



John W. Hickenlooper
Mayor

CITY AND COUNTY OF DENVER

DEPARTMENT OF PUBLIC WORKS
Engineering Division

Development Engineering Services
Public Works Permit Operations
2000 W. 3rd Avenue, Room 107
Denver, Colorado 80223
<http://www.denveraov.org/PWPO>

Utility Plan Review Entrance Requirements

Authority:	➤ Revised Municipal Code, Section A2.3 of the Charter and Article VII, Chapter 49
Document Date:	July 14, 2005
Version	2.2
Review Definition:	Plans for proposed underground utilities must be submitted for approval prior to Application for the Occupancy and Street Cut Permits. Permits can not be issued for construction unless plans have been approved through Public Works Permit Operations (PWPO).
Customer Interface:	Most communication between the City and the customer will be done through Public Works Permit Operations (PWPO), a customer service unit within Public Works Development Engineering Services (PWDES).
Affiliated	<ul style="list-style-type: none"> ➤ Denver Environmental Health <i>for Radium Streets</i> ➤ Denver Water Board ➤ Denver Parks & Recreation (<i>Forestry issues</i>) ➤ Public Works DES (PWPO, Construction Engineering, Public Works Plans Review Services) ➤ Public Works, Traffic Engineering Service
Review Plan Requirement:	<ul style="list-style-type: none"> ➤ All design work and construction must be in accordance with the Manager of Public Works Rules and Regulations <i>Governing the Private Designing, Planning, Construction, Reconstruction, and Remodeling of General Public Improvements.</i> ➤ Design drawings must be stamped and signed by a Professional Engineer licensed within the state of Colorado. ➤ Plan review fees must be paid prior to approval of plans. ➤ A Letter of Intent must be submitted with the plans including a company name or names, the type of work, name of contact person, phone and fax numbers also the lineal footage of proposed project. ➤ All plans must be reviewed and approved prior to construction. ➤ Site Plans must show property & right-of-way lines, easements and flow lines, roadway names, existing and proposed utilities, utilities, and all existing trees. ➤ Show typical duct bank installation section detail. ➤ The design and installation of new facilities within the public right-of-way will require a design review by Public Works Development Engineering Services (DES), however, work involving the pulling of wire, cable, fiber optic lines and other systems through existing conduits in the public right-of-way will not require a design review. ➤ Plans must be submitted on paper no larger than 11"x17". ➤ 1 set of preliminary plans are needed for each submittal. Final plan submissions require four (4) sets of plans stamped by a licensed Engineer (P.E.) and dated individually. Final plans must include required comments & changes incorporated into the plans prior to approval by PWDES. <u>No copies of the P.E. stamp on the final 4 sets will be accepted.</u> Fees must be paid and the Final Plans need to be stamped and signed by PWDES for final approval. PWPRS will distribute the final approved plans as follows: (1) One set of plan for PWPO, (2) one for the PWDES City Inspector: (3) one for the customer's file and (4) one site copy. ➤ Any construction or occupancy of the ROW will require a Street Occupancy Permit and/or a construction permit through PWDES Construction Engineering. ➤ As-built drawings must be submitted to PWPRS within four (4) months after final acceptance of constructed project. The drawings must be stamped and signed by a licensed Land Surveyor or Engineer. ➤ If AS-BUILT drawings are not received, future projects will not be reviewed or accepted by PWDES.
General Construction Notes:	General Construction Notes:
All of the following notes must be on the construction plan sets.	<ol style="list-style-type: none"> 1. Caution: Location of existing utilities is shown according to the best information available as supplied by the utility providers including type, size, location and number of utilities. Prior to date of construction Contractor shall verify existing utilities with UNCO and/or utility companies. For additional information contact: UNCC 1-800-922-1987. This company belongs to Utility Notification Center of Colorado (UNCC). The contractor shall verify existence, size, and location of existing utilities and facilities prior to construction and shall notify the engineer of any discrepancies. 2. The Permittee shall correctly show on submitted drawings the locations of all utilities in the vicinity where the Permittee may bore, trench, excavate, install conduit, fiber, fiber enclosures, vaults and handholds. In the event that the conduit run, fiber enclosures, vaults, handholds are located within the vicinity of any utility, the Permittee shall be responsible for the design and installation that will prevent damage to the installation under normal utility operating conditions. It is the responsibility of the Permittee to obtain information on each of the utilities as applicable such as gas pressure, steam and water pressures, temperatures, etc. The Permittee shall obtain a Street Occupancy Permit &

Street Cut Permit for the purposes of performing potholing procedures prior to being granted a Special Use Permit.

3. Prior to commencement of construction, contractor shall contact all utilities to coordinate scheduling. Should any conflicts, reconstruction, or other interruptions in service be required, contractor shall coordinate utility scheduling.
4. Contractor shall maintain at least one copy of the approved plans, Specifications, and Standards on the job site at all times.
5. Contractor shall notify the PWDES Construction Engineering at minimum of 48 hours prior to the start of construction.
6. Contractor is responsible for being aware of, notifying, coordinating, and scheduling all inspections required for final approvals and project acceptance.
7. All work, including correction work, is subject to notification and inspection.
8. Contractor is responsible for obtaining all project permits associated with construction and related activities such as Street Occupancy, Street Cut, and Construction Permits.
9. Contractor is responsible for implementing and maintaining erosion and sediment control measures at all times during construction. Any landscaping will be replaced to equal or better condition than that which existed prior to work.
10. Contractor is responsible for providing and maintaining adequate traffic control throughout the project, including proper traffic control devices and/or personnel as required. A traffic control plan is subject to CDOT and/or PWDES approval prior to commencing work on public right-of-way. A copy of approved traffic control plans must be available on site during work. Traffic control to be in accordance with M.U.T.C.D., Section VI.
11. All trenches shall be adequately supported and the safety of workers provided for as required by the most recent Occupational Safety and Health Administration (OSHA) "Safety and Health Regulations for Construction." These regulations are described in subpart P, Part 1926 of the Code of Federal Regulations. Sheeting and shoring may be utilized where necessary to prevent any excessive widening or sloughing of the trench. The contractor may be required to use an approved piling instead of sheeting and shoring. The contractor shall accept sole liability and responsibility for complying with the current OSHA regulations applicable to all work.
12. All work will be properly backfilled prior to the end of workday; no open holes &/or trenches are allowed overnight. All work is to be in accordance with permit requirements and applicable standards.

Roadway Notes:

1. **No work on ROW shall commence prior to issuance of a fully endorsed and validated permit.**
2. Permittee shall notify the PWDES City Inspector: 1) two days before commencing work on ROW; 2) when suspending operations for 5 or more working days; 3) two working days before resuming suspended work; 4) upon completion of work.
3. When an existing asphalt street is cut, the street must be restored to a condition equal to or better than its original condition. The existing street condition shall be documented before any cuts are made; patching shall be done in conformance with the *Rules & Regulations Governing Street Cuts*. The finished patch shall blend smoothly into the existing surface. All large patches shall be paved with a self-propelled asphalt paving machine.
4. All roadway construction within the public right-of-way shall be performed in accordance with the project and the most current version of the City & County of Denver Rules & Regulations, as well as specifications.
5. Construction of any portion of the highway facility, including the pavement structure, subsurface support, drainage, landscaping elements, and all appurtenant features, shall comply with the provisions of the City standard specifications and standard plans.
6. Construction vehicles should be kept out of watercourses to the maximum extent practicable. When in-channel work is necessary, precautions must be taken to stabilize the work area during construction to prevent erosion. The channel, including bed and banks, must always be destabilized immediately after in-channel work is completed.
7. Use temporary water diversion to bypass the work areas whenever work has to take place within a channel itself.
8. Where consistent with safety and space considerations, excavated material is to be placed on the uphill side of trenches.
9. Permittee should remove materials and equipment from the ROW at the close of daily operations. The traffic control plan must include protective measures where materials and equipment may be stored on ROW.
10. No work shall be permitted at night or on Saturdays, Sundays, and Holidays without prior authorizations or unless otherwise specified in this permit. City may restrict work on ROW during adverse weather conditions or during periods of high traffic volume.
11. Permittee shall not spray, cut, or trim trees or other landscaping elements within highway ROW, unless such work is otherwise specified in this permit or clearly indicated on the approved plans.
12. No cleated or tracked equipment may work in or move over paved surfaces without mats.
13. Material removed from any portion of the roadway prism must be replaced in accordance with the *Rules & Regulations Governing Street Cuts*.
14. The casing or sleeve so installed under the roadway shall be the same diameter as the bore so as to eliminate a void around the casing. In the event jacking operations result in voids, the resultant voids shall be grouted or otherwise backfilled, subject to City approval. Ends of

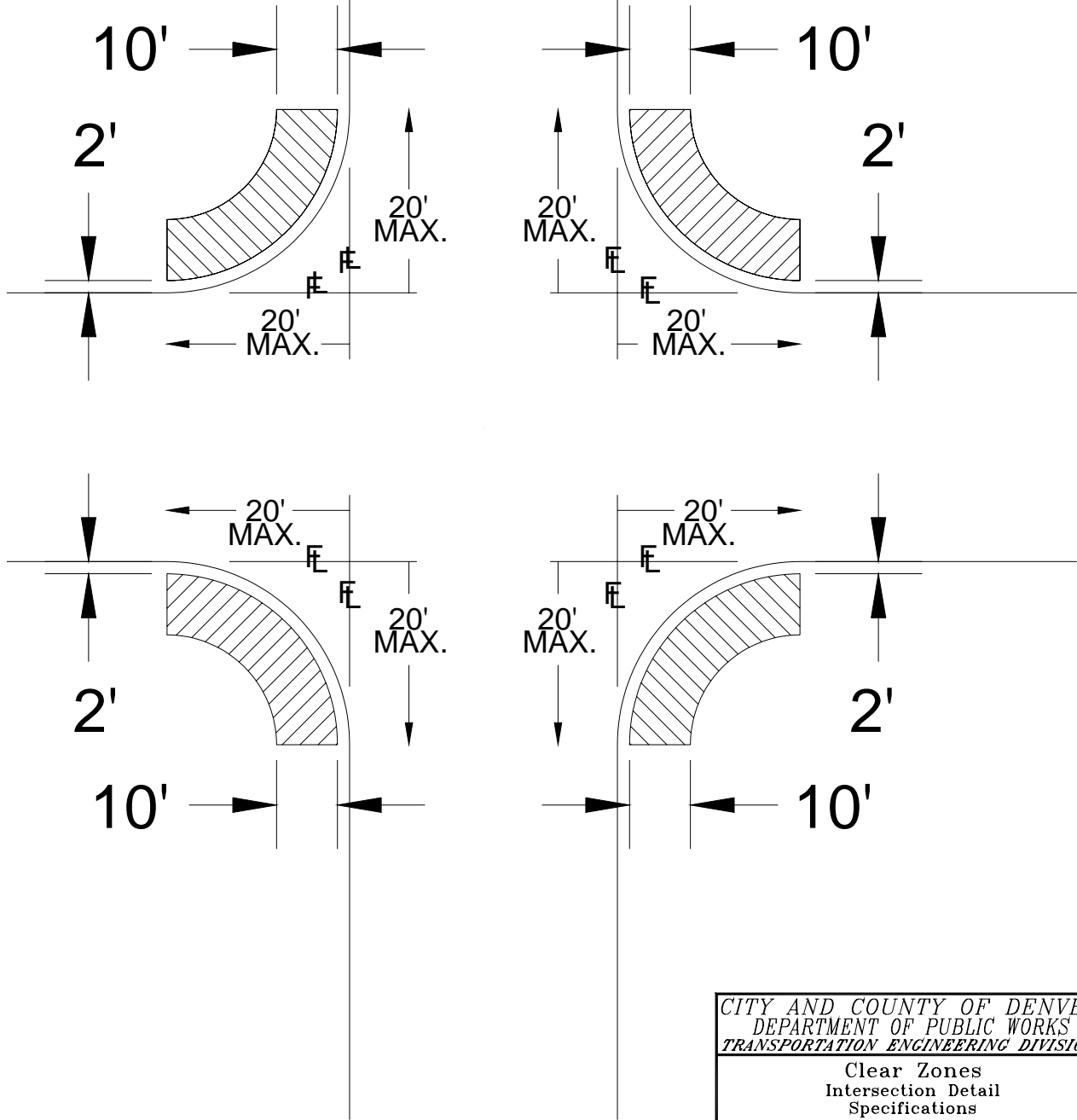
- bored sections shall not be covered before being inspected.
15. Prior to final acceptance, all disturbed portions of right of way shall be cleaned up and restored to their original condition, subject to City approval.
 16. Seeding, sodding, and planting shall be as specified or otherwise approved by City. Construction, maintenance, and watering requirements shall conform to the City standard specifications. Where landscape restoration must be delayed due to seasonal requirements, a separate permit may authorize such work.
 17. Where ROW fences need to be removed or cut to facilitate construction, approval must be given by PWDES before work is performed. Existing line must be established by good survey practices. Contractor will supply and install new materials required to restore fence to acceptable condition. New posts and wire will be required including corner posts for gates placed in locations as determined by original survey. Fences will be replaced according to fencing standards of the department available from PWDES Construction Engineering.
 18. If livestock is present in area of fence removal, a temporary fence, equivalent to the existing, will be required to contain livestock until new fence is in place; temporary fence will then be removed.
 19. In the event that an emergency repair to existing facilities is necessary, the PWDES district inspector shall immediately be notified of possible traffic hazards. Emergency procedures shall be coordinated beforehand, where possible, no work will be allowed until notification is received. Emergency telephone notification must be followed up with a letter to PWDES Construction Engineering as soon as possible.
 20. It is the responsibility of the requestor to examine the site for evidence of failures of or deficiencies in utility company facilities (i.e. Xcel, Denver Water, Denver Public Works, WMD, etc.) and to immediately call any such evidence of pre-existing damage to the attention of the utility company along with proper documentation. The requestor hereby agrees that the repair of any and all damages (direct or indirect), that may be subsequently discovered and proven to have been caused by the construction activities, is the sole responsibility of the requestor without such evidence of pre-existing damage, the requestor hereby agrees that any and all damages (direct or indirect) to utility company facilities, which may be subsequently discovered within those areas where construction occurred within six feet of utility company facilities (direct or indirect) and within a period of three years from the date of construction, were caused by the construction activities. Furthermore, their repair is agreed to be the sole responsibility of the requestor. It shall be the requestor's responsibility to protect all utility company facilities within the area of construction. This includes all steps necessary to prevent subsidence of the soil adjacent to or near utility company facilities.

Additional Required Comments:

1. All potholes must be core drilled or saw cut to 2' x 2'.
2. Contractor shall notify City & County of Denver, Department of Environmental Services, Bill Benerman at 720) 865-5436 two weeks prior to excavation for all radium street construction.
3. Full panel replacement is required for all concrete including roadways, sidewalks and pot holes.
4. Unless confined in a predefined, berm containment area, the cleaning of cement delivery chutes is prohibited at the job site. The discharge of water containing waste cement to the storm sewer system is prohibited. (Denver Revised Municipal Code §. 56-102 (a)(c).)
5. The contractor shall protect all storm sewer facilities adjacent to any location where pavement cutting operations involving wheel cutting; saw cutting or abrasive cutting are to take place.
6. The contractor shall remove and properly dispose of all waste products generated by said cutting operations on a daily basis.
7. The discharge of any water contaminated by waste products from cutting operations to the storm sewer system is prohibited.
8. Contractor shall maintain at all times at least a 10' clear zone in accordance to City standards (See detail drawing).
9. Contractor/Permit holder shall clearly identify owner name & contact info on all manhole covers. For all manholes in asphalt streets, add a 2" riser ring directly under the cover to facilitate future rotomil /overlay operations.
10. Contractor shall notify Don Wyman of the Denver Water Department at 303-628-6628 prior to construction.
11. Permittee shall assume full responsibility for any and all damages incurred to Denver Water Department facilities due to activities authorized by the permit.
12. The Denver Water Department at the sole expense of the permittee shall make any and all replacement or repair of Water Department facilities attributed to the work.
13. In the event Permittee's facilities are damaged or destroyed due to Denver Water Department's repair, replacement and/or operation of its facilities, repairs will be made by the Permittee at its sole expense.
14. Adding fiber optics to an existing duct not previously permitted will require the duct to be subject to the above three provisions #11, 12, and 13.
15. Parallel ducts or cable closer than 6 feet to a Denver Water Department facility are prohibited. A minimum clearance of one (1) foot is required when crossing a Denver Water Department main or Conduit.
16. Parks & Recreation requires compliance with the following when work is required around

	<p>trees in the public right-of-way. Trenching techniques shall comply with: (1) Trenching should not be closer to the tree than the drip line (the area under the tree branches); (2) Adjust the route to avoid roots as much as possible; (3) Store soil opposite the tree side of the trench; (4) Backfill quickly and cleanly, and water roots deeply. (5) Tunneling must be at least 4 feet below ground; (6) No excavation or equipment storage shall occur in the critical root zone (1' for every 1" caliper surrounding the tree); (7) All pit locations must be staked and approved prior to an excavation; (8) No root 2" or larger will be cut; (9) Minimize the work pit to no wider than the trench; (10) Where equipment is working near trees erect a snow fence at or just outside the drip line; (11) Prevent soil compaction by adding 4" to 12" of wood chips; (12) Retain a licensed tree company to prune broken branches as well as compensatory pruning if necessary to help the tree recover from root loss.</p> <p>17. The City of Denver <i>Tree Retention and Protection Specifications</i> must be followed. For a copy of the Tree Protection Specs please contact the Forestry Office of Denver Parks & Recreation, Michael Swanson at 720-913-0649.</p>						
Fees	<p>Fees are based on the Linear Feet involved in the plan submitted for review:</p> <table data-bbox="462 514 885 598"> <tr> <td>0' - 599.999'</td> <td>\$ 160.00</td> </tr> <tr> <td>600' - 1,799.999'</td> <td>\$ 320.00</td> </tr> <tr> <td>1,800+</td> <td>\$ 1,000.00</td> </tr> </table> <p>Special Services \$ 55.00/hour</p>	0' - 599.999'	\$ 160.00	600' - 1,799.999'	\$ 320.00	1,800+	\$ 1,000.00
0' - 599.999'	\$ 160.00						
600' - 1,799.999'	\$ 320.00						
1,800+	\$ 1,000.00						
Walk-through Program	<p>In <i>many</i> cases, PWPO will be able to walk through Utility Review Applications if they:</p> <ol style="list-style-type: none"> 1. Have less than 150' of utility construction 2. Do not encroach into an intersection 3. Do not have any forestry impacts 4. Where there may be terminals that do not exceed 48", nor when cabinets are installed. 						

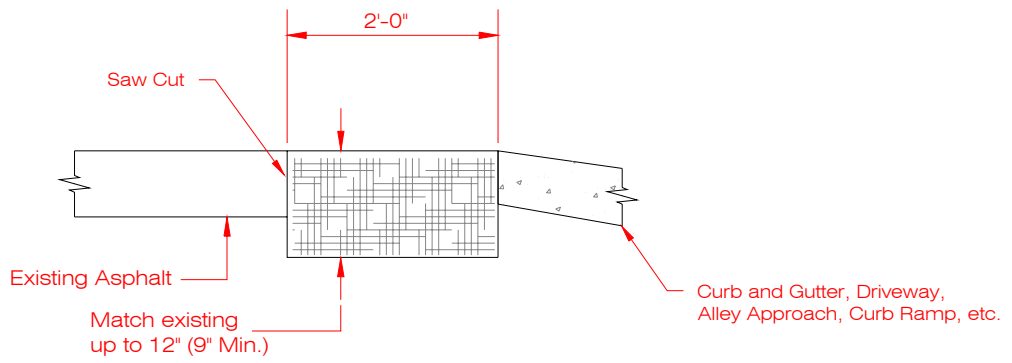
PERMIT HOLDERS
SHALL MAINTAIN A 10'
"CLEAR ZONE" AT
INTERSECTIONS FOR
THE INSTALLATION OF
FUTURE TRAFFIC
SIGNAL EQUIPMENT.



CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION ENGINEERING DIVISION

Clear Zones
Intersection Detail
Specifications

DATE: 02/22/00	SCALE: ~	DRAWN BY: Doris A. Jarrido	SHEET NO. 1	DRAWING NO.
		CHECKED BY: JMJ	OF 1 SHEETS	CLEARZONE.DWG



DATE: 04/00

CITY & COUNTY OF DENVER

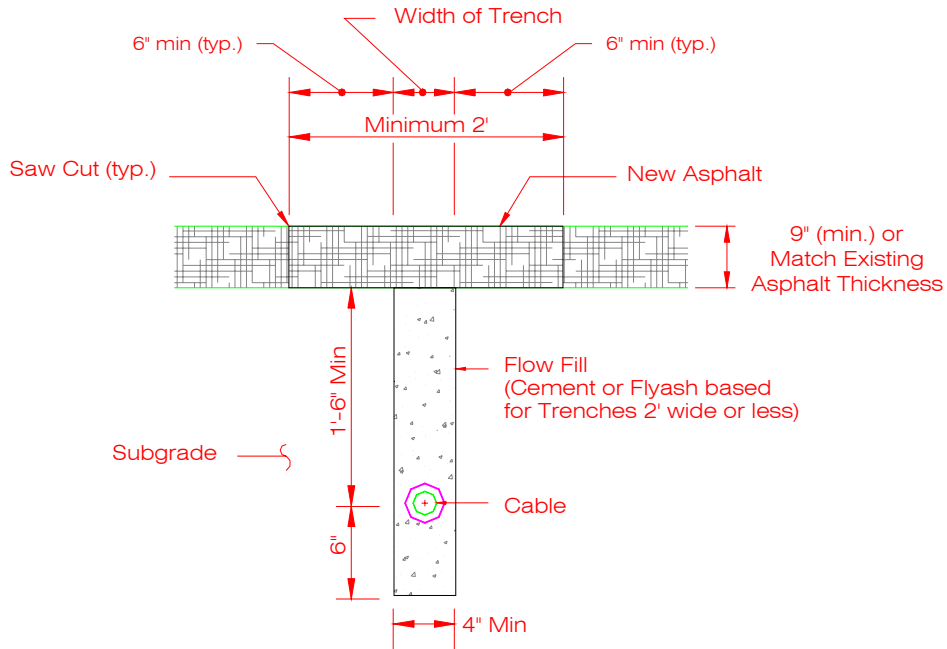
PUBLIC
WORKS

STD. DWG NO.

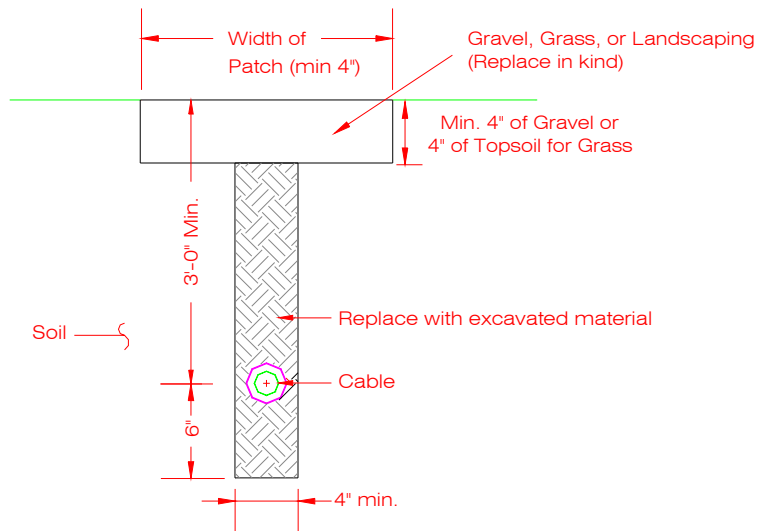
ASPHALT PATCH



12.0



TRENCH PATCH (ASPHALT)



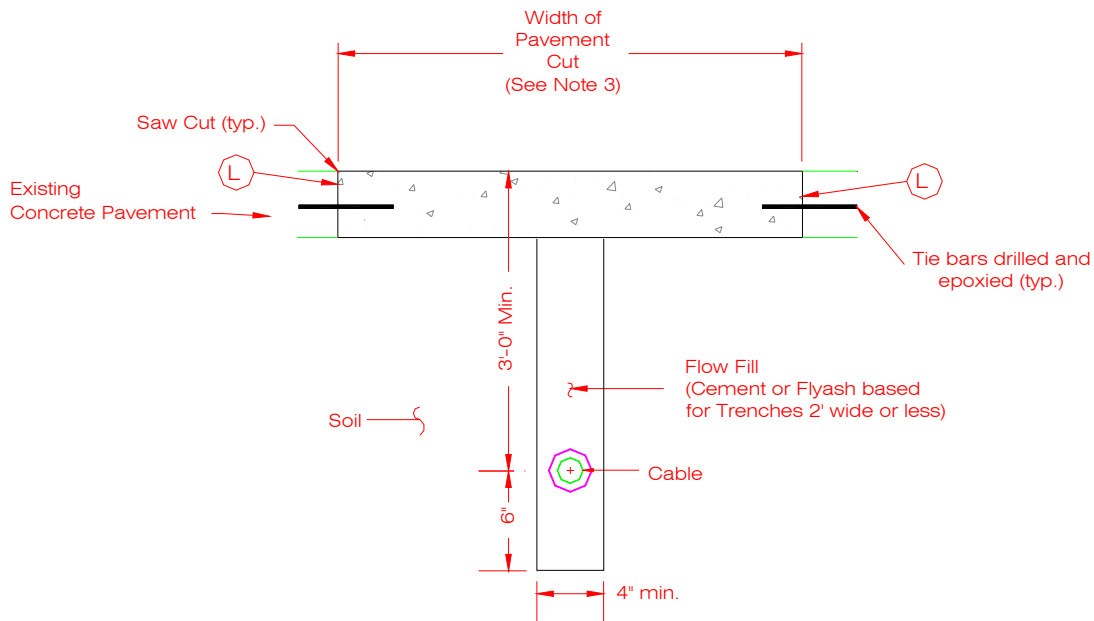
TRENCH PATCH (GRAVEL OR LANDSCAPING)

NOTE:

1. Wherever possible, conduit or cable shall be installed by boring, driving or any other acceptable means under concrete units and open cutting shall be used only under special circumstances and only after approval by the City.

DATE: 04/00

CITY & COUNTY OF DENVER	PUBLIC WORKS	STD. DWG NO.
TRENCH PATCH (ASPHALT/MISC. MATERIALS)		12.1



NOTES:

1. Wherever possible conduit or cable shall be installed by boring, driving or any other acceptable means under concrete units and open cutting shall be used only under special circumstances and only after approved by the City.
2. This detail applies to all concrete streets, alleys, sidewalks, curbs, gutters and driveways.
3. Limits of Concrete Pavement Removal:
 - a. For concrete pavement less than 3 years old, entire panel shall be removed
 - b. For pavement older than 3 years, the following applies:
 - One removal limit shall follow an existing joint, when possible.
 - If neither limit of removal follows an existing joint line, the limits of removal shall be 4' from an existing joint, or the removal shall be extended to the existing joint.
 - The minimum width of pavement removal shall be 4'.
4. A construction joint shall be used to tie the concrete patch to existing concrete on all sides except where limits match an existing transverse contraction joint. Tie bars shall be eliminated at transverse contraction joints.
5. The limits of concrete patching shall be perpendicular or parallel to the centerline of the street. Skewed trenches are not permitted.

DATE: 04/00

CITY & COUNTY OF DENVER

PUBLIC
WORKS

STD. DWG NO.

TRENCH PATCH (CONCRETE)



12.2