

APPENDIX E: GUIDELINES FOR PLACEMENT OF BARRICADES AT CONSTRUCTION SITES

DEPARTMENT OF PUBLIC WORKS GUIDELINES For the Placement of Barricades at Construction Sites ORDER NO. 167,840

GUIDELINES

It is the policy of the Department of Public Works that a safe and accessible path of travel be provided for all pedestrians, including those with disabilities, around and/or through construction sites.

When erecting barricades, the Contractor shall be conscious of the special needs of pedestrians with physical disabilities. Discretion is given to the Contractor to provide protection for pedestrians consistent with all local, state, and federal codes, including the Americans with Disabilities Act and the California Building Code, Title 24.

It is recognized that there are various types of construction activities, including both short-term and long-term projects. Some barricading systems are more appropriate for certain types of construction than others.

The following barricading systems described in the attached document are examples of systems which can be used to provide a safe and accessible path of-travel around and through a construction site. They are not intended to be all-inclusive. Any barricading system meeting accessibility standards may be considered.

BARRICADING METHODS AND MATERIALS

A-Frames

When using A-frames for defining a path-of-travel, not barricading trenches from vehicular travel, A-frames shall be placed end to end (no spacing between barricade allowed). This will help a person who is blind negotiate a safe path-of-travel. Openings between A-frames will give confusing signals to a person who is blind and using a "walking cane" or "white cane". If using A-frames, all must be connected in a way to ensure that individual A-frames do not move out of place or separate. As an example of an acceptable connection, A-frames may be connected by 2 x 4's that are attached to the base of the barricade system.

Barrier Caution Tape

Caution tape does not provide an adequate barricade and cannot be used to delineate path-of-travel (but can be used in other areas to highlight danger. It can be used in conjunction with barricades such as A-frames).

Fencing Material

When using fencing material (e.g., chain link, plastic, etc.) the bottom 3 inches minimum should be solid. This base will act as a guide to blind pedestrians using canes. Walking canes used by blind pedestrians could get caught in fencing. A safe design can be achieved by attaching a solid material

(e.g., wood, header bender board, sheet metal, solid rod or rail, etc.) to the bottom portion of the fence. Chosen material should have a high visual contrast to the street/sidewalk surface.

Closed Crosswalks

If a crosswalk is closed due to construction, then curb ramps leading into that crosswalk should also be appropriately barricaded. Temporary curb ramps must be installed in the direction of the crosswalk to replace barricaded ramps. It should be noted that curb ramps are not used solely by persons in wheelchairs. They are also indicators to persons who are blind that a crosswalk exists and that there is a safe path-of-travel to cross the street. Temporary curb ramps should direct blind pedestrians to and through the temporary path-of-travel.

Open Crosswalks

If crosswalks are to remain open during the project then curb ramp areas should be kept free of debris, staging material, equipment, etc.

Path-Of-Travel

Any change of level in a path-of-travel which is over 1/4" in. (1/2" maximum) height must be beveled at 45 degree to provide a smooth, non-tripping transition.

NOTE: With the unique nature of each project, certain issues may arise which have not been covered in the above guidelines Each project will have to be reviewed on a case by case basis, to ensure that complete, safe, usable and accessible paths-of-travel are maintained during construction.

EXAMPLES OF CORRECT AND INCORRECT BARRICADING METHODS

Photographs A through F depict several examples of correct and incorrect barricading methods.

A. Incorrect Barricading Method

- "A-Frame" spacing is too wide
- Caution tape does not provide an adequate barricade or detectable path-of-travel
- Curb cut access has been blocked



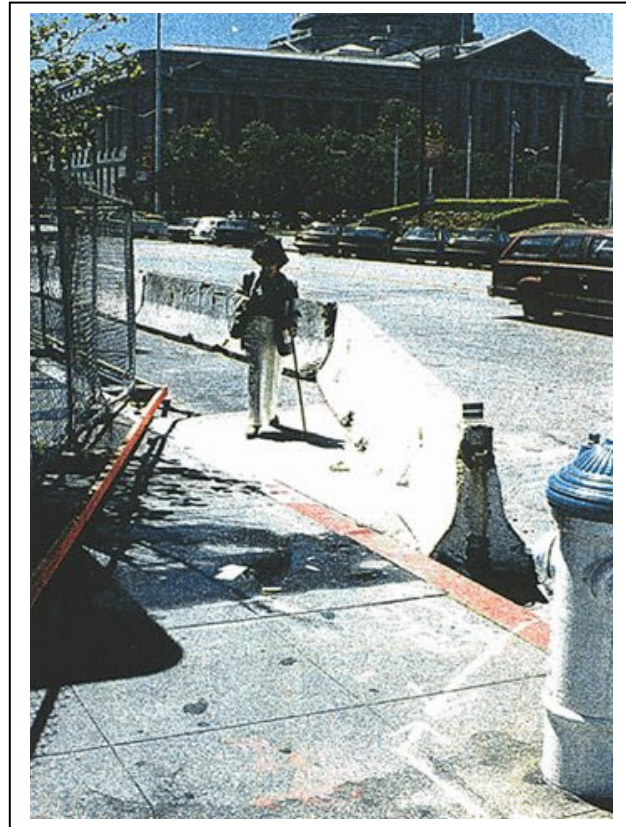
B. Correct Barricading Method

- Orange plastic fencing with baseboard provides an easily detectable path-of-travel for persons who are blind/low visioned and using a "white mobility cane". Baseboard will also help eliminate the potential for a person using a "white cane" from getting the cane caught in the fencing mesh.
- Temporary bridging system (wooden decks/steel plates) provides an accessible path-of-travel for persons using a wheelchair. (Note: the cold patch (asphalt) at the ends of the bridge provides a beveled 1:2 lip of no more than 1/2 inch for a smooth transition).



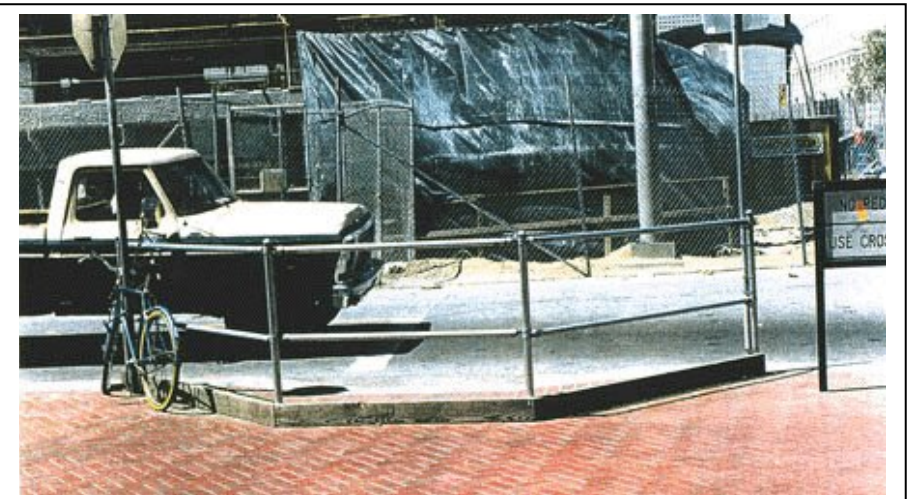
C. Correct Barricading Method

- Baseboard at perimeter of fence supports provides for a well defined path-of-travel edge for persons who are low visioned/blind and using a "white mobility cane". Baseboard also prevents cane from getting caught in fencing mesh. The baseboard is to have a high contrast to the sidewalk/street surface
- K-Rail further defines the path-of-travel and protects pedestrians from vehicular traffic.
- Concrete float (temporary ramp) provides for a smooth transition from street to sidewalk for all pedestrians as well as those persons using a wheelchair. (Note: asphalt or other material that will remain in place and support the weight of a person in a wheelchair is acceptable as temporary ramping material)



D. Correct Barricading Method (Curb ramp leading into a closed crosswalk)

- Entire perimeter of curb ramp is barricaded.
- Galvanized steel pipe railing provides an effective barricade (other materials providing the same level of barrier are acceptable).
- Bottom rail is within 12" - 20" above ground surface (this allows for detection by a person who is blind and using a "white mobility cane").
- Baseboard around perimeter of railing is a minimum 4" above ground surface (this allows for detection by a person who is blind and using a "white mobility cane").



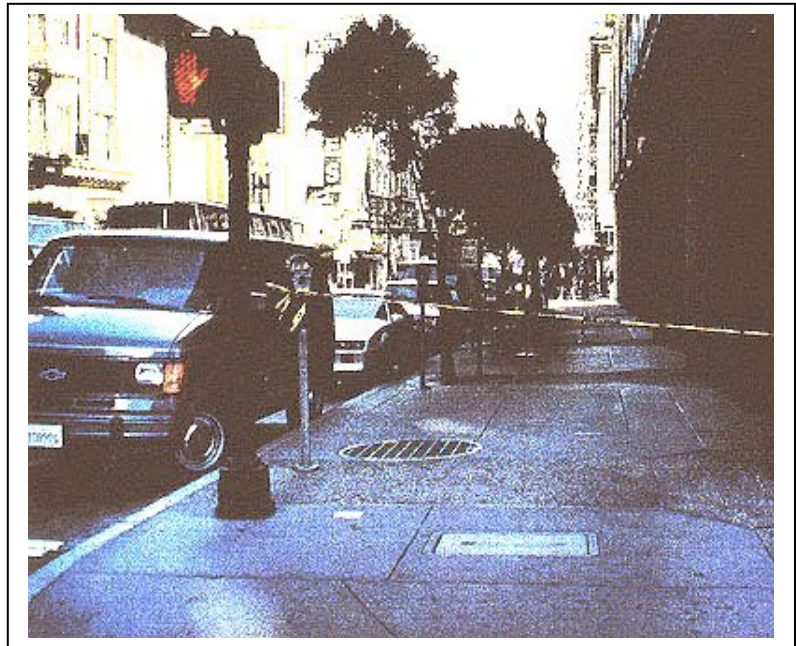
E. Incorrect Barricading Method

- This is an open trench/pit, for a new light pole. An opening in the path-of-travel poses a severe hazard to able bodied pedestrians as well as disabled pedestrians.
- The perimeter should be completely blocked off with upright barricades and no spacing should exist between the barricades.



F. Incorrect Barricading Method

- Caution tape being used to block off entire sidewalk
- No defined alternative path-of-travel (sending pedestrians into traffic)
- No solid base for detection by a person who is Low visioned/blind and using a "white mobility cane"
- No temporary crosswalk was provided for pedestrians using wheelchairs
- Overall this is an unsafe condition for all pedestrians; able bodied as well as persons with disabilities, and especially persons who are low visioned or blind.



END OF SECTION