

EMERGENCY VEHICLE ACCESS AND FIRE PROTECTION CONSIDERATIONS

Design Standard

PART 1 GENERAL

1.1 PURPOSE:

San Mateo County Community College District is committed to providing a safe environment for students, faculty, staff and visitors. This Design Standard is provided to support this commitment. In the event of an emergency, it is critical for response vehicles to have quick, clear, and easy access to all areas. Response time is of the utmost importance, reacting quickly can be the difference between life and death.

Whenever possible, SMCCCD shall comply with recommendations and requests of the local fire and emergency service response agencies, above and beyond code requirements. Partnering with the support agencies, faculty, staff and the design teams shall research and employ all means to remove existing barriers to quick response time and to ensure that new structures and design elements support and embrace this goal.

San Mateo County Community College District is strongly committed to promoting sustainability throughout their campus projects. Section 01 81 13 Sustainability of the Design Standard provides guidelines and recommendations for implementing sustainability strategies. Where relevant, specific sustainability criteria is noted in this section; however, each project team should review and cross reference that front section while developing the specific project and its documentation. Each discipline shall confirm that specific performance and manufacturer information provided in the specification section is in alignment with code requirements, LEED criteria, and any other goals for sustainability.

PART 2 PRODUCTS

2.1 FIRE DEPARTMENT SERVICE AREAS:

- A. Cañada College is served primarily by Woodside Fire Department.
- B. College of San Mateo is served primarily by San Mateo Fire Department.
- C. Skyline College is served primarily by San Bruno Fire Department.

2.2 GENERAL SITE ACCESS:

- A. Provide 20-foot wide Emergency Vehicle Access (EVA) lanes into central campus 'quads' or central plaza areas. Paving for EVA lanes must be capable of supporting fire trucks (60,000 pound minimum loading requirement, subject to review and acceptance by the respective emergency response agencies). It is important that emergency vehicles have driving access close to all campus buildings and exterior quadrangle/plaza areas; a good goal is to provide EVA access to within 150 feet of all exterior portions of each building. Provide a minimum 20-foot width on all EVA lanes, to allow adequate space for two emergency vehicles to pass each other going in opposite directions. Where this cannot be provided for the entire length of the EVA lanes (due to existing structural or landscape feature), a passing lane or other accommodation will be reviewed by SMCCCD and the appropriate emergency response agencies. Furthermore, the EVA lanes must have a minimum 13' canopy clearance for emergency response vehicles.
- B. Ideally EVA lanes should be 'looped' to allow alternate means to access central and critical areas of the campus. Where this cannot be provided, hammer-head turnarounds will be required (subject to the acceptance of the respective emergency response agencies).

- C. It is important that emergency vehicles have driving access close to all campus buildings and exterior quadrangle/plaza areas. Provide 20-foot wide EVA lanes into campus quads, capable of supporting fire trucks weighing 60,000 pounds.
- D. Non-looped EVA lanes require a hammer-head turnaround.
- E. Fire trucks require a 52' outside diameter turning circle.
 - 1. If a 52' outside diameter turning circle is not possible, confirm with the fire department if they will accept a 3-point turning configuration.

2.3 KNOX BOXES AND PADLOCKS:

The fire department prefers that Knox boxes are placed throughout the campus, for easy and multiple key set access. SMCCCD has standardized on Knox-Box 3200 Series for fire department key storage.

- A. Install recessed Knox boxes at each major entrance in new construction.
- B. Install recessed Knox boxes at each major entrance in renovation projects, if feasible; otherwise install surface-mounted units.
- C. Install Knox padlocks on gates; these can be daisy-chained with standard padlocks for college use.

2.4 FIRE SPRINKLERS:

The local fire departments prefer that buildings are fully sprinklered.

- A. All new construction shall be fully sprinklered.
- B. Major reconstruction of an existing building should include retrofit sprinklering of the building.
- C. It is not reasonable to retrofit sprinkle existing buildings that are only undergoing minor reconstruction (or no reconstruction). In those cases, standpipes should be installed outside the buildings so that fire fighters have a water source for their hoses.

2.5 FIRE HYDRANTS:

Install fire hydrants as required by local fire district with all new buildings.

2.6 FIRE PROTECTION DEVICES:

- A. Install fire protection devices (detector check valves, PIV's, FDC's) per local and state regulations for all new buildings.
- B. Detector Check valves shall be located in alcoves or away from main building entrances or entry features.
- C. Detector Check valves for the Skyline campus shall have Marine Grade aluminum or Stainless Steel enclosures due to the salt air environment.

2.7 STANDPIPES:

- A. Install standpipes in stairwells in new construction. The local fire departments prefer that the standpipes are at the main floors, not at intermediate landings. Include the ground/first floor landing, even if not required by code.

2.8 FIRE ALARM SYSTEMS:

- A. SMCCCD has standardized on Siemens MXL fire alarm systems. Refer to SMCCCD's Section 28 31 00 Fire Detection and Alarm Systems Design Standard.

2.9 APPROVED MANUFACTURERS:

- A. Siemens MXL Fire Alarm Systems, supplied by the local Siemens Building Technologies, Inc., Hayward direct branch office
- B. Knox

PART 3 EXECUTION

3.1 SUBSTITUTES ALLOWED?

No substitutes allowed.

Pursuant to Section 3400 of the Public Contract: Siemens MXL Fire Alarm Systems are now in use on the particular public improvement described as San Mateo County Community College District. At each instance in these specifications that a designated material, product, thing or service is designated by the brand name "Siemens MXL", "Siemens MXL" is designated to support the existing fire alarm systems that are in place at Skyline College, College of San Mateo, Cañada College and the District Administration Building. The Contractor will furnish and install only "Siemens MXL Fire Alarm Systems, supplied by the local Siemens Building Technologies, Inc., Hayward branch office" as required, and no substitutions shall be deemed to be "or equal" or allowed.

3.2 ASSOCIATED DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS:

Section 21 00 00 Basic Fire Protection Design Standard

Division 22 Design Standards and Construction Specifications

Section 28 31 00 MXL Fire Detection and Alarm Systems Design Standard

END OF DOCUMENT