PENN AVENUE CORRIDOR
URBAN CATALOGUE & STREETSCAPE PROGRAM

21 SEPTEMBER 2009

PREPARED BY

LOYSEN + KREUTHMEIER ARCHITECTS

WITH

KLAVON DESIGN ASSOCIATES, INC.

little kelpie

FOR

Friendship Development Associates

PPND pittsburgh partnership for neighborhood development

EAST END PARTNERSHIP OF PITTSBURGH

PENN AVENUE CORRIDOR URBAN CATALOGUE & STREETSCAPE PROGRAM

PROJECT COMMITTEE

Aggie Brose, BLOOMFIELD-GARFIELD CORPORATION
Andrea Lavin, COMMUNITY DESIGN CENTER OF PITTSBURGH
Tom Bartnik, COMMUNITY DESIGN CENTER OF PITTSBURGH
Maya Haptas, LAWRENCEVILLE CORPORATION
Katherine Camp, EAST LIBERTY DEVELOPMENT INC.
Freddie Croce, BLOOMFIELD-GARFIELD CORPORATION / BUSINESS OWNER
David Light, PITTSBURGH PARTNERSHIP FOR NEIGHBORHOOD DEVELOPMENT
John Barrett, FRIENDSHIP DEVELOPMENT ASSOCIATES
Patrick Hassett, CITY OF PITTSBURGH, ENGINEERING & CONSTRUCTION
Patrick Roberts, CITY OF PITTSBURGH, DEPARTMENT OF CITY PLANNING
Shelly Martz, CITY OF PITTSBURGH, DEPARTMENT OF CITY PLANNING
Brian Krul, L. ROBERT KIMBALL ENGINEERING
Matthew Galluzzo, FRIENDSHIP DEVELOPMENT ASSOCIATES

LOYSEN + KREUTHMEIER ARCHITECTS

Karen Loysen, principal
Peter Kreuthmeier, principal
Dave Green
Sallyann Kluz
Jennifer McCarthy-Lovell

KLAVON DESIGN ASSOCIATES

Dina Klavon, principal
Don Angus
Maria Riley

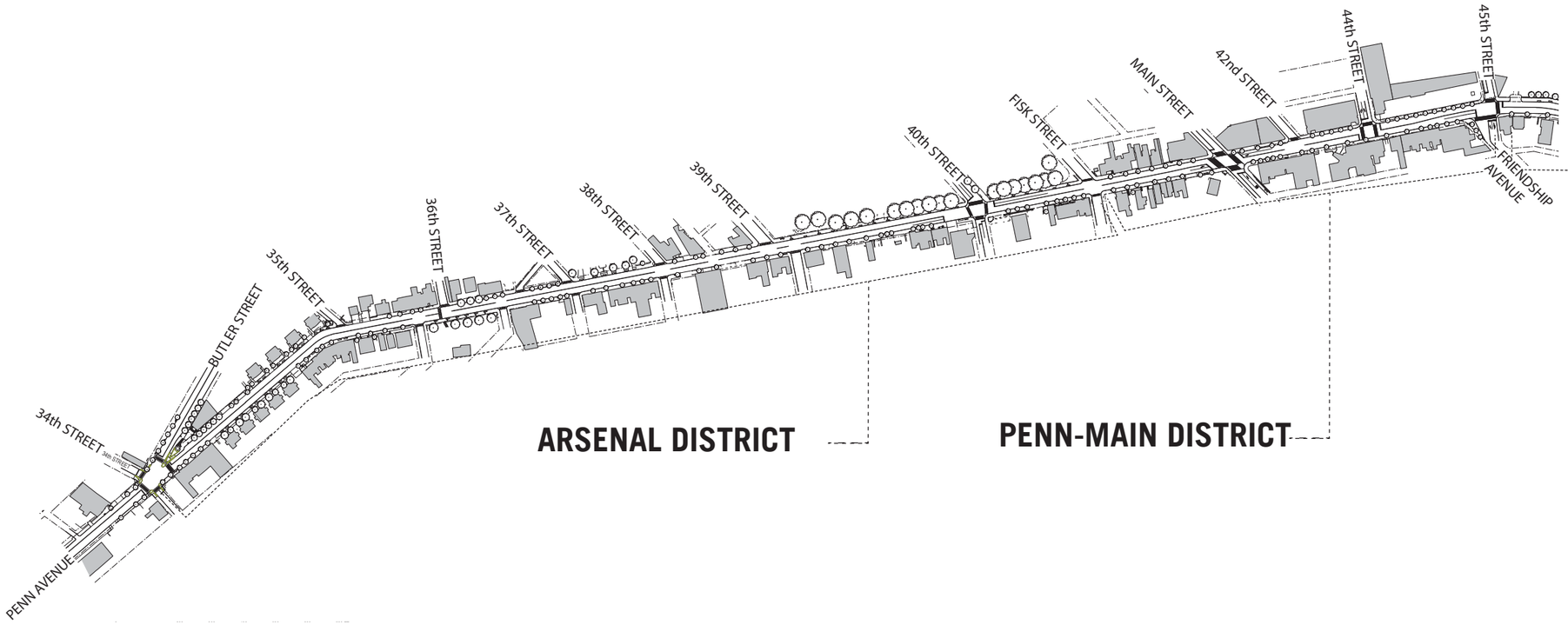
LITTLE KELPIE

Courtney Centner
Nathan Davidson

PROJECT FUNDING

This project was supported by the generous contributions of the Pittsburgh Partnership for Neighborhood Development.

CONTENTS



INTRODUCTION

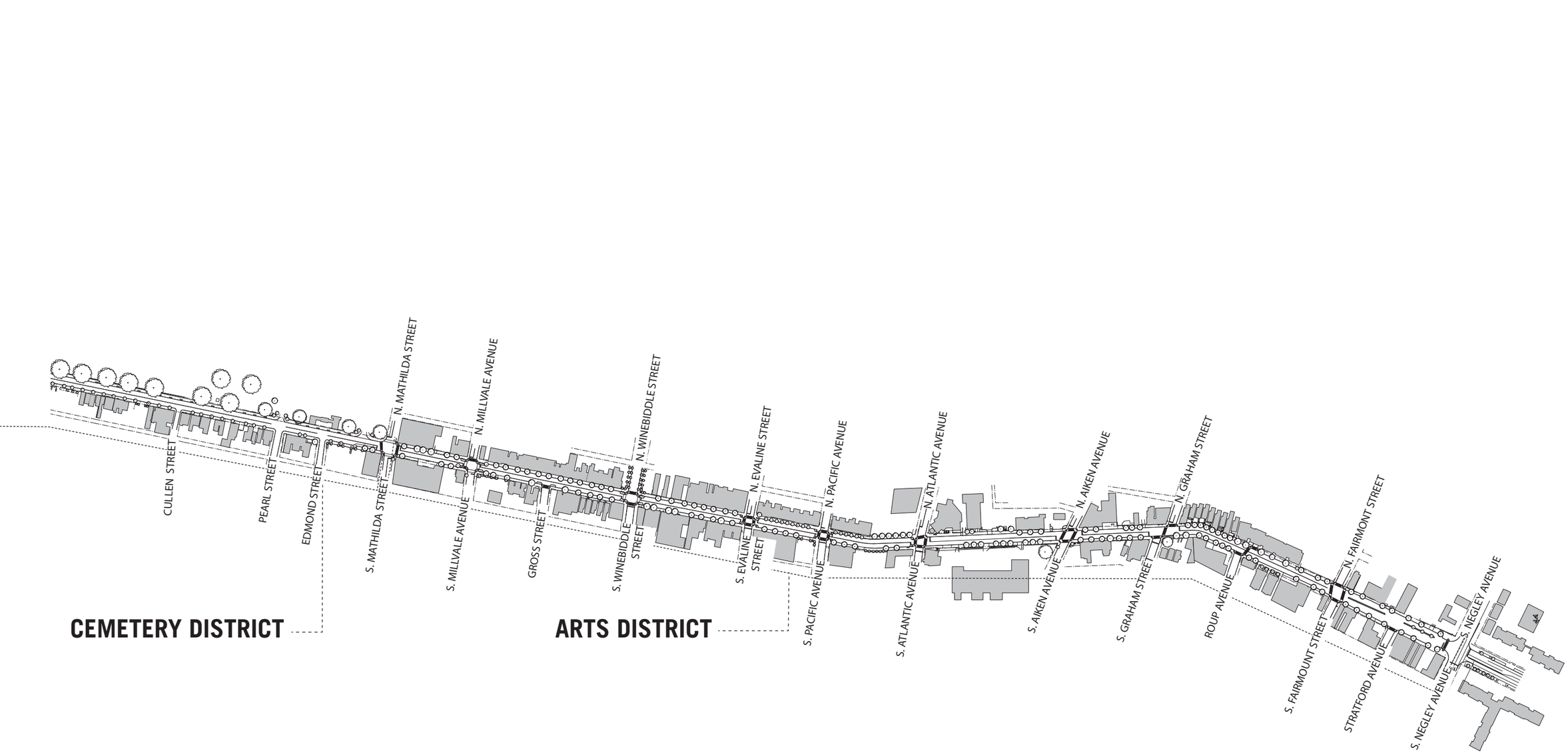
The Penn Avenue Corridor "Urban Catalogue and Streetscape Program" project continues the study and planning for the corridor as begun by the Penn Avenue Corridor Master Plan, and specifically looks at developing recommendations for the Penn Avenue Corridor Phasing Plan, which outlines Corridor reconstruction. These recommendations merge with the engineering ready to begin for Phase I of the Corridor Phasing Plan reconstruction. The catalogue develops a palette of components to be used throughout the corridor, with conditions-based application into each of the districts.

The study area includes the 2.25 mile stretch of Penn Avenue between Doughboy Square on its west to the Penn/Negley intersection on its east. Over that length, the Avenue's character, scale, use and topography evolve and vary, as it passes through the Arsenal District, Penn-Main District, the Cemetery District and the Arts District.

The Urban Catalogue endeavors to create a palette which is coherent through all of those districts yet can evolve and be appropriate to the unique characteristics of each one.

Further, rather than the notion of "Streetscape" as "Accessories," it is the intention of this Catalogue and Streetscape Program to integrate design into the basic infrastructure of the Avenue while also allowing for a layer of unique, place-making elements and public art.

Within the basic infrastructure are new Sidewalk-Scape elements, including sidewalks, intersections and storm water collection strategies. The proposed storm water collection planters are a unique feature within the City, as they slow and filter storm water from the streets, which currently overloads the City's capacity. Landscape is designed to suit these storm water collectors as well



as to create and celebrate unique moments along the Avenue. Transit-Scape elements create more useful user information and consistency between bus shelters and bus stops. Pole Elements create an entire kit-of-parts from street lights to traffic signals to trash receptacles to signs and parking meters that reduce visual clutter throughout the corridor. Place-Making Elements are those which create unique features at each District, landmark or other special moment along the Avenue.

Elements from the Catalogue may be implemented within the streetscape through a variety of mechanisms, including the Penn Avenue Reconstruction Project, Neighborhood Improvement Districts, and the efforts of local community development corporations. Implementation will need to include funds for long-term maintenance and replacement.

HOW TO USE THIS DOCUMENT

The first part of the document is the Catalogue, which identifies the components of the streetscape. Within the catalogue are “Integrated”, “Inserted” and “Applied” elements, as outlined in the Matrix following the Catalogue, implying how the elements might be funded and implemented. The second part of the document depicts prototypical, conditions-based implementation of the catalogue components for each district and selected special conditions, such as at Doughboy Square and the intersection of Penn and Main. This part of the document uses a two-page spread for each district, with a key plan and selected details. Moving forward, as each phase of construction unfolds, the components of this Catalogue will be applied to the particulars of each block and district, with further and more detailed study of actual conditions to be conducted at the time the construction is to begin.

STREETS & SIDEWALKS

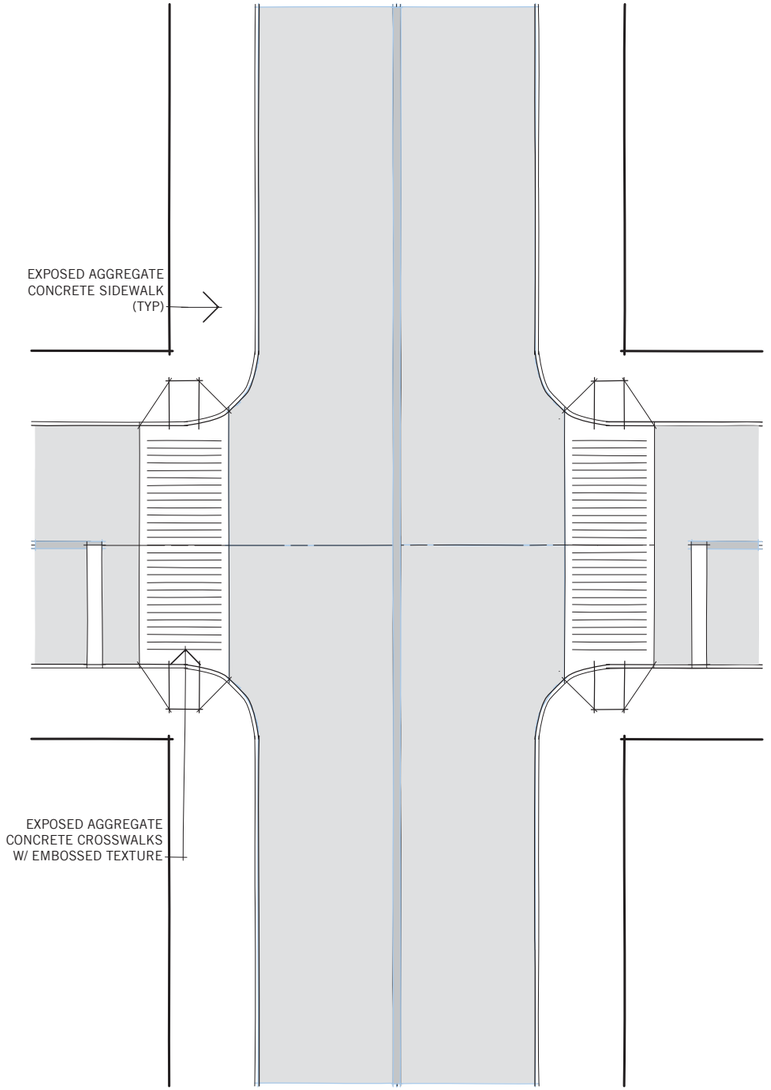
To create an appealing texture, exposed aggregate sidewalks are recommended throughout the corridor. Joint patterns can change to suit the scale of the sidewalks, with smaller scale patterns at the Arsenal District's residential blocks and bolder patterns at Penn/Negley's broad sidewalks. In addition, concrete stamping may be employed at selected landmarks, such as stamped sycamore leaves below the ancient trees at Allegheny and St. Mary's Cemeteries.

Streets would primarily be asphalt-surfaced, though cross walks would be concrete, with embossed textures. At intersections with multi-directional crossings, the intersection would also be constructed in concrete. These may be raised slightly above the adjacent asphalt street, which would create more pedestrian-focused intersections and also help reduce the lengths of ramping at handicapped curb cuts.

PAVING.

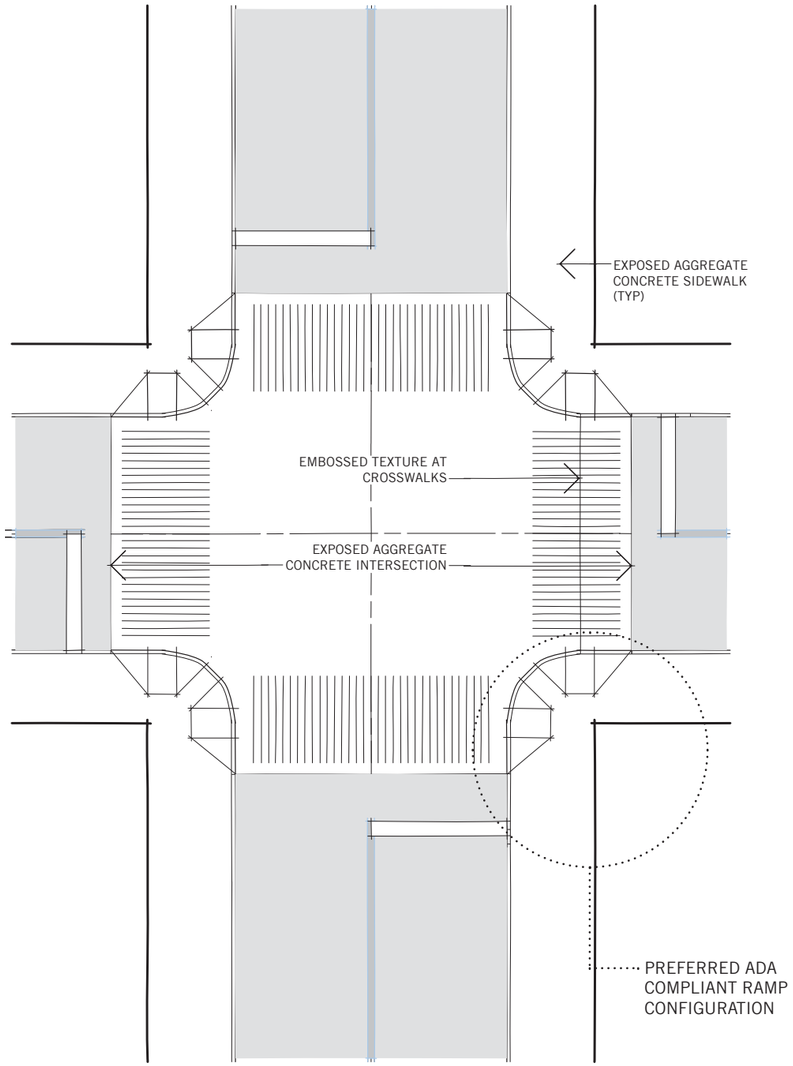
An exposed aggregate surface, selected from among the City's standard mixes, will be used for all new sidewalks. Patterning and joints will vary with the scale of the sidewalks and their uses. Residential sidewalks in the Arsenal District may have smaller-scale joint patterns than the broad sidewalks of the Arts District adjacent to Penn and Negley.

As "Applied" items, stamped designs may be set into the concrete paving to mark a unique event, such as stamping leaf-prints below the magnificent trees in the Cemetery District.



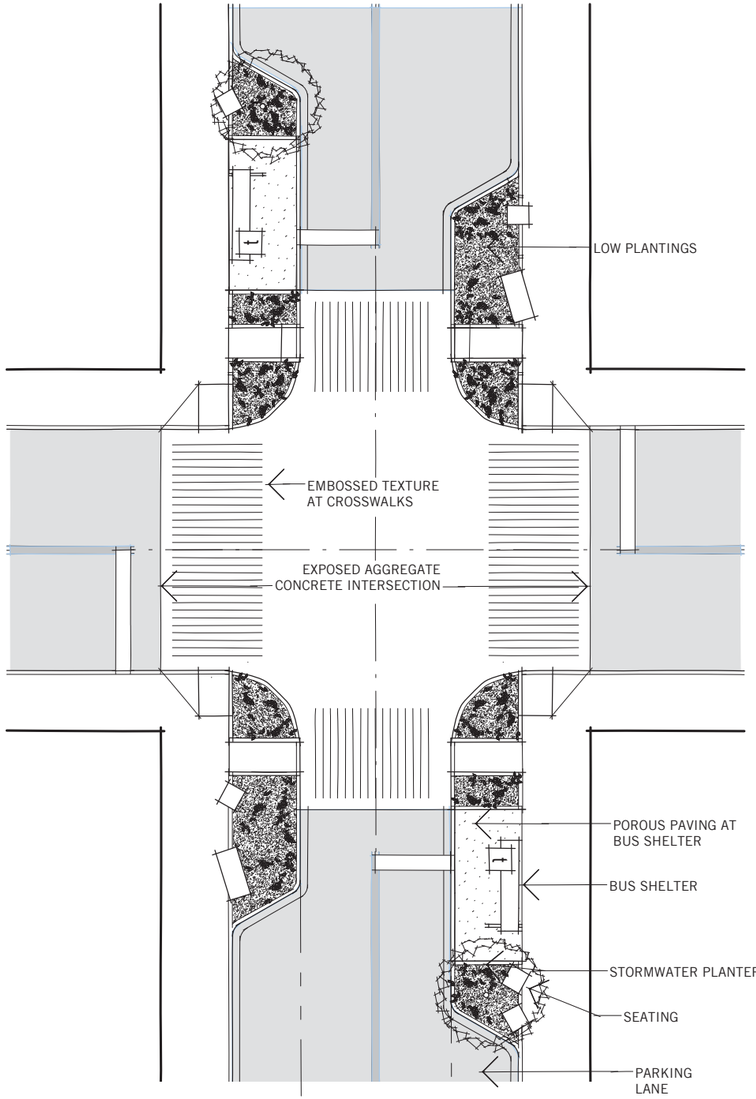
INTERSECTION TYPE 1.

Side street crossings are to be made of concrete, with striated patterns across them. These may be slightly raised from the adjacent asphalt surfacing for traffic calming and, as a result, the required length of the curb cut ramp would be reduced.



INTERSECTION TYPE 2.

The most frequently encountered intersection is Type 2, with multiple-direction crossings. The accessible curb ramps are to be configured directly across the streets, not on the diagonal, wherever actual conditions and sidewalk dimensions can accommodate this. The entire intersection is to be constructed in concrete, with distinguishing patterns at the pedestrian crosswalks. These patterns should read like stripes and must be readily visible both to the pedestrian and driver.



INTERSECTION TYPE 3.

This intersection type incorporates bump-outs, which make the intersections more pedestrian-oriented, and the bump-outs act as traffic calming measures. The travel distance for pedestrians crossing the street is reduced and there is more real estate available for transit stops or shelters, bike racks and benches. As currently conceived, this type of intersection occurs primarily in the Arts District.

The bump-out would be constructed to incorporate a planting bed/storm water collector with a raised curb. Integrated into the raised curb would be simple benches.


photo credit : anaop


photo credit : godot bench by diez + diez


photo credit : unknown

BENCHES

Benches will vary throughout the corridor, to suit each district. These would preferably be incorporated as either “Integral” or “Applied”. At Children’s Hospital, a fanciful sphere is proposed. At the Cemetery District, to compliment the rich stone wall, large stone blocks are proposed as the benches. In the Arts District, lighted rectangular benches will provide lively accompaniment to Unblurred’s nightime festivities.

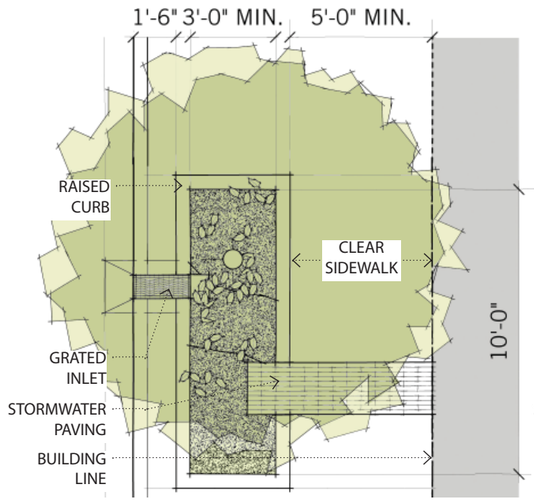
STREET PLANTINGS IN THE DISTRICTS

The approaches to trees and other plantings vary by both district type and sidewalk conditions. In lower density districts with less pedestrian traffic, such as the residential zone of the Arsenal District and along Cemetery Row, planters will include open areas for plantings in addition to trees. In districts with higher volumes of foot traffic and where maintenance of plantings could prove to be problematic, tree grates are employed to protect the delicate root systems, and to provide wider walking surfaces.

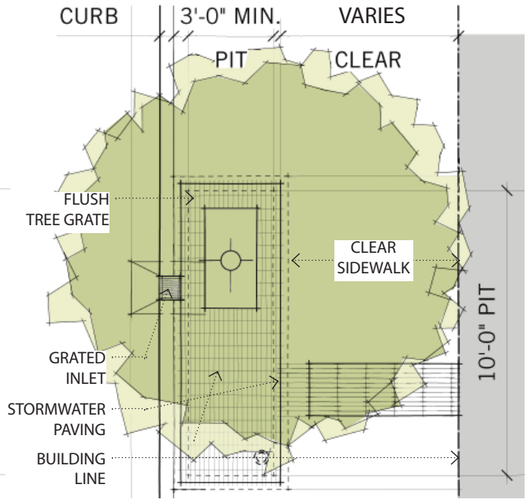
Tree grates will need to be selected or designed to maximize the opening for the tree trunk, thereby minimizing the need to cut and remove portions of the grates as the trees growth.

In all Districts, maintenance programs will need to be developed with residents and business owners, and through business district improvement programs managed by the local community organizations.

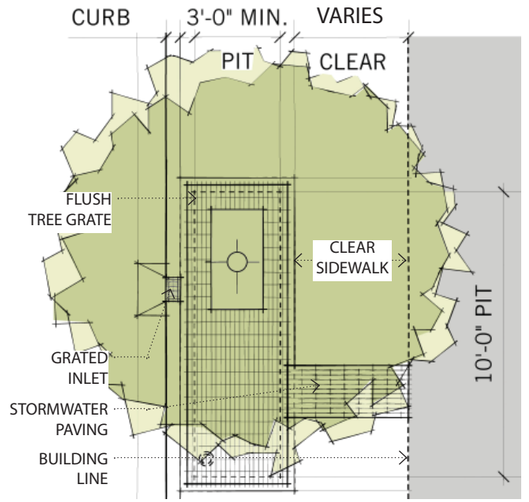
The following is an overview to the design of planting and tree pits in each of the Districts.



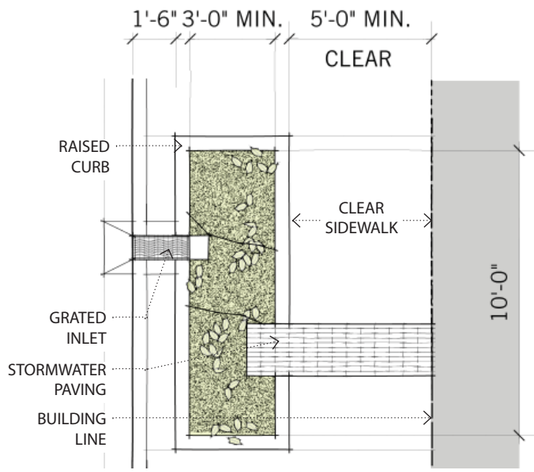
ARSENAL DISTRICT : TREE PIT.



PENN-MAIN DISTRICT : TREE PIT.



CEMETERY DISTRICT : TREE PIT.



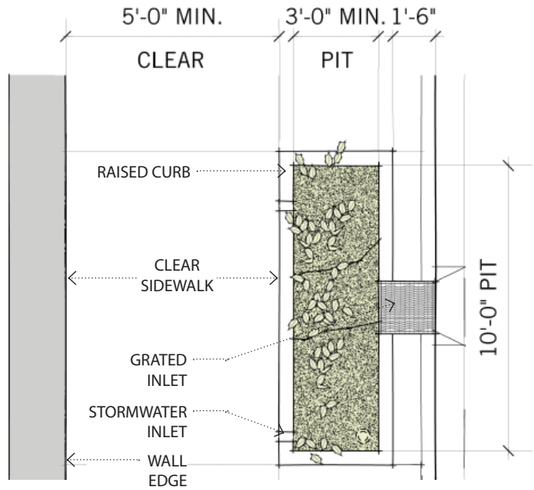
ARSENAL DISTRICT : PLANTING PIT.

ARSENAL DISTRICT.

With less foot traffic and a lower demand for space in the sidewalks of the predominantly residential areas of the Arsenal District, planting options include both those for street trees with underplantings and underplantings alone. A raised curb around the perimeter of the planter keeps the pedestrians out of the beds, while rough-hewn stone pavers inlaid in the sidewalk allow water to wash into the planter.

PENN-MAIN DISTRICT.

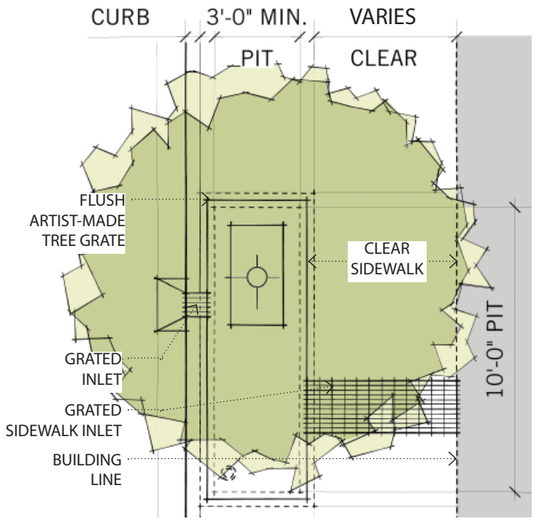
By using a flush tree grate in the Penn-Main District, the useable area of the sidewalk can be maximized. Honed stone pavers with open joints are laid in the sidewalk to allow surface water to drain to the planting pits.



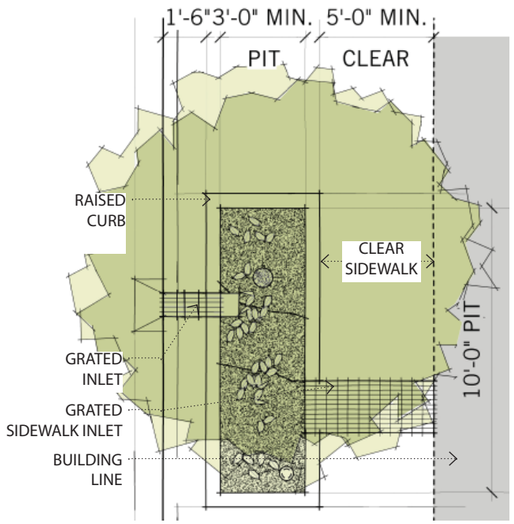
CEMETERY DISTRICT : PLANTING PIT.

CEMETERY DISTRICT.

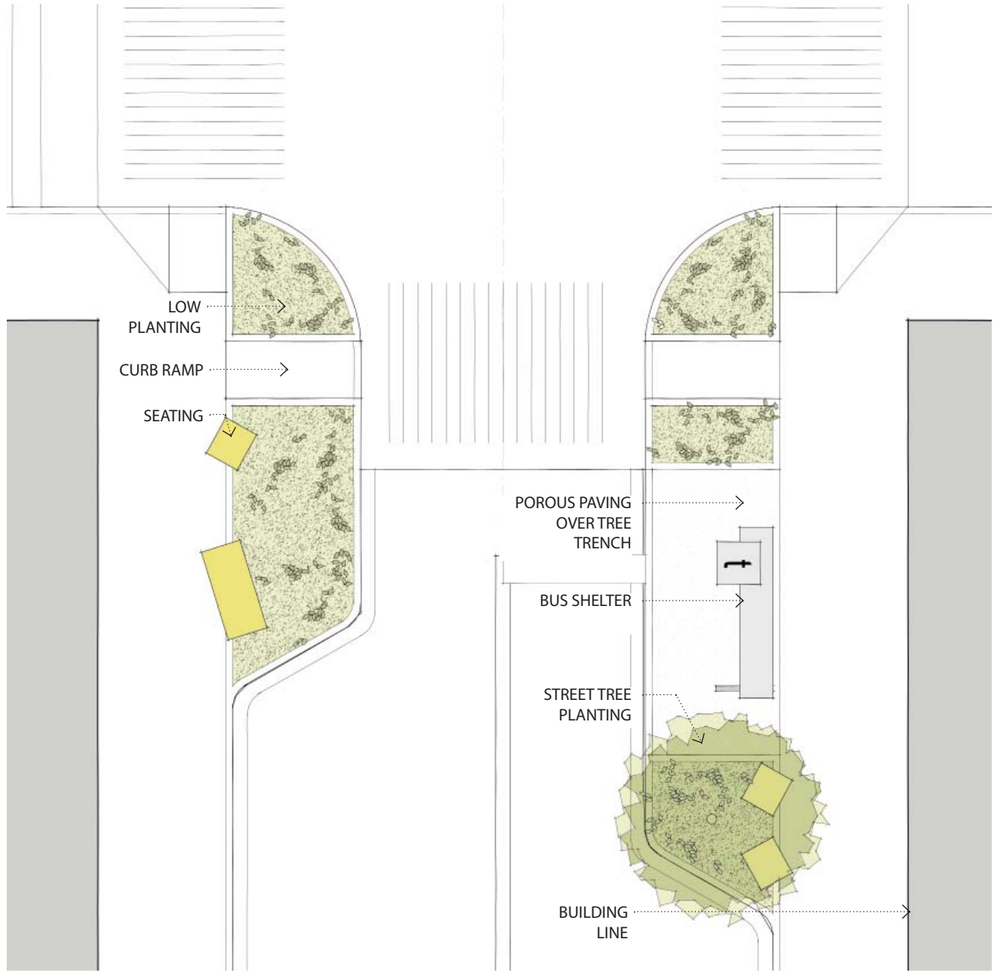
There are two different planting treatments employed in the Cemetery District. On the north side of the Avenue, adjacent to the cemetery walls and the gracious sycamores, open planters without trees are recommended. On the other side of the street, which is narrow and limited by existing stoops and structures, flush tree grates and small flowering street trees are recommended in combination with rough hewn pavers inlaid in the sidewalk.



ARTS DISTRICT : COMMERCIAL TREE PIT.



ARTS DISTRICT : RESIDENTIAL TREE PIT.



ARTS DISTRICT.

The Arts District is characterized by heavy pedestrian traffic and generally requires a grated tree pit approach that will maximize the useable surface of the sidewalk while protecting the tree roots from compaction. Custom artist-designed tree grates are recommended and could be fabricated locally.

At residential portions of the District, such as between Winebiddle and Gross, underplanted trees without grates may be appropriate due to the adjacent front yards and the potential for owners to maintain the plantings.

CORNER BUMP-OUTS.

At key intersections, the traffic calming bump-outs can provide additional green space and stormwater management beds. Water flow from these beds will be integrated with the system of tree and planting pits. The use of porous pavement at the bus shelters will allow continuous trenches to be provided for street trees in these locations.

STORMWATER MANAGEMENT IN THE STREETSCAPE

The design guidelines for the Penn Avenue Corridor Streetscape include schematic recommendations for integrating stormwater management into the planting scheme for the Avenue.

Stormwater management is a critical issue within the urban landscape. As the amount of hardscape increases, the opportunities for rainwater to infiltrate the ground decreases, leading to both overburdened storm sewer systems and reducing the recharge of groundwater aquifers. In addition, as the velocity and volume of water flow increases as it enters the storm sewer system during a storm incident, the likelihood of sewage discharge into our river system increases.

In an urban landscape such as Penn Avenue, there are a few key strategies that can be employed to reduce stormwater. These include:

- Slowing and reducing stormwater through the use of contained planters;
- Slowing stormwater through the use of flow-through planters;
- Reducing stormwater runoff through the use of infiltration planters; and
- Reducing stormwater runoff through the use of pervious pavement systems.

Each of these methods is appropriate to a particular circumstance, defined by both physical parameters and the ability to maintain the system.

The following pages address each of these strategies and provides an overview of how they may be applied throughout the Penn Avenue Corridor.


photo credit : Stormwater Solutions Handbook; Portland, OR

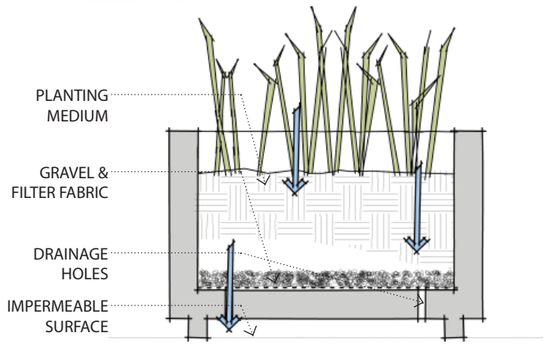



photo credit : Stormwater Solutions Handbook; Portland, OR

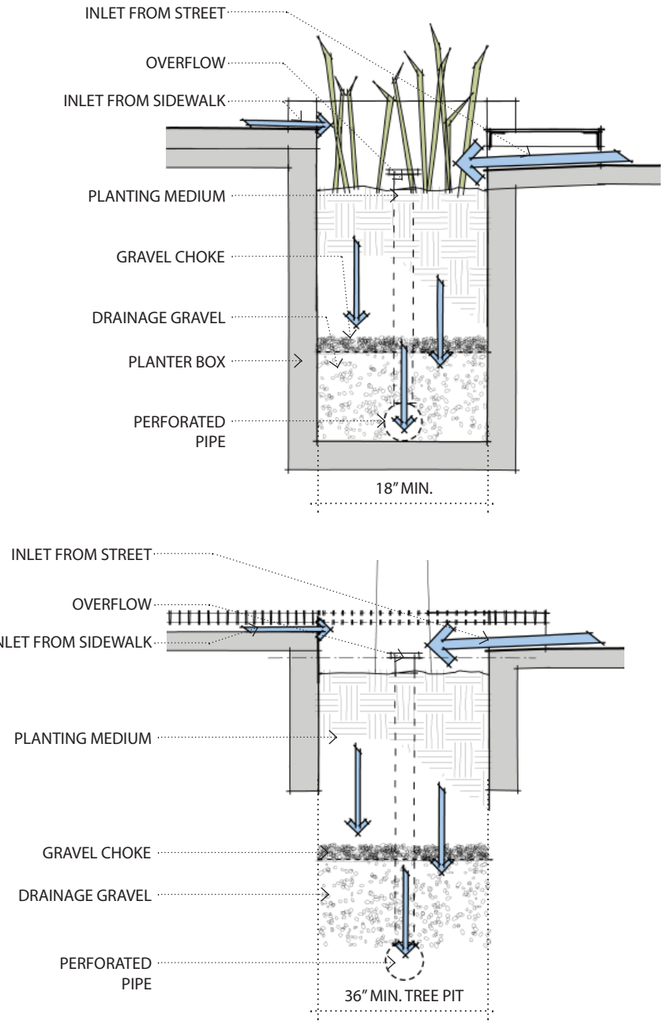
CONTAINED PLANTERS.

Contained planters are simple and cost effective and can be placed anywhere that space allows. The planter is used to accept rainwater only (not stormwater run-off from other sources), but reduces the amount of water that reaches hard surfaces. The water is contained within the soil and gradually filtered down through the growing medium and drainage gravel. excess water drains from the bottom of the container onto the adjacent surface. Contained planters can be sized for a variety of different plants, including shrubs, flowers, ground cover and even small trees. Because they are freestanding and can take virtually any form, they are not constrained by soil conditions or space limitations. They are also not constrained by sloping sites.

FLOW-THROUGH PLANTERS.

Flow-through planters act to slow and filter stormwater before it enters the storm sewer system. The planter stores stormwater temporarily, filtering it through the growing medium and gravel. At the bottom of the planter, a perforated pipe connects to the storm water system or other drainage point to release the filtered water.

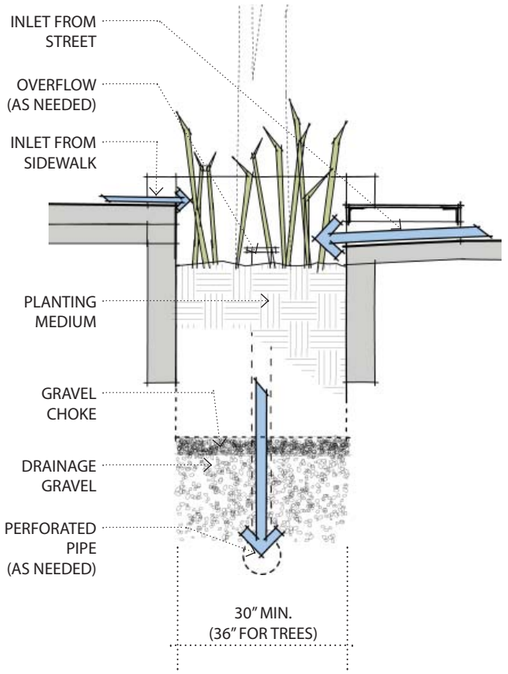
Overflow that exceeds the capacity of the planter flows into an overflow standpipe that connects to the perforated pipe at the bottom of the planter. In some models, overflow water is allowed to flow out the other end of the planter back into the street, where it is directed via gutter to the next planter. When placed in sequence, flow-through planters can significantly reduce the rate and velocity of water entering the storm drains.



When designed to discharge overflow back to the street, flow-through planters are limited to very low-slope conditions. In addition, care should be given to the detailing of gutters and outlets to ensure that melting snow and water discharge do not create icing conditions on the roadway. Flow-through planters work best in sequence (three or more planters interconnected).

Flow-through planters with solid bottoms (top), which prevents stormwater from seeping into adjacent soils, can be used in locations near or adjacent to underground structures, such as vaults or basements. When using solid planter boxes, trees should not be planted as their root growth will be inhibited.

photo credit : Stormwater Solutions Handbook; Portland, OR



INFILTRATION PLANTERS.

Infiltration planters filter stormwater and allow it to percolate back into the adjacent ground rather than directing it into the stormwater system. This acts to both filter the stormwater of pollutants and to reduce the overall volume of water that enters the storm system.

Stormwater is directed from the street and sidewalk into the planter where it is stored and allowed to percolate into the ground over time. An overflow pipe, connected to the storm system, provides a release if the volume of water exceeds the capacity of the planter.

Because the primary method of water management in this planter is infiltration, it is best suited to well-drained soils and separation from underground structures, such as vaults and basements. Infiltration planters form the basis of design for many rain garden applications. Underground water storage may be provided by installing engineered soil. Overflow and perforated drainage pipes should be installed as needed to accommodate times when water capacity is exceeded. Infiltration planters should be installed at least 10 feet away from basements and underground structures.

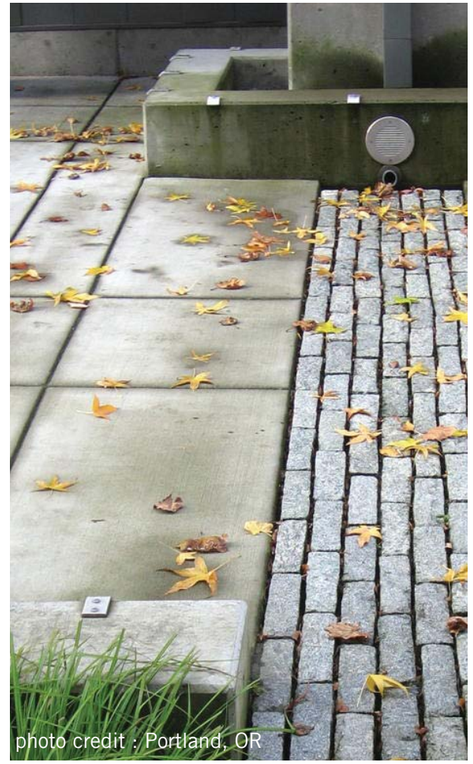


photo credit : Portland, OR

OPEN PAVERS.

Open paver systems can be used in several ways. The primary use of such paving is to reduce the amount of hardsurface that prevents water from reaching the ground and being absorbed. The pervious pavers sit on a gravel bed. This application is appropriate in locations with well drained soils and above underground trenches that may be provided to give greater root zone areas for adjacent trees.

A second application of open pavers is to use them to direct or convey stormwater off of a hardsurface (such as a sidewalk) to a planter or other stormwater conveyance. Water travels between the joints in the pavers, which are set into a formed gutter.

STREET TREES

Street trees are an important component of the urban landscape. Not only are they aesthetically pleasing, but they increase economic value, increase business revenue, intercept rainwater, and cool our city.

From an economic perspective, street trees benefit businesses and improve profits. According to recent studies, retail and restaurant uses located on tree-lined streets are more profitable, and workers who have views of treees are more productive than those who do not. Customers assume the quality of products and services to be higher at businesses with trees and vegetation around them, and return to tree-lined business districts more often. (source: Friends of the Urban Forest)

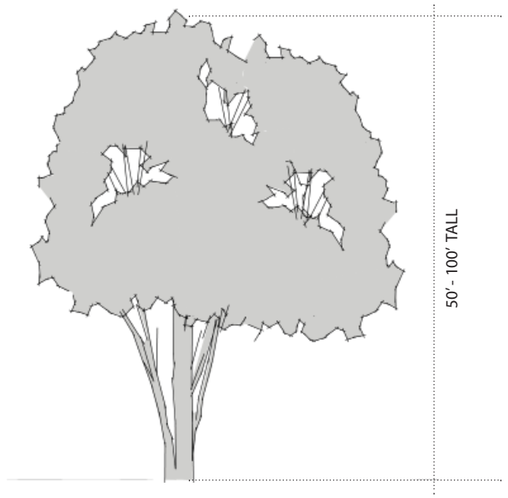
Healthy trees are also a key component of reducing stormwater and heat islands in the urban environment. Trees intercept rainwater, absorbing it through their roots, leaves, and branches. A study from the USDA Forest Service found that a 9 year-old tree intercepted 68% (58.1 gallons) of the water that fell on it in a 1/2 inch storm. Other studies have found that a mature tree can intercept 4,000 gallons of water annually. This reduces the amount of water that enter's the city's combined sewer and can significantly reduce the number of sewer overflow events that occur each year.

The shade provided by trees also reduces urban heat islands, which in turn cools the air, cools stormwater runoff, and extends the longevity of hard surfaces by minimizing detrimental temperature fluctuations. In addition, shade trees help to reduce the temperature of stormwater run-off, thereby reducing warming effects on our fragile river habitats.

While the US city average for street trees is 1 street tree to 3 people, the Pittsburgh average is only 1 street tree to 9 people. (source: Friends of the Urban Forest) Increasing the number of trees in the city will benefit residents, businesses, and institutions, and will reduce long-term energy and infrastructure costs.

Street trees along Penn Avenue will have to stand up to tough urban conditions, including compaction, pollution, heat and drought. Additionally, because they are a key element in the stormwater management approach along the corridor, they must be able to withstand moist soils while being resistant to salt.

SHADE TREES.



Shade trees are large trees with significant canopy spread. They provide maximum shading and cooling, and may require greater planting areas for their root system, as well as room for canopy growth. Shade trees are for use when there are no limitations to height or canopy width due to overhead wires and/or adjacent structures.

Recommended Shade Trees for Penn Avenue include:

- *Betula alleghaniensis* - Yellow Birch *
- *Betula nigra* - River Birch *
- *Celtic occidentalis* - Common Hackberry *
- *Nyssa Sylvatica* - Black Gum *
- *Corylus colurna* - Turkish Hazel
- *Ostyra virginiana* - American Hophornbeam
- *Ulmus parvifolia* - Lacebark Elm
- *Quercus bicolor* - Swamp White Oak
- *Gingko biloba* - Maidenhair Tree (narrow sidewalk)

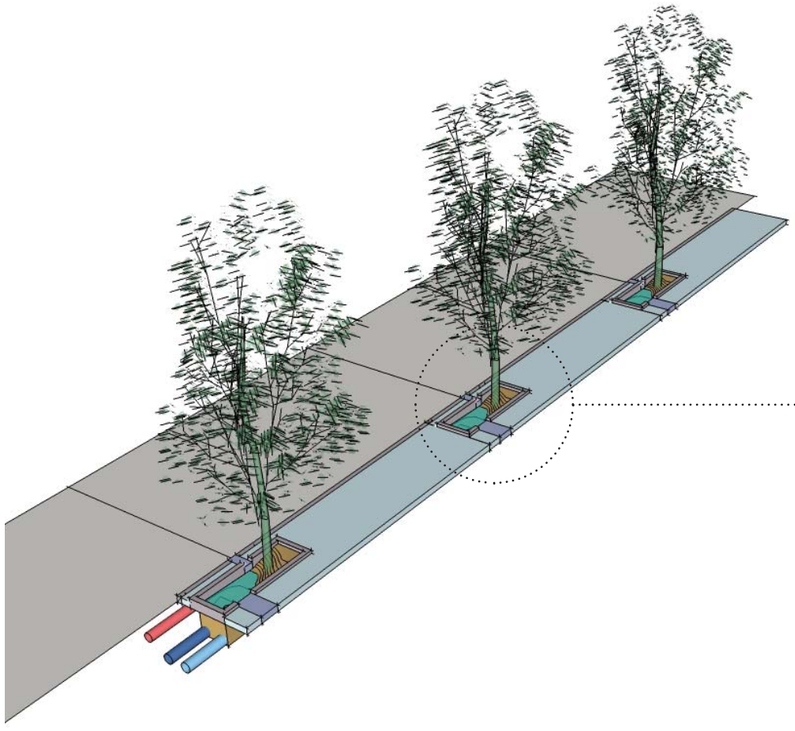
UTLITY TREES.

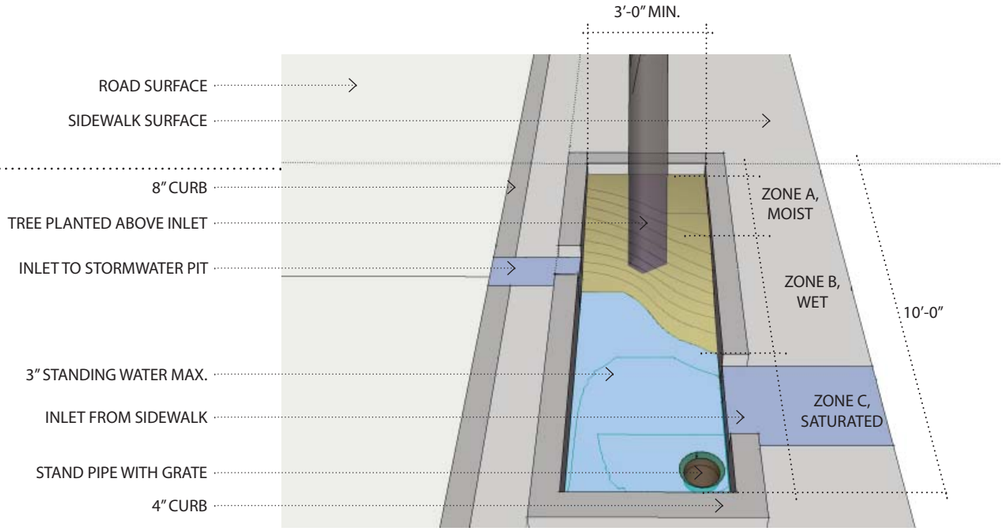
Utility trees are for use when physical structures, such as overhead wires or narrow sidewalks, limit the ability to plant larger shade trees. Utility trees generally range in height from 20 to 35 feet. The City of Pittsburgh further classifies utility trees that are below 25 feet in height as "Group A" trees, and those that are over 25 feet as "Group B" trees. Group B trees should only be used when the bottom wire is over 25 feet from the ground. Wherever possible, trees should be planted offset to wires.

Recommended Utility Trees for Penn Avenue include:

- *Amelanchier canadensis* - Serviceberry *
- *Crataegus crusgalli intermis* - Thornless Cockspur Hawthorn *
- *Cercis canadensis* - Eastern Redbud *
- *Malus* - Crabapple *
- *Carpinus betulus 'fastigiata'* - European Hornbeam
- *Prumus sargentii 'columnar'* - Columnar Sargent Cherry (narrow sidewalk)

* Indicates "highly recommended". See pages 14 - 15 for further discussion of these trees.





STORMWATER TREE PIT DIAGRAMS.

SELECTING STREET TREES.

Shade trees are preferable to smaller utility trees and should be planted wherever possible. Given time to grow, shade trees along Penn Avenue will create a larger canopy and will create an environment that is consistent with desirable commercial and residential districts throughout Pittsburgh.

Streets which are planted with only one type of tree for many blocks have a greater risk of losing all of their trees to unforeseen circumstances such as blight or infestations by insects. Rather than plant one kind of street tree for the length of the corridor, it would be more prudent to vary the species and cultivars used. In order to maintain a consistent fabric of trees, it is recommended that the “fabric” trees be planted by subdistrict (generally 2 - 5 blocks), with a variety of cultivars of the tree species used. In event locations, such as at Doughboy Square and across from Cemetery Row, a distinct “feature” tree should be used, such as flowering trees or other ornamentals.

SELECTING STREET PLANTINGS.

As discussed earlier, planters along Penn Avenue will be used to reduce stormwater runoff, improve the quality of the water entering the sewer system, and reduce the velocity of the water. Within the planters, a variety of plants will be used based on the anticipated conditions of the soil during a rainfall event, as well as the slope conditions along the length of the Avenue.

Zone A Plantings : Moist

Generally sloping and well drained. Plants selected for these areas have the ability to thrive in moist soils, but are also drought tolerant. They are also appropriate selection where stormwater management is not integrated into the street plantings.

Zone B Plantings : Wet

Moderately sloping to flat. Plants for these areas can tolerate wet soils, but do not do well in standing water.

Zone C Plantings : Saturated

Generally flat and where water will stand the longest. Plants in these areas are tolerant of saturated soils and 4 inches of standing water for up to 72 hours after a rainfall event.

LOYSEN + KREUTHMEIER ARCHITECTS

with KLAVON DESIGN ASSOCIATES

and LITTLE KELPIE

YELLOW BIRCH.

BETULA ALLEGHANIENSIS

50 - 75’ tall with 35 - 50’ spread

This nicely shaped shade tree features good yellow fall color and smooth, shiny bark. Sensitive to heat, Yellow Birch should be used only on the south side of the street where it will be shaded and cooler. Good for assymetrical treatments such as along Cemetery Row.

Shade Tree. Feature Tree.

RIVER BIRCH.

BETULA NIGRA

50 - 75’ tall with 35 - 50’ spread

Often seen as a multi-stemmed specimen tree, River Birch can also be grown as a single-stemmed street tree, with a size and shape similar to Yellow Birch. While sensitive to pollution, it is tolerant of soil compaction, saturation and drought, making it an ideal street tree along Penn Avenue. The unique peeling bark that develops as the tree ages makes if a stand out year round.

Shade Tree. Feature Tree.

COMMON HACKBERRY.

CELTIC OCCIDENTALIS

75 - 100’ tall with similar spread

Uniquely patterned bark makes this an interesting tree all year. Long lived (100 - 200 years) and resistant to drought, heat, and salt as well as standing water make this an ideal choice for this project. Hackberry is tolerant of but not resistant to soil compaction, so tree grates should be used when planting in sidewalk areas.

Shade Tree. Fabric Tree.

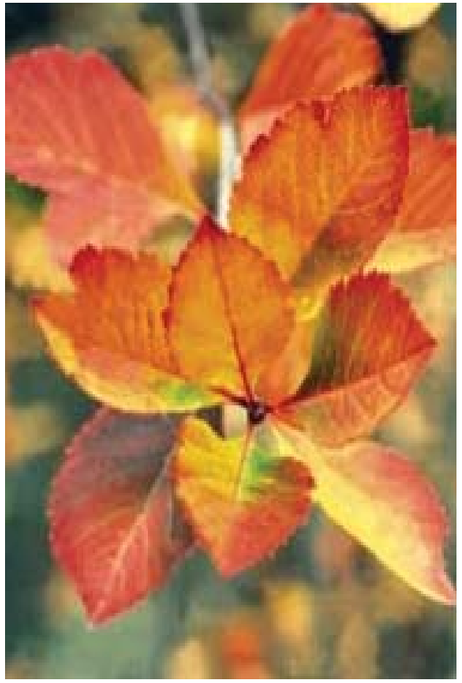
BLACK GUM.

NYSSA SYVATICA

50 - 75’ tall with 35 - 50’ spread

The Black Gum shines during the fall foliage season when its glossy leaves turn scarlet red and its small fruit, attractive to songbirds, matures to a contrasting blue. Drought, heat, pollution and salt resistant, as well as its ability to tolerate “wet feet”, make this an excellent choice for street trees along Penn Avenue.

Shade Tree. Fabric Tree.



SERVICEBERRY.

AMELANCHIER CANADENSIS

30 - 50’ tall with similar spread

The Serviceberry has historic associations with cemeteries and memorials in the United States, making it a logical choice for an accent or utility tree in several locations along the Avenue. Tolerant of, but not resistant to soil compaction, use a tree grate when planting in sidewalk areas.

Utility Tree. Fabric Tree.

THORNLESS COCKSPUR HAWTHORN.

CRATAEGUS CRUSGALLI INTERMIS

20 - 35’ tall with similar spread

Although somewhat senstive to salt, this otherwise hardy native loves to live in wet areas like floodplains and is an easy choice for Penn Avenue. Clusters of white flowers last from May to mid June, followed by glassy green leaves which turn bright orange to scarlet red in late fall, make this an interesting tree most of the year.

Utility Tree. Fabric Tree.

EASTERN REDBUD.

CERCIS CANADENSIS

20 - 35’ tall with similar spread

Hot pink to purple flower buds line the smooth gray branches and twigs of this tree in early spring before the leaves emerge, creating a very dramatic silhouette. Pretty heart-shaped leaves turn yellow to purple in the fall for another interesting display. Redbud’s resistance to a number of urban conditions make it a good choice for this application.

Utility Tree. Feature Tree.

CRABAPPLE.

MALUS SPP.

20 - 35’ tall with similar spread

A hardy and well-loved tree, Crabapples come in many different varieties and cultivars which can be selected for disease resistance, flower color, and fruit size. Tolerant of urban conditions, this tree can grow in heavy clay soils and moist to wet conditions.

Utility Tree. Feature Tree.

PLANT PALETTE

Within the Penn Avenue streetscape, there will new planting opportunities that are integrated with both the stormwater management system and the traffic calming elements of the sidewalk bump-outs and planted medians.

Plants in this palette were chosen not only for their ability to live in standing water and wet conditions, but also for their neat appearance, minimal maintenance needs, and ability to withstand harsh urban conditions.

With the exception of the Dwarf Viburnums, all selections shown are native to the eastern United States, or are cultivars of our native plants. Choosing to use native plants along Penn Avenue will not only provide residents a beautiful landscape which requires little effort, but it is an opportunity to share the wealth of our natural diversity.

Raising awareness about the quality of water that enters our rivers is important because of all the positive impacts clean water has on our local ecosystems. Using native plants is one more way that we can illustrate the importance of clean water to the habitats and species which depend on it to live.

RUSHES.

Found naturally in bogs, ponds, and wetlands, rushes are useful in the most saturated areas of planters and will make good substitutes for any other Zone C plants.

1. Juncus effusus, Common Rush: 2-3', forms dense tussocks, Zone C.
2. Juncus effusus 'Unicorn', Unicorn Spiral Rush: 2', clumping form, Zone C.
3. Pontaderia cordata, Pickerel Rush: 2-3', full sun, Zone C.

GRASSES.

Use short grasses for background and filler plantings around accent plants. Tall grasses for special accents. Leave flower heads on through winter for year-round interest. Cotton Grass and Woolgrass should be cut back in the spring.

1. Sisyrinchium angustifolium, Blue-eyed Grass: 10", clump forming, Zone A.
2. Eriophorum angustifolium, Cotton Grass: 12-18", spreads vigorously, Zone C.
3. Scirpus cyperinus, Woolgrass: 4-6' forms dense clumps, use as an accent plant, Zone C.

SEDGES.

Much like grasses, sedges can be used to fill in areas, create a focal point, or underplant larger plants for a fuller look at the base.

1. Carex plantaginea, Wide Leaf or Seersucker Sedge: 6-12", Broad leaves are good accent to fine textures, good for underplanting larger plants, Zones A & B.
2. Carex muskingumensis 'Oehme', Veriegated Palm Sedge: 18-24", resembles a small palm, Zone B
3. Chasmanthium latifolium, Northern Sea Oats: 2-3', forms bamboo-like clumps, Zone A.

FERNS.

Though they look delicate, these native ferns are tough. Choosen to withstand heat, drought and standing water, once established, these plants will look good even in situations were there is little to no maintanence.

1. Dennstaedtia punctiloba, Hay-scented Fern: 15-18", forms dense mats, Zones A through C.
2. Onoclea sensibilis, Sensitive Fern: 18-24", can tolerate some sun if moist, Zones B & C.
3. Osmunda cinnamonea, Cinnamon Fern: 2-4', can tolerate some sub if moist, Zones A through C.

FLOWERS.

Used sparingly, these flowering plants can be great accent plants to highlight a special area for a few weeks.

1. Caltha palustris, Marsh Marigold: 12-18", spring blooming - naturalize in mass, Zone B.
2. Iris versicolor, American Blue Flag: 4-5', early summer bloom, Zone C.
3. Lobelia Cardinalis, Red Cardinal Flower: 3-4', late summer bloom, Zones B & C.

SHRUBS - DECIDUOUS.

Deciduous shrubs add lush greenery to the plantings in summer, bright colors in the fall, and two of the selections add a splash of color during the long, dull winter months.

1. Dwarf Viburnums - Viburnum opulus 'Nana' (2'h x 2-3'w) or farreri 'Nanum' (2-3'h x 4-6'w): not heavily flowered, not native, Zones A & B.
2. Dwarf Red Twig Dogwoods - Cornus sericea 'isanti dwarf' (2.5'h&w), 'Kelseyi' (3'h&w), 'Pumila' (2-3'h x 2-4'w): flowering with bright red twigs in winter, Zones A & B.
3. Ilex verticillata 'Red Sprite', Winter Red Winterberry: 2-4'h x 3-5'w, use I.v. 'Jim Dandy' as pollinator, Zone B.

SHRUBS - EVERGREEN.

Evergreens keep some color in the plantings year-round, while adding summer blooms and fall fruits for additional interest.

1. Vaccinium macrocarpon, American Cranberry: 8-10", summer blooming with reddish foliage in winter, Zones B & C.
2. Ledum palustre, Marsh Labrador Tea: 2-4' h&w, white flowers in May and June Zones A & B.

LIGHTS, SIGNS AND SIGNALS

One of the most dominant features of any streetscape is the collection of vertical poles used to support the lights, signs, and signals along the street. To provide a clean and uncluttered streetscape along the Avenue, it is recommended that a uniform “pole” system be adopted for the street. This simply elegant and decidely modern pole form would provide the supporting armature for the multitude of elements that are required for the street to function properly, including: traffic signals and signage; overhead street lights; pedestrian lights; decorative fixtures; banners; trash and recycling cans; and newspaper kiosks.

It is recommended that the elements of the pole system be painted black in order to unify them with existing pole elements.

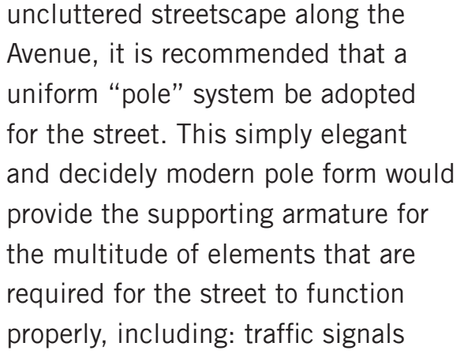
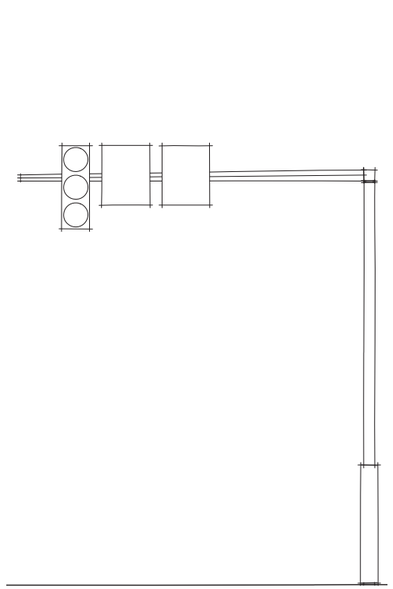
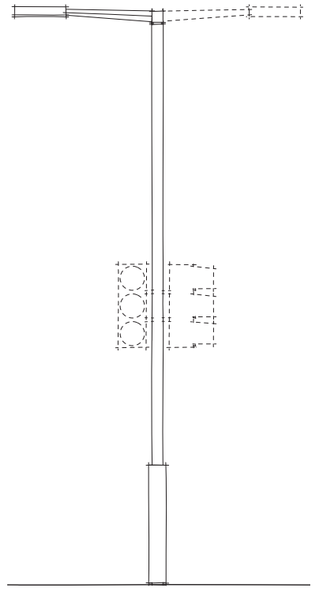


photo credit : Woodhouse



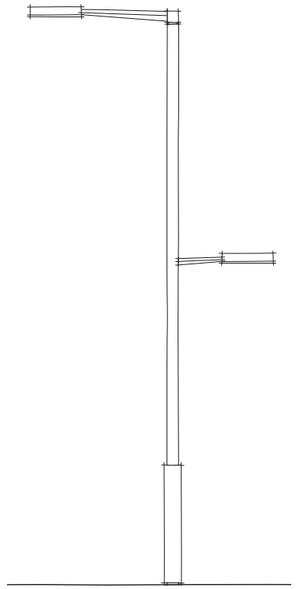
MAST ARM

Mast arms will serve to carry traffic signals and signage, pedestrian crossing buttons and digital crossing signs. These poles are required to be larger diameter than the light fixture poles.



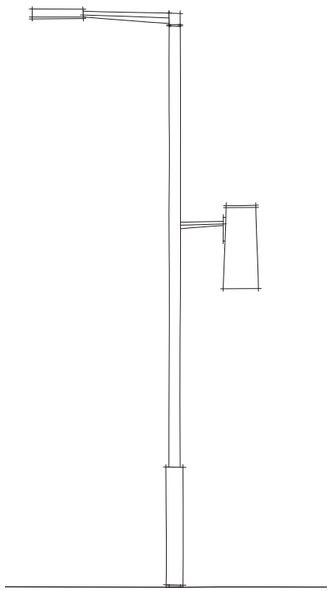
POLE + OVERHEAD(S)

These poles will combine street lighting, traffic signals, pedestrian crossing buttons and digital signs, and be the same pole design as typical street lights.



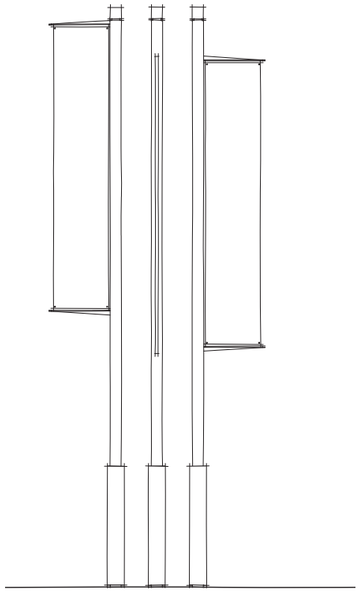
POLE + OVERHEAD + PEDESTRIAN

It is currently anticipated that street lights poles will have LED light sources, though this is still under consideration by the City. The luminaire that is ultimately selected should be simple, modern and a back-drop to the corridor’s architecture. Spacing of the lights will ultimately be dependent on this selection.



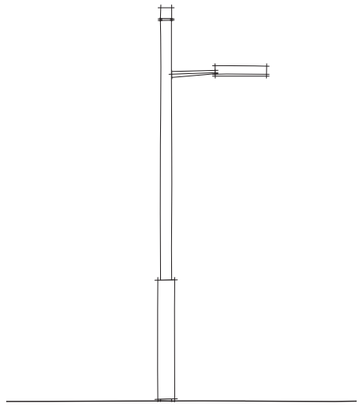
POLE + OVERHEAD + CUSTOM

At selected locations along the corridor, special elements may be added to the pole. It is envisioned that the pole would accommodate these additions, but that they would be funded and maintained outside of the City’s normal purview. In the Matrix, these elements would fall into the “Added” category.



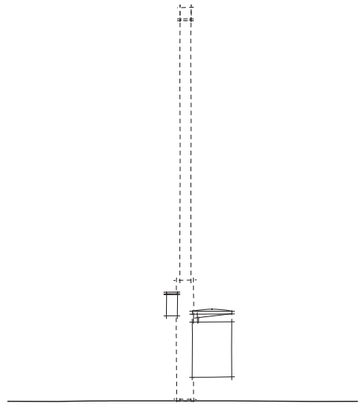
POLE + BANNERS

For “Place-Making”, graphic banners can be added to the poles. Other unique, place-making features can be added to the poles, such as special lighting fixtures, public art, and temporary street installations.



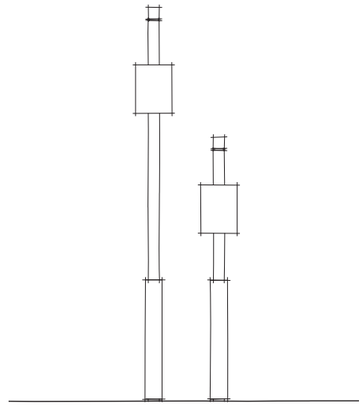
POLE + PEDESTRIAN

The street light spacing will be designed to fully and safely illuminate the street and public right-of-ways. To supplement this, primarily for ambiance, pedestrian height lights will be added. These may be attached to the tall poles or on their own, lower-height poles.



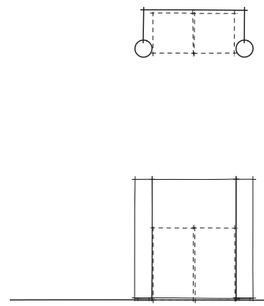
POLE ACCESSORIES

Trash receptacles, recycling receptacles and ash bins would be included in the Pole Element kit of parts.



SIGN POSTS

To reduce clutter, all of the miscellaneous sign posts, such as for parking instructions, street cleaning and the like, would also become part of the Pole Element kit of parts. Attachment of signs must be simple, easy to use and adapt.



NEWS BOX ENCLOSURE

News boxes are among the worst street clutter sources. Simple enclosures for these should be located at prime intersections and bus stops, using bollards that match the Pole Elements and a simple screen.

PARKING STATIONS

Whether meter or central pay system, the parking payment components should be included in the kit of parts. Meter posts, since they may not be long-needed, should be economical. Central pay stations should be convenient and attractive.

LOYSEN + KREUTHMEIER ARCHITECTS

with KLAVON DESIGN ASSOCIATES

and LITTLE KELPIE

TRANSIT ELEMENTS

Transit along the Penn Avenue corridor is comprised primarily of bicycles and bus lines. Because it is one the primary east-west arteries in the city, stretching from the Point in Downtown to the eastern suburbs, Penn Avenue sees very high volumes of commuters every day. These commuters are traveling to and from locations along Penn Avenue, and also making transfers, such as at the intersection of Penn and Main, where the 54C turns onto Penn Avenue from Liberty Avenue.

In addition, Penn Avenue sees heavy usage by cyclists from across the city. The majority of the cyclists on Penn Avenue are experienced riders and use bicycles as a primary mode of transportation. While the Avenue is not wide enough to provide bike lanes, additional accommodations for bicycle parking and other amenities should be provided.

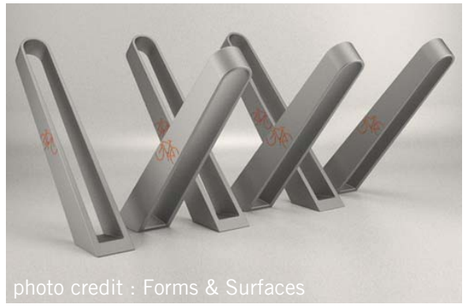
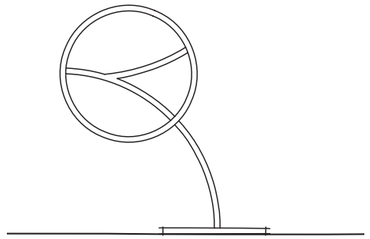
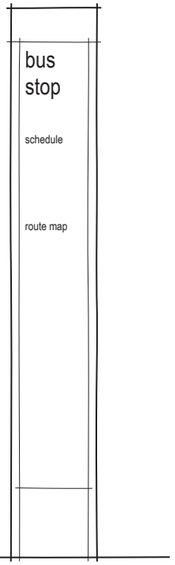


photo credit : Forms & Surfaces





BIKE RACKS

Throughout the corridor, the City's unique Three Rivers' bike racks (bottom image) will be generously deployed, as the corridor is a very high-traffic cycling zone. In higher-density locations, such as at Penn-Main and near the Quiet Storm, "Bike Gardens" will be created using designs by Forms + Surfaces, a local manufacturer (top image).

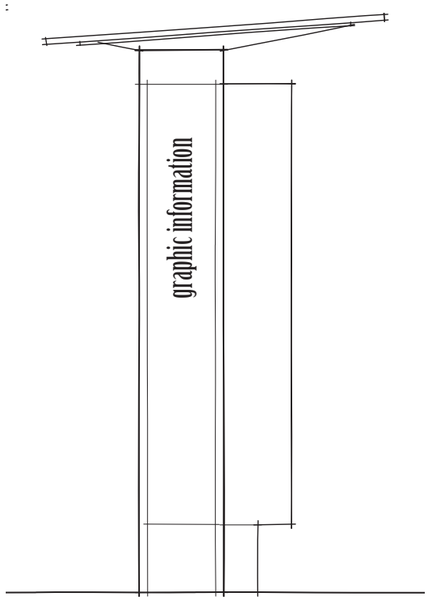
TRANSIT INFORMATION

Miscellaneous information posts, such as may be helpful at the Hospital, can be used to assist transit users at non-stop locations.

TRANSIT INFORMATION (BUS STOP)

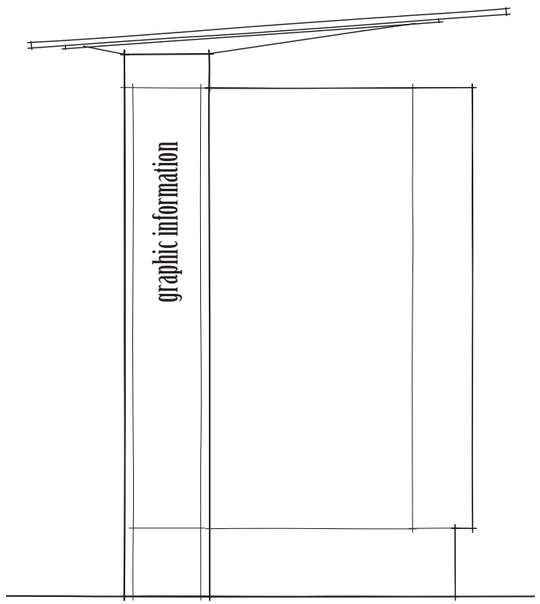
The new Bus Stop signs will be cousins to the Bus Shelters, as though the posts of the Bus Shelters went solo. These signs will show the numbers of bus routes stopping, a map, and from time to time, provide "Look Up and Learn!" information.

:



BUS SHELTER (NARROW)

This is likely to be the most frequently used shelter, as the sidewalk space is limited. Note that where these are being newly added, i.e., no shelter previously existed, they may not need to have advertising.



BUS SHELTER (STANDARD)

Several options exist for bus shelter design, including advertising shelters. While the advertising area would conform to current standards, the preferred design would have cleaner lines. On the back glass panel is an opportunity for “Look Up and Learn” and on the local advertising panel is an opportunity for changing news within the corridor.

photo credit : CEMUSA

photo credit : CEMUSA

LOOK UP AND LEARN

Pittsburgh bus shelters are very basic—if the stop has a shelter at all! Most of the existing shelters have unused panels, while the others are used for advertising and a map. While there has been an attempt to integrate art into some shelters, there is an opportunity to do much more with the shelters.

People are commonly bored when standing in the shelter waiting for the bus. Frequently, desperate commuters pick up an old apartment guide mag just to pass the time. There is an opportunity to both entertain and inform the captive commuter audience using one or two panels inside the bus shelter.

Another part of Penn Avenue's story has to be its "spaces." Buildings, empty lots, tiny green spaces—these all have a history, but most residents and visitors do not know what happened on that spot before it was a parking lot, a gas station, or an apartment building. These spaces are unique to the street. Using bus shelters as information hubs about these spaces is an opportunity to let people in on the local stories.

1939 You would have been able to see the marquee lights from here as they lit up the corner of Beatty Street and Penn Avenue.

BEATTY ST
& PENN AVE

The Enright Theater

DEDICATED 1928, DEMOLISHED 1960

One of eight movie houses on Penn Avenue, the Enright was the largest theater in the East End, seating 3,200 people.

The theater was named in honor of World War I hero Thomas Enright. Movies were shown until the late 1950s after which it became better known for live performances and boxing exhibitions. There was also a Saturday morning radio broadcast of music from its Kimball Theater Pipe Organ.

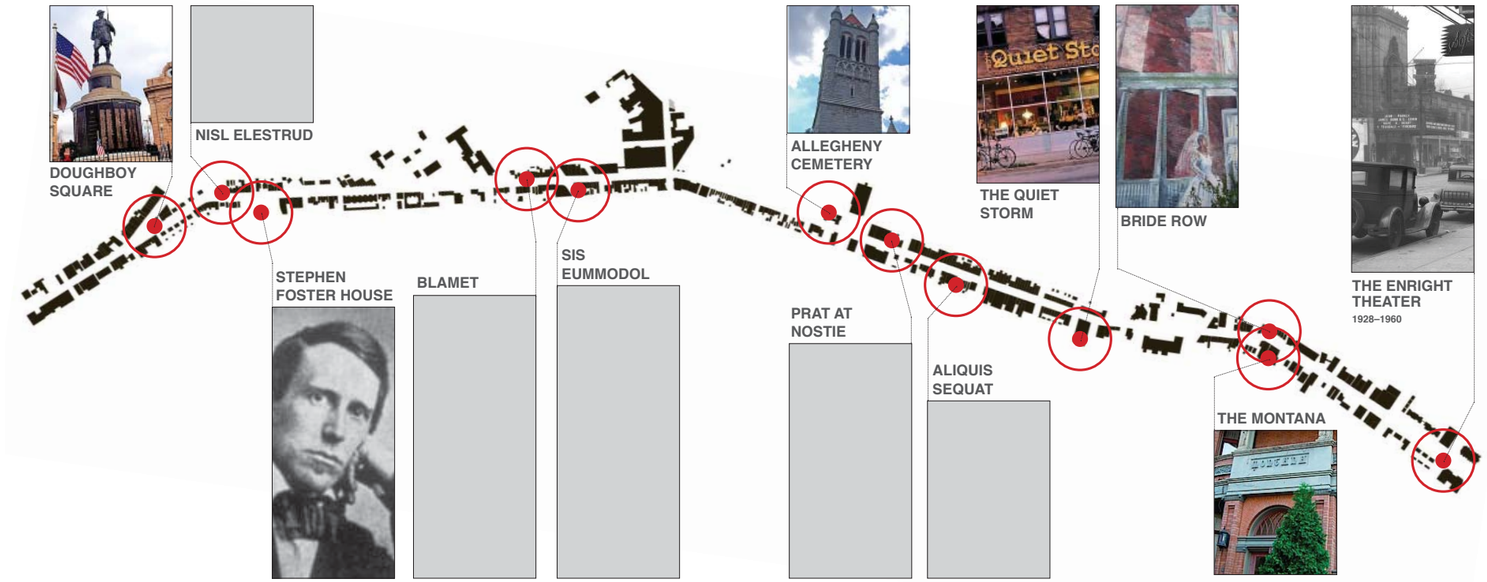
This theater was vacant for a long period of time prior to demolition. The once beautiful theater was reduced to a shabby building as a result of neglect. Rumors exist that the pipe organ was removed and might have been relocated.

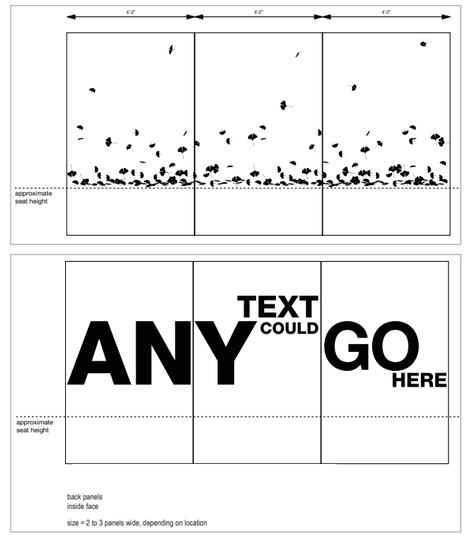
BUS STOP PANELS

The main components of the first panel could include:

- Photo of the space
- Name and address of the space
- Smaller inset photo or two, if relevant
- Few paragraphs about the space's history and current use.

PENN AVE BUS SHELTER CONVERSATIONS





LOOK UP AND LEARN

This area would let people know that each bus stop along Penn Ave. has a different short story to tell about the neighborhood. We'll come up with a name for the stories, such as "Look Up and Learn."

Blamet lorpercinit nim augiat non verat. Um at prat at nostie feum zzriustrud elendreet ver inibh ex ea feuguero conse magniam nisl elestrud ea facil ut laor sis eummodolore dolore dolor irit lam inismodo delis aliquis sequat.

sponsorship area

BUS STOP PANELS

The second panel could include:

- Map of Penn Avenue with that space marked along the route
- Section at the bottom providing a theme/title/tagline that gives a name to the bus stop panel series
- Another area, which could be used for sponsorship, etc.

BUS STOP BACK GLASS PANELS

Rather than the basic overlapping circles printed on the glass back of the bus shelter, an image or text relevant to the area or function could be applied to or etched into the glass.

The first idea is an example of using the simple design of a ginko leaf, a tree commonly found in the area.

Another direction would be to apply typography, using words relating to the bus journey and destination.

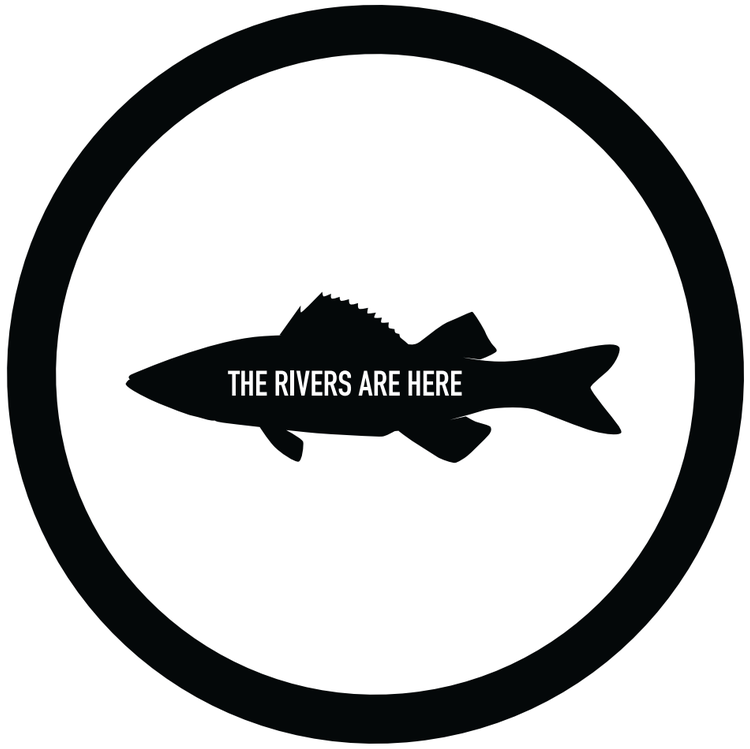
APPLIED ART, PUBLIC ART & THE STREET

One of the goals of the Penn Avenue Corridor Streetscape project is to develop a distinct sense of place along the corridor that goes beyond the traditional elements of signage and street furniture. This sense of place will come from the character, attention to detail, and a creative rethinking of the street that comes from actively engaging high-quality art and design. The project considers two different approaches to art in public places. The first, Applied Art, refers to projects where artists and designers are directly commissioned to further develop ideas that are identified in the streetscape, such as the proposals for "Look Up and Learn", "The Rivers are Here", and the banners. Public Art refers to those projects which seek broader engagement in the development of the public realm. Public Art projects include public process as an inherent part of their mission.

In considering the opportunities, this study has identified four key types of designer and/or artist-driven projects:

- Custom Streetscape Elements
- Artist Designed Parts
- Small Scale Artist Interventions
- Site Specific Public Art Commission

In all cases, a critical component of these pieces is the development of a maintenance fund and program.

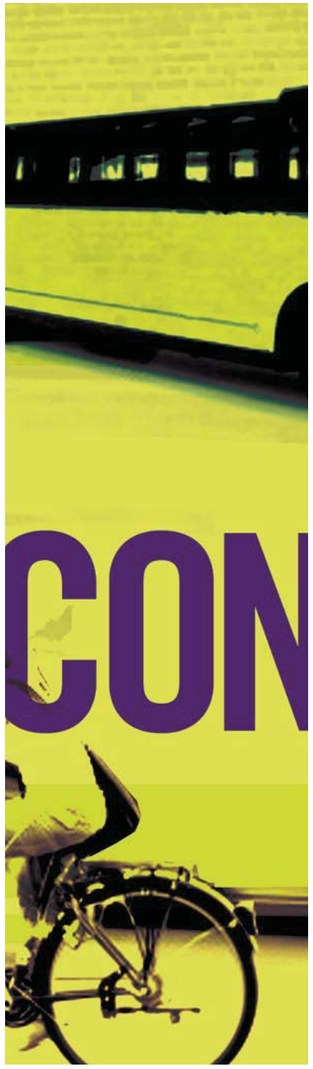


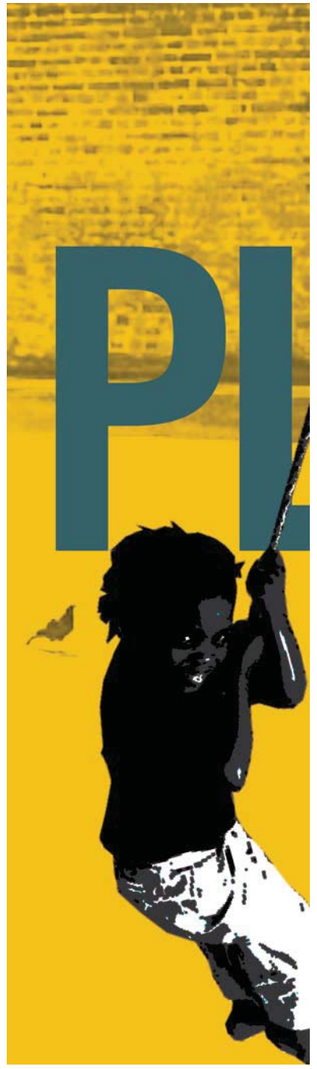
THE RIVERS ARE HERE.

Pittsburgh's three rivers are inherent to its identity. While Penn Avenue is not set along the river, i.e., it's not a riverwalk, there are simple ways to remind the community about its connection to the river. Using images and text near storm drains is being implemented in various cities, and its a simple way to try to eliminate drainage areas from being used as trash cans.

Currently the storm drains are very low, inset, and out of the direct sight of pedestrians. However, the manhole covers above the drains are almost integrated into the sidewalk, so perfectly visible. This is a rough sketch using the circular design of the manhole covers with a little emblem in the center with the primary message. Instead of being scolding or preachy, "the rivers are here" is a subtle message that most people will comprehend. We used a silhouette of a sauger, a Western PA fish that is found in our local rivers, but not in central or eastern Pennsylvania.

The ultimate product of this concept could be a commissioned design or artwork that could be replicated for large scale production.





BANNERS

Properly designed, located and maintained, banners can provide a festive air and a way to develop changing imagery within a streetscape. Often, however, banners are frequently used in neighborhoods to provide “identity” in the form of logos and neighborhood branding. The design team felt strongly that banners themselves could provide an opportunity to tell the “story” of Penn Avenue, rather than simply providing a logo opportunity. This story can relate aspects of the local culture, urban fabric and people.

A series of banners would depict different aspects and character of the community. These banners are not intended to be locator devices but simply attempt to express the spirit of the Penn Avenue neighborhoods/ people.

The final banner designs could be developed by commission, working with local artists and designers.

ARTIST DESIGNED PARTS.

There are several opportunities, particularly in the Arts District, to engage artists in the creation of specific streetscape components, such as Tree Grates, Screening Fences, and Pedestrian Light Fixtures. For these components, a clearly defined Request for Proposals would be developed and released, including budget for both the artist fee and the final fabrication costs, as well as identified locations where the Streetscape Parts would be installed. The budget for these projects would include long-term maintenance and replacement program costs.

photo credits:

All images by artists indicated.

1


2


3

TREE GRATES.

1. location: Anaheim, CA. artist: Nobuhu Nagasawa
2. location: unknown. artist: unknown.
3. location: Euclid Corridor, Cleveland, OH. artist: Mark Howard.


1


2


3


4

SCREENING & FENCES.

1. Mulberry Fences. location: Breds, The Netherlands. artist: West 8.
2. Big Flowers. location: San Jose, CA. artist: Jean Whitesavage and Nick Lyle.
3. Desert Tracery. location: Scottsdale, AZ. artist: Norie Sato.
4. Metropolis. location: Seattle, WA. artist: Peter Reiquam.


1


2


3

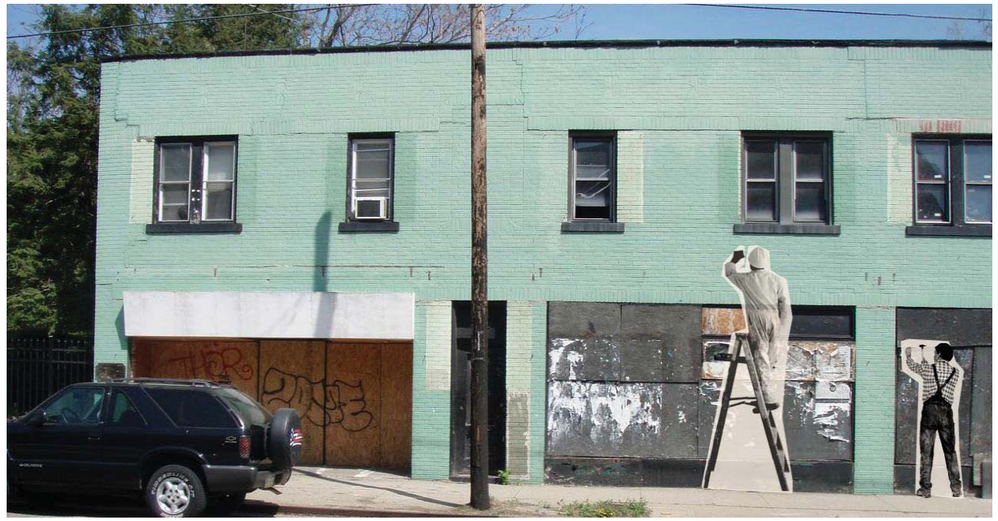
PEDESTRIAN LIGHT FIXTURES.

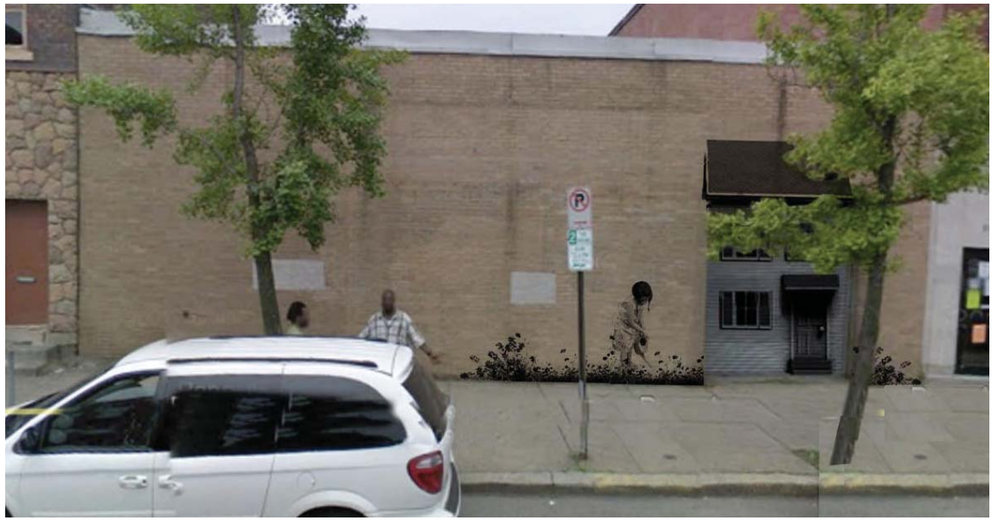
1. Capitol Guardian Lanterns. location: Washington, DC. artist: Dan Corson.
2. Blue Duwamish. location: Tukwila, WA. artist: Dan Corson.
3. Dragonlight. location: Copenhagen, Denmark. artist: West 8.

PEDESTRIAN LIGHT FIXTURES.

1. This Way. location: New York, NY. artist: Linnea Tillett.

2. Empyrean Passage. location: Hollywood, CA. artist: Dan Corson.





BLANK CANVASES.

There are quite a few underutilized facades, empty lots, and other areas that require improvements along Penn Avenue. Temporary artwork applied to these spaces would provide more interest in the streetscape. Potential projects include: using light to project temporary messages and other art, a series of contextual stencils and wheatpaste images, etc. Examples of contextual images are shown above and could be developed into a series.

ARTIST INTERVENTIONS.

Engaging the Pittsburgh-based artists who may not have previously had the opportunity to work in the scale of the Public Realm is another goal for placemaking along Penn Avenue. One approach to doing this would be to work with the community based organizations and the city agencies to identify buildings that are currently vacant or present blank walls along the street. In many cases, these buildings are owned by either the City or community organization and slated for redevelopment; in other cases, building owners may be willing to allow artists to use their facades as temporary canvases.

Local artists would be given a small commission to develop temporary (1 – 5 year) graphic interventions that would be applied to the façades. Because many of these artists would not have had experience working in the scale of the street, a local design firm would also be engaged to work with them in order to bring their vision for these façade interventions to reality. As the interventions are intended to be temporary in nature, there would not be a need for establishing a long-term maintenance program.

SITE SPECIFIC PUBLIC ART COMMISSION

On a larger scale, it is recommended that the Project Team pursue the development of a significant work of Public Art, for which the entire study area (from Doughboy Square to Negley Avenue) is the site. This Public Art piece could consider engaging with the existing corridor resources, such as physical structures, landscape, and social interactions, or it might introduce an entirely new way of considering space and linkages along the corridor.

It is recommended that the selection process be invitational, whereby a Public Art Committee, guided by a consultant who specializes in such processes, selects a number of finalists from a pre-qualified pool of national artists with experience in projects of this nature. In this approach, three to four finalists would be given a stipend to be used to develop detailed proposals for the site. Final selection would be made by the Public Art Committee.

One of the intentions of this approach will be to focus national attention on the activities along Penn Avenue, both through the Artist selection process and the creation of the Artwork. It is envisioned that this work of Public Art will create an energetic and engaging public process that will stimulate creative thinking about the corridor both by residents and the artists.

What follows are examples of site specific works by artists that were commissioned for other locations, by artists with related experience. These works are intended to illustrate the breadth of site-specific art works that have been commissioned, and should not be taken as pieces which could simply be “installed” along Penn Avenue.

photo credits:

All images by artists indicated.

I SEE WHAT YOU MEAN.

artist: Lawrence Argent

location: Denver, CO

I See What You Mean is an example of how an artwork can playfully engage with the built environment. Located at the Denver Convention Center, this oversized grizzly bear keeps his eye on the inner workings and goings-on of the building.

CARRYING ON.

artist: Janet Zweig

location: Price Street subway, NYC, NY

Carrying On is a 1200 foot long frieze of steel and stone tile that is embedded in the walls of the platform of New York’s Price Street station. The work depicts ordinary New Yorkers going about their business.

LUMINOUS LIGHT THRESHOLD.

artist: James Carpenter

location: Sidney, Australia

Created as a gateway for the 2000 Olympics in Sydney, *Luminous Light Threshold* uses vapor to make light visible at all times of day, and interacts with the natural environment of its site.

SMALL KINDNESSES, WEATHER PERMITTING.

artist: Janet Zweig

location: Minneapolis, MN

Small Kindnesses, Weather Permitting takes the concept of art as infrastructure to an entirely different level. A series of over 35 unique kiosks are located in light rail stations throughout the city. Each one features a unique performance by a local resident, including song, film, music, dance, and is activated by input from ther viewer.

The program for the piece included stipends for the residents who created performances for the installation, as well as an extensive maintainence program.

LIFE UNDERGROUND.

artist: Tom Otterness

location: New York, NY

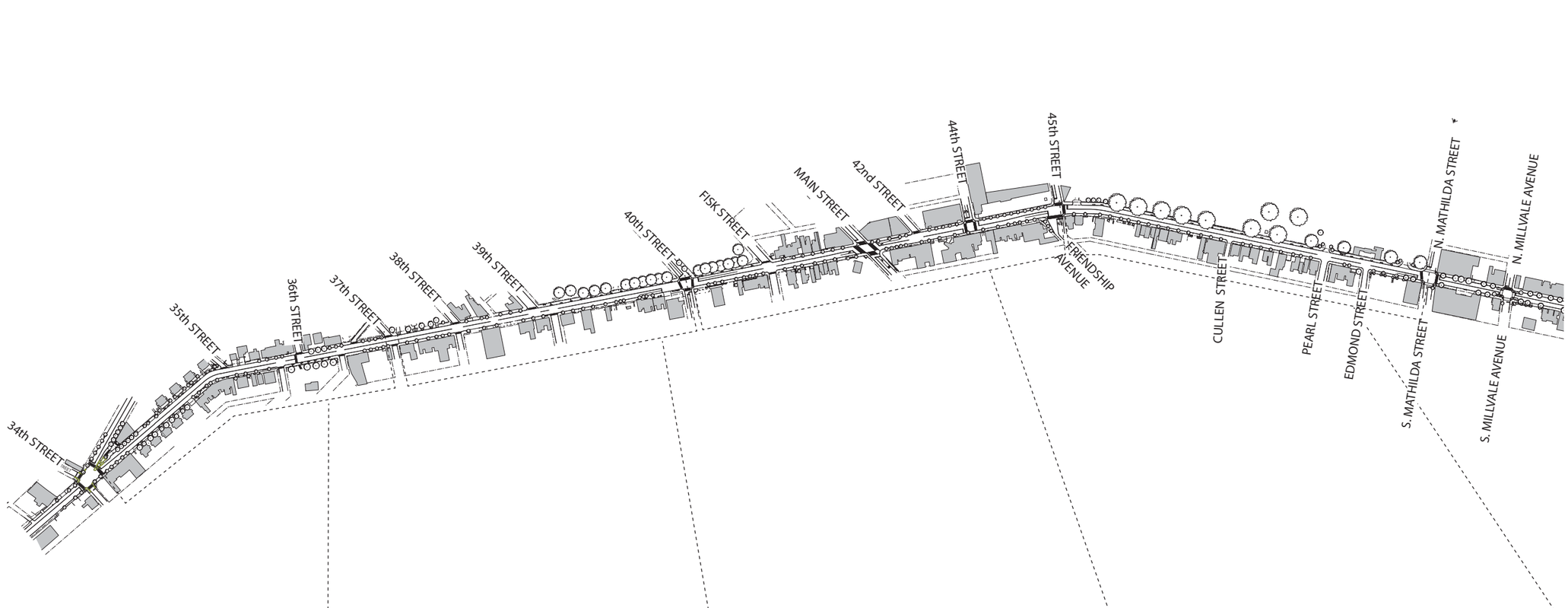
A project for the Metropolitan Transit Authority and Arts for Transit, *Life Underground* playfully inserts new inhabitants of the city into the infrastructure. The piece consists of nearly 100 smaller sculptures that interact with the built environment.

APPLICATION	COMPONENTS SIDEWALK-SCAPE	LANDSCAPE	POLE ELEMENTS	TRANSIT-SCAPE	PLACE-MAKING
INTEGRATED	Intersection Paving Sidewalk Paving Storm Paving Storm Inlets Concrete Stamps	Street Trees Tree Underplanting/ Rain Landscaping	Tall Street Lights Pedestrian Lights Traffic Signals Traffic Signs Trash/Recycling Bins Newspaper Enclosures Parking Meters & Stations	Bus Shelters Bus Stop Signs Bike Racks	Selected Benches
INSERTED	Tree Grates Tiles or Markers		Penn/Main Feature Lights 40th St. Lights Lamp Shades or Other Special Pedestrian Lights	Bike Racks Look-Up and Learn	Bus Shelter Graphics Custom Tree Grates Custom Trench Grates Public Art Opportunities Screening & Fences
APPLIED	Public Art Opportunities	Banners Special Signage		Selected Benches Graphic Installations Public Art Opportunities	

URBAN CATALOGUE & STREETSCAPE PROGRAM MATRIX

The Matrix for the Urban Catalogue examines the different components of streetscape elements (Sidewalk, Landscape, Pole Elements, Transit, and Place-Making) and compares them with opportunities for applying them along the Avenue. **Integrated** elements include all elements which must be designed and constructed as part of the Penn Avenue Reconstruction Project, and which must be included in the construction documents for that project. **Inserted** elements include all those elements which can be fabricated outside of the Reconstruction Project, but for which allowances must be made for how they are installed into the construction. **Applied** elements are those elements which can be fabricated and installed completely independent of the reconstruction and which can be installed at a later date.

LOYSEN + KREUTHMEIER ARCHITECTS
with
KLAVON DESIGN ASSOCIATES
and
LITTLE KELPIE



ARSENAL DISTRICT A: DOUGHBOY - 37TH

Arsenal District A begins at Doughboy Square and stretches to 37th Street. The district is predominantly residential in character, with small scale commercial located at Doughboy Square. Much of the residential area consists of homes constructed within the past 10 years, featuring landscaped front yards and off-street parking.

ARSENAL DISTRICT B: 37TH - FISK

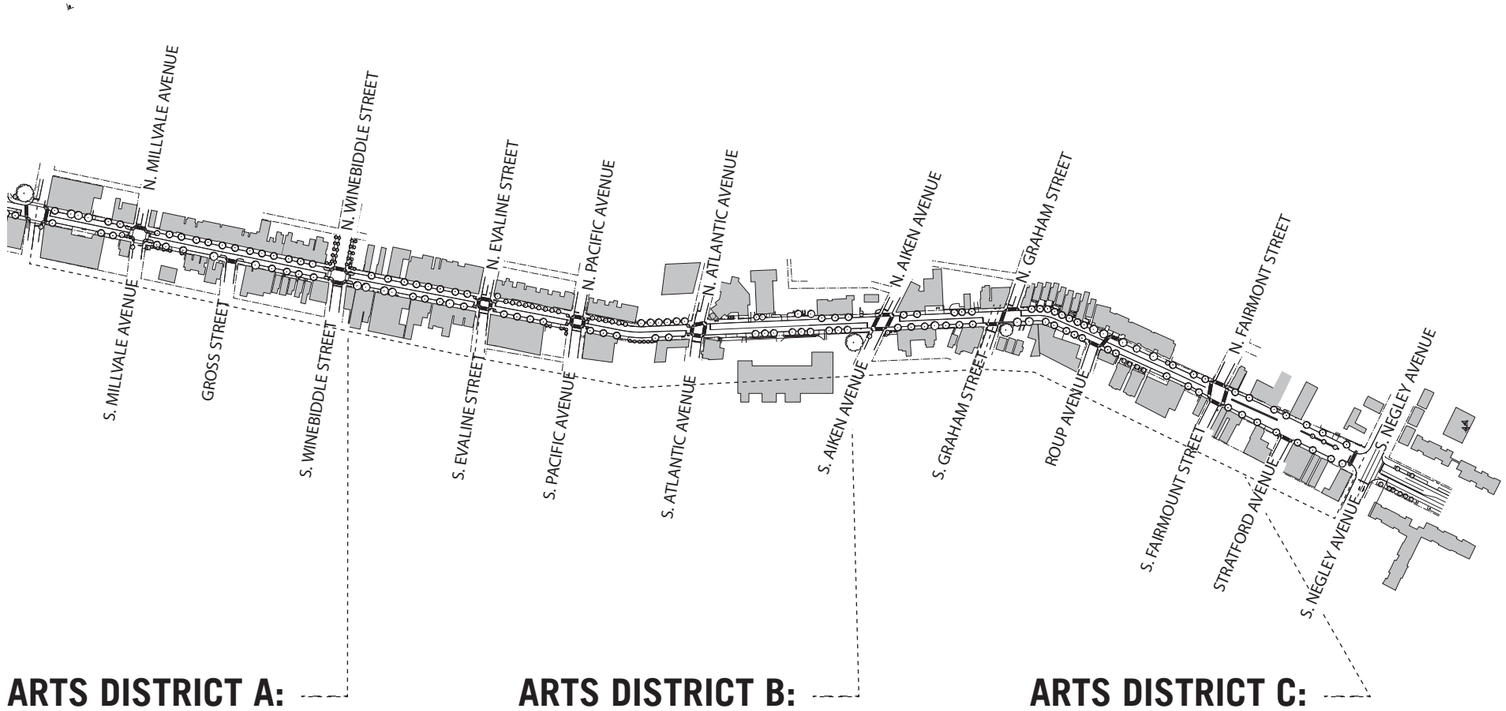
Arsenal District B begins at 37th Street and stretches to Fisk Street. This section of Arsenal is heavily residential, but does have some ground-floor commercial uses scattered along the street. The building stock is predominantly original to the neighborhood, dating to the late 1800's, with some more modern buildings, including both residential and commercial/light industrial.

PENN-MAIN DISTRICT: FISK - 45TH

The Penn-Main District is highly commercial with a strong transit orientation. The intersection at its heart is where the north-south axis of Main connects to the east-west axis of Penn. It brings together many neighborhoods into these few narrow blocks, which are dominated by the new Children's Hospital.

CEMETERY ROW DISTRICT: 45TH - MATHILDA

The Cemetery Row District is subdued in character, with the lush vegetation of Saint Mary's Cemetery and Allegheny Cemetery to the north. On the southern side of the street, the narrow three story buildings are predominantly residential in character, with some scattered commercial ground floor uses.



ARTS DISTRICT A: MATHILDA - EVALINE

Arts District A is characterized by an eclectic mix of small scale uses, both residential and commercial, including “do-it-yourself” styled art spaces, galleries and studios, as well as several local restaurants. The character is that of a funky Main Street.

ARTS DISTRICT B: EVALINE - GRAHAM

Arts District B includes the institutional core of the Arts District, as well as number of residential properties. The Avenue opens up in this area, with larger setbacks for the Children’s Home and other institutions.

ARTS DISTRICT C: GRAHAM - NEGLEY

Arts District C covers the core redevelopment area of the Bloomfield-Garfield-Friendship stretch of Penn Avenue. It includes small scale commercial and office uses (the Quiet Storm, Voluto, Sprout Fund, and others); arts-driven projects such as the Pittsburgh Glass Center; and new mixed-use residential development, including the Penn-Fairmont and the Glass Lofts.

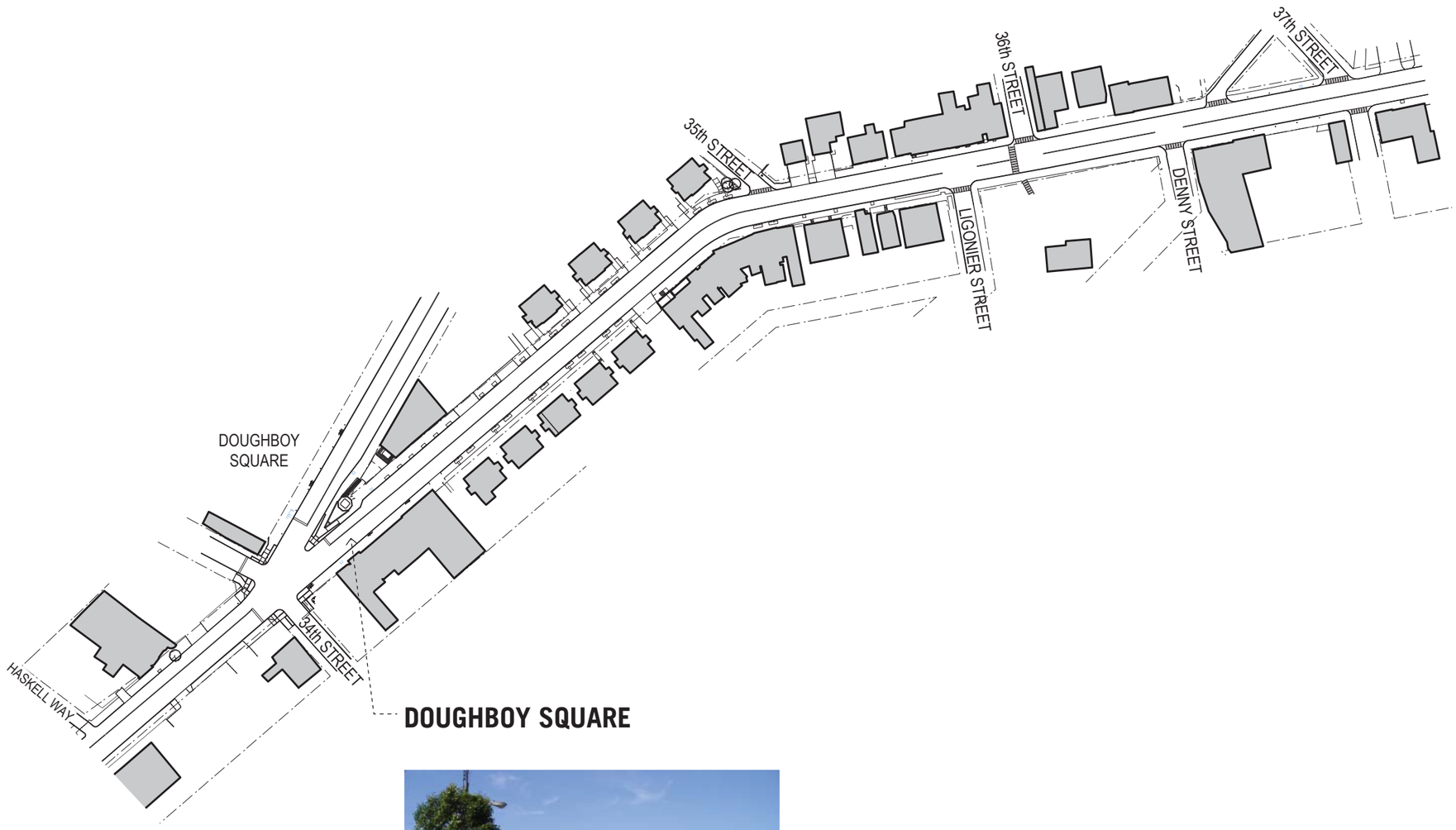
LOYSEN + KREUTHMEIER ARCHITECTS

with

KLAVON DESIGN ASSOCIATES

and

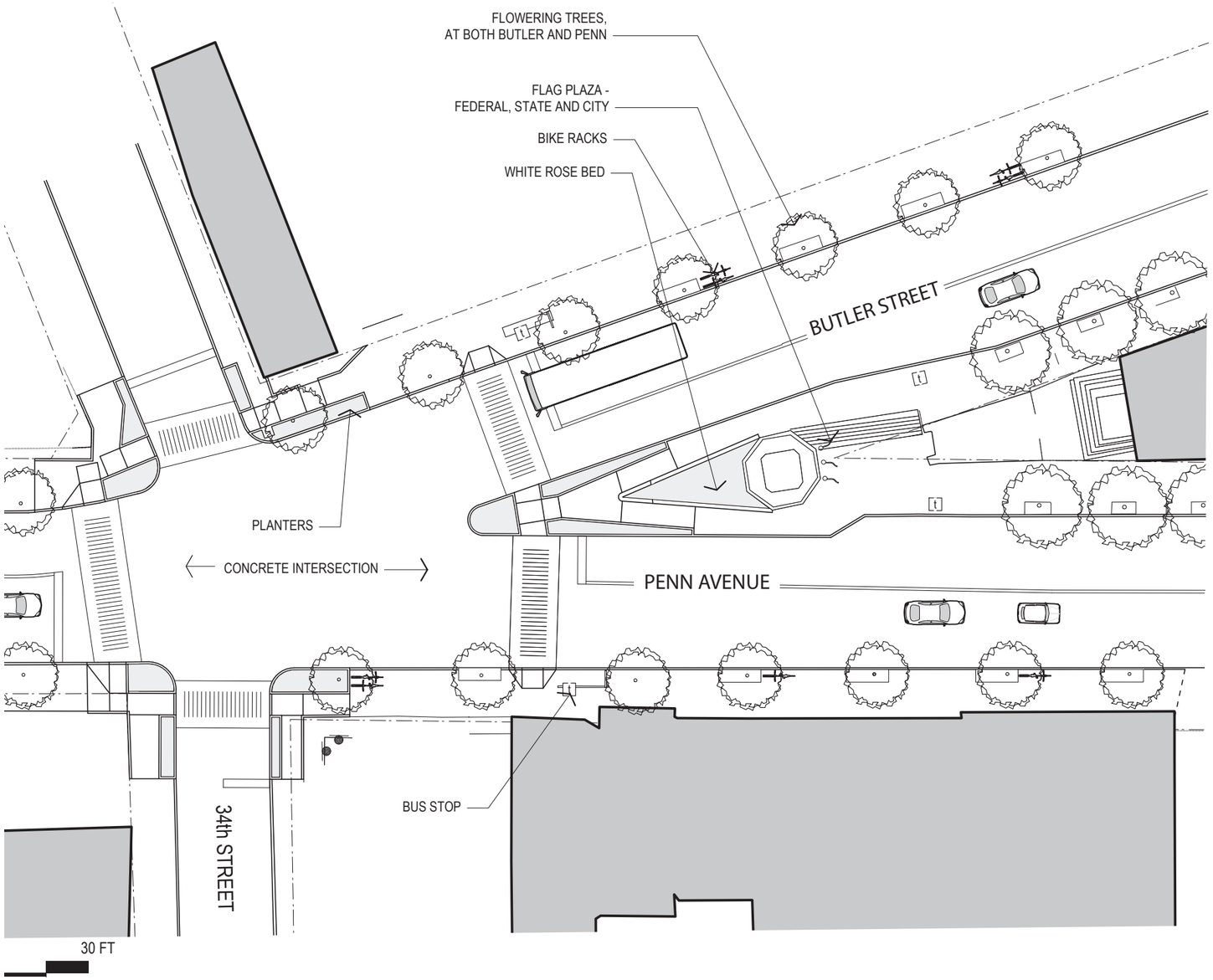
LITTLE KELPIE



DOUGHBOY SQUARE

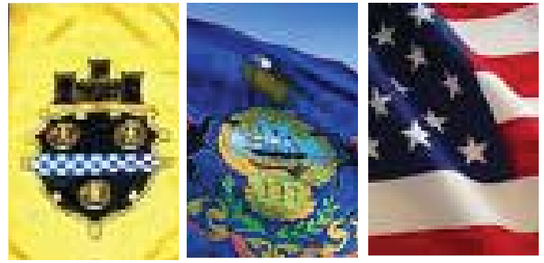
Doughboy Square is a landmark intersection on Penn Avenue. Traveling outbound, the left turn becomes Butler Street and is the transition from the Strip to the heart of Lawrenceville. Penn Avenue continues outbound towards the right, and leads to Arsenal, Garfield, Friendship and East Liberty.

The intersection is currently scheduled to be reconfigured, as its current configuration is confusing and causes traffic delays. Some aspects of this reconfiguration are to be completed prior to Route 28 construction detours. In addition to being reconfigured, there are intentions to develop Doughboy Square as a mixed use district.



NEW PLAN FOR DOUGHBOY SQUARE.

The proposed new construction reconfigures the “point” of Doughboy to clarify traffic signaling and pedestrian crossings. Streetscape recommendations include a combination of flowering street trees to celebrate Doughboy Square as a special event along the corridor and replacement street trees where needed. The flag pole would be relocated to become a backdrop to the statue and joined by two more, to make a flag trio. Symbolic white roses would be planted below the statue, complimented by low landscaping in the plaza and at the 34th Street corners.



FLAG PLAZA.

The existing flag pole should be relocated and joined by others to make a backdrop to the Doughboy statue.

SERVICEBERRY TREES.

Serviceberry Trees will line the sides of Doughboy Square to define it as a space.

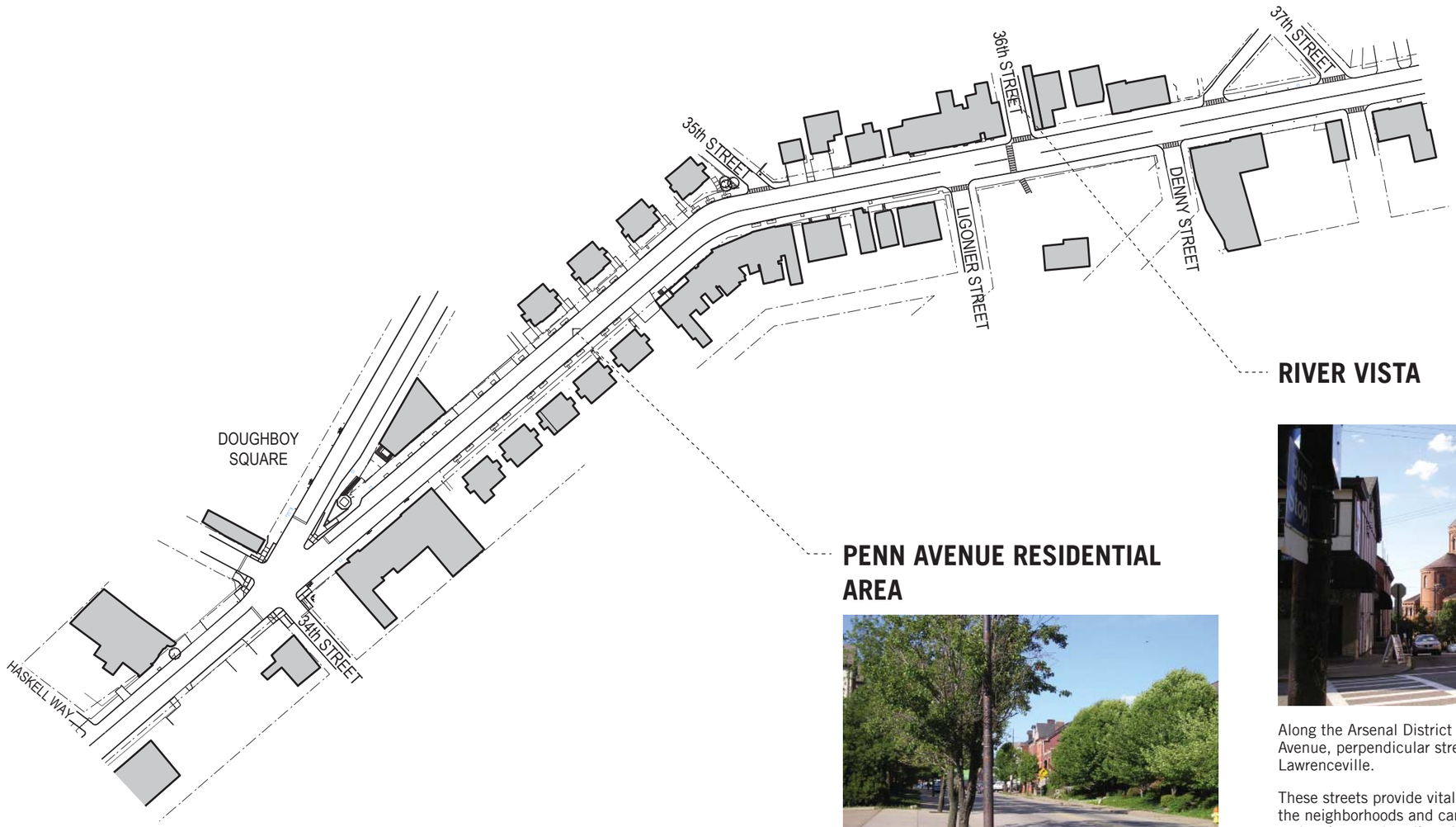
SERVICEBERRY BLOSSOMS.

Serviceberry blossoms enliven the Square in spring and, with the red fall leaves, provide multi-seasonal color.

LOYSEN + KREUTHMEIER ARCHITECTS

with KLAVON DESIGN ASSOCIATES

and LITTLE KELPIE



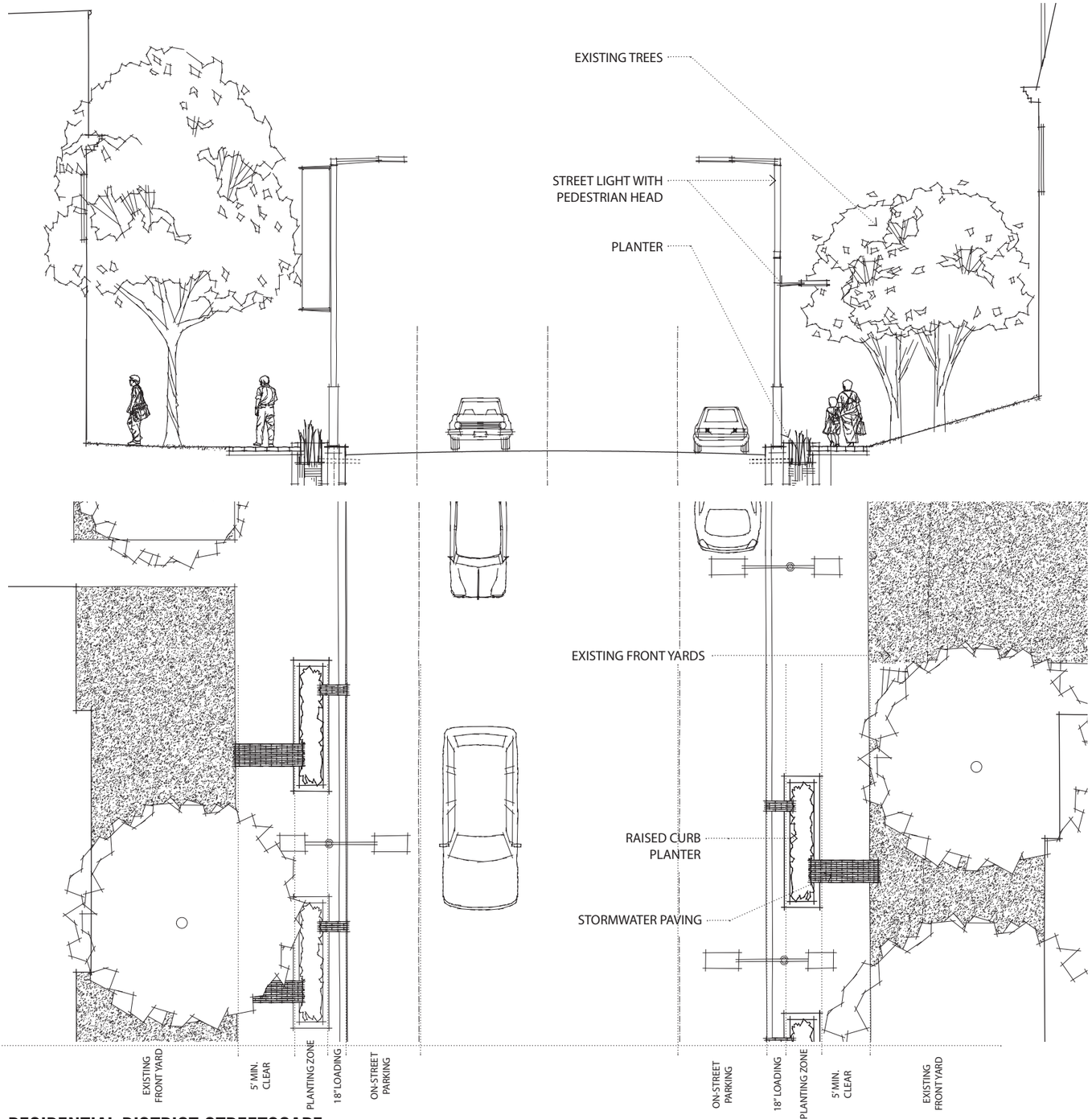
RIVER VISTA

Along the Arsenal District section of Penn Avenue, perpendicular streets open up views into Lawrenceville.

These streets provide vital connections between the neighborhoods and can be enhanced for both pedestrians and cyclists. New signage and wayfinding, as well as traffic calming at key intersections, can be employed to enhance these connections.

PENN AVENUE RESIDENTIAL AREA

The lower end of the corridor is mostly residential, small in scale and amply landscaped. Primarily, the streetscape work in this area will be to introduce storm water management pavements and tree pits and to modify intersections for pedestrian safety and traffic calming. Where space permits, stormwater planters for street trees and plants will be constructed, and expectations are that they will be owner-maintained. For pedestrian safety, contrasting concrete crosswalk paving will be introduced across 35th, Ligonier and 36th Streets. At 36th, contrasting crosswalk paving will also be introduced across Penn, to connect to the Bus Stop.



RESIDENTIAL DISTRICT STREETSCAPE

A protoypical example of the residential streetscape in the Arsenal District illustrates some of the design and infrastructure recommendations, including stormwater planters, pedestrian-scale lighting, and the palette of materials.

APPLIED BANNERS.

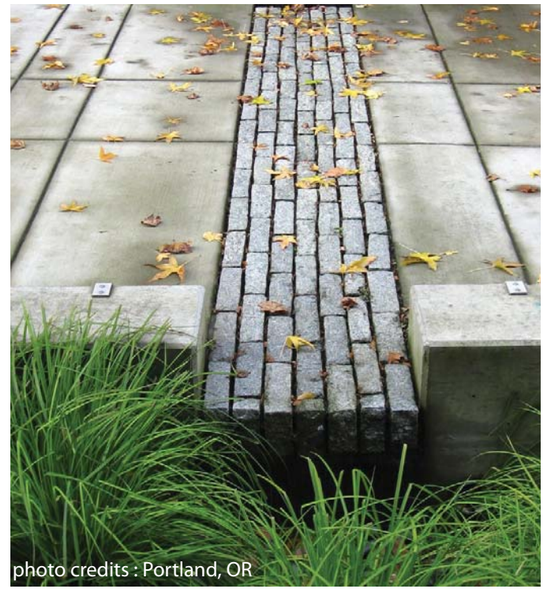
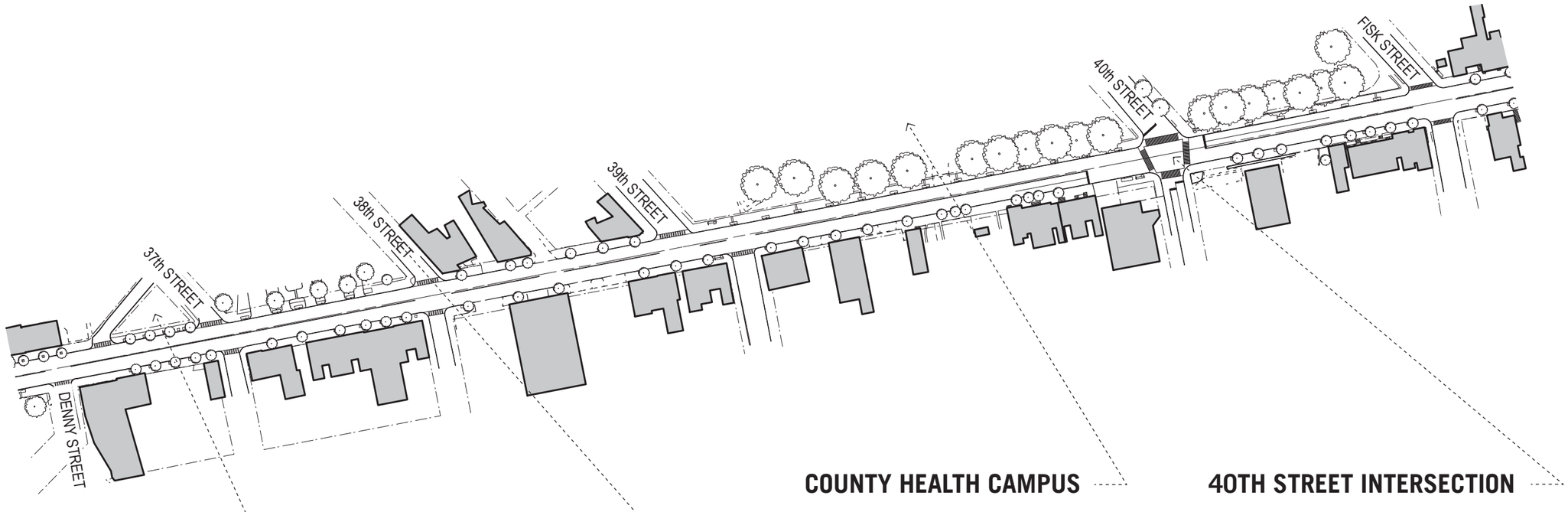


photo credits : Portland, OR

STONE STORMWATER PAVING.

photo credits : www.portlandonline. com; Portland, OR

RESIDENTIAL PLANTERS.



37TH STREET TRIANGLE

Most often, throughout the city, street grids were laid out either parallel to abutting rivers or to predominant topography. Penn Avenue follows a river grid until Doughboy Square, where it turns away from Lawrenceville's river grid and begins a new hillside grid. The two grids clash on the north side of Penn Avenue, creating quirky, triangular-shaped sites such as the one formed by 37th Street, Peoria Way and Penn, across from the Stephen Foster House. It was proposed in the EEP Penn Avenue Corridor Master Plan that this site be used as a parklet. This private property is currently used as a parking lot. At a minimum, it should be screened with landscaping or a hard enclosure.

CHURCH & RIVER VISTAS

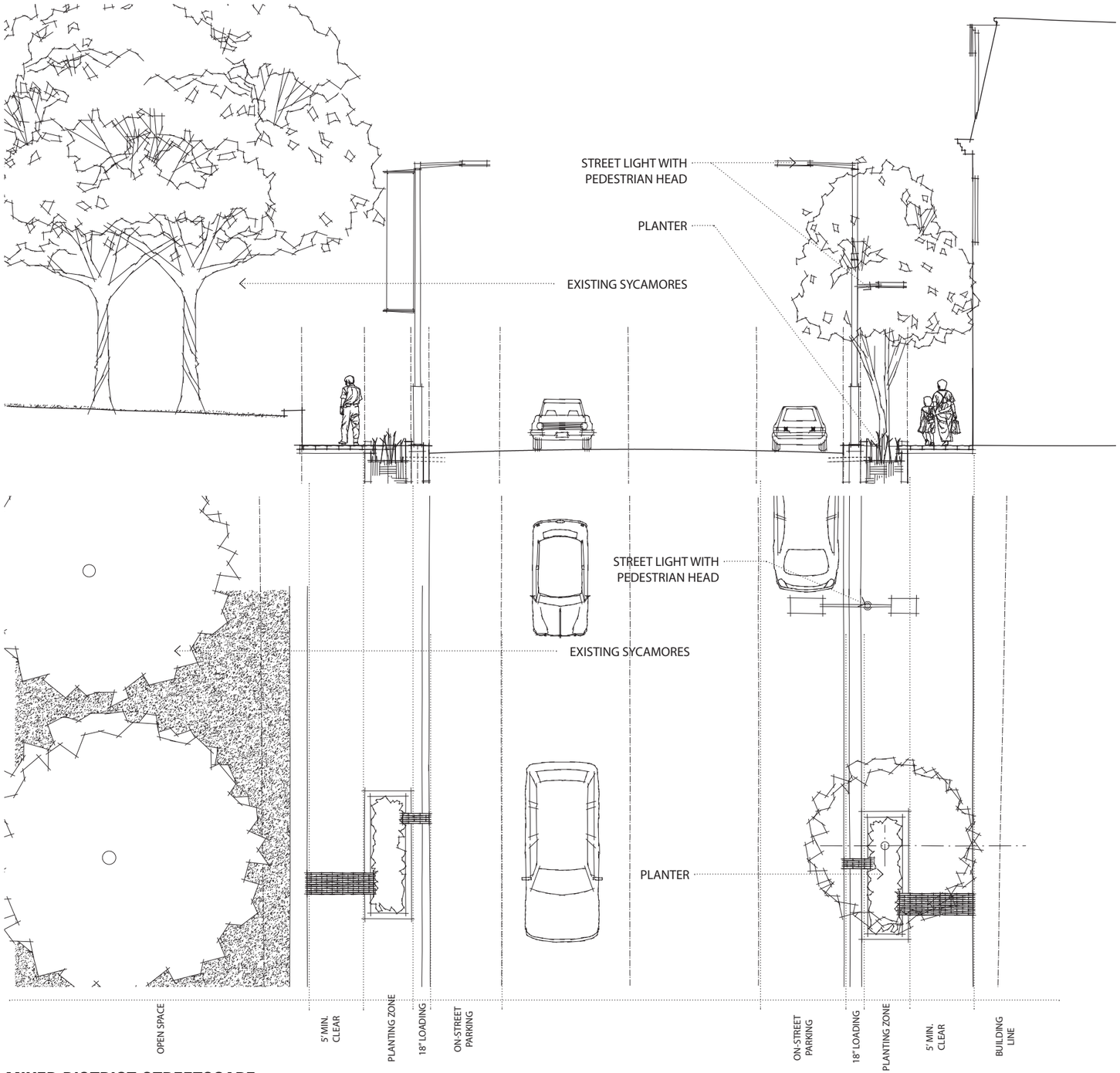
Among the unique qualities of the Penn Avenue Corridor, particularly in the Arsenal District, are the views down its narrow cross streets, with their cheek-by-jowl homes, and vistas to hillsides across the Allegheny River. Nearness to the river is reflected not only in views, but in a reminder that streams and stormwater runoff drains into the river. Storm inlets along the Penn Avenue will be specially designed to acknowledge this connection.

COUNTY HEALTH CAMPUS

The County Health Campus, adjacent to Arsenal Park, is set in a green open space, featuring gracious sycamores, similar in scale to those at Allegheny Cemetery. The streetscape along this stretch of the Avenue should not compete with these trees; stormwater planters without trees should be constructed on the north side of the Avenue in this location, and additional sycamores planted in the Campus' lawn.

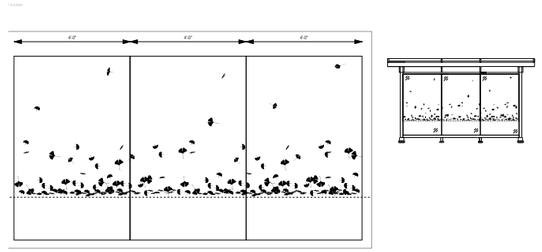
40TH STREET INTERSECTION

40th Street, with its connection to the 40th Street Bridge, represents one of Penn Avenue's major cross streets, carrying all sizes of traffic. The Millvale Flyer, 54C and 86B bus routes all stop here, making the 40th Street intersection a major public transit hub. As such, this intersection would get both new concrete crosswalk paving and a new concrete intersection. New bus shelters would be located here, with "Look Up and Learn" graphics and graphic patterns on the glass.



MIXED DISTRICT STREETSCAPE

Moving up Penn Avenue from the residential area adjacent to Doughboy Square, the Arsenal District becomes more mixed-use in character, and includes the major transit node of Penn and 40th Street.



BUS SHELTER TREATMENT.

photo credits : www.cemusa.com

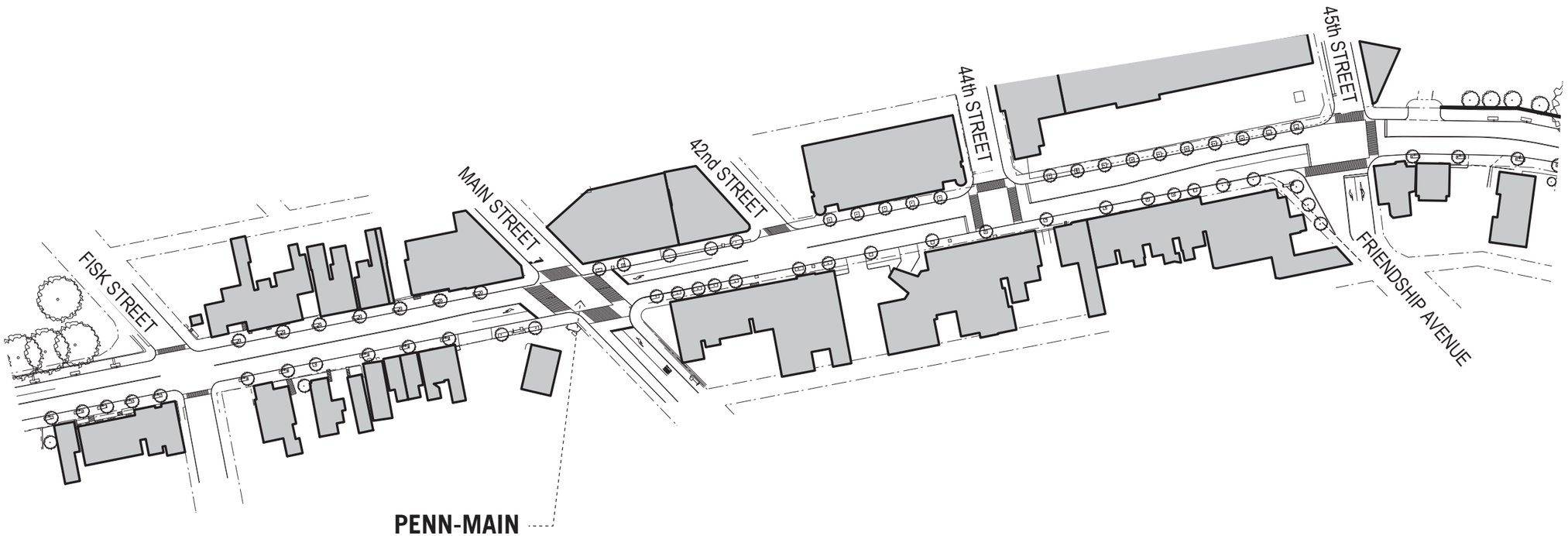
NEW BUS SHELTERS.

TRANSIT INFORMATION POSTS.

LOYSEN + KREUTHMEIER ARCHITECTS

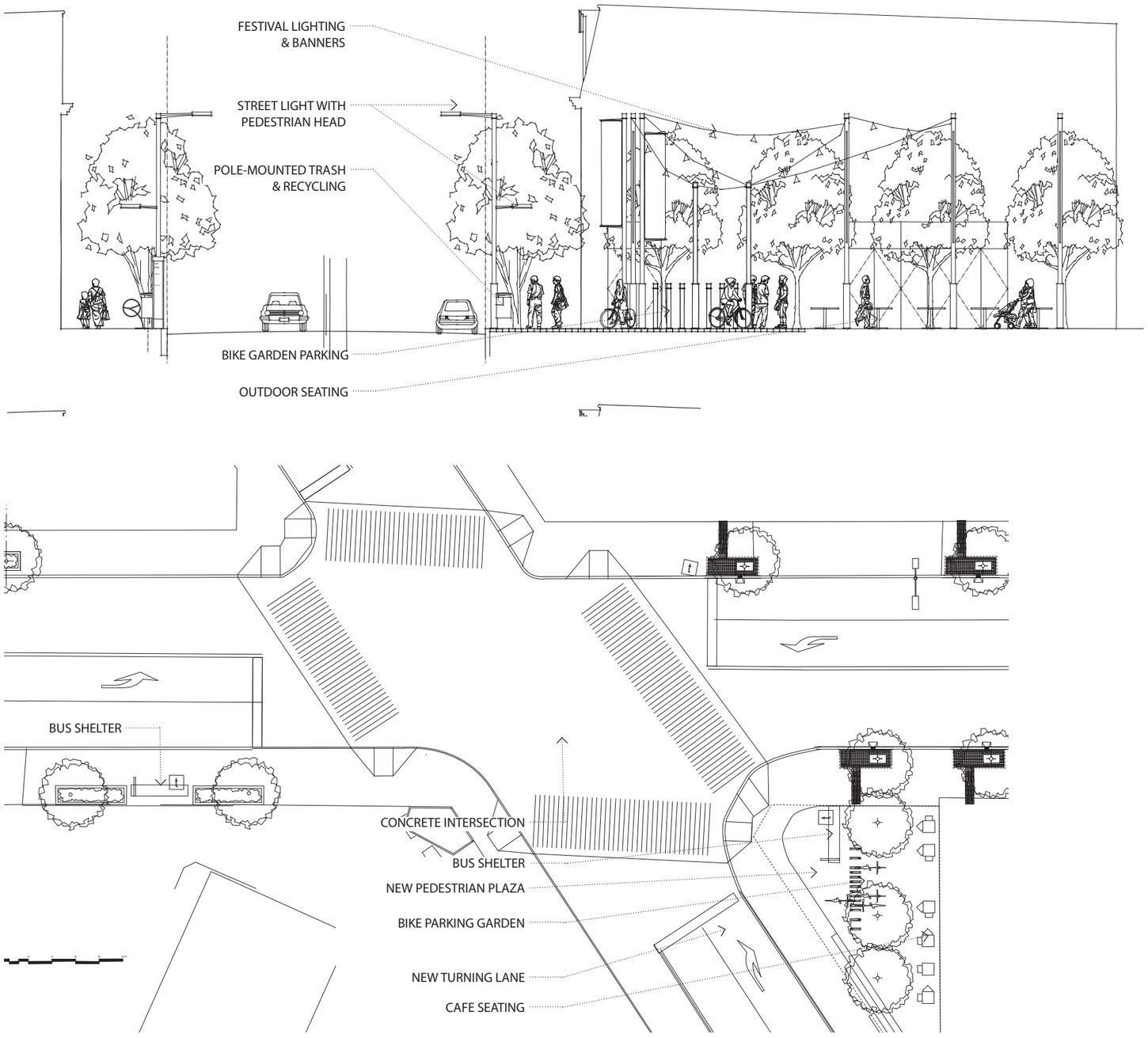
with KLAVON DESIGN ASSOCIATES

and LITTLE KELPIE



0 50 75 100 125 150 175 FT

Another major cross street intersection and transportation hub is the intersection of Penn and Main. With both traffic and pedestrian issues increased by the hospital opening, reconfiguration of this intersection is being studied. Among the options being considered is the demolition of the corner building, to enable a broader right turn radius onto Penn or a continuous right turn lane with a traffic island. These options are still under consideration, as the impact of Children's Hospital traffic is measured more accurately. One benefit of removing the corner building is that a small outdoor area could be created adjacent to the Brillobox, and could be used for bicycle parking and outdoor seating, and as the heart of the Penn-Main District. Special festive lighting, banner poles, and bike rack elements could be located here.



PENN-MAIN INTERSECTION PLAN.

The plan illustrates one of the possible reconfiguration options for the intersection of Penn and Main. The creation of a new turning lane and a more generous radius from Main onto Penn will ease vehicular traffic flow while giving pedestrians a safe line of sight to on-coming cars. Additional options include raising the intersection to a “table” format and creating a pedestrian all-walk signal, should new volumes of pedestrians from Children’s Hospital warrant the need.

FESTIVE LIGHTING.

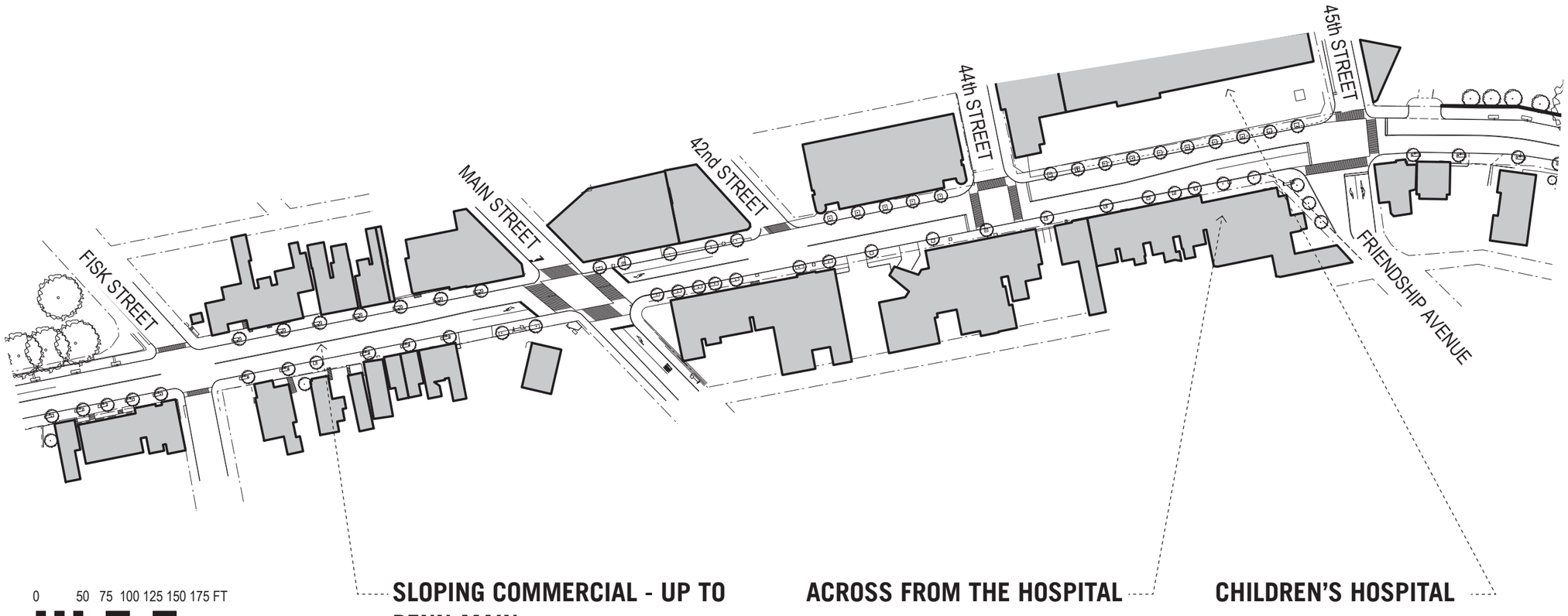
APPLIED ART.

BIKE GARDENS.

LOYSEN +
KREUTHMEIER
ARCHITECTS

with
KLAVON DESIGN
ASSOCIATES

and
LITTLE KELPIE



SLOPING COMMERCIAL - UP TO PENN-MAIN

Transitioning from the primarily residential area to the Penn-Main intersection is a row of commercial buildings, sloping up from 40th Street. Sidewalks here are not so wide, because the slope creates tall stoops, steps, and other protrusions, and there are a number of existing trees. New streetscape work in this area could include stormwater trenches that would collect water from downspouts that currently spill onto the sidewalks and direct it to stormwater planting beds.

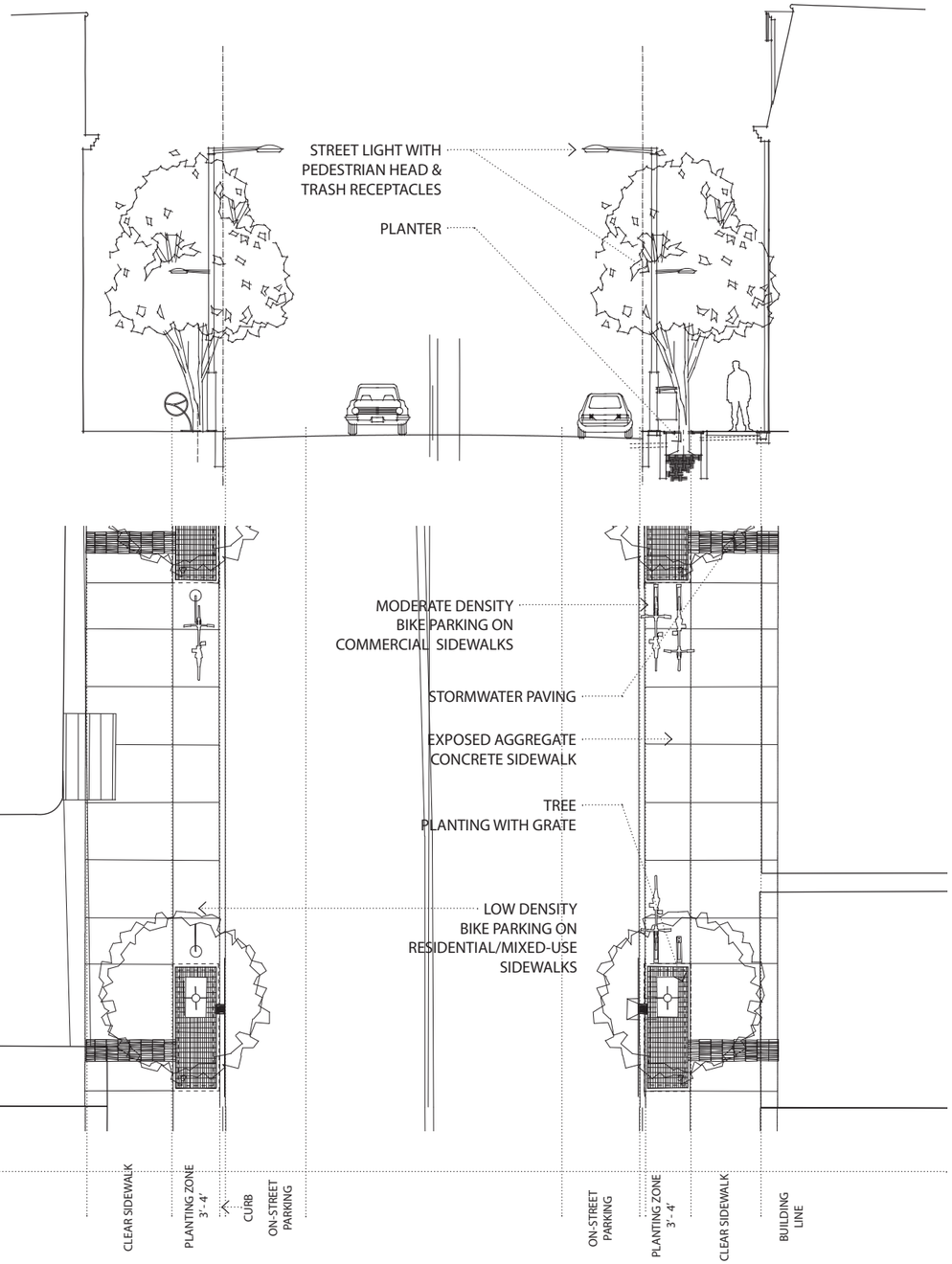
ACROSS FROM THE HOSPITAL

The stock of buildings across from the hospital is very good, with scale and detailing very pedestrian-oriented. New businesses are opening to capitalize on the opening of the hospital. As the sidewalk is narrow and is on the north side of the buildings, plantings here will remain just as the recently replaced trees. Pedestrian lighting fixtures may be added to street lighting here, for nighttime safety.

CHILDREN'S HOSPITAL

The recently completed Children's Hospital building includes new landscaping, lighting, traffic signals, sidewalks, parking meters, and other elements in accordance with current City standards.

It is not anticipated that any new streetscape elements will occur at this new project, though some contemplated street and intersection improvements nearby have yet to be completed.



PENN-MAIN DISTRICT - TYPICAL PLAN.

The Penn-Main District is a predominantly commercial mixed-use area with residential interspersed. Bicycle parking should be provided in a higher density in heavily commercial areas of the district, with individual bike racks interspersed in the lower density blocks of the district.

SCULPTURAL SEATING.

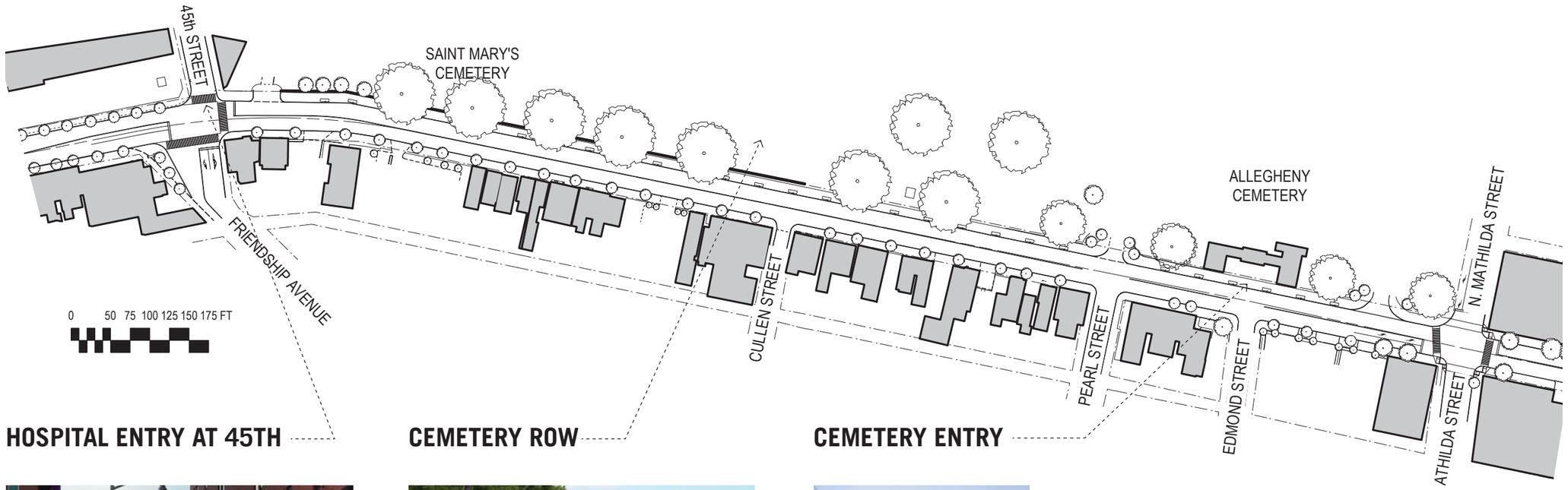
STORMWATER PAVING RETROFITS.

STORMWATER GRATES.

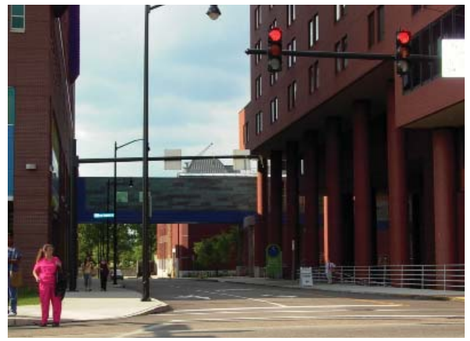
LOYSEN +
KREUTHMEIER
ARCHITECTS

with
KLAVON DESIGN
ASSOCIATES

and
LITTLE KELPIE



HOSPITAL ENTRY AT 45TH

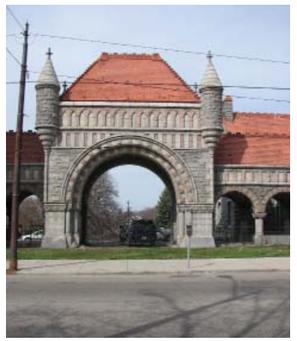


The intersection of Penn, Friendship Avenue and 45th Street is one of the intersections being studied for reconfiguration. One option is to remove the island and enlarge the sidewalk at the west side of Friendship Avenue so that it could include a bus shelter. Streetscape elements here would include a small amount of the festive lighting proposed at Penn-Main to bookend the hospital block and, with many hospital employees and visitors using this bus stop, “Look Up and Learn” graphics would be designed for the bus shelter.

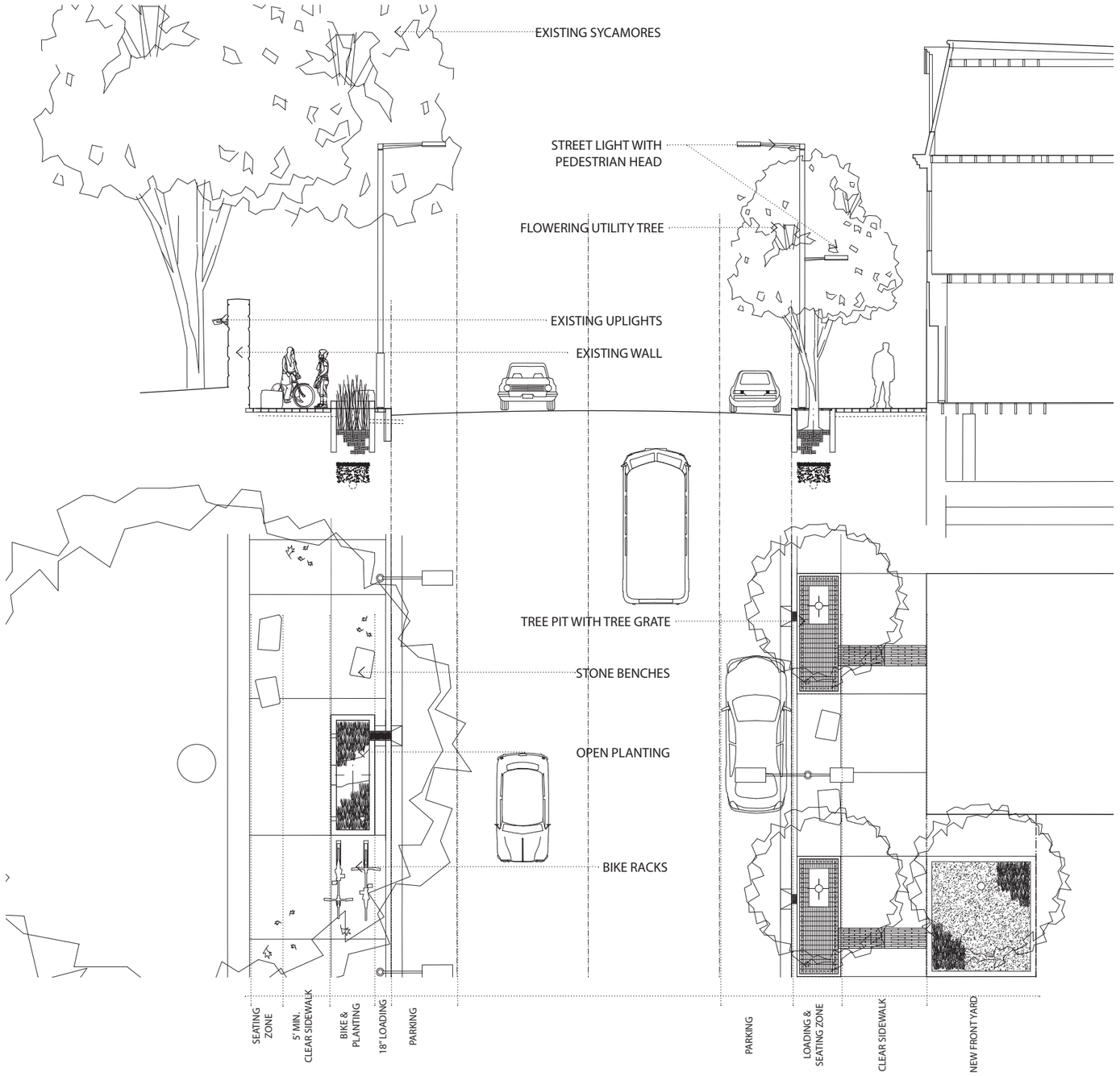
CEMETERY ROW

Between the Penn/Main and Arts District commercial buildings, the Saint Mary’s and Allegheny Cemeteries provide a visual break, with grand sycamore trees, landmark entries, beautifully textured fencing and stone walls. With a recently completed project, their trees are now up-lighted. On the south side of the street, small scale residential and commercial buildings remain, for the most part unimproved. Streetscape recommendations for this stretch of the Avenue are to use large stones as benches on the cemetery side of the street, so visitors can enjoy the wall and the shade trees. On the south side, trees of smaller scale are recommended, to not compete with the sycamores. Stormwater planter beds and tree pits can be utilized in this stretch of sidewalk. Green and Screen, or private sites may also utilize these designs and principles.

CEMETERY ENTRY



The visual interlude created by the cemeteries in this stretch of the Avenue should be accompanied by elimination of as much visual clutter as possible, to afford solo performances to their landmark architecture. Signs and other pole elements should be consolidated or eliminated wherever permitted.



CEMETERY DISTRICT STREETSCAPE

Along the Cemetery District, the graceful sycamores on the northern side of the Avenue will dominate the landscape, with small elegant trees on the south side. Opportunities for alternate stormwater management techniques should be incorporated into the public realm, and any redevelopment activities on the southern side of the Avenue should also be encouraged to incorporate on-site rain gardens.

A PENN AVENUE LANDMARK.

photo credits : diez + diez studio

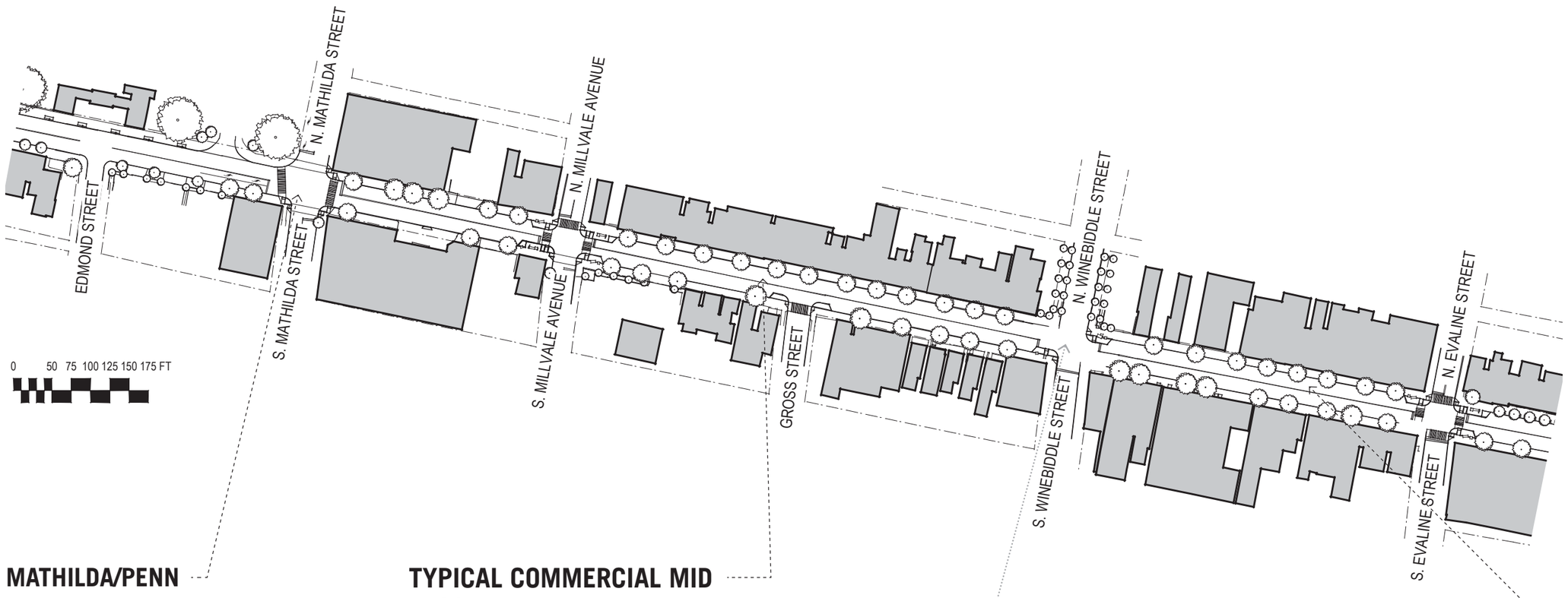
STONE SEATING.

APPROPRIATE PLANTINGS.

LOYSEN + KREUTHMEIER ARCHITECTS

with KLAVON DESIGN ASSOCIATES

and LITTLE KELPIE



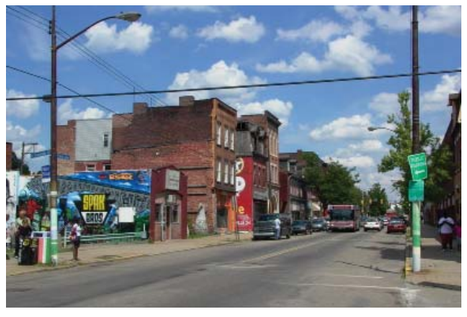
MATHILDA/PENN

At Mathilda, one of the district's major cross-thoroughfares, the intersection redesign needs to create clearer crosswalks while attempting to better facilitate traffic flow. Intersection improvements would include new concrete crosswalks.

TYPICAL COMMERCIAL MID BLOCK

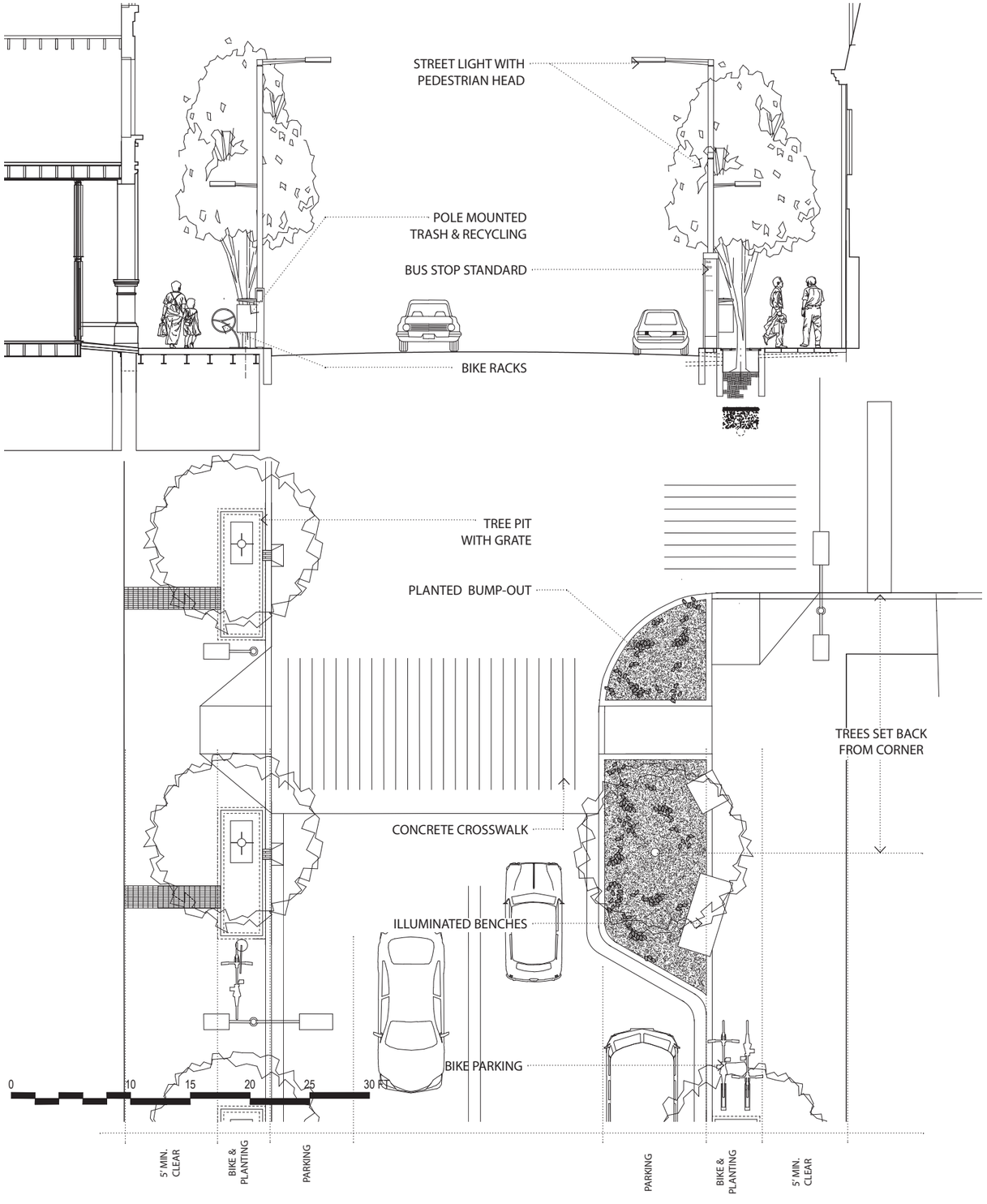
The stretch of Penn Avenue from Mathilda to Evaline is characterized by an eclectic mix of historic and contemporary architecture. The buildings house a mix of uses, including residential lofts, restaurants, offices, artist studios, and galleries.

WINEBIDDLE



At Winebiddle Street, it is envisioned that there will be a vista towards the improved residential neighborhood of Garfield, including a vista up to Fort Pitt Elementary School. This is one of the locations where a unique side street tree is recommended, to celebrate the view and unique street.

TYPICAL COMMERCIAL MID BLOCK

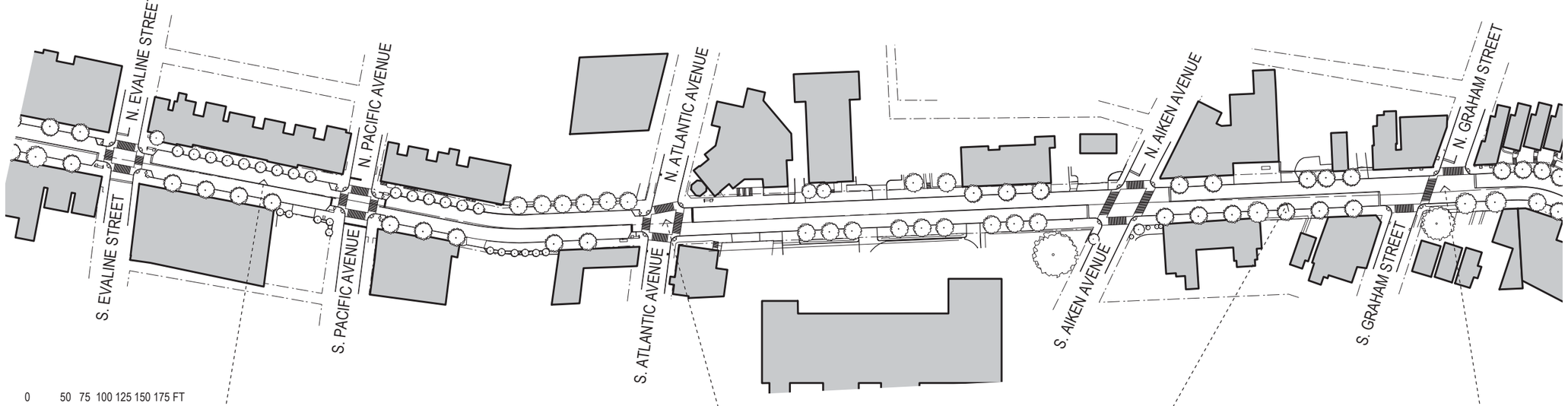


ARTS DISTRICT STREETSCAPE

SIGNAL, SIGN AND LIGHTING POLES.

STREET TREES.

CREATIVE APPROACHES TO SEATING & LIGHTING.



TOWNHOUSES

In the midst of the commercial district are a number of three-story townhouses. These structures help complete the continuity of the street, although with a different use.

Feature tree plantings should be used in this location. This may also be an opportunity to incorporate planted rather than grated tree pits, if maintained by the residents.

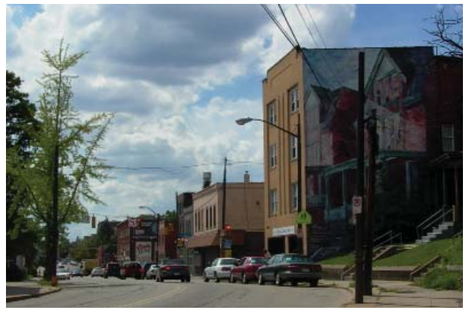
ATLANTIC TRANSITION - ARTS INSTITUTIONAL

At Atlantic Avenue, the district transitions from a predominantly mixed-use commercial/residential district to a street dominated by institutional uses. These structures, including Saint Lawrence O'Toole and the Children's Home, are set further back from the street than in the mixed-use portions of the Avenue, and include landscaping.

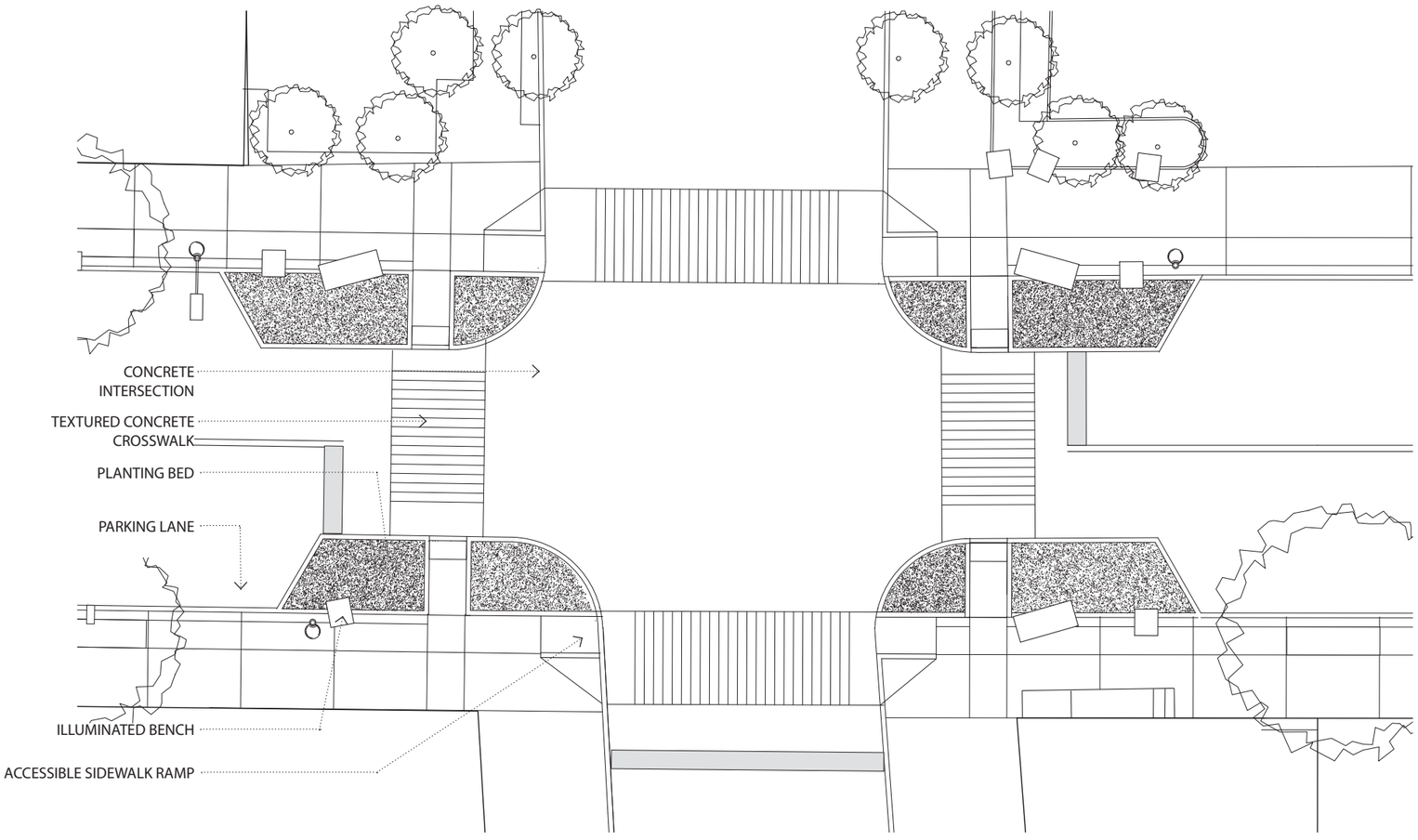
ARTS COMMERCIAL

At the intersection with Aiken Avenue, the Arts District again picks up the smaller scale ryhthms that are present in the buildings to the west of the Institutional zone. Uses include a mix of office, retail and residential, and include an eclectic mix of building styles. This area also includes several row houses that are built to the property line, and has a very fine-grained character to the buildings.

GRAHAM INTERSECTION



The intersection of Penn and Graham is a focal point for much of the development activity that has taken place in the past few years in the Arts District. This development includes the renovation of small scale buildings, such as the Sprout Fund offices, as well as the large scale new construction projects for the Glass Lofts and the Penn Fairmont. The Quiet Storm coffee shop acts as a key anchor to this portion of the district.



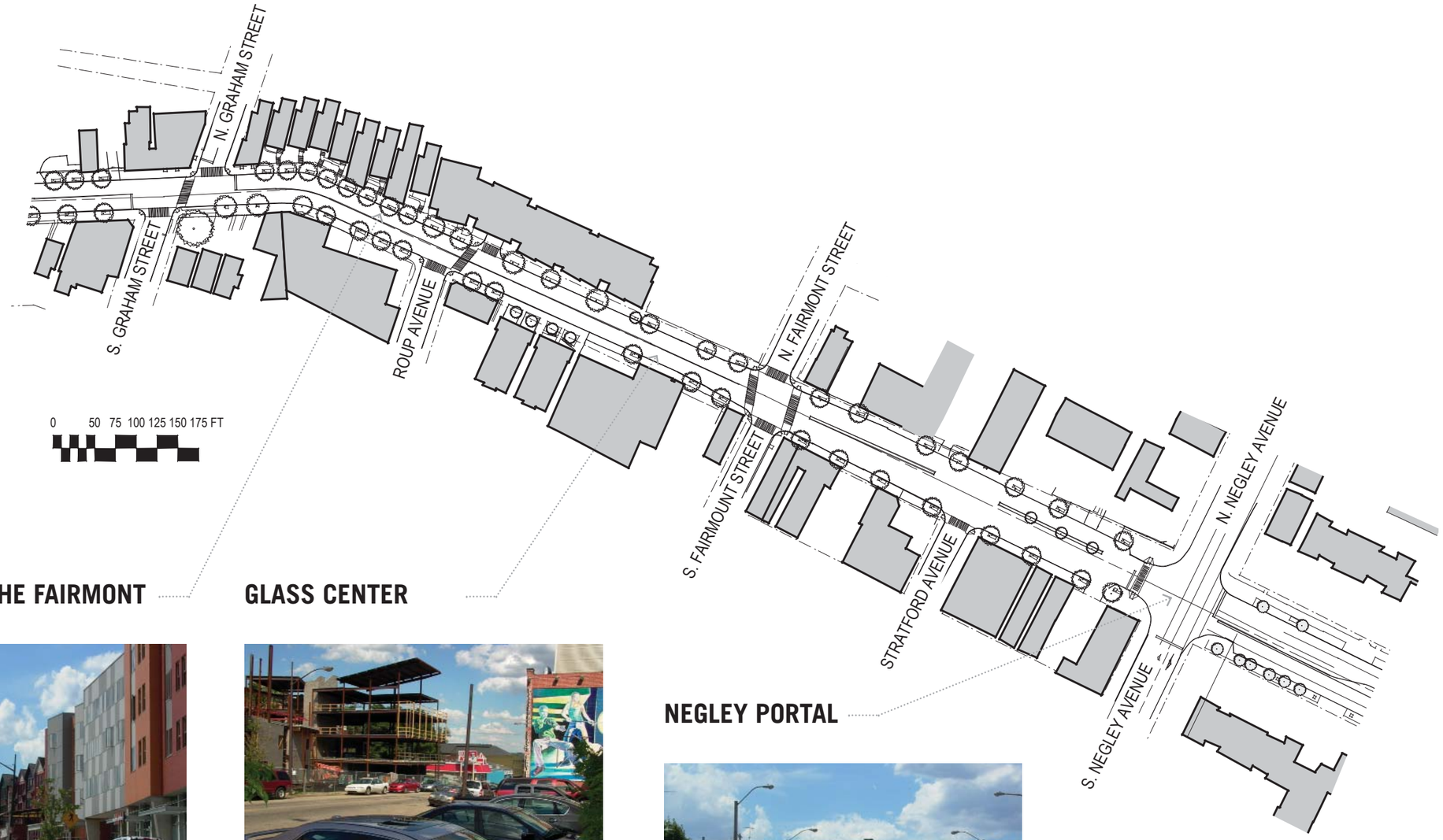
TYPICAL INTERSECTION IN THE ARTS DISTRICT.

Throughout the Arts District, “bump-outs” at key pedestrian crossings will be employed both as a traffic calming device and to provide additional sidewalk space in this busy district. Although the sidewalks are generally narrow and do not provide additional space for plantings, the bump-outs will give the ability to provide additional stormwater control measures and greenery in the district.

APPLIED ART : TEMPORARY FACADES.

TREE GRATES AS ART.

STORMWATER PLANTINGS.



BRIDE ROW & THE FAIRMONT

Bride Row and the Penn Fairmont illustrate the distinct character of the architecture of the Arts District - the juxtaposition of new contemporary interventions with the historic fabric buildings of the Avenue.

Bride Row is a series of historic townhouses that are planned for redevelopment as a mix of owner-occupied and rental units. Penn Fairmont provides three upper floors of senior housing with a ground floor of commercial uses, including medical offices and a local coffee shop.

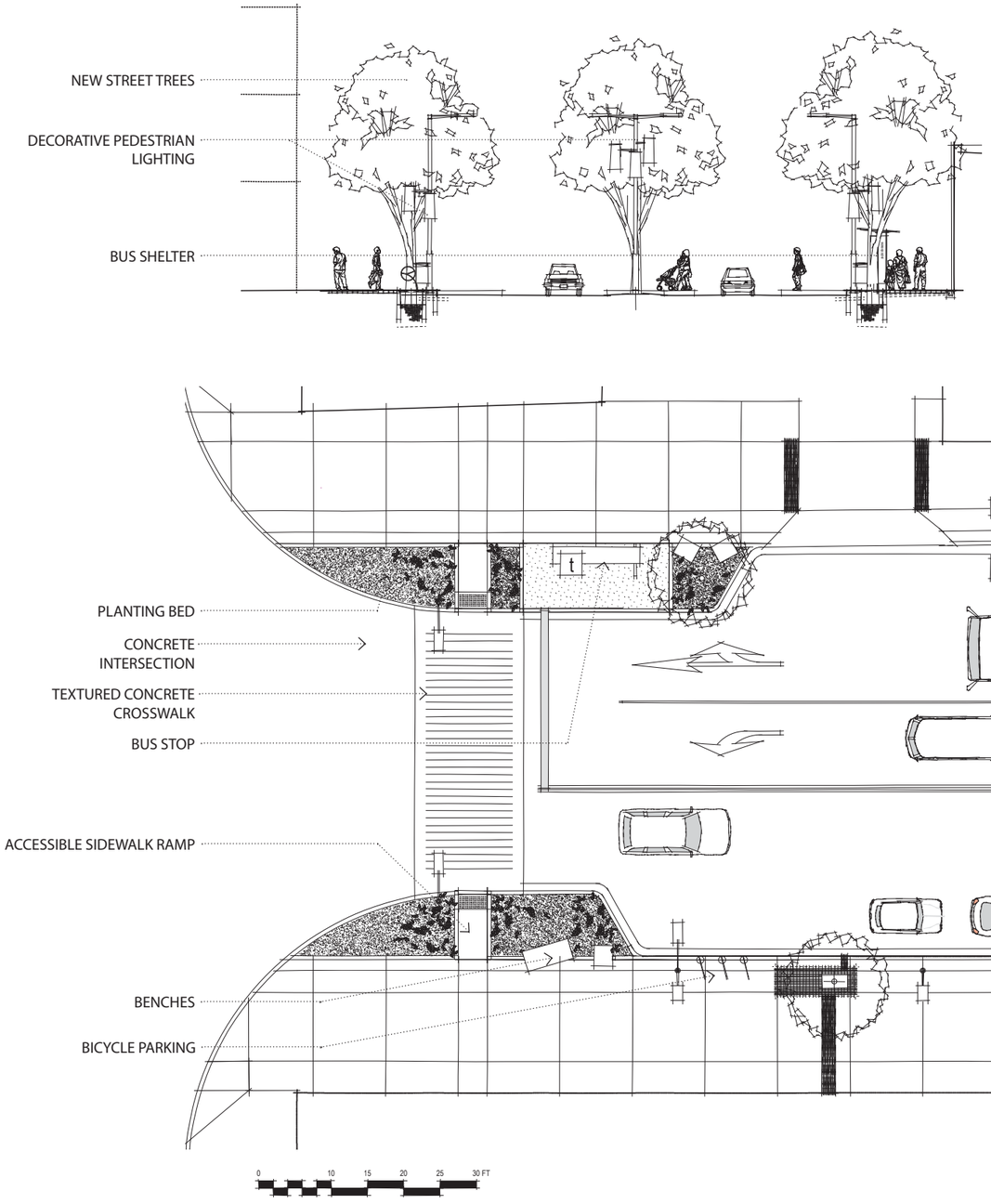
GLASS CENTER

The heart of this section of the Arts District is the Pittsburgh Glass Center and the Glass Lofts. The Glass Center is a nationally renowned center for glass art and design, offering course work and studio time in every aspect of glass work, including casting, blowing and jewelry making.

Across the Avenue, the Glass Lofts are currently under construction and will provide owner-occupied live-work spaces.

NEGLEY PORTAL

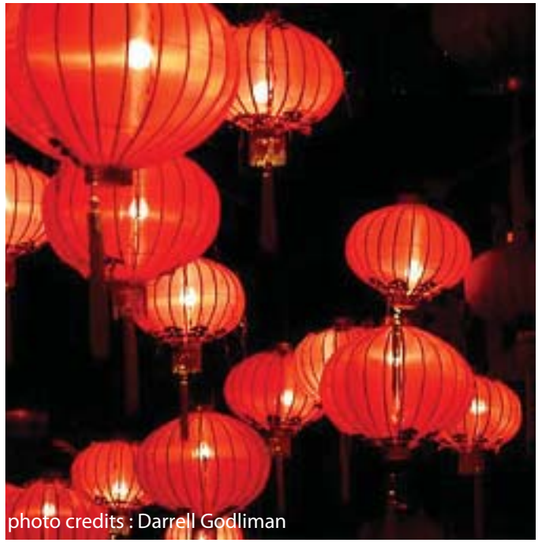
The intersection of Penn Avenue and Negley Avenue is a portal between the study area and the East Liberty business district. In addition, Negley Avenue connects three of the wealthiest neighborhoods in the city (Highland Park, Shadyside, and Squirrel Hill) to each other and to Penn Avenue. This intersection sees thousands of commuters a day, on foot, in private vehicles, and via transit.



NEGLEY AVENUE BOULEVARD

The large street section at the Negley Avenue end of Penn is significantly larger than the rest of the Corridor, and runs for only two blocks before narrowing down again at the East Liberty business district. Opportunities to reduce the width of the vehicular roadway and widen the sidewalks for pedestrians should be considered. These efforts will need to be coordinated with the work in East Liberty and the changing traffic patterns at Penn Circle.

LOOK UP AND LEARN.



DECORATIVE PEDESTRIAN LIGHTING.

STONE SEATING.

LOYSEN + KREUTHMEIER ARCHITECTS

with KLAVON DESIGN ASSOCIATES

and LITTLE KELPIE