CITY OF ISSAQUAH

Department of Public Works

STREET STANDARDS (TRANSPORTATION)

OCTOBER 15, 2010

STREET STANDARDS/REQUIREMENTS SECTION ADOPTED BY ORDINANCE NO. 2600 BY AB 6187 DECEMBER 6, 2010

STREET STANDARDS

October 15, 2010

MAYOR

Ava Frisinger

CITY COUNCIL

Eileen Barber
Fred Butler
Tola Marts
Maureen McCarry
Mark Mullet
Joshua Schaer
John Traeger

CITY ADMINISTRATOR

Robert Harrison

DIRECTOR OF PUBLIC WORKS ENGINEERING

Bob Brock

DEPUTY DIRECTOR/CITY ENGINEER PUBLIC WORKS ENGINEERING

Sheldon Lynne

DIRECTOR OF PUBLIC WORKS OPERATIONS

Bret Heath

CITY ATTORNEY

Wayne Tanaka

Table of Contents

Table of Contents

Table of Contents

Standard Details - Table of Contents

Standard Details - Table of Contents

DEFINITIONS

Back to Table of Contents

"Acceptance of Improvement"	Adoption of a resolution by the City of Issaquah City Council, accepting the improvements into city maintenance or written acceptance by the City of Issaquah City Engineer where authorized by City Council.
"Developer"	Any person, firm, partnership, association, joint venture or corporation or any other entity responsible for a given project.
"Development"	The uses to which the land that is the subject of a discretionary action by the City of Issaquah shall be placed, the buildings to be constructed and all alterations of the land and construction incident thereof.
"City Engineer"	Deputy Director of Public Works Engineering or City of Issaquah Engineer having authorities specified in State Law or City Ordinances or his designated representatives.
"Cul-de-Sac"	Streets having one end open to traffic and temporarily terminated by a barricade, guard rail or other device or permanently terminated by a vehicle turnaround.
"Half Street"	Streets constructed along edge of development, utilizing half the regular width of right-of-way and permitted as an interim facility pending construction of the other half of the street.
"Improvements"	Public and private land; grading, street work, curbs, gutters, driveways, storm drain facilities, water mains sanitary sewers and facilities, public utilities including existing overhead utilities required to be converted to underground, landscaping and fences to be installed on land to be used for public right-of-way, private streets and easements, and any other improvements as defined by City of Issaquah Municipal Code.
"Loop"	Road forming a loop, having no other intersecting road, and functioning mainly as direct access to abutting properties. A loop may be designated for one-way or two-way traffic.
"Public Street"	Publicly owned and maintained roadways.
"Private Street"	A private way set aside for vehicular traffic serving residential lots, commercial development or any combination of residential and commercial developments.
"Professional-Engineer of Work/Record"	Professionals in the technical fields of Civil Engineering, Electrical Engineering, Geotechnical Engineering, Engineering Geology, Landscape Architecture, Structural Engineering and Surveying currently licensed or registered in the State of Washington and qualified by both experience and educational background in the specific technical areas as warranted by the specific needs of the proposed development project.
"Public Works Director"	Director of Public Works Engineering.
"Right-of-Way"	Land, property or property interest (e.g, easements) usually in a strip, acquired for or devoted to transportation and other public infrastructure uses (i.e. utilities).

PREFACE

Back to Table of Contents

Introduction

This document provides standard guidance for design and construction of municipal roadways, private roads, and public and private parking lots within the City of Issaquah. These Standards are founded in City policy, Codes, and standards of industry practice for traffic engineering, design engineering, and construction.

The City of Issaquah Comprehensive Plan provides policy guidance for the transportation network regarding the provision of level of service and the inclusion of multi-modal (non-motorized and motorized including transit). Based on the policy direction and standards of transportation engineering industry practice, roadway configurations have been developed and included in these standards.

These Street Standards include all items in the Table of Contents including the Preface, Definitions, Standards/Requirements, Design, Construction, and Standard Details sections. These City of Issaquah Street Standards will be cited routinely in the text as the Standards".

Standards / Requirements

Back to Table of Contents

A. Applicability

These Standards shall govern all new construction and upgrading facilities both in the right-of-way and on private property even though not maintained by the City.

B. Document Coordination, Deviations, Amendments

Except where the City of Issaquah Standards provide otherwise:

All other traffic engineering and roadway design shall be in accordance with the Washington State Department of Transportation (WSDOT), Design Manual, and/or the American Association of State Highway and Transportation Officials (AASHTO), Policy on Geometric Design of Highways and Streets, the Manual of Uniform Traffic Control Devices (MUTCD), and the following City of Issaquah Policies: Complete Streets IMC 12.10, Stormwater Management Policy IMC 13.28, and the Neighborhood Traffic Calming Program and the Land Use Code IMC 18.12. In case of conflicts between the WSDOT Design Manual and the AASHTO Policy on Geometric Design of Highways and Streets, WSDOT Design Manual will take precedence.

In the Urban Development areas, Issaquah Highlands and Talus, the roadway designs are to be in accordance with the design standards as provided in the Issaquah Highlands - Appendix H Road Design of the Development Agreement and Talus – Appendix F Road Design of the Development Agreement, respectively.

Case by case deviations are made through the deviation process outlined in Section O, “Deviations from Standards” of this document. Changes to the standards in this document that remain consistent with the WSDOT Design Manual, IMC 18.12 - Landscaping and Tree Preservation, and the Issaquah Comprehensive Plan may be made by the City Engineer or his designee after consultation with affected city departments. All other Amendments to the Standards/Requirements Section of the Street Standards require review and approval by the City Council.

All construction shall be in accordance with the latest edition of the Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge and Municipal Construction.

C. Developer Responsibility

At no cost to the City, the developer is responsible for design, preparation of plans, submittal of permit applications, payment of City fees, dedication of right-of-way, construction, surveying, material testing, and construction supervision of all street improvements and/or appurtenances. All improvements shall be designed per current City of Issaquah Street Standards and approved by the City Engineer or designee prior to issuance of any permits for construction. All applications for permits and/or other approvals by the City shall be submitted to the Permit Center for processing.

Responsibility to Provide Roadway Improvements Through Project Conditioning:

1. Traffic Impact Analyses

Back to Table of Contents

A traffic impact analyses (TIA) is required for any project that generates a total of 30 AM or 30 PM peak hour trips (depending on location, proposed land use, safety related issues, etc.) to determine impacts and mitigation. A traffic impact analysis may be required for projects generating less than 30 AM or PM peak hour trips based on the City Engineer's professional judgement. Trip generation shall be based on the latest edition of the Institute of Transportation Engineers (ITE), Trip Generation Manual or other approved method. For each intersection that receives 30 or more AM/PM peak hour trips generated by any project is required to be analyzed. Traffic modeling is also required for projects that generate greater than or equal to 30 AM or 30 PM peak hour trips.

The appropriate level of traffic analysis is determined by the specifics of a project, the prevailing roadway conditions servicing the project, and the forecasted traffic volumes. TIA elements may include but are not limited to description of the project, project trip generation and distribution, analysis of existing conditions without project traffic, analysis of future (horizon year) conditions without project and with project traffic, analysis of safety and access impacts, evaluation of significant impacts, and analysis of proposed mitigation measures needed to meet City standard requirements if applicable (refer to the City of Issaquah Traffic Impact Analysis Outline and Traffic Impact Analysis Guidelines).

Following review of the impact analyses report, the City may require:

Additional studies to address identified issues; and
Additional information to substantiate conclusions and recommendations; and
The evaluation of possible issues not identified in the study.

The traffic impact analyses report shall be prepared, stamped and signed by a licensed Civil Engineer registered in the State of Washington and specialized in Transportation Planning and/or Traffic Engineering.

2. Transportation Mitigation Requirements

Installation of on-site and off-site specific improvements may be required to offset traffic impacts from proposed developments. The minimum acceptable Level-of-Service (LOS) is LOS D. Any development that meets the following criteria is considered as having a probable significant adverse impact and will be required to mitigate the impact based on the following tables:

Signalized Intersections	
Existing Intersection ***Level of Service (LOS)***	**LOS Standard** **(Maximum Allowed Delay with Development)**
LOS A-C	36 seconds of control delay (LOS D)
LOS D	The control delay condition prior to development plus up to five seconds of additional delay when the delay remains within LOS D
LOS E	The control delay condition prior to the development
LOS F	

Unsignalized Intersections	
Existing Intersection *Level of Service (LOS)*	**LOS Standard (Maximum Allowed Control Delay with Development)**
LOS A-C	26 seconds of control delay (LOS D)
LOS D	The control delay condition prior to development plus up to five seconds of additional delay when the delay remains within LOS D
LOS E	The control delay condition prior to the development
LOS F	

The type and timing of required improvements is determined on a case by case basis to bring a location back to an acceptable LOS D threshold. The improvements also depend on the significance of the development's impacts to roadway and intersection operational performance (LOS, 95th percentile queue lengths), safety, specific access and site circulation needs, neighborhood impacts, impacts on pedestrian and transit facilities, or as required by other City Ordinances. All required improvements shall be in accordance with these Standards.

In addition, if the overall intersection, intersection approaches/movements, and/or roadway having an existing LOS A-D and the amount of additional delay generated from the proposed development is 10 seconds or more, the developer shall provide a contribution toward multimodal improvements that mitigate (reduce) the number of trips below the 10 second delay threshold or some other agreed to mitigation.

D. Roadway Classifications

Roadways are classified in the City's Comprehensive Plan prepared in compliance with the Washington State Growth Management Act. Figure 6 of the Roadway Classification and Inventory Map in the Comprehensive Plan- Transportation Element identifies specific streets and classifications. Streets not classified on the map are designated local streets. Classifications are described as follows in the City's Comprehensive Plan.

1. Principal Arterial

These roadways provide for traffic movements into, out of and through the City. Principal Arterials constitute a small percentage of the overall network, yet they carry the highest traffic volumes and longest trips. These arterials contain the regional and inter-city bus routes and transit centers. Service to abutting land use is subordinate to travel service provided by Principal Arterials.

2. Minor Arterial

Minor Arterials accommodate trips of moderate length and lower travel mobility than Principal Arterials. They serve intra-city and some through traffic trips as well as serve local and intra-city bus routes. Unlike Principal Arterials, Minor Arterials provide access to abutting land uses such as retail and office centers.

3. Collector Arterial *Back to Table of Contents*

Collector Arterials carry moderate traffic volumes and shorter trips than Principal and Minor Arterials and have little through traffic. They may serve local bus routes. Collector Arterials provide movement within neighborhoods with direct neighborhood trips to Principal and Minor Arterials as well as land access to neighborhoods, commercial and industrial areas.

4. Local Streets

Local Streets comprise all roadways and streets not otherwise classified. The primary function of Local Streets is the provision of access to abutting properties.

E. Recording of Short Plats or Final Plats

No Short Plats or Final Plats, shall be recorded until roadway plans, profiles and sections, the drainage system design, and all other utility plans have been approved by the City Engineer and constructed. All construction shall be in accordance with these approved plans. The City may, at its discretion, accept performance bonds for remaining elements to be constructed if most of the improvements have been constructed and accepted by the City.

F. Street Frontage Improvements

Street frontage improvements are required for all new developments and redevelopment including any development that is a conversion of use from residential to non-residential except for any single family construction on existing lots. Such improvements may include, but not be limited to, curb and gutter; sidewalk, street storm drainage; street illumination system; traffic signal modification, relocation or installation; utility relocation and undergrounding; street trees; landscaping and irrigation, bike facilities and street widening all per these Standards.

As a minimum on all new preliminary plats and short plats, a minimum five foot (5') wide common or individual nonexclusive utility and access easement shall be provided connecting any lots without public street frontage to a public street. Easements for existing or future utility lines which do not lie along rear or side lot lines shall be of a width specified by the serving utility.

Private streets shall be designed and constructed in accordance with City Standards.

Exceptions for short plats. Certain frontage improvements except for utility undergrounding may be waived by the City Engineer provided that the following conditions are met:

1. Adjacent street frontage improvements are unlikely to be installed in the opinion of the City Engineer.

2. The City has no documented street plan for the subject street therefore eventual street configuration, elevations and other design features are unknown. In this case the City will require the developer/applicant to pay cash (in addition to traffic impact fees) in an amount estimated to be ½ street improvements along the frontage and sign an agreement not to protest the

formation of a Local Improvement District (LID) to install frontage improvements upon future completion of roadway design.

3. The structural section of private parking lot areas for fire access and travel ways serving multiple family or commercial property shall be designed to minimum public street structural section standards for purposes of emergency access and public safety.

G. Transit Network

Documented review by transit agencies (King County Metro and Sound Transit) regarding routes, stops, and supporting facilities is required prior to any construction. If warranted based on transit agency review and recommendation, the City Engineer may require additional right of way dedication, easements, alterations to roadway design, and/or supporting facilities such as transit shelters. If the City Engineer declines a transit agency recommendation, the rationale for the decision shall be documented with the transit agency notified of the same. The City Engineer may require similar improvements to streets designated as Transitways in the Comprehensive Plan that may not have current transit service. Refer to the Transitways Classifications Map, Figure 21, in the Comprehensive Plan-Transportation Element.

Transitways shall be characterized as follows:

1. Regional Transitways. Regional Transitways are characterized by a separate facility for public transportation modes such as rail, subway, or busway.

2. Major Transitways. Major Transitways are characterized by having high transit volumes and by utilizing priority lanes or signals for transit vehicles.

3. Minor Transitways. Minor Transitways exhibit medium bus volumes and function as a minor corridor or single route for buses.

4. Local Transitways. Local Transitways correspond to routes using small buses, paratransit or jitneys.

H. Pedestrian Sidewalks and Walkways

Where required by the City Engineer and/or the City's Comprehensive Plan, Pedestrian walkways shall be provided. Pedestrian Sidewalks and Walkways shall meet the latest ADA Guidelines, and be characterized and located as follows:

1. Both sides of Principal Arterial, Minor Arterial and Collector Arterial streets.

2. On both sides of all Local streets providing route continuity to other streets, parks, schools or other pedestrian generators.

3. Both sides of dead end streets, except in the cul-de-sacs or hammerhead turn-arounds. In these circumstances, installed sidewalks and walkways may be at the property line nearest the street/cul-de-sac transitions.

4. Where subdivision design includes an internal sidewalk or walkway system consistent with the requirements of IMC 18.07, Required Development and Design Standards and/or IMC 18.13 Subdivisions, the City Engineer may waive a requirement for a pedestrian sidewalk or walkway adjacent to the street if it is determined that the nearest internal sidewalk or walkway provides reasonably similar pedestrian safety, access, and mobility.

5. Exceptions.

    a. Pedestrian sidewalks and walkways will be reviewed for feasibility to be constructed on streets less than one hundred fifty feet (150') in length.

.

I. Bicycle Facilities

Bicycle Facilities shall be provided consistent with the Comprehensive Plan and/or as required by the City Engineer. Bicycle Facilities shall be characterized and located as follows:

1. Bicycle lanes shall be located in accordance with the ordinance of Complete Streets and other land use ordinances on both sides of Principal, Minor and Collector Arterials.

2. Bicycle facilities on Local Streets will be reviewed by the City Engineer, and specific facilities will be decided based on the Comprehensive Plan and engineering judgment.

3. When on-street parking is present, bicycle facilities will be reviewed for type and location in relation to the on-street parking.

4. Where roadway width is insufficient to provide for bicycle lanes, Sharrows may be considered at the discretion of the City Engineer and/or as required per the Comprehensive Plan or the use of "Share the Road" signs may be permitted.

J. Multi-Use Paths

1. Multi-use paths shall not take the place of on-street bicycle facilities.

2. Multi-use paths shall supplement on-street bicycle facilities.

    a. Multi-use paths design shall be constructed in lieu of pedestrian walkways along corridors identified in the City's Comprehensive Plan.

K. Permits

In accordance with the City of Issaquah Municipal Code, permits are required to be obtained from the City of Issaquah prior to commencing any construction work within the City with the exception of some minor improvements such as, i.e. fences, sheds, re-roofing, etc. Permits from other agencies may also be required based on the work being proposed and are the responsibility of the developer to obtain prior to commencing work.

All applications for permits to be issued by the City shall be submitted to the Permit Center for processing.

An Environmental Review must be completed for most projects, including clearing and grading activity. If required, an Environmental Checklist must be completed by the applicant and submitted along with plans, specifications and other information when approvals or permits are being requested for a project. An Environmental Review will be conducted and the City will make a State Environmental Protection Act (SEPA) Threshold Determination.

Construction drawings shall show as a minimum; plan and profile for all transportation related improvements, proposed storm drainage facilities and associated drainage analyses report, proposed and existing utilities; and topography. The drawings shall also include turning radii, points of tangency, points of curvature, horizontal and vertical curve information, temporary erosion and sedimentation control, construction disturbance area, tree protection, and critical areas and any other pertinent information necessary for construction. The construction methods and materials for all improvements shall conform to the Standard Engineering Specifications and all other standard plans and specifications of the City or otherwise adopted by the City. To obtain a complete list of specific submittal requirements please contact the Permit Center.

All drawings, plans, specifications, technical reports, etc., prepared for the purpose of obtaining required permits/approvals shall be stamped and signed by the Professional Engineer registered in the State of Washington responsible for the design. Construction drawings shall be provided in both paper (D) size and CAD format, or in another format acceptable to the City Engineer.

At the discretion of the City Engineer, any significant (as deemed by the City) errors or omissions in the approved plans or information used as a basis for such approvals constitute grounds for revocation of permit(s) and/or withdrawal of any approvals and/or stoppage of any or all of the permitted work. It shall be the responsibility of the Developer to show why such work should continue. In order to continue work the Developer must make necessary changes to the approved plans for approval by the City as required to address the issues.

Prior to receiving a Final Certificate of Occupancy and/or acceptance of the work by the City, the applicant shall submit record drawings for all installed improvements. The record drawings must be stamped by a Professional Engineer and be in a format in accordance with APWA record drawing standards that is acceptable to the City Engineer. The

Engineer is to include 2 sets of printed record drawings in (D) size paper, 1 set of Mylars, and an electronic cad file.

L. Inspection

The City shall have authority to enter the site for purposes of inspecting to ensure compliance with these Standards and Permit(s) (including conditions) under review or issued and/or Contract documents if the project is a City permitted project. The City will appoint project engineers, assistants, and inspectors as necessary to inspect the work and they will exercise such authority as the City Engineer may delegate.

Work performed within the public right-of-way, or on private property as described in these Standards, whether by or for a private developer, by City forces, or by a City contractor, shall be done to the satisfaction of the City and in accordance with the City Standards in effect at the time of permit approval, any approved plans, specifications, and issued permits (including conditions). Unless otherwise authorized, any revision to the approved construction plans must be approved in writing by the City before being implemented.

M. Warranty

The developer/applicant is required to provide a warranty to the City for facilities constructed for the City. This warranty will be for a period of not less than 1 year from the date of final acceptance by the City and will cover material and workmanship defects including but not limited to, asphalt, concrete, street lighting, signals and their appurtenances, landscaping and 12 month plant establishment period and settlement of trenches below City roadways regardless of whether the trench contained a City utility or privately owned utility.

N. Security

Performance Security. A security is required per IMC 12.12.100 to guarantee the performance of, or corrections to, permitted roadway work. When constructing new roadway, or reconstructing or adding to an existing roadway within City right-of-way, the amount of security shall cover the City's cost to perform the necessary work but shall equal not less than 120% of estimated total construction cost; or if not specified, be at the discretion of the City. When performing work within city right-of-way other than constructing new roadway, or reconstructing or adding to an existing roadway the types of securities required include a cash deposit up to the first $25,000 of required security and the balance may be, but are not limited to, additional cash deposits, assigned savings account letters of credit, loan proceeds and bonds. Securities shall be processed for release by the City upon written final acceptance of the improvements and the plans have been certified "As-Built" record drawings by the Professional Engineer of Work/Record and the Record Drawings approved by the City, all final reports submitted and approved as required and the Warranty Security is posted.

Warranty Security. A security is required during the warranty period to insure adequate funds for the City to perform the necessary warranty work should the developer not do so

for improvements against any defective work or labor done or defective materials used in the performance of the improvements throughout the warranty period. The warranty period shall be of one year following completion and acceptance of the improvements unless a longer warranty period is required by the City Engineer. This security shall be not less than 30% of the total construction cost of the public facilities accepted by the City and posted prior to the Performance Security release.

O. Deviation from Standards

The City Engineer or designee may approve deviations to the Standards herein after consultation with affected city departments. The decision to grant, deny or modify the proposed deviation shall be documented and be based upon evidence that the request can meet the following criteria:

1. The deviation will achieve the intended result in equivalent or superior design; and
2. The deviation addresses public safety and operation; and
3. The deviation will not adversely affect how well the surrounding nearby public facilities can be maintained.

Applicants submitting plans for required approvals or permits that do not meet all Standards must note the proposed deviation from these Standard(s) on the face of drawings and highlight and describe the deviation(s) on the appropriate plan sheet(s). The notation on the drawings submitted with the application will be considered as a formal request for the City to grant the deviation. Permits issued based on drawings does not assume approval of any deviations that have not been highlighted. Deviations from the standards that are not highlighted on the drawings and a permit is issued based upon those drawings constitutes grounds for revocation of permit(s) and/or withdrawal of any approvals and/or stoppage of any or all of the permitted work. Upon review of the plans, the City may request additional information regarding the request if needed to make a decision. These requests may include but are not limited to engineering calculations, drawings showing aesthetic appearances, additional information on nearby facilities, further analyses regarding public safety and operations of the roadway(s), and an explanation of why such a deviation is being requested.

A deviation request for a proposed project cannot be considered until a complete application for a required permit/approval has been submitted.

Any appeal of the decision to grant or deny a deviation shall be reviewed by the Public Works Engineering Director.

P. Penalties

Failure to comply with permits issued in accordance with these Standards will be cause for withholding or withdrawing approval of plans or plats, forfeiture of bond, withholding Temporary and/or Final Certificate of Occupancy, and/or other penalties as provided by law.

Q. Survey Monuments Policy

It shall be the Developer's responsibility to monument the boundaries of all plats, short plats, major street intersections, Right-of-Way centerline, and constructed street centerline control points. It shall be the responsibility of the Developer to provide horizontal and vertical control information of all newly installed monuments to the Engineer.

All existing survey control monuments which are disturbed, lost or destroyed during surveying or building, shall be replaced by a land surveyor registered in the State of Washington at the expense of the responsible builder or developer in accordance with state law.

R. Landscaping

Maintenance and responsibility of landscape areas shall be in accordance with IMC 18.12.150.D, Landscaping within improved right of ways is subject to review by the Parks Department and PWO Department consistent with Administration direction.

S. Traffic Signals

Traffic Signals are important for controlling the right of way at heavily traveled intersections that require automated control for the public to provide for safe and efficient movement of traffic through an intersection. City of Issaquah follows the Manual on Uniform Traffic Control Devices (MUTCD) federal guidelines to establish minimum conditions under which a signal installation should be considered. However, satisfying a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. A warranting condition indicates that an engineering study is required to determine whether the signal is justified. Other factors such as field conditions, tradeoffs relating to motorized and non-motorized corridor impacts, and consideration of other traffic control devices should be considered before a decision to install a signal is made.

The engineering study shall gather the appropriate traffic data such as traffic volumes, speeds, sight distances, geometrics, pedestrian volumes, and collision history, etc. Typically, the study includes intersection and/or corridor capacity analysis to determine the level-of-service (LOS) and 95th percentile queue lengths for the AM and PM peak hour traffic conditions. Depending upon the location and circumstances, a LOS analysis may be required for other time periods as well. Prior to approval of the signal design, the Public Works Engineering Department staff must approve the engineering study.

Based on the results of the engineering study, the appropriate number of lanes, length of turning lanes, and signal phasing will be determined. Close coordination with the PWE Department is required throughout the engineering study to develop the optimum intersection configuration for current and future conditions.

Signalized intersections shall be located to maintain progression of traffic along arterial streets. This normally entails relatively uniform spacing and sufficient distances between signals to allow vehicles to travel at reasonable speeds. The optimal spacing is a function of the signal cycle lengths and the progression speed of traffic along the major street. The proposed signalized intersection shall be based on arterial progression analysis and provide acceptable green band and level of service.

All new and reconstructed traffic signals shall be connected to the City's Central Traffic Control system. Interconnect by the use of fiber optic cables and switches shall be part of any new or rebuilt installation.

Installation of Closed Circuit Television (CCTV) traffic monitoring cameras may be required at signalized intersections.

Traffic signal timing for new or modified traffic signals will be developed by the City of Issaquah Public Works Engineering personnel. At the time of the permit issuance, the City will start developing the traffic signal timing. A minimum of 7 days advance notice shall be given to the City prior to the turn-on of the traffic signal. The amount of green time provided to the side street shall be governed and be subordinate to the major street demand as in accordance with IMC Chapter 12.40 and WAC 468-52-040.

Signalization of private streets and driveways is the responsibility of the developer. If signalization of a public street and private street or driveway is to be considered as part of a development, an appropriate traffic impact study must be completed by a Washington State registered professional engineer.

The developer will be responsible for the upgrade of any public traffic signal installation required due to a new or expanded development. The upgrade may be requested by the developer or required as a condition by the City Engineer. The signal modification shall include layout, phases and equipment as directed by the City.

Decorative style architectural treatment for traffic signal poles and mast arms are required within the Olde Town Area and shall comply with the Olde Town Design Standard identified in the IMC Section 18.19 and shall match existing style already in place.

All traffic signal plans shall show existing and proposed rights-of-way and easements for locating traffic signal equipment. All traffic signal equipment shall be in public right-of-way or in a permanent easement which is in the name of the City of Issaquah and specifically allows for the placement and maintenance of traffic signal equipment. This would include power supply equipment, loop detectors, conduit, poles, mast arms, posts, junction boxes, traffic controller cabinet, bases, and cameras.

T. Roundabouts

Roundabouts are considered by the City as an acceptable intersection control methodology provided they are determined by special studies to be effective and appropriate for a given location. Due to the size of a roundabout and other characteristics of the intersecting roadways and traffic volumes, the effectiveness and appropriateness of roundabouts need to be evaluated on a case by case basis.

Roundabouts today are known as “modern roundabouts” that have been in existence in the United States since 1990. They are referred to as “modern roundabouts” because they are significantly different than the nonconforming traffic circles or rotaries that have been used for many years. The modern roundabout is distinguished by two basic design principles where vehicles entering the roundabout yield at the entry and entering traffic is deflected to the right of the circulatory roadway. Due to these design principles and other design elements, the speed of traffic entering and circulating in the roundabout is considered slow with speeds varying between 15 – 20 mph. Due to the slow speeds and the deflected angle of the entering traffic, modern roundabouts provide significant safety benefits since it avoids right angle and broadside accidents. Injury accidents are rare and fatal accidents are very rare.

U. Street Illumination

Street lighting shall be designed in a manner to provide for safe motorized and non-motorized uses of the right-of-way in accordance with established WSDOT standards. Street lighting design shall also incorporate energy conservation features and avoid spillover lighting and/or glare to adjacent uses, natural areas, and/or skyward to fullest extent possible while meeting safety requirements.

Lighting fixture height, type, protection from light pollution and architectural treatment for street lights shall be consistent with any adopted Subarea plans and/or design standards. For example, street illumination within the Olde Town Subarea shall comply with the Olde Town Design Standards, IMC 18.19 and shall be consistent with the type and architectural treatment outlined in the Olde Town Design Standards.

Intent: The City of Issaquah seeks to ensure that street lighting is provided in the most cost effective way.

Designated Service Provided: To meet this goal Puget Sound Energy is the City’s designated lighting service provider to construct, operate and maintain all lighting fixtures on public and private streets; and to construct, operate and maintain all electric appurtenances required by such street lighting.

City Acceptance and Operation Costs: The City will accept maintenance of poles and power cost responsibility for the public street light system provided it is constructed of standard Puget Sound Energy poles and equipment.

V. Miscellaneous Appurtenances

Miscellaneous appurtenances may be located in the right-of-way provided they are consistent with all other related standards including safety, obstruction, traffic sight line, and ADA barrier-free standards. Miscellaneous appurtenances are permanent or semi-permanent elements including, but not limited to, electric charging stations, bus stops, bus shelters, benches, trash receptacles, planters, and outdoor seating for public purposes. For private similar uses of the right-of-way see also: IMC 5.14 Special Event/Special Use Permit; IMC 18.07.540 Private outdoor retail display/sidewalk sales; IMC 12.05 Sidewalk Use District.

W. Right of Way

Right-of-way dedications and acquisitions shall be as required to meet the needs for streets based on its roadway classification and other improvements to accommodate motorized and non-motorized transportation, landscaping, and utilities (as needed) in accordance with the policies contained in the City's Comprehensive Plan. Conveyance shall be fee simple using a Statutory Warranty Deed.

Easements for all public utility systems shall be provided as required. Particular design features of a road may necessitate slope, wall or drainage easements. Such easements may be required by the City Engineer in conjunction with dedication or acquisition of right-of-way and other standard easements (temporary construction, right of entry, sidewalk, pedestrian, street lighting, traffic control devices, etc.).

Pedestrian access easements or tracts shall be dedicated when required by the City, including the City's Land Use decision, and shall be wide enough to accommodate the type of trail/non-motorized use (including space for grading, retaining walls, maintenance, etc...) consistent with the policies for that corridor.

All development, re-development, and change of use from residential to non-residential proposals will be required to deed additional right-of-way as a condition of approval, where:

1. The existing right-of-way for a public street is not adequate to incorporate necessary frontage improvements for public safety and mobility consistent with the adopted Street Standards applicable to the street classification; or

2. The proposal abuts an existing substandard public street and the additional right-of-way is necessary to incorporate future frontage improvements necessary for public safety, and/or conveyance capacity consistent with the City of Issaquah Comprehensive Plan Policy direction and Capital Improvement Plan; or

3. Additional right-of-way is needed to provide for the extension of existing public street improvements necessary for public safety and/or circulation consistent with the City of Issaquah Comprehensive Plan; or

4. Additional right-of-way is needed to provide future street improvements necessary for public safety for planned new public streets consistent with the City of Issaquah Comprehensive Plan.

X. Utilities in Right-of-Way

City-owned utilities shall be designed and constructed within the right-of-way in accordance with the City's Utility Standards.

All non-City owned franchise utility distribution or collection systems designed and built within a development; including, but not limited to power, telephone and TV cable, in new plats or short plats shall be constructed underground. When overhead utilities exist along the frontage of property being developed and where the utility crosses the roadway from one side to the other within the development's frontage, the developer/applicant shall be responsible to relocate these as part of their required frontage improvements such that they are constructed below ground and to the nearest power pole past the development. Utility poles shall not be located inside of sidewalk areas.

Y. Access Control (Driveways)

Access and mobility are two major considerations in determining where access can be provided to a development. Driveways to a development are important for providing access, however, access to a roadway can have an impact on the capacity and mobility of a roadway. Regulating the limitation of access is necessary on arterials to enhance their primary function of mobility. Whereas, the primary function of local roads is to provide access to developments. The Classification of the roadway needs to be taken into consideration since the higher classification of a road carries more traffic and therefore needs to be less restrictive to providing capacity than the side street. Therefore, the following shall apply:

1. Driveways directly giving access onto Principal or Minor Arterials may be denied if alternate access is available to a lower classified side street.

2. Left turns from and to a proposed driveway may be restricted as a development condition based upon impacts to the roadway where access is proposed.

3. At anytime, existing driveways in congested areas may be required to be removed or certain movements restricted after review by City Engineer for traffic safety and/or operational issues identified and associated with such driveway locations.

4. All existing driveway areas on the street frontage that are to be abandoned are to be removed and shall be replaced with new curb, gutter and sidewalk.

Back to Table of Contents

5. In locations where a new driveway is to be constructed and sidewalk and curb, gutter is already existing, it must be totally removed and replaced to driveway standards. It is not permissible to “knock-off” existing curb and install driveway apron, the total curb and gutter section must be removed to the nearest expansion joint and replaced to meet driveway standards.

6. Adjacent developments shall consolidate (share) vehicular driveways where feasible and shall be approved by the City Engineer.

7. No commercial driveway shall be approved where backing onto the sidewalk or street will occur except in alleys.

DESIGN

Back to Table of Contents

A. Intersections

Geometrics

Angle of Intersection	0% to 15% Offset Angle
Minimum Curb Radius, Local Streets	30 feet (35' or more as required on existing or planned transit routes or industrial, or commercial areas with high truck percentages)
Minimum Curb Radius, Arterials	35 feet

Minimum Centerline Spacing of Intersecting Streets and Access Points

Local access	200 feet
Collector Arterials	600 feet
Minor Arterials	1300 feet
Prinicpal Arterials	2600 feet

Where intersections are not able to meet the above spacing requirements, turn movements shall be limited to right-in and right-out.

On sloping approaches at an intersection, landings shall be provided with a grade not to exceed one foot difference in elevation for a distance of 30 feet approaching an arterial or 20 feet approaching a residential or commercial street, measured from nearest right-of-way line (extended or intersecting street).

Low speed curves (under 25 mph design speed) are intended for use on streets with permanent street ends, or no through traffic circulation.

All sight distances at intersections shall be in accordance with latest edition of the "Washington State Department of Transportation Design Manual" Chapter 1310.09 Intersection Sight Distance or as approved by the City Engineer.

B. Access Control (Driveways)

1. Driveways in the designated Olde Town area shall comply with the location and design requirements of IMC 18.19 Olde Town Design Standards.

2. Private access points to City right of way where the anticipated use is equal to or greater than 1,000 vehicles per day shall be constructed per the City's intersection standards with curb return openings. (See Standard Details T-03, T-04 or TS-01).

3. Driveways are not permitted intersecting with Principal and Minor Arterials but may be considered as right-in or right-out unless the driveway is signalized for full access and the location meets the minimum spacing requirements above.

4. Driveways with aprons shall be constructed per the Standard Details, as applicable. All subgrade, rock grade, and forming shall be approved by the Engineer prior to concrete being placed. Driveway aprons over fifteen feet (15') wide shall have an expansion joint placed in the center of the apron.

5. Radius driveway returns shall incorporate pedestrian ramps meeting ADA standards.

6. Width.
    a. Two-Way Driveways: The minimum two-way driveway width shall be twelve feet (12') minimum and twenty feet (20') maximum for residential uses and twenty-four feet (24') minimum (can be reduced to twenty feet (20') under special circumstances approved by the City Engineer) and thirty-five feet (35') maximum for commercial uses. A wider commercial driveway width may be required by the Engineer where a substantial percentage of oversized vehicle traffic exists. In this case, the driveway should be sized to accommodate the largest vehicles. A maximum width of twenty-four feet (24') for driveways on designated pedestrian streets in Olde Town consistent with Olde Town Design Standards.

    b. One Way Driveways: Minimum one-way driveway width shall be ten feet (10') and maximum (14') for single family residential and twenty feet (20') for multifamily and commercial driveways.

7. Driveways shall be aligned wherever possible with existing driveways on the opposite side of the street on two (2) or three (3) lane streets.

8. Driveways shall be offset a minimum of two hundred feet (200') from existing driveways on the opposite side of streets with four (4) or more lanes whenever possible.

9. All driveways shall be angled ninety degrees (90˚) to the street, unless designated as right turn only with the approval of the Engineer.

10. Back edge of driveway shall be at the same elevation as the elevation at the back of the sidewalk adjacent to the driveway approach.

11. No object (including fire hydrants, light or power poles, street trees) shall be placed or allowed to remain within fifteen feet (15') of the driveway edge.

12. Sight Distance: *Back to Table of Contents*

    a. Where the building façade or other design element is less than ten feet (10') behind the sidewalk (typically CBD shall be, zero feet (0') front setback) both pedestrian and vehicular sight distance shall be maintained. Vehicular sight distance shall be per Section - Sight Areas Established.

    b. Pedestrian sight distance shall be as follows: The driver of an exiting vehicle shall be able to view objects within a clear view area between one-foot (1') to seven-feet (7') high fifteen feet (15') away from either edge of the driveway throat when the driver's eye is fourteen feet (14') behind the back of the sidewalk.

13. On sloping approaches, a landing as described in - Section A - Intersections, shall be provided.

14. Approach grades and configuration shall accommodate future street widening to prevent driveway reconstruction.

15. Driveways shall be designed and sized per Standard Drawings T-03, T-04, T-05, and T-06. When driveways are located near intersections, Standard Drawing T-6A shall apply.

C. Intersection and Driveway Sight Distance Triangles

Sight triangle areas at an intersection are defined as the area between the intersecting traffic lanes and the sight-line setbacks established for each type of intersection. Sight-line setbacks are established for a motor vehicle operator's view both to the left and to the right as the operator approaches the intersection. Parked vehicles are allowed in the sight area and will be evaluated on a case by case basis for the need to identify "No Parking". Sight-line setbacks are established in the following paragraph:

1. Sight-Line Setback: Minor Street/Major Through Street

Intersections included in this group are those controlled by a stop sign or flashing red signal for the minor street and amber, green or no control on the major street. Private non-residential and multifamily access points (driveways) used by the public entering any City street are also included in this group.

The sight-line setbacks are defined in the Standard Details are lines joining a point in the center of a minor street approach lane 14.5 feet back from the edge of the through-street traveled way to points in the centers of through-street approach lanes which are back from the center of the intersection the distances listed in the following table:

Design Speed (mph)	Distance from Center of Intersection	
(Major Street)	(Major Street)	
	Left Turning (ft)	Right Turning (ft)
45	500	430
40	445	385
35	390	335
30	335	290
25	280	240

Where the major street is a divided highway, only the left sight-line setbacks apply. Where the major street is a one-way street, only the sight-line setback toward the direction of approach applies.

Pedestrian sight distance shall be maintained at all driveways entrances. (See Section under Design Section for "B. Access Control (Driveways)".)

2. Sight-Line Setback: Uncontrolled Crossing Intersection

For crossing intersections with no traffic control from any approach the sight-line setbacks are lines joining points a distance back from the center of the intersection on the street centerline per the table below based on the design speed of the roadway. (See Standard Detail T-02.)

Below are the lengths of the sight triangle based upon the approaching design speed.

Length of Sight Triangle – No Traffic Control	
Design Speed (mph)	Length of Leg (ft)
45	220
40	195
35	165
30	140
25	115

3. Sight-Line Setback: Yield Intersection

For crossing intersections with yield traffic control from any approach the sight-line setbacks are lines joining points a distance back from the center of the intersection on the street centerline per the table below based on the design speed of the roadway. (See Standard Detail T-02.)

Length of Sight Triangle – Yield Traffic Control	
Major Road Design Speed (mph)	Minor Road Design Speed (20-45 mph)
	Length of Leg – Minor Road Approach (ft)
45	430
40	385
35	335
30	290
25	240

4. Sight-Line Setback: Major Obstacles, Residential Driveways

Where major obstacles such as preexisting permanent structures, elevated contour of the ground, embankments and other factors preclude the reasonable enforcement of the sight-line setbacks specified in Paragraph C – Intersection and Driveway Sight Distance Triangles, then these setbacks can be modified at the discretion of the City Engineer. The following are the minimum requirements: the minor street setback point can be reduced from fourteen feet (14.4') to ten feet (10') back from the major street traffic lane edge and the major street setback point reduced to the following distances from the intersection.

Design Speed (mph)	Center of Intersection (ft)
(Major Street)	(Major Street)
45	360
40	305
35	250
30	200
25	155

These minimum requirements shall apply to residential driveways except for a residential street with a sharp curve adjacent to the driveway the distance to the view point on the city street is one hundred feet (100') (reduced from 155 feet – 25 MPH). For residential driveways with major obstacles or special view problems the setback point on the driveway may be reduced from ten feet (10') to eight feet (8'), subject to approval by the Engineer.

Pedestrian sight distance shall be maintained at all driveways and garage entrances. (See Section under Design Section for "B. Access Control (Driveways)".)

5. Sight – Line Setback: Signalized Intersection

For signalized intersections, the left viewing sight-line setbacks specified in "C. 1. Sight-Line Setback: Minor Street/Through Street" apply for all approaches with right-turn-on-red-after-stop permitted.

6. Sight –Line Setback: Other

Back to Table of Contents

Intersections with stop signs on all approaches will not have established site areas. For intersections not clear, included in the above types and for which view problems exist, the Engineer will establish site-line setbacks as required.

D Sight Obstruction Areas

For Minor Street/Through Street Intersections, as defined in C. Intersection and Driveway Sight Distance Triangles. 1., 4, and 6, the following obstructions within the established sight areas shall be considered acceptable:

1. One obstruction within each sight area which presents a maximum of two and one-half feet (2 ½') width when viewed from applicable view angle, and which has at least two feet (2') clear view inside the obstruction (on the side away from the intersection). At distances greater than forty feet (40') from the view point, the obstruction may present a maximum of four feet (4') width.

2. Any number of obstructions one and one-half feet (1 ½') or less in maximum width when viewed from any applicable view angle, provided there is equal open space on each side of the obstruction for all angles.

    a. For intersections with no signalization or stop signs, as defined in Intersection and Driveway Sight Distance Triangles, 2 - Sight-Line Setback: Uncontrolled Crossing Intersection and 3 - Sight-Line Setback: Yield Intersection, the following obstructions with the established sight areas shall be considered acceptable:

        1) One obstruction within each sight area which presents a maximum of eight feet (8') width when viewed from any applicable view angle, and which has at least four feet (4') clear view inside the obstruction and eight feet (8') clear view between the obstructions and the edge of the traffic lanes; or,

        2) Two obstructions within each sight area each of which presents a maximum of five feet (5') width when viewed from any applicable view angle, and separated by four feet (4') on more open space when viewed from all applicable view angles, and which have at least four feet (4') clear view inside the obstructions and eight feet (8') clear view between the obstructions and the edge of the traffic lanes.

        3) Any number of obstructions one foot (1') or less in width provided they obstruct no more than two feet (2') continuous obstruction width when viewed from any applicable view angle, and provided there is equal open space on each side off the obstruction for all angles.

    b. Sight Obstruction Height Limits.

1) Sight obstructions shall be considered unacceptable above any view line which is three feet six inches (3' 6") or more above the street surface at each end, and which is wholly within the sight areas established in Sight Areas Established Section.

2) Sight obstructions above all view lines which are seven and one-half feet (7 ½') or more above the street surface at each end will be considered acceptable. For residential driveways, this upper height requirement is reduced from seven and one-half feet (7 ½') to six feet (6').

c. Sight Obstruction Horizontal Limits

1) No object shall be placed within fifteen feet (15') of either the near side or far side curb return point that would obstruct or hinder placement of traffic control devices, tree, power poles, street lighting, etc.

E. Survey Control and Monuments

The horizontal survey controls for all Infrastructure Improvements shall be based on the State Plane North Zone NAD 83/91 datum (also known as NAD 83 HARN); an assumed coordinate system is not permitted. The datum must relate to at least two (2) City of Issaquah control points or controlling Global Positioning System (GPS) monuments within one half mile of the proposed Development or Project. When referencing GPS the Project shall make use of and reference the Combined Scale Factor for the particular site.
The vertical survey controls shall be tied into at least two (2) City of Issaquah vertical survey controls or GPS monuments, NAVD 88 vertical datum, and two (2) additional permanent benchmarks shall be established within the project. The locations, descriptions and elevations of these benchmarks will be reported at the time record drawings are submitted, along with field notes sufficient to verify the required precision. The field notes and drawings will make note of the methodology used to acquire any and all coordinates for the horizontal and vertical control.

Monuments shall be located at all centerline intersections of intersecting streets. Monuments shall be placed at both point of curve and point of tangent of each curve within the street(s). Monument and monument case and cover shall be supplied and installed per Standard Drawing T-43. Monuments shall be set by Professional Land Surveyor, licensed in the State of Washington.

F. Landscape Separation

Landscaping in the form of planting strips with street trees shall be required consistent with IMC 18.12.150 Landscape requirements on public properties and rights-of-way. This typically includes a minimum five (5) feet wide planting strip with street trees between the curb and sidewalk for landscaping and appurtenances. The City Engineer and Planning Director may approve a deviation to reduce the landscape strip requirements.

G. Streets/Roadways

Back to Table of Contents

Street cross sections including requirements for lane widths, bike facilities, planter strips, sidewalks, curb, gutter, storm drainage facilities shall be designed and sized per Standard Details including sheets T-11 through T-14 and other Standard Drawings in the Standard Details sections.

	Arterials			**Local**
	Principal	Minor	Collector	
Minimum Roadway Horizontal Radius (ft)	1,145	955	715	410
Design Speed (mph)	50	50	35	25
Maximum Grade (%)	7	8	10	12

All stopping sight distances along streets and roadways shall be in accordance with latest edition of the "Washington State Department of Transportation Design Manual" Chapter 1260.04 Stopping Sight Distance or as approved by the City Engineer.

H. Roadside Safety

1. Clear Zone Area

A clear zone area is that area which provides as much clear, traversable area, for a vehicle to recover. The design clear zone, per the WSDOT Design Manual Exhibit 1600-1, for roadways with posted speed limits of 35 mph or less, is 10 feet. See WSDOT Design Manual Exhibit 1600-1 for speed limits greater than 35 mph.

2. Guardrails, Traffic Barriers and Other Safety Devices

Guardrails and/or traffic barriers shall be provided and installed by the developer as directed by the City Engineer or the inspector in accordance with WSDOT standards.

All guardrails, traffic barriers and other safety devices shall conform to the criteria of the WSDOT Design Manual Chapter 1610 and shall be installed in accordance with the "State of Washington Standard Specifications for Road, Bridge and Municipal Construction".

Guardrails shall be required at any location where the following conditions are present:

a. Fills more than six feet (6') in elevation with less than four to one (4:1) fill slopes within the Clear Zone

b. Sharp changes in horizontal street alignment which require material reductions in Vehicle speed.

c. Where Engineer determines there is a need.

3. Fixed Objects (Appurtenances) *Back to Table of Contents*

Fixed objects (or appurtenances) are defined as having properties greater than a four-inch by four-inch wooden post.

Where placement of new fixed objects along a roadside or median occurs with a traffic curb, place the fixed object in a location to least likely to be impacted by an errant vehicle. Maintain a minimum operational offset of 3 feet from the face of curb to the face of fixed object.

Where placement of new fixed objects along a roadside or median occurs that does not have a raised traffic curb, the minimum offset distance is based on the below criteria.

a. The minimum clear zone offset from the roadside or median that does not have a raised curb with a speed limit of 35 mph or less is ten (10) feet.

b. The minimum clear zone offset from the roadside or median without traffic curb with speed limits greater than 35 mph shall be determined from the WSDOT Design Manual Exhibit 1600-1.

A design deviation must be submitted for approval by the City Engineer if the clear zone requirements cannot be met.

4. Breakaway Objects

A breakaway object is defined as having properties up to and including a four-inch by four-inch wooden post.

The minimum offset distance from the roadside or median with traffic curb is three (3.0) feet except for mail boxes on local streets. The minimum offset distance from the roadside or median without traffic curb is ten (10.0) feet.

Any deviations must be approved by the City Engineer.

I. Mailboxes

New residential developments shall have mailboxes installed per the Standard Drawings.

1. When mailboxes are located in the sidewalk, the sidewalk shall be widened to provide a clear width of not less than five feet (5') behind the mailboxes per Standard Drawings.

2. In the case of new road construction or reconstruction requiring mailboxes to be moved back or rearranged, the builder shall coordinate with the U.S. Postmaster in the main Post Office for acceptable box locations and to insure uninterrupted mail service. Approved locations for mailboxes shall be shown on Street Construction Plans.

3. Mailboxes, in the general case, shall be installed as follows per the Standard Drawings:

    a. Bottom or base of box forty-four inches (44") above road surface.

    b. Placement in relation to curb or sidewalk.

        1. Local Streets. Front of mailbox one foot (1') back of vertical curb face or outside edge of shoulder; six inches (6") behind back edge of rolled curbs.

        2. Arterial Streets. Front of mailbox one foot (1') behind the back of sidewalk.

    c. On posts strong enough to give firm support but not to exceed four inch by four inch (4"X4") pressure treated wood or one and one-half inch (1 ½") diameter pipe, or material with comparable breakaway characteristics.

4. Sidewalk widening behind the mailbox shall be five feet (5') long with a ten to one (10:1) taper to the standard sidewalk section.

J. Street Illumination

The following provides the City's general specifications for the types of street and public area lighting fixtures in the right-of-way as a guide to developers, planners, and City personnel in planning for, or installing those lighting fixtures within the right-of-way of the City of Issaquah. For lighting standards outside of right-of-way see IMC 18.07.107 "Outdoor lighting". Definitions are as follows:

"Luminaires" – The lighting head which provides the actual illumination.

"Standard" – The pole or post which supports the luminaire.

"Puget Sound Energy" – Puget Sound Energy Company.

"Public Area" –. Those portions of a development intended for routine use and/or passage by the general public or customers or visitors to the development. Public areas include, but are not limited to, parking lots, driveways, walkways, and plazas.**.**

"Street" – A public or private thoroughfare affording a principal means of access to abutting property.

It is the goal of the City of Issaquah to insure that a multiplicity of street lighting fixtures does not detract from the desired harmonious aesthetic values of the City; and to insure that the lighting fixtures used are both cost effective and maintainable.

In that the City finds municipal ownership and operation of street lighting is more costly to the City and its residents than is ownership and operation by a private public service utility, it is the City's policy to allow Puget Sound Energy to construct, operate and maintain all lighting fixtures on public and private streets; and to construct, operate, and maintain all electric appurtenances required by such street lighting.

The City recognizes that one type of lighting fixture is not satisfactory for each section of the community and therefore has subdivided the City into three categories for lighting purposes. Those categories are residential, commercial and municipal. Exceptions to these standards will occur within the City's Comprehensive Plan. There are areas of the City that would require decorative lighting (i.e. Olde Town). Within each area the Standard Specifications are:

1. Plats and other Non-Single Family Development

Street lighting is required for all public streets in plats and other commercial, multifamily, and developments and redevelopments larger than a single family residence and along right of ways which front the development. The street lighting design shall be reviewed and approved by the Engineer prior to final plat approval.

Street lighting is required on private streets within a plat and along right of ways which front the plat or as determined by the City Engineer. The City does not install or maintain private street lighting systems.

2. Short Plats

A street lighting system shall be installed on public streets in or abutting a short plat development. The system shall be installed to Standards for arterial or local streets.

3. Existing Residential Areas

If a resident or group of residents desire the installation of a new street light they must apply to the City Engineer.

Cost of the installation of a new street light will be at the expense of the applicant per a completed cost matrix by the Public Works Engineering Department determining the percent to be paid by the applicant.

4. Existing Commercial Areas

If a business or businesses desire the installation of a new street light they must apply to the City Engineer.

Cost of the installation of a new street light will be at the expense of the applicant.

5. Design Guidance

The Developer is responsible for design, installation or relocation of new or existing lighting. Commercial development shall replace existing lighting systems on power poles with a new lighting system serviced by underground power if the system will not conflict with essential distribution lines.

All street light installations; including wiring, conduit and power connections, shall be located underground. Exception: existing residential areas with existing above ground utilities may have street lighting installed on the existing power poles.

Record drawings are required for all new or relocated underground street lighting systems prior to receiving a final occupancy permit. See As-built requirements.

6. Design Standards

Street lighting system designs are to be prepared by a licensed engineer experienced with lighting design. Calculations should include; luminaire spacing, illumination level, uniformity ratio, line losses, power source and other necessary details for the electrical and physical installation of the street lighting system. The lighting engineer shall design the illumination system per the Washington State Department of Transportation (WSDOT) Design Manual Chapter 1040.

7. Illumination Levels

Light Level and Uniformity Ratio Chart					
Highway Design Classification	Minimum Average Maintained Horizontal Light Level[1]			Maximum Uniformity Ratio[3]	Maximum Veiling Luminance[4]
	Pedestrian/Area Classification				
	High (footcandles)	Medium (footcandles)	Low (footcandles)		
Principal Arterials					
Main Line	1.6	1.2	0.6	3:1	0.3:1
Intersections	1.6	1.2	0.9	3:1	0.3:1
Minor Arterials					
Main Line	1.2	0.9	0.6	4:1	0.3:1
Intersections	1.2	1.0	0.9	4:1	0.3:1
Collectors					
Main Line	1.1	0.8	0.6	4:1	0.3:1
Intersections	1.1	1.0	0.9	4:1	0.3:1
Local Streets	0.3	0.3	0.3	None; 300 foot max. spacing	
Other Illuminated Features					
Transit Stops[2]	2.0	2.0	2.0	NA	0.3:1
Midblock Ped Xing	2.0	2.0	2.0	3:1	0.3:1

Notes:

a) Light level and uniformity ratio apply only when installation of more than one light standard is justified.

b) For single light standard installations, provide the light level at the location where the bus stops for riders (see Design Manual 1040.06(6))

c) Minimum Average Maintained Light Level/Minimum Light Level = Maximum Uniformity Ratio

d) Maximum Veiling Luminance/Average Luminance = Maximum Veiling Luminance Ratio

e) Lighting designed to minimize spill over to private property or sensitive environmental areas

f) The illumination levels for public and private streets shall be designed in accordance with these standards and will not be considered a conflict with the land use code.

8. Illumination Equipment

The type of illumination equipment varies by location and use. Mounting height and wattage will be dependent on an illumination analysis that is consistent with the illumination levels mentioned in the previous section,

however, the mounting height will not exceed thirty-five feet (35') and fourteen feet (14') in the Olde Town area. In other special land use district areas that are created, this criteria may vary.

Fixture type and pole type are dependent on location and classification of area:

Lighting Area	Fixture	Pole Type
Local Roads	Cobra head, flat glass lens	Steel
Principal and Minor arterial	Shoebox head and flat glass lens	Steel
Transit Stops and Mid-Block Crossings	Cobra head, flat glass lens	Steel
Multi-use paths and trails	Shoebox head and flat glass lens	Fiberglass, Steel

In general, High Pressure Sodium (HPS) shall be used for all applications. Use of alternative light emitting devices that reduce electricity consumption while maintaining adequate light levels as defined in the previous section is encouraged.

9. Exceptions

a) It is further recognized that in certain locations and within areas which are being planned and designed as a cohesive unit, that landscaping and architectural styles may require street lighting fixtures to be of a unique and individual style. In such cases, lighting fixtures other than those specified above may be used, given: the desired lighting fixtures are completely and accurately described and depicted in the project's development plan, that projected annual maintenance and operation costs are presented, replacement costs, by component, are listed and the lighting fixtures are reviewed and approved as a separate item within the City's overall project review and approval process.

b) In the Olde Town Area, lighting fixtures shall comply with the IMC 18.19, Olde Town Design Standards. Maximum height of fixture is 14 feet, all lights shall be shielded from the sky and adjacent properties and structures, and use of pedestrian scale lighting and/or bollard lighting shall be used to reinforce the historic nature of Olde Town Issaquah.

10. Illumination Electrical Guidance

All street lights shall be on two hundred forty volt (240v), single phase systems. The exact location of the power source should be indicated together with the remaining capacity of that circuit. System continuity and extension should be considered. (Provision For 110V plug on the Light Standards shall be considered)

Contractor cabinets equipped with electrical meters, circuit breakers and other required components are required on commercial installations of five (5) or more streetlights.

All street lighting wiring, conduit, service connections shall be located underground except in residential areas where existing power distribution poles exist.

K. Bus Stops and Turn-Outs

Designer shall contact Metro to ascertain specific location and geometric needs of bus stops and turnouts. On arterial streets the Engineer may require concrete turnouts to minimize impact on traffic flow. Typically, bus turn-outs should be designed for the far side of intersections.

Metro must confirm need for bus stop and turnout in writing to City.

L. Private Streets

Private streets and roadways may be allowed under the following conditions:

1. Covenants have been approved, recorded and verified with the City which provide for maintenance of the private streets and associated parking areas by owners in the development; and

    a. Provision is made for the streets to be open (accessible) at all times for emergency and public service vehicles; and

    b. The private streets will not obstruct public street circulation; and

    c. At least one of the following conditions exists:

        1. The plat or short plat street will ultimately serve four (4) or fewer lots.

        2. The roadway(s) are a part of a Short Plat.

2. The roadway(s) serve commercial or industrial facilities where no circulation continuity is necessary.

3. Exceptions for Short Plats and Plats: Short plats and Plats on roadways with more than four (4) existing or proposed lots, can be served by a private street under the following conditions:

   a) The City Engineer and Fire Department determine that no other access is available and the proposed private street is adequate; and

   b) The private road is compatible with the surrounding neighborhood character; and

   c) The applicant agrees to pave the private road if hard surfacing does not exist; and

   d) The applicant agrees to adhere to applicable Land Use Code Building Setbacks from property lines requirements; and

   e) Will not result in land locking of present or future parcels; and

   f) Clearly described on the face of the plat, short plat, or other development authorization, and clearly signed at street locations as a private street.

   Easements are granted to each of the properties using the private street/road for purposes of access (ingress and egress) and utilities for the full width of improvements plus any land needed for construction, grading (i.e. fill or cut slopes) and maintenance or other items that may be required. Minimum easement widths for residential access is 25 feet and commercial is 30 feet.

   Easements are granted to the City for any public utilities within the private street/road adequate for purposes of maintenance, access, and construction. The City will define the easement widths and areas depending on items including but not limited to location and depth of utility, soil conditions, and surrounding topography.

   Street illumination is required at the intersection of a private street/road and a public street. No street lighting is required on the private street/road.

   Private streets shall conform to public street construction standards.

   Acceptance of private streets as public streets will be considered if the street meets all applicable public street standards contained herein.

1. Utility requirements shall be per Issaquah Development Standards.

2. Storm Drainage improvements shall be as required per the Stormwater Management Policy IMC 13.28 and approved by the City Engineer.

3. General Criteria: The following general criteria shall apply to the installation of driveways on private property:

   a. There must be at least eighteen feet (18') of full height curb between driveways serving any one property frontage.

   b. There must be a least nine feet (9') of full height curb between any driveway and the property line extended.

   c. New driveways shall be paved from the existing edge of pavement to 20 ft. behind the sidewalk.

   d. Commercial driveways and private streets located closer than one hundred feet (100') from the approach to an arterial intersection shall be signed and marked "Right Turn Only" unless otherwise approved by the Engineer.

M. Street Frontage Improvements

1. Street Ends

   a. Vehicle turn arounds shall be provided at all public and private street ends.

   b. Landscaping in the islands shall be installed and maintained by the adjacent property owners.

   c. Hammerheads may be used in lieu of a cul-de-sac provided that the street serves six (6) or less lots and the street is less than two hundred feet (200') in length.

   d. Temporary Dead Ends. Where a street is temporarily dead ended, turn around provisions must be provided where the road serves more than one lot. The turn around may be a hammerhead if the dead end is less than two hundred feet (200') in length. If over two hundred feet (200') long, a cul-de-sac with a minimum outside radius of fifty feet (50') is required. The turnaround shall be signed as "Temporary Dead End" with language stating that future extension of the roadway is planned.

e. Cul-de-sac streets shall not be more than six hundred feet (600') in length, unless authorized by the City Engineer. It must be shown that a cul-de-sac of a longer length is the only alternative method of serving or developing the property.

2. Street Ends Improvements

Cul-de-sacs shall have a minimum outside curb radius of fifty feet (50'). Islands shall be installed in the middle of cul-de-sacs and a thirty foot (33') wide roadway maintained around the island. Landscaping shall be installed in all islands. Islands shall be delineated by rolled curbing, Standard Drawing T-16.

The maximum grade in any street end shall be eight percent (8%) in any direction.

Appropriate signing and/or barricades shall be installed. See Standard Drawings for schematic layout.

3. Survey monuments

Monuments shall be located at all centerline intersections of intersecting streets. Monuments shall be placed at both point of curve and point of tangent of each curve within the street(s). Monument and monument case and cover shall be supplied and installed per Standard Drawing T-43. Monuments shall be set by Professional Land Surveyor, licensed in the State of Washington.

N. Pedestrian Sidewalks and Walkways

Sidewalks and walkways shall be constructed per Standard Drawing T-38.

Pedestrian sidewalks and walkways shall meet the latest American with Disabilities Act (ADA) Guidelines. Stamped decorative concrete is permitted to be used per approval of the City Engineer and shall not be located within the Pedestrian Zone along the sidewalk in accordance with the ADA Guidelines.

1. Asphalt concrete or other material type (other than concrete) may be approved upon review of proposed deviation based upon the following criteria:

   a. Where the sidewalk/walkway, as determined by the City, is deemed to be of a temporary nature (such as during construction activities) or due to future construction considerations.

   b. Where soil or topographic conditions, as determined by the City, dictate a flexible pavement.

c. Where tree protection is required. *Back to Table of Contents*

2. Minimum Pedestrian Sidewalk/Walkway widths are provided below. These widths are minimum widths but the City Engineer may require wider widths, and additional right-of-way, based on the following criteria:

   a. Adopted codes, policies and plans such as, but not limited to, Olde Town Design Standards, Subarea Plans, Development Agreements such as Talus, Issaquah Highlands, etc.

   b. Allowances for various sidewalk activities including, but not limited to, barrier-free requirements with a minimum 5 ft. clear to meet ADA, street furniture, adjacent land use activities (for example outdoor seating, retail display), and bus stops.

   c. Local Streets (Residential): Five feet (5')

   d. Local Streets (Commercial/Industrial): Six feet (6')

   e. Arterial Streets: Eight feet (8')

   f. Width of sidewalk/walkway is measured from the back of the curb to the back of the sidewalk/walkway when the sidewalk/walkway is adjacent to the curb.

   g. Meandering sidewalks/walkways shall maintain the full design width around obstructions that cannot be relocated. Additional right-of-way (or easement) may be required to either relocate the obstruction or meander the sidewalk/walkways.

O. Multi-Use Path Design

Construction Requirements. (See also Section under Standards U. Right of Way regarding easements)

Multi-use paths shall be a minimum pavement width of twelve feet (12') wide with two feet (2') gravel shoulders on each side. A design deviation for widths less than twelve feet (12') wide would need to be submitted for approval to the City Engineer but no less than ten feet (10') wide with two feet (2') gravel shoulders on each side or as otherwise approved by the City Engineer in accordance with IMC 18.07.080 or 18.07.081. Multi-use paths designated in the Non-Motorized Transportation Plan shall be per City design. Access easements shall comply with current right of way standards.

Surface materials shall meet the requirements of the American Disability Act.

Multi-use paths shall be located a minimum of four feet (4') from the edge of the

Vehicular travel way unless no practicable alternative exists and when approved by the City Engineer. A protective barrier is to be provided within the four (4') or if landscaping is provided, the minimum width is five (5").

An approved herbicide shall be applied before the surfacing is applied. Type of herbicide shall be reviewed and approved by the City Engineer.

Maximum grade is fifteen percent (15%). Minimum curve radius is ten feet (10').

Access easement termination (Type II) shall be installed as directed by the Engineer per Standard Drawing T-55.

P. Traffic Control Devices

1. Pavement Markings

a. Location and material type of pavement markings shall be shown on the engineering plans, and must be approved by the City Engineer.

b. A raised profile striping made from Methyl Methacrylate may be used.

c. All pavement markings including reflectivity and other specifications shall be in conformance with the latest version of the Standard Specifications of the Washington State Department of Transportation (WSDOT) and the Manual of Uniform Traffic Control Devices (MUTCD) as modified by WSDOT.

2. Traffic Signs

All traffic control signs including, but not limited to, street name signs, regulatory signs (including "stop", speed limit signs, "no parking" signs), warning signs, and barricades, as required by the Engineer, shall conform to the standards of the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD), as modified by WSDOT.

All traffic control sign installations shall conform to the location and placement standards per the MUTCD, be manufactured of the diamond grade sheeting type and shall be accompanied by the appropriate pavement markings.

Detail specifications for various signs are shown in the Standard Details. Signs are to be made of aluminum sheeting, 0.08 gauge, material.

3. Traffic Signals

Back to Table of Contents

The following provides the City's general specifications for the types of traffic signals and appurtences as a guide to developers, planners, and City personnel in planning for, or installing those traffic signals within the City of Issaquah.

Intersection improvements shall be designed and constructed in accordance with accepted engineering practices and the standards/requirements set forth in the following references:

Latest Edition of WSDOT Standard Specifications for Road, Bridge, and Municipal Construction and Standard Plans

Latest Edition of the Manual on Uniform Traffic Control Devices (MUTCD)

Latest edition of Highway Capacity Manual (HCM)

Latest edition of A policy on Geometric Design of Highways and streets (Green Book), AASHTO

City of Issaquah Street Standards, City Standard Drawings, City Special Provisions to the WSDOT standard specification and common Issaquah practices. Please contact the city for the most recent copy of special provisions.

Latest edition of the Washington State Department of Transportation (WSDOT) Design Manual

National Electric Code (NEC) and the National Electric Safety Code (NESC).

Traffic signal designs shall be prepared by a licensed engineer experienced in traffic signal design.

a. Traffic Signal Plans

Traffic signalization plans shall be drawn at a scale of 1" = 20'.

Information on the plans shall include, but not limited to, placement of all poles, signal heads, conduit, detector loops, loop leads, interconnect fiber optic cables, pavement markings, signage, junction boxes, CCTV cameras, handicap ramps and controller cabinet.

Signal plans to include phase sequence diagram, signal head displays, pre-emption schedule, equipment schedule, conduit and wiring schedule including conduit fill calculations, cabinet wiring terminations, signal standard detail chart, foundation depth table, pole orientation

and attachment point detail, foundation detail, field wire terminations, camera mounting details (CCTV and video detection if applicable), breaker schedule, transformer details (if needed), loop detection input terminations, pedestrian pushbutton orientation, fiber routing schematic, fiber optic splice and termination details, variable message signs details (if applicable), construction notes and other applicable detail sheets.

All signal plans shall show the location of the existing improvements, existing and proposed right-of-way lines, underground and overhead utilities, sewers, underground traffic signal facilities. Overhead utilities shall be verified for minimum clearance to the proposed signal equipment. When potential conflicts with utilities exist, additional right-of-way or easement is required to avoid the utility. If this is not feasible, the utility company should be contacted regarding the relocation of the utility. Underground utilities shall be potholed and surveyed at locations of possible conflict.

Signal plans shall be in agreement with the Channelization/ Paving/Striping plans.

b. Intersection Geometry

Intersection approaching and receiving lane offset should be avoided. Opposing exclusive left-turn lanes should have no offsets so that they directly align opposite each other.

For through movement traffic, the approaching lanes should line up with the receiving lanes. Skewed intersections are difficult to signalize and delineate. Keep the skew angle as close to 90 degrees as possible to provide more normal approaches and exits.

Where opposing left turn movements occur at an intersection, both of the opposing approaches shall have the same type of left turn phasing whether protected-permissive, protected, or permitted. When opposing approaches are not operated with the same type of left turn phasing, a potentially dangerous condition known as the yellow trap or fools yellow can occur under certain operational conditions.

Split phasing may be required due to shared through/left lanes, turning path conflicts or limited sight distance. This is an inefficient way to operate a signal and should be avoided where possible.

Public transit “stop” and “pull out” locations can affect signal operation. When possible locate these “stops” and “pull outs” on the far side of the intersection and as far away from the intersection as possible.

Driveway and roadway approaches that are located too close to an intersection, can affect the intersection operation. Right-in/Right-out access restrictions should be considered.

The location of stop bars shall be designed based on the path of the design vehicle's turning radii. Also, the turning paths of opposing left-turn movements should be checked to insure this operation is possible for concurrent left turn movement. Turning path of the design vehicles shall be included on the plans.

c. Traffic Signal Phasing

As with other forms of traffic control, an effort should be made to identify the least restrictive form of intersection control that will safety accommodate all users.

d. Left-Turn Phasing

Left-Turn Phasing - The selection of the most appropriate form of left-turn phasing should be supported by an engineering study. Left-turn phasing can be either permissive, protected, or a combination of both that is referred to as protected/permissive. Factors that may be considered in the study include, but are not necessarily limited to are, sight distances, traffic volumes, multiple left-turn lanes, intersection capacity analysis (LOS, delay, 95^{th} percentile queue), accident history, posted speed limit, number of opposing through traffic, traffic signal progression, intersection geometric design, maneuverability of particular classes of vehicles, high pedestrian volumes, adequacy of gaps, etc.

e. Right-Turn Phasing

Right-turn overlap phasing is recommended at locations with a dedicated right-turn lane where the intersecting street has a protected left-turn movement.

f. Split Phasing

Split phasing shall not be considered unless no other feasible alternative exists for the intersection.

g. Signal Heads

L.E.D. indications shall be used for all signal heads.

12-inch signal lenses shall be used.

All signal displays shall have backplates with 1 inch yellow reflective edge band.

Maintain 8 feet between all signal displays for a given approach.

Traffic signal heads should be arranged in accordance with MUTCD. Heads shall be vertically aligned.

Programmed visibility heads shall only be used when unusual conditions exist.

Use directional, extended visors for appropriate signal displays at a skewed intersection. The intent is to shield visibility of signal displays, which could be seen by drivers on an approach for which the displays are not intended.

Use one (1) 5-conductor cable for each 3-section signal head. Use one (1) seven-conductor cable for each 4-section bi-modal or 5-section signal head.

When future vehicle signal display installation is planned on a mast arm, wiring for these displays shall be terminated (with the slack length coiled) in the mast arm and tennons shall be installed for future use.

h. Protected-Only Left-Turn Phasing

Left turn indications shall be all arrows.

i. Protected/Permissive Left-turn Phasing

The 5-section ”Doghouse” lens arrangement should be used for protected/permissive left turn movement for mast arms mountings. A “LEFT TURN YIELD ON GREEN” with a symbolic green ball sign shall accompany all protected plus permitted left turn signal head installations.

In addition, the flashing-yellow arrow 4-section head may be used as approved by the City Engineer.

j. Right-Turn Overlap Phasing

Use a four section bi-modal signal head for the right-turn overlap. A “TURNING TRAFFIC MUST YIELD TO PEDESTRIANS” sign shall accompany all right-turn overlap signal head installations if pedestrian crossings are provided on the cross street.

k. Dual Left Turns

A left turn head shall be provided for each left turn lane.

l. Pedestrian Displays

Pedestrian displays are required at all signalized intersections unless the pedestrian movement is prohibited. Install crossing prohibition signs where pedestrian crossing is not allowed.

A pedestrian interval countdown display should be added to a pedestrian signal head to inform pedestrians of the number of seconds remaining in the pedestrian change interval.

All pedestrian signal displays shall be the Light Emitting Diode (LED) type.

Use (1) seven-conductor cable for a dual pedestrian display. Use (1) five-conductor cable for a single pedestrian display. Use two-conductor cable for each pedestrian detector.

m. Pedestrian Push Buttons

Pedestrian push buttons are required at all signalized intersections unless the pedestrian movement is prohibited.

All pedestrian push button assemblies shall meet American Disability Act (ADA) requirements.

n. Accessible Pedestrian Signals

Accessible pedestrian signals provide information in a non-visual format such as audible tones, verbal and tactile messages, and/or vibrating and tactile surfaces. If a particular signalized intersection presents difficulties for pedestrians who have visual disabilities to cross reasonably safety and effectively, an accessible pedestrian signal may be provided to augment the standard pedestrian signal. Accessible pedestrian signals shall meet City of Issaquah specifications and conform to MUTCD requirements.

o. ADA Accessible Wheelchair Ramps

ADA accessible wheelchair ramps should be included on all traffic signal projects where none currently exists.

p. Emergency Vehicle Preemption

Emergency Vehicle Preemption (EVP) shall be included as part of any new traffic signal installation or modification. Opticom equipment

should be used as the standard for EVP. Refer to the City EVP specifications.

q. Controller and Service Cabinets

Controller cabinets shall be placed in a location that can be safely accessed by the signal technicians and provide visibility of the signal indications on both streets. The controller cabinet location should not restrict sight distance at the intersection. The cabinet door should face away from the intersection.

Service cabinet shall be located adjacent to the controller on the same foundation pad (combined cabinet foundation) and the foundation pad shall extend level for 3 feet from the cabinet door for maintenance access.

r. Uninterruptible Power Supply Systems (UPS)

A battery back up system as specified by the City of Issaquah shall be installed.

s. Signal Poles and Mast Arms

All signal pole foundation design work requires a soil investigation. Attach soils analysis for each signal standard to verify foundation design.

Wind load calculations for signal mast arms for proposed and future phasing conditions shall support foundation sizing. Attach back up design data for all special designs.

A1 and A2 height calculations for proposed and future phasing shall be performed to verify minimum/maximum allowed roadway clearances. Cross section shall be attached for review.

The top of the pole foundation shall be level with the finished grade. Where foundations will be installed on slopes provide detail to assure foundations will be flush with grade.

Locate signal poles outside of Pedestrian Zone.

t. Vehicle Detection

Inductive Loop detectors shall be required unless otherwise specified by the City Engineer. Loops shall be installed according to the city of Issaquah Standard Details TS-2 to TS-4 and City Special Provisions.

Video detection may be approved in cases where private drives limit the installation of in-pavement traffic detection loops. Temporary video

detection may also be provided during construction. Refer to the City Special Provisions for video detection specifications.

The set of loops furthest upstream shall be brought in on separate lead-ins.

The distance from a vehicle loop installation and it's nearest associated junction box shall be 50 feet or less.

Junction boxes must be large enough to accommodate loop splices.

The City Engineer may also require the installation of detection for the purpose of collecting traffic counts (system detectors, right-turn loops, etc.)

u. Conduits

A spare (empty) 3-inch conduit with nylon pull strings shall be installed between the controller cabinet and the closest junction box.

A spare (empty) 4-inch conduit filled with four (4) 1-inch inner ducts are to be installed along property frontages and at major intersection locations for terminating in ITS Fiber Vaults.

Three-inch spare conduit with nylon pull strings should cross all legs of the intersection for future use.

v. Junction Boxes

Junction box capacity shall be calculated to ensure that the right size junction box is provided.

Install a junction box near each signal pole and route wiring to the pole through the junction box.

Locate junction boxes off of the traveled section of the roadway. Junction boxes shall be located outside the Pedestrian Zone. Junction boxes shall not be placed in wheelchair ramps.

w. ITS Fiber Vaults

Where 4-inch with four (4) 1-inch inner ducts are required, ITS Fiber Vaults, type and location, to be determined by City Engineer.

x. Electrical/Wires/Cables

The high voltage cable should be separated from the low voltage cables as much as possible.

Power disconnect shall be provided.

A minimum of ten feet distance (circumferential) shall exist between power lines including neutral wires and any signal or illumination structure.

Perform electrical load calculations and line loss calculations to support breaker, wire, and lighting contactor sizing where applicable for each electrical circuit.

At every signal pole, provide a terminal cabinet with one spare 12 position terminal block for future use. Terminate all spare wires.

y. Fiber Optic Communication Cables

Installation of fiber optic interconnect is required between signalized intersection.

Refer to the City special provisions regarding installation of fiber optic conduits and cables, fiber vaults and fiber optic equipment (Ethernet switches, patch panels, etc.).

Install 2-inch conduit to connect fiber optics vault to the traffic signal junction box on the cabinet corner.

Fiber optic cable shall be installed and extended to the nearest existing traffic signal installation to provide interconnection for the City of Issaquah traffic signal system. If the new traffic signal is installed along an existing interconnect system, the developer shall be responsible for bearing any and all cost necessary to incorporate the new installation into the existing system.

When communication cable is installed as part of a new system, the communication cable shall be kept separate from all other wiring.

When communication cable is installed within the limits of an existing signal system, the communication cable shall be kept separate from all other wiring, with the exception that it may be combined with signal power circuits which are 120 volts or less, such as a five conductor for signal heads. If possible, however the communication cable should be kept separate.

Q. CCTV Traffic Cameras

Refer to the City specifications/special provisions for camera installation and testing requirements.

CONSTRUCTION

Back to Table of Contents

A. Site Maintenance

The Developer or Contractor shall schedule and control work so as to comply with the applicable provisions of the Right-of-Way Use Code and Procedures, Issaquah Municipal Code Section 12.12, Clearing and Grading Ordinances Section 16.26 and Temporary Erosion and Sediment Control, Issaquah Municipal Code Section 16.30 to prevent any hazards to public safety, health and welfare.

Two-way traffic shall be maintained at all times on existing streets unless detour plans or temporary traffic control plans along with public notification has been approved in advance by the City Engineer.

Streets shall be kept free of dirt, mud, rocks and other debris on a continuous basis in conformance with the Right-of-Way Use Code & Procedures (12.12).

Pedestrian facilities, to and from the fronting of the site, shall be kept free of obstructions, safety hazards and continuity maintained at all times.

Pedestrian and vehicular access to occupied buildings shall be maintained at all times except where prior approval from the building owner and City has been obtained.

Maintenance access shall be provided at all times to all existing City Utility appurtenances that require routine maintenance or emergency access.

B. Curb and Gutter Types and Application

1. Soft sub-grade areas are to be removed and replaced with crushed surfacing top course.

2. No new curb and gutter is to be poured until forms have been inspected for line, grade and compaction by the Engineer.

C. Concrete Sidewalks

Sidewalks shall be constructed per Standard Drawings. In all cases, sub-grade and rock grade shall be approved by the Engineer prior to concrete being placed.

Generally, score marks are to be placed on five-foot (5') centers, but at the discretion of the inspector, this may be changed to make for a better match with the surrounding area.

Expansion joints shall be placed to match those placed in curbs if new sidewalk is poured adjacent to curb and gutter. In all other cases the maximum spacing on expansion joints shall be twenty feet (20') center to center per Standard Drawings.

Include a 4” sleeve, schedule 40 PVC, perpendicular to the sidewalk every 300 to 600 feet approved by the City Engineer capped at each end and including a locate wire.

D. Trenching and Restoration

Construction Requirements: See Standard Drawings T-47, T-48, T-49 and T-50.

1. Trench restoration shall be either by a patch or overlay method. When a patch method is used, the trench limits shall be sawcut prior to the final patch. The edges shall be sealed using an approved sealant.

2. Trench backfill and surfacing shall be as shown in the Standard Details. Surfacing depths shown in the Standard Details are minimums and may be increased by the Engineer to meet traffic loadings or site conditions.

3. All trenches and pavement cuts shall be made by sawcuts. The sawcuts shall be a minimum of one-foot (1') outside the trench width. If the permit requires an overlay then the Contractor may use a jackhammer for the cutting of the existing pavement.

4. Temporary restoration of trenches for overnight use may be accomplished by using MC mix (cold mix), asphalt treated base (ATB), hot mix (HMA), or steel plates. ATB used for temporary restoration, restrained to prevent movement, may be dumped directly into the trench, bladed out and rolled. After rolling, the trench must be filled flush with asphalt to provide a smooth riding surface. If steel plates are used, they must be pinned and edges sealed with asphalt and signing must be installed in advance of the steel plate that reads “Motorcycles Use Extreme Caution”.

5. Asphalt Treated Base (ATB) shall be placed to the compacted depth as shown in the Standard Details or as directed by the City Engineer. Asphalt cement shall be paving asphalt CRS-1. The materials shall be made in conformance with Section 9-02.1(4) of the "State of Washington Standard Specifications for Road, Bridge and Municipal Construction". The aggregate for asphalt treated base shall meet the requirements of Section 9-03.6 of the "State of Washington Standard Specification for Road, Bridge, and Municipal Construction."

6. Tack shall be applied to the existing pavement and shall be emulsified asphalt grade CSS-1 as specified in Section 9-02.1(6) of the "State of Washington Standard Specifications for Road, Bridge, and Municipal Construction". Tack coat shall be applied as specified in Section 5-04 of the "State of Washington Standard Specifications for Road, Bridge, and Municipal Construction".

7. Asphalt concrete shall be placed on the prepared surface by an approved paving machine and shall be in accordance with the applicable requirements of Section 5-04 of the "State of Washington Standard Specifications for Road, Bridge, and Municipal Construction", except that longitudinal joints between successive layers of asphalt concrete shall be displaced laterally a minimum

of twelve inches (12"). Fine and coarse aggregate shall be in accordance with Section 9-03.8 of the "State of Washington Standard Specifications for Road, Bridge, and Municipal Construction".

All street surfaces, walks or driveways within the street trenching areas affected by the trenching shall be feathered and shimmed to an extent that provides a smooth riding connection and expeditious drainage flow for the newly paved surface. Shimming and feathering as required by the Engineer shall be accomplished by raking out the oversized aggregate from the mix as appropriate.

The asphalt depths may vary based upon which streets are being trenched and whether the trenching is parallel or perpendicular to the streets. The actual depths of asphalt shall be shown on the Right-of-way Use Permit and the work shall be performed per the Standard Details.

8. The material shall be placed with an approved paving machine employing those methods described in the "State of Washington Standard Specifications for Road, Bridge, and Municipal Construction", unless otherwise approved by the Engineer.

9. All joint and crack sealing material shall conform to Section 9-04 of the "Standard Specifications for Road, Bridge, and Municipal Construction".

   The final patch or overlay shall be completed as soon as possible and shall be done within fourteen (14) days after first opening the trench. This time frame can be adjusted if delays are due to inappropriate paving weather, or other conditions that may exist. However, delaying of final patch or overlay work is allowable only subject to the City Engineer approval. The City Engineer may deem it necessary to complete the work within the fourteen (14) day's time frame and not allow any time extension. If this occurs, the Contractor shall perform the necessary work as directed by the City Engineer. Any patch or overlay within a commercial or Central Business District shall be permanent and completed as soon as possible, but no longer than fourteen days.

E. Rockeries

Rockwalls are not considered structural elements and therefore should not be designed to retain material similar to retaining walls, soil-nail walls, or mechanical stabilization walls.

1. Rockwall Materials

   a. Two-man rocks (300 to 800 pounds), 13"-18" in least dimensions;

   b. Three-man rocks (800 to 1,500 pounds), 18"-24" in least dimensions;

c. Four-man rocks (1,500 to 2,100 pounds), 24"-32" in least dimensions;

d. Five-man rocks (2,100 to 3,000 pounds), 30"-38" in least dimensions; and

e. Five-man rocks shall be used for bottom course rock in all rock retaining walls over seven feet (7') in height.

f. Rock materials shall be as nearly rectangular as possible. No stone shall be used which does not extend through the wall. The rock material shall be hard, sound, durable and free from weathered portions, seams, cracks and other defects. The rock density shall be a minimum of one hundred sixty pounds (160 lbs.) per cubic foot.

2. Backfill material

a. The backfill materials shall be placed in lifts to an elevation approximately six inches (6") below the top of each course of rocks as they are placed until the uppermost course is placed. Any backfill materials on the bearing surface of one rock course shall be removed before setting the next course.

3. Rock Selection and Placement:

a. Rock selection and placement shall be such that there will be minimum voids and, in the exposed face, no open voids over six inches (6") across in any direction.
b. The final course shall have a continuous appearance and be placed to minimize erosion of the backfill material.
c. The larger rock shall be placed at the base of the facing so that it will be stable and have a stable appearance.
d. The rocks shall be placed in a manner such that the longitudinal axis of the rock shall be at right angles to the face.
e. The rocks shall have all inclining faces sloping to the back of the facing.
f. Each course of rocks shall be seated as tightly and evenly as possible on the course beneath.
g. After setting each course of rock, all voids between the rocks shall be chinked on the back with quarry rock to eliminate any void sufficient to pass a two-inch (2") square probe.

4. Structural Fill

a. When rockeries are constructed in front of a fill, it is imperative that the fill be placed and compacted as to provide structural fill. All fills will be placed in lifts not exceeding ten inches (10") in loose thickness. Each lift to be compacted to ninety percent (90%) of the maximum dry

density as determined by ASTM Test Method D-1557-78 (Modified Proctor), before any additional fill is placed and compacted. In-place density test will be performed at random locations within each lift of the fill to verify compaction.

F. Retaining Walls

All retaining walls supporting transportation infrastructure shall meet the minimum requirements set forth in the latest edition of the International Building Code.

G. Jacking or Boring – Roadway Crossing (Preferred Method)

The Contractor shall use a method of jacking or boring which provides satisfactory results and is acceptable to the Engineer. The Contractor shall restore the crossing area to its original condition. Crossings require the placing of steel, cast iron or HDPE pipe casing by jacking or tunneling and laying the pipeline within the casing.

H. Foundation Gravel

Foundation gravel shall be coarse graded gravel or crushed rock passing a three inch (3”) mesh and may be used for replacement of unsuitable material in the bottom of trenches more than six inches (6”) below the bottom of pipes.

I. Pipe Embedment

Bedding materials shall be one of the following at the Contractor’s option unless otherwise directed by the Engineer or otherwise provided for in the special provisions for the project:

1. Sand which shall be a clean mixture free from organic matter and conforming to the following gradation:

U.S. Standard Sieve Size	% Passing by Weight
3/4”	100
3/8”	70-100
#4	55-100
#10	35-95
#20	20-80
#40	10-55
#100	0-55
#200	0-3

2. Pea Gravel which shall be a clean mixture free from organic matter and conforming to the following gradation:

U.S. Standard Sieve Size	% Passing by Weight
3/4”	100
3/8”	95-100
#8	0-10
#200	0-3

J. Patching

All streets which are excavated or damaged as a result of any improvements shall be fully restored by the permittee in accordance with these Standards. Backfill material shall comply with these Standards and surface repair shall be completed according to the following requirements:

1. All existing asphalt edges surrounding the area to be patched shall be squared cut to a vertical plane, cleaned and coated with an approved asphalt emulsion.

2. The HMA asphalt concrete wearing coarse shall be applied in lifts as per WSDOT Standard Specifications for Road and Bridge Construction Section 5-04. The finished patch shall have minimal crown to allow for traffic compacting.

3. All edges of the patch shall be sealed on the surface with hot tar. The tar shall then be sprinkled with clean sand.

4. Asphalt concrete patches shall be installed as shown on Standard Details T-47, T-48 and T-49 and edges sealed with tack or emulsion asphalt; type of asphalt as determined by conditions and temperature. Total or partial street overlays may be required on top of all patches.

5. If the final restoration of open cuts is inadequate to protect the base of the street from erosion caused by intrusion of water, the contractor shall be required to overlay the full width of the street.

6. If the final restoration of the open cut is greater than 50% of the driving lane, the entire lane will be repaired.

K. Construction Area Traffic Control

1. All temporary and permanent traffic control signs, devices and pavement markings, installation, location, placement shall conform to the standards of the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD), as modified by WSDOT.

2. Traffic Control Plans shall be submitted to the City Engineer for review and approval prior to commencing construction.

L. Traffic Signal Construction

Except as modified in the plans and special provisions, all signal installations and modifications shall be constructed and tested in accordance with the applicable sections of the latest edition of WSDOT Standard Specifications for Road and Bridge Construction and applicable Standard plans, applicable special provisions, MUTCD, City standards and specifications.

All signal installations shall meet NEC requirements

All illumination and traffic signal system shall be tested as outlined in the Standard Specifications.

All signalization equipment used as part of a new traffic signal installation or upgrade shall conform to City of Issaquah specifications.

The contractor is responsible for obtaining all permits from the appropriate agencies.

The contractor shall be responsible for locating and protection of all underground and aerial utilities and constructions likely to be affected by this work.

The contractor shall be responsible to restore any damage or modification to landscape/irrigation to pre-construction condition (modified landscape shall be paid for as part of traffic signal lump sum).

Unless otherwise specified, a new overhead street name sign shall be furnished and installed on each mast arm as shown in the City Standard Drawings.

1. Work Involving Modification to Existing Signals

If portions of the existing traffic installations are to be incorporated in the proposed signal installations, the existing signal controls shall be kept in operation during installation of the proposed signal modifications and improvements, except for shutdowns to allow for alterations as required for installation of the proposed improvements.

The Contractor shall coordinate planned disruptions of signal operations with the City Engineer 48-hours in advance of such disruptions of operations. The Contractor shall be responsible for maintaining adequate traffic control during any period of disruption to the existing signal.

Planned disruption of signal operations shall be limited to the hours between 9:00 am and 2:00 pm, Tuesday through Thursday, excluding City observed Holidays, unless prior authorization has been obtained from the City Engineer.

The Contractor shall contact the City Engineer a minimum of 3 business days in advance to determine which existing signal equipment shall be salvaged and delivered to the City's PWO maintenance yard. Existing equipment deemed unsalvageable by the City shall be the responsibility of the contractor to properly dispose.

Existing signal poles shall remain visible and illuminated until the new signals are activated.

In the event the contractor damages the existing signal conduits and cables, repairs shall be made within 24 hours at the Contractor's cost by an electrical contractor, to the satisfaction of the City as directed by City of Issaquah.

2. Utilities

The locations of all existing utilities as shown on the plans are approximate. The Contractor shall determine the location and depth of all utilities including those not shown on the plans or any other utility unable to be located by the City and verify all job site conditions. Potholing for utilities at proposed signal pole locations is required.

Any damage to existing utilities shall be the responsibility of the contractor and shall be repaired promptly in a manner satisfactory to the utility owner at the contractor's expense.

The Contractor shall be responsible for coordination with the serving electrical utility company.

3. Materials Approval and Installation

Before commencing the installation of traffic signals, a complete schedule of materials and equipment proposed for installation shall be submitted to the Engineer for approval. This schedule shall include catalog cuts, diagrams, drawings, and other such descriptive data that may be required by Engineer. After approval, no substitutions of any approved materials may be made without the written approval of the engineer.

All materials shall include the manufacturer brand name and part number where applicable. Six (6) copies of each submittal shall be supplied. In the event that any materials or equipment contained in the schedule fail to comply with specification requirements or are not circled, such items may be rejected. New submittals on rejected items shall be supplied to the Engineer for review.

All manufactured items, materials and equipment must be installed in strict accordance with the manufacturer's recommended specifications except that the specifications herein, where more stringent, shall be complied with.

When it is required that a test be made of the material to be used on the project, the Contractor shall furnish the Engineer a certified copy of the test prior to installation of such material.

All additional field sampling and testing deemed necessary by the Engineer shall be performed by the City or by a Testing Laboratory selected by the City. The cost for all such test, showing compliance with the Specifications, shall be paid by the City. However, in the event that any test indicates non-compliance with the Specifications, additional testing will be paid for by the Contractor to determine acceptability of the material or methods.

4. Signal Post and Mast Arm Pre-Approval

Traffic signal poles and mast arms shall not be ordered until the exact location of the pole bases is field verified.

Fabricators shall submit six (6) copies of shop drawings and supporting calculations to the City. Submittals shall be approved by the project engineer or his authorized representative in writing prior to fabrication of the signal posts and mast arms. Shop drawing shall indicate complete design details required for post and mast arm fabrication, including material grades and thickness, welding and orientation and any longitudinal seams. The projected areas and weights (masses) of signs and signals used in the in the design of the post and mast arms shall be shown on the shop drawings.

Shop drawing shall provide post and mast arm installation and hardware details. All welding procedures shall be prepared by the manufacturer as written procedure specification and shall be submitted with the shop drawing for approval. Approval of the weld procedures will be required before approval of the shop drawings. Shop drawings shall indicate the specific approved welding procedure to be used for each joint.

Shop drawings and supporting stress calculations shall be signed and sealed by a registered professional engineer. Manufacturers shall submit any additional documentation, required by the engineer.

5. Signal Heads

All vehicle and pedestrian traffic signals indications shall be L.E.D. type in accordance with ITE specifications.

Signal heads shall be covered until signal turn on to clearly indicate the signal is not in operation.
The signal head covering material shall be of sufficient size to entirely cover the display. The covering shall extend over all edges of the signal housing and shall be securely fastened at the back.

6. L.E.D./Bi-Modal Signal Head

A 12-inch L.E.D. signal section capable of alternately displaying a yellow arrow and a green arrow shall be furnished and installed where specified in the plans.

7. Optically Programmed Signal Head

The visibility zone of the optically programmed signal heads shall be set as directed by the Engineer.

8. ADA Pedestrian Indicators

Audible pedestrian indicators shall meet the requirements of the American Disability Act. Installation shall be done in conformance with procedures specified by the manufacturer and approved by the Engineer.

9. Pedestrian Push Buttons

Pedestrian pushbuttons must be properly oriented and installed on poles or pedestals. All buttons installed on steel poles must be serviced by wiring inside the poles. Pushbutton installation must be ADA compliant. Signs must be included with each direction that pedestrian pushbutton stations are used.

10. Controller Cabinet and Controller

Controller cabinet, all associated equipment (i.e. load switches, flash trans for relays, detector amplifier, etc.), and controller shall be delivered to Public Works Operations (PWO) for testing/acceptance prior to installation in the field. Contractor shall pick up cabinet following testing/acceptance.

The Contractor shall give seven (7) calendar days written notice to the Engineer prior to delivering the controller cabinet and the controller to the PWO facility for testing/acceptance. The equipment shall be delivered far enough in advance of actual need to allow for testing by PWO. The Contractor shall also notify the City in writing a minimum of seven (7)

calendar days before the Contractor is ready to pick up the signal controller cabinet.

Controller cabinets shall be pad mounted and all wires coming into the cabinet shall be tagged and labeled.

11. Vehicle Detection

The loops shall be installed per City of Issaquah Standard Plans TS-02 to TS-04 and Special Provisions and input terminations designed per Standard Plans TS-05.

The field loop conductor installed in the pavement shall run continuously from the terminating service box, junction box, or base, with no splices permitted. The filed loop conductor shall be spliced to the feeder cable and the feeder cable shall run continuously from the terminating service box, junction box, or base to the detector sensing until terminal.

The location of each loop shall be marked on the pavement. The Contractor shall obtain the approval of the city staff prior to cutting the saw slots.

Existing vehicle detection shall be maintained at all times. In the event that existing detector loops must be disconnected, the Contractor shall furnish and install video detection as approved by the Engineer. The temporary video detection shall remain in operation until permanent loops are functional or as approved by the Engineer. The video detection camera mounting location shall be approved by the Engineer prior to installation. Refer to the City Special Provisions for video detection requirements.

Traffic signal detectors that unintentionally cut or damaged during construction shall be repaired or replaced by the Contractor at Contractor's expense, regardless of fault, within twenty-four (24) hours.

12. Conduits

Conduit bends, except factory bends, shall have a radius of not less than six times the diameter of the conduit. Where factory bends are not used, conduit bends shall be made without crimping or flattening, using the longest radius practicable and utilizing an appropriate conduit bending tool.

Open end/spare conduits placed for future use shall be capped or plugged.

New conduits shall not be filled to more than 26% capacity. Existing conduits shall not be filled to more than 40% capacity.

Only new conduits shall be installed.

Back to Table of Contents

13. Electrical/Wires/Cables

All wiring throughout each traffic signal installation shall be in strict accordance with the National Electrical Code, and all local applicable codes. The contractor shall pay particular attention to those sections of the NEC which refer to grounding and bonding.

All signal heads must be wired with individual cable runs to the traffic control cabinet. No “looping” in and out of signal heads will be accepted. Each cable run into the cabinet shall be marked with the corresponding phase and/or signal head number.

All unused conductors shall be terminated and neatly banded and appropriately labeled in the controller cabinet.

A minimum of six (6) feet of slack or excess cable shall be left in each service box for traffic cable, detector lead-in wire, video cable, and emergency vehicle preemption cable. A minimum of hundred (100) feet of excess fiber optic cable shall be left in each fiber optic vault. The excess cable shall be neatly coiled within the vault.

All cables and individual wires shall be marked for identification with weatherproof tags at the cabinet and termination points.

All conductors shall be a continuous run from controller box terminal to pole base with a minimum of three (3) feet slack left in each cable for termination in pole bases. A ground wire consisting of a #6 AWG, stranded conductor, having green THHN insulation, shall be provided to bond all the system together.

Splicing shall only be permitted in pole bases and detector lead-in pull boxes. The only exception will be street lighting conductors at service box junctions. After splicing and labeling, cables shall be cabled together and wrapped with a nylon cable tie. The bundle shall be neat in appearance and be easily removed from the pedestal base through the hand hole for inspection, service and testing. Continuous run cables shall be looped through the bundle. All labels shall be clearly visible when the bundle is removed form the pedestal base.

Splicing of coaxial video cable shall not be permitted under any circumstances.

All outboard signal heads on mast arms and all pedestal mounted signal heads shall have continuous, un-spliced individual cable runs from the heads to the controller. The cable size shall be as designated in the plans.

Only new cables shall be installed.

All wires and cables shall be marked in accordance with the provisions of the National electrical Code.

Allowable pulling tensions on wiring in conduits shall be per the cable manufacturer's recommendations.

14. Grounding

All electrical systems, equipment and appurtenances shall be properly grounded in strict conformance with NEC. Each pole and the feed point shall be grounded.

15. Poles and Luminaires Clean up

Poles and luminaires shall be cleaned of wrapping, shipping material, dirt, grease, etc. Scratches, abrasions or other surface damage shall be repaired to like new condition.

16. Fiber Optic Communication Cables

Refer to the City Special Provisions for fiber installation and testing requirements.

The contractor shall document the location and termination of all fibers in the appropriate cabinet. Written documentation shall be left in the cabinet with one copy provided to the engineer.

17. Fiber Optic Cable Installation

Sufficient fiber optic cable slack shall be left at each splice cabinet and controller cabinet to allow proper termination. Each pull box shall contain a minimum of three turns of coiled cable and each signal cabinet or a splice cabinet shall contain a min of 10 feet of coiled cable. The stored cable shall be neatly coiled as per the manufacturer's minimum bending radius specification. Where the size of the box precludes the coiling of cable above the min bending radius, the cable shall pass straight through the pull box.

At each pull box and controller cabinet, the fiber optic cable shall be visibly marked "Caution – Fiber Optic Cable" by self-adhesive, weatherproof tags.

Splices will not be allowed in pull boxes or vaults shared with non signal interconnect cables.

18. Fiber Optic Cable Damage

Existing or new fiber optic cables and related facilities damaged during construction shall be replaced/repaired to current City standards at the contractor's cost. This work may include but it is not limited to fiber optic cable, conduit/junction boxes/vaults, trenches, concrete, asphalt, traffic control, pull tape, splices, splice enclosures, terminations, labor.

Fiber optic cable damage is described as breach in the fiber optic cable jacket, a kink, a break of the cable, or any other condition that causes a reduction in the capacity of the cable.

Should fiber optic cable facilities be damaged during construction without visible damage to the cable, the cable should be tested by a certified fiber optic technician provided by the contactor at the contractor's cost to ensure that there is no internal damage. Should the test show internal damage, the cable should be replaced per City standards. Otherwise, the cable should be protected and the facilities repaired to current City standards.

19. Fiber Optic Cable Repair

All new required cables, splices, and terminations shall be acceptance tested as required in the City standards.

No more than five (5) feet of slack may be used out of any one fiber vault. At least 100' of slack must be provided in new splice vault.

Repair work must begin within 24 hours and be completed within 48 hours of the damage occurring irrespective of weekends and holidays.

20. CCTV Cameras

The camera mounting locations shall be verified and approved by the Engineer prior to installation. Refer to the City Special Provisions for camera installation and testing requirements.

21. Traffic Control

A work zone traffic control plan, including the layout of construction warning and detour signs shall be submitted to the City PWE Department for approval prior to construction.

All signs, barricades and traffic control devices shall comply with the current edition of the MUTCD and shall be approved by the PWE prior to use on the project.

All work requiring lane closures, shall be performed between the hours of 9:00 AM and 3:00 PM, Monday through Friday.

22. Field Test

Prior to completion of the work, the following tests should be performed in the presence of the designated City staff. Any fault in any material or in any part of the installation revealed by these test shall be replaced or repaired by the contractor in a manner approved by the City and the same test shall be repeated until no other fault appears

23. Ground Test

Each circuit shall be tested for ground in the circuit.

24. Megger Test

A megger test shall be made on each circuit between the circuit and ground. If the amperage is in excess of the expected lamp load plus minimal transmission losses, the circuit will not be accepted and shall be replaced or corrected by the Contractor at no additional compensation.

25. Functional Test

A functional test shall be performed in which it is demonstrated that each and every part of the system functions as specified or intended herein. Signal circuits shall be “flashed out” from the cabinet terminals to determine that the proper function has been assigned to each circuit and witnessed by a City Traffic Signal Technician.

26. Detector Ground Test

All detector loops and heads shall be tested before and after they are sealed in the pavement to be sure there are no shorts to ground in the system and to assure that the loop plus lead-in inductance is within the operating range of the detector, all according to the standards on loop installation.

27. Signal Inspection

Upon signal construction completion, the Contractor shall notify the City Engineer. At a future time designated by the City Engineer, the contractor shall open all pull boxes, pole base, pedestal bases, service boxes, and control box for inspection by City personnel. Any discrepancies shall be noted on a “punch list” and shall be corrected prior to final inspection. A final inspection shall be conducted before the intersection will be accepted by the City as complete.

The Contractor shall be present to assist and participate in inspections of the traffic signal installation prior to final acceptance.

The signal heads and/or pedestrian signal heads shall be covered until final inspection and acceptance by the City.

After the installation is completed, the contactor shall in the presence of the engineer, conduct an operational test demonstrating that the system operates in accordance with the plans and specification.

28. Signal Turn-0n

Contractor shall give the City Engineer at least five (5) working days notice prior to the Traffic signal intersection turn on. Contractor shall arrange to have a City signal technician present at the time of signal turn-on. In Addition, Contractor shall provide sufficient personnel and equipment for the timely completion of traffic signal turn on.

Traffic signal system turn-ons shall be limited to periods between the hour of 9:00 a.m. and 2:00 p.m., Tuesday through Thursday, excluding City observed Holiday, unless prior authorization has been obtained from the City Engineer. Signal turn-ons shall not begin after 1:00 PM.

The Contractor shall be present for signal turn on and be prepared to respond to any technical difficulties that may be encountered due to construction of the traffic signal.

All detectors shall be operational, striping or markings and signs in place prior to signal turn-on.

Existing traffic signals shall remain operational until the day of the turn on of the new signal system.

Down time, if any, shall be kept to an absolute minimum. The switch over from the old system, or signal turn-on, shall be accomplished within the five (5) hours between 9:00 AM and 2:00 PM. Contractor shall furnish and install all temporary traffic control (stop signs, flagmen, uniformed officers, etc.) during any down time, in addition to all required construction signs.

Uniformed Police Officers shall be employed by the contractor and are required to be on the job site for traffic signal turn-ons. Certified flagmen or Uniformed Police Officers may be used, as needed, for lane closures. It is the Contractor's responsibility to use the appropriate personnel for lane closures. The MUTCD will be observed for all lane closures.

The Contractor shall provide and install temporary Signal Ahead warning signs with two orange warning flags on each approach to the intersection

from the time of signal turn-on for a period of six weeks following signal turn-on.

Contractor will be required to respond immediately and to initiate emergency maintenance operations on the jobsite a maximum of four (4) hours after the call is received from City of Issaquah. The Contractor shall pursue repairs to the traffic signal system and have it back in normal operation within a maximum of six (6) hours after call is received.

29. Turn-On Test Period

Upon receipt of written authorization, the contractor shall place the signal in operation beginning a fifteen (15) day trial period. When in the opinion of Public Works Department, the signal has operated satisfactorily for 15 consecutive days; a final inspection by the City will be made. A written communication confirming final acceptance for the installation will be sent to the contractor by the PWE Department.

M. Record Drawings

1. Contractor to maintain in proper order and in good, clean condition at the project site, one complete set of prints of all project drawings.

2. Upon completion of any traffic signal installation, prior to final inspection and acceptance by the City, the Contractor shall furnish the City engineer with “as built” plans “to scale”. Contractor shall neatly print and accurately describe, in red pencil using standard engineering drafting practices, any and all changes or deviations from construction and installation as originally indicated in the plans and specifications. In addition, the contractor shall furnish the City Traffic Engineer a minimum of two (2) field wiring diagrams of each cabinet.

3. A list of the serial number and model of the equipment, IP and Mac addresses (if applicable) used at each location shall also be kept and provided to the City.

4. Details of any new structures must be shown on the plans in Detail. Details of any unique structure or feature must also be shown.

5. Record Drawings information for all street improvements shall include, at minimum, but are not limited to, monument locations, slopes, roadway limits and profiles along with the following details:

    a. Centerline elevations at PT, PC, or angle points for all vertical and horizontal curvatures

    b. Centerline slope, bearings and curve data (vertical and horizontal)

c. Gutter line elevations at PT, PC, or angle points for all vertical and horizontal curvatures

d. Gutter line slopes and curve data if not standard crown

e. Gutter line elevations at intersections and as applicable

f. Driveways – location, width, type, and cross-section

g. Channelization – location and types

h. Illumination – location, types, height, wattage, bulb type and voltage

i. Service Cabinets – location and type

j. Junction Boxes – location and type

k. ITS Vaults – location and type

l. Conduits/Wiring – location, type, size and depth

m. Controller – location and type

n. Signalization – location, type, height, foundation depth and sizes

o. Right-of-Way – location and width

p. Right-of-Way centerline monument locations (property monument if a plat)

q. Bridge structure and details

r. Signage – MUTCD legends or code or custom lettering and size

6. Monuments are to be tied to at least two recognized and approved City monuments on or off site, with X, Y, Z coordinates for each. Identify source of coordinates and vertical datum used.

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF

ISSAQUAH

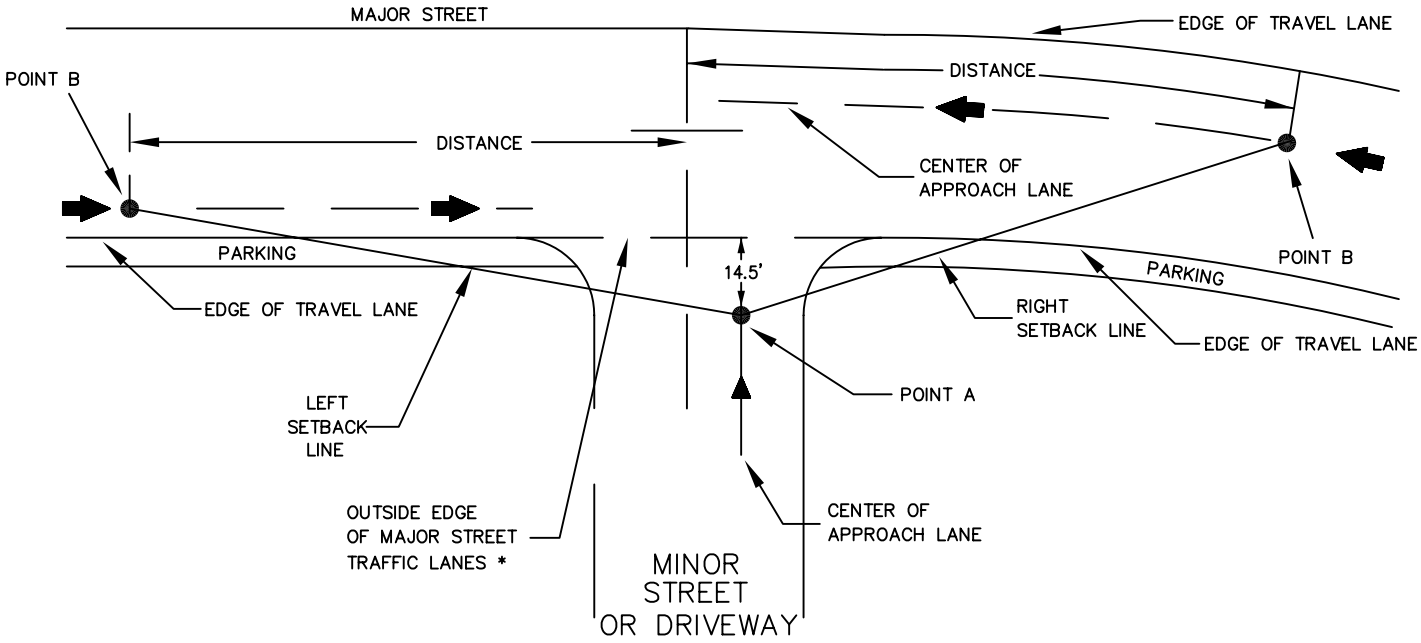
Department of Public Works

STANDARD DETAILS

STREETS

(TRANSPORTATION)

THIS PAGE INTENTIONALLY LEFT BLANK



MINOR STREET OR COMMERCIAL DRIVEWAY

DESIGN SPEED (MPH) (MAJOR STREET)	DISTANCE FROM CENTER OF INTERSECTIONFROM MAJOR STREET	
	LEFT TURNING (FT)	RIGHT TURNING (FT)
45	500	430
40	445	385
35	390	335
30	335	290
25	280	240

RESIDENTIAL DRIVEWAYS (ALTERNATIVE)

DESIGN SPEED (MPH)	DISTANCE FROM CENTER OF INTERSECTION (FT)
45	360
40	305
35	250
30	200
25	155

NOTES

1. PARKING STRIPS OR LANES DESIGNATED FOR PARKING ONLY ARE OUTSIDE THIS REFERENCE LINE AND ARE NOT INCLUDED IN THE MAJOR STREET TRAFFIC LANES.
2. AT GRADE INTERSECTION SIGHT DISTANCE REQUIREMENT SHALL BE ESTABLISHED FOR EACH SPECIFIC INTERSECTION, APPROACH, OR DRIVEWAY BY UTILIZING THE AASHTO GUIDELINES A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, CURRENT EDITION.
3. EASEMENTS ARE REQUIRED TO MAINTAIN SIGHT DISTANCE.
4. SEE SECTION SIGHT AREAS ESTABLISHED OF THE DESIGN STANDARDS FOR DESIGN CRITERIA

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

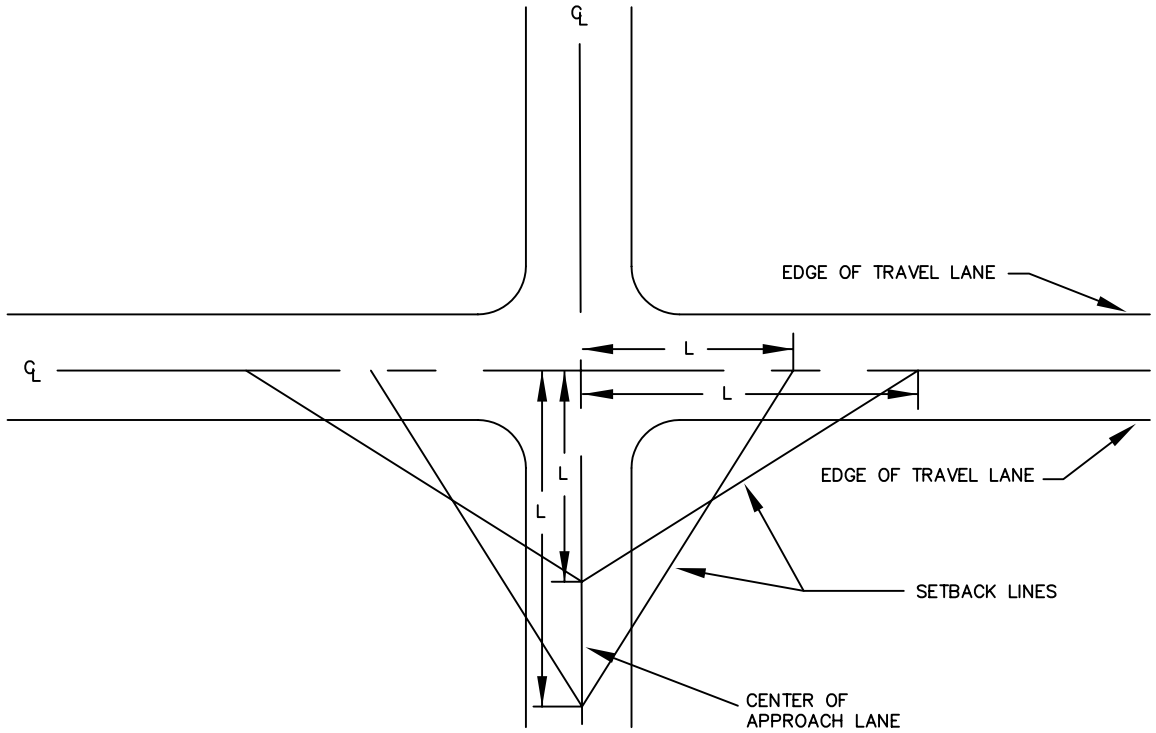
GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

SETBACK LINES-MAJOR/MINOR AND DRIVEWAY INTERSECTIONS

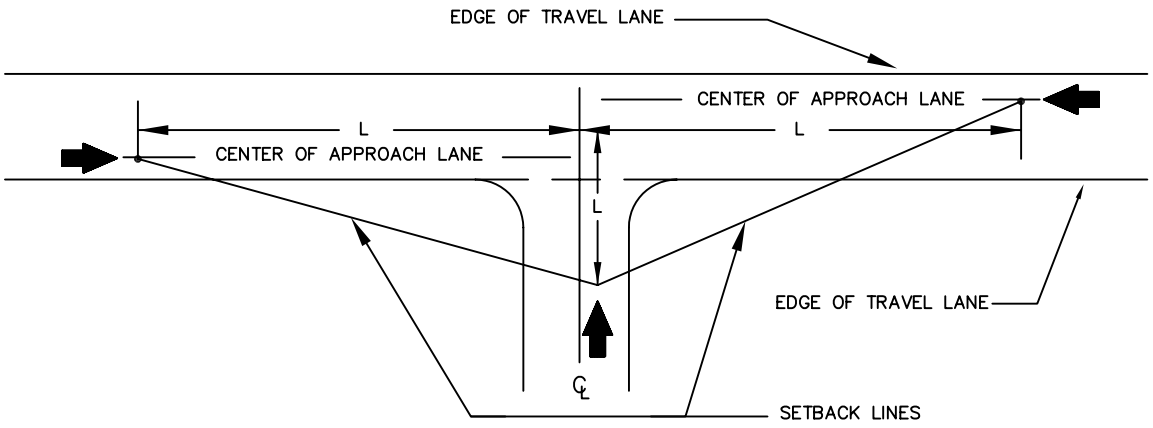
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-01

REV:



SETBACK LINES
UNCONTROLLED CROSSING INTERSECTION



SETBACK LINES
YIELD AND T INTERSECTIONS

NOTE:

1. AT GRADE INTERSECTION SIGHT DISTANCE REQUIREMENT SHALL BE ESTABLISHED FOR EACH SPECIFIC INTERSECTION, APPROACH, OR DRIVEWAY BY UTILIZING THE AASHTO GUIDELINES A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, CURRENT EDITION.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

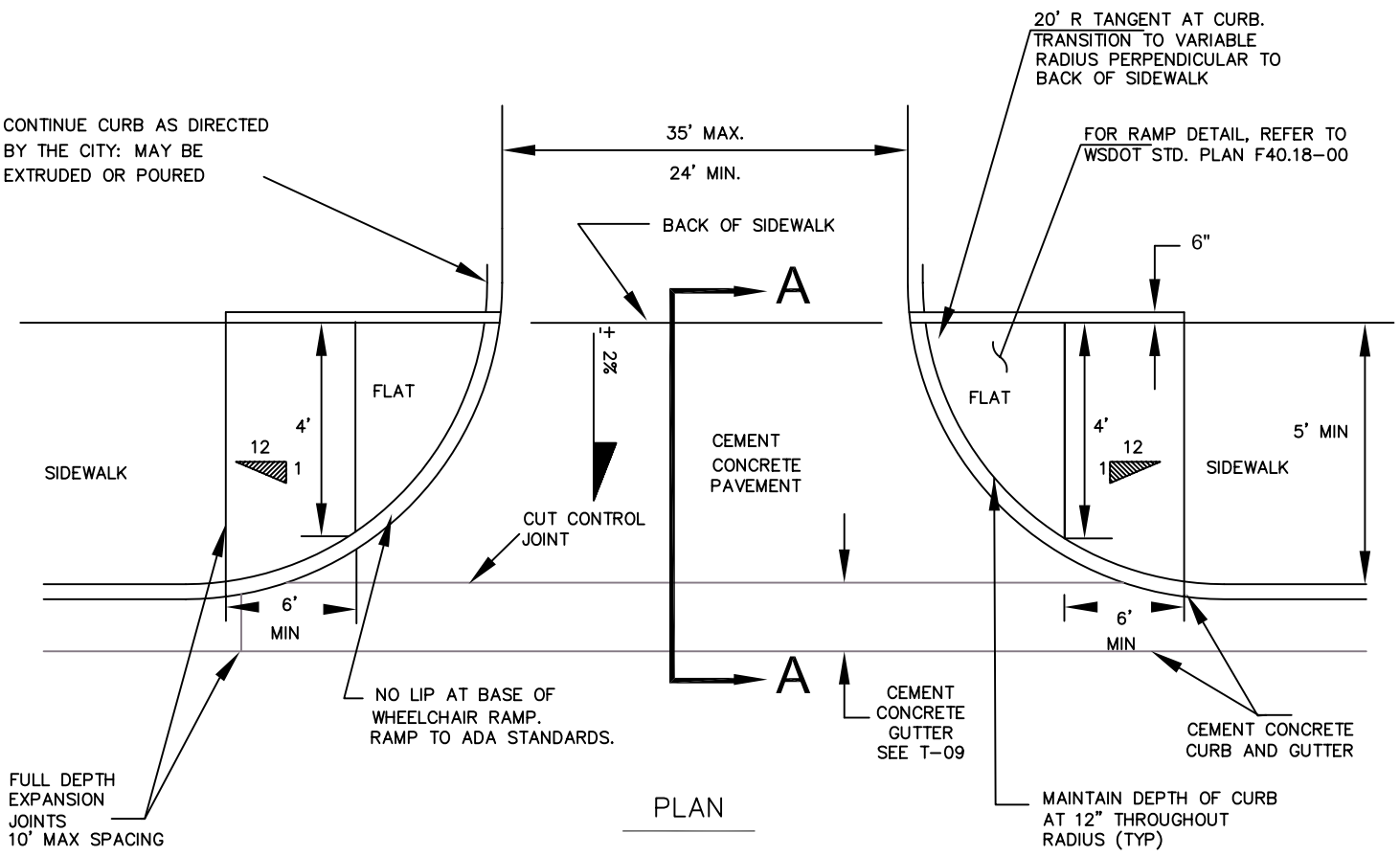
SETBACK LINES- UNCONTROLLED AND YIELD/"T" INTERSECTIONS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

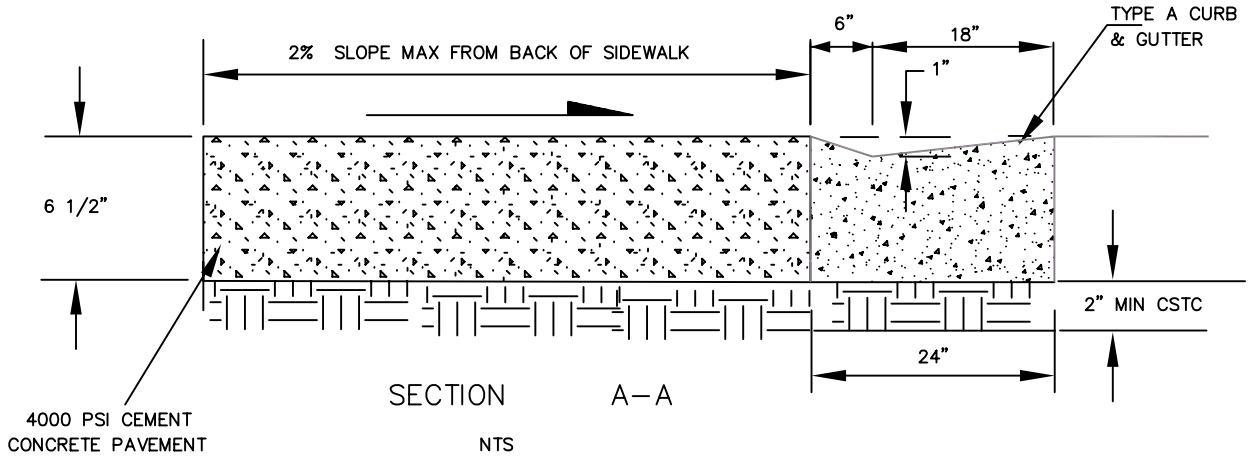
STANDARD DETAIL NO.

T-02

REV:



PLAN



SECTION A-A

NTS

NOTES:

1. RAMP TEXTURING SHALL BE A BROOM FINISH PERPENDICULAR TO THE DIRECTION OF TRAVEL.
2. APPROACH CONCRETE SHALL BE MIN. 8" THICK WHEN USEDTO ACCESS UTILITY FACILITIES AND MEET HS-20 LOADING.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

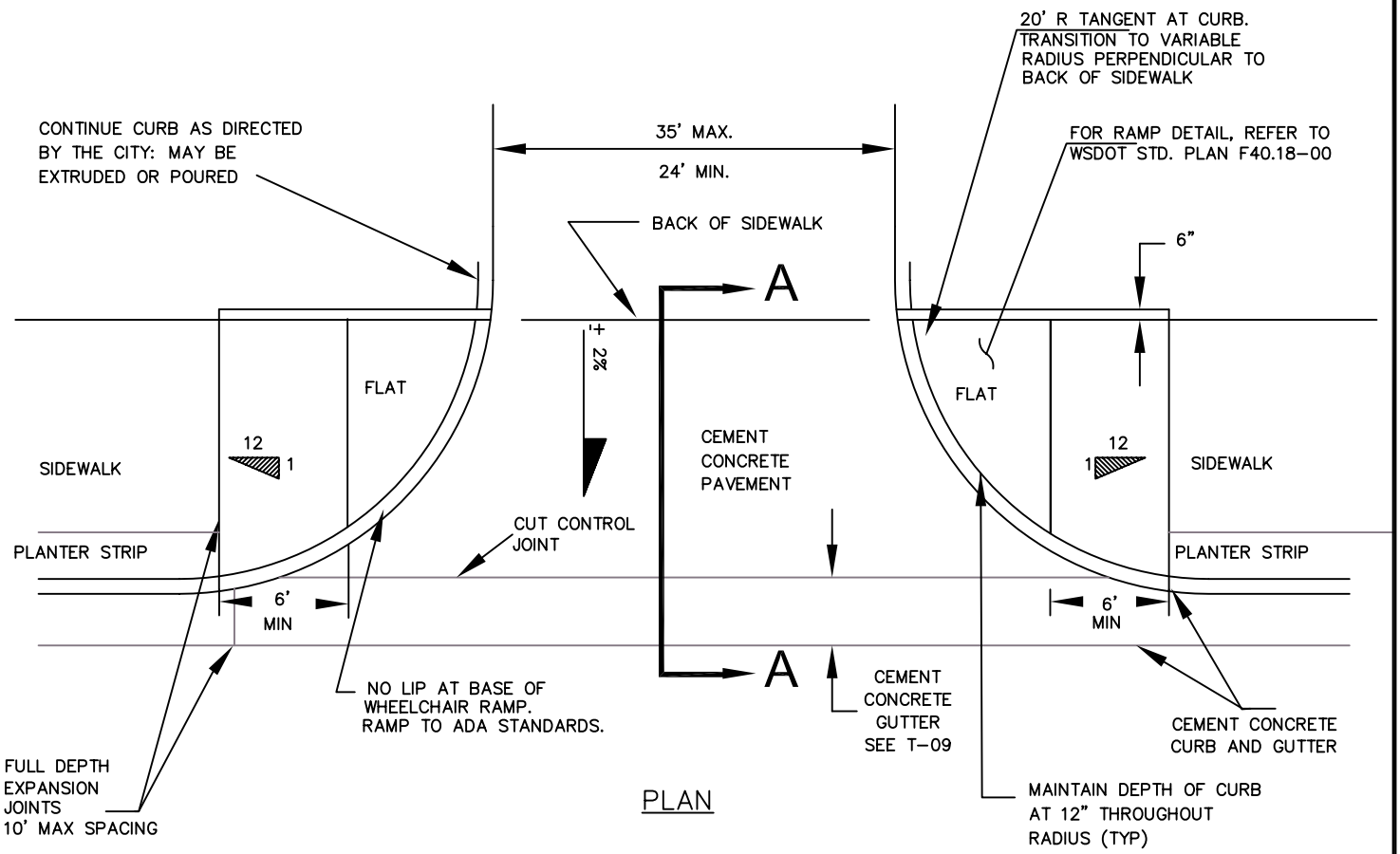
COMMERCIAL AT GRADE DRIVEWAY WITHOUT PLANTER STRIP

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

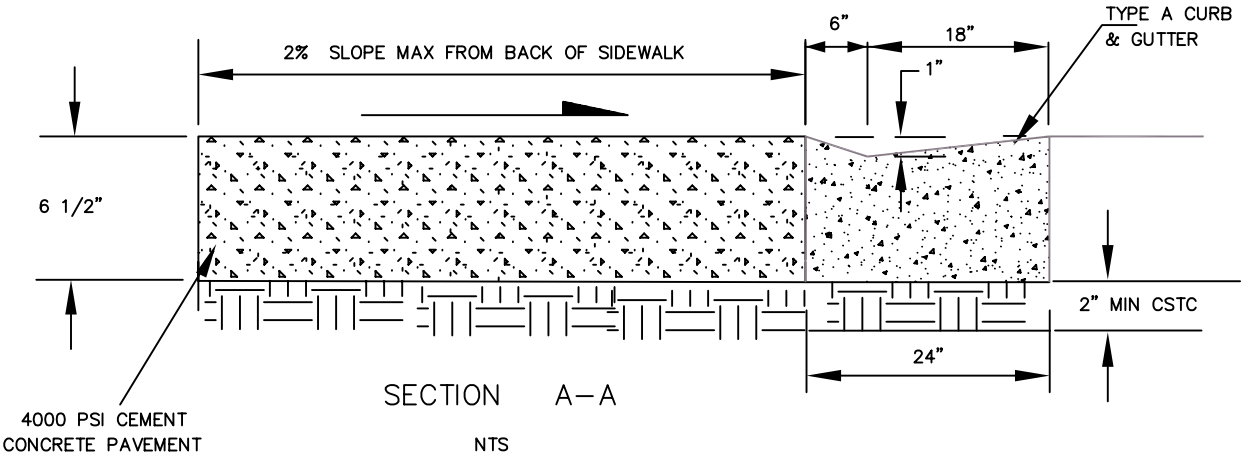
STANDARD DETAIL NO.

T-03

REV:



PLAN



SECTION A-A

NTS

NOTES:

1. RAMP TEXTURING SHALL BE A BROOM FINISH PERPENDICULAR TO THE DIRECTION OF TRAVEL.
2. APPROACH CONCRETE SHALL BE MIN. 8" THICK WHEN USED TO ACCESS UTILITY FACILITIES AND MEET HS-20 LOADING.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

EXPIRES:

EXPIRES: 12-15-2011

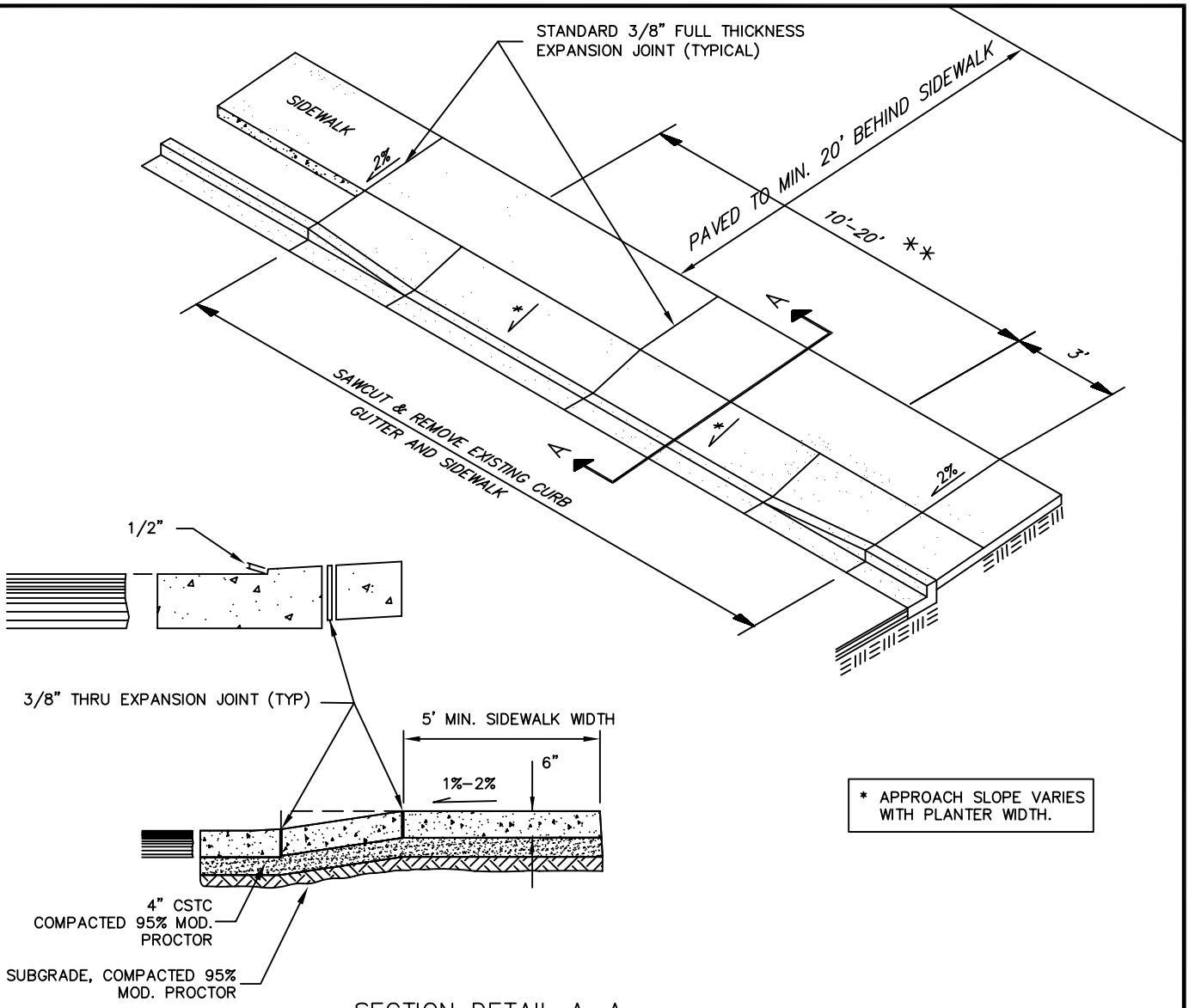
COMMERCIAL AT GRADE DRIVEWAY WITH PLANTER STRIP

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-04

REV:



* APPROACH SLOPE VARIES WITH PLANTER WIDTH.

SECTION DETAIL A-A

NTS

NOTES:

1. ALL JOINTS SHALL BE CLEANED AND EDGED.
2. CONCRETE SHALL BE P.C.C. CLASS 3000, AIR ENTRAINED.
3. CONCRETE PAVEMENT SHALL BE BRUSHED TRANSVERSELY WITH A FIBER OR WIRE BRUSH OF A TYPE APPROVED BY THE ENGINEER.
4. 3/8" THRU EXPANSION JOINTS SHALL BE PLACED AT BACK, SIDES AND FRONT. MAXIMUM EXPANSION JOINT SPACING 10' CENTER TO CENTER.
5. DRIVEWAY SLOPE/ROUNDING SHALL BE EVALUATED FOR ACCESSIBILITY.

** DRIVEWAYS SERVING 3 OR MORE SINGLE FAMILY UNITS, NEED TO BE A MINIMUM OF 18' WIDE.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

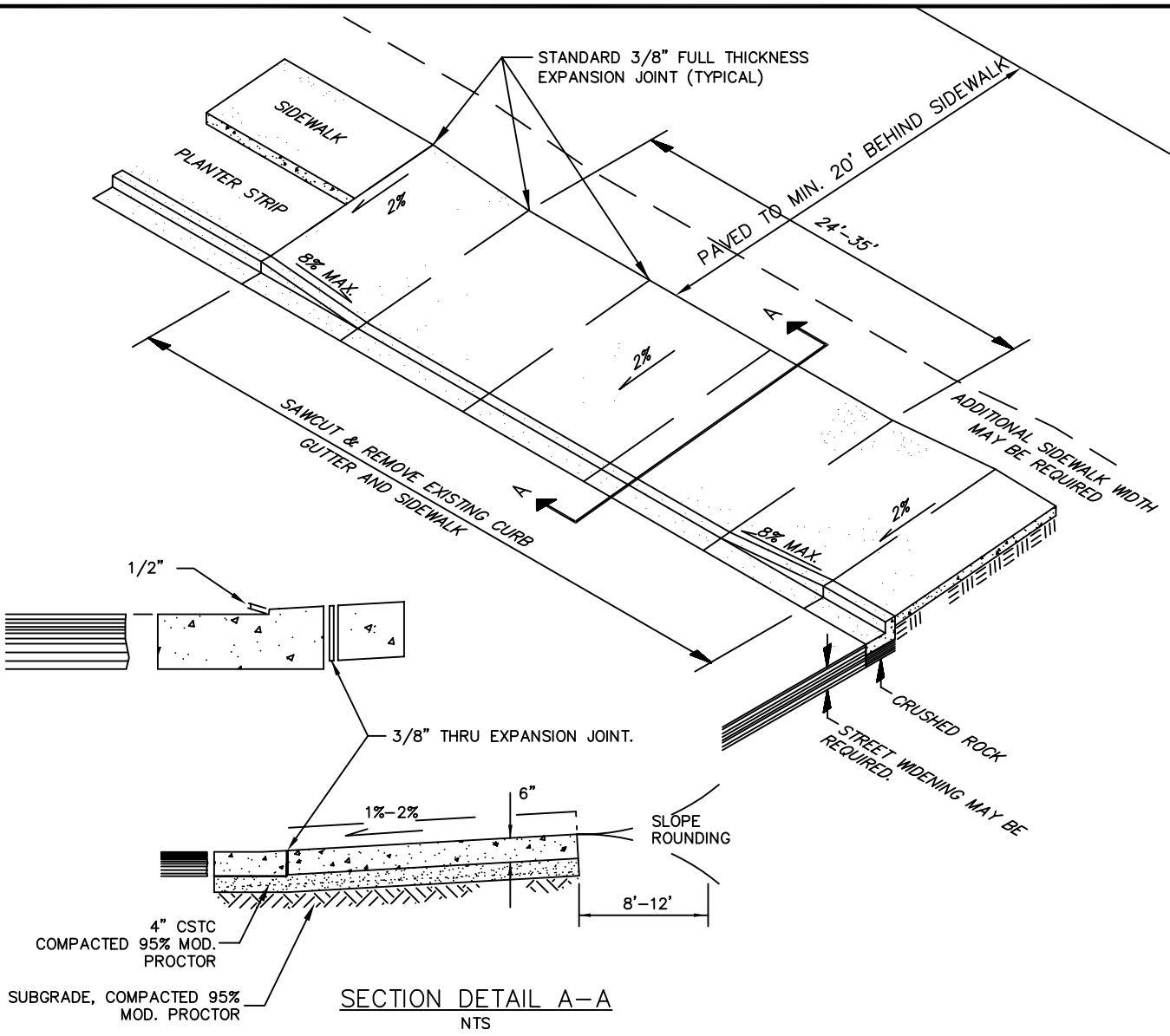
RESIDENTIAL DRIVEWAY APPROACH

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-05

REV:



SECTION DETAIL A-A
NTS

NOTES:

1. ALL JOINTS SHALL BE CLEANED AND EDGED.
2. MAXIMUM DRIVEWAY GRADE BEHIND APPROACH IS 12%. 8' SLOPE ROUNDING IS RECOMMENDED TO TRANSITION FROM BACK OF APPROACH TO DRIVEWAY GRADES OF 5%-10%. FOR DRIVEWAY GRADES OVER 10%, 12' TO TRANSITION FROM BACK OF APPROACH TO THE DRIVEWAY SLOPE IS REQUIRED.
3. CONCRETE SHALL BE P.C.C. CLASS 4000, 3-DAY, AIR ENTRAINED.%%
4. CONCRETE PAVEMENT SHALL BE BRUSHED TRANSVERSELY WITH A FIBER OR WIRE BRUSH OF A TYPE APPROVED BY THE ENGINEER.
5. 3/8" THRU EXPANSION JOINTS SHALL BE PLACED AT BACK, SIDES AND FRONT. MAXIMUM EXPANSION JOINT SPACING 14' CENTER TO CENTER.
6. APPROACH CONCRETE SHALL BE MIN. 8" THICK WHEN USED TO ACCESS UTILITY FACILITIES AND MEET HS-20 LOADING.
7. APPROACH SHALL MEET LATEST ADA REQUIREMENTS.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

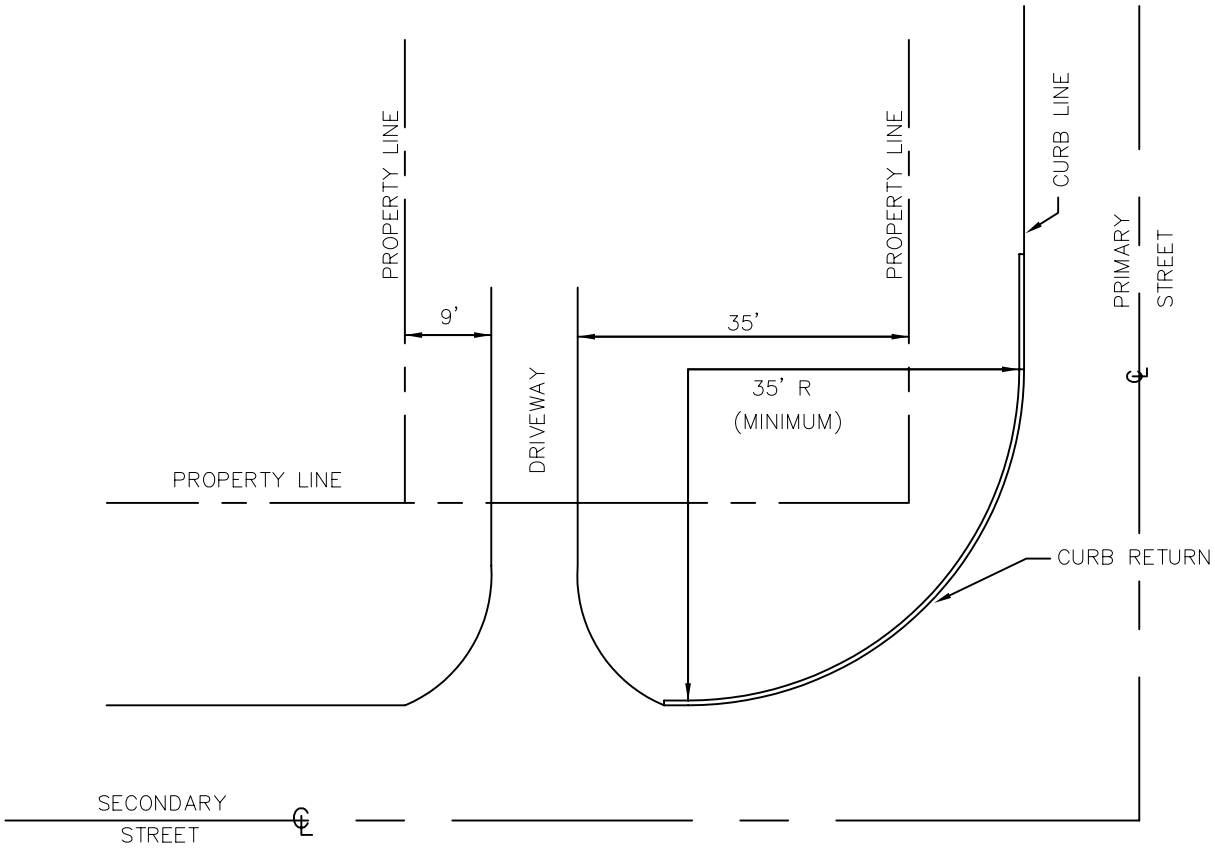
GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

COMMERCIAL DRIVEWAY APPROACH WITH PLANTER STRIP

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-06

REV:



NOTES:

1. DRIVEWAYS SHALL BE LOCATED NO CLOSER THAN 9' FROM THE FURTHEST PROPERTY LINE OR NO CLOSER THAN 35' OF THE PROPERTY LINES POINT OF INTERSECTION, WHICH EVER IS THE LARGEST DISTANCE.
2. NO PORTION OF ANY DRIVEWAY SHALL BE PERMITTED IN THE CURB RETURN WHERE THE RADIUS FOR THE CURB RETURN IS LESS THAN 35'.
3. ON ALL CURB RETURNS WITH RADIUS OF 35' OR MORE, DRIVEWAYS MAY ENCROACH UPON EITHER END OF THE RETURN FOR A MAXIMUM DISTANCE EQUAL TO 12.5% OR 1/8 OF THE TOTAL LENGTH OF THE ARC OF THE CURB RETURN, THUS LEAVING AT LEAST 75% OF THE ARC DISTANCE OF THE RETURN FACE FREE OF DRIVEWAY ENCROACHMENT, PROVIDED REQUIREMENT 1 IS MET.
4. ALL COMMERCIAL DRIVEWAYS MUST BE REVIEWED AND APPROVED BY THE CITY WITH REGARD TO DESIGN, PLANS, CONSTRUCTION AND TRAFFIC, HAZARDS AND SIGN WORK.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

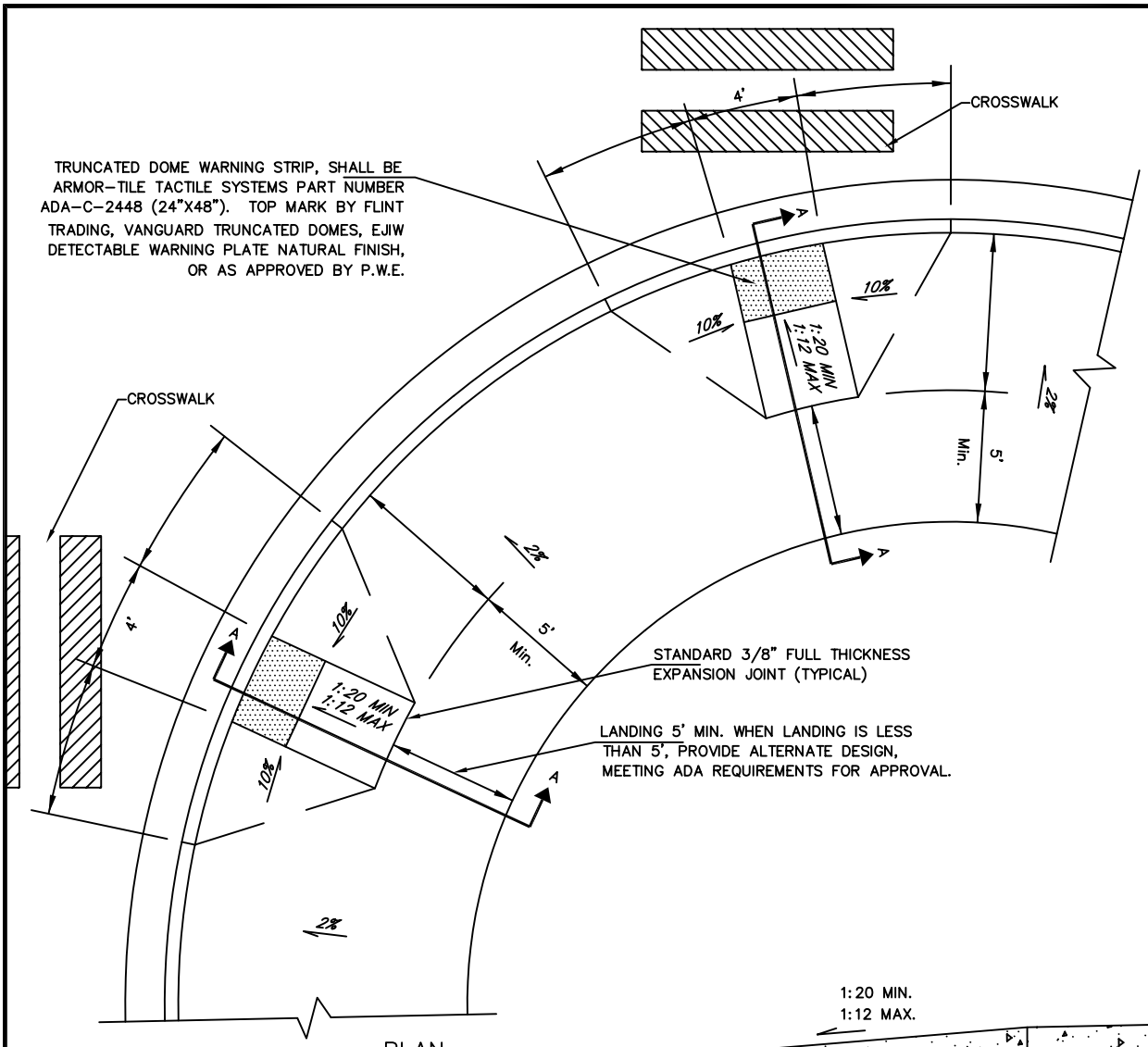
DRIVEWAY LOCATIONS NEAR INTERSECTIONS

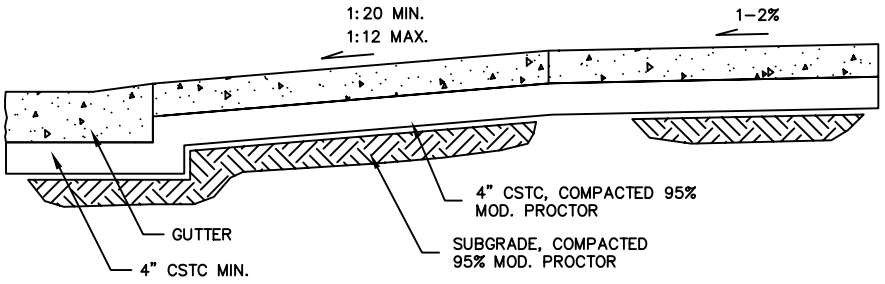
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-06A

REV:

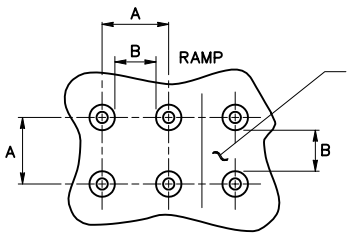




SECTION DETAIL A-A

NTS

DETECTABLE WARNING PATTERN DETAIL



PLAN

DETECTABLE WARNING PATTERN AREA SHALL BE YELLOW, AND PERPENDICULAR TO THE LONG AXIS OF THE RAMP.

NOTES:

1. ALL JOINTS SHALL BE CLEANED AND EDGED- 1/4" MAX. VERTICAL OFFSET.
2. CONCRETE SHALL BE P.C.C. CLASS 3000 (USE 4000 IF SUBJECT TO HIGH TRUCK TRAFFIC).
3. WHEEL CHAIR RAMPS SHALL MEET ADA REQUIREMENTS.
4. NO VAULTS OR VALVE BOXES WITHIN RAMPS OR FLAIRS.
5. NO DRAINAGE STRUCTURES IN FRONT OF RAMPS.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

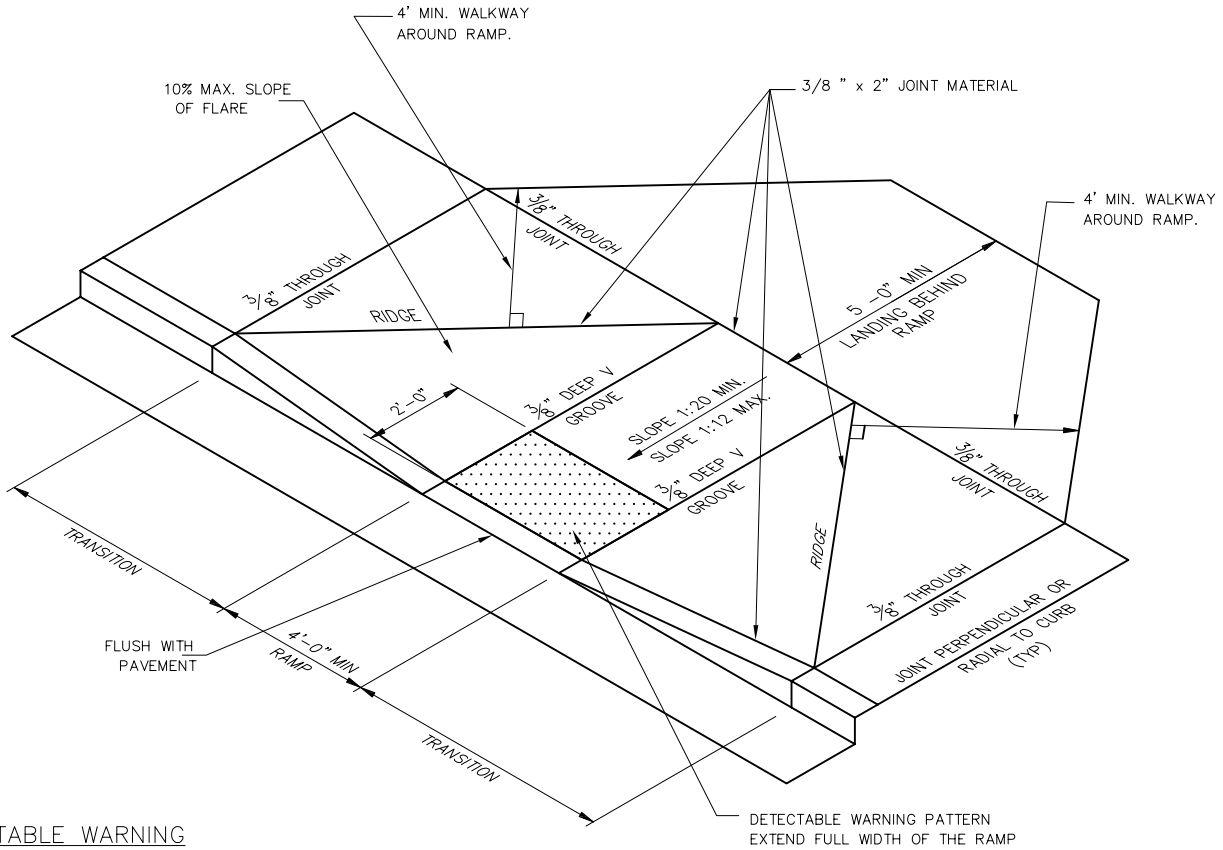
PERPENDICULAR CURB RAMP (1 OF 2)

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

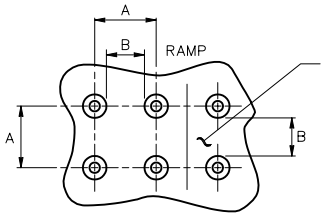
STANDARD DETAIL NO.

T-07

REV:



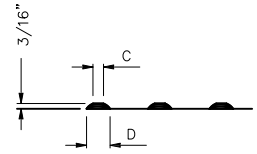
DETECTABLE WARNING PATTERN DETAIL



DETECTABLE WARNING PATTERN AREA SHALL BE YELLOW, AND PERPENDICULAR TO THE LONG AXIS OF THE RAMP.

PLAN

	MIN.	MAX.
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"



ELEVATION

TRUNCATED DOMES (SEE NOTE 3)

NOTES:

1. INSTALL WHEELCHAIR RAMP AS LOCATED ON APPROVED PLANS OR AS DIRECTED BY THE TRAFFIC ENGINEER.
2. SEE T-07 FOR CURB RAMP LAYOUT.
3. TRUNCATED DOME WARNING STRIP. SHALL BE ARMOR-TILE TACTILE SYSTEMS PART NUMBER ADA-C-2448 (24"X48") TOP MARK BY FLINT TRADING, VANGUARD TRUNCATED DOMES, OR AS APPROVED BY P.W.E.
   - EAST JORDAN IRONWORKS (NATURAL) CAST IRON
   - ADA SOLUTIONS SURFACE
4. FLARES SHALL NOT BE USED WITH PLANTER STRIP. REFER TO WSDOT SIDEWALK RAMP STANDARD PLANS AS DIRECTED BY CITY TRAFFIC ENGINEER FOR ALTERNATE PERPENDICULAR CURB RAMP DETAILS.

Back to Table of Contents

PERPENDICULAR CURB RAMP DETAILS

NO SCALE

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

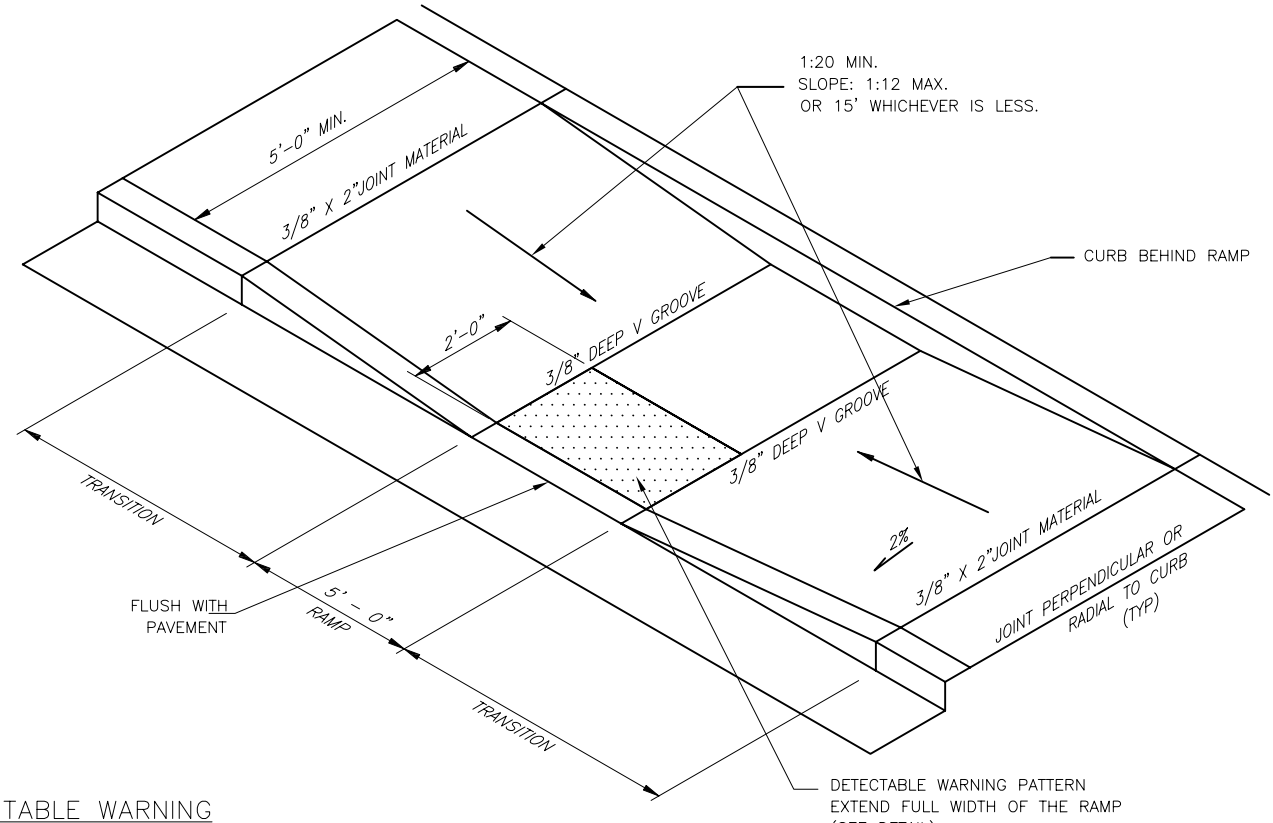
PERPENDICULAR CURB RAMP (2 OF 2)

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

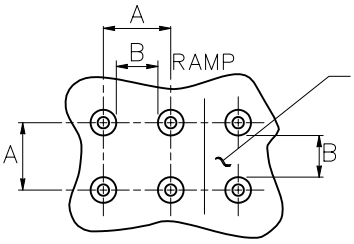
STANDARD DETAIL NO.

T-08

REV:

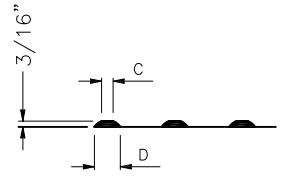


DETECTABLE WARNING PATTERN DETAIL



PLAN

DETECTABLE WARNING PATTERN AREA SHALL BE YELLOW, AND PERPENDICULAR TO THE LONG AXIS OF THE RAMP.



ELEVATION

TRUNCATED DOMES (SEE NOTE 3)

	MIN.	MAX.
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"

NOTES:

1. INSTALL WHEELCHAIR RAMP AS LOCATED ON APPROVED PLANS OR AS DIRECTED BY THE TRAFFIC ENGINEER.
2. SEE T-07 FOR CURB RAMP LAYOUT.
3. DETECTABLE WARNING PATTERNS MAY BE CREATED BY METHODS THAT WILL ACHIEVE THE TRUNCATED DOME DIMENSIONS, COLOR AND SPACING SHOWN AS DIRECTED BY THE PLANS OR THE TRAFFIC ENGINEER.
4. REFER TO WSDOT SIDEWALK RAMP STANDARD PLANS AS DIRECTED BY CITY TRAFFIC ENGINEER FOR ALTERNATE PARALLEL CURB RAMP DETAILS.

Back to Table of Contents

PARALLEL CURB RAMP DETAILS

NO SCALE

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

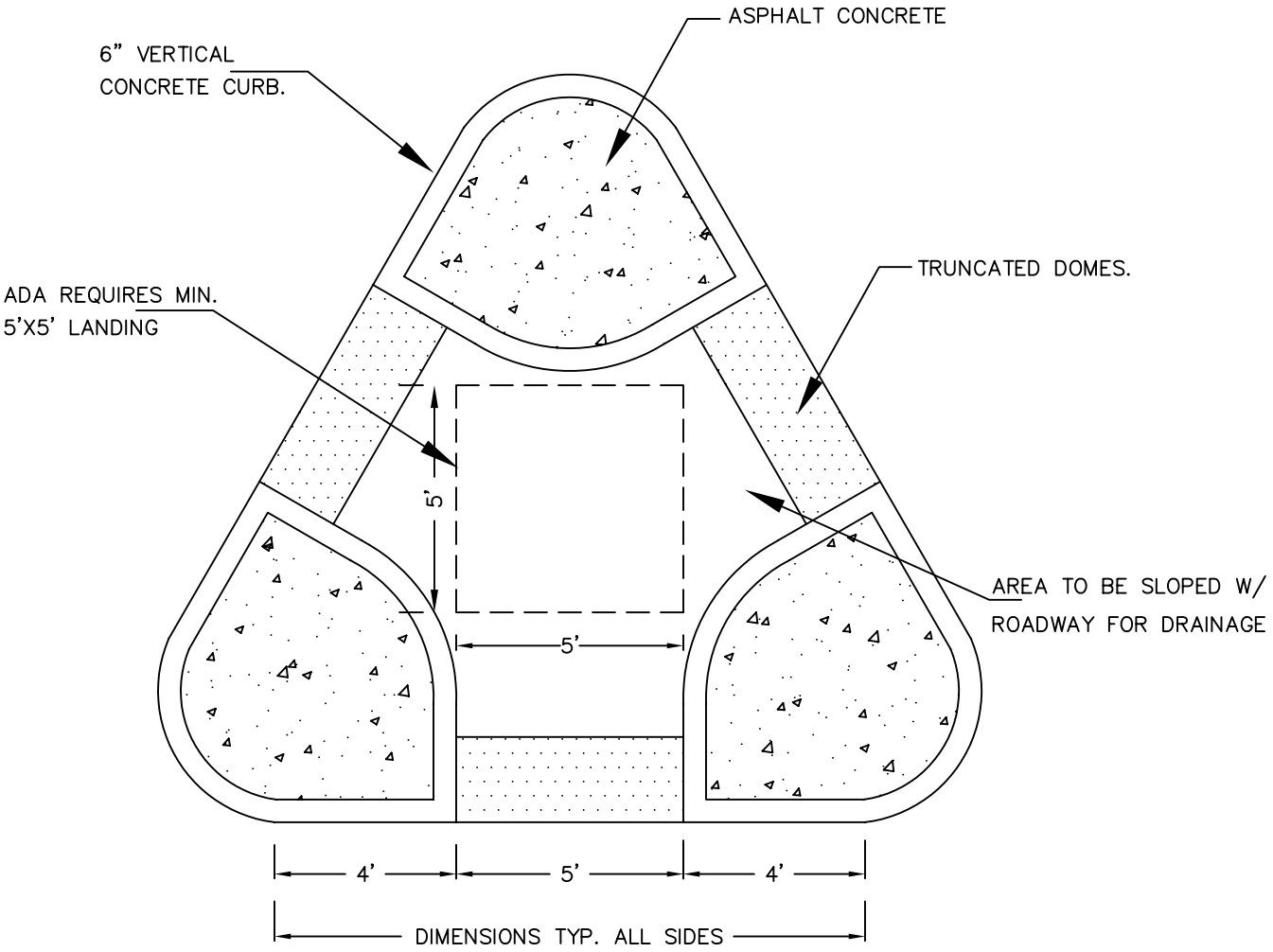
PARALLEL CURB RAMP

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-09

REV:



NOTE:

1. ALL DIMENSIONS SHALL MEET THE LATEST REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT (ADA)

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

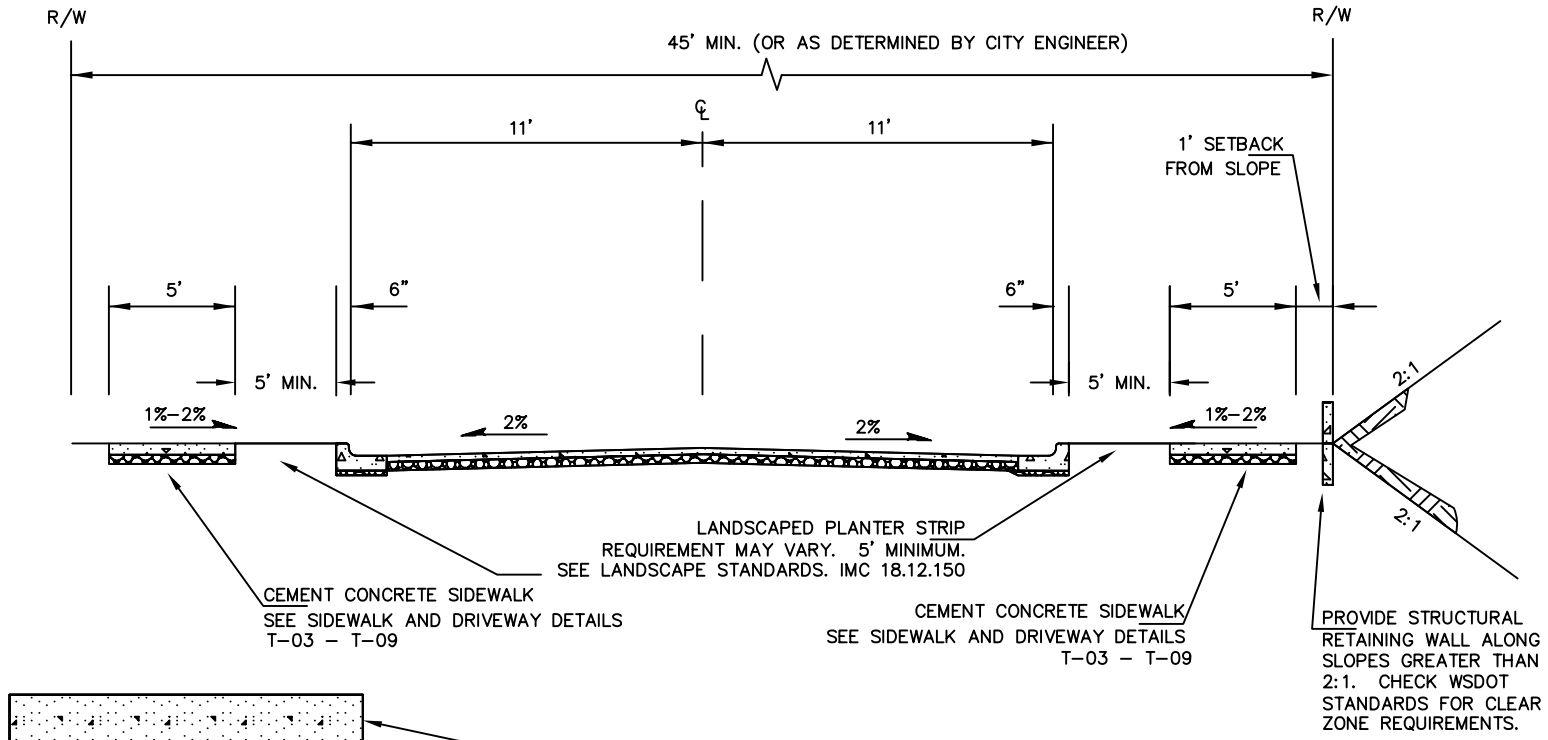
GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

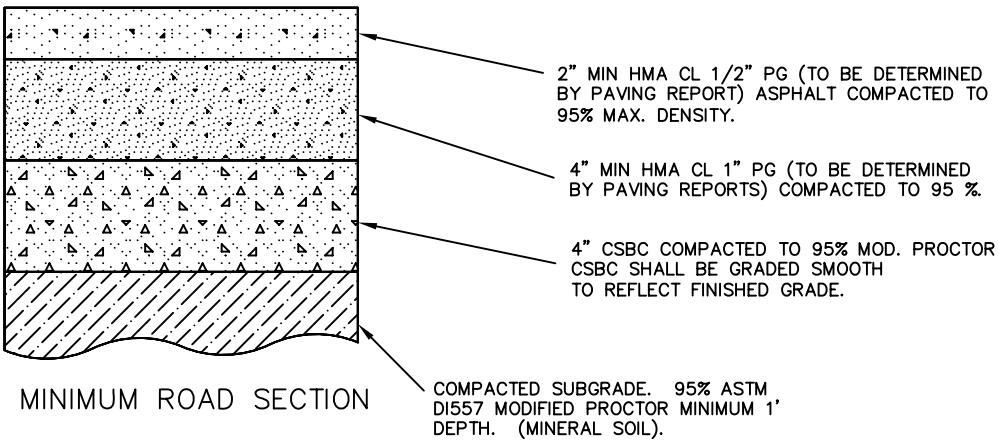
PEDESTRIAN CHANNELIZATION ISLAND

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-10

REV:





MINIMUM ROAD SECTION

NOTES:

1. ALLOW ADDITIONAL 8' FOR ON STREET PARKING. STANDARD T–23 FOR ON STREET PARKING AND BIKE LANE REQUIREMENTS.
2. GEOTEXTILE OR OTHER SUBGRADE STABILIZATION MAY BE REQUIRED AS DIRECTED PER GEOTECH REQUIREMENTS.
3. 20' CLEAR DRIVE WIDTH IS REQUIRED ON ALL STREETS FOR FIRE APPARATUS, AND FOR FIRE APPARATUS ACCESS ROADS
4. "NO PARKING FIRE LANE" DESIGNATIONS MAY RE REQUIRED BY THE FIRE DEPARTMENT.
5. DEAD END FIRE ACCESS ROADS LONGER THAN 150' REQUIRE AN APPROVED TURN AROUND AT THE END. SEE STANDARD T–16.
6. THE STRUCTURAL SECTION OF THSES STANDARDS APPLY FOR FIRE LANE ACCESS IN PRIVATE PARKING LOTS FOR MULTIPLE FAMILY AND COMMERCIAL DEVELOPMENTS.
7. THE STRUCTURAL SECTION OR AN EQUIVILANT SECTION DESIGNED BY ENGINEER OF RECORD MAY BE USED, PROVIDING SUPPORTING DOCUMENTATION JUSTIFYING DESIGNED STRUCTURAL SECTION PROVIDED TO CITY.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

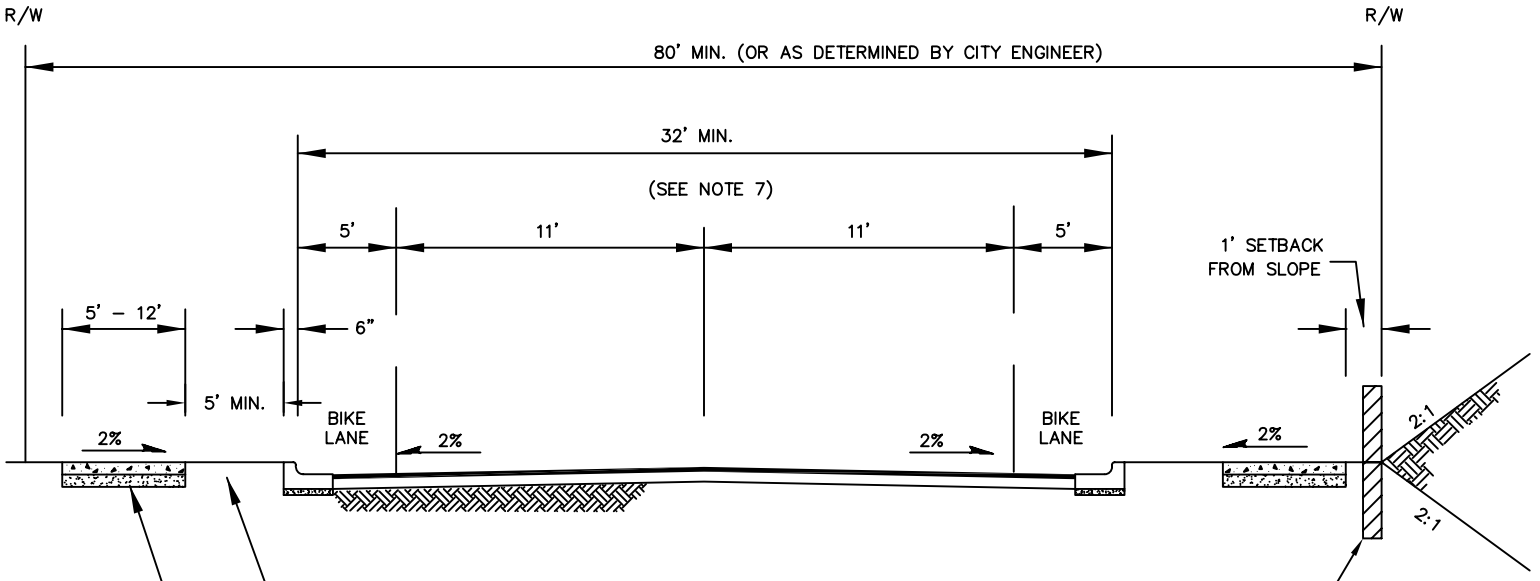
TYPICAL PUBLIC LOCAL ACCESS STREET (<1,500 VPD) RESIDENTIAL AREAS

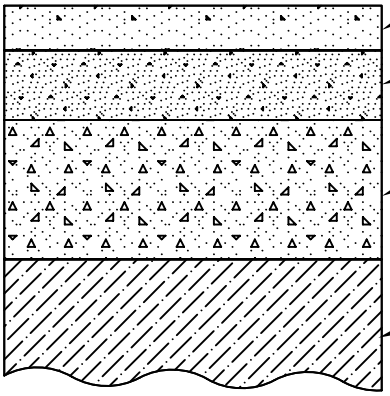
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-11

REV: 11-10-11





MINIMUM ROAD SECTION

SOILS TYPE, TRUCK AND BUS LOADING MAY REQUIRE ADDITIONAL SECTIONS. REFER TO CLASSIFIED ROUTES.

NOTE:

1. SEE STANDARD T–23 FOR ON STREET PARKING AND BIKE LANE REQUIREMENTS.
2. GEOTEXTILE MAY BE REQUIRED AS DIRECTED.
3. ADDITIONAL SUB–GRADE STABILIZATION TECHNOLOGIES MAY BE REQUIRED.
4. 20' CLEAR DRIVE WIDTH IS REQUIRED ON ALL STREETS FOR FIRE APPARATUS, AND FOR FIRE APPARATUS ACCESS ROADS.
5. "NO PARKING FIRE LANE" DESIGNATIONS MAY BE REQUIRED BY THE FIRE DEPARTMENT.
6. DEAD END FIRE ACCESS ROADS LONGER THAN 150' REQUIRE AN APPROVED TURN AROUND AT THE END. SEE STANDARD T–16.
7. REQUIRED NUMBER OF LANES AND ROADWAY WIDTH WILL VARY DEPENDING ON TRAFFIC VOLUME AND SAFETY CAPACITY.
8. FOR PAVED SECTIONS, PROVIDE SUPPORTING DOCUMENTATION JUSTIFYING DESIGNED STRUCTURAL SECTION TO CITY.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

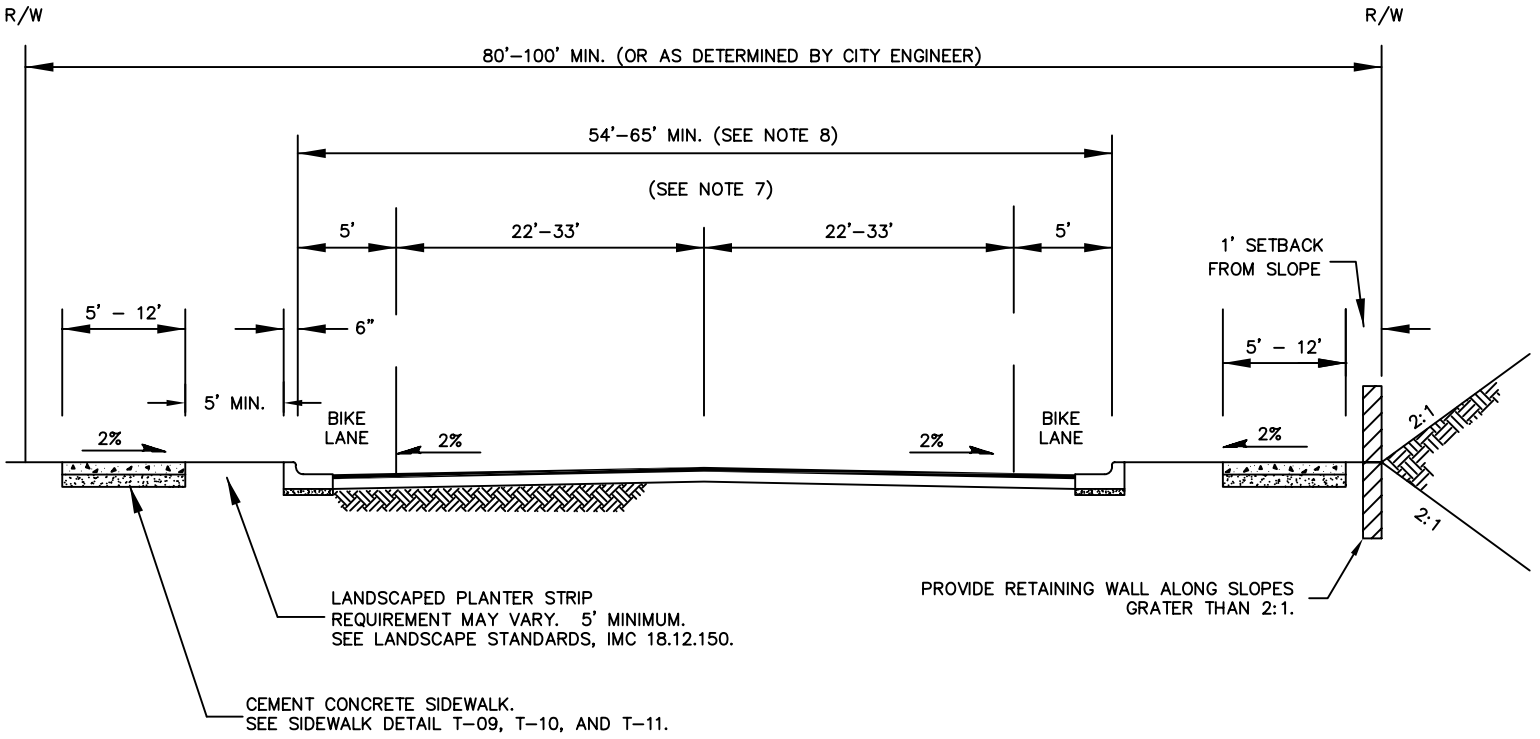
TYPICAL COLLECTOR STREET (>1,500 VPD)

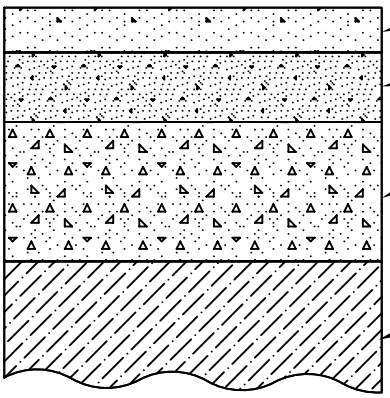
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-12

REV: 11-10-11





MINIMUM ROAD SECTION

SOILS TYPE, TRUCK AND BUS LOADING MAY REQUIRE ADDITIONAL SECTIONS. REFER TO CLASSIFIED ROUTES.

NOTE:

1. STANDARD T–23 FOR ON STREET PARKING AND BIKE LANE REQUIREMENTS.
2. GEOTEXTILE MAY BE REQUIRED AS DIRECTED.
3. ADDITIONAL SUB–GRADE STABILIZATION TECHNOLOGIES MAY BE REQUIRED.
4. 20' CLEAR DRIVE WIDTH IS REQUIRED ON ALL STREETS FOR FIRE APPARATUS, AND FOR FIRE APPARATUS ACCESS ROADS.
5. "NO PARKING FIRE LANE" DESIGNATIONS MAY BE REQUIRED BY THE FIRE DEPARTMENT.
6. DEAD END FIRE ACCESS ROADS LONGER THAN 150' REQUIRE AN APPROVED TURN AROUND AT THE END. SEE STANDARD T–16.
7. REQUIRED NUMBER OF LANES AND ROADWAY WIDTH WILL VARY DEPENDING ON TRAFFIC VOLUME AND SAFETY CAPACITY.
8. WIDTH VARIES DEPENDING ON A 4–LANE OR 5–LANE SECTION.
9. FOR PAVED SECTIONS, PROVIDE SUPPORTING DOCUMENTATION JUSTIFYING DESIGNED STRUCTURAL SECTION OF CITY.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

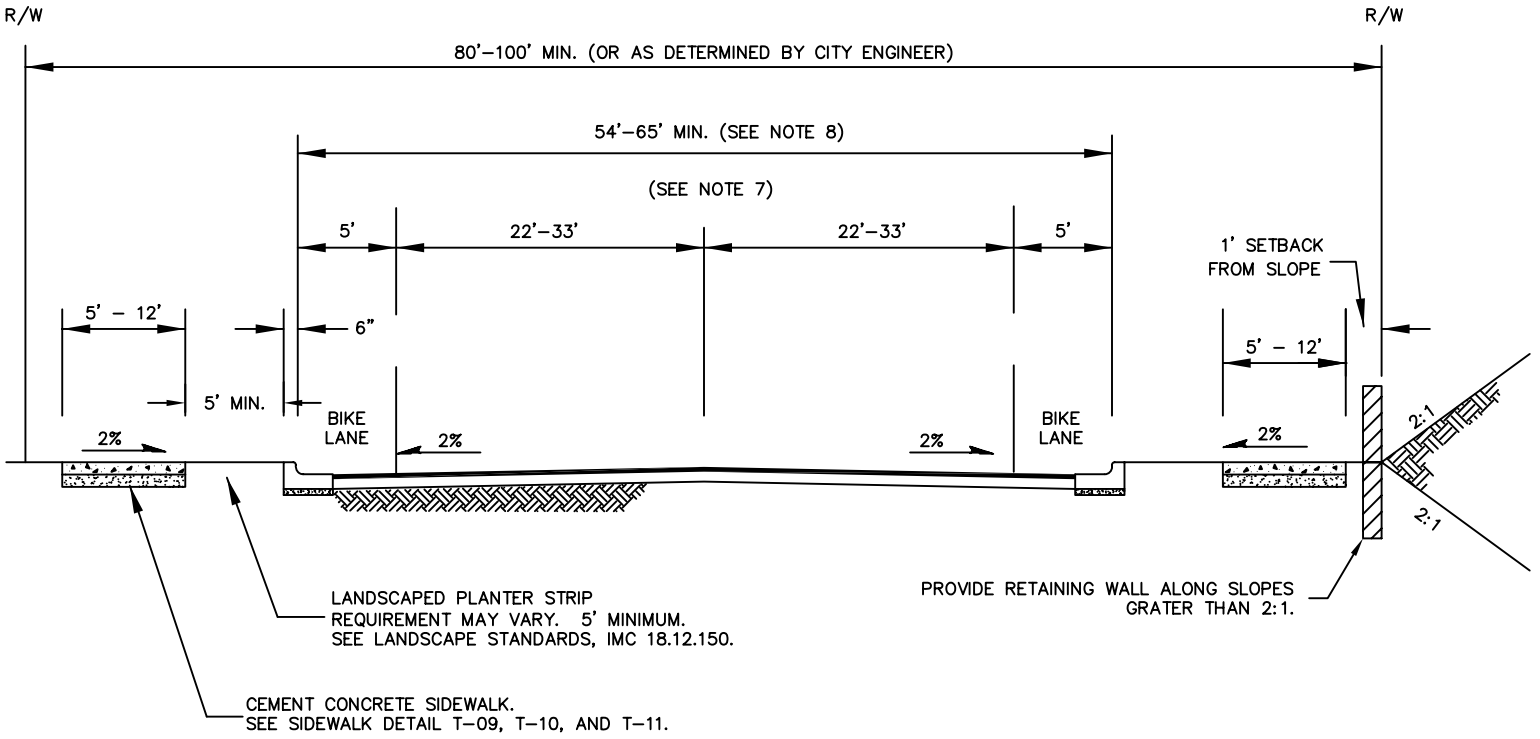
SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

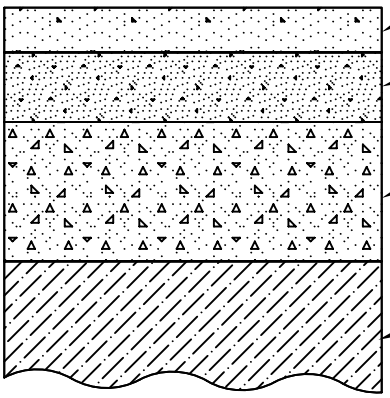
GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

TYPICAL MINOR ARTERIAL STREET

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-13
REV: 11-10-11





MINIMUM ROAD SECTION

SOILS TYPE, TRUCK AND BUS LOADING MAY REQUIRE ADDITIONAL SECTIONS. REFER TO CLASSIFIED ROUTES.

NOTE:

1. SEE STANDARD T–23 FOR ON STREET PARKING AND BIKE LANE REQUIREMENTS.
2. GEOTEXTILE MAY BE REQUIRED AS DIRECTED.
3. ADDITIONAL SUB–GRADE STABILIZATION TECHNOLOGIES MAY BE REQUIRED.
4. 20' CLEAR DRIVE WIDTH IS REQUIRED ON ALL STREETS FOR FIRE APPARATUS, AND FOR FIRE APPARATUS ACCESS ROADS.
5. "NO PARKING FIRE LANE" DESIGNATIONS MAY BE REQUIRED BY THE FIRE DEPARTMENT.
6. DEAD END FIRE ACCESS ROADS LONGER THAN 150' REQUIRE AN APPROVED TURN AROUND AT THE END. SEE STANDARD T–16.
7. REQUIRED NUMBER OF LANES AND ROADWAY WIDTH WILL VARY DEPENDING ON TRAFFIC VOLUME AND SAFETY CAPACITY.
8. WIDTH VARIES DEPENDING ON A 4–LANE OR 5–LANE SECTION.
9. FOR PAVED SECTIONS, PROVIDE SUPPORTING DOCUMENTATION JUSTIFYING DESIGNED STRUCTURAL SECTION OF CITY.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

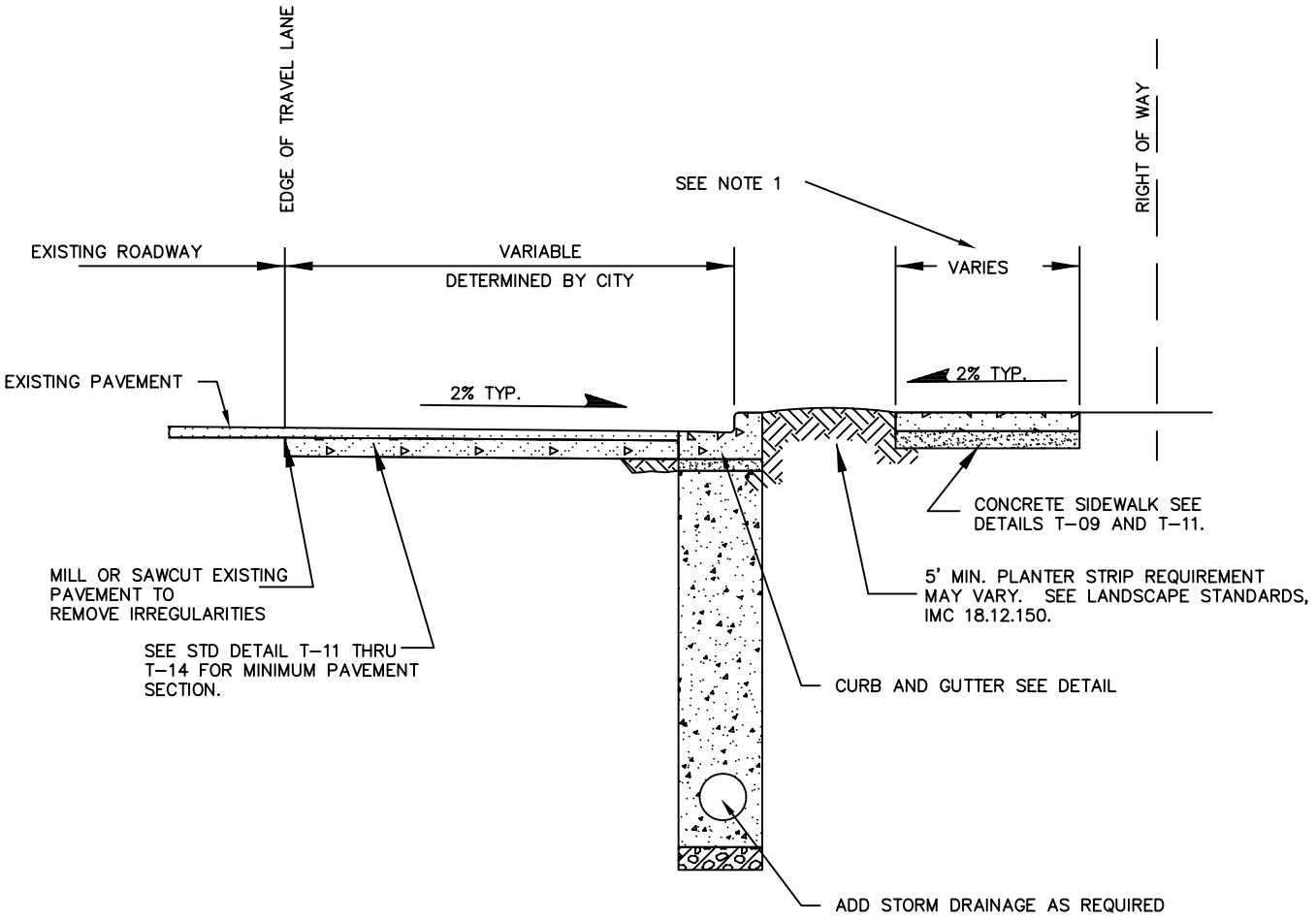
TYPICAL PRINCIPAL ARTERIAL STREET

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-14

REV: 11-10-11



NOTES:

1. UTILITIES AND APPURTENANCES SHALL NOT BE LOCATED ABOVE GROUND IN THE SIDEWALK AREA UNLESS NO OTHER ALTERNATIVE EXISTS. SIDEWALK SHALL MAINTAIN FULL WIDTH AROUND UTILITIES, TO MEET MINIMUM ADA STANDARDS.
2. ALL SIGNAGE SHALL BE PLACED IN ACCORDANCE WITH MUTCD.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

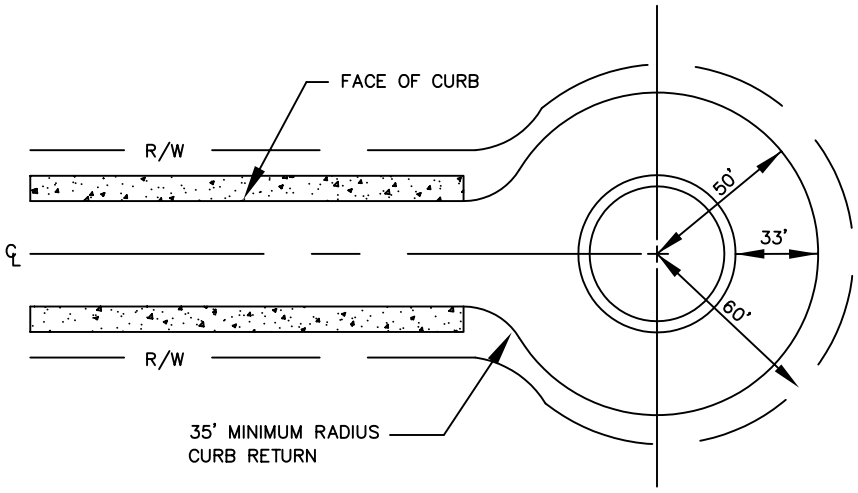
ROW FRONTAGE IMPROVEMENTS
1/2 STREET IMPROVEMENTS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

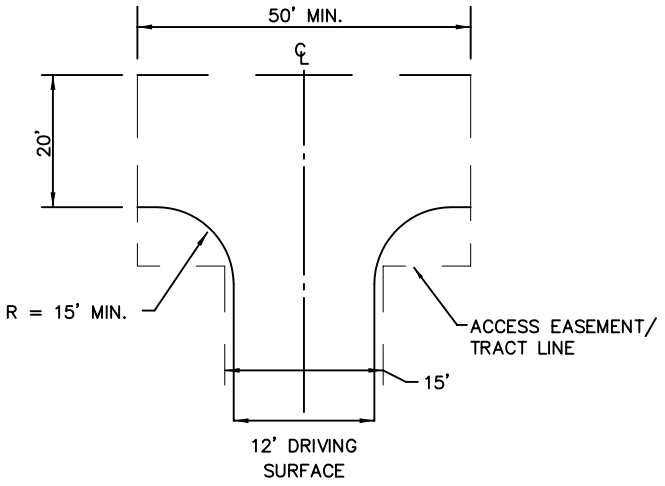
STANDARD DETAIL NO.

T-15

REV:



CUL–DE–SAC



HAMMERHEAD TYPE "C" TURN AROUND

NOTES:

1. LANDSCAPED ISLAND WITH ROLLED CURB AT CENTER OF CUL–DE–SAC IS REQUIRED.
2. 60' FOOT MINIMUM RIGHT–OF–WAY RADIUS. SIDEWALKS AND UTILITIES MAY BE ON EASEMENT.
3. ALTERNATIVE DESIGNS BY APPROVAL OF THE FIRE MARSHAL AND PUBLIC WORKS.
4. "NO PARKING FIRE LANE" DESIGNATION MAY BE REQUIRED AS DETERMINED BY THE FIRE DEPARTMENT.
5. ON STREET PARKING REQUIRES AN ADDITIONAL 8' OF RADIUS.
6. HAMMERHEAD USED ON EASEMENTS, MAINTENANCE ACCESS, OR AS APPROVED BY CITY.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

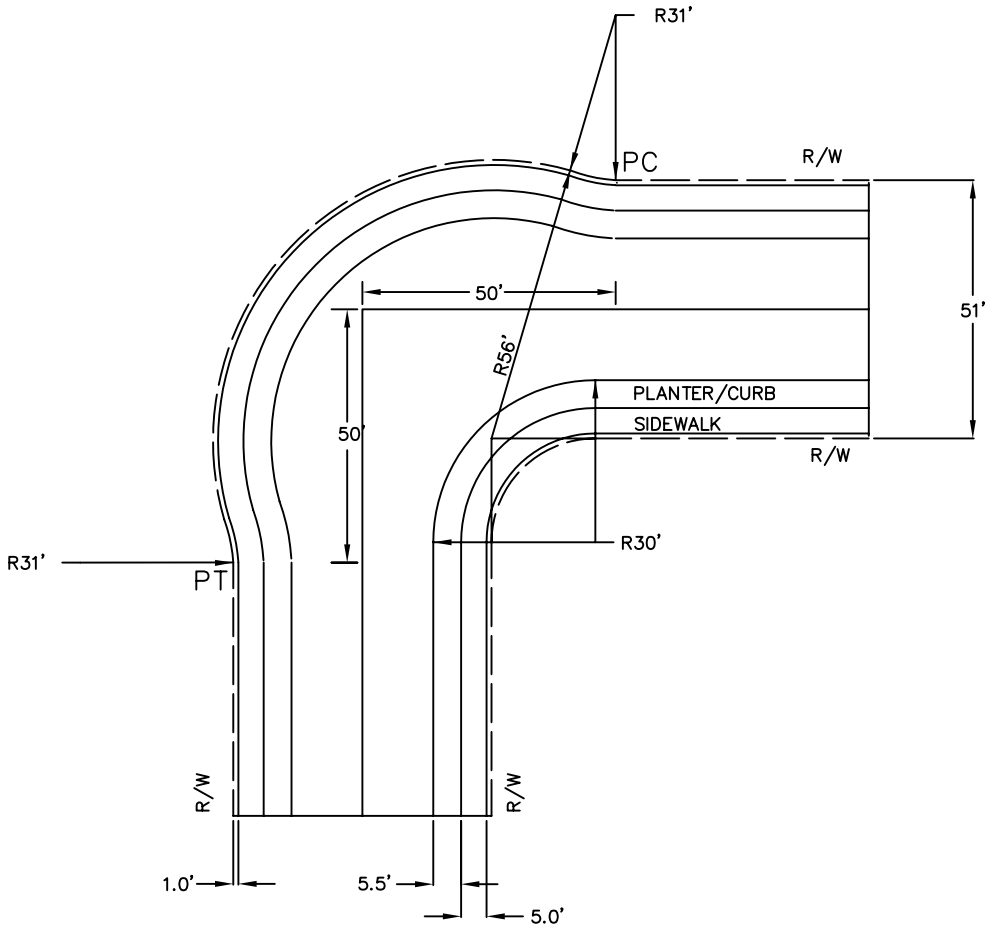
GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

STREET ENDS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-16

REV:



NOTES:

1. INTERSECTION BULBS MAY BE USED IN LIEU OF HORIZONTAL CURVES FOR CERTAIN LOW-SPEED DESIGNS.

2. A MINIMUM 50' TANGENT IS REQUIRED FROM THE POINT OF INTERSECTION OF THE CENTERLINES.

3. INTERSECTION ANGLE SHALL BE 90 DEGREES +\- 10 DEGREES.

4. RADII SHOWN APPLY FOR A 51-FOOT URBAN NON-ARTERIAL R/W.

SEE TEXT SECTION "STREET ENDS".

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

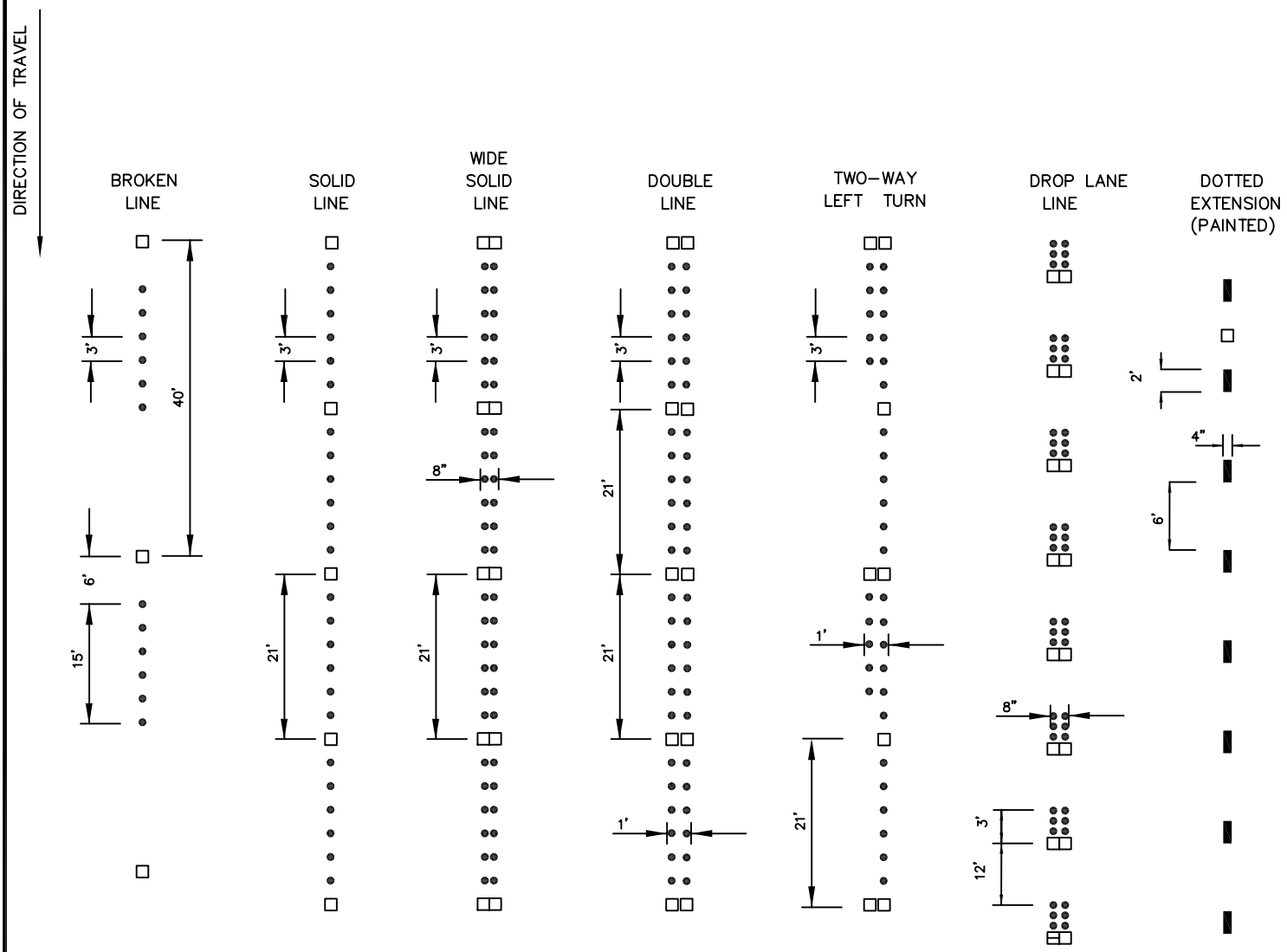
90° INTERSECTION ELBOW

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-17

REV:



NOTES:

1. ARTERIALS ON VALLEY FLOOR SHALL BE MARKED WITH RAISED PAVEMENT MARKERS.
2. COLLECTORS SHALL BE MARKED WITH METHYL METHACRYLATE (DURASET). SEE APPLICABLE MATERIAL LIST
3. LOCAL/RESIDENTIAL STREETS, TYPICALLY NOT MARKED.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

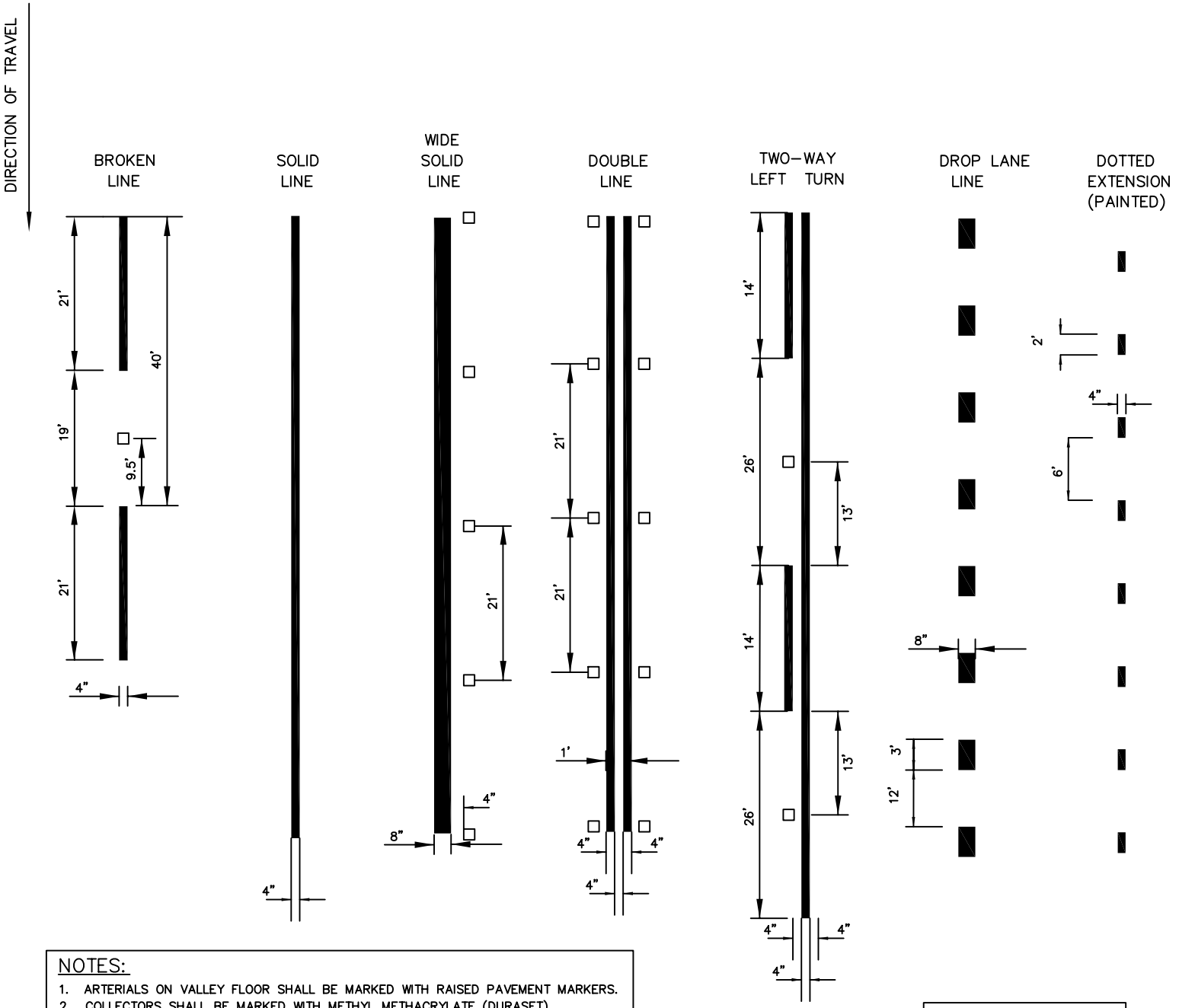
CHANNELIZATION - RAISED PAVEMENT MARKERS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-18

REV:



NOTES:

1. ARTERIALS ON VALLEY FLOOR SHALL BE MARKED WITH RAISED PAVEMENT MARKERS.
2. COLLECTORS SHALL BE MARKED WITH METHYL METHACRYLATE (DURASET). SEE APPLICABLE MATERIAL LIST
3. LOCAL/RESIDENTIAL STREETS, TYPICALLY NOT MARKED.
4. TYPE 2 MARKER ON LEFT & RIGHT TURN POCKETS ARE PLACED INSIDE THE POCKET SIDE OF THE 8" STRIPE.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

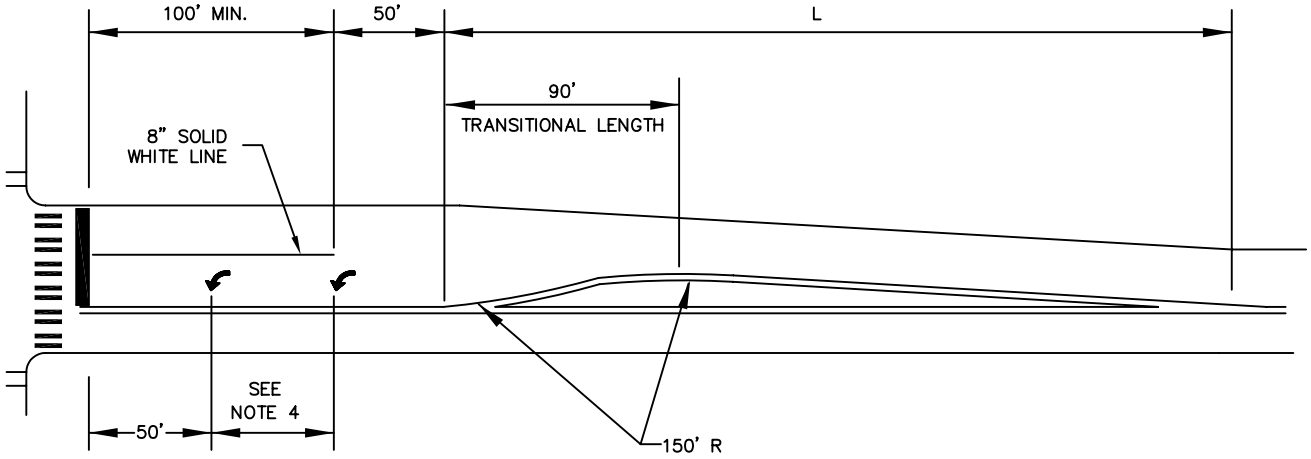
CHANNELIZATION - METHYL METHACRYLATE MARKINGS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-19

REV: 11-10-11



UNDER 40 MPH

L	$\frac{WT}{120} \times S_{SL}^2$	(SYMETRICAL ABOUT CENTERLINE)
	$\frac{WT}{60} \times S_{SL}^2$	(OFFSET)

AT OR OVER 40 MPH

L	$\frac{WT}{2} \times S_{SL}$	(SYMETRICAL ABOUT CENTERLINE)
	$WT \times S_{SL}$	(OFFSET)

WT = WIDTH OF TURN LANE

S_{SL} = POSTED SPEED LIMIT

L = LENGTH OF CHANNELIZATION

NOTES:

1. FOR CROSSWALK STANDARD DETAIL, SEE T-36.
2. FOR RPM STANDARD DETAIL, SEE T-18.
3. FOR ARROW STANDARD DETAIL, SEE T-35.
4. SECOND ARROW SHALL BE LOCATED 50' TO 100' BACK OF FIRST ARROW OR AT BEGINNING OF POCKET.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYANE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

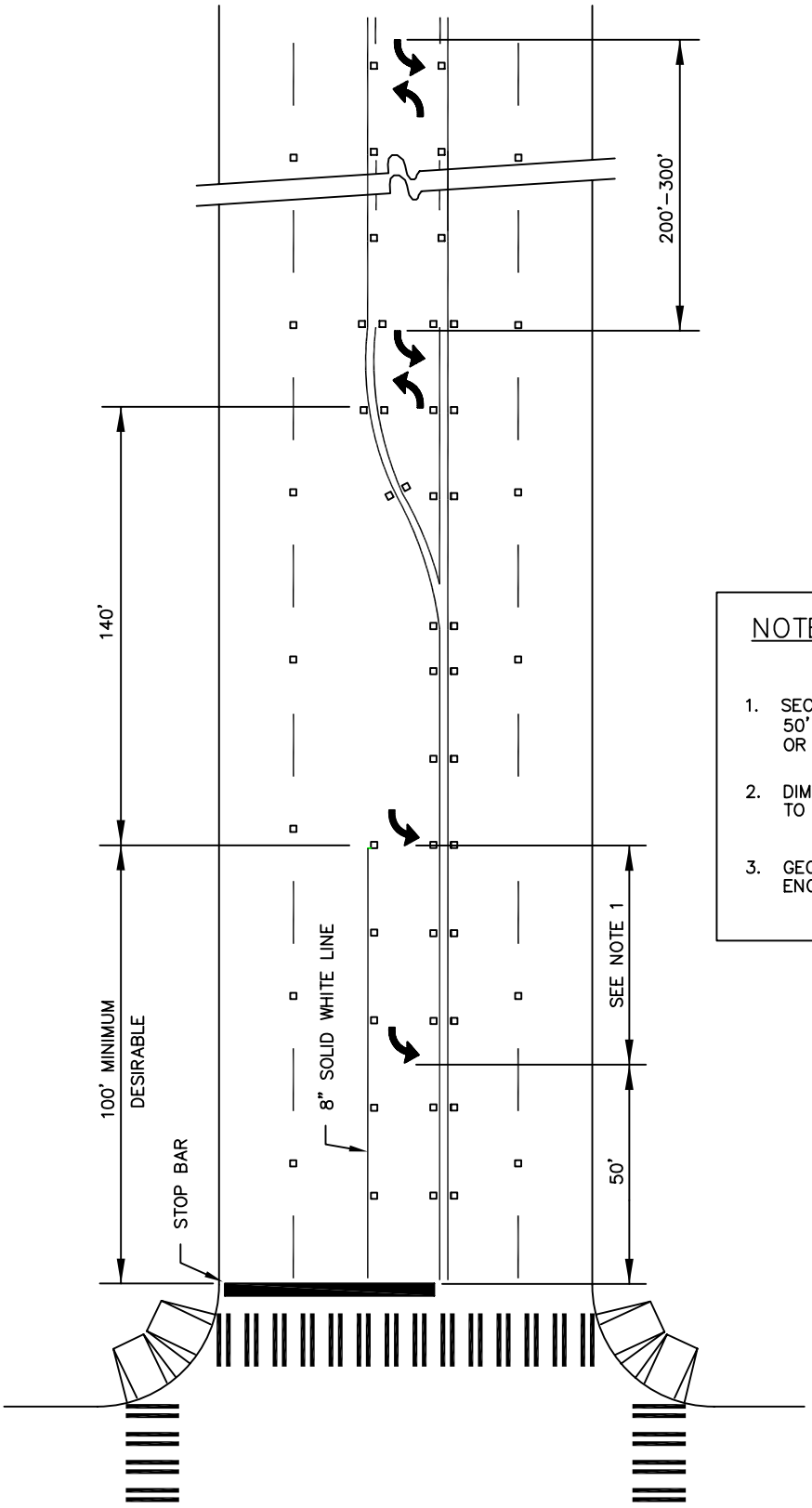
TYPICAL NONCONTINUOUS LEFT TURN

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-20

REV:



NOTES:

1. SECOND ARROW TO BE LOCATED 50' TO 100' BACK FROM TURN ARROW OR AT BEGINNING OF POCKET.
2. DIMENSIONS SHOWN MAY BE MODIFIED TO ACCOMMODATE DRIVEWAYS.
3. GEOMETRY DESIGN BASED ON ENGINEERING CRITERIA.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

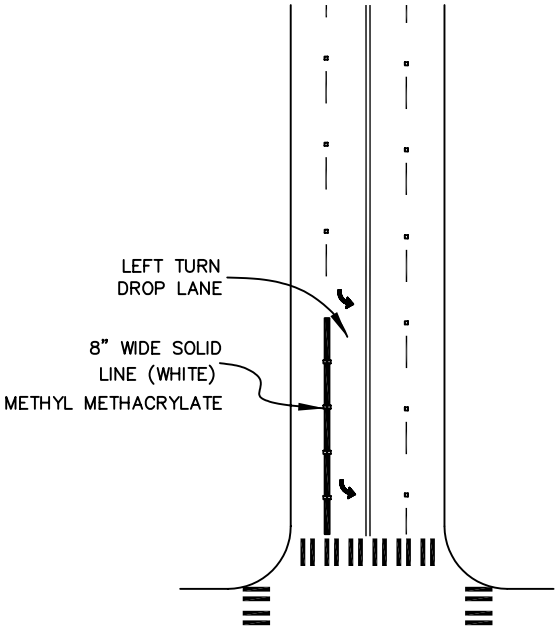
LEFT TURN AND TWO WAY TURN LANE

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

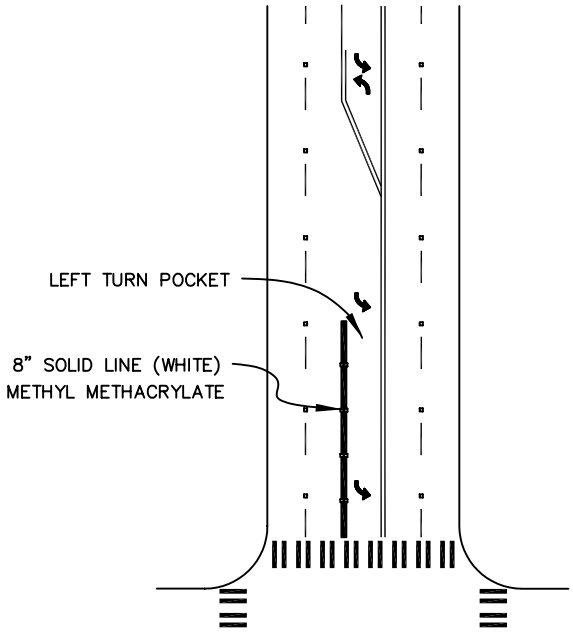
STANDARD DETAIL NO.

T-21

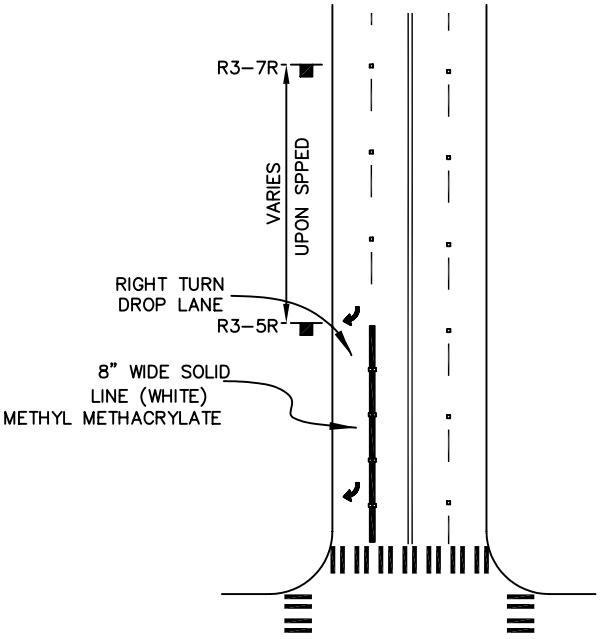
REV: 11-10-11



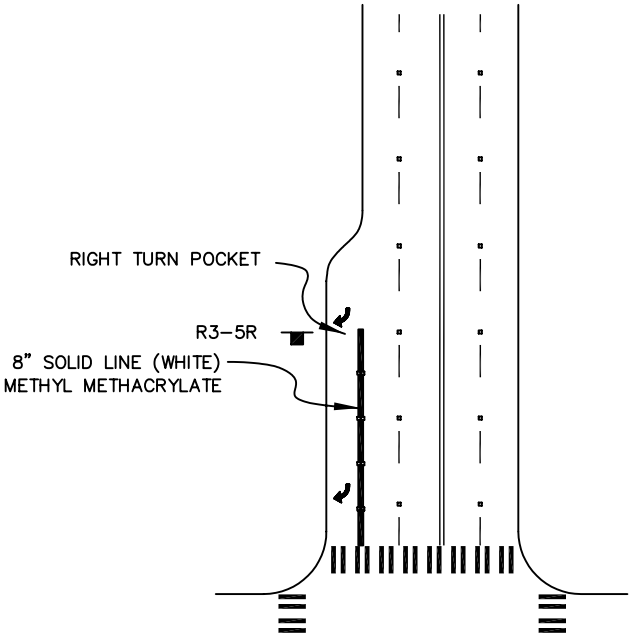
LEFT TURN DROP LANE



LEFT TURN POCKET



RIGHT TURN DROP LANE



RIGHT TURN POCKET

NOTES:

1. GEOMETRY DESIGN BASED ON ENGINEERING CRITERIA.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYANE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

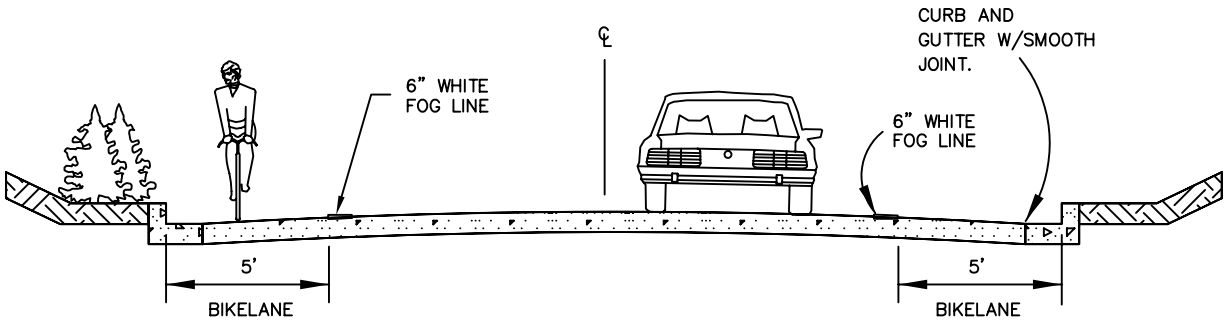
TYPICAL DROP LANES AND POCKETS MARKING

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-22

REV:

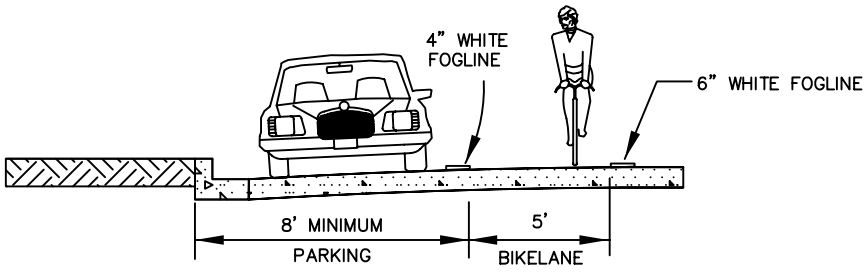
BICYCLE LANE



NOTES:

IF NO CURB AND GUTTER, THE BIKELANE MINIMUM WIDTH OF 4' WITH A 2' MINIMUM GRADED SHOULDER IS REQUIRED.

BICYCLE LANE WITH PARKING ON STREET



NOTES:

REFLECTORS AND RAISED PAVEMENT MARKERS NOT TO BE USED FOR FOG LINE. USE METHYL METHACRYLATE FOR FOGLINES.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

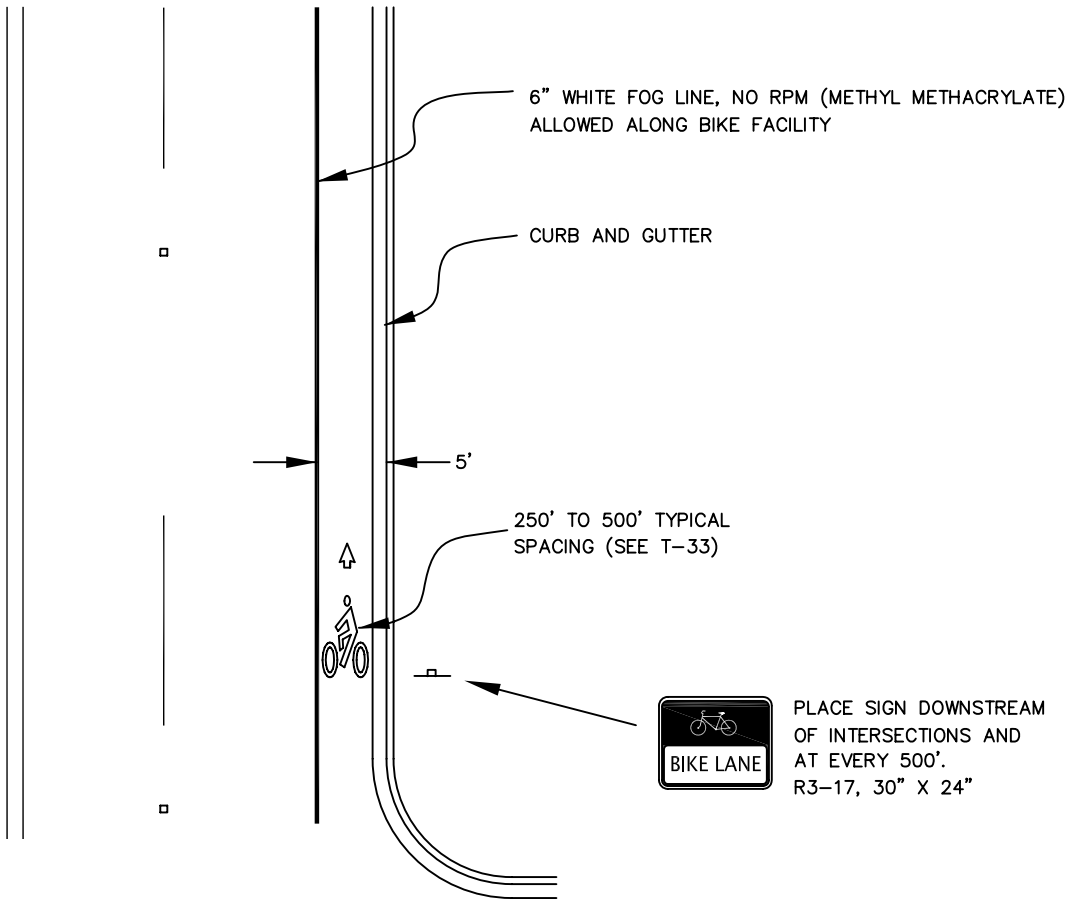
BICYCLE LANES AND ON STREET PARKING

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-23

REV:



Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

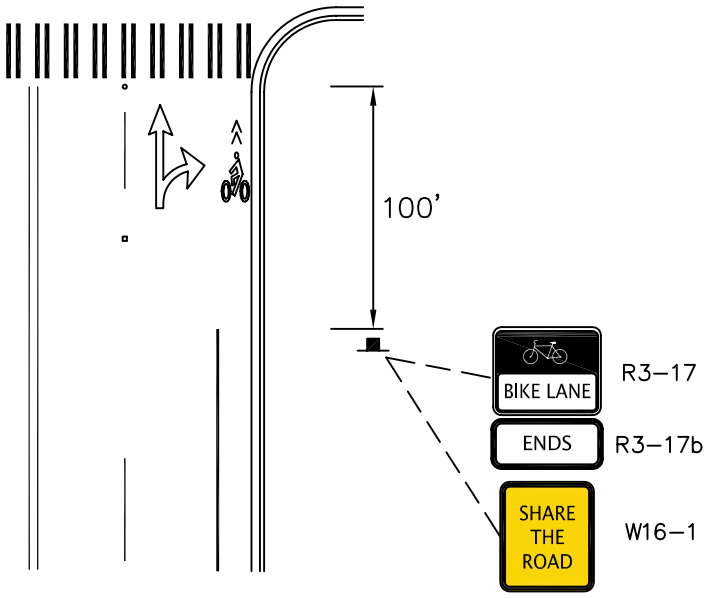
TYPICAL BICYCLE LANE-WIDTH, SIGNING, AND MARKING

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

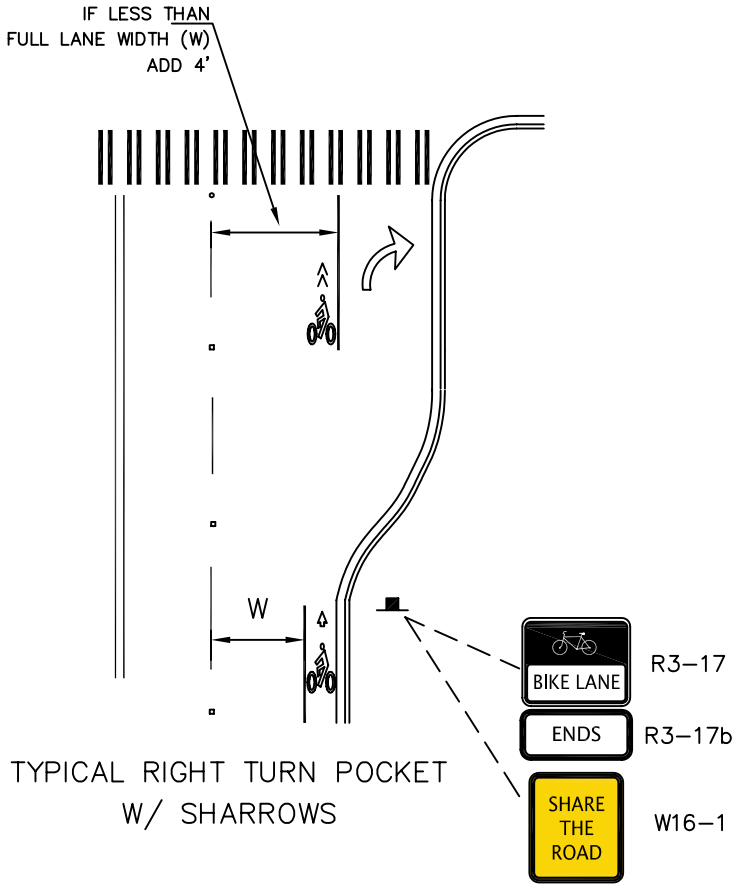
STANDARD DETAIL NO.

T-24

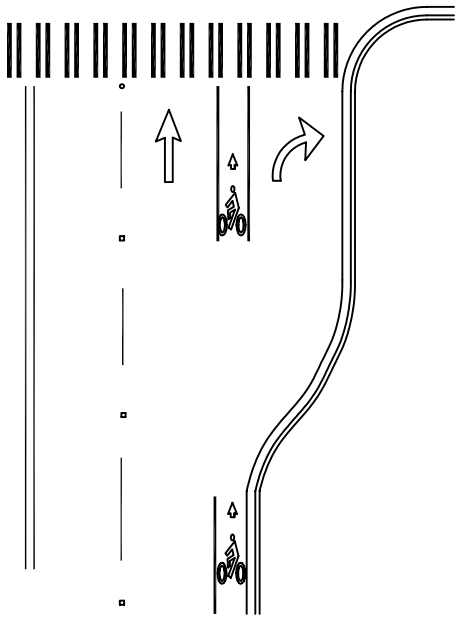
REV: 11-10-11



TYPICAL RIGHT–THROUGH LANE
(BICYCLE LANE CONTINUES THROUGH INTERSECTION)



TYPICAL RIGHT TURN POCKET
W/ SHARROWS



TYPICAL RIGHT TURN POCKET
W/ BIKE LANE

NOTE: SIGNS PER MUTCD

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

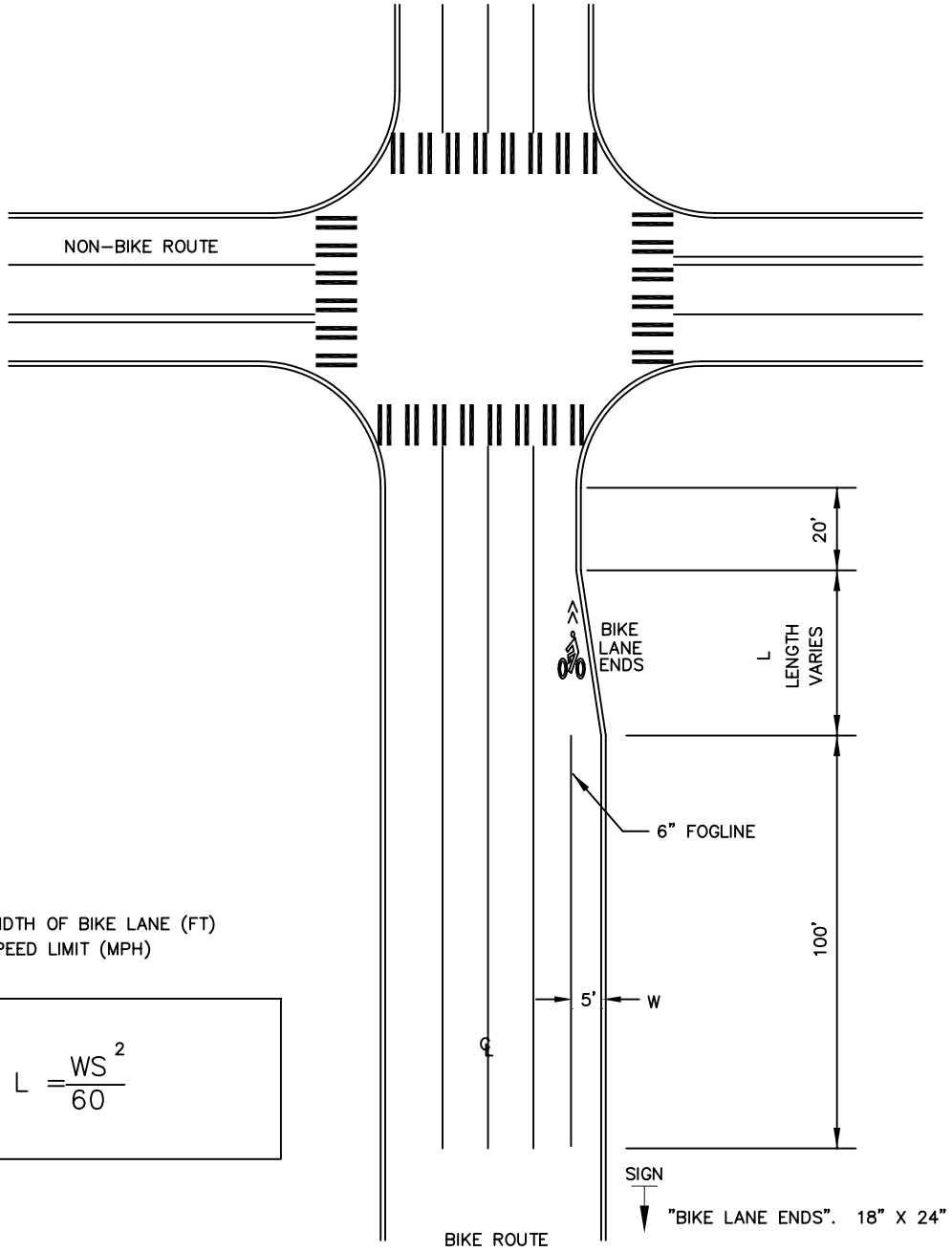
TYPICAL BICYCLE LANE MARKERS AT INTERSECTION

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-25

REV:



W = WIDTH OF BIKE LANE (FT)
S = SPEED LIMIT (MPH)

$$L = \frac{WS^2}{60}$$

Back to Table of Contents NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

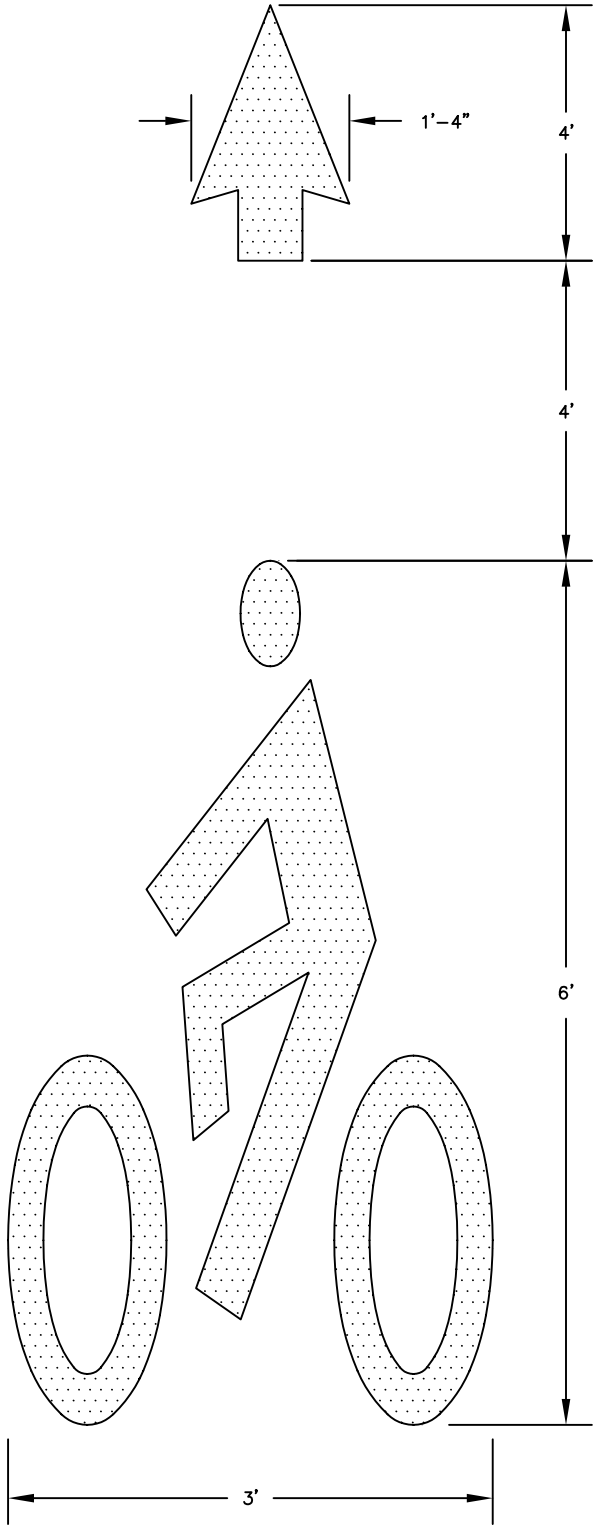
GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

BICYCLE LANE ENDING PRIOR TO INTERSECTION

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-26

REV:



NOTES:

1. MATERIAL:
   – METHYL METHACRYLATE

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

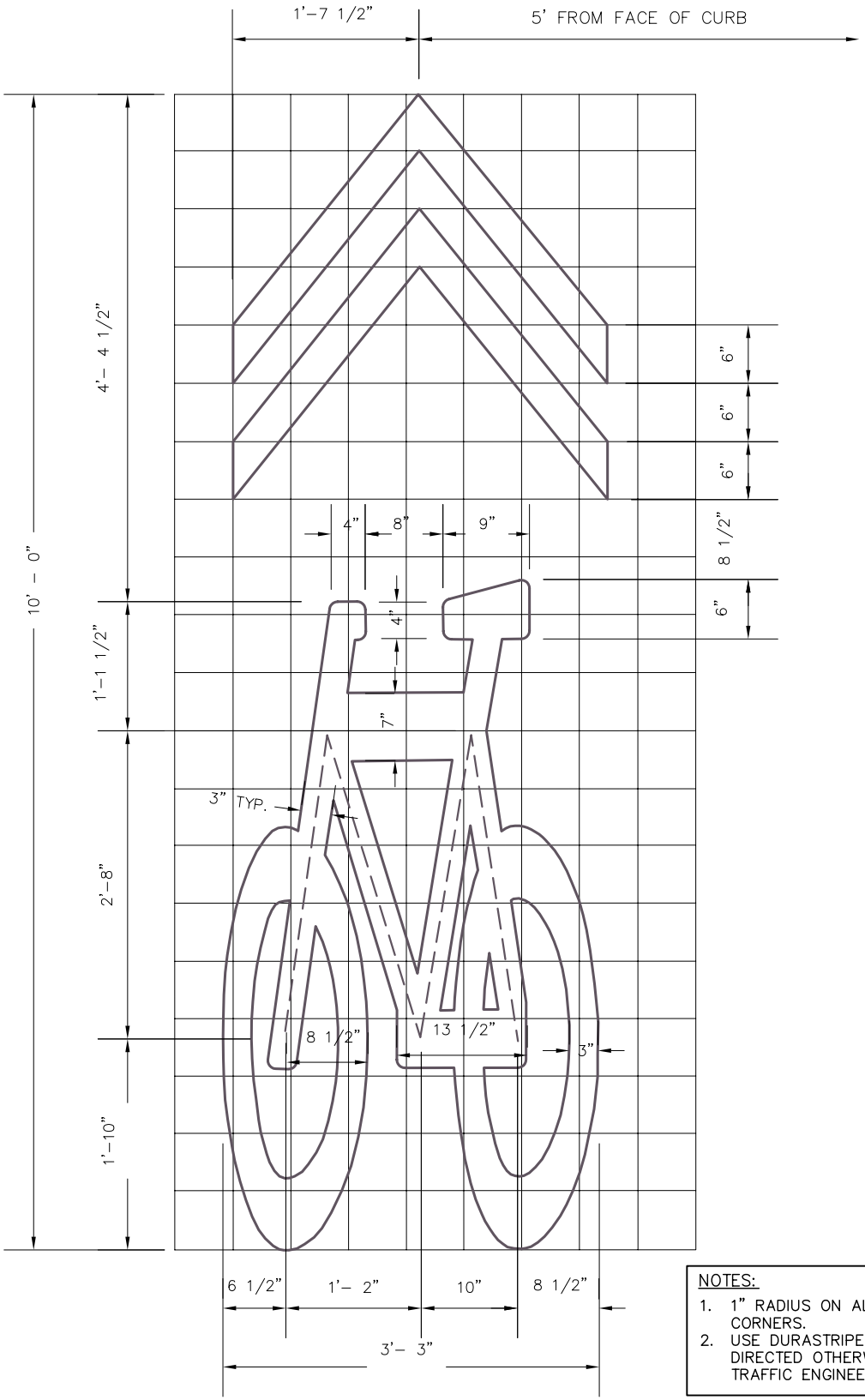
BICYCLE LANE MARKINGS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-27

REV:



NOTES:

1. 1" RADIUS ON ALL ROUNDED CORNERS.
2. USE DURASTRIPE UNLESS DIRECTED OTHERWISE BY THE TRAFFIC ENGINEER.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

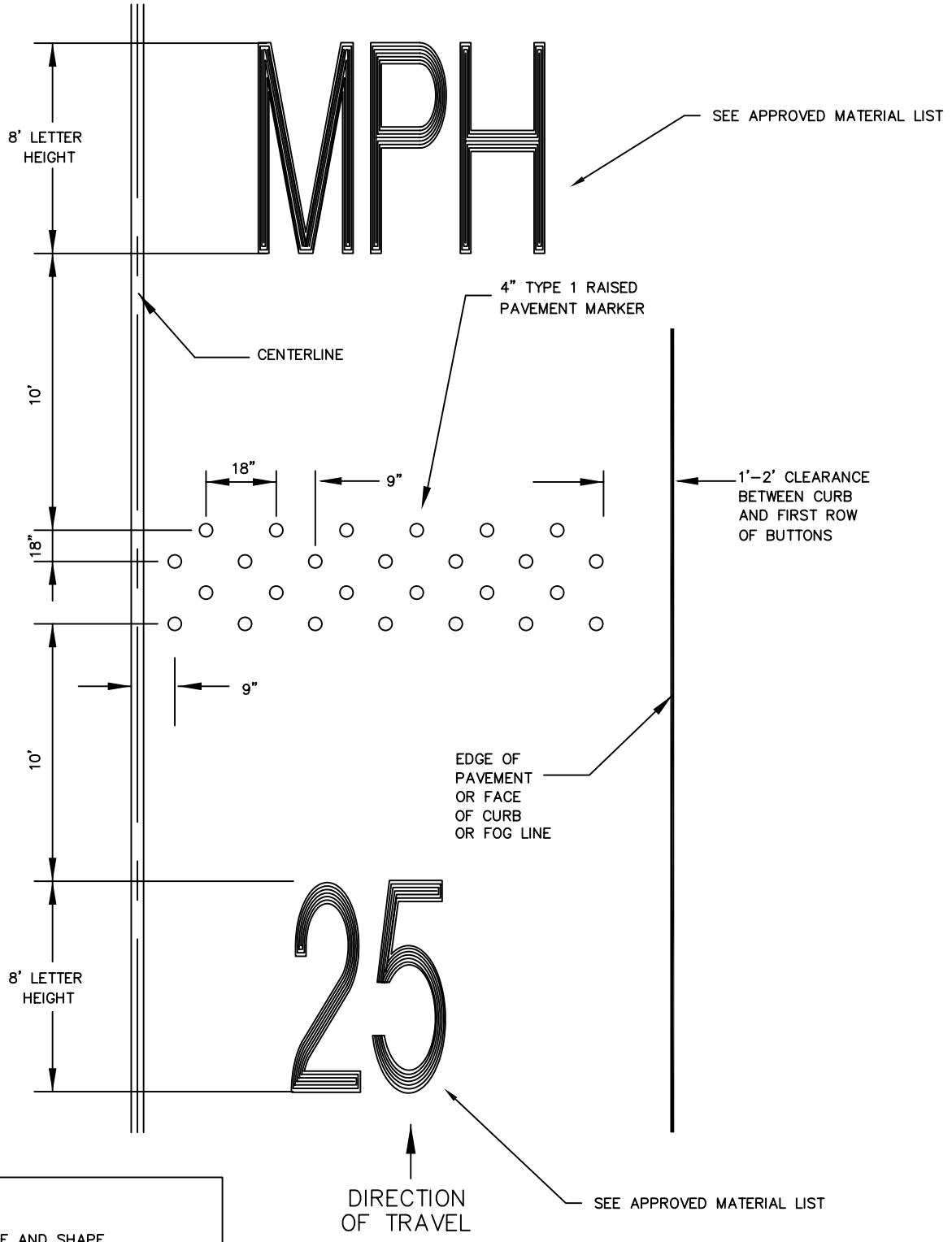
GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

SHARROW BICYCLE SYMBOL

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-28

REV:



NOTES:

1. LEGEND SIZE AND SHAPE PER MUTCD. SPACING REFLECTS MUTCD STANDARDS FOR 8 FOOT LETTER HEIGHT.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

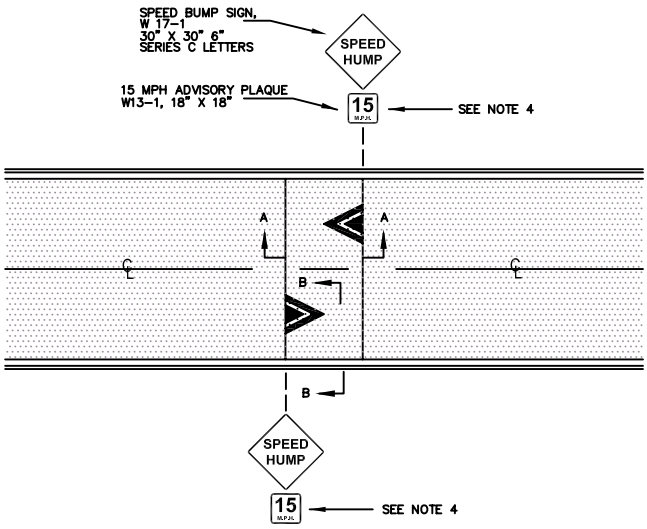
RUMBLE STRIP DESIGN AND PLACEMENT

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

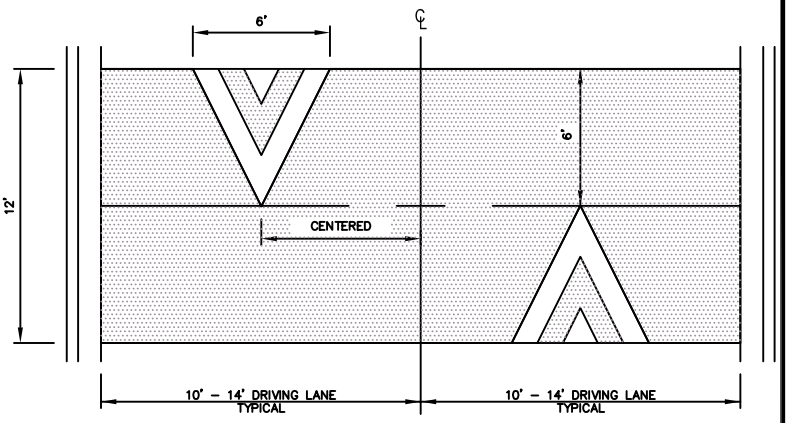
STANDARD DETAIL NO.

T-29

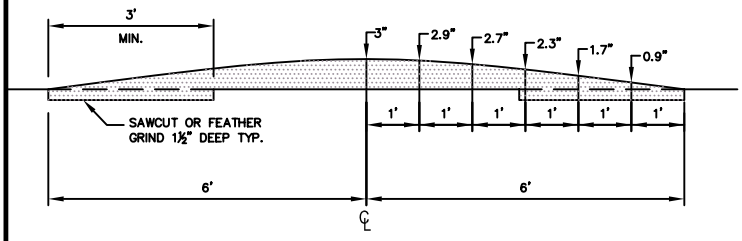
REV:



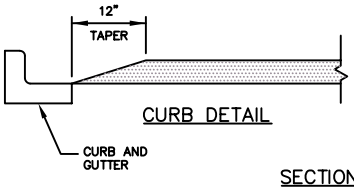
SPEED HUMP MARKING AND SIGNING



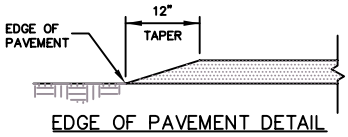
MARKING DETAIL



SECTION A–A



CURB DETAIL

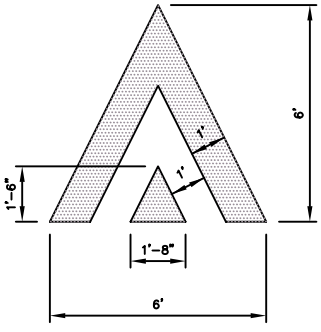


EDGE OF PAVEMENT DETAIL

SECTION B–B

NOTES:

1. SAWCUT OR FEATHER GRIND TO KEY IN SPEED HUMP. SEE SECTION A–A.
2. SIGN LOCATIONS SHALL BE VERIFIED BY THE ENGINEER PRIOR TO INSTALLATION.
3. SPEED HUMP CHEVRON MARKING SHALL BE THERMOPLASTIC, HEAT FUSED PREFORMED, 90 MIL., OR EQUAL APPROVED BY THE ENGINEER.
4. FOR A SERIES OF SPEED HUMPS, USE THE ADVISORY SPEED PLAQUE AT ONLY THE FIRST SPEED HUMP IN EACH DIRECTION OF TRAVEL.
5. SPEED HUMP TO BE INSTALLED USING CITY PROVIDED TEMPLATE, 48 HOURS NOTICE REQUIRED.



CHEVRON DETAIL

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

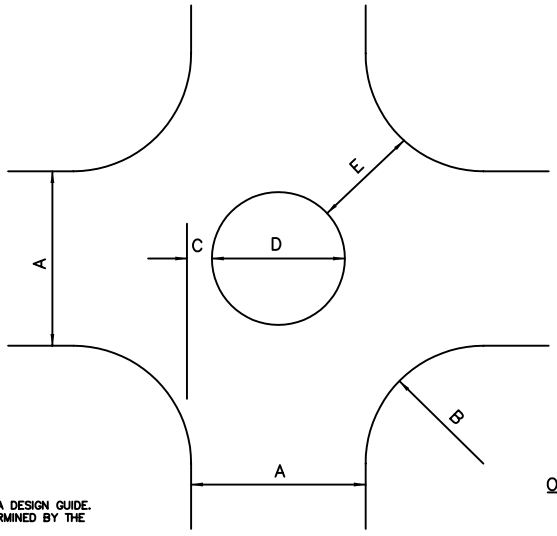
GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

SPEED HUMP

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-30
REV:

GEOMETRY



NOTES:

1. USE DIMENSION SCHEDULE AS A DESIGN GUIDE. FINAL DIMENSIONS TO BE DETERMINED BY THE ENGINEER.
2. FOR PLANTER ISLAND SPECIFICATIONS SEE TRAFFIC CIRCLE DETAIL TE-27.

OPTIMUM CRITERIA

OFFSET DISTANCE (C)	OPENING WIDTH (E)
5.5' MAX.	16' MIN.
5.0'	17' ±
4.5'	18' ±
4.0'	19' ±
3.5' OR LESS	20' ±

DIMENSIONS

A	B	C	D	E
STREET WIDTH	CURB RETURN RADIUS	OFFSET DISTANCE	CIRCLE DIAMETER	OPENING WIDTH
20'	<15'	RECONSTRUCT CURBS		
	15'	5.5'	9'	16'+
	18'	5.0'	10'	17'+
	20'	4.5'	11'	18'–
	25'	4.0'	12'	19'+
24'	<12'	RECONSTRUCT CURBS		
	12'	5.5'	13'	16'
	15'	5.0'	14'	17'–
	20'	4.5'	15'	18'+
	25'	3.5'	17'	20'–
25'	<12'	RECONSTRUCT CURBS		
	12'	5.5'	14'	16'+
	15'	5.0'	15'	17'–
	18'	4.5'	16'	18'–
	20'	4.5'	16'	18'+
	25'	3.5'	18'	20'–
30'	10'	5.5'	19'	16'+
	12'	5.0'	20'	17'–
	15'	5.0'	20'	17'+
	18'	4.5'	21'	18'+
	20'	4.0'	22'	19'+
	25'	3.0'	24'	20'
32'	10'	5.5'	21'	16'+
	12'	5.0'	22'	17'–
	15'	4.5'	23'	18'–
	18'	4.0'	24'	19'–
	20'	4.0'	24'	19'+
	25'	2.5'	27'	20'
36'	10'	5.0'	26'	17'–
	12'	5.0'	26'	17'+
	15'	4.5'	27'	18'+
	18'	4.0'	28'	19'+
	20'	3.5'	29'	20'–
	25'	1.5'	33'	20'
40'	10'	5.0'	30'	17'+
	12'	4.5'	31'	18'+
	15'	4.0'	32'	19'–
	18'	3.5'	33'	20'–
	20'	3.0'	34'	20'
	25'	1.0'	38'	20'

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

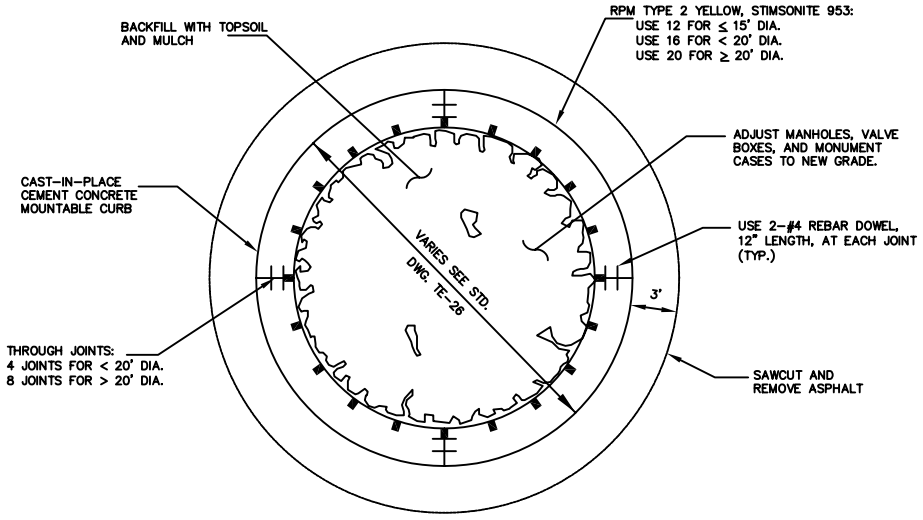
GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

TRAFFIC CIRCLE DIMENSIONS (RESIDENTIAL STREETS)

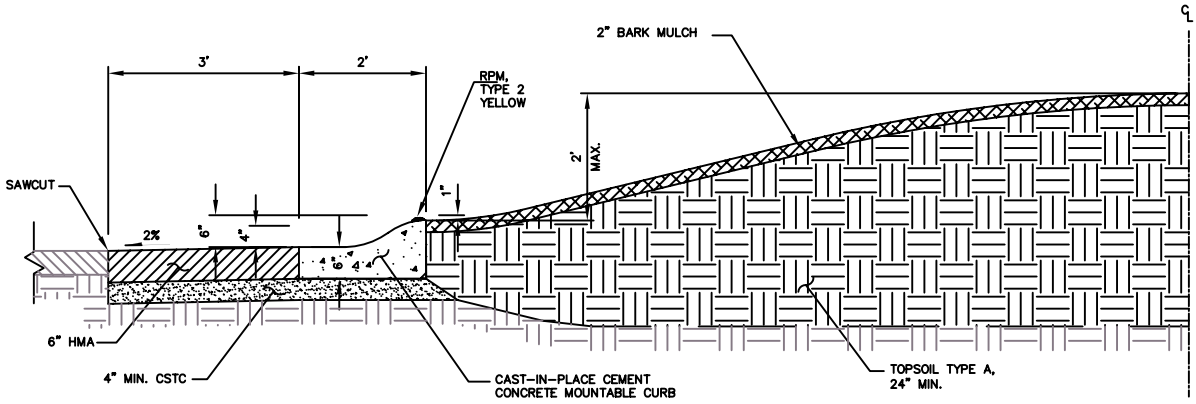
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-31

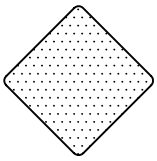
REV:



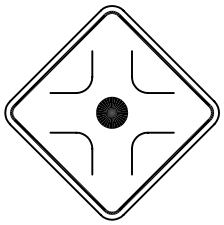
TYPICAL TRAFFIC CIRCLE



TYPICAL SECTION



18" X 18" YELLOW HIGH INTENSITY TYPE 1 OBJECT MARKER PLACED IN TRAFFIC CIRCLE FOR EACH APPROACH. ALL SIGNS TO BE MOUNTED ON SINGLE POST. LOCATION TO BE DETERMINED BY ENGINEER. SIGN HEIGHT: 5' FROM BOTTOM OF LOWER SIGN TO BARK MULCH.



30" X 30" BLACK ON YELLOW PLACED 75' TO 100' BACK FROM TRAFFIC CIRCLE ON EACH APPROACH. SEE STD. DWG. T-44 FOR POST TYPE AND INSTALLATION.

SIGNING

NOTES:

1. LANDSCAPING TO BE DETERMINED BY TRANSPORTATION/PARKS STAFF.
2. MONUMENT PROTECTION/PRESERVATION: NOTIFY CITY OF ISSAQUAH SURVEYING PRIOR TO MONUMENT ADJUSTMENT. RAISE MONUMENT TO GRADE IN APPROPRIATE CASING.
3. HMA TYPE TO BE APPROVED BY CITY ENGINEER.
4. PAVING TO BE PROVIDED IN A CONTINUOUS MANNER, ELIMINATING COLD JOINTS.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

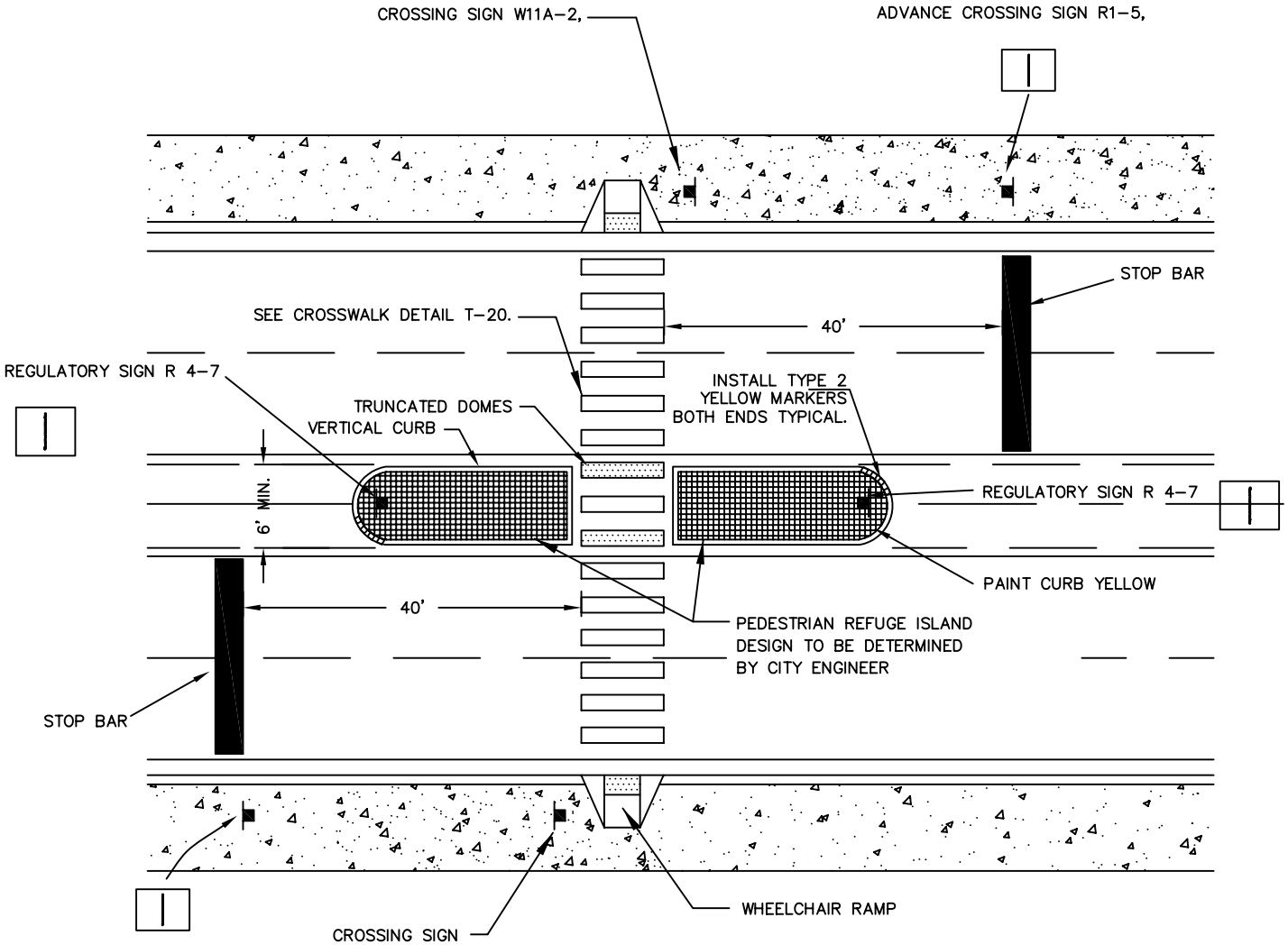
GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

TRAFFIC CIRCLE DETAILS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-32

REV:



Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

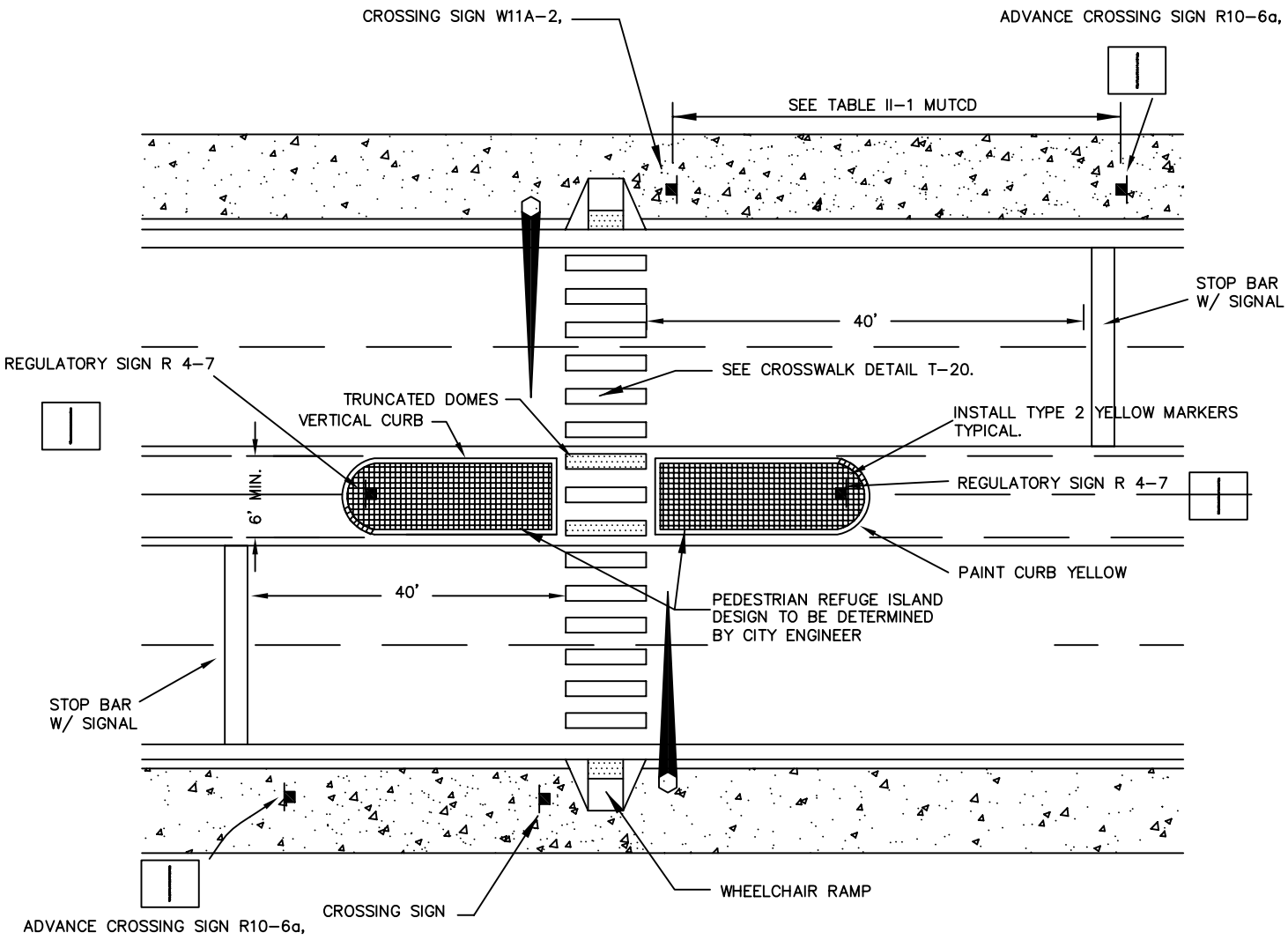
GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

PEDESTRIAN REFUGE ISLAND
NO STOP CONTROL

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-33

REV:



Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYMAN, STATE OF WASHINGTON, 26132, REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA, STATE OF WASHINGTON, 23145, REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

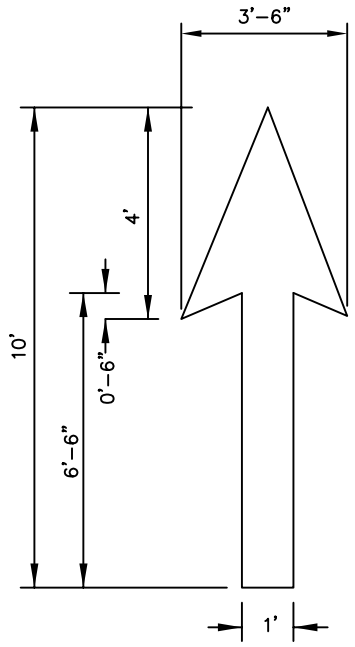
PEDESTRIAN REFUGE ISLAND SIGNALIZED CONTROL

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

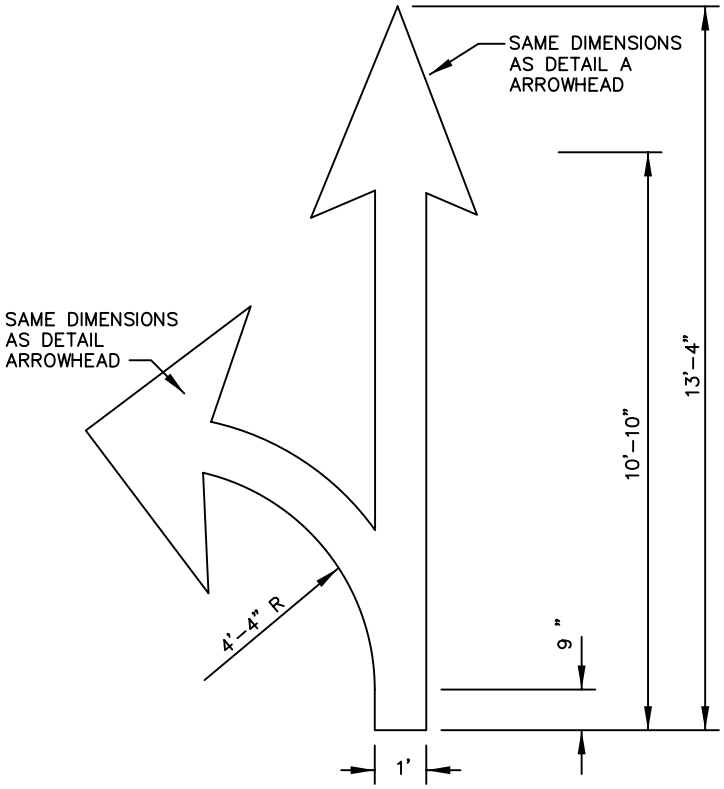
STANDARD DETAIL NO.

T-34

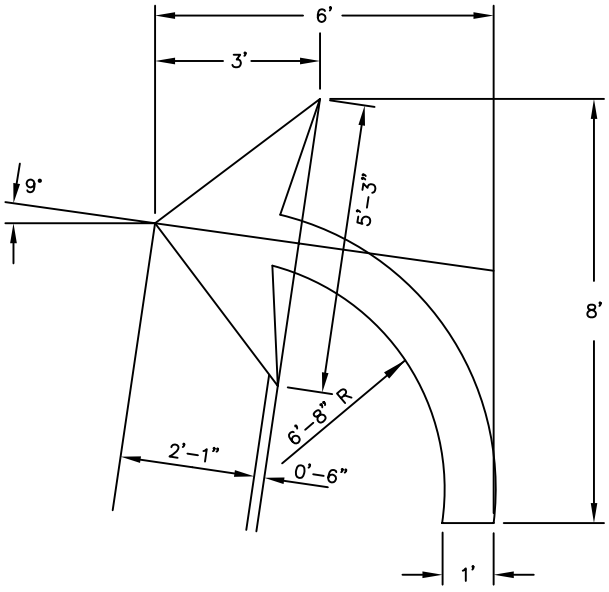
REV:



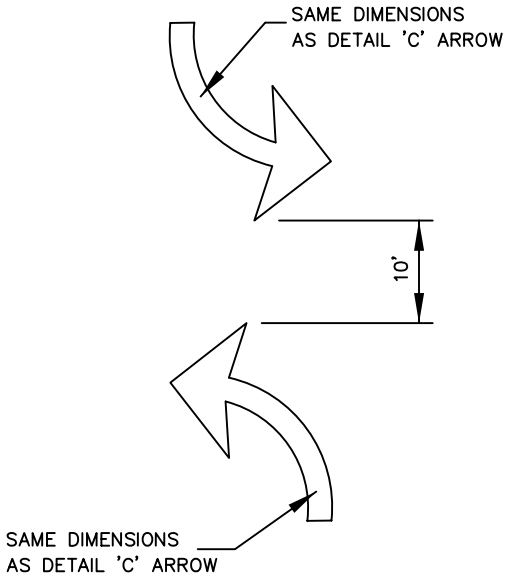
DETAIL 'A'



DETAIL 'B'



DETAIL 'C'



DETAIL 'D'

NOTES:

MATERIALS: METHYL METHACRYLATE

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

PAVEMENT ARROWS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

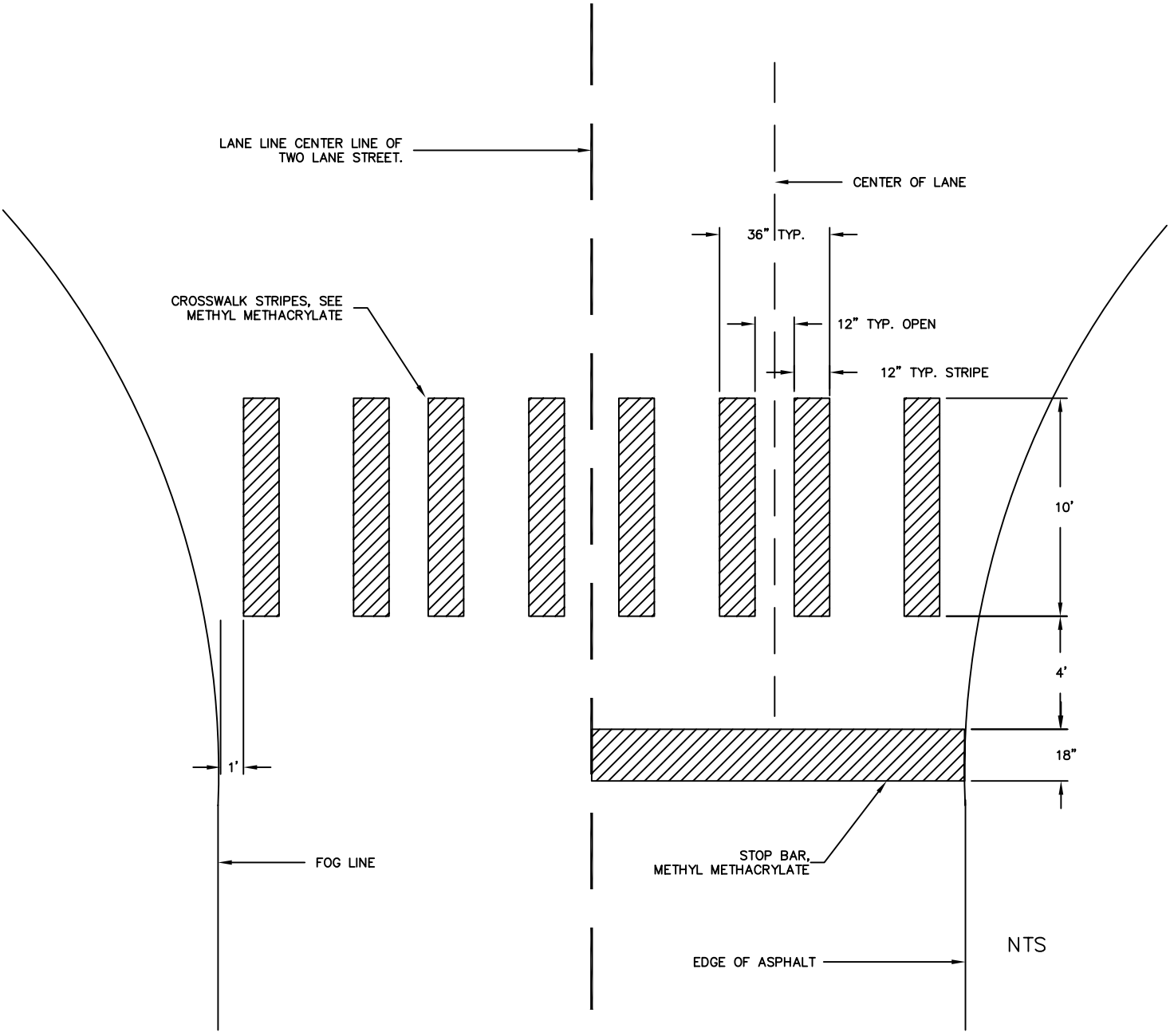
STANDARD DETAIL NO.

T-35

REV: 11-10-11

NOTE:

LOCATE STRIPES ON LANE TO AVOID WHEEL PATH.



Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

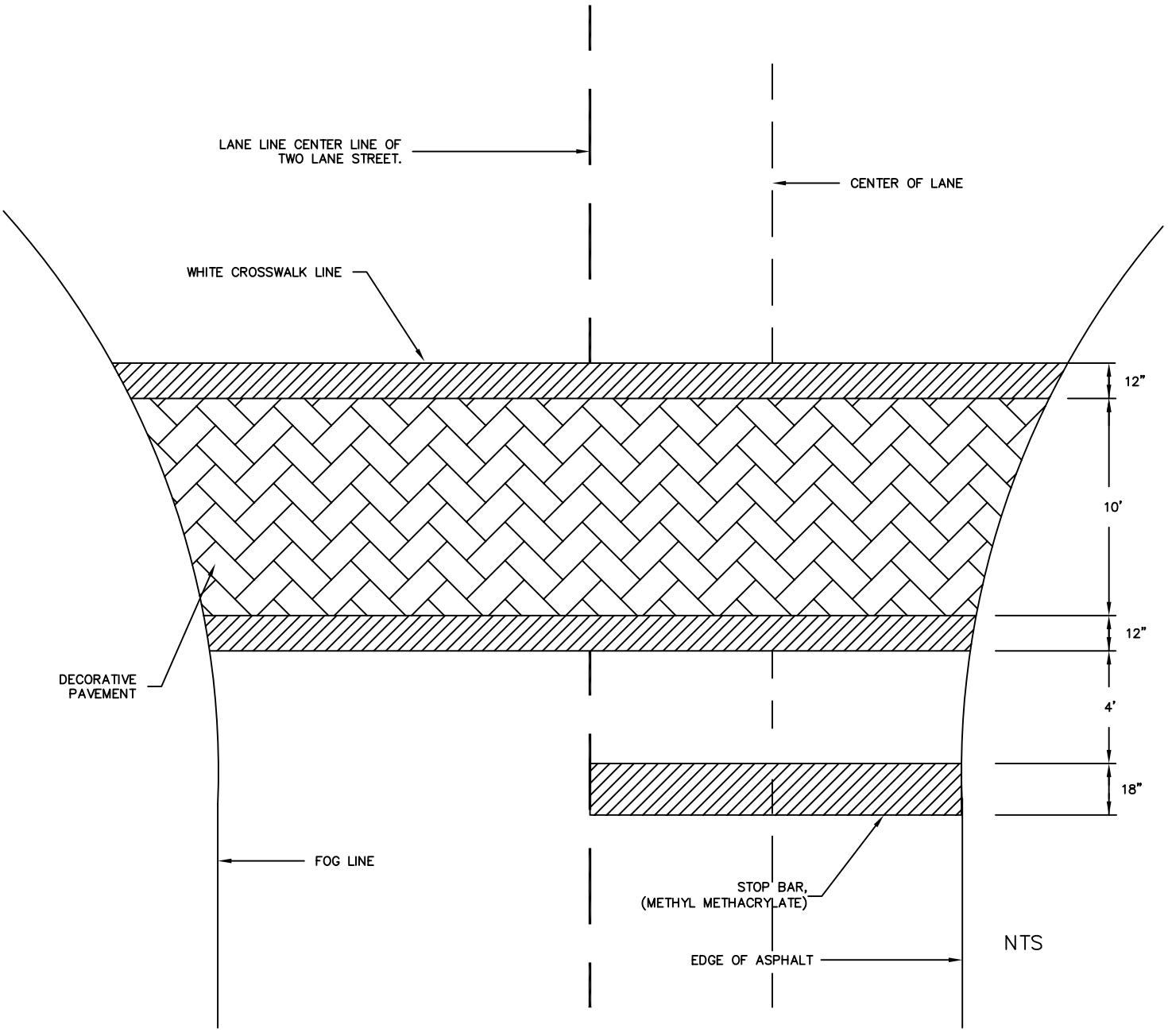
TYPICAL CROSSWALK STRIPE

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-36

REV:



Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

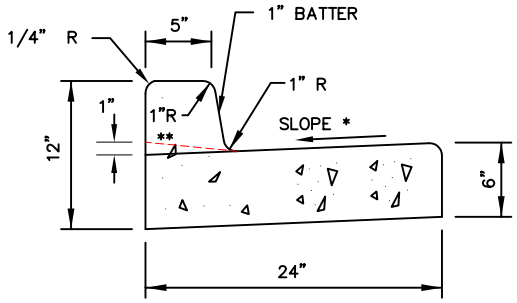
TYPICAL CROSSWALK STRIPE FOR DECORATIVE PAVEMENT

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

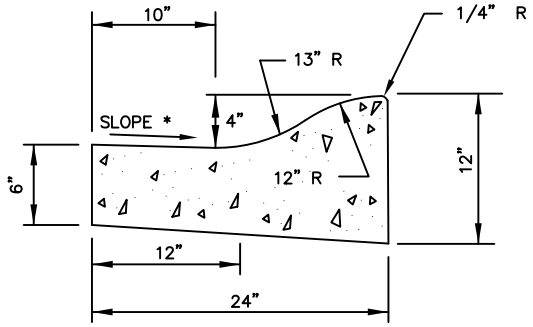
STANDARD DETAIL NO.

T-37

REV:



TYPE A CURB AND GUTTER

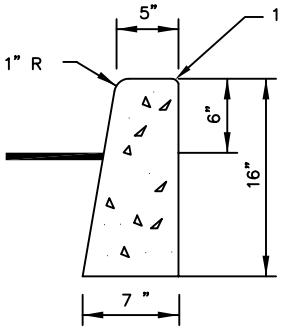


ROLLED CURB AND GUTTER

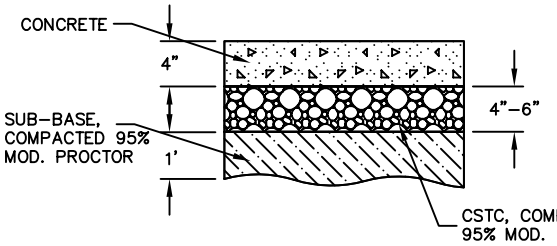
REQUIRES SPECIAL APPROVAL (LIMITED USE)

* CURB SLOPE SHALL BE 3% OR 1% GREATER THAN ROAD CROWN (UNLESS DRAINING AWAY THEN MATCH ROAD CROWN).

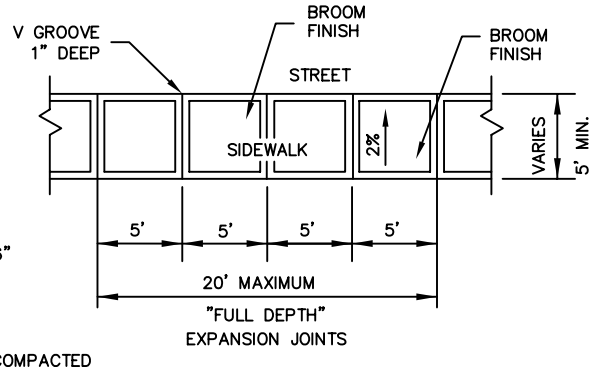
** TOP OF CURB AT COMMERCIAL AT GRADE DRIVEWAYS.



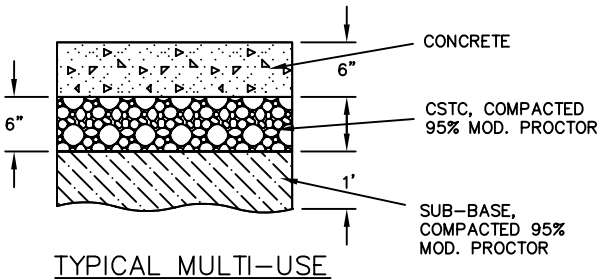
VERTICAL CURB



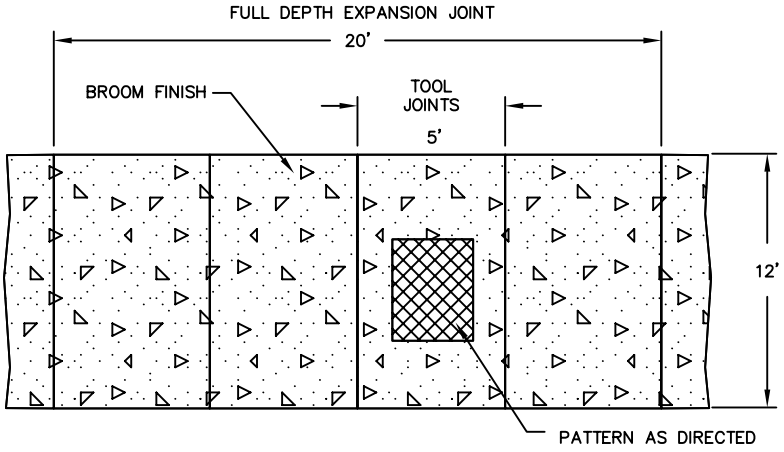
SIDEWALK AND CURB SECTION



PLAN VIEW SIDEWALK



TYPICAL MULTI-USE URBAN TRAIL SECTION



MULTI-USE URBAN TRAIL

NOTES:

1. MATERIAL – CONCRETE SHALL BE CLASS 3000, AIR ENTRAINED.
2. ALL MATERIAL SHALL BE TESTED PER ASTM C150 TYPE II.
3. ALL SIDEWALKS SHALL MEET ADA REQUIREMENTS.
4. DYED CONCRETE SHALL BE SEALED.
5. PATTERNS MAY VARY BY LOCATION.
6. PAVERS ARE NOT ALLOWED.

MINIMUM WIDTHS	
SIDEWALK – STANDARD	5'
SIDEWALK – COMMERCIAL	8'
URBAN TRAIL	12'

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE, STATE OF WASHINGTON, 26132, REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA, STATE OF WASHINGTON, 23145, REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

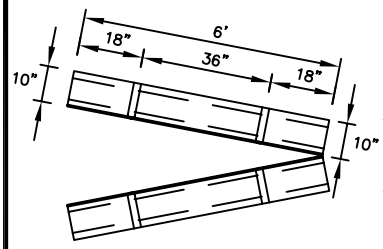
SIDEWALKS/CURBS/URBAN TRAILS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

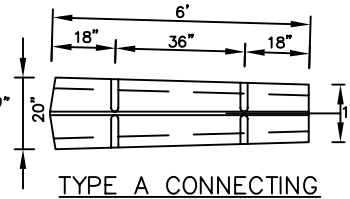
STANDARD DETAIL NO.

T-38

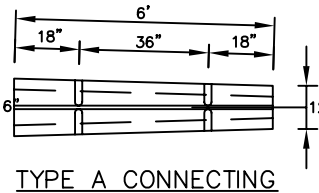
REV:



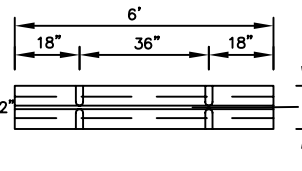
TYPE A CURB
STRAIGHT SECTION



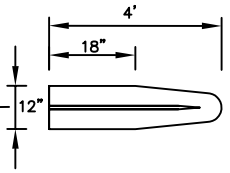
TYPE A CONNECTING
DIVIDER NO. 2



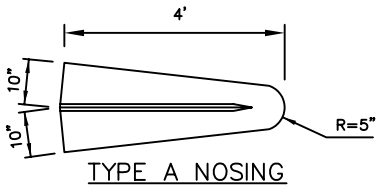
TYPE A CONNECTING
DIVIDER NO. 1



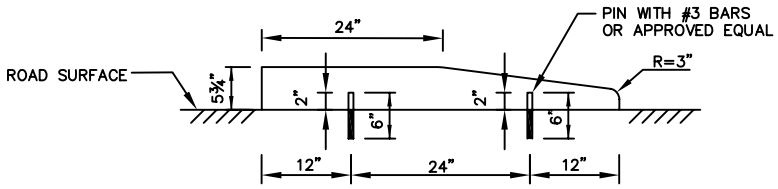
TYPE C CURB



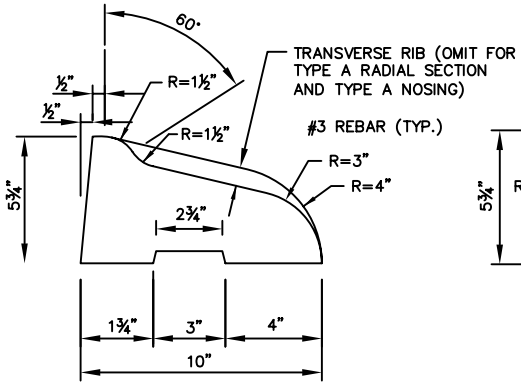
TYPE C NOSING



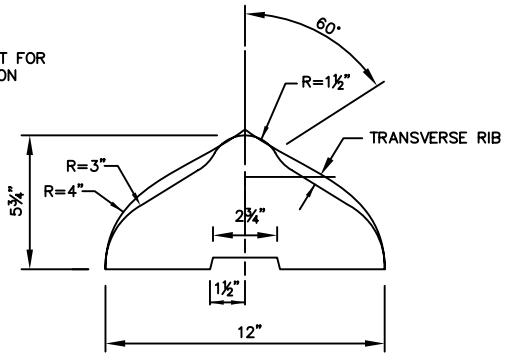
TYPE A NOSING



ELEVATION – TYPE A
NOSING AND C NOSING



SECTION – TYPE A CURB



SECTION – TYPE C CURB

NOTES:

1. ONLY 6' SECTIONS OF TYPE C AND TYPE A CURB SHALL BE USED ON ALL INSTALLATIONS, EXCEPT FOR NOTE 2.
2. THE USE OF 1' BLOCK SECTIONS OF TYPE C AND TYPE A CURB SHALL ONLY BE USED TO FORM SMALL RADIUS CURVES OR ADJUSTMENTS IN FINAL LENGTH, AS APPROVED BY THE ENGINEER.
3. ALL PRECAST TRAFFIC CURBS SHALL BE SECURED USING WSDOT APPROVED 2 PART EPOXY RESIN.
4. PRECAST CURB NOSINGS SHALL BE PINNED AND EPOXYED TO THE ROAD SURFACE.
5. NOSE PIN SHALL ONLY BE USED IF HOLE IS PRECAST.
6. INSTALL TUBULAR MARKER BY "SAFE HIT"– MULTI PURPOSE SURFACE MOUNT DELINEATOR SYSTEM–36" HIGH IN FRONT OF NOSING SECTION.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

A & C CURBING

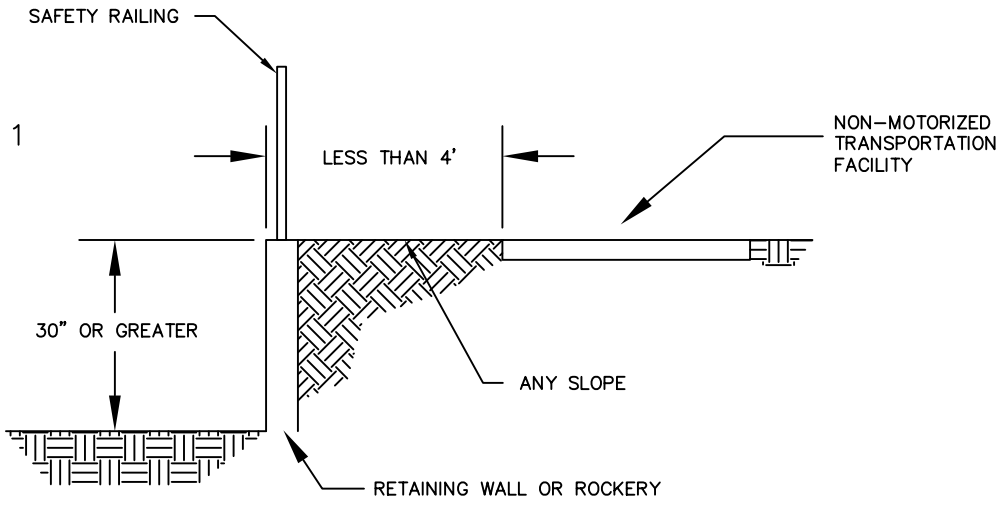
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

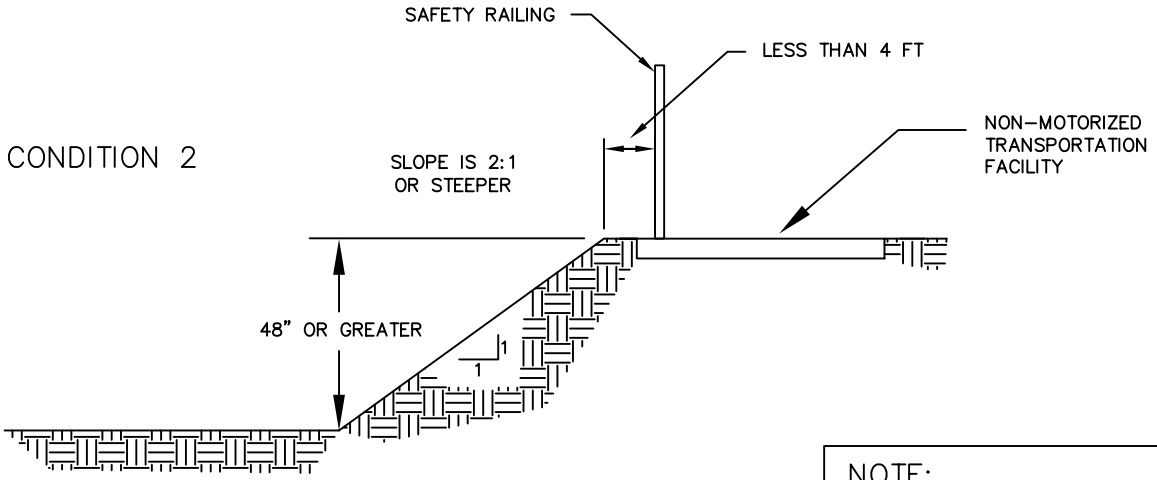
T-39

REV: 11-10-11

CONDITION 1



CONDITION 2



NOTE:

SAFETY RAIL TYPE AND INSTALLATION TO BE SPECIFIED BY THE REVIEW ENGINEER.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYMNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

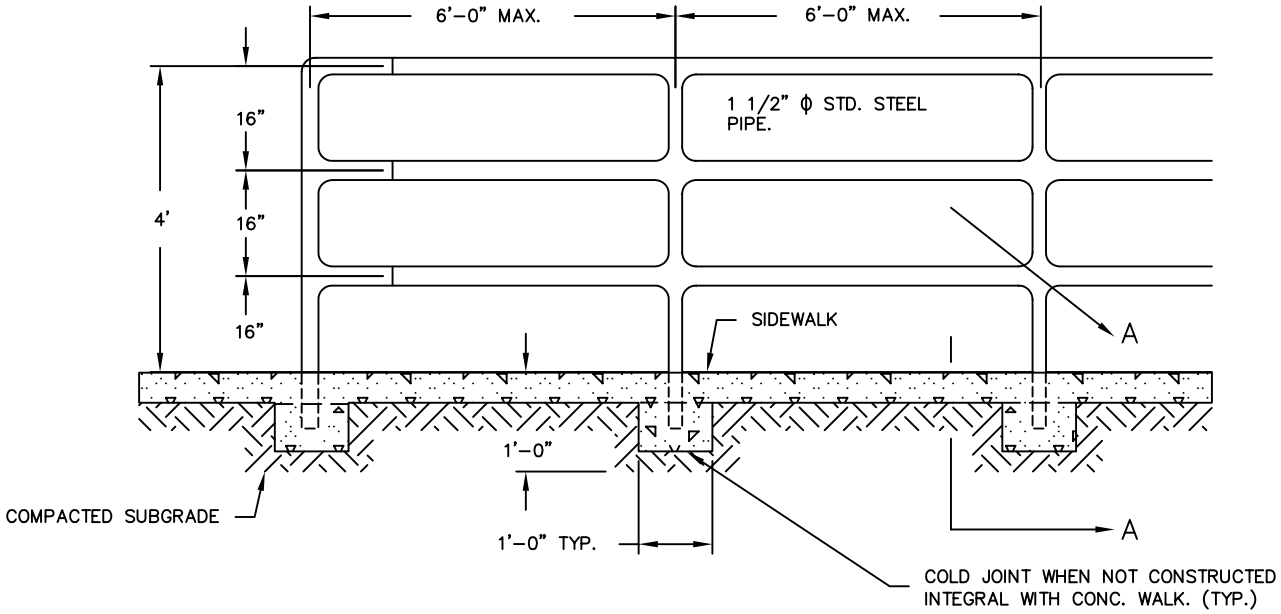
CONDITIONS REQUIRING SAFETY RAILINGS

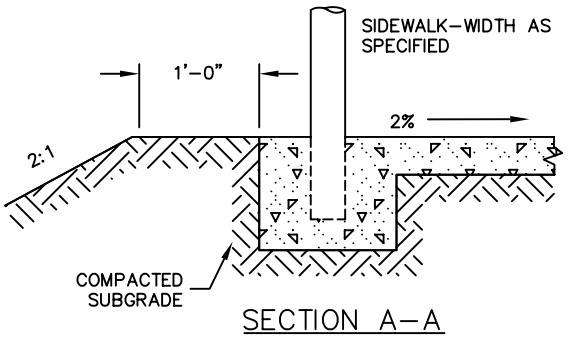
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

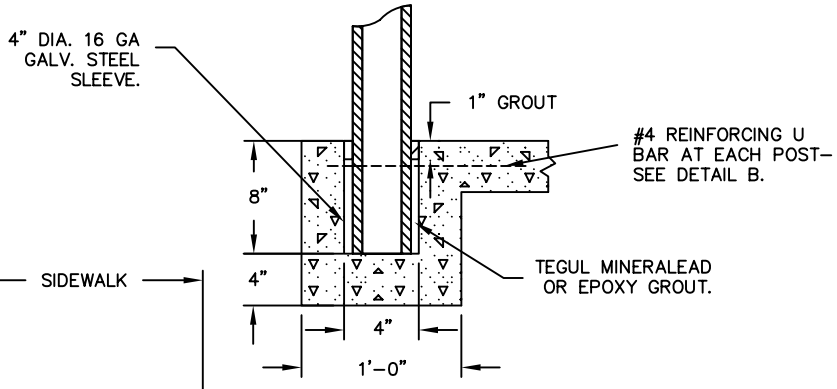
T-40

REV:

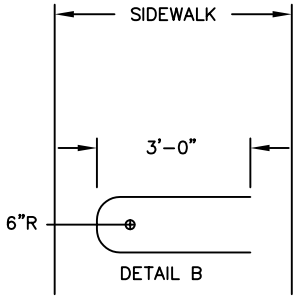




SECTION A-A



DETAIL A



PLAN VIEW

NOTES:

1. RAILING SHALL BE ANNODIZED ALUMINIUM.
2. ALL POSTS SHALL BE PLUMB AND RAILS PARALLEL TO GRADE.
3. PIPE MATERIAL SHALL CONFORM TO ASTM A53.
4. REINFORCING STEEL, ASTM A 615, GR60.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

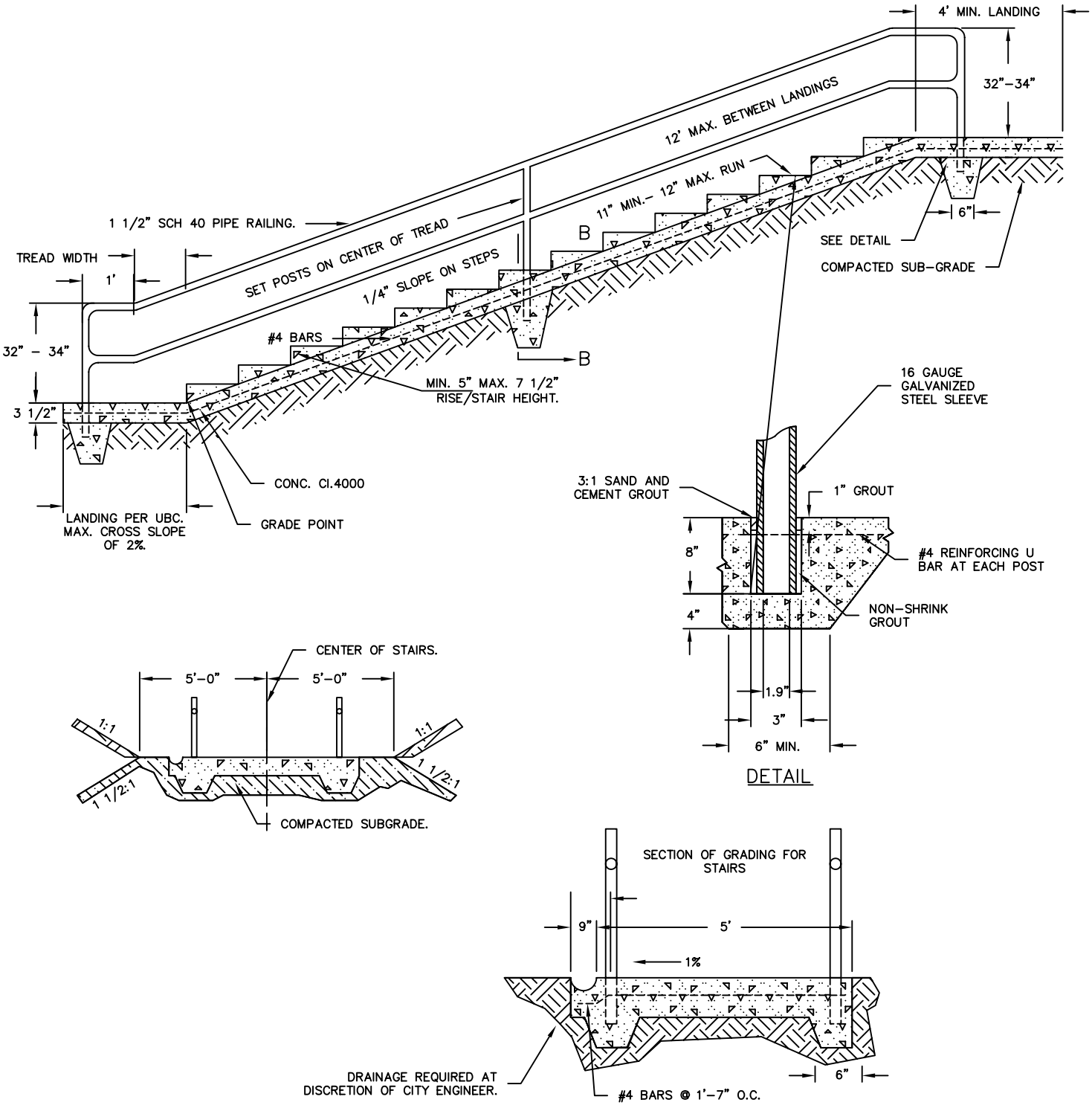
GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

SAFETY RAILING

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-41

REV:



SECTION B–B

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

HAND RAILING AND CONCRETE STAIRS

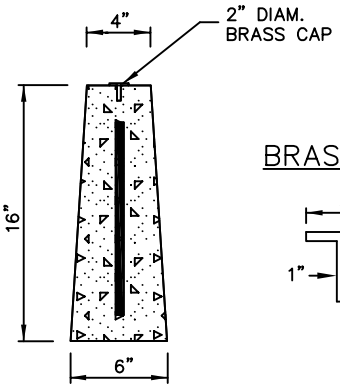
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-42

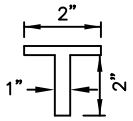
REV:

MON



PORTLAND CEMENT CONCRETE
WITH 12"LONG #8 REBAR INSIDE

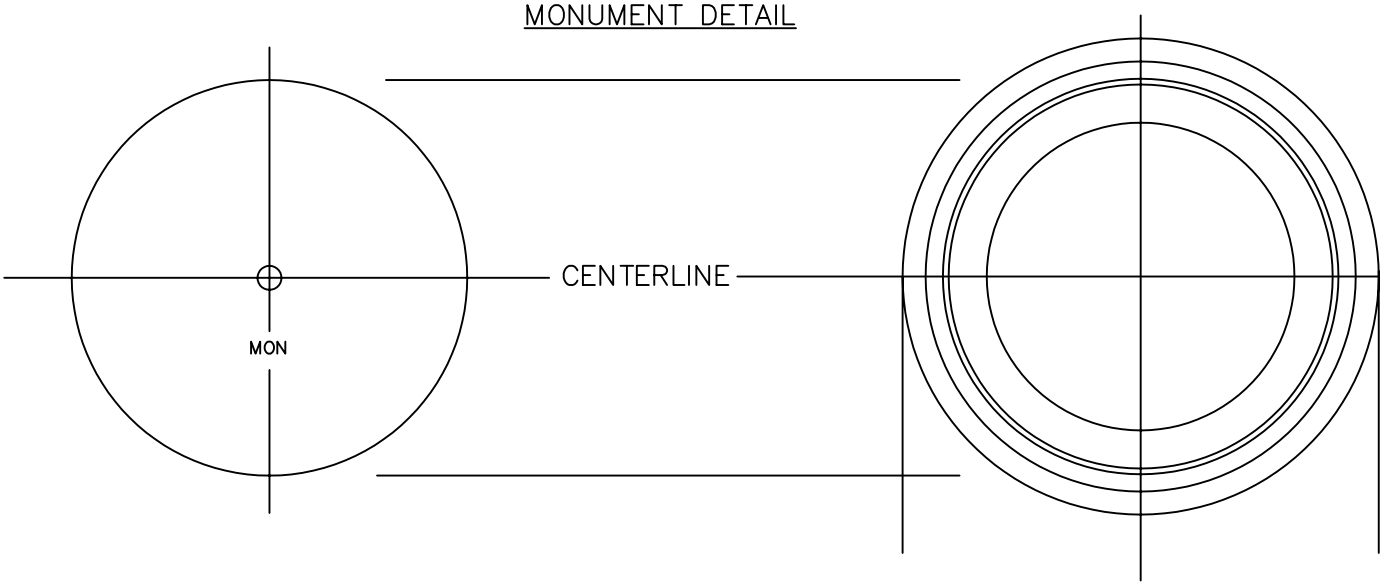
BRASS CAP

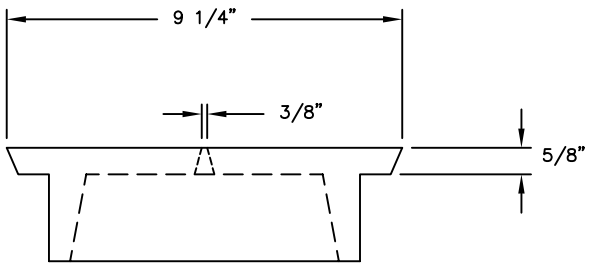


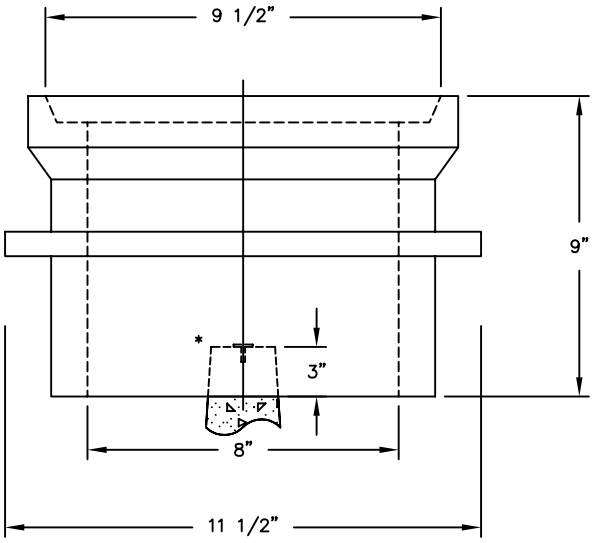
APPROXIMATE WEIGHTS STANDARD

CASE	60 LBS
COVER	19 LBS
TOTAL	79 LBS

MONUMENT DETAIL







THE CASTINGS SHALL BE GRAY IRON CASTING, ASTM DESIGNATION A-4B, CLASS 4D. THE COVER AND SEAT SHALL BE MACHINED SO AS TO HAVE PERFECT CONTACT AROUND THE ENTIRE CIRCUMFERENCE AND FULL WIDTH OF BEARING SURFACE.

* IF INSTALLED IN CONCRETE, MONUMENT CASE AND COVER NOT NEEDED. BRASS CAP INSET INTO CONCRETE.

SHOW MONUMENT LOCATIONS ON DRAWINGS.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

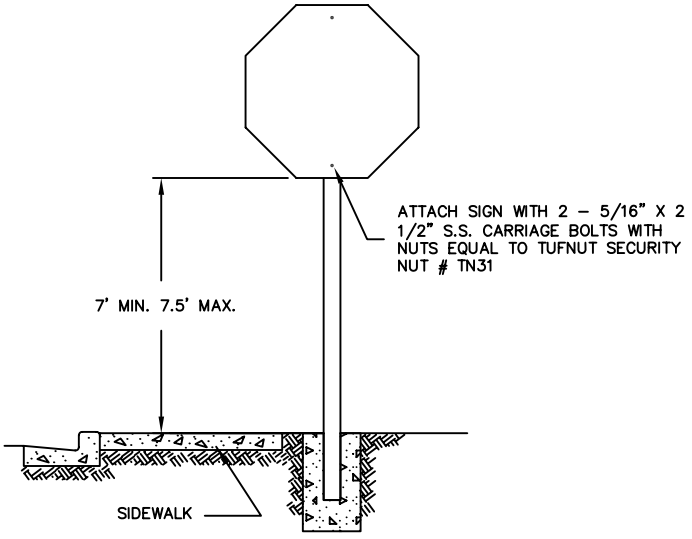
GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

MONUMENT CASE AND COVER

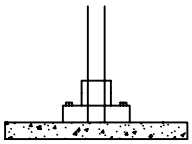
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-43

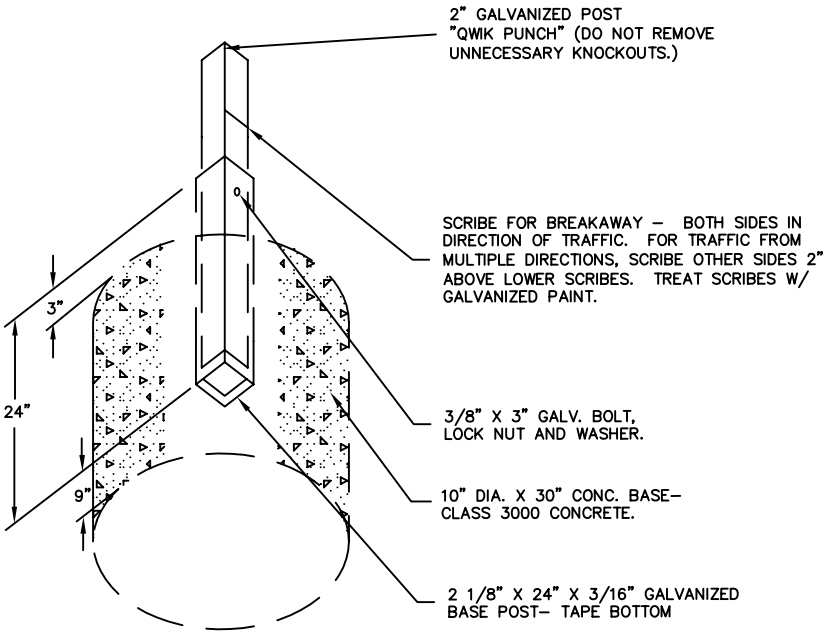
REV:

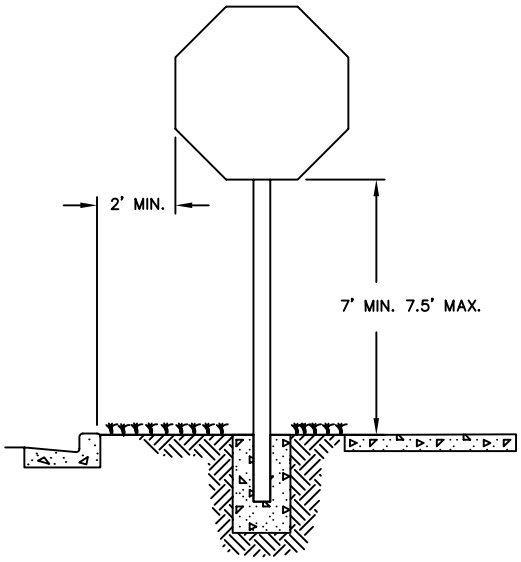


TYPICAL INSTALLATION WITH ADJACENT SIDEWALK



PROVIDE ALTERNATE INSTALLATION FOR MOUNTING TO SIDEWALK QUICK PUNCH SURFACE MOUNT #12101600





TYPICAL INSTALLATION
PARKWAY AREA

NOTES:

1. ALL SIGNS SHALL BE PER MUTCD UNLESS OTHERWISE APPROVED OR DIRECTED BY THE CITY ENGINEER.
2. STREET NAME SIGNS MAY BE INSTALLED AT THE TOP OF SIGN POSTS (SEE STANDARD DETAIL T–45).
3. POSTS SHALL BE INSTALLED PLUMB.
4. SEAMED CORNER– RIGHT SIDE FACING SIGN.
5. ALL PUBLIC STOP SIGNS SHALL BE 30"X30".
6. SIGN SHEETING SHALL BE DIAMOND GRADE.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYMAN, STATE OF WASHINGTON, 26132, REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA, STATE OF WASHINGTON, 23145, REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

TRAFFIC SIGN INSTALLATION

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-44

REV:

DESIGNATION ABBREVIATIONS:

STREET=	St
AVENUE=	Ave
PLACE=	Pl
WAY=	Way
BOULEVARD=	Blvd
PARKWAY=	Pkwy
LANE=	Ln
COURT=	Ct
DRIVE=	Dr
ROAD=	Rd
KEY=	Key
CONNECTOR=	Conn
CIRCLE=	Cir

SIGN:

SHEET ALUMINUM, .080 GAUGE, SIZED AS NEEDED W/ ROUNDED CORNERS.

BACKGROUND:

GREEN REFLECTIVE 3M HIGH INTENSITY PRISMATIC OR DIAMOND GRADE "SHEETING".

LETTERS – WHITE REFLECTIVE HIGH INTENSITY:

COLLECTOR & LOCAL ACCESS INTERSECTIONS: 4" SERIES C (FIRST LETTER U.C.).
QUADRANT, DESIGNATION, SUFFIX, 3" SERIES C (FIRST LETTER U.C.).

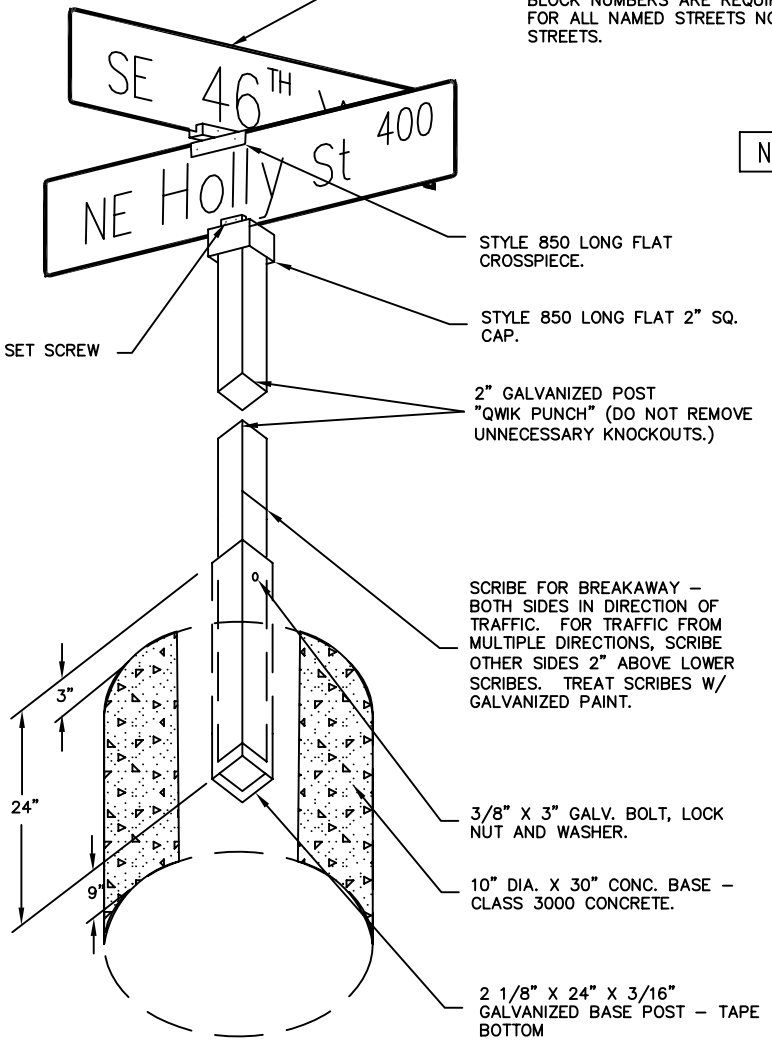
ARTERIAL INTERSECTIONS AND ARTERIAL/COLLECTOR INTERSECTIONS: 6" SERIES C.
QUADRANT, DESIGNATION, SUFFIX, 4" SERIES C (FIRST LETTER U.C.).

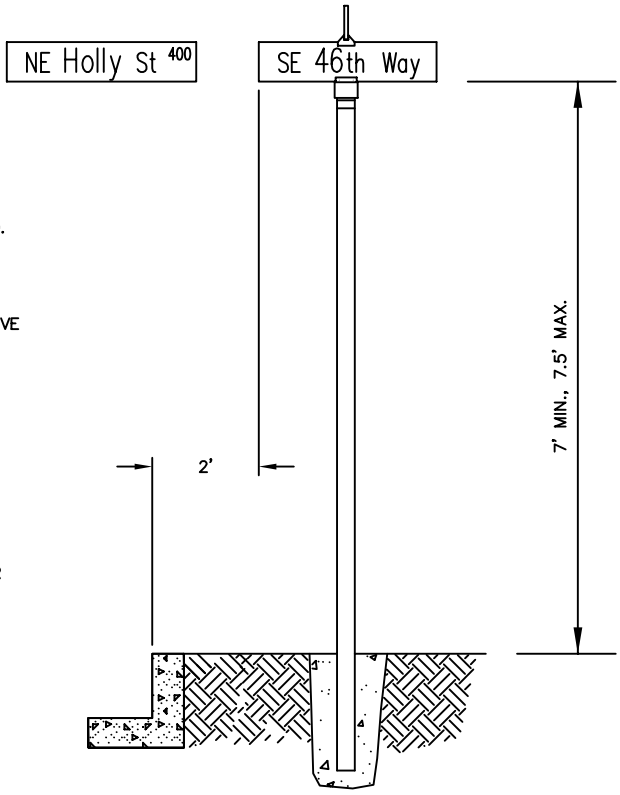
BORDER: SCREEN PRINT:

5/16" WIDE WITH 3/4" RADIUS ON CORNER.

BLOCK NUMBERS:

BLOCK NUMBERS ARE REQUIRED ON STREET NAME SIGNS FOR ALL NAMED STREETS NOT REQUIRED ON NUMBERED STREETS.





TYPICAL INSTALLATION WITHOUT ADJACENT SIDEWALK

NOTES:

1. ALL SIGNS SHALL BE PER MUTCD UNLESS OTHERWISE APPROVED OR DIRECTED BY THE CITY ENGINEER.
2. POSTS SHALL BE INSTALLED PLUMB.
3. SEAMED CORNER – RIGHT SIDE FACING SIGN.
4. PRIVATE – "Private Street"

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE, STATE OF WASHINGTON, 26132, REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA, STATE OF WASHINGTON, 23145, REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

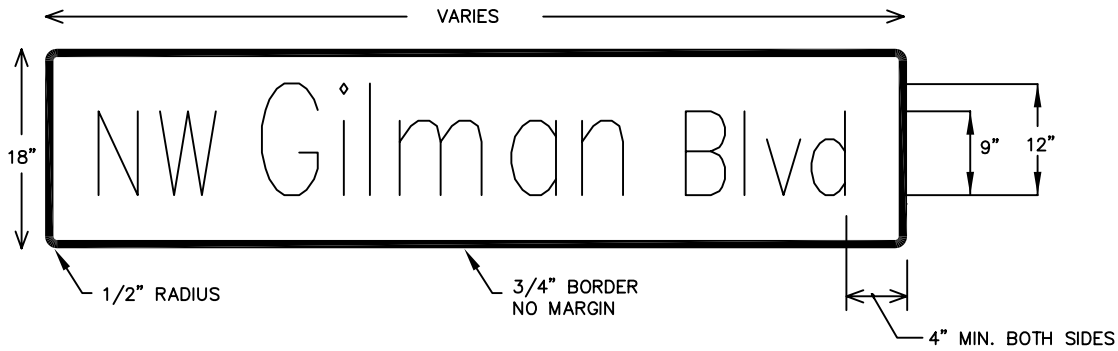
GROUND MOUNT STREET SIGN DETAILS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

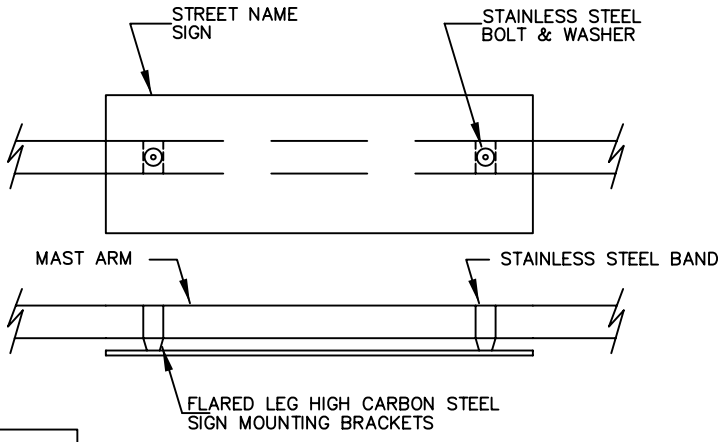
T-45

REV:



ABBREVIATIONS:

STREET=	St
AVENUE=	Ave
PLACE=	Pl
WAY=	Way
BOULEVARD=	Blvd
PARKWAY=	Pkwy
LANE=	Ln
COURT=	Ct
DRIVE=	Dr
ROAD=	Rd
KEY=	Key
CONNECTOR=	Conn
CIRCLE=	Cir



NOTES:

1. SIGN:
   18" X VARIES EXTRUDED ALUMINUM,
   TREATED, 0.080 GAUGE ROUNDED CORNERS
2. BACKGROUND:
   GREEN, 3M DIAMOND GRADE OR HIGH REFLECTIVE PRISMATIC (HIP), VISUAL IMPACT PERFORMANCE (VIP) SHEETING, 3/4" WHITE BORDER, NO MARGIN
3. COPY:
   WHITE DIAMOND GRADE VIP
   CUT-OUT LETTERS OR 3M
   SCOTCHLITE EC FILM SERIES 1170

   NAMES:
   12" SERIES C FIRST LETTER U.C.

   NUMBERS:
   12" SERIES C UC

   QUADRANT (NE or SE):
   9" SERIES C UC

   DESIGNATION (Ave,St,etc):
   SERIES C 9" FIRST LETTER U.C.

   SUFFIX (th,st,etc):
   9" SERIES C FIRST LETTER U.C.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

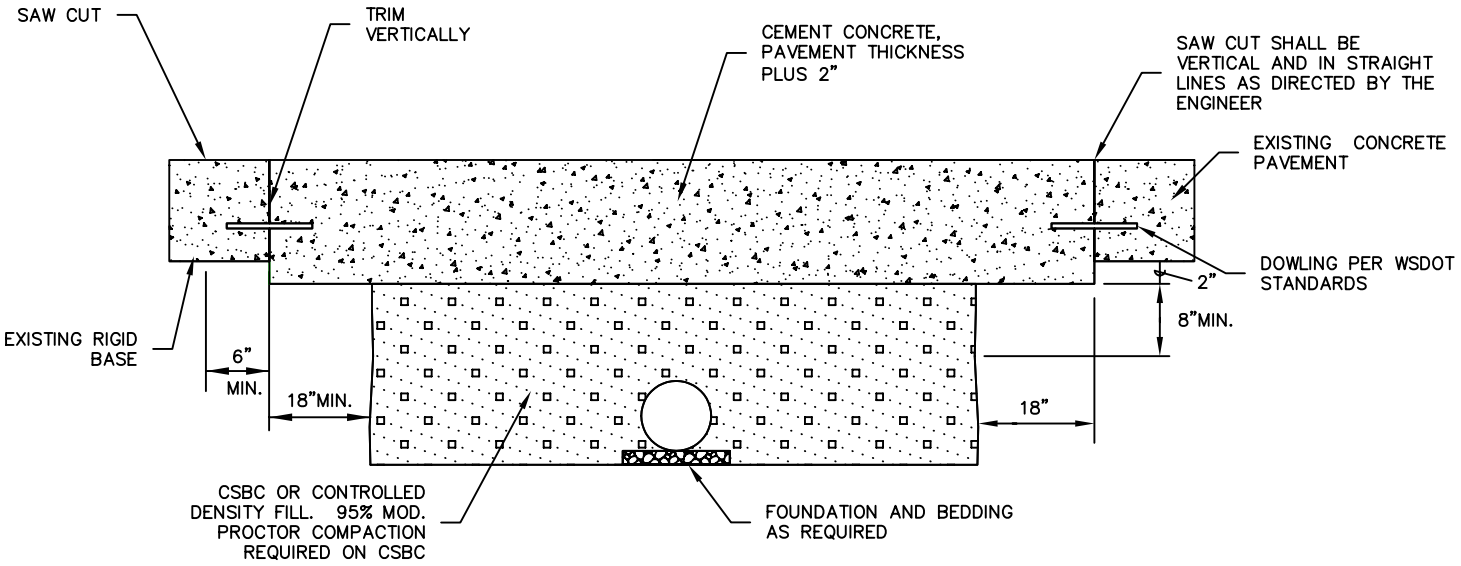
STREET NAME SIGN
MAST ARM

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-46

REV:



TYPICAL PATCH FOR RIGID PAVEMENT

NOTES:

1. PORTLAND CEMENT CONCRETE SHALL BE CLASS 4000.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

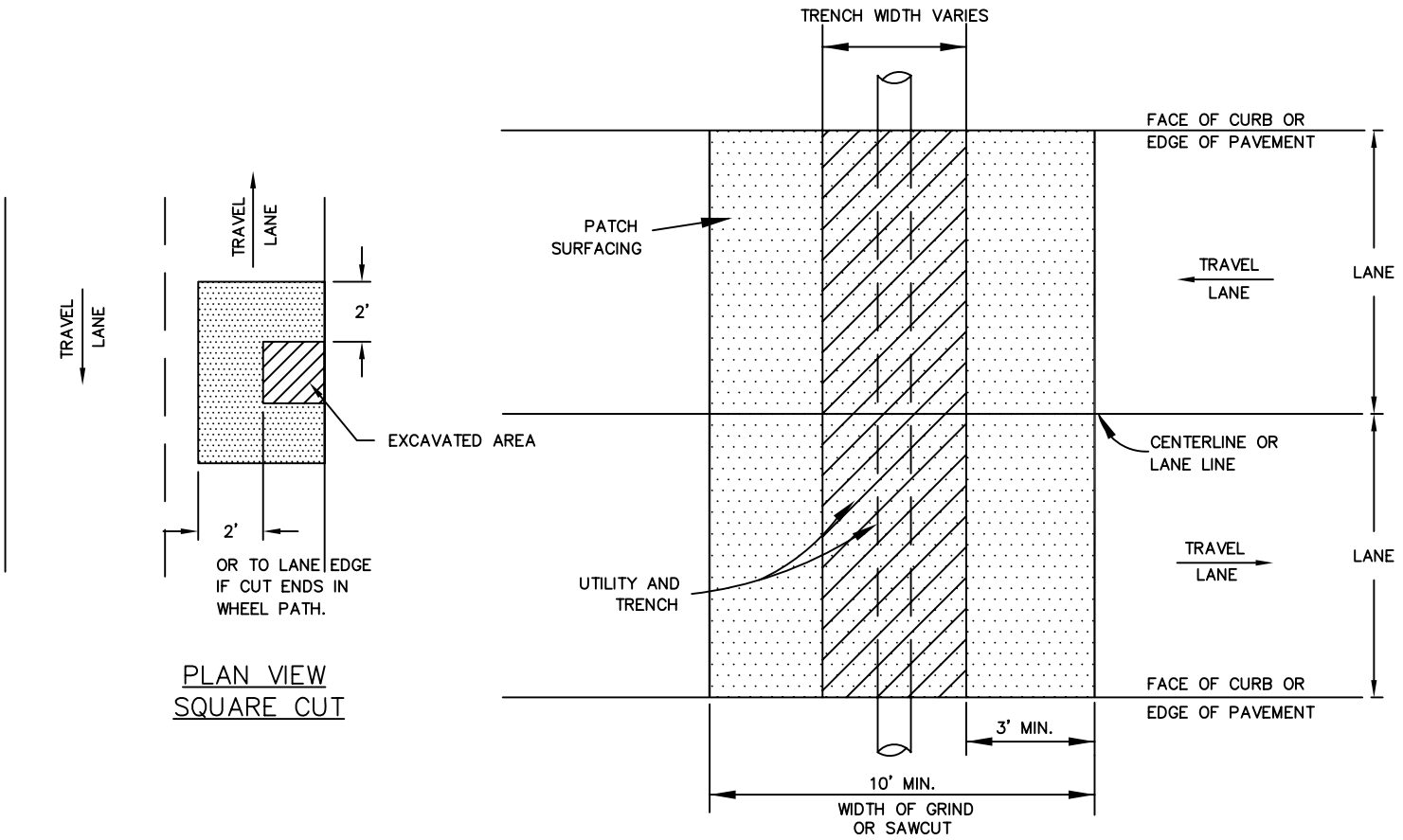
GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

RIGID PAVEMENT PATCHING DETAILS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

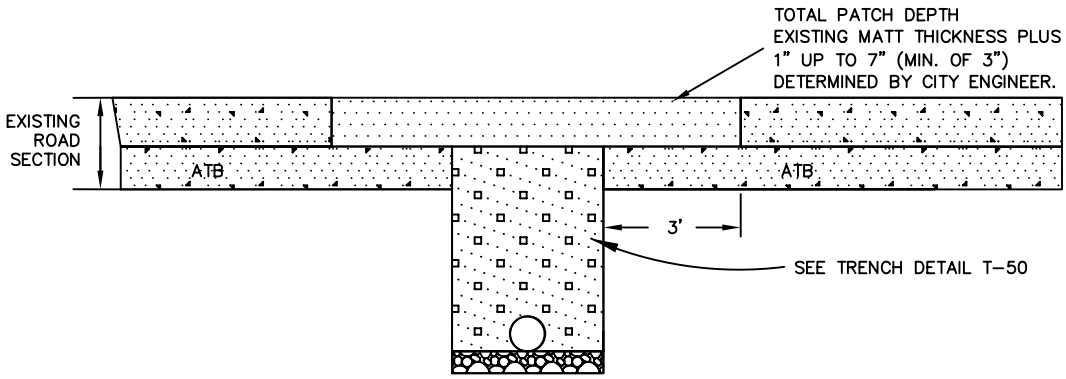
STANDARD DETAIL NO.
T-47

REV:



PLAN VIEW
SQUARE CUT

PLAN VIEW TRANSVERSE CUT



CROSS SECTION OF TRANSVERSE OR SQUARE CUT

NOTES:

1. ALL TRENCHES SHALL BE BACKFILLED AND PATCHED WITH TEMPORARY ASPHALT OR COVERED WITH STEEL PLATES AND SPIKED IN PLACE AT THE END OF EACH WORK DAY. PLATES SHALL BE REMOVED WITHIN 3 DAYS. 12" ASPHALT TAPER UP TO PLATE. PROVIDE APPROPRIATE SIGNAGE.
2. TEMPORARY PATCHES SHALL BE PLACED AT A MINIMUM 6" DEPTH, AND MAINTAINED AS NEEDED FOR A SMOOTH SURFACE.
3. ALL TEMPORARY PATCHES SHALL BE PERMANENTLY PATCHED WITHIN TWO (2) WEEKS.
4. PATCHES WITHIN 25' OF EACH OTHER REQUIRE REPLACEMENT OF THE TOTAL AREA, INCLUDING THE AREA BETWEEN THE PATCHES.
5. ALL PAVEMENT MARKINGS SHALL BE REPLACED WITH MATERIALS SPECIFIED IN STANDARDS WITHIN 14 DAYS (DURASET REQUIREMENT).
6. ALL PATCHES SHALL ABUT COMPETENT MATERIAL AS DIRECTED IN THE FIELD (MUST BE FLUSH). 10' WIDTH APPLIES TO ARTERIALS

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

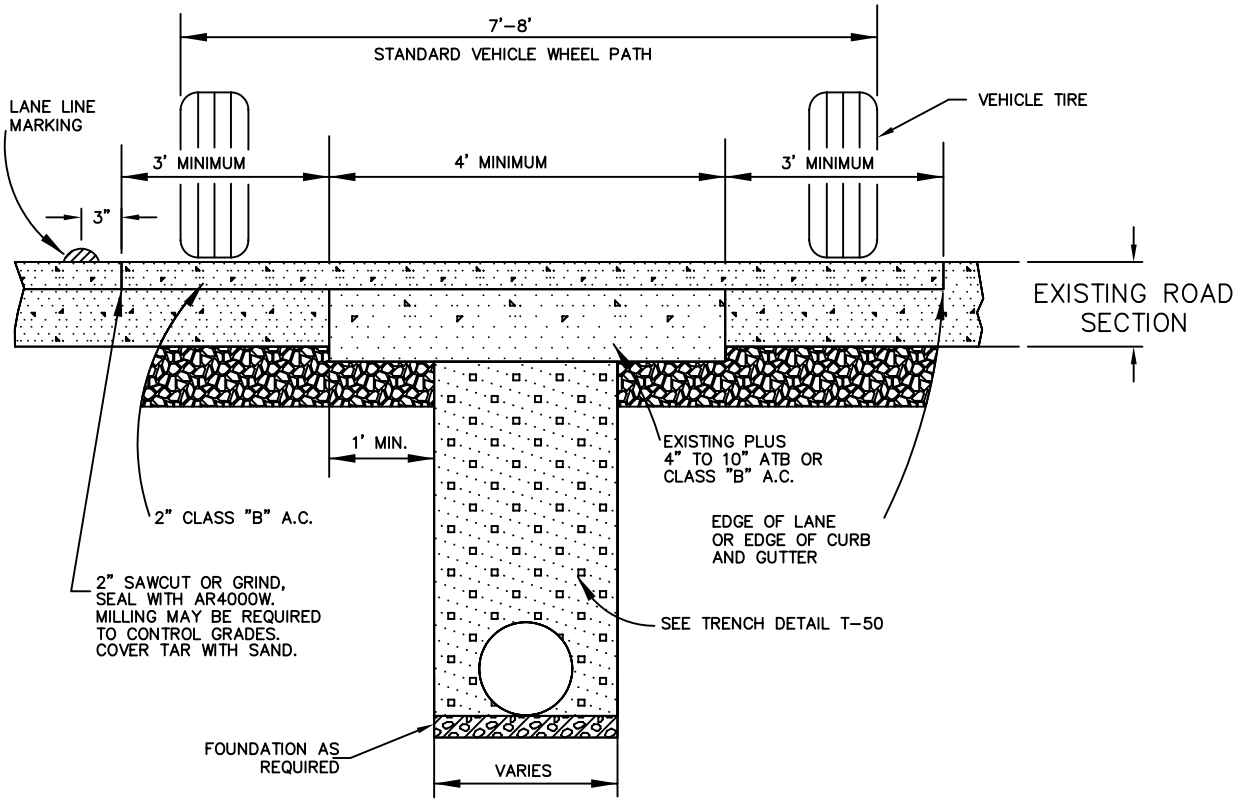
PATCHING FLEXIBLE PAVEMENTS TRANSVERSE OR SQUARE CUTS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-48

REV:



NOTES:

1. ALL TRENCHES SHALL BE BACKFILLED AND PATCHED WITH TEMPORARY ASPHALT OR COVERED WITH STEEL PLATES AND SPIKES IN PLACE AT END OF EACH WORK DAY. PLATES SHALL BE REMOVED WITHIN 3 DAYS.
2. TEMPORARY PATCHES SHALL BE PLACED AT A MINIMUM 6" DEPTH, AND MAINTAINED AS NEEDED FOR A SMOOTH SURFACE.
3. ALL TEMPORARY PATCHES SHALL BE PERMANENTLY PATCHED WITHIN TWO (2) WEEKS WITH TEMPORARY MARKINGS.
4. ALL PAVEMENT MARKINGS SHALL BE REPLACED WITH MATERIALS SPECIFIED IN STANDARDS IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.
5. ALL PATCHES SHALL ABUT COMPETENT MATERIAL AS DIRECTED IN THE FIELD.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

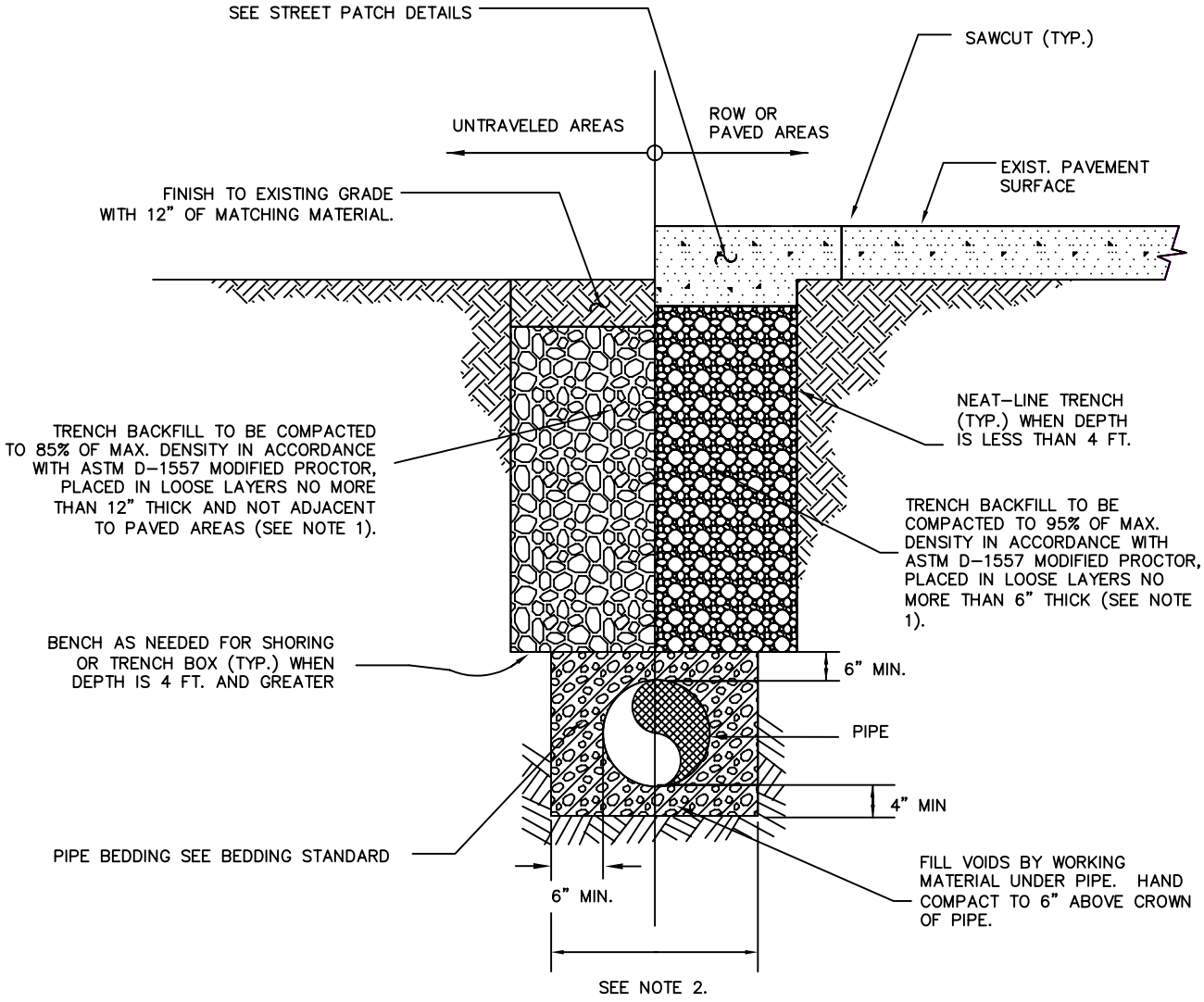
PATCHING FLEXIBLE PAVEMENTS LONGITUDINAL CUTS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-49

REV:



NOTES:

1. TRENCH BACKFILL MATERIAL TO BE WELL GRADED "COMMON BORROW" FREE OF CLODS OR ROCKS GREATER THAN 3" IN ANY DIMENSION WITH A MOISTURE CONTENT WITHIN 2% OF OPTIMUM – WSDOT STD SPEC 9-03.14 (3).
2. MAXIMUM WIDTH OF TRENCH AT TOP OF PIPE.
   * 30" FOR PIPE UP TO AND INCLUDING 12" NOMINAL DIAMETER.
   * O.D. PLUS 16" FOR PIPE LARGER THAN 12" NOMINAL DIAMETER.
3. CDF EQUAL TO CADMAN PROFLOW 5 HOUR 11021 REQUIRED WHEN CROSSING EXISTING STREETS. THE MIN. CAP CAN BE 2' MIN. OVER 1' MIN. TRENCH FILL.
4. COMPACTION TESTING AND PROCTOR REQUIRED. ONE TEST PER LIFT PER 100' OF TRENCH. MINIMUM 2 TESTS PER LIFT.
5. MAXIMUM TYPICAL TRENCH DEPTH IS 48". DEEPER TRENCHES MUST BE IDENTIFIED VIA SEPARATE UTILITY PROFILE DESIGN AND APPROVED BY THE CITY ENGINEER OR DESIGNEE.
6. COMPACTION TESTING AT DEPTHS GREATER THAN 4' IN TRENCHES MAY BE ACCOMPLISHED BY MAINTAINING A COMPACTION PATTERN PROVEN TO MEET COMPACTION REQUIREMENTS.
7. TRENCHES LESS THAN 2' WIDE REQUIRE CDF.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

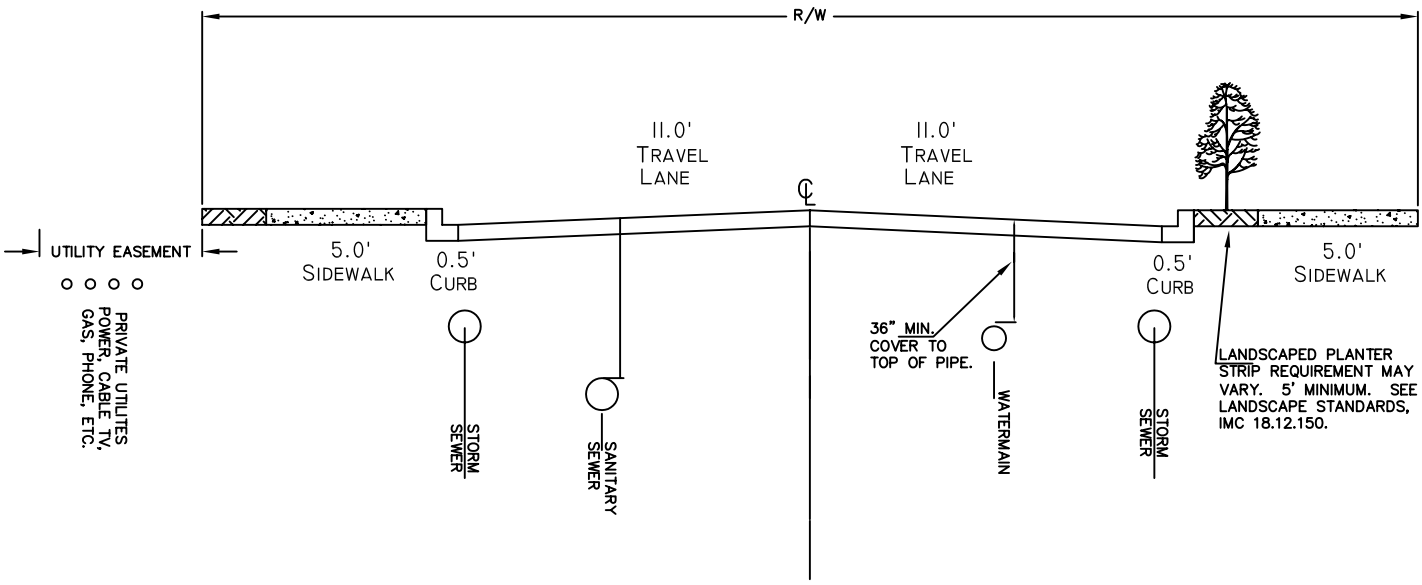
TRENCH DETAIL

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-50

REV:



NOTES:

1. SERVICES: 20" TO 30" DEPTH FROM CURB TO PROPERTY LINE RESERVED FOR LATERAL SERVICE. SANITARY SIDE SEWER MIN. COVER IS 30" AT PROPERTY LINE AND 60" AT CURB. SERVICE DRAIN MAY RUN UNDER SIDEWALK, THRU CURB OR THRU ABOVE RESERVED SPACE.
2. ELECTRIC POWER, GAS, TELEPHONE, TV, AND TREES WILL BE INSTALLED IN SAME RELATION TO CURB ON STREETS WITH PAVEMENTS OVER 28'.
3. STORM DRAINS WILL BE PERMITTED IN AREA UNDER PLANTING STRIP OR UNDER CONCRETE WALK WHERE ROADWAY HAS PERMANENT PAVEMENT. OTHER UTILITIES MAY BE PLACED ABOVE STORM DRAIN, SUBJECT TO APPROVAL.
4. LAYOUT IS APPLICABLE TO 60' R/W AND 28' RESIDENTIAL PAVING.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

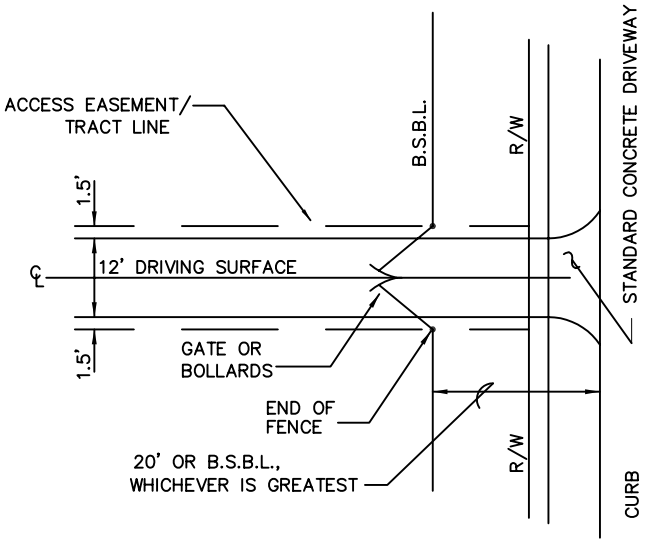
GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

STANDARD TYPICAL LOCATIONS FOR UNDERGROUND UTILITIES (RESIDENTIAL STREET)

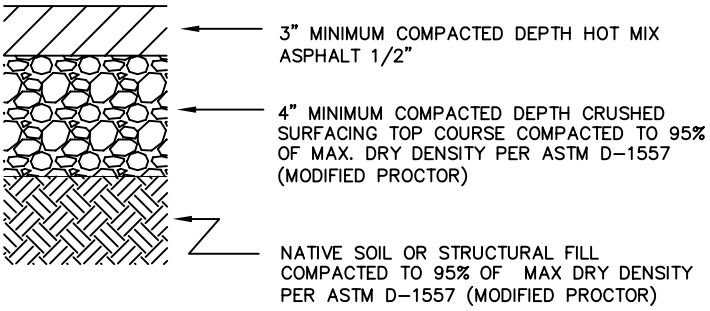
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
T-51

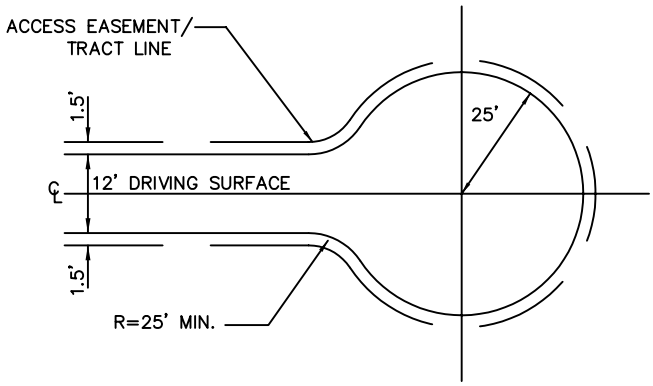
REV:



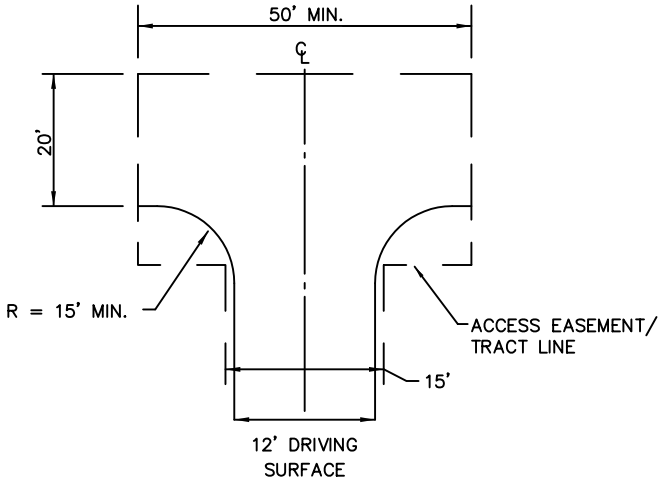
DRIVEWAY ENTRANCE



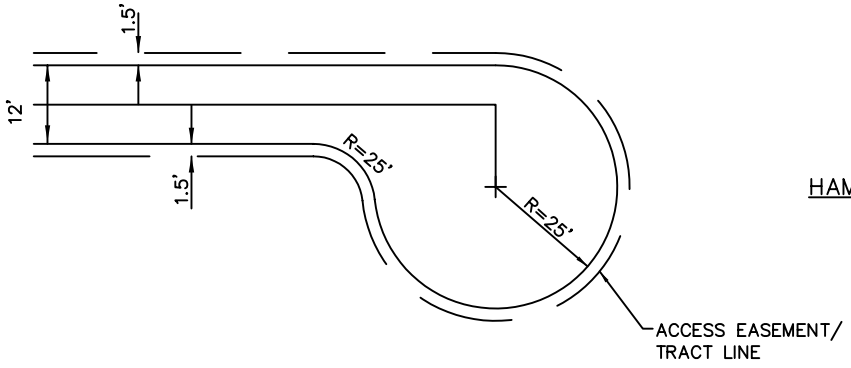
DRIVING SURFACE SECTION



TYPE A TURNAROUND



HAMMERHEAD TYPE "C" TURN AROUND



TYPE B TURNAROUND

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

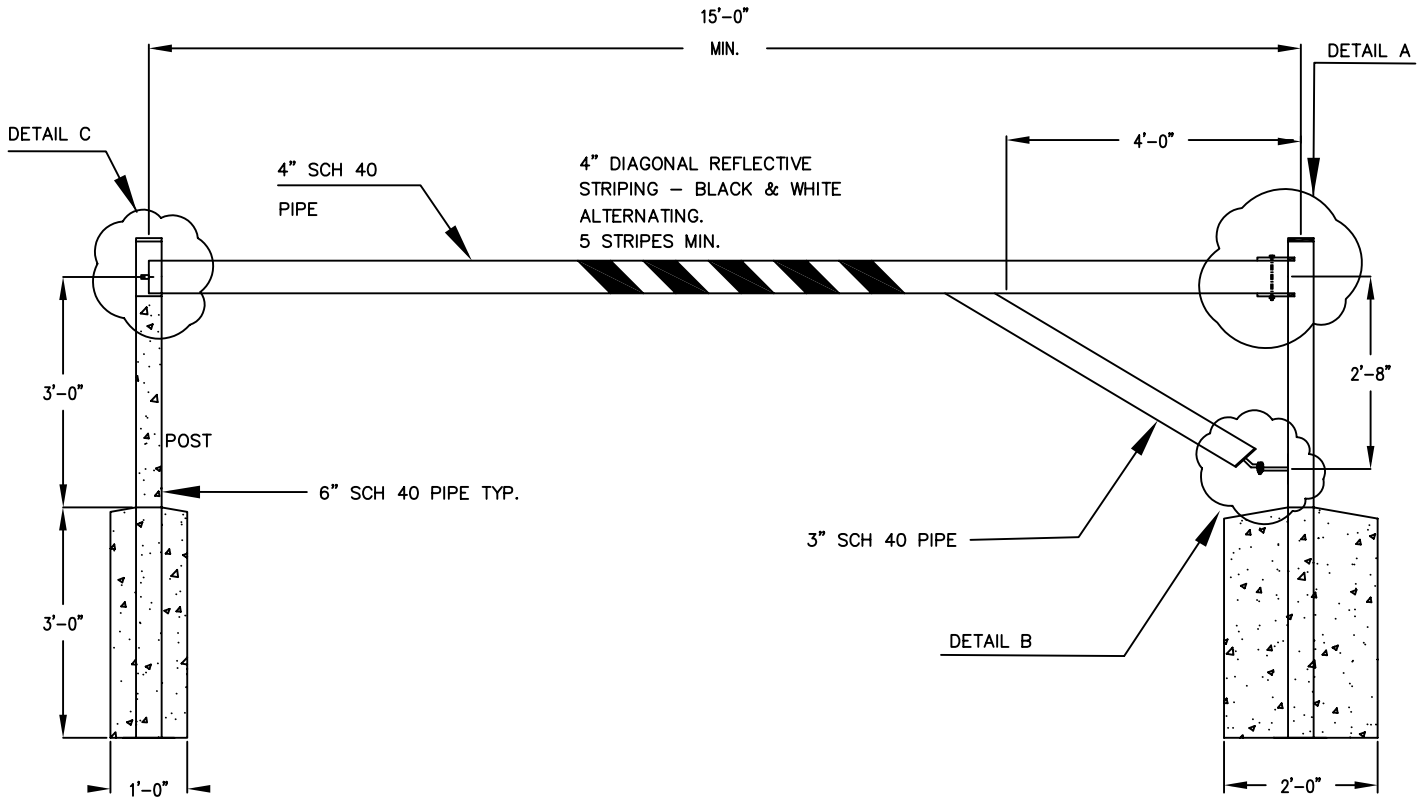
MAINTENANCE ACCESS ROAD

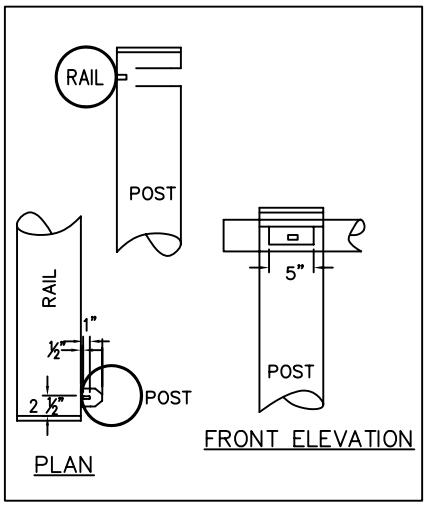
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

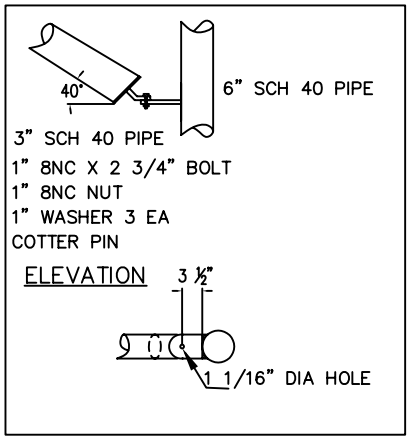
T-52

REV:

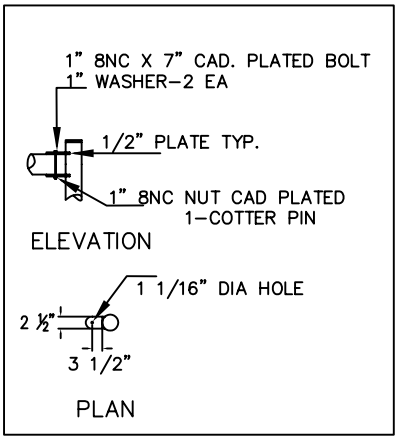




DETAIL C



DETAIL B



DETAIL A

NOTES:

1. PROVIDE "BEST" BRAND PADLOCK W/CONSTRUCTION CORE. CONTRACTOR SHALL COORDINATE WITH CITY INSPECTOR TO SUPPLY CORRECT PERMANENT CORE TO THE CITY.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

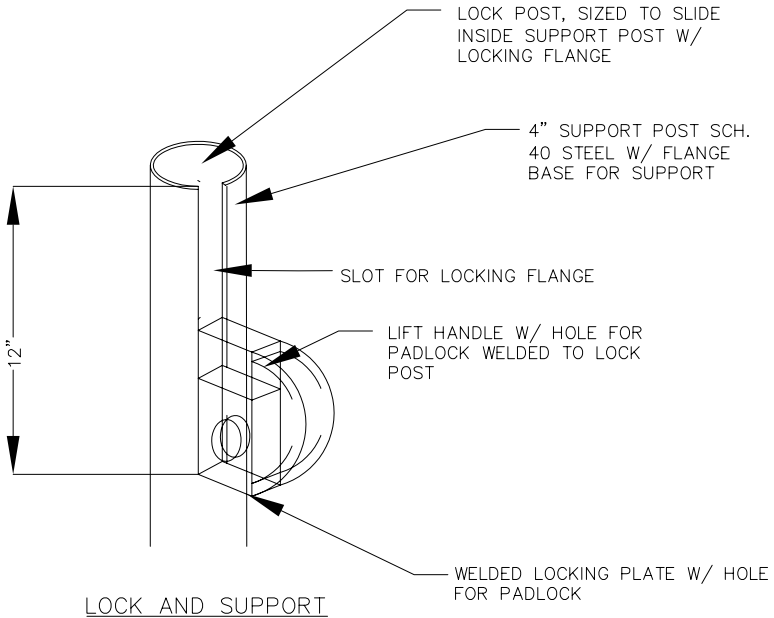
ACCESS GATE

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-53

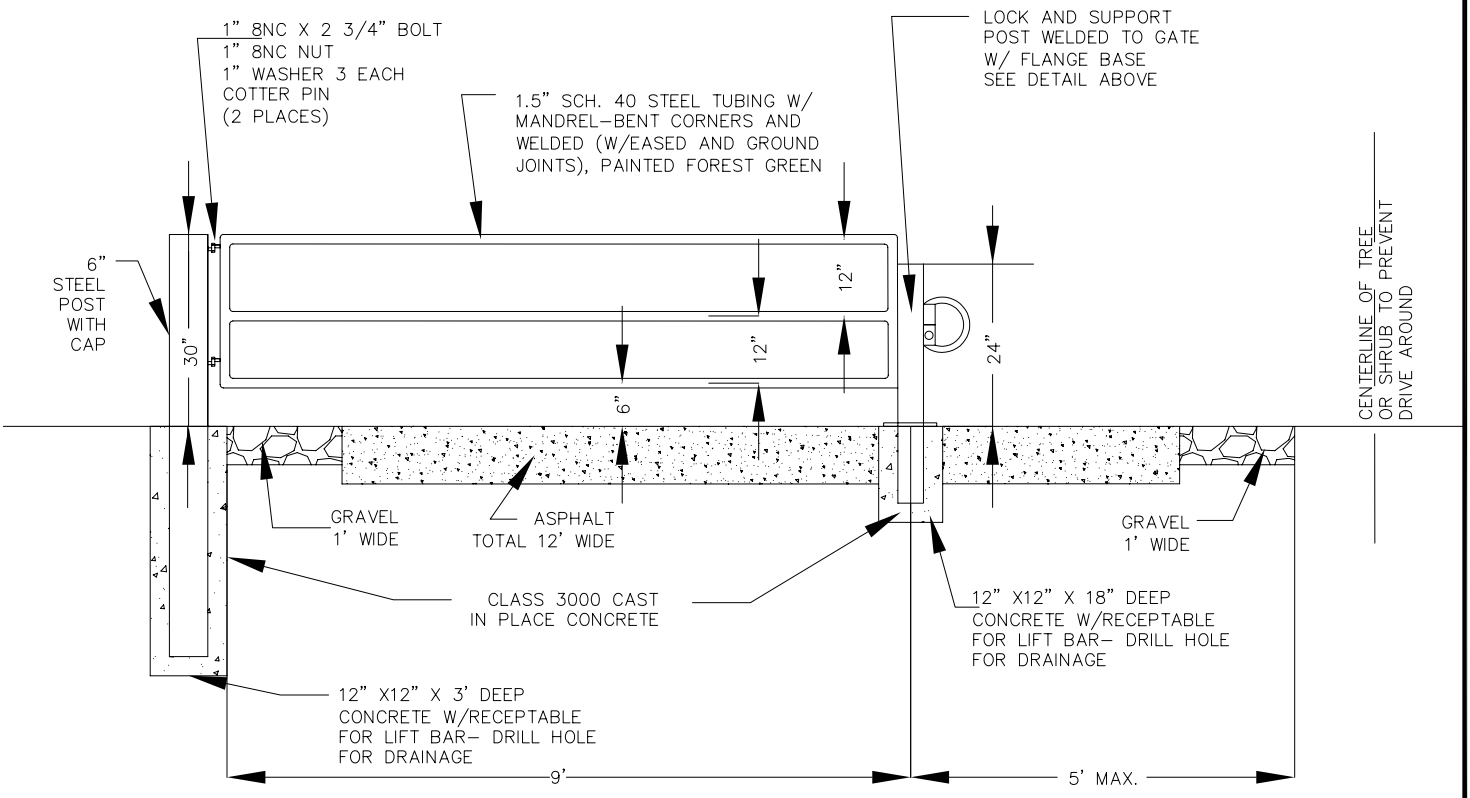
REV:



LOCK AND SUPPORT POST DETAIL

NOTES:

1. PROVIDE "BEST" BRAND PAD LOCK WITH CONSTRUCTION CORE. COORDINATE WITH CITY INSPECTOR TO SUPPLY CORRECT PERMANENT CORE TO CITY.



Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SAMEL DON T. LYANNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

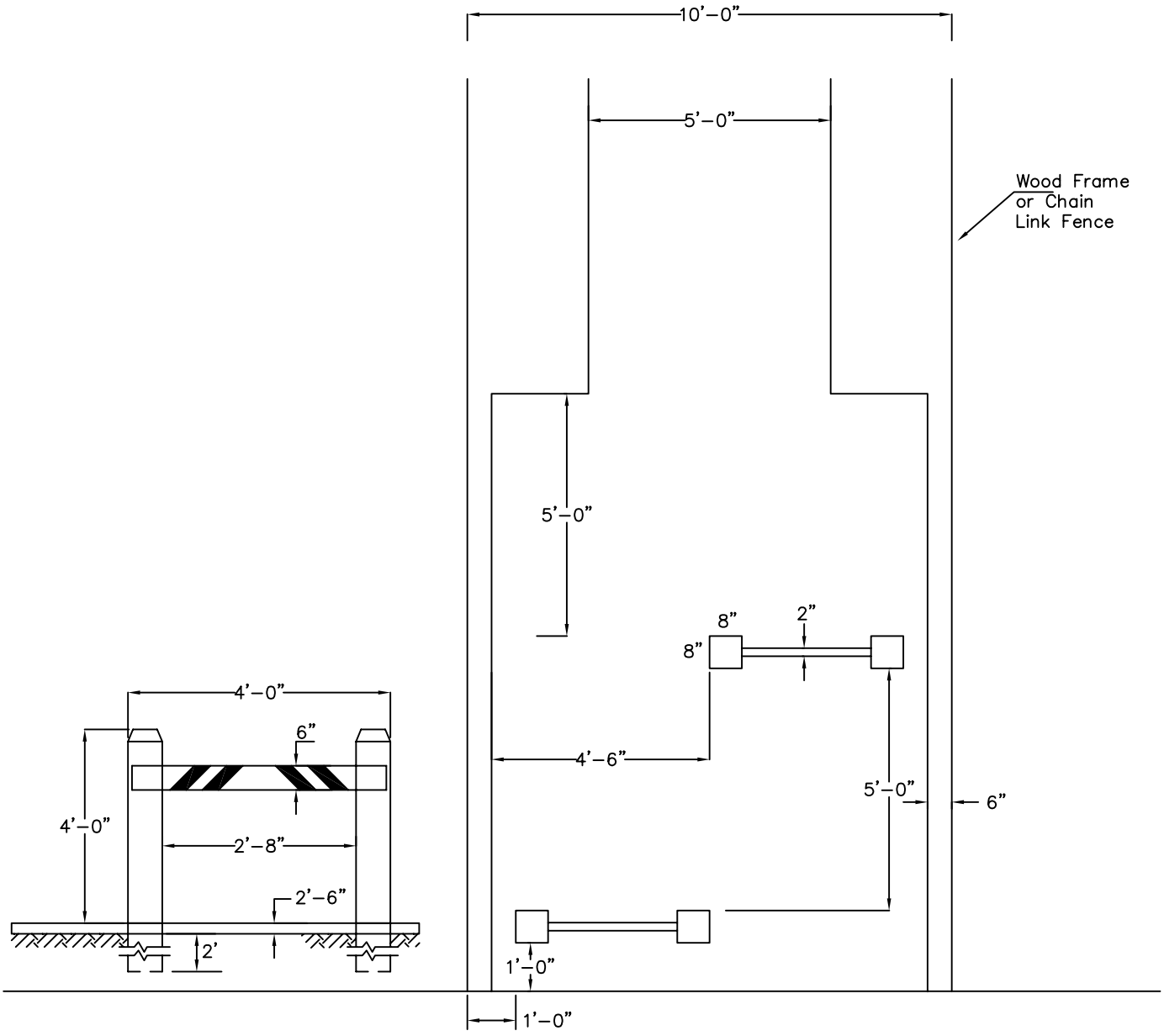
LOCKABLE COMBINATION GATE FOR PEDESTRIANS AND AUTOS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-54

REV:



NOTES:

1. THESE ARE FOR LOCATIONS THAT ENTER ONTO SIDEWALKS OR ROADWAYS WITH FENCES THAT CREATE A SIGHT DISTANCE PROBLEM OR AS DIRECTED BY THE ENGINEER.
2. ALL WOOD PRESSURE TREATED DOUGLAS FIR– #1 SELECT.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

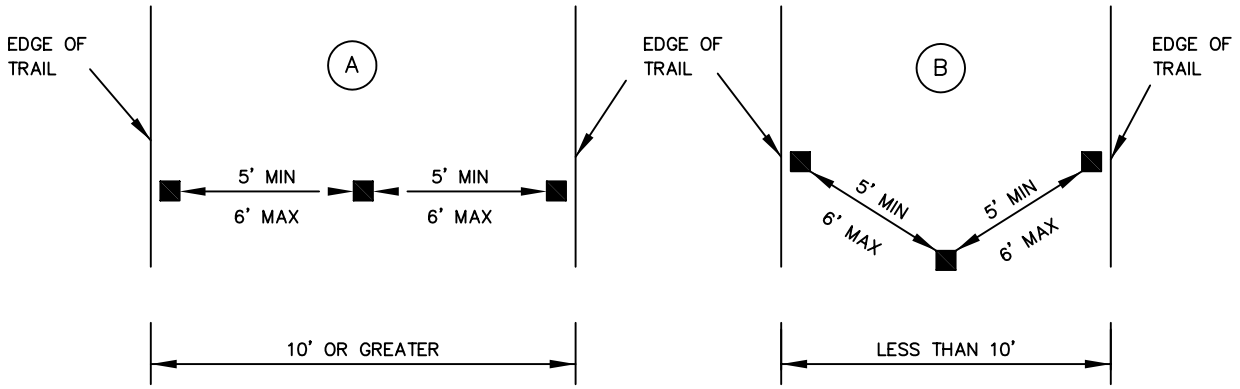
ACCESS EASEMENT TERMINATION

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

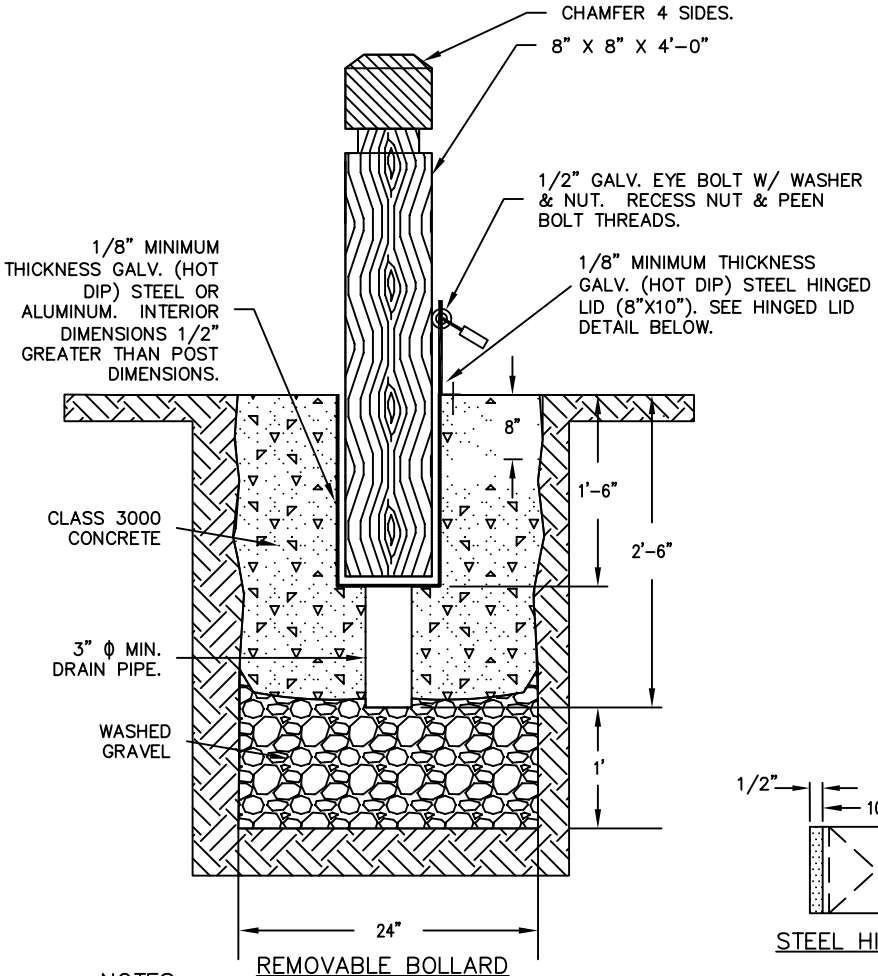
STANDARD DETAIL NO.

T-55

REV:

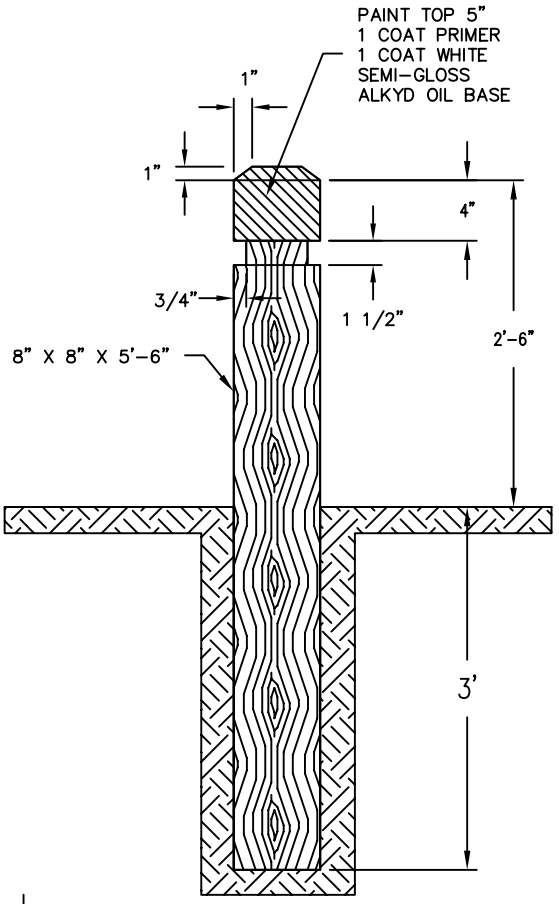


BOLLARD PLACEMENT



REMOVABLE BOLLARD

STEEL HINGED LID



FIXED BOLLARD

NOTES:

1. TIMBER SHALL BE DOUGLAS FIR, DENSE CONSTRUCTION GRADE, AND SHALL BE PRESSURE TREATED BY EMPTY CELL PROCESS WITH MINIMUM NET RETENTION OF 0.05 LBS./CU. FT. OF THE DRY SALT. (USE LIGHT PETROLEUM SOLVENT).
2. NUTS, BOLTS, AND WASHERS SHALL CONFORM TO ASTM A307.
3. ALL STEEL PARTS SHALL BE GALVANIZED.
4. CONCRETE SHALL BE CLASS 3000.
5. PROVIDE "BEST" BRAND PADLOCK W/CONSTRUCTION CORE. CONTRACTOR SHALL COORDINATE WITH CITY INSPECTOR TO SUPPLY CORRECT PERMANENT CORE TO CITY.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

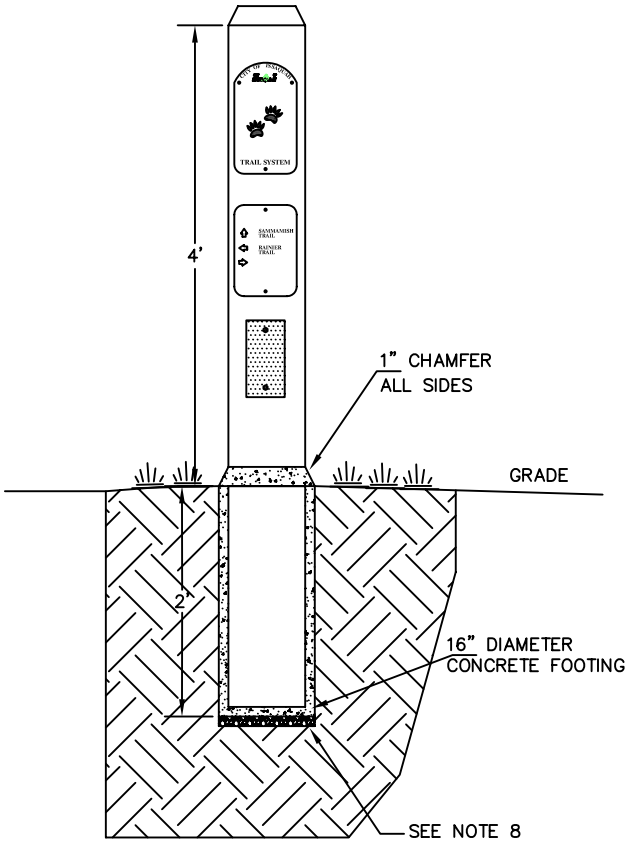
TYPICAL BOLLARD PLACEMENT ON PATHWAYS

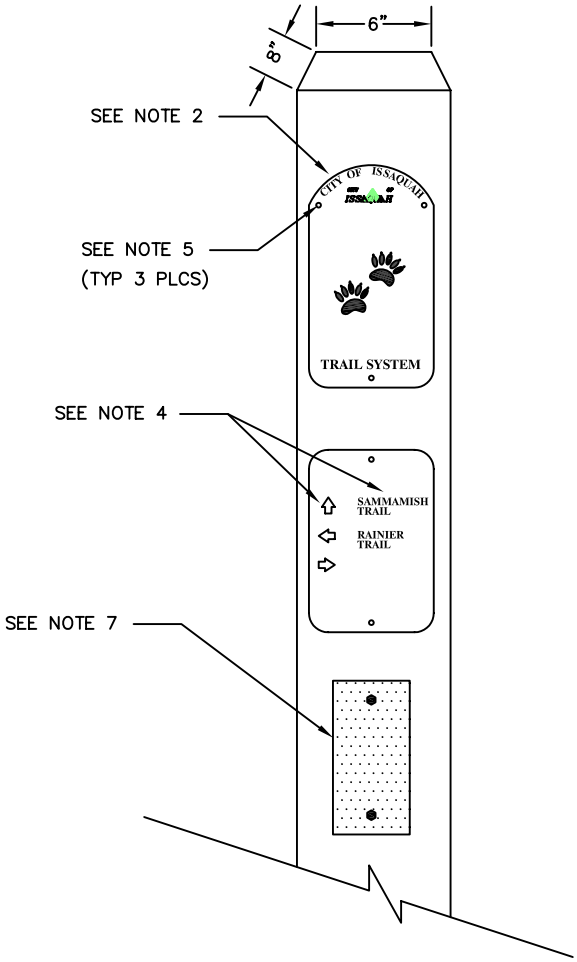
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

T-56

REV:





NOTES

1. TEXT AND SYMBOLS ON BOLLARD SIGNS SHALL BE SPECIFIED BY THE CITY STAFF AND ARE SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER.
2. ALL SYMBOLS, CITY OF ISSAQUAH LOGO, AND TEXT SHALL BE PAINTED OPAQUE WHITE UNLESS SPECIFIED OTHERWISE. USE HELVETICA FONT WITH 1/2" CAPS. TRANSITION STRAIGHT EDGE OF SIGN WITH 1–1/2" RADIUS TO A 10" RADIUS LOCATED AT THE TOP OF THE BOLLARD SIGN.
3. SIGN PLATES SHALL BE 1/8" THICK ALUMINUM LETTERED AND PAINTED AS SPECIFIED BY THE CITY. TIGER DRYLAC SERIES 49 SMOOTH, GLOSSY POLYESTER SYSTEM, POWDER COAT WITH FOREST GREEN OR PERFORMANCE EQUIVALENT AND COLOR MATCH. ROUT WOOD 1/4" DEEP IN SHAPE OF EACH SIGN PLATE.
4. TRAIL NAMES AND ARROWS SHALL BE WHITE, WEATHER RESISTANT, PRESSURE SENSITIVE VINYL. USE 3M SCHOTCHAL #3470 OR EQUIVALENT. USE HELVETICA FONT WITH 3/4" HIGH CAPITAL LETTERS.
5. MOUNT SIGNS TO TWO SIDES OF BOLLARD FACING TRAVEL DIRECTION. USE 2" X #8 OR #10 STAINLESS STEEL ALLEN HEAD WOOD SCREWS AND WASHERS. PAINT TO MATCH SIGN FACE.
6. BOLLARD SHALL BE 6' (LONG) X 8" (WIDE) X 8" (THICK) AND MADE FROM PRESSURE TREATED LUMBER TO WITHSTAND WEATHER. SET POST 2' DEEP BELOW GRADE. 1" CONCRETE CHAMFER ALL SIDES ABOVE GRADE.
7. A HIGH INTENSITY DELINEATOR SHOULD BE ATTACHED TO ALL BOLLARDS THAT ARE LOCATED WITHIN THE CITY OF ISSAQUAH BICYCLE TRANSPORTATION SYSTEM (PER THE ISSAQUAH PEDESTRIAN AND BICYCLE TRANSPORATATION PLAN) OR AS SPECIFIED BY THE ENGINEER. USE 4" X 8" HIGH INTENSITY SHEETING GRADE OR EQUIVALENT; WHITE COLOR ONLY. INSTALL ON ALL FOUR SIDES OR ALL SIDES WHICH ARE VISIBLE FROM PATH OR BICYCLIST. FASTEN WITH STAINLESS STEEL LAG SCREWS.
8. INSTALL BASE COURSE OF 3/4" MINUS CRUSHED ROCK, 4" THICK BENEATH BOLLARD CONCRETE FOOTING AS SHOWN.
9. BOLLARDS LOCATED ALONG THE MOUNTAINS TO SOUND GREENWAY CORRIDOR SHOULD USE THE ALTERNATIVE MOUNTAINS TO SOUND PLATE.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

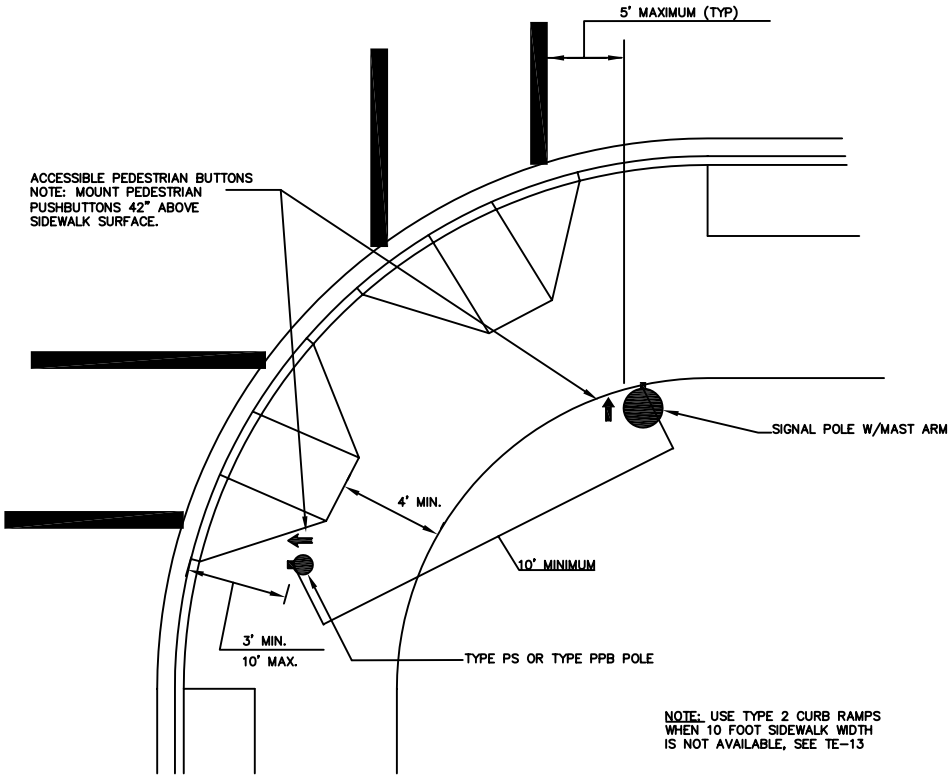
DIRECTIONAL BOLLARD

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

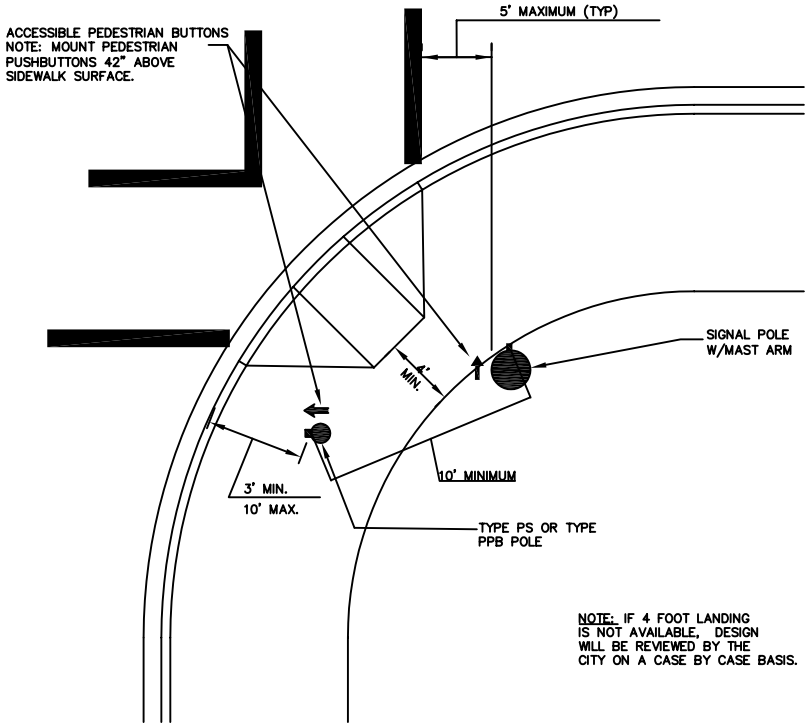
STANDARD DETAIL NO.

T-57

REV:



TWO CURB-CUT RAMPS



ONE CURB-CUT RAMP Back to Table of Contents NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

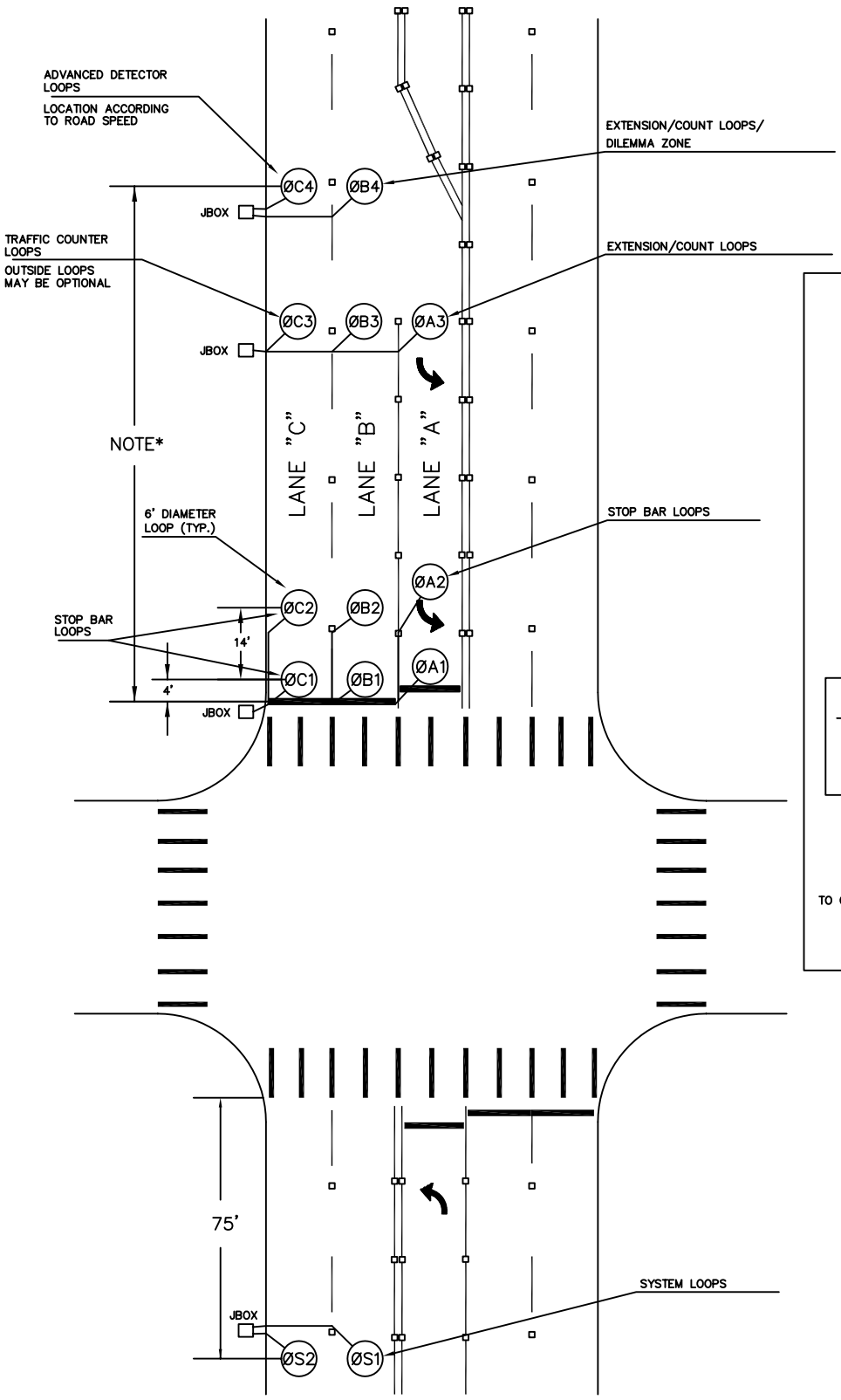
GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

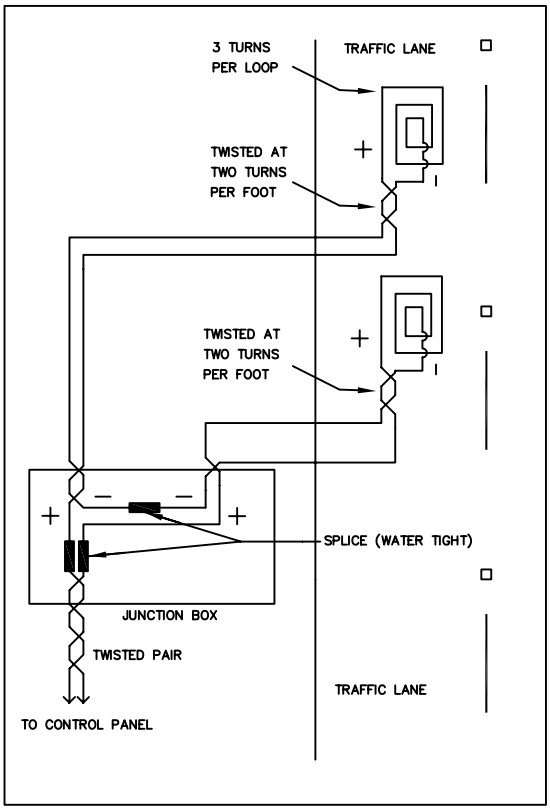
TYPICAL ACCESSIBLE PEDESTRIAN SIGNAL DEVICE LOCATIONS (TYPE 1 RAMPS)

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
TS-01

REV:





SERIES LOOPS
ELECTRICAL DETAIL

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER

EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER

EXPIRES: 12-13-2011

TRAFFIC LOOP DETAIL (SHEET 1 OF 3)

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

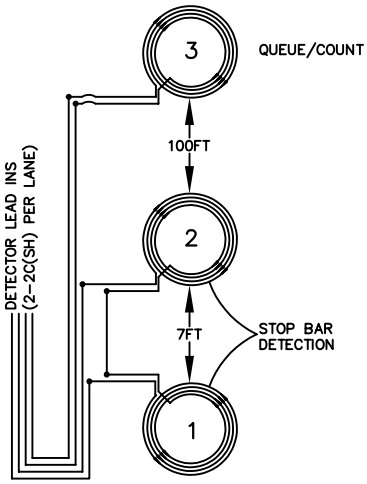
STANDARD DETAIL NO.

TS-02

REV:

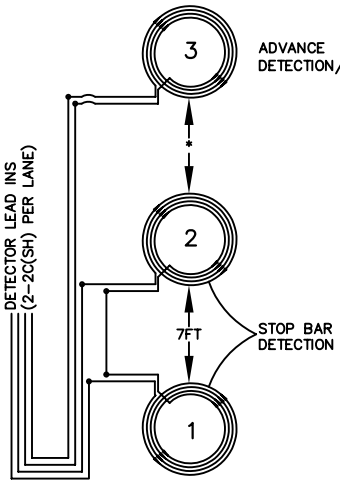
85TH PERCENTILE SPEED<35MPH
NO DILEMMA ZONE

SERIES CONNECTED
LOOPS 1 AND 2;
QUEUE/COUNT LOOP 3



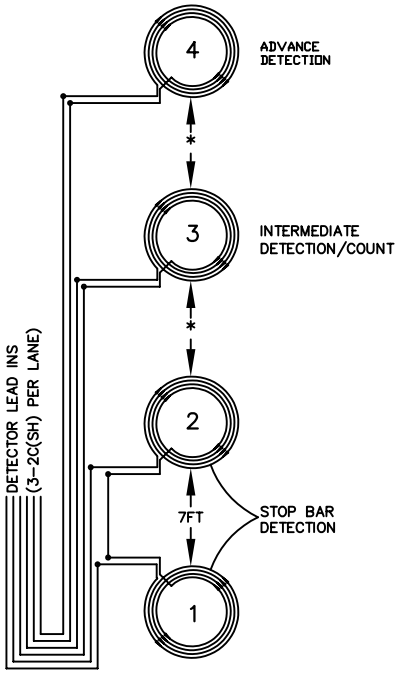
85TH PERCENTILE SPEED>=35MPH
SINGLE ADVANCE LOOP FOR DILEMMA ZONE*

SERIES CONNECTED
LOOPS 1 AND 2;
COUNT LOOP 3



85TH PERCENTILE SPEED>=35MPH
DOUBLE ADVANCE LOOPS FOR DILEMMA ZONE*

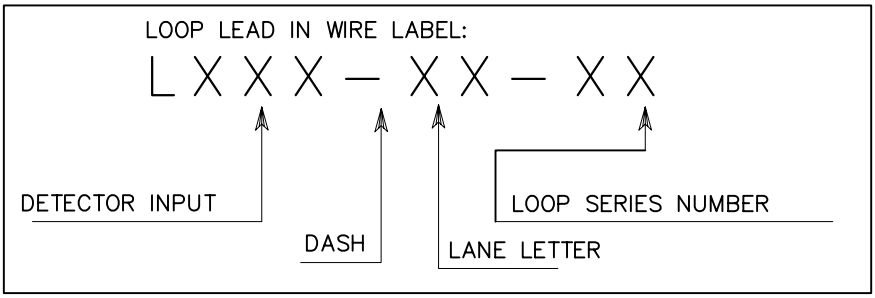
SERIES CONNECTED
LOOPS 1, 2, COUNT LOOP 3 AND DEILEMMA
ZONE LOOP 4



ROUND LOOPS

NOTE:
WIRING FOR ALL LOOPS TO BE LABELLED WITH NUMBERS
PER EXAMPLE BELOW.

* LOOPS TO BE SPACED PER PLANS. SPACING CALCULATIONS AND DILEMMA ZONE REQUIREMENTS TO BE CALCULATED PER WSDOT DESIGN MANUAL EXHIBIT 1330-7.



Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

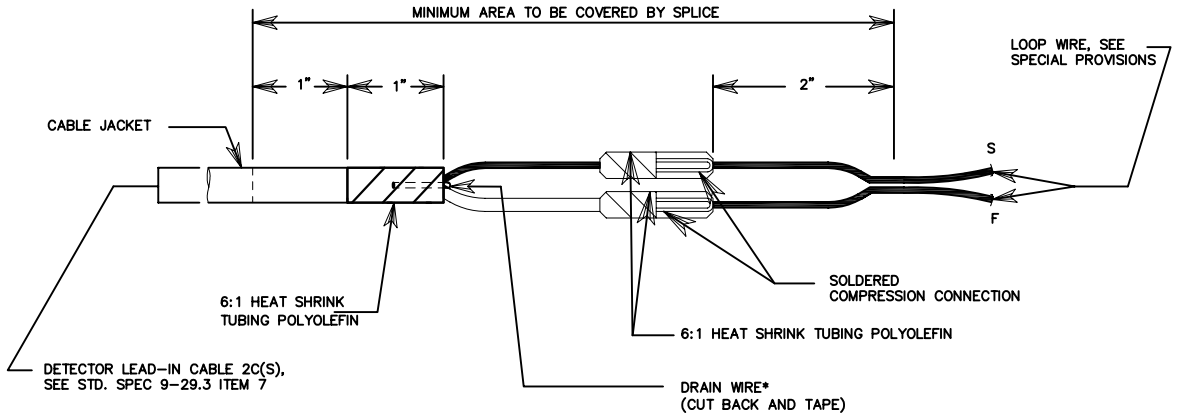
TRAFFIC LOOP DETAIL
(SHEET 2 OF 3)

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

TS-03

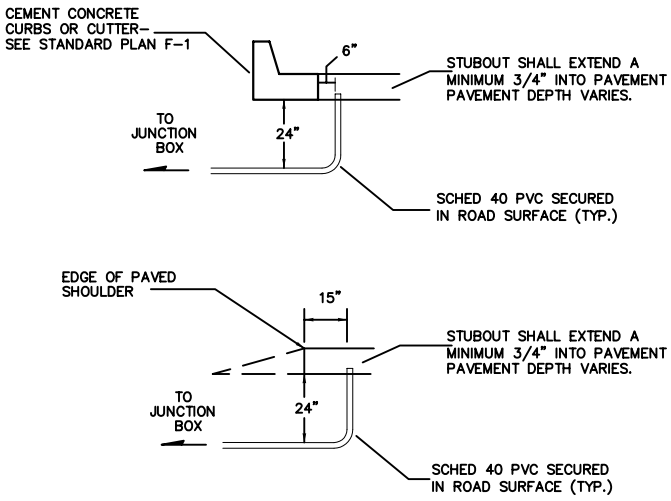
REV:



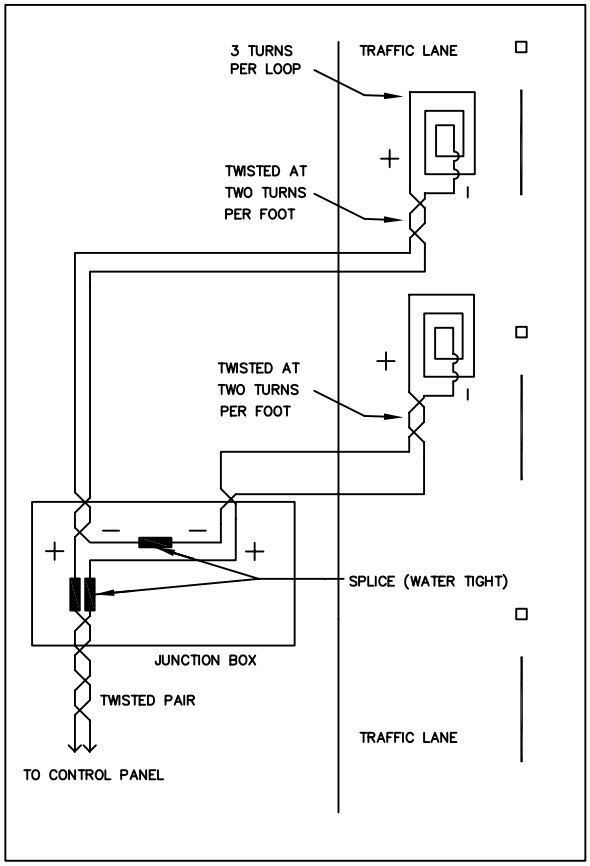
* GROUND DRAIN WIRE AT AMPLIFIER ONLY.
SEE SPECIAL PROVISIONS FOR SPLICE MATERIAL.

NOTE:
SPLICE KITS SHALL BE CENTERED ON CONDUCTORS AND SUFFICIENT SLACK SHALL BE PROVIDED THAT THE SPLICE CAN BE RAISED A MINIMUM OF 18" ABOVE GROUND LINE.

SPLICE DETAIL



LOOP STUBOUT
CONDUIT PLACEMENT DETAILS



SERIES LOOPS
ELECTRICAL DETAIL

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

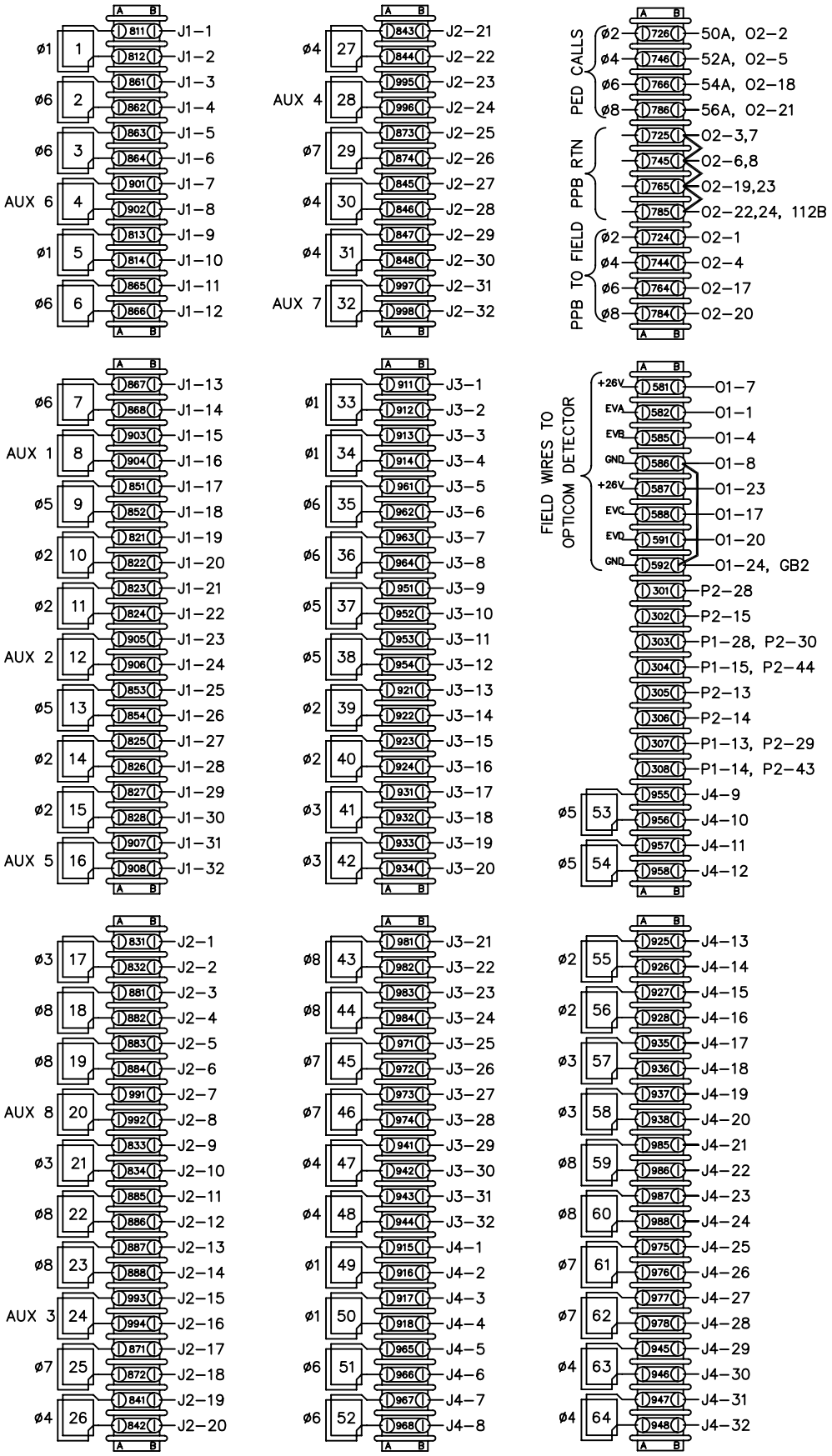
SHELDON T. LYNNE, STATE OF WASHINGTON, 26132, REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA, STATE OF WASHINGTON, 23145, REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

TRAFFIC LOOP DETAIL (SHEET 3 OF 3)

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
TS-04
REV:



NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE — STATE OF WASHINGTON — 26132 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA — STATE OF WASHINGTON — 23145 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

Back to Table of Contents

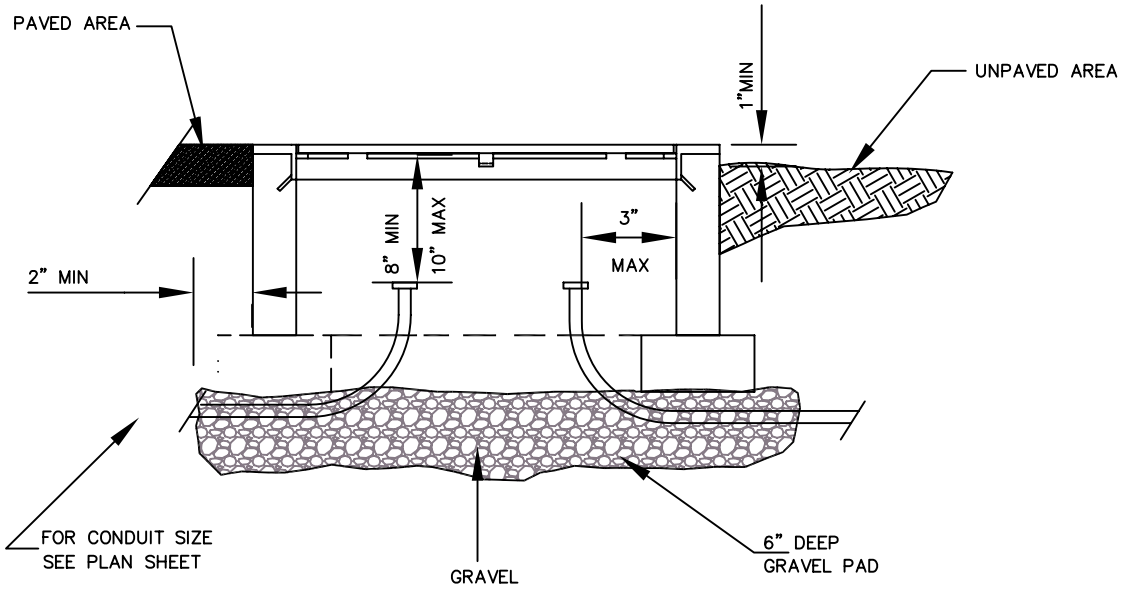
LOOP DETECTION INPUT TERMINATIONS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

TS-05

REV:



TYP J-BOX INSTALLATION

NOTES:

1. ALL DIMENSIONS ARE MINIMUM. EXACT CONFIGURATIONS VARY AMONG DIFFERENT MANUFACTURERS.
2. THE NOTED LID THICKNESSES ARE OVERALL MINIMUMS. THE DIAMOND PATTERN FOR TYPE 1 OR TYPE 2 BOXES SHALL BE 28% MINIMUM OF OVERALL THICKNESS. THE DIAMOND PATTERN FOR TYPE 8 BOXES SHALL BE 3/32" MINIMUM THICK.
3. LID SUPPORT MEMBERS SHALL BE WELDED TO FRAME.
4. 4000 PSI CONCRETE IS ALLOWED IF BOX REINFORCEMENT CONSISTS OF 6x6 – W3xW3 WELDED WIRE FABRIC WELDED TO THE FRAME.
5. WHEN NOTED IN THE CONTRACT TYPE 2 AND TYPE 8 BOXES SHALL BE PROVIDED WITH 12" DEEP EXTENSION BOXES.
6. WHEN NOTED IN THE CONTRACT TYPE 2 BOXES SHALL BE PROVIDED WITH A 10"x27 1/2" 10 GAGE DIVIDER PLATE COMPLETE WITH FASTENERS.
7. NON CONCRETE BOXES MAY BE SUBMITTED FOR APPROVAL EVALUATION WILL INCLUDE AN H–20 LOAD TEST.
8. ALL BOXES WILL BE CITY OF ISSAQUAH ENGINEER APPROVED AND CERTIFIED.
9. LEGEND FOR TRAFFIC SIGNAL SYSTEM BOXES WILL BE "TS", AND "LT" FOR ILLUMINATION SYSTEMS. LEGEND FOR COMMUNICATIONS OR FIBER SYSTEM BOXES WILL BE "COM". LEGEND LETTERS WILL BE FORMED WITH 1/8" WELD BEAD. GRIND OFF DIAMOND PATTERN BEFORE FORMING LETTERS.
10. JUNCTION BOXES WITHIN SIDEWALK SHALL HAVE NO–SKID LIDS.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

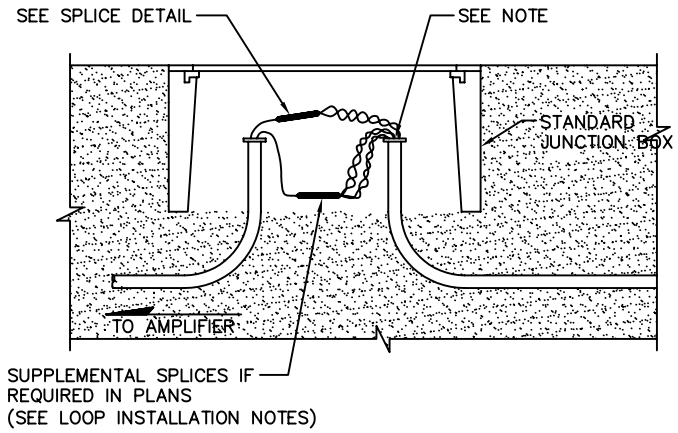
TRAFFIC SIGNAL JUNCTION BOX DETAILS

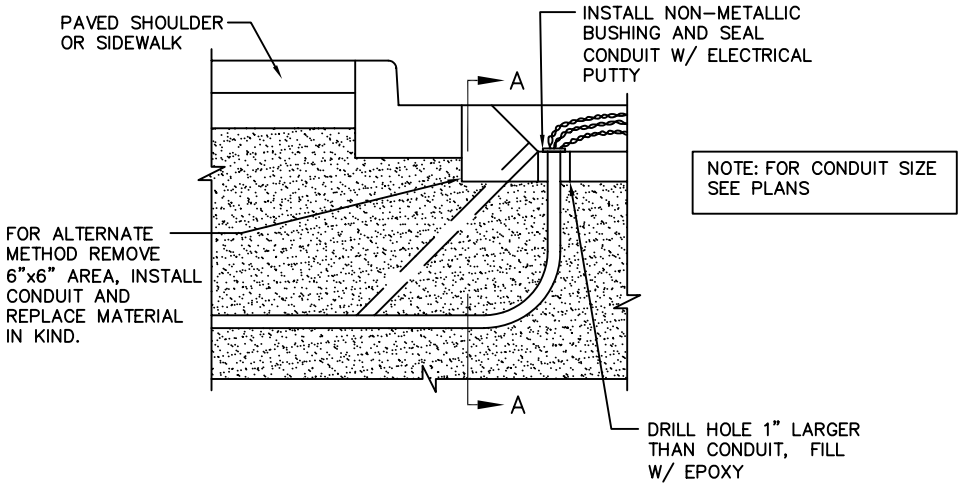
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

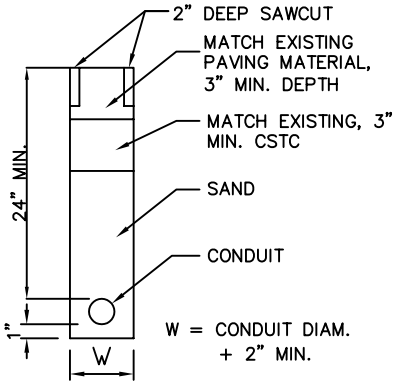
TS-06

REV:

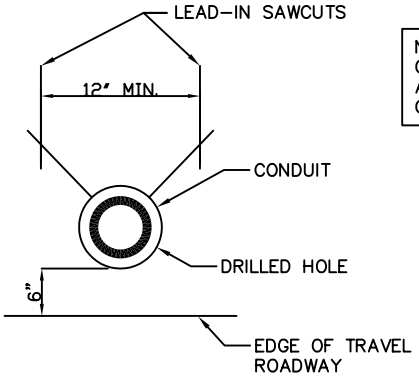




TYPICAL CONDUIT PLACEMENT FOR LOOP LEAD-IN WIRES



SECTION A-A



NOTE: PVC BUSHING ON ALL CONDUIT IN JB AND CONTROLLER CABINET.

LEAD-IN SAWCUTS AND CONDUIT PLACEMENT DETAIL

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

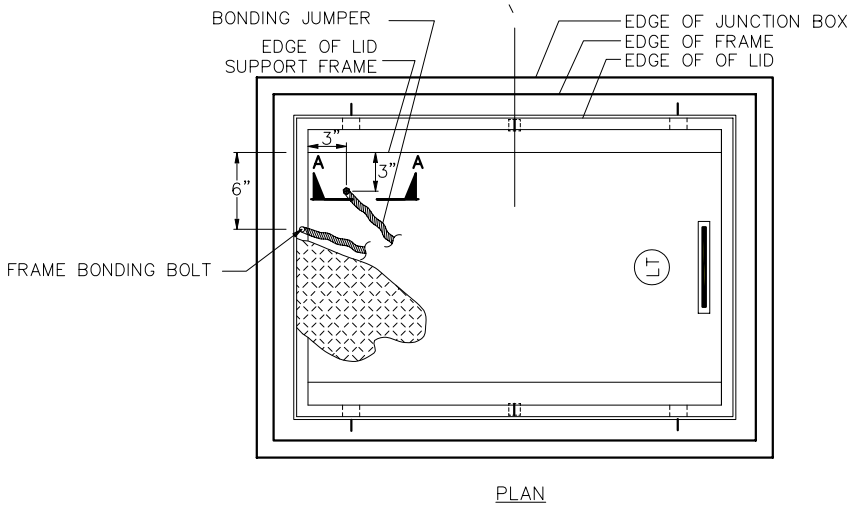
TYPICAL CONDUIT PLACEMENT FOR LOOP DETECTORS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

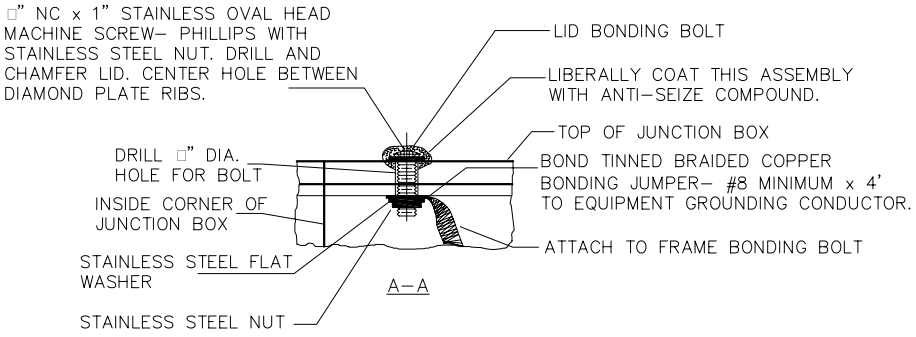
STANDARD DETAIL NO.

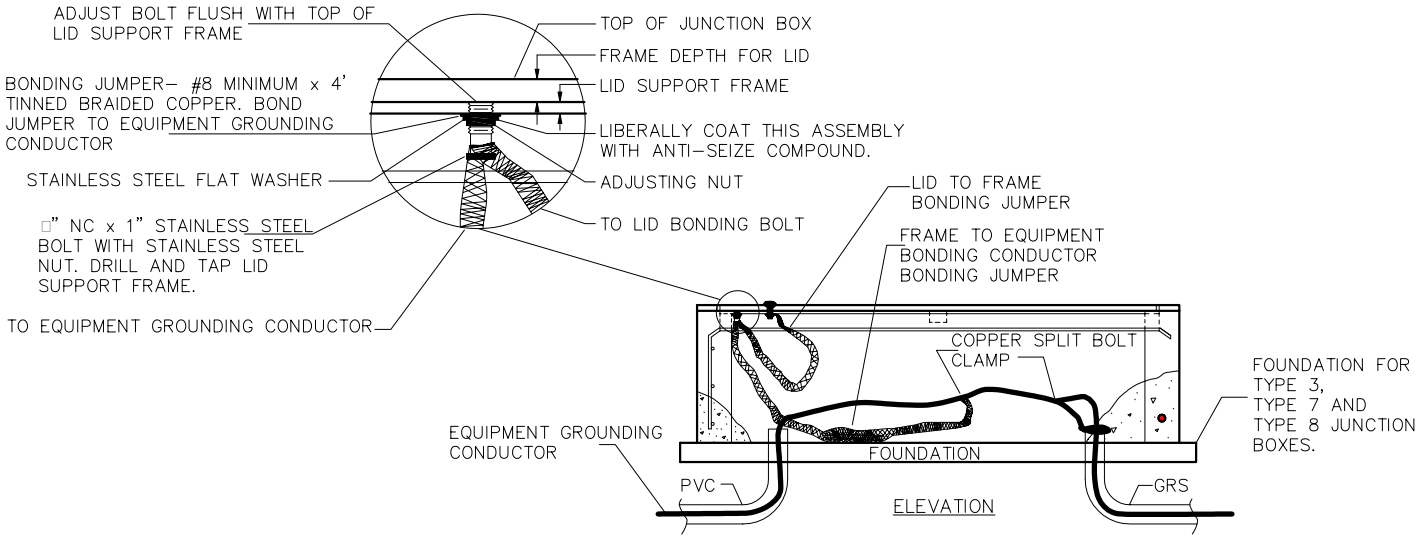
TS-07

REV:



PLAN





NOTES:

1. BOND LIDS TO FRAME.
2. BONDING JUMPER IS TINNED BRAIDED COPPER – #8 MINIMUM x 4 FEET.
3. BOND FRAME TO EQUIPMENT GROUNDING CONDUCTOR.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYMAN, STATE OF WASHINGTON, 26132, REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA, STATE OF WASHINGTON, 23145, REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12–13–2011

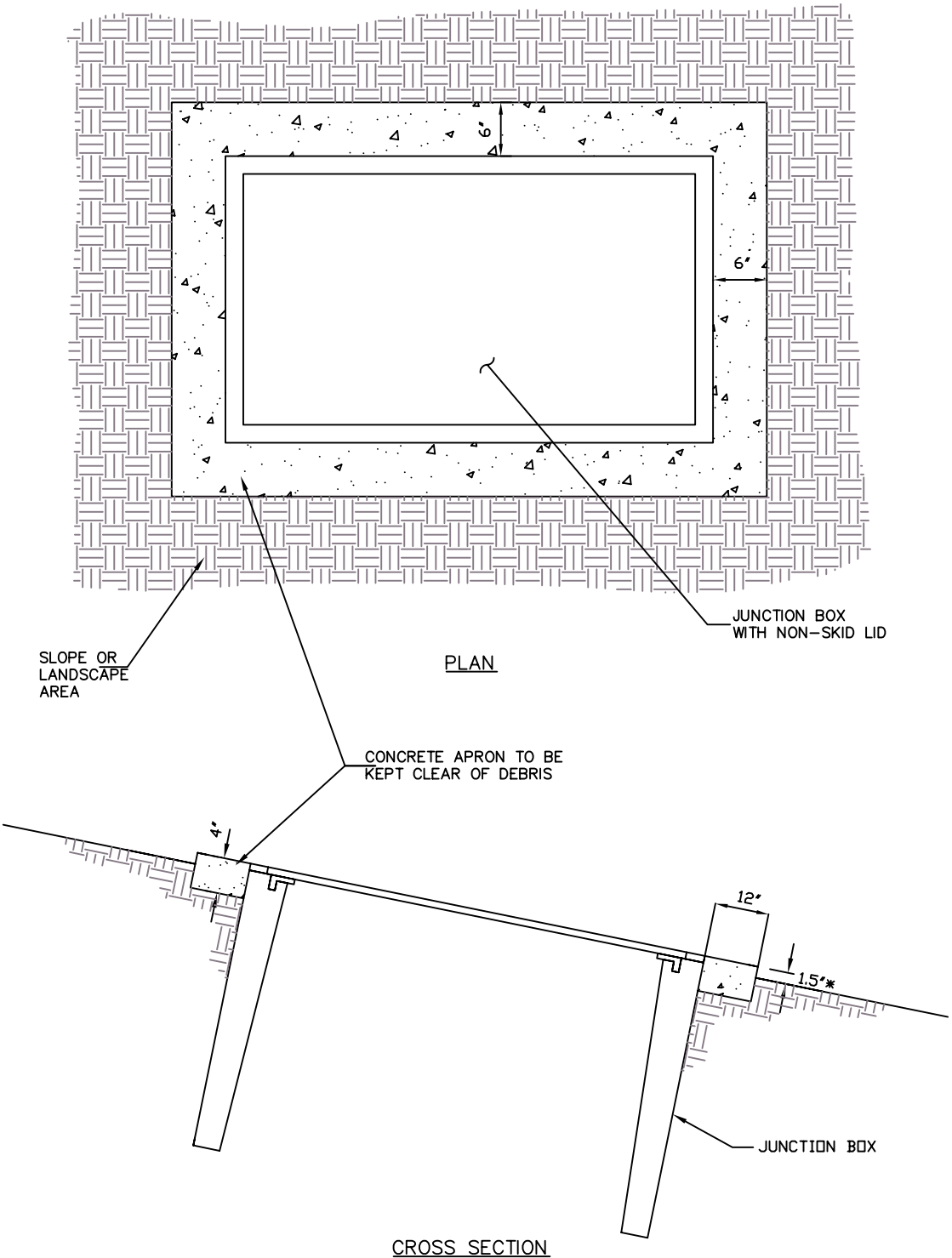
TYPE 1,2,3,7, & 8 JUNCTION BOX EXISTING FRAME & LID BONDING DETAIL

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

TS-08

REV:



* NOTE: DO NOT PROVIDE 1.5" CLEARANCE WITHIN PEDESTRIAN FACILITIES

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE STATE OF WASHINGTON 26132 REGISTERED PROFESSIONAL ENGINEER
EXPIRES:

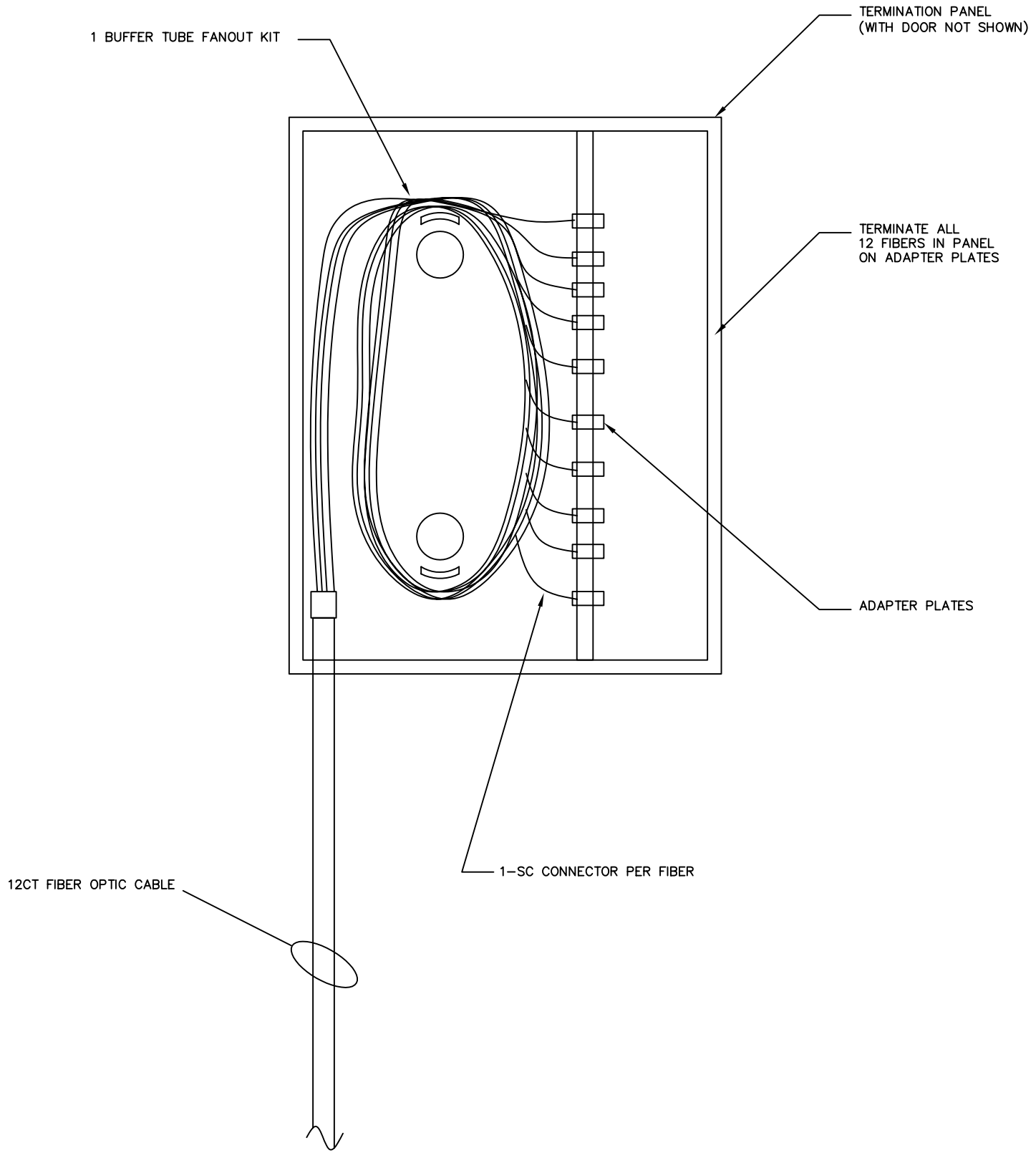
GARY A. COSTA STATE OF WASHINGTON 23145 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

JUNCTION BOX ON GRADE FOR LANDSCAPE AREAS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
TS-09

REV:



Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

SHELDON T. LYNNE
STATE OF WASHINGTON
26132
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES:

GARY A. COSTA
STATE OF WASHINGTON
23145
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: 12-13-2011

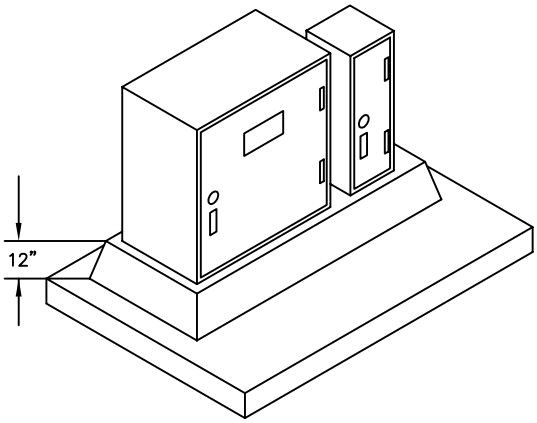
FIBER TERMINATION PANEL IN CONTROLLER CABINET

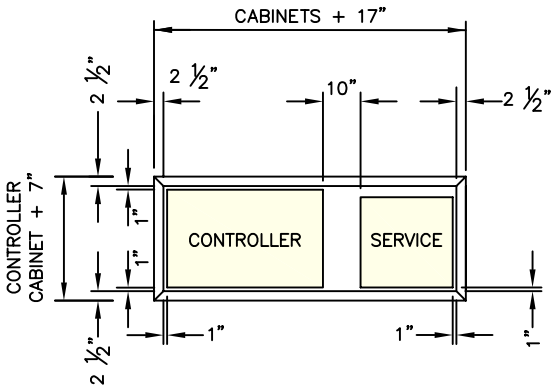
NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

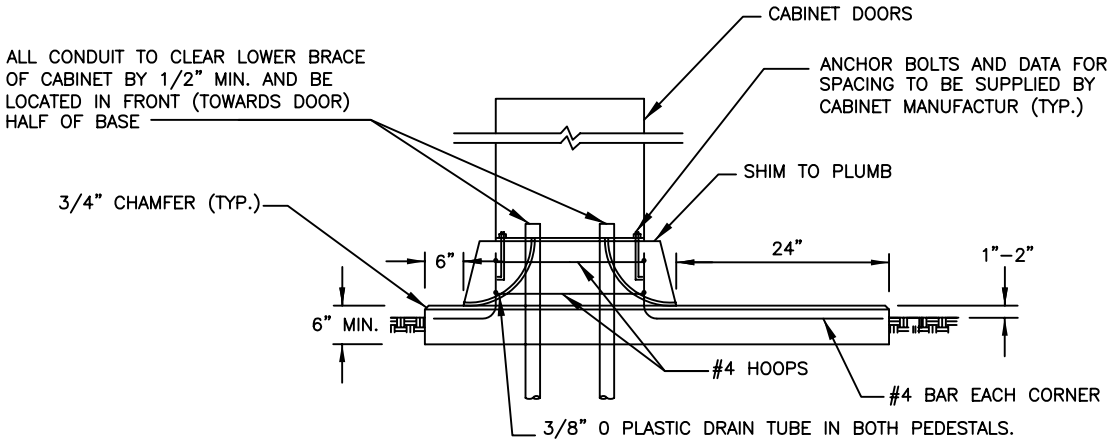
STANDARD DETAIL NO.

TS-10

REV:







NOTES:

1. CABINET FOUNDATION SHALL BE CLASS 3000 AIR ENTRAINED CONCRETE.
2. WHERE CABINET FOUNDATION IS LOCATED ADJACENT TO A SIDEWALK, CONSTRUCT THE TOP FLUSH WITH SIDEWALK GRADE, OMITTING CHAMFER WHERE TOP AND SIDEWALK ABUT.
3. FOUNDATION DESIGN IS TYPICAL, CONTRACTOR SHALL UTILIZE CABINET MANUFACTURE'S SPECIFICATIONS TO ASSURE PROPER FIT OF CABINET ON BASE WITH RESPECT TO CONDUIT PLACEMENT. ENGINEER MUST APPROVE FORM WORK BEFORE PLACEMENT OF CONCRETE.
4. EXPANSION ANCHOR BOLTS (KWIK– BOLT, WEJ–IT, OR EQUAL) MAY BE USED TO FIT CABINETS TO EXISTING FOUNDATION. SILICON SEAL SHALL BE PLACED BETWEEN CABINET AND BASE.
5. SEE PLANS FOR DOOR ORIENTATION.
6. A SPARE 3"Ø CONDUIT SHALL BE INSTALLED FROM CONTROLLER CABINET TO NEAREST J–BOX.
7. A 1"Ø CONDUIT SHALL BE INSTALLED UNDER SERVICE CABINET FOR GROUND.

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT

AUGUST 2010

EXPIRES

EXPIRES

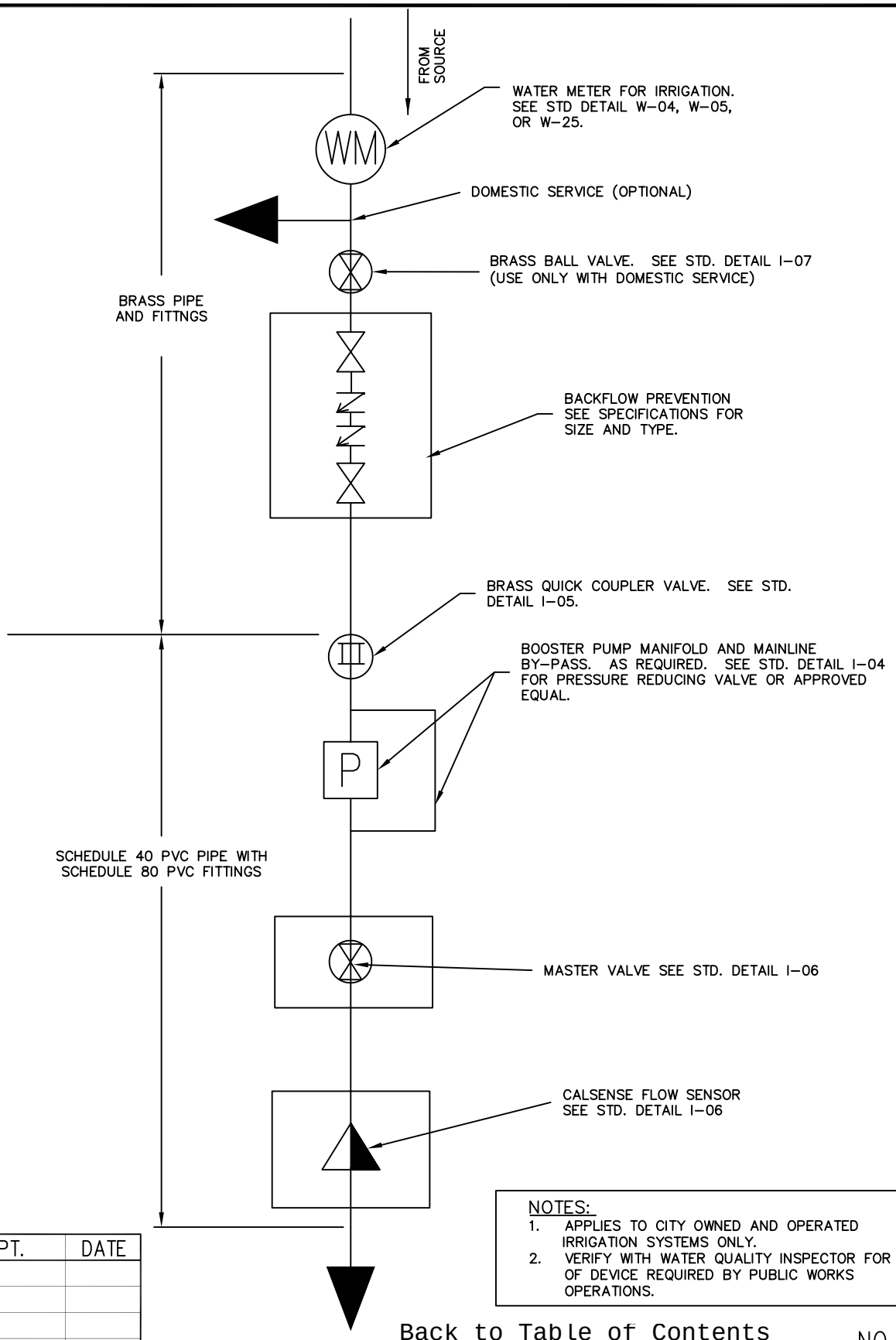
CABINET FOUNDATION DETAILS

NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

TS-11

REV:



NOTES:
1. APPLIES TO CITY OWNED AND OPERATED IRRIGATION SYSTEMS ONLY.
2. VERIFY WITH WATER QUALITY INSPECTOR FOR TYPE OF DEVICE REQUIRED BY PUBLIC WORKS OPERATIONS.

APPROVED	DEPT.	DATE

Back to Table of Contents

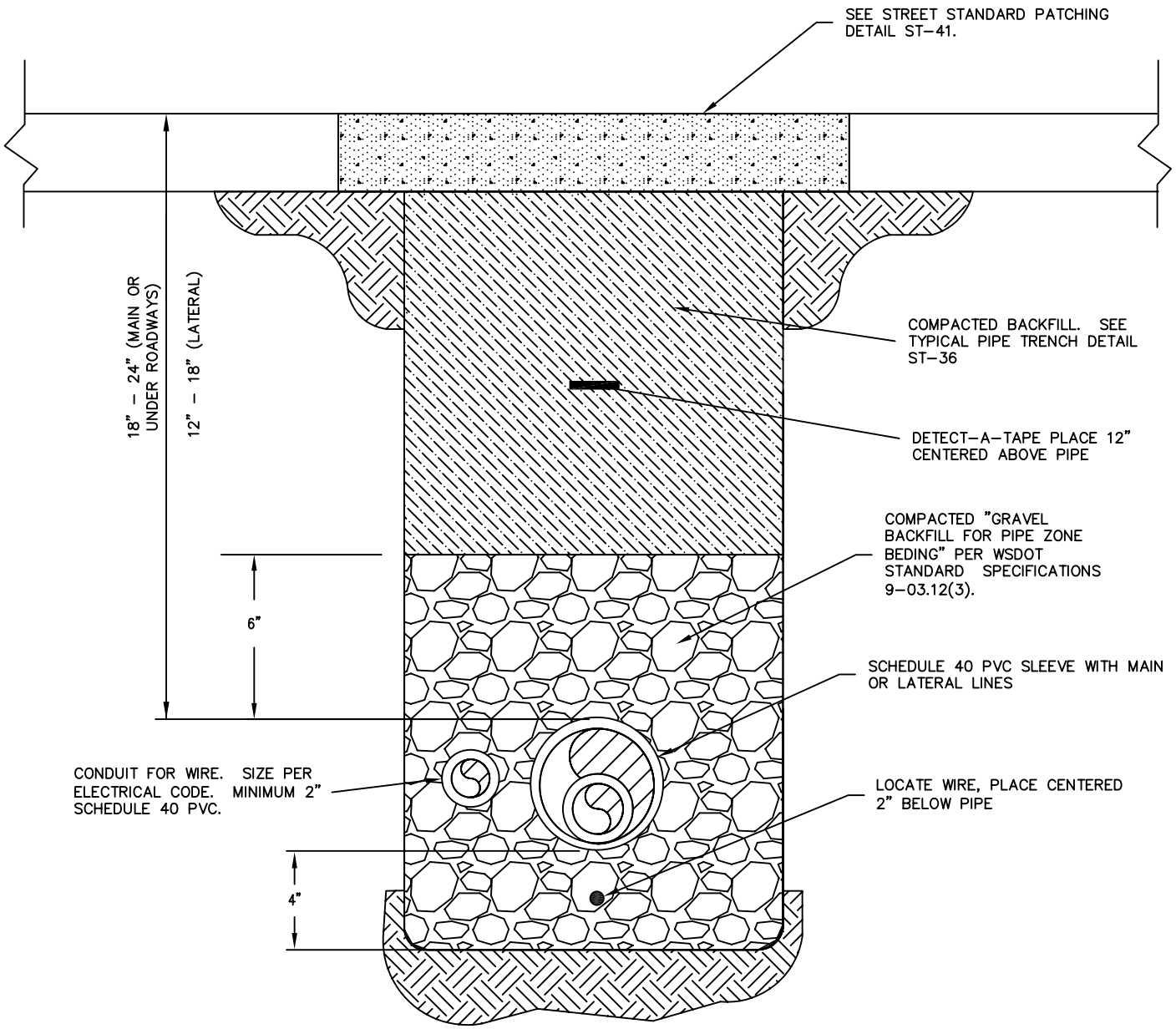
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

IRRIGATION CONNECTION SCHEMATIC

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-01
REV:



NOTES:
1) OUTER DIAMETER SLEEVE SIZE SHALL BE TWICE OUTER DIAMETER OF CARRIER PIPE.
2) SLEEVES REQUIRED UNDER ALL PAVED, SIDEWALK, DRIVEWAY, COMPACTED GRAVEL, AND WALL AREAS.
3) LOCATED WIRE TO BE SOLID #12 AWG, TYPE USE/UF

APPROVED	DEPT.	DATE

Back to Table of Contents

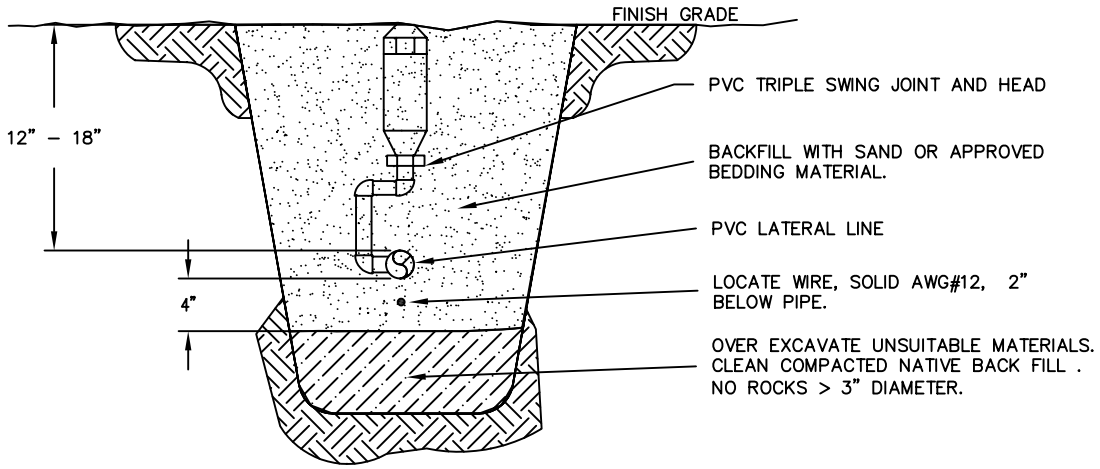
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

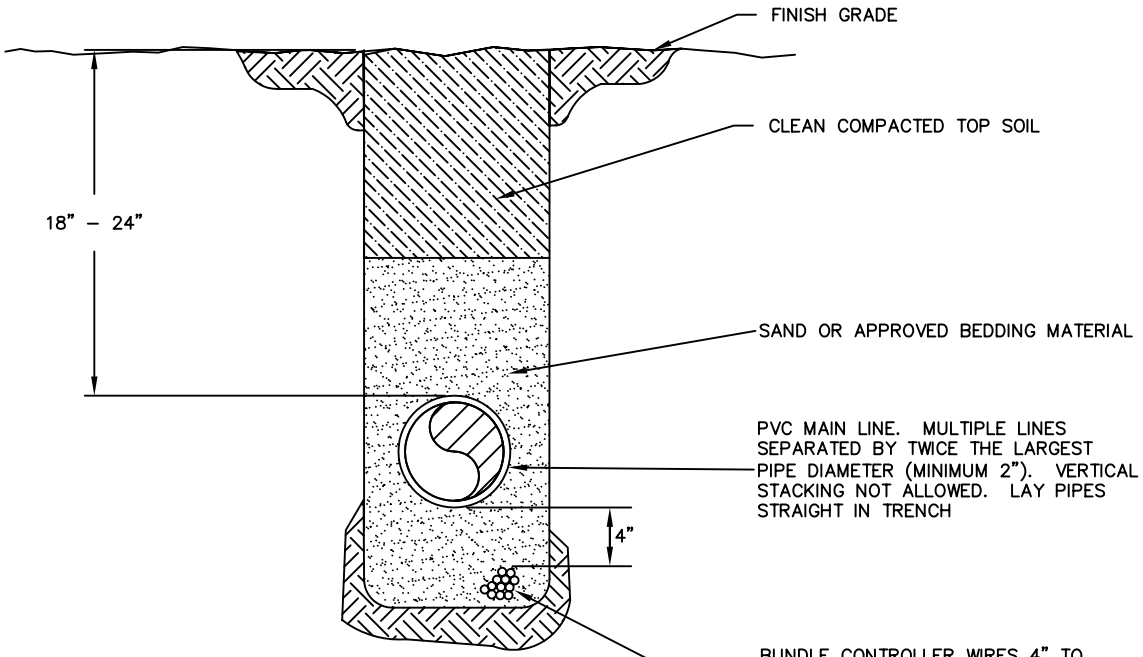
IRRIGATION SLEEVE TRENCHING

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-02
REV:



LATERAL



MAIN LINE

NOTES:

1. MAINLINE PIPE SHALL BE SCHEDULE 40 PVC JOINED WITH "IPS WELD–ON P–70" BRAND PRIMER AND "IPS WELD–ON 711" BRAND GLUE PER MANUFATURERS RECOMMENDATIONS.
2. PIPE SHALL BE FREE OF DEBRIS PRIOR TO JOINING.
3. LATERAL PIPE SHALL BE PVC CLASS 200 JOINED WITH "IPS WELD–ON 721" BRAND GLUE PER MANUFACTURERS RECOMMENDATIONS.

APPROVED	DEPT.	DATE

Back to Table of Contents

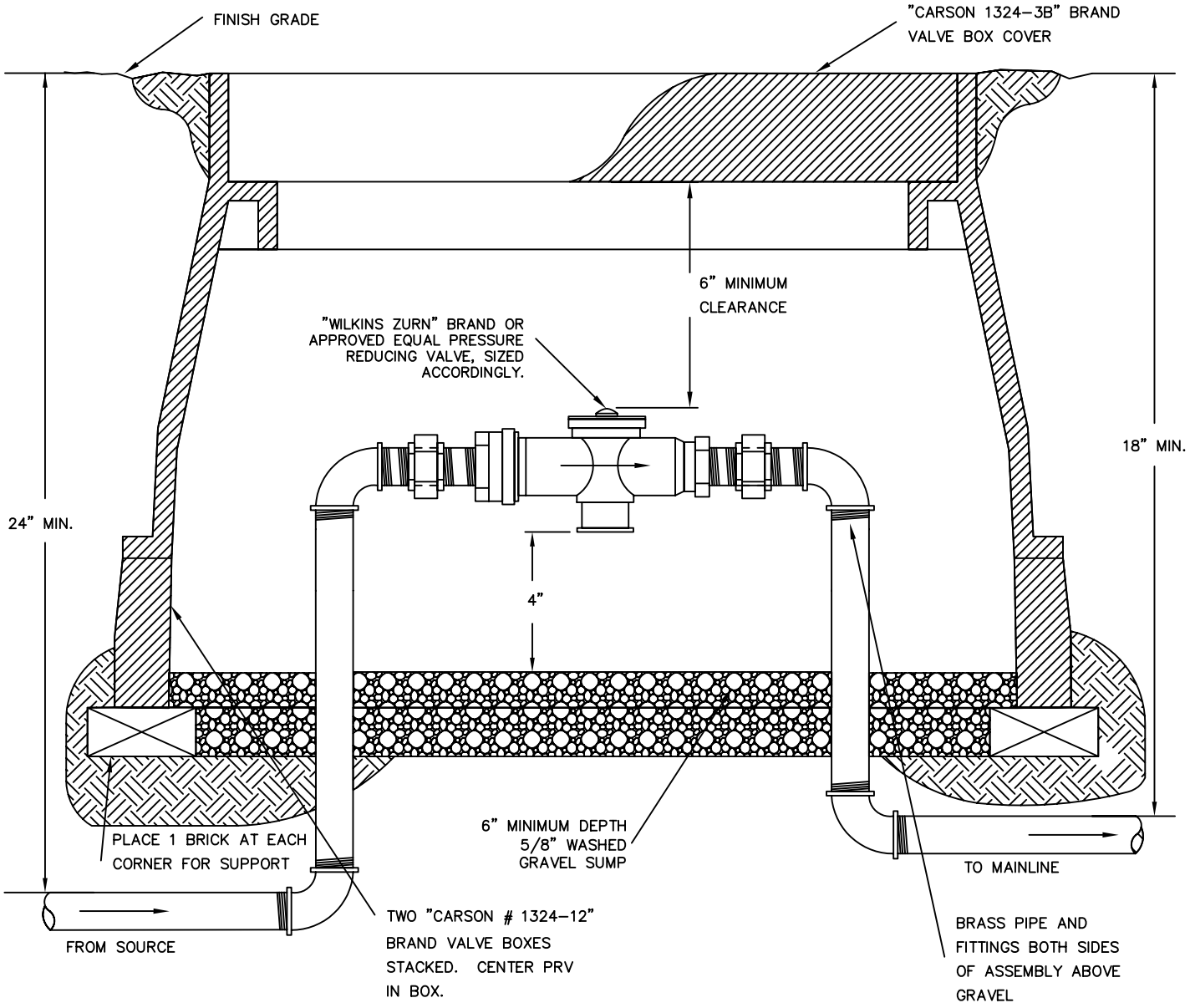
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

TRENCHING FOR MAIN & LATERAL IRRIGATION LINES OUTSIDE PAVED AREAS

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-03
REV:



APPROVED	DEPT.	DATE

Back to Table of Contents

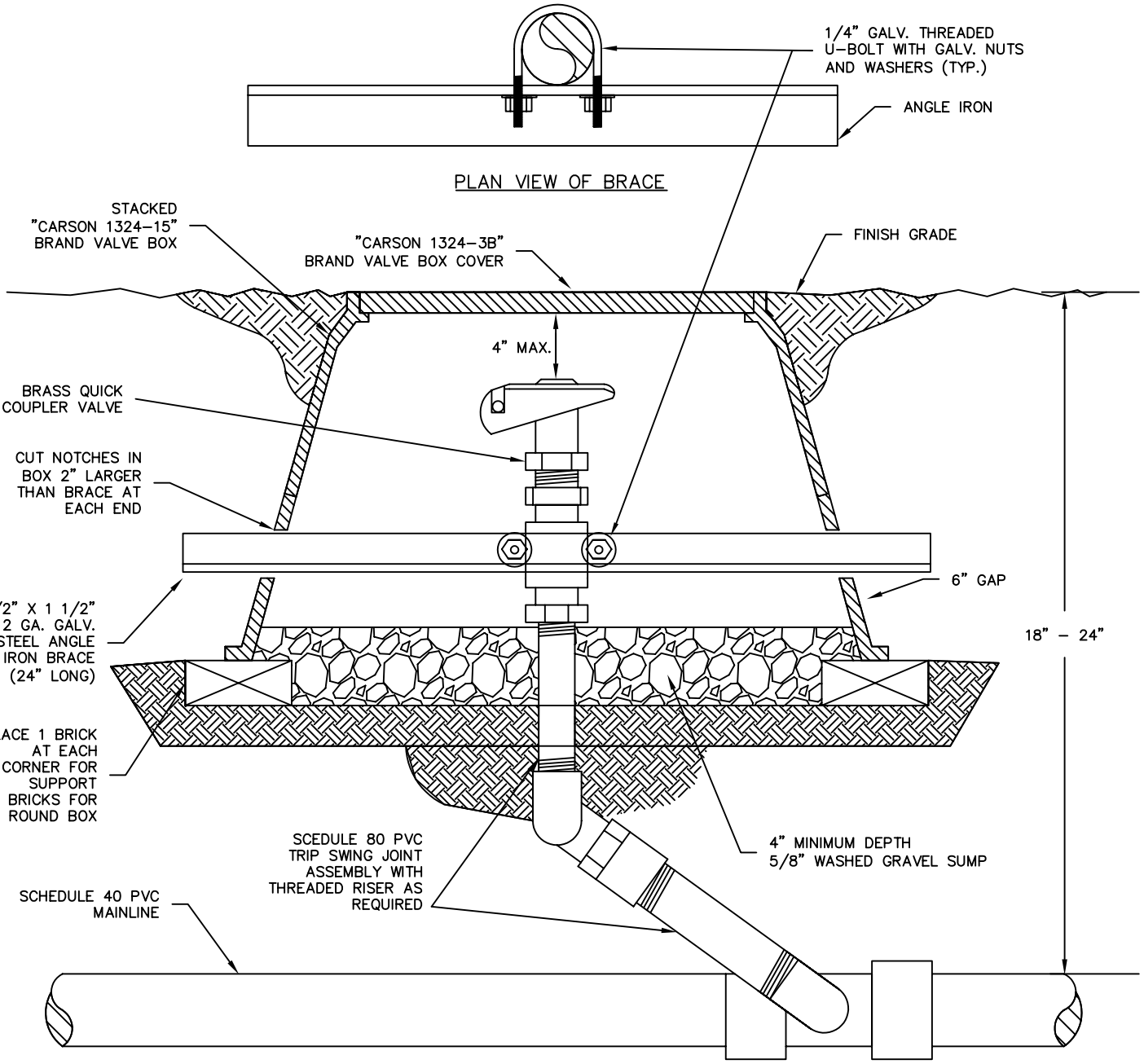
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

PRESSURE REDUCING VALVE ASSEMBLY THROUGH 2" IRRIGATION LINES

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-04
REV:



APPROVED	DEPT.	DATE

NOTES:
1. USE TEFLON TAPE ON ALL THREADED FITTINGS

Back to Table of Contents

NO SCALE

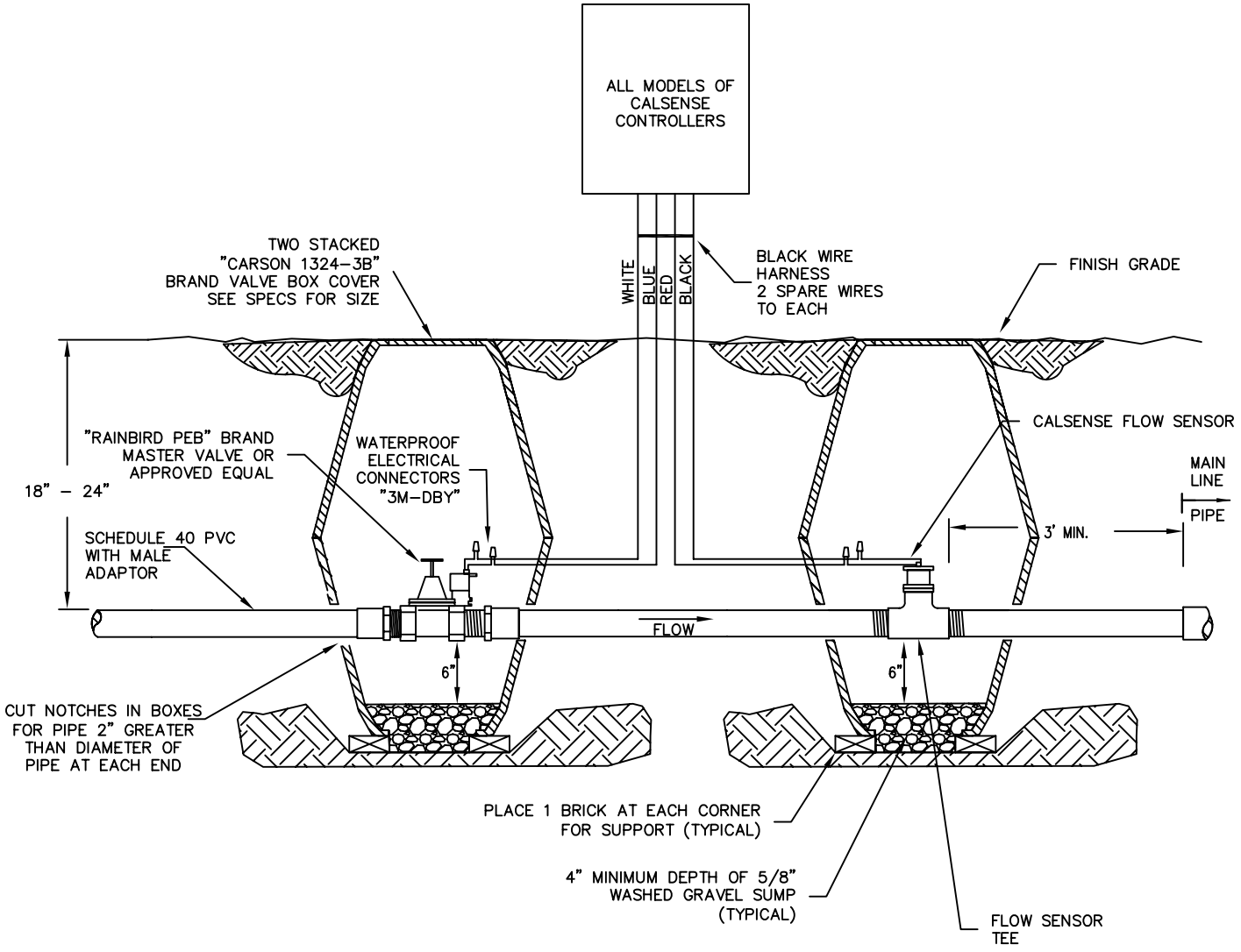
CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

BRASS QUICK COUPLER VALVE (TURF OR BED AREAS) FOR IRRIGATION

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-05
REV:

PIPE SIZING CHART		
FLOW METER SIZE	UPSTREAM LENGTH	DOWNSTREAM LENGTH
1"	10"	5"
1.25"	12.5"	6.25"
1.5"	15"	7.5"
2"	20"	10"
3"	30"	15"



APPROVED	DEPT.	DATE

NOTE:
1. USE TEFLON TAPE ON ALL THREADED FITTINGS.

Back to Table of Contents

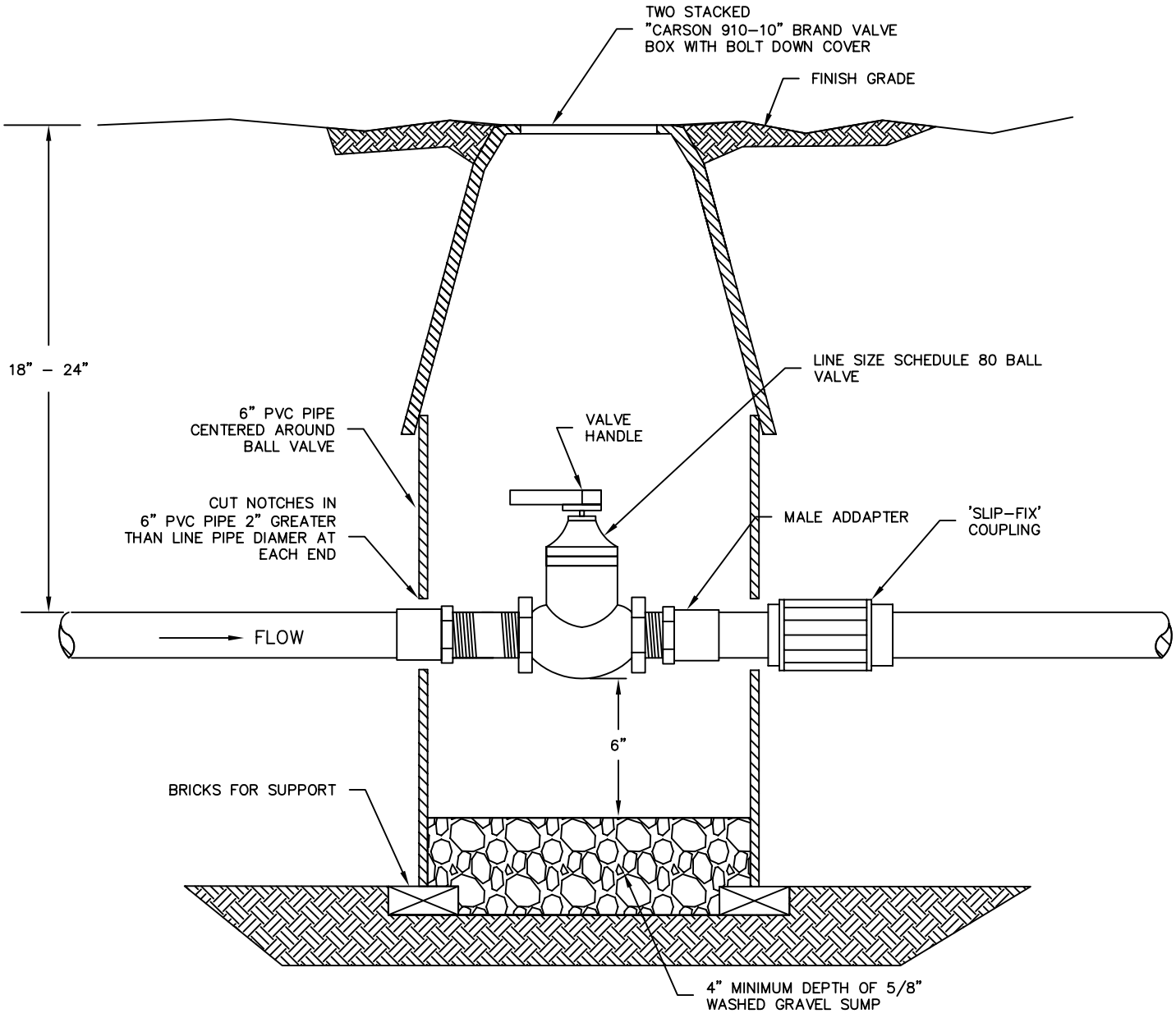
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

IRRIGATION MASTER VALVE AND FLOW SENSOR

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-06
REV:



NOTE:
1) USE TEFLON TAPE ON ALL THREADED FITTINGS.
2) PIPE TO BE SCH 40 PVC, NIPPLES AND FITTINGS TO BE SCH 80.

APPROVED	DEPT.	DATE

Back to Table of Contents

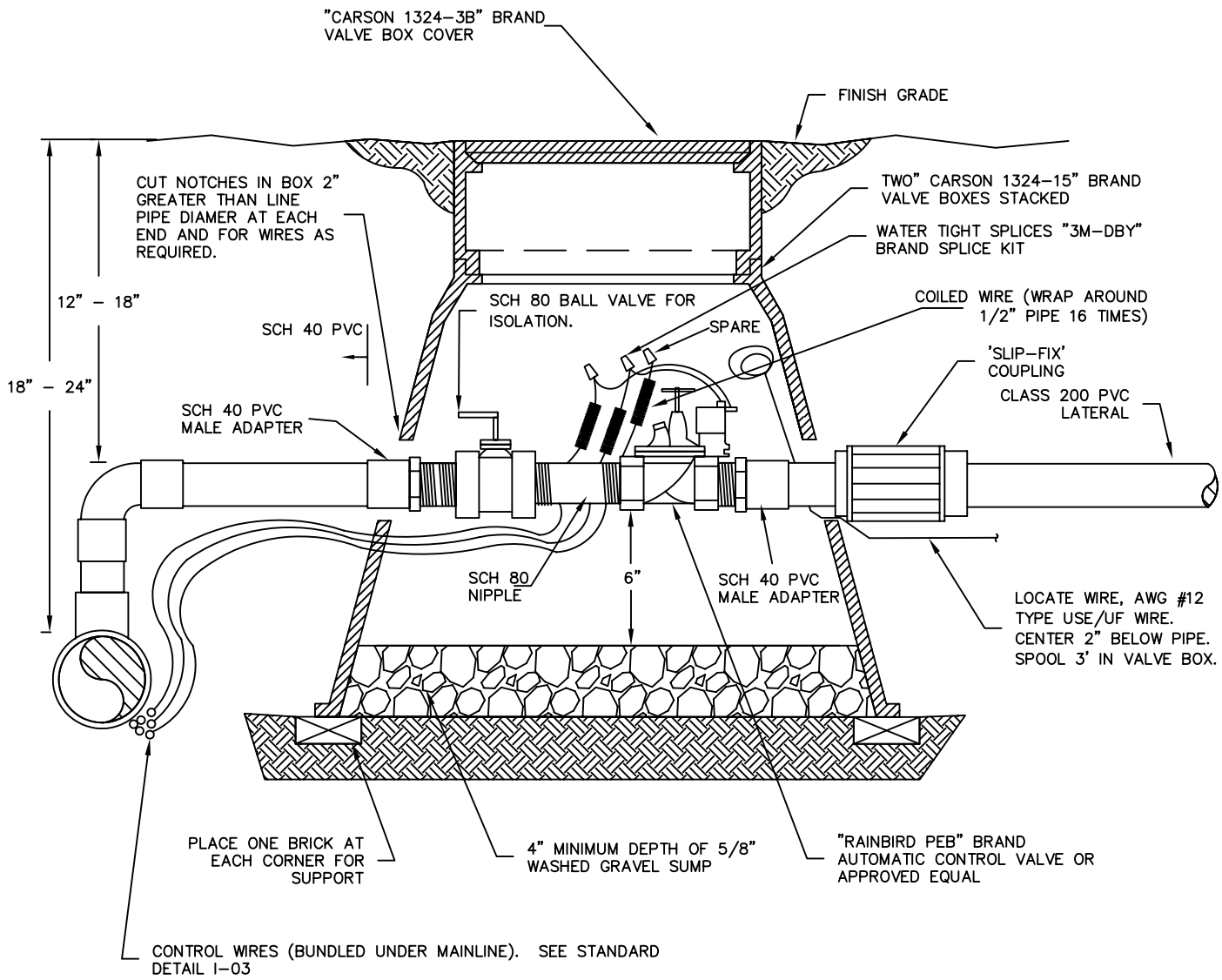
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

IRRIGATION BALL VALVE THROUGH 2"

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-07
REV:



NOTE:
1) USE TEFLON TAPE ON ALL THREADED FITTINGS.

APPROVED	DEPT.	DATE

Back to Table of Contents

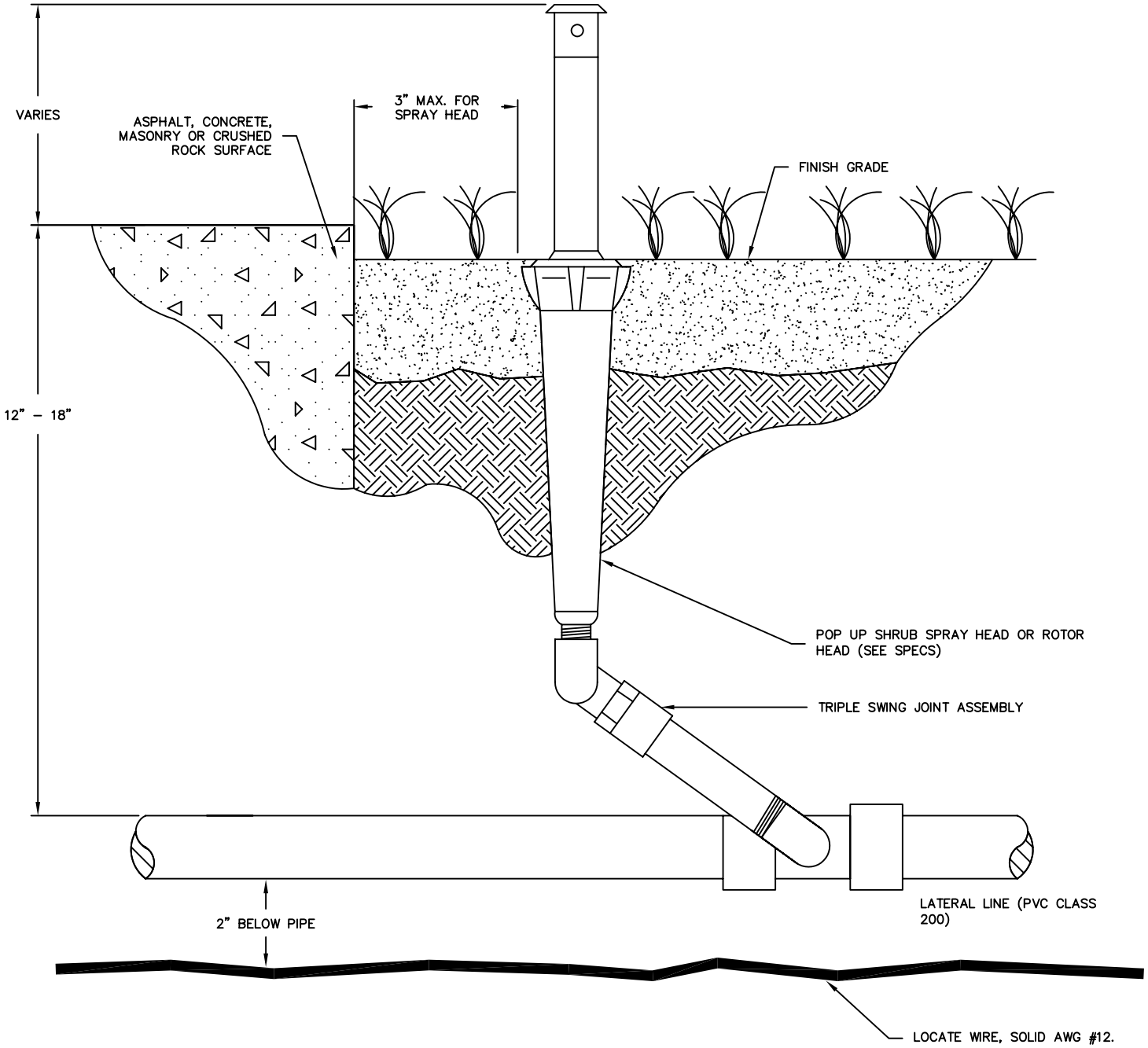
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

AUTOMATIC IRRIGATION CONTROL VALVE

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-08
REV:



APPROVED	DEPT.	DATE

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

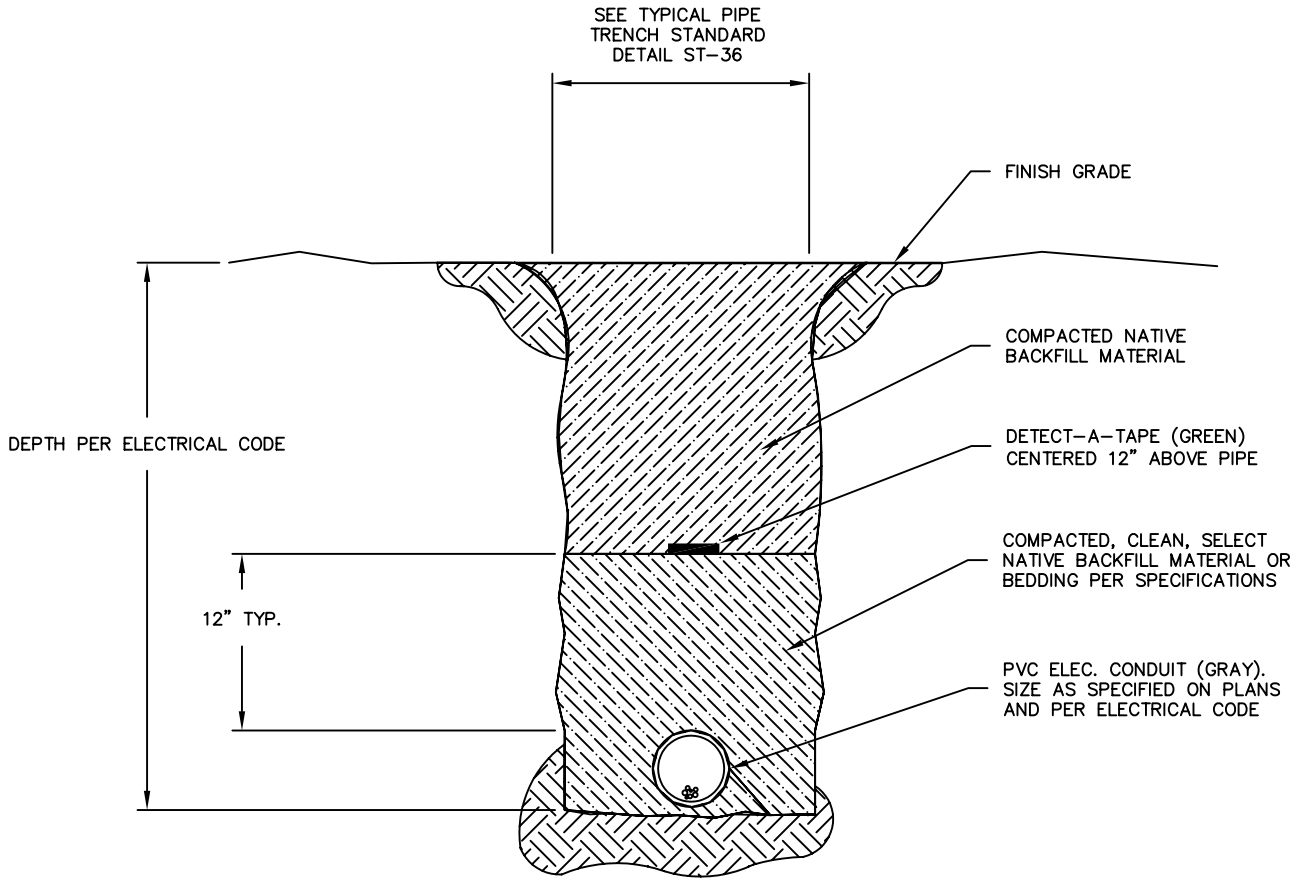
IRRIGATION
POP UP SPRAY
OR ROTOR HEAD

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

I-09

REV:



NOTES:
1. FOR BACKFILL REQUIREMENTS IN TRAVELED AREAS, SEE STANDARD DETAIL T–57.
2. FOR STREET PATCHING REQUIREMENTS SEE STANDARD DETAIL T–49 & T–50.

APPROVED	DEPT.	DATE

Back to Table of Contents

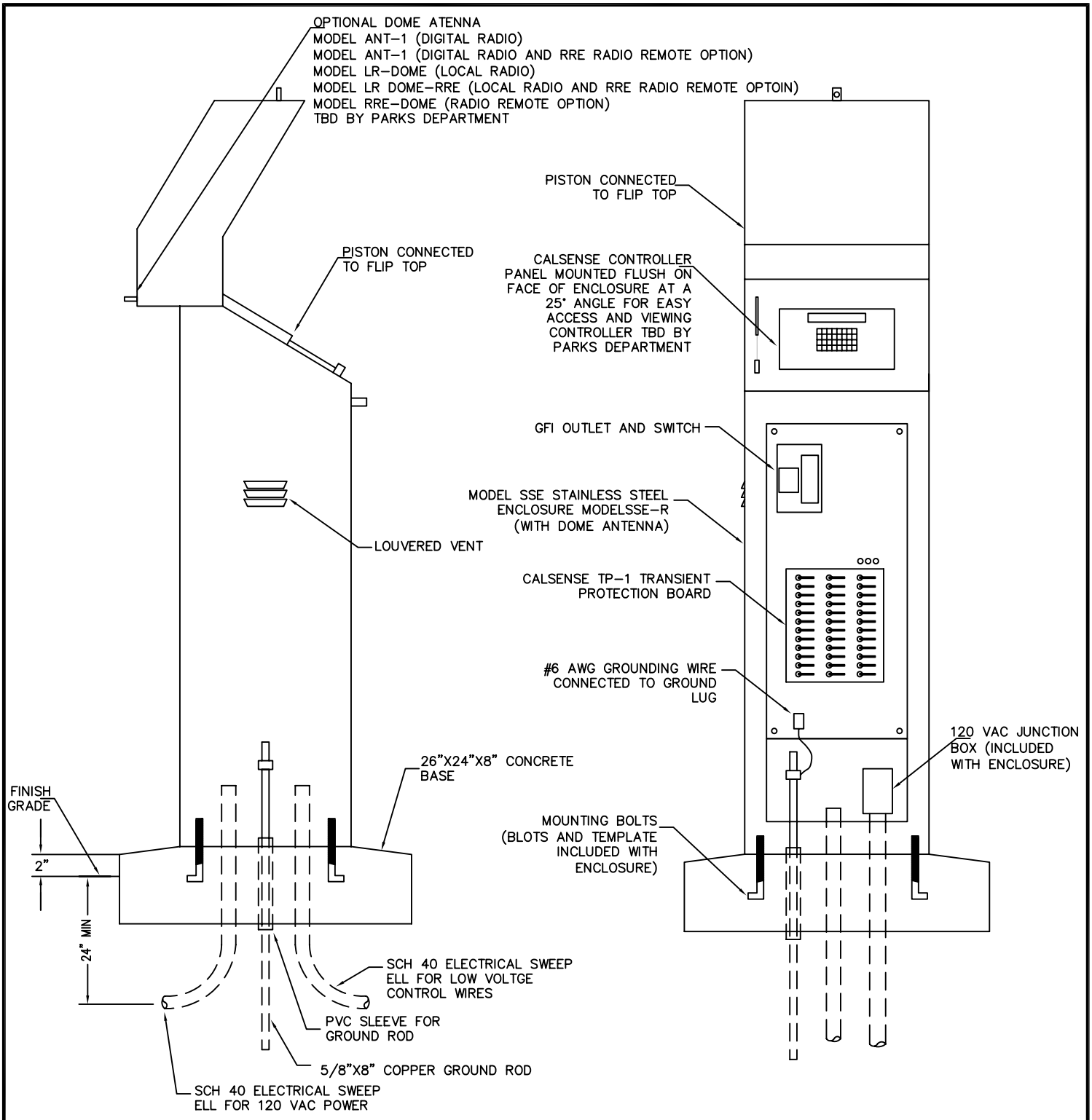
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

IRRIGATION
POWER SUPPLY TRENCH

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-10
REV:



APPROVED	DEPT.	DATE

NOTES:
1. ADDITIONAL SWEEP NEEDED IF COMMUNICATION IS BY PHONE OR HARDWIRE.

Back to Table of Contents

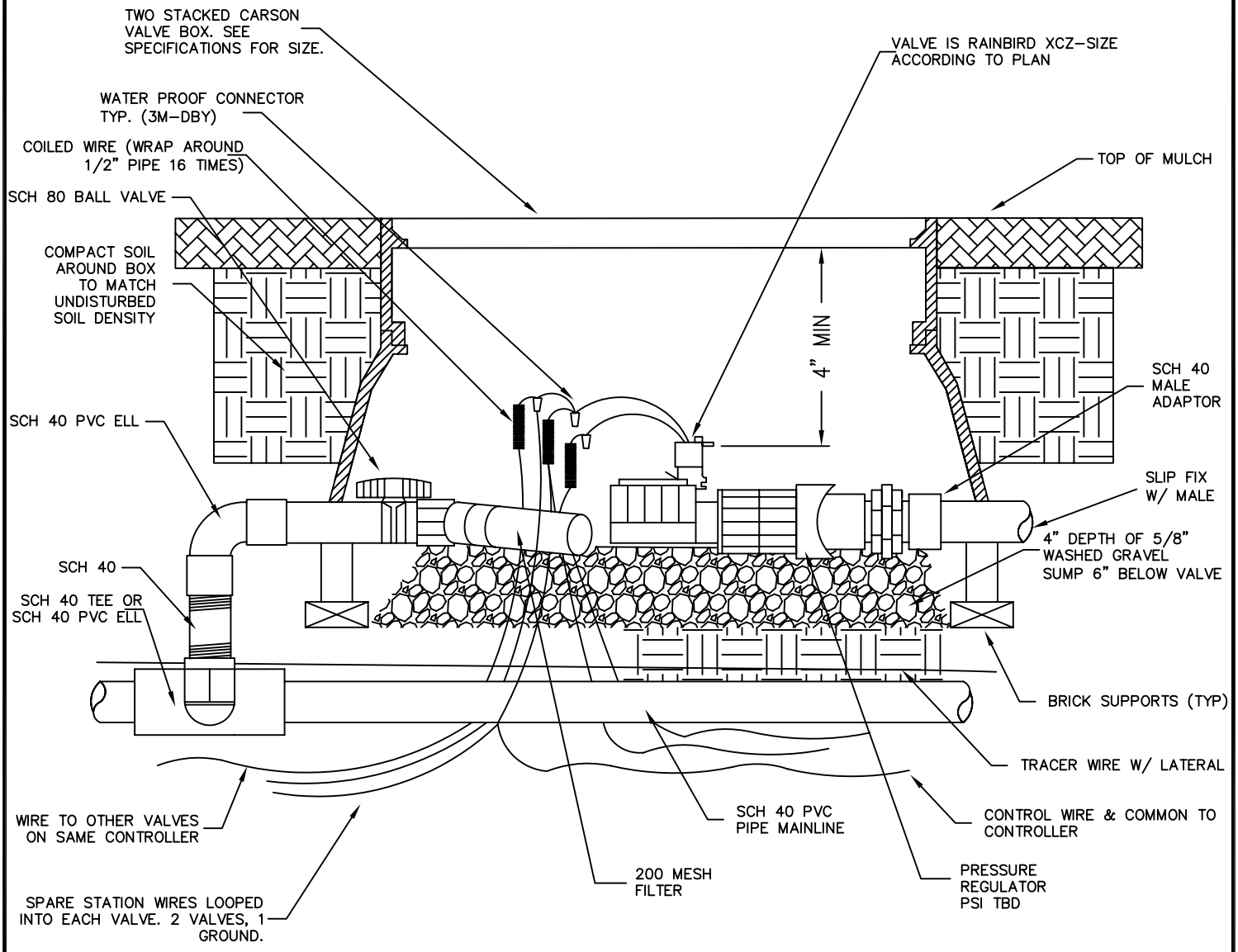
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

POWER DISCONNECT/CONTROLLER/ CCU ENCLOSURE (TYPICAL SITE MASTER CONTROL LOCATION)

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-11
REV:



NOTE:
1) ALL WIRE SHALL BE TAPED AND BUNDLED EVERY TEN FEET AND SHALL BE INSTALLED AS PER LOCAL CODE.

2) USE TEFLON TAPE ON ALL THREADED FITTINGS.

APPROVED	DEPT.	DATE

Table of Contents

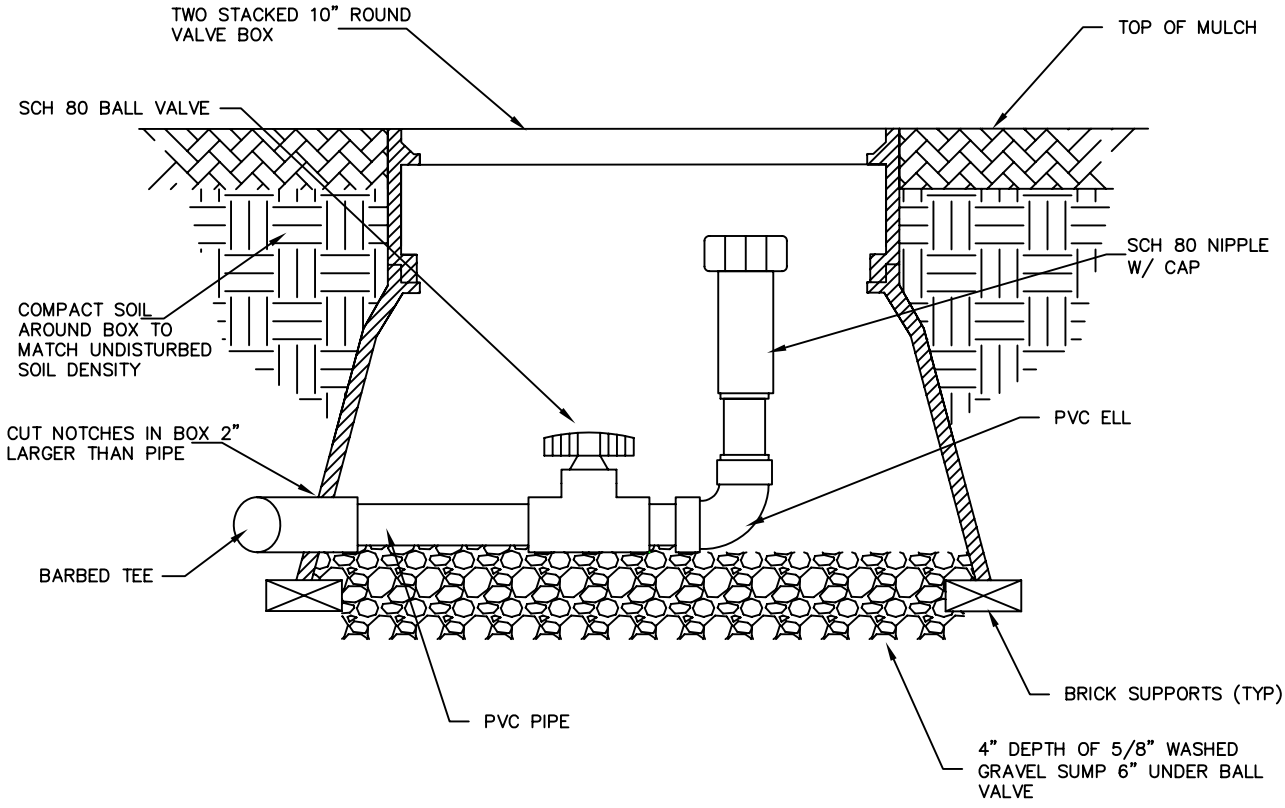
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

DRIP IRRIGATION VALVE ASSEMBLY

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-12
REV:



APPROVED	DEPT.	DATE

Back to Table of Contents

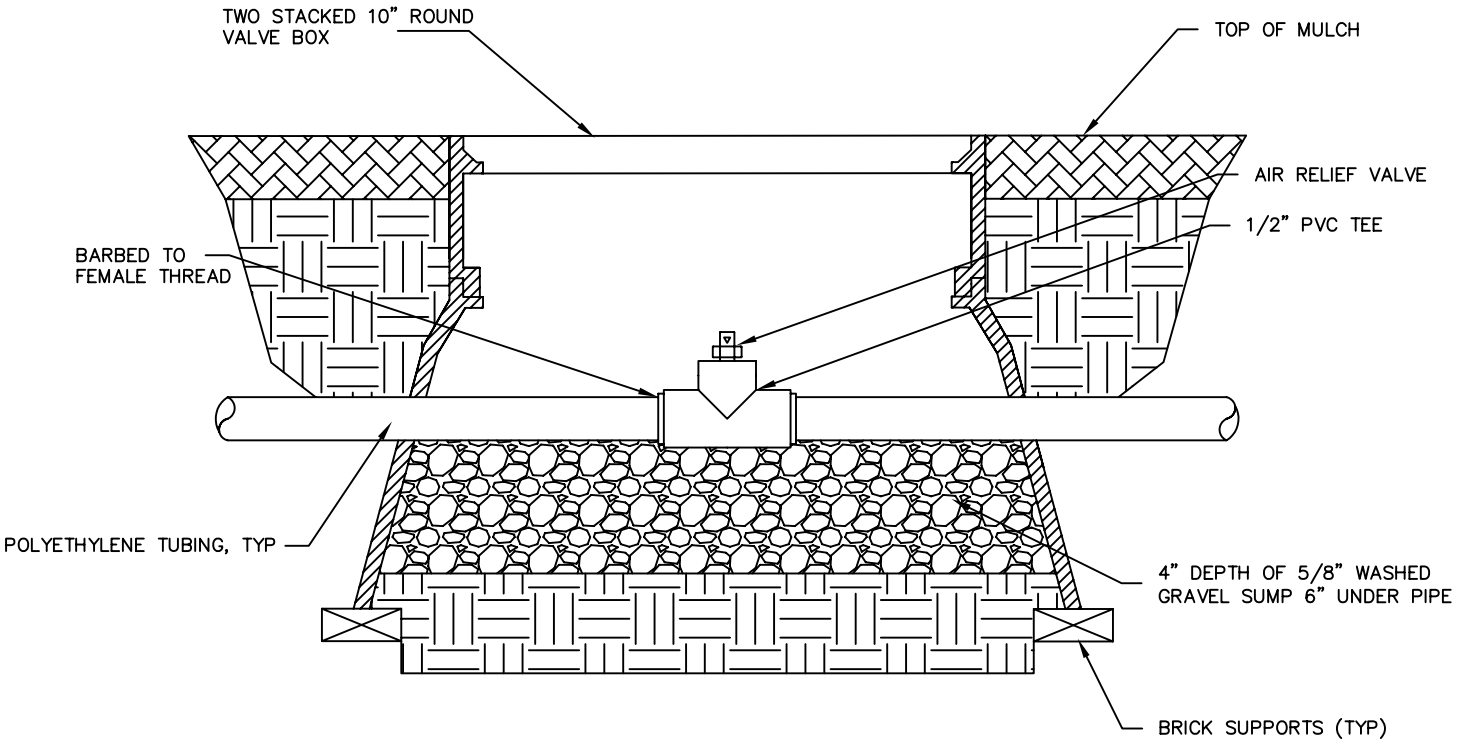
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

IRRIGATION
FLUSH VALVE

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-13
REV:



NOTE:
1. AIR RELIEF VALVE SHALL BE INSTALLED AT THE HIGHEST POINT OF THE SYSTEM ABOVE ALL DRIPLINE LATERALS.

APPROVED	DEPT.	DATE

Back to Table of Contents

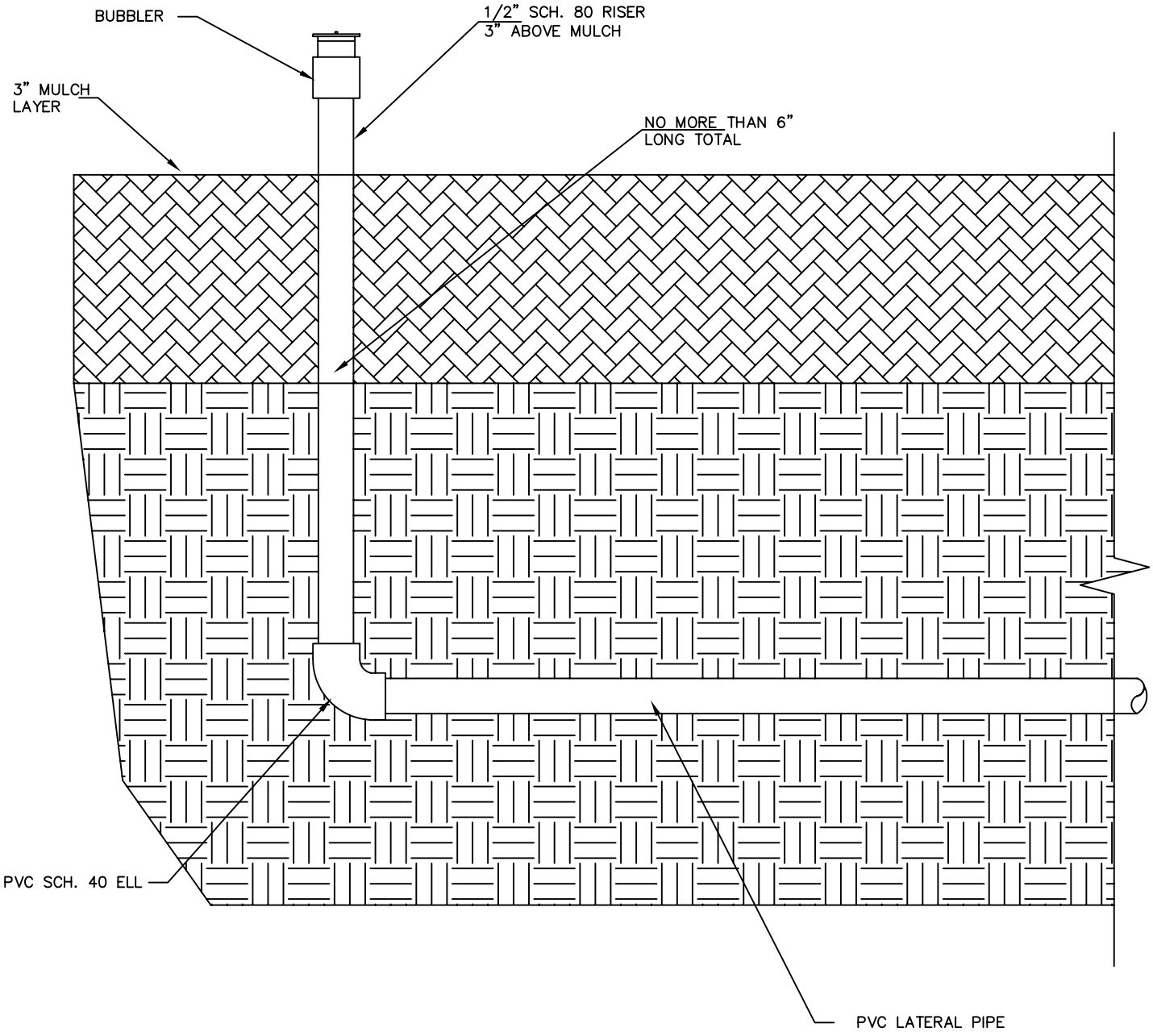
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

IRRIGATION
AIR RELIEF VALVE

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-14
REV:



APPROVED	DEPT.	DATE

Back to Table of Contents

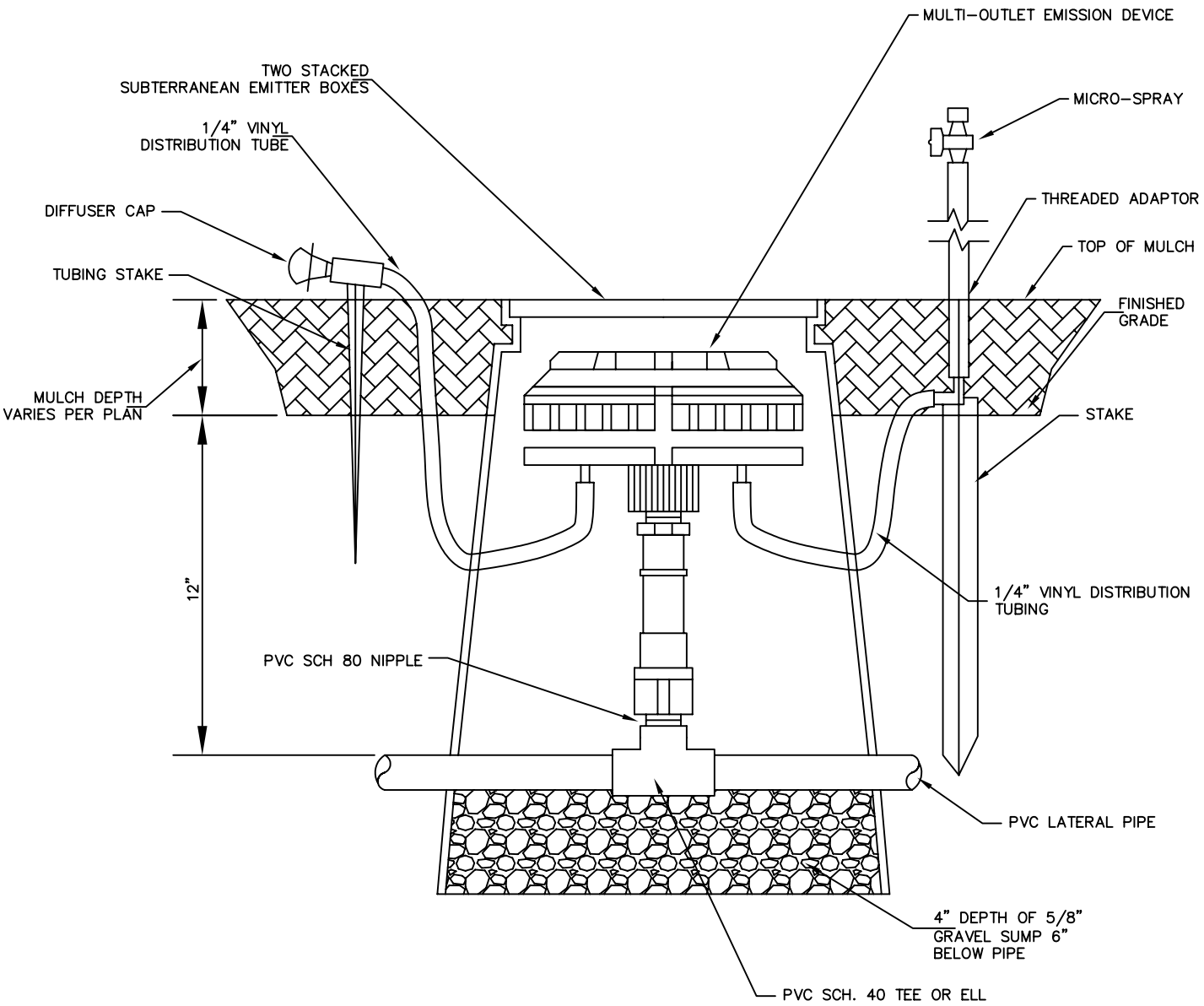
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

IRRIGATION
BUBBLER SPRINKLER HEAD

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-15
REV:



APPROVED	DEPT.	DATE

Back to Table of Contents

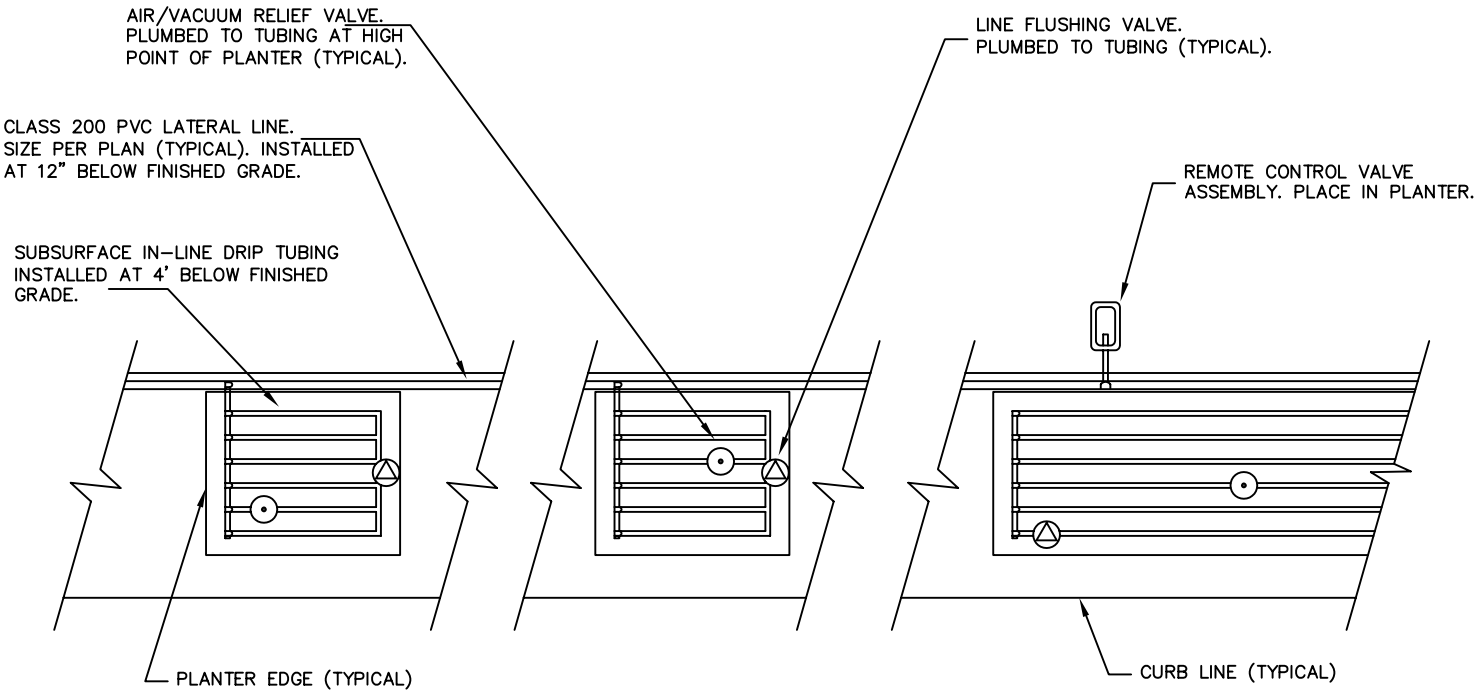
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

DRIP IRRIGATION
MULTI-OUTLET EMITTER

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-16
REV:



NOTE:
1. ALL DRIP TUBING FITTINGS SHALL BE BARBED

APPROVED	DEPT.	DATE

Back to Table of Contents

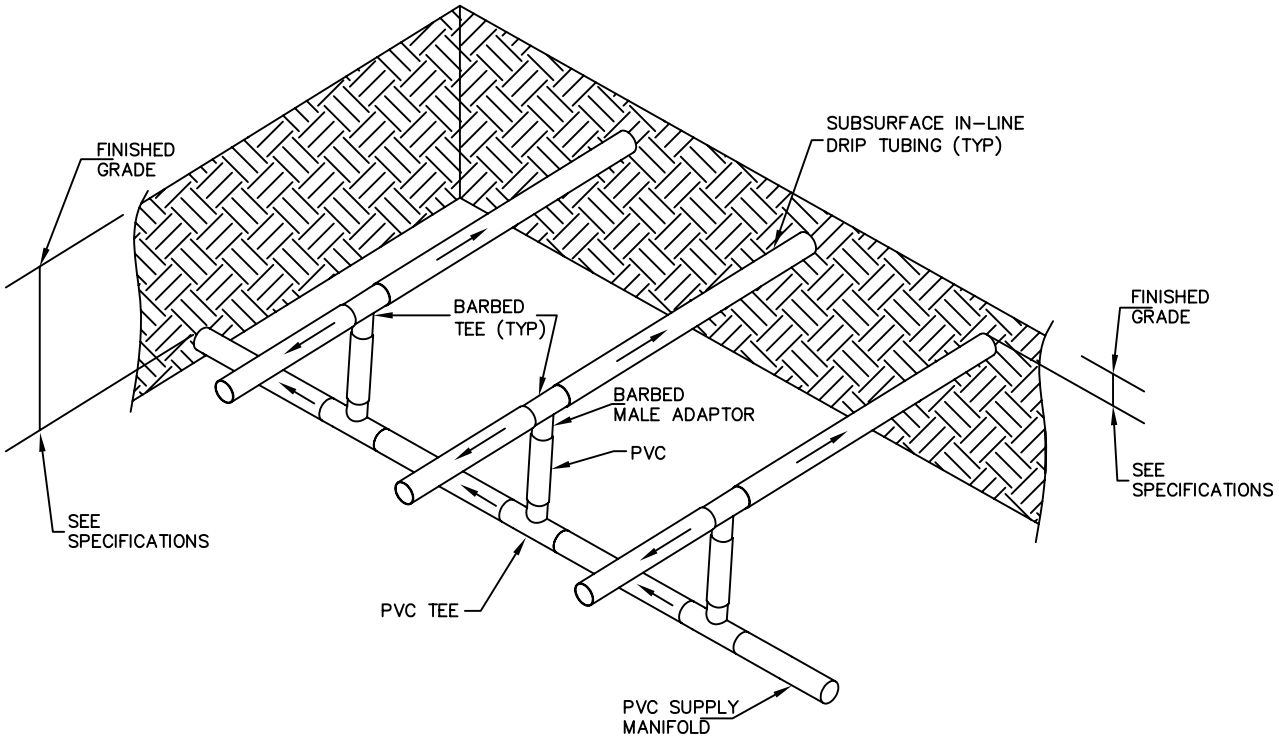
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

SUBSURFACE IN-LINE DRIP IRRIGATION LAYOUT

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-17
REV:



APPROVED	DEPT.	DATE

Back to Table of Contents

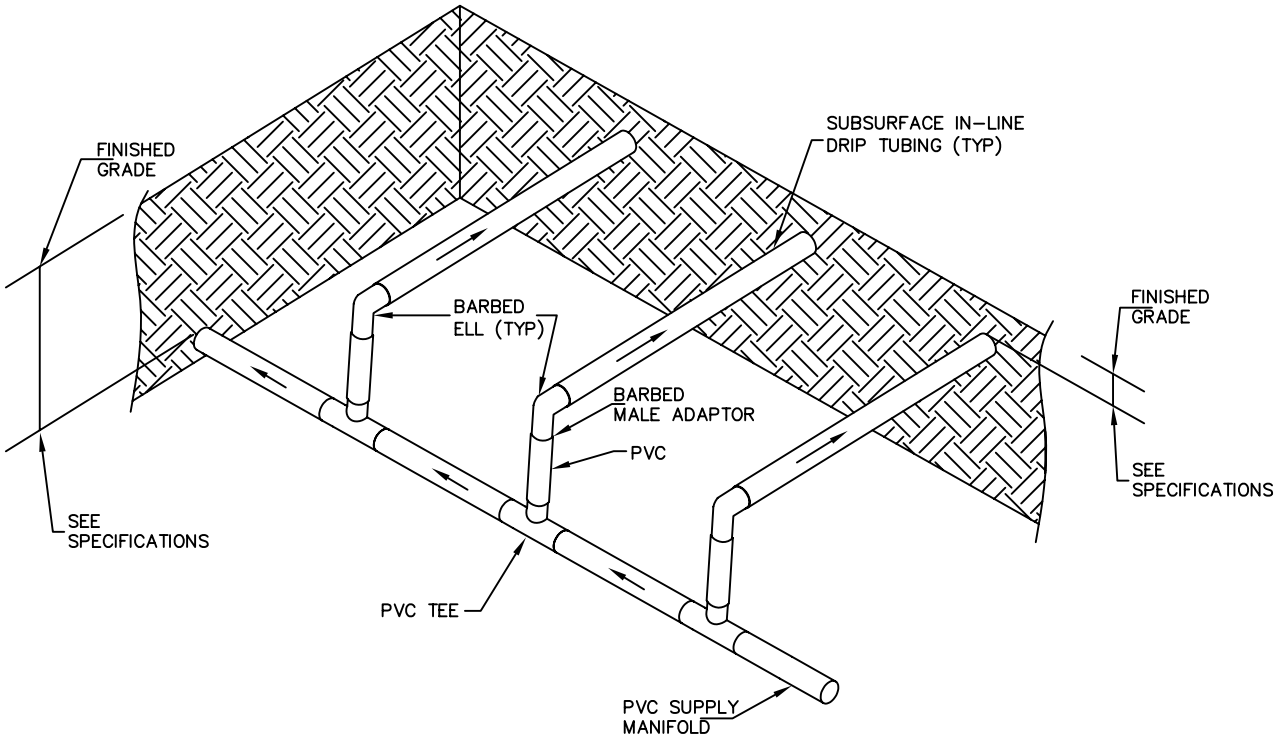
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

SUBSURFACE IN-LINE DRIP IRRIGATION CENTER-FEED SUPPLY MANIFOLD

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-18
REV:



APPROVED	DEPT.	DATE

Back to Table of Contents

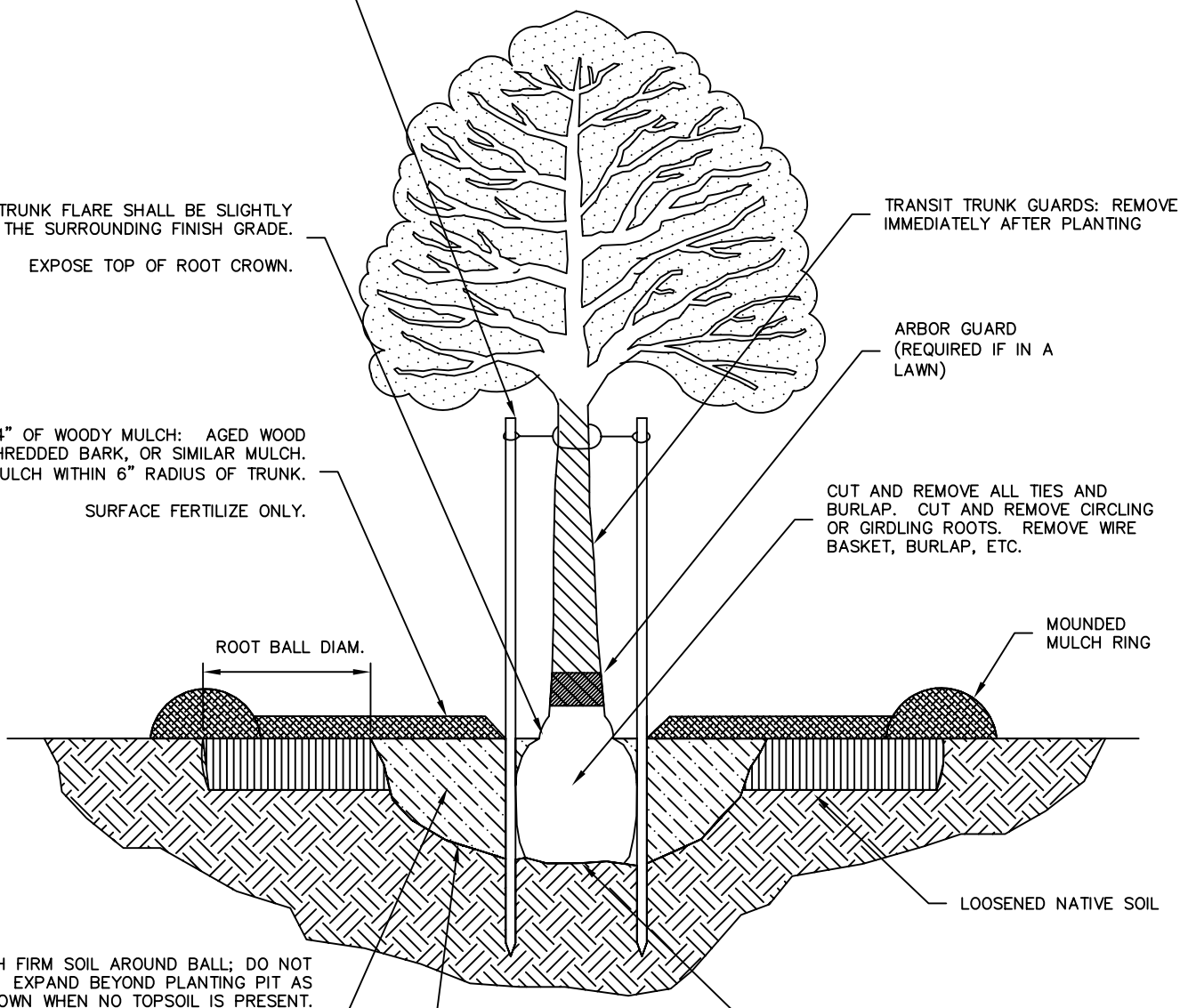
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

SUBSURFACE IN-LINE DRIP IRRIGATION END-FEED SUPPLY MANIFOLD

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
I-19
REV:



APPROVED	DEPT.	DATE

NOTES:

1. TREE LOCATION TO BE VERIFIED NOT TO CONFLICT WITH UNDERGROUND UTILITIES A MIN. OF 3 FT CLEAR ZONE EACH SIDE.

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

Back to Table of Contents

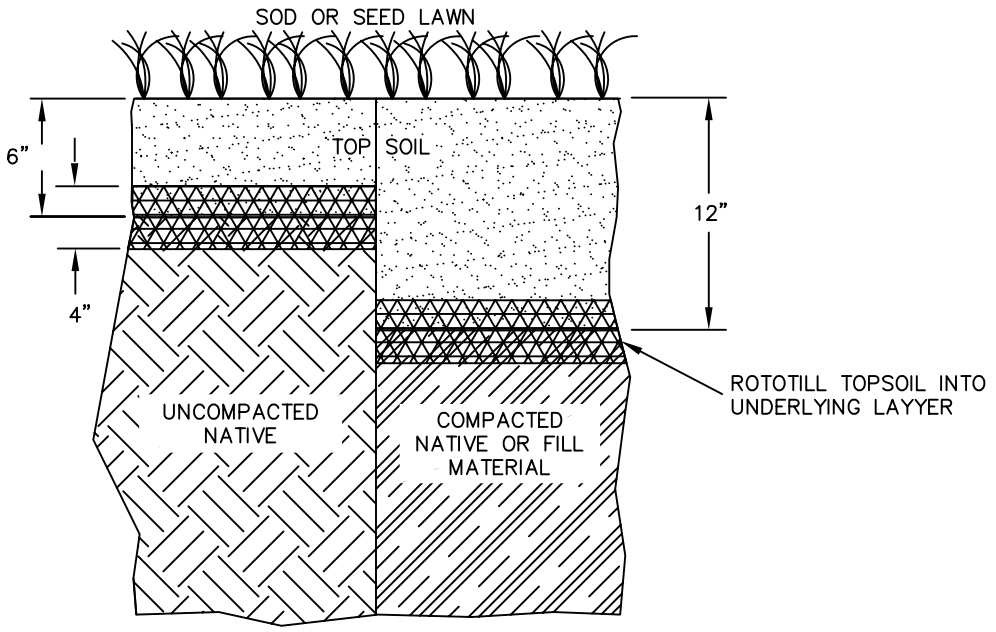
TREE PLANTING DETAIL

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

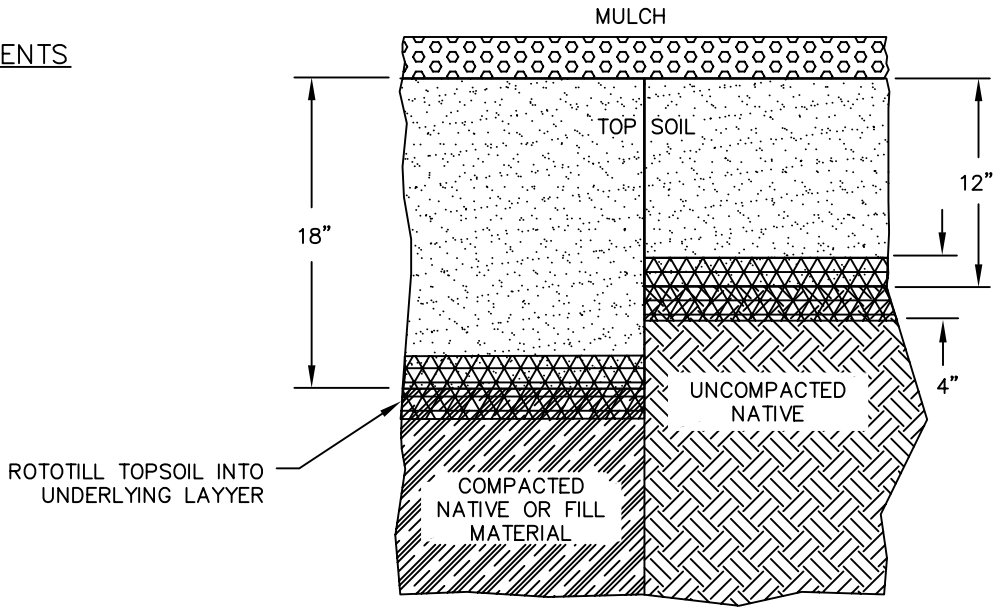
STANDARD DETAIL NO.

L-01

REV:



TOP SOIL REQUIREMENTS
FOR LAWNS



TOP SOIL REQUIREMENTS FOR TREE
AND SHRUB BEDS

NOTES:

1) ALL PLANT MATERIALS TO MEET THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z80.1–1900 OR MOST CURRENT VERSION.
2) PLANT, MAINTAIN AND WARRANTY AS PER SPECIAL PROVISIONS.
3) DO NOT SUBSTITUE SPECIES WITHOUT ENGINEER APPROVAL.

APPROVED	DEPT.	DATE

Back to Table of Contents

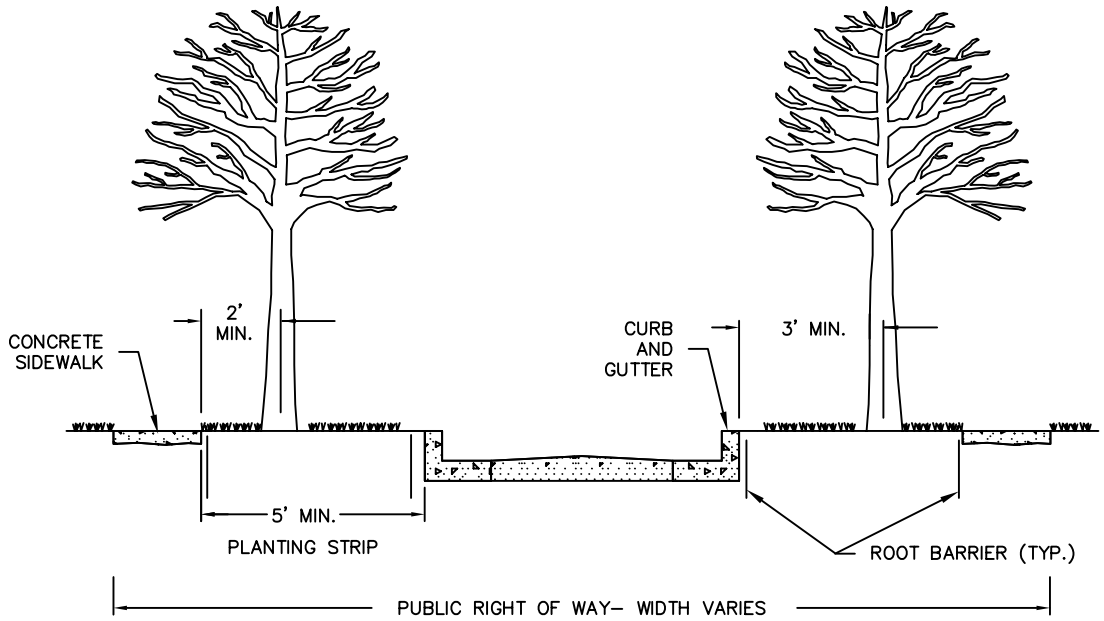
NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

TOP SOIL REQUIREMENTS FOR COMPACTED AND NON-COMPACTED SOILS

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
L-02
REV:



NOTES:

1. TREE SPACING IS DEPENDANT ON THE SIZE AND TYPE OF STREET TREE USED. SEE CONTRACT FOR SPACING.
2. TREES SHALL NOT BE PLACED IN SIGHT DISTANCE TRIANGLES PER MOST CURRENT VERSION OF AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) OR CITY STANDARDS.
3. COORDINATE WITH TRAFFIC SIGNAL ENGINEER SO THAT TREES DO NOT OBSTRUCT OPERATIONS OF TRAFFIC SIGNAL SYSTEMS.
4. PLANTING STRIP IRRIGATION SYSTEMS SHALL MEET IRRIGATION STANDARD AND INCORPORATE LATEST WATER CONSERVATION TECHNIQUES.
5. STREET TREES SHALL HAVE A MINIMUM OVERHEAD CLEARANCE OF SEVEN (7) FEET OVER PEDESTRIAN PATHWAYS AND FOURTEEN (14) FEET OVER STREETS. STREET TREES SHALL BE CENTERED A MINIMUM OF THIRTY (30) FEET FROM INTERSECTIONS, TWENTY (20) FEET FROM STREET LIGHTS, THREE (3) FEET FROM CURBS AND TWO (2) FEET FROM SIDEWALKS OR AS OTHERWISE APPROVED BY THE CITY.
6. STREET TREES SHALL BE PLANTED IN A PLANTING STRIP WITH A MINIMUM OF FIVE (5) FEET BETWEEN THE SIDEWALK AND THE BACK OF THE CURB
7. TREE PIT AREA SHALL BE A MINIMUM OF 24 SQUARE FEET.
8. ROOT BARRIER SHALL EXTEND A MINIMUM OF 5 FEET BEYOND TREE (REFER TO MANUFACTURERS DETAIL).

APPROVED	DEPT.	DATE

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

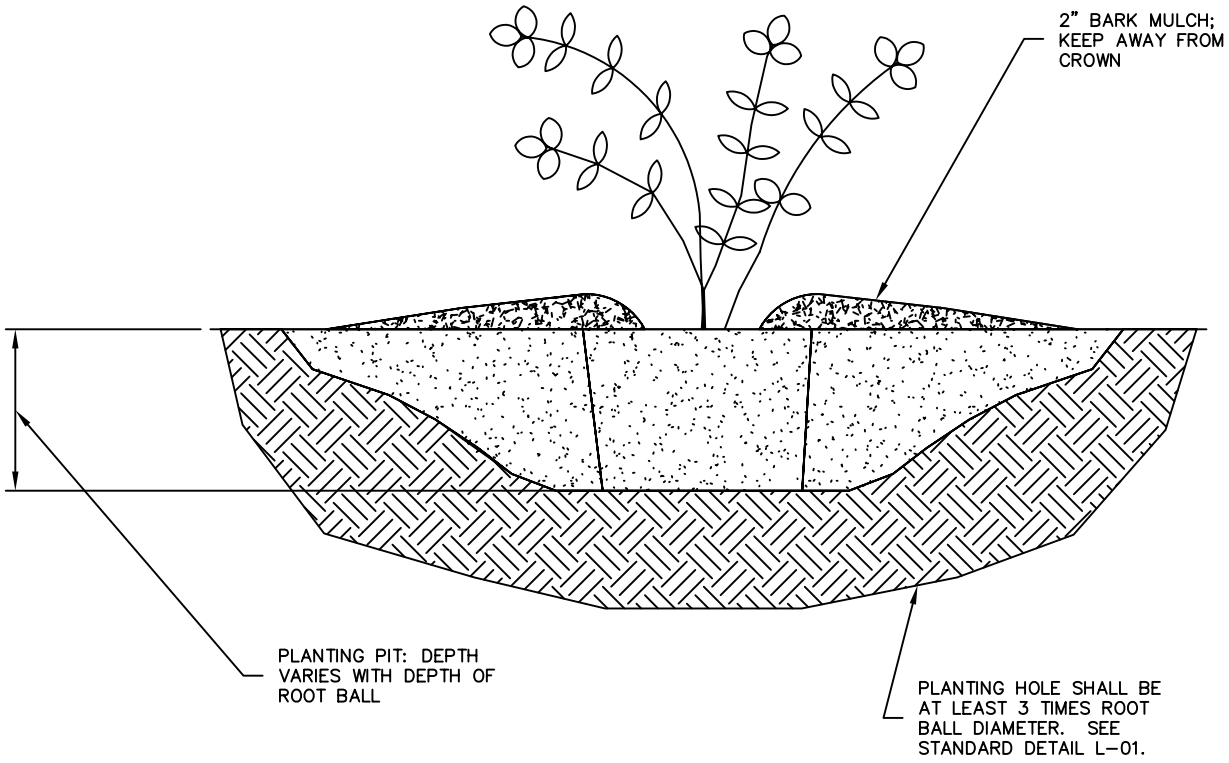
TYPICAL STREET TREE LOCATION REQUIREMENTS

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
L-03
REV:

NOTES:

1. CUT & REMOVE ALL TWINE & PLASTIC. SCARIFY SIDES OF PLANTING HOLE & ROOT BALL.



APPROVED	DEPT.	DATE

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

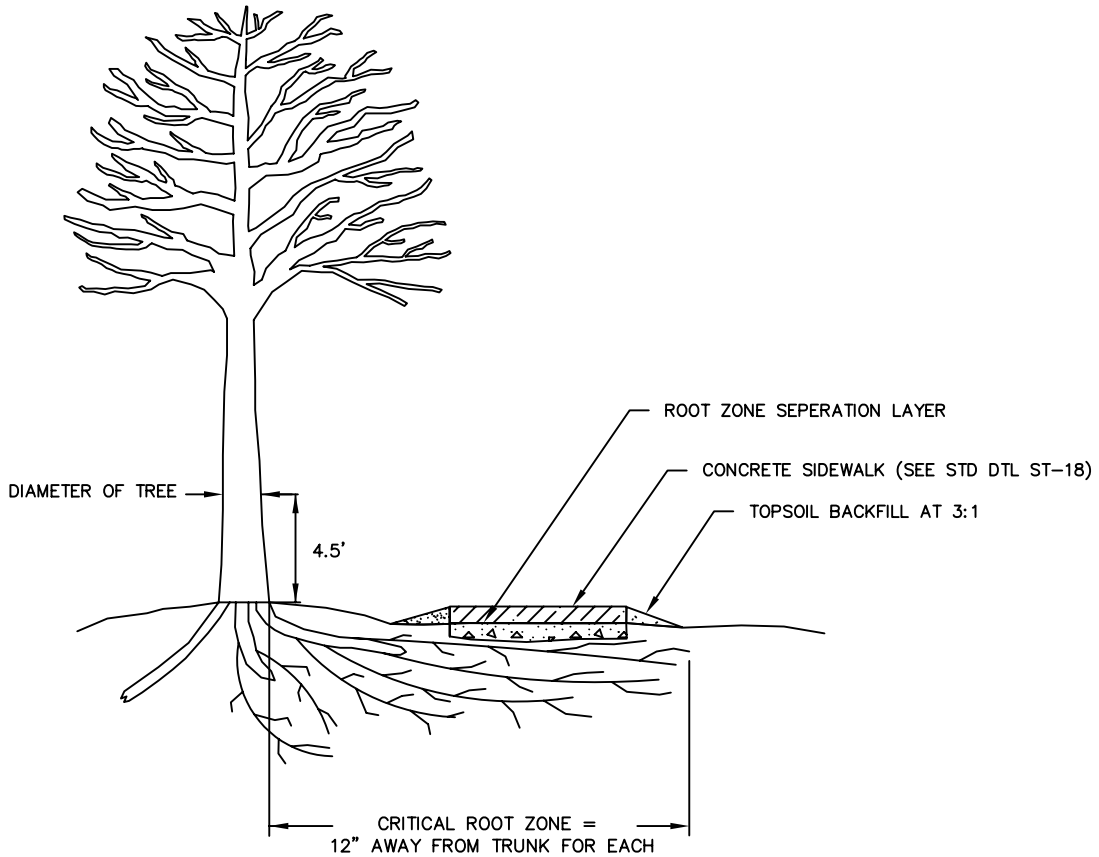
TYPICAL SHRUB GROUND COVER PLANTING

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.

L-04

REV:



NOTE:
1) SEE SIDEWALK DETAIL ST-18 FOR SIDEWALK CONSTRUCTION INFORMATION.
2) FOR MULTI-USE TRAILS WITH VEHICLE ACCESS, SPECIAL DESIGN IS REQUIRED.
3) ROOT ZONE SEPARATION LAYER REQUIRED UNDER SIDEWALKS LOCATED WITHIN CRITICAL ROOT ZONE. REMOVE TOPSOIL/LAWN AND PROVIDE SEPARATION LAYER MATERIAL AS SHOWN IN THE PLANS.

APPROVED	DEPT.	DATE

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH
PUBLIC WORKS DEPARTMENT
APRIL 2010

TRAILS AND MEANDERING SIDEWALKS OVER CRITICAL ROOT ZONES

NOTE: THE ORIGINAL IS APPROVED FOR PUBLICATION BY PARKS DEPARTMENT AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.

STANDARD DETAIL NO.
L-05
REV:

ORDINANCE NO. 2600

AN ORDINANCE OF THE CITY OF ISSAQUAH, WASHINGTON, AMENDING IMC 12.04.010 ADOPTION OF STANDARDS BY REFERENCE; IMC 12.04.020 SCOPE; AMENDING IMC 18.10.260 SEPA - POLICIES AND ESTABLISHING AN EFFECTIVE DATE

WHEREAS, the following amendments to the City of Issaquah's street standards Regulations are related to revised procedures and standards; and

WHEREAS, the City of Issaquah wishes to update the standards to stay current with new practices and state and national standards; and

WHEREAS, the last time the street standards were amended was in 1991; and

WHEREAS, the City of Issaquah wishes to amend the street standards to allow for the design and construction sections to be amended administratively in the future, NOW, THEREFORE,

THE CITY COUNCIL OF THE CITY OF ISSAQUAH, WASHINGTON, DO ORDAIN AS FOLLOWS:

Section 1. Section 12.04.010 of the Issaquah Municipal Code is hereby amended as follows:

> **"Section 12.04.010 Adoption of standards by reference.**
> The Standards/Requirements Section as contained in that certain document entitled "Issaquah Street Standards" and dated November 15, 2010, is adopted by this reference. One (1) copy of this document has been and shall remain on file with the City Clerk and made available to the public for examination and/or copying. Additional copies of these standards may be obtained from the Public Works Department at a reasonable charge as established by the Director of Public Works."

Section 2. Section 12.04.020 of the Issaquah Municipal Code is hereby amended as follows:

"Section 12.04.020 Scope.
The Standards/Requirements Section of the "Issaquah Street Standards" adopted by reference in IMC 12.04.010 shall be followed in construction of all streets, roads, easements and rights-of-way in the City of Issaquah as set forth therein."

Section 3. Section 18.10.260, B., of the Issaquah Municipal Code is hereby amended as follows:

"18.10.260 SEPA – Policies.
B. The City adopts by reference the policies in the following City codes, ordinances, resolutions, and plans as now exist and as may hereafter be amended:
Chapter 8.06 IMC, Uniform Litter Control Code.
Chapter 8.16 IMC, Mine Shafts, Tunnels and Vaults.
Chapter 9.22 IMC, Noise.
IMC Title 12, Streets, Sidewalks and Public Places.
IMC Title 13, Public Services.
IMC Title 16, Buildings and Construction.
Resolution 80-14, Construction Work Hours, 9-2-80.
Issaquah Traffic Circulation and Planning Study, 9-2-82.
Resolution 88-8, Transportation Functional Classification Plan, 8-18-88.
The Standards/Requirements Section of the "Issaquah Street Standards", 11-15-2010.
Issaquah Parks and Recreation Plan, 5-2-83.
Resolution 84-07, Issaquah 2000, 7-16-84.
Ordinance 1624, Issaquah Comprehensive Sanitary Sewer Plan, 7-16-84.
Issaquah Fire Department Master Plan, 6-17-85.
Human Services Policy Statement, 9-15-86.
Resolution 87-01, Recreation Service Area, 2-2-87.
Resolution 87-9, Annexation Boundary – Bellevue/Issaquah, 7-7-87.
Comprehensive Water System Plan.
Comprehensive Sewer Plan.
King County Surface Water Design Manual.
Issaquah Creek Basin and Nonpoint Action Plan, 1996.
Resolution 88-9, Downtown Building Design Guidelines, 9-19-88.
Policy on Mix of Single-Multifamily Housing, 12-19-88.
Ordinance 1815, Mobile Home Relocation, 3-2-89.
Chapter 90.58 RCW, Shoreline Management Act of 1971.

Resolution 90-13, Shoreline Master Program, 6-4-90.
Resolution 92-12, Policy Statements from 1991 Puget Sound Water Quality Management Plan, 6-1-92.
Resolution 92-25, Issaquah Wildlife and Recreation Trails Plan, 11-18-92.
Ordinance 1983, Land Use Development Design Standards, 6-9-93.
Ordinance 2061, Comprehensive Plan and Parks Plan, 4-18-95, as amended.
Ordinance 2108, Land Use Code, 4-15-96, as amended.
Rate Study for Mitigation Fees for General Government Buildings, 6-5-08.
Rate Study for Mitigation Fees for Law Enforcement Facilities, 6-5-08.
Rate Study for Impact Fees for Fire Protection Facilities in Eastside Fire & Rescue, Washington, 4-11-06.
Rate Study for Impact Fees for Parks and Recreational Facilities, 6-5-08."

Section 4. Severability. If any section, sentence, clause or phrase of this ordinance should be held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or constitutionality of any other section, sentence, clause or phrase of this ordinance.

Section 5. Effective Date. This ordinance or a summary thereof consisting of the title shall be published in the official newspaper of the City, and shall take effect and be in full force five (5) days after publication.

Passed by the City Council of the City of Issaquah the 6th day of December, 2010.

Approved by the Mayor of the City of Issaquah the 8th day of December, 2010.

APPROVED:

Ava Frisinger

AVA FRISINGER, MAYOR

Back to Table of Contents

ATTEST/AUTHENTICATED:

CHRISTINE L. EGGERS, CITY CLERK

APPROVED AS TO FORM:
OFFICE OF THE CITY ATTORNEY

BY:

PUBLISHED: December 15, 2010
EFFECTIVE DATE: December 20, 2010
ORDINANCE NO.: 2600/AB 6187

Back to Table of Contents