

ANNEX E

REQUIREMENTS FOR SECURITY PROTECTION PLAN (SPP)

1 General Requirements

1.1 The SPP shall be a self-contained document of all security measures that are to be implemented. This section describes the minimum details required in the SPP, as well as other required information. Should the SPP contain additional items or security measures, the Competent Person (CP) shall furnish appropriate details to meet the above purpose.

2 SPP

2.1 Basic building information

Item	Details Required
Building layout	Plans for each level
Critical Assets	Mark out critical asset locations on architectural drawings
Utilities	Key utilities that support the continued function of the security measures, emergency response protocols or are susceptible for exploitation are to be marked out on architectural drawings.

2.2 Security Zoning

2.2.1 The CP should apply the security zoning concept to control human movement within the building. Zoning allows employers, visitors, vendors, and others to reach their destinations without hindrance, and at the same time prevents their access to areas where they have no business. Controlling of access to each department inside a building will screen out undesirable visitors, reduce congestion, and help employee spot unauthorised persons.

2.2.2 The CP may illustrate how zoning design goals are accomplished through the use of unrestricted zones, controlled zones, and restricted zones. Some areas of the building may be completely unrestricted to persons entering the area during the hours of designated use. The design of unrestricted zones should encourage persons to conduct their business and leave the building without entering controlled or restricted zones. Examples of unrestricted zones might include lobbies, reception area, snack bars, and public meeting rooms. Examples of controlled zones might include administrative offices, staff dinner rooms, security offices, office working areas, and loading/unloading docks. Restricted zones are essentially limited to designated staff. Particularly sensitive areas within restricted zones typically require additional access control as these might contain, for example classified records, hazardous materials and cash.

Measure	Details Required
Structural components (e.g. columns, beams, walls, and slabs)	<ul style="list-style-type: none"> a. Mark out the locations of the critical assets on architectural / structural drawings, the structural components which require hardening, and the proposed structural hardening measures b. Physical dimensions and mechanical properties (e.g. elastic modulus, compressive and tensile yield and ultimate strengths, etc.) of component and its reinforcement (e.g. reinforcement steel, steel jacket, etc.), connection design and details, pre- and post-hardening c. Details of analysis relating to the structural hardening design are explained in <u>Annex D</u>.
Glazing and Building Fabric	<ul style="list-style-type: none"> a. Mark out identified glazing and building fabric for strengthening on architectural drawings. b. Designs of the glazing/fabric system including framing details, anchoring details and structural support required.
Vehicle Perimeter Line	<ul style="list-style-type: none"> a. Mark out on architectural drawings the location of all Vehicle Security Barriers (VSBs) at the perimeter line. Ensure that the drawing is detailed and clear enough for CPS's assessment of the continuity and consistency of the VSBs. b. Description of the type and crash-ratings of VSBs at the perimeter line e.g. wall, planter, bollard, gate, retaining wall etc. If a low wall design or any similar structure is to be designed as a barrier, the CP shall provide structural drawings of the barrier, showing dimensions, the details of the reinforcement and the connection details. This design work shall not be outsourced to the construction vendor to carry out. c. If terrain or contour (retaining wall, slope etc) is proposed as Hostile Vehicle Mitigation measure, please engage/consult CPS at the earliest possible to discuss on the viability of the proposed solution. d. All VSBs shall be crashed tested to IWA 14-1 or ASTM F2656/F2656M or PAS 68 by an accredited test centre. All VSBs shall be independent and not integrated with any other fixtures (e.g. fence). Otherwise the complete system of fixture embedded into the VSB must be crash tested to meet the above-mentioned standards by an accredited test centre. This is to maintain the crash rating for the crash tested VSBs. e. If crash-rated VSBs are not feasible due to site constraints, the SPP report must contain the justifications and alternative solutions to mitigate against hostile vehicle.

Fence line	<ol style="list-style-type: none"> a. Mark out the location of the fence line on architectural drawings. Ensure drawing is detailed and clear enough for CPS's assessment of the continuity and consistency of the fence line. b. Provide the design specifications of the fence line, with details on the fence's anti-climb features (in terms of mesh size, material, type of top guards etc). c. Indicate the footing depth (to prevent tunneling attempts) and confirm that there is no foothold for intruder. d. Indicate what is the distance between the fence line and external fixtures (bus-stop, lamp-post, sheltered walkway, trees etc) directly outside the facility and recommend measures to mitigate against intruder's scaling of fence using these fixtures. e. If the fence serves the function of hostile vehicle mitigation, the crash-rating must meet the above-mentioned requirements for "Vehicle Perimeter Line" and included in the SPP report. f. Indicate whether grilles are installed to secure utility openings (for example drains) against intrusion into the facility. Provide specifications for these grilles and indicate which international anti-intrusion standards it meets.
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2.4 Technological Measures/Security Systems

Measure	Details Required
Video Surveillance System (VSS)	<ol style="list-style-type: none"> a. Mark out locations of all cameras for individual floors in the architectural drawings. b. Provide references to relevant standard or guidelines used in the design of VSS¹, if any. c. Provide system specifications of the VSS. d. Explain the recommended features of the VSS, e.g. the kinds of Video Analytics (VA) to be incorporated, period where VA will be armed, deployment of PTZ cameras, field of views for the perimeter and critical areas, ANPR etc. e. Provide details of VSS integration with other physical security systems (such as access control and intrusion detection systems) if applicable.
Access Controls	<ol style="list-style-type: none"> a. Define the security zones restrictions and establish the level of access for different categories of personnel working in the facility. b. Mark out the security zones clearly on architectural drawings e.g. controlled, restricted, secured etc. c. Mark out locations with special access control requirements such as utility rooms, server rooms etc. d. Specify the type of identity pass systems deployed and methods of authenticity verification, e.g. visitor management system, visitor self-registration kiosks, 2FA authentication etc. e. Mark out access control methods on architectural drawings, e.g. card reader, controlled doors/gates, mechanically locked doors /gates, EM locked doors/gates, door contact sensors, turnstiles etc. f. Explain the recommended features for fail-safe or fail-secure access for critical areas

¹ The proposed VSS should minimally meet the requirements in SPF's VSS Standard for Buildings.

Measure	Details Required
Lighting	a. Lighting performance specifications at required locations to facilitate surveillance and security screening operations, VSS monitoring / recording etc.
Intrusion Detection and Alarm Systems (IDS)	a. Provide type of detection systems deployed and location of deployment, e.g. exterior and interior intrusion detection systems, duress alarm. b. Considerations for the selection of the IDS system. c. Mark out areas monitored by intrusion detection systems and location of alarm systems. d. Provide the operating environment in which the systems have to operate as well as the system specifications that the systems would have to meet.
Security Screening Systems	a. Mark out locations for personnel and vehicle screening areas, and the security screening systems. b. Specify the type of security screening systems deployed. c. Provide the policy on personnel and vehicle checks, parking regulations.
Security Collaboration Platform	a. Provide system specifications of security collaboration platforms. b. Provide details of integration between different physical security systems such as VSS, access control and intrusion detection), modes of operation, and high-level network topology plans, if applicable. c. List the contingency plans for monitoring the individual security monitoring systems during ISMS failure.

2.5 Operational and Human Measures

2.5.1 The CP shall provide a list of the security and contingency measures required during times of normalcy and if deemed necessary, times of heightened security. For each measure or plan, the CP shall provide a generic workflow of the measure/plan that describes the necessary general actions required and how any necessary supporting equipment and infrastructure provisions are to be incorporated into the workflow. The CP shall also explain the rationale for the operational measures and how it reduces the risks faced.

3 Summary Table of Measures (SMM)

3.1 The CP shall provide a summary table of all the physical, operational/human and technological measures that have to be implemented so as to allow CPS to easily track the implementation of the various measures.

4 Maintenance Plan

4.1 The CP shall also formulate a set of maintenance plans for all structural/physical protective solutions selected for implementation. The

maintenance plans are to be provided to the RP for long-term maintenance of the physical protective solutions implemented.

5 Articulation of Final Residual Risk

5.1 The CP shall include in the SPP, an articulation of the likely residual risk faced by the assets within the building after the implementation of the security measures.

The Security Protection Plan (SPP) details the protective measures to be put in place to mitigate the vulnerabilities of identified critical assets of a building corresponding to threats identified in the TVRA (Threat, Vulnerability, and Risk Assessments) report.

2. To facilitate the SBD review, the CP should ensure that the SPP has comprehensively covered the following key areas :

- a. Executive summary
- b. Introduction
 - i Security objectives of SPP
 - ii General information of the building
 - (a) Brief description of the building
 - (b) Location map/site layout with clear illustration of the roads adjacent / leading to the facility
 - (c) Building footprint including perimeter line, vehicular/ staff/ public accesses, staff/public carpark, loading & unloading accesses/bays, security control rooms, restricted areas within building, locations of critical assets, areas of mass congregation, etc
 - iii Concept of protection
(This section refers to the multi-layered protection concept of Prevent, Deter, Detect, Delay, Deny and Response)
 - (a) Approach/ Underlying parameters for risk assessment
 - (b) Protection criteria
 - (c) Security zoning
 - (d) Assumptions
- c. Description of Protective Measures
 - i Physical / Structural measures for *[Type of Threats]*
 - (a) Existing situation, vulnerabilities, impacts and consequences
 - (b) Recommended measures
 - (c) Layout, installations and specifications
 - ii Operational measures for *[Type of Threats]*
 - (a) Existing situation, vulnerabilities, impacts and consequences
 - (b) Recommended measures
 - (c) Deployment plans and security communication
 - (d) Operational plans
 - (e) Standard Operating Procedures
 - iii Technological measures for *[Type of Threats]*
 - (a) Existing situation, vulnerabilities, impacts and consequences
 - (b) Recommended measures
 - (c) Deployment plans and system specifications

- d. Plans for additional measures during heightened threat
 - i Scenarios/ times of heightened threat
 - ii Recommended measures
 - iii Deployment plans
 - iv Operational plans
 - e. Ballpark cost estimates for security measures and implementation timeline
 - f. Summary table of Mitigation Measures (SMM) based on layers of protection
 - i Threat specification and payloads (if applicable)
 - ii Modus operandi
 - iii Location of critical assets
 - iv Consultant's assessment
 - v Recommended measures
 - vi Limitations, if any
 - g. Residual Risk
 - i Articulation of the likely residual risk faced by the affected assets within the building after the implementation of the security measures
 - ii Proposed contingency plans to reduce the residual risks, if applicable.
3. The report generated should comprise, but not limited to, the above key items in separate chapters and should generally follow the order listed.
4. For each measure, the CP shall provide a generic workflow of the measure that describes the necessary general actions required and how any necessary supporting equipment and infrastructure provisions are to be incorporated into the workflow. The CP shall also explain the rationale for the measure and how it reduces the risks faced.
5. The CP shall provide a summary list of all the measures so as to allow CPS to easily track the implementation of the various measures. This list should summarise all measures. A sample is shown on page 7.
6. All recommendations proposed by the CP have to be reviewed and accepted by the RP as the RP is presumed to be implementing all of the recommendations stated in the final SPP submitted to CPS.

