

UPDATED

RIVER DISTRICT RIGHT-OF-WAY STANDARDS

**Framework Plans
Performance Criteria
Design Standards**



**February 2004
CITY OF PORTLAND
OFFICE OF TRANSPORTATION**

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Original version adopted in spring 1996

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INTRODUCTION

0.0	Introduction to 2004 Update	1
0.1	How to Use This Document	3
0.2	Background	4
0.3	Purpose	6
0.4	Action Items	7

FRAMEWORK PLANS

1.0	Framework Plans: Policy	9
1.1	Framework Plans: Right-of-Way Design	21
1.2	Street Widths: Right-of-Way	22
1.3	Typical River District Streets	23
1.4	Special Function River District Streets	25
1.5	Street Trees	34
1.6	Street Lighting	35

PERFORMANCE CRITERIA

2.1	Vehicular Criteria	37
2.2	Bicycle Criteria	40
2.3	Transit Criteria	41
2.4	Utilities Criteria	43
2.5	Pedestrian Criteria	44
2.6	Street Lighting Criteria	49
2.7	Street Furniture Criteria	50
2.8	Street Tree Criteria	51
2.9	Special Features Criteria	54
2.10	Constructability and Maintenance	55

DESIGN STANDARDS

3.0	Design Standards	57
3.1	Sidewalks Diagramed by Zone	57
3.2	Street Pavements: CIP Concrete or Asphaltic Concrete Paving	79
3.3	Elevated Roadway Structures	79
3.4	Street Lighting	79
3.5	Landscape	79

INTRODUCTION

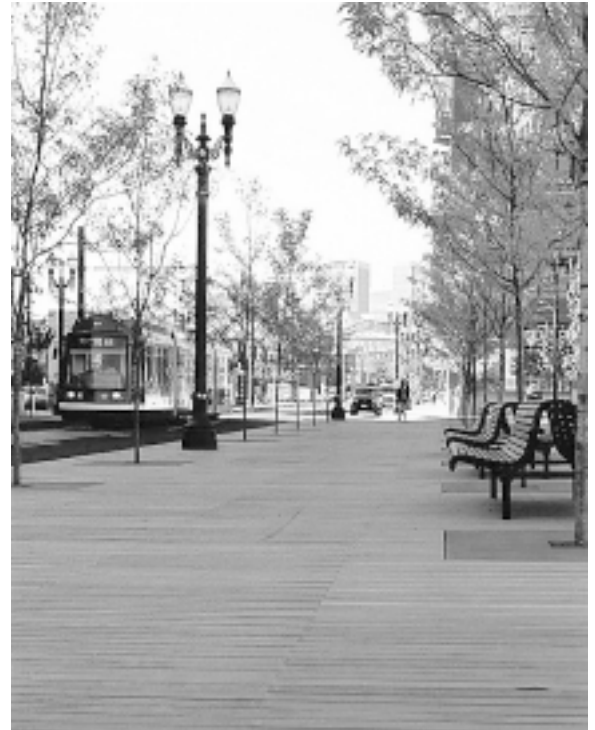
0.0 INTRODUCTION TO 2004 UPDATE

In the seven years since its adoption in 1996, a tremendous amount of the original River District Right-of-Way Standards have been implemented. Many of the new streets planned have now been built. Major changes such as the replacement of the Lovejoy ramp and Portland Streetcar have also been constructed. This has been in support of 3,524 units of new housing built since 1994.

As the River District Right-of-Way Standards have evolved from plan to reality, so has the district in terms of new ideas both to manage and further its success. The Pearl District Development Plan, adopted in 2001, and the Old Town Chinatown Development Plan, adopted in 1999, have created new policies and projects to address the next phase of transition to occur now that much of the district has gone from a planned to an actual neighborhood.

There are several new streets which have been planned or built within the River District since 1996, these need to be added to the Right-of-Way Framework Plans section of the document. These include the streets adjacent to the Classical Chinese Garden which have been rededicated as public right-of-way, the 6th Avenue Extension project near Union Station, and the planned extension of 10th and 11th Avenues north of Overton as part of the Hoyt Street Yards development. There is also the Boardwalk, a new streetscape design element which has been introduced to the Park Blocks along 10th Avenue that will eventually provide a new pedestrian link to the river.

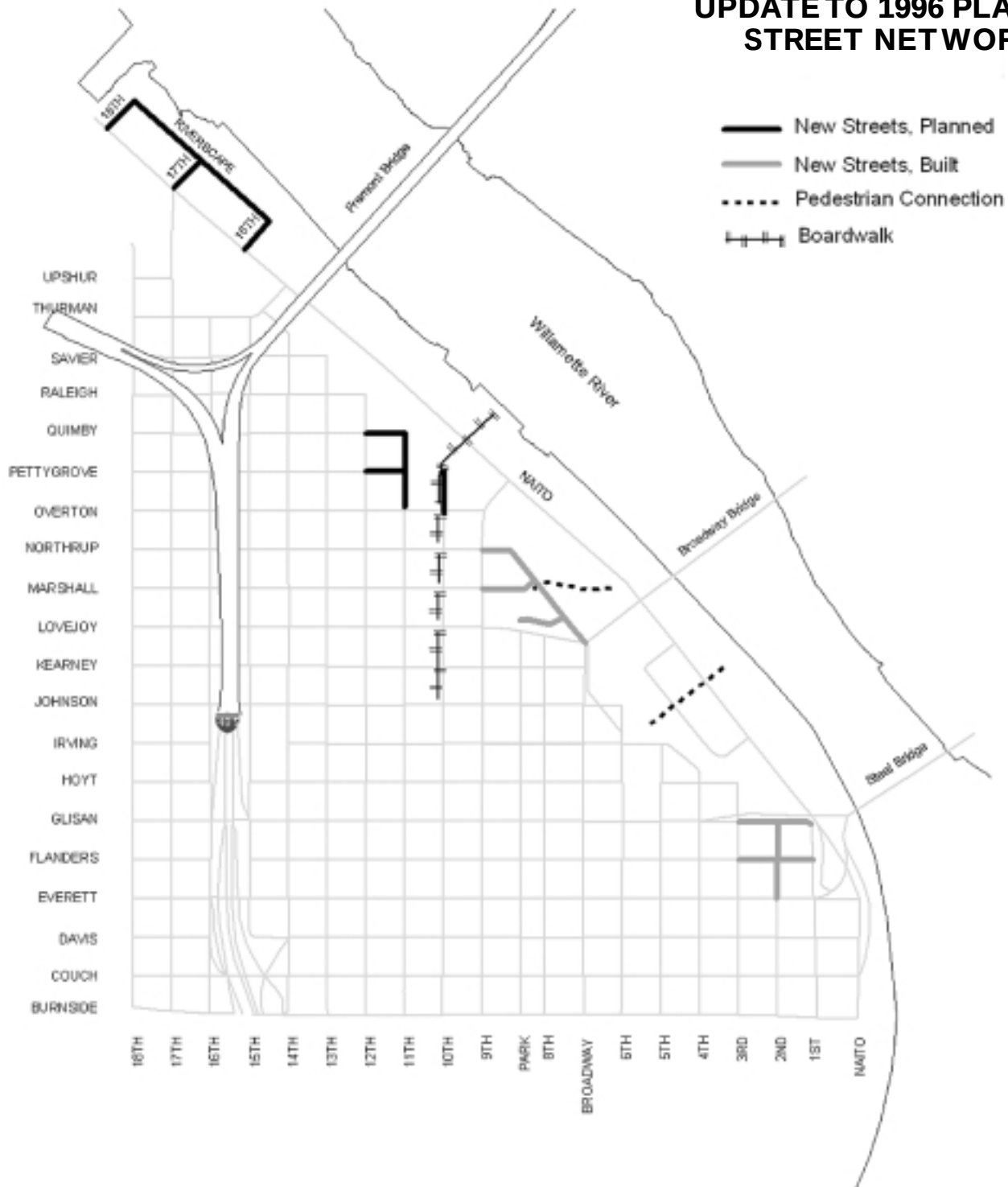
As a result of these changes and specific action items contained within the Pearl District Development Plan, in 2002 the Portland Development Commission requested that the Portland Office of Transportation update the River District Right-of-Way Standards. The update process included an inventory of existing conditions, a review of policies and projects created since 1996 that affect rights-of-way, and stakeholder interviews with the representative neighborhood associations, the development community and City staff to define elements of the plan to be updated.



INTRODUCTION

The resulting updated document retains most elements of the original, updates the street network to reflect new streets, both built and planned, and amends selected performance criteria and standards to reflect changes in City policy and community issues.

UPDATE TO 1996 PLAN STREET NETWORK



0.1 HOW TO USE THIS DOCUMENT

This document establishes a common understanding of the improvements required in the River District's public rights-of-way. Both private and public street improvements are subject to this document and approval by the City Engineer. The operational aspects of how the street system is managed, such as traffic control, are guided by Title 16 and 17 rather than this document.

The document is divided into three sections: framework plans (section 1.0), performance criteria (section 2.0) and design standards (section 3.0). The framework plans and design standards are intended to be used as the basic 'standards' for street design. The framework plans provide a district-wide perspective of the standards to illustrate issues related to the functional intent established by policy (section 1.1) and design continuity. The design standards provide a more detailed, engineering-level perspective that supplement the City's Standard Construction Specifications and Plans. The performance criteria are intended to guide the design detail of individual right-of-way elements where either case-by-case design is needed, or flexibility is allowed to encourage streetscape diversity.

The use of these design standards and performance criteria are primarily intended to ensure design continuity of right-of-way improvements over time that reinforce the desired character and function of the district. The standards and performance criteria themselves are not intended to be inflexible, since unique implementation situations that require some tailoring of the standards are common.

All modifications or exceptions to the design standards and performance criteria require approval from the City Engineer. An appeal of the decision by the City Engineer may also be requested- (see Section IV of Creating Public Streets and Pedestrian Connections through the Land Use and Building Permit Process, Portland Office of Transportation).

If an exception being requested affects the "look" of the streetscape, the exception is also subject to design review per City Code for non-standard public right-of-way improvements (33.420.041.C). Approval from the City Engineer is a prerequisite to Design Commission review.

New Parks

The provision of new parks provide important amenities for the River District and the uniqueness of their design can make a positive contribution to the district. The new parks can influence the right of way design of the adjacent streets. As design exceptions, these are subject to design review. The design review process provides the opportunity to merge the park design with right-of-way functions and continuity.

0.2 BACKGROUND

In the spring of 1991, a group of citizens gathered to consider the future of North Downtown. They shared an inclination to make a collective contribution to its health and redevelopment and spent six months developing a vision for the area. Identified as the River District Vision, it was presented to the Portland City Council in March 1992, for consideration. The Council members found the vision stimulating, substantial and consistent with their view of a desirable future for Portland. In response, the City Council directed the execution of a Development Plan to implement the Vision.

The River District Steering Committee, whose membership includes representatives from private sector property and business owners, from the neighborhood associations and social service agencies and from the City, oversaw the work of consultants and City staff to complete the planning and engineering analysis needed to develop the River District Development Plan. City Council endorsed this Plan in May 1992. The Plan calls for constructing up to 5,500 new housing units, supports commercial uses and open space and transportation infrastructure to support and facilitate this new community of neighborhoods.

The development of the Plan was guided by the following goals:

Goal #1. To develop a functional and symbolic relationship with the Willamette River.

The biased orientation of the river to the street grid provides a strong association between the river and the land that cannot be replicated in other Portland neighborhoods. The development of Tanner Creek Basin and Park will provide an image and focus for development.



Goal #2. To promote the development of a diverse inventory of housing.

For the past three decades, Portland has pursued a strategy to develop its downtown as the heart of a livable, sustainable city. Future growth in the region prescribes an even larger effort to attract and accommodate new residents to live and work in the Central City. The River District encourages and supports economic, social and cultural diversity and will provide a range of multi-family housing in terms of style and economics. The opportunity for these new residents to work and play near where they live is fundamental.

Goal #3. To become a community of distinct neighborhoods.

There are three established neighborhood associations whose boundaries are to be found in the River District. In addition, there are areas within these boundaries whose physical character and cultural traditions are emerging. It is the goal of the River District to secure a future which binds all of these existing and potential neighborhoods and provides to them the support they need.

Goal #4. To enhance the best of what exists.

While much of the River District is undeveloped, areas exist which are healthy and secure and others demonstrate an ability to renew themselves. As the River District develops, it should balance its enthusiasm for a new future with a commitment to respect and improve existing structures, activities and characteristics which are strong and indigenous.

Goal #5. To strengthen connections between the River District and its neighbors.

The River District's distinct physical boundaries are an asset to development. However, those boundaries must be bridged by strong connections to neighboring communities to attract their support and secure complementary relationships.

Goal #6. To enhance the economy and functional efficiency of the City.

It is an objective of the City to provide access between home, work, services and recreational destinations. It is also an objective to provide that access with economy, efficiency and sensitivity to natural and man-made environments. More than any other transportation or land use measure, the



attraction and accommodation of a large resident population, proximate to the region's greatest concentration of employment, service and recreational opportunities, will effectively improve access while limiting car trips.

In order to facilitate the desired implementation of the Development Plan, the Steering Committee has recommended and the City Council has adopted or approved of the following mechanisms:

- River District Housing Implementation
- Strategy River District Strategic Investment Plan
- City/Developer Master Development Agreements
- River District Design Guidelines
- River District Right-of-Way Standards

0.3 PURPOSE

The Right-of-Way Design Standards have been developed to guide physical solutions that achieve the objectives for the River District. They are also intended to complement the other implementing mechanisms, as well as applicable City Policies and Plans. The design and use of the internal street system will provide the foundation upon which the neighborhood will operate. A sensitivity to and an appreciation for the various needs, sometimes conflicting needs, of a true multi-modal environment are an integral part of this document.



The River District is classified as a pedestrian district. These districts are intended to give priority to pedestrian access. Walking is the mode of choice for all trips. All streets are of equal importance in serving pedestrian trips with the exception of Special Function River District streets that include a loading dock design. River District streets are functionally classified in the Central City Transportation Management Plan (CCTMP) for traffic, truck, transit, pedestrian, bicycle, parking access and loading operations. Typical of mature urban districts, several River District streets fall into multiple classifications and include a variety of design configurations (number of lanes, width of sidewalks, parking, etc.). This document recognizes two broad categories of design configurations:

- Typical River District Streets– 60 foot right-of-way, 36 foot street width, 12 foot sidewalks, circulation, landscape and lighting vary.

- Special Function River District Streets– right-of-way, street widths, sidewalks, circulation, landscape and lighting vary widely.

The original plan criteria and standards were reviewed for the technical and maintenance issues by the Technical Advisory Committee and for overall design character and quality by the River District Steering Committee. On April 18, 1996, the Design Commission endorsed the River District Right-of-Way Design Criteria and Standards. The updated Right-Way-Standards were also reviewed by a Technical Advisory Committee and the Pearl District and Old Town Chinatown neighborhood associations, and Design Commission in the Fall of 2003.

0.4 ACTION ITEMS

The following list of action items was developed during the plan update process to identify issues related to right-of-way design in the River District but are either outside the scope of this plan or require further analysis to resolve. These action items are intended to provide guidance to the neighborhood associations, the Portland Office of Transportation and related agencies for future study.

- Develop City policy for Belgian block paving stones (cobblestones) that encourages their preservation and maintenance within the River District, and sets standards for their use in public right-of-way improvements.
- Study the potential for decoupling 10th and 11th Ave north of Lovejoy St.
- Consider improvements to pedestrian safety on existing overpass bridges along I-405 at Couch, Everett and Glisan Streets.
- Analyze transportation system operations district wide to develop strategies to improve capacity and safety.
- Continue to pursue a supplier for a device that will mitigate light intrusion from single and twin ornamental lights on residential development.
- Evaluate developing Irving St, 9th Ave to Broadway, as an Access Corridor when redevelopment master planning for this area occurs.



FRAMEWORK PLANS

1.0 FRAMEWORK PLANS: POLICY

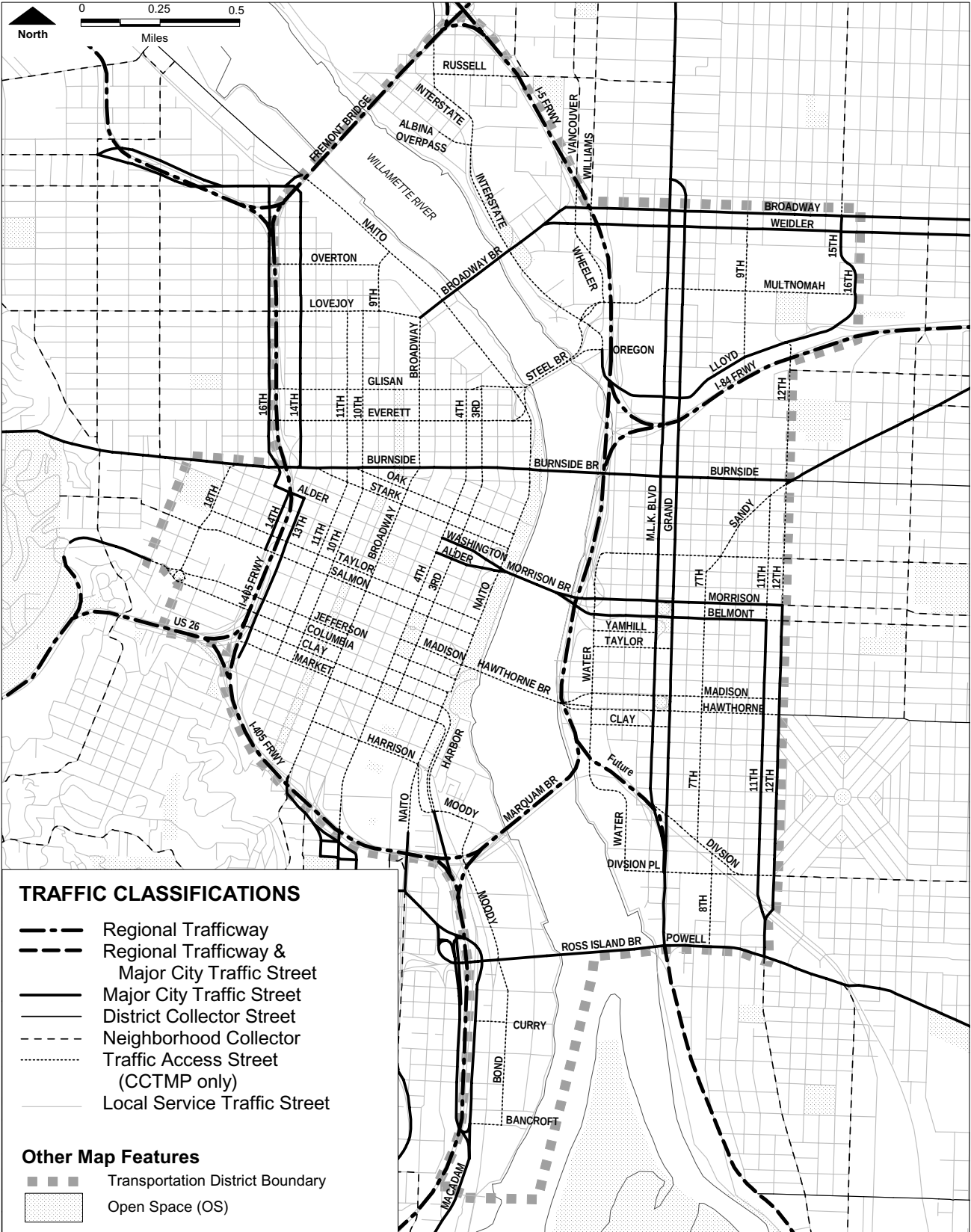
The Policy Framework section describes the policy foundation upon which the River District Right-Of-Way Standards are built. The original standards were a by-product of the 1992 River District Development Plan, which established six goals to guide development and implementation of the development plan, reviewed in the previous Background section.

Since the adoption of the original right-of-way plan there have been a number of refinements to River District policy related to right-of-way. These include the River District Design Guidelines, adopted in 1996 and amended in 1998, the Pearl District Development Plan, adopted in 2001, and Old Town/Chinatown Development Plan adopted in 1999.

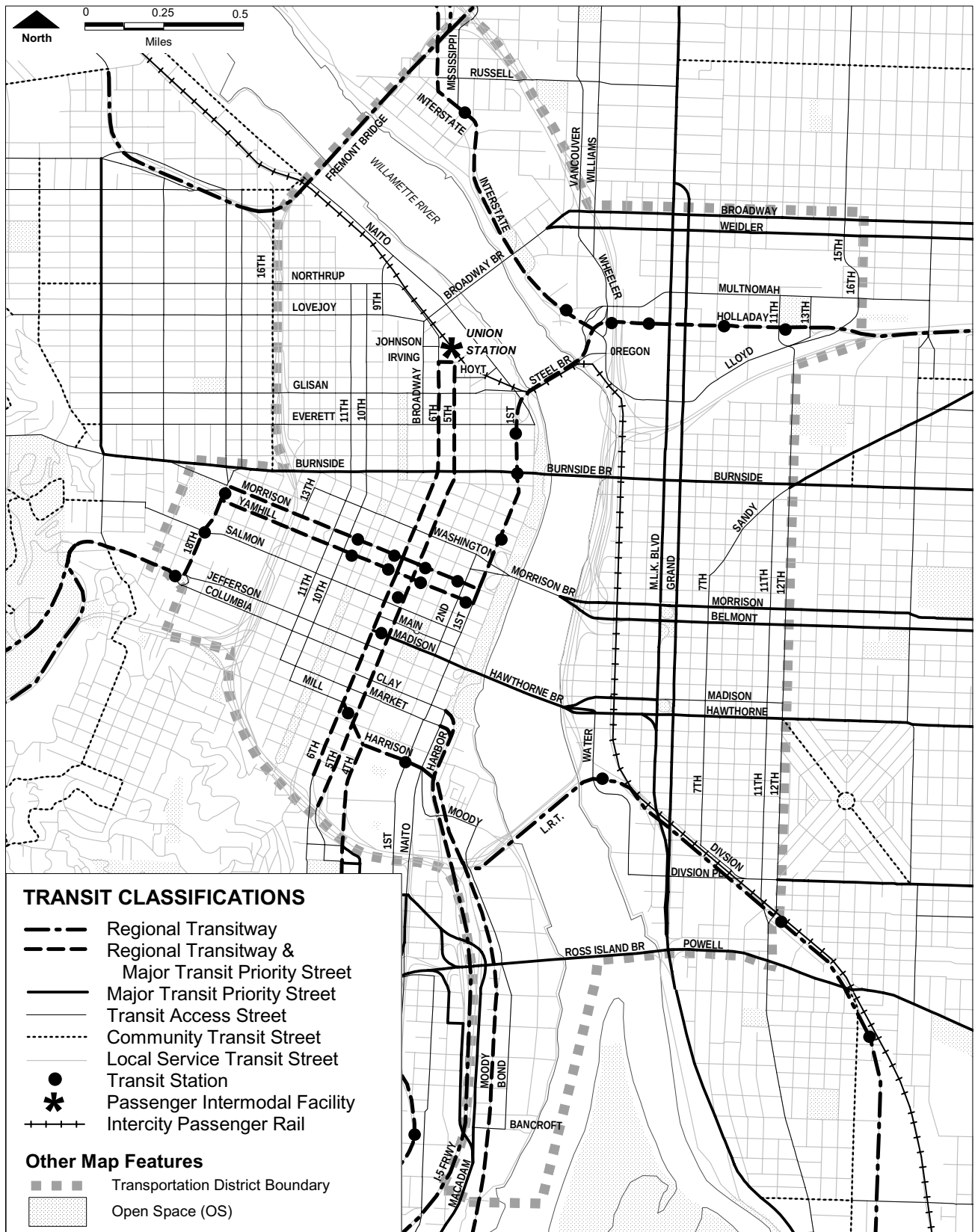
1.0.1 CENTRAL CITY TRANSPORTATION MANAGEMENT PLAN

The River District is a sub-area of the Central City. The Central City Transportation Management Plan (CCTMP) guides all transportation system planning and improvements through policies and street functional classifications. Minor updates were made to the CCTMP and incorporated into the Transportation System Plan (TSP) in 2002. Street classification maps were revised and two new classifications, Emergency Response and Street Design, were added. Street classifications describe the types of motor vehicle, transit, bicycle, pedestrian, truck and emergency vehicle movement that should be emphasized on each street. Street Design elements must be considered on regionally significant streets, including NW 10th and 11th and NW Lovejoy and Northrup.

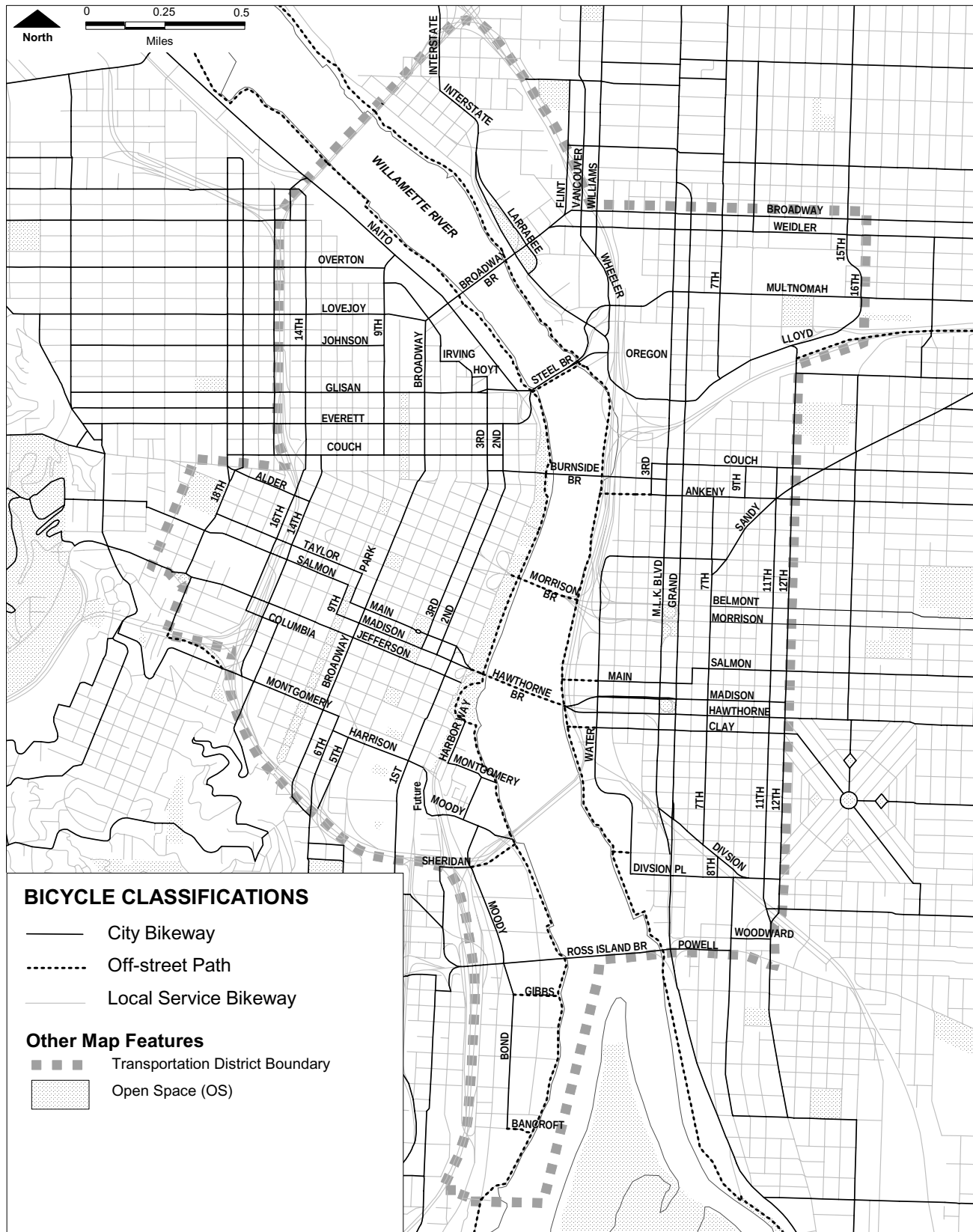
PORTLAND TRANSPORTATION SYSTEM PLAN – CENTRAL CITY DISTRICT



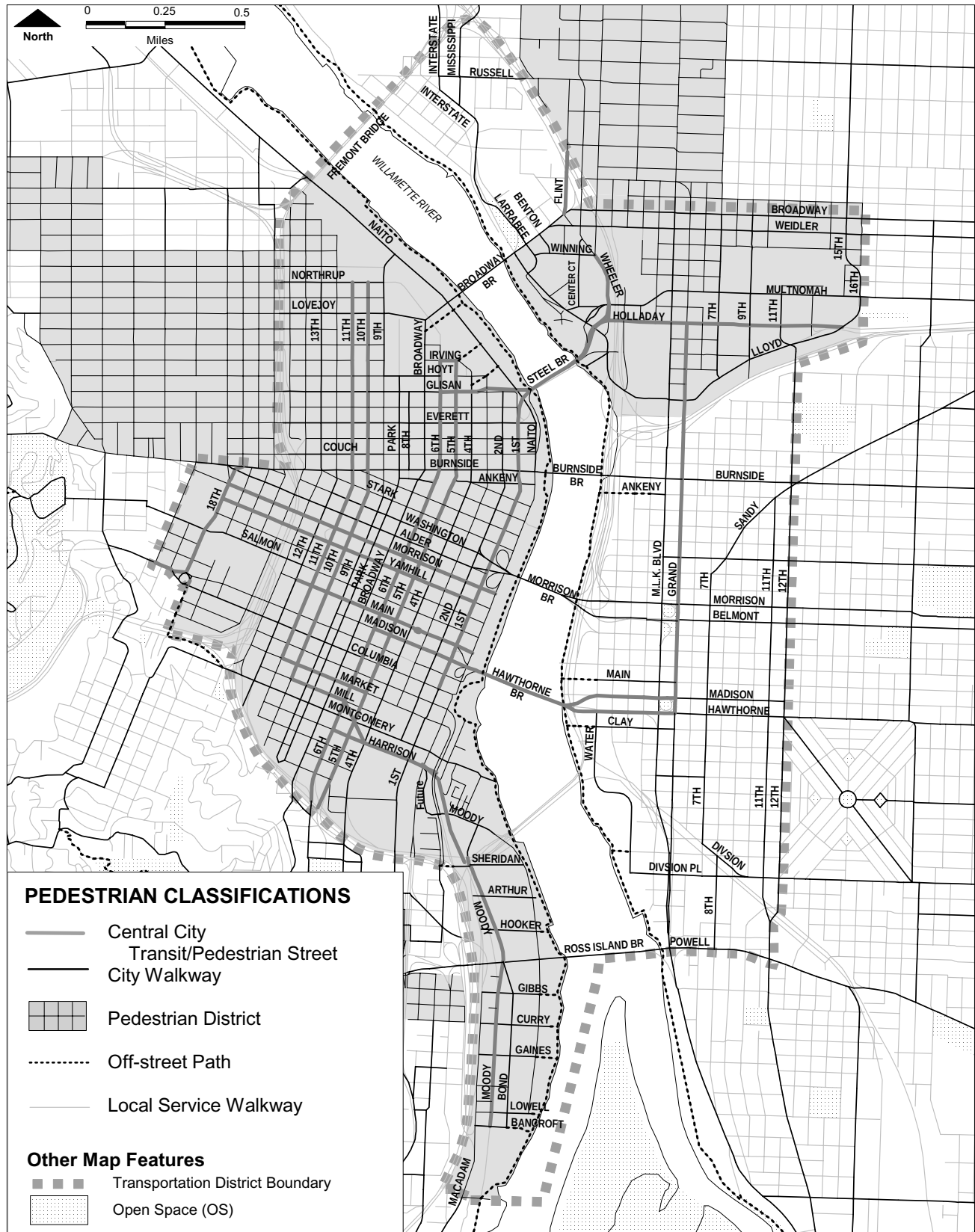
PORTLAND TRANSPORTATION SYSTEM PLAN – CENTRAL CITY DISTRICT



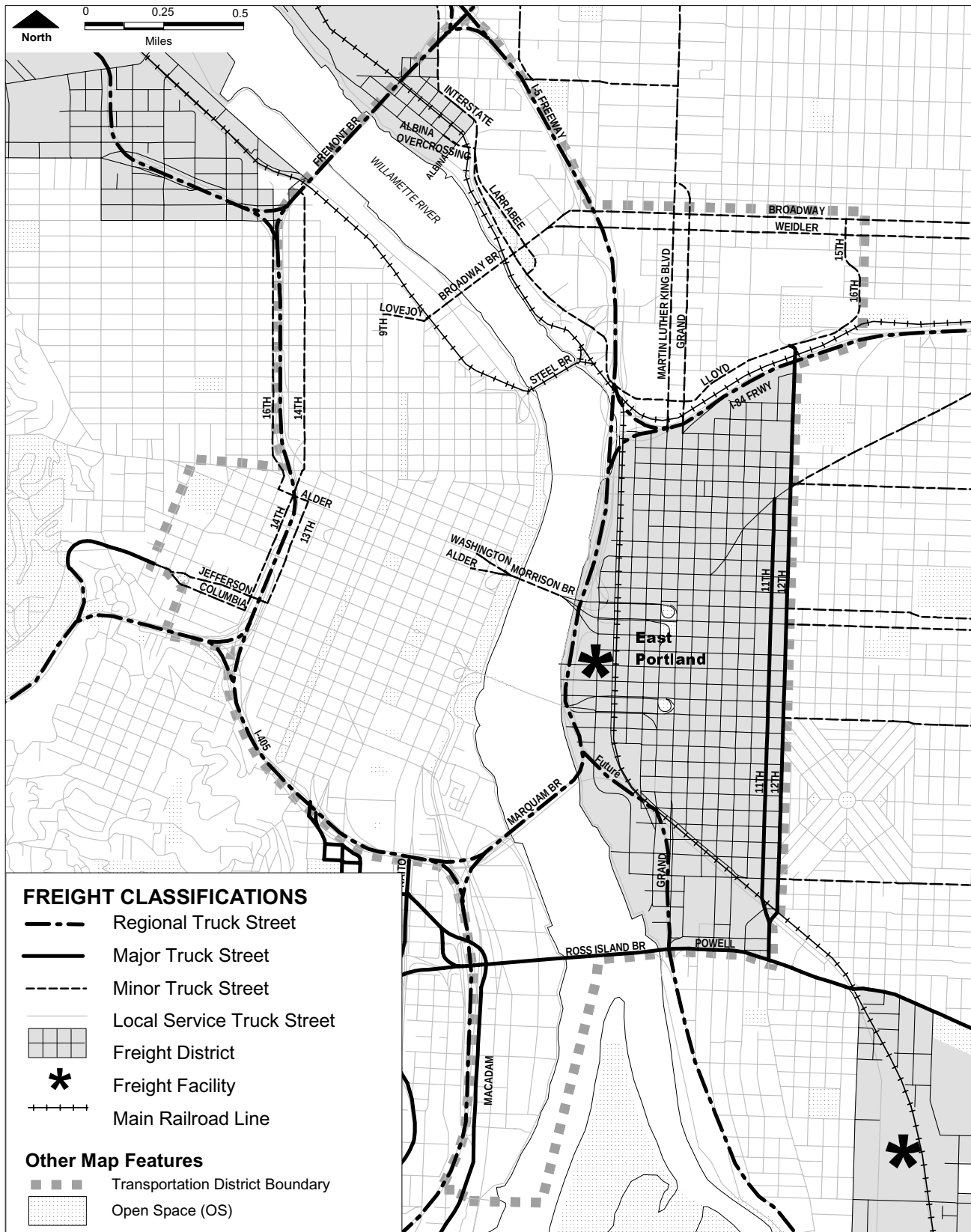
PORTLAND TRANSPORTATION SYSTEM PLAN – CENTRAL CITY DISTRICT



PORTLAND TRANSPORTATION SYSTEM PLAN – CENTRAL CITY DISTRICT



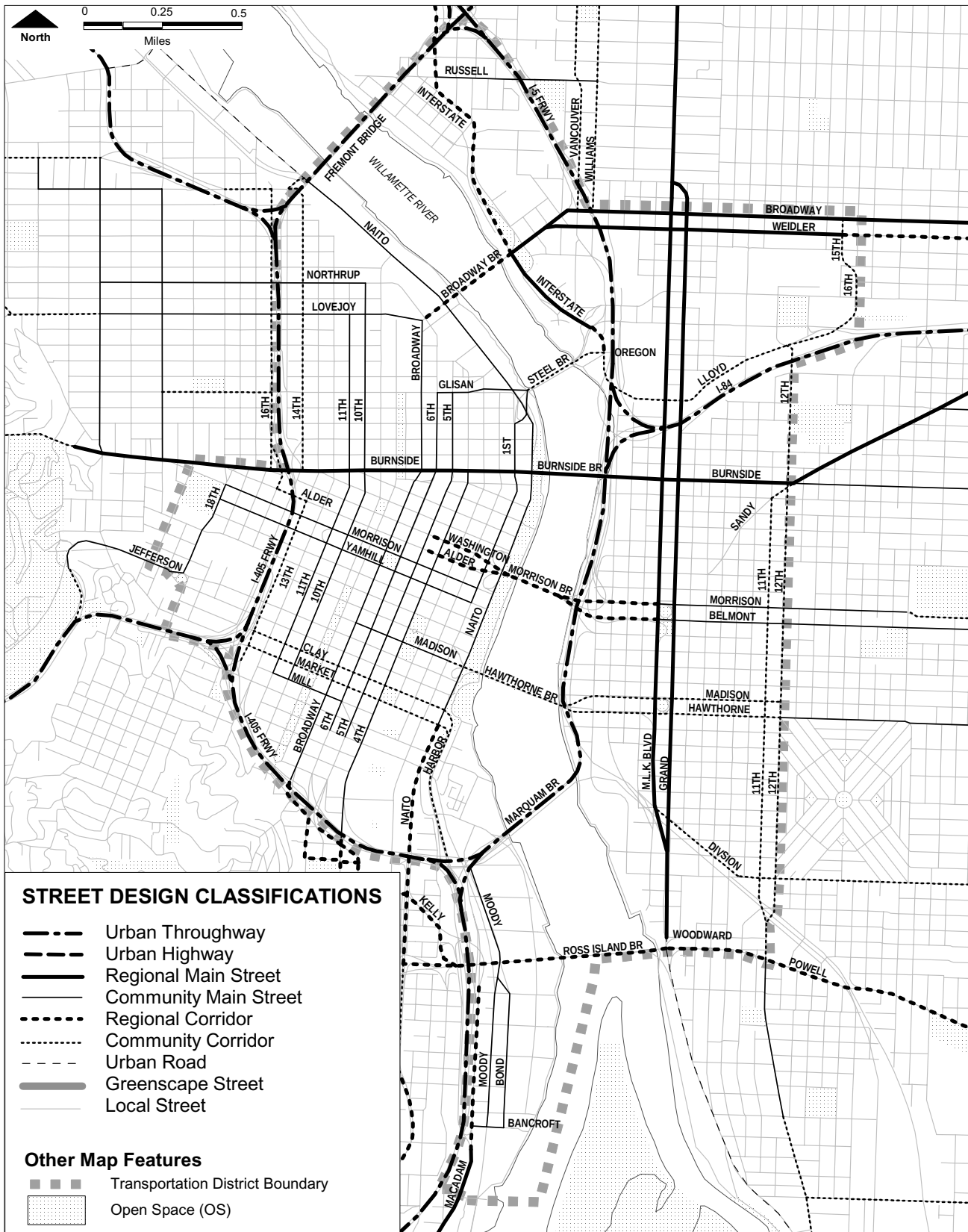
PORTLAND TRANSPORTATION SYSTEM PLAN – CENTRAL CITY DISTRICT



PORTLAND TRANSPORTATION SYSTEM PLAN – CENTRAL CITY DISTRICT



PORTLAND TRANSPORTATION SYSTEM PLAN – CENTRAL CITY DISTRICT



1.0.2 RIVER DISTRICT DESIGN GUIDELINES

The River District Design Guidelines, amended in 1998, are used in conjunction with the Central City Fundamental Design Guidelines as the approval criteria when conducting design review within the River District. The guidelines include the following design directives to all projects constructed within the district:

- Link the Willamette River to the community reinforcing the river's significance.
- Provide for convenient linkages throughout the River District that facilitate movement for pedestrians to and from the river, and to adjacent neighborhoods.
- Enhance the qualities that make each area distinctive within the River District.
- Incorporate water features or water design themes that enhance the quality, character and image of the River District.
- Incorporate works of art or other special design features that increase the public enjoyment of the River District.
- When developing at gateway locations, provide a distinct sense of entry and exit that relate to the special qualities of the area.
- Provide human interest and scale to buildings along sidewalks and walkways.
- Orient building entrances at pedestrian circulation points which conveniently and effectively connect pedestrians with transit.
- Design surface parking and parking garage exteriors to visually integrate with their surroundings.
- Locate and design buildings to provide for future infill development on surface parking areas.
- Reduce the impact on pedestrians from cars entering and existing garages by locating access on alleys and locating active spaces on ground floors that abut streets.
- Increase river and waterway view opportunities to emphasize the River District ambiance.

Specific Sub-area Design Guidelines include:

- Reinforce the identity of the Pearl District neighborhood.
 - Recognize the urban warehouse character when altering existing buildings and when designing new ones. Designs should provide a unified, monolithic tripartite composition, with distinct cornice lines. Suburban dwelling forms should be avoided.
 - Celebrate and encourage the concentration of art galleries and studios with design features that contribute to the Pearl District's "arts" ambiance. Consider features that provide connectivity and continuity such as awnings, street banners, special graphics and streetscape coordination, which links shops, galleries, display windows and building entrances. Active ground level retail that opens onto and/or uses the sidewalks can contribute to the attraction of the "arts" concentration.
- Reinforce the identity of the NW 13th Ave Historic District using the historic district design guidelines.
- Establish a new identity for the Tanner Creek area (north of Hoyt Street).
- Reinforce the identity of the North Park Blocks Area.
 - Create a sense of enclosure with buildings that are at least two or more stories in height. There should be no gaps in the block facades that the front the Park Blocks.
 - Locate garage entrances and driveways away from Park Block facades, where possible.
- Reinforce the identity of the waterfront area with design solutions that contribute to the character of the waterfront and acknowledge its heritage.
 - Recognize the area's maritime history by incorporating remnants of industrial infrastructure and/ or providing dock facilities for cruise lines.
 - Orient new park areas to the neighborhood.
 - Integrate land use and make new development open and accessible.
- Enhance Naito Parkway to become an important landscaped corridor through the River District that is comfortable to pedestrians.
- Emphasize NW Broadway's bright lights.
 - Make use of the theatrical, the exuberant, and the flamboyant in architectural forms, details and signs.
 - Incorporate innovative lighting of buildings and signs.
- Enhance West Burnside St by extending and improving its boulevard treatment and its environment for pedestrians.

- Buffer and separate the sidewalk from vehicular traffic with street trees, plantings and protective bollards.
- Enhance the pedestrian promenade through the use of arcades, awnings, and wider sidewalks.
- Punctuate ground floors with building entries and display windows.
- Locate driveways and garage entrances on side streets.

1.0.3 PEARL DISTRICT DEVELOPMENT PLAN

The Pearl District Development Plan has two elements: a vision statement and supporting action plan. The action plan includes specific policies, guidelines, strategies, and projects that will implement the vision. Specific to the River District Standards is Objective 3 of the Transportation/Parking Action Plan, and five action items which provide the basic scope for the updating of the River District Right-of-Way Design Standards.

Objective 3: Create pedestrian friendly streets that provide for an active, interesting and safe environment. Streetscapes are more than just conduits for moving people, they are places where people interact and enjoy the neighborhood. Improvements are needed to make these streets active and pedestrian friendly.

1. Amend the River District Right-of-Way Standards:
The City should update the River District right-of-way standards to update the street/lighting plan; incorporate the Boardwalk as part of the Pearl District Blocks; and specify richer and more diverse streetscapes through a wider variety of sidewalk furniture, bike racks, art, kiosks, street paving materials, cobblestones, etc. Cobblestones/bricks and plantings should be allowed around street trees.
2. Replace non-conforming streetlights with “Portland Traditional” style.
3. Widen sidewalks or provide curb extensions along major pedestrian corridors.
4. Provide additional amenities around streetcar stops.
6. Maximize on-street parking.

1.0.4 OLD TOWN/CHINATOWN DEVELOPMENT PLAN

The Old Town/Chinatown Development Plan provides a strategy for implementation of the Old Town/Chinatown Vision Plan adopted by City Council in 1997. The goal of the Development Plan is to develop Old Town/Chinatown into a vibrant, 24-hour, mixed-use, urban neighborhood, rooted in a rich historical past. Four of the Plan's immediate or short-term actions include development of new street plan for Burnside St, rededication of 2nd Ave and Flanders St near the Classical Chinese Garden and Port of Portland development, improvements to 3rd and 4th Aves, and extension of 6th Ave adjacent to Union Station. All four have moved forward since then. As a result, the River District Right-of-Way Standards need to be updated to reflect this.

1.1 FRAMEWORK PLANS: RIGHT-OF-WAY DESIGN

The Right-of-Way Design Framework Plans take the policy directives regarding right-of-way form and function contained in the previous section and translates them into the required basic design elements of each River District street, such as widths, number of travel lanes, on-street parking, street trees and street lighting. The Design Framework Plans are divided up into two broad design categories:

- Typical River District Streets
36 foot curb-to-curb widths within 60 foot rights-of-way
- Special Function River District Streets
Right-of-way and curb-to-curb widths vary

The Design Framework Plans are based on the following propositions:

- That the character of streets may vary by subdistrict.
- That the character of regional streets may maintain consistency with precedents outside the District.
- That the character and use of some Special Function Streets and new typical streets may be without precedent.
- That street trees will vary from street to street and between subdistricts.
- That street lighting will vary according to street function, pedestrian activity and existing patterns.

1.2 STREET WIDTHS: RIGHT-OF-WAY

The predominant existing right-of-way pattern is 60 feet throughout the River District. The exception to this norm are several of the Special Function streets where either wider right-of-way exist or will be provided or where new right-of-way will be established as streets are extended.



1.3 TYPICAL RIVER DISTRICT STREETS

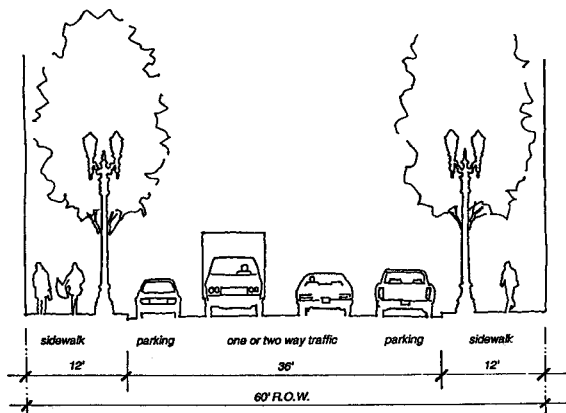
The predominant existing street width for two lane streets with on-street parking in the River District is 36 feet curb-to-curb. An optional width for new two lane street extensions is 34 feet which allows wider sidewalks in more pedestrian intensive areas.



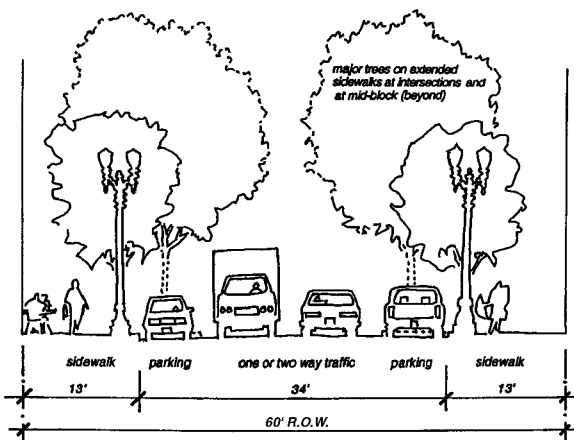
For other streets please refer to Special Function River Districts Streets on page 25.

TYPICAL STREETS

	1.3.1 Typical Existing River District Streets	1.3.2 Typical New or Redeveloped River District Streets
Right-of-Way	60 ft.	60 ft.
Roadway	36 ft.	34 ft.
Sidewalks	12 ft. both sides	13 ft. both sides
Curbline	May be extended at corners	May be extended at corners
Circulation	One or two-way Two lanes	One or two-way Two lanes
Parking	Allowed both sides	Allowed both sides



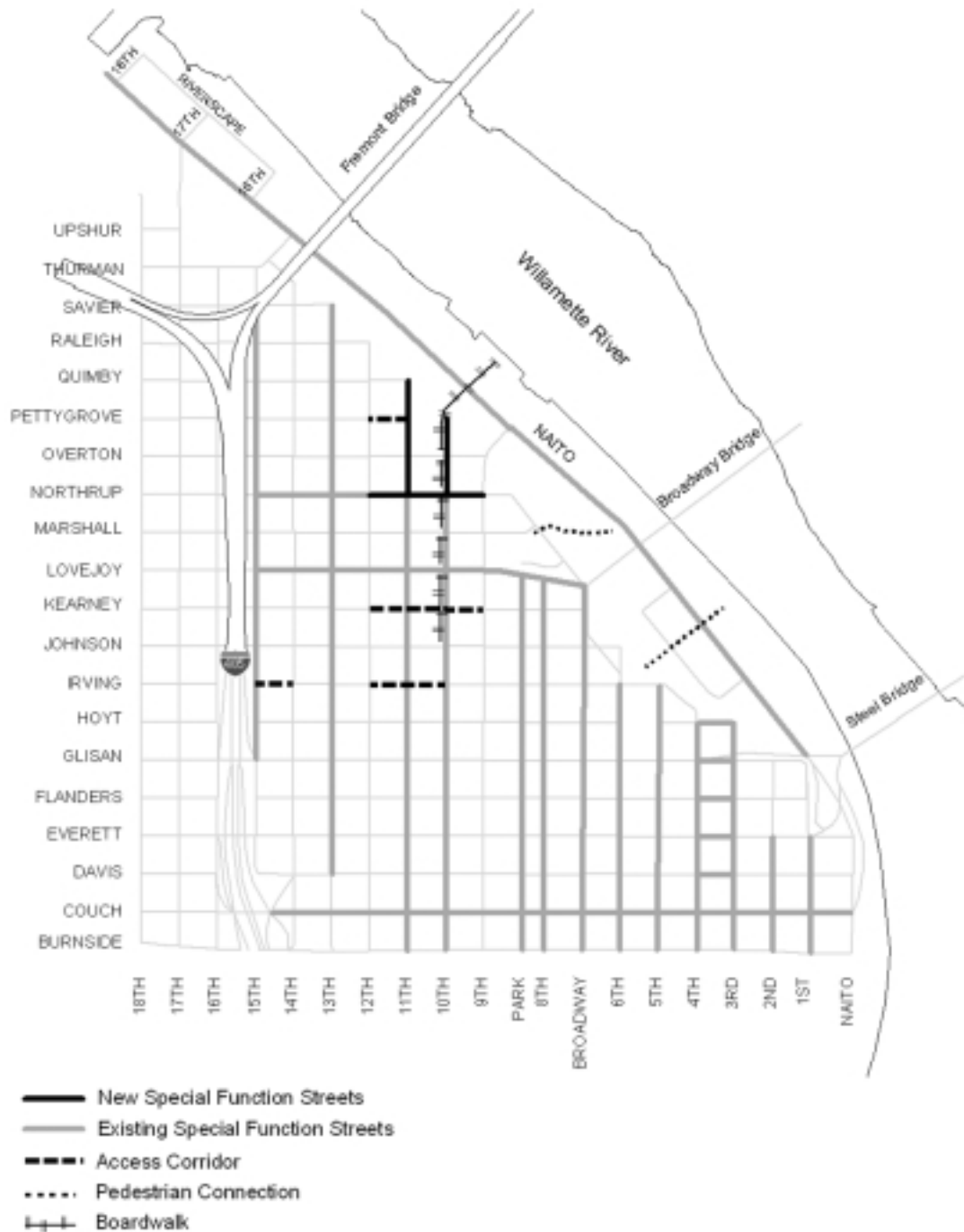
Typical Existing River District Street



**Typical New or Redeveloped
River District Street**

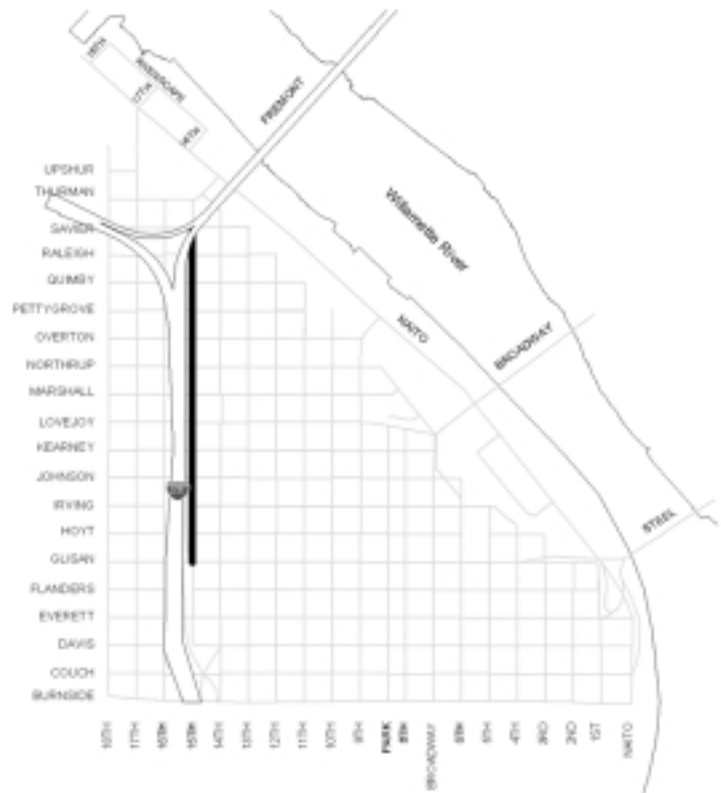
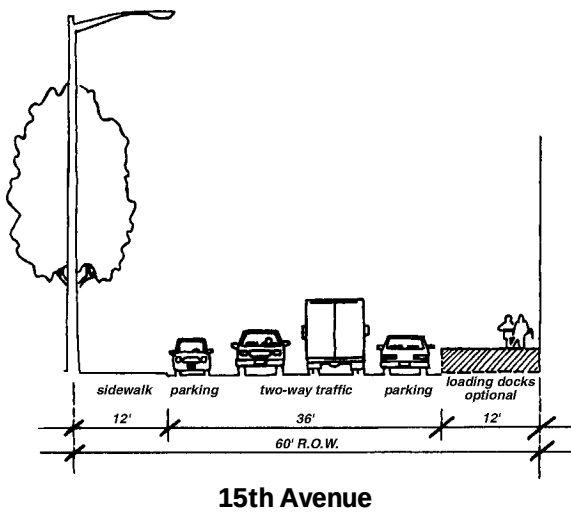
1.4 SPECIAL FUNCTION RIVER DISTRICT STREETS

There are a variety of street widths for Special Function Streets in the River District. Naito, Broadway, 1st, 2nd and 3rd carry through-traffic from beyond the area and thus are wider than typical River District streets. Others, such as the North Transit Mall, the Park Block streets and the access corridors are specialized in their use and design configuration.



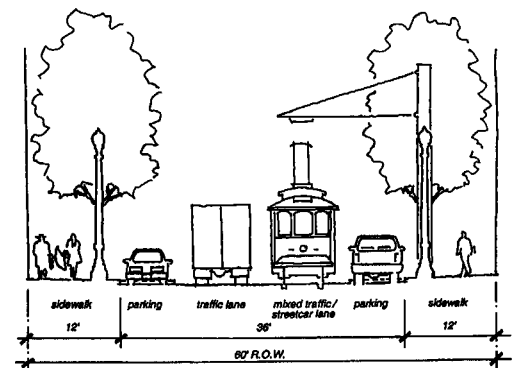
SPECIAL FUNCTION STREET STANDARDS

	1.4.1 15th Avenue
Right-of-Way	60 ft.
Roadway	36 ft.
Sidewalks	12 ft. Loading docks/raised platforms are also allowed, must provide 6 ft. clear pedestrian through zone and meet ADA guidelines.
Curbline	May be extended at corners
Circulation	Two-way Two lanes
Parking	Allowed both sides
Trees	Infill/Established Street Trees If a loading dock is approved-trees are not required along the loading dock.

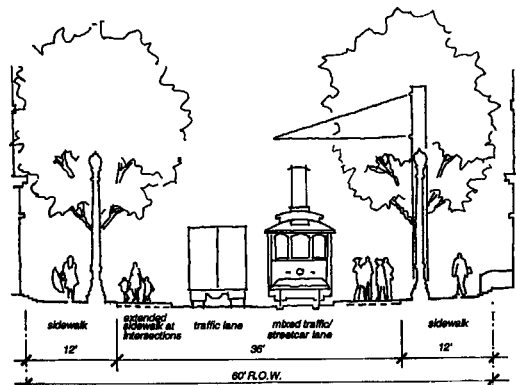


	1.4.2 10th & 11th Avenue
Right-of-Way	60 ft.
Roadway	36 ft. 10th Ave 29 ft. adjacent to Boardwalk
Sidewalks	12 ft. both sides 10th Ave west side Boardwalk 19ft. - Johnson St north (see Pedestrian Performance Criteria 2.5.1.5)*
Curbline	May be extended at corners
Circulation	One or two-way Two lanes
Parking	Allowed both sides except 10th Ave next to Boardwalk

*At parks, design exceptions subject to design review (see page 4).



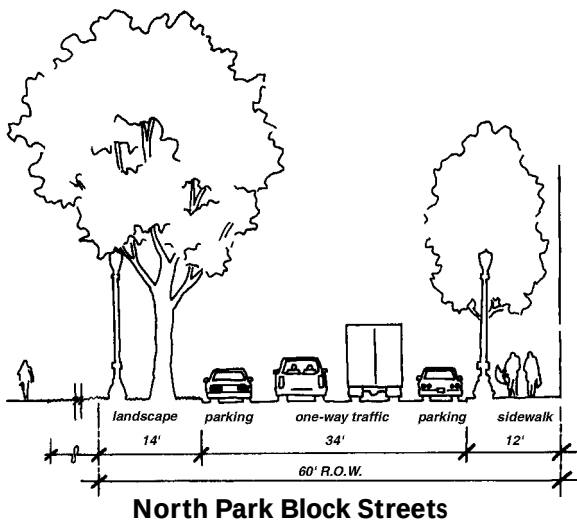
10th/11th Avenues - Burnside to Hoyt



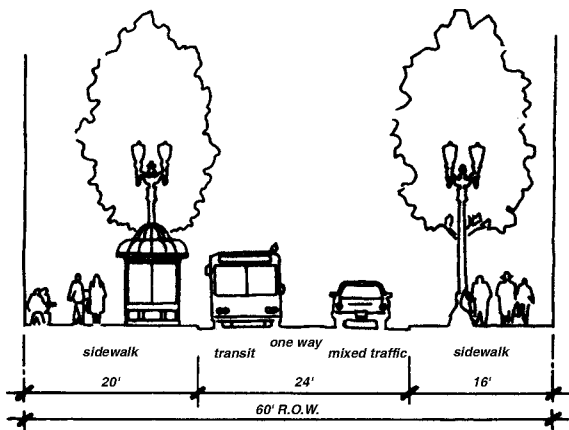
10th/11th Avenues - Hoyt to Lovejoy

FRAMEWORK PLANS

	1.4.3 North Park Block Streets	1.4.4 North Transit Mall
Right-of-Way	60 ft.	60 ft.
Roadway	35 ft.	24 ft.
Sidewalks	Continue existing pattern (no sidewalk on park side frontage)	20 ft. transit loading side 16 ft. opposite side
Curbline	Straight	Straight
Circulation	One-way Two lanes	One-way, one lane exclusive transit One lane mixed traffic
Parking	Allowed both sides	Not allowed



North Park Block Streets



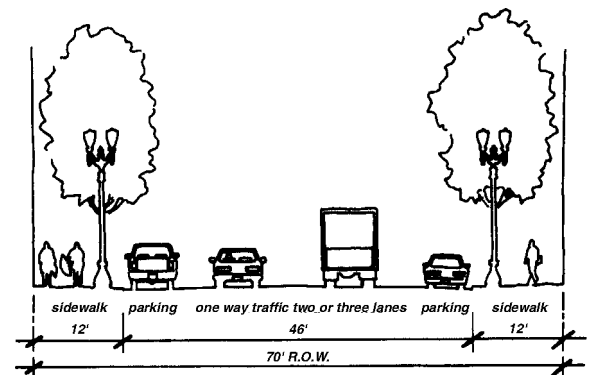
North Transit Mall



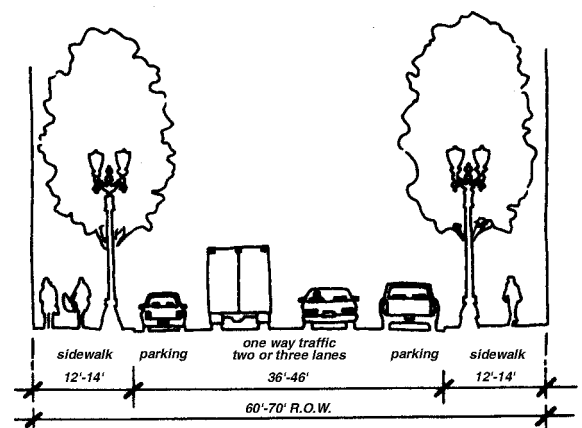
	1.4.5 Old Town Avenues 1st & 2nd Avenue	1.4.6 Old Town Avenues 3rd & 4th Avenues**
Right-of-Way	70 ft.	60 or 70 ft.
Roadway	46 ft.	36 or 46 ft.
Sidewalks	12 ft. both sides*	12 or 14 ft.
Curbline	May be extended at corners	May be extended at corners
Circulation	One-way Two or three lanes	One-way Two or three lanes
Parking	Allowed both sides*	Allowed both sides

*1st Avenue with Light rail transit is the exception to these standards.

** For more detail reference the 3rd and 4th Avenue Streetscape Plan, Portland Office of Transportation.



**Old Town Avenues
1st and 2nd Avenues**



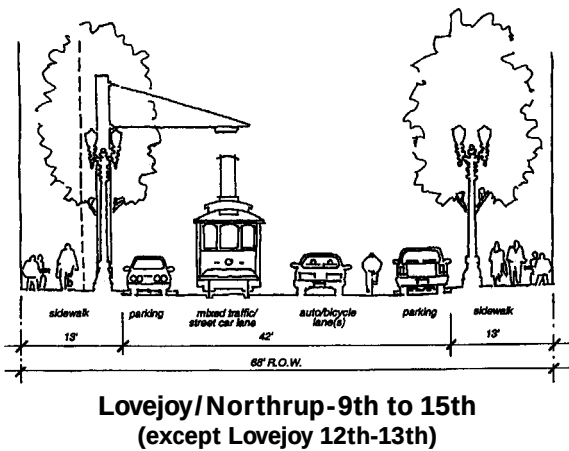
**Old Town Avenues
3rd and 4th Avenues**

FRAMEWORK PLANS

1.4.7 Lovejoy/Northrup (9th-15th Avenues)

Right-of-Way	60 ft. 68 ft., Lovejoy 9th-12th Ave, 13th-14th Ave
Roadway	35 ft. (within 60 ft. r.o.w.) 42 ft. (within 68 ft. r.o.w.)
Sidewalks	13 ft. streetcar side 12 ft. opposite side
Curbline	May be extended at corners and streetcar stops
Circulation	Two-way Two lanes*
Parking	Allowed both sides (except Lovejoy 12th-13th, north side only)

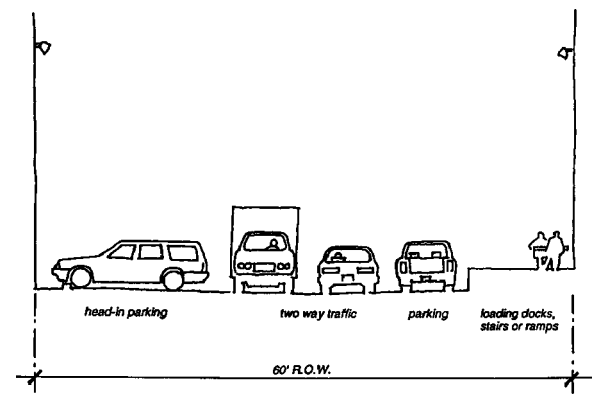
* One through lane, one mixed traffic/streetcar lane.



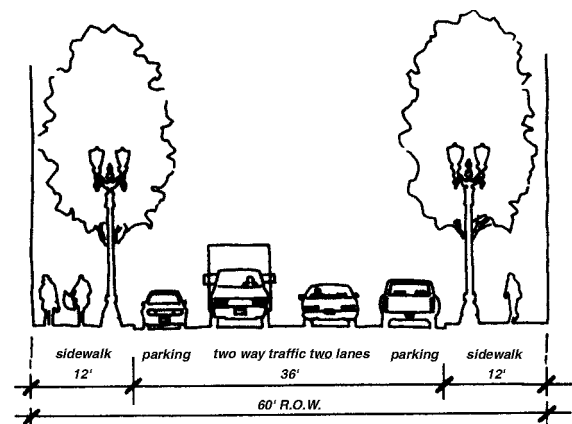
	1.4.8 13th Avenue	1.4.9 Couch Street
Right-of-Way	60 ft.	60 ft.
Roadway	22 ft. travel lane	36 ft.
Sidewalks	None, Zone for loading docks, pedestrian stairs, ways and ramps are allowed in lieu of sidewalk*	12 ft. both sides
Curbline	None	May be extended at corners
Circulation	Two-way Two lanes	Two-way, two lanes One-way 2nd to 15th Ave**
Parking	Parallel to docks; 90° head-in allowed in lieu of docks	Allowed both sides

*Maximum projection 11 ft. into the right-of-way.

**Upon implementation of the Burnside Transportation Plan.



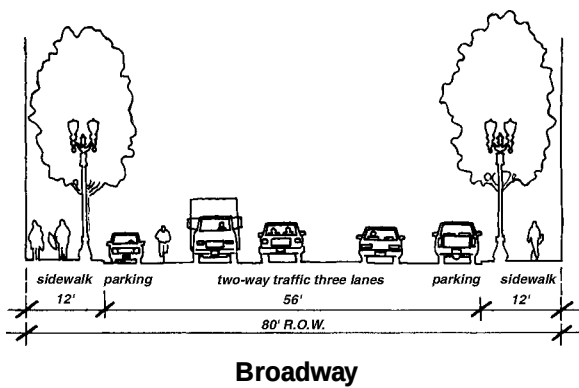
13th Avenue With Loading Docks



Couch Street

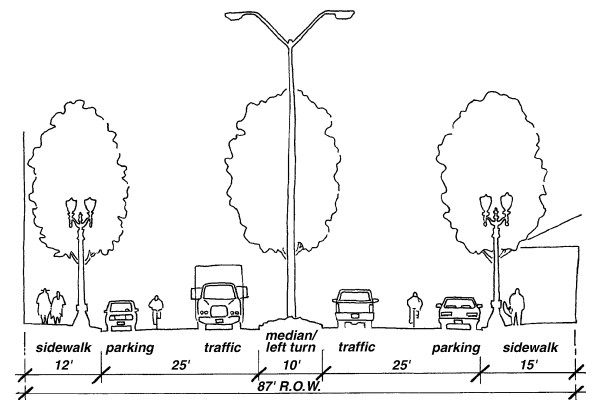
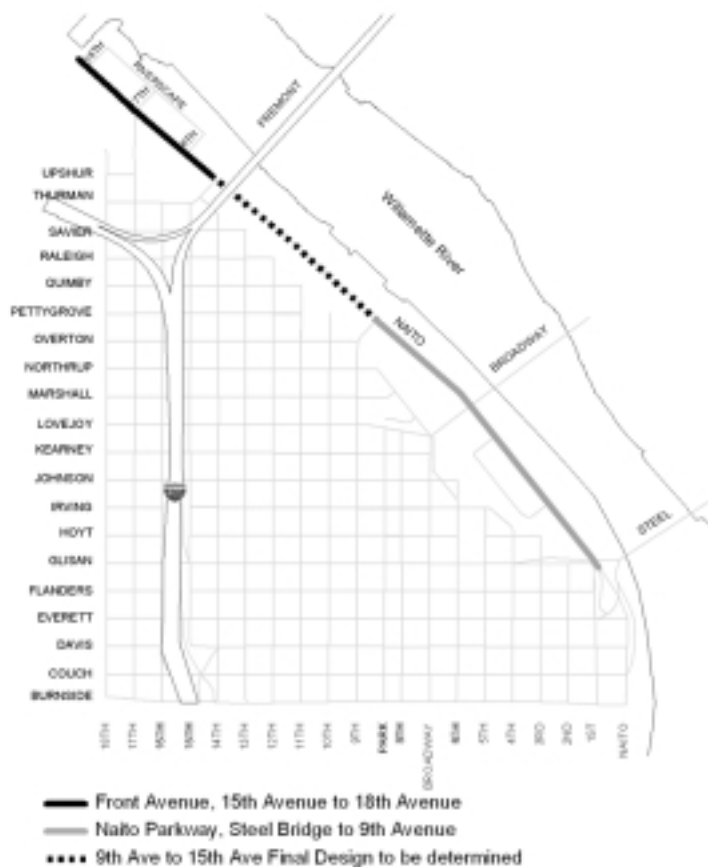
FRAMEWORK PLANS

	1.4.10 Broadway	1.4.11 Bridge Ramps
Right-of-Way	80 ft.	Broadway: 61 ft. Lovejoy: 60 ft.
Roadway	56 ft.	Broadway: 45 ft. Lovejoy: 40 ft.
Sidewalks	12 ft. both sides	Broadway: 8 ft. both sides Lovejoy: 10 ft. both sides
Curbline	May be extended at corners	Varies
Circulation	Two-way Three lanes	Broadway: Two-way, four lanes Lovejoy: Two-way, three lanes
Parking	Allowed both sides	Not allowed

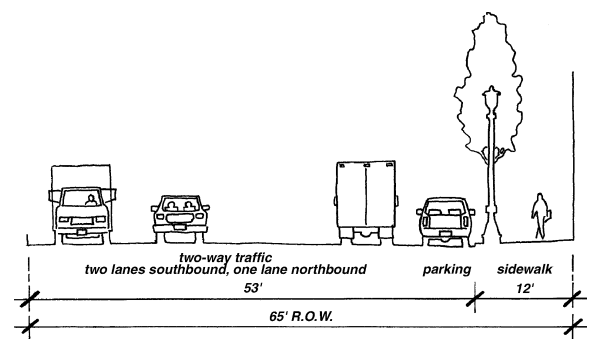


	1.4.12 Naito Parkway Steel Bridge to 9th Avenue	1.4.13 Front Avenue 15th to 18th Avenue
Right-of-Way	87 ft.	65 ft.
Roadway	60 ft. including median	53 ft.
Sidewalks	15 ft. east side 12 ft. west side	12 ft. east side none west side
Curbline	Straight; median curbline varies at left turn refuges	Straight
Circulation	Two-way Two lanes + turn lane	Two-way Three lanes + turn lane
Parking	Allowed both sides	Allowed east side

9th Ave to 15th Ave final design section to be determined.



Naito Parkway-Steel Bridge to 9th Avenue



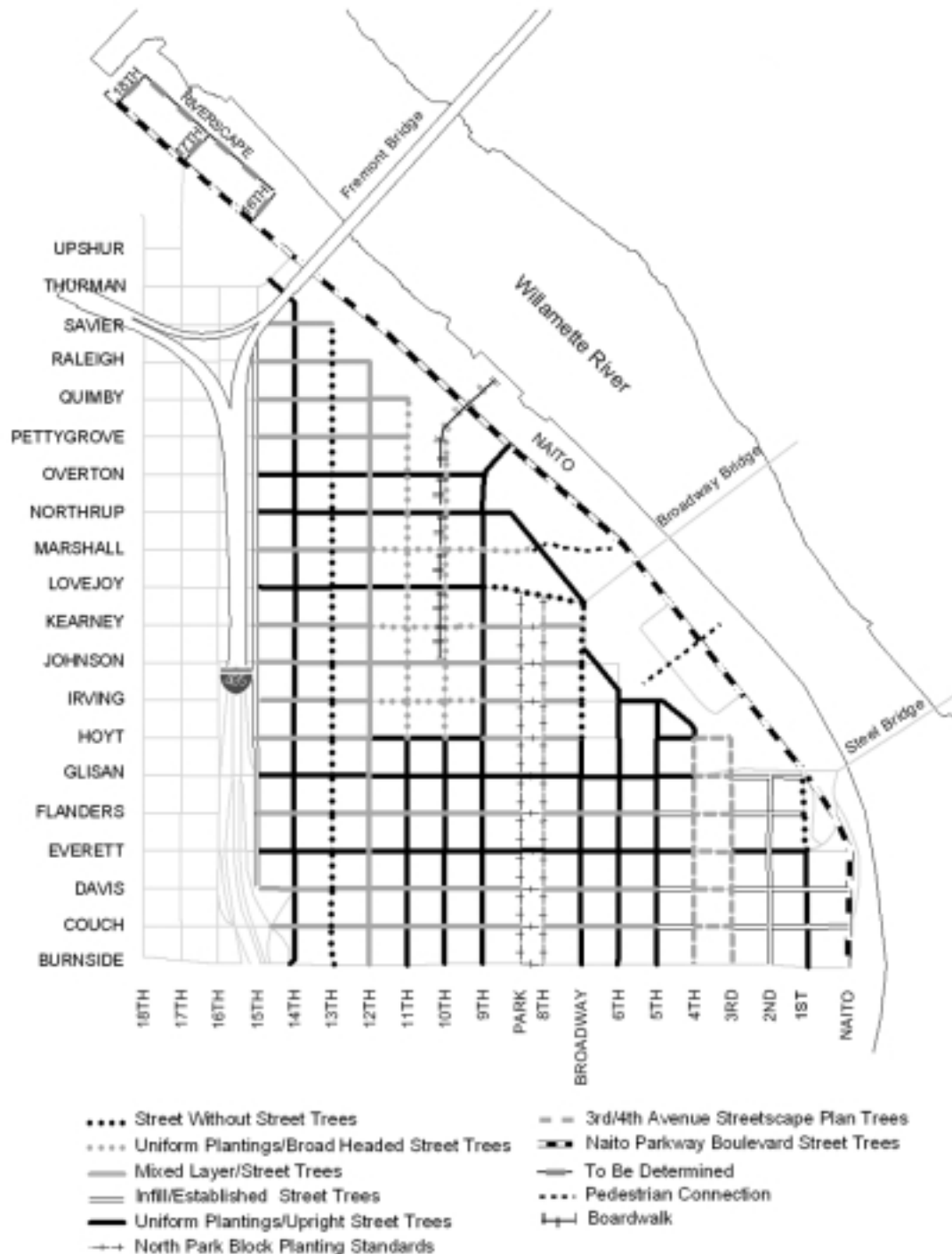
Front Avenue-15th to 18th Avenue

1.4.14 ACCESS CORRIDOR

Private pedestrian/bicycle/vehicle tracts with landscaping and street lighting on public easements, 60 foot wide, which approximates the original 200 ft. block pattern. See Performance Criteria 2.5.1.4.

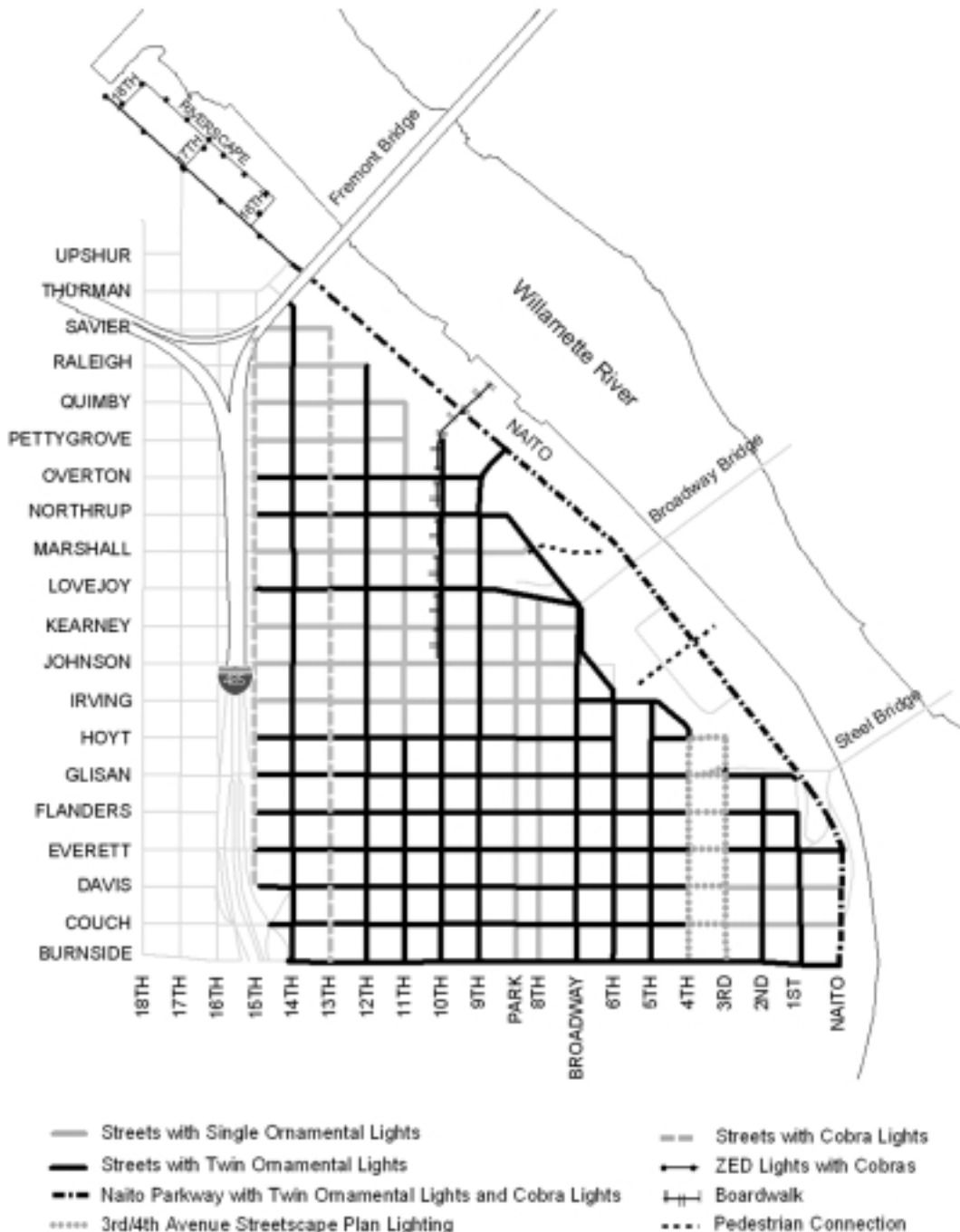
1.5 STREET TREES

The selection of tree species and the layout of trees on different streets is related to both the operation and desired character of a particular street. Examples range from significant traffic streets with narrow upright street trees to minor traffic streets with broad headed street trees. Species selection and tree spacing has been coordinated with the City Forestry Division.



1.6 STREET LIGHTING

The street lighting plan reflects existing and proposed fixtures for various streets in the River District. The indication of fixture type and spacing for a particular street is based on the continuation or extension of existing design character within the district and continuity with the urban design pattern beyond the district. These recommendations have been coordinated with the Street Lighting Division of the Bureau of Transportation Engineering and Development.





PERFORMANCE CRITERIA

2.0 PERFORMANCE CRITERIA

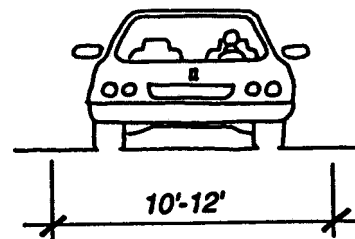
The Right-of-Way (R.O.W.) Performance Criteria describe the size and application of key R.O.W components. Each criterion is illustrated to clarify its intent, but the illustrations are not to be used as standards. The Criteria are to guide and not to prescribe design solutions.

2.1 VEHICULAR CRITERIA

2.1.1 Through Lane: a linear, continuous zone for vehicles in the street; can be exclusive or combined with left or right turn movements.

Size: 10-12 feet for typical through lanes

Application: Throughout the River District



Parking and loading pull-out width

2.1.2 Left Turn Lane: a linear zone for vehicles near the center of the street; may not be continuous to the next block; is typically an exclusive lane for left turning vehicles on a two-way street.

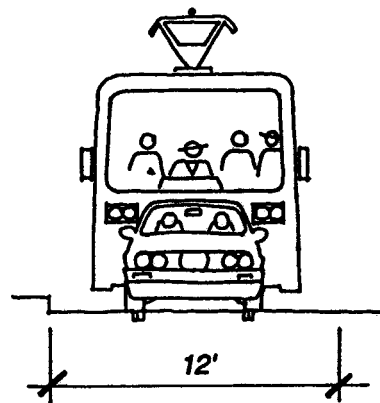
Size: 10-12 feet for general left turn lanes

Application: Throughout the River District

2.1.3 Mixed Traffic - and Streetcar Lane: a linear, continuous zone for both motorized vehicles and a streetcar trackway in the street; typically located in the right or left hand lanes; turning movements for motor vehicles may be restricted.

Size: 12 feet

Application: On Special Function Streets
(see Framework Plan 1.3)



Transit lane width

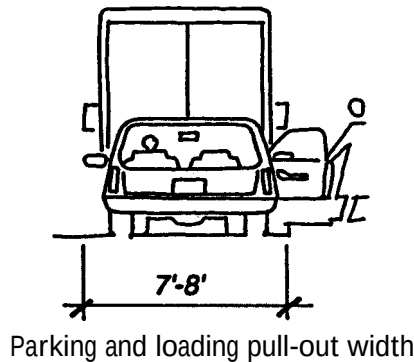
2.1.4 Curbside Parking: a linear zone for motorized vehicles at the edge of the street; can be exclusive at all hours or used as a moving traffic lane at AM and PM peak hours.

Size: 7 feet on lower volume streets or higher volume streets with a bike lane separating parking and the traffic lane; 8 feet on higher volume roadways or streets with loading zones.

Stall length - see Code of the City of Portland Chapter 33 Zoning Standards.

Federal ADA requirements for new parallel, on-street van parking spaces will be adopted by the City of Portland. These standards may affect design section, street lighting, street trees and pedestrian criteria contained in these guidelines.

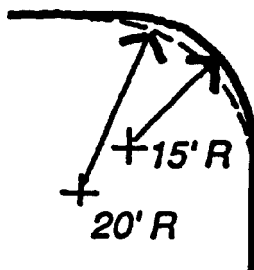
Application: Throughout the River District



Parking and loading pull-out width

2.1.5 Corner Radii: the curved section of street edge at intersections; allows adequate space for vehicular turning movements around sidewalk corners.

Size: Minimize radii where possible. 15 feet radius at typical corners; curb radii on designated bus and truck routes to be determined on an individual basis, larger radius may be required; on-street parking may affect final radius requirement.



Corner radii

Application: Throughout the River District

2.1.6 Loading Zone: a linear zone for delivery unloading at the street edge; similar to curbside parking; should be located at least 30 feet away from intersections.

Size: 8 feet wide at typical loading zones (7 feet cannot be used adjacent to 10 foot traffic lanes).

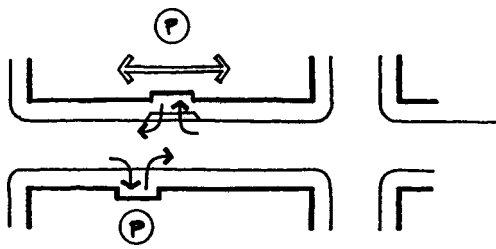
Length varies-see Code of the City of Portland Chapter 33 Zoning Standards.

Applications: Throughout the River District; loading zones are typically discouraged or minimized on streets with frequent transit service-where unavoidable, loading is provided on the side of the street opposite bus or streetcar stops; see the Transportation System Plan.

2.1.7 Loading Dock/Parking Zone: a zone where existing loading docks take up the street edges normally reserved for sidewalks; where the dock remains but is not in use, parallel parking can be provided adjacent to it; where the dock has been removed, 90 degree head-in parking can be provided; this street configuration assumes vehicles and pedestrians mix in the space between docks or between docks and buildings.

Size: 11 feet maximum width at a typical dock length varies-see Code of the City of Portland Chapter 33 Zoning Standards Loading Bays-10 feet wide by 35 feet long.

Application: On a Special Function Streets with raised loading docks/raised platforms.



Mid-block parking access

2.1.8 Parking Access: a driveway for vehicular access to surface or structured, off-street parking; preferably located near mid-block, away from intersections; driveway design should emphasize that vehicles are crossing a pedestrian zone; garage ramps perpendicular to the street direction are encouraged; ramps parallel to the street direction are discouraged.

Size: Width conforms to the adjacent sidewalk
Length varies-see Code of the City of Portland Chapter 33 Zoning Standards.

Application: Encouraged on certain streets in the CCTMP section of the Transportation System Plan; typically discouraged on streets with significant transit service.

2.2 BICYCLE CRITERIA

Bicycle facilities shall conform to the Portland Bicycle Master Plan.

2.2.1 Shared Roadway per ODOT Standards: allows bike use of typical vehicular through lanes.

Size: Normal travel lane width

Application: On streets not designated as City Bikeways in the Transportation System Plan, or on streets with average daily traffic volumes of less than 3,000 and designated as City Bikeways.

2.2.2 Striped Bike Lane: a striped portion of the street adjacent to the curb that is used for exclusive bicycle circulation; these should be planned for in new or redeveloped streets.

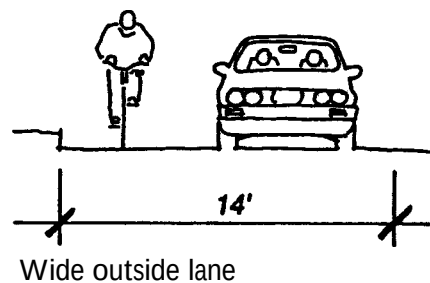
Size: 5 feet (4.5 feet minimum) adjacent to the curb or parking lane.

Application: On streets with average daily traffic volumes greater than or equal to 3,000 and designated as City Bikeways in the Transportation System Plan.

2.2.3 Wide Outside Lane: accommodates both vehicles and bicycles where there is inadequate space to provide striped bike lanes.

Size: Minimum 14 feet

Application: On streets with average daily traffic volumes greater than or equal to 3,000 and designated City Bikeways in the Transportation System Plan, but where circulation requirements and right-of-way constraints preclude use of a striped bike lane. May not be used next to on-street parking.



2.2.4 Bicycle Parking: install bicycle parking as needed in conformance with guidelines in the Portland Pedestrian Design Guide and City Code. Bicycle parking should not conflict with transit waiting and loading on transit streets or pedestrian circulation. Staple racks are preferred.

Application: Throughout the River District

2.3 TRANSIT CRITERIA

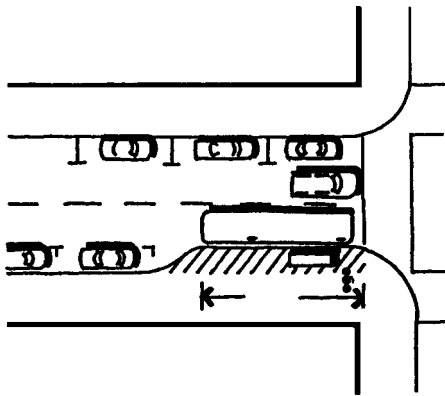
2.3.1 Mixed Traffic and Bus Lane (see 2.1.1 Through Lane): buses will circulate and pick up passengers at stops in the River District from right hand through lanes.

Size: 11-12 feet for typical through lanes with buses.

Application: On streets designated for Transit Access in the CCTMP section of the Transportation System Plan.

2.3.2 Bus Turning Radii (see 2.1.5 Corner Radii):

allow wider radii at corners with major bus turning movements; minimum radius requirements to be determined by the Bureau of Transportation Engineering and Development.

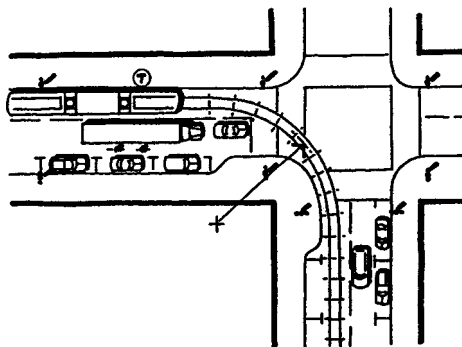


Bus stop at near side of intersection with extended sidewalks

2.3.3 Transit Stop: provide a widened sidewalk zone (projecting into the curbside parking zone) at transit stops to the near side of intersections; vehicle dwells and loads passengers in the right hand through lane then proceeds through the green light; shelter type and placement is subject to TriMet Standards and River District Design Guidelines.

Size: Edge of widened sidewalk aligns with the edge of the right hand through lane, providing a 7-8 foot zone; length is 40 feet minimum tangent length not including transition back to normal curb line.

Application: On streets designated for Transit Access in the Transportation System Plan.



Streetcar turn in 60 foot right-of-ways

2.3.4 Streetcar Lane (see 2.1.3 Mixed Traffic and Streetcar Lane): the streetcar trackway is treated as a conventional through lane in the River District; pavement will be a concrete trackway slab.

2.3.5 Streetcar Turning Radii: special requirements at intersections for streetcar turning movements; right turns from the right hand lane may require a trackway weave into the center lane of the next block in order to make the turn in a 60 foot right-of-way; special traffic operations-such as no free right turns, signal pre-emption, etc., may be required at these intersections.

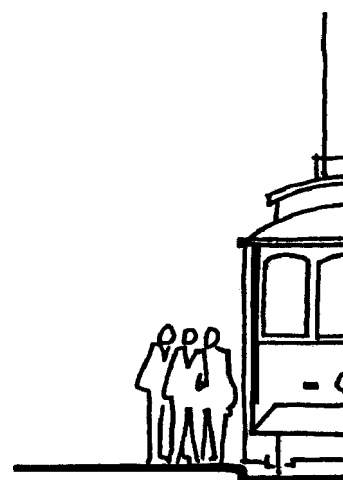
Size: To be determined based on vehicle selection; transition weave of one block may be required where the streetcar turns from one street to another.

Application: On streets designated for Transit Access in the CCTMP section of the Transportation System Plan and selected for Streetcar route by the Office of Transportation.

2.3.6 Streetcar Stop: provide a widened sidewalk zone at streetcar stops to the near side of intersections; streetcar dwells and loads passengers in the right hand through lane then proceeds through the green light; shelter type and placement is subject to TriMet Standards and River District Design Guidelines if stops serve both buses and streetcar.

Size: Edge of widened sidewalk aligns with the edge of the right hand through lane providing an 8-9.5 foot zone; length is 40 feet minimum not including transition back to normal curb line (may be longer, depending on vehicle selection).

Application: On streets with streetcar service.



Transit stop

2.3.7 Special Streetcar Requirements: to be determined.

2.4 UTILITIES CRITERIA

To be completed at preliminary engineering of individual street improvement projects.

2.4.1 Major R.O.W. Corridors for Utilities: to be determined.

2.4.2 “Utility-free” Zones: locate major longitudinal utility lines below grade to the extent possible and outside of trackway lanes; crossing lines under trackways are acceptable.

2.4.3 Special Requirements: pump stations, below grade vaults, transformer and signal cabinets, etc.: subject to specific utility company, agency or bureau criteria in addition to River District Guidelines.

2.4.4 Utility Work: Streets shall be restored with the same materials existing prior to utility work.

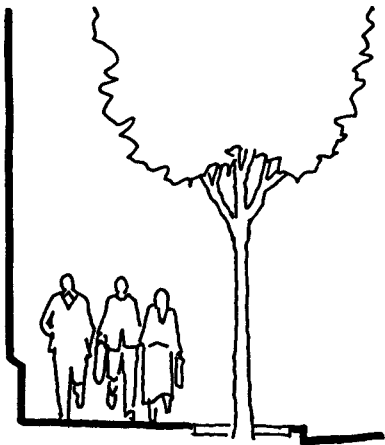
2.5 PEDESTRIAN CRITERIA

2.5.1 SIDEWALK WIDTHS AND DESIGN TREATMENTS

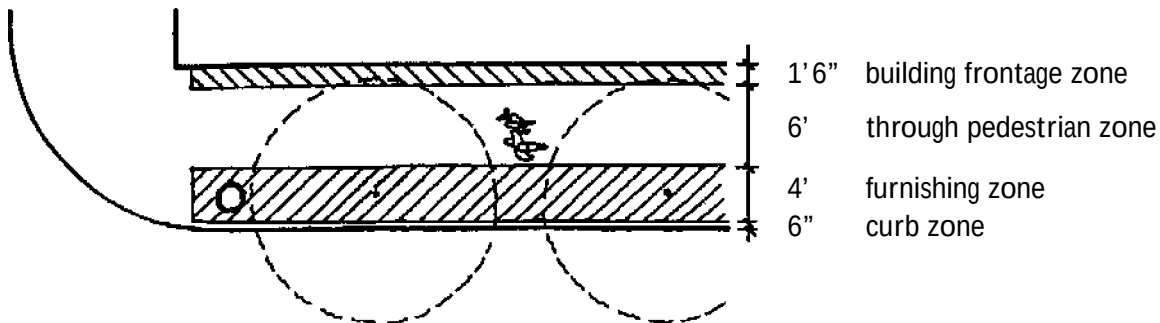
2.5.1.1 Twelve Foot: the standard existing sidewalk width on streets in the River District through pedestrian and curb zones are paved - pavement material and texture is pedestrian oriented; for redevelopment projects on existing streets, these standards are required for any sidewalk replacement.

Size: 12 feet

Application: Existing streets throughout the River District



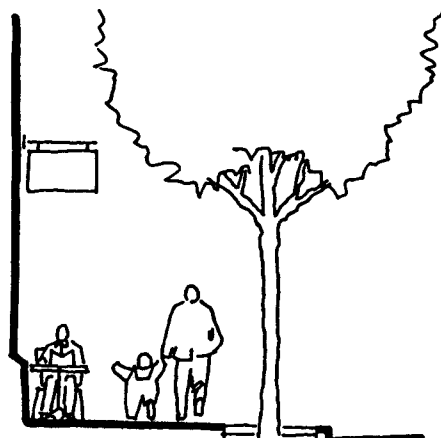
Twelve foot sidewalk with grated tree well.



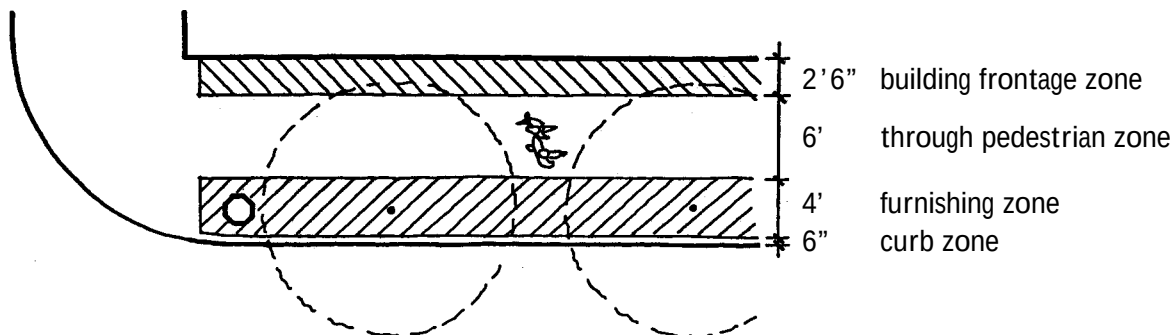
2.5.1.2 Thirteen Foot: a recommended sidewalk width on typical new or redeveloped streets in the River District; an extra foot in width allows a more usable building frontage zone (BFZ); through pedestrian and curb zones are paved-pavement material and texture is pedestrian oriented, building frontage and furnishing zones can be paved or pervious.

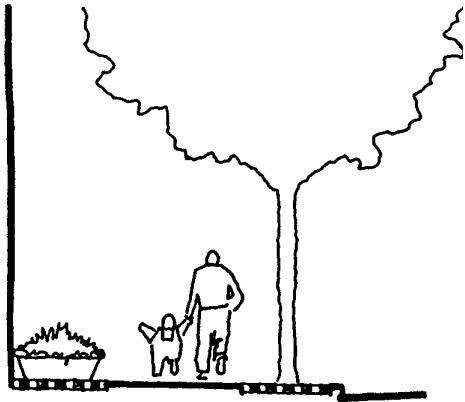
Size: 13 feet

Application: Typical new or redeveloped streets



Thirteen foot sidewalk with cafe and pervious paving in the building frontage zone.



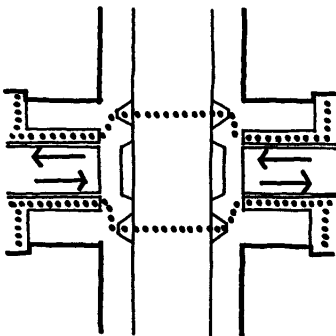
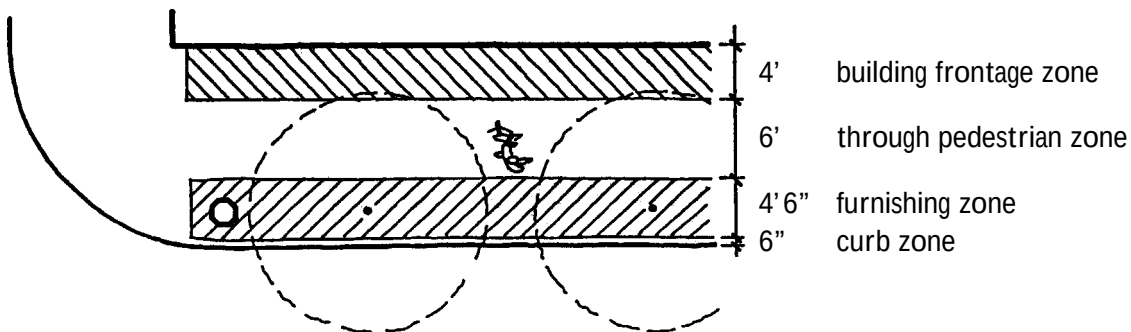


Fifteen foot sidewalk with pervious paving in the building frontage and furnishing zones.

2.5.1.3 Fifteen Foot: a recommended sidewalk width on special function streets (see Framework Plan 1.3) and an existing sidewalk width on Old Town Avenues with 70 foot right-of-way; an extra 2.5 feet in width allows a more usable building frontage zone (BFZ)-particularly for merchant use; through pedestrian and curb zones are paved-pavement material and texture is pedestrian oriented; building frontage and furnishing zones can be paved or pervious.

Size: 15 feet

Application: On Special Function River District Streets

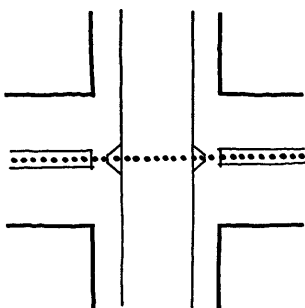


With shared pedestrian vehicular access on one or both sides of a public street: two aligned crosswalks are required.*

2.5.1.4 Access Corridors: Private pedestrian/bicycle/vehicle tracts with landscaping and street lighting on public easements, 60 ft. wide which approximates the original 200 foot block pattern. Per the conditions of the Hoyt St Yards Master Plan and development agreements with City of Portland, Land Use Action No. LUR 93-00279 SU. Can accommodate pedestrian and bicycles only or shared pedestrian-vehicular circulations; driveway and crosswalk configuration at access corridors varies according to how corridor is used.

Size: 60 feet

Application: On private pedestrian/vehicle tracts



With pedestrian only access on both sides of a public street: one aligned crosswalk is required.*

**Design is subject to approval by the City Engineer.*

2.5.1.5 Boardwalk: begin after any grade transitions at corners/ curb extensions have been completed for ramps and landings. Corners incorporating ramps, landings and grade changes to be constructed in concrete. Cross slope between right-of-way and curb shall be two percent. Surface shall be IPE wood decking or approved equal. IPE wood decking cannot be used for grades steeper than 4%. The decking shall have a support system and drainage system designed for individual site application by a structural engineer and approved by the City Engineer. Design live load shall be no less than 250 psf.

Size: 19 feet on blocks with development, 26 feet on blocks with parks.

Application: In place of sidewalk along west side of 10th Ave from Johnson St north to river.

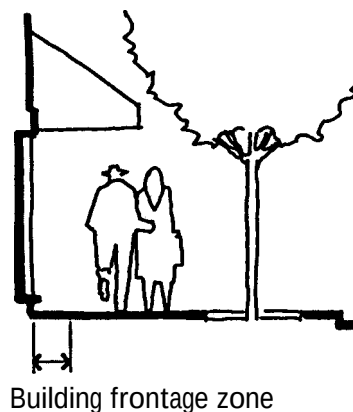
2.5.1.6 North Transit Mall: existing special sidewalks at the Portland Transit Mall in the River District; any new developments along these streets must replace Mall materials and finishes in kind; see Framework Plan 1.4.4.

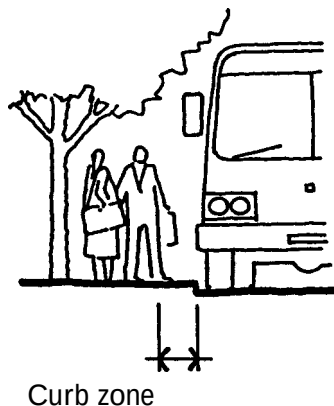
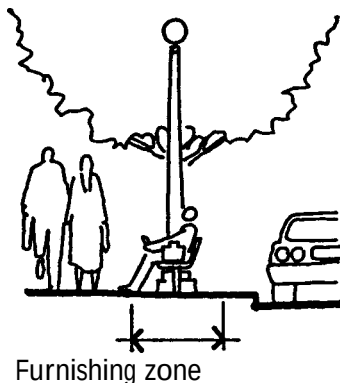
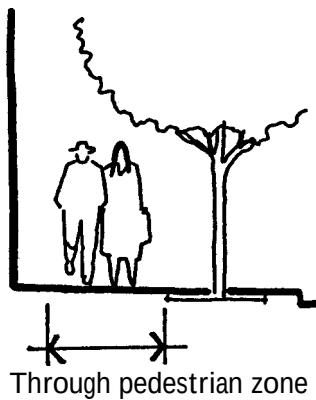
2.5.2 SIDEWALK USE ZONES

2.5.2.1 Building Frontage Zone (BFZ): The area of sidewalk directly abutting buildings is defined as the building frontage zone (BFZ). This space is outside of the through pedestrian zone and typically accommodates pedestrian furniture such as cafe tables and minor building projections such as meters and down spouts.

Size: 1.5-4 feet

Application: Throughout the River District





2.5.2.2 Through Pedestrian Zone (TPZ): space for through-pedestrian traffic; unencumbered by any obstructions.

Size: 5 to 7 feet (typical 6 feet)

Application: Throughout the River District

2.5.2.3 Furnishings Zone (FZ): space for elements supporting pedestrian and vehicular use of the right-of-way including signage, lighting, furniture, landscape and transit facilities; if intended to be pervious it must be filled with soft landscape such as grass or groundcover or it can be paved with sand-set, pervious pavers; in limited areas with intense use, it can be filled with rigid pavement; all permanent vertical objects should be set back 18 inches minimum from the face of curb.

Size: 3 to 4.5 feet

Application: Throughout the River District

2.5.2.4 Curb Zone (CZ): on the typical River District street with sidewalk widths at 12 or 13 feet, this zone is simply the width of the curb; on some special function streets such as the North Transit Mall, the curb zone includes a clear space for minor circulation by transit riders.

Size: .5 to 1 feet

Application: Throughout the River District

2.5.3 ADA REQUIREMENTS

2.5.3.1 Accessible Routes, Curb Ramps, Required Warning Strips, etc.: must meet the Americans with Disabilities Act Regulations and City of Portland Office of Transportation standards for disabled access.

Application: Throughout the River District

2.5.4 CURB EXTENSIONS

Curb extensions may be allowed on most River District streets to improve pedestrian crossing safety. Design of curb extensions should minimize tangent length.

Application: See Framework Plans 1.3-1.4

2.6 STREET LIGHTING CRITERIA

2.6.1 Fixture Types:

2.6.1.1 Twin Ornamental: historic Portland fixture.

Configurations:

- 6 per block - symmetrical, 3 on each side (at corners and mid-block)
- 3 per block - staggered, 2 on one side (at corners) one on other side (at mid-block)

Separation Criteria:

- 12 feet from upright street trees; 20 feet from broadheaded trees
- 2.5 feet from furnishings - such as benches or litter receptacles
- 4 feet from right-of-way line at intersections, 5 feet from driveways

Application: See Framework Plan 1.6

2.6.1.2 Single Ornamental: historic Portland fixture.

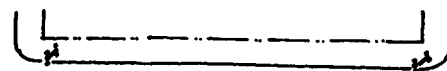
Configurations:

- 4 per block, staggered
- 6 per block, aligned or special pattern

Separation Criteria:

- 12 feet from upright street trees; 20 feet from broadheaded trees
- 2.5 feet from furnishings - such as benches or litter receptacles
- 4 feet from right-of-way line at intersections, 5 feet from driveways

Application: See Framework Plan 1.6



Twin ornamentals, 3 per block, staggered



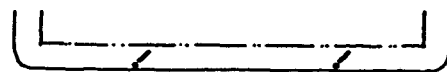
Twin ornamentals, 6 per block, aligned



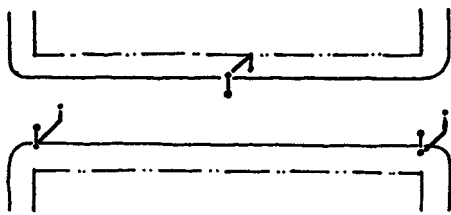
Single ornamentals, 4 per block, staggered



Single ornamentals, 6 per block, aligned



Single ornamentals, 6 per block, special pattern for North Park Blocks



Cobra, 3 per block, staggered

2.6.1.3 Cobra: a traditional street light used on commercial and industrial streets throughout Portland.

Configurations:

- 3 per block, staggered, 2 on one side at corners, one on opposite side at mid-block

Separation Criteria:

- 0 - 35 feet from right-of-way line at intersections
- 5 feet from driveways

Application: Standard for fixture types on Framework Plan 1.6

2.6.2 FIXTURE PAINT COLOR

2.6.2.1 Old Town/Chinatown fixtures: Black

2.6.2.2 Remainder of River District fixtures:
Portland Green

2.6.3 3RD AND 4TH AVENUE STREETSCAPE PLAN LIGHTING

Fixture type to be determined by final design of 3rd and 4th Avenue Streetscape Plan.

Application: See Framework Plan 1.6, 3rd and 4th Avenue Streetscape Plan streets

2.7 STREET FURNITURE CRITERIA

2.7.1 Typical Street Furnishings: bench, planter, trash receptacle, drinking fountain, newsrack, kiosk, signage, transit shelter and bike racks.

2.7.2 Continuity or Diversity: typical River District streets should either be consistent with established precedents for the entire corridor outside of the district or consistent with established patterns in the immediate area. For new streets where there is no established precedent for street furniture, selections should be consistent with the River District Design Guidelines, the Central City Fundamental Guidelines and Bureau of Maintenance criteria.

2.8 STREET TREE CRITERIA

2.8.1 Uniform Plantings/Upright Street Trees:

plantings which provide continuity of form, texture, and color where space is constrained.

Tree types:

Acerplatanoides 'Olmsted'
Olmsted Norway Maple
Acer rubrum 'Armstrong II'
Armstrong II Red Maple
Acer rubrum 'Bowhall'
Bowhall Red Maple

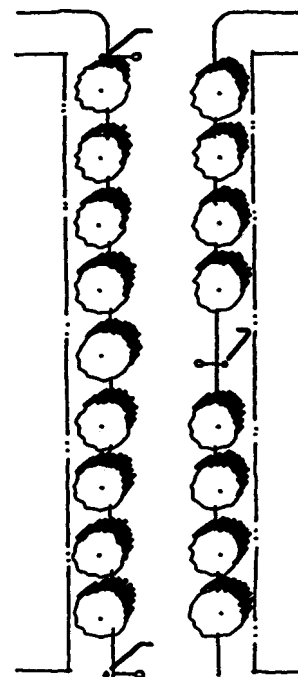
Size: 4 inch caliper, minimum

Spacing: 21 feet o.c.

Planting

Condition: 4 x 4 feet tree well minimum (4 x 9 feet preferred) with root barrier

Application: See Framework Plan 1.5



Uniform, upright street trees

2.8.2 Uniform Plantings/Broad-headed Street Trees:

plantings of substantial scale which provide a physical and visual link between neighborhoods and parks.

Tree types:

Acer rubrum 'Red Sunset'
Red Sunset Red Maple
Fraxinus pennsylvanica 'Marshall'
Marshall Ash
Quercus rubra
Red Oak
Uhnus 'Homestead'
Homestead Elm
Uhnus 'Pioneer'
Pioneer Elm
Zelkova serrata 'Village Green'
Village Green Zelkova

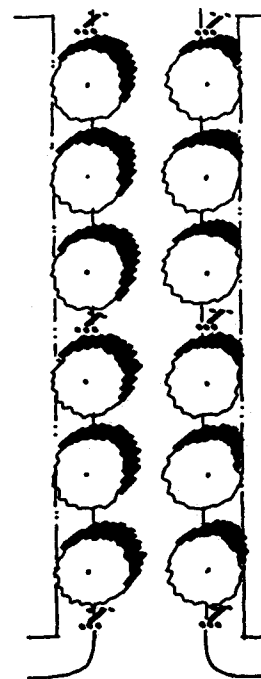
Size: 4 inch caliper

Spacing: 30 feet o.c.

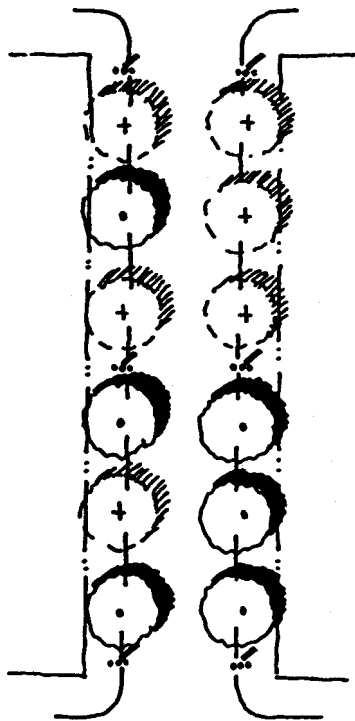
Planting

Condition: 4 x 4 feet tree well minimum (4 x 9 feet or greater preferred) with root barrier

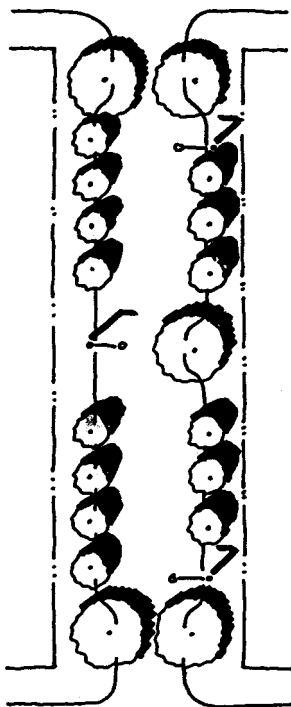
Application: See Framework Plan 1.5



Uniform, broadheaded street trees



Infill street trees



Mixed layer street trees in off-set pattern

2.8.3 Infill/Established Street Trees: plantings which infill and reinforce existing street tree plantings.

Tree types: Crataegus x lavallei
Lavalle Hawthorn
Primus yeddoensis 'Akebono'
Akebono Flowering Cherry

Size: 3 inch caliper, minimum

Spacing: varies, 20 feet o.c., minimum

Planting

Condition: 4 x 4 feet tree well minimum with root barrier; head trimmed for pedestrian clearance

Application: See Framework Plan 1.5

2.8.4 Mixed Layer Street Trees: plantings which feature a single tree variety of moderate spread at corners and mid-block with other tree varieties of columnar habit in between; continuity along the street corridor will be provided by the major tree species while visual diversity and rhythm will be provided by varying minor tree species on a street-by-street basis.

Major Tree types:

Fraxinus oxycarpa 'Raywood'
RaywoodAsh
Tilia cordata 'Greenspire'
Greenspire Littleleaf Linden

Minor Tree Types:

Carpinus betulus 'Fastigiata'
Hombeam
Ginkgo biloba 'Fastigiata'
Fastigate Ginkgo
Prunus sargentii columnafis
Columnar Flowering Cherry
Pyrus calleryana 'capital'
Capital Flowering Pear
Quercus robur 'Fastigiata'
Skyrocket Oak

Size: 4 inch caliper, minimum, major trees 3 inch caliper, minimum, minor trees

Spacing: major trees—25-30 feet o.c.
minor trees—15-20 feet o.c.

Planting

Condition: 4 x 4 feet tree well minimum (4 x 9 feet or greater preferred) with root barrier; a 6 x 6 feet tree well is preferred for large trees on widened sidewalks at corners and mid-block

Application: See Framework Plan 1.5

2.8.5 Streets Without Street Trees: certain streets within the district where street trees are not appropriate.

Application: Streets with freight rail service, substantial loading docks and driveways, ramped approaches to bridges.

2.8.6 North Park Block Streets: a zone where plantings are based upon existing historic pattern; follow current Bureau of Parks and Recreation plans and guidelines for landscape design in the North Park Blocks. Along street frontage opposite park, use infill/established trees standard.

Application: Streets adjacent to existing North Park Blocks and their proposed extension.

2.8.7 15th Avenue Street Trees: street trees may be placed along the back side of the sidewalk adjacent to I-405.

Application: 15th Ave, Davis to Savier, westside

2.8.8 Boardwalk: follow current pattern of spacing and species established by existing Boardwalk. Subject to the approval of the City Forester.

Application: In place of sidewalk along west side of 10th Ave from Johnson St north to river.

2.8.9 Tree Well Design: design diversity in treatments is encouraged to specify a richer, more diverse streetscape. A variety of treatments is permitted, including ground cover, grass, gravel, mulch, tree grates, and sandset pavers. Other types of treatments are subject to approval by the City Engineer. Surface treatment shall be flush with grade of adjacent sidewalk.

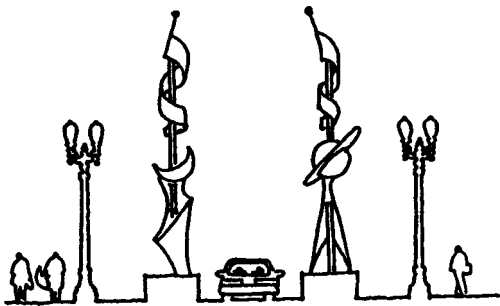
Application: Throughout River District

2.9 SPECIAL FEATURES (INCLUDING PUBLIC ART) CRITERIA

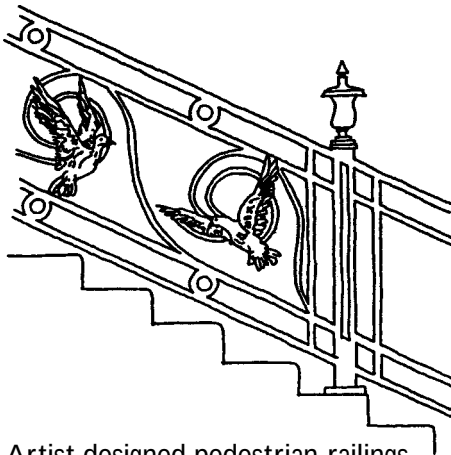
Public art efforts for public works in the River District would be funded by the City's 1% art program associated with, but not limited to, the Office of Transportation and the Bureau of Environmental Services. All projects would be administrated by the Regional Arts and Culture Commission's (R.A.C.C.) Percent for Art Program in consultation with the associated city bureau.

2.9.1 Stand-alone Art: such public art could take the form of, but not be limited to:

- Gateways
- Monument type artworks in the street environment at designated intersections (like the Elk at Main Street)



District gateways



Artist designed pedestrian railings

2.9.2 Integrated Artworks: artists can be hired with Percent for Art dollars to work as a "design team" member with architects, engineers, landscape architects, planners and associated designers working in the district. Large projects such as parks, bridges, plazas, walkways, and buildings lend themselves to artist integration. Public art in these conditions could address itself, but not be limited to, enhancements of the built environment through design team involvement, the creation, fabrication and installation of architecturally integrated artworks, or the identification of sites or projects for other artists to be involved (through the supervision of R.A.C.C.). Examples include: pump stations, vault covers, electrical cabinets, signal cabinets, manhole covers, tree grates, etc. Candidate projects include:

- Pedestrian access from the PDC housing project through McCormick Pier
- New designs for Lovejoy and Broadway ramps and lighting Front Avenue bridges
- Tanner Park
- Tanner Basin
- Relocation and utilization of the existing Lovejoy Viaduct Piers with historic Stefopoulos murals

2.9.3 Privately Funded Public Art: an additional area of funding for art projects could also be patterned after the current City of Portland F.A.R. bonus for art program. All projects would be administrated by the Regional Arts and Culture Commission's Percent for Art Program in consultation with the associated City Bureau(s).

2.10 CONSTRUCTABILITY AND MAINTENANCE

All construction should be reviewed for ease of construction and maintenance by the Bureau of Maintenance.

2.10.1 In-place Construction: pavement, walls, structures, landscape, etc., should be designed in a manner that allows straightforward and efficient construction techniques; minimize designs that require complicated construction sequences with multiple trades; if work is to be phased, provide clear joints or breaks in construction that make subsequent additions or replacements easy; build with proven, durable materials.

2.10.2 Manufactured Components: joint materials, wall materials, vault doors, fasteners, etc., use items that meet all applicable codes and standards; should be proven, durable components in standardized sizes to simplify replacement.

2.10.3 Fabricated Items: shelters, railings, grates, protective plates, covers, etc., build items that meet all applicable codes and standards; should be designed for shop fabrication whenever possible-minimize field modifications or adjustments; should use proven, durable components in standardized sizes to simplify replacement.

2.10.4 Manufactured Stand-Alone Fixtures: furnishings, light standards, etc.; use items that meet all applicable codes and standards; where continuity is desired within subdistricts or along continuous corridors, match previous installation; use proven, durable items; use fastening design that allows easy but tamperproof removal for maintenance.



DESIGN STANDARDS

3.0 DESIGN STANDARDS

The R.O.W. Design Standards provide detailed sections, elevations and plans which supplement the City's *Standard Construction Specifications and Plans*. The River District standards represent requirements whose application may only be altered by the City Engineer.

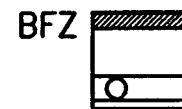
The City of Portland, through its policies, regulations and guidelines encourages the dense development of the River District. Since dense development will increase area storm water requirements, every opportunity to construct pervious surfaces within public and private rights-of-way is encouraged. The following design standards include several options for absorptive surfaces within side walk zones. These options are also designed to accommodate future storm water programs that would filter and divert run-off to dry wells or sumps. Conformance with these standards is required for new street and sidewalk construction or street and sidewalk reconstruction.

3.1 SIDEWALKS DIAGRAMMED BY ZONE

Symbols are used to identify the four sidewalk zones in these standards.

3.1.1 MODULAR LAYOUT OF SIDEWALKS AND VERTICAL ELEMENTS

- RD-1: Blockface Layout - Upright Trees
- RD-2: Blockface Layout - Broadheaded Trees
- RD-3: Blockface Layout - Mixed Layer Trees
- RD-6: 12' Sidewalk, Base Condition
- RD-7: 12' Sidewalk, Rigid Paving
- RD-8: 12' Sidewalk, Extended
- RD-9: 13' Sidewalk, Base Condition
- RD-10: 13' Sidewalk, Extended
- RD-11: 15' Sidewalk, Base Condition
- RD-13: 15' Sidewalk, Pervious Paving
- RD-14: Driveways and Crosswalks at Access Corridors
- RD-15: Curb Ramp - Typical Condition
- RD-16: Construction Joint Curb - Typical Condition
- RD-22: Boardwalk



Building Frontage Zone



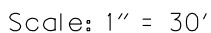
Through Pedestrian Zone



Furnishing Zone



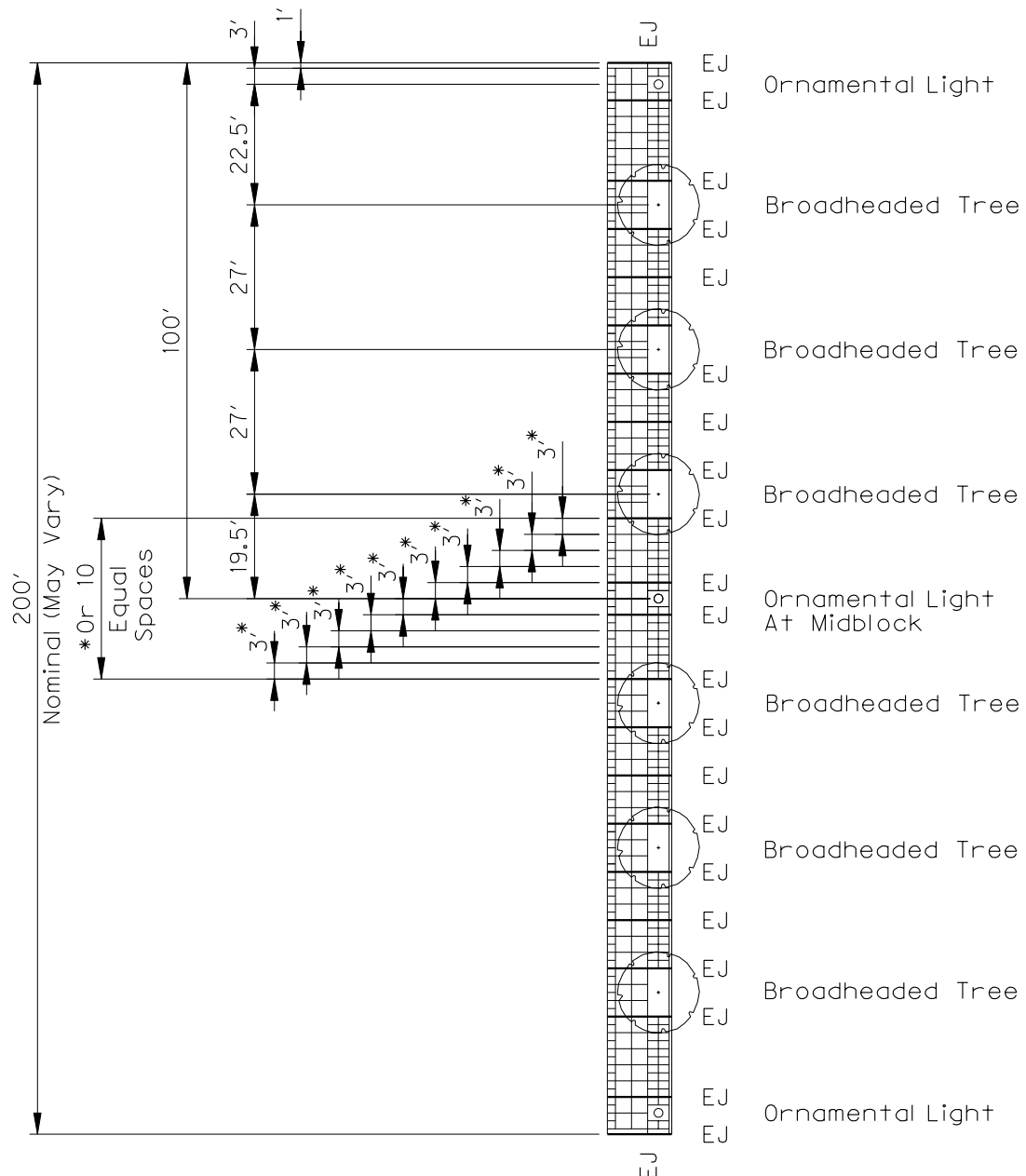
Curb Zone



TITLE OF STANDARD PLAN

BLOCKFACE LAYOUT UPRIGHT TREES

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO. RD-1
				CITY ENGINEER _____ DATE _____	
				CITY OF PORTLAND, OREGON	

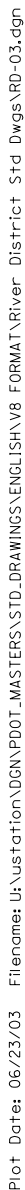


Scale: 1" = 30'

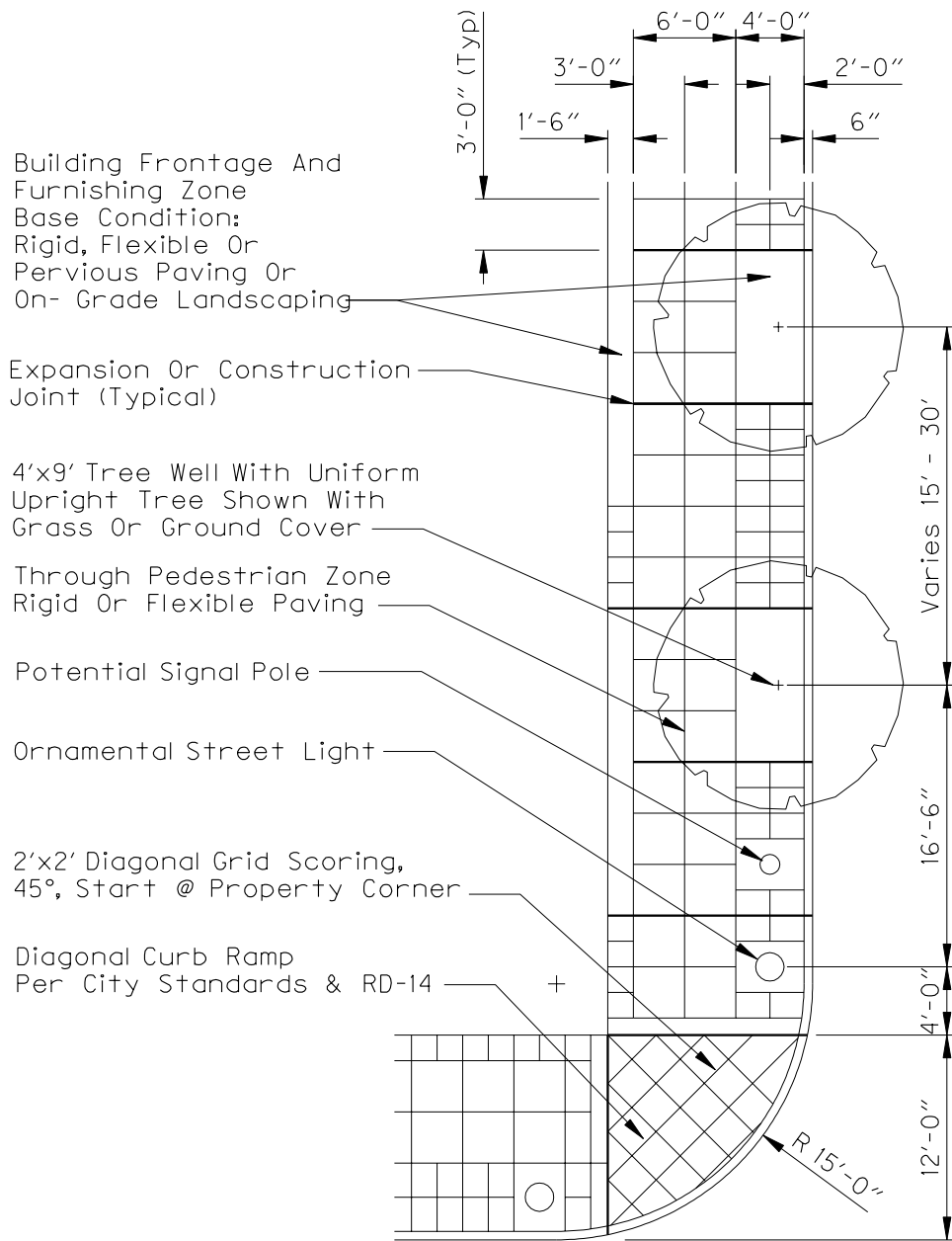
TITLE OF STANDARD PLAN

BLOCKFACE LAYOUT BROADHEADED TREES

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
					RD-2
				CITY ENGINEER _____ DATE _____	
				CITY OF PORTLAND, OREGON	



Plot Date: 07/29/03 File name: U:\ustation\NGN\PD0T_MASTERS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwg\RD-06.dgn



Partial Plan

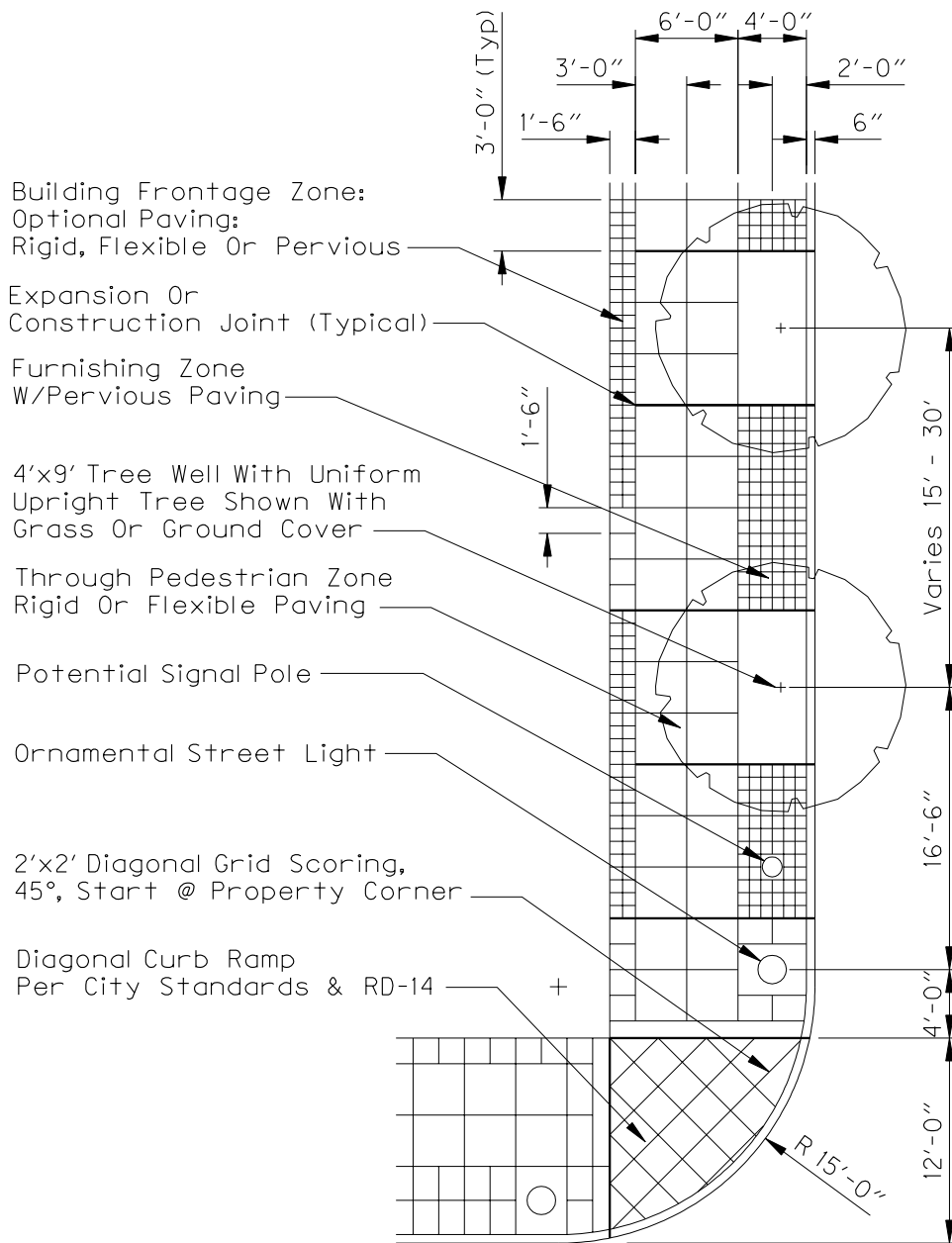
Scale: 1" = 10'

TITLE OF STANDARD PLAN

12' SIDEWALK BASE CONDITION

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER _____ DATE _____	RD-6
				CITY OF PORTLAND, OREGON	

Plot Date: 07/29/03 File Name: U:\ustation\DGN\PDOT_MASTERS\STD_DRAWINGS\ENGLISH\RD-7.dgn



Partial Plan

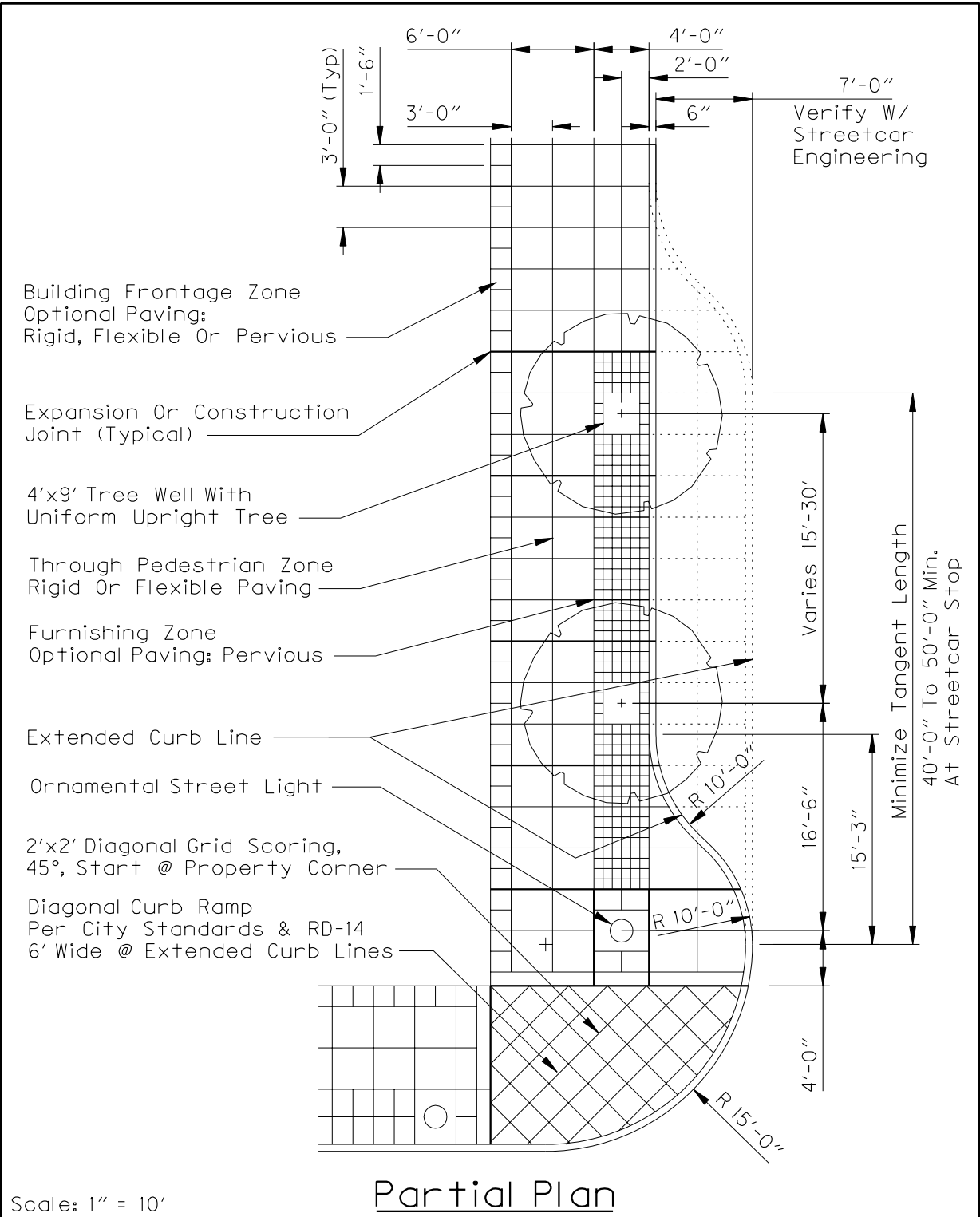
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TITLE OF STANDARD PLAN

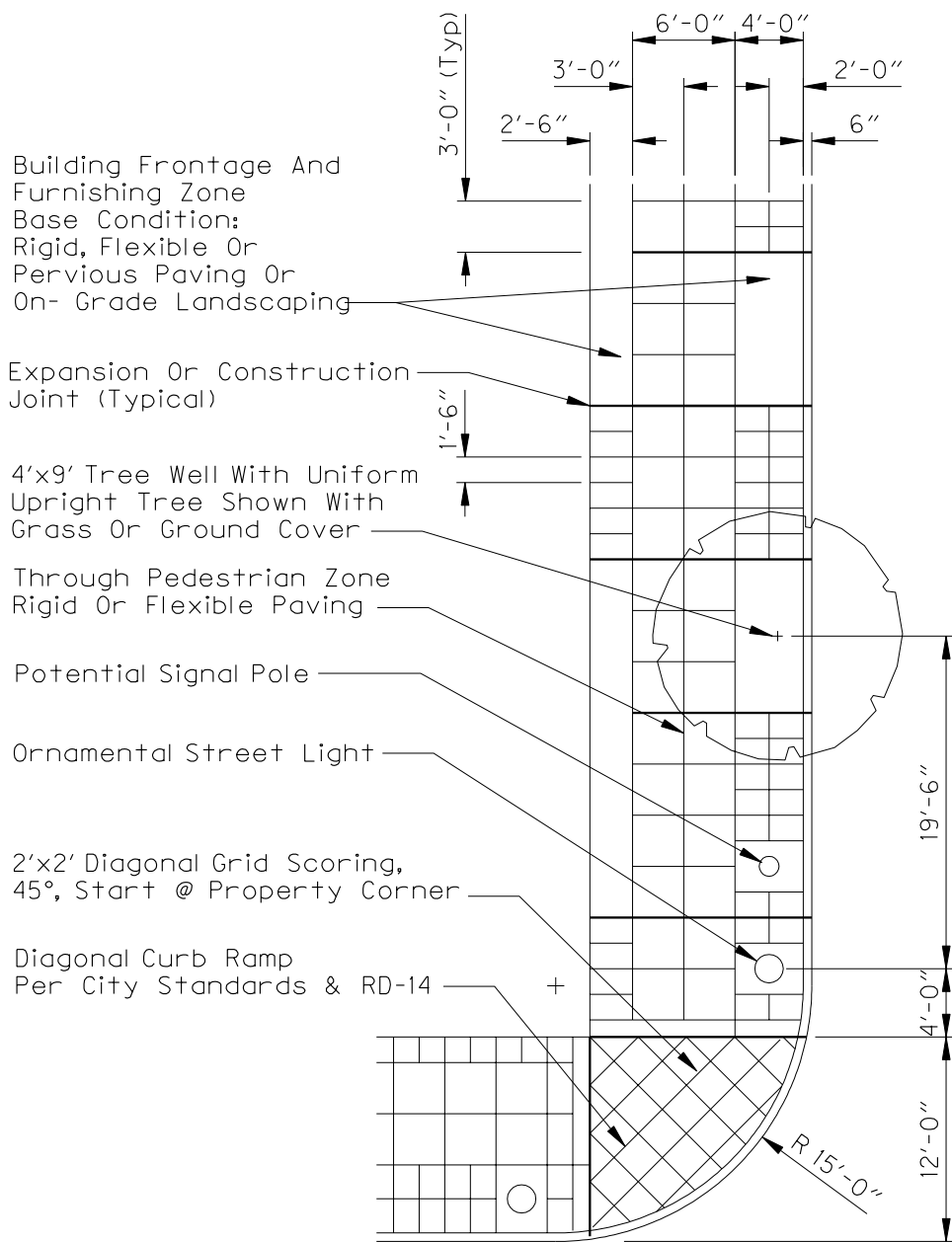
12' SIDEWALK COMBINATION PAVING

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER	RD-7
				CITY OF PORTLAND, OREGON	

Plot Date: 08/04/03 File Name: U:\station\DCN\PD01_MASTERS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwg\RD-08.dgn



TITLE OF STANDARD PLAN				
12' SIDEWALK EXTENDED CURB				
NO.	REVISIONS	DATE	BY	APPROVED
				CITY ENGINEER _____ DATE _____
				CITY OF PORTLAND, OREGON
				STANDARD PLAN NO. RD-8



Partial Plan

Scale: 1" = 10'

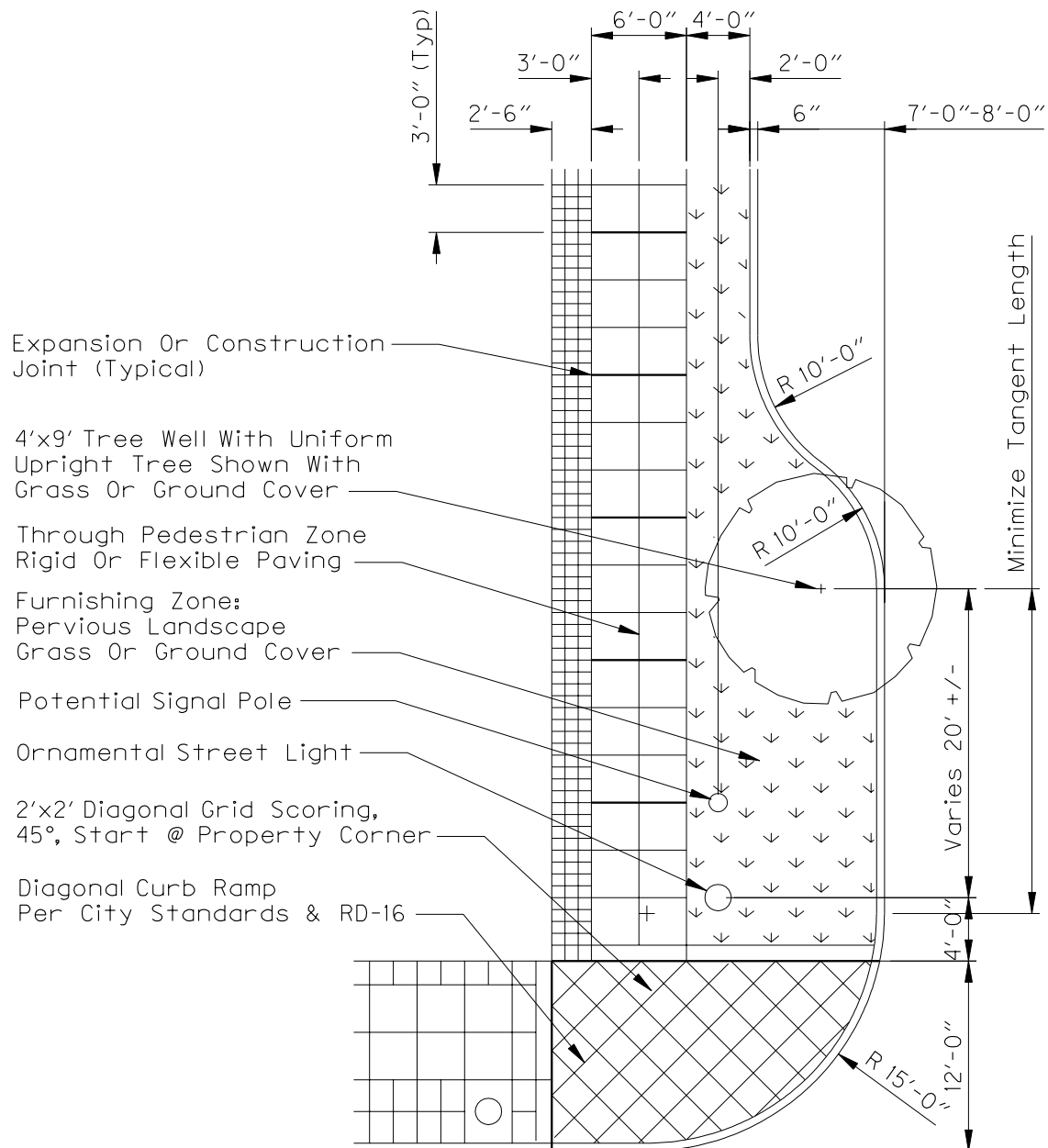
TITLE OF STANDARD PLAN

13' SIDEWALK BASE CONDITION

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER	RD-9
				CITY OF PORTLAND, OREGON	

Plot Date: 07/29/03 File Name: U:\ustation\DCN\PDOT_MASTERS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwg\RD-09.dgn

Plot Date: 08/04/03 Filename: U:\ustation\DCN\PD01_MASTERS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwg\RD-10.dgn



Partial Plan

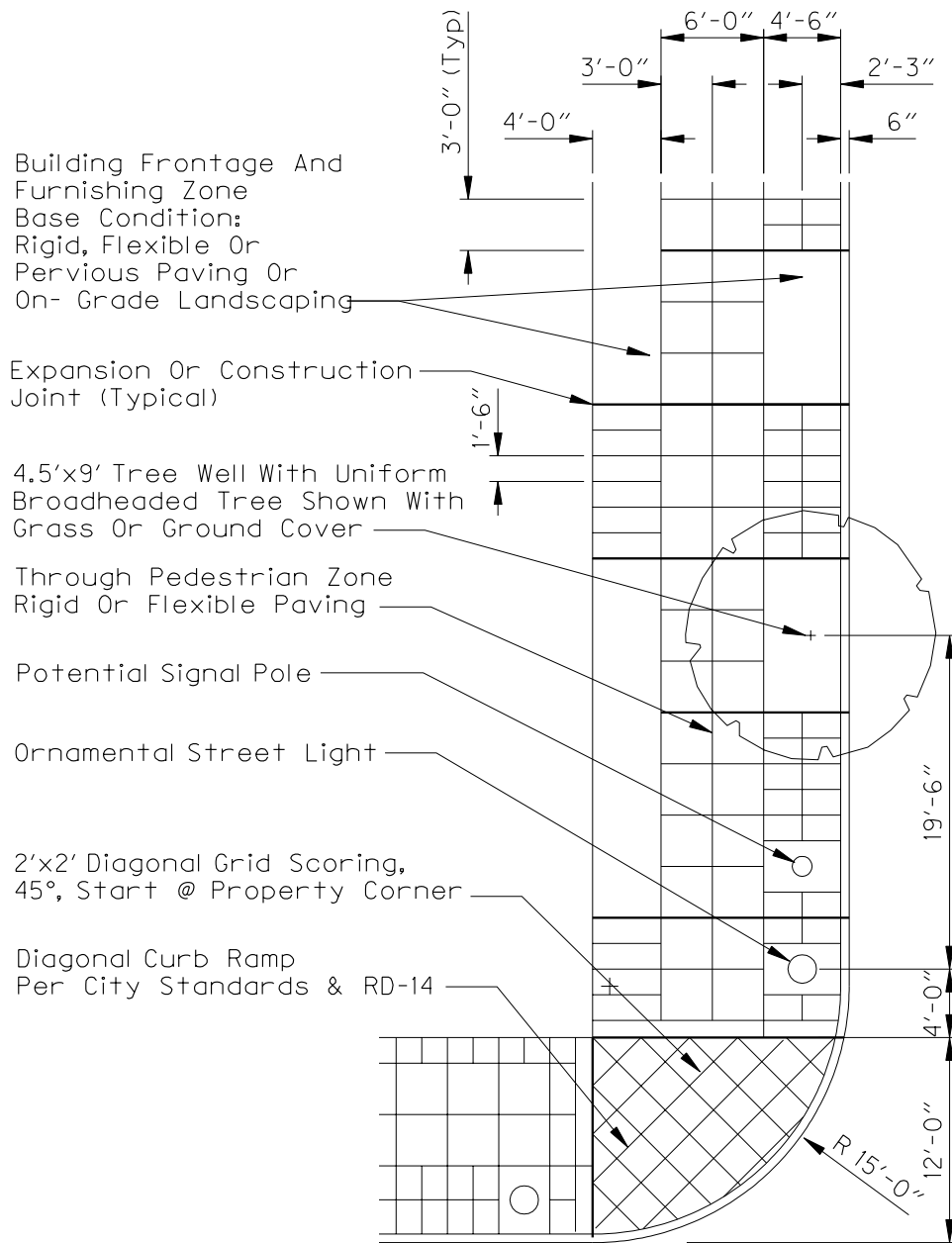
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TITLE OF STANDARD PLAN

13' SIDEWALK EXTENDED CURB

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER	RD-10
				CITY OF PORTLAND, OREGON	

Plot Date: 07/29/03 Filename: U:\ustation\DGN\PD0T_MASTERS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwg\RD-11.dgn



Partial Plan

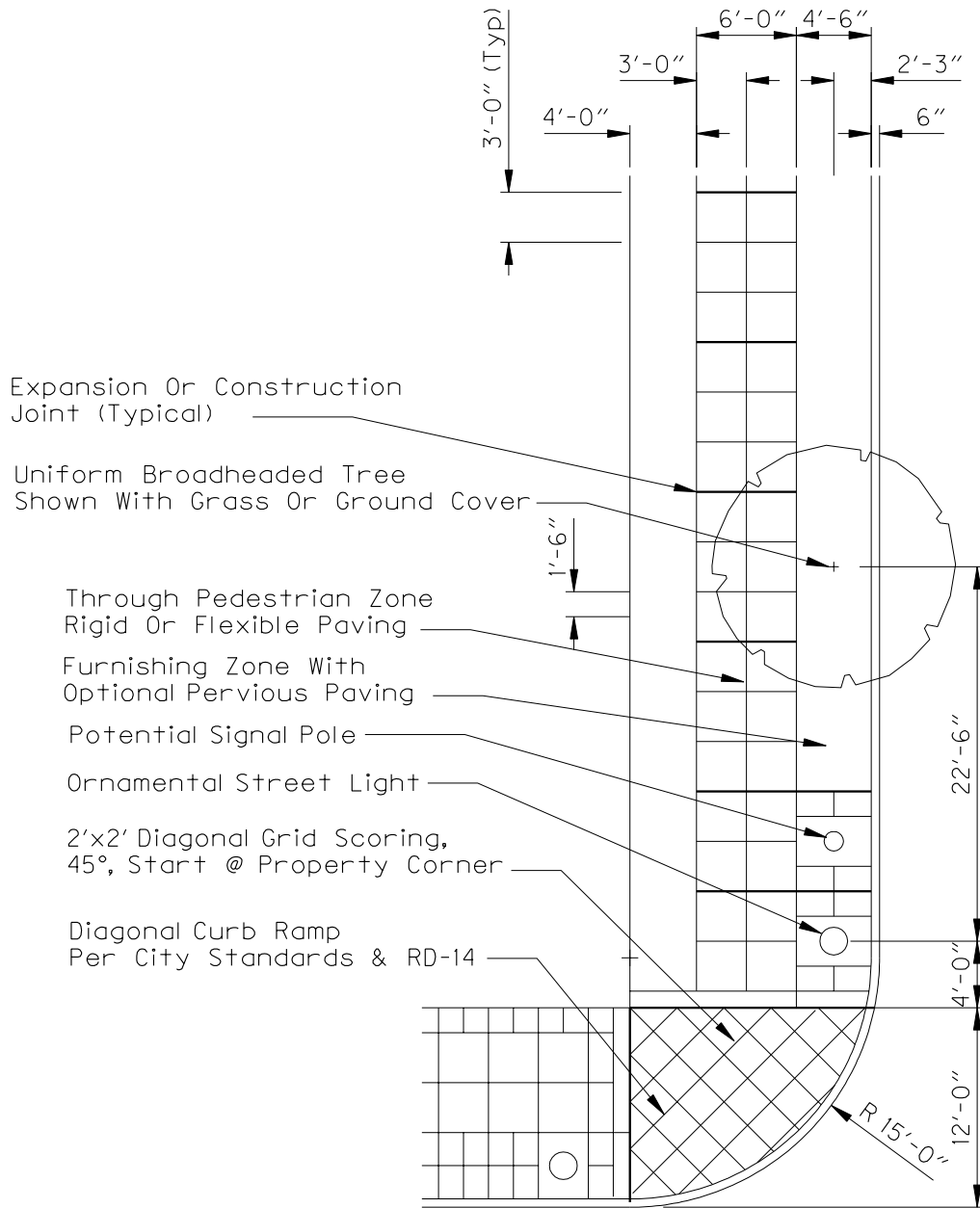
Scale: 1" = 10'

TITLE OF STANDARD PLAN

15' SIDEWALK BASE CONDITION

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER	RD-11
				DATE	
				CITY OF PORTLAND, OREGON	

Plot Date: 07/29/03 Filename: U:\ustation\DRAWINGS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwg\RD-12.dgn



Partial Plan

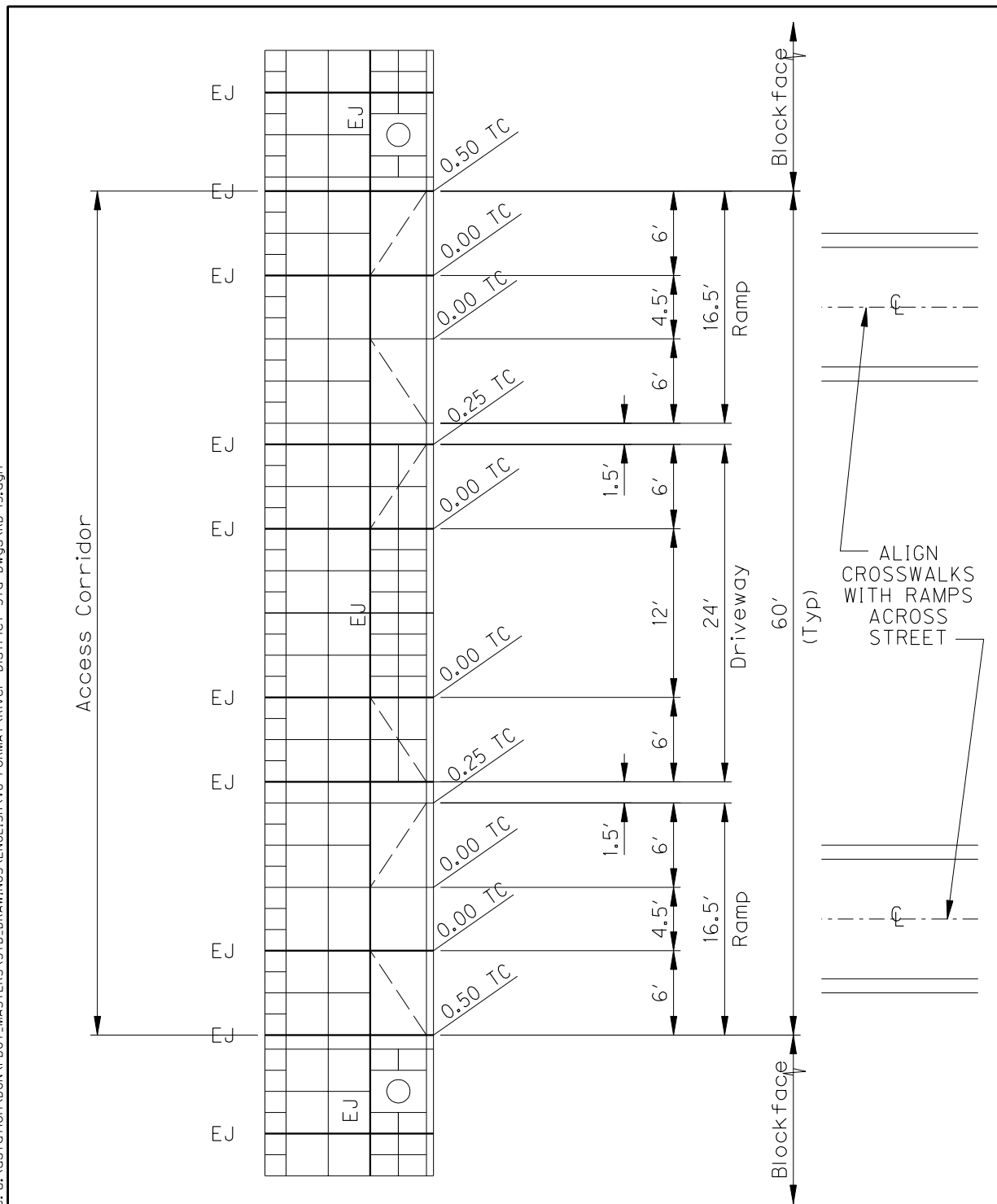
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TITLE OF STANDARD PLAN

15' SIDEWALK PERVIOUS PAVING

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER	RD-12
				DATE	
				CITY OF PORTLAND, OREGON	

Plot Date: 07/29/03 File Name: U:\ustation\DGN\PDOT_MASTERS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwg\RD-13.dgn



Scale: 1" = 10'

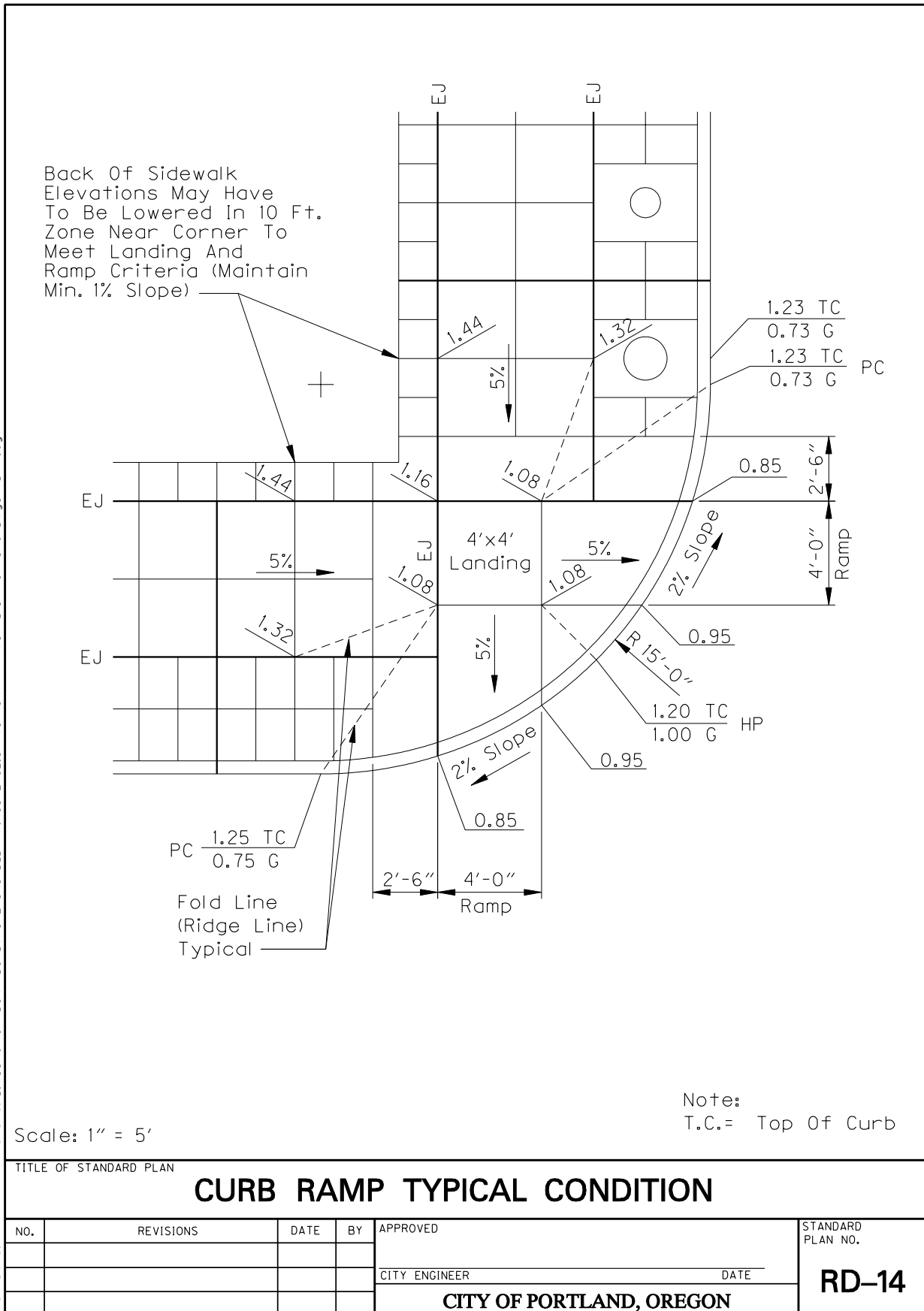
NOTE:
TC= TOP OF CURB ELEVATION

TITLE OF STANDARD PLAN

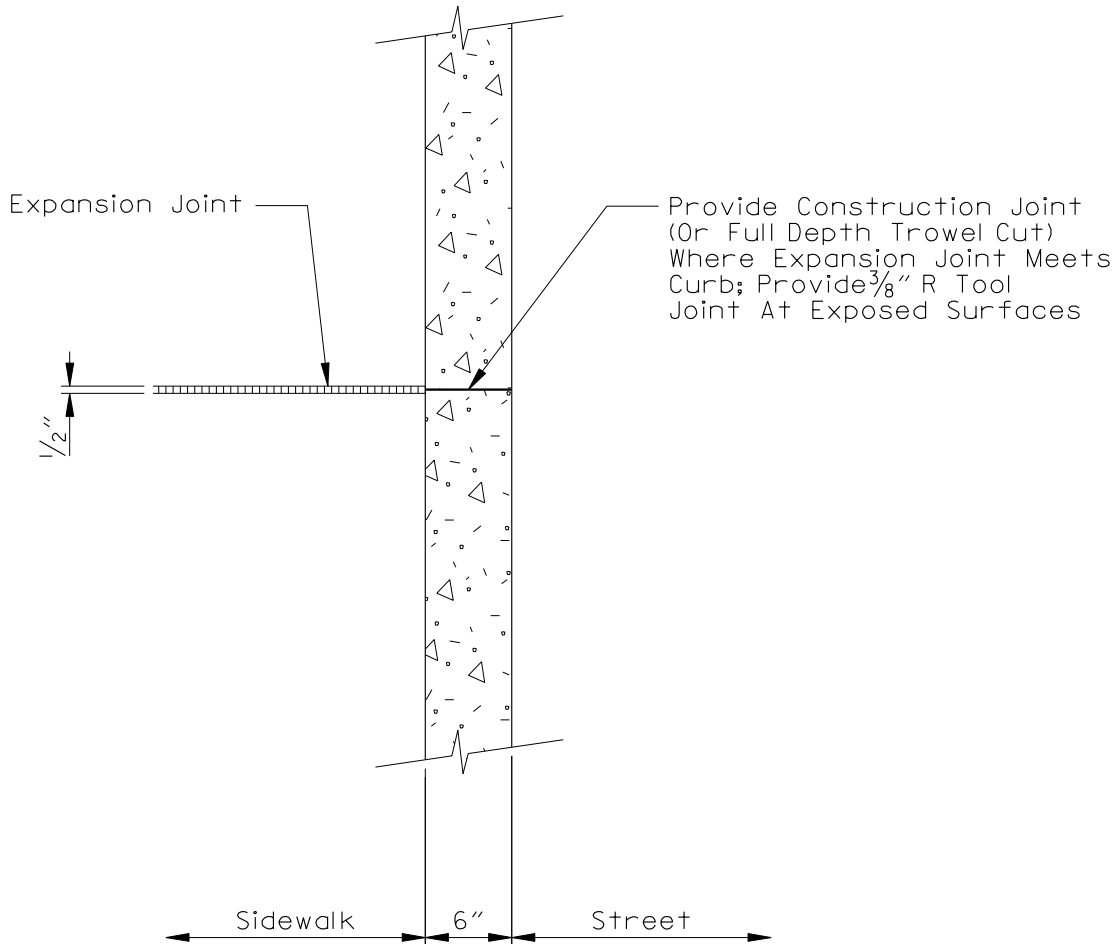
DRIVEWAYS & CROSSWALKS @ AN ACCESS CORRIDOR

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER	RD-13
				CITY OF PORTLAND, OREGON	

Plot Date: 07/29/03 File Name: U:\ustation\DCN\PD01_MASTERS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwg\RD-14.dgn



Plot Date: 07/29/03 Filename: U:\ustation\NGN\PD01_MASTERS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwg\RD-15.dgn



Plan

Scale: 1" = 1'

TITLE OF STANDARD PLAN

CONSTRUCTION JOINT AT CURB TYPICAL CONDITION

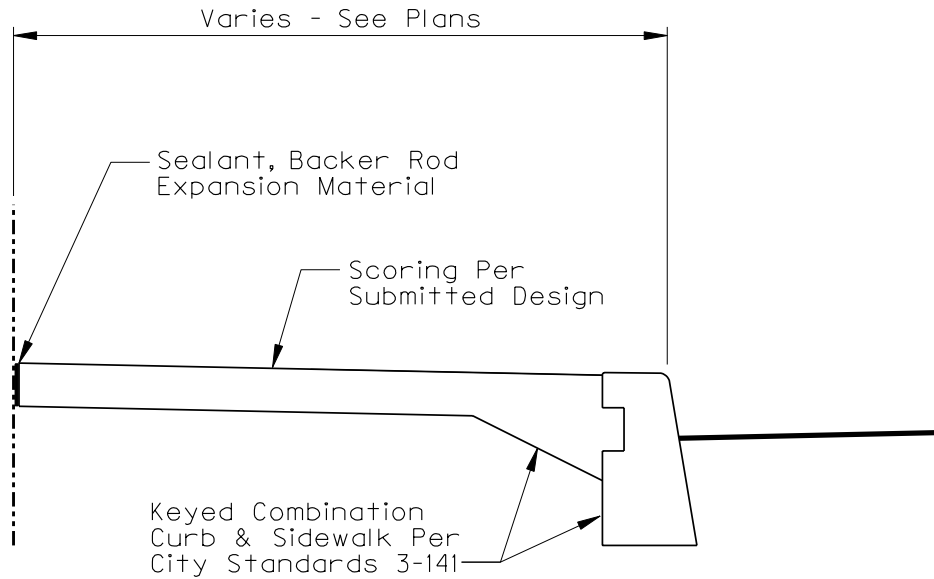
NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER _____ DATE _____	RD-15
				CITY OF PORTLAND, OREGON	

3.1.2 SIDEWALK PAVEMENT TREATMENTS: RIGID

RD-16: Rigid Paving: C.I.P Concrete

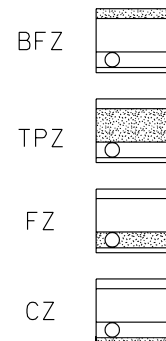
RD-17: Rigid Paving: Mortor-set Paver

Plot Date: 07/29/03 Filename: U:\ustation\DCN\PDOT_MASTERS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwg\RD-16.dgn



Section

Scale: $\frac{3}{4}" = 1'-0"$



Sidewalk Zones

TITLE OF STANDARD PLAN

RIGID PAVING: CAST-IN-PLACE CONCRETE

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER _____ DATE _____	RD-16
				CITY OF PORTLAND, OREGON	



A Single Paver Type, Pattern And Color Shall Be used Per 200' Blockface Minimum.

Sidewalk Zones

Scale: $\frac{3}{4}'' = 1'-0''$

TITLE OF STANDARD PLAN

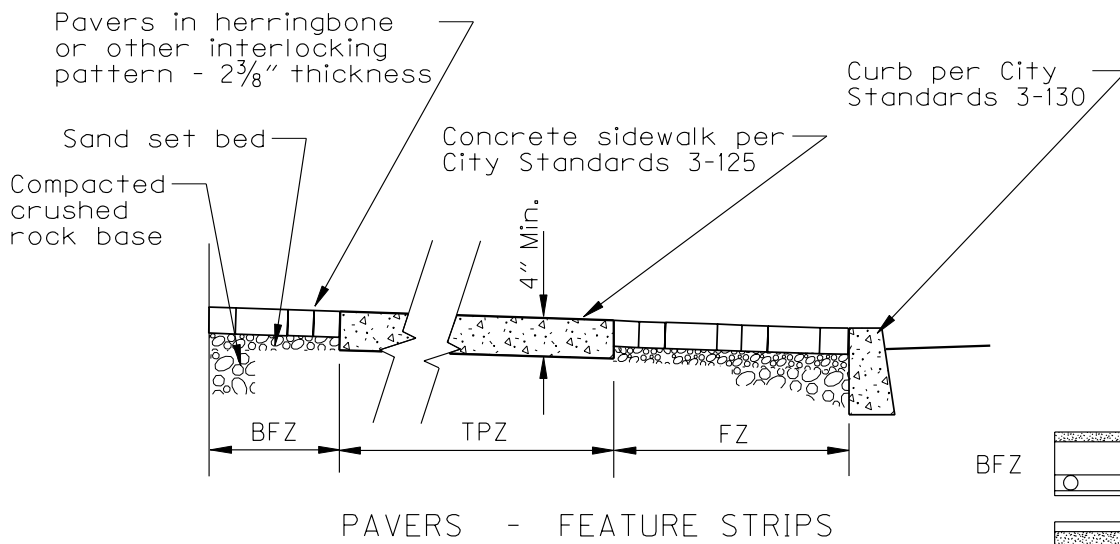
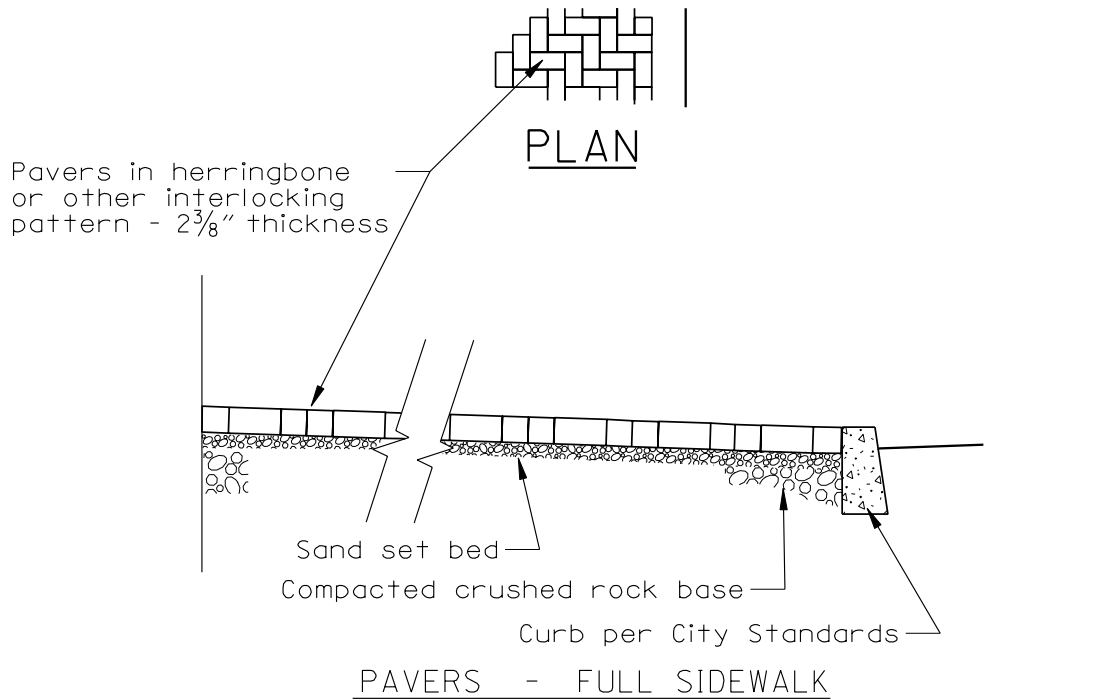
RIGID PAVING: MORTAR-SET PAVER

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
					RD-17
				CITY ENGINEER DATE	
				CITY OF PORTLAND, OREGON	

3.1.3 SIDEWALK PAVEMENT TREATMENTS: FEXIBLE

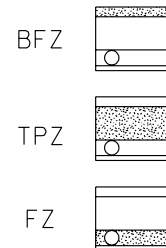
RD-18: Flexible Paving: Sand-set Interlocking Paver

Plot Date: 07/29/03 Filename: U:\station\DGN\PD01_MASTERS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwg\RD-18.dgn



SECTIONS

Note: See also City Standard 3-190 & 3-191
 Note: If a color other than Natural Grey is used, it must be used for a 200' blockface minimum



TITLE OF STANDARD PLAN

FLEXIBLE PAVING SAND-SET INTERLOCKING PAVER

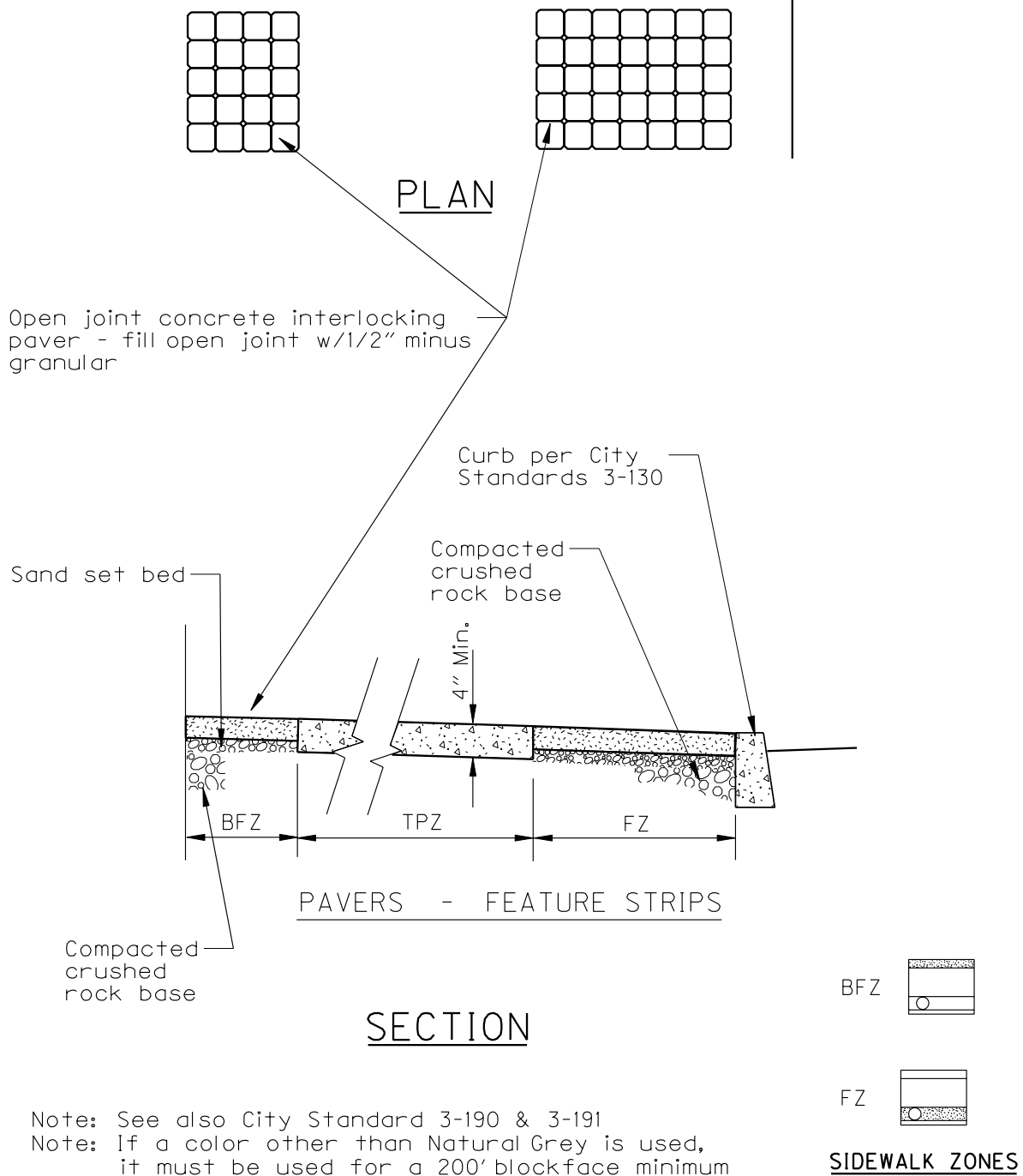
NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER	RD-18
				CITY OF PORTLAND, OREGON	

3.1.4 SIDEWALK PAVEMENT TREATMENTS: PERVIOUS

RD-19: Pervious Paving: Open-joint Interlocking Paver

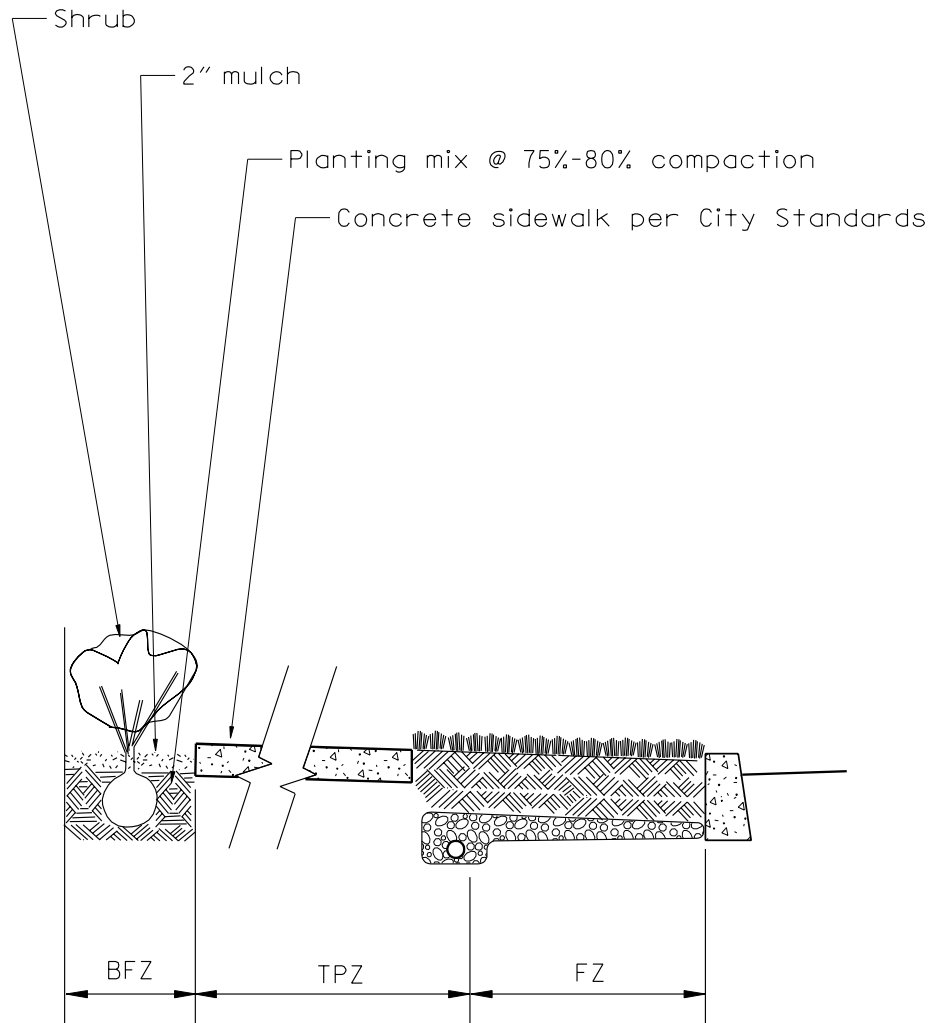
RD-20: Continuous Landscape Strip

Plot Date: 07/29/03 File Name: U:\station\DCN\PD01_MASTERS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwg\RD-19.dgn



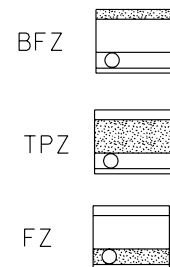
TITLE OF STANDARD PLAN						
PERVIOUS PAVING: OPEN JOINT INTERLOCKING PAVER						
NO.	REVISIONS	DATE	BY	APPROVED		STANDARD PLAN NO.
						RD-19
				CITY ENGINEER	DATE	
				CITY OF PORTLAND, OREGON		

Plot Date: 07/29/03 File Name: U:\station\DCN\PD01_MASTERS\STD_DRAWINGS\ENGLISH\8 FORMAT\River District Std Dwgs\RD-20.dgn



SECTION

Note: See also City Standard 3-190 & 3-191
 Note: If a color other than Natural Grey is used,
 it must be used for a 200' blockface minimum



SIDEWALK ZONES

TITLE OF STANDARD PLAN

PERVIOUS CONTINUOUS LANDSCAPE STRIP

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER _____ DATE _____	RD-20
				CITY OF PORTLAND, OREGON	

3.2 STREET PAVEMENTS, CIP CONCRETE OR ASPHALTIC CONCRETE

PAVING: see existing City Standards; Streetcar
Paving-to be determined in design engineering

3.3 ELEVATED ROADWAY STRUCTURES:

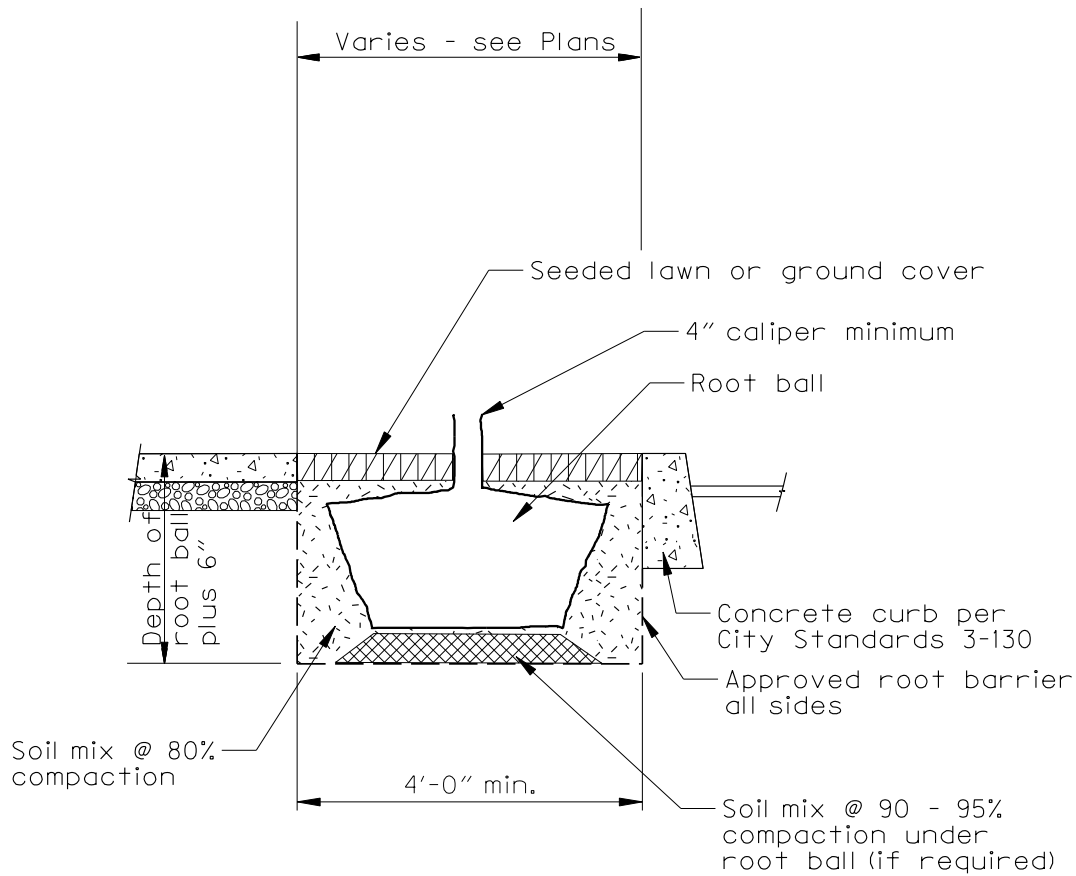
to be determined in design engineering

3.4 STREET LIGHTING: fixture standards,
foundations, specifications, etc. - see existing City
Standards

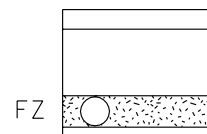
3.5 LANDSCAPE:

RD-21: Street Tree Well

Plot Date: 07/30/03 Filename: U:\ustation\NGN\PD0T_MASTERS\STD_DRAWINGS\ENGLISH\RD-21.dgn



SECTION AT TREE WELL



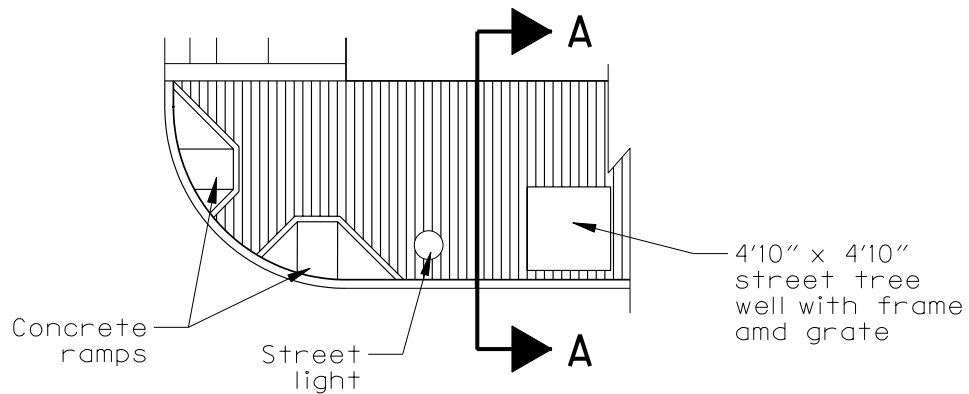
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SIDEWALK ZONES

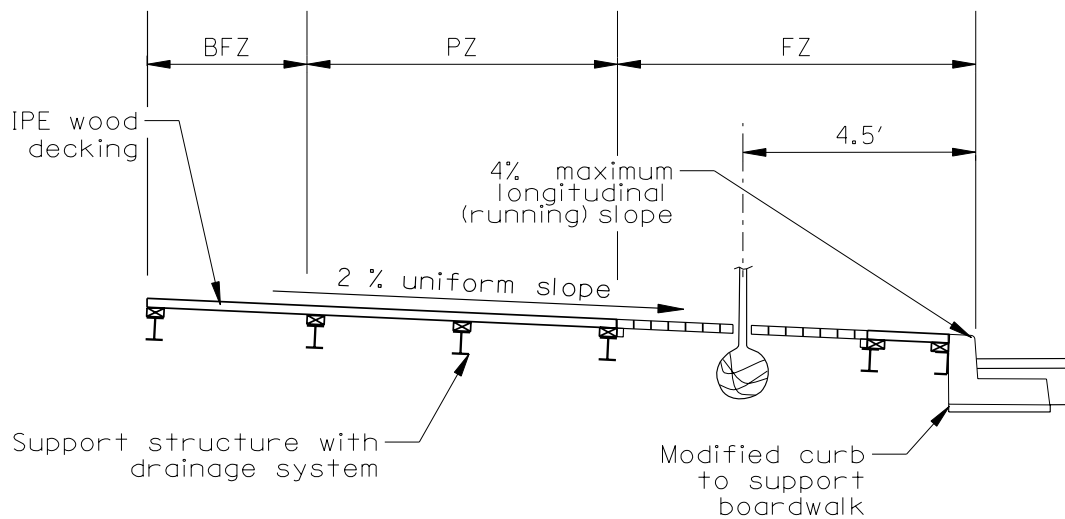
TITLE OF STANDARD PLAN

STREET TREE WELL TYPICAL

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER	RD-21
				DATE	
				CITY OF PORTLAND, OREGON	



Plan View



Section A-A

Note:
Boardwalk support structure to be designed for individual site application by a structural engineer and approved by the City Engineer. Design live load 250 PSF.

TITLE OF STANDARD PLAN

IPE WOOD SIDEWALK (BOARDWALK)

NO.	REVISIONS	DATE	BY	APPROVED	STANDARD PLAN NO.
				CITY ENGINEER _____ DATE _____	RD-22
				CITY OF PORTLAND, OREGON	

Plot Date: 11/18/2003 File Name: U:\station\UGN\Standard Plans (V8)\Plan Divisions\River District Std Dwgs\RD-22.dgn