

TRAFFIC CONTROL PLAN:

A traffic control plan (Plan) is required whenever work is to be performed within the public right-of-way and is deemed necessary by the City of Santa Ana's (City) Traffic Engineer. Work cannot start until the traffic control plan has been approved by the City Traffic Engineer.

The Plan shall be prepared under the supervision of, signed and sealed by a California-registered Civil Engineer practicing Traffic Engineering. The Plan, which shall be designed in 1"=40' or 1"=50' scale and printed on a 24"x36" sheet(s), shall include the following:

1. The name, address and telephone number of the responsible engineering firm.
2. The estimated number of working days to complete the work or each phase.
3. The "Construction General Notes" and the "Traffic Control General Notes".
4. A legend of the various traffic control devices, i.e. Type II and Type III barricades, delineators, flashing arrow boards, and high level warning devices.
5. A legend of the various signs used on Plan. This should be illustrations of the signs, however textual descriptions are acceptable. The legend is only necessary on the first sheet of the Plan.
6. Existing striping and pavement markings, street center line(s) with stations, curb lines, relevant existing signs, existing curb markings, driveways in critical locations, and type of intersection control, i.e. signals or stop signs.
7. Existing and proposed lane widths, construction zone widths, and other dimensions.
8. The means of traffic control by signing, striping and/or delineation.
9. The tapers of any detour striping, i.e. 100:1, and also identify the length, and beginning and end of each taper.
10. The locations where parking is to be removed during construction.

CONSTRUCTION GENERAL NOTES:

1. Street closures or lane closures shall be confined to the hours between 9 a.m. and 3 p.m., Monday through Friday. All other times must be approved by the City Traffic Engineer. All lanes shall be open for traffic during non-work hours, unless approved otherwise by the City Traffic Engineer. On major arterials, two through lanes in each direction and left turn lanes in each direction must be maintained at all times, unless approved otherwise by the City Traffic Engineer.
2. Contractor shall replace all traffic detector loops damaged during construction, per Caltrans Standard. Layout of traffic loops shall be verified by the City Traffic Engineering Section prior to installation. Contact Signal Operations at 714/647-5612.
3. Wherever pavement is offset vertically by one (1) inch or more, the Contractor must ramp it with asphalt for a smooth transition, to the satisfaction of the City Construction Inspector (Inspector).



APPROVED:

DATE: 11-6-09

George Alvarado
CITY ENGINEER

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4. No water or other hoses shall be laid across traffic lanes at any time. Any hoses laid across sidewalks or other pedestrian paths shall be ramped.
5. All steel plate bridging shall have a non-skid surface.

TRAFFIC CONTROL GENERAL NOTES:

1. All work shall be done in accordance with the latest Work Area Traffic Control Handbook (WATCH), latest California MUTCD, and this City of Santa Ana Standard Plan No. 1125F. In case of discrepancy, the City of Santa Ana Standard Plan No. 1125F takes precedence over WATCH, which takes precedence over the latest adopted California MUTCD. WATCH is published by Building News, Inc.
2. The 85th percentile speed shall be used if available to determine detour taper lengths and sign/delineator spacing. This information will be supplied by the City Traffic Engineering Section upon request.
3. Construction operations shall be conducted in such a manner as to cause as little inconvenience as possible to abutting property owners and commuters.
4. The Contractor shall have all signs, delineators, barricades, etc. properly installed prior to commencing construction and shall not attempt to switch to a subsequent phase during working hours. All traffic detours shall be approved by the City Traffic Engineering Section.
5. The Contractor shall maintain, on a 24-hour basis, all signs, delineators, barricades, etc., to ensure proper flow and traffic safety.
6. The Contractor shall utilize flaggers during work hours, as deemed necessary by the City.
7. Flashing Arrow Boards shall be used on all primary and secondary arterial streets, or where deemed necessary by the City Traffic Engineer. The Flashing Arrow Board shall be stationary and kept in place at all times. In or near residential areas, the Flashing Arrow Board shall be solar-powered.
8. The City Traffic Engineering Section and the Inspector reserve the right to observe the traffic control plans in use and require the Contractor to make any necessary changes as field conditions warrant.
9. Speed Limit Signs:
 - A. "Road Work Speed Limit XX" (C17 (Front)) signs shall be posted approximately every 300 feet throughout the construction zone and after each intersection, starting at the "RT/LT Lane Closed Ahead" (C20) signs. "End XX Speed Limit" (C17 (Back)) signs shall be posted at the ends of the construction zone. The C17 signs should not be more than 10 MPH below the existing speed limit.
 - B. If the speed limit needs to be reduced more than 10 mph below the posted speed limit, the speed limit needs to be lowered in two stages. A "Reduced Speed Ahead" (R2-5) and "Roadwork Speed Limit XX" (C17 Front) shall be posted in advance of the "Road Work Ahead" W20-1 sign. The second stage will consist of "Reduced Speed Ahead" (R2-5) signs posted with the W20-1 signs, and the second C17 (XX) signs shall be posted with the "Rt/Lt Lane Closed Ahead" (C20) signs.
 - C. Any existing conflicting signs in the construction zone shall be covered during construction with heavy duty black plastic (non transparent) sheets or bags, which are secured to the sign post below the sign, with tape. In no case shall tape be applied to any sign.
10. Warning Signs:
 - A. All advance warning sign installations shall be equipped with flags for daytime closures.
 - B. All signs shall be reflectorized and of standard size.



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11. Striping:

- A. All new or temporary striping, pavement markers, legends, arrows, markings and curb painting shall conform to the latest Caltrans Standard Specifications, Section 84, Traffic Stripes and Pavements Markings, and Section 85, Pavement Markers, and CSASP.
- B. For delineation to indicate the new required vehicle path, pressure sensitive construction grade traffic marking tape and/or typical striping paint and/or raised pavement markers shall be used to supplement the channeling devices, delineators, reflectorized signs, and barricades. Tape markings shall clearly represent lane markings.
- C. All conflicting stripes, pavement markings and legends shall be completely removed by abrasive blast cleaning prior to any change in the traffic pattern. With the Inspector's approval, grinding may be used to remove thermoplastic, and the Contractor shall patch the pavement in kind, as necessary, to the Inspector's satisfaction. When raised pavement markers (RPMs) are removed, the Contractor shall patch the pavement in kind to the satisfaction of the Inspector.
- D. The Contractor shall replace striping and legends to their original state or per City-approved channelization plan after completion of construction.
- E. All streets with striping shall be cat-tracked with paint or temporary flexible pavement markers the next day following final paving and permanent striping shall be installed within two weeks starting from the day the street is cat-tracked.

12. Barricades and Delineators:

- A. All delineators shall be 36" minimum portable, reflectorized rubber guide post tubes consisting of two high intensity reflective bands with a total of 6" height of reflective surface, orange in color, with weighted bases or sandbag rings and shall be kept in their proper position at all times, and shall be repaired, replaced, or cleaned as necessary to preserve their appearance and continuity.
- B. Type I or II barricades may be used in addition to the rubber guide post, at the discretion of the Contractor, when they are intended to provide additional emphasis in areas where workers are present.
- C. Temporary protective fencing shall be placed around an open trench during hours of non-construction operations, if required by the City Traffic Engineer.

13. Lighting:

- A. Where lights are used to delineate the traveled way through and around the work area, they shall be type "C" - steady burn lamps.
- B. Flashers shall not be used to channelize, separate or delineate the path that traffic is to flow.
- C. Flashing Arrow Panels (FAP), type "B", as specified in Section 7-5 of the WATCH manual, latest edition, shall be used on the W20-1 signs for night closures.

13. Final Inspection:

- A. Before final inspection of the work, the Contractor shall clear the right-of-way and all grounds occupied by him in connection with the work, of all rubbish, excess materials, equipment, signs, delineators, etc. All parts of the work area shall be left in a neat and presentable condition.
- B. When the work has been completed, the City Construction Engineer and/or the Inspector shall make the final inspection.

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CITY ENGINEER

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15. The provisions of a traffic control plan shall apply until completion of all phases of the work within the Public right-of-way.

STREET CLOSURE

1. When a street closure is approved by the City Traffic Engineer, the Contractor shall notify the Police Department, Fire Department, OCTA bus service, and affected residents, schools and businesses at least five working days in advance, and shall provide documentation of such notification to the Inspector prior to closure.
2. Access for local traffic shall be maintained at all times.
3. A minimum 4' pedestrian access shall be maintained at all times, unless approved otherwise by the Inspector.
4. At signalized intersections, pedestrian access (minimum 4') shall be maintained across at least three legs of an intersection.

TEMPORARY "NO STOPPING ANY TIME":

1. When a temporary "No Stopping Any Time" zone is approved by the City Traffic Engineer, the Contractor shall notify the Police Department at least three working days in advance and post "Tow Away Temporary No Stopping Any Time" signs at least 48 hours in advance of when they take affect.
2. The duration of the temporary parking restriction shall be indicated on the signs.

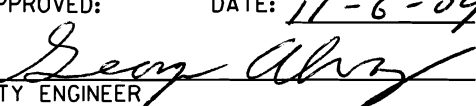
TRAFFIC SIGNALS:

1. When traffic signal modifications are necessary before or during construction and are approved by the City Traffic Engineer, the Contractor shall notify the Traffic Engineering Section (714/647-5612) at least three working days in advance of the work to be done, in order to coordinate the changes.
2. All timing changes shall be done by City Traffic Engineering staff.
3. The Contractor shall provide the personnel and the equipment to adjust or re-align signal equipment to function properly with the traffic control plan.
4. When required, signal heads shall be adequately covered in a professional-appearing manner, such as with heavy duty black cardboard secured to the signal head with rope or wires, and approved by the Inspector. In no case shall tape be used.

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