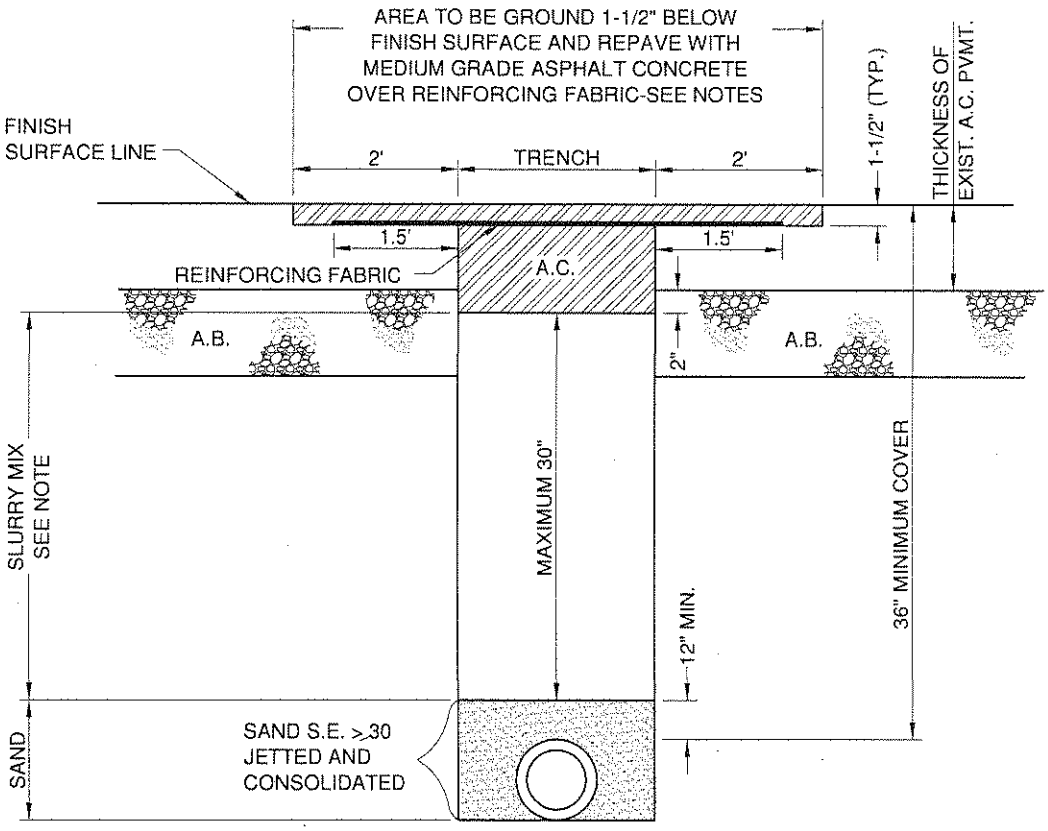

APPROVED:

P.W. DIRECTOR / CITY ENGINEER

REVISED DATE: 5/15/08

City of Westminster

DEPARTMENT OF PUBLIC WORKS

UTILITY EXCAVATION

STANDARD NUMBER

609

STANDARD DRAWING # 609
UTILITY EXCAVATION IN THE PUBLIC RIGHT OF WAY

The intent of these standards is to assure the best repair possible and reduce adverse impacts for the Public from road roughness, closures, and time to do work. IT MUST BE DONE SAFELY!

Notes

1. **Slurry Backfill**: Use 1.5 sack slurry with two (2) percent calcium chloride. If steel pipe is used then use non-chloride accelerator. Slurry shall be a maximum of thirty (30) inches deep, and shall be placed to the depth of two (2) inches below existing A.C. pavement.

2. **Pavement:** The trench shall be paved for the thickness of the existing paving plus a depth of two (2) inches, twenty-four (24) hours after slurry has been placed. The A.C. pavement shall be placed directly over the slurry with no aggregate base. The A.C. pavement in the trench plus two (2) feet each side of the trench, shall be ground a depth of one and one-half (1.5) inches below finish surface, and paved with a medium grade A.C. over reinforcing fabric.

   Latex rubber asphalt concrete or other type of asphalt concrete material may be required based on existing conditions.

3. **Reinforcing Fabric:** The trench, plus one and one-half (1.5) feet on each side, shall be covered with reinforcing fabric prior to paving.

4. **Cold Mix:** Use of cold mix (UPM) to temporarily repair excavations the same day, in order to allow traffic flow on smooth transitions, is generally allowable. If cold mix is to be used, use (UPM) or approved equal, following the City Engineer's approval. It shall be a minimum thickness of three (3) inches for residential streets and six (6) inches for arterial and secondary arterials, and kept in good and safe condition.

5. **Slurry Seal**: Longitudinal continuous excavation shall be sealed using Type II slurry seal and cracks sealed, for the width of any affected lanes following the A.C. repairs, to the satisfaction of the City Engineer.

6. **Sand**: Sand shall be used for bedding and as cover for installed pipes. A minimum cover of twelve (12) inches of sand shall be used. On water service laterals, maintain twelve (12) inches of sand above the lateral, even when the elevation varies as the lateral is closer to the edge of gutter. Sand shall have an sand equivalence of greater than or equal to thirty (30). Sand shall be placed in maximum one foot lifts or less thickness as necessary to be able to achieve the necessary consolidation. It shall be jetted and consolidated to the satisfaction of the City Engineer.

7. **NPDES Requirements:** Streets shall be kept clean at all times. The City may require mechanical sweeping. The contractor shall maintain a clean work area, and prevent any material prohibited by the NPDES permit and the City's Water Quality Ordinance from entering the storm drain system.

   The contractor shall meet all NPDES requirements during construction. All erosion control measures shall be taken during construction, to the satisfaction of the City Engineer. If no proper erosion control measures are taken on site, City may require that all operations cease and the encroachment permit may be revoked until proper measures have been taken to the satisfaction of the City Engineer.

8. **Traffic Control Plan**: Contractor (or applicant) shall submit traffic control plans complying with the California Manual on Uniform Traffic Control Devices (MUTCD), in advance for review and approval prior to excavating within the Public Right of Way, unless the excavation is an emergency, and then comply with the WATCH Manual.

STANDARD DRAWING # 609
UTILITY EXCAVATION IN THE PUBLIC RIGHT OF WAY
Notes (Continued)

9. **CAL-OSHA:** Contractor shall follow and will be responsible to obtain a Cal-OSHA permit when required.

10. **Steel Plates**: When steel plates are used, they shall be used per Caltrans Standards, with the following modification: Method Two (2) shall be applied to all arterial and secondary arterials. Steel plates shall be doweled into the ground, and/or welded together to eliminate movement. The City Engineer may recommend additional safety measures if it is deemed necessary. Steel plates shall always have cold mix around all edges. Recessing of steel plates shall be performed as required by the City Engineer on arterial and secondary arterial streets for planned activities requiring more than twenty-four (24) hours for open travel ways.

    a) Planned activity: Planned activities shall be cleared through the Engineering Division to be working in the Public Right of Way under an approved schedule. Steel plates can remain at one location for twenty-four (24) hours, then shall be removed. If unforeseen conditions arise, then follow emergency procedures below.

    b) Emergency procedures: When an unforeseen condition arises, steel plates can be maintained at a location for up to seventy-two (72) hours.

11. **Potholing/Temporary Excavating**: If potholing is the result of an investigation for a planned activity or for temporary excavations, cold mix (UPM) or approved equal could be used temporarily with suitable backfill, flush with adjacent existing asphalt. Following completion of the activity, standard excavation for permanent repair shall be followed. This will be done the same day as the excavation to reduce adverse impacts to roadway use. The City Engineer may require, based on the existing street condition, that excavation repair includes grinding along the edges, as per standard utilities excavation repair.

12. **Boring**: Boring shall be considered as a continuous trench as far as excavation repair. Potholes located intermittently will not be treated as separate excavations but as a continuous excavation. The City shall reserve the right to require boring or open trench as the situation may arise, to the satisfaction of the City Engineer.

13. **Moratorium on Newly Resurfaced Streets**: Excavation shall generally not be permitted in any street that has been resurfaced in the past five years. No permit will be granted to excavate in the Public Right of Way except for lateral extensions to customers/repairs less than one thousand five hundred (1,500) feet, or as approved by the City Council. Approved excavations in new streets shall require full lane or full width of the street, as determined by the City Engineer, with grind and overlay repairs. In case of an emergency, applicant shall obtain the City Engineer's approval for appropriate repair measures as soon as possible.

14. **Contractor Identification**: Anyone working within the Public Right of Way shall be identified with the entity's name, to be visible from both directions of travel lanes.

15. **Variances:** The City Engineer may consider variances as requested in advance, that meet the intent of these specifications.

16. **Lane Closure:** Multiple lane closures will normally be prohibited.

17. **Work Hours:** Arterial and secondary arterial streets work hours shall be restricted to 9:00 a.m. until 3:00 p.m. No traffic control shall be placed before 9:00 am and shall be removed by 3:00 p.m. Residential and secondary streets work hours shall be restricted to 7:00 a.m. until 4:00 p.m.

STANDARD DRAWING # 609
UTILITY EXCAVATION IN THE PUBLIC RIGHT OF WAY
Notes (Continued)

18. **Insurance:** Anyone working within the Public Right of Way shall comply with the City's insurance requirements, prior to obtaining an encroachment permit.

19. **Encroachment Permit**: Anyone excavating within the Public Right of Way shall be required to obtain an encroachment permit prior to start of any excavation.

20. **Underground Service Alert**: Section 4216/4217 of the Government Code requires a DigAlert Identification Number be issued before an "Encroachment Permit" will be valid. For your DigAlert I.D. Number, Call Underground Service Alert, Toll Free: 1-800-422-4133, two working days before you dig.

CALTRANS STANDARD
TEMPORARY STEEL PLATE BRIDGING WITH A NON-SKID SURFACE

Highway encroachment work involving excavations shall be identified during the review process of the permit applications package. It is recognized that to accommodate excavation work, steel plate bridging may be necessary. All permit conditions for use of steel plate bridging should be set forth in the special provisions of the permit.

Consideration of steel plate bridging in the review process should take into account the following factors:

1. Traffic volume and composition
2. Duration and size of the proposed excavation
3. Weather conditions

When it is determined in the review process that shoring will be a part of the permitted operation, the shoring shall conform to Caltrans standards.

When backfilling operations of an excavation in the traveled way, whether transverse or longitudinal, cannot be properly completed within a work day, steel plate bridging with a non-skid surface and shoring may be required to preserve unobstructed traffic flow. In such cases, the following conditions shall apply:

1. Steel plate bridging on freeways is not allowed.
2. Steel plates used for bridging must extend a minimum of twelve (12) inches beyond the edges of the trench.
3. Steel plate bridging shall be installed to operate with minimum noise.
4. The trench shall be adequately shored, per Caltrans Standards, to support the bridging and traffic loads.
5. Temporary paving with cold asphalt concrete shall be used to feather the edges of the plates, if plate installation by Method Two (2) is used.
6. Bridging shall be secured against displacement by using adjustable cleats, shims or other devices.

As required by Caltrans, steel plate bridging and shoring shall be installed using either Method One (1) or Two (2):

Method One (1) For speeds more than 45 mph:

The pavement shall be cold planed to a depth equal to the thickness of the plate and to a width and length equal to the dimensions of the plate.

Method Two (2) For speeds 45 mph or less:

Approach plate(s) and ending plate (if longitudinal placement) shall be attached to the roadway by a minimum of two (2) dowels pre-drilled into the corners of the plate and drilled two (2) inches into the pavement. Subsequent plates are butted to each other. Fine graded asphalt concrete shall be compacted to form ramps, maximum slope eighty-five (85) percent with a minimum twelve (12) inches taper to cover all edges of the steel plates. When steel plates are removed, the dowel holes in the pavement shall be backfilled with either graded fine or asphalt concrete mix, concrete slurry, or equivalent slurry satisfactory to the Caltrans' representative.

The contractor shall be responsible for maintenance of the steel plates, shoring and asphalt concrete ramps.

Unless specifically noted in the provisions of the permit, steel plate bridging should not exceed four (4) consecutive working days in any given week. Backfilling of excavations shall be covered with a minimum three (3) inches temporary layer of cold asphalt concrete.

The following table shows the required minimal thickness of steel plate bridging required for a given trench width:

TRENCH WIDTH	MINIMUM PLATE THICKNESS
0.3 m (1.0')	13 mm (1/2")
0.45 m (1.5')	19 mm (3/4")
0.6 m (2.0')	22 mm (7/8")
0.9 m (3.0')	25 mm (1")
1.2 m (4.0')	32 mm (1¼")

NOTE: For spans greater than four (4) feet, a structural design shall be prepared by a registered Civil Engineer and approved by Caltrans.

Steel plate bridging shall be steel plates designed for HS20.44 truck loading per Caltrans Bridge Design Specifications Manual. The permittee shall maintain on the steel plate a non-skid surface having a minimum coefficients of friction equivalent to 035 as determined by California Test Method 342 (see Caltrans Standards). If a different test method is used, the permittee may utilize standard test plates with known coefficients of friction available from each Caltrans District Materials Engineer to correlate skid resistance result to California Test Method 342.

A Rough Road Sign (W33) with black lettering on an orange background, may be used in advance of steel plate bridging. This is to be used with any other required construction signing.