

(Posted on City Website tualatinoregon.gov)

NOTICE OF PROPOSED RULE

PUBLIC WORKS CONSTRUCTION CODE

(Authorized by TMC 2-3)

The City of Tualatin is releasing draft changes to the Public Works Construction Code for public comment. Copies of the proposed changes are available. Revised content available below.

Subject Matter and Purpose: The City of Tualatin is currently in the process of updating the Construction Plans, Street Design, and Temporary Traffic Control sections of the Public Works Construction Code. The revised code sections are as follows:

- 202 Construction Plans
 - *202.1.00 (1) Design Plan Format* revised.
- 203 Street Design
 - *203.2.8 Street Lights* revised.
- 302 Temporary Traffic Control
 - *302.6.00 Use of Construction Area Signs, Lights, Barricades, Delineators and Other Devices* revised.

The above outline identifies specific section updates, but is not inclusive of all the revisions in that section or subsection.

Submit Written Comments: You can submit testimony or comments on the draft changes by email or letter. Written comments or testimony must be received by 5:00 pm on December 6, 2024 and must include a first and last name to be considered.

Email comments to: Engineering@tualatin.gov

Mail comments to:

City of Tualatin
Engineering Division c/o City Engineer
10699 SW Herman Rd
Tualatin, OR 97062

When Rule Adopted: The proposed rule is scheduled to be adopted on December 13, 2024.

Interested Persons List. If you would like to be added to the interested persons list to receive notices regarding changes to the Public Works Construction Code, please contact Engineering@tualatin.gov.

Accommodations and Translation. If you need assistance or to request a reasonable accommodation or translation services, please contact Bryce Donovan, 503-691-3034, Bdonovan@tualatin.gov.

Updated Code Sections: Clean Versions

- 202 Construction Plans
 - *202.1.00 (1) Design Plan Format*
- 203 Street Design
 - *203.2.8 Street Lights*
- 302 Temporary Traffic Control
 - *302.6.00 Use of Construction Area Signs, Lights, Barricades, Delineators and Other Devices*

202 CONSTRUCTION PLANS

202.1.00 Design Plan Format

- 1) Submit plans on 22" x 34" sheets.

203.2.28 Street Lights

All new street lights are owned, operated, and maintained by PGE and must be designed and installed in accordance with PGE Option A LED standards (Tables 203-3A, 3B, and 3C) and the latest [PGE Approved Street Lighting Equipment](#) list. Option B LED lights (Table 203-3D) may be installed at the City Engineering Division staff's request on a project specific basis.

Contact City Engineering Division staff to verify the approach to verify target light levels and street lighting equipment for each project. Perform photometric analysis in accordance with the requirements identified in Tables 203-3A and 203-3B, based on the street classifications identified in the City's *Transportation System Plan*. Specify luminaire style, pole type, mast arm type and length, and mounting heights as described in Table 203-3C. Submit street lighting plans to PGE and to the City Engineering Division for review and approval.

For locations where existing roadway lighting is limited or does not exist, coordinate with City Engineering Division staff to determine if lighting may be beneficial. Lighting may be appropriate when it is determined to contribute to safety, efficiency, and comfort of vehicular and pedestrian traffic. The following roadway characteristics must be evaluated when considering adding lighting on existing roadways or adjacent to existing neighborhoods:

- Traffic volumes
- Crosswalks
- Presence of cyclists
- Nighttime crashes that may be attributed to lack of illumination
- Night to day crash rates
- Extent of raised medians
- Geometric factors (such as, number of lanes, lane widths, driveway entrances, horizontal and vertical curvature, sight distance, parking)
- Operational factors (speed, pedestrian activity, number and type of intersection along roadway, left turn lanes, medians)

Coordinate with City Engineering Division staff to determine if public outreach is required for the new lighting design or modifications to existing light levels. Use shielding when new lights are installed adjacent to residences or overnight lodging if lights would be anticipated to shine into windows and/or neighbors request it during public outreach. Reflect any shielding used in the photometric analysis submitted to the City Engineering Division. Additionally, lighting design should avoid adverse impacts to wetlands and sensitive natural areas.

Lighting Design Criteria

Table 203-3A and Table 203-3B reflect light level standards for most City roadways, which have low/moderate nighttime pedestrian activity. Consult the latest

IESNA-RP-8 guidelines and the City Engineering Division for lighting design criteria on roadways and intersections with higher pedestrian activity.

Analyze horizontal and vertical illuminance at all marked crosswalks and midblock crossings and design to meet light levels 50% higher than the horizontal light level criteria for the subject roadway.

**Table 203-3A: Lighting Design Criteria for Streets
Average Maintained Illuminance on the Horizontal**

Street Classification	Minimum Average Illuminance		Maximum Average Uniformity Ratio (Avg/Min)
	Asphalt Pavement	Concrete Pavement	
Arterial	0.8 fc	0.6 fc	3.5
Collector	0.6 fc	0.4 fc	4.0
Local/Connector	0.4 fc	0.3 fc	6.0

**Table 203-3B: Lighting Design Criteria for Intersections¹
Average Maintained Illuminance on the Horizontal**

Intersecting Street Classifications	Minimum Average Illuminance		Maximum Average Uniformity Ratio (Avg/Min)
	Asphalt Pavement	Concrete Pavement	
Arterial/Arterial	1.7 fc	1.1 fc	3.0
Arterial/Collector	1.4 fc	0.9 fc	3.0
Arterial/Local ²	1.3 fc	0.8 fc	3.0
Collector/Collector	1.1 fc	0.7 fc	4.0
Collector/Local ²	1.0 fc	0.7 fc	4.0
Local ² /Local ²	0.8 fc	0.6 fc	6.0

¹ Include the area of the intersecting roadways and crosswalks in the intersection calculation area.

² Local classification includes Connector streets.

Table 203-3C: Street Lighting Equipment

Land Use	Street Classification ¹	Luminaire Style ²	Pole ³	Mast Arm	Mounting Height	Minimum Offset Behind Curb
Residential	Arterial	Roadway	30 ft Composite, 2-Piece, Bronze	6'	25'	2'
	Collector					
	Local/Connector	Post Top ⁴ (Town & Country)	20 ft Composite, 2-Piece, Bronze	NA	16'	
Industrial/ Commercial	Arterial	Roadway	Non-davit aluminum/Direct bury fiberglass	6'	30'	3'
	Collector					
	Local/Connector					
	Downtown Core Streets Hazel Fern Rd Boones Ferry Rd Warm Springs St Lower Boones Ferry Rd 72 nd Ave Bridgeport Rd Childs Rd	Pendant ⁴ (Westbrooke)	18 ft Smooth Decorative Aluminum + 4 ft Pole Extension w/ Arm Bracket	4.3'	22'	2'

¹ Coordinate with City Engineering Division staff to confirm appropriate land use category and to confirm existing street light equipment in surrounding area for replacements and new lights.

² Use the 3000K (color temperature) option available on the PGE Approved Street Lighting Equipment List for all fixtures.

³ See latest version of the [PGE Approved Street Lighting Equipment List](#).

⁴ Coordinate with City Engineering Division staff to determine appropriate decorative style pole in the specific area of lighting design based on surrounding area.

Table 203-3D: Street Light Standards (Option B in circumstances where approved by the City Engineering Division)

Street Classification ¹	Spacing	Watts	Avg. Ft. Candles	Mast Arm	Mounting Height	Luminaire	Pole
Residential:							
Local/Connector	135'	100W HPS 120/240V	0.4	N/A	16'	As directed	Bronze
Collector	2' behind curb		0.59	Only if behind sidewalk 6' aluminum	25'		
Arterial	120' 2' behind curb						
Industrial/Commercial:							
Local/ Collectors/ Connectors	155' 3' behind curb	200W HPS Type III 240V	1.21	6' aluminum	30'	As directed	Non-davit aluminum
	170' 3' behind curb	250W HPS 240V					
	290' 3' behind curb	400W HPS 240V					
Arterials	110' 3' behind curb	200W HPS 240V	1.72		25'		Direct bury fiberglass
	100' 3' behind curb	250W HPS 240V	1.74				
	205' 3' behind curb	400W HPS 240V					
Hazel Fern Rd Boones Ferry Rd Warm Springs St Lower Boones Ferry Rd 72nd Ave Bridgeport Rd Childs Rd	55' on both sides of street 2' behind curb	165W QL	1.22	N/A	16'6"	HADCO ²	

¹ See latest version of the [PGE Approved Street Lighting Equipment List](#).

² Coordinate with City Engineering Division staff to determine appropriate decorative style pole in the specific area of lighting design based on surrounding area.

302.6.00 Use Of Construction Area Temporary Traffic Control Devices

See MUTCD Section 6A.03 for definition of temporary traffic control (TTC Devices).

Applicability of this section includes:

- For activities whether City permitted or otherwise
- MUTCD Section 6G.03 Location of Work
- Within public easements and/or rights-of-way under City jurisdiction
- Other locations determined necessary by the City for a fully functional Traffic Control and Temporary Pedestrian Accessible Route (TPAR) plan.

Devices must be in accordance with the current standards and requirements including, but not limited to:

- Manual of Uniform Traffic Control Devices (MUTCD)
 - <https://mutcd.fhwa.dot.gov/>
 - Part 6 – Temporary Traffic Control
 - https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/part6.pdf
 - Section 6A.05 Night Work
 - Section 6G.19 Temporary Traffic Control During Nighttime Hours
 - Part 7 - Traffic Control for School Areas
 - https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/part7.pdf
 - Part 8 - Traffic Control for Railroad and Light Rail Transit Grade Crossings
 - https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/part8.pdf
 - Part 9 - Traffic Control for Bicycle Facilities
 - https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/part9.pdf
- Oregon Department of Transportation (ODOT)
- Oregon Temporary Traffic Control Handbook
 - <https://www.oregon.gov/ODOT/Engineering/Pages/OTTCH.aspx>
- Public Rights-Of-Way Accessibility Guidelines (PROWAG)
 - <https://www.access-board.gov/prowag/>
 - **MUTCD Section 6C.03 Accessibility Considerations**
 - https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/part6.pdf

Obtain City approval of a Traffic Control and Temporary Pedestrian Accessible Route (TPAR) plan.

- MUTCD Section 6B.01 Temporary Traffic Control (TTC) Plans

Note: MUTCD Section 6A.03: All TTC devices shall be removed as soon as practical when they are no longer needed.

- MUTCD Section 6G.02 Work Duration

Obtain associated applicable permits from the City (and/or appropriate agency or jurisdiction) before installing or placing any devices.

- Note: Devices must be located and/or installed without damaging construction and infrastructure (whether private or public)
- Note: Permittee and/or contractor is responsible for restoring any damaged infrastructure to as good or better condition.

Updated Code Sections: Redline Versions

- 202 Construction Plans
 - *202.1.00 (1) Design Plan Format*
- 203 Street Design
 - *203.2.8 Street Lights*
- 302 Temporary Traffic Control
 - *302.6.00 Use of Construction Area Signs, Lights, Barricades, Delineators and Other Devices*

202 CONSTRUCTION PLANS

202.1.00 Design Plan Format

- 1) ~~The plans shall be submitted~~Submit plans on 22" x 34" sheets ~~24" x 36"~~.

203.2.28 Street Lights

~~Street lights shall be designed and installed in accordance with PGE (Option B) standards, and Table 203-3.~~

~~Street lighting plans shall be submitted to PGE for review and approval, with copies of the submittals provided to the City. All new street lights are owned, operated, and maintained by PGE and must be designed and installed in accordance with PGE Option A LED standards (Tables 203-3A, 3B, and 3C) and the latest PGE Approved Street Lighting Equipment list. Option B LED lights (Table 203-3D) may be installed at the City Engineering Division staff's request on a project specific basis.~~

~~Contact the City Engineering Division staff to verify the approach ~~for~~ to verify target light levels and street lighting equipment for each project. Perform photometric analysis in accordance with the requirements identified in Tables 203-3A and 203-3B, based on the street classifications identified in the City's *Transportation System Plan*. Specify luminaire style, pole type, mast arm type and length, and mounting heights as described in Table 203-3C. Submit street lighting plans to PGE and to the City Engineering Division for review and approval.~~

~~For locations where existing roadway lighting is limited or does not exist, coordinate with the City Engineering Division staff to determine if lighting may be beneficial. Lighting may be appropriate when it is determined to contribute to safety, efficiency, and comfort of vehicular and pedestrian traffic. The following roadway characteristics must be evaluated when considering adding lighting on existing roadways or adjacent to existing neighborhoods:~~

- ~~• Traffic volumes~~
- ~~• Crosswalks~~
- ~~• Presence of cyclists~~
- ~~• Nighttime crashes that may be attributed to lack of illumination~~
- ~~• Night to day crash rates~~
- ~~• Extent of raised medians~~
- ~~• Geometric factors (such as, number of lanes, lane widths, driveway entrances, horizontal and vertical curvature, sight distance, parking)~~
- ~~• Operational factors (speed, pedestrian activity, number and type of intersection along roadway, left turn lanes, medians)~~

~~Coordinate with the City Engineering Division staff to determine if public outreach is required for the new lighting design or modifications to existing light levels. Use shielding when new lights are installed adjacent to residences or overnight lodging if lights would be anticipated to shine into windows and/or neighbors request it during public outreach. Reflect any shielding used in the photometric analysis submitted to the City Engineering Division. Additionally, lighting design should avoid adverse impacts to~~

wetlands and sensitive natural areas.

Lighting Design Criteria

Table 203-3A and Table 203-3B reflect light level standards for most City roadways, which have low/moderate nighttime pedestrian activity. Consult the latest IESNA-RP-8 guidelines and the City Engineering Division for lighting design criteria on roadways and intersections with higher pedestrian activity.

Analyze horizontal and vertical illuminance at all marked crosswalks and midblock crossings and designed to meet light levels at 50% higher than the horizontal light level criteria for the subject roadway.

Table 203-3A: Lighting Design Criteria for Streets
Average Maintained Illuminance on the Horizontal

<u>Street Classification</u>	<u>Minimum Average Illuminance</u>		<u>Maximum Average Uniformity Ratio (Avg/Min)</u>
	<u>Asphalt Pavement</u>	<u>Concrete Pavement</u>	
<u>Arterial</u>	<u>0.8 fc</u>	<u>0.6 fc</u>	<u>3.5</u>
<u>Collector</u>	<u>0.6 fc</u>	<u>0.4 fc</u>	<u>4.0</u>
<u>Local/Connector</u>	<u>0.4 fc</u>	<u>0.3 fc</u>	<u>6.0</u>

Table 203-3B: Lighting Design Criteria for Intersections¹
Average Maintained Illuminance on the Horizontal

<u>Intersecting Street Classifications</u>	<u>Minimum Average Illuminance</u>		<u>Maximum Average Uniformity Ratio (Avg/Min)</u>
	<u>Asphalt Pavement</u>	<u>Concrete Pavement</u>	
<u>Arterial/Arterial</u>	<u>1.7 fc</u>	<u>1.1 fc</u>	<u>3.0</u>
<u>Arterial/Collector</u>	<u>1.4 fc</u>	<u>0.9 fc</u>	<u>3.0</u>
<u>Arterial/Local²</u>	<u>1.3 fc</u>	<u>0.8 fc</u>	<u>3.0</u>
<u>Collector/Collector</u>	<u>1.1 fc</u>	<u>0.7 fc</u>	<u>4.0</u>
<u>Collector/Local²</u>	<u>1.0 fc</u>	<u>0.7 fc</u>	<u>4.0</u>
<u>Local²/Local²</u>	<u>0.8 fc</u>	<u>0.6 fc</u>	<u>6.0</u>

¹ Include the area of the intersecting roadways and crosswalks in the intersection calculation area.

² Local classification includes Connector streets.

Table 203-3C: Street Lighting Equipment

<u>Land Use</u>	<u>Street Classification¹</u>	<u>Luminaire Style²</u>	<u>Pole³</u>	<u>Mast Arm</u>	<u>Mounting Height</u>	<u>Minimum Offset Behind Curb</u>
<u>Residential</u>	<u>Arterial</u>	<u>Roadway</u>	<u>30 ft Composite, 2-Piece, Bronze</u>	<u>6'</u>	<u>25'</u>	<u>2'</u>
	<u>Collector</u>					
	<u>Local/Connector</u>	<u>Post Top⁴ (Town & Country)</u>	<u>20 ft Composite, 2-Piece, Bronze</u>	<u>NA</u>	<u>16'</u>	
<u>Industrial/ Commercial</u>	<u>Arterial</u>	<u>Roadway</u>	<u>Non-davit aluminum/Direct bury fiberglass</u>	<u>6'</u>	<u>30'</u>	<u>3'</u>
	<u>Collector</u>					
	<u>Local/Connector</u>					
	<u>Downtown Core Streets</u> <u>Hazel Fern Rd</u> <u>Boones Ferry Rd</u> <u>Warm Springs St</u> <u>Lower Boones Ferry Rd</u> <u>72nd Ave</u> <u>Bridgeport Rd</u> <u>Childs Rd</u>	<u>Pendant⁴ (Westbrooke)</u>	<u>18 ft Smooth Decorative Aluminum + 4 ft Pole Extension w/ Arm Bracket</u>	<u>4.3'</u>	<u>22'</u>	<u>2'</u>

¹ Coordinate with the City Engineering Division staff to confirm appropriate land use category and to confirm existing street light equipment in surrounding area for replacements and new lights.

² Use the 3000K (color temperature) option available on the PGE Approved Street Lighting Equipment List for all fixtures.

³ See latest version of the PGE Approved Street Lighting Equipment List.

⁴ Coordinate with City Engineering Division staff to determine appropriate decorative style pole in the specific area of lighting design based on surrounding area.

TABLE 203-3

STREET LIGHT STANDARDS

	LUMINAIRE	POLE	MAST ARM	MOUNTING HEIGHT	WATTS	SPACING	AVE FT. CNDLS
RESIDENTIAL:							
-Standard Street	Early Amer. (black) (3-56-523)	Bronze (3-40-110)	N/A	16'	100W HPS 120/240V	135' 2' behind curb	0.4
-Collector Street	Shoebox cutoff (3-56-537)	Bronze (3-40-125)	only if behind s/w 6' alum (SK 3-55-076)	25'	100W HPS 120/240V	135' 2' behind curb	0.59
-Arterial Street	"	"	"	25'	100W HPS 120/240V	120' 2' behind curb	0.59
INDUSTRIAL / COMMERCIAL:							
-Standard and -Collector Streets	Semi-cutoff (3-56-564)	Non-davit alum. (3-40-060)	6' aluminum (SK 3-55-076)	30' 25'	200W HPS Type III 240V	155' 3' behind curb	1.24
	Semi-cutoff (3-56-574)		"	30' 25'	250W HPS 240V	170' 3' behind curb	1.24
	Semi-cutoff (3-56-584)	Dir. bury fiberglass (3-40-120)	"	30' 25'	400W HPS 240V	290' 3' behind curb	1.24
-Arterial Street	Semi-cutoff (3-56-564)	Non-davit alum. (3-40-060)	"	30' 25'	200W HPS 240V	110' 3' behind curb	1.72
	Semi-cutoff (3-56-574)		"	30' 25'	250W HPS 240V	100' 3' behind curb	1.74
	Semi-cutoff (3-56-584)	Dir. bury fiberglass (3-40-120)	"	30' 25'	400W HPS 240V	205' 3' behind curb	1.74
Hazelfern Street Boones Ferry Rd- Warm Springs/Lower Boones Ferry Rd Lower Boones Fy Rd 72 nd Avenue	HADCO #S5980D		N/A	16'6"	165W QL	55' on both sides of street 2' behind curb	1.22

	LUMINAIRE	POLE	MAST ARM	MOUNTING HEIGHT	WATTS	SPACING	AVE FT. CNDLS
-Bridgeport Rd -Childs Rd							

Table 203-3D: Street Light Standards (Option B in circumstances where approved by the City Engineering Division)

<u>Street Classification¹</u>	<u>Luminaire</u>	<u>Pole</u>	<u>Mast Arm</u>	<u>Mounting Height</u>	<u>Watts</u>	<u>Spacing</u>	<u>Avg. Ft. Candles</u>	
Residential:								
<u>Local/Connector</u>	<u>As directed</u>	<u>Bronze</u>	<u>N/A</u>	<u>16'</u>	<u>100W HPS 120/240V</u>	<u>135'</u>	<u>0.4</u>	
<u>Collector</u>			<u>Only if behind sidewalk</u>	<u>25'</u>		<u>2' behind curb</u>	<u>0.59</u>	
<u>Arterial</u>			<u>6' aluminum</u>			<u>2' behind curb</u>		
Industrial/Commercial:								
<u>Local/ Collectors/ Connectors</u>	<u>As directed</u>	<u>Non-davit aluminum, Direct bury fiberglass</u>	<u>6' aluminum</u>	<u>30' 25'</u>	<u>200W HPS Type III 240V</u>	<u>155'</u>	<u>1.21</u>	
					<u>250W HPS 240V</u>	<u>3' behind curb</u>		
					<u>400W HPS 240V</u>	<u>290'</u>		
<u>Arterials</u>					<u>200W HPS 240V</u>	<u>110'</u>		<u>1.72</u>
					<u>250W HPS 240V</u>	<u>3' behind curb</u>		
					<u>400W HPS 240V</u>	<u>100'</u>		
<u>Hazel Fern Rd Boones Ferry Rd Warm Springs St Lower Boones Ferry Rd 72nd Ave Bridgeport Rd Childs Rd</u>	<u>HADCO²</u>		<u>N/A</u>	<u>16'6"</u>	<u>165W QL</u>	<u>205'</u>	<u>1.74</u>	
						<u>3' behind curb</u>		
						<u>55' on both sides of street</u>		
						<u>2' behind curb</u>	<u>1.22</u>	

¹ See latest version of the PGE Approved Street Lighting Equipment List.

² Coordinate with City Engineering Division staff to determine appropriate decorative style pole in the specific area of lighting design based on surrounding area.

~~☐ All reference numbers in parentheses are from the PGE Overhead Construction Standards, dated Sept. 1994~~

302.6.00 Use Of Construction Area Temporary Traffic Control Devices
302.6.00 Use Of Construction Area Signs, Lights, Barricades, Delineators
And Other Devices

See MUTCD Section 6A.03 for definition of temporary traffic control (TTC Devices).

Applicability of this section includes:

- For activities whether City permitted or otherwise
- MUTCD Section 6G.03 Location of Work
- Within public easements and/or rights-of-way under City jurisdiction
- Other locations determined necessary by the City Engineer for a fully functional Traffic Control and Temporary Pedestrian Accessible Route (TC/TPAR) plan.

Devices must be in accordance with the current standards and requirements including, but not limited to:

- Manual of Uniform Traffic Control Devices (MUTCD)
 - <https://mutcd.fhwa.dot.gov/>
 - Part 6 – Temporary Traffic Control
 - https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/part6.pdf
 - Section 6A.05 Night Work
 - Section 6G.19 Temporary Traffic Control During Nighttime Hours
 - Part 7 - Traffic Control for School Areas
 - https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/part7.pdf
 - Part 8 - Traffic Control for Railroad and Light Rail Transit Grade Crossings
 - https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/part8.pdf
 - Part 9 - Traffic Control for Bicycle Facilities
 - https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/part9.pdf
- Oregon Department of Transportation (ODOT)
- Oregon Temporary Traffic Control Handbook
- Public Rights-Of-Way Accessibility Guidelines (PROWAG)
 - **MUTCD Section 6C.03 Accessibility Considerations**

Obtain City approval of a Traffic Control and Temporary Pedestrian Accessible Route (TC/TPAR) plan.

- MUTCD Section 6B.01 Temporary Traffic Control Plans

Note: MUTCD Section 6A.03: All TTC devices shall be removed as soon as practical when they are no longer needed.

- MUTCD Section 6G.02 Work Duration

Obtain associated applicable permits form the City (and/or appropriate agency or jurisdiction) before installing or placing any devices.

- Note: Devices must be located and/or installed without damaging construction and infrastructure (whether private or public)
- Note: Permittee and/or contractor is responsible for restoring any damaged infrastructure to as good or better condition.
- The highest level of agency, contractor, or agent associated with activities resulting in damage must be the responsible entity obtaining permit(s) as directed by the City. Evidence of damage must be submitted for City evaluation which includes, but is not limited to:
 - Photos
 - TVs
 - Design professional engineer reports:
 - Arborist
 - Geotechnical
 - Landscaper
 - Civil
- The City must confirm the:
 - Nature of the damage
 - Appropriate type of permit(s) to be obtained
 - Extent of work
 - Requirement of repair and/or replacement
 - Maximum days to complete permitted activities
 - The work must result in the same or better than existing conditions.

~~Construction area signs, lights, barricades, delineators and other devices furnished by the Contractor for use on an existing public travel way shall be in accordance with the "2003 Manual of Uniform Traffic Control Devices" (MUTCD). Regulatory and construction signs shall conform to OSHD specifications and drawings. During the hours of darkness, approved lights shall be maintained in sufficient numbers, in proper working order, and locations to adequately alert approaching traffic.~~

~~All construction area signs shall conform to the dimensions, color, legend and reflectorization or lighting requirements of the plans, the 2003 MUTCD and these special provisions. All sign panels shall be the product of a commercial sign manufacturer, but used sign panels, in good repair as determined by the City Engineer, may be furnished.~~

~~Construction area signs shall not be used until needed and when no longer needed they shall be removed from the site of the work. The Contractor may be required to cover certain signs during the progress of the work.~~

~~Covers for construction area signs shall be of sufficient size and density to completely block out the message so that it is not visible either during the day or night and shall be securely fastened to prevent movement by wind action.~~

~~Signs damaged by any cause shall be repaired or, if determined by the City~~

~~Engineer to be irreparable, replaced by the Contractor at the Contractor's expense. To properly provide for changing traffic conditions and damage caused by public traffic or otherwise, the Contractor shall be prepared to furnish on short notice additional construction sign panels, posts and mounting hardware or portable sign mounts. The Contractor shall maintain an inventory of the commonly required items at the job site or shall make arrangements with a supplier who is able, on a daily basis, to furnish such items on short notice.~~

~~Prior to starting work which will affect the normal flow of traffic, the Contractor shall furnish and install, wherever necessary or directed by the City Engineer, approved signs mounted on pedestals, posts, barricades or other supports which will orient the sign vertical and normal to the direction of traffic.~~

~~Barricades shall be furnished and maintained by the Contractor to channelize traffic in the normal path of travel or to direct traffic along a limited channel. Delineators include lane, edge and channelizing striping, raised pavement markers, various forms of posts, and cylindrical or cone shaped objects commonly known as delineators. Delineation for night time use must be reflectorized.~~