

Chapter 1

Introduction

1-1 Authority for Document

The *Manual on Design Guidelines and Specifications for Road and Bridge Construction in Pierce County* cited routinely in this text as, “this Manual”, as published by the Pierce County Engineer has been adopted under Title 17B of the Pierce County Code by the Pierce County Council pursuant to Chapter 36.86, Revised Code of Washington.

Chapter 36.80.030, Revised Code of Washington, states in part that, “The county road engineer shall... have supervision, under the direction of the board, of establishing, laying out, constructing, altering, improving, repairing, and maintaining all county roads of the county.” To this end the County Engineer for Pierce County shall oversee all design and construction work related to county roads within unincorporated Pierce County.

1-2 Changes to the Manual

Chapter 36.80, Revised Code of Washington, requires that Pierce County shall employ a county road engineer on either a full-time or part-time basis, or may contract with another county for the engineering services of a county road engineer from such other county. The County Engineer shall be a registered and licensed professional civil engineer under the laws of the State of Washington and charges the County Engineer with the responsibility to prepare standards of construction for roads and bridges. In the event that standards change to the degree that it becomes necessary to amend this Manual, the County Engineer shall prepare and submit such recommendations for amendment to the County Council for their review and adoption in accordance with RCW 36.86.030.

It shall be the responsibility of the individual using this Manual to verify with the Office of the County Engineer that all technical requirements being used are the most current.

1-3 General

This Manual establishes uniform standards for the design of road and bridge construction or reconstruction.

In establishing these uniform standards, the County Engineer has sought to encourage standardization of road design elements where necessary for consistency and to assure so far as practical that motoring, bicycling, and pedestrian public safety needs are met. Considerations include safety, convenience, aesthetics, proper drainage, and economical maintenance.

The County's permitting and licensing activities require the adoption of specific, identifiable standards to guide individuals and entities in the administrative process of procuring the necessary County approval(s). Yet, the County must have flexibility to carry out its general duty to provide streets, roads, and highways for the diverse and changing needs of the traveling public and others who use the public right-of-way. Accordingly, this Manual is not intended to represent the legal standard by which the County's duty to the public is to be measured.

The decision to use a particular road design element at a particular location should be made on the basis of an engineering analysis of the location. Thus, while this Manual provides minimum requirements for design, it is not a substitute for professional engineering judgment. It is the intent that the provisions of this Manual be uniform standards for road design but may not be appropriate for all locations and existing conditions.

This Manual is intended to assist, but not to substitute for, competent work by design professionals. It is expected that each professional brings to each project the best of their skills and abilities. These uniform standards are also not intended to unreasonably limit any innovative or creative effort which could result in the more effective and appropriate combination of design, cost savings, or both.

The Engineer should take into account all available information and use the professional judgment that comes from training and experience to make the final design determination. There should be some record, not necessarily formal or cumbersome, of the matters that were considered during the design process that would justify the decisions that were made regarding the final project design.

In some cases where the proposed project does not easily fall within all the preferred design standards contained in this Manual, the Engineer is encouraged to have the design parameters for the project approved prior to submittal of the preliminary design plans. In this way the Engineer can avoid delays and increased project costs associated with the design deviation process during the project development stage.

The County Engineer will judge any proposed designs that depart from the requirements outlined in this Manual in accordance with the required deviation showings in 17B.10.090. The County Engineer will be the final authority in resolving disputes concerning questions of fact in connection with standards for road and bridge construction not directly covered by this Manual.

Approval of the County Engineer can be accomplished by submitting a request in writing to the Development Engineering Section of Planning and Land Services. Such submittal shall be completed by the applicant's engineer and shall include a narrative outlining the relevant facts of the matter and a justification supporting the request. The request when submitted must include four copies of the supporting documents (maps, drawings, calculations, etc.). The County Engineer shall make a final determination regarding the request and will provide a written response to the applicant's engineer.

When one provision of this Manual conflicts with another provision of this Manual, the more protective restriction shall control. In cases of ambiguity or difference of meaning or inconsistencies between the text of this Manual and the illustrations or graphics contained in the *Standard Drawings*, as published by the Office of the County Engineer, Pierce County, the *Standard Drawings* shall control. In case of any other ambiguity or dispute over interpretation of the provisions of this Manual, the decision of the County Engineer shall be final.

1-4 Relationship to Other Documents

The most current edition of the following publications and manuals are approved for use by the County Engineer and may be used to supplement this Manual when a specific subject is not covered or discussed:

- *Standard Specifications for Road, Bridge and Municipal Construction*, as published by the Washington State Department of Transportation
- *Standard Drawings*, as published by the Office of the County Engineer, Pierce County
- *Standard Plans for Road, Bridge and Municipal Construction*, as published by the Washington State Department of Transportation
- *Manual on Uniform Traffic Control Devices*, as published by the U.S. Department of Transportation, Federal Highway Administration, as amended and approved by the Washington State Department of Transportation; commonly known as the “MUTCD”
- *Standard Specifications for Highway Bridges*, and any interim specifications, as adopted by the American Association of State Highway and Transportation Officials
- *Construction Manual*, as published by the Washington State Department of Transportation
- *Pierce County Stormwater Management and Site Development Manual*, as published by Pierce County
- *Manual on Accommodating Utilities in Pierce County Rights-of-Way*, as published by Pierce County
- *Local Agency Guidelines*, as published by the Washington State Department of Transportation, commonly known as the “LAG Manual”
- *Special Report 209 - Highway Capacity Manual*, as published by the Transportation Research Board
- *Trip Generation*, as published by the Institute of Transportation Engineers.
- *(Draft) Public Right-of-Way Accessibility Guidelines (2011 PROWAG)*, as supported by the Federal Highway Administration (FHWA) and used as the Americans with Disabilities Act (ADA) standards for public road right-of-way.

- *Highway Runoff Manual* as published by Washington State Department of Transportation

The most current edition of the following publications is recognized by the County Engineer as industry authorities and may be consulted on specific subjects not covered or discussed in this Manual or the above supplemental documents:

- *A Policy on Geometric Design of Highways and Streets*, as published by the American Association of State Highway and Transportation Officials, commonly known as the “AASHTO Green Book”
- *Guide for Development of Bicycle Facilities*, as published by the American Association of State Highway and Transportation Officials
- *Plans Preparation Manual*, as published by the Washington State Department of Transportation
- *Design Manual*, as published by the Washington State Department of Transportation
- *Bridge Design Manual*, as published by the Washington State Department of Transportation
- *Roadside Design Guide*, as published by the American Association of State Highway and Transportation Officials
- *Stormwater Management Manual for Western Washington*, as published by the Washington State Department of Ecology
- *Hydraulic Manual*, as published by the Washington State Department of Transportation

The Engineer may need to consult not only this Manual, but a number of other Pierce County documents. All road plans submitted to the County for review and approval shall be consistent with these other adopted County standards or ordinances. These documents or standards include, but are not limited to:

- *Land Division and Boundary Changes*--Title 18F Pierce County Code
- *Pierce County Construction and Infrastructure Regulations*--Site Development and Storm Drainage - Title 17A Pierce County Code
- *Pierce County International Fire Code*--Chapter 17C.60 Pierce County Code
- *Development Regulations – Environmental*--Title 18D Pierce County Code
- *Washington State Environmental Policy Act (SEPA)*--Title 18D Pierce County Code
- *Development Regulations - Critical Areas*--Title 18E Pierce County Code
- *Pierce County Development Regulations - Design Standards and Guidelines*--Title 18J Pierce County Code
- *Pierce County Comprehensive Plan*--Title 19A Pierce County Code
- *Pierce County Transportation Corridors and Connectors Preservation Map*-Chapter 19D.50 Pierce County Code

1-5 Deviation from Manual

No deviation from the technical requirements contained in this Manual may be made without first obtaining the written approval in accordance with Section 17B.10.090 of the Pierce County Code.

1-6 Legal References

The following governmental codes establish the County's right to create and enforce design and construction standards.

| Governmental Code References | | |
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| Code | Title of Code | Description |
| RCW 36.75.020 | County Roads - Standards | Sets requirements to utilize adopted County road design standards under the direction of the County Engineer. |
| RCW 36.75.130 | Approaches to County Roads | Outlines rules for construction of approaches to County roads and supervised by County Engineer. |
| RCW 36.80 | Roads and Bridges - Engineer | Outlines role of the County Engineer and duties including preparation of design standards. |
| RCW 36.86 | Roads and Bridges - Standards | Outlines minimum standards for counties to utilize. |
| RCW 43.32 | County Roads Design Standards | Establishes a State design standards committee. |
| PCC 12.08 | Road Classification Plan | Classifies all County roads. |
| PCC 12.24 | Acquisition of Rights-of-Way | Sets minimum right-of-way widths. |
| PCC 17B | Road and Bridge Design and Construction Standards | Establishes design standards for public/private roads. |