences

- All long lines should be 6-inch white in thermoplastic, including bike lanes & parking edge lines.
- Yellow:
    - 6” single yellow may be used on arterials and selected roadways in special cases.
    - A study is underway to evaluate the use of 6” double yellow line striping on all State Routes, subject to approval by PennDOT District 6.0.
- If vehicular traffic is permitted in two directions and there is no parking or parking on only one side of the street, the length of double yellow lines should be determined based on traffic volume and other roadway characteristics and land use context.
- If vehicular traffic is permitted in two directions with parking on both sides of the street, install (2) 4” yellow lines, spaced one (4”-4”-4”) foot apart (double yellow) dividing directional traffic flow as follows:
    - If the roadway width is 40 feet or wider, install double yellow for full block length.

    - If the roadway width is greater than 34 feet and less than 40 feet, install 100 feet of double yellow at every intersection from the stop bar or point of curvature.
    - If the roadway width is less than 34 feet, do not install double yellow unless under special circumstances.
    - Install double yellow around regular curves and S curves, if appropriate.
- Dashed Lines:
    - All entrances to exclusive left & right turn bays should be delineated with white dashed lines.
    - T- intersections 26 feet or wider should have dashed white lines across from the intersection.
    - Any intersection on a winding/curved street should have dashed white guide markings defining the vehicle path
    - Dashed 4-inch DY may be called out for intersections on a curved street, at Traffic Engineering's discretion
- White edge striping is required on:
    - Uncurbed roadways, and to delineate parking lanes, on roadways 34 feet or wider.
    - Curb extensions and medians/ islands (right side of travel lane)
- Yellow edge striping is required on:
    - Center medians/islands (left side of travel lane).
- Parking boxes, where installed, should be delineated 20 feet long, as measured from the PC, and the width of the parking lane) for the no-parking zone. The box should be delineated with a double white line, each 4-inches thick, and no pavement markings internal to the box.

C. Crosswalks and Stop Bars

- Crosswalks and stop bars to conform to Standard Detail PM0102 (Typical Crosswalk / Stop Bar Pavement Marking Detail)
    - Stop bar at stop control should be at 4 feet from the edge of crosswalk.

- Stop bar at a traffic signal control should be at 12 feet from the edge of the crosswalk.

- Decorative crosswalks are not maintained by the Streets Department and require an approved plan and maintenance agreement with the requesting party responsible for maintenance. All such crosswalks should be contained within two (2) six-inch-wide (6") white thermoplastic crosswalk stripes, as required by MUTCD and PennDOT standards.
    - Guidance regarding decorative crosswalks can be found in PennDOT Publication 447 – New Product Evaluation for Low Volume Local Roads.

D. Stenciled Lettering and Symbols

- When options exist, preference will be given to symbols and lettering for which Highway crews have existing stencils/templates (i.e. wherever possible, match pavement markings to use symbols, lettering, etc., currently used throughout the City).

2.5.3 Lane Widths

Travel Lanes:	Residential streets: 10 feet (Minimum)
	Streets with Bus Route: 11 feet (Minimum for one lane in each direction) preferably the lane nearest the curb
	Streets with Primary Truck Route: 11 feet (Minimum for one lane in each direction)
	Bike Lanes: 5 feet (Minimum), 6 feet (Recommended) for one-way facilities; 10 feet (Minimum), 12 feet (Recommended) for two-way facilities.
Parking Lane:	7 feet (minimum), 8 feet (Recommended), both sides of the street

2.5.4 Green Colored Pavement

- Green colored pavement should be used on bicycle facilities in accordance with the criteria in the Philadelphia Complete Streets Handbook (CSH), Treatment 4.5.12:

- Green colored pavement may be considered for the following facilities and treatments:
  - Full Green Lane Markings
  - Green Backed Sharrows (CSH 4.5.10)
  - Bicycle Facility Transitions (CSH 4.5.14)
  - Bicycle Crossing Treatments (or Conflict Markings) (CSH 4.9.11)
  - Mixing Zones (CSH 4.9.12)
  - Bike Boxes (CSH 4.9.13)
  - Two-Stage Left Turn Queue Boxes (CSH 4.9.15)
  - Protected Intersections (CSH 4.9.19)
- Full green lane markings should only be used on Civic Ceremonial Streets or for short sections (less than 300') in the separated or high-quality bike network that need to revert to conventional bike lanes.
- Green conflict markings are appropriate on facilities that are separated or designated on the high-quality bike network. They are appropriate where the facility crosses a dedicated turn lane and where an intersection has a particular safety or high conflict issue or complexity.
  - If one or more of the above criteria are met, green conflict marking should be used at signalized or all-way stop intersections and at commercial driveways and parking garage entrance driveways.
- Green must be used for two stage turn boxes and may also be used for standard bike boxes on high quality bike routes or as determined necessary.
- Green backed sharrows should only be used on routes designated on the High Quality Bike Network.

- For intersections along a corridor using green paint, there are two types of intersection treatments:
  - At intersections where vehicles turn across the bike lane, green should be applied:
    - 40' (minimum) solid green markings in advance of the stop bar

        - Green conflict markings between the crosswalks (see Section 2.5.5 for details)
        - 22’ (minimum) solid green markings on the far side of the intersection to visually establish the bike lane
    - At intersections where vehicles DO NOT turn across the bike lane, green should be applied:
        - 22’ solid green markings on the far side of the intersection to visually establish the bike lane after the intersection

2.5.5 Bicycle Conflict Zone Markings

- Refer to Section 2.5.4 above for criteria regarding the use of green colored pavement for Bicycle Conflict Zone Markings. Where criteria for green colored pavement is not met, White Conflict Markings and/or Lateral Offset Guidance Markings may be applicable.
- Where White Conflict Markings are applicable:
    - At weave or merge zones where a motor vehicle approaches at 45 to 90 degrees, provide:
        - 3’ long, 6” wide skips at 9’ gaps (12’ center to center)
    - At locations independent of crosswalks (more than 10’ away) where a motor vehicle approaches at 45 to 90 degrees, provide:
        - 2’ long, 6” wide skips at 4’ gaps (6’ center to center)
- Where Lateral Offset Guidance (LOGs) Markings are applicable:
    - LOGs may be applicable where a particular safety or high conflict issue or complexity exists
    - Where a motor vehicle approaches at 45 to 90 degrees, provide:
        - 2’ long, 12” wide skips at 2’ gaps (4’ center to center)
        - 12” wide sharrow pattern lined up with adjacent 24” continental crosswalk bars
        - One 6” wide dashed line may be used opposite the motor vehicle approach side of the conflict zone given geometric constraints.

- Where Green Conflict Markings are applicable:
  - At weave or merge zones where a motor vehicle approaches at less than 45 degrees, provide:
    - 36" by 4'* green markings at 9' gaps (12' center to center) with 6" wide dashed bounding lines.
  - At locations independent of crosswalks (more than 10' away) where a motor vehicle approaches at 45 to 90 degrees, provide:
    - 24" by 4'* green markings at 4' gaps (6' center to center) with 6" wide dashed bounding lines.
  - At locations with crosswalks where a motor vehicle approaches at 45 to 90 degrees, provide:
    - 24" by 4'* green markings at 2' gaps (4' center to center) with 6" wide dashed bounding lines.
    - These conflict zone markings must be lined up with adjacent 24" continental crosswalk bars.

**Length dimension is 1' less than overall width of upstream / downstream bike lane.*

2.6 SCHOOL FLASHERS

- Traffic Engineering is the authorized agency regarding the approval and permitting of all school flashers.
- Incorporate school flashers on all federal projects for all schools which currently do not have them.
- School flasher assemblies should comply with currents Street's specifications.
- Traffic Engineering will provide design for Streets' Design Unit or consultant to incorporate into project.
- Use of PennDOT 8800 series poles and foundations is approved for use on mast-arm mounted school flashers. Mast-arm mounted school flashers should have speed display unit mounted next to it.

2.7 STREET LIGHTING

This section applies only to street lighting, as it applies to traffic operations.

- Streets should be illuminated to two (2) foot-candles.
- Higher levels of illumination may be appropriate in high-volume pedestrian areas.
- Crosswalks should be located to provide the desired level of illuminance at the crosswalk for all travel directions.
- If there is a street light pole within approximately 50-feet to a new traffic signal pole, evaluate the removal of this pole and the installation of the bracket and luminaire on a mast arm or D-pole.
- When a bracket and luminaire are installed on a mast arm or D-pole, the following apply for the service tap:
    - The luminaire and traffic signal are powered separately.
    - Street lighting service wire is installed in 2" PVC conduit. Conduit will not be shared with traffic signal service cable.
    - Street lighting service wire will not run overhead from a wood pole to a mast arm; even if the signal cable is running overhead.
    - If service is running from a wood pole, the service wire will run down the wood pole and underground to the base of the mast arm or D-pole.
    - See Standard Details.
- For appropriate bracket lengths and luminaires, see Standard Details.
- Avoid/Reduce Clutter
    - Remove nearby street light poles, and place street light onto mast arm.
    - Reduce the number of sign posts, existing street trees that impact signal function, and any other street furniture that impacts sight visibility or safe travel through the intersection. Coordinate with affected stakeholders as required.

CHAPTER 3 – INTERSECTION DESIGN

3.1 INTERSECTION DESIGN

3.1.1 Warrants

Warrants are approved by the Traffic Engineering Unit (TE). Volumes and crashes are evaluated over a 3-year period. Any single 12-month period during this period may be used to justify a multi-way stop sign/traffic signal, per the criteria referenced below. If the sign/signal is existing, data may be used from the 3-year period prior to the installation of the sign/signal. The following criteria are used, in accordance with the PA Code:

A. *Multiway Stop Signs*

   Criteria for the use of multiway stop signs are listed in the MUTCD, Section 2B. The Commonwealth of Pennsylvania permits additional warrants, as provided by 67 Pa. Code § 212.106 (Additional warrants for Stop Signs (R1-1) and Yield Signs (R1-2)).

B. *Traffic Signals*

   There are eleven (11) warrants for traffic signals, which are as identified in 67 Pa. Code §212.302 (Traffic-control signals). Warrants 1 through 9 are as defined in Sections 4C.02 through 4C.10 in Part 4 of the MUTCD, and the tenth and eleventh warrants as defined in 67 Pa. Code §212.

Note: Submit all warrant analysis on Standard PennDOT warrant analysis sheets.

3.1.2 Channelized Right Turn

- Yield vs. Stop Control:

  Install a yield sign & yield bar (24-inch triangles) spaced 3 inches apart unless there is a notable pedestrian volume conflict or visibility conflict or complaints of vehicles not yielding. In that case, a STOP condition can be posted for pedestrian safety purposes. Existing movements will be re-evaluated to determine proper control.

3.1.3 Unconventional Intersection Treatments

The Department of Streets and Pennsylvania Department of Transportation encourage innovative transportation solutions and consideration of unconventional intersection treatments such as but not limited to roundabouts. Due to the complexity associated with roundabouts, such alternatives require coordination with the Department and PennDOT as necessary. Roundabout design should refer to the current FHWA Guide for Roundabouts.

A. Roundabouts

- Signal warrant analysis should be performed for unsignalized intersection in accordance with the MUTCD and Section 3.1.1, above.
- If a traffic signal is warranted, the option of roundabout may be considered depending upon its location, right of way availability, constructability, cost-effectiveness, its impact on signalized corridor, interconnect/grid system &
  so on.
- If a roundabout is the most feasible option, from engineering judgement, the following procedure will be followed:
- As soon as it is determined that a signal is a mitigation option, coordination should be initiated with the Department and PennDOT as necessary. The coordination should include:
  - Evaluation of the use of a roundabout in lieu of a signal (Comparison of pros & cons to justify selection)
  - The limits of the traffic signal grid/system to be analyzed.
  - Performance requirements
  - The method of analysis
  - Technology and maintenance issues
  - Installation and maintenance agreements
  - Roundabouts may be considered at locations under signalization consideration. Refer to NCHRP Report 672 – Roundabouts: An Informational Guide, Second Edition, 2010 and PennDOT Publication 414 – Guide to Roundabouts for more information.

B. Neighborhood Traffic Calming Circle

- Applicable at existing or new all-way stop controlled intersections on local roads of low speed and low traffic volume (ADT).
- Should be avoided on streets that serve as major truck routes, transit routes, emergency response routes, or designated arterial routes.

C. Other Traffic Calming

- Conditions for traffic calming treatments should be in accordance with current Streets Department policy and guidance. PennDOT Traffic Calming Chapter (Pub. 383) may be used for reference purposes.

3.2 SIGNAL & INTERCONNECT PLAN LAYOUT & PERMITTING

3.2.1 Survey Information

A. Signal Plan

- All existing street furniture, building line (if setback is not too great), ROW line and curb line, paving material or grass areas, driveway locations, curb cut ramps (driveways, service and/or ADA ramps), inlets, manholes, utility boxes, street grades, existing pavement markings on all legs (if the marking scheme is being modified, the transition to existing markings must be shown) and existing signs must be shown on signal plan.
- Include all utility information, including the design call number(s) provided by PA-One Call.
- Do not show any existing signal equipment at the intersection which will be removed on the signal plan. If the equipment to be removed is not reflected anywhere in the plan set, it must be located in the 'Remove Existing Signal Equipment' specification.
- Any existing signal equipment that is not near the intersection (i.e. mid-block detectors/junction boxes) should be shown on the plan.
- Include all ADA corner curb ramps, as well as any applicable "no-pedestrian crossing" signs. Curb realignment or island reconstruction will

require a separate roadway plan. Only proposed and existing curb (to remain) is to be shown on the signal plan.

B. Sign Inventory

- Locations of street name, regulatory and advisory signs (e.g. speed limit, school crossing, and bike signs). Parking signs included in the Standard Details may be included in the sign inventory, however:
    - PPA parking signs (e.g., limited time parking signs green on white, Loading Zones signs, HC signs, etc.) and all SEPTA signs are to be excluded from any sign inventories associated with City-owned street signs. They may be included in developer's site plans, noting coordination regarding approvals for the installation and replacement are the jurisdiction of the Philadelphia Parking Authority and SEPTA, respectively.
- Depending on the scope of work, additional sign locations may be required (i.e. replacement of street light poles).

3.2.2 Utility Information Required

A. Traffic Signal Plans

- Name, location and size of all underground facilities, shown as background/shaded/washout.
- Pole and/or manhole numbers which are part of the signal system.

B. Roadway Plans

- As required by the Right of Way Unit.

C. Interconnect Plans

- Wood pole locations, pole numbers, location and name of utility in which interconnect will be installed, identification of manholes and/or poles which are part of the signal system, and duct assignments.
- The designer is responsible for including the necessary contingency items to prove the condition of existing conduit. Streets can verify where

underground interconnect conduit is available but does not have the resources to prove existing conduit.

3.2.3 Additional (Other) Information

- The following data can be provided by Traffic Engineering:
    - School crossing locations
    - Existing interconnect locations
    - School locations
    - Cross-street arterials
    - Mast arm locations
    - Police/fire facilities
- Note nursing homes, senior centers, transit routes; churches, school flasher locations, recreation centers, parks, and all other City facilities.
- Traffic Engineering will provide the following supplemental information:
    - Existing pavement marking, traffic signal and interconnect plans. The fee for all drawings is $50 per intersection. Check to be made out to the City of Philadelphia – Traffic Engineering. Plans will be scanned & emailed after payment is received.

3.2.4 Traffic Signal Plan Requirements

Include the following information on the traffic signal plan:

- See Standard Details for sample phasing, weekly program chart, and wiring diagram.
- Phasing, Timing, and Color Sequence Chart MST diagram
- Weekly Program Chart, if intersection has multiple programs or is part of an interconnected corridor.
- Wiring Diagram
- Volumes. Provide turning movements. Growth Factors are provided by DVRPC (Delaware Valley Regional Planning Commission) & are listed on their website.

- Signal Indications. Differentiate between existing & proposed signals by italicizing and graying existing signal identifying numbers below signal indications.
- Street name sign details and any other special details specific to intersection. If there is no room on the signal plan, the details may be shown elsewhere in the plan set.
- Materials List
- Legend
- Sign Tabulation (for signs related to the traffic signal operation only, including quantity, description, series, symbol, and size) Symbols used for standard signs must conform to those listed in Appendix A.
- Standard details, such as detection system. These may be included elsewhere in the plan set.
- Include posted speed on signal plan and design speed on cover sheet.
- Include distance to the nearest signalized intersection for each leg.
- Include electrical service points, approach grades, underground utilities (w/depths and dimensions, shown in gray/washout), adjacent trees, pavement markings; significant physical features (i.e. trolley tracks, limit of structures, etc.).

3.2.5 Fiber Optic Interconnect Plan Information

The following information must be included on the plan:

- Curb lines and ROW lines.
- Signature line for City's Chief Traffic Engineer
- Any wood poles, manholes, controllers, mast arms, junction boxes, and termination cabinets affecting the network. Include identification numbers for poles and manholes.
- Existing & proposed underground and/or aerial fiber interconnect. Clearly label underground and aerial fiber runs.
- Reflect underground utilities on the plan if underground interconnect is in close proximity to other facilities. This includes intersections and any mid-block locations which may apply.

- Existing interconnect on cross streets. If interconnect is to be replaced between the corridor and an adjacent intersection, that intersection must also be shown on the plan.
- If interconnect is installed in a utility duct, show assignments on the plan.
- If interconnect is installed in City conduit, show detail on the plan, including the size/diameter of the conduit.
- Label interconnect loops exceeding 30-feet on the plan.
- Include the following notes on the plan:
    - Conduit for traffic signals and conduit for fiber optic cable will be installed in the same trench, wherever applicable.
    - Loop 30’ of cable on wood pole or in junction box closest to the controller unless otherwise noted on plan. The standard junction box for controllers is 39” OD x 18”, as included in the technical specifications.
    - Removal of existing interconnect cable is required, and will be considered incidental to the installation of all new interconnect cable.
    - All aerial fiber optic interconnect cable must be installed and connected to the traffic signal controller through either a mast arm, or D-Pole. The installation of City of Philadelphia conduit to wood poles is prohibited.
    - All new fiber will be labeled at every wood pole, manhole, junction box, and other fixed asset, as follows below. The exact dimensions, material and placement of all tags will be addressed within the technical specifications.

City of Philadelphia
Traffic System
Fiber Optic
Communications Cable
DO NOT MISHANDLE

3.2.6 Professional Engineer Required

Each plan must be signed and sealed by a professional engineer, licensed in the Commonwealth of Pennsylvania.

3.2.7 Drawing Scale

- Use 20 scale (1 inch=20 feet) for signal plans. If the intersection layout does not fit on a 20 scale plan, use a 30 scale (1 inch = 30 feet).
- Use 100 scale (1 inch = 100 feet) for fiber optic interconnect plans. 50 scale (1 inch = 50 feet) may be used for shorter project lengths.

3.2.8 Approval Block

- Signal Plans must have an approval block for the City's Chief Traffic Engineer.
- Approval blocks for PennDOT approval are only required for all State Routes or when directed by Traffic Engineering.

3.2.9 Application Required

- The City of Philadelphia's Chief Traffic Engineer is the only municipal agent who can issue and approve traffic signal permits for City-owned traffic signals within Philadelphia County limits.
- All work performed by third parties (i.e. non-Streets Department personnel), are required to obtain a permit from Traffic Engineering. Plans and supporting documents will conform, and utilize, all documentation required by PennDOT; including:
    - Traffic Impact Study or Traffic Impact Assessment & traffic signal warrant analysis.
    - PennDOT TE-160 Form (Application for Traffic Signal Approval) – Applicant will complete Section A (Applicant's (Municipal) Contact Information) with their own information, and omit the resolution included with the form.
    - Engineers estimate of cost
    - Applicants will be required to enter into a private paving agreement, the requirements for which are outside the context of these guidelines. Contact the Streets Department, Right of Way Unit, for additional guidance.

3.3 TRAFFIC SIGNAL HARDWARE

While the need for conformance to MUTCD and PennDOT Standards cannot be stressed enough, Engineering Judgment must be exercised in the usage and placement of all traffic signal hardware.

3.3.1 Standard Coating Colors

Powder coating is the required application method for all hardware coatings, when possible. The preferred finish is semi-gloss.

- National Park Service Brown (Federal Standard No. 20040)
  - Standard color for all new C-Posts, D-Poles, Mast Arms & Controller Cabinets
  - Includes all caps, split bases, and mounting hardware.
- Federal Yellow
  - Standard color for all signal heads & visors (exterior only)
- Federal Black with retro reflective yellow border
  - Standard color for all signal head back plates & louvers, rectangular rapid flash beacon flashing bars, signal head visor (inside).
- Natural Metal (no coatings)
  - Standard color for school flasher controller cabinets, rectangular rapid flash beacon controller cabinets
  - Also applies to most pipes, elbows, brackets, bolts, bands, and U-bolts; all of which will be aluminum, galvanized or stainless steel, as required by the technical specifications.

3.3.2 Mast Arm (See Also Penn DOT 8800 Standard Details)

A. Usage

- If roadway width is 44 feet or wider, or where the existing street geometry negatively impacts signal visibility as per current Federal, State or City Guidelines/Standards.
- Exercise judgment on roadways between 40 and 44 feet.

- Maintain continuity of hardware within a corridor:
    - Continue using post-mounted signals wherever feasible, and no mast arms have been installed near the signal being modified.
    - Upgrade post-mounted signals to mast arms, wherever other signals in the corridor have mast arms, regardless of street width.
- Mid -block signal.
- At multi-leg or complex intersections.
- Consider mast arms to correct visibility issues when there is an offset in the roadway or where there is a significant change in roadway width.
- At the discretion of the City's Chief Traffic Engineer.

B. Size

- Lengths (feet): 10, 15, 20, 25, 30, 35, 40, 45.
- Add 5 additional feet to the required mast arm length to accommodate for newer, longer overhead street name signs (up to 8 feet long) & additional room to accommodate larger foundations required for Standard 8800 mast arms & for underground utilities adjustments.
- All mast arms should be fitted with davit arm with LED Street Light Luminaire.
- Avoid the use of 50-foot mast arms (or larger) whenever possible.
- Arm is mounted from 19 to 20 feet, as specified by the manufacturer, to provide 16-1/2-foot vertical clearance of signal heads.
- Arm lengths should be made to provide flexibility in field location of the pole and future changes to the intersection. Each arm should extend to the double yellow line, with five (5) feet of additional arm length specified to allow for field modifications related to utility conflicts with the foundation location.

C. Placement (Subject to Field Spotting During Construction)

- Pole should be oriented such that the overhead 12-inch signal heads are minimum 40 ft and maximum 150 feet from the approach stop bar.

- In cases of maximum or close to maximum distances, near sight post mounted signal heads will be recommended solely at Traffic Engineering's discretion.
- Minimum three (3) foot setback from curb line.
- Avoid the installation of a mast arm on an island. If island installation is necessary, maintain minimum setback from the travel lanes on all sides with minimum 6-inch curb reveal.
- Ensure placement does not conflict with any known underground utility lines.
- Ensure placement does not obstruct pedestrian pathway or ADA ramp landing area or flares/wings.
- Do not install pole on curb radius. There may be an exception if the placement outside of a large radius has an adverse effect on signal visibility. Minimum PennDOT corner sight distances should be maintained & signal should be within the cone of vision of the driver.
- There must be a minimum of six (6) feet of lateral clearance between the arm and any trolley wires or catenary.

D. Foundation

- Foundation size is dependent upon the arm length: Sizes are defined in the specifications.
- Spread foot foundations may be required where there are shallow facilities. Each project must be evaluated for the foundation type and include a minimum quantity of one (1) spread foot foundation.
- Any foundation which does not conform to current PennDOT 8800 standards due to underground utility or structure, must be detailed on the plan & special permission secured, in writing from Penn DOT.

E. Street Lighting – See the street lighting section for guidance.

3.3.3 C-Post (See Also Standard Details)

A. Size

- 20-foot: The only size currently being installed by the City.
- 13-foot: City no longer uses them. Any existing 13-foot C-posts must be replaced with 20-foot C-posts.

B. Placement (Subject to Field Spotting During Construction)

- Minimum 3-foot setback from curb line.
- If C-post is installed on an island, maintain a minimum 4-foot setback from travel lane on all sides and ensure island is curbed, clear of the ADA ramp.
- Ensure placement does not conflict with any known underground utility lines.
- Ensure placement does not obstruct pedestrian pathway.
- Do not install pole on curb radius. There may be an exception if placement outside of a large radius has an adverse effect on signal visibility.
- Do not install on medians with barrier curb less than 4-feet wide or medians with mountable curb less than 8- feet wide.

C. Foundation

- No foundation required. Directly buried 42 inches underground. Depth is pre-determined by the pre-manufactured knockout in the post.

D. Other

- If installed in an unpaved area, a 3-foot x 3-foot x 12-inch thick to avoid excessive flooding, concrete pad must be constructed at the base of the pole, payable under a separate item (for City contracts)

3.3.4 D-Pole (See Also Standard Details)

- Locations are subject to field spotting during construction
- Use for the following addition applications:

- Use a D-Pole when combined with a street light. Poles are 30 feet in height, with a street light bracket. Luminaire and traffic signal are powered separately. See Section 2.7 for additional guidance.
- Where detection equipment is to be installed, and no mast arms are available for mounting purposes.
- When using the D-pole to bring aerial electrical service connection or fiber optic interconnect cable into underground conduit on a controller corner.

- Foundation is the same as that of a 25-foot mast arm (- 8800 series).
- Placement criteria are the same as a C-post (See Section 3.3.3B).
- The street light bracket and luminaire are separate pay items (for City contracts).

3.3.5 Pedestal Pole (See Also Standard Details)

- Use when the 3-1/2 foot (42 inch) subsurface clearance required for the C-post installation cannot be attained.
- Poles are 17 feet long.
- Refer to PennDOT TC drawings for foundation construction.
- Placement criteria are the same as that of a C-post.

3.3.6 Signal Heads

Conform to the MUTCD and PennDOT Pub 149 (Chapter 6), with the following preferences:

A. General

- Two signal faces are required for the through movement and must be located within a 40-degree cone of vision (20 degrees to the right and 20 degrees to the left) at the center on the approach, at the stop bar. (The center of the approach is defined as the middle of the collective approach lanes, excluding exclusive turn lanes, parking lanes, and bike lanes.)
- Placement
  - Signal heads (12-inch heads) should be between minimum 40 and maximum 150 feet beyond the stop bar.

        - Supplementary signal heads should be installed if any criteria in section 3.3.6E are met.
    - At least one face, preferably all faces, must be located beyond the center of the intersection.
    - Overhead signal heads should be at least two (2) feet from edge of curb line or outer edge of parking lane.
    - The left approach overhead signal heads should be located between center and the right edge of the left lane.
    - Maintain a minimum distance of three (3) feet between opposing signal heads.
    - Minimum distance between overhead signal heads for the same approach is eight (8) feet, though twelve (12) feet is preferable. In the case of a multiple lane approach, ensure the right signal head is mounted at the center of the right lane.

B. Overhead Signal Heads

- Use overhead signals at intersections upgraded with mast arms, (as per section 3.3.2A)
- Overall, a minimum of two (2) overhead signal heads should be installed within the cone of vision of the driver. Supplementary post mounted signal can be installed to satisfy this.
- Where overhead signals are used, a minimum of one (1) overhead signal face per lane is preferred.
- In the absence of exclusive turn signals, the signals on the mast arms must be visible for drivers waiting in the middle of the intersection to complete the turn. This can generally be accomplished by placing mast arms behind crosswalks maintaining minimum 40 feet from Stop bar.
- All two-way arterial streets with mast arms should have a back side signal facing opposing traffic, as an added safety measure.

C. Post Mounted Signal Heads

- See Standard Details.

- A center median mounted signal may serve as a far-left signal or an exclusive left turn signal.
- Must be mounted in-board, unless construction is not feasible or otherwise directed by Traffic Engineering.
- A maximum of two (2) signal heads per upright is preferred. Do not install more than three (3) total signal heads on any upright (C-Post, D-Pole, Pedestal Pole, or Mast Arm).
- Corners should be split for better visibility for vehicles and pedestrians.

D. Signal Heads for Turning Movements

- For each turning lane controlled by an exclusive phase, there must be a separate signal.
- Use a 3-section head for a protected-prohibited movement (using a red arrow).
- Use a 4-section head for lag phases, when the turning and thru movements end together.
- All other configurations require a five (5) section head.
- Appropriate signage must accompany the signal face.
- A 5-section left turn signal should be located between the middle and the right edge of the left turn lane, in the direction of traffic flow. Ensure a 3-foot lateral clearance is maintained between opposing left turn signals.
- A 4-section head or 5-section head can be used as a primary signal head for through traffic.
- A right turn signal will be located to the right of the left edge of the exclusive lane. Signals may be post mounted.
- A 5-section head with a right turn signal is to be used as a primary signal head.
- Flashing yellow arrows (*MUTCD Section 4D.18*)
    - MUTCD has adopted the use of flashing yellow arrows for the permitted portion of the protected/permitted phase left turn movement. This standard has been approved by PennDOT on a pilot/experimental basis.

- This standard will replace the circular green signal for permissive left turns (i.e. where opposing through movements is permitted).
- Traffic Engineering may permit use to emphasis pedestrian right of way on high volume crosswalks.

E. Supplemental Signal Heads

- Supplementary signals are to be installed under the following conditions:
  - A supplemental near-side signals should be required when the primary 12-inch signal heads are more than 150 feet from the Stop bar,
  - When vehicular signals are in a position which would not adequately serve pedestrians, and no pedestrian signal heads are proposed, additional three-section signal heads for pedestrians must be installed.
  - If at least one far-side signal is not visible to provide adequate stopping sight distance on the approach, a nearside supplementary signal must be installed (i.e. post mounted signals or on a winding roadway).
- Supplementary signals to be installed in accordance with MUTCD Section 4D.14B.

F. Pedestrian Signal Heads

- Hand/ man signals with countdown signal timers must be installed under the following conditions:
  - All signalized intersection crossings 26 feet or wider, curb to curb.
  - All signalized intersections with an exclusive pedestrian phase.
  - When the crossing is designed to be made under two separate intervals. This is often utilized on divided highways.
    - When installing audible pedestrian signals/sensors.
- Hand man signals with countdown pedestrian timers should be installed under the following conditions:
  - At established school crossings.

- When the vehicular indicators would confuse pedestrians.
- Streets 26 feet or wider, measured from curb to curb.
- When pedestrian volumes exceed 60 pedestrians/hour for any four (4) hours in a 24-hour period.
- When there is a pattern of pedestrian crashes. There is no specific number for this but one (1) per year for three (3) consecutive years may be used as a minimum.
- For consistency along a corridor.

- Do not install pedestrian hand/man signals if the corresponding pedestrian phase is permitted/clear during all phases of signal operation at the discretion of the Chief Traffic Engineer.
- When hand/man signals are not utilized and post-mounted signals are not otherwise being installed, eight (8) inch post mounted signal heads are required for each pedestrian crossing.

G. Accessible Pedestrian Signals or APS

- Under American with Disabilities Act of 1990 & current PROWAG & Access Board Guidelines, audible APS should be installed at all new or signal upgrade intersections for ADA compliance. Traffic Engineering to provide direction on appropriate crosswalk locations.

H. Size of Lens

- Do not install different size lenses in a single signal face.
- 12” lenses will be used in all cases, except where 8-inch lenses are permitted (see below).
- 8” lenses can be used where their use conforms with MUTCD Section 4D.07. Traffic Engineering only approves the use of the following Options:
  - The circular indications in a supplemental near-side signal face:
    - The circular indications in a supplemental signal face installed for the sole purpose of controlling pedestrian movements (see Section 4D.03) rather than vehicular movements; and

- The circular indications in a signal face installed for the sole purpose of controlling a bikeway or a bicycle movement.

I. Retrofit

- For new construction, install a new signal head rather than retrofit lenses.

J. Shielding of Signal Faces

- All signal heads are equipped with tunnel visors under the current City standard. PennDOT requires a note on the signal plan indicating which heads require tunnel visors according to their guidelines (same as louver guidelines listed below).
- Vertical louvers may be used to accomplish the following:
  - Aid in directing the signal indication specifically to approaching traffic. The direction of the lovers must be noted.
  - Shield the lens from approaches other than the intended approach to avoid confusion.
- Distance limiting signals are used to restrict the area from which the signal is visible.
  - The designated area from which the signal will be visible must be highlighted on the plan to ensure proper construction.
- The signal heads to be equipped with louvers must be called out on the plan as either vertical or horizontal/distance limiting.
- Backplates are used with all overhead signals. See current Penn DOT guidance.
- Optically programmed heads are not to be used.

K. Strobes

- The use of strobes is no longer permitted by PennDOT. They are to be removed whenever signal heads are being changed out as a part of any signal project.

3.3.7 Conduit

A. General

- Three (3) inch Schedule 40 PVC is used for all new conduit runs for signal cable, except under trolley tracks, where 3” steel conduit is required.
- Maintain ground connections with conduit. Continue using steel for remainder of any run requiring a steel conduit (such as under tracks).
- Most of the existing conduit is two (2) inch steel.
- 30 Conductor will replace 20-conductor cable wherever new cables are run. Standards for the use of 30-conductor cable are as follows:
    - No more than three (3) 30 conductor cables can run in an existing or new three (3) inch conduit.
    - No more than one (1) 30 conductor cable can run in two (2) inch conduit.
- The preference is to run signal and service cable in separate conduits for new construction.
- Do not run fiber in the same conduit as signal or service cable.
- Utilize the same trench for separate conduit runs whenever possible.
- If conduit is installed in a grassy area which may be exposed to vehicular traffic (i.e. Fairmount Park), consider installing steel conduit.
- Elbows must be used when the direction of the conduit changes. Elbows and conduit are payable under separate items.
- Conduit runs will be reflected on plans as straight lines, not as arcs.
- Total conduit bends are not to exceed 360 degrees in any single run, to be defined as a cable pull between the point of entering the conduit to the point from which it is to be pulled.
- Identification tape
    - All identification tape will be a minimum of 6” wide x 5 MIL thick polyethylene with detectable aluminum foil core, conforming to ASTM D2103 and D882, with permanent colors conforming to the APWA color codes for underground utilities.

- For 3-inch traffic signal conduit: 'CAUTION ELECTRICAL LINE BURIED BELOW' spaced at regular intervals.
- For 4-inch traffic interconnect conduit: 'CAUTION BURIED FIBER OPTIC CABLE' at regular intervals

B. *Interconnect*

- 3" steel conduit is the standard for all new fiber optic interconnect installed in City. 3" conduit is to be used in sidewalk and/or grassed areas. This standard replaces the 3" PVC standard previously used. See section on interconnect.
- If the project crosses an arterial on which interconnect has not yet been installed, consider including a conduit between the junction box closest to the arterial and the controller for future-use.

C. Detection

- Micro-loops use 3" PVC conduit and wire loops use 1" PVC conduit. See section on loop detectors.

D. Track Street

- Buried track must be identified from the 1954 Philadelphia Transportation Company Track map.
- Use 3" steel conduit under a track structure, exposed or buried. This work is payable under a separate item, Steel Conduit Under Track Structure. Avoid connections between PVC and steel conduit by running steel conduit for the entire run where it is used (i.e., between junction boxes or poles/posts)

3.3.8 Junction Boxes

- Material:
  - Any junction box installed outside of the roadway area will be composite with a heavy-duty lid, rated Tier-22 for both the junction box and the lid. Refer to: *NSI/SCTE-77 2013 "Specification for Underground Enclosure Integrity" Tier 22 Rated Loadings. Design load 22,500 lbs. & minimum test load of 33,500 lbs.*

    - Any junction box installed in the roadway will be 12” x 18” x 12” steel, with a minimum of four (4) lid bolts.
- The standard composite junction box size is:
    - 12” x 18” x 12” deep is the standard junction box size for traffic signals.
    - 17” x 30” x 18” deep is used where six (6) or more conduit enter the box.
    - 39” Dia Lid x 18” deep is used for all traffic signals adjacent to the control cabinet.
- It is preferable to install junction boxes outside of the roadway area.
- Install a junction box within 10 feet of each controller, mast arm, and D-pole.
- Run all signal cable connecting to a signal pole or controller through a junction box. Signal cable running to a C-post is not required to run through a junction box.
- If the number of conduits entering a C-post exceeds three (3), install a junction box.
- Junction boxes are used in a loop detection system. See section on loop detection for configuration.
- No traffic signal cable splices are permitted within any junction box.

3.3.9 Wiring

- Electrical Service Wire:
    - Generally, 2 conductor, 6 gauge wire, Type UF.
    - If power source is underground, run electrical service wire from manhole to junction box to controller. Only direct connections, with no splicing, are permitted.
    - If power source is overhead and there is a mast arm on the same comer, run electrical service wire overhead from the wood pole to the mast arm, down through the mast, to the junction box to the controller. Only direct connections, with no splicing, are permitted.
    - If power source is overhead and there is no mast arm on the same comer, use triplex cable if aerial run exceeds 25-feet, the cable is spanning over the roadway, or is attached to SEPTA poles. Because bare wire cannot run through a metal pole, the triplex cable must terminate at

the top of the signal support and UF cable will run through the pole. The connection between the two cables is incidental to the triplex cable item in City contracts; however, the cables are payable under separate items.

- 30-conductor cable has been adopted as standard. It replaces 20-conductor cable in most applications.
    - Run 30-conductor wire from pole base to pole base. Add an additional 6’ per run
    - Ensure that the 30-conductor cable is sufficient for the signal heads it is serving. If additional wire is required, install a 5, 7, 20 or 30 conductor cables, as required. The cable must be color coded, as identified on the wiring diagram, to identify which cable runs to each pole.
- Signal heads operating on the same circuit run the same wire. Each vehicle phase uses three wires. Each pedestrian phase uses two wires. Permitted/Protected turning movements will use between 1-3 wires. Reserve 3 wires as spares and 1 wire is a common.
- 5 conductor runs from base of pole to 3 section signal head or pedestrian head. Each signal head is wired separately.
    - Post Mounted: runs from base of pole to each signal head mounted at ten (10) feet minimum. Add an additional five (5) feet per run.
    - Overhead Mounted: runs from base of pole, up 20’, out to signal head. Add an additional five (5) feet per run.
- 7 conductor cable runs from base of pole to 4 or 5 section signal head. Add an additional five (5) feet per run. If there is a possibility of a future exclusive left turn phase, run 7 conductor, instead of 5 conductor, to the farthest overhead signal head.
- 3 conductor cable runs from the base of the pole to the push button. Use four (4) feet per run.
- All aerial service wire must have a drip loop of additional wire where it enters the traffic signal pole.

3.3.10 Controller

- The new Philadelphia Streets Engineering Standard is Advanced Transportation Controller (ATC) Model 2070 Traffic Signal Controller as the replacement for the

current 170 solid state traffic signal controller which are to be discontinued & totally phased out by 2025 by their manufacturers. Upon adoption of that evaluation and development of an approved master specification, all traffic signal upgrades will be required to use the new ATC standard. Traffic Engineering does not currently intend to phase out the Caltrans controller cabinet specifications, into which the new ATC controllers are compatible.

- See Signal Controller Cabinet Comparison Table, below.
    - 332 – Standard cabinet to allow for a fiber optic Ethernet network connection and UPS (4 hours operating + 4 hours on flash). This is the standard cabinet for arterial roadways.
    - 333SD combination cabinet – termination cabinets, where fiber network hubs are installed (intersections of two fiber cables), and space must be provided to fit a UPS (8 hours operation + 4 hours on flash). The 333 cabinet will therefore be the standard where signalized traffic corridors intersect, space permitting.
    - 336S – Only on local/collector routes, where fiber interconnect may or may not exist, and no UPS are required. Due to the limited cabinet size with respect to UPS capacity, the use of 336 controller cabinets must be approved for use by Traffic Engineering.
    - Post mounted controllers may still be used in areas susceptible to flooding, restrictive spaces, or replacements, as determined by the Construction Engineer.
- All new controllers will be equipped with:
    - Emergency Generator Adaptors – Mounted externally in a vandal proof & weatherproof assembly.
    - Uninterrupted Power System (UPS battery backup) on all signals where a 332 or 333 type cabinet is being installed.
    - Emergency Preemption (EVP) / Transit Signal Prioritization (TSP) with Detectors
    - Fiber Optic Patch Panel (also include all necessary cabling where fiber optic connections are planned with the installation of the new controller).
    - ATMS (Advanced Traffic Management Software) which is known as Kimley-Horn Integrated Transportation System (KITS) is the current

Philadelphia Streets Engineering Standard. These services are to be provided by Kimley-Horn and Associates, Inc.

- Placement of a base mounted controller:
  - Install within right-of-way lines.
  - Preferred minimum three (3) foot setback from curb line.
  - Ensure placement does not conflict with any underground utility lines.
  - Ensure placement does not obstruct pedestrian pathway or ADA ramp.
  - Ensure placement is not in a vulnerable location. May consider installing by the building line. If a street is one-way, the least vulnerable position is nearside.
  - Placement should allow safe maintenance access with visibility of signals.
  - If corridor is shared with a county and proposed location is on the county side, approval must be obtained by the Township Engineer.
  - Additional cabinet base extensions/skirts must be used in areas prone to flooding.

Table 6: Signal Controller Cabinet Comparison

Cabinet Type	Size (H x W x D)	No. Load Switches	Double Door	Type of	Input Slots	No. Flashers	No. Ftrs	Cabinet Spec.	Rack Spec	Vehicle Phases	Pedestrian Phases
332	66 24 30	12	Y	B	28	2	4/5	Caltrans	Caltrans	8	4
333	54 43 26	12	Y	B	28	2	4/5	Special	Caltrans	8	4
336S	46 24 22	12	Y	B, S, P	14	2	4/5	Special	Caltrans	8	4

- Notes:
    - No. Load Switches: 6 additional switches possible for the 332, 333 and 336S cabinets by adding Model 420 Auxiliary Output File – *Each phase requires a separate load switch.*
    - Type of Mounting: B = Base, S = Side or Back of Pole Mounting, P = Pedestal Mounting

Each Input Slot will accommodate one (1) 2-channel input device.

3.3.11 Actuation

A. General

- Through movements on interconnected corridors are usually not actuated.
- The actuation of a cross street should be considered when the peak volume is less than 60 vehicles per hour, pedestrians require a special phase, or there is a driveway.
- Actuate protected left turn phases unless a steady, high volume renders actuation ineffective.
- Several types of detection systems are currently being used and evaluated.
- The short wire loop will be used only as directed by Traffic Engineering

B. Video (Overhead) Detection

- Video detection is the preferred method of detection.
- Install cameras and controller hardware per manufacturers' specifications.
- Use video detection systems that require the use of the fewest number of cameras at each intersection.
- The preferred method for video detection for multiple zones is fish-eye video detection system with adaptive capabilities & real time traffic monitoring such as Grid Smart Preferred Plus Detection System, ITS Plus, Miovision system, or similar

C. Short Wire Loop

- Install loop sensor wire three inches (3") below the top of the roadway surface. Depth must be indicated on plan detail.

- Configuration:
    - See Standard Details.
    - Consists of (3) modified 6 x 6-foot wire loops installed for each approach. Maintain a three (3) foot clearance from the edge of the travel lane and extend loop three (3) feet beyond the stop line. If the width of the travel lane is insufficient for this configuration, reduce the width of the loop accordingly.
    - Install a curbside junction box for each detector
    - Run one-inch (1") conduit from the junction box to the edge of the roadway
    - Run loop sensor wire from the junction box to detection area and back to the junction box. The loop sensor wire runs through the one-inch (1") conduit from the junction box to the edge of roadway
    - Run loop sensor wire through detection area 3 times to achieve adequate sensitivity
    - Run lead- in cable from junction box to controller without splicing through three-inch (3") conduit. Can install the cable in the same conduit as signal cable
    - Amplifier- Number of channels is based on number of detectors

D. Microloop

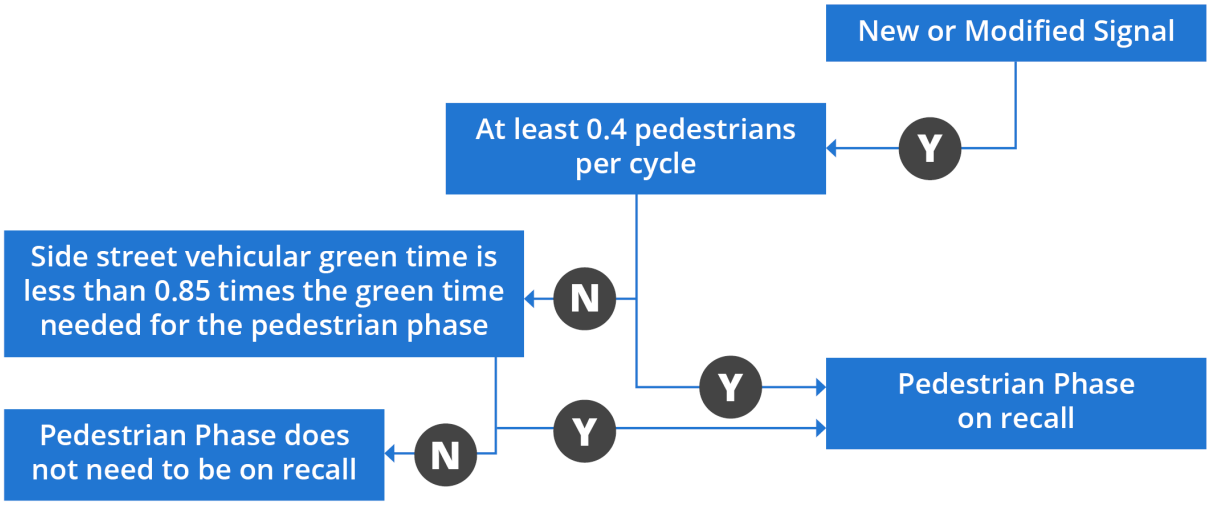
- Installed 21-inches below roadway base. Depth must be indicated on plan detail
- Configuration:
    - Generally, consists of (3) detectors for the approach, running perpendicular to the travel lane.
    - Detector lead-in cables run for each detector from the controller to a junction box. The lead-in cable can run in the same conduit as the service cable.
    - Each loop detector will require a junction box.
    - Three-inch (3") PVC conduit is run between junction boxes.
    - Three-inch (3") PVC from junction box is run to termination point in roadway.

- The probes and carriers for all 3 detectors are quantified as a single item, 'Non-Invasive Microloop Detector Set'.

3.3.12 Pedestrian Recall and Pedestrian Actuation

All new or upgraded signals should provide a pedestrian phase on recall, except where it is demonstrated that there is less pedestrian demand (fewer than 0.4 pedestrians per cycle during the highest peak hour) and where the inclusion of a pedestrian phase results in inefficiencies for the vehicular phase (the side street vehicular green time is less than 0.85 times the green time needed for the pedestrian phase). See Figure 1. Note that pedestrian recall may still be preferred when these conditions are not met, depending on land use context, user volumes, and agency preferences.

Figure 1: Pedestrian Actuation Threshold Flow Chart



- When recall is determined to be appropriate, engineering judgement should determine the appropriate means of operating the pedestrian signals, taking into account various factors including, but not limited to, type of pedestrian generators, type of traffic signal controller equipment, pedestrian crash history (HIN) etc.
- Pedestrian push buttons are only to be used where permitted on the approved traffic signal plans, approved by the Chief Traffic Engineer.

- Passive pedestrian detection may be an appropriate measure in addition to active pedestrian actuation at locations where that redundancy may improve actuation.
- All push buttons must have latching LED indication and should include a touchless option, per current PennDOT requirements.
- Conform to the PennDOT 6.0 ADA, PROWAG, Access Board's Guidelines document, with the following preferences, as they are currently permitted:
    - Push buttons shall be within 10 feet of the flat landing area of an ADA ramp, provided it is accessible. Follow current MUTCD Guidelines for specifications, location of poles, signage, etc.
    - Push buttons and push button signs must be oriented perpendicularly to the relevant crossing.
    - In all cases, the use of pedestrian push button pedestals (stub poles) is not permitted at any location without the written consent of the Chief Traffic Engineer.

3.3.13 Emergency and Transit Pre-emption & Detection

- Emergency pre-emption and transit preemption should be installed standard wherever new traffic signal controllers are installed.
- Emergency actuation, such as at firehouses, will be evaluated on a case-by-case basis for all first responder facilities.
    - Specify on signal plan which vehicle phases are able to 'rest in green' upon activation of pre-emption system (i.e. No vehicle phases should be subject to a 'yellow trap').
    - Specify the maximum green time for the pre-emption phase.

3.3.14 Electrical Service Connection

- Use overhead PECO source if available; otherwise, use underground PECO source.
- Plans must include wood pole number or PECO manhole number.
- All service points must be approved by PECO during final design. A service tap application to PECO will be required.
- For City contracts

- Overhead service connections can be made by Contractor, payable under the 'Aerial Electrical Service Connection' item.
- Underground taps must be made by PECO, payable under 'Underground Electrical Service Connection' item (City Contracts). Also include a 'Utility Manhole Modification' item.
- The cost for PECO services must be confirmed with PECO.
- Multiple manhole modifications will be paid as a single manhole modification for both electrical connections (traffic signal and street lighting).

- If there is a street lighting luminaire installed on a traffic pole, the service is connected separately and paid separately.

3.3.15 Rectangular Rapid Flashing Beacons

A. General Information

- Rectangular rapid flashing beacons (RRFBs) should conform to the FHWA MUTCD Interim Approval 21 – Rectangular Rapid-Flashing Beacons at Crosswalks dated March 20th, 2018.
- RRFB assembly should be back-to-back install on both sides of the street on a two-way street. One-way streets do not need back-to-back.
- Design and installation of RRFB should adhere to the specifications outlined in Item 9000-4074/4075.
- Design details may be altered at the Chief Traffic Engineer's discretion.

B. Design Details

- Rapid Flashing Bar
  - Beacons – Beacons should be simple to maintain and allow for the replacement of individual rectangular beacons. The beacon has LED bulbs that are highly visible from a minimum of 1,000 feet in advance of the crosswalk during the day. LEDs should be rated for a minimum of 15 years. Light configuration must be bidirectional to alert motorists approaching from either direction on the

roadway. Individual LED cluster on the RRFB are a minimum of 3" by 7" in size.

- Flash Bar – Construct the RRFB flash bar of durable and corrosion powder coated aluminum and are black in color.

- Controller
  - Enclosure – Controller unit is to be housed in an NEMA 4X rated, pole mounted, aluminum cabinet with stainless steel hinge.
  - Power – Controller unit is 120V AC-powered. Controller provides DC power from the controller to the beacons in the field.
  - Programming – Flash duration of the beacons is adjustable within the controller to accommodate timings from 1 to 100 seconds.
  - Automatic Dimming – System controller is capable of adjusting beacons brightness to a minimum of 5 different layers as outside light levels change between day and night.

C. Accessible Features

- Design of RRFB should adhere to guidance in Public Right-of-Way Accessibility Guidelines (PROWAG).
- Ensure 1' minimum distance between face of curb and edge of W11-2 sign. Ensure minimum 4' unobstructed path from edge of base plate to back edge of sidewalk.
- Ensure pedestrian push button includes a touchless option and is within 10' of turning maneuver area and is between 40"-44" above top of sidewalk.
  - Ensure touchless pedestrian push button is within 10' of turning maneuver area and is between 40"-44" above top of sidewalk.
  - Provide signage with the touchless pedestrian push button installation.
  - Provide pedestrian confirmation light visible by pedestrians waiting to utilize the crosswalk. Pedestrian confirmation light must initiate and commence operation in concert with the rapid flashing beacon indications.

- Provide touchless pedestrian push buttons for each RRFB unit regardless of the presence of passive pedestrian detection.

If audible pedestrian signals are utilized, a "Yellow Lights are Flashing" audible message should be repeated twice at the start of the rapid flashing beacon sequence.

3.4 TRAFFIC SIGNAL PROGRAMMING

Traffic Engineering deviates from PennDOT Publication 149, choosing to conform, generally, with the more conservative criteria set forth in the MUTCD and ITE Traffic Engineering Manual for the content of this section.

3.4.1 Movement, Sequence, and Timing Chart

See City of Philadelphia Standard Details for typical layout.

A. Phasing

- All phases must conform to the following, regardless of coordinated street:
  - NB thru 2
  - SB thru 6
  - EB thru 4
  - WB thru 8
  - NB left 5
  - SB left 1
  - EB left 7
  - WB left 3
- Assign a phase number to an exclusive right turn phase.
- Minimum criteria for signalization of left turn movements are listed on Chapter 3 of Publication 149. If intersection meets minimum volume and conflict factor requirements for a left turn phase, evaluate capacity and crashes to determine need. Meeting minimum PennDOT requirements does not by itself justify the installation of the signal, as capacity analysis

must not show a negative impact to overall level of service at the intersection.

- All phasing must work with the existing controller and hardware.

B. Timings

- Cycle Length
  - 60 seconds is the preferred cycle for best accommodation of pedestrians.
  - Cycle lengths of 90 seconds or 120 seconds can be used if needed to maintain mandatory minimums, or for use in progression along a corridor.
  - In order to achieve a progression, all intersections must have the same cycle length.
  - Cycle lengths for electromechanical controllers must be 60 seconds or 90 seconds.
- Electromechanical Controllers
  - Timings for electromechanical controllers are computed as a percentage of the total cycle length. Therefore, all intervals must be equal to a multiple of 0.01xCycle Length.
  - When writing electromechanical signal timings the following must be calculated for each interval: Total Time, Percentage, Pin Setting
  - Pin settings are calculated by adding the current and previous intervals for each interval.
  - All electromechanical controllers are limited to running one program all day, pre-timed.
- Vehicular Clearance Intervals
  - The City of Philadelphia uses the ITE formulas for yellow and all-red clearance intervals.
  - All Clearance Interval Calculations must be submitted to the City of Philadelphia Traffic Engineering on the 'City CCI' Excel sheet for review. A copy of the blank CCI worksheet will be made available upon request by the District Traffic Engineer.

- For all electronic controllers, Y+AR must equal an integer. Calculate individual values to 2 decimal spaces. When choosing values, round up to 1 decimal space.
- Separate calculations must be made for all phases (not movements)
    - Yellow (Y) change interval (Y=t+(1.47v)/(20+64.4g), where t=reaction time, g=percent grade on approach, and v=design speed
        - T=1.0s
        - Design Speed(v) in mph:
            - Use the posted speed plus 10 MPH unless the 85% speed is known. If known, use 85% speed rounded up to the next 5 MPH speed.
            - For left turn phases: Use speed limit.
            - For approaches to T-intersections: Use speed limit unless high speed turns are available due to geometry
        - Percent grade (g) to one decimal space. Use the actual approach slope using 100ft minimum distance. Do not use spot grades.
        - In all cases the yellow should be at least 3 seconds long.
    - All-Red (AR) change interval AR=(W+L)/1.47v,
        - Practical Vehicle length(L) = 20ft
        - Clearance distance(W) in ft:
        - This is to be measured from the Stop bar to the end of farthest travel lane (bike lane or vehicular travel lane) in conflict with the following phase.
        - If a pedestrian crosswalk is more than 20 feet from the end of farthest lane and the phase is followed by that crosswalk's phase, the distance from the stop bar to the middle of the crosswalk should be used.

        - Design Speed (v) in mph: Use the posted speed limit for the All-Red calculation.
        - All-Red intervals should not be less than 1.8 seconds

- Pedestrian Clearance Intervals (PCI)
    - Calculated for phases without pedestrian signal heads
        - PCI = Minimum Green = 3s+(L/walking speed)
        - L = distance from curb to the far edge of the farthest travel lane of the following movement.
        - Walking speed = 3.5ft/s standard or 3.0ft/s at locations where high volumes of children or elderly are present. Confirm with Traffic Engineering what is appropriate before proceeding.
    - Calculated for signals with pedestrian signal heads
        - PCI = FH + Y + AR or FH = PCI – Y – AR
        - Flashing Hand, FH = L/walking speed
        - L = distance from curb to the far edge of the farthest travel lane of the following movement.
        - Walking speed = 3.5ft/s standard or 3.0ft/s at locations where high volumes of children or elderly are present. Confirm with Traffic Engineering what is appropriate before proceeding.
        - The minimum FH is 5s.
    - Additional Notes
        - For the purpose of calculating L, if parking is allowed and no edge line designated, assume the parking lane is 7 feet wide
        - LPI or Leading Pedestrian Intervals of 3 to 7 seconds should be considered for high pedestrian areas like Center City, University City District, universities, schools, hospitals, retirement homes, etc. where 60 or more pedestrians per hour are crossing during rush hours. Intervals up to 10

seconds may be appropriate where there are high pedestrian volumes.

- Minimum Green Times
    - For minimum green time for phases without pedestrian signal heads, see the previous section.
    - The standard minimum green time for phases with pedestrian signal heads = 7s (M)an+ FH. Values of 5s or 6s M can be used at the discretion of the reviewing engineer.
- Actuated Intersections
    - Minimum green time is 3 seconds. (if pedestrian phase does not exist or is actuated)
    - Passage (or extension) = 3 seconds.
    - Maximum = determined through capacity analysis.
    - For use in SYNCHRO corridor timing, assume all phases are called for maximum times.
- Minimum Clearance Time for Bicycle Signals
    - Ci = Total Clearance Interval = 3 + W/V
    - Where W is the intersection width and V is typical bicyclist speed
    - W should be measured from the intersection entry (stop bar or crosswalk) to half-way across the last lane carrying through traffic
    - V should be measured as the 15^{th} percentile biking speed. If bicyclist speed data are not available, 14 feet per second may be used.

E. Flashing Operation

- Red is typically flashed for all approaches.
- If volumes are equal or there is a high crash rate, both streets are to flash red.
- Arrows and man/hand signal heads may not flash. They must be turned off.

3.4.2 Signal Coordination and Progression

- Traffic control signals within 0.5 miles of one another along a major route should be coordinated; however, signal coordination need not be maintained across signal systems operating on different cycle lengths.
- A time-of-day chart is required for all electronic controllers, even if there is only one event. See Standard Details for typical layout.
- Use multiple programs only when the cross street demand exceeds the minimum time. Use multiple events in the time-of-day chart if progressions/offsets vary by time of day, not different programs.
- When there are multiple programs, the standard numerical assignments are as follows:
    - Program 1: off peak
    - Program 2: am peak
    - Program 3: pm peak
    - Program 4: special
- Offsets are generated by traffic software and/or time space diagrams if there is a progression along the corridor. Solid state controller operation requires offsets reference the beginning of the yellow interval. Electromechanical offsets (also known as R1) reference the end of the green interval of the coordinated phase, expressed as a percent of the cycle length. Offsets are to be listed on the plan and a note referencing the baseline should be included.
- If the corridor crosses any coordinated arterials, Traffic Engineering will provide the tie in point.
- Corridor may be split at critical locations or any intersections utilizing a different cycle length. Traffic Engineering will determine which intersections will split the progression.
- Design speed when modeling a corridor is to be determined based on the following:
    - If travel time speeds are collected in the field, use the speeds recorded on each segment.
    - Else, design speed should be equal to the speed limit unless directed otherwise by Traffic Engineering

3.5 INTERCONNECT DESIGN

3.5.1 Types

- Fiber Optic Cable is currently used on all new traffic signal design projects, involving signal corridor, or in proximity to a fiber optic corridor. See Fiber Network Section.
    - Wireless radio communication can be considered in areas without wood poles for aerial fiber or usable conduit underground. All controllers integrated utilizing radio require a 1G rack-mounted ethernet switch.

3.5.2 Location

- The order of preferred location is as follows:
    - Overhead on a utility pole.
    - Underground, in proposed City conduit.
    - Underground, in Verizon duct. Other utilities may be considered but they must be evaluated and approved for specific usage.
    - In certain cases (i.e. very short runs), we can examine the possibility of erecting D-poles for interconnect.
- The location will have a significant impact on the scope of work; therefore, it should be determined prior to the execution of a design contract.

3.5.3 Fiber Network

A Fiber Optic Cable

- The interconnect will consist of 12 or 48 single-mode fibers running between local controllers and a variable number of single-mode fibers running between termination cabinets (backbone).
- The fiber count for the backbone is outlined on the Communications System Master Plan. The exact fiber count for the self-healing rings must be provided by Traffic Engineering.
- An existing post mounted controller can only accommodate the connection of 6 fibers in and out. See specifications for base mounted controllers.

- Fiber optic cable is not to be spliced.

F. Fiber optic cable may only be connected to a solid-state controller*B. Installation*

- General
    - Removal of existing interconnect cable is required, and is to be considered incidental to the installation of all new interconnect cable in all City contracts.
    - Provide a note on each signal plan sheet and interconnect plan stating that existing sync cable is to be removed and the removal is incidental to the new interconnect method installed.
    - All aerial fiber optic interconnect cable must be installed and connected to the traffic signal controller through either a mast arm, or D-Pole. The installation of City of Philadelphia conduit to wood poles is prohibited.
    - All new fiber will be labeled at every wood pole, manhole, junction box, and other fixed asset.
    - For the 12-fiber interconnect, spool the greater of 30-feet or five percent (5%) of the run on a pole or in a junction box closest to controller. If proposed spool is greater than 30-feet, indicate the length on the plan. Do not spool on mast arm.
    - For the backbone, spool according to the following guidelines:
        - Fiber will be spooled at each termination point.
        - Distance between spools will not exceed 1000-feet. If the distance between termination cabinets is greater than 1000 feet, spool at additional locations.
        - The minimum spool at each location is 30-feet.
        - The total amount of fiber spooled must exceed five percent (5%) of the total run. If necessary, install additional lengths of fiber at the middle locations to achieve 5%. Do not spool more than 50-feet at termination points.
        - If quantity is greater than 30-feet, show the length on the plan.
        - The interconnect and controllers should be installed on the same side of the street, whenever possible.

        - If installing conduit for intersection connections (i.e. from a manhole or utility pole to a junction box/controller) only, us” 3" PVC conduit.
        - The interconnect should run from mast arm pole/utility pole/ manhole/ City conduit to a junction box, to the local controller, back to the junction box and mast arm pole/utility pole/ manhole/ City conduit. NEVER run fiber interconnect in the same conduit as service or signal cable.
        - See Standard Details for connection details when fiber is terminated.
        - Interconnect must be labeled at every pole, junction box, and manhole as per the regulations of the Public Utilities Commission (PUC).
- Overhead
    - The maximum spacing of poles should match PECO standard (approximately 75-feet). If spacing exceeds 125-feet, consider the installation of an additional D-pole.
    - Minimum pole mounting height is 21-feet.
    - Cable must be mounted at a minimum of 18-feet at the maximum sag point across intersections and driveways.
    - Interconnect should run from the wood pole to the mast arm and down the mast arm pole to junction box, whenever possible. See Standard Details.
        - If and where directed by Traffic Engineering, where fiber must be run up a wood pole, include three (3) inch steel conduit, extending one (1) foot above the sidewalk, with a PVC shield 19 feet above the top of conduit. See Standard Details.
    - Messenger wire is to be called out as incidental to interconnect item on City contracts.
    - Sag is specified by the cable manufacturer and mounting height is established by the pole owner at the time of construction.

- Interconnect will be installed in four (4) inch steel conduit from the pole to the junction box to the controller.
- Use self-supporting dielectric cable & hardware for installations on SEPTA poles. Install Figure 8 cable in all other cases unless otherwise directed by the Traffic Engineering.

- Underground, Verizon
  - Verizon will prove their ducts and install pull wire and any necessary innerduct during the design phase. This will be incorporated in to the Consultant contract for City contracts. If the City is designing the project, alternative methods of payment will have to be investigated.
  - If Verizon assigns a multi-pack, innerduct is not required.
  - When not included in the same cable (i.e. 48-strand cable), the backbone fiber and 12-fiber interconnect can run in the same innerduct. The size of the innerduct will be determined by the size of the cable.
  - Interconnect will be looped in junction boxes, not in the Verizon manholes.
  - For City contracts, each Verizon manhole will require modification, paid under Utility Manhole Modification.
  - A Verizon representative must be present whenever a manhole is being opened and (for City contracts) paid under Third Party Services, Verizon.
  - Include duct assignments on plan.
- Underground, City Conduit
  - *This section does not apply to runs from a pole or manhole to a controller.*
  - Run fiber conduit in roadway whenever possible to decrease construction costs. Junction boxes will still be located in the footway.
  - There will be two (2) four-inch”(4") steel conduits installed in a trench on top of each other. The lower conduit is a spare and the upper conduit will contain the backbone and local fiber

interconnect. A multi-compartment, flexible, fabric innerduct will be installed in the occupied conduit.

- Ensure that specified conduit size can accommodate cables designated for installation.
- If street lighting conduit is also being installed under the project, install two-inch”(2") PVC conduit in the same trench on top of the Traffic Engineering conduit.
- Always include detectable identification tape in the conduit trench, as included in the specifications

C. Network Connection

- Direct Connection
  - The fiber network is being restructured to incorporate direct connections to a central system. Each corridor will be connected to one of several designated corridors in accordance with the Philadelphia Streets Department fiber network. If a direct connection is not plausible, use one of alternative methods listed below.
- Building Connection
  - The preference is to run fiber to any Streets Department facility connected to CityNet. If this is not feasible, run fiber to any police station, fire station, or other City facility connected to CityNet.
  - The interconnect will run directly from the junction box or manhole through the building to a communications server. No termination cabinet is required.
  - If the communications server is more than 50-feet from the exterior wall, the outdoor cable must be spliced with an indoor cable through a splice box. The indoor cable will run to the communications server.
  - The City will complete the connection between the communications server and the CityNet system.
- Telephone Drop
- Telephone drops are no longer used in the City of Philadelphia.

D. Connection Across A Bridge

- If the corridor runs over a bridge, the preferred method remains (1) overhead and (2) in Verizon or other utility duct.
- There may be available ducts in or under the bridge. Permission to utilize a duct must be granted by the utility and/or bridge owner.
- If poles or duct are unavailable, conduit can be attached to the underside of the bridge, with approval of the bridge owner. A cost analysis must be performed before making a determination on this option

E. Junction Boxes

- Junction boxes should be located in the footway, if possible. Any boxes installed in the roadway must be steel.
- The standard junction box used for interconnect is the”39" circular composite box,”24" deep. Space constraints may mandate the use of a smaller box.
- Minimize the use of junction boxes by sharing with those for a pole or controller, whenever possible.
- Install circular junction boxes in the following instances:
    - When City conduit is being installed, a circular junction box will be installed next to the traffic signal controller at every signalized intersection.
    - If fiber loop is required and the interconnect is in City conduit or a Verizon manhole.
- If the run exceeds 500-feet, install a rectangular composite junction box as a pull box. Do not loop fiber in these boxes.

3.5.4 Reconnection of Existing Interconnect

A. General

- The reconnection of existing interconnect is incidental to the controller item.
- If the controller is being relocated, the interconnect must be replaced to nearest controller

B. 120 Volt

- If run underground, use three-inch”(3") PVC conduit.

- Cable can run in the same conduit as signal cable, if necessary. Separate conduit is desirable.
- The interconnect should run from the local controller or termination cabinet to the junction box to the controller at an adjacent intersection.
- See the technical specifications for how to add a solid-state controller to an existing 120-volt copper interconnect

C. Twisted Pair

- If run underground, use three-inch”(3") PVC conduit.
- Cable can run in the same conduit as signal cable, if necessary.
- The interconnect should run from the adjacent intersection to the junction box to the local controller or termination cabinet

D. Fiber

- Run new fiber from the adjacent intersection to the junction box to the local controller/termination cabinet.
- Fiber can only be connected to solid state controllers

CHAPTER 4 – PARKING, TRAFFIC FLOW, AND MAINTENANCE AND PROTECTION OF TRAFFIC

4.1 PARKING AND TRAFFIC FLOW RESTRICTIONS

- Changes to parking include installation, removal, or restriction of parking.
- Any substantial change to existing parking, as determined by the District Traffic Engineer, or direction of traffic flow, requires an ordinance and must be coordinated with City Council. The request to City Council should be submitted by Traffic Engineering. Traffic Engineering will handle coordination with the Philadelphia Parking Authority and SEPTA for City-contracted signal and reconstruction projects. Traffic Engineering will handle all coordination for resurfacing projects.
- If it is a new street, any restriction on parking or traffic flow requires an ordinance.
- Onsite Parking Standards are established by §14-803 of the Philadelphia Zoning Code, as shown in Table 14-803-1
- The Streets Department, Traffic Engineering Unit is the point of contact for all changes to parking restrictions on City Streets.

4.2 MAINTENANCE & PROTECTION OF TRAFFIC (MPT) (aka Temporary Traffic Control, TTC)

- MPT will be accordance with current PennDOT Publication 213.
- City Contractors, and all other permit applicants, will be required to submit MPT plans at the time a Street Closure Permit Application is submitted to the Right of Way Unit. The MPT Plan is required to be approved in eCLIPSE before the Street Closure Permit is issued.
- Temporary signals and/or temporary signal plans are not necessary unless otherwise directed by either Traffic Engineering or the Right of Way Unit. In all cases, approval of the Chief Traffic Engineer is required.
- Work hour restrictions and need for Police assistance are determined by the Right of Way Unit and listed on the permit.

CHAPTER 5 – RIGHT-OF-WAY ENCROACHMENTS

5.1 ABOVE STREET

Due to the presence of underground and overhead utilities, the Streets Department may require applicants for overhead encroachments to demonstrate coordination or approval from any utility that may be affected by such encroachment.

5.1.1 Awnings, Canopies & Marquees

As the dimensional requirements within the Philadelphia Code differ between awnings, canopies, and marquees, the language used to identify these encroachments must be made in a manner that conforms to the Philadelphia Code, and not current architectural definitions. Generally, the Philadelphia Code considers:

- Awnings are structures made of cloth, plastic, metal, or similar materials with a metal frame not of permanent construction attached to a building and not supported by the ground or sidewalk. They project more than 18 inches and 8 feet above the ground (Philadelphia Code §11-601(1) and §11-603(1)).
- Canopies are structures made of cloth, plastic, metal or other similar materials with a metal frame not of permanent construction, extending from a building and supported by the ground or sidewalk, primarily for the purpose of protecting persons entering and leaving buildings. They require Art Commission approval (Philadelphia Code §11-601(6) and §11-603(2)).
- Marquees are overhanging, substantially horizontal structures of permanent construction attached to a building, whether or not supported by the ground or sidewalk. They requires Art Commission approval (Philadelphia Code §11-601(7) and §11-603(3)).

5.1.2 Bays, Bay Windows, and Balconies

- Bay windows and balconies will be in accordance with §11-603 of the Philadelphia Code, with three (3) ft maximum encroachment, 15 ft maximum frontage width, and 10 ft minimum height above grade.

- No bay, bay window, or balcony will be installed within ten (10) feet of any overhead utility lines.

5.1.3 Pedestrian Bridges & Tunnels

Pedestrian bridges and tunnels are not permitted by the Philadelphia Code, and are therefore all subject to legislative approval by City Council, via an encroachment ordinance. Additional review of the structure and clearances of all pedestrian bridges is required by the Streets Department, in accordance with the Building Code:

Section *B-3104.1.1 Over public way. The installation of a pedestrian walkway over a public way or tunnel beneath a public way shall be subject to the approval of the Streets Department.*

5.2 ON OR BELOW STREET

Changes to the legal right of way and street direction can only be made by ordinance of City Council. In contrast, sidewalk zones are defined by the Pedestrian and Bicycle Plan, per §11-902 of the Philadelphia Code.

5.2.1 General Encroachment Standards

A. Sidewalk Zones

The order in which sidewalk zones will be defined as follows:

1. Walking Zone: Walking zones are the primary zone within the sidewalk, with a width defined as the *greater width* required by roadway type (per Complete Streets Handbook) or 50% of the legal footway (per the City Plan). If less than or equal to 13', a 5' minimum Walking Zone is required. If greater than 13', 50% of legal footway is required as a Walking Zone. Note: For sidewalk cafés reference Philadelphia Code §9-208.
2. Furnishing Zone: Furnishing zone width will be defined by roadway type (per Complete Streets Handbook).
3. Building Zone: Building zone width may not exceed the difference of the City Plan footway for any given street, less the required walking and furnishing zone widths. In many cases, no building zone may be possible.

B. Minimum Spacing

The following minimum spacing generally applies to all street furniture:

- Generally:
  - Avoiding conflict with existing underground, surface or aerial street furniture, encroachments, and/or utilities.
  - 3’-0” from vents, valves, manholes & handholes, or as required for access.
  - 5’-0” from fire hydrants, or other street furniture with significant underground components.
  - 10’-0” from traffic signals, street lights, school flashers, SEPTA catenary poles, or other street furniture with foundations.
  - 18” to 24” minimum spacing from the face of curb.
  - 12” minimum clearance above underground utilities (all such encroachments remain subject to utility approval).
- On paved surfaces:
  - 4’-0” from other street furniture
  - 5’-0” from bus shelters and areas in proximity to crosswalks.

C. Visibility

- Street furniture should be at least thirty (30) inches high, or provided with elements designed to increase visibility and prevent tripping.
- Street furniture cannot impact pedestrian, bicyclist or motorist visibility.

D. General Restrictions

Street furniture is generally unacceptable between:

- Lay-by lanes and the street line
- Doors and the curb line

5.2.2 Walking Zone Encroachments

No encroachment within the footway will generally be permitted by the Streets Department that does not maintain the minimum walking zone requirements of section 4.3.2 of the Complete Streets Handbook (CSH). Except on High-Volume Pedestrian (CSH 3.1)

and Civic / Ceremonial (CSH 3.2) Streets, provided a minimum of 5' of walking zone width remains and ADA dimensions are met, the following walking zone encroachments are permitted:

- Tree pits or raised tree enclosures (CSH 4.4.7) may intrude into the walking zone a maximum width of 2', length of 5', and minimum spacing of 30'
- Transit shelters (CSH 4.6.5) may intrude into the walking zone a maximum of 1'
- Bikeshare kiosks and bicycle may intrude into the walking zone a maximum of 1'

Projects failing to meet these requirements are subject to review in accordance with §11-900 of the Philadelphia Code (Complete Streets). Any such project must submit a checklist and plan demonstrating how pedestrians have been accommodated.

5.2.3 Furnishing Zone Encroachments (Street Furniture)

A. *Curb or Sidewalk Posts (Bollards)*
Any posts/bollards not conforming to the dimensional and material standards of §11-604(8) will require legislative approval by ordinance of City Council.

B. *Newsstands*
As permitted by §9-208(4)(b)(.4): Footway (walking zone) space on the sidewalk is at least six (6) feet, with the following additional restrictions:

- The footway (walking zone) space on any high-volume pedestrian street is at least eight (8) feet and on any civic/ceremonial street at least ten (10) feet.
- The Department of Streets may increase the necessary footway (walking zone) space at any location to adjust for increased pedestrian flow. The Department of Streets will designate streets as high-volume pedestrian or civic/ceremonial, as appropriate.

C. *Relocation of Existing Street Furniture*
Relocation of any street furniture will require coordination with the affected owner. Approval documentation from each affected owner will be held as a prerequisite of any form of Streets Department Approval.

D. *Placement of Street Furniture*
Street furniture will be placed in the furnishing zone as permitted the Philadelphia Code.

E. Electric Vehicle Charging Stations

An electric vehicle charging station must be compliant with §11-604 (10) of the Philadelphia code.

5.2.4 Building Zone Encroachments

A. Architectural Embellishments

Various architectural embellishments, and their dimensional restrictions, are contained within §11-603(5) of the Philadelphia Code. Restrictions for embellishments commonly seen by the Streets Department for encroachment approval range from four (4) to eighteen (18) inches above the street. It is advisable to recognize the difference between the architectural terminology within the Philadelphia Code, and those terms that may be in use by modern design professionals.

B. Bicycle Racks

While customarily located within the furnishing zone, bicycle racks may also be located within the building zone, provided such placement does not encroach upon the walking zone. Reference §11-604(2) of the Philadelphia Code.

C. Bulk Windows

Bulk windows will meet the dimensional requirements of §11-603(3). Bulk Windows are similar in layout to bay windows.

D. Cellar Doors, Steps and Areaways

Cellar Doors & Steps and Areaways must consider placement to prevent utility conflicts, cover requirements for service connections, and clearly identify connections of any drain(s) to the building or sewer. In all cases, restrictions apply within the Broad Street corridor (Oregon to Cheltenham Avenues) and Center City (Vine to Spruce, river to river), with exemptions, as noted in §11-606.

- Cellar Doors and Steps - §11-604(4): Cellar steps must be either covered with a solid top (e.g., Bilco doors), or surrounded by a railing and gated. The maximum permitted encroachment is 4’-6”.
- Areaways – (emergency means of egress, or egress wells) §11-608(1): In all cases, areaways must be protected by a fixed, heavy duty, ADA compliant, compliant with 2018 IRC Section R310.1 – Emergency Escape and Rescue Openings, or installed with no railings and flush with the pavement. The maximum encroachment is 3’-0”.
- Egress wells and areaway locations must be compliant with Complete Streets guidance.

E. Fences & Rails

Fencing and rails will meet the dimensional requirements of §11-603(5). Any area contained within such enclosure will be compliant with all current ADA standards.

F. Fire Escapes (Movable)

Per §B-3406 of the Philadelphia Building Code, fire escapes, "where located on the front of the building and where projecting beyond the building line, the lowest landing *shall not be less than 10 feet or more than 14 feet above grade, and shall be equipped with a counterbalanced stairway to the street.* In alleyways and thoroughfares less than 30 feet wide, the clearance under the lowest landing shall not be less than 12 feet. Reference §4-200-EB-504 of the Philadelphia code.

G. Parapet Walls

Parapet walls are not permitted in the Right of Way. Footings for any retaining wall constructed along the houseline are permitted, except as restricted by §11-608(3).

H. Retaining Walls

A retaining wall is a structure designed to resist the lateral displacement of soil or other materials in order to protect property or prevent erosion. Retaining walls and garden walls located along a street frontage should not be constructed of concrete masonry units (CMUs) unless capped and covered with stone, cultured stone, stucco, or brick.

- Retaining walls with a maximum height of 4 feet are approved using the EZ Retaining Wall Permit form provided by Licenses and Inspections. Streets Department approval will be issued via the EZ Retaining Wall Permit form.
- All retaining walls exceeding 4 feet in height require plans that are signed and sealed by a design professional.

I. Steps and Building Access (ADA) Ramps

Dimensional requirements, as set forth by §11-604(4), shall apply at all times to steps, and generally to ADA-compliant egress ramps for buildings, except as permitted below.

- For renovations, encroachments beyond the maximum permitted spacing permitted by Philadelphia Code §11-604(4) may be required in order to conform with PA Code Title 34, Sections 47.123 (Ramps), and 47.124

(Entrances). The Streets Department standard for accessible encroachments shall conform with the State requirement as follows:

- Entrance landings shall conform with Philadelphia Code §11-604 (4).
- Ramp widths will conform with §11-604(4), and have a running slope not to exceed 10:1 (10%) per the Building Code (*F-1010.1.1 Slope of ramps). The governing inside clear minimum ramp width of 32 inches (*PA CODE Title 34, § 47.123. Ramps) exceeds Building Code requirements.
- Sidewalk within 6'-0" must conform to ADA requirements (5% running slope, 1% minimum & 2% maximum cross slope). A transition zone of up to 15'-0" to meet existing sidewalk grades is permitted for renovations.
- Each ramp shall have a handrail on at least one side or preferably on both sides
- No additional encroachments, except for steps, awnings, canopies or marquees.

J. Wheelchair Elevators

See §11-604 (9) of the Philadelphia Code. A wheelchair elevator, also known as a wheelchair lift, is an elevator or other mechanical device designed to facilitate the transfer of a person confined to a wheelchair or otherwise physically handicapped from street or sidewalk level to the entrance of a building. Encroachment must conform with §11-604 of the Philadelphia Code. Requires Art Commission approval.

5.3 COMMON ENCROACHMENTS NOT REQUIRING STREETS APPROVAL

Customarily, the Department of Streets is not requested for permission to place these structures on the footway. Approval from other agencies, such as the Department of Licenses and Inspections may be required, however.

- Elevator Shafts, Transit Agencies (Required by Federal Law)
- Mail/Drop Box, U.S. Postal Service
- Fire/Police/Security Call Boxes
- Fire Hydrants
- Fire Standpipes
- Honor Boxes (per Philadelphia Code §9-211)
- Police Lobbies

5.4 COMMON ILLEGAL ENCROACHMENTS

A. Area Restrictions (per Philadelphia Code § 11-606)

- Broad Street. No bulk window, cellar door, coping, enclosure wall, fence, platform, railing, step, terrace, or other obstruction to pedestrian travel, shall be erected or maintained beyond the street line, nor may any portion of the footway be occupied, on Broad Street, from Oregon Avenue to Cheltenham Avenue, except that portion of Broad Street between Fisher's Avenue and Olney Avenue, and the east side of Broad Street, between Spruce Street and Lombard Street.
- Center City. No cellar door or entrance, coping, fence, platform, railing, step, storm door, or other obstruction to pedestrian travel, shall be erected or maintained beyond the street line in the area between the Delaware River and the Schuylkill River, Vine Street and Spruce Street, including both sides of the boundary streets, except that the Department of Licenses and Inspections may allow the maintenance or construction of cellar entrances covered with flush iron cellar doors extending not more than 4 feet 6 inches beyond the building line if, in the opinion of the Department of Streets, they will not interfere with pedestrian travel.

B. Restricted Encroachments

The following encroachments are not permitted by §11-600 of the Philadelphia Code. No City department or agency is authorized to permit these encroachments to be erected above the legal right-of-way without an ordinance of City Council.

- Air Conditioners
- Air Conditioner Compressors
- Automatic Teller Machines (ATM)
- Basketball Pole and Backboard
- Benches
- Clocks
- Drop Box, Private Commercial (such as for UPS, or FedEx)
- Elevator Shafts
- Fire Escapes (Fixed)
- Flag Poles
- Garages
- Gasoline/Fuel Tanks
- Ground Lights
- Patios
- Planters
- Porches & Verandas
- Posters/Placards on Utility Poles
- Sculptures
- Stairwell, Enclosed or Gated
- Storm Enclosures
- Street Lighting, Privately Owned
- Transit Shelter, Privately Owned
- Vending Machines
- Vestibules
- Waste Collection Baskets, Private

CHAPTER 6 – PLAN REVIEW STANDARDS

6.1 GENERAL REVIEW STANDARDS

The Streets Department review standards were implemented both to enforce the Complete Streets standards (§11-900 of the Philadelphia Code), and to create a comprehensive approval process for the purpose of better Right of Way Management.

6.1.1 Application & Checklists

Design Standards, Permitting and Plan Review documents are available online. See the Authority section in the Introduction for current links.

Plan Review applications and *one* of several review checklists are required with all plan review submissions. Applications include an application questionnaire, which must be affirmed by the design professional. Incomplete applications will not be processed (see section 6.1.3, Completeness Review).

All Streets Department plan review applications must be submitted via eCLIPSE. The Right of Way Unit does not accept, and cannot be held responsible for, submissions made outside of eCLIPSE unless otherwise directed.

6.1.2 Completeness Check and Review Times

A completeness check is required for all eCLIPSE plan review applications, prior to plan distribution and/or review. The completeness review occurs internally via eCLIPSE. There is typically a one to two day turnaround on completeness reviews. This review time is in addition to the technical review and/or review coordination necessary for larger projects. Technical review times include:

- Simple Zoning – 3 days (formerly Checklist 1, top portion)
- Simple Building – 3 days (entire Checklist 1)
- Standard Building – 5 days (formerly Checklist 2, Residential corner properties)
- Complex Zoning – 10 days (Checklist 1, top portion, Projects that trigger Complete Streets)

- Complex Building – 20 days (Checklist 2, Projects that trigger Complete Streets)
- Encroachment Legislation – 20 days (formerly Checklist 4)
- Sheeting and Shoring plans, Tower Crane plans – 20 days (formerly Checklist 3)

6.1.3 Review Responses

All review and approval letters are directed to the applicant, owner, developer, and designer, as identified on the application form in eCLIPSE. A valid email address must be provided. Co-applicants can be added in eCLIPSE during the submission process.

6.1.4 Review Expiration

Zoning approvals have an expiration date of 3 years from the date of issuance if no building permit was received or no construction was completed per Sections 14-303 (10), Sections 14-304 (6) and 14 -304 (7) or under Z-1901 of the Code Bulletins. These expiration dates remain in force as long as the owner of the property and the design professional remain the same. If there is a change in ownership, Streets require a new zoning and building submission.

Section A-302.2.5 requires that all work covered under a permit be completed within 5 years of the date of issuance.

6.1.5 Approval Stamps

There are three (3) total approval stamps, all of which can be used to obtain permits from the Department of Licenses and Inspections and other permitting agencies:

Approval for Street Zoning Plan (L&I Permit Pre-Requisite): Additional review by the Streets Department is required prior to the issuance of a building permit.

Approval for Streets Building Plan (L&I Permit Pre-Requisite): may be used to obtain or finalize Zoning and/or Building Permits (Department of Licenses & Inspections)

Encroachment Approval for Streets Encroachment Ordinance Legislation: may only be used in conjunction with the Final Approval of Site
Plan stamp.

6.1.6 Plan Changes

Any plan bearing the seal of a design professional will not be approved with hand mark-ups, unless initiated by the design professional that has sealed the plans. This policy applies to all plans bearing a professional seal.

6.1.7 Appeals

The Streets Department Right of Way Unit operates as the sole portal to the Department for private developers and their contractors to initiate an appeal. Any appeals related to any Streets Department plan review requirements must therefore be directed to the Right of Way Unit manager with cc: to the Plan Review Supervisor. The appeal letter should come from the owner or owner's representative and outline the comments being appealed. The appeal letter can be uploaded into the eCLIPSE job or emailed to StreetsROW.PlanReview@phila.gov.

The Department cannot be held responsible for any delay or misdirection resulting from appeals to individuals other than those listed above. Appeals are currently reviewed once a month.

6.1.8 Interagency Coordination

The Streets Department works in partnership with the:

A. *Pennsylvania Department of Transportation (PennDOT)*
   A PennDOT Highway Occupancy Permit (HOP) must be obtained for all projects on a State Route. Issuance of a PennDOT HOP does not exempt applicants from all City permit and plan approval requirements. PennDOT approval does not supersede Streets Department approval. The Streets Department maintains jurisdiction on all matters regarding lane closures, roadway openings, line striping, street and traffic signal lighting, signing, curb and footways on State Routes.

B. *Department of Licenses and Inspections (L&I)*
   In partnership with L&I, the Streets Department is able to better manage the impacts to the public right of way caused by both public and private development, while also managing our charter, code and regulation requirements.

C. *Philadelphia Water Department (PWD)*
   Coordination with PWD units is routine.

D. *Philadelphia City Planning Commission (PCPC)*
The Streets Department meets regularly with representatives of the Planning Commission for the purpose of coordinating compliance with the requirements related to Complete Streets approval and City Plan Action requests.

E. *Philadelphia Parks and Recreation (PPR)*
While projects containing street trees, or projects fronting park roads, are periodically coordinated with Parks and Recreation, applicants are advised to seek direct contact with this Department.

F. *Philadelphia Historical Commission (PHC)*
The Historical Commission is consulted on all projects fronting a historic street. It is the responsibility of the applicant to obtain the necessary approvals from PHC where applicable.

G. *Streets Law Department*
The Streets Department has three (3) transportation units that handle legislation of interest to the development community:

- Encroachments (Right of Way Unit)
- Direction and channelization of footway and cartway lanes (Traffic Unit)
- Changes to the City Plan (City Plan Unit).

  For purposes of Right of Way Unit approvals, encroachments are considered to be any uses not permitted by § 9-200 (Commercial Activities on Streets), or §11-600 (Construction, Encroachments, and Projections Over, On and Under Streets).

6.2 ZONING AND BUILDING PERMIT REVIEW CLASSIFICATIONS

The Streets Department's classification system for the review of roadway development projects was established as a comprehensive guide for the development community to better understand the requirements of the department. It also serves as a means for the Streets Department to manage the regulatory functions required by the Philadelphia Code and Streets Department Regulations. This classification system was further revised to reflect the terminology chosen for it by the development community since its original release in April 2014.

The contents of this section include most Streets Department approvals required to receive various permits from the Department of Licenses and Inspections, particularly zoning, foundation, and building permits.

6.2.1 Completeness Review (All Applications)

Submit: Plan Review Application and supporting/required documents via eCLIPSE

Anticipated Review Time: 3 Business Days

Review by the Streets Department, ROW Unit (Plan Review) prior to distribution for technical review. Incomplete applications will fail the completeness check within eCLIPSE until applications requirements are satisfied.

6.2.2 Zoning Review Simple or Complex

Submit: Plan Review Application, Plan Review Checklist No.

Anticipated Review Time: 3 to 10 Business Days

Review by the Streets Department, ROW Unit (Plan Review) for Zoning Permit approval (only). For applications seeking concurrent Zoning and Building Permit approval, see below.

- Streets Department Zoning Review is limited to:
    - Preliminary approval of curb cut locations.
    - Preliminary approval of Emergency Means of Egress, as listed in 11-608.
    - Preliminary approval of Encroachment as listed in 11-603 and 11-604.
    - Approval of Parking Facilities; per Philadelphia Code
        - §14-301(9)(b) (Open Air Parking & Parking Garages)
        - §14-804 (Bicycle Parking)
- During the Zoning Review, the ROW Unit Plan Review also identifies projects that impact City owned facilities, are subject to review per Philadelphia Code §11-900 (Complete Streets), and Streets Department regulations related to pavement restoration and ADA ramp replacement.
- Plans that meet the criteria established by the Zoning Code will be conditionally approved for Streets Zoning Plan (L&I Permit Pre-Requisite).

- Streets Zoning Plan (L&I Permit Pre-Requisite) approval does not include the approval of encroachments or final driveway layout/design or final approval of encroachment layout as noted in §11-603, §11-604 and §11-608 of the Philadelphia Code.

6.2.3 "Checklist 1" Building Permit Review Simple

Submit: Plan Review Application, Review Checklist No. 1 (All Sections)

Anticipated Review Time: 3 Business Days

Review by the Streets Department, ROW Unit (Plan Review) for ROW encroachments, zoning & building permit approvals, ADA curb ramp requirements, tree placement & asset replacement.

- Driveways with curb cuts 24 feet or less (with no other improvements).
- Encroachments (Windows, balconies, canopies, steps, building access ramps, etc, per Philadelphia Code §11-600. Note: areaways, and cellar doors/steps are subject to additional review due to the potential for utility conflicts).
- Bicycle Rack Applications (for new construction)
- Developments meeting all the following criteria:
    - Maximum five (5) residential units (regardless of single lot or multi-lot submission)
    - A total frontage under one hundred (100) linear feet
    - Not situated on a historical street.

6.2.4 "Checklist 2" Building Permit Review Standard

Submit: Plan Review Application, Review Checklist No. 2

Anticipated Review Time: 5 Business Days (Technical Review)

Review by the Streets Department, ROW Unit (Plan Review) for curb reveal, sidewalk width & cross slope, tree placement & asset replacement (pavement restoration, street lighting & sign relocation, ADA compliant curb ramp construction).

- Final Plan Review Approval for developments meeting any of the following criteria:

  - A total of six (6) or more residential units (regardless of single lot or multi-lot submission)
  - A total frontage of one hundred (100) linear feet or greater (but less than a full City block)
  - Corner Properties with less than 50 residential units or 50,000 GFA
- Plan submission requires the following types of plans:
  - Existing Conditions plan
  - Proposed Conditions Plan
  - Grading Plan
  - Utility Plan
  - Any other plans that may be supplemental, such as Detail Sheet and/or Vehicle Turn Templates.

6.2.5 "Checklist 2" Building Permit Review Complex

Submit: Plan Review Application, Review Checklist No. 2

Anticipated Review Time: 20 Business Days (Technical Review and Coordination)

Review coordinated by the Streets Department, ROW Unit (Plan Review Supervisor) for distribution to the various Transportation Divisions of the Streets Department, and other City agencies. This level of major review also serves as a catch-all for projects not otherwise defined, above. Projects at this level of review often require submission of a checklist demonstrating conformance with the City's Complete Streets Policy. Note: Projects proposing curb cuts greater than twenty-four feet (24'-0") triggers the Complete Streets Policy per Philadelphia Code §11-900 as dimensioned from the driveway apron.

- Private paving contracts (roadway reconstruction or paving new streets)
- Projects involving City Plan Actions
- Projects that affect a signalized intersection
- Projects requiring a Traffic Impact Study
- Developments requiring Civic Design Review (CDR)
- Projects located on State Routes

- Projects considered by the Right of Way Unit as warranting special attention for the purpose of public safety and general sustainability. This is the established catch-all classification.

6.2.6 Foundation Permit Review or Site Excavation Plan

Submit: Plan Review Application, Review Checklist No. 3

Anticipated Review Time: 20 Business Days (Technical Review and Coordination)

The applicant is required to distribute sheeting and shoring plans to utilities for review and approval. Additional requirements include advanced identification of all crane placement on sheeting and shoring plans (as applicable), and concurrent application of lane closure and roadway opening permits.

- Site Excavation Plans
- Tower Crane Plans
- Projects that require benching in the Right of Way
- Retaining wall plans that exceed 4 feet in height
- Projects that impact City Owned bridges

6.2.7 Encroachment Legislation

All projects with encroachments not permitted by Philadelphia Code §11-600 will require approval for encroachments by ordinance of City Council. Currently, there are two methods used to prepare encroachment legislation to be introduced before City Council.

Prepared within the Streets Department:

Submit: Plan Review Application, Review Checklist No. 4

Anticipated Review Time: 20 Business Days (Technical Review and Coordination)

Additional Time: As required by the Law Department and City Councilperson supporting the legislation.

Encroachment Legislation to be prepared by the Streets Department must meet the application and checklist requirements set forth by the Right of Way Unit as a prerequisite to prepare legislation. Upon approval, legislative documents will be prepared by the Right of Way Unit, the Streets' Director of Legislation, and the Law Department. Once these

documents have been prepared, applicants are advised to direct status inquiries to your District Council office. It is the responsibility of the applicant to track legislative approval(s).

6.2.8 Major Utility Projects

Submit:	Review Request, Plans
Anticipated Review Time:	3 Business Days (Completeness)
	20 Business Days (Technical Review)
Exclusions:	City Plan Actions and Private Development
Reviewing Unit:	Transportation Planning & Analysis Section

Major utility project reviews are for the purpose of providing roadway restoration requirements. Such requirement letters are included in utility contract documents, and are typically obtained prior to the applicant applying for a street opening permit (see Section 7.3.6, regarding Tier II Street Openings). Utility projects reviewed under this classification may not involve material changes (City Plan Actions) to the Right of Way.

6.3 SUPPLEMENTARY REVIEW APPLICATIONS

Unless otherwise noted, review for these applications is coordinated by ROW Unit (Plan Review) for distribution to the various Transportation Divisions of the Streets Department, other City or State agencies and public utilities. These classifications are supplemental to the classifications above. In all cases of overlapping classifications, the longer review time will be applied.

6.3.1 ADA Corner Curb Ramps

Submit:	Transmittal Letter (w/curb ramp summary), ADA Ramp Plans, PennDOT CS 4401 and TIF Forms (as applicable).
Anticipated Review Time:	20 Business Days, 15 days for each supplemental submission
Reviewing Unit:	ADA Unit

ADA ramps are required in accordance with Streets Regulations Governing Construction of ADA-Compliant Curb Ramps (8-25-2014), with PennDOT regulations also applying on state routes. ADA curb cut ramp design and construction must comply with Penn DOT's RC-67M and Penn DOT Publication 13M (DM-2). Additional design guidance is provided in the Penn

DOT District 6-0 ADA Curb Reference Guide. Additional guidance can be found by referencing the Philadelphia Streets Department ADA Curb Ramp Design/Construction Approval Submission Requirements, last revised 9-13-2012.

6.3.2 Preliminary Review of Temporary Traffic Control (TTC)/ Maintenance & Protection of Traffic (MPT) Plans

Submit: Plan Review Application and Supporting Documents

Anticipated Review Time: 20 Business Days (Technical Review)

TTC/MPT plans are distributed within Streets Department for review and approval and are subject to ADA compliance.

TTC/MPT plans must be submitted via eCLIPSE for Review and Approval. The approved MPT/TTC plan must be submitted along with the Street Closure application.

6.3.3 Legislation Required for City Plan Actions

Prepared within the Streets Department, Division of Surveys, Design & Construction

Submit: City Plan Action Request

Anticipated Review Time: Up to 2-3 Months (Technical Review and Coordination)

Additional Time: As required by the Law Department and City Councilperson supporting the legislation.

Changes to the City Plan that require legislation include the creation or striking of City streets or utility right of way. Extensive coordination between multiple City agencies is required. Final legislation authorizes the Streets Department's Survey Bureau to approve the requested changes. Typically, approval for a City Plan Action must also be approved as a major roadway development, and is subject to a "Checklist 2" Building Permit Review (Major Developments).

6.3.4 City Plan Actions without Legislation

Prepared within the Streets Department, Division of Surveys, Design & Construction

Submit: City Plan Action Request

Anticipated Review Time: Up to 2-3 Months (Technical Review and Coordination)

Additional Time: As required by the Law Department.

Changes to the City Plan that do not require legislation include curb extensions and lay-by lanes, and similar modifications that do not include whole city blocks. Extensive coordination between multiple City agencies is required. Typically, approval for a City Plan Action must also be approved as a major roadway development, and is subject to a "Checklist 2" Building Permit Review (Major Developments). Capital (City) projects involving these changes are considered to be “materially altering” the right of way, and are subject to Complete Streets approval in accordance with §11-900 of the Philadelphia Code.

6.3.5 Sidewalk Cafes

Submit: Sidewalk Cafe Review Application and Supporting Documents as defined by Philadelphia Code §9-208 in eCLIPSE

Sidewalk café applications outside of the designated Sidewalk Café Zone as stated in Philadelphia Code §9-208 (2) require legislation.

6.3.6 Newsstands Permit Review Standard

Submit: Plan Review Application, Review Checklist No. 2

Anticipated Review Time: 5 Business Days (Technical Review)

Review by the Streets Department, ROW Unit (Plan Review) for curb reveal, sidewalk width & cross slope, tree placement & asset replacement (pavement restoration, street lighting, & sign relocation, ADA compliant curb ramp construction).

Newsstands are not currently part of the plan review process. All such applications are subject to inspection. Such inspections may take in excess of ninety (90) business days.

6.4 SUPPLEMENTARY AGREEMENTS

The improvements listed below require additional agreements between the developer and the City of Philadelphia. The Streets Department coordinates this activity internally between the applicant, Streets Administration, and the Law Department.

6.4.1 Maintenance Agreements

Maintenance Agreements are typically required for roadway improvements which the Streets Department or other City or State agencies will not accept ownership. All such

agreements will be prepared by the City of Philadelphia, and must be signed by both the parties.

Examples include, but are not limited to:

- Curb islands, curb extensions, and lay-by lanes
- Structural connections to City owned infrastructure (bridges, retaining walls, etc.)
- Green stormwater infrastructure
- Private traffic warning devices (rapid flash beacons)

Maintenance Agreements must typically be in place prior to plan review approval, and in all cases prior to construction of the proposed improvement.

6.4.2 Private Paving Agreements

Private paving agreements are currently the only mechanism by which a private developer may pave the street in Philadelphia. These requirements will be determined during review in accordance with Philadelphia Code Section 11-508. Developers with projects involving the creation or planned repaving/reconstruction of a city street are encouraged to begin the process ahead of, or concurrently to obtaining plan review approval.

The Streets Department's Contract Unit will develop a Highway Work Proposal of all items for bidding purposes. The Contract Unit will send out a developer letter that details the steps of the process as well as the private paving package. The package will include the following documents:

- Proposal for Private Paving Cover Sheet
- Highway Work Proposal Items and Unit Price Bid
- Paving Application
- List of approved Pavers (if using a contractor that is not on the list, a resume must be submitted for City approval)
- Letter of Agreement to use City Approved Paving Contractors
- Labor & Materialsmen Bond
- Performance Bond
- Compensation Affidavit
- Five Year Maintenance Bond as per City Code, Chapter 11-500 (developer and contractor must decide who will be responsible). In some cases, a Letter of

Escrow may be used in lieu of a Maintenance Bond. Contact the Contracts Unit (215-686-5511) for information on the requirements for a letter of escrow.

- The Bank must be acceptable to the City of Philadelphia.
- Letter of Credit ("LOC") should clearly state it is IRREVOCABLE.
- The effective period should be continuous until appropriately cancelled or it should be "evergreen' until beneficiary, City of Philadelphia, provides written final acceptance under the applicable contract provisions.
- There should be no indication of a delay in the release of funds should the beneficiary be in the position to draw on the LOC.
- Reference should be made to the contract for which the LOC is being issued and/or the contract number in the LOC to eliminate possible ambiguity.

6.5 DEVELOPER SERVICES MEETINGS

The following services are offered on a first-come, first-served basis, in order to provide preliminary guidance and help ease projects through the plan review process. These meetings are specific to the Streets Department.

6.5.1 Meetings for Minor Developments – or Plan Review Appointments

Scheduling Contact:	ROW Unit Plan Review Group (StreetsROW.PlanReview@phila.gov)
Meeting Schedule:	9:00 AM – 2:00 PM Monday – Friday

6.5.2 Meetings for Major Developments

Scheduling Contact:	ROW Unit Plan Review Group (StreetsROW.PlanReview@phila.gov)
Meeting Schedule:	10:00 AM – 12:00 PM Wednesday

A meeting invitation will be sent out via StreetsROW.PlanReview@phila.gov. Streets ROW will determine who will need to be present during the meeting based on the project's location and design.

6.5.3 General Questions & Consultations:

For questions or additional information regarding plan submission requirements, please email StreetsROW.PlanReview@phila.gov.

CHAPTER 7 – PERMIT POLICY

7.1 GENERAL PERMITTING STANDARDS

Most Street/Sidewalk Closure-related permits are issued by the Streets Department's Right-of-Way Unit. However, there are several permits or licenses that are issued by other units within the Streets Department, as well as the Department of Licenses and Inspections. Event related Permits are not included within this standard.

7.1.1 Authorization

Permits are issued under the authorization(s) within the Philadelphia Code and Streets Department Regulations, as shown in the preface.

7.1.2 Information

Permit documents can be obtained online. Contact information for agencies and units is located on the issued permit. Given the approved location, other City Agencies as well as Streets Department Divisions are listed on the permit.

7.1.3 Street Closure Resolution

Streets Department Right of Way Unit will coordinate conflicts resolution as a result of multiple permits occurring adjacent to one another. When applying for Street Closure permits, there is a link to Streets Smart PHL, under the location tab to view all current and future permits..

A. *Priority of Permits*

Priority of permits is determined by start date of the project. Permittees are required to work together to resolve conflicts, prior to engaging City agencies for this purpose. Where direct coordination by the Right-of-Way Unit is required, a priority of permit type or activity will be as follows:

1. Emergency Utility Notifications *or* Emergency Demolitions
2. Street Closures for Crane Placement or Helicopter Lift
3. Street Closures for Equipment Placement

4. All other permit types

7.1.4 Guaranteed Pavement Information Systems (GPIS) Conflict Resolution

Coordination for any conflict between the terms of two or more permits cannot be resolved by the permittees cooperatively, such coordination will be resolved by the permitting agency/unit.

A. Right-of-Way Unit Coordination

Where more than one permitting unit or agencies are involved in the issuance of conflicting permits, the Right-of-Way Unit, will be the coordinating agent.

1. City Paving Operations, or Tier II Utility Work
2. Tier I Utility Work

7.1.5 Code Violation Notices (CVN)

- Permit fees for unpermitted activity following issuance of a CVN will be increased by double, as permitted by Streets Department regulation.
- If an applicant fails to disclose their intention to apply for a permit after receiving a Code Violation Notices (CVN), it will be seen as fraudulent. As a result, any permits issued will be immediately revoked, and a stop work order will be issued without delay.

7.1.6 Permit Modifications

Request for Permit Modifications can be emailed to streetclosure@phila.gov and/or call 215-686-5503.

7.2 STREET CLOSURE PERMITS

There are several kinds of Street/Sidewalk Closure Permits issued by the Streets Department, Right-of-Way Unit. Permit submittals for all street/sidewalk closure applications are to be created via the online permitting system. For further assistance email StreetClosure@phila.gov or call 215-686-5503.

7.2.1 General Provisions

The following provisions apply to all types of Street/Sidewalk Closure Permits.

A. Applications (Minimum Standards)

- Accurate contact information, including a working email address.
- Electronic copies of additional permits (as noted below):
    - i.e., Street Opening Permits, L&I Building Permits, etc.

B. Maintenance & Protection of Traffic (MPT) (aka Temporary Traffic Control, TCC)

A Street Closure Permit with a longer duration may require a Maintenance & Protection of Traffic (MPT) Plan submission via eCLIPSE. Determination will be made by the Right-of-Way Unit. The eCLIPSE-approved MPT Plan would be a required document during the Street Closure Application.

- Required for all full lane closures (footway or travel lanes, including bike lanes), and any partial lane closure. Any closure type that exceeds one (1) week is required to submit sealed plans by a Licensed Professional.
- TTC/MPT Plans should be site specific, and consistent with PennDOT Publication 213 (Work Zone Traffic Control Guidelines), as made available online by PennDOT.
    - Plans must identify which Pennsylvania Typical Application (PATA), or combination thereof, are being used.
    - All traffic control and channelizing devices must be identified. Devices must consider the impacts upon the walkable surface of any pedestrian route on which they are placed.
    - All required taper/buffer/work space lengths, and traffic control/channelizing device distances and spacing must be provided.
    - Crash attenuators must be provided for concrete barrier blunt ends.
    - Deviations from these standards must be documented on the TTC/MPT plans.

    - Police support for street closures, as may be required by the Streets Department, is addressed in a separate document titled "Guidelines for Assigning Police Support for Utility Construction" dated February 5, 2013, and as revised.

- TTC/MPT plan preparers, traffic control supervisors, flaggers, and all other office and field staff with duties associated with work zone traffic control, are expected to be trained in accordance with the more conservative requirements of the FHWA, OSHA, and PennDOT.
- TTC/MPT plan preparers may request a preliminary review, as explained in Section 6.3.6. This service is offered by the Street Department in advance of a permit application in order to avoid coordination delays immediately prior to construction.

C. Engineer Certification of TTC/MPT Plans

- When required, TTC/MPT plans must be prepared signed and sealed by a professional civil engineer, licensed in the Commonwealth of Pennsylvania.
- Full footway closures in excess of one (1) week must be accompanied be certified by a professional engineer, licensed in the Commonwealth of Pennsylvania.

D. Payment

- KUBRA System: Street Closure fees can be paid using the City of Philadelphia KUBRA system.
- Escrow Accounts: Escrow accounts can be established for high-volume permittees.

E. Completeness

All applications are subject to an initial review, and incomplete applications will be sent back to the applicant to provide the missing information.

F. Street Closure Application Review Times

Street Closure applications are subject to a ten (10) day review period.

G. Emergency Applications

Emergency designations are issued by applicable Departments (PGW, PWD, PECO, L&I). At such point that a Make Safe Permit has been issued, this issued permit must be uploaded as a required document into the Streets ROW street closure permit application. Emergency applications must include evidence of dangerous conditions, such as a Letter of Imminent Danger from the Department of Licenses and Inspections.

H. Restrictions & Conditions

- Police assistance is required if the work zone encroaches into a travel lane or bike lane.
- All sites must maintain access for emergency vehicles (police, fire, emergency management, etc.) at all times.
- Center City (north of Walnut Street to Spring Garden Street, Delaware River to Schuylkill River) – Nighttime restrictions: 7:00 PM to 5:00 AM.
- Center City (on Walnut Street, Delaware River to Schuylkill River) 11:00 PM to 5:00 AM.
- Center City (south of Walnut Street to South Street, Delaware River to Schuylkill River) – Daytime restrictions 9:00 AM to 3:00 PM.
- The permittee is responsible for posting and maintaining all required signs, including temporary “No Parking” signs, for the duration of the project.
- The parking of personal vehicles or equipment is prohibited. Any infraction may be subject to a fine or towing of the subject vehicle or equipment.
- Good housekeeping practices are required during and after all work hours. The site will be cleaned upon completion of all work.
- The full roadway must be opened upon completion of work.

I. Permit Issuance

Street Closure Permits are issued electronically.

J. Permit Compliance

On site posting of all Street Closure Permits by the permittee is required per §11-612(1)(c) of the Philadelphia Code, which states "*Copies of the permit shall be posted at the site during the entire time of the closure at such locations and in such manner as the Department specifies, so as to permit public inspection of such permit."* Failure to post this permit may result in a shut down.

K. Permit Renewals/Extensions

- All extensions are required to be applied five (5) days prior to current permit expiration.
- Applications for extensions that are applied for after the current permit has expired will be treated as a new application.
- No more than one original and two (2) extensions may be requested for street closure permits with any interval less than twelve (12) months.

7.2.2 Street Closures for Site Development

Applicants must identify the various kinds of site development street openings that will be performed. In many cases, multiple permits will be required. Developers must be aware that, in accordance with current Streets Department regulations, they are responsible for final roadway restoration, as may be required due to the work from multiple contractors, subcontractors, and utilities working as part of a given site development project.

- Applications for site development typically must be accompanied by a permit or approval letter:
    - License & Inspections
        - Demolition
        - Foundation
        - Building permits
        - Plumbing (Footway)
        - Shelter Platform & Scaffolding
        - Imminent Danger Permit

- Art Commission:
  - Approval Letter
  - Banner Design, Size & Shape Plan
- Philadelphia Water Department (PWD)
  - PWD Opening Permit (Excavation)
  - PWD Plumbing Permit (Cartway)
- PennDOT
  - Highway Occupancy Permit (HOP)
  - PA One Call
- Streets Department
  - Highway Opening Perming (GPIS)
  - Curb/Footway
  - Private Paving Agreement

7.2.3 Street Closures for Utility Work

Street Closures for utility work can be divided into the following specific categories.

- Plumber's Projects
- Utility Work Non-Excavation Projects
- Monitoring Wells/ Soil Borings/ Test Pits
- Utility Excavation Projects
- DASAntenna (Excavation or Non-Excavation)

Applications for all categories are applied for online via the Street Closure.

A. Plumbers Projects

Submit:	Logistics plan, PA One Call serial number (less than one year old), HOP (for State Routes), L & I and/or PWD Plumbing Permits.
Anticipated Review Time:	10 Business Days

Fee:	Included with the Plumbers Permit Fee

B. Utility Projects Non-Excavation Projects

Submit:	Logistics plan, PA One Call serial number (less than one year old).
Anticipated Review Time:	10 Business Days
Fee:	None

Street closure permits may be granted to close portions of the sidewalk, parking lane, bike lane and travel lane in order for utility companies, contractors, sub-contractors, and consulting firms to perform the following duties to include but not limited to: manhole inspections and pumping, installation and maintenance by way of rod & rope ducts, installation of innerduct fibers, and the pull/splice/test of fibers. Additional restrictions may be required when closures exceed partial sidewalk closures beyond 20 linear feet.

C. Monitoring Wells/Soil Borings/Test Pits

Submit:	Logistics Plan, PA One Call serial number (less than one week old), Work plan, Utility Clearance Letter(s) from all utilities within 36 inches of any test boring or monitoring well location, and as required by the General Provisions (Section 7.2.1).
Anticipated Review Time:	10 Business Days
Fee:	None

Small borings and test wells fall under the category of “Non-Excavation,” if the borings or wells do not exceed excavation “sizes” (diameter of holes, cubic yardage of excavated material, etc.) in a nature that drastically impacts the Right-of-Way. These “sizes” are discretionary to the interpretation of the manager of the Right-of-Way unit.

D. Utility Excavation Projects

Submit:	Highway Opening Permit (GPIS) (Issued by the Right-of-Way Unit), Logistics Plan, HOP (for State Routes
Anticipated Review Time:	10 Business Days
Permit Duration:	Up to one (1) year
Fee:	None

E. DASAntenna (Excavation or Non-Excavation)

Submit:	DAS Antenna Approval Letter, Logistics Plan, HOP (for State Routes)
Anticipated Review Time:	10 Business Days
Permit Duration:	Up to one (1) year
Fee:	None

7.2.4 Equipment Placement (Construction Equipment)

Submit:	Logistics Plan, Demolition Permit, Foundation Permit, Building Permit, Shelter Platform & Scaffolding Permit, Imminent Danger Permit.
Review Time:	10 Business Days
Permit Duration:	Up to one (1) year
Fee:	See Appendix F (Street Closure Permits Fee Schedule)

The term "construction equipment" includes any construction dumpster, trailer, fencing, scaffolding, boom or lift, shelter platform or any other similar piece of equipment or machinery used in connection with any demolition, construction, cleaning, painting, building repair or similar process. It does not include a motor vehicle licensed under the Pennsylvania Motor Vehicle Code, except as permitted by §11-612 of the Philadelphia Code.

A. Boom or Lifts (Excludes Cranes)

- Boom trucks are to be placed in the parking lane. If a boom truck is required to be placed in a travel lane, police assistance and a TTC/MPT plan will be required for diversion of vehicular traffic
- If a rolling scissor lift is to be placed on the sidewalk, the sidewalk must be protected with a metal plate, or heavy-duty mats constructed for this purpose, at all times for utility box and manhole protection.

B. Demolition

Street closure applications for demolition must be accompanied by a demolition permit from the Department of Licenses and Inspections. Any demolition that requires a full sidewalk closure must include a pedestrian detour plan (signed and sealed if longer than 1 week).

C. Construction Dumpsters

The term "construction dumpster" includes any container larger than a household trash can designed for the storage of any manner of waste, refuse or debris, not including any dumpster licensed pursuant to §10-722 or any other provision of the Philadelphia Code, used in connection with any demolition, construction, cleaning, painting, building repair or similar process and serviced by a private waste hauler.

The following criteria apply to all construction dumpster applications:

- Dumpsters are not permitted to be on a public sidewalk. They must be placed in a legal parking lane.
- Plywood must be placed on any paved surface before the dumpster is delivered. All dumpsters will be covered with a tarp when not in use.
- Refer also to the Construction Dumpster Law Guide for more information, as available online with other Streets Department permits.

D. Equipment Delivery

Street closures for the delivery of construction equipment are similar in character to moving permits (Section 7.2.7). Permit durations, fees, and conditions of permit differ, however.

E. Façade Restoration

Street closure applications for façade restoration must be accompanied by a building permit from the Department of Licenses and Inspections.

F. Construction Fence

- Partial sidewalk closures must maintain a minimum of five (5) feet with one (1) foot buffer for pedestrian use at all times. This space must be free and clear of all manner of fence footing or supports, and must be ADA compliant, with regard to grates, and condition of the walkable surface.
- Full sidewalk closures require a site safety plan (showing signage at signalized intersections) and an engineering letter (if longer than one week) stating why a full closure is needed. Full sidewalk closures are necessary for all building demolition projects. All documentation must be signed and sealed by a design Professional licensed in the State of Pennsylvania.
- All applications must include provide accurate linear footage to be occupied on each street.

G. Footway Restoration

Street closure applications for footway restoration must be accompanied by curb & footway permit from the Department of Streets, District Highway Office. See Section 7.6.2 for additional information.

H. Scaffolding/Shelter Platforms

Street closure applications for scaffolding may require a building permit from the Department of Licenses and Inspections.

Street closure applications for shelter platforms must be reviewed and approved in eCLIPSE and accompanied by a building permit from the Department of Licenses and Inspections. Applicants must provide appropriate sidewalk lighting, as required by the Building Code.

I. Construction Trailers

Construction trailers require a street closure permit application if located within the public Right of Way.

J. Window Washing

Street closures for window washing require a street closure permit for closure of the footway In many instances, such street closures also involve the use of booms or lifts.

7.2.5 Crane Placement

Submit:	Street Closure Permit Application (Crane Placement) and Police approval.
Review Time:	10 Days or as determined by Police
Permit Duration:	Up to one (1) year
Fee:	See Appendix F (Street Closure Permits Fee Schedule)

Additional approvals or certifications:

- SEPTA: For placement on Broad or Market Streets (with any GVW exceeding 80,000)
- PATCO: For placement on 8th Street (Race to Locust), and Locust Street (8th to 18th).
- Philadelphia Traffic Police: For vehicles with a GVW over 145,000 lbs., 14’-0” in height, 11’-5” in width, or 75’-0” in length.
- Streets Department, or PennDOT Bridge units: For placement on bridges or structural retaining walls. It is the responsibility of the applicant to identify the owner of any structure on which a crane is proposed for placement.
- Crane placement in proximity to sheeting & shoring must be accompanied by certification by the geotechnical engineer responsible for the sheeting and shoring plan.
- Applications for cranes weighing in excess of 80,000 lbs., must also be accompanied by a PA One Call serial number, as obtained specifically for site preparation for the purpose of crane placement.

7.2.6 Helicopter Lift

Submit:	Street Closure Permit Application (Helicopter Lift), and supporting documents, including: helicopter flight path, number of lifts required,

the nature of materials to be moved, emergency landing zone, and fueling location(s).

Review Time: 10 Days or as determined by Police

Fee: See Appendix F (Street Closure Permits Fee Schedule)

Permit Duration: Up to one (1) year

Helicopter Lift permits require extensive advanced coordination and police involvement. Any project planning the use of a helicopter lift is advised to provide a complete list of blocks to be closed during the lift operation. Depending on the length and location of the required street closures, one or more inter-agency coordination meetings may be required in advance of the issuance of this permit. Public outreach will also be required, as well as providing notifications to the Philadelphia Fire Department, as coordinated by the Streets Department.

7.2.7 Temporary No Parking for Moving Trucks & PODS (aka "Moving Permit")

Submit: An Online Street Closure Permit Application (via www.phila.gov, or directly to http://secure.phila.gov/streets/tnp/)

Fee: See Appendix F (Street Closure Permits Fee Schedule)

Payment Method: Debit/Credit, Checks or Money Orders (Made Payable to "City of Philadelphia"), Online Payment is preferred.

Review Time: 4 Business Days

A. Online Applications

Please read the following before submitting your application:

- Please fill out the application in order to obtain a permit to use space on a City street for your move.
- Please only apply once per address. If you apply more than once per address the processing time will double.
- The Streets Department Right of Way Unit will require a minimum of four (4) full business days of notice in order to process your request. Due to the volume of requests received by this office, the processing time may be more than 4 business days.

- Once your application is complete and submitted, the Right of Way unit will review your information and contact you via e-mail with an invoice for payment or a request for more information.
- Please supply the following information: All Items Are Required
    - the correct spelling of your first and last name
    - the address of the move or the location of the move (if different from the address)
    - the length of the moving truck or the number of moving containers
    - the earliest time you will begin your move and the latest you will finish
    - a cell phone number for the day of the move
    - a valid e-mail address so we may e-mail you an invoice for payment.
- Payment can be made online by credit or debit card.
- After payment is made, it is highly recommended that you print out a copy of your permit and take it to the nearest Philadelphia Police District. They will give you Temporary No Parking signs you can post for the move. Please post the signs a minimum of 24 to 48 hours ahead of time or as soon as possible after receiving your permit.
- If you are physically unable to place signs or you are moving in from outside the Philadelphia area, enlist someone in the area to post the signs on your behalf. Any individual posting the signs will need to have a printed copy of the permit application.

7.3 HIGHWAY OPENING PERMIT

The purpose of the sections related to GPIS permits is to assist utility and telecommunication providers to enter their projects into the Guaranteed Pavement Information System (GPIS), preferably in the planning stage, and no later than the design phase. The reason for this specialized process is to better coordinate the City's resurfacing projects with utility projects, with the goal of better eliminating the need for unnecessary utility cuts into newly paved streets.

Issuance of a Highway Opening Permit does not imply issuance of a Street Closure Permit. Street Closure Permits should be applied after the issuance of a GPIS Highway Opening Permit via the online street closure website. Highway Opening Permit excludes opening permits for plumber ditches (footway or roadway), sidewalk post/bollard installations, and curb/footway demolition and construction. These permits are explained below. As a general rule, excavations are to be minimized on paved streets.

Permits applications for all street closure need to be submitted online via the online street closure website.

7.3.1 General Provisions

As a project coordination tool, utility conflicts identified during the GPIS review process are required to be resolved during design. Such coordination notwithstanding, design and construction mark-out requests must be made in accordance with the Pennsylvania Underground Utility Line Protection Act, Act 287 of 1974, and as revised.

In all cases, temporary and final pavement restorations must comply with City Streets Standard Details SC0113 and SC0114 (formerly L-901 & L-902). Additional requirements, in accordance with Streets Department regulations, may be determined at the time the permit is issued, or during construction.

7.3.2 Right-of-Way Use Agreement

Submit:	Documents required by §11-700 of the Philadelphia Code
Review & Coordination Time:	1-3 Months
License Duration:	Ten (10) Years

With the exception of utility service connections, anyone seeking to install underground utilities within the Public Right-of-Way must obtain a Right-of-Way Use License, requirements for which are contained within §11-700 of the Philadelphia Code. ROW Use Licenses are issued by the Law Department, as coordinated by the Streets Department. Applicants are advised to contact the Right-of-Way Unit email StreetsROW.GPISAdmin@phila.gov several months prior to the proposed construction of any facilities for which a Right-of-Way Use License is required. Reference §11-706 for any Right-of-Way Registration and permit fees.

7.3.3 Non-Excavation Utility Projects (Test Borings & Monitoring Wells) (Non-GPIS)

The only permit necessary for test borings and monitoring wells is a street closure permit. See Section 7.2.3(C) Street Closure for Test Borings & Monitoring Wells for additional information.

7.3.4 Tier I Highway Opening Permit (GPIS)

The following are considered Tier I Highway Opening Permit applications:

- Installation of any new facility in a new location where the total linear footage of excavation is less than sixty feet (60')
- Installation of any new facility in an existing location where the total linear footage of excavation is less than sixty feet (60')
- Installation of any Service Connection perpendicular to the roadway, where the total linear footage of excavation is less than sixty feet (60')
- Installation of any Service Connection requiring an "L" shaped excavation, where one side is less than sixty linear feet (60'), the other side less than two-hundred fifty linear feet (250').
- Replacement of an existing Service Connection of the same size in the same location, where the excavation is less than two-hundred fifty linear feet (250'); and
- Manhole or vault roof and casting repair and replacement where the extent of the work includes only repairing or replacing the roof. All other repairs (except lid and frame replacement) require Tier II applications.

7.3.5 Tier II Highway Opening Permit (GPIS)

The following are considered Tier II Street Opening applications:

- Installation of new facility in a new location where the total linear footage of excavation is sixty feet (60') or longer
- Installation of any new facility in an existing location where the total linear footage of excavation is sixty feet (60') or longer
- Installation of any service connection perpendicular to the roadway, where the total linear footage of excavation is sixty feet (60') or longer

- Installation of any service connection requiring an "L" shaped excavation, where one side is sixty linear feet (60') or longer, or the other side is two-hundred fifty linear feet (250') or longer
- Installation of any service connection of the same size in the same location, of two-hundred fifty linear feet (250') or longer
- Manhole or vault wall repair and replacement
- Any activity not listed in a Tier I application category except:
    - Manhole lid and frame replacements (require a Street Occupancy)
    - Service turn on/shut off
    - Emergencies (reference Section 10 of *The Philadelphia Streets Department Regulations Governing Street Openings, Excavations and Restoration)*

7.3.6 Process Flow for GPIS Tier I and Tier II Permits

- The requesting facility owner contacts the PA One Call system as a designer requesting that any facility owner that has facilities in the proposed location provide information regarding the location of their existing facilities.
- The requesting facility owner enters the project into the Guaranteed Pavement Information System (GPIS). Contact StreetsROW.GPISAdmin@phila.gov for any questions or concerns. The following City Agencies will review the location (s) and respond directly within the GPIS system:
    - Capital Program Offices under Managing Director's Office (MDO)

      The Capital Program Office reviews the impact to their current programs/projects that may be impacted by the proposed work.

    - Streets – ADA Ramp Review

      The ADA Unit will identify corner curb ramp upgrade requirements, in accordance with Streets Department regulations, and communicate these requirements to the applicant via GPIS.
    - Streets – EGR Street Lighting

The Street Lighting Division reviews the impact of their infrastructure that may be impacted by the proposed work.

- Streets – ROW Admin

  The Right of Way Unit review ensures that the proposed work will not interfere with street resurfacing, reconstruction, or other maintenance activities conducted by the Streets Department.

- Streets – Traffic Engineering Division

  The Traffic Engineering Division reviews the impact of their infrastructure that may be impacted by the proposed work.

- For work on historical streets, the City of Philadelphia, Historical Commission will review the location and respond directly to GPIS. The purpose is to ensure that the roadway and/or footway are restored with in-kind materials.
- For work on State Routes within the roadway from curb line to curb line, PennDOT will review the location and respond directly to GPIS. A PennDOT
- Highway Occupancy Permit (HOP) is also required, via PennDOT's Electronic Permitting System (EPS). The HOP should be uploaded to the Street Closure Application.
- Upon receipt of each GPIS submission, the Right-of-Way Unit will identify whether the application is complete or if additional information is required. No further review will occur until the revised application has been received and deemed complete.
  - The Streets Department expects to routinely grant or deny approval of the permit and plans according to the schedule below for Tier I and Tier II applications:
  - Tier I applications: Two (2) Business Days (Completeness)

    Five (5) Business Days (Permit Review and Processing)
  - Tier II applications: Five (5) Business Days (Completeness)

    Twenty-Five (25) Business Days (Permit Review and Processing)

7.4 EMERGENCY UTILITY NOTIFICATIONS (EUN)

7.4.1 General Provisions

Emergency Utility Notifications cannot be used to circumvent a street opening permit.

7.4.2 Police Notification for Utility Emergencies

Police support for utility emergencies is addressed in a separate document titled "Guidelines for Assigning Police Support for Utility Construction" dated February 5, 2013, and as revised.

7.4.3 Excavation Required Emergencies

- A facility owner (or its contractor) which needs to excavate the street or close traffic lanes for emergency work should telephone the City's Municipal Radio operator at 215-686-4514 to report the emergency. The call to Municipal Radio should be from the field and prior to or at the time the excavation or lane closure commences.
- During the telephone call, if the work involves excavation of the street, the Municipal Radio operator will prompt the facility owner (or its contractor) to provide the following basic information about the excavation:
    - Name of facility owner
    - Name and telephone number of the person calling
    - Need for excavation
    - Street closure requirements.
    - Location of the emergency work (provide the hundred block)
    - Nature of the emergency (disruption of service, safety risk to public, or leak)
    - Duration of work (provide the # of hours expected to resolve the emergency)
- Each facility owner should also provide the Streets Department with the phone number of its primary office responsible for such work. In the case of a declared

emergency, the contact person will be the facility owner’s designated representative working with the City's Emergency Operations Center (EOC) and may be contacted through EOC.

- The Municipal Radio operator will generate and provide the facility owner (or its contractor) with an Emergency Utility Notification (EUN) number. The facility owner must later enter the EUN number into GPIS when they obtain the Emergency Permit. Municipal Radio should then forward this information to the Streets Department via an emergency notification website setup specifically for this use, which will then send an e-mail to the facility owner's generic e-mail address (as provided by the facility owner), also containing the EUN number.
- If a lane closure is required, Municipal Radio should also contact and report the emergency to traffic police, the fire department and SEPTA (if required), and prompt the facility owner (or its contractor) to provide certain information needed for the lane closure.
- Within seven (7) days of completion of the emergency-related excavation, the facility owner should enter the required information into GPIS, using the EUN number provided by Municipal Radio and/or the Streets Department. The information inputted into GPIS in connection with emergencies should be used only for the City's record purposes, and should not be used or included in determining the facility owner's Right-of-Way related fees, as per the Right-of-Way ordinance legislation.

7.4.4 Non-Excavation Related Emergencies

If the emergency work does not involve street excavation, but nonetheless requires a lane closure (e.g., facility owner utilizes their manholes to complete the emergency work), the facility owner (or its contractor) should still report the work to Municipal Radio to help arrange the lane closure. Municipal Radio should call and report the required lane closure to traffic police, the fire department, and SEPTA (if required), and prompt the facility owner (or its contractor) to provide certain information needed for the lane closure. During the telephone call, the Municipal Radio operator will generate and provide the facility owner (or its contractor) a EUN number for their records. Municipal Radio should then forward this information to the Streets Department via an emergency notification website setup specifically for this use, which will then send an e-mail to the facility owner's generic e-mail address (as provided by the facility owner), containing the EUN number.

7.5 OTHER PERMITS ISSUED BY THE STREETS DEPARTMENT, RIGHT-OF-WAY UNIT

7.5.1 Street Furniture (Generally)

Street furniture that has been approved by an ordinance of City Council (Encroachment Ordinance) requires a permit for closing the necessary footway, parking and/or travel lanes during construction.

Examples of street furniture permitted using the Street Closure System include, but are not limited to:

A. Bicycle Racks

Submit: Bicycle Rack Application & Supporting Documents

Bicycle Racks on the footway, and in accordance with Streets Regulations, are permitted upon approval of the submitted plan(s). See Plan Review (Chapter 2) for additional information.

B. Pedestrian Enhancements

Permits for pedestrian enhancements, including pedestrian plazas, bicycle corrals, and parklets, are issued for both renewal of existing enhancements, and for new construction. In both cases, a permit will be issued upon plan review approval. At present, the management of Pedestrian Enhancements is by the Office of Multimodal Planning.

7.5.2 Banner Permits

Submit:	Banner Permit Application & Supporting Documents (see below)
Review & Coordination Time:	1 Month
Restrictions:	City of Philadelphia Street Light Poles Only
	May not be attached to traffic signals
	No banners are permitted to span across any street

License Duration: Seasonal - Beginning of spring through beginning of winter

Fee: None

- Approval from the owner of the pole is to be submitted with application. If the pole is a Philadelphia Street Light only this application is required.
- Prior Approval is also required from:
    - Philadelphia Art Commission
    - Special Services Districts (where applicable)
        - Center City – Center City District*
        - South Broad Street (South Penn Square to Washington Avenue) – Avenue of the Arts, Inc.
        - University City – University City District

  **In Center City, the Center City District is the permitting agency.*
- Request to the Art Commission & the Special Service Districts should specify the number of banners that will be displayed, the size of each banner, colors, photograph or drawings of the banner's design, the boundaries of the main artery where banners will be placed and the exact locations of the poles on which the banners will be fastened.
- The applicant will be responsible for all injuries to persons and/or damage to property that may occur while placing, or in place or removal of all banners and to hold the City of Philadelphia harmless in the event of an accident or mishap.
- Banner Requirements on Philadelphia Street Light Poles.
    - Affix the banners to the street light poles in the following manner:
        - Top of banner should have a solid bracket and pole/arm attached to an aluminum or fiberglass street light pole only
        - Bottom part of banner should be attached with a solid bracket with tether.
        - All brackets must have a rubber grommet between the bracket and pole.
        - Only one (1) banner can be fastened to each street light pole.
        - Maximum banner size permitted is 4'-0" x 6'-0".

- If a banner hangs above the street, it must be at least fifteen feet (15’-0”) above the ground.
- If a banner hangs above the sidewalk, it must be at least eight feet (8’-0”) above the ground.
- Removal of all banners must be within five (5) days of the expiration date of this permit, and the street light poles left in a clean & safe condition.

7.5.3 Special Events Permits (formerly known as Block Parties)

Special events permits, including block party permits, are not included within this document. Refer to the Special Event Application Guide for more information, as available online with other Streets Department permits.

7.5.4 Encroachments Not Requiring Permits

There are three basic types of encroachments within the Right-of-Way for which permits are not required.

- Encroachments allowed by §11-600 of the Philadelphia Code without a permit. Examples include: Steps, canopies, awnings, areaways (egress wells), wheelchair lifts
- Encroachments only allowed by ordinance of City Council, as discussed in Section 5.4.
- Specific Improvements owned and maintained, either by City forces or contractors. Such improvements include, but are not limited to:
    - Street lights & traffic signals (Streets Department)
    - Inlets, hydrants, and green storm water infrastructure (Water Department)
    - Bus shelters & bike share kiosks (Mayor’s Office of Transportation & Utilities)

7.6 PERMITS ISSUED BY THE STREETS DEPARTMENT HIGHWAY DISTRICTS

A map of all Highway District offices is provided in Appendix I.

7.6.1 Curb or Sidewalk Pipe Posts (Bollards)

Submit: Application to Install Pipe Posts, Plot (2 copies, on 8.5″ x 11″ paper and showing locations of the proposed posts in accordance with regulations).

Issued by the Streets Department, curb or sidewalk posts may be installed if the Department of Streets determines that such installations are necessary to prevent possible injury to pedestrians or damage to property by motor vehicles coming upon the footway. Curb or Sidewalk Pope Post (Bollard) Permits are issued by the Highway District where such work is proposed. Pipe post not conforming with the requirements of the Philadelphia Code, §11-604(8), as listed below, may only be approved by ordinance of City Council (Section 6.2.7). Pipe Posts must:

- Extend 42 inches above the footway grade, and 2 feet below such grades
- Be centered not more than 10 feet apart, and on a line parallel with the curb lines 18 inches back of the face of the curb; except on sidewalks eight (8) feet in width or less, posts shall be centered on a line parallel with the curb lines twelve (12) inches back of the face of the curb.
- In no event shall be installed in front of existing steps
- Have an inside diameter of six (6) inches, are filled with concrete and have a metal cap; except on residential streets with sidewalks eight (8) feet in width or less, posts shall have an inside diameter of four (4) inches, be filled with concrete and have a metal cap
- Not be set within 2 feet of any inlet or manhole

7.6.2 Curb and Footway Permits

Submit: Application for Curb and Footway Permit, a valid L&I Curb Setters License and a Plot Plan

Fee: None

Curb and Footway Permits are issued by the Streets Department for any alteration or repair of sidewalks and curbs in the City of Philadelphia. These permits ensure the safety and appearance of our communities. Curb and Footway Permits are issued by the Highway

District where such work is proposed. Applicants seeking permits for projects with 100 feet or more of curb will also be required to obtain the services of the district survey office where the work is being performed. A map of all Highway and Survey District offices are provided in Appendix I. Approval of the curb and footway permit should be an uploaded document in the contractor's street closure permit application.

7.7 PERMITS ISSUED BY THE STREETS DEPARTMENT TRAFFIC ENGINEERING UNIT

Permits applications for the following are to be directed to:

Streets Department, Traffic Engineering
1401 John F. Kennedy Blvd
Municipal Services Building, Room 980
Philadelphia, PA 19102

7.7.1 Bus Carrier Zone Permits

Submit:	Bus Zone Carrier Permit Application
Fee:	$5,000/year (exclusive), $2,500 (shared)
Review Time:	3 Months
Permit Duration:	One (1) year, beginning April 1, and ending March 31
Permit Renewal:	Three (3) months before the expiration date

The bus carrier company must provide the following:

- Days and hours of operations of the bus zone, including the exact time of arrival and departure of each bus.
- A minimum clear path of six (6) feet alongside the bus zone (on the sidewalk) to allow a continuous pedestrian passageway. The immediate vicinity of the bus zone, including the actual bus zone must be clear of litter and obstructions (i.e. cones) at all times.
- Copy of the carrier's Interstate License
- Business Privilege Number (where applicable)
- Sign details (max size is 12 inches wide, and 18 inches long)

Limitations & Requirements:

- No more than one bus per company is allowed in the zone at a time.
- The maximum time that buses are allowed to reside in an exclusive (non-shared) bus zone is 10 minutes. The maximum time that buses are allowed to reside in a shared bus zone is one minute.
- A copy of this permit will be kept available at the office of the bus carrier company and will be exhibited upon request to any properly identified employee of the City of Philadelphia.

7.7.2 Driveway Paint Marking Permit

All applications for driveway paint markings may be subject to a site inspection, typically taking 2-3 months to schedule and complete.

Submit: Application for Driveway Paint Parking Permit

Review Time: 90 Business Days

The following conditions apply to all permits issued:

1. Only the markings authorized by the permit issued are to be applied. The Streets Department will determine the appropriate markings. These markings will be illustrated on an attached drawing, if approved.
2. All lines must be strictly in accordance with the attached drawing and no curb markings may extend along, across or onto any part of the curb and sidewalk. These markings should be 4-inch-wide and in white paint only.
3. The City of Philadelphia will assume no cost or liability, which may arise as a result of the application of these markings. All such costs and liability will be solely assumed by the person applying for this permit.
4. A copy of this permit will be kept available at the above premises and will be exhibited upon request to any properly identified employee of the Streets Department, the Philadelphia Police Department, or the Philadelphia Parking Authority.
5. The applicant will remove all markings authorized by this permit within seventy-two hours upon written notification to that effect from the City of Philadelphia.

7.8 PERMITS ISSUED BY THE STREETS DEPARTMENT BRIDGE DESIGN UNIT

7.8.1 Special Hauling Permits (for Oversize and Overweight Vehicular Transports)

Applications: Online Only (https://secure.phila.gov/Streets/HaulingPermit/)

Account Required: Yes

Submit: Online application, a non-refundable electronic payment, Permits/Approvals (as required) from other agencies (see REQUIREMENTS on the Special Hauling Permits website).

Review Time: 3 Business Days

- Special Hauling Permits are issued by the Streets Department's Bridge Design Unit for oversized and overweight vehicular transports. Routes for each permitted trip are carefully regulated to protect structures, both overhead and those with weight restrictions. In some cases, police escorts are required, and must be arranged separately with the Philadelphia Police Department (reimbursement charges apply).
- Through this system clients may apply to obtain a City of Philadelphia Special Hauling Permit allowing one individual vehicle a single one-way move. Once submitted, permits are immediately paid for up front, with no refunds available, using a credit card or debit card. Each client will have their own account profile in which they may apply for new permits, check the status of unprocessed permits, and view processed permits to print and carry for law enforcement verification.
- Prerequisite approvals and permits related to other agencies will be transmitted by email or facsimile. A bulletin board of current restrictions is available to assist in route planning.
- Each permit is valid for a single, one-way move.

7.9 PERMITS ISSUED BY THE SANITATION DEPARTMENT

The Sanitation Department does not issue permits. Construction dumpsters are permitted by the Streets Right of Way Unit and are addressed in Section 7.2.4(C). Applicants seeking

approval for the placement of dumpsters or trashcans within the Right of Way are directed to the Department of Licenses and Inspections.

7.10 PERMITS ISSUED BY THE DEPARTMENT OF LICENSES AND INSPECTIONS (L&I)

While not the permitting agency for any of the following, the Streets Department is required to approve all of the following prior to issuance of a license or permit by the Department of Licenses and Inspections. See Plan Review Standards (Chapter 2) for additional information.

7.10.1 Building, Foundation and Zoning Permits

- See Plan Review Standards (Chapter 2) for additional information.
- Driveways
    - Zoning permits for driveways are issued by the Department of Licenses and Inspections. While Streets Department approval is required from the Right-of-Way Unit, no permit is issued for driveways by the Streets Department. Permits required by agencies other than L&I for work related to driveways are:
        - PennDOT Highway Occupancy Permits (for driveways on state routes).
        - Curb and Footway Permit(s) (see Section 7.6.2)
        - Street Closure Permits (see Section 7.2)

7.10.2 Newsstand Licenses

Newsstand Licenses are issued by the Department of Licenses and Inspections. Streets Department approval is required from the Right-of-Way Unit prior to obtaining a newsstand license.

7.10.3 Sidewalk Café Licenses

Sidewalk Cafes Licenses are issued by the Department of Licenses and Inspections. Streets Department approval is required from the Right-of-Way Unit prior to obtaining a sidewalk café license.

7.10.4 Street Tree Permits

Philadelphia Parks & Recreation can help property owners get a free street tree planted in front of their home, business, or other property. Philadelphia Parks & Recreation also prunes mature street trees and removes dead and hazardous street trees as needed. Refer to tree-related forms and documents for proper procedures.

CHAPTER 8 – PROCESS FLOW

8.1 GENERAL PROVISIONS

This chapter serves to coordinate the information contained in the previous chapters. Timelines cannot be provided, though standard review and processing time for plan review and permits are discussed throughout chapters 2 and 3. In the end, the ability to address Streets Department standards and site-specific requirements in a timely manner is the responsibility of the developer and their consultants.

The applicant is expected to be aware of the code and approval processes for all other City departments. The information contained in this chapter does not address those requirements.

8.2 TYPICAL PROCESS FLOWS

8.2.1 Standard Development

The process flow for typical developments is as shown below, though other sections may also apply as may be necessary due to the scope and complexity of the project.

- Design: See Chapter 1
- Zoning Permits, per Chapter 2 (Sections 2.2.1 & 2.2.2)
- Foundation Permits (where required), per Chapter 2 (Sections 2.2.1 & 2.2.6)
- Final Approval, per Chapter 2 (Sections 2.2.1, and one of: 2.2.3, 2.2.4 or 2.2.5)
- Permits, per Chapter 3

8.2.2 Legislative Approval

There are three basic forms of legislation involving the Streets Department:

1. Submit plans for one or more of the three types of legislation required.
    - Encroachments, per Section 6.2.7. Timing for legislative approval for encroachments may begin before, during or after the zoning and building phases. However, no plan showing encroachments that require legislation will be approved without a signed ordinance.

- New Streets, per Section 6.3.8.
- Striking Existing Right of Way (Streets and Utility Rights of Way), per Section 6.3.8.
- Changes to Parking Regulations or Roadway Direction, per Section 6.3.10.

2. Upon completion of any legislative approval, it is the responsibility of the applicant to furnish copies of the signed ordinance to the coordinating Streets Department unit, with plans, where required by the sections referenced above.

8.3 ADA COMPLIANT CORNER CURB RAMPS

The review of ADA corner curb ramps is subject to separate Streets Department review and approval, as discussed in Section 6.3.1 (ADA Corner Curb Ramps). ADA ramps plans or packages are not accepted by other reviewing units, in conjunction with other concurrent reviews within the Streets Department.

8.4 ALTERING CURBLINES WITHOUT LEGISLATION (CITY PLAN ACTIONS)

Generally, this process will occur concurrently with Standard Development, Section 8.2.1, above, but with the additional requirements set forth in Section 6.3.9.

8.5 CHANGING CITY STREET LIGHTING

Generally, this process will occur concurrently with Standard Development, Section 8.2.1, above, but with the additional requirements set forth in Section 6.3.5.

8.6 CHANGING CITY TRAFFIC SIGNALS

There is currently no separate process flow for changing City traffic signals. Generally, this process will occur concurrently with Standard Development, Section 8.2.1, above.

8.7 CONSTRUCTING AND PAVING STREETS

This section pertains to the construction of new and existing streets by private developers, and not by the City of Philadelphia. Applicants are advised that all private paving projects are subject to:

- Design Approval by the Chief Engineer and Surveyor (new or reconstructed streets)
- Final acceptance by the Chief Highway Engineer (applies to all private paving projects)

8.7.1 Existing Streets, Currently Paved

Paving of existing streets generally will be approved by the Streets Department according to the standard development process flow, as outlined in section 8.2.1. However, a paving agreement will be required, per Section 6.4.2.

8.7.2 Existing Streets, Currently Unpaved, or Partially Paved

Generally, this process will occur concurrently with Standard Development, Section 4.2.1, above, but with the additional requirements set forth in Section 6.4.2. However, applicants are encouraged to schedule a Developer Services Meeting with the Streets Department, Right of Way Unit prior to seeking plan review approval. Refer to Section 6.5.2 for information regarding Developer Services Meetings.

8.7.3 Proposed Streets, Public

- Submit preliminary plan(s) to the Philadelphia Planning Commission, and the Streets Department, Right of Way Unit, Plan Review Group.
- Schedule Developer Services Meeting with the Streets Department, Right of Way Unit. The Philadelphia City Planning Commission will be invited to attend, and can be expected to have additional requirements. Refer to Section 6.5.1 for information regarding Developer Services Meetings.
- Preliminary Plan Submission, Per Chapter 2

- Submission must include a City Plan Action Request, Per Chapter 2. Legislation will be required, and will be addressed as part of the City Plan Action.
- Zoning approval may be requested, Per Chapter 2, from the Right of Way Unit. Additional requirements may be warranted, as determined during preliminary review.

- Building Permit Plan Submission, Per Chapter 2
  - Prerequisites of approval:
    - Submit proof all legal and administrative obligations have been fulfilled, as may be identified during the plan review, City Plan Action, and legislative processes.
    - Paving agreement(s), per Section 6.4.2

8.7.4 Proposed Streets, Private

Private streets are considered common driveways, and will be approved by the Streets Department according to the standard development process flow, as outlined in section 8.2.1.

8.8 SPECIAL PROVISIONS

Special provisions are possible only in the presence of detailed and ongoing agreements, such as between City of Philadelphia agencies and departments.

8.8.1 Philadelphia Water Department

- New technologies, practices, and facilities, when proposed by the PWD, will be receive coordinated approval by the administrative officers of both the PWD and Streets Departments prior to use in capital programs subject to Streets Department review and approval.
- Roadway infrastructure projects (water/sewer/green), with no City Plan Actions required, per Section 6.2.8 (Major Utility Projects).

- Roadway infrastructure projects (water/sewer/green) involving City Plan Actions (bump outs. lay-by lanes. dedication or striking of the ROW). The plan review and restoration response process will be as per Section 8.4, above.
    - The approval letter issued at the completion of this review will also include the pavement restoration requirements, as coordinated with TP&A as part of the plan review process.
- Site improvement projects, including PWD facilities, private cost agreements, or PWD-Private Partnership projects: These projects are treated as Standard Development (Section 8.2.1), and as may otherwise be required by scope and complexity of the project.
    - For relatively small private cost and partner projects, the Right of Way Unit may elect to defer review to the Transportation Planning and Analysis Unit for issuance of a paving restoration letter.
- Maintenance and Protection of Traffic Plans (MPT), per Section 6.3.6.
- All projects reviewed under these special provisions and requiring full roadway reconstruction: The Water Department, or consultants working for the Water Department, will submit plans to the District Surveyor and Regulator within whose district the work is proposed. The Survey District will review the plan for conformance with City Plan, allowing modifications as needed to allow for ADA compliant footways, improved drainage, or as otherwise deemed necessary. Upon approval, the District Surveyor and Regulator will sign the final roadway reconstruction plans, and forward to the Chief Engineer and Surveyor for final sign off.

APPENDIX A

Traffic Sign Guidelines

Table 7: Traffic Signal Guidelines

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
Begin One Way	R6-6	24x30	BO	Just after intersection at which one-way condition begins, on the right side.	PennDOT Pub 236
Begin Right Turn, Yield to Bikes	R4-4	36 x 30	BY	Place at the transition Use only for exclusive right turn lanes crossing an exclusive bike lane. Not for shared bike/right turn lanes.	PennDOT Pub 236 MUTCD
Bike Lane Ahead	R3-17 R3-17AP	24 x 30 (Combined Sign & Plaque)	BA	Place in advance of the intersection at which the bike lane begins.	MUTCD
Bike Lane	R3-17	30 x 24	BL	Place at periodic intervals along a designated bike lane that is also marked out with appropriate pavement marking symbols.	PennDOT Pub 236
Bike Lane Ends	R3-17 R3-17BP	24 x 30 (Combined Sign & Plaque)	BE	Place in advance of the intersection at which the bike lane ends. Use only when a bike lane drops permanently from a corridor. Not to be used when a bike lane drops at an intersection (i.e. to accommodate a turn lane), and picks up again.	MUTCD

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
Bikes May Use Full Lane	R4-11	30 x 30	BM	Place along roadways (without bike lanes) where bicycles are present, and no shoulder is available.	PennDOT Pub 236
Center Lane Left Turn Only	R3-9B	24 x 36	CL	Mid-block, every block; at a minimum replace existing signs.	PennDOT Pub 236
Do Not Enter	R5-1	30 x 30 (post mounted) 36 x 36 (overhead)	D	Post mounted – Place right side of approaching motorist; may install a 2nd sign on the left side in conditions warrant. Overhead mounted – Place one overhead, and one post mounted on the right side of approach. Use when street is changing direction from 2-way to 1-way, when there is a street one way into a complicated intersection, or when it is physically possible to enter a one-way pork chop island the wrong way. Do not use to denote the one-way traffic operation of a street.	PennDOT Pub 236

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
Educational Sign – Push Button for Walking Person Signal	R10-3E	9 x 15	QP	This sign is being phased out, and should be replaced in R10-3. See "Push Button for Walking Person" R10-3 for guidance.	MUTCD
Educational Sign – Walking Person Signal	R10-3E (Mod)	9 x 12	QC	Place parallel to crossing, on pole closest to the crossing. Use at non-actuated crossings controlled by hand -man signals. Sign is modified to eliminate "Push Button to Cross" and corresponding Arrow.	PennDOT Pub 236
End One Way	R6-7	24 x 30	EO	On the left and right side, between the 'two-way traffic ahead' sign and the intersection at which traffic pattern changes.	PennDOT Pub 236
End School Zone	S5-2	24 x 30	SZ	Place at the end of reduced speed zone, see 'School Sped Limit' criteria. May use 'School Speed Limit' sign in lieu of 'End School Zone'. Use both for High Schools.	MUTCD PennDOT Pub 236

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
Object (Hazard) Marker	OM1-3 (formerly W16-1D)	18 x 18	HM	Place at beginning of median, island or bridge pier. Note: this is a blank yellow sign.	PennDOT Pub 236
Keep Left	R4-8	24 x 30	KL	See 'Keep Right' criteria.	PennDOT Pub 236 MUTCD
Keep Right	R4-7	24 x 30	KR	Place in advance of obstacle (i.e. median or column). If sign is being installed on a median and there is no significant transition in the vehicular path, use 'Hazard marker' sign instead.	PennDOT Pub 236 MUTCD
Lane Use Control	R3-8 series (varies)	Varies See PennDOT Pub 236	O	Place on pole nearest to the beginning of the queue line. Used when an intersection approach has multiple turn lanes. If overhead turn signs are being installed, do not use this sign.	PennDOT Pub 236
Left Turn Only	R3-5L	30 x 36	AF	Overhead, place 80-200 feet in advance of stop bar. If any, one of the thru lanes is becoming an exclusive only lane, install an overhead turn sign for each lane. Otherwise, this sign is optional.	PennDOT Pub 236

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
Left Lane Must Turn Left	R3-7LA R3-7L	R3-7A: 24 x 48 R3-7L: 30 x 30	M	On pole nearest the beginning of the queue line. Use R3-7A if space permits, otherwise R3-7L.	PennDOT Pub 236
Left Turn Signal	R10-10L	Post: 24 x 30 Overhead: 30 x 36	P, OP	Place one (1) sign per head, adjacent to appropriate head. Use when exclusive 3 section signal is present. Post mounted signs not addressed in Pub 236.	PennDOT Pub 236
Left Turn Yield on Green	R10-12 (Mod)	Post: 24 x 30 Overhead: 30 x 36	V,OV	Use adjacent to all 4 & 5 section signal heads with left turn arrows. Use this version on all projects, *unless* required by PennDOT. *Sign modification omits the green ball.* Post mounted signs not addressed in Pub 236.	PennDOT Pub 236 MUTCD
Left Turn Yield on Green	R10-12	Overhead: 30 x 36	VP	Use in place of R10-12(Mod) on all projects, *where required* by PennDOT.	PennDOT Pub 236 MUTCD
All Way Stop Plaque	R1-3P	18 x 6	AW	Place below stop sign, at multiway stop intersections. Only use 'All Way' do not use '3-Way' or '4-Way'.	PennDOT Pub 236 MUTCD

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
No Left Turn	R3-2	Post: 24 x 24 Overhead: 30 x 30 Posted Speed 40mph or greater: 36 x 36	H, OH	Post mounted signals – nearside right and far left side. Overhead signals – overhead near left hand signal head and far side left. Do not place in combination with overhead one-way signs. Divided highway – near side and far side on median if median width is greater than 4-feet. If overhead signals are present, install on nearside median, overhead and nearside right corner.	PennDOT Pub 236
No Parking Any Time Double Arrow	Special See Standard Detail SN0204	12 x 18	PC	Placement depends on existing poles; as a rough guide, signs should be mid-block and 100 to 200 feet apart.	N/A
No Parking Left Arrow	Special See Standard Detail SN0204	12 x 18	PA	Place at limit of no parking zone. These signs are not installed for standard corner clearance.	N/A
No Parking Right Arrow	Special See Standard Detail SN0204	12 x 18	PB	Place at limit of no parking zone. These signs are not installed for standard corner clearance.	N/A

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
No Pedestrian Crossing	R9-3	Standard: 18 x 18 Streets 50+ feet wide: 24 x 24	Q	Place on the far side of roadway or on median, clearly in the pedestrian line of sight.	PennDOT Pub 236 MUTCD
No Right Turn	R3-1	Post: 24 x 24 Overhead: 30 x 30 Posted Speed 40mph or greater: 36 x 36	G, OG	Post mounted signals – nearside right. Overhead signals – overhead near right hand signal head. Do not place in combination with overhead one-way signs. Only one is required, but may post two if conditions warrant. Do not use where it is redundant with a one-way sign.	PennDOT Pub 236
No Stopping Bus Zone Double Arrow	Special See Standard Detail SN0204	12 x 18	PU	Limit of no stopping zone	N/A
No Stopping Bus Zone Left Arrow	Special See Standard Detail SN0204	12 x 18	PT	Limit of no stopping zone	N/A

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
No Stopping Bus Zone Right Arrow	Special See Standard Detail SN0204	12 x 18	PS	Limit of no stopping zone	N/A
No Stopping Double Arrow	Special See Standard Detail SN0204	12 x 18	PF	See 'No Parking – Double Arrow' criteria	N/A
No Stopping Left Arrow	Special See Standard Detail SN0204	12 x 18	PD	Limit of no stopping zone	N/A
No Stopping Right Arrow	Special See Standard Detail SN0204	12 x 18	PE	Limit of no stopping zone	N/A
No Trucks	R5-2	24 x 24	NT		PennDOT Pub 236
No Trucks or Busses	R5-3-4 Special "Fairmount Park Drive" Plaque	30 x 36 (Combined Sign & Plaque)	NTB	For use on all Park Roads and roads leading to park roads, except state highways. "Fairmount Park Drive" plaque is brown with 4" white lettering, installed above the R5-3-4 as a single assembly.	PennDOT Pub 236

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
No Thru Trucks Assembly	R5-2 Special "No Thru Trucks" plaque	24 x 36 (Combined Sign & Plaque)	NTT	On streets as determined by a traffic study, or restricted via legislation. The "No Thru Trucks" plaque is necessary to clarify commercial vehicle restrictions on several State Routes and City Highways that restrict trucks, but allow buses (ex: Henry Avenue).	PennDOT Pub 236
No Turn On Red	R10-11 R10-11 (Mod) R10-11B	Post: 24 x 30 (24 x 24 as conditions warrant) Overhead: 30 x 36	R, OR	Place within ten (10) feet of appropriate signal head. If this cannot be accomplished, erect one far side and one post mounted near side, right. See PennDOT Publication 201, Section 62 for Criteria. Use R10-11 on State Funded projects. Use R10-11 (Mod – No Red Dot) on City funded projects, and standard maintenance. Use R10-11B for crossings of narrow roads, as determined in the field.	PennDOT Pub 236

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
No Turn On Red, 6AM to 6PM	R10-101 (6AM-6PM)	Post: 24 x 30 Overhead: 30 x 36	T, OT	See 'No Turn on Red' criteria At a minimum, install at intersections with documented high pedestrian volumes (i.e. school crossings, etc.)	PennDOT Pub 236
No Turns	R3-3	Post: 24 x 24 Overhead: 36 x 36	J, OJ	See 'No Left Turn' criteria. Do not use where it is redundant with a one-way sign.	PennDOT Pub 236 MUTCD
No U-Turns	R3-4	Post: 24 x 24 Overhead: 30 x 30	K, OK	See 'No Left Turn' criteria.	PennDOT Pub 236 MUTCD
One Way Left Vertical	R6-2L	Post Mounted: 24 x 36 Overhead: 30 x 36	OB	Generally mounted overhead, supplement with pole mounted horizontal sign.	PennDOT Pub 236

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
One Way Left Horizontal	R6-1L	Standard: 36 x 12 Roads 40mph Speed Limits or Faster: 54 x 18	B	Two signs are required for each approach, preferred locations are nearside right and farside left. Location of street name signs, available posts, or visibility may mandate different locations. If there is an overhead vertical one-way sign, only one post mounted sign is required. Combine one way sign with street name sign wherever possible. No not install for pedestrians or where one way condition does not present any turn prohibitions for approaching traffic.	PennDOT Pub 236 MUTCD
One Way Right Horizontal	R6-1R	Standard: 36 x 12 Roads 40mph+ Speed Limits: 54 x 18	C	See 'One Way Left – Horizontal' criteria	PennDOT Pub 236 MUTCD

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
One Way Right Vertical	R6-2R	Post mounted: 24 x 36 Overhead: 30 x 36	OC	See 'One Way Left – Vertical' criteria	PennDOT Pub 236
Philadelphia Parking Authority Signs	Special	PPA	See Placement/ Comments	These signs are owned and maintained by the Philadelphia Parking Authority. Unless otherwise shown herein, they are generally identified by green lettering on white background. Only existing signs may be shown on plans presented to the Streets Department for agency approval.	

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
Pedestrian Crossing (Assembly)	W11-2 (Ped X-ing), W16-9P (Ahead Plaque) W16-7 (Arrow)	W11-2: 30 x 30 W16-9P: 24 x 12 Sizes increase on roads with 40mph limit or greater	Pedestrian Crossing: QA, Plaque: AH or AR	Place at locations where pedestrian activity may be unexpected by motorists, or uncontrolled crosswalks. Ahead Assembly: On the right side of the approach, in advance of any uncontrolled pedestrian crossing. Arrow Assembly: At all uncontrolled crosswalks, on the right side of the approach; arrow points at crosswalk. May also be used on the left, in addition to the required right side. Background color is fluorescent yellow/green.	PennDOT Pub 236 MUTCD
Push Button for Walking Person	R10-3	9 x 12	QW	Place parallel to crossing, on pole closest to the crosswalk. Use at all actuated intersections controlled by pedestrian signal heads.	PennDOT Pub 236

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
Reserved Parking	R7-8	12 x 18	HP	These signs are owned and maintained by the Philadelphia Parking Authority. Cannot be installed by any party other than the PPA. Only existing signs may be shown on plans presented to the Streets Department for agency approval.	
Right Lane Must Turn Right	R3-7R	R3-7R: 30 x 30	N	Place on pole nearest to the beginning of the queue line.	PennDOT Pub 236
Right Turn Only	R3-5R	30 x 36	AG	See 'Left Turn' criteria.	PennDOT Pub 236
Right Turn Signal	R10-10R	Post Mounted: 24 x 36 Overhead: 30 x 36	S, OS	One (1) sign per exclusive signal head, adjacent to appropriate head. Required for 3-section and 5-section turn signal heads.	PennDOT Pub 236

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
School Crossing	S1-1	S1-1: 30 x 30	School Crossing: SA	Sign without assembly to be placed at traffic signals and all-way stops. Place on right side of approach at all designated school crossings. At traffic signals, place at crosswalk. At all-way stops, place in advance of STOP sign at an appropriate distance such that the STOP sign is properly visible.	PennDOT Pub 236 MUTCD
School Crossing (Assembly)	S1-1 W16-7 (arrow) W16-9P (Ahead)	S1-1: 30 x 30 W16-7 and W16-9P 24x12	School Crossing: SA Arrow: AR Ahead: AH	Sign with assembly to be placed at all uncontrolled school crossings. Assembly with arrow rider to be placed on the right and left side of street at the crosswalk. Assembly with 'Ahead' rider to be placed at the proper distance per MUTCD Ch.2C on the right-hand side of the road.	PennDOT Pub 236 MUTCD

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
School Speed Limit (Assembly)	S4-3P (School Panel), R2-1 (Speed Limit), S4-2P (When Children are Present)	24 x 48 (Combined Sign & Plaque)	SL	At the beginning of the reduced speed/school zone. School speed limit signs are also used for high schools. The custom plaque "During Opening Closing and Recess" will be phased out as replacements occur.	PennDOT Pub 236 MUTCD
SEPTA Route Signs			SP	These signs are owned and maintained by SEPTA. Only existing signs may be shown on plans presented to the Streets Department for agency approval.	N/A
Share the Road	W16-101	30 x 30	SR	Place along roadways (without bike lanes) where bicycles are present, and a useable shoulder is available for bicycles.	PennDOT Pub 236
Speed Limit	R2-1	24 x 30 (fewer than 3 lanes) 30 x 36 (3 or more lanes)	L	Place mid-block, distance between signs should not exceed 1500 feet. Also install immediately after arterial crossing and reset spacing. Install on all signalized corridors. Traffic Engineering will justify the limit.	PennDOT Pub 236

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
Stop	R1-1	30 x 30	A	Right side is mandatory. Left side is preferred and mandatory where right side visibility is low. The only signs which me be installed on the same pole, visible on the approach, as a stop sign are street name signs and one-way signs. Other signs may be installed on the back of stop signs, but cannot be visible from the stop sign's approach.	PennDOT Pub 236 MUTCD
Stop Here on Red – Left	R10-6L	24 x 30	SL	On the right side of roadway. Must be supplemented with a stop bar.	PennDOT Pub 236
Stop Here on Red – Right	R10-6R	24 x 30	SR	On the left side of roadway or median. Must be supplemented with a stop bar.	PennDOT Pub 236
Straight – Through	R3-5A	30 x 36	AH	See 'Left Turn' criteria.	PennDOT Pub 236

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
Tow Away Zone Plaque	R7-201AP	12 x 6	TZ	These signs are owned and maintained by both the Streets Department, and the Philadelphia Parking Authority. They are permitted only where legislation permits their use. Can be combined with any other parking sign as a single blank.	PennDOT Pub 236 MUTCD
Two Way Traffic	W6-3	30 x 30	TT	Just after intersection at which two-way condition begins, on the right side. Although the MUTCD does not call for the use of this sign for this condition, the City has adopted it. 30 x 30 is standard due to special issues with PennDOT standard 36 x 36.	PennDOT Pub 236
Two Way Traffic Ahead	Previously R6-10 Special See Standard Detail SN02XX	Standard: 24 x 30 Overhead: 36 x 48	WT	On the right and optionally on the left in advance of intersection at which two-way traffic begins.	PennDOT Pub 236 (version 2006)

Legend	Series	Standard Size (Inches))	Symbol	Placement / Comments	Publication
Use Crosswalk Left Arrow	R9-3BL	18 x 12	UL	At banned crossings, on the pole closest to the crossing which is to be utilized.	PennDOT Pub 236
Use Crosswalk Right Arrow	R9-3BR	18 x 12	UR	See 'Use Crosswalk Left Arrow' criteria.	PennDOT Pub 236
Yield	R1-2	30 x 30 x 30	Y	Place at both nearside corners of the approach. May be accompanied by yield line markings.	MUTCD

APPENDIX B

List of Current Traffic Engineering and Streets Department Standard Details

Street Lighting (SL01XX)

SL0100 – General Notes

SL0101 – Street Light Pole (2 pages)

SL0102 – Column Base for 30’ Street Light Poles

- Sheet 1 – 1’-8” Base
- Sheet 2 – 2’-0” Base

SL0103 – Column Base for Pedestrian Poles (4 pages)

SL0104 – Street Lighting Bracket

SL0201 – Street Light Davit on Wood Pole

SL0202 – Residential Street Light Tap / 30’ Street Light Pole Manhole Tap (2 pages)

SL0203 – Street Lights Connected in Series

SL0204 – Street Light Pole Brackets

SL0205 – Street Lighting Tap – PECO Pole

Traffic Engineering (TE0XXX)

TE0101 – 20’ C-Post / Street Name Sign Pole

TE0102 – C-Post Split Base Assembly

TE0201 – D-Pole

TE0202 – D-Pole Foundation

TE0203 – D-Pole Spreadfoot Foundation

TE0301 – Pedestal Pole

TE0501 – Mastarm Details (Penn DOT 8800 Standards)

TE0601 – Signal Head

TE0701 – Traffic Signal Service Detail

TE0703 – D-Pole Service Tap & Direct Bury Tap

TE0801 – Sample Phasing, Timing & Color Sequence Chart

TE0901 – Micro-loop detail

Interconnect (IC01XX)

IC0102 – Interconnect Wiring Detail

IC0103 – Interconnect Drop from Mast Arm Pole

IC0104 – Conduit Installation Detail

Signs: Street & Traffic (SN0XXX)

SN0101 – Metro Street Name Standard

SN0102 – Overhead Street Name Sign

SN0203 – Bicycle Lane Shifts

SN0204 – No Parking/Stopping Sign

SN0301 – Traffic Sign Post Mounted

SN0302 – Assembly of Sign Brackets

Pavement Markings (P01XX)

PM0102 – Typical Crosswalk / Stop Bar detail

PM0103 – Bike Legend Detail

PM0105 – Left Turn Detail

PM0106 – Bus Zone and Legend Detail

PM0108 – Rail Road Detail

Street Construction (SC01XX)

SC0101- Typical Curb & Footway Construction & Roadway Restoration (Formerly L-892)

SC0102 – Typical Curb Detail (Formerly L-779)

SC0105 – Standard Driveway Details (Formerly L-879-RR)

SC0106 – Typical Bumpout Construction

SC0107 – Typical Restoration Concrete Footway

SC0109 – Concrete Cheek Wall (A,B)

SC0110A – Brick Sidewalk & Cheek Wall Single Width

SC0110B - Brick Sidewalk & Cheek Wall Multiple Width

SC0112 – Roadway Half Section Sidewall Grading Standard (Formerly L-903)

SC0113 – Permanent Trench Restoration (Formerly L-901)

SC0114 – Temporary Trench Restoration (Formerly L-902)

Plan Presentation (PP01XX)

PP0101 – Roadway Symbol and Abbreviation Standard

PP0102 – Roadway Grading

Furnishing Zone Detail (FZ0XXX)

FZ0101A – Inverted U Bike Rack

FZ0101B – Bike Rack Installation

FZ0101C – Bike Rack Placement

FZ0202 – Street Tree Planting Diagram (Formerly L-895)

APPENDIX C

Guidelines for Utilizing Design Vehicles for Turning Radii at Intersections

Table 8: Design Vehicle Guidelines for Turning Radii at Intersections

INTERSECTING STREET TYPE	Arterial	Collector	Local/Residential
Arterial	WB-50, unless larger vehicles are known to utilize the intersection. WB-67 on common/designated truck routes.	City Bus (1)	SU (2) City Trash Truck
Collector	City Bus (1)	SU (2) City Trash Truck	SU (2) City Trash Truck
Local/Residential	SU (2) City Trash Truck	SU (2) City Trash Truck	School bus (3) School Bus

- If a smaller radius for the bump out is required for design purposes, to be reviewed individually by PSD. If the turn is a part of a regular SEPTA route, to be designed utilizing SEPTA turning guidelines (see below).
- City Bus if the turn is a part of a regular SEPTA route -to be designed utilizing SEPTA turning guidelines.
- To be checked to also accommodate SU turns (adjacent lanes encroachments may be accepted).

Additional notes:

- If there is any other design vehicle that is known to routinely utilize an intersection (for instance, a tour or coach bus,) the geometry is to be verified for that vehicle.
- Design for intersections with heavy pedestrian volumes needs to be coordinated with the Philadelphia Streets Department in early stages.

- In all cases, the proposed intersection geometry must support emergency vehicles, such as fire trucks. For emergency vehicles, lane encroachments are allowed; overhang encroachments into the curb are allowed, provided that there are no vertical obstacles within the area of encroachment.
- In all cases, if the existing intersection geometry accommodates a design vehicle without encroachments into adjacent lanes, the final layout is to accommodate it as well.
- No encroachment into opposing lanes can be accepted as part of the proposed condition.
- If turns at a specific intersection are part of a designated SEPTA route, the design is to account for the specific bus type (single unit or articulated) that serves the route, and for the turning procedure in accordance with the SEPTA manual.

Below, for informational purposes, are the current turning guidelines for SEPTA bus drivers. Be sure to check with SEPTA for the latest:

Boxing Bus for Right Turns

- On a non-articulated bus, position the bus 2 feet from the right curb. When the bus is 20 feet from the corner, swing out 6 to 10 feet to the left. When the number two door of the bus reaches the corner curb line,
- begin your right-hand turn. This will be adjusted slightly when operating an articulated bus. Consult your Instructor for boxing an articulated bus.

Clearances

- When passing other vehicles either parked or moving, you must ensure you have proper clearance. Stay three feet from parked autos so drivers won't open doors into the path of the bus. If you are unsure of a clearance, stop, get out and check, then proceed with caution. Be especially watchful for protruding objects. Clearance is especially important when you are making a turn.
- There is an overhang on the bus. Some obstacles that can be cleared during a straight movement may be struck on a turn. On a non-articulated bus, the points of clearance for a left turn are right front and left rear. For a right turn, they are left front and right rear. On an articulated bus, the points of clearance for a left turn are right front, left middle, and left rear. For a right turn, they are left front, right middle, and right rear.

APPENDIX D

Listing of Streets Department Specifications

(In Development)

APPENDIX E

Listing of Streets Department Plan Review Application & Checklists

Streets Plan Review Application

Plan Review Checklist No. 1 (Zoning & Checklist 1 Building Permit Review Plans)

Plan Review Checklist No. 2 (Minor & Major Development Projects)

Plan Review Checklist No. 3 (Sheeting/Shoring – Foundation Permit Review)

Plan Review Checklist No. 4 (Encroachment Legislation)

Complete Streets Checklist

Sidewalk Café Review Application & Checklist

Street Lighting Private Cost Application & Checklist

APPENDIX F

Street Closure Permits Fee Schedule

Table 9: Street Closure Permits

Street Closure Permits

City of Philadelphia Street Closure Permit Rates - Effective 11/1/12

Permit Cost per Location = Rate x Unit of Measure x Time

Closure Type	Rate for Center City & University City	Rate for All Other Areas of the City	Maximum Duration
Sidewalk Shelter platform with 6 Foot Wide Pedestrian Walkway	no fee	no fee	1 year
Partial Sidewalk Closure	$1.00 per foot per week*	$.50 per foot per week*	1 year
Full Sidewalk Closure Accompanied By Creation of Protected Footway in Parking Lane	$1.50 per foot per week*	$.75 per foot per week*	1 year
Parking Lane	$2.00 per foot per week*	$1.00 per foot per week*	1 year
Full Sidewalk Closure	$3.00 per foot per week*	$1.50 per foot per week*	1 year
Travel Lane	$3.00 per foot per week*	$1.50 per foot per week*	1 year
Dumpster Only	$40 per dumpster per week	$40 per dumpster per week	1 year
Portable On-Demand Storage Unit (PODS) Only	$40 per PODS	$40 per PODS	5 days
Full Closure - 5 days or less	$125 per block per day	$125 per block per day	5 days
Full Closure - More than 5 days	$1,000 per block per week**	$500 per block per week**	1 year
Helicopter - for lift location up to 10 blocks	$250	$250	6 hours
Helicopter - for lift location over 10 blocks	$50 per block over 10	$50 per block over 10	6 hours
Temporary No Parking	$25 per 40 foot space per day	$25 per 40 foot space per day	48 hours
Window Washing Sidewalk Closure	$150 per block per year	$150 per block per year	1 year

* There is a minimum weekly fee of $40 per closure type per block and a maximum yearly fee of $50,000 per closure type per block. For full sidewalk closures, the minimum weekly rate after the first week is $200 per block in Center City & University City and $100 per block in all other areas.

** For full closures over five days, there is a maximum yearly fee per block of $50,000 in Center City and University city and $25,000 in all other areas.

APPENDIX G

Listing of Referenced Streets Department Publications

Except where noted by "*", all referenced materials are available for download from the Streets Department's website. See the Preface for current website information.

Chapter 1 References

**Traffic Guidelines* (by Streets Department Traffic Engineering Unit), dated 5-24-2006, and as revised.

Chapter 2 References

Philadelphia Streets Department ADA Curb Ramp Design/Construction Approval Submission Requirements, dated 9-13-2012
Proposal for Private Paving Cover Sheet
Highway Work Proposal Items and Unit Price Bid
Paving Application
List of approved Pavers
Letter of Agreement to use City Approved Paving Contractors
Labor & Materialsmen Bond
Performance Bond
Compensation Affidavit
Five Year Maintenance Bond as per City Code, §11-500 (developer and contractor must decide who will be responsible). In some cases, a Letter of Escrow may be used in lieu of a Maintenance Bond. Click here for information on the requirements for a letter of escrow.
Sample Paving Agreement

Chapter 3 References

Alleys, Driveways and Retaining Walls, revised April 2014
Construction Dumpster Law Guide, last revised July 2013
**Guidelines for Assigning Police Support for Utility Construction*, dated February 5, 2013, and as revised.
Special Event Application Guide (Formerly Block Party Permits Guide), revised July 2013

APPENDIX H

Approved Non-Standard Products

Street Tree Subgrade Structures (March 20, 2014)

CITY OF PHILADELPHIA
DEPARTMENT OF STREETS

MEMORANDUM **March 20, 2014**

TO : For General Distribution

FROM : Darin Gatti, PE – Chief Engineer and Surveyor
Stephen Lorenz – Acting Chief Highway Engineer

SUBJECT: Street Tree Subgrade Structures
Guidelines for Limited Use

As you may be aware, any specifications that are not included in the City of Philadelphia, Department of Streets, Standard Construction Items (1997), must be submitted to the Streets Department for approval. We have reviewed one such item, henceforth known as *Street Tree Subgrade Structures*, and most commonly marketed as Silva Cells (by DeepRoot Green Infrastructure, LLC, San Francisco, CA). The following guidelines and restrictions have been prepared for the design and permitting of these structures within the City of Philadelphia Right of Way. They have further been prepared with consideration of all other Right of Way users, and the general welfare and safety of our residents.

- Restrictions:
  - Street Tree Subgrade Structures may only be installed adjacent to existing or proposed street trees.
  - Placement is limited to the furnishing zone of footways, with a legal width of twelve (12) feet or greater. Extension of these structures will not be permitted to extend into the walking or building zones, even where street tree pits are otherwise permitted by special exemptions or other design standards. Each zone will be as defined by the Philadelphia Complete Streets Design Handbook, and legal footway width will be as existing, or proposed, on the City Plan.
  - Street Tree Subgrade Structures may not be constructed around existing or proposed utilities. No utility service (main or lateral, existing or proposed) will be placed within a Street Tree Subgrade Structure.
  - No new utility services will be installed within an existing Street Tree Subgrade Structure.
  - No Street Tree Subgrade Structure will be permitted within five (5) linear feet of any manner of utility vault, vent, valve box, manhole, drainage inlet, fire hydrant, utility pole, street light, or traffic signal found within the Right of Way.

- Design and Permitting
  - A permit will be required by the Streets Department, Right of Way Unit, and will require permanent maintenance responsibilities and liability be assigned to the property of record on which it fronts, and not to any manner of third party, including, but not limited to, any department or office of the City of Philadelphia.
  - No Street Tree Subgrade Structure will be permitted for placement within the public Right of Way without prior approval of the Committee of Highway Supervisors. Projects entered into the Guaranteed Pavement Information System (G.P.I.S.) containing Street Tree Subgrade Structures will not be permitted without a Utility Clearance Transmittal.
  - Street Tree Subgrade Structures may not be used as any manner of stormwater control measure, except as implied by the inherent benefit of the tree itself.
  - Plans for each Street Tree Subgrade Structure must be prepared by a professional engineer, licensed in the Commonwealth of Pennsylvania.
  - The minimum deck stress for any Street Tree Subgrade Structure installation is twenty two (22) pounds per square inch (PSI).
  - The placement of additional delineators, alternative pavements, etc, are to be considered preferred treatments, but will not be required.
  - Changes to these guidelines, as may be required in the future, will be subject to the approval of our respective offices.

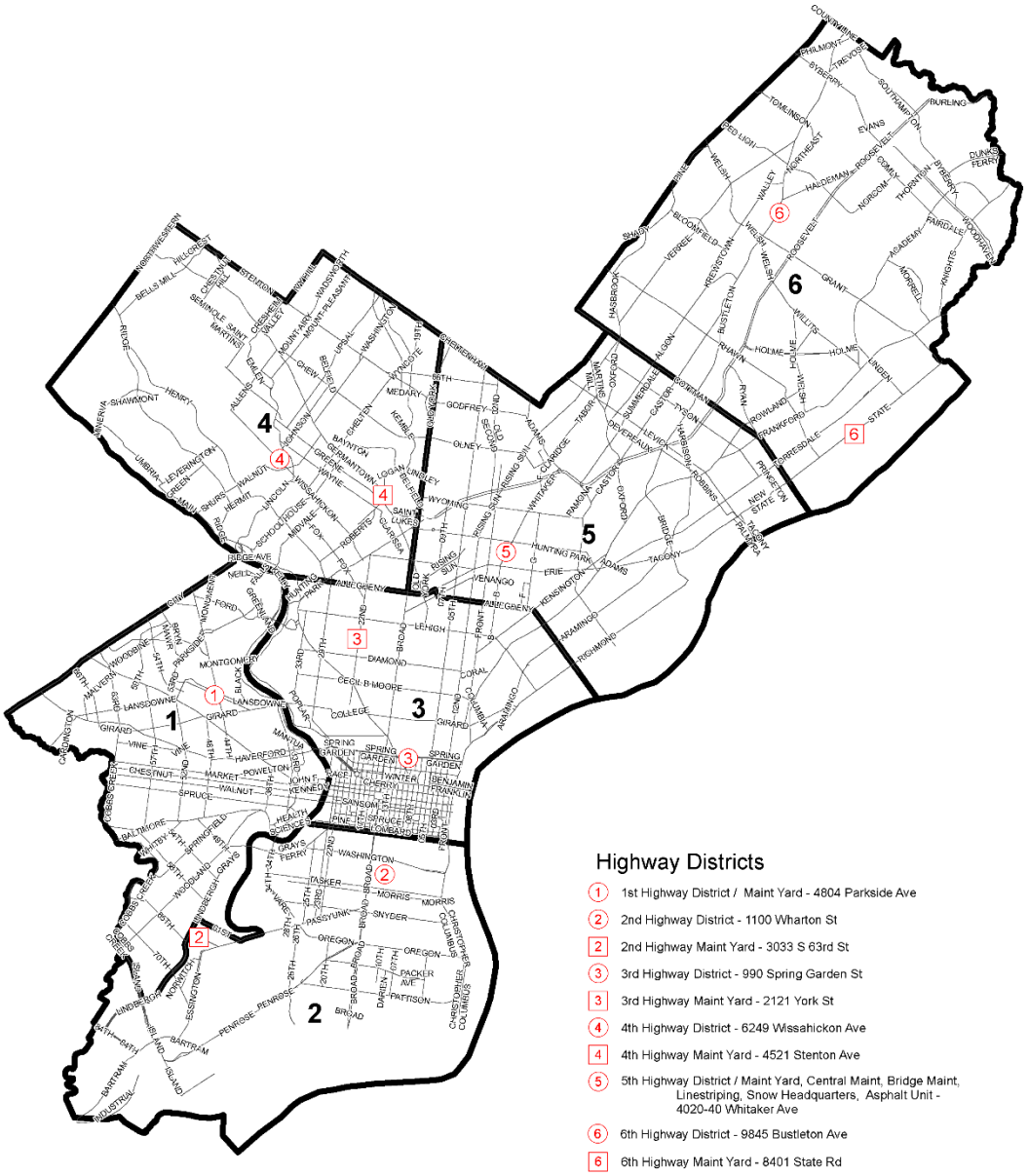
General Distribution:
D. Perri, Streets Department Commissioner
R. Montanez, Street Lighting & Traffic Engineering
M. Brisbon, Highway Division
P. O'Donnell, Right of Way Unit
H. Wilson, Right of Way Unit
N. Sen, Transportation Planning & Analysis
S. Chiu, City Planning Commission
F. Pillar, Parks & Recreation
C. Crockett, PWD – Planning & Environmental Services
M. Lavery, PWD – Design Branch
V. Lenoci, PWD – Stormwater Plan Review Group
W. Rosetti, PennDOT
A. Key, DeepRoot Green Infrastructure, LLC

File

APPENDIX I

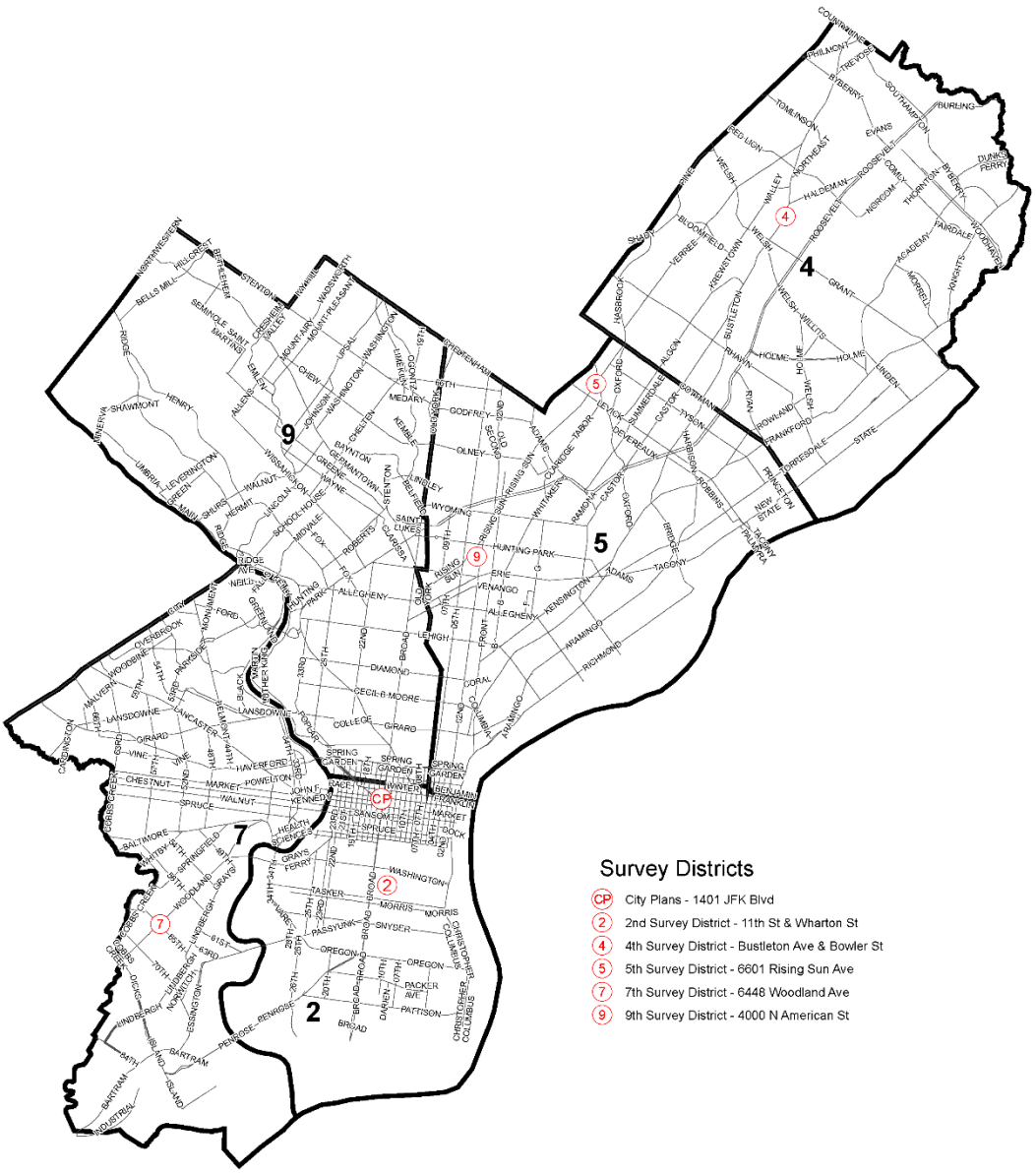
Streets Department Highway and Survey District Maps

CITY OF PHILADELPHIA
DEPARTMENT OF STREETS
HIGHWAY DISTRICTS AND OFFICE LOCATIONS



District	Office Phone	Fax	Yard Phone	Fax
1	(215) 685-0168, 69, 72	(215) 685-0178	(215) 685-0170, 71	(215) 685-0178
2	(215) 685-1858, 59	(215) 685-1863	(215) 685-4281, 82	(215) 685-1634
3	(215) 685-3922, 23, 33	(215) 685-3925	(215) 685-9776, 77	(215) 685-9775
4	(215) 685-2191, 92, 65, 66	(215) 685-2190	(215) 685-2193, 94	(215) 685-2164
5	(215) 685-9843, 50	(215) 685-9839	(215) 685-9819, 20	(215) 685-9815
6	(215) 685-0652, 53	(215) 685-0386	(215) 685-8271, 72	(215) 685-8286

CITY OF PHILADELPHIA
DEPARTMENT OF STREETS
SURVEY DISTRICTS AND OFFICE LOCATIONS



District	Phone	Fax
CP	(215) 686-5598, 67	(215) 686-5182
2	(215) 685-1865	(215) 685-1851
4	(215) 685-3050, 51	(215) 586-0354
5	(215) 685-0585, 86	(215) 685-0561
7	(215) 685-2668, 69	(215) 685-2661
9	(215) 685-3050, 51	(215) 685-3052