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5A. GENERAL

The overall goal of this chapter is to encourage the uniform development of an integrated, fully accessible public transportation system that will facilitate present and future travel demand with minimal environmental impact to the community as a whole. All design standards shall follow accepted engineering practices with an emphasis on safety.

The street layout of every development shall be in conformance with these standards and with the City's adopted comprehensive plan, including the Transportation Element thereof, and shall provide for the continuation of major streets which serve property contiguous to the development. Street networks shall provide ready access for fire and other emergency vehicles and the Council, upon recommendation of the planning commission, may require additional access points if such are found to be necessary to protect the public safety. Street layout in mountainous areas may allow alignment cross section shifts as approved by the City engineer to accommodate topographical conditions.

5B. PUBLIC WORKS CONSIDERATIONS

5B.010 Standard Specifications

Design detail, workmanship and materials shall be in accordance with the current edition of the "Standard Specifications for Road, Bridge and Municipal Construction," the "APWA Amendments to Division One," and the "Standard Plans for Road, Bridge and Municipal Construction," all written and promulgated by the Washington State Chapter of the American Public Works Association and the Washington State Department of Transportation, except where these standards provide otherwise.

All applicable rules of Washington State shall be adhered to with respect to safety, construction methods, and other state requirements. This includes, but is not limited to the revised Code of Washington (RCW) and the Washington Administrative Code (WAC).

The following specifications shall be applicable when pertinent, when specifically cited in the standards or when required by a higher funding authority.

1. Conditions and standards as set forth in the City of Chelan Water Comprehensive Plan, most current edition.
2. Conditions and standards as set forth in the City of Chelan Comprehensive Sanitary Sewer Plan, most current edition.
3. Rules and regulations as adopted in the City of Chelan Municipal Code.
4. Criteria set forth in the City of Chelan Traffic Circulation Enhancement Study.
5. Criteria set forth in the Local Agency Guidelines as amended and approved by Washington State Department of Transportation, most current edition.
6. Conditions and standards as set forth in the WSDOT Design Manual as amended and approved by WSDOT.
7. U.S. Department of Transportation Manual on Uniform Traffic Control Devices (MUTCD) as amended and approved by Washington State

- Department of Transportation.
8. DOT Construction Manual as amended and approved by Washington State Department of Transportation.
 9. Standard Specifications for Road, Bridge, and Municipal Construction as amended and approved by Washington State Department of Transportation.
 10. Policy on Design of Highways and Streets by American Association of State Highway and Transportation Officials (AASHTO).
 11. Trip Generation Manual by Institute of Traffic Engineers (ITE)
 12. Conditions and standards as set forth by the state of Washington, Department of Labor and Industries.
 13. Other specifications not listed above as may apply when required by the City of Chelan.

5B.020 Plan Checklist

The Plan Checklist is provided in Appendix E of the Development Standards.

5B.030 Plan and Profile Submittal

A plan and profile of the proposed street meeting all drafting standards of Section 8 and showing the following data shall be submitted to the City engineer for approval prior to preliminary development approval and construction:

Plan:

- Street alignment in stations of one-hundred foot intervals;
- Bearings on street centerline; (construction drawings only)
- Curve data on all horizontal curves, 50' stations minimum;
- Right-of-way lines and width for proposed streets;
- All topography within the right-of-way limits, including all utilities;
- Label all streets and adjoining subdivisions;
- Typical roadway section of proposed street;
- Existing and proposed drainage structures indicating direction of flows;
- and
- Map size shall be twenty four inches by thirty six inches. A one & one half-inch margin shall be provided on the left edge and a one half-inch margin shall be provided on the other edges of the map. All mapping to be drawn on mylar sheets.

Profile:

- Original ground line; Control elevation on border of sheet;
- Stationing in intervals of one hundred feet;
- Grade line showing grade percents and vertical curves.

5B.040 Workmanship and Materials

Workmanship and materials shall be in accordance with Sections 1-05 and 1-06 of the

current edition of the Washington State Department of Transportation Standard Specifications for Roads, Bridges, and Municipal Construction.

5B.050 Bonding and Insurance

Developers shall meet all standards as set forth in Section 13 of this manual, "Bonding and Liability Insurance."

5B.060 Latecomers

For existing platted lots, the City may enter into latecomer agreements with developers prior to installation of infrastructure to provide for the reimbursement of a pro-rata share of the cost of construction by the service users of any real estate who have not contributed to the original cost of such facilities and who subsequently connect to the system, pursuant to Chapters 12.28 and 13.36 of the Chelan Municipal Code as it now exists or as may be hereafter amended.

5B.070 Streets Vacated by Operation of Law

The City will not issue building permits to property of lots served by streets or alleys vacated by operation of law unless recorded and dedicated access is provided meeting full street standards of the City.

5C. STREETS

5C.010 General Notes (Street Construction)

- A. All workmanship and materials shall be in accordance with City of Chelan standards and the most current copy of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction. In cases of conflict, the most stringent standard shall apply.
- B. The contractor shall be in compliance with all safety standards and requirements as set forth by OSHA, WISHA and the Washington State Department of Labor and Industries.
- C. The contractor shall be responsible for all traffic control in accordance with the WSDOT/APWA Standard Plans for Road, Bridge and Municipal Construction (all applicable "K" plans) and/or the Manual on Uniform Traffic Control Devices (MUTCD). Prior to disruption of any traffic, a traffic control plan shall be prepared and submitted to the City for approval. No work shall commence until all approved traffic control is in place.
- D. All approvals and permits required by the City of Chelan shall be obtained by the contractor prior to the start of construction.

- E. If construction is to take place in another jurisdiction's right-of-way (i.e., the County or the State), the contractor shall notify the jurisdiction and obtain all the required approvals and permits.
- F. A pre-construction meeting shall be held with the City of Chelan Public Works Department a minimum of 72 hours prior to the start of construction.
- G. The contractor shall be fully responsible for the location and protection of all existing utilities. The contractor shall verify all utility locations prior to construction by calling the Underground Locate line at 1-800-424-5555 a minimum of two business days prior to any excavation.
- H. It shall be the responsibility of the contractor to have a copy of an approved set of plans on the construction site at all times.
- I. All surveying and staking shall be performed per the corresponding sections of the City of Chelan Development Standards Manual.

5C.020 Traffic Impact Analysis

A Traffic Impact Analysis (TIA) is a specialized study of the impacts that development will have on the surrounding transportation system. The TIA is an integral part of the development impact review process. It is specifically concerned with the generation, distribution, and assignment of traffic from the new development, as defined in Appendix A. "New development" shall not include individual one or two-family residential lots within plats.

In accordance with the City of Chelan Traffic Impact Analysis Guideline, a full or partial TIA may be required if:

- 1. The new development generates 20 or more new PM peak hour trips; or
- 2. The project requires a SEPA review; or
- 3. The new development will generate more than 50 peak hour trips at a time other than the PM peak hour.

The TIA Guidelines are provided in Appendix D of the Development Standards Manual.

5C.030 Minimum Street Design Standards

Functional Classification		Local/ Private	Minor Collector	Major Collector	Principal Arterial
Minimum horizontal curve radius on inside face of curb	Terrain ≤ 15% Mountainous > 15%	80' 80'	100' 80'	150' N/A	300' N/A
Maximum Grade in %	Terrain ≤ 15% Mountainous > 15%	10% 12%	10% 12%	10% N/A	8% N/A
Minimum roadway width, curb face to curb face	Terrain ≤ 15% Mountainous > 15%	28' 28'	32' 28'	52' N/A	46' (Note 4) N/A
Sidewalk minimum width (add 0.5' for curb) (see note 1)	Terrain ≤ 15% Mountainous > 15%	5' both sides 5' one side	5' both sides 5' both sides	5' both sides N/A	10' both sides (Note 5) N/A
Bank Slope (h:v)	Terrain ≤ 15% Mountainous > 15%	2:1 2:1	2:1 2:1	2:1 N/A	2:1 N/A
Minimum Right of Way	Terrain ≤ 15% Mountainous > 15%	50' (Note 2) 38' (Note 3)	54' 43' (Note 3)	74' N/A	100' N/A
Parking Lane	Terrain ≤ 15% Mountainous > 15%	1 ⊕ 8' 1 ⊕ 8'	1 ⊕ 8' 1 ⊕ 8'	2 ⊕ 8' N/A	Note 6 N/A
Bike Lanes	Terrain ≤ 15% Mountainous > 15%	N/A N/A	N/A N/A	2 ⊕ 6' N/A	2 ⊕ 6' N/A
Traffic Lanes	Terrain ≤ 15% Mountainous > 15%	2 ⊕ 10' 2 ⊕ 10'	2 ⊕ 12' 2 ⊕ 10'	2 ⊕ 12' N/A	Note 7 N/A
Planter Strip	Terrain ≤ 15% Mountainous > 15%	2 ⊕ 6' N/A	2 ⊕ 6' N/A	2 ⊕ 6' N/A	2 ⊕ 6' (Note 8) N/A
Utility Easement (See Note 9)	Terrain ≤ 15% Mountainous > 15%	2 ⊕ 6' N/A	2 ⊕ 6' N/A	2 ⊕ 6' N/A	2 ⊕ 6' N/A
Road Surface (See Note 10)		3" asphalt, 3" top course, 4" base	3" asphalt, 3" top course, 4" base	4" asphalt, 4" top course, 6" base	4" asphalt, 4" top course, 6" base

Notes to Table:

1. 10' width in commercial or industrial areas as required by City engineer.
2. Private road right-of-way width may be reduced to 40' at discretion of City engineer.
3. For mountainous terrain, an additional 2 feet of right-of-way is provided behind the back of curb and/or sidewalk.
4. Based on two 11-foot lanes, one 12-foot center lane, and two 6-foot bike lanes. Actual width will be determined by number of travel lanes based on the projected volume of traffic, and by on-street parking requirements.
5. The minimum sidewalk width for arterials will be six feet for all other areas not designated within City planning documents.
6. Parking lane required in designated areas per approved planning documents.
7. Actual width will be determined based on two-five travel lanes depending on projected volume of traffic using the facility. (Refer to Transportation Plan.)
8. Planter strips will be required for all areas where the sidewalk width is between 5-8 feet; otherwise, street trees may be included within the 10-foot sidewalk width. The City engineer will make the final determination.
9. Utility easement strips will be located immediately adjacent to the back of sidewalk and/or street right-of-way edge. For mountainous terrain areas, non-City utilities will be located within the roadway prism at the location approved by the City engineer. The easement strips are provided for all non-City utilities and snow removal.
10. Base course depths may require a design depth by a soils engineer if determined by the City engineer.

Additional notes:

11. Rolled curb (see City standard plan) is allowed at the discretion of the City Engineer on local and minor collector streets in excess of 32' between curbs in width, except in mountainous terrain where access or parking is not permitted.
12. The City Engineer may allow reduction in paving width to a minimum 24' and an increase in grade up to a maximum of 18% on mountainous terrain where no driveway access is provided to the street and no feasible alternative exists, providing all emergency services approve of the same.
13. Cut slopes steeper than 2:1 may be used where favorable soil conditions exist or stepped construction is used, when approved by the City engineer. The City engineer may also require slopes flatter than 2:1, depending on native soil conditions.
14. Right of way limits shall be per the information presented above and as depicted on the street cross-section details.
15. Street design standards specified in approved plans, including the Non-Motorized Transportation Implementation Plan, the Downtown Master Plan, and any adopted neighborhood plans, may be substituted for the standards shown in the table above at the discretion of the City engineer.
16. Switch backs, when necessary, shall be designed with a minimum centerline radius of 55' and a minimum inside radius of 25' with pavement widening on the inside edge accordingly. The limits of additional pavement widening will be confirmed based on design vehicle turning radius requirements as depicted on approved "auto-turn" exhibits. The City engineer may also require pavement widening on other curve sections as deemed necessary.
17. In a Planned Development District, curbside sidewalks may be replaced as a functional equivalent by a separate path or trail with equivalent surface and dimensions, with all-weather impervious surfacing on a public easement, when approved as part of the Homeowners Association ownership and responsibility in lieu of public sidewalks as normally placed adjacent to the roadway and serving the same function.
18. Additional right-of-way width may be required where a clear pattern of future development is present (such as to serve areas included in the Urban Growth Boundary).
19. Sidewalks, where necessary because of topographic constraints, may be, upon approval of the City engineer, required on only one side.
20. Any roadway surface that restricts parking shall be so posted at the expense of the developer.
21. Curb radius shall be 25' radius to face of curb on local and minor collectors and 35' on major collectors and arterials.
22. An approved traffic safety control plan is required when working in the right-of-way.
23. Dust and erosion control will be required for all construction projects.

5C.035 Minimum Street Design Standards for the Downtown Planning Area

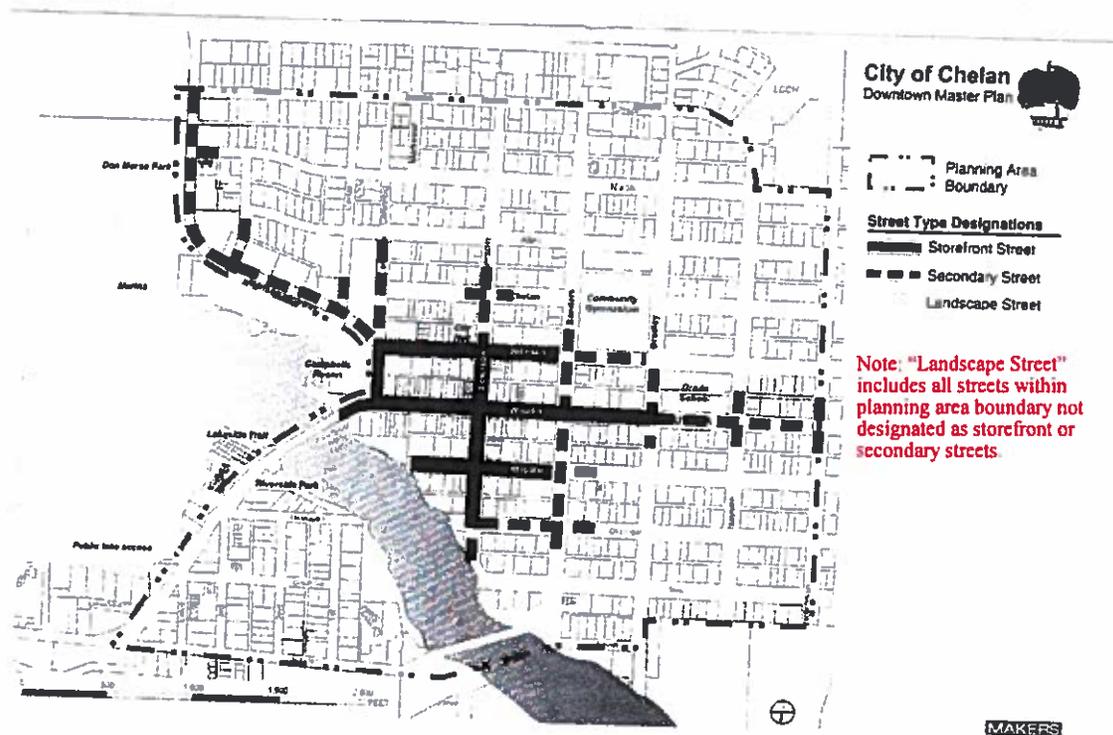


Figure 1. Downtown Planning Area and street type designations.

- A. All streets within the Downtown Planning Area (see figure 1 above) shall comply with the Minimum Street Design Standards as set forth in subsection 5C.030 above, with the following exceptions:
1. **Compliance with the Non-motorized Transportation Improvement Plan.** Street improvements shall comply with provisions in the Non-Motorized Transportation Improvement Plan, except where more recent and detailed improvements have been adopted for a specific street or streets.
 2. **Compliance with the goals and policies of the Downtown Master Plan.** Street improvements shall comply with the goals and policies of the Downtown Master Plan, except where more recent and detailed improvements have been adopted for a specific street or streets.
 3. **Compliance with adopted street improvement plans.** Street improvements shall comply with detailed improvement plans adopted by the City for specific streets.
 4. **Designated Storefront Streets.** Designated storefront streets shall include minimum 12-foot wide sidewalks on both sides of the street with trees placed in grates every 30 feet on average towards the curb edge. Tree grates may be up to 6 feet square provided there is a minimum unobstructed walking

surface of 8 feet (space between the edge of tree grate and outside edge of sidewalk). On-street parking is required. Curb extensions at all intersections are required in order to reduce street crossing widths for pedestrians and improve the visual appearance and character of the streets. Curb extension design shall be approved by the City engineer.

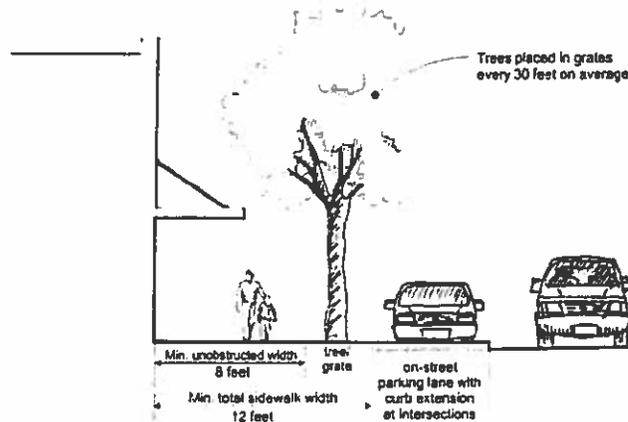


Figure 2. Standards for designated Storefront Streets.

5. **Manson Highway** (portion within Downtown Planning Area): Provide bicycle and pedestrian improvements as set forth in the Non-Motorized Transportation Improvement Plan and any subsequent adopted improvement plans. At minimum, street trees shall be included along both sides of the street edge spaced every 30 feet on average. Unobstructed sidewalk widths shall be at least 8 feet on the north/east side of the street.
6. **Designated Secondary Streets** (except Manson Highway). Where street improvements are required in conjunction with new development, the following requirements or options apply:
 - a) On portions of these streets containing storefront development, sidewalks on both sides of the street shall be a minimum of 10 feet in width with trees placed in grates every 30 feet on average towards the curb edge. Tree grates may be up to 6 feet square provided there is a minimum unobstructed walking surface of 6 feet (space between the edge of tree grate and outside edge of sidewalk). Exceptions: 4' x 4' planting strips may be used in place of tree grates at the discretion of the City engineer. Alternatively, continuous planting strips may be used along the curb edge instead of trees within grates, provided the sidewalks and planting strips are at least 6 feet wide each.
 - b) For non-storefront developments, sidewalks and planting strips shall be at least 6 feet wide each.
 - c) On-street parking is required on all streets, except where provided in adopted improvement plans.
 - d) Curb returns are required on all street corners, except where provided in adopted improvement plans. Curb extension design shall be

approved by the City engineer.

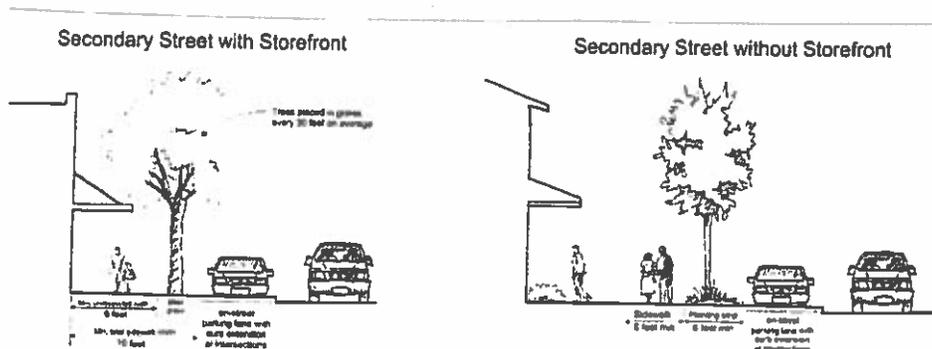


Figure 3. Streetscape standards for designated Secondary Streets.

7. **Designated Landscape Streets.** Where street improvements are required in conjunction with new development, the following requirements or options apply:
- a) Minimum sidewalk widths on both sides of the street are 5 feet.
 - b) Planting strips at least 6 feet wide along curb edge with trees spaced every 30 feet.
 - c) On-street parking is required on all streets, except where provided in adopted improvement plans.

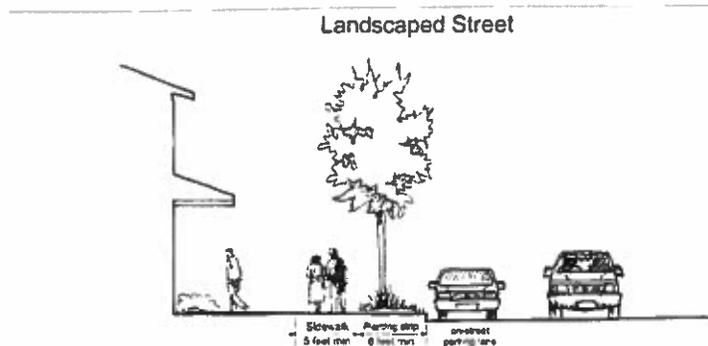


Figure 4. Streetscape standards for designated Landscaped Streets

5C.040 Street Frontage Improvements

A. All commercial and residential development (except single-family residences and owner-occupied duplexes), subdivisions, short subdivisions and binding site plans shall install street frontage improvements at the time of construction as required by the Public Works Department. For new proposals which fall under the definition of development in Appendix A, if Site Plan Review (SPR) approval is necessary, frontage improvements shall be required. If an existing use is being altered or improved, frontage improvements shall be required if the project meets all of the following conditions:

1. The project requires binding site plan, conditional use permit, or SPR approval per CMC 19.01, and
2. The site has more than 100 feet of total frontage, and
3. The project meets the threshold requirements as determined by all applicable CMCs.

Per the Site Plan Review approval, such improvements include but are not limited to: curb and gutter; sidewalk; street storm drainage; street lighting system; holiday lighting features; traffic signal modification, utility conduit, traffic control devices, signal interconnect, relocation or installation; public transit amenities, street signing; utility relocation; planter strips; landscaping and irrigation; and street widening all per these Standards. Plans shall be prepared and signed by a licensed engineer registered in the State of Washington.

B. All frontage improvements shall be made across full frontage of property to include full street section with sidewalk on development side of street only. Off project site frontage improvements may be required if determined by the City for public safety.

C. Utility relocations shall follow the requirements as outlined in Section 10, Utility Designs, in these Standards.

D. If contiguous parcels are under the same ownership, frontage improvements shall be required if the project meets all of the following conditions:

1. The project requires binding site plan, conditional use permit, or SPR approval, and
2. The contiguous sites have more than 100 lineal feet of combined frontage, and,
3. The project meets the threshold requirements as determined by all applicable CMCs.

E. Exceptions. When the City engineer deems the above such improvements cannot be accomplished at the time of building construction, frontage improvements may be deferred, modified or waived. These exceptions shall be made a condition of Site Plan Review approval or as a condition of subdivision, short subdivision, binding site plan, and conditional use permit approval.

Improvements may be deferred by signing a Waiver of Protest for a Local Improvement District (L.I.D.), by signing a Deferral of Frontage Improvements Agreement, or by paying a fee in lieu of constructing the improvements. If a fee-in-lieu is paid, it shall be based on the engineer's estimate and the City will be responsible for constructing said facilities at a later date.

If the frontage improvements are deferred, all necessary right-of-way must be dedicated as a condition of approval. If additional right-of-way is required and the side slopes exceed 7:1 slope, then a 10-foot slope easement shall also be required to facilitate construction of future improvements. All methods of deferral, and components thereof, must be in place, signed, collected, and/or processed prior to the project scheduling a preconstruction meeting.

5C.050 Right-of-Way

Right-of-way shall be dedicated for a subdivision, short subdivision, binding site plan, for a project that triggers Site Plan Review, or for a conditional use permit. The requirement to dedicate right-of-way shall be determined by Public Works. Although a right-of-way dedication may be required, frontage improvements may be deferred per Chapter 5C.040 of the Development Standards Manual.

Right-of-way width is determined by the functional classification of a street. Refer to Table 5C.030 Minimum Street Design Standards.

Right-of-way requirements may be increased if additional lanes, turn pockets, intersection treatments, transit lanes, bus loading zones, bus shelters, operational speed, bike lanes, utilities, schools or future planned improvements are required as determined by the City Engineer.

The right-of-way boundaries at intersections shall be sufficient to contain all portions of the sidewalk, curb ramps, all signal and lighting appurtenances, and any other appurtenance associated with a public utility.

Right-of-way shall be conveyed to the City on a recorded subdivision or by a right-of-way dedication deed. If the dedication is by deed, the deed shall be submitted and approved upon completion of the street improvement that reflects the "as-built" condition of the roadway. For all developments requiring a subdivision of property, the right-of-way shall be a condition of approval and conveyed through the final plat process.

When right-of-way is conveyed to the City by plat or by dedication deed, the right-of-way centerline or other appropriate control line shall be monumented by a Washington licensed Professional Land Surveyor. A monumentation plan shall be submitted to the Public Works Department for approval prior to placement of the monument positions.

5C.060 Existing Unimproved Street Requirements**Residential**

A. The following minimum standards shall apply to the development of single family residential dwelling units on an unimproved right-of-way (existing plats), and private roads:

1. Minimum surfacing of all local private access streets shall conform to design standards in Table 5C.030.
2. An improved turn-around shall be provided consistent with the current edition of these standards if the lot to be developed is located at the end of any road that is over 150 feet in length.
3. All utilities which have not already been installed to serve the site shall be constructed to full City standards as set forth herein and installed underground. The list of affected utilities shall include but not be limited to water, sewer, storm drainage, electrical and communications.
4. Existing subgrade soils may require additional compacted depths as directed by the City engineer.

B. All developments will require improvement of the road, sidewalks, curbs, gutters, and utilities in full compliance with these development standards, which shall include completion of conditions in A-3 above. However, street improvements for singular lot development that is non-contiguous to improved streets in existing plats, the existing R/W width, AC width and sidewalk status shall be extended to match the nearest impervious surfaced street. If the developer does not or can not bear the cost of connectivity and if the latecomers agreement does not apply, Council shall form an LID if improvements are required as a health and safety issue. Otherwise, development will not be allowed. The grades shall be established by the developer's engineer. The AC matching width shall be a minimum of 20 feet and must meet access standards as per Section 902 of the Uniform Fire Code as it now exists or as may be hereafter amended. The cross section of the said street shall meet specifications of these standards. The intent of the exception for singular lot development herein is to allow a private party to build and access a single family residence without the financial burden of completely developing the facilities to all the lots. Should the private party acquire an interest in the intermediate lots, he will be considered as a developer and the above exception shall be disallowed.

C. Properties installing improvements as required in Section A above shall receive credit for the current value of such improvements, to the extent that the improvements reduce the cost of a LID, against the cost of any future LID assessment for street improvements for a period of up to ten years after the date of installation of such improvements, as demonstrated by their acceptance by the City of Chelan.

Commercial/Industrial

All new commercial development, including multifamily dwelling units, and conditional uses for business other than a home occupation, shall make the following minimum street improvements as a condition of any development permit issuance on any right-of-way

which is not fully improved to current City standards:

- A. Improve the frontage of the property along the street right-of-way with curbs, gutters, sidewalks, planter strips, storm drainage facilities and paving between the edge of gutter and existing asphalt.
- B. Improve the alley serving the property by complying with "Alleys" standards contained herein.
- C. Subject to the limitations set forth in RCW 35.43.182 as it now exists or as may be hereafter amended, when the City determines that improvements should be delayed, property owners shall sign an agreement to support and not oppose formation of a local improvement district for completion of the road and all utilities to City standards.
- D. Properties installing improvements as required in Sections A and B above shall receive credit for the current value of such improvements, to the extent that the improvements reduce the cost of a LID, against the cost of their LID assessment for a period of up to ten years after the date of installation of such improvements, as demonstrated by their acceptance by the City of Chelan.

5C.070 Staking

All surveying and staking shall be performed by an engineering or surveying firm capable of performing such work. The surveyor directing such work shall be licensed as a Professional Land Surveyor by the State of Washington.

A pre-construction meeting shall be held with the City prior to commencing staking. All construction staking shall be inspected by the City prior to construction.

The minimum staking of streets shall be as directed by the City engineer or as follows:

- A. Stake centerline every 50 foot in tangent sections and 25 feet in curved sections plus grade breaks, PVCs, PVTs, high points and low points, with cut and/or fill to subgrade.
- B. Stake top of ballast and top of crushed surfacing at centerline and edge of pavement at the above-described intervals.
- C. Stake top back of curb at a minimum 3 foot offset at the above-described intervals with cut or fill to finished grade.

5C.080 Testing

Testing shall be required at the developer's or contractor's expense. The testing shall be ordered by the City construction inspector from a testing lab approved by the City. Testing shall be done on all materials and construction as specified in the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction and with frequency as specified in Sampling and Testing Frequency Guide located in section 9-5.7 of the

WSDOT Construction Manual.

In addition, the City shall be notified before each phase that street construction commences (i.e., staking, grading, subgrade, ballast, base, top course, and surfacing).

5C.090 Access Management

Access Management is a tool to address traffic congestion, crashes, and loss of street capacity. The intent of Access Management is to provide access for land development while preserving the flow of traffic in terms of safety, capacity and speed of travel. Studies show the uncontrolled proliferation of driveways and intersections along a given section of roadway reduces the capacity, increases the number and severity of crashes, and inhibits bicycle and pedestrian usage. In addition, poorly designed entrances and exits cause congestion and create a negative image for a commercial district.

A. Connection to State Highways and Work Within State Right-of-Way

Where City streets connect to state highways, design standards from the most recent edition of the Washington State Department of Transportation (WSDOT) Standards for intersection design shall apply. The developer is responsible to obtain review and approval from WSDOT for work within State Right-of-Way.

B. Functional Classifications and Connectivity

Roadway hierarchy based on functional classification provides a network of streets based on the service they provide. Roadway layout shall be based primarily on the safety, efficiency of traffic flow, and functional use of the roadway. Roadways are divided into arterials, major and minor collectors, local/private access streets and alleys.

Roadways of all classifications shall be planned to provide for connectivity of existing and proposed streets in relation to adjoining parcels and possible future connections as approved by Public Works. New development roadway systems should be designed so as to minimize the distance pedestrians travel to bus stops.

The classifications of all streets shall be established by the Public Works Department. Arterials and collectors are identified in the most current adopted version of the Transportation Element. Street changes in classifications or classifications applied to new streets shall be shown to meet the following criteria.

1. **Local/Private Access Street:** A short street, cul-de-sac, court or a street with branching places or lanes. A Local Access Street is a minor residential street, and usually there is not through traffic between two streets of a higher classification. ADT (Average Daily Trips) less than or equal to 1,000.

Local access streets shall interconnect with each other and with minor collectors and have a minimum level of access control. Alleys in residential neighborhoods are encouraged. Traffic calming techniques shall be designed into all residential subdivisions. The pedestrian network shall be paramount in the residential roadway network. Local residential streets

serve as land access from residences and generally connect with minor collectors. Safety is always the major consideration when determining intersection locations and connectivity.

2. **Minor Collector:** The typical residential street, the minor collector is most commonly recognized as the lesser through street of a residential grid. While vehicular traffic could often travel through on a minor collector, intersections are either controlled or encumbered with stop signs, thus encouraging vehicles to use a major collector for through traffic. ADT greater than 1,000 and less than 2,000.
3. **Major Collector:** The Major Collector is the major street in the urban system and correspondingly has the highest average daily traffic (ADT). The Major Collector generally receives many Minor Collector or Residential streets and/or is the major route to significant activity centers. These streets should not generally be encumbered with stop signs. ADT= 2,000+.

Collectors generally connect commercial, industrial and residential projects to other collectors and arterials and have a moderate level of access control.

4. **Arterial:** The Arterial will generally be a state road or other major facility that moves urban traffic along to other urban areas or higher class state or federal highways. The number of travel lanes and facilities will be determined by the carrying capacity to accommodate projected traffic levels. Arterials are intended for the efficient movement of people and goods and have the highest level of access control. They have limited access and accommodate controlled intersections. The level of service standard for the state-owned facilities will be established by WSDOT and the City will set the LOS standard for all other designated arterials.

Unless directed otherwise by the City Engineer, centerline striping will be performed for Arterial and Major Collector Streets only. (See street classification map)

All new developments shall provide for the continuation of streets that will potentially serve property contiguous to the new development. Extending the improved street up to the common property line will fulfill this requirement. Each street with the potential for extension into contiguous properties shall be sized based on the estimated number of Average Daily Trips (ADTs) which will be generated by all properties within the Urban Growth Area (UGA) served by this road. The number of ADTs shall be determined based on the land use designation of the properties in question. In no case shall any parcel of property within City limits and/or the Urban Growth Boundary be allowed to become "landlocked" due to development in adjoining properties.

C. Determination of Access Classification

Determination of access shall be the responsibility of the City except on State highways, where WSDOT maintains strict standards for access. The developer shall provide the

following information along with recommendations to assist the City in determining access locations:

1. Local land use plans, zoning, and land development regulations as set forth in adopted comprehensive plans.
2. The current and potential functional classification of the roadway.
3. Existing and projected traffic volumes, accident history, and other operational considerations.
4. Existing and projected state, local and regional planning organization transportation plans and needs, including considerations of new or improved facilities.
5. Drainage requirements.
6. The physical features of lands adjoining the roadway.
7. The availability of alternative connections to the existing roadway network.
8. The cumulative effect of existing and projected connections on the roadway's ability to provide safe and efficient movement of people and goods.

D. Access Spacing

Minimum access spacing provides drivers with sufficient perception-reaction time to address one potential conflict area at a time. Access points shall be located to reduce the possibility of weaving, lane shifts, or other conflicts in the traffic stream. Existing access on both sides of the roadway shall be analyzed to determine proper location for a new access. Spacing is important to the safety and capacity of a roadway, as well as the appearance of a corridor. Bicyclists and pedestrians will benefit from the reduced conflicts generated by excessive access points. The following guidelines shall be used for minimum spacing between access points.

Functional Classification	Access Spacing
Arterial	660 feet
Major Collector	330 feet
Major Collector in Business District	165 feet

The spacing standards are for full access. Restricted access (right-in, right-out), shall be half the amount shown in the table above. If the spacing requirements and the connectivity requirements as outlined in this Chapter cannot be met, the access shall be designed using the objectives herein and as approved by the City. All distances in this chapter are measured centerline to centerline.

E. Additional Access

Developments shall provide a secondary access way to an Arterial or Major Collector when a traffic count of 1,000 ADT is reached. The number of ADTs shall be determined using both (1) existing development within the area that would be served by the secondary access way and (2) the development proposal. A third access point may be required if necessary for public safety and/or reasonable level of service. If additional accesses

cannot be installed due to topography, waterways, negotiable grades, or other similar conditions, the requirement may be waived, and mitigation measures will be required.

F. Secondary Access Requirements

1. Single-Family Residential Developments

Developments consisting of single-family residential housing where the number of dwelling units exceeds 30 shall provide two separate and approved access roads. Where the number of dwelling units is from 31 to 100, the requirement for a second access road may be waived if the secondary road cannot be installed due to topography, waterways, non-negotiable grades, or other similar conditions. If the requirement for a secondary access is waived, all dwelling units shall be protected by approved residential sprinkler systems. When the number of dwelling units exceeds 100, two separate and approved access roads shall be required regardless of whether the homes are equipped with approved residential sprinkler systems.

2. Multi-family Residential Developments

Developments consisting of multi-family residential units where the number of dwelling units exceeds 100 shall provide two separate and approved access roads. Where the number of dwelling units is from 101-150, the requirement for a second access road may be waived if the secondary road cannot be installed due to topography, waterways, non-negotiable grades, or other similar conditions. If the requirement for a secondary access is waived, all buildings including nonresidential occupancies, shall be equipped throughout with approved automatic sprinkler systems. When the number of dwelling units exceeds 150, two separate and approved access roads shall be required regardless of whether the buildings are equipped with an approved automatic sprinkler system.

3. Mixed Developments

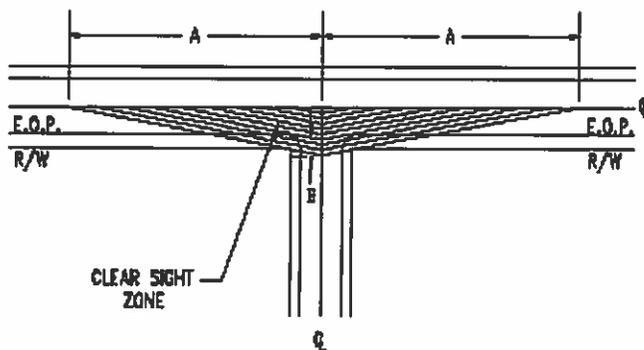
For developments that contain both single-family and multi-family units, two separate and approved access roads shall be required when the number of Average Daily Trips (ADTs) exceeds 300. The total number of ADTs shall be estimated using the trip rate identified in the latest edition of the Trip Generation Manual as published by the Institute of Transportation Engineers (ITE). Where the total number of ADTs is between 300 and 1,000, the requirement for a second access road may be waived if the secondary road cannot be installed due to topography, waterways, nonnegotiable grades, or other similar conditions. If the requirement for a secondary access is waived, all dwelling units and accessory buildings shall be protected by approved automatic sprinkler systems. When the number of ADTs reaches 1,000, two separate and approved access roads shall be required regardless of whether the buildings are equipped with an approved automatic sprinkler system.

5C.100 Sight Distance Requirements

The criteria in this chapter shall be used as a reference for streetscape amenities such as signs, trees, fences, bus shelters, etc. Use AASHTO Design standards to determine sight distance criteria for all road and intersection designs. Use WSDOT design standards for access to State highways. Intersections may include public and private driveways and pedestrian crossings. See Chapter 5C.120 for intersection definition.

The area within the sight distance triangle shall be subject to restrictions to maintain a clear view on the intersection approach. The ultimate roadway width (number of lanes) per the most current version of the City's Transportation Plan shall be used to calculate the dimensions of the sight distance triangle.

STOP OR YIELD CONTROLLED INTERSECTIONS



The centerline of the road is the actual physical centerline regardless of the number of lanes. Sight distance B is 15 feet measured from the near edge of traveled way to the eye of the driver on the minor road. The following table shall apply to both vertical and horizontal sight distance.

Posted Speed (mph)	Minimum Distance "A" (in feet)*							Multiplier
	20	25	30	35	40	45	50	
Residential Streets	200	250	300	350	400	450	500	10
Collectors and Arterials	240	300	360	420	480	540	600	12

*Based on Sight of Distance per 10 mph for Design Vehicle "P" Crossing Arterial.

If your speed is not shown above, use the following formula for distance A:

$$\text{Multiplier} \times \text{posted speed} = \text{sight distance A}$$

On roadways with 5 or more lanes or roadways with medians more than 20 feet wide, use AASHTO Design Standards. WSDOT design standards shall be used for access to State highways.

The vertical clearance area within the sight distance triangle shall be free from obstructions to a motor vehicle operator's view between a height of 3 feet and 8 feet above the existing surface of the street.

Exclusions: Sight obstructions that may be excluded from these requirements include: fences in conformance with this chapter, utility poles, regulatory signs, trees trimmed from the base to a height of 8 feet above the street, places where the contour of the ground is such that there can be no cross visibility at the intersection, saplings or plant species of open growth habits and not in the form of a hedge which are so planted and trimmed as to leave at all seasons a clear and unobstructed cross view, buildings constructed in conformance with the provisions of appropriate zoning regulations and pre-existing buildings.

5C.110 Illumination

All new commercial or residential subdivisions, short plats, binding site plans shall provide street lights in accordance with the standards for such improvements of the City and they shall be owned and operated by the City. All improvements shall be provided and constructed as detailed in Section Eleven - Street Illumination.

5C.120 Intersections

An intersection may be any access point, whether a public street or a public or private driveway, onto a public street. See Chapter 5C.100 for Access Management criteria and for intersections as they relate to functional classification.

Street intersections shall be as nearly at right angles as is practicable and street jogs with offsets of less than one hundred twenty-five feet between center lines are not allowed.

For safe design, the following types of intersection features shall be avoided unless approved by the City engineer:

1. Intersections with more than four intersection streets;
2. "Y" type intersections where streets meet at acute angles;
3. Intersections adjacent to bridges and other sight obstructions.

5C.130 Driveways

All abandoned driveway areas along the frontage of redeveloped property shall be removed and the curbing, planter strip, sidewalk, or shoulder and ditch section shall be properly restored. All driveway approaches shall be constructed of Commercial Concrete and shall be subject to the same testing and inspection requirements as curb, gutter, and sidewalk construction.

Joint use driveways serving two adjacent parcels are encouraged whenever feasible. A joint use driveway serving two adjacent parcels is required if contiguous property is under the same ownership unless joint access is not feasible due to topography constraints, as determined by the City Engineer. An easement and a maintenance agreement shall be recorded for both parcels specifying maintenance and joint usage in perpetuity.

A. Residential Driveways

Residential driveways shall be those driveways constructed on private property to serve up to three single-family residential structures or a duplex. A driveway to multiple residences must be upon a 20-foot easement and must have fire department approval, but will generally consist of 12-foot width of all-weather surfacing and a maximum grade of 12%. Driveway easement documentation shall be as per these standards. Regardless of access, all lots must front upon a platted public street or private road. In all cases, the portion of the driveway within the right-of-way shall be asphalt surface.

1. All residential driveways shall meet the sight distance requirements of Chapter 5C.100.
2. Maximum grade for a driveway to a single residence shall be 18%.
3. A driveway to multiple residences must provide an emergency vehicle turnaround as per these standards.
4. The maximum residential driveway width onto an arterial or major collector roadway shall be 25 feet. The maximum residential driveway width onto a local or minor collector roadway shall be 25 feet; minimum width shall be 10 feet (net flat width without transition ramp).
5. No more than one access shall be permitted onto an arterial or major collector roadway, regardless of the frontage. Not more than one access shall be permitted for a frontage of 75 feet or less on a local or minor collector roadway. Two accesses on a local or minor collector may be permitted for frontage of 75 feet to 150 feet. The two accesses may be combined into a single access of up to 35 feet net flat width.
6. Driveway parking space shall not interfere with pedestrian traffic on sidewalks.
7. Within the Downtown Planning Area, the following supplemental driveway standards apply:
 - a. No more than one driveway per dwelling unit.
 - b. Driveways for individual lots 50 feet or wider may be up to 20 feet in width.
 - c. Driveways for individual lots less than 50 feet wide may be up to 12 feet in width. Tandem parking configurations may be used to accommodate two-car garages.

B. Public Driveways

Public Driveways are those driveways constructed on private property to serve commercial, industrial and multi-family projects. Public Driveways shall be curb cuts. A traffic engineer shall design public driveways with safety being the primary design criteria. The following criteria shall apply to all public driveways:

1. Commercial properties shall provide internal connections between neighboring properties. Developments must give priority to internal access before access to the public roadway system is permitted. Cross access allows vehicles to circulate between commercial properties without having to re-enter the public street system.
2. Public driveways shall meet the sight distance requirement of Chapter 5C.100.
3. No public driveway shall be approved where backing onto the sidewalk or street will occur.
4. Parking lot circulation and signing shall be met on site. The public right-of-way shall not be utilized as part of the parking lot flow. Alleys may be utilized with the approval of the City engineer.
5. The maximum driveway width for a two-way, public driveway with curb returns shall be the same as listed for curb cut, per Section 6-20. A wider public driveway may be approved by the City engineer where a substantial percentage of oversized vehicle traffic exists, where divisional islands are desired, or where multiple exit or entrance lanes are needed.
6. The maximum one-way public driveway width for a curb cut or a driveway with curb return shall be 20 feet for multi-family residential, commercial, and industrial uses. The storage length of a driveway must be adequate to prevent vehicles from waiting in thru lanes to enter the site or causing unsafe conflicts with on-site circulation and parking. General standards appear below but these requirements will vary according to the projected volume of the individual driveway. The length shall be measured from the face of curb into the site.

Adequate Driveway Storage Lengths	
Development Type	Minimum Driveway Throat Length
Commercial Center > 150,000 GLA ⁽¹⁾	200 feet
Smaller Project < 150,000 GLA ⁽¹⁾	40-95 feet ⁽²⁾
Signalized Driveway	Based on operational analysis for 95% queue

⁽¹⁾ Gross Leasable Area

⁽²⁾ Distance confirmed by City engineer

7. Road approaches and/or ingress and egress tapers may be required in industrial and commercially zoned areas as directed by the City engineer. Tapers shall be designed per the ITE (Institute of Transportation Engineers) publication, Transportation and Land Development, latest edition.

C. Residential Driveway Access Spacing

1. In new construction, residential driveways shall not be permitted to access arterials, major collectors, or minor collectors unless the property has no other reasonable access to the general street system.
2. If an existing residential parcel abuts an arterial, major collector or minor collector, no residential access shall be allowed to those streets within 150-feet of the nearest right-of-way line of an intersecting street.
3. Corner lots shall access the roadway with the lower functional classification.

If the above standards cannot be met, the developer's engineer must design the most appropriate access with safety being the primary design criteria.

D. Public Driveway Access Spacing

1. Access to a public street shall be limited to one public driveway connected to the lowest classified roadway for each parcel of property separately owned. Property fronting more than one public street may be permitted an access to each public street if the Traffic Impact Analysis supports multiple accesses. Two or more public driveways accessing a public street will only be allowed with the approval of the City engineer. Properties contiguous to each other and owned by the same person are considered to be one parcel.
2. If all other access management techniques have been exhausted, the City will permit public driveways utilizing the following minimum corner clearance requirements. Corner clearance is the distance between a private access and the nearest cross road intersection and is applicable to all roadway classifications. Corner Clearance is necessary to provide adequate perception-reaction time to reduce potential downstream conflicts and is aimed at preventing the location of driveways within the functional area of an intersection. Minimum driveway setback and corner clearance requirements shall meet the most current ITE standard. The minimum corner clearance setbacks are shown in the following table.

Minimum Corner Clearance Distance (in feet) from Near Side of Street to Near Side of Access Driveway		
Posted Speed (mph)	Major Traffic Generator	Minor Traffic Generator
30	200	150
35	260	215
40	330	260
45	395	310
50	460	345

Reference: Traffic Engineering Handbook

Major traffic generators are developments that require or would be required to complete a Traffic Impact Analysis per City of Chelan TIA Guidelines.

5C.140 Private Roads

Private roads shall meet the definition as given in this section and shall be allowed in the following instances:

1. As part of a Planned Development District (Zone P-D);
2. As permanently established by plat or easement providing legal access to serve two, three, or four single-family dwelling units and conforming to design standards in Table 5C.030;
3. For access to multifamily housing, subject to approval by the City engineer.

Private roads must meet all of the following conditions:

1. Said road shall be accessible at all times for emergency and public service use.
2. Private roads shall have covenants which provide for the maintenance of the private roads by the owners, homeowners association, or other legal entity, and are recorded with the Chelan County Auditor's Office.
3. Private streets will not landlock present or future parcels nor obstruct public street circulation. If there is the ability for a future roadway connection, a private street will not be allowed.
4. The design and construction of sidewalks along private streets shall meet all applicable standards as for sidewalks along public roadways as specified in Chapter 5D.040.

Acceptance of private roads as public streets will be considered only if the road(s) meet all applicable public street and utility standards.

5C.150 Gated Access

A. Gated Residential Access

Gates to neighborhoods or gated communities shall be allowed only on private streets. Private streets shall meet all the conditions as set forth in Chapter 5C.140. In addition the following conditions shall apply:

1. A minimum stacking distance as shown in the table below shall be required:

Intersecting Public Street Classification	Minimum Stacking Distance
Arterial	If only one access, use 5-feet per PM peak hour trip. Minimum stacking distance shall be 100 feet.
Major and Minor Collector	1-foot per PM peak hour trip. Minimum stacking distance shall be 20 feet.
Local and Private	0.5-foot per PM peak hour trip. Minimum stacking distance shall be 10 feet.

2. A turn around shall be provided on the public right-of-way side of the gate.
3. Mailboxes meeting U.S. Postal standards shall be located on the public side of the gate.
4. Gates shall be equipped with an emergency pre-emption system capable of operating from the public side of the gate to facilitate immediate entry of emergency vehicles into the development and shall have the concurrence of emergency services. This system must be maintained in proper working order by the owners of the development or the proper homeowners or business owners association, whichever shall be the case. A copy of the access key, code, or combination shall be provided to the City to facilitate access.

B. Gated Commercial Access

Gated access in commercial or industrial projects shall follow the standards as set forth in 5C.150.A. The stacking distance shall be based on vehicle length, access street classification, and entering volumes in the PM peak hour. A Traffic Impact Analysis shall be used to determine an appropriate stacking distance.

5C.160 Cul-de-Sacs

To encourage connectivity, cul-de-sacs shall be discouraged. Cul-de-sacs may be allowed with the approval of the City engineer where geographical, topographic or environmental conditions preclude connection. When these conditions preclude street connections, continuous non-vehicular connections should still be attempted.

Cul-de-sacs may also be allowed for short subdivisions bordered on three sides by properties developed to their maximum use. Dead ends or a shared access may be required for subdivisions where the potential for future connectivity exists due to the proximity of under-developed properties.

Streets designed to have one end permanently closed shall typically be no longer than 600 feet as measured from the intersecting right-of-way line extended, to the center of the cul-de-sac. At the closed end, there shall be a widened bulb having a minimum paved traveled radius as shown in the Cul-de-Sac Plan Detail. Where the total number of ADTs generated by residences served by the cul-de-sac is between 300 and 1,000, the limitations on length and on number of lots served may be waived if additional access cannot be installed due to topography, waterways, non-negotiable grades, or other similar conditions. If the limitation on length, number of lots served, or both is waived, all dwelling units and accessory buildings shall be protected by approved automatic sprinkler systems. A cul-de-sac may not serve an area generating 1,000 ADTs or more without providing additional access, whether or not the buildings are equipped with approved automatic sprinkler systems.

5C.170 Dead End Roadways

Where a street is temporarily dead ended, turn around provisions and a Type III red and white barricade the full width of the roadway must be provided where the road serves more than one lot. Hammerheads or L turnarounds may be used in lieu of a cul-de-sac only upon approval of the City Engineer and shall be designed in accordance with details in the

Standard Details Section. Permanent dead ends shall be properly signed per Section 3C-4 of the MUTCD.

At the end of a sidewalk to be extended in the future, a red and white type II barricade the full width of a sidewalk is required.

5C.180 Alleys

Alleys, where provided at the rear of lots, shall have a minimum right-of-way width of twenty feet. Dead-end alleys and alleys with sharp changes in direction are prohibited. Alleys as a primary access are encouraged, subject to the following standards:

1. The alley right-of-way must be at least twenty feet wide; and
2. The alley must be paved; and
3. Alley access shall be subject to approval by the City engineer. The City engineer's review shall include, but not be limited to, review of provisions for trash collection and snow removal, and access by fire trucks and other emergency service vehicles.

Existing lots that have no alternative access may be exempted from the standards by the City engineer.

Alleys immediately north and south of Woodin Avenue between Columbia and Sanders Streets are also subject to the following design provisions:

1. Storage areas shall be enclosed within the building or by 5-foot minimum tall screens made of durable material as determined by the City (chain link is not acceptable.)
2. 6-foot wide elevated (at least 4-inches high) platforms located outside of the required clearance area are required for waste receptacles. Where more than one dumpster is needed, the platform must be sized to allow for a minimum 2-foot clearance between dumpsters for service vehicles.
3. Lighting over all entries facing the alley is required.
4. Lights, hanging baskets, canopies, or other overhead features within the alley right-of-way shall be at least 15 feet above the ground to accommodate service vehicles.
5. All businesses shall provide at least one sign along the alley. Permitted sign types include a wall sign, a projecting sign or suspended sign, and a window sign. See CMC Chapter 17.58 for applicable sign standards.
6. Alley design amenity toolbox. New buildings and Level III Additions [per CMC 17.14.010 (B)] shall incorporate at least two amenity features. Level I and II Remodels/Additions [per CMC 17.14.010 (B)] shall incorporate at least one feature. All other existing or new businesses occupying existing buildings are encouraged to incorporate one or more amenity features from the list.
 - a. Transparent windows occupying at least 15 percent of the facade.
 - b. Decorative light fixtures.
 - c. Decorative signage
 - d. Decorative mural or other similar artistic feature.

- e. Decorative use of building materials that add special interest to the building.
- f. Permanent landscaping features(s). Irrigation or other feature shall be included in order to ensure long term survival of landscaping as determined by the Director.
- g. Decorative paving within the alley adjacent to the building.
- h. Hanging flower baskets and potted plants are encouraged along alleys provided they meet clearance requirements.

“Decorative” elements referenced above must be distinctive or “one-of-a-kind” elements or unusual designs that require a high level of craftsmanship as determined by the City.

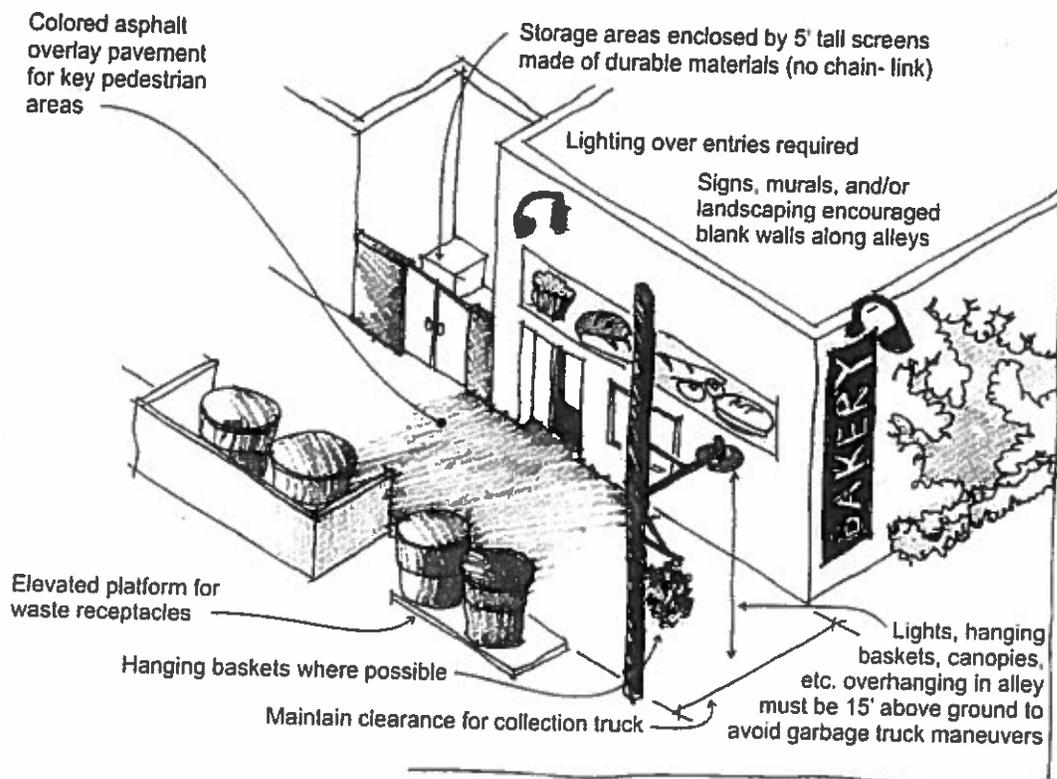


Figure 5. Design guidelines for alley improvements in the historic core.

5C.190 Fire Access Roads

Roads which are designated as fire access roads shall conform to the minimum street standards for new construction as shown in Section 5C.030 of the Development Standards or shall be designed and installed per the most current adopted edition of the Fire Code as adopted and amended by the Chelan Municipal Code.

5C.200 Naming

Streets and roads shall be named according to specific criteria. "Avenues" run east-west, and "Streets" generally run north-south. All avenues lying east of Columbia St. are designated east (E) and west of Columbia Street are designated west (W). Streets north of Woodin Avenue are designated north (N) and south of Woodin Avenue are designated (S).

An address number will be assigned to all new buildings at the time of final plat, site plan review, or at the time the building permit is issued. This will be done by the Building Official per CMC 12.08.

The developer must check with the Building Official regarding the naming of streets. This should be done at the time the subdivision is submitted and again upon approval of the subdivision. The Building Official will insure the name assigned to a new street is consistent with policies of the City.

Street signs for public and private roadways, including poles and hardware, will be supplied and installed by the developer. A signage plan will be required with the project submittal. The City Public Works Department will have final approval over materials and types of signs.

All sign types and installations shall meet MUTCD standards and City standard details.

5C.210 Traffic Control - Construction

The contractor shall be responsible for all traffic control in accordance with the WSDOT/AWA Standard Plans for Road, Bridge and Municipal Construction, "K" plan sheets, and the Manual on Uniform Traffic Control Devices (MUTCD). Prior to the disruption of any traffic, a traffic control plan shall be prepared and submitted to the City for approval. At no time shall a roadway be blocked without the approval of the City engineer. No work shall commence until the City has approved the plan and the traffic control is in place. A street closure permit is required if a roadway is to be closed or restricted.

There shall be no restrictions or interruptions to traffic on Saturdays, Sundays or holidays. In addition, there shall be no restrictions or interruptions to traffic after 12:00 noon on the day prior to a holiday or holiday weekend.

There shall be no restrictions or interruptions to traffic on arterial roadways during the peak traffic hours of 7:00 a.m. to 9:00 a.m. and from 3:30 p.m. to 6:00 p.m. Monday through Friday, except when deemed necessary by the City. If the City determines the peak hours differ from those specified, the contractor will be required to adjust his working hours accordingly.

Work shall comply with all applicable state and local noise regulations. Construction hours in or adjacent to a residential zone shall be in accordance with hours specified in the Chelan Municipal Code.

The City may require roadway work to commence at night when it is in the best interest of the public.

Two-way traffic shall be maintained at all times unless specifically approved in the traffic control plan. Flaggers shall be shown on the traffic control plan except for emergency situations. The developer is responsible for traffic control signing per Chapter 5E.090.

All lane restrictions shall be held to a minimum time and length. Lane closures shall comply with the traffic control plans, these specifications, the MUTCD, and the WSDOT Standard Plans. If the City determines that lane restrictions are causing congestion, the contractor will be required to open any lanes, as determined by the City, until the congestion is eliminated.

There shall be no delay to medical, fire, police, or other emergency vehicles with flashing lights or sirens.

The contractor shall maintain pedestrian access through or around the project site at all times without having pedestrians enter the travel lane.

Flaggers shall possess a current flagging card issued by the State of Washington prior to performing any traffic control work on a project. Workers engaged in flagging shall wear reflective clothing and hard hats in accordance with the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction. Flagger's paddles shall meet MUTCD standards.

5D. NON-MOTORIZED TRANSPORTATION

5D.010 General

All properties, with the exception of an individual single family residence or owner-occupied duplex, abutting public streets shall, in conjunction with new construction on such properties where the estimated cost of the alterations or improvements constitute 50% or more of the value of the existing structures on the property according to current Assessor records, have sidewalks constructed along abutting streets. Curbs and gutters must also be constructed along the abutting street when the City engineer determines that the conditions of drainage require curbs and gutters.

Upon approval of the City engineer, sidewalk construction may be deferred as described in 5C.040.E, although the necessary right-of-way shall be granted to facilitate future construction of the sidewalk.

Building footings shall not be located under a public sidewalk. Footings may be located under a sidewalk if the sidewalk is in an easement and not in the public right-of-way. If building footings are to be located under a sidewalk located within an easement, all the private utilities located within that easement and under that sidewalk shall be located within conduit.

5D.020 Design Standards

The City has set forth minimum standards as shown in the Standard Details which must be met in the design and construction of sidewalks, curbs and gutters. Because they are minimum standards, they may be modified by the City engineer should the City engineer feel circumstances require increased or decreased widths. Plans for the construction of sidewalks, curbs and gutters are to be submitted as part of the street plans when applicable.

5D.030 Curb and Gutter

Commercial concrete curb and gutter per the detail in the Standard Details Section shall be used for all street edges unless otherwise approved by the City Engineer. Form and subgrade inspection by the City are required before curb and gutter are poured.

The face or top of all new curbs shall be embossed to denote the location of water and sewer services crossings. Water services shall be marked ¼-inch into concrete with a "W" and side sewers shall be marked with an "S".

5D.040 Sidewalks

All public streets shall have sidewalks on both sides of the street as shown on the roadway details in the Standard Details Section. Sidewalks, when necessary because of topographic constraints, may be required on only one side, upon approval of the City engineer. Sidewalk widths may vary based on plans and studies adopted by the City but, except as provided in this section, shall not be less than those shown in the Standard Detail Section. The design and construction of all sidewalks, curbs and gutters shall be in accordance with the details shown in the Standard Detail Section.

- A. If sidewalk widening is required, it shall be accomplished with a monolithic width pour. This may require removal of an existing sidewalk.
- B. The City engineer may reduce the sidewalk width for sidewalks over six feet wide if the City engineer does not anticipate probable pedestrian traffic through the horizon year indicated by the traffic analysis. If the width of the sidewalk is reduced, the right-of-way width shall not be reduced. Instead, the planter width shall be increased accordingly.
- C. Monolithic pour of curb, gutter and sidewalk may be allowed with approval of the City engineer.
- D. Sidewalks that dead-end at the project property line shall extend not more than 15 feet beyond the project line and shall transition to existing grade, unless otherwise specified by City Engineer.

5D.050 Pathways and Trails

Trails and pathways should be developed in accordance with the City's Comprehensive Plan, including the Open Space and Recreation Sub-Element, the Transportation Element, the Parks and Recreation Comprehensive Plan, the Lake Chelan Valley Trails Master Plan,

the Lakeside Trail Study, the Non-Motorized Transportation Implementation Plan, and any other plans or studies adopted as components of the Comprehensive Plan.

5D.060 Bicycle Facilities

Bicycle facilities should be developed in accordance with the City's Comprehensive Plan, including the Open Space and Recreation Sub-Element, the Transportation Element, the Parks and Recreation Comprehensive Plan, the Lake Chelan Valley Trails Master Plan, the Lakeside Trail Study, the Non-Motorized Transportation Implementation Plan, and any other plans or studies adopted as components of the Comprehensive Plan.

When the need for a bikeway is identified in approved Planning documents, bikeway construction is required in conjunction with any new development or redevelopment where the estimated cost of improvements on such properties exceeds 25% of the value of the existing structures, or subdivision or short subdivision approval.

The design of bikeways shall depend upon their type and usage. Bike lanes and shared roadways shall be surfaced the same as the adjacent motor vehicle roadway.

In general, all bikeway facilities shall be signed per the MUTCD or as specified herein. The bike lane stripes and pavement markings shall be as shown on the details in the Standard Details Section.

5D.070 Staking

All surveying and staking shall be as set forth in Chapter 5C. 070.

5D.080 Testing

Testing shall be required per Chapter 5C. 080. In addition, the City shall be notified before each phase of sidewalk, curb and gutter construction commences.

5E. ROADSIDE FEATURES

5E.010 General

Miscellaneous features included in this section shall be developed and constructed to encourage the uniform development and use of roadside features wherever possible. The design and placement of roadside features shall adhere to the specific requirements as listed for each feature, and, where applicable, to the appropriate standards as set forth in Chapters 5B.010 and 5B.030.

5E.020 Survey Monuments

All existing survey control monuments which will be disturbed or destroyed during construction shall be referenced prior to construction and replaced after construction by or at the direction of a Professional Land Surveyor licensed by the State of Washington. All applicable RCWs and WACs will be complied with, including but not limited to, WAC 332-120, WAC 332-130, RCW 58.09, and RCW 58.24.040. The monuments shall be replaced with the proper type at the expense of the responsible builder or developer.

- A. An iron cased monument and lid shall be installed per City of Chelan standard details
- B. Monument locations. Appropriate intervisible monuments shall be placed:
 - 1. At all intersections. At intersections with arterials or collectors, the centerline of the minor street may be monumented at the edge of the arterial or collector right-of-way.
 - 2. At the PC, PT, PCC, and PRC of horizontal curves, or at the PI if it lies within the travel roadway. The City engineer may waive monument requirement at a particular location if sufficient intervisible monumentation is provided. The City engineer may also require additional monumentation such as POT or POC to ensure intervisibility of monumentation.

5E.030 Mailboxes

Mailboxes shall generally be located per City of Chelan Development Standard Details. New developments shall utilize cluster mailboxes and must receive US Postal Service and Public Works approval as to their specific type and location.

During construction, existing mailboxes shall be accessible for the delivery of mail, or, if necessary, moved to a temporary location. Temporary relocation shall be coordinated with the U.S. Postal Service. The mailboxes shall be reinstalled at the original location or, if construction has made it impossible, to a location as approved by the U.S. Postal Service.

On existing improved frontages with on-street parking, new mailboxes for infill lot development and/or existing homes shall be clustered to maximize on-street parking availability. Specific location and layout shall be approved by the U.S. Postal Service and City engineer.

5E.040 Bus Pads, Shelters and Amenities

Different population densities dictate the number and placement of bus stops. The location of LINK Transit and/or Lake Chelan School District (LCSD) bus pads, shelters, or amenities will be evaluated on a case-by-case basis for each project. LINK Transit and LCSD shall make every effort to coordinate the location of bus stops and shall work with the City Public Works Department to determine the best location for the required amenity.

The first consideration in locating any bus stop or amenity shall be safety. The following considerations shall also be considered in determining a bus stop or amenity: operational efficiency, integration with non-motorized facilities, and minimizing impacts to adjacent property. Bus pullouts may be required if road geometry requires, such as determined by the City, LINK Transit and LCSD.

Shelters, pavement markings and signs shall be provided and installed by the developer

LINK Transit shelters shall be maintained by LINK Transit. School bus stop shelters shall be maintained by the subdivision's Homeowner's Association or apartment owner, whichever is appropriate.

Developments enclosed by walls or fences shall provide openings or gates for walkways to provide direct access between developments and bus facilities.

The City and Lake Chelan Public Schools will use the following criteria in placement and design of school bus stops:

1. A school bus stop shall be required for each new residential subdivision or apartment complex where school children are to be boarding or deboarding unless it is determined by Lake Chelan School District (LCSD) that a new bus stop is not required because adjacent facilities already exist for the site.
2. School bus facilities shall meet the same design standards as specified for Link Transit except that the contractor shall install the required school bus amenities. School bus facilities shall also meet safety design guidelines of the LCSD.
3. Placement shall be determined by LCSD and the City.

5E.050 Retaining Walls in Right-of-Way

Poured-in-place concrete, mechanically stabilized earth (MSE) walls, gabion walls, rock, concrete building block, or other approved material may be used for erosion protection of cut or fill embankments, for structurally retaining embankments, or as desired for aesthetic purposes. Retaining walls may be subject to design review.

The height of a retaining wall is that distance as measured from the top of the footing, regardless of whether the footing is buried or exposed, to the top of the wall. Structural walls on private property require the issuance of a Building Permit prior to construction, and fall under the jurisdiction of the Building Official, per CMC 17.04.077.

Retaining walls over 4 feet in height located on a public right-of-way shall meet or exceed WSDOT design standards and be designed by a Washington State Licensed Professional Engineer, and be approved by the City engineer.

5E.060 Street Trees

Blank.

5E.070 Planter Strips/Islands

Blank.

5E.080 Parking Lots

Access and drainage issues are governed by the Public Works Department. Contact the City of Chelan Planning Department to determine if the parking lot requires a site plan review process. The configuration of the stalls shall be as outlined in the Standard Details Section of these Standards.

The storm drainage system must be designed by a licensed professional engineer. Plans and specifications as required by Storm Water development standards, shall be required to be submitted for review and approval by the City with respect to storm drainage discharge and on-site retention or detention, matching street and/or sidewalk grades,

access locations, parking layout and to check for future street improvement conformity and zoning regulations.

5E.090 Traffic Signs

1. All street name and traffic directional signs shall be provided and installed by developer. Sign materials, lettering and placement shall be in accordance with the current edition of the "Manual on Uniform Traffic Control Devices" published by the Federal Highway Administration, and as directed by the City Engineer.
2. Crosswalk bars, stop bars, and arrows and wording on asphalt shall be preformed thermoplastic, Premark or approved equal.
3. All costs for signage shall be paid by the proponent and installation shall be complete prior to final plat approval.
4. The naming of all streets shall receive approval from the City of Chelan Building Department to assure consistency and elimination of confusing or inconsistent address numbers. Address number shall be assigned to all new lots prior to recording any plat. The Building Official shall review addresses prior to recording to insure that the addresses are consistent with City policies.

5E.100 Guard Rails

Guard rails may be required by the City engineer where deemed appropriate in the interest of public safety, health and welfare. All guard rails shall conform to the criteria in the WSDOT Design Manual as may be amended or revised.

5E.110 Hand Rails

A hand rail or fence is required to be constructed along the back of the sidewalk if required by the current Building Code adopted by the City of Chelan.