

Appendix C. Building Physical Security Requirements & Controlled Access

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Introduction

This narrative summarizes the physical security concepts to be included in the Master Plan, consistent with the requirements of VA Physical Security Design Manual (January 2015). The intent of VA criteria is to minimize injuries, protect critical infrastructure, and limit catastrophic damage to the building structure.

The Physical Security Design Manual (PSDM) generally classifies individual facilities as “Mission Critical” (MC) or “Life-Safety” (LS), based on occupancy and planned program. It identifies applicable physical security requirements to mitigate credible design basis threat (DBT) scenarios. The proposed Draft Master Plan concept proposes a program arrangement that groups VA facilities carrying Mission Critical (MC) and Life-Safety (LS) security designations into respective zones and neighborhoods. The sections that follow recommend variance waivers, in some instances, where strict adherence to the associated physical security criteria may not be feasible, due for example to the constraints of the existing site conditions or other considerations or project objectives.

Building Classification

Based on the 2015 PSDM, examples of Mission Critical facilities include ambulatory care, domiciliary, drug/ alcohol rehabilitation, hazardous material storage, hospital, medical equipment storage, medical gas storage, medical research, mental health inpatient, outpatient clinic, psychiatric care facility, rehabilitation medicine, and rehabilitation and prosthetics.

Based on surveys of current occupancy and function, the following existing north campus buildings incorporate mental health program that is considered to be classified as MC facilities:

- Building 208 (Mental Health/Rehab Medicine)
- Building 214 & 217 (Domiciliary)
- Building 250 (Rehab Medicine)
- Building 259 (Work Therapy)

Additionally, the following existing north campus buildings house medical research and medical storage functions and are considered to carry MC classifications

- Building 113, 114, 115, 117, 210, 212, 220, 256, 258, 337, 340, 342 and 346.

Examples of the Life-Safety Protected facilities include community living centers, community-based outpatient clinics, general administration offices, greenhouses, laundry facilities, maintenance facilities, residential quarters, recreational buildings, temporary buildings, Veterans services buildings, and warehouses. Existing north campus buildings not identified above, as housing MC program, fall under the umbrella of the LS security designation. Existing north campus mental health buildings are generally considered to house outpatient medical services that are assumed to be classified as LS facilities.

Any future individual design and construction projects stemming from the Draft Master Plan are recommended to verify the security classification (MC or LS) of affected new and existing buildings, so that applicable physical security requirements are applied accordingly.

Methodology

The basic philosophy of the PSDM is that successive rings of security or lines of defense are an effective way to protect a facility and mitigate credible explosive threats. The first line of defense, which is the focus of master planning efforts that are currently underway, consists of solutions to control vehicle and pedestrian movement at the campus and building perimeters. The resulting site design integrates impact-rated systems, placed at critical locations, alongside landscaping and other non-rated deterrent systems to control circulation at the building perimeter and enhance operational security efforts. Subsequent layers in the protective design strategy emphasize - engineered solutions to withstand design-basis explosive events; operational security schemes to minimize vulnerabilities inherent to the site and building; and space planning solutions to best isolate occupied and critical spaces from high-risk areas.

The sub-sections that follow discuss minimum physical security requirements pertaining to specific components of the site design. This is followed by a summary of conclusions and recommendations to direct forthcoming development of the north campus Draft Master Plan. The presented “conclusions” are based on a review of existing site plans and observations compiled during a site visit.

Building Standoff

PSDM Requirement

No vehicle shall be parked closer than 50-ft to a MC facility. Unscreened and screened vehicles are not permitted to travel closer than 50-ft and 5-ft, respectively, to a MC facility. In all instances, standoff distance is to be measured from the building exterior to the edge of the curb line at applicable roadways and parking.

No vehicle shall be parked closer than 25-ft to a LS facility. Unscreened and screened vehicles are not permitted to travel closer than 25-ft and 5-ft, respectively, to a LS facility.

Findings / Conclusions

The standoff requirements are consistent with blast industry standard of practice to physically separate occupied and other critical program from high-risk areas. This approach supplants the need for costly structural hardening by providing adequate distance to attenuate extreme loads resulting from an explosion.

General site observations of the existing north campus buildings indicate that some MC and LS facilities do not appear to be setback the required distances from roadways and parking. Buildings not protected by the minimum standoff have a greater exposure to extreme loads resulting from DBT scenarios. Where possible it is recommended to remedy this deficiency and provide a consistent level of protection across all north campus buildings.

Recommendations

Conducting a thorough survey and measurements of standoff distances around all buildings on the campus is recommended. A scaled site plan with the standoffs to each building is recommended for future planning and design phases. It is recommended to consider the following options where individual buildings fail to comply with standoff requirements:

1. Reconfigure internal roadways and parking, where possible, to comply with building standoff requirements.

2. Submit a request for review and approval by VA to waive the setback requirement on a building-by- building basis where a practical site solution does not exist to achieve the required setback.

The latter option is recommended to include proposed design of the building envelope and critical structural system components to withstand a higher blast load requirement than would otherwise be required. The intent of the building envelope design is to provide a comparable level of protection for the facilities when standoff requirements are not met.

Perimeter Fences

PSDM Requirement

The PSDM criteria for MC and LS facilities requires the establishment of a site perimeter barrier consisting of fences, walls and gates as needed for access. The perimeter barrier is to be contiguous around the campus within which the facility is located. The barriers shall resist forced or surreptitious entry using hand tools and shall be located as close to the property line as possible. Chain link fences and gates shall not be used. Walls can be of reinforced masonry or concrete construction. Access gates do not have to be anti-ram rated and shall be located to direct pedestrians and vehicles in ways that enhance the operational environment of the security force.

The same requirements are applicable to sites that house only LS facilities.

Findings / Conclusions

The establishment of a continuous protected perimeter is consistent with VA objectives to manage vehicle and pedestrian circulation and direct staff, patients, and visitors to designated entry points where security monitoring and/or screening can occur. The prescriptive construction noted in the PSDM is intended to deter, rather than prevent, unauthorized access to the site and complement operational security efforts to monitor the campus.

The north campus does not have a continuous perimeter barrier compliant with the PSDM. Existing perimeter fences along a limited extent of the campus perimeter (bordering Wilshire Boulevard) consist of heavy-grade metal construction and can be considered compliant with VA security criteria. Remaining perimeter fences, if they exist, are chain link fences.

Recommendations

It is recommended to replace/upgrade the campus perimeter to incorporate perimeter fences, walls, and gates that are compliant with the PSDM requirements. If installation of campus perimeter will segregate the Veteran community and prevent the establishment of an open campus environment, it is recommended to submit a variance waiver to VA to consider alternative requirements.

Site Entry / Exit Points (Vehicle & Pedestrian Screening)

PSDM Requirement

Sites with MC facilities are required to incorporate enclosed guard houses for guard personnel, gate operation, and vehicle inspection at all pedestrian and vehicle entrances

to the campus.

No requirement is applicable to a site that houses only LS facilities.

Findings / Conclusions

The PSDM requirements are intended to support operational security protocol focused on creating a safe and secure campus for staff and Veterans and are generally considered to be an extension of perimeter fence requirements. The presence of MC buildings is understood to elevate the asset value of the site and trigger the need for enhanced operational security capabilities to limit site access.

The presence of MC buildings within the north campus triggers design enhancements to construct guard booths at points of vehicle and pedestrian site access, which are currently not provided

Recommendations

The configuration of site entry/exit points must balance security needs against other campus-wide objectives related to vehicle and pedestrian traffic circulation. The following options are proposed to meet the intent of the PSDM:

1. Submit a waiver for approval by VA to comply with applicable LS requirements despite the presence of MC facilities at the north campus. This approach imposes less stringent requirements and is considered to be consistent with the determination of most north campus building to be classified as LS.
2. Upgrade the existing points of vehicle and pedestrian access at the north campus perimeter to comply with MC requirements. This is likely to be the most costly design strategy but provides the greatest opportunity to maintain existing north campus MC facilities and potentially construct new buildings with MC program.
3. Assess the configuration of existing points of entry at the south campus relative to MC requirements. Preliminary site observations indicate that a main gate is provided but remains open on a day-to-day basis. This provides the opportunity to regulate site access during periods with an elevated security risk. However, no guard booths or other infrastructure is provided to control access and screen vehicles and pedestrians.

Anti-Ram Rated Vehicle Barriers

PSDM Requirement

The protected campus perimeter and interior roadways are to incorporate active and passive barriers to deter vehicle encroachment at the site and building perimeters. Barriers are to be rated to resist the impact of a 4000-lb vehicle traveling at 30 mph and provide a maximum penetration distance of 3.3 feet. PSDM criteria applicable to MC facilities requires active barriers, such as retractable bollards to be provided at the following locations:

- Access points (internal roadways) that permit vehicles within the 50-ft standoff zone around the building.
- Vehicle entrances to the site that where the 50-ft standoff zone coincides with that site perimeter fence.

PSDM criteria applicable to both MC and LS facilities require passive barriers to be natural or

manmade systems, such as bollards and walls. Passive barriers are required to be provided at the following locations:

- Portions of the perimeter fence where there is a perpendicular roadways length equal to or greater than 200-ft, on which a vehicle can achieve a high approach speed
- Externally located site utility equipment
- Building entrances
- Vehicle or ambulance drop-offs
- Cafeterias and gathering areas
- Other areas requiring additional protection from vehicles

Findings / Conclusions

The existing site and building perimeters generally do not incorporate required anti-ram protection for MC and LS facilities.

Recommendations

It is recommended to develop north campus Master Plans to include passive barriers systems at critical locations at a minimum. This recommendation is independent of the security designation for facilities within the north campus. Placement of anti-ram barriers is recommended to focus on exterior locations where bystanders are most vulnerable to accidental or intentional vehicle ramming such as building entrances and areas of outdoor public congregation.

The following options are proposed to address active barrier requirements that may be applicable to the north campus:

1. Submit a waiver for approval by VA to comply with applicable LS requirements despite the presence of MC facilities at the north campus.
2. Upgrade the north campus as needed to comply with active barrier requirements that are triggered by the presence of MC facilities.

Parking

PSDM Requirement

Surface/above-ground vehicle parking for passenger vehicles is to be located at least 50-ft and 25-ft from MC and LS buildings, respectively. Existing parking within these standoff distances shall be eliminated where possible. Where existing surface parking must remain, the affected building must be hardened to achieve the applicable comparable performance requirements (MC or LS) for the corresponding increase in blast loads. Similar requirements apply to parking structures located on or off site. Emergency vehicles are permitted to approach the building directly and not subjected to the standoff requirements.

Findings / Conclusions

At some on-site locations, existing parking encroaches on the standoff zone around MC and LS buildings. VA plans to review parameters to apply parking restrictions as appropriate, to ensure proper standoffs are implemented for campus facilities.

VA encourages parking below an existing MC facility to be eliminated. Where parking must remain, it must be restricted by requiring all vehicles to be screened. This operational measure

is required to be complemented by hardening of structural elements within the garage. The PSDM prohibits below-building parking for new facilities regardless of security designation (MC or LS).

Recommendations

It is recommended to reconfigure parking where possible to comply with security requirements. However, master planning efforts have indicated that it may not be possible to provide the required parking to service the north campus population and meet all applicable PSDM requirements. Based on the specific scheme pursued, it may be necessary for VA to consider variances to authorize deviations from the PSDM requirements as appropriate.

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