Combining Streetscape Elements

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There are nearly endless potential combinations of streetscape elements that are possible. Each streetscape combination needs to address a number of considerations including, but certainly not limited to:

- the available budget
- the available maintenance budget
- the width of the sidewalk area
- the vehicular traffic on the street
- the pedestrian volumes along the sidewalk
- the presence of parking along the sidewalk line
- the presence of bus routes and stops
- the presence of hollow sidewalks
- the presence of underground utilities
- the presence of above ground conflicts such as canopies and other building elements.
- the BID or Main Street's marketing and retail strategy
- traffic calming, parking and safety strategies
- installation and maintenance of public art

It is the streetscape designer's challenge to create concept alternatives that blend these considerations with the overall desire of the City of Milwaukee and the BIDs. Other groups are involved in the design process including Main Street Programs, merchants associations, and CDCs.

Budgets and Maintenance

One of the most important considerations is the issue of budget and maintenance. Initial construction budgets may allow for certain streetscape elements, however, the downstream maintenance requirements may become cost prohibitive. This analysis of the maintenance costs is a crucial step in determining the initial streetscape elements that can be initially constructed.

During the evaluation of the streetscape elements, it is important to consider the installation techniques that are used. Paving materials, for example, can be installed in a number of methods. A high quality paver can be installed with a less expensive paving system and the resulting installation can create higher long term maintenance issues for the City and the BIDs in the future. A lesser quality, but still acceptable, paver that is installed using a higher performance paving system can create less long term maintenance.

Another example is the use of plant materials. Creating extensive greenspaces in streetscapes can provide substantial visual improvements, the long term costs of maintaining extensive plantings needs to be considered.

There are certain elements where it would be tempting to use custome items rather than stock items. Stock items are much easier to replace when necessary. The City only provides stock items as replacements unless the BID or funding entity provides replacement stock.

This analysis effort is a critical step in balancing the needs for a good looking and performing streetscape with the initial construction budget and long term maintenance budget.

Figure 5-1: intricate landscapes will require higher levels of maintenance

Figure 5-2: Custom elements require high quality materials to last

Tree Clearance Zones at Intersections

Beginning the process of combining the streetscape elements includes looking at a number of condtions that may preclude the inclusion of certain elements. As defined earlier in this document, trees and lights are the primary streetscape elements. Given the need for illumination of the roadways and sidewalks at night, the lighting elements will generally take precedence over trees in the establishment of the initial framework for the streetscape. The City has established a number of clearance requirements for trees in streetscapes.

At corners, there are a several clearance requirements depending on the traffic drection:

- Near-side clearance - 40 feet from property line
- Far-side clearance - 20 feet from property line.

This helps ensure that trees are not planted where views to traffic signs and signals are blocked.

Intersections are where pedestrian conflicts most often occur. Pedestrians use this small space - the eddy zone - at the street corners to make decisions on crossing the street, changing direction of travel, avoiding traffic and other related activities. Because of the congested nature of this eddy zone, the placement of streetscape furniture and related elements near intersections must be carefully considered.

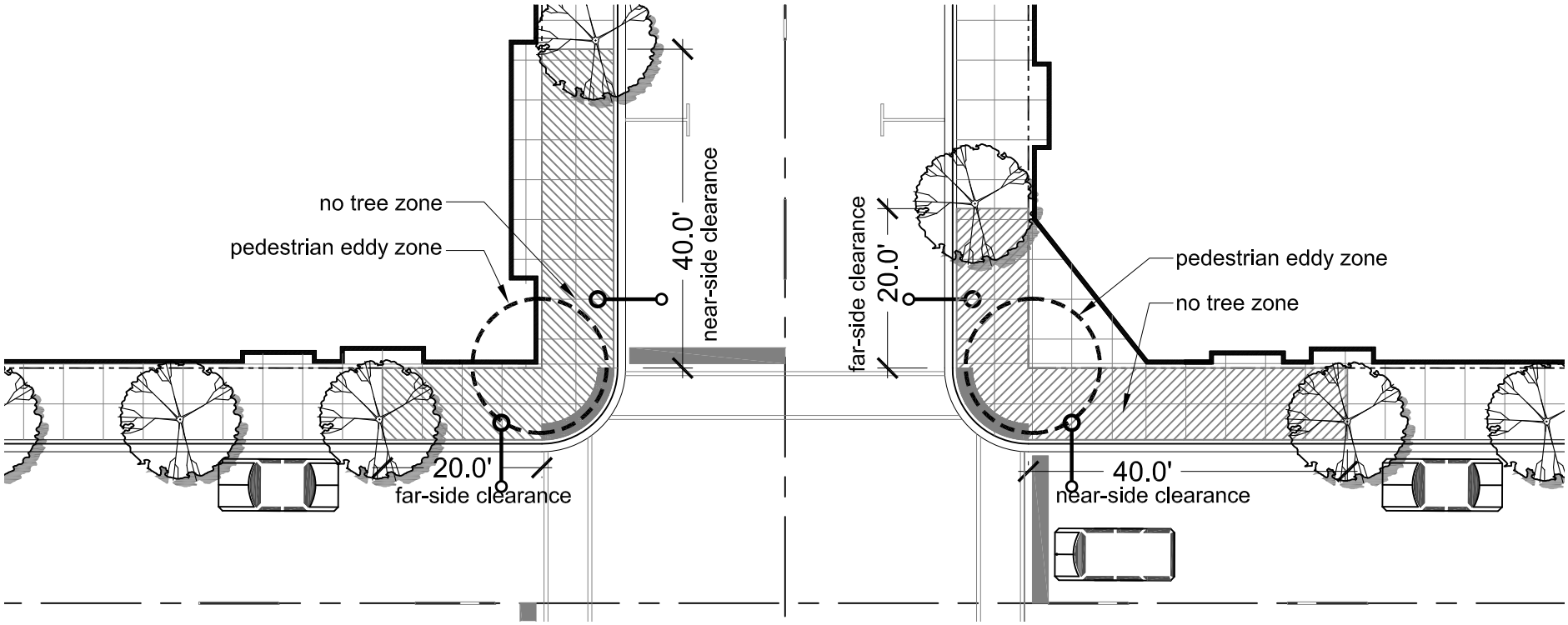

Figure 5-3: Tree clearances and pedestrian eddy zones at intersections

Intersection Clearance Zones

When these clearances are applied to an entire intersection, the clearance zones are as shown below.

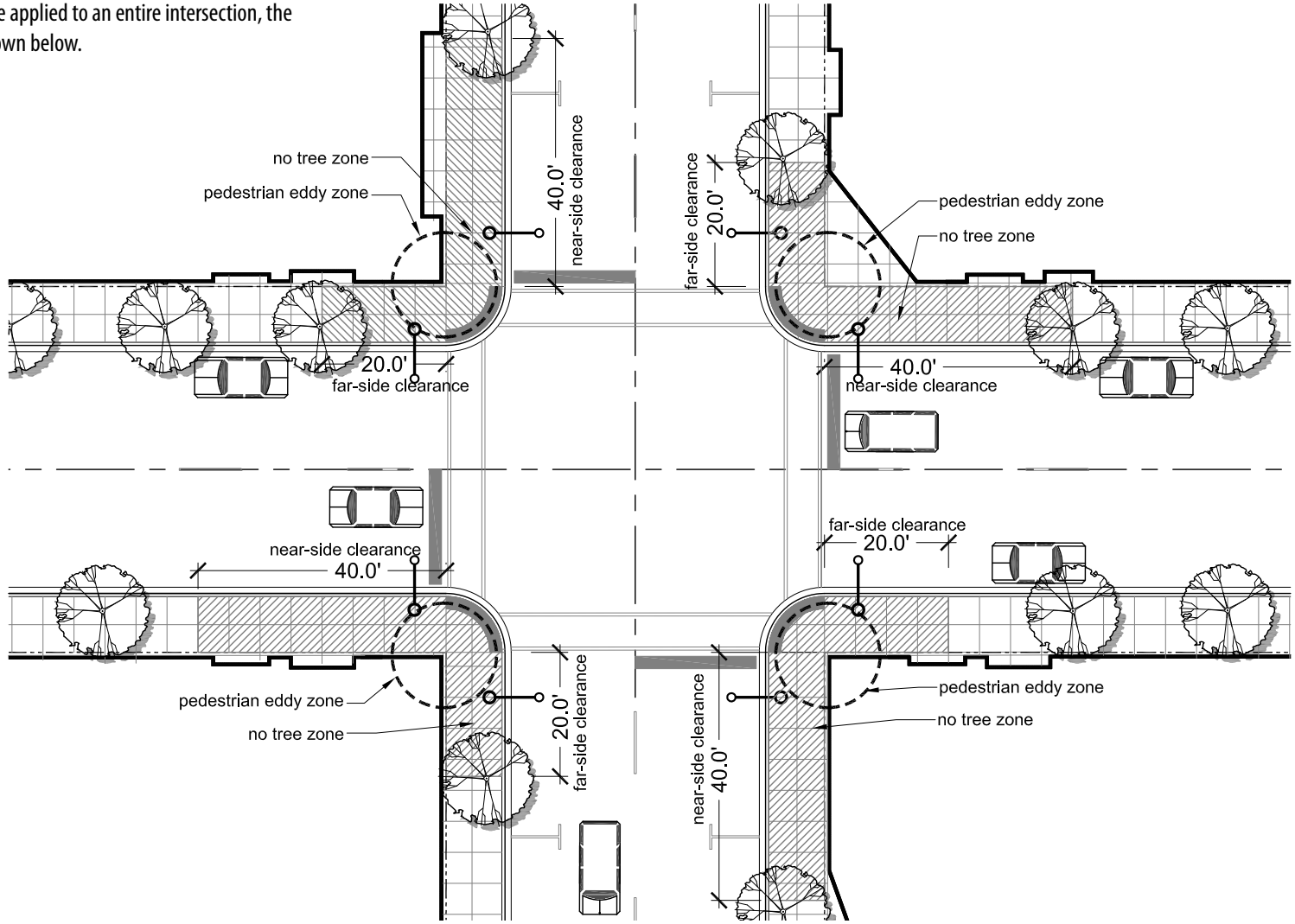

Figure 5-4: Intersection Clearance Zones

Tree Clearance Zones at Light Poles

At light pole locations, the City has a 20-foot clearance from street light poles. This is to help ensure that trees do not interfere with light distribution patterns.

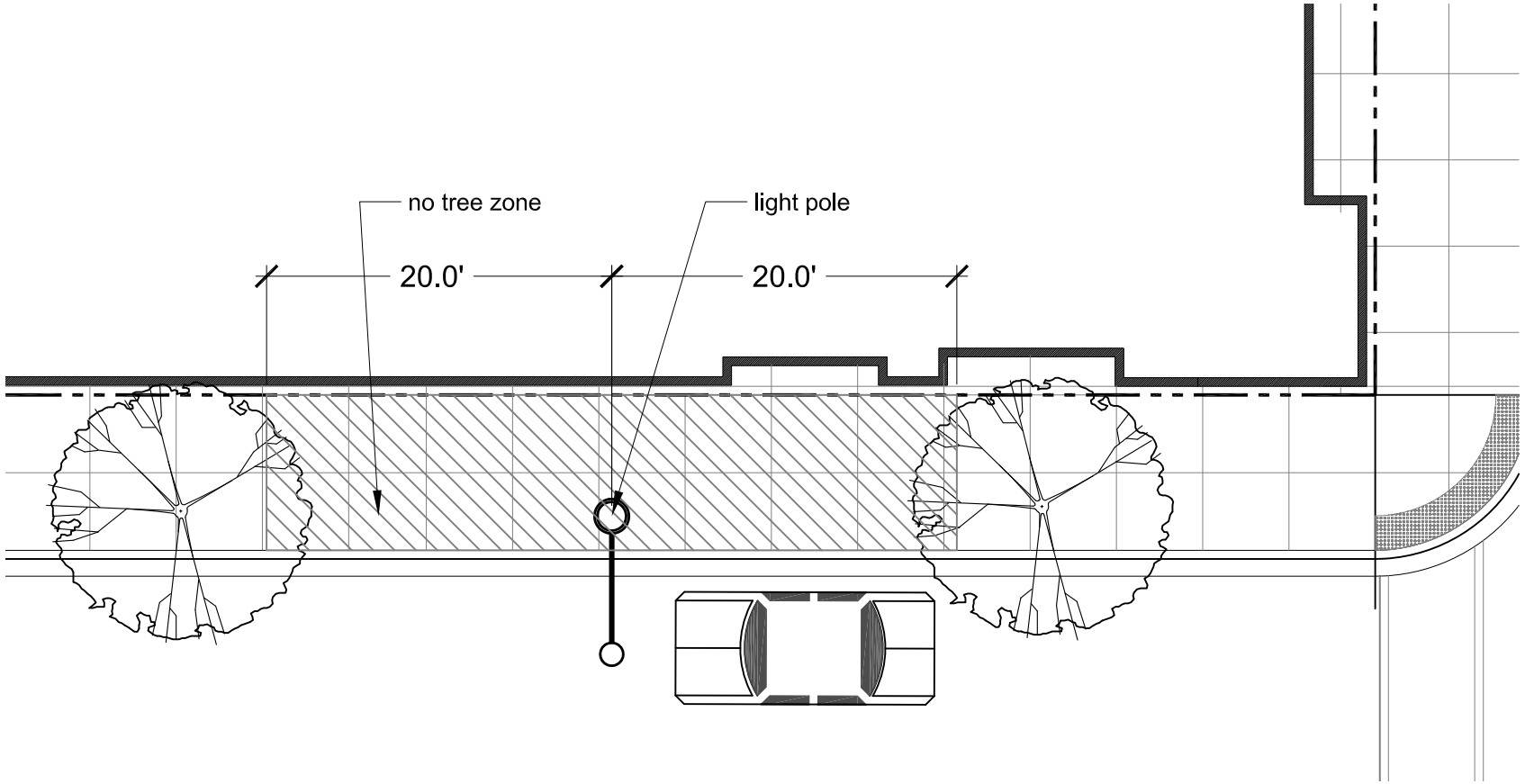

Figure 5-5: Tree clearance zones at light poles

Opposite Light Pole and Tree Layout

The streetscape design process begins with the establishment of a module using tree and light pole spacings. In this example, a 25-foot module is established which corresponds with a typical parking module. The module lines establish where either a tree or light pole is located. In this example, the light poles are located directly opposite to each other. This can create a layout of light poles that march with a regular pattern down the streetscape. The trees would be planted opposite each other as well.

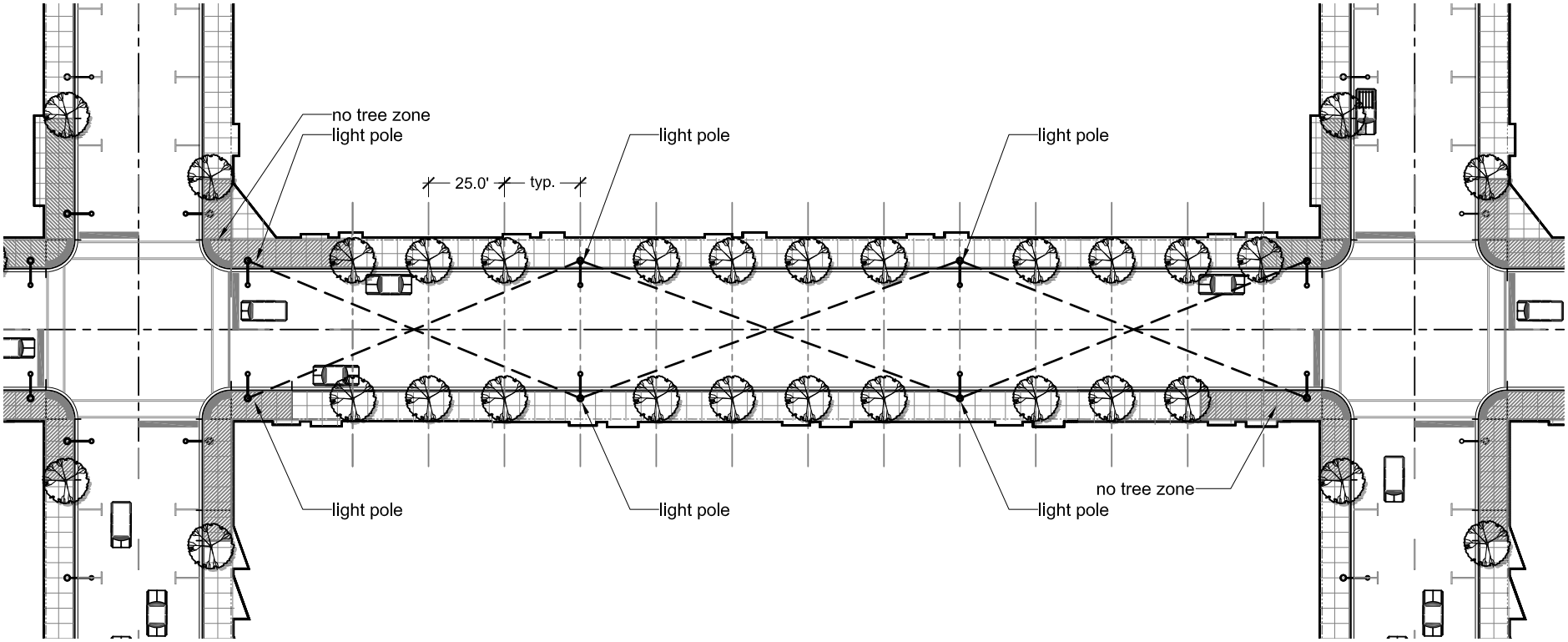

Figure 5-6: Opposite light pole layout

Alternating Light Pole and Tree Layout

In a variation of the prior layout, an alternating light pole layout can create the following tree and light pole spacing arrangement. In this layout, the light pole locations switch sides of the street and the space between the poles is infilled with trees and other elements.

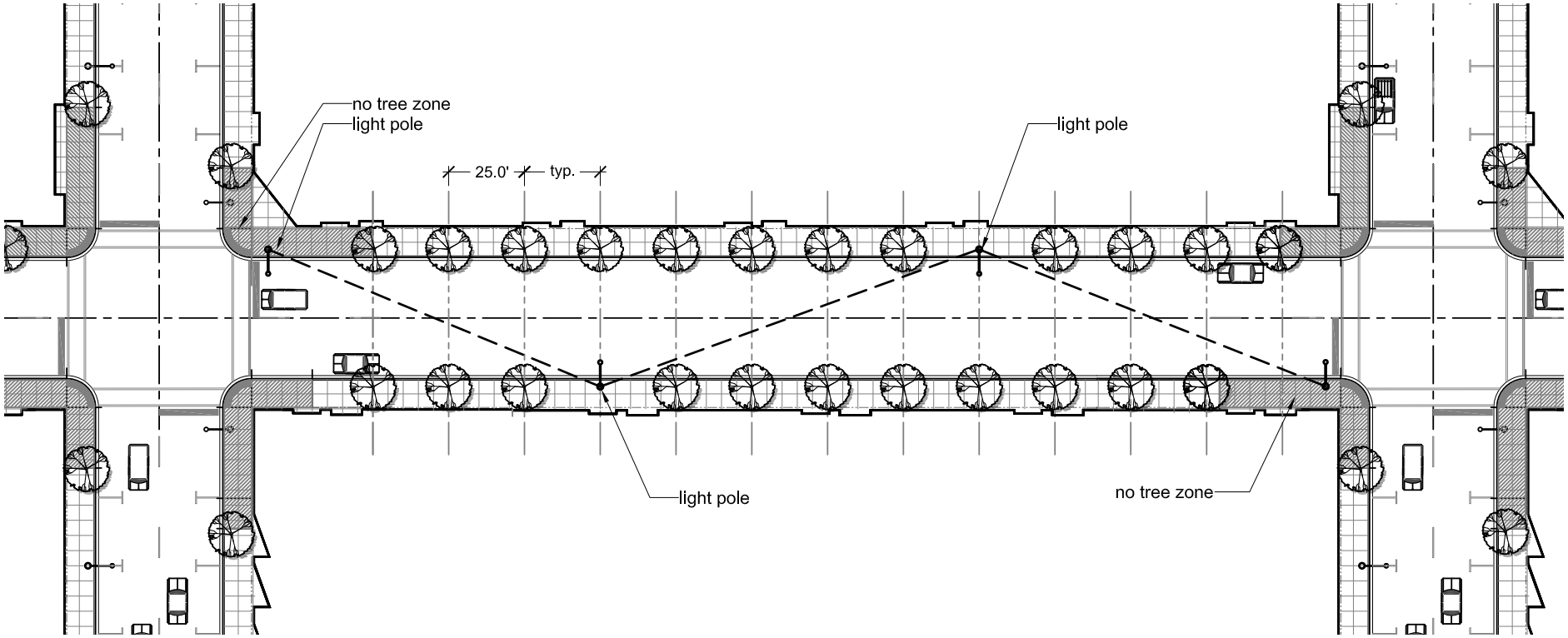

Figure 5-7: Alternating light polelayout

Combining Streetscape Elements - The Examples

The following pages are examples of how some of the major streetcape elements can be combined. The examples are divided into the three major sidewalk width categories:

- Sidewalks less than 9 feet wide
- Sidewalks between 9 and 12 feet wide
- Sidewalks greater than 12 feet wide

Given the potential number of possible combinations, the following examples are a very small sampling of the potential streetscape design possibilities. These examples were developed using a set of hypothetical sidewalk widths with no constraints related to underground utilities, driveways, hollow sidewalks or adjacent conflicts. When developing new concepts for actual streetscapes, designers and engineers must consider all of the existing conditions and characteristics when developing concepts for a specific project. A thorough inventory and analysis of the existing conditions is a critical task at the beginning of any streetscape design project.

Another critical step is to fully define the desired programming goals for the streetscape early in the design process. Understanding these goals for the specific streetscape project will aid in determining the potential range of design elements that could be considered.

Gaining concurrence and agreement on these elements from the constituency that represents the streetscape users is also important in the process. Divergent views are very common at the beginning; successful streetscape projects most often have merged the needs and desires from a diverse set of users into a singular vision for the streetscape.

Figure 5-8: Streetscape master plan example

Concept A-1

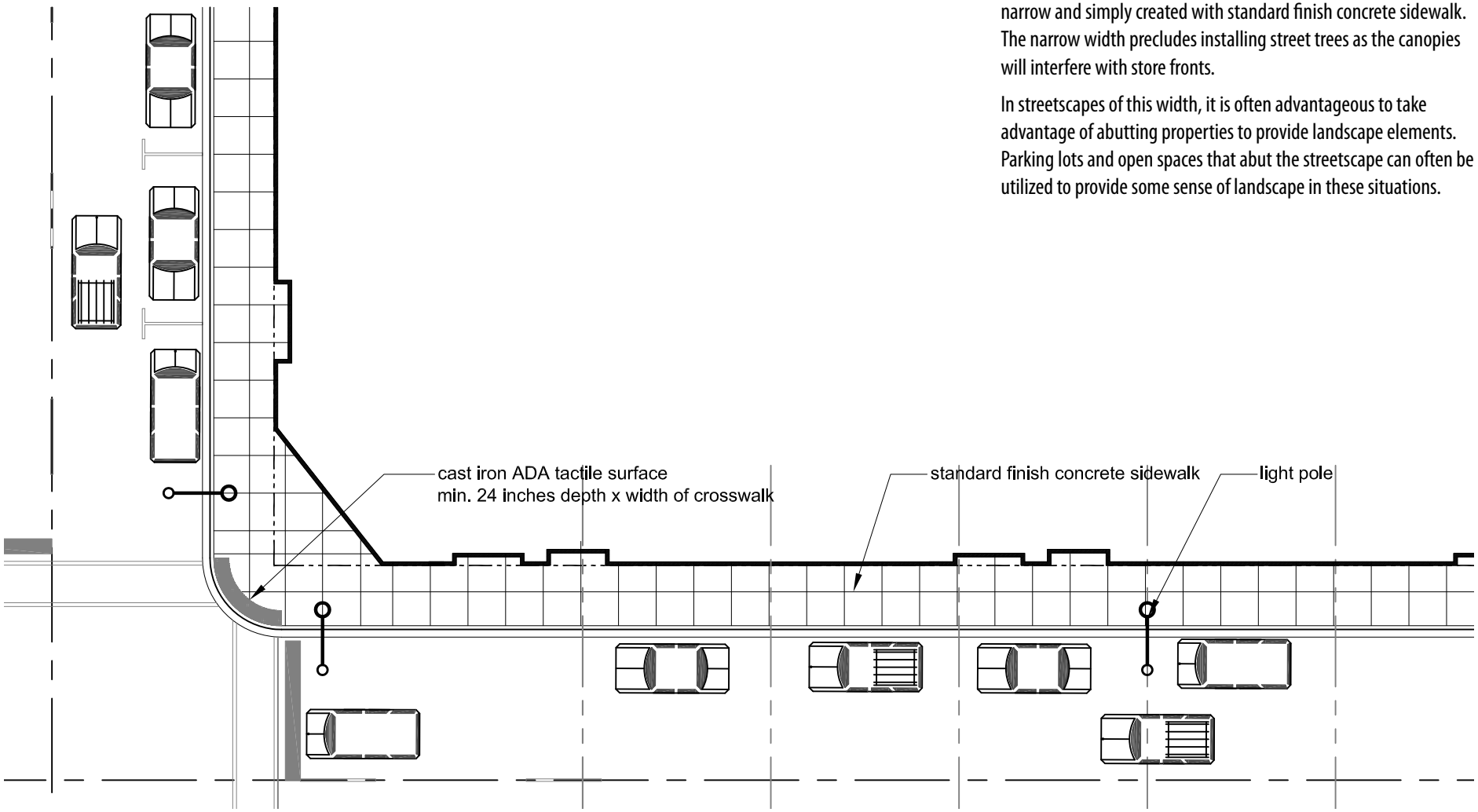

Figure 5-9: Concept A-1

Sidewalk Width less than 9-feet Wide

In the most basic of all of the concepts, the streetscape is very narrow and simply created with standard finish concrete sidewalk. The narrow width precludes installing street trees as the canopies will interfere with store fronts.

In streetscapes of this width, it is often advantageous to take advantage of abutting properties to provide landscape elements. Parking lots and open spaces that abut the streetscape can often be utilized to provide some sense of landscape in these situations.

Concept A-2

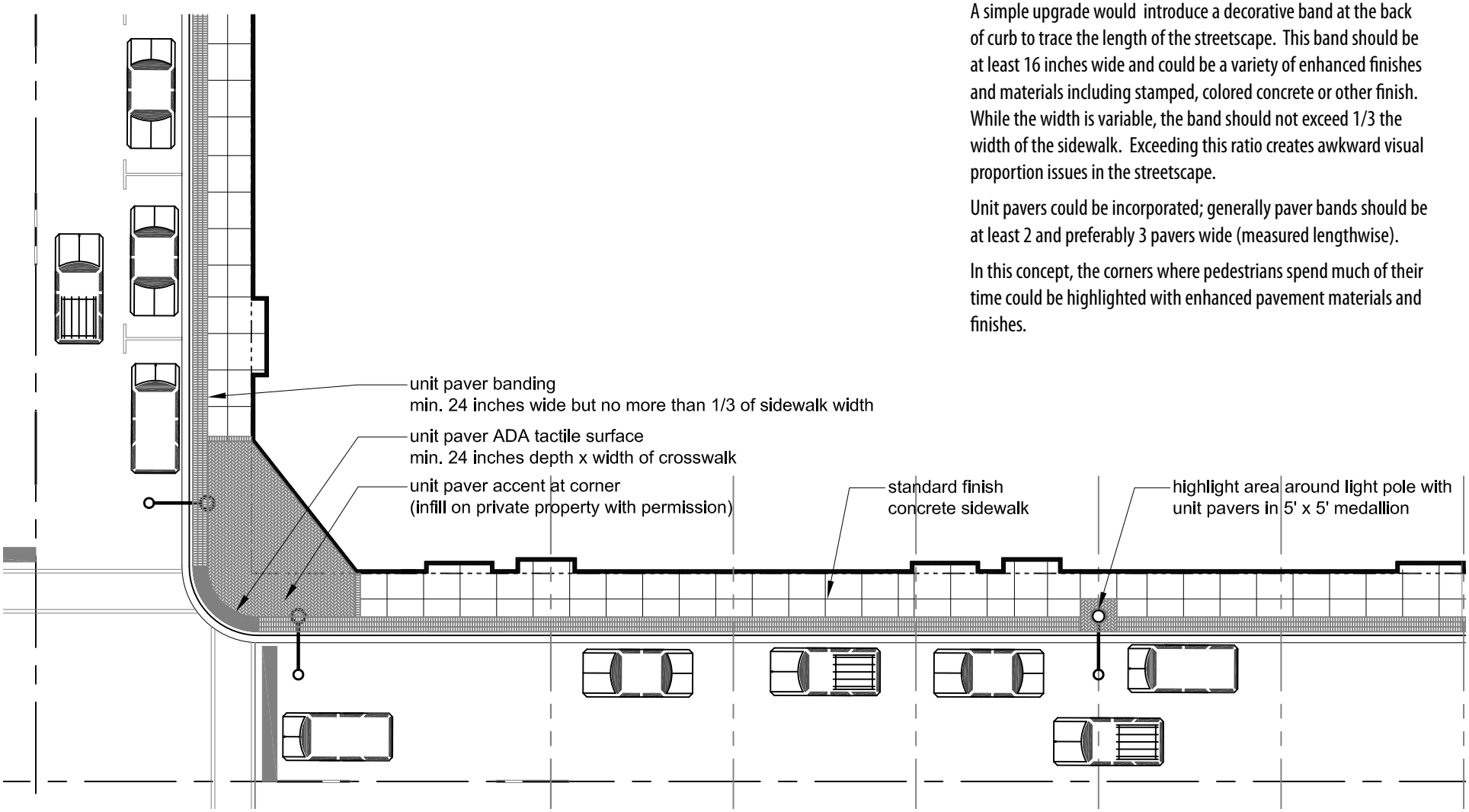

Figure 5-10: Concept A-2

Sidewalk Width less than 9-feet Wide

A simple upgrade would introduce a decorative band at the back of curb to trace the length of the streetscape. This band should be at least 16 inches wide and could be a variety of enhanced finishes and materials including stamped, colored concrete or other finish. While the width is variable, the band should not exceed 1/3 the width of the sidewalk. Exceeding this ratio creates awkward visual proportion issues in the streetscape.

Unit pavers could be incorporated; generally paver bands should be at least 2 and preferably 3 pavers wide (measured lengthwise).

In this concept, the corners where pedestrians spend much of their time could be highlighted with enhanced pavement materials and finishes.

Concept A-3

Sidewalk Width less than 9-feet Wide

In a variation of Concept A-1, a bump-out is introduced at the corner to provide a space for landscape elements.

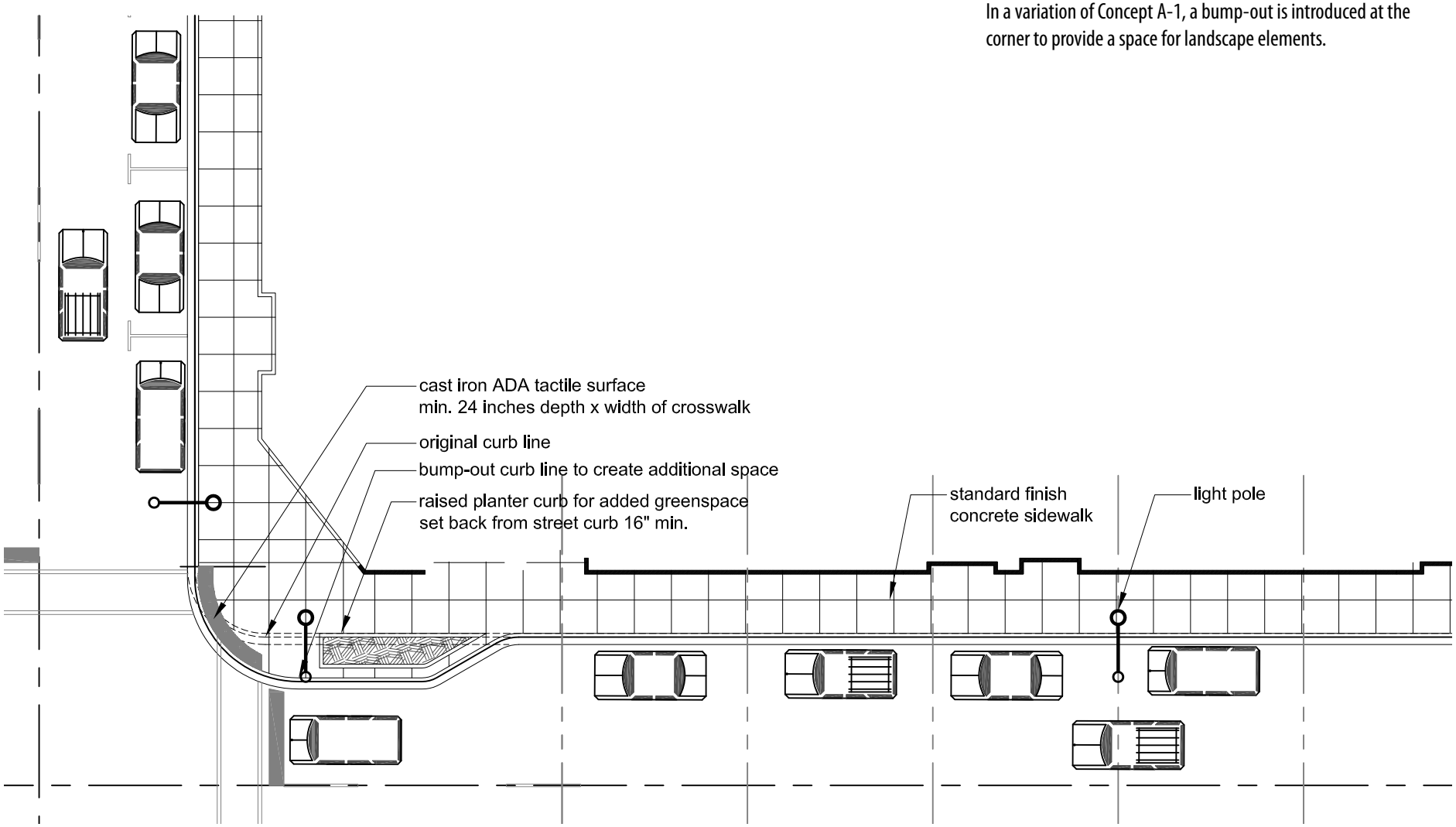

Figure 5-11: Concept A-3

Concept A-4

Sidewalk Width less than 9-feet Wide

Concept A-4 enhances the prior concept by including enhanced pavements at the corner as well as landscape elements in the bumpout. The required tree/corner clearances preclude tree plantings in this bumpout.

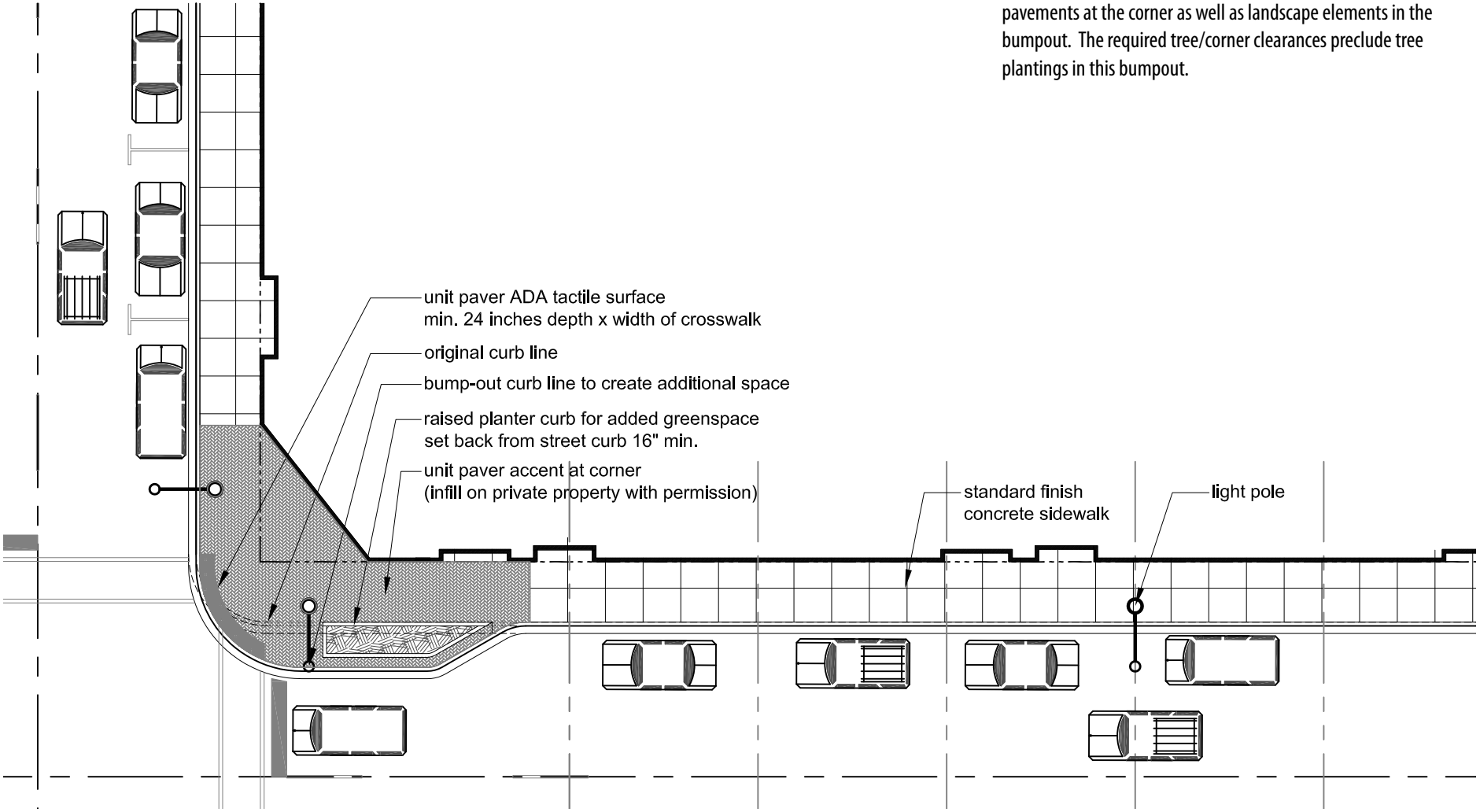

Figure 5-12: Concept A-4

Concept B-1

Sidewalk Width between 9 and 12-feet wide

In this intial mid-range width concept, street trees are introduced. These trees are planted in cast iron tree grates with salt lips that provide a banding element.

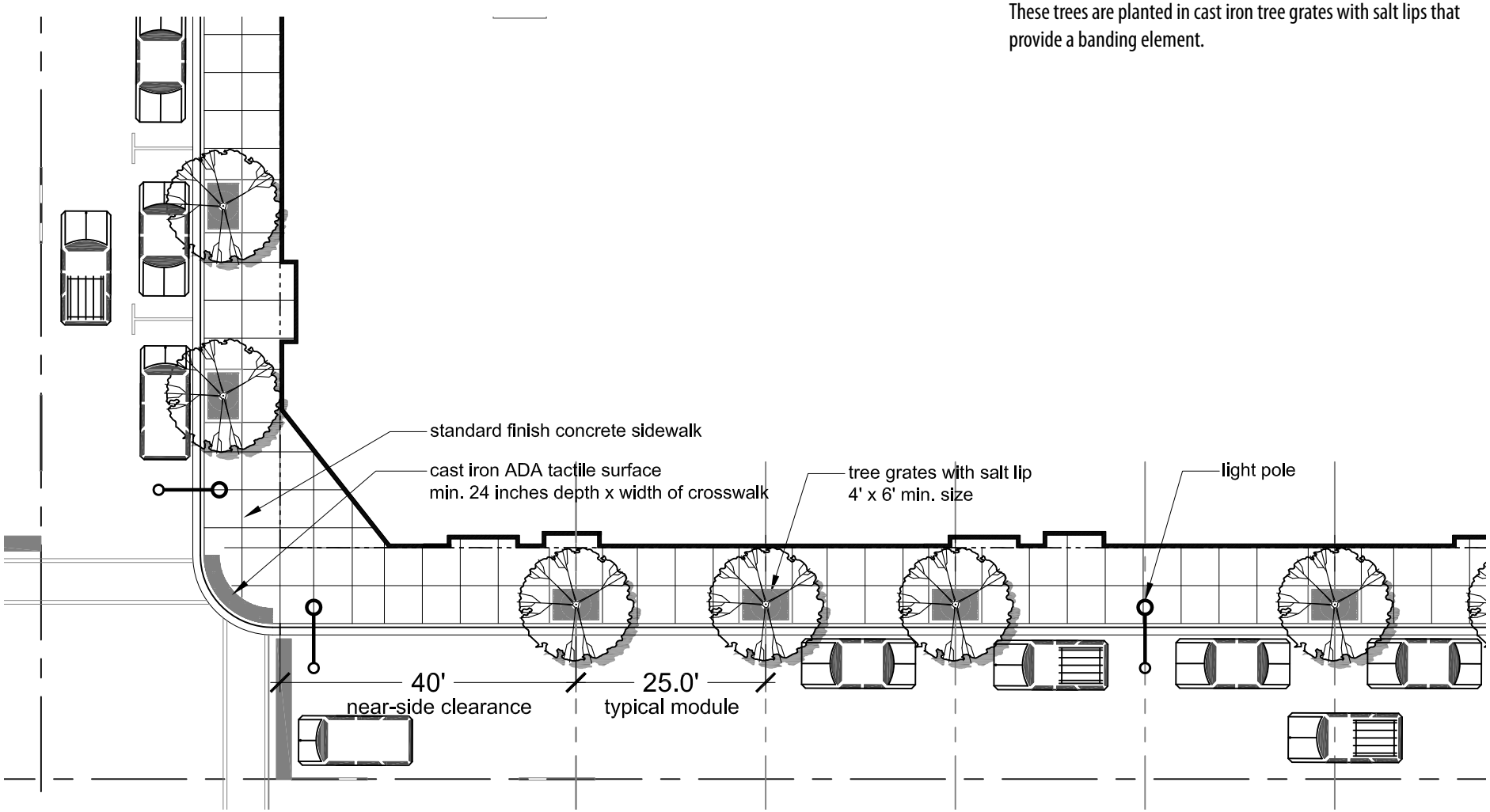

Figure 5-13: Concept B-1

Concept B-2

Sidewalk Width between 9 and 12-feet wide

In a slight variation, the tree grates are replaced with landscape plantings in the tree pits. These tree pits could be expanded somewhat lengthwise depending on the amount of greenspace needed.

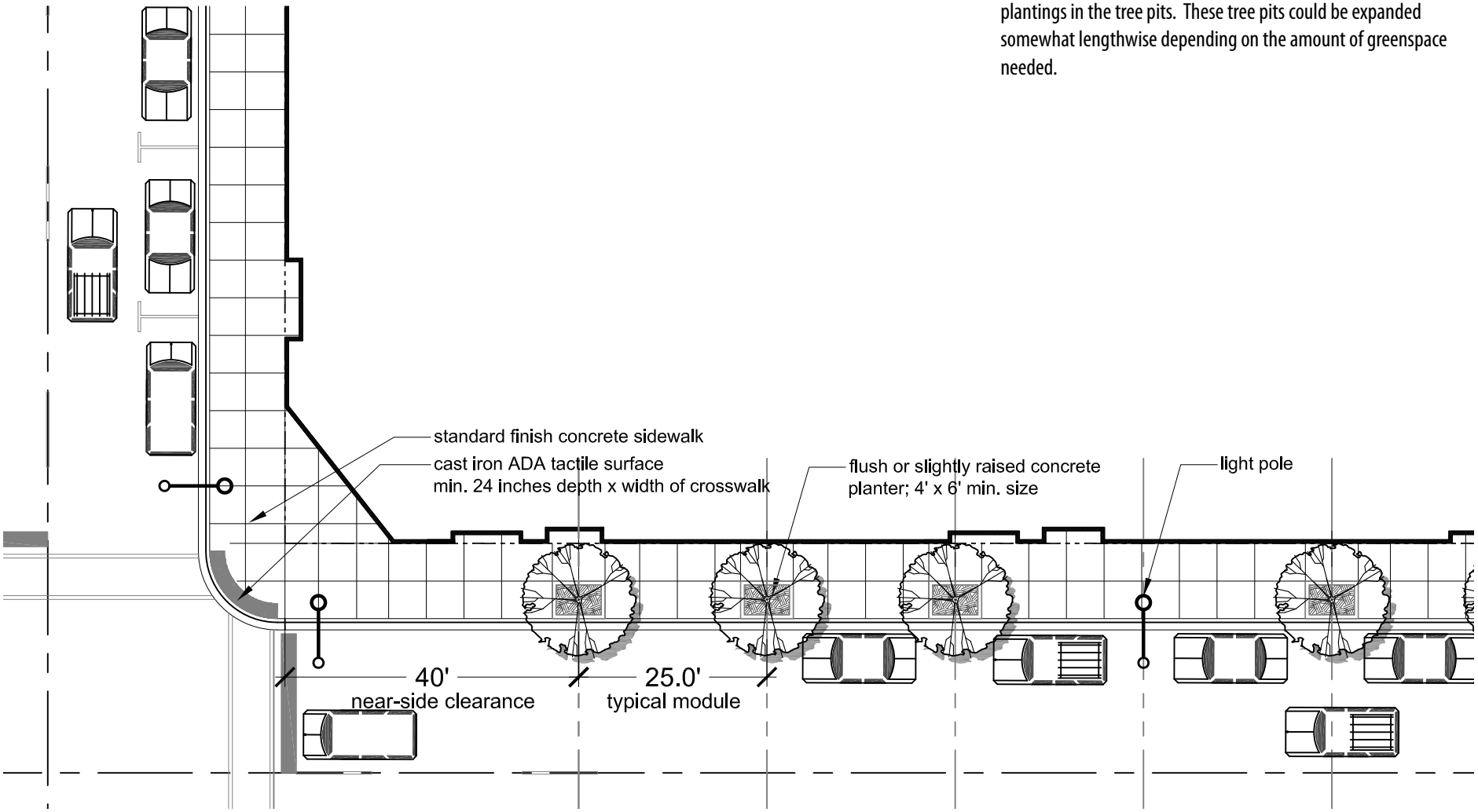

Figure 5-14: Concept B-2

Concept B-3

Sidewalk Width between 9 and 12-feet wide

In this concept, a banding element is introduced and would follow the same design recommendations as listed in in the prior concepts. In select locations, benches could be introduced depending on the orientation.

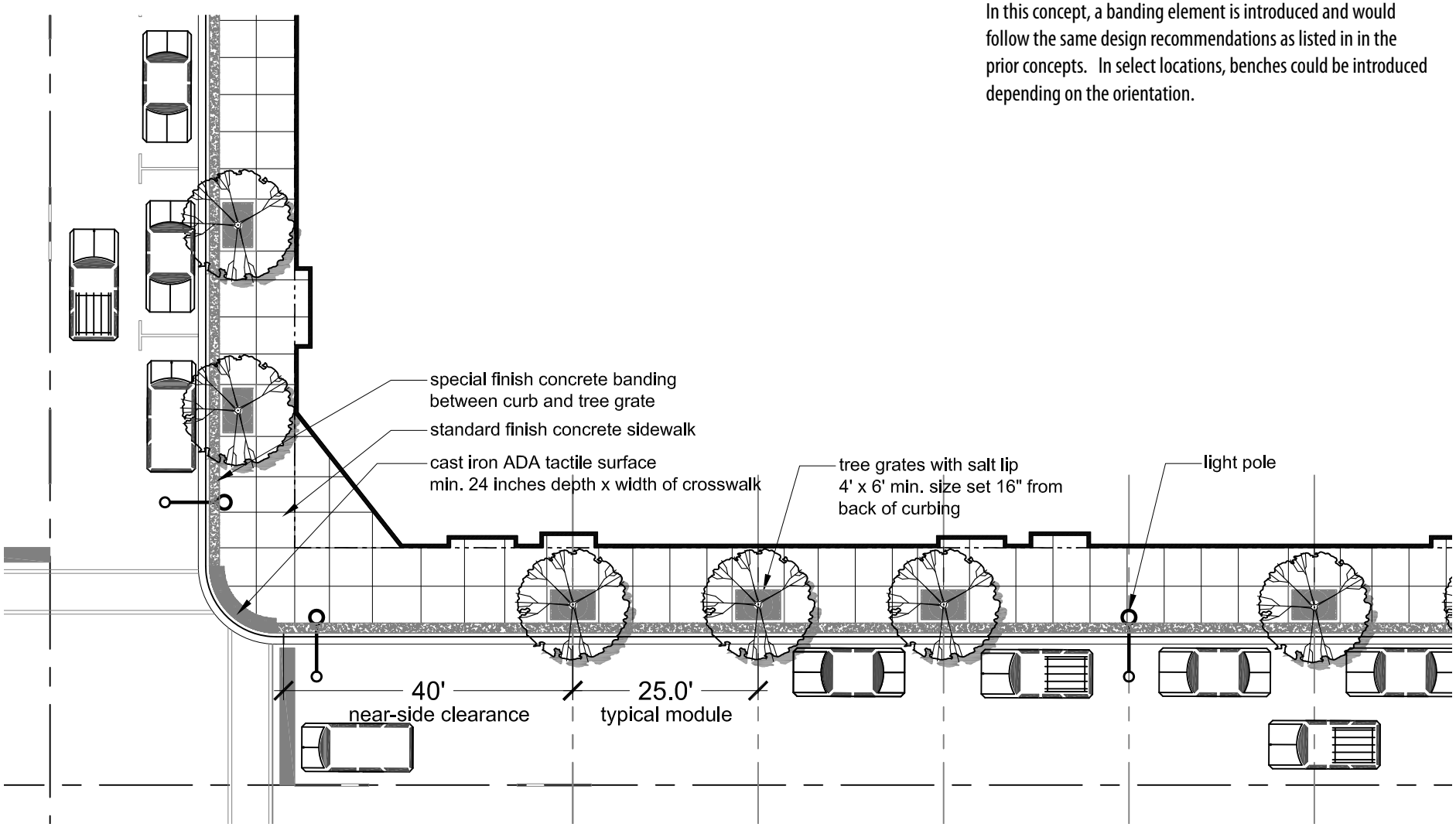

Figure 5-15: Concept B-3

Concept B-4

Sidewalk Width between 9 and 12-feet wide

In this concept, the banding element is expanded to a three paver width band and the pavement is enhanced is enhanced at the corners. the rhythm of the streetscape is reinforced with the banding and tree grates by enhancing the pavement around the light pole bases. Benches could be included depending on the orientation.

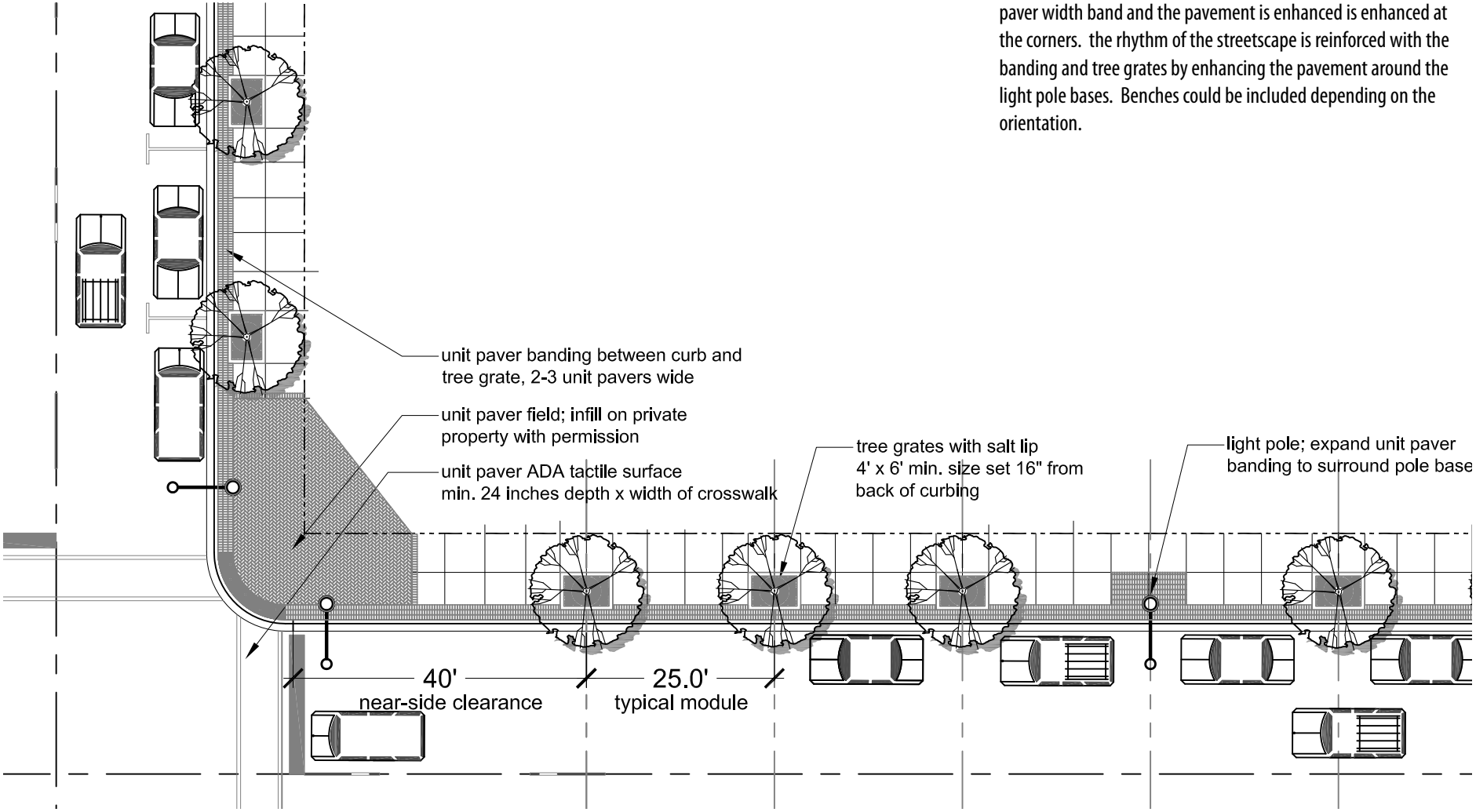

Figure 5-16: Concept B-4

Concept C-1

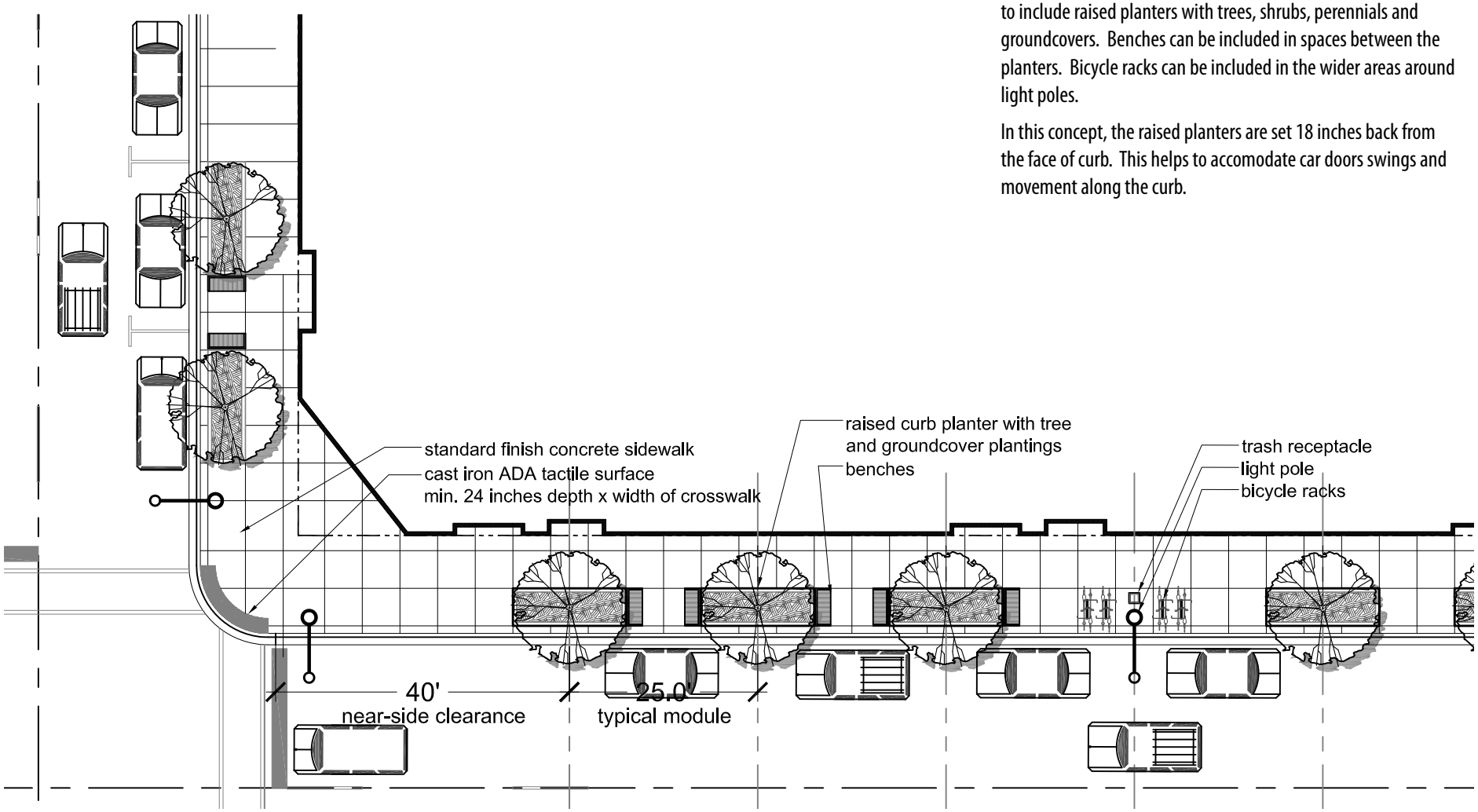

Figure 5-17: Concept C-1

Sidewalk Greater than 12-feet wide

In the wider sidewalks, the landscape areas can be expanded to include raised planters with trees, shrubs, perennials and groundcovers. Benches can be included in spaces between the planters. Bicycle racks can be included in the wider areas around light poles.

In this concept, the raised planters are set 18 inches back from the face of curb. This helps to accomodate car doors swings and movement along the curb.

Concept C-2

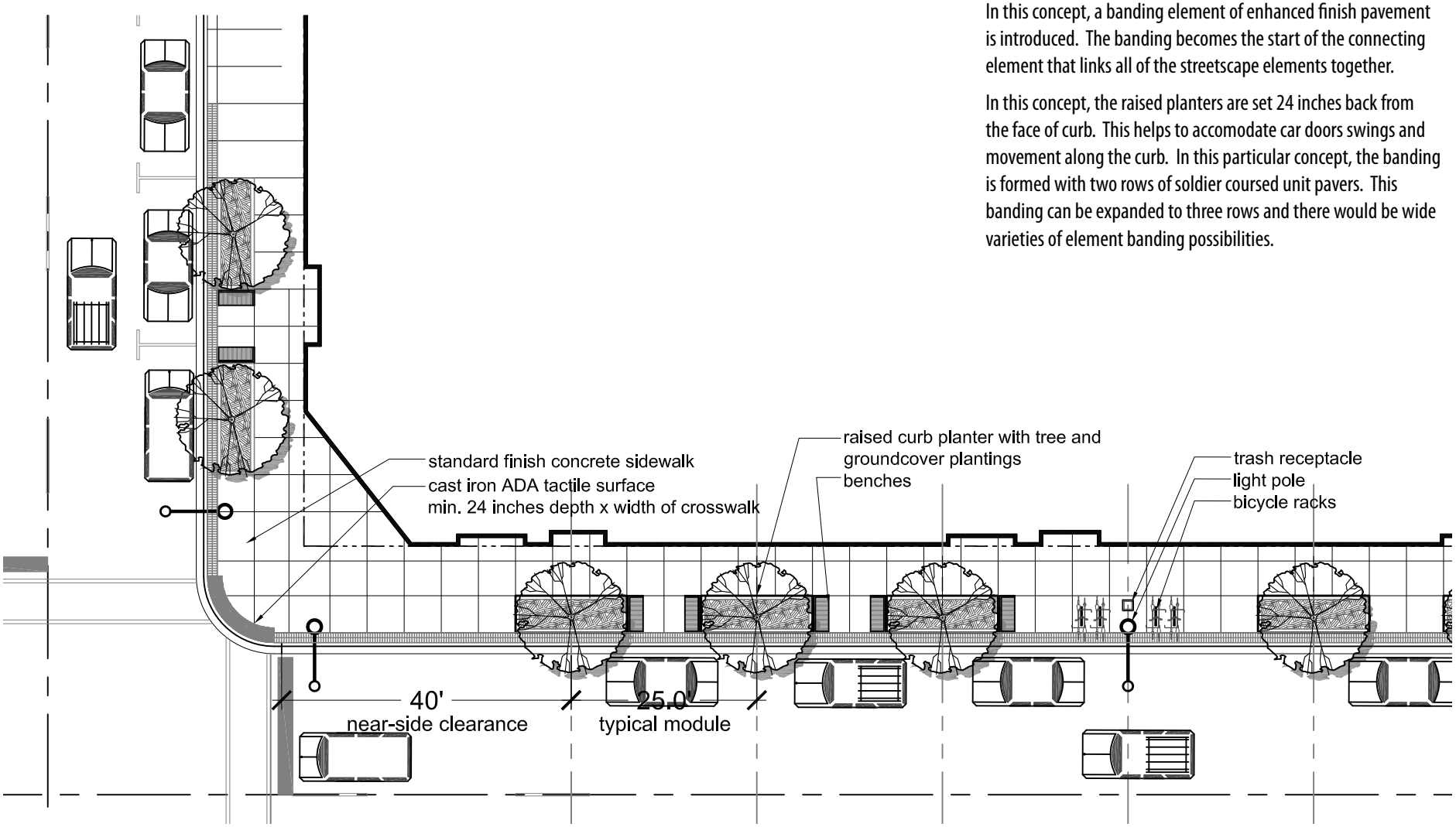

Figure 5-18: Concept C-2

Sidewalk Greater than 12-feet wide

In this concept, a banding element of enhanced finish pavement is introduced. The banding becomes the start of the connecting element that links all of the streetscape elements together.

In this concept, the raised planters are set 24 inches back from the face of curb. This helps to accomodate car doors swings and movement along the curb. In this particular concept, the banding is formed with two rows of soldier coursed unit pavers. This banding can be expanded to three rows and there would be wide varieties of element banding possibilities.

Concept C-3

Sidewalk Greater than 12-feet wide

In this concept, a sidewalk cafe is illustrated. One of the large planters is replaced with a tree grate to maintain the tree canopy and to provide more walkable space under the tree. Space for tables and chairs would be available as well as other benches and bicycle racks.

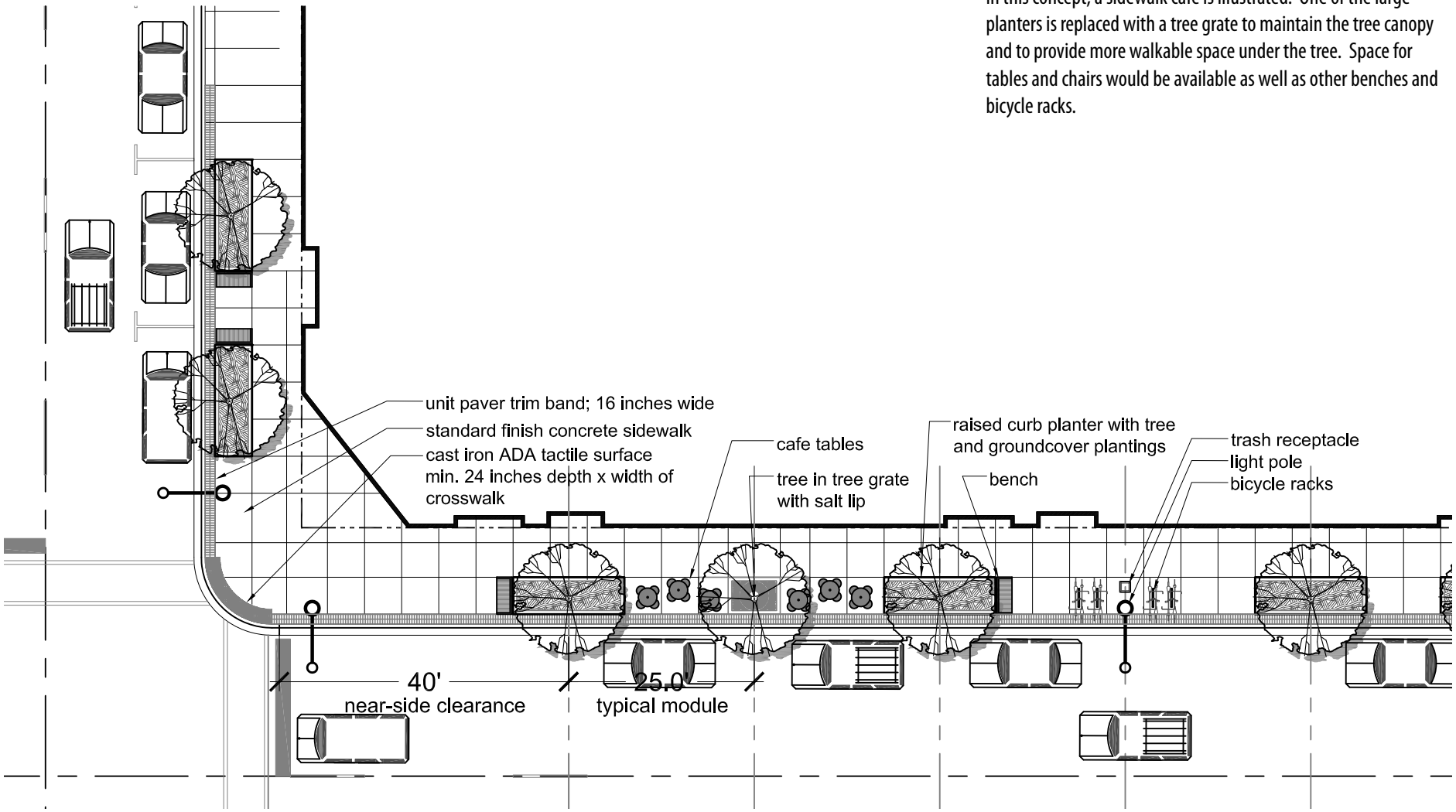

Figure 5-19: Concept C-3

Concept C-4

Sidewalk Greater than 12-feet wide

In this concept, a bumpout with expanded landscaped areas is introduced. The enhanced pavement banding becomes the continuous link for all the streetscape elements.

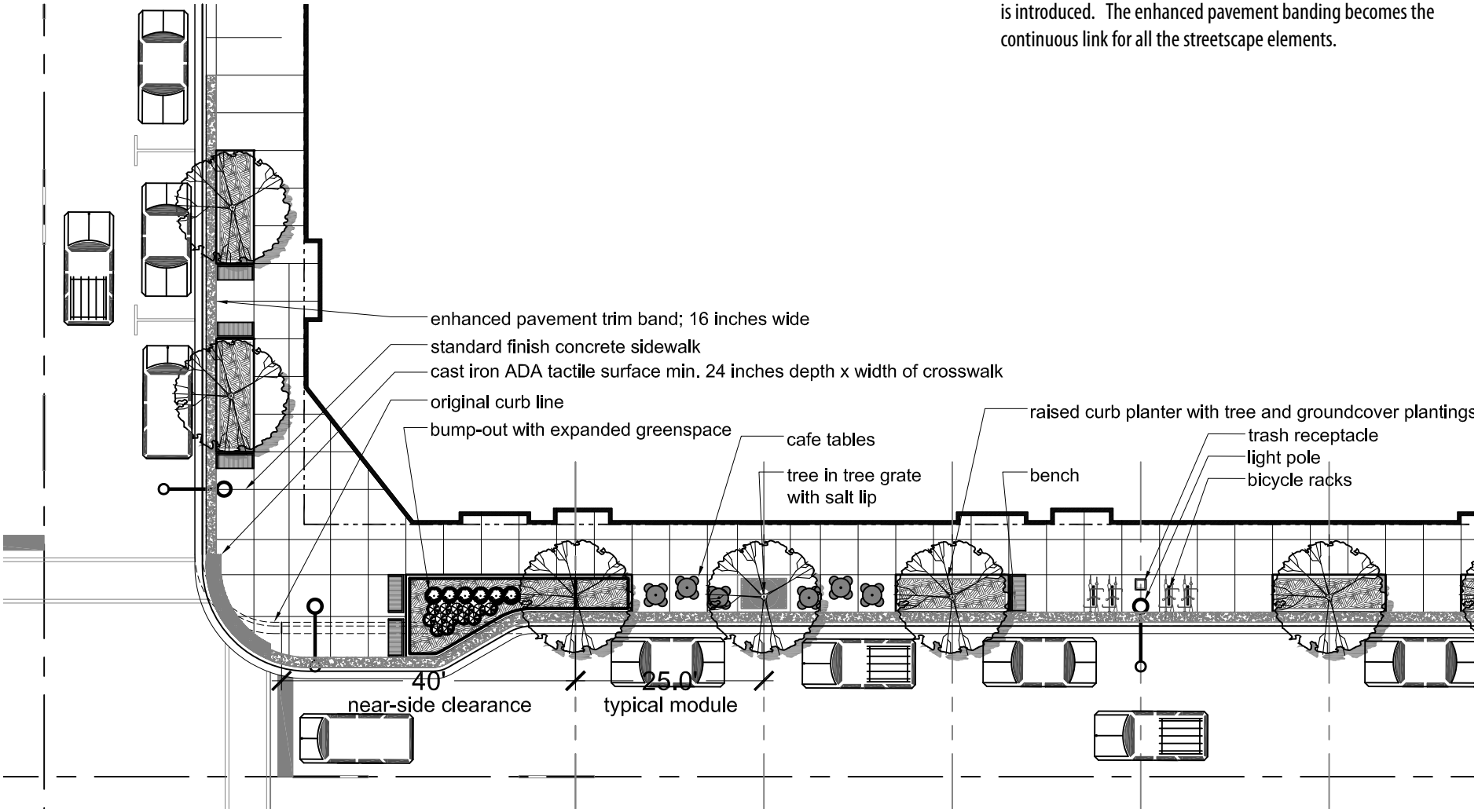

Figure 5-20: Concept C-4