



City and County of Denver
Department of Public Works

Standards and Details
For
Engineering Division

Volume 1 - Minor Projects

Approved by:

Lesley B. Thomas, P.E.
City Engineer

May 2005

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS



Greetings from the Department of Public Works.

In my position as the City Engineer, I want to assure you that the Public Works Department has a strong commitment to the community to provide clear standards, reviews, and inspections for all construction projects.

The following Standards and Details for the Engineering Division, Volume 1, contain guidelines for the construction of minor projects. Please utilize the checklist on Page 2 to determine if your project can be classified as a minor project. This document will assist any property owner in defining and understanding the City's requirements for improvements constructed within the City's rights-of-way and, since all improvements must be constructed by a licensed contractor, this document helps the contractor define and understand the City's construction requirements.

Respectfully,

Lesley B. Thomas, P.E.
City Engineer

SECTION I

TABLE OF CONTENTS, INTRODUCTION AND CHECKLIST

TABLE OF CONTENTS

	SECTION	DESCRIPTION
P R O C E S S	I	TABLE OF CONTENTS, INTRODUCTION AND CHECKLIST
	II	PERMITS AND CONSTRUCTION PROCESS
	III	GENERAL NOTES AND REQUIREMENTS
	IV	SAMPLE PERMITS
D E T A I L S	V	DETAIL INDEX, TYPICAL STREET AND CURB SECTIONS
	VI	DRIVEWAY APPROACHES
	VII	CURB RAMPS
	VIII	INTERSECTION VALLEY GUTTER
	IX	CHASE DRAIN, BUS PULLOUT AND PAD
	X	ALLEYS
	XI	CONCRETE PAVEMENT AND JOINT DETAILS
	XII	PATCHING DETAILS
	XIII	TREE GRATE
	XIV	RADIUM STREETS
A P P E N D I C E S	A	<u>RULES AND REGULATIONS</u> Governing the Private Design, Planning, Construction, Reconstruction, and Remodeling of General Public Improvements
	B	<u>RULES AND REGULATIONS</u> Governing Street Cuts and Roadway Excavation Specifications
	C	<u>RULES AND REGULATIONS</u> For the Construction of Curbs, Gutters, Sidewalks, Driveways, Street Parking, and Other Public Right-of-Way Improvements

INTRODUCTION

Work in Right-of-Way Permits Required

By City ordinance, all contractors and utility companies must obtain a permit for any improvements performed within the City and County of Denver Right-of-Way. This “Work in Right-of-Way” permits helps the City and County provide consistent design approval and inspection services.

Minor Projects – Volume I (This Document)

The City and County of Denver requires that Minor Projects meet the requirements of this document. A contractor or utility company may use Volume I if all of the following checklist criteria are met:

Checklist to Qualify as Minor Projects

- Less than 100 lineal feet of Curb & Gutter
- No change of use
- Work is not on a State Highway
- No transfer of property required
- No changes to location of curb & gutter or sidewalk
- No work within or adjacent to a City park

Notes

1. All of the above criteria must be met for any Minor Project.
2. Regardless of project size, a licensed contractor or utility company must perform all work.
3. The Development Engineering Services (DES) City Inspector may require additional submittals of work based upon field conditions or other special circumstances.
4. Minor projects do not require submission of plan designs.
5. Work within the Central Business District must be coordinated with Development Engineering Services. Contact the Construction Inspector for Development Engineering Services at 303-446-3469.

Major Projects – Volume II (Currently under preparation)

Any project or utility company work that does not meet all of the above criteria for a Minor Project will be deemed a Major Project (Minor Project Standard Drawings will still apply to Major Projects). Contractors and utility companies performing Major Projects must follow the more extensive permitting process set out in Volume II documents and must submit design drawings in order to obtain a “Work in the Right-of-Way” permit(s).

SECTION II

PERMITS & CONSTRUCTION PROCESS

PERMITS AND CONSTRUCTION PROCESS

The flowchart on Page 3 of this section describes the steps in the City's process for minor construction projects within the City's Right-of-Way. The following eight-step process is intended to assist the applicant in understanding the requirements to obtain any permits and to construct the improvements. A listing and description of permit types is contained on the following page.

STEP 1. If the Owner or Contractor determines that their project may require construction within the City's Right-of-Way and therefore requires a "Right-of-Way" permit, please continue with Step 2. If the Owner or Contractor is unsure whether a Right-of-Way permit is necessary, please contact Public Works Permit Operations at 2000 W. 3rd Avenue, Room 107, Denver, CO 80223-1027. Please visit the website at <http://www.denvergov.org/PWTransportation/default.asp> for more information or call 303-446-3759.

STEP 2. Go to page 2 of Section I of this manual and refer to the Checklist. If you answer "YES" to all questions, continue with Step 4 through Step 8. If you answer "NO" to any questions, refer to Step 3.

STEP 3. If you have not met the requirements of questions in the Checklist, please contact Development Engineering Services (DES) within the Department of Public Works to determine the process and requirements applicable to the permitting and construction of your projects at:

Department of Public Works
Development Engineering Services
Public Works Plans Review Services
201 W. Colfax Avenue, Dept. 202
Denver, CO 80202-5330
(720) 865-2782

STEP 4. The Owner has determined that their project is within the scope of Volume I – Minor Projects.

STEP 5. Once Public Works Permit Operations (2000 W. 3rd Ave., Room 107, Denver, CO 80223-1027) has approved and issued the permit, the Contractor may begin construction of the improvements. The improvements must be constructed in accordance with the materials and specifications included in the Rules and Regulations in Appendices A through C, the terms and conditions of the issued permit(s), and these Standards and Details.

STEP 6. The City will require certain inspections by the City Inspectors to occur during the construction of the work. The Contractor is responsible for notifying the inspector in advance. The inspections are detailed in the Rules and Regulations included in Appendices A through C.

Right-of-Way Permit Types

1. Street Occupancy Permit. This permit is required when a portion of the Right-of-Way needs to be closed or occupied for the work to be completed. There are fees required for this permit. Refer to the Rules and Regulations in the Appendices for the fee requirements. This permit is issued under the authority of the City Traffic Engineer or designee.

2. Street Cut Permit. This permit is required if the street pavement is to be cut, for example, if a water service needs to be replaced to the main line in the street. There are fees required for this permit. Refer to the Rules and Regulations in Appendices for the fee requirements. This permit is issued under the authority of the Manager of Public Works or designee and can only be issued to a licensed contractor.

3. Construction Permit. This permit is required when work occurs within the Right-of-Way but outside of the street pavement. There are fees required for this permit. Refer to the Rules and Regulations in the Appendices for fee requirements. This permit is issued under the authority of the City Traffic Engineer or designee and can only be issued to a licensed contractor.

All permit types are available from the Public Works Permit Operations at 2000 W. 3rd Avenue, Room 107, Denver, CO 80223-1027, 303-446-3759. An application for a Street Occupancy Permit is included in this manual in Section 4.

These permits are also required for Major Projects not covered by this document.

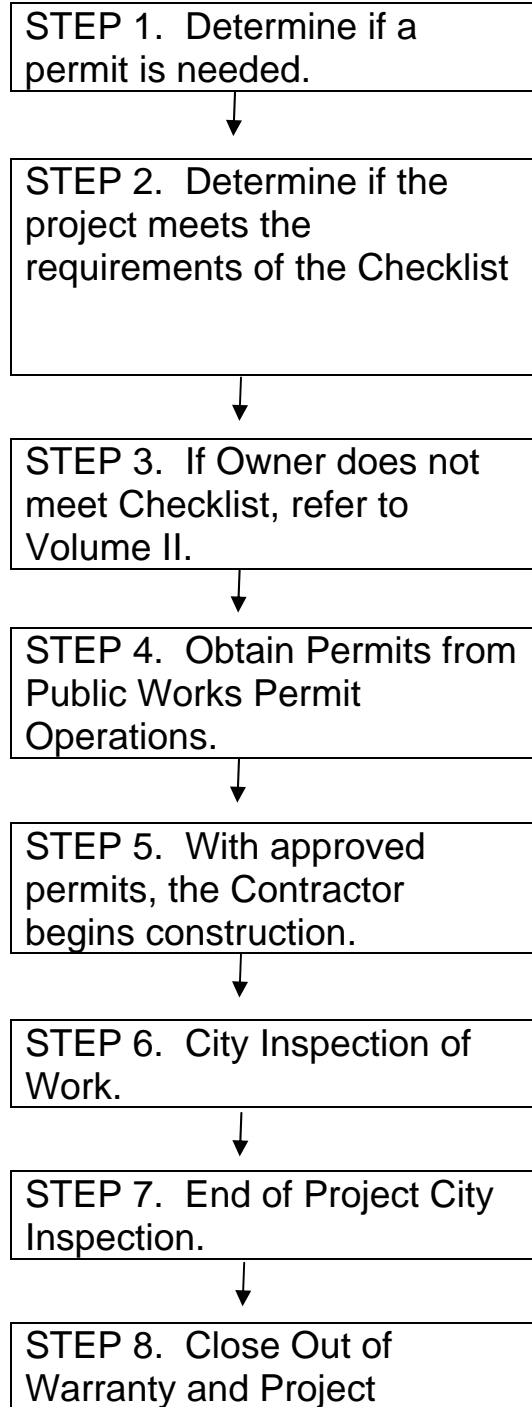
STEP 7. Once the Contractor has completed the construction of the projects, a City inspection shall occur. The City Inspector will review the project and determine that the work is in compliance with the requirements of the Rules and Regulations and these standards. From the date of City acceptance, the Owner will be responsible for a three-year warranty, for all materials and workmanship. If at any time during the three-year warranty, the City finds that the work is failing or is no longer in compliance with the Rules and Regulations, the issued permit(s), or these standards and details, the City may require, at its discretion, the Owner or Permittee to perform required repairs or reimburse the City for all costs associated with City-executed repairs.

STEP 8. After the end of the three-year warranty, the project will be closed out and accepted by the City.

Appeals Process. An appeals process is available. Contact Development Engineering Services, in writing, at 201 W. Colfax Avenue, Dept. 507, Denver, CO 80202.

Minor Project Process Flowchart

VOLUME I – Minor Projects



VOLUME II – Major Projects ***(Currently under preparation)**

See Development Engineering Services to determine requirements to develop plans for the construction of improvements. The plan must be completed prior to the issuance of permits.

SECTION III

GENERAL NOTES AND REQUIREMENTS

GENERAL NOTES AND REQUIREMENTS

1. **General Requirements.** In general, all minor projects performed in the City Right-of-Way must be performed subject to and in full compliance with the Charter, Ordinances, Rules and Regulations, permitting processes and all other applicable Standards, Specifications and requirements of the City and County of Denver, including the Standards and Details and all specific permits, terms, and conditions. In addition, such work must comply with all applicable State and Federal laws, rules, and regulations. Finally, all work within the City Right-of-Way shall be inspected by a City representative and is subject to City approval prior to completion.

2. **Rules and Regulations.** Rules and Regulations are issued by the Manager of Public Works and contain additional requirements for improvements constructed within the City Right-of-Way. Applicable Rules and Regulations are listed below and contained in Appendices A through C of this document. The Contractor is responsible for complying with all the requirements of these Rules and Regulations.
 - *Governing the Private Designing, Planning, Construction, Reconstruction, and Remodeling of General Public Improvements.*

 - *Governing Street Cuts and Roadway Excavation Specifications*

 - *For the Construction of Curbs, Gutters, Sidewalks, Driveways, Street Paving and Other Public Right-of-Way Improvements.*

3. **Engineer.** The term “Engineer,” when used in this document shall mean the City Engineer or designee.

4. **Radium Streets.** If a Contractor or Utility company must perform work in any street shown to contain Radium (as shown in Figures 1 and 2 of the Details), the City may require special permits or construction methods.

5. **Existing Utilities.** The Contractor is specifically cautioned that the location and/or elevation of existing utilities is based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied upon as being exact or complete. The Contractor must call the Utilities Notification Center of Colorado (UNCC), and any local Utilities not in the UNCC system, at least 48 hours before any excavation or construction to request exact field locations of the utilities. Prior to construction, the Contractor shall verify pertinent locations and elevations, especially at connection points and at potential utility conflicts. It shall be the responsibility of the Contractor and the Applicant to relocate all existing utilities that conflict with the proposed improvements.

6. **Permits.** The Contractor shall be responsible for obtaining all necessary permits from all applicable agencies.
7. **Notification.** The Contractor shall notify the Development Engineering Services (DES) Public Works Inspector at least 2 business days for Street Cut Permits or 5 business days for Street Occupancy Permits prior to the start of any earth disturbing activity, or construction of any public improvements within the City's Right-of-Way.
8. **Coordination of Utilities.** The Contractor shall coordinate and cooperate with the City, and all utility companies involved, with regard to relocations or adjustments of existing utilities during construction, and to assure that the work is accomplished in a timely fashion and with a minimum disruption of service. The Contractor shall be responsible for contacting all parties affected by disruption of any utility service.
9. **Approved Standards.** The Contractor shall have one (1) copy of this document, and a copy of any permits required for the project, on-site at all times.
10. **Safety.** The Contractor shall be responsible for all aspects of safety including, but not limited to, excavation, trenching, shoring, traffic control, and security.
11. **Unforeseen Circumstances.** If during the construction process, conditions are encountered which vary from the specifications, the Contractor shall contact the Public Works Construction Inspector immediately.
12. **Traffic Control.** The Contractor shall submit for approval a Traffic Control Plan (TCP) that complies with Manual of Uniform Traffic Control Devices and City Standards for all activities that affect the roadway and sidewalk. This plan shall be submitted with any permit application. The Contractor shall be solely responsible for providing all traffic control devices required by the construction activities and ensuring that the approved Traffic Control Plan is complied with in every aspect.
13. **Cleaning of Roadways.** The Contractor shall be responsible for keeping roadways clean of all construction debris and dirt tracked from the site.
14. **Dimensioning.** The details provided in this manual are not to scale. Dimensions for layout and construction are not to be scaled from any detail. If pertinent dimensions are not shown, contact the Engineer for clarification.
15. **Work Times.** There shall be no site construction activities on Saturdays, unless specifically approved by the Public Works DES Inspector, and no site construction activities on Sundays or holidays unless approved by the Engineer.

16. **Survey Control Monuments.** The Contractor is required to follow Colorado State law regarding survey monuments. For City survey monuments, the Contractor shall retain a surveyor to reset any affected survey monuments. For further information, contact the City Surveyor.
17. **Disturbance of Property.** Any areas disturbed by the construction shall be restored to their former condition or better as determined by the City.
18. **Use of Private Property.** The Contractor shall not use any private property to perform work associated with any permit unless the Contractor has obtained prior written permission from the Owner of that private property.
19. **Unsuitable Subgrade.** Subgrade materials rejected as unsuitable by the Public Works Construction Inspector shall be excavated, disposed of and replaced with Class VI Aggregate Base Course or other approved materials.
20. **Protection of Work Zone.** The Contractor shall protect all work areas and facilities from water at all times. Areas and facilities subject to flooding, regardless of the source of water, shall be promptly de-watered and restored at the Contractor's expense.
21. **Materials Testing.** The Public Works Construction Inspector may require materials testing on any project. All testing shall be at the Contractor's expense through private firms or through the City's facilities, by permit fee.
22. **Wastewater Standards.** The Public Works, Wastewater Division shall approve all storm sewer or sanitary sewer work. These projects shall be submitted directly to Public Works Plans Review Services.
23. **Curb Ramps.** Curb ramps are required on all intersection corners. Existing curb ramps within the construction area that do not meet City standards shall be replaced.
24. **Additional Submittals.** The City Inspector may require certain additional submittals and/or work based upon field conditions and/or other special circumstances.

SECTION IV

SAMPLE PERMITS

SECTION V

DETAIL INDEX, TYPICAL STREET AND CURB SECTIONS

SECTION VI

DRIVEWAY APPROACHES

SECTION VII
CURB RAMPS

SECTION VIII

INTERSECTION VALLEY GUTTER

SECTION IX

CHASE DRAIN, BUS PULLOUT AND BUS PAD

SECTION X

ALLEYS

SECTION XI

CONCRETE PAVEMENT AND JOINT DETAILS

SECTION XII
PATCHING DETAILS

SECTION XIII

TREE GRATE

SECTION XIV

RADIUM STREETS

APPENDIX A

RULES AND REGULATIONS

GOVERNING THE PRIVATE DESIGN,
PLANNING, CONSTRUCTION,
RECONSTRUCTION, AND REMODELING
OF GENERAL PUBLIC IMPROVEMENTS

APPENDIX B

RULES AND REGULATIONS

GOVERNING STREET CUTS AND ROADWAY EXCAVATION SPECIFICATIONS

APPENDIX C

RULES AND REGULATIONS

FOR THE CONSTRUCTION OF CURBS,
GUTTERS, SIDEWALKS, DRIVEWAYS,
STREET PAVING, AND OTHER PUBLIC
RIGHT-OF-WAY IMPROVEMENTS