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Women's Technical Reference Guideline

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WSP-1 SITE – PLANNING AND DEVELOPMENT

1. SCOPE

This section outlines planning and development principles and specific definitions of terms related to Women's detention institutions.

2. RELATED SECTIONS

WSP-2 – Fence

WSP-3 – Gates / Sally Port

WSP-4 – Exterior Lighting

WSP-5 – Traffic Circulation and Parking

3. INSTITUTIONAL PROPERTY

3.1 Women institutions are typically situated within or at the edge of urban centres except for Healing lodges which are on remote and rural sites. As such, Women's institutions are sited on a reserve of land which is relatively small as compared to the institutional fenced compound and its related amenities. In the case of a Healing lodge, the land reserve is significantly larger as compared to the open institution. For both cases, there is no specific requirement for demarcation or fencing at the CSC owned property line. Signage at the property line is recommended and shall follow the Federal Identity Program¹.

3.2 Existing property features such as topographical conditions and existing trees and bushes shall be used where possible to screen the CSC institution from adjoining properties and uses. The main access and approach to the institution shall be landscaped to be visually appealing.

3.3 Where a Women's institution on a single reserve comprises a fenced compound and an adjacent Minimum (open) Security Unit, the adjacent Unit shall be located furthest from that part of a closed institution where inmate circulation and activities take place.

4. BUFFER ZONE

4.1 A 4-meter buffer zone parallel to the interior side of the perimeter fence shall be free of all structures, trees, and shrubs.

4.2 Where adjacent to ceremonial grounds and gardens, this zone shall be marked by signage informing inmates not to trespass. Fencing shall not be used to demarcate this zone as it only serves to obstruct views. In addition, any low and scalable fence may invite trespassing resulting in enforcement and imposition of charges.

4.3 The buffer zone shall be covered by CCTV located on poles or buildings on the interior side of the institution.

¹ 4.3 – Common-use and operational signs, Federal Identity Program Manual, March 1990
http://www.tbs-sct.gc.ca/fip-pcim/man_4_3-eng.asp

5. NO BUILDING ZONE

- 5.1** With the exception of the Principle Entrance Building, no building shall be closer than 5m to the perimeter fence.

6. NO INMATE ZONE

- 6.1** This is the area along the perimeter fence which is close to the Principle entrance and functions serviced by vehicles. Offender access to this area is controlled. There is no specific distance to delimit this zone as it varies depending on the site layout.
- 6.2** Functions having controlled access to offenders within this zone include Visits and Private family visits, both shared with outside visitors. Additional functions include food services, material management and works.

7. SITE PLANNING AND DEVELOPMENT OF AN INSTITUTION

- 7.1** Planning of facilities and amenities shall be dictated by time of use and user type. Institutional buildings closest to the Principle entrance shall accommodate functions which are either restricted to offenders or where access is supervised. Those functions requiring vehicle access for servicing and supplies shall be relatively close to the Principle entrance and remote from offender circulation and activity areas. Evening use functions; housing, outdoor recreation areas and yards, gardens, and ceremonial grounds shall be located furthest from the entrance.
- 7.2** See sub-sections 9 for Landscaping and limited access grounds and 10 for Outdoor Recreation areas and yards. Also see Plate SP-1-1 for idealized site plan which illustrates building relationships.

8. SIGNAGE

- 8.1** All exterior and interior building signage shall conform to the Federal Identity Program (FIP). The FIP Manual is fully available at:

<http://www.tbs-sct.gc.ca/fip-pcim/>
- 8.2** The CSC “Search Sign” shall be located at each public entry leading to an institution. The “Search Sign” is a warning sign as prescribed in the Federal Identity Program Manual² (Caution!, Attention! under Type 3). The standard is yellow background with black letters. For the purpose of a reading distance of 30 m and a vehicular speed of 30 km/h, “x” is defined as 50 mm. Therefore, the text letters size is 50 mm (x) and the header letters size is 150 mm (3x). The layout is provided in Table 5 – Standard spaces, 50 mm to 200 mm x-height of section 4.3 of the FIP Manual (see footnote 8). The bilingual text is side by side, the official language on the left side being according to the regional practice. As the font and design follows the Federal Government standards the use of the Department signature or CSC crest is optional.

² Federal Identity Program Manual – 4.3 Common-use and operational signs, Treasury Board of Canada, Secretariat, March 1990; http://www.tbs-sct.gc.ca/fip-pcim/documents/man_4_3_p1.pdf and http://www.tbs-sct.gc.ca/fip-pcim/documents/man_4_3_p2.pdf
Federal Identity Program Manual – 4.5 Signage typeface, Treasury Board of Canada, January 1988; http://www.tbs-sct.gc.ca/fip-pcim/documents/man_4_5.pdf

Attention! You are now entering a Correctional Service Canada reserve and all vehicles and persons on this reserve are subject to search.	Attention! Vous pénétrez présentement sur une réserve du Service Correctionnel Canada et tout véhicule et personne sur cette réserve sont sujets à être fouillés.
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OR

Attention! Vous pénétrez présentement sur une réserve du Service Correctionnel Canada et tout véhicule et personne sur cette réserve sont sujets à être fouillés.	Attention! You are now entering a Correctional Service Canada reserve and all vehicles and persons on this reserve are subject to search.
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Refer to *CAN/CGSB-109.1M-1989*³ for the sign structure and characteristics.

- 8.3** All areas restricted only to authorized personnel shall be clearly and boldly identified according to the common-use and operational signs as described in the Federal Identity Program Manual⁴. Refer to section A-9 Interior Signage for interior signage requirements.

9. LANDSCAPING AND LIMITED ACCESS GROUNDS

- 9.1** Only indigenous plants and locally available materials shall be used.
- 9.2** All layouts and landscape material shall take into account snow removal, grass cutting, watering and tree and shrub trimming to ensure minimum watering.
- 9.3** Soft landscaping is encouraged but plant type should be selected so as not to obstruct views. Gentle contouring is also acceptable as are earth berms and timber retaining walls provided they do not facilitate hiding.
- 9.4** Colour and visual relief can be achieved by the use of flowers beds, which shall be planted and maintained by inmates.
- 9.5** At closed institutions, all site furniture shall be secured in place. All walking surfaces shall be of monolithic material or compacted stone dust. Small and light paving materials (brick, concrete pavers, or gravel) shall not be used.
- 9.6** Positive drainage for the entire site shall be provided with the use of ditches, swales and flumes. All drainage areas shall be designed to be as shallow as possible to allow for ease of maintenance and so not to obstruct visibility.

³ CAN/CGSB-109.1M-1989 – Signage System, Extruded Aluminum, Federal Identity Program

⁴ Page 11 – Federal Identity Program Manual – 4.3 Common-use and operational signs, Treasury Board of Canada, Secretariat, March 1990; http://www.tbs-sct.gc.ca/fip-pcim/documents/man_4_3_p1.pdf

- 9.7** The minimum grade slope shall be 3% or gradual slope where natural grade changes exist for grass and landscaped areas.
- 9.8** Vegetable gardens where provided shall be located in designated areas away from general offender traffic and yards. Authorized offenders are permitted access to gardens.
- 9.9** Fruit trees are not permitted on institutional grounds.
- 9.10** Sacred Grounds for sweat lodge and ceremonies shall be located in designated areas away from general inmate traffic and yards. Only authorized offenders are given access to sacred grounds. Firewood used in ceremonies shall be stored under cover and be protected.
- 9.11** Snow storage areas shall be located in a manner that does not restrict drainage and visibility. A space wide enough to accommodate tractor power mowers shall be provided between trees and planting beds. Hose bibs shall be provided throughout the site as required on a project specific basis. Underground watering pipes or hoses shall not be used.

10. OUTDOOR RECREATION AREAS

- 10.1** Outdoor recreation areas, which may have a higher concentration of offenders, shall be located remote from the perimeter fence, Principal Entrance, and the Secure Unit in order to minimize opportunity for transfer of contraband.
- 10.2** Outdoor recreation areas shall be grassed except where an activity calls for a hard surface. Compacted fine gravel or stone dust or, a monolithic hard surface such as asphalt is acceptable.
- 10.3** Fenced outdoor areas associated with the Secure Unit are provided with an engineered asphalt surface to allow use in all weather, to prevent hiding of contraband, and to facilitate maintenance. The asphalt surface shall extend beyond the containment fence by 900 mm for anti-tunnelling protection and to prevent edge fracture and removal. Poured in place concrete surface may be used on account of seasonal or installation constraints. Use of concrete may be favoured for ease of construction and maintenance where an area is enclosed by buildings or walls where a wall is intended for screening.

11. FLAG AND FLAGPOST

Rules and protocol for “flying the flag” are fully available at:

<http://www.pch.gc.ca/pgm/ceem-cced/etiqt/101-eng.cfm>

Refer to *CAN/CGSB-98.1-2003*⁵ for the outdoor use of the National Flag of Canada.

⁵ CAN/CGSB-98.1-20011 – National Flag of Canada (Outdoor Use) ICS 99.020.10

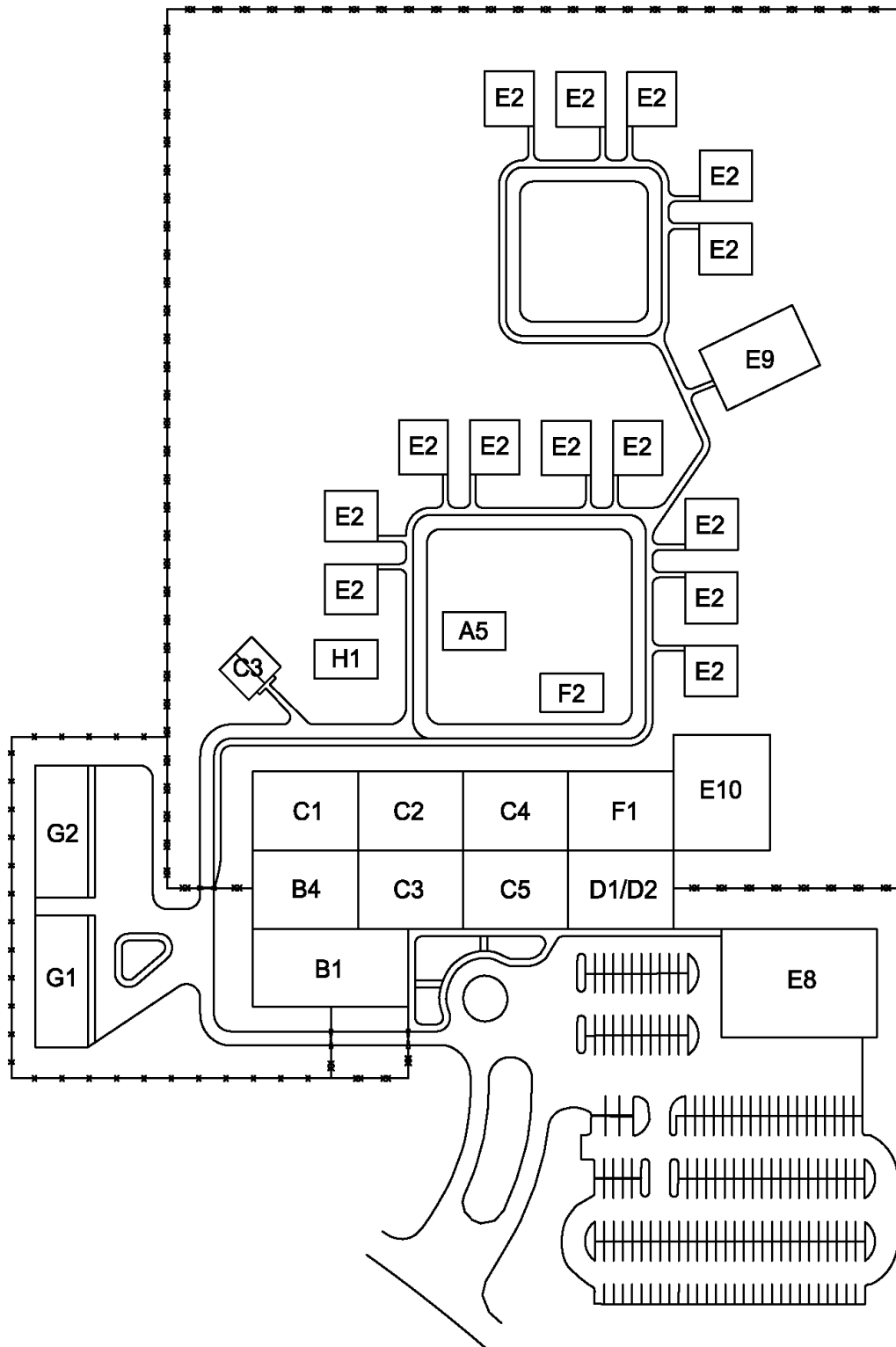
PLATE WSP-1-1

TABLE A-1-1 – ORGANIZATION OF DEPARTMENTS**GROUP A – ADMINISTRATION**

- A1 MANAGEMENT CENTRE
- A2 FINANCE
- A3 STAFF SERVICES AND TRAINING
- A4 ADMINISTRATION AND PERSONNEL
- A5 CASE AND SENTENCE ADMINISTRATION
- A6 NATIONAL PAROLE BOARD HEARING

GROUP B – SECURITY

- B1 EXTERNAL CONTROL (GATEHOUSE)
- B2 EMERGENCY RESPONSE AND ARMOURY
- B3 SECURITY ADMINISTRATION
- B4 ADMISSIONS AND DISCHARGE

GROUP C – SOCIALIZATION

- C1 SOCIAL AND CULTURAL DEVELOPMENT
- C2 ARTS AND CRAFTS
- C3 PRIVATE FAMILY VISITING
- C4 VISITS AND CORRESPONDENCE
- C5 RECREATION

GROUP D – SPIRITUALITY

- D1 CHAPLAINCY
- D2 ABORIGINAL SERVICES

GROUP E – HOUSING

- E1 SMALL GROUP ACCOMMODATION
- E2 RESPONSIBILITY UNITS
- E3 STRUCTURED SECURITY UNIT – OPEN POST/RANGE
- E4 STRUCTURED SECURITY UNIT – CLOSED POST/RANGE
- E5 CLOSED CONTROL UNITS
- E6 SEGREGATION UNITS
- E7 SPECIAL HANDLING UNITS
- E8 MINIMUM SECURITY UNITS
- E9 STRUCTURED LIVING ENVIRONMENT (SLE)
- E10 WOMEN'S SECURE UNIT

GROUP F – HEALTH CARE

- F1 HEALTH CARE CENTRE
- F2 MENTAL HEALTH CARE

GROUP G – TECHNICAL SERVICES

- G1 MAINTENANCE
- G2 FOOD SERVICES
- G3 MATERIAL MANAGEMENT
- G4 INSTITUTIONAL SERVICES

GROUP H – OCCUPATIONAL DEVELOPMENT PROGRAMS

- H1 OCCUPATIONAL DEVELOPMENT PROGRAMS (ODP)
- H2 CORCAN

GROUP J – EDUCATION AND PERSONAL DEVELOPMENT

- J1 EDUCATION
- J2 CORRECTIONAL PROGRAMS
- J3 LIBRARY

WSP-2 SITE - FENCES

1. SCOPE

This section provides performance criteria and conforming specifications for all fences related to Women's institutions with a secure perimeter. This section does not apply to an open Healing Lodge.

2. RELATED SECTIONS

2.1 Women's Technical Reference Guideline sections:

WSP-1 – Site Planning and Development

WSP-3 – Gates/Sallyport

WSP-4 - Exterior Lighting

WSP-5 – Traffic Circulation and Parking

& any sub-section referring to the Perimeter Intrusion Detection System (P.I.D.S.)

2.2 National Master Specification Section

01 35 13.16 – Special Project Procedures for Detention Facilities

28 01 10 – Operation & Maintenance of Electronic Access Control & Intrusion Detection

28 16 00 (13705) – Intrusion Detection

32 31 13 – Chain Link Fences and Gates

32 31 13.53 – High-Security Chain Link Fences and Gates

3. EXTERNAL BOUNDARY FENCE

External boundary (property) lines shall not be fenced unless specific site conditions warrant it. The type of fence in such locations will be project specific.

4. PERIMETER SECURITY FENCE

4.1 Performance Criteria

4.1.1 The institution will be enclosed by a single chain link fence perimeter supported by a fence detection system and CCTV which shall be located on the interior of the institution mounted high enough to optimize viewing of the fence line. The perimeter fence forms the last physical obstacle to escape from the institution. The design of the fence system shall deter inmates from attempting to breach the perimeter.

4.1.2 The fence shall be erected in a straight line to the extent possible from corner to corner to allow for direct long views. The corners of the perimeter may be truncated or be at right angle contingent on the property lines and the proximity to that line.

4.1.3 To render climbing more difficult, the fence fabric shall be installed on the institution side of the fence posts.

4.1.4 The fence shall be equipped with a Fence Detection System (FDS) and its fabric tensioned to ensure vibration travel across posts while not causing excessive false alarms. Fabric vibration terminates at strain post locations where the fence fabric ends thus allowing zone separations for the PIDS.

- 4.1.5 Special attention shall be paid to sloped sites to ensure that gaps do not develop between the ground surface and the lower fence rail. Where necessary, due to severe ground slope longitudinally, fencing may be stepped, but the minimum height of the fence shall be maintained at all times. Ground slope across the fence line shall be minimized to prevent erosion under the perimeter fence.
- 4.1.6 Barbed tape concertina (BTC) coils shall be installed on top of the fence in such a manner that it prevents the passage of a person across the barbed coils. (See plate WSP-2-2).
- 4.1.7 Where interior fences intersect the perimeter fence, the interior fence shall be designed to prevent it from being used to aid in crossing the perimeter fence. To achieve this, the interior fence shall be equipped with:
- a Fence detection system (FDS) for a length of 2.5 meters. The fence fabric shall extend for that length and be connected to a strain post so that the vibration does not travel beyond.
 - and BTC on both sides on the fence. No gap between posts or fabric shall exceed 125 mm.
- 4.1.8 To inhibit tunnelling under the Perimeter Fence, a ground barrier shall consist of a footpath on the interior side. This could be of concrete or asphalt and shall be engineered to prevent heaving. (See Plate WSP-2-1). Roadways crossing the perimeter fence line shall be topped with asphalt which also serves as a ground barrier.
- 4.1.9 The fence system comprising foundation, line, strain, corner and gate posts shall meet local environmental conditions. Fence systems shall be engineered to resist local wind and snow conditions.
- 4.1.10 Where a building or other structure interrupts the perimeter fence run, the design to ensure perimeter integrity shall be approved by the issuing authority.
- 4.1.11 Where a perimeter comprises or integrates a wall, the design to ensure perimeter integrity shall be approved by the issuing authority.

4.2 Conforming Specifications

- 4.2.1 The perimeter fence shall be 2.4 m to the top of the chain link fabric with an overhang arm to support the BTC above.
- 4.2.2 No structure, with the exception of the Principle entrance building, shall be closer than 5 m to the Perimeter fence.
- 4.2.3 All chain link fencing shall be installed in accordance with the *National Master Specification (NMS) 32 31 13*⁶ and *CAN/CGSB-138.3-96* standard⁷. Where there is a conflict between the NMS and this criterion, the TCD shall prevail.
- 4.2.4 Chain link fence fabric shall conform to the following specifications⁸:

⁶ National Master Specification 32 31 13 – Chain Link Fences and Gates (2004/12/31), there is also specifically Master format reference number 32 31 13.53 for High-Security Chain Link Fences And Gates

⁷ CAN/CGSB-138.3-96 – Installation of Chain Link Fence

⁸ Refer also to: CAN/CGSB-138.1-96 – Fabric for Chain Link Fence

- 4.2.4.1 Wire Size: 4.8 mm (min) (6 Gauge)
- 4.2.4.2 Size of mesh: 50.8 mm
- 4.2.4.3 Height of fence fabric: 2400 mm
- 4.2.4.4 Barbed edges top and bottom
- 4.2.4.5 Average mass of zinc coating to be not less than 610 g/m² of uncoated wire
- 4.2.4.6 Breaking tensile strength to be 10,000 N·min.
- 4.2.5 Wire mesh shall be continuous from top to bottom and shall be applied on the institutional compound side of the posts.
- 4.2.6 Fence fabric shall be pulled taut before fixing in place. Tautness, when fixed in place, is to be established by pull tests. The application of a 12 kg perpendicular pull at the midpoint of the mesh panel (midpoint of posts/rails) shall show a displacement of no more than 30 mm from the fence at rest plane.
- 4.2.7 Posts, (corner, gate, strain, line) shall conform to CAN/CGSB-138.2-96⁹, galvanized steel pipe.
 - 4.2.7.1 Posts shall be spaced a maximum of 2.5 m apart.
 - 4.2.7.2 Line post minimal size shall be 73 mm O.D. 8.6 kg/m.
 - 4.2.7.3 Strain post minimum size shall be 114.3 mm O.D. 15.92 kg/m. Strain posts shall be spaced not more than 60 m apart.
 - 4.2.7.4 Corner and gate post minimum size shall be 143.3 mm O.D. 21.0 kg/m.
- 4.2.8 Galvanized steel arms shall be provided on all posts where barbed concertina is to be installed, as shown on Plate SP-2-2.
- 4.2.9 Bottom and top rails shall be 42.2 mm O.D. minimum, 3.4 kg/m.
- 4.2.10 Tie wires shall be 3.7 mm diameter (9 gauge) galvanized steel wire to secure chain link fabric to bottom rail, top rail and line posts at 300 mm spacing.
- 4.2.11 Intermediate rails shall not be used.
- 4.2.12 Tension bars used for holding the ends of the fence fabric at the location of strain posts and corner posts shall be 5 mm x 20 mm minimum x 2400 mm galvanized steel.
- 4.2.13 Tension bar bands shall be 3 mm x 20 mm minimum galvanized steel and spaced vertically at 300 mm o.c.
- 4.2.14 Where nuts and bolts are required for fastening, nuts shall face compound exterior and be torqued tight.
- 4.2.15 Where tension cables are used at corner, end, gate, strain posts, and fittings shall be of galvanized steel.
- 4.2.16 Barbed tape concertina (B.T.C.) shall be galvanized tape 20 x 0.5 mm clenched around a 2.5 mm diameter spring steel galvanized core wire to form a concertina coil with a nominal exterior coil diameter of 710 mm. The coil, when

⁹ CAN/CGSB-138.2-96 -- Steel Framework for Chain Link Fence

installed, shall have a minimum diameter of 635 mm. The barbed concertina shall have 20 mm long blade type barbs measured from tip to tip of the blade, and barb clusters shall be spaced approximately 45 mm on centre (see Plate SP-2-3). The concertina shall be formed by clipping adjacent loops of single helical coils together at a minimum of three (3) points on the circumference. Clips shall be galvanized. The resulting coil, when stretched, shall form a cylindrical pattern. The loop spacing shall not exceed 230 mm.

- 4.2.17 For concertina coil support at fence top, two barbed wires stretched and fixed to post arms shall be provided. Barbed wire shall consist of two strands of 12 gauge wire with 4 point barbs at 130 mm spacing, all galvanized.
- 4.2.18 Concertina coils are to be turned onto an internal intersecting fence for a distance of 2.5 m (See plate SP-2-6). Where the threat of breach exists from either side of the intersecting fence, concertina coil shall be installed on each side.
- 4.2.19 The Concertina coils shall be supported and tied at 230 mm spacing onto each of the two barbed wires.

5. INTERIOR FENCES

5.1 Area Fences

5.1.1 Performance Criteria

- 5.1.1.1 Interior fences separating vehicle service functions from the main institution and those enclosing yards of the Secure Unit shall be a maximum of 2.4 m in height topped with steel arms, barbed wire, and BTC. Any other fenced area shall not be topped with BTC.
- 5.1.1.2 Where interior fences intersect the Perimeter Fence, refer to item 4.1.18 above and plate WSP-2-6.
- 5.1.1.3 Tunnelling barriers are not required on interior fences except where they are topped with BTC. Barrier type shall be compacted gravel to 300 mm in depth and extending 600 mm on either side.
- 5.1.1.4 See chapter WSP-1 Site Planning and Development, item 10.3 for yard ground surface and anti-tunnelling protection.
- 5.1.1.5 Fences shall not be used to demarcate the buffer zone.

5.1.2 Conforming Specifications

- 5.1.2.1 Materials shall be similar to those specified for the perimeter fences (see item 4.2).
- 5.1.2.2 For fences where post steel arms are not provided, posts shall have galvanized post caps.
- 5.1.2.3 For secure unit yards where visibility and contact is at issue, fencing shall be provided with appropriate masking. A flat solid wall may be integrated with the yard fence given approval by the issuing authority.

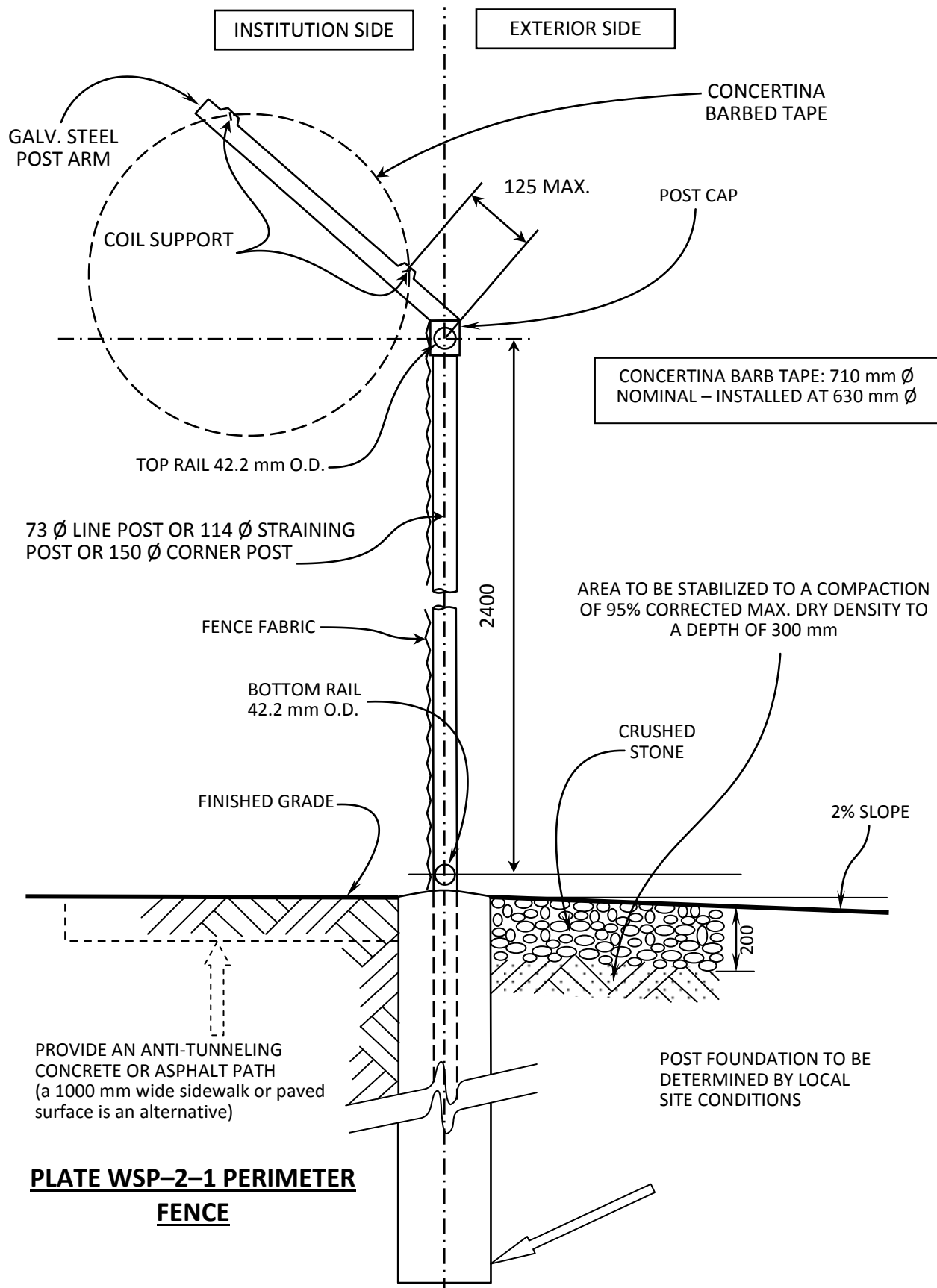
6. EXTERIOR SERVICE COMPOUND FENCE**6.1 Performance Criteria**

Where bulk fuel storage (propane and gasoline) is provided, the storage area shall be fenced (see section WSP-5, Traffic Circulation and Parking).

6.2 Conforming Specifications

7.2.1 Materials will be similar to those specified for the perimeter fences (item 4).

7.2.2 Fence height shall be 2.4 m.



WSP-3 SITE – GATES/SALLY PORT**1. SCOPE**

This section outlines requirements for vehicle and pedestrian access and egress control for Women's institutions with a secure perimeter.

Access and egress control for open minimum security units outside the perimeter fence involves signage and reporting to a 24 hr open control post but does not include fencing and gates. Refer to type 'D' control post under chapter A-12 Control posts for functional requirements as well as the CSC Accommodation Guidelines.

2. RELATED SECTIONS**2.1 Technical Criteria Document sections:**

WSP-1 – Site Development

WSP-2 – Fences

TCD A-6 – Hardware

TCD A-10 – Contraband Control Systems

TCD A-12 – Control Posts and Dedicated Security Routes

2.2 National Master Specification Section

01 35 13.16 – Special Project Procedures for Detention Facilities

08 34 56 – Security Gates

32 31 13 – Chain Link Fences and Gates

32 31 13.53 – High-Security Chain Link Fences and Gates

34 1 13 – Vehicle Barriers

3. ACCESS CONTROL SECURITY REQUIREMENTS

- 3.1** Women's institutions shall have a co-located entrance point for pedestrian and vehicle traffic. Where impractical, a vehicle dedicated access shall be located in close proximity to the Principle entrance. The 24 hour Principle Entrance Control Post (PECP), supervises all traffic by eye or assisted by CCTV and controls all pedestrian and vehicle gates.
- 3.2** Because the Principle entrance may malfunction or be inoperable, one Emergency Vehicle Entrance shall be provided, to be located at a point convenient for vehicle access. This Emergency Vehicle Entrance shall be manually operated and be either a Sliding Gate (Section 5.1) or a Swing Gate (Section 5.2).
- 3.3** Vehicles shall access a fenced sally port with a gate at each end. The sally port is where in-coming and out-going vehicles will be inspected by a dispatched officer.

4. MAIN ENTRANCE

4.1 Definition

The Principle Entrance controls all traffic into and out of the institution. This involves the screening and recording of all movement and the control of all gates and doors through the secure perimeter. The PECP performs all entrance functions from an open reception station and is supported by a closed security office for the Shift Supervisor. Traffic in and out of the institution shall meet the following criteria:

- 4.1.1 A vehicle sally port, which gives access into a vehicle fenced compound accommodating multiple functions shall be equipped with sliding gates. The sliding gates shall be remote controlled from the PECP and be interlocked to prevent simultaneous unlocking. The sliding gates control must provide for the opening of one gate at a time and only when the other gate is in its latched position. Both gates shall be also capable of manual unlocking and opening.
- 4.1.2 A vehicle sally port shall be sized to include an inspection area to facilitate a thorough inspection of vehicles. It shall be capable of holding two van type trucks astride (8.5 m min.) and hold one semi trailer truck in length (23 m min). There shall be no sentry station in the sally port as an officer is called to perform inspections as required. As such, a pedestrian gate is also required for access from the interior side of the compound.
- 4.1.3 In order to prevent forced drive through of vehicles, the exterior gate of the vehicle sally port shall be equipped with a crash barrier (see section 4.4 and Plates WSP-3-6 to WSP-3-8). The width of the sally port shall be sized to accommodate the crash barrier in the open position.
- 4.1.4 The vehicle compound with buildings, situated on the edge of the perimeter, shall also be equipped with a vehicle and pedestrian gates for access into the main institution for servicing needs. The vehicle gate shall be sliding and of similar type to the sally port gates. The pedestrian gate shall be swing type. Both gates shall be remote controlled with the aid of CCTV from the PECP.
- 4.1.5 All Principal Entrance pedestrian traffic shall be physically separated from vehicular traffic.
- 4.1.6 All pedestrian traffic shall enter directly into an Principle entrance building reception area for processing / screening by the PECP. This building may accommodate other functions and be integrated with the Fenced perimeter. The initial point of access shall be through a vestibule with both doors remote controlled.
- 4.1.7 See Plate WSP-3-1 for a typical Principal Entrance layout.

4.2 Crash Barriers

- 4.2.1 A crash barrier for the sally port shall be connected to the interior side of the exterior gate or the rack and pinion rail depending on the gate operator type and shall be operated simultaneously with the remote operation of the gate.
- 4.2.2 In order to resist vehicle impact, crash barriers shall be made of a steel I-beam or rectangular tubing supported on anti friction rollers on heavy uprights. In a

test equivalent to the US Department of State K4 certification¹⁰ (6 804 kg @ 48.3 km/hr or 15,000 lbs @ 30 mph) the vehicle must be inoperable after hitting the crash bar; disabling the vehicle being the main purpose.

- 4.2.3 Three heavy engineered uprights support the crash barrier and as well serve as bollards protecting the adjacent fence and gate posts. In either open or closed gate position, the crash barrier is supported by 2 uprights.
- 4.2.4 If crash barriers are used for emergency gates on the perimeter, they shall be made of a simple beam or rectangular tubing with a counter weight mechanically lifted and lockable in closed position with the use of a security padlock.
- 4.2.5 Gates having integrated crash bar or crash cables system are acceptable if they meet M30 designation of *ASTM F2656-07*¹¹, K4 certification of the US Department of State (see footnote 1) or the European equivalent.
- 4.2.6 See Plates WSP-3-3 to WSP-3-5 for typical sally port crash barriers.

5. FENCE GATES

5.1 *Vehicle Sliding Gates*

- 5.1.1 The size of each gate shall provide for a 4 m wide x 2.4 m high clear opening.
- 5.1.2 Sliding gates which match the fixed fence shall be topped with 600 mm upright stands with three strands of barbed wire. The fixed fence along the travel of the gate shall be similarly topped. (See section SP-2, Fences).
- 5.1.3 Gate framing members shall be 73 mm O.D. pipe weighing 8.6 kg/m welded and drained.
- 5.1.4 Motorized gates shall be capable of moving at a speed of 150 mm/s.
- 5.1.5 Gate shall have three point locking (top, bottom and middle) or be locked by way of rack and pinion mechanism and a vertical channel to clasp the gate.
- 5.1.6 Locking column shall be equipped with an emergency manual control mechanism located for easy access.
- 5.1.7 Operator and track shall be protected and electrically heated to ensure all weather operation. In rack and pinion system (or “drive rail” operator) the teeth of the rack can be unprotected provided that they are on the lower side of the rack and visible to the operator.
- 5.1.8 Outer perimeter gates with connected crash beams shall be designed to take the additional weight into account.
- 5.1.9 For gates operated by an overhead chain drive system, a guide shall be provided at the bottom of the gate running in a channel.
- 5.1.10 Motors shall be located low to the ground to facilitate maintenance
- 5.1.11 All gate components shall be galvanized.

¹⁰ US Department of State SD–STD–02.01, Revision A , March 2003, Test Method for Vehicle Crash Gate Testing of Perimeter Barriers and Gates

¹¹ ASTM F2656–07, Standard Test Method for Vehicle Crash Testing of Perimeter Barriers, M30 Designation: Medium-duty truck (M) 6800 kg @ 50 km/h

5.1.12 All security hardware shall be in accordance with chapter A-6, Hardware of the present document. All other components shall be in accordance with the Fences section of this criterion.

5.1.13 See Plates WSP-3-2 and WSP-3-3 for a typical gate installation.

5.2 Vehicle Swing Gates (Perimeter and Internal Fences)

5.2.1 Gates shall consist of a pair of 2 m wide by 2.4 m high sections, for an opening of 4 m wide X 2.4 m high, except where municipal by law or sufficient height and width for local emergency vehicles (fire trucks) dictate otherwise¹².

5.2.2 The swing direction of gates shall be based on road access design and snow removal constraints.

5.2.3 Any gap between the bottom rail of a gate and the ground shall not exceed 125 mm. Where gates are located on a fence equipped with a ground barrier, this barrier shall be continuous.

5.2.4 The chain link fabric for gates shall match that of the fence (see section SP-2, Fences).

5.2.5 Gate framing shall be as per item 5.1.3 above.

5.2.6 There shall be three gate hinges and they shall be of standard quality. Foot, mid height, and top locking shall be accomplished with Southern Folger detention grade locks or equivalent.

5.2.7 Plate SP-3-7 illustrates a typical design for vehicle swing gate.

5.3 Pedestrian Gates (Perimeter and Internal Fences)

5.3.1 The size of each swing gate shall provide for a 1.2 m wide x 2.1 m high clear opening.

5.3.2 Items 5.2.2, 5.2.3 and 5.2.4 noted above for vehicle swing gates shall apply.

5.3.3 Swing gate framing members shall be 43 mm O.D. pipe weighing 3.4 kg/m.

5.3.4 Swing gates shall be manually operated with security key locks when gates are used daily. Infrequently used gates shall be security padlocked.

¹²

For example, in Ontario the *Highway Traffic Act* Section 109 stipulate a maximum height of 4.15 m by a width of 2.6 m, which is similar to the 13'-6" (4.12 m) by 8 (2.43 m) in USA.

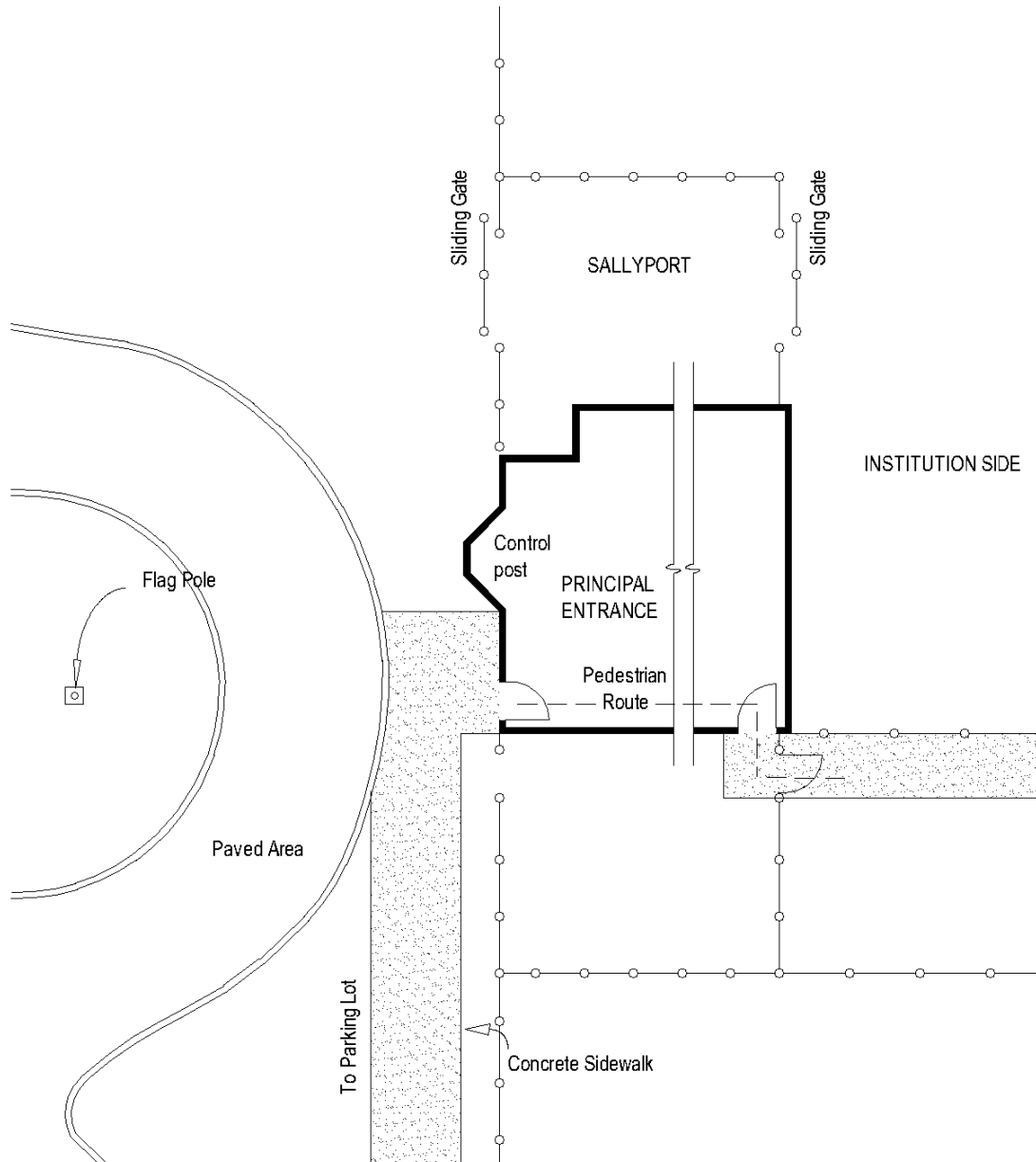


PLATE WSP-3-1 – TYPICAL SALLY PORT ARRANGEMENT

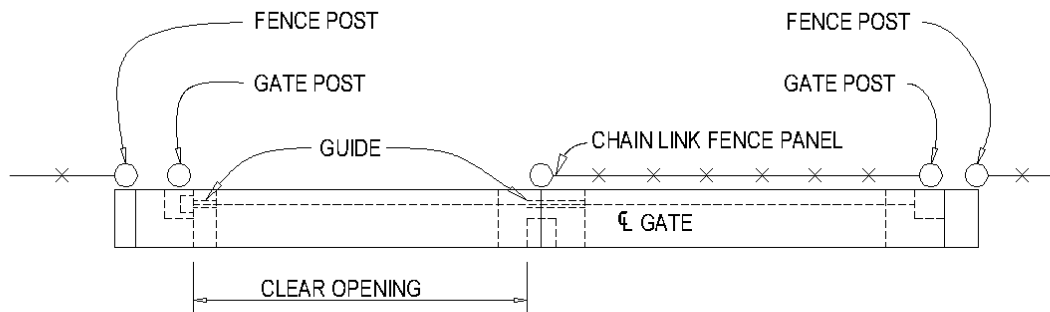
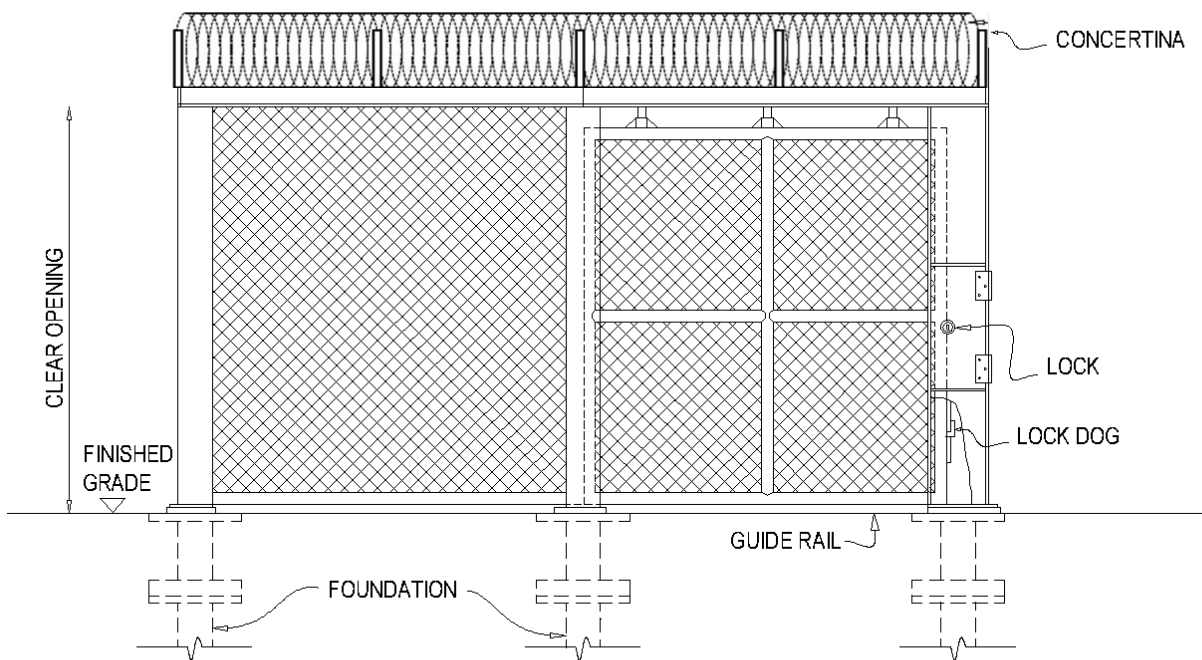
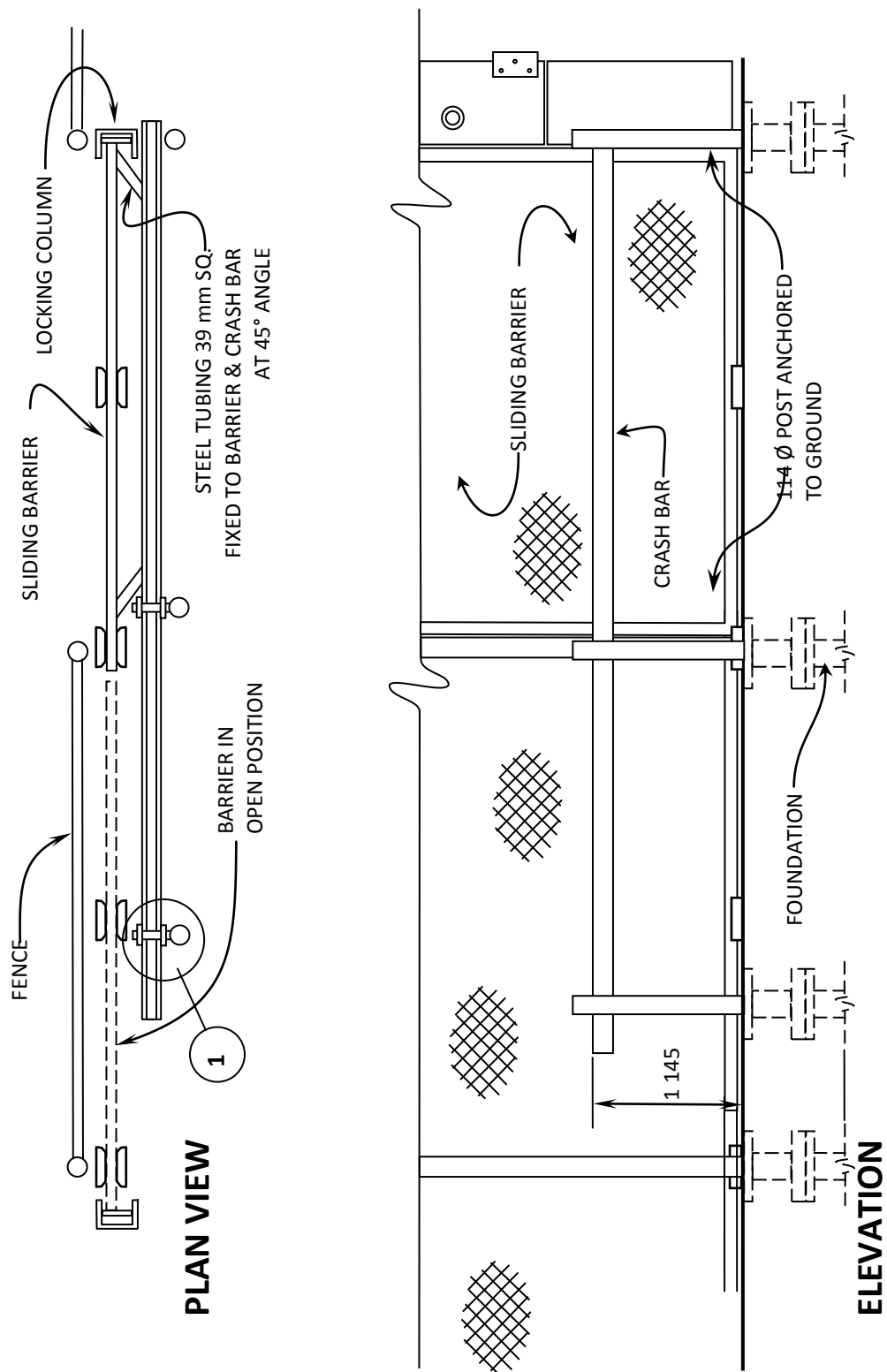
**TOP VIEW****FRONT VIEW**

PLATE WSP-3-2 – FENCE GATE WITH OVERHEAD CHAIN DRIVE
PERIMETER FENCE



**WSP-3-3 – FENCE GATE WITH OVERHEAD CHAIN DRIVE
PERIMETER FENCE**

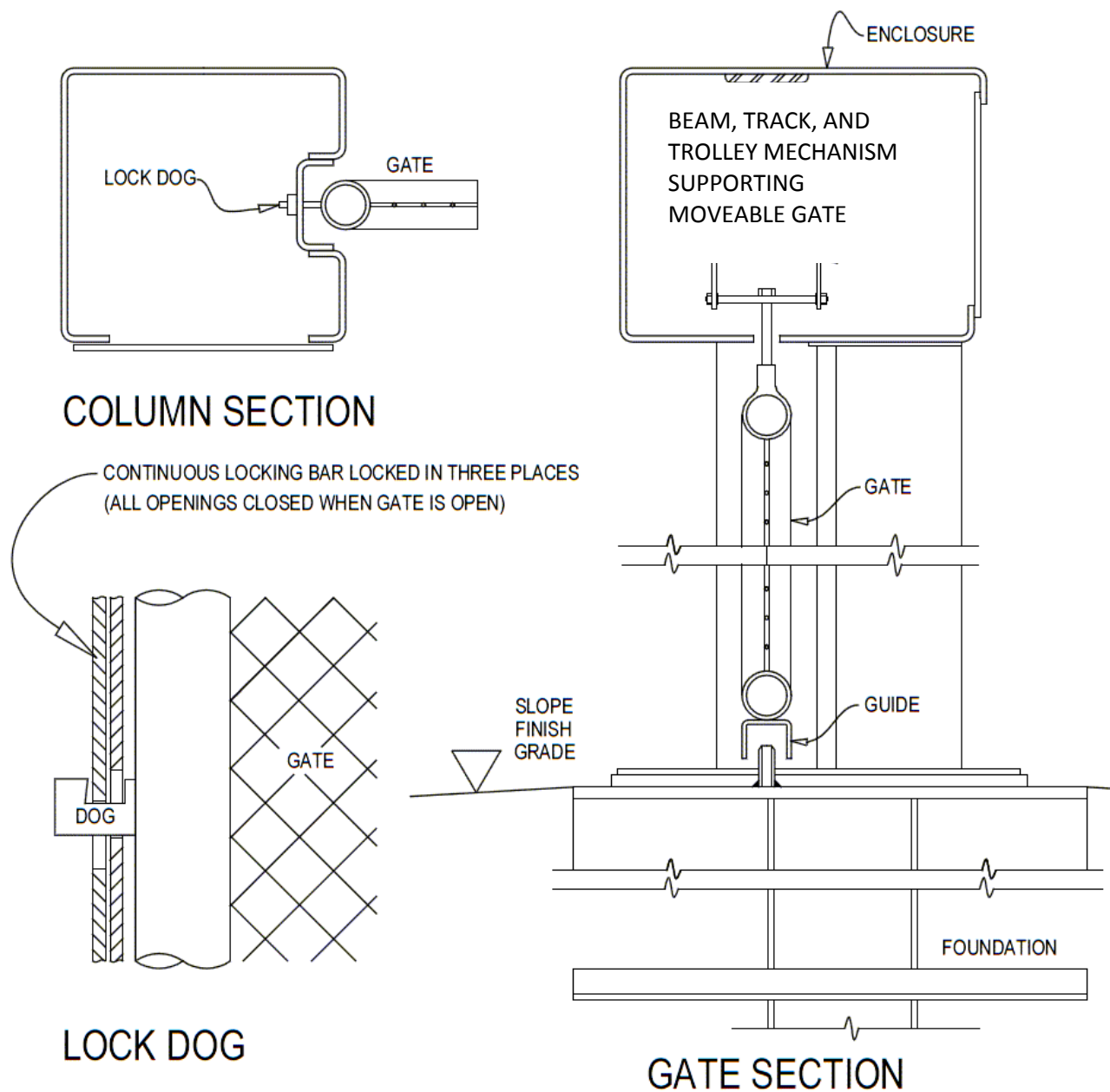


PLATE WSP-3-4 – FENCE GATE WITH OVERHEAD CHAIN DRIVE – DETAILS

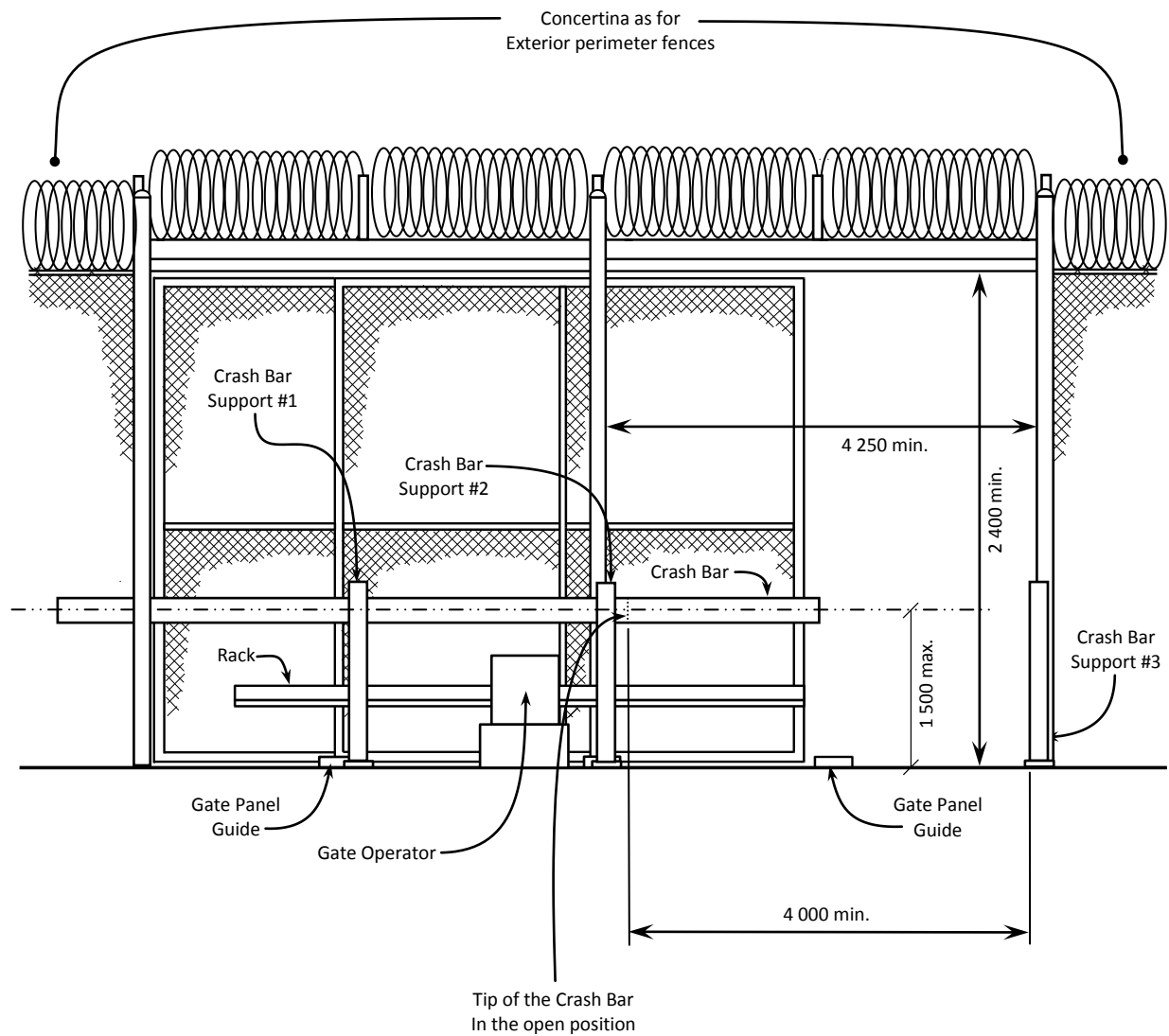


PLATE WSP-3-5 – FENCE GATE WITH RACK & PINION –
INSIDE ELEVATION PERIMETER FENCE

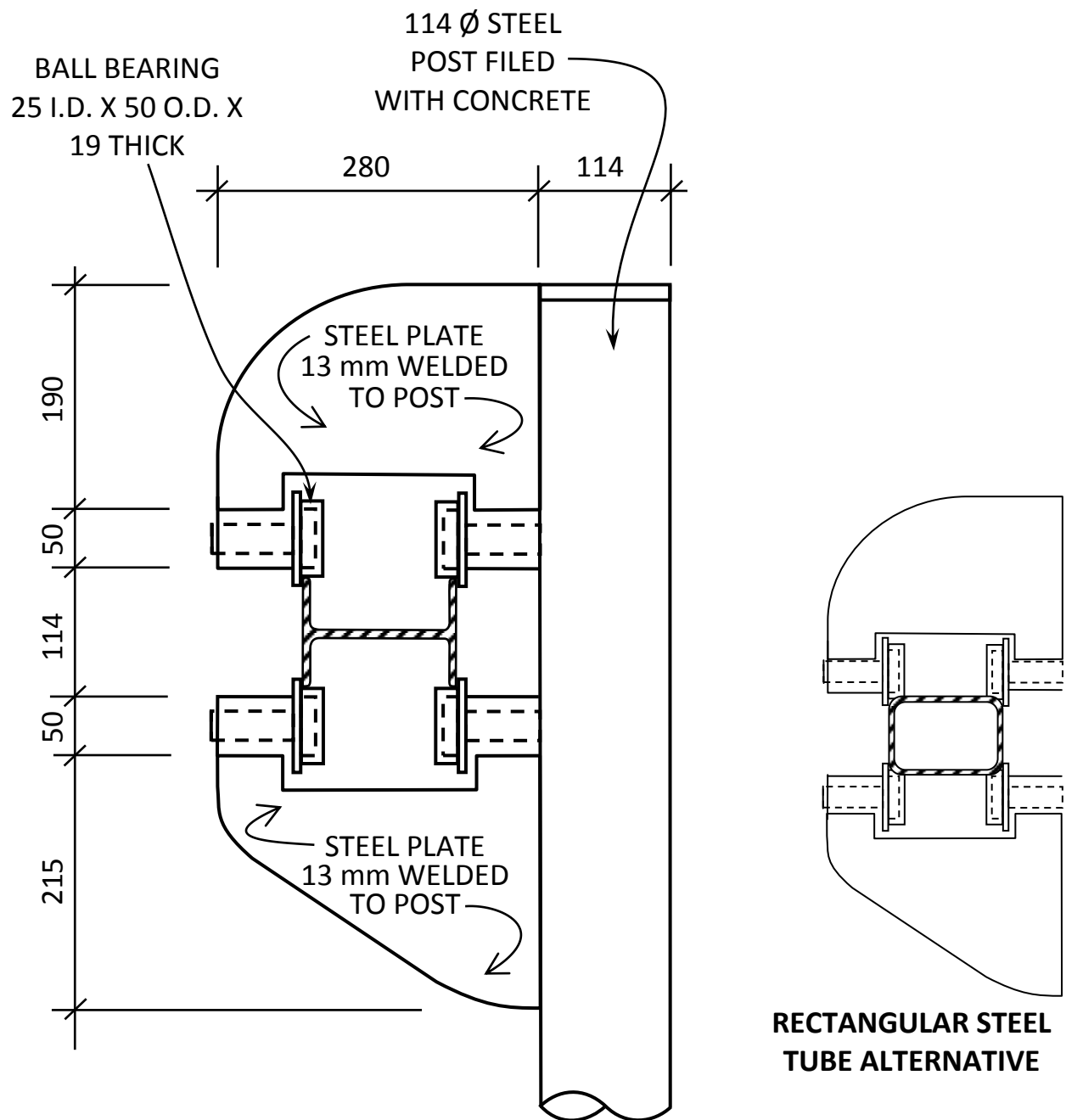
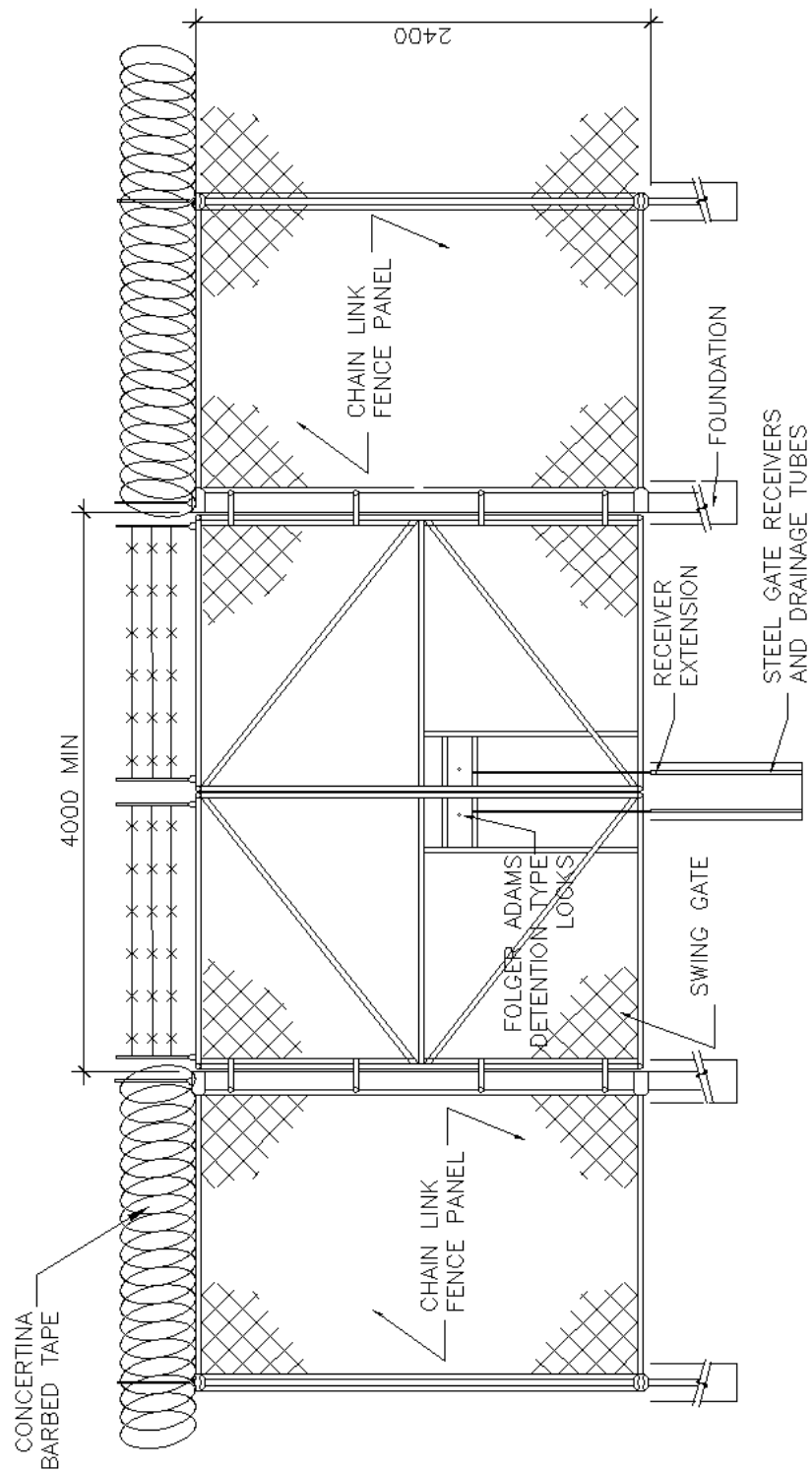


PLATE SP-3-6 – CRASH BAR DETAILS

**PLATE WSP-3-7 – VEHICLE SWING GATE (EMERGENCY GATE)**

WSP-4 SITE – EXTERIOR LIGHTING**1. SCOPE**

This section outlines the requirements for site lighting for Women's institutions including perimeter fence lighting and provides design guidelines for the following:

- Type of lighting systems and standards.
- Recommendations for lighting levels.
- Quality of illumination.
- Recommendations for control of glare.
- Recommendations for uniformity and brightness control of the environment.
- Recommendations for maintenance of the lighting system.

2. RELATED SECTIONS

WSP-2 – Fences

WSP-5 – Traffic Circulation

TCD E-1 – General Electrical Engineering and Electrical Distribution

TCD E-7 – Emergency Electrical

3. GENERAL REQUIREMENTS

- 3.1** Exterior lighting is provided for safety and security within institutional grounds; to assist in the visual detection of escape attempts, and to permit the use of outdoor amenities after daylight.
- 3.2** Exterior lighting shall be situated to minimize light entering sleeping areas.
- 3.3** Exterior lighting systems shall be designed to cast a practicably uniform level of lighting, free of shadows or dark spots and with minimal glare.
- 3.4** Energy saving features and systems shall be used in accordance with government policy.
- 3.5** Levels of illumination herein presented refer to average and avg./min. ratio values for either horizontal, ground level, or vertical illumination, unless otherwise stated. Local conditions may make it necessary to adjust values.
- 3.6** Lighting is provided to assist CCTV monitoring.
- 3.7** Systems shall be designed to withstand a wind velocity of 160 km/h and ice loading characteristic of the area in which the institution is located.
- 3.8** All security lighting systems shall be equipped with automatic control and manual override. The manual override shall reset itself to the automatic mode after it has been left in the manual mode for 24 hours. Recreation area lighting controls shall be manual only.

4. APPLICATIONS

4.1 Exterior lighting is designed to provide illumination of the following:

- Signage
- Entranceways and exits, including exterior stairways and ramps
- Pedestrian walks
- Institutional Grounds
- Parking lots and roadways
- Outdoor amenity areas
- Secure perimeter

5. PERFORMANCE REQUIREMENTS

5.1 *Security Lighting*

5.1.1 Lighting requiring Emergency Power Source

5.1.1.1 Perimeter Fence Lighting System - Special requirements for the perimeter system are covered in item 5.2.

5.1.1.2 Institutional Compound – the entire area within the perimeter fence illuminated to 10 lx average to allow silhouetting surveillance.

5.1.2 Illumination

5.1.1.3 Entrances and Sally ports shall be illuminated to allow recognition of persons entering the institution after daylight hours. Fixture placement shall achieve optimal visibility. The Entrance and Sally ports shall generally have an illumination level matching that of the perimeter fence.

5.1.1.4 Glare Control - Lighting system shall be engineered to ensure that spill light will not produce a glare problem without affecting the minimum illumination levels.

5.1.1.5 Uniformity – The placement of the luminaires should be arranged so as to ensure good uniformity of illumination over the area illuminated. Uniformity is expressed as the ratio of average illumination to minimum. In the area between perimeter fences the ratio should not exceed 3:1.

5.1.1.6 Luminaires – perimeter security lighting fixtures shall be based on the following requirements:

- a) Shatterproof lenses and vandal resistant housings
- b) Non yellowing lenses
- c) Pole, luminaires and brackets capable of withstanding the force of 160 km/h wind
- d) Lighting fixtures location to facilitate replacement of components.

5.1.1.7 Electrical System – The electrical system must meet the following minimum requirements.

- a) The security lighting system including the perimeter fence lighting shall be connected to the standby power system for continuity of service.

- b) Grounding methods shall meet the requirements of the Canadian Electrical Code, *CSA C22.1-09*¹³.
- c) Protect each phase with dedicated single phase circuit breaker. This will prevent the possibility of a fault on one phase affecting the other two.

5.1.1.8 Codes and Standards – Installation shall comply with the latest edition of the Canadian Electrical Code, Part 1, *CSA C22.1-09* (see footnote 2) and any applicable local or provincial regulation. Requirements outlined herein however, shall take precedence.

5.2 Perimeter Fence Lighting

5.2.1 General

5.2.1.1 Security Lighting for the Perimeter fence shall:

- a) Discourage or deter escape attempts.
- b) Make detection certain should an escape be attempted at scaling the perimeter fence.
- c) Avoid glare that can impact good visibility while not adversely affecting surrounding area.
- d) Ensure high system reliability.
- e) Meet levels of illumination indicated in Plates SP-4-2 and SP-4-6.
- f) Have automatic control.
- g) Consist of poles, lighting equipment and components located inside the perimeter fence and be made vandal or sabotage proof.
- h) Be connected to the standby power system for continuity of service.
- i) Provide a monochromatic light source.
- j) Provide minimum illumination level of 10 lx at the fence line.

5.2.2 Design

Perimeter Fence Lighting System shall be designed to achieve and maintain lighting quality based on the following factors and considerations:

- 5.2.2.1 Where a Women's institution is located in an area with little light from off property, the lighting system shall independently enable clear viewing within the illuminated area of the fence line.
- 5.2.2.2 Where an institution is located in close proximity to the community and more specifically housing, the lighting system shall reduce the impact of light spill beyond the institutional reserve.
- 5.2.2.3 A maintenance factor shall be applied in the design calculation to make allowance for luminaire dirt and any depreciation. Also consider weather conditions which will adversely affect visibility.

5.2.3 Luminaires

5.2.3.1 Luminaire type – The current choice for lighting is Light Emitting Diode (LED) or Induction lighting. These will normally be fully operable between -40°C (or less) and + 50°C (or more) and emit a white and bright light quality which enhances vision. LED systems can also be integrated with PIDS to allow the lighting to run at two illumination settings: low and high. Lighting could normally run at the low setting but

¹³ CSA C22.1-09 -- Canadian electrical code, part I (21st edition), safety standard for electrical installations.

should the perimeter fence be disturbed as detected by the FDS, the lighting for that zone only could increase to the high setting. This will signal to the escapee that his attempt has been detected and as well highlight the disturbed zone to the any officer on ground. The lighting therefore operates at 50% power increasing to 100% for the disturbed zone reducing the power output even beyond its already highly efficient performance. See Plate SP-4-6 for LED layout.

5.2.3.2 LED lamps are specified by manufacturers and must be selected based on engineer's recommendation for CSC application.

5.2.4 Poles are specified as follows:

5.2.4.1 Octagonal tapered of steel complete with transformer bases, eye bolts and gasketed electrical outlet boxes.

5.2.4.2 Hot dipped galvanized on interior and exterior surfaces as per *ASTM A123-09* and hot dipped galvanized anchor bolts and hardware accessories where possible.

5.2.4.3 Height and luminaire spacing to match type of lighting system as shown on Plates SP-4-3 & SP-4-6.

5.2.4.4 Hardwood plywood template for retaining anchor bolts when grouting them in place in the concrete base.

5.2.4.5 With non-shrink grout.

5.2.4.6 Transformer base plates drilled in the manufacturer's plant to match the anchor bolt configuration set in the bases.

5.2.4.7 Access doors in the transformer bases are c/w gasket and use tamperproof hardware for securing doors in place.

5.2.4.8 Transformer base oriented so that their access doors are parallel to but facing away from the fence.

5.2.4.9 For grounding requirement specify:

a) 10 mm threaded copper grounding stud welded to the inside of each transformer base at the back and above the bottom of the door opening. Ground studs are supplied complete with two nuts, one lock washer and one copper clamp type lug for minimum 13 mm² stranded bare copper wire.

b) Ground studs welded to the transformer bases in such a manner as to present a smooth surface on the exterior of the bases.

5.2.4.10 Aluminium nameplate located one foot above its base to include the manufacturer's name or identification mark, year of manufacture, pole length and ordering reference number.

5.2.4.11 Shims for levelling consisting of one 1.5 mm and two "U" shaped 3 mm.

5.2.5 Pole Mounted Luminaires and Lamps

5.2.5.1 Distance between luminaires shall be based on Light diffusion modelling using approved lighting, their manufacturers and fixtures. Plate SP-4-6 illustrates existing installation characteristics for pole mounted luminaires.

5.2.6 Controls

Perimeter fence lighting shall be controlled by a photo cell and meet the following requirements:

5.2.7.1 A photo control unit shall automatically turn on the security fence lighting system.

5.2.7.2 The weatherproof unit capable of operating over a range of -60°C to +55°C shall be mounted on a fence lighting pole located closest to the Main entrance.

5.2.7.3 The control shall energize the lamps on a preset (adjustable) value.

5.2.7.4 A manual control override turns the lights on and off as required.

5.2.7.5 The system shall operate on stand-by power and “be fail-secure”.

5.2.7.6 Controls shall be connected in parallel with the “ON” contacts of the “ON OFF” selector switch located as specified.

5.2.7.7 The photo control shall have a standard NEMA twist lock plug.

5.2.7.8 The photocell shall be temperature stabilized pre-aged and hermetically sealed.

5.2.7.9 The Installation Contractor shall adjust the photo control unit to switch on at not less than 40 lx. The unit shall be rated 1000 W incandescent, 120 volts, 60 HZ and CSA approved.

5.3 Other Exterior Lighting**5.3.1 Luminaire type**

Lighting type shall be selected based on energy efficiency, economy and accepted practices for Recreation Areas, Parking Lots, Signage, Roads and sidewalks, Building entranceways and exits, and Institutional grounds. Luminaires must be fully operable between -40°C (or less) and + 50°C (or more).

5.3.2 Recreation Areas and Yards

5.3.2.1 The recreation area illumination system shall be installed on a project specific basis so as to form an integral system as part of the exterior lighting system. Illumination levels for dedicated yards connected to living areas -70 lx.

5.3.3 Parking Lots, Institutional Grounds. Roads and sidewalks

5.3.3.1 Average Illumination Levels – 10 lx.

5.3.3.2 Illumination Uniformity – Maintain a maximum ratio of average lux to minimum lux of 3:1.

5.3.3.3 Illumination Quality – To minimize shadows especially between parked cars illuminate each point from at least two luminaire locations.

5.3.4 Signage, Building entranceways and exits

5.3.4.1 Direct lighting with similar luminaires to that for sidewalks and roads will serve to illuminate the target door or sign to a higher level.

5.3.5 Controls

5.3.5.1 The recreation area lighting controls shall be manually switched on and off as required from a specified location.

5.3.5.2 All other exterior lighting shall be controlled by photocell or astronomical dial time clock with manual bypass from a specified location. Lighting controls shall be separated for each use.

5.3.6 Poles

- 5.3.6.1 Specify that all poles used as light standards shall be fabricated from steel conforming to *CSA Standard G40.21-04 (R2009)*¹⁴ Type T, grade 60T, Low silicon, 60,000 psi yield strength. Do not use concrete poles.
- 5.3.6.2 Avoid having steps on poles.
- 5.3.6.3 Minimum height of post for pedestrian walks 3.05 m, for parking lots 6.1 m.
- 5.3.6.4 The lighting system should incorporate a method by which luminaires on poles may be easily and economically maintained.
- 5.3.6.5 High Standards (30 m poles) are shall not be used for Women's institutions. Maximum height shall not exceed 13 m.

¹⁴ CSA G40.20-04/G40.21-04 (R2009) – General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel

WSP-5 SITE – TRAFFIC CIRCULATION AND PARKING

1. SCOPE

This section outlines requirements for vehicle and pedestrian circulation and for vehicle parking inside and outside Women's institutions.

2. RELATED SECTIONS

WSP-1 – Site Development

WSP-2 – Security Fences

WSP-3 – Gates/Sally Port

WSP-4 – Lighting

3. CIRCULATION SECURITY REQUIREMENTS

3.1 *Outside the Institutional Perimeter*

- 3.1.1 For ease of control, there shall be only one roadway providing access to the institution from a public thoroughfare.
- 3.1.2 All parking, including that of staff, visitor and CSC owned vehicles, shall be located on the exterior of the institution and in proximity to the Principle Entrance.
- 3.1.3 Pedestrian walks shall only be provided from the parking area to the Principle Entrance.

3.2 *Inside the Institutional Perimeter*

- 3.2.1 A pedestrian outdoor circulation network shall connect all buildings. Enclosed circulation networks shall not be provided except where buildings are connected.
- 3.2.2 Fire vehicle access shall be in accordance with applicable authorities. Two different access routes, one via the Principle Entrance, one via the Emergency Vehicle Entrance shall be provided with clear signage (see SP-3:3.2).
- 3.2.3 Vehicle roadways are required for service functions and shops. Vehicle movement shall be separated from offender circulation and located away from outdoor offender activity areas.
- 3.2.4 Vehicle loading and unloading zones shall be centralized where possible, or located in proximity to one another to facilitate their control. Loading zones shall be located away from inmate movement and exterior activity areas, and shall be close to the Principle Entrance.

4. DESIGN REQUIREMENTS

4.1 *Roadways*

- 4.1.1 The access road shall be integrated into the public road system; it shall not provide hazardous crossings nor cause undue congestion during peak hour movements.
- 4.1.2 All roads shall be asphalt paved unless local conditions dictate otherwise.

4.1.3 The minimum widths of paved surfaces shall be as follows:

- One way single lane: 3.5 m
- Infrequently used access ways: 4.8 m
- Two way double lane: 7.0 m

4.1.4 Roadway curbs shall not be used.

4.1.5 Drainage, turning radii, prepared shoulders and intersections shall conform to local municipal standards.

4.1.6 Pedestrians and vehicles shall share the same traffic surfaces except as provided for above.

4.1.7 Roadways shall be illuminated as per section WSP-4 Exterior Lighting.

4.2 *Perimeter Walkway*

4.2.1 A paved walkway for fence inspections shall be provided along the interior side of the perimeter fence. The Walkway shall be 900 mm wide and engineered for local conditions.

4.2.2 Illumination of the walkway shall be satisfied by perimeter fence lighting as per Section WSP-4 Exterior Lighting.

4.3 *Pedestrian Walkways*

4.3.1 Walkways shall be of monolithic material such as asphalt, concrete, or compacted stone dust. Small or thin pavers which can be lifted or broken shall not be used.

4.3.2 Walkway design shall allow for movement of handicapped persons and snow removal equipment s well as projected traffic volume.

4.4 *Parking (Other than for CSC Vehicles)*

4.4.1 Offender visitor parking and staff parking shall be separately demarcated. Offender visitor parking stalls shall be provided at a ratio of 50% of the maximum number of offenders allowed in the visits area at one time (visit capacity); such visit capacity shall be identified on a project specific basis. For optimal time of use distribution, the visitor parking lot shall also accommodate official visitor cars.

4.4.2 The number of staff parking stalls shall be provided at the rate of 1.2 multiplied by the peak weekday shift. Staff complement shall be identified on a project specific basis.

4.4.3 Barrier-free parking shall be located close to the gatehouse and be combined for use by staff and visitors. The number of stalls shall be based on established need ranging from a minimum of 2 to a maximum of 4.

4.4.4 Parking areas shall be asphalt paved unless local conditions dictate otherwise.

4.4.5 Curbs shall not be used, although pre-cast wheel stops are permitted.

4.4.6 Landscape islands and trees are permitted but dense planting shall be avoided.

4.4.7 Parking stall dimensions (including barrier-free) and drainage provisions shall conform to governing standards.

4.4.8 Parking areas shall be illuminated as per section WSP-4 Exterior Lighting.

4.5 *Parking for CSC Vehicles*

4.5.1 A CSC vehicle parking compound shall be provided, located on the outside of the perimeter fence; size shall be defined on a project specific basis.

4.5.2 The parking compound shall be located in proximity to the Main entrance.

4.5.3 Fuel shall not be stored on site except for light vehicles and for the emergency generator. Fuel shall be stored in registered tanks in accordance with the Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations².

4.5.4 The parking compound shall be illuminated as per section WSP-4 Exterior Lighting.

4.6 *Electrical Outlets for Engine Blocks*

Where an institution is located in an isolated area in climate zones having sustained low temperatures of -20°C or less, electrical outlets for engine blocks shall be provided based on the following:

4.6.1 CSC Vehicles

The intent being that institutions have ready to run CSC vehicles for everyday operations including escort or transfer of inmates. Consequently, electrical outlets for block heaters are mandatory.

4.6.2 Staff Vehicles

The provision of outlets must be consistent with local practices. For this, a survey of other Government buildings and local area business and plants will determine the need to provide electrical outlets for block heaters.

4.6.3 Other Vehicles

Electrical outlets for block heater shall not be provided for visitor parking or for other short term parked vehicles.

4.6.4 Parking Electrical Outlets General Requirements

Where provided, electrical outlets may be controlled by timer or by a programmable controller.

WSP-6 SITE – TEMPORARY CONSTRUCTION FENCES

1. SCOPE AND DEFINITIONS

This section provides performance criteria and relevant specifications for all temporary construction fences for Women's institutions.

Several options for temporary fences are available. Their selection must weigh the following factors: location of construction, the risk of breach, and the duration of construction. Type of fence and conditions of use:

Type 1 Fence for open facilities without fenced perimeter provides a physical barrier to prevent unauthorized persons access to the site for reasons of safety and to protect the contractor's assets. This fence is no different from that used in the community.

Type 2 Fence in restricted or controlled offender areas such as where routine vehicle movement takes place within the service compound and therefore where breach concerns should not be elevated. This fence serves to prevent unauthorized access for similar reasons as above and as such the fence type is also as above. Construction truck traffic is via the Principle entrance vehicle sally port where it is inspected for contraband. Type 2 Fence shall also be used where construction duration is short term as for a repair or replacement of existing systems or where the work site shifts by phase from building to building. The institution in this case will schedule offender movement and activities so as to mitigate risk of breach. Truck traffic to the site will be escorted from the Principle entrance.

Type 3 Fence used in offender movement and activity areas within the main perimeter and where breach is possible. Construction truck traffic is via the main entrance vehicle sally port where it is inspected for contraband. Trucks are escorted to the construction site. This fence is used for long term projects which have a substantial scope and cost. Fences here must assure appropriate security based on assessed risk. . Type 2 fence may be used here complemented by being topped with BTC to assure adequate security against scaling.

Type 4 Fence used for long term projects in proximity to the perimeter fence. This fence forms a secure compound which is integrated with the perimeter fence. Type 3 fence is used except that it is fitted with a Fence detection system and covered by camera and lighting integrated with the PIDS. A dedicated access will be constructed on the perimeter fence line for construction truck traffic to be controlled by contracted commissionaires.

2. RELATED SECTIONS

2.1 *Technical Criteria Document sections:*

WSP-1 - Site Development

WSP-2 - Fences

WSP-3 - Gates/Sally Ports

WSP-4 - Exterior Lighting

WSP-5 - Traffic Circulation and Parking

2.2 *Other CSC document*

Statement of Technical Requirements – Temporary Construction Fences at Medium and Maximum Security Institutions, Correctional Service Canada, Technical Services Branch – Electronic Systems, Issue 5, April 8, 2011.

2.3 National Master Specification section:

01 35 13 – Security Requirements (prior to 2004: 01003 – Security Requirements)

01 56 26 – Temporary Fencing

01 56 36 – Temporary Security Enclosures

3. PERFORMANCE CRITERIA**3.1 Type 1 Fence**

This fence type shall be a self supporting welded mesh sectional fence typically available by rental ('Modu-loc' or similar). The height of the fence shall be no less than 1800 mm high but may be higher depending on local availability. The fence must be stable and self supporting. Welded wire mesh is considered to be non-climbable due to its mesh size which inhibits the insertion of a foot to aid climbing. The top of the fence also has its vertical wire projecting over the top rail to discourage breach. Matching vehicle gates are padlocked after work hours. The temporary construction fence shall be removed from the institution by the contractor after construction is completed.

3.2 Type 2 Fence

This fence type shall be similar to the above but with a height of 2.4 m. This fence must not come in contact with the perimeter fence nor be closer than 5 m to the perimeter fence so as not to interfere with PIDS camera viewing on the interior side of the institution. The temporary construction fence shall be removed from the institution by the contractor after construction is completed.

3.3 Type 3 Fence

This fence shall be similar to the Type 2 fence except that it shall be topped with BTC, with a base securely pinned in the ground from each side and with the ground compacted to prevent tunneling. Matching swing type vehicle gates shall be padlocked after hours. As for type 2 fence, this fence must not come in contact with the perimeter fence nor be closer than 5 m. Truck access to this compound shall be via the Main entrance with all vehicles escorted. The temporary construction fence shall be dismantled and removed by the contractor after construction is completed.

3.4 Type 4 Fence

This type of fence forms part of the perimeter. It shall be a Type 3 fence with BTC and equipped with a fence detection sensor connected to the M CCP. Cameras are also required to monitor the fence line connected to the M CCP as well as lighting to enhance viewing. Access is through a single gate similar to the emergency gate and is secured with padlocks and keys under the control of a Commissionaire. A commissionaire's temporary hut is required within the construction site. The fence and systems must be dismantled and removed by the contractor.

4. RELEVANT SPECIFICATIONS**4.1 Type 1 Fence**

Rental construction protection fence comes with welded wire mesh and components conforming to ASTM F2919 Welded Mesh Fence specification. Mesh is galvanized steel no larger than 50X150mm (vertically long rectangle) with vertical wire projecting and exposed at top. Fence must be at least 1800mm high and secured with pins inserted in the ground through the 'T' base support. Sections of fence must be securely clamped

together to ensure that the each fence run acts as a continuous barrier which will resist lateral forces and separation. Sloped runs must be protected by mesh panels to ensure continuity of barrier from ground up.

4.2 *Type 2, 3, and 4 Fence*

This fence is similar to Type 1 above but shall be 2400mm high. Ground along the fence run shall be surfaced with compacted gravel. 'Barbed tape concertina' (BTC) where required shall be as per SP-2-4.2 except that it could be directly attached with galvanized twist ties or clips to the top rail or wire resting against the mesh on the threat side. Use of steel arms fastened to the posts may also be considered for the support of 2 barbed wires and BTC.

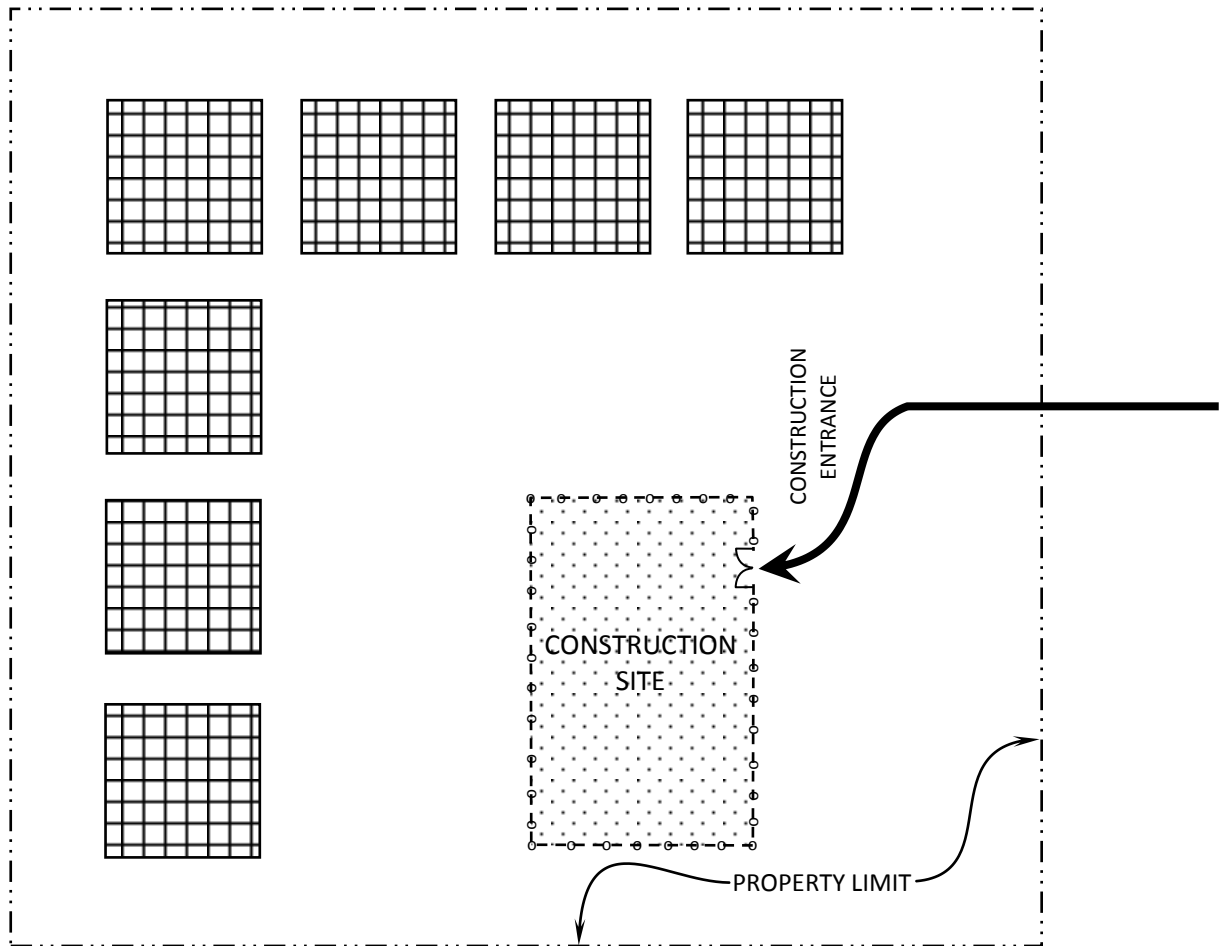


PLATE WSP-6-1 – TYPE 1 FENCE

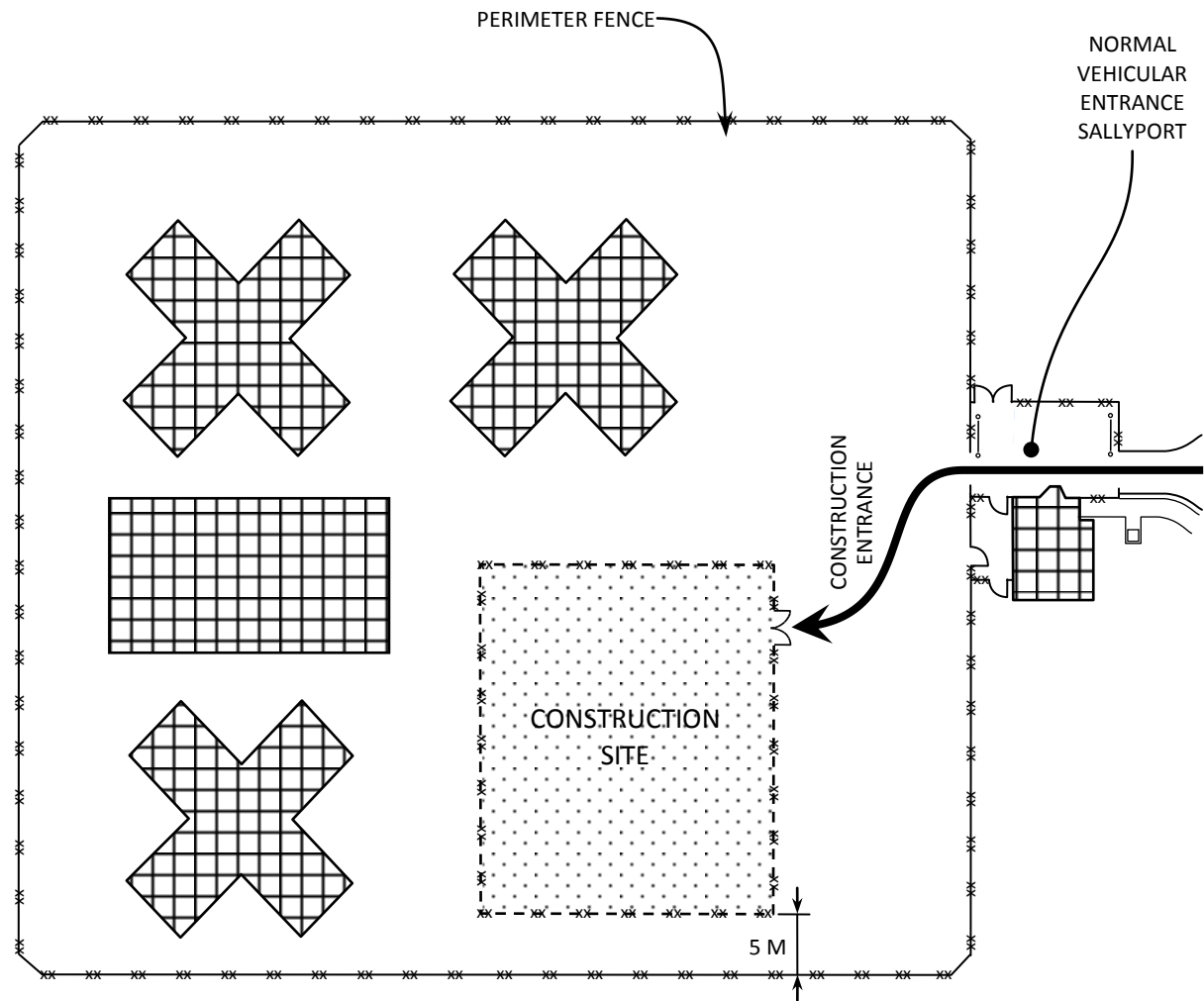
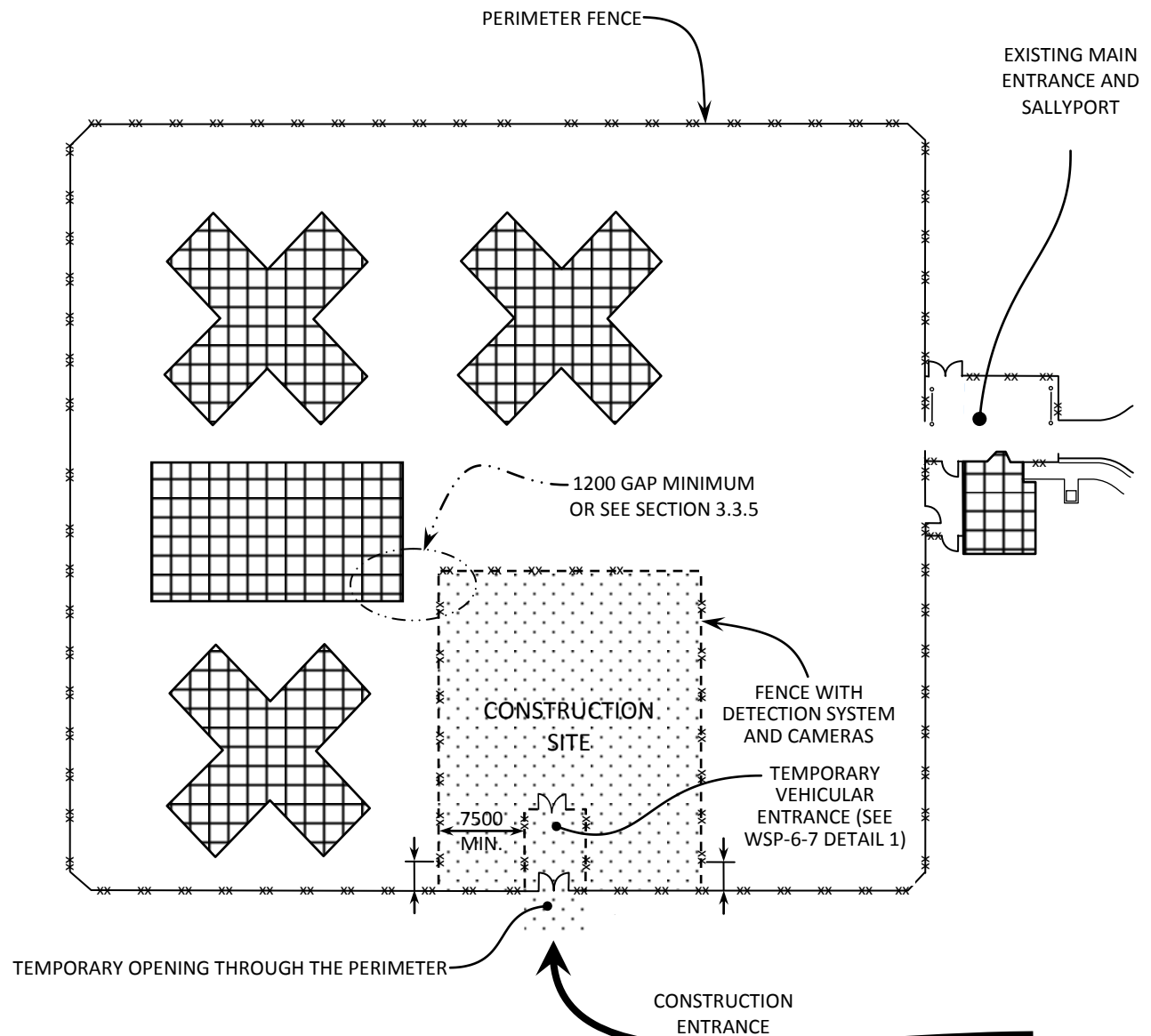
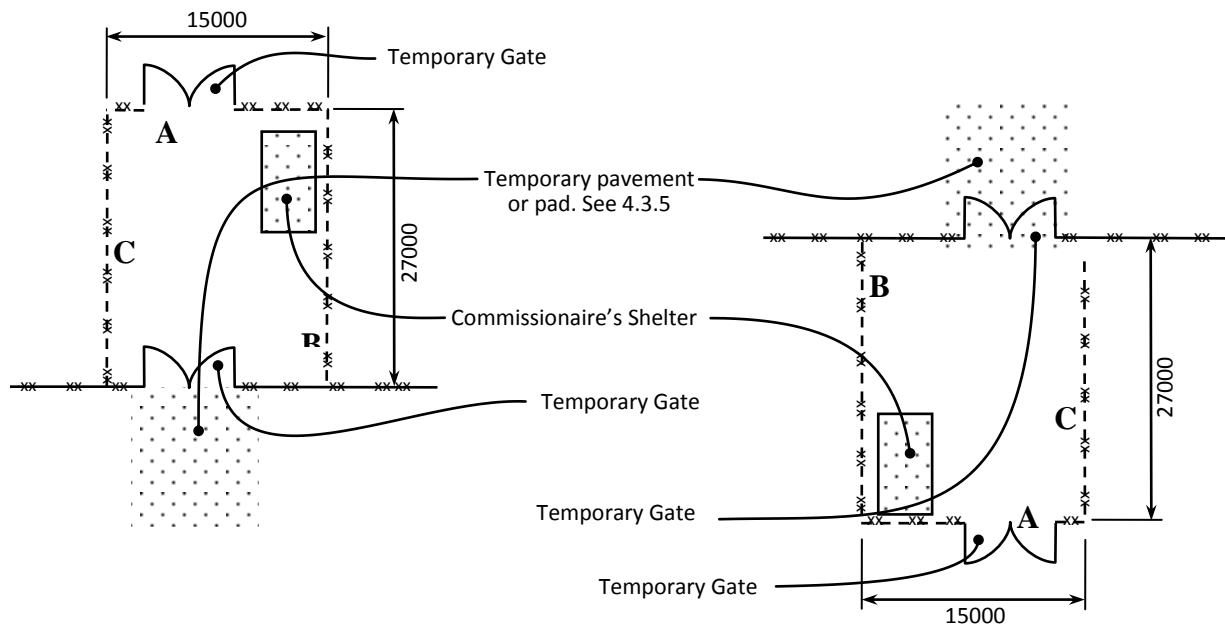


PLATE WSP-6-2 – TYPE 2 AND 3 FENCE

PLATE WSP-6-3 – TYPE 4 FENCE

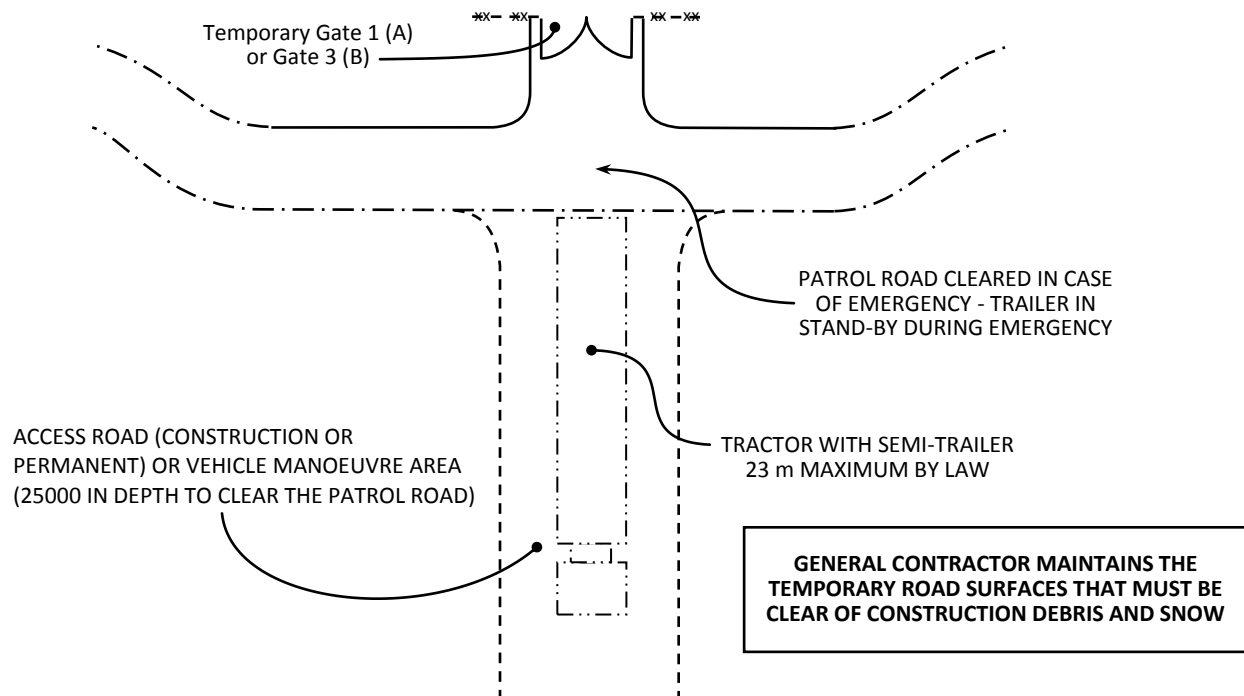




A – INSIDE THE INSTITUTION

B – OUTSIDE THE INSTITUTION

WSP-6-4 – TYPE 4 FENCE –
ENTRANCE OPTIONS



WSP-6-5 – TYPE 4 FENCES –
VEHICLE ACCESS DETAIL