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**SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

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Title - Sujet CCTV Equipment	
Solicitation No. - N° de l'invitation 21120-170532/A	Amendment No. - N° modif. 004
Client Reference No. - N° de référence du client 21120-170532	Date 2017-06-08
GETS Reference No. - N° de référence de SEAG PW-\$\$HN-465-72726	
File No. - N° de dossier hn465.21120-170532	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-06-20	Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Nadeau, Alexandra	Buyer Id - Id de l'acheteur hn465
Telephone No. - N° de téléphone (819) 420-2859 ()	FAX No. - N° de FAX (819) 953-4944
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:	

Instructions: See Herein

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Signature	Date

Solicitation No. - N° de l'invitation
21120-170532/A
Client Ref. No. - N° de réf. du client
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Buyer ID - Id de l'acheteur
HN465
CCC No./N° CCC - FMS No./N° VME

This amendment 004 is being raised to address questions submitted by potential bidders.

1. Questions and Answers, All questions appear in their original format and language. The T.A's response appears in ***BOLD AND ITALIC***.

Q1) Bowden - Within the new STR issued in Addendum #2, I do not see anything regarding Bowden Institution, can you confirm that this site was removed from the RFP requirement? I have the drawings from the Addendum but see nothing in the revised STR?

A1) Thank you for pointing that out, it wasn't in the original submission either as it was a late addition. Please see attached revised STR.

Q2) Bowden, Sask Penn, SMI - As these new cameras are connected to the existing Omnicast CCTV system, are camera offline alarms to be presented to the Operator on the PIDS and FAAS?

A2) Yes

ALL REMAINING TERMS AND CONDITIONS ARE UNCHANGED

**Correctional Service Canada
Technical Services Branch
Electronics Systems**

Issue 1.7

2017-06-05

**STATEMENT
OF
TECHNICAL REQUIREMENTS**

CLOSED CIRCUIT TELEVISION RECORDING/CAMERA UPGRADE

AT

**OOHL / PE SAKASTEW / RIVERBEND / ROCKWOOD / WCHL / DRUMHELLER MSU
/ BOWDEN ANNEX / OSKANA CCC / OSBORNE CCC**

AUTHORITY

This Statement of Technical Requirements is approved by the
Correctional Service of Canada for the installation of a Closed Circuit
Television and Recording System at the Aforementioned PRA Institutions.

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Annex A - Maintenance Handover Report Form

Annex B - Safety Regulations for Security Electronics Contractors Working at CSC Institutions

Annex C- CPIC Form

ABBREVIATIONS

The following abbreviations are used in this specification:

CER	Common Equipment Room
CSC	Correctional Service Canada
DA	Design Authority
RTEO	Regional Telecommunications and Electronics Officer
FDS	Fence Disturbance Detection System
PA	Public Address
CCTV	Close Circuit Television
ODTR	Optical Time Domain Reflectometer
IP	Internet Protocol
PIU	PIDS Integration Unit
PIDS	Perimeter Intrusion Detection System
SIDS	Supplementary Intrusion detection System
STR	Statement of Technical Requirements
MDS	Motion Detection System
FDS	Fence Detection System
MCCP	Main Communications and Control Post
ATP	Acceptance Test Plan
QTY	Quantity

DEFINITIONS

The following definitions are used throughout this specification:

Design Authority: Director, Engineering Services, Correctional Service Canada (CSC)

Contract Authority: Public Works & Government Services Canada

Contractor: The Company selected as the successful bidder on the contract.

1.0 INTRODUCTION

1.1 General

CSC has a requirement for the installation and upgrade of the CCTV camera and recording infrastructure at Willow Cree Healing Lodge in Duck Lake, SK; Unit 8 (formerly Riverbend) in Prince Albert, SK; Okimaw Ohci Healing Lodge in Maple Creek, SK; Pe Sakastew in Hobbema, AB; Unit 7 (formerly Rockwood) in Stony Mountain, MB; Drumheller MSU in Drumheller, AB; Bowden Annex in Bowden, AB; Oskana CCC in Regina, SK; Osborne CCC in Winnipeg, MB. This STR will cover the technical requirements for the required work.

Work will have to be accomplished with minimum disruption to the daily operation and security of the institution.

1.2 Scope

The contractor will design, supply, install, integrate, test, and train operators/maintenance personnel on the installed equipment, as described in this STR. The contractor will provide acceptable documentation for the operation and the maintenance of this equipment.

1.3 Requirement

The purpose of this STR is to define the technical aspects for the removal of the existing redundant equipment, and the installation of new equipment.

This STR will indicate the extent to which both general and particular CSC specifications are applicable to the implementation of this requirement.

The primary purpose of the CCTV upgrade is to provide digital camera infrastructure and recording infrastructure to provide video archiving for a minimum of 7 days for all Minimum Security units and minimum 30 days for all CCC's.

1.4 Site Visits

The DA, or the authorized representative, shall coordinate a site visit, if requested by the contractor, and identify to the contractors the exact locations of equipment.

The visits may be useful to determine:

- a. The space, power, spare cable pairs, etc. which are available at equipment mounting locations at these sites,
- b. The conduit and cable requirements for power, video and control signals to the cameras and other equipment locations at these sites,
- c. Condition of existing power, video and control cables, and,

- d. General layout and operating environment at the site.

1.5 **Technical Acceptability**

The CSC operational environment is unique for its diversity of locations, climate exposures and the physical restrictive construction techniques of penal institutions. Maintaining national security, the safety of staff and offenders alike is CSC's commitment to the government and public. Electronic security systems operating in this unique environment shall maintain very high standards of dependability and reliability.

The CSC Engineering Services Division has established Statements of Work (SOW), technical specifications and standards for security electronic systems, which are based on very specific, and restrictive operational performance criteria. Technical acceptability of these systems means that the systems equipment and components comply with the pertinent CSC SOWs, specifications and standards.

2.0 **APPLICABLE DOCUMENTS**

2.1 **Applicability**

The provisions contained in the documents listed in the following paragraphs shall apply to all aspects of this requirement, unless these provisions have been exempted or modified by this STR.

2.2 **Applicable Standards and Specifications**

- a. ES/SOW-0101 Electronics Engineering Statement of Work - Procurement and Installation of Electronic Security Systems
- b. ES/SOW-0102 Electronics Engineering Statement of Work - Quality Control for Procurement and Installation of Electronic Security Systems
- c. ES/SPEC-0006 Electronics Engineering Specification - Conduit, Space and Power Requirements for Security Systems for use in Federal Correctional Institutions
- d. ES/STD-0232 Electronics Engineering Standards – Outdoor Network Colour Dome Closed Circuit Television Camera
- e. ES/SOW-0110 Electronics Engineering Statement of Work - Structured Cable Systems for Electronic Security Systems
- f. ES/STD-0227 Electronics Engineering Standard – Colour Monitor
- g. ES/STD-0228 Electronics Engineering Standard - Network Video User Station, Closed Circuit Television

- h. ES/STD-0229 Electronics Engineering Standard - Network Video Recorder, Closed Circuit Television
- i. ES/STD-0804 Electronics Engineering Standard – Uninterruptable Power Supply Electronic Systems

2.3 Non-Applicable Specifications

- a. ES/STD-0232 Environmental Requirements

2.4 Drawings

Site construction conceptual drawings **MAY** be available for review at a site visit. The contractor shall be responsible for verifying the accuracy of the drawings and for recommending any changes to the DA. AutoCAD version may be provided on request.

2.5 Language

The language at all PRA region Institutions is English; all display and control information shall be in English. The operator, maintenance manuals and as-built drawings shall be provided in English. Training and documentation shall be provided as per Paragraphs 5.1 through 5.4.

3.0 OPERATIONAL CRITERIA

3.1 General

The operational parameters of the installed equipment shall meet the performance and operational requirements in accordance with the Specifications and Standards listed in paragraph 2.2.

4.0 TECHNICAL REQUIREMENTS

4.1 Concept of Operation

Video surveillance of designated areas is required to maintain a safe and secure environment for both staff and inmates. CCTV cameras will be installed / replaced at specified locations to provide the required video surveillance.

Video recording and archiving is required to maintain a safe and secure environment for both staff and inmates.

4.1.1 User Interfaces

All control functions such as selection and control of the Pan/Tilt/Zoom (PTZ) and spot monitor selection of a camera must be through the use of a mouse. Playback, recording, searching or

archiving of video to external media must be accomplished through the use of a mouse and keyboard on NVUS clients.

4.2 Existing Camera System

Willow Cree Healing Lodge has an existing analog/digital camera system consisting of 5 PTZ cameras (2 analog and 3 IP). 1 camera is located on a tower to the east of building B24; 1 camera is located on the SE corner of the main admin building B01; 1 camera is located on the SE corner of building B06; 1 camera is on a pole at the South end of the living units, this camera is new and utilizes IP protocol; 1 camera is on a pole at the NW corner of the new gymnasium building, this camera is new and utilizes IP protocol. All cameras are viewed at the Duty desk in the main Admin building and at the SIO office upstairs in the new Gymnasium building; there is currently a new, operational network video recording system at this site (in the new Gym building).

Unit 8 (Formerly Riverbend) has an existing analog camera system consisting of 4 PTZ cameras and 1 fixed camera, 1 PTZ on the North courtyard tower; 1 PTZ on the South courtyard tower; 1 PTZ in the V&C area; 1 PTZ on the NW corner of the main building; 1 fixed camera looking down stairs towards front entrance. Cameras are all viewed at the main control post in the main building on an LCD monitor. There is no recording system in use on this system and it should be noted that cameras will require integration with existing Pivot3 recording system in service at Saskatchewan Penitentiary as well as the MCCP in same.

Okimaw Ohci Healing Lodge has an existing analog/digital camera system consisting of 9 cameras: 1 PTZ camera viewing block two and three; 1 PTZ camera viewing the parking lot; 1 PTZ camera viewing block one and four; 1 PTZ camera at the front entrance; 1 PTZ camera at maintenance; 1 camera viewing the roadway gate; 3 fixed corner mount security cameras in B03; 2 monitors in front entrance control post; 1 monitor in B03; 1 monitor in SIO office room 158-B08. There is currently no network video recording system at this site

Pe Sakastew has an existing analog camera system consisting of 7 PTZ cameras: 1 camera viewing the courtyard on top of E building (exterior); 1 camera viewing the playground on W side of E building (V&C Exterior); 1 camera on Maintenance building W corner (exterior); 1 camera at front entrance by board room roof (exterior); 1 camera in V&C visiting area E building (interior); 1 camera on corner of Mechanical room SW corner E building (exterior); 1 camera PTZ in Back 40 on 35' pole. There is a 16 channel NVR installed at the main desk and one remote station connected to it in the SIO office.

Unit 7 (Formerly Rockwood) has an existing analog camera system consisting of 11 PTZ cameras: 2 cameras in the V&C area; 1 camera on the SW corner of the admin building; 1 camera on the SE corner of the admin building; 1 camera on the NW corner of the admin building; 1 camera on a tower by the ice rink; 1 camera by the parking lot of the admin building; 1

camera at the rear SW corner of the new 50 bed unit; 1 camera at the front NW corner of the new 50 bed unit; 1 camera at the front NE corner of the new 50 bed unit. All cameras attached to the 50 bed unit are newer IP based and all other cameras are analog. There are 5 small monitors at the duty desk on which 5 of the cameras can currently be viewed; all 7 cameras attached to the admin building can all be viewed in the back security office; None of the 4 cameras attached to the 50 bed unit are currently viewable at the security post (or anywhere else), there is a 50 micron fibre fed back to the security office in the admin building from the 50 bed unit that can be utilized to provide viewing of the 4 cameras on the 50 bed unit. There is currently no recording system in use at this unit; system requires integration to existing Pivot3 vSTAC equipment and MCCC within SMI.

Drumheller MSU has an existing analog camera system consisting of 4 PTZ cameras: 1 camera on a pole in front of the MSU main entrance; 1 camera on the rooftop of the MSU, 1 camera on a pole behind the multi-purpose building; 1 camera on the PWGSC building observing the ball diamond. There is no recording system in use at this building; system would require integration to Drumheller Pivot3 recording system as well as MCCC in same.

Bowden Annex has no existing CCTV system, but requires tie in to existing network video recording system at main institution.

Oskana Community Correctional Center has an existing IP digital camera system consisting of 13 fixed and 1 PTZ camera: 1 camera by door U3-00; 1 camera on 2nd floor by door A-210; 1 camera on 2nd floor by door A-208; 1 camera at end of hall on 2nd floor; 1 camera in basement by door A-009; 1 camera in basement by door P-002; 1 camera in basement by door P-001; 1 camera in basement by door S3-0; 1 camera on main floor at front entrance; 1 camera on main floor in front entry vestibule; 1 camera on main floor by door A-106; 1 camera in the stairwell between 1st and 2nd floor; 1 camera outside viewing the back parking lot; 1 PTZ camera on back corner of building by parking lot. This site has already had its recording system upgraded to a Pivot3 vSTAC system.

Osborne Community Correctional Center has an existing IP digital camera system consisting of 9 fixed and 4 PTZ cameras: 1 PTZ camera outside on North of building; 1 PTZ camera outside on South of building; 1 PTZ camera outside by parking lot; 1 PTZ camera in the basement; 1 fixed camera at the basement stairs; 1 fixed camera in basement West rec area; 1 fixed camera in basement East; 1 fixed camera on main floor at main security area; 1 fixed camera on main floor East; 1 fixed camera on Main floor West; 1 fixed camera on Main floor South; 1 fixed camera on 2nd floor East; 1 fixed camera on 2nd floor West. The main entry Kiosk has a viewing station with a quad view; there is a maintenance viewing station in the basement server room. This site has already had a recording system upgraded to a Pivot3 vSTAC system.

4.2.1 Testing of Operating Equipment Characteristics

The contractor must test the operational characteristics of all existing equipment and systems, whose equipment is in proximity to where work will be carried out or which must be reused, prior to removal or installation of any equipment and provide a written record of those tests for the Design Authority.

The contractor must identify any operational deficiency of equipment or else risk being held accountable for system deficiencies during the commissioning period

4.2.2 Testing of Fibre Optic Cable

The contractor must test all existing fibre optic cabling to be reused in this project and provide detailed light budget analysis and OTDR readings for all fibre strands. Test results must include the following:

- Origin and destination of cable
- Light loss in dB over cable – pass/fail – dB
- Length of Cable in meters
- Pass/Fail

The contractor must test all existing structured cabling to be reused in this project with a certified CAT6 LAN analyzer and provide detailed analysis and LANCAT readings for all cables.

- Wire map – Pass/fail
- Propagation delay – Pass/fail
- Cable length – pass/fail – length
- Insertion loss – pass/fail- dB
- Return loss – pass/fail
- NEXT – pass/fail
- ELFEXT – pass/fail & a scoped picture of each termination

4.3 New System Installation

The contractor shall install a new Network video recording system equal to or exceeding CSC Electronics Engineering Standard ES/STD-0229 to accommodate 7 days (minimum) continuous recording time. At sites with existing Pivot3 network video recording systems do not require replacement, however may require expansion of existing capacity to accommodate recording requirements. (7 days minimum for minimum security and healing lodges, 30 days minimum for CCC's)

The contractor shall provide, install, integrate and test the new CCTV equipment to ensure a complete and fully functional, IP based CCTV system. The new CCTV system shall meet or exceed all of the performance and operational requirements contained in the SOW's, specifications and standards listed in Section 2.2. Where there is a conflict between a published specification and this STR; this STR will be the document of reference.

The existing CCTV system shall remain operational throughout the installation of the new equipment. All integration shall be coordinated with the institution's operational management in accordance to an Integration Plan which requires prior approval by the Technical Authority.

The contractor shall avoid, as much as possible, the use of conduit in inmate accessible areas. The contractor shall utilize existing pipe chases, existing conduit in the walls, etc., where possible. New lengths of conduit shall be of the minimum necessary length. The contractor shall install rigid conduit in all ranges. All newly installed conduits carrying video for this project shall be identified, except in inmate accessible areas, by prominent labels with **BRIGHT GREEN** wording. These labels shall be located at each end of the conduit run, on both sides of any penetration of a wall, and at 3.5 meter points along its length. Patching and painting shall be done around new conduit installations, however painting the conduit is not required.

All data cables and data jumper cables (minimum 23 gauge), jacks and connector boots installed as part of this project, whether CAT 6 or fibre optic, shall be BRIGHT GREEN in colour. All cables shall be FT4 rated. All patch cables shall be labeled at each end with **mechanically produced labels** designed specifically for cable labeling. All fibre optic strands shall be terminated with connectors.

All patch cables are to be stranded cable with RJ45 connectors. All installed runs of CAT6 cable are to be solid conductor cable and terminated into patch panels in equipment racks. Cameras shall be connected directly to installed cable either terminated with a TIA compliant CAT6 RJ45 solid conductor connector or a TIA compliant factory assembled stranded CAT6 pigtail with RJ45 connector on the end of the installed cable. Faceplates and patch cables for camera connections shall not be acceptable.

An installed cable is any cable that is run through a conduit, run from one area in a building to another area or any cable that travels farther than the adjacent equipment cabinet in a series of cabinets. Note: Equipment cabinets must be abutting and without side panels to be considered adjacent.

Rigid conduit shall be used in all inmate accessible areas e.g. walkways, low ceilings, and gymnasiums.

Media converters for long run outdoor connections may be either temperature hardened or installed in heated enclosures.

All CAT6 premises wiring solutions shall come with a minimum 10 year warranty on the connectivity between terminations on all premises cabling solutions deployed.

Willow Cree Healing Lodge: 2 exterior cameras to be replaced with New PTZ; 1 new 360 cameras to be installed in principal entry building B01; 1 new PTZ to be installed in visiting area building B01; 2 new monitors and NVUS to be supplied and installed at the main duty desk; 3 existing PTZ to remain as is. All cameras to be viewed at the main duty desk and at the SIO office upstairs in the new gymnasium building. This site will require some new Fibre installation. All cameras to be integrated to existing network video recording system. Existing network cabling in new gym building may be reused. Supply and install Software and sufficient licenses to view 360 camera in full PTZ mode. Ensure subsequent recording capacity is minimum 7 days.

Unit 8 (Formerly Riverbend): Building F25 - 1 interior PTZ camera in visiting area to be replaced with New PTZ; 1 interior fixed camera in front entrance to be replaced with New fixed CCTV.
Exterior Grounds - 2 exterior tower cameras to be replaced with New PTZ; 1 exterior building mount camera on F25 to be replaced with New PTZ; 1 new installation PTZ to be installed on back of building F72; 25' tilting pole tower to be installed in SE corner of field area with new PTZ low light capable camera. All cameras to be viewed at the main control post in Unit 8 and MCCP at the main Institution. The main control post in building F25 will require new replacement monitors and NVUS; a new (minimum) 19" monitor and NVUS to be installed in Correctional Supervisors office, Building F25. There is no recording system in use on this unit and it should be noted that cameras will require integration with existing Pivot3 recording system in service at Saskatchewan Penitentiary as well as MCCP in the same with viewing capability added to MCCP as well. If required the existing Pivot3 is to be expanded to maintain minimum 7 day recording time when taking into account the addition of new cameras. This site will require new Fibre installation. There is existing spare fibre in the new link from Unit 8 to the main institution.

Saskatchewan Penitentiary Main Institution Additions:

- supply and install 8 new fixed cameras in kitchen area of building B11
- Supply and install 1 new PTZ in kitchen area of building B11
- Supply and install 1 new monitor/NVUS station in kitchen supervisor's office
- integrate kitchen CCTV to fibre rack in room 1277 of kitchen (B11)
- Supply and install new Fixed corner mount observation cell camera in room 656 of Healthcare building B12
- Integrate new healthcare camera to fibre rack in room 642 of building B12

Okimaw Ohci Healing Lodge: Building B08 – 2 New Fixed CCTV to be installed in room 142; 1 new PTZ to be installed outside door 127; 1 new fixed CCTV to be installed in laundry room 006; 1 new 360 to be installed in Front entrance area; 1 new 360 to be installed in kitchen Rm 144; 1 new 360 to be installed in basement hallway 012

Exterior Grounds - 5 exterior PTZ cameras to be replaced with new PTZ cameras; 1 new fixed IR / Low-light fixed CCTV to be installed viewing front gate area

Living Lodge B03 - 3 corner mount observation cameras to be replaced in Building B03 room 103, 105 and living area; 2 new monitors and NVUS to be installed in office room 106 to view these 3 cameras only.

Building B09 – 6 fixed CCTV to be installed (3 per floor – all new installation)

All cameras to be viewed at the main control post utilizing two new (minimum) 19" LED monitors configured in Quad view with a new NVUS. 2 observation cameras to be viewed in main control post and block 1 office only. The SIO office will require a new monitor and NVUS and capability to review recorded video.

Supply and install software to view 360 cameras in PTZ mode.

New Network Video recording system required to be supplied, installed and integrated. This site may have spare fibre available, however new fibre will need to be installed

Pe Sakastew:

- Supply and replace 3 exterior cameras with new PTZ: **Lodge E:** outside E140, outside E120.
Maintenance Building M: Outside M122;
- Supply and install 1 new 360 cameras in principal entry of Lodge E ;
- Supply and install new PTZ in visiting area E140, Lodge E;

-
- Remove three cameras as indicated on site plan;
 - Supply and install 3 new PTZ: 1 on NW light standard, 1 on top of ceremonial lodge C, 1 on fence wall on E corner of building Lodge E
 - Supply and install new fixed camera in area P101 of building P
 - Supply and install 2 new LED monitors and NVUS for main control post in building Lodge E
 - Supply and install new LED monitor and NVUS in SIO office, room E129
 - Supply and install new fibre
 - Supply, install and integrate new digital network video Recording system
 - All cameras to be viewed and controlled at the main duty desk and the CM office

Unit 7 (Formerly Rockwood):

- Supply and replace 2 exterior tower PTZ cameras, existing analog direct burial coax to SE tower not required to be removed, however a new path will need to be resolved to this install.
- Supply and replace 3 exterior PTZ cameras on top of Building F34 (1 removal/relocate, 2 replacement)
- Supply and install 5 new PTZ on outside of building H26 Lowering front entrance camera to clear overhang (1 camera remove/relocate, 2 new installations, 2 replacements)
- Integrate building H26 CCTV back to F34 for viewing (Existing fibre link available)
- Supply and install new 360 camera (new install) in front entrance area F34
- Supply and replace 2 visit area cameras with new PTZ
- Supply and install 4 new LED monitors and NVUS in control post of F34 (all new cameras viewable) and rack room 226 (2 per location)
- Supply and install new LED monitor and NVUS in Room 238 (SIO), building F34 (all new cameras viewable/download)
- Supply and install new fibre
- Integrate CCTV system to SMI Main institution Interconnected to existing Pivot3 network recording system in basement of building A1.
- All new cameras to be viewable at MCCP (main)

Stony Mountain Main Institution:

- Supply and install 6 new fixed cameras in lifers lounge area of B6 (1 at top of stairwell, 5 in lifers lounge area) and Integrate to fibre rack in attic of B6 (all cameras viewable in MCCP)

Drumheller MSU:

- Supply and replace 4 exterior PTZ cameras
- Supply and replace 1 exterior PTZ IR illuminated camera on back of PWGSC building A-01
- Supply and install 1 new PTZ on outside of building A42
- Supply and install New IR Illuminated PTZ on a 25' pole at NE side of building A42 (pole specs provided)
- Supply and install 1 new PTZ on a pole at NE side of building A42
- Supply and install new PTZ camera in building A23, room 100
- Supply and install New LED monitor and NVUS in building A23, room 118 (all new cameras viewable)
- Supply and install new LED monitor and NVUS in SIO office for MSU (all new cameras viewable and downloadable)

-
- Supply and install new fibre link from building A42 to building A23 room 109 rack location (fibre link to main goes from here)
 - Integrate CCTV system to Drumheller Main institution Interconnected to existing Pivot3 vSTAC in building B03, room 128
 - All new cameras to be viewable at MCCP (main)

Bowden Annex:

- Supply and install 6 new PTZ cameras at locations identified on drawing
 - Two 25' poles (specs provided) with PTZ camera as indicated on map
 - building 39
 - building 42 (2 cameras on this building)
 - building 116 (to view entrance area of new annex road)
- Supply and install 2 new LED monitors and NVUS at correctional officers desk
- Supply and install 1 new PTZ in visitor area 1137 of building A39
- Integrate all cameras to existing Pivot3 vSTAC network recording system in main institution (new fibre link to main required)
- All cameras to be viewed at correctional officer's and main MCCP
- Supply and install new fibre.
- Supply and install all CCTV equipment as identified in the STR

Oskana Community Correctional Center: Main Floor – 1 interior stairwell camera to be replaced with new Fixed; 1 interior camera to be moved in Visitor area and replaced with new 360; 1 external fixed to be moved from front entrance to vestibule area; 1 exterior front entry fixed to be replaced with 360 camera; 1 exterior PTZ at rear to be replaced with new PTZ; 1 exterior fixed at rear to be replaced with new 360; 1 new 360 to be installed on south side exterior wall (side entrance)

2nd Floor – 4 interior cameras to be replaced with new Fixed.

Basement – 4 interior cameras to be replaced with new Fixed. Front Entrance control post will require 2 new (minimum) 19" LED monitors and associated NVUS. This site has an existing Pivot3 vSTAC video recording system which will require expansion to maintain minimum 30 days recording capacity for all cameras.

Supply, install and configure Software and required licenses to view 360 cameras in PTZ mode. Existing CAT6 is assumed serviceable and can be reused.

Osborne Community Correctional Center:

- Supply and replace 4 interior cameras on main floor with new fixed CCTV on main floor
- Supply and replace 3 new external PTZ cameras on outside of main building
- Supply and install 1 new fixed camera observing back stairwell 2nd floor
- Supply and install 2 new LED monitors and NVUS at front reception desk
- Supply and install 1 new LED monitor and NVUS in Supervisor's office (full playback and download capability)
- Supply and replace 2 new fixed cameras on 2nd floor
- Supply and install 1 new fixed camera on 2nd floor rear stairwell
- Supply and replace 3 new fixed cameras in basement level
- Supply and replace 1 new PTZ camera in basement level
- Integrate all cameras to existing Pivot3 vSTAC network recording system

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- All cameras to be viewed at reception post and supervisors office
 - Supply and install new fibre as required
 - Supply and install 2 new fixed CCTV on main floor stairwell
 - Supply and install new 360 camera in 2nd floor open area
 - Supply and install new fixed camera for 2nd floor stairwell observing landing for door 201 and main entrance
 - This site has an existing Pivot3 vSTAC video recording system.
 - Supply, install and configure Software and required licenses to view 360 cameras in PTZ mode
 - This site may require some new fibre installation, existing CAT6 is assumed serviceable and can be reused

4.4 Removal of Equipment and Cables

The contractor shall remove all of the redundant cables, conduit and electronic equipment (including Cameras). Care must be taken to ensure that any cables and conduits of other systems are not damaged. All electronic equipment shall be handed over to CSC in good condition. The contractor shall dispose of all of the removed cables and conduit off site in an environmentally friendly way

4.4.1 Disposition

The contractor must remove all of the redundant cables, conduit and equipment located in and on various buildings. Care must be taken to ensure that any cables and conduits of other systems are not damaged. All electronic equipment must be handed over to CSC in good condition. The contractor must dispose of all of the removed cables and conduit off site in an environmentally friendly way.

4.4.2 Inventory List

The contractor must provide, to the design authority, a list of all equipment to be removed two weeks prior to any equipment removal. This list must contain the following information as a minimum; location, make, model and serial number. The contractor must return all removed equipment to the local ADGA electronic maintenance workshop, where it will be inventoried and tagged for disposal. This information will be used to ensure the removal of the equipment from the maintenance contract, and its proper disposal

4.5 Equipment Racks

The contractor must supply new, lockable, equipment cabinets for the Network Video Recorders in all locations where required. The contractor is responsible for all costs associated to include sufficient cooling for all CCTV hardware. The contractor must provide a solution which includes venting through the exterior wall of the room

4.6 Cameras

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Each type of camera provided must meet or exceed all operating specifications listed associated Electronics Engineering Standards unless specifically otherwise stated in this statement of technical requirement.

The environmental, power, mechanical and technical requirements for the fixed dome cameras are specified in ES/STD-0232 in addition all fixed domes are to be equipped with an automatically removable infrared-cut filter.

Types:

New 360: new digital 360 degree continuous viewing, vandal resistant outdoor dome cameras with minimum 9 megapixels @ 15fps and H.264 Quad stream capability.

New Fixed: Fixed Full HD, vandal resistant dome network camera with multiple H264 streaming and minimum 1080p resolution @ 60fps; high low light sensitivity allowing color video at less than .01 lux

New PTZ: Weather resistant PTZ dome with H264 streaming and minimum 720p HD resolution @ 30fps.

New Corner Mount: No grip, anchor free, vandal resistant housing with integrated IR illumination

Analogue cameras are NOT acceptable for any new installation.

All new cameras shall include a current Genetec Omnicast camera license and a current Genetec Omnicast failover license.

All new 360 cameras must be viewable in full PTZ mode with software and required licenses.

4.7 **Camera Power Supplies**

All new CCTV cameras must be powered via PoE over the interconnecting Ethernet cable, outdoor PTZ cameras may be powered by separate rack mount PoE, PoE+ or PoE++ injecting power supplies located at the closest NODE or electronics equipment cabinet to the camera. It is preferred all cameras are powered via PoE directly from the supporting network switch. Where separate PoE, PoE+ and PoE++ injectors are necessary they must be securely rack mounted, if more than 4 PoE injectors are necessary in a cabinet, they must be mounted into a manufacturer designed chassis designed specifically to host the injectors and reduce cabinet density. All exceptions must receive approval by the Technical Authority.

Where exceptions are approved by the Design Authority, the contractor must supply and install camera power supplies that must provide the required voltage and amperage to power the cameras. The power supplies must be installed in the electronic equipment rooms or in a secure location identified by the Technical Authority.

4.8 **Expandability**

It shall be possible to expand the system beyond the originally installed capacity through the installation of additional hardware. The system expandability shall not be limited in this regard. It shall be possible to use the digital backbone for other applications in the future, such as Voice Paging, Voice Intercom, Access Control, Door Control, etc. These systems may be installed by a different manufacturer than installed the original IP video system. A minimum of 50% spare capacity is required for expandability on the new distribution.

4.9 **Network Architecture**

4.9.1 **General**

CSC proposes to deploy an upgraded network infrastructure capable of providing integrated support for multiple Electronic Security System (ESS) sub systems. For this deployment, this network infrastructure must support the deployment of CCTV cameras and associated client computers. The system must be expandable to scale to support additions to this CCTV network infrastructure and/or addition of further ESS sub-systems within the institution as required in the future. This network infrastructure will provide an integrated, end-to-end “virtualized” architecture for the systems connected to it, using state of the art techniques for the network operation and configuration as described in sections below

The new network switching infrastructure must be sourced by one switch vendor with the ability to interface in a multi-vendor manner to other vendors equipment should existing or future requirements deem this necessary

4.9.2 **Network Traffic**

The traffic on this network will be predominantly streaming video from CCTV camera operation. The provided network infrastructure must be optimized for (H.264) multicast video operation for both cameras covered by this deployment and the addition of further cameras which may be added in the future; optimization including the perspectives of:

- 4.9.2.1 simplicity and efficiency of protocols involved;
- 4.9.2.2 efficient video streaming with required low latency, high bandwidth and network resiliency for predictable, always on, connectivity
- 4.9.2.3 Connectivity to the associated video management system (VMS), storage and viewing stations (NVUS).

The system must be capable of supporting thousands of independent streams. The system must be configured with readiness for sub-second failover recovery in the event of any failure, with no visible loss of data, once active-active links are deployed within the institution. The faster recovery is to maintain connectivity and avoid data or packet loss and minimize pixilation of video data.

4.9.3 **Inter-switch Traffic**

The network infrastructure must provide an open system, multi-vendor capable, communication environment utilizing IEEE 802.1aq Shortest Path Bridging (SPB) to forward and control traffic between switches

4.9.4 **Switch Configuration**

4.9.4.1 **Capacity**

The network infrastructure must consist of a Core network infrastructure in the main Communications equipment room and Edge switches to be built primarily from stackable 24 or 48-port switch devices as range capacities demand

4.9.4.2 **Optimal Configuration for Sparing**

The contractor is responsible for taking all steps to minimize the number of network equipment devices to minimize sparing requirements

4.9.4.3 **Quality of Service**

All switches must include QoS (Quality of Service) and security management capabilities. Each switch must have the ability to classify, mark and prioritize traffic into priority queues, and/or weighted round robin queues on every port, and maintain QoS across the virtual / stack backplane. Classification controls and ACL (Access Control List) strategies must include the ability to sort traffic based on: MAC Address, 802.1Q VLAN Identification (VID), IP address, TCP/UDP Ports, CoS (Class of Service), ToS (Type of Service), and DSCP (Differentiated Services Code Point).

4.9.4.4 **Traffic Segregation**

The network infrastructure must provide a layer 2 SPB VID (VLAN identification) environment in which each ESS subsystem has its own allocated VID to provide for secure traffic segregation for each sub system and thus ease of monitoring, troubleshooting and maintenance. Each VID must be logically separate from any other and thus allow multiple services and systems to operate independently on the same wired infrastructure

4.9.4.5 **Network Topology**

The network infrastructure must be capable of supporting flexible topology configurations e.g. star, full or partial mesh or ring topology to allow for optimal use of additional data paths as these become available and thus provide extra resiliency and readiness for redundancy in network connectivity connections.

4.9.4.6 **Switch Mounting Configuration**

All network switches within the network infrastructure must be mountable in 19" mounting rail racks, and the switches must not exceed the depth of communication racks and cabinets.

4.9.5 **Network Access Control and Security**

For network access control and security, the network system must provide software for automatic edge device authentication to ensure edge devices are compatible devices for installation, manage device permissions and monitor the health of connected devices. All network switches must be capable of network access control (NAC) via device authentication and IEEE802.1x Port - based NAC, and include a management GUI interface for maintenance equipment. Where deployment of the NAC authentication mechanism requires the installation of a server for its functionality this MUST be provided by the contractor.

Each switch must support end-to-end (system-wide) network infrastructure support for a flexible and robust, optimally high availability and reliable (Best in class mean time between failure) network (that is always on), with high throughput (1Gbp) and providing a lossless environment with lowest latency (<4ms) for an evolving, high performance CSC institution data center environment.

The network architecture must support zero down time for maintenance to core switches allowing for the continuous operation of video surveillance and other connected ESS subsystems and services.

Technical Requirements:

- 350 W, 120 V power supply; POE switches must be able to concurrently deliver up to POE+ port
- Must support up to 50 Ethernet ports (48 port version)
- Must provide software support for IPv4 and IPv6

Temperature range of operation: 0C to 40C

Operating humidity range: 0 to 95% relative humidity

4.9.6 Core Network

The core network must consist of a switch cluster, with a minimum of two L2/ L3 switches acting as one logical switch, providing active-active switch operation and linkage capability to be located in the main Communications Equipment Room. This switch cluster must provide high availability connectivity and performance utilizing active-active links to each connected Switching Node, and provide overall management of the SPB network. Thus, if one core switch becomes inoperable (maintenance update, equipment failure) bandwidth is dropped by a factor of 50%, but the second unit maintains 100% of the connectivity requirement and maintains uninterrupted operation of the overall network.

Core Switches must include clustering capabilities, whereby the physical core switches can be logically combined to appear as a single L2 switch, from the perspective of any edge switch or switch stack, and from any multi-NIC equipped server or appliance. These 'virtual' links between the edge and the core cluster must be Active-Active (i.e. spanning tree, and other loop avoidance or hot-standby methods must be disabled), load sharing, and capable of scaling up to a 8 physical interfaces, spread across a stack (or separate module slots in the event of a chassis based core switch), bound into a single virtual trunk. It is imperative that

service outages normally associated with network disruption, such as the restart, module alteration, power outage, or software/firmware reload of a single core switch does not disrupt the flow of traffic through the entire virtual / clustered core.

This switch cluster must be made up of 19" rack mountable 1RU switches providing the capability to be configured with Layer 2 and layer 3 switching features.

The core switches and network infrastructure must support ease of provisioning via edge only device and service provisioning, providing ease of configuration at the edge devices automatically informing the network infrastructure of a move, add or change and not require core configuration when changes to the network are required. The edge only provisioning must be capable of adding a new device to the associated VID.

Each of the core-switch cluster switches must support a minimum of 1 Gbps wire speed, (with migration option for 10Gb future uplinks), and must provide hot-swappable power supplies with redundant fans.

4.9.7 Edge Network

The edge switches must be stackable 48 (or where appropriate 24) port network switches utilizing 802.1aq SPB allowing for ease of future expansion of the network infrastructure and the capability for multiple connections into different switches in the stack utilizing load balanced network paths to provide an extra level of resiliency within the network in case of any switch failure. This provides flexible scalability for connectivity of future subsystems and equipment.

Each stacked switch must be hot swappable such that any failed unit within the associated stacked switches can be replaced without impact to the rest of the network operation and when replaced the system must provide automated self-configuration such that the replaced switch assumes its prior configuration and operation without need for manual operator configuration.

The edge switches must provide:

- a) Minimum of L2+ switching
- b) 10/100/1000 Mbps switching
- c) 1 Gbs SFP+ uplinks (with migration option for 10Gb future uplinks) resilient, always on connectivity.
- d) Wire speed performance and non-blocking throughput to support a variety of applications including requirements for low latency, high bandwidth, reliable video surveillance.
- e) Field replaceable redundant power supplies for increased resilience.
- f) Maximum POE wattage to support CCTV surveillance cameras deployed with capacity for further additions.
- g) Flexible support for IEEE 802.3af POE and IEEE 802.3at POE+ devices per port, optimized for video surveillance (including PTZ devices, HD)

- h) Provide one-touch edge provisioning for edge devices with any move, add or change communicated automatically throughout the network infrastructure.
- i) Capability (via stackable functionality) to add further network capacity as required without impacting current operational switching.
- j) Support IEEE 802.1aq SPB
- k) Advanced QoS and prioritization
- l) Support for both IPv4 and IPv6 management addresses

The Edge switches must provide for edge-provisioning, automatically informing the rest of the network of the change/ addition, eliminating the need for manual configuration of the core switches when changes are made.

4.10 Network Video Recorder System

4.10.1 General

The term "NVRs" refer to a "Network Video Recording System" consisting of a video directory, video archivers and video storage. RAID redundancy may be used in the directories, archivers or for virtualization of both directories and archivers over redundant appliances. Video storage is detailed below. The provided NVR must be a Genetec certified storage solution. (See cooling requirements, Section 4.16, for identified Room/rack locations)

4.10.2 Directory Servers

The provided NVR must be controlled by contractor provided, installed and integrated dual redundant directory servers operating the Genetec Omnicast 4.8 VMS. Each directory must mirror the sister directory and in the event of a directory failure, the mate directory must seamlessly continue to manage all video from the CCTV network to the video archivers. Each directory must be equipped with as a minimum:

1. Dual redundant power supplies, each supply to be hot swappable
2. Minimum Intel Core i7 3770 4 core processor or better
3. Minimum 16Gb DD3 RAM
4. Minimum 2 x 256Gb SATA3 SSD configured in RAID1
5. Minimum 2 x 1Gb Ethernet NICs
6. Minimum 1 x 16x DVD +/- RW drive

4.10.3 Failover Mode

The provided NVR must use the Genetec failover feature. A failover array must be provided at a ratio of 2:10 (2 failover arrays for every 10 active arrays). If an array experiences a failure or if more than 33% of the drives in an array experience failures, or more than 33% of the drives are removed or switch to off-line status, the entire array must automatically switch to off-line status and all cameras being recorded on the array must seamlessly switch to a failover array with no loss of video recording.

4.10.4 Storage Capacity and Compression Format

The compression method must be H.264 Compression with sufficient capacity to provide minimum 7 days archive for all cameras (except 30 days for all CCC installations)

4.10.5 Required Server and SAN Storage Functionality

The hardware platform must have the ability to run video management applications concurrently with shared storage on a common hardware platform using the VMware vSphere Hypervisor whereby;

- a) Separate physical VMS servers are not required.
- b) Separate physical failover VMS servers are not required.
- c) Power and cooling for both server and storage functionality is contained within a common 2U platform.
- d) Rack and floor space for both server and storage functionality is contained within a common 2U platform.
- e) Applications running on each integrated platform must have access to the combined capacity of the storage in all platforms that are clustered together.
- f) Applications running on each integrated platform must have access to the combined bandwidth of the storage in all platforms that are clustered together.
- g) The integrated Server/SAN platform must support automated application recovery to reduce downtime.
- h) Both storage and server operations must be resilient to an appliance failure.
- i) Failover of the server application must be automatic in the case of an appliance failure.
- j) The integrated Server/SAN platform must support Windows Server and Linux operating system environments.
- k) The platform must support Microsoft Storage Server for optional NAS share access.
- l) The platform must support Linux running SAMBA for optional NAS share access.

4.10.6 Basic Storage Configuration

- a) Storage must be addressable by up to 128 external servers or hosts.
- b) Storage must be IP attached via Gigabit Ethernet using commonly available networking configurations and equipment.
- c) Storage must conform throughout to the iSCSI standard.
- d) Storage must be SATA-based for cost effectiveness.
- e) System must support SLC solid-state cache for database performance.
- f) Storage system must be UL and CE certified.
- g) Storage system must conform to and be deployable in industry standard 19" rack configurations.
- h) Storage system must support at least 24TB raw storage per 2U (3.5") of vertical rack space.

4.10.7 Availability

- a) Storage system must support high availability with no single point of failure causing loss of data or interrupting access to data.
- b) Storage must protect data for up to five simultaneous disk failures with no loss of data or loss of access to data.
- c) Storage must protect against loss of a storage appliance or controller with no loss of data or loss of access to data.
- d) Storage must protect against loss of a network path between servers and storage, including network interface card, cables and switches, with the ability Storage must support dynamic replacement of hardware components without interrupting access to data.
- e) Storage must support the ability to replace disk drives without the need to interrupt data access.
- f) Storage must support the ability to replace power supplies without the need to interrupt data access.
- g) Storage must support the ability to replace fan modules without the need to interrupt data access.

- h) Storage must support the ability to replace entire appliances without the need to interrupt data access.
- i) Storage must support the ability to replace network switches without the need to interrupt data access.
- j) Storage must support dynamic management features to ensure continuous data access.
- k) Storage must be expandable by the addition of disk capacity without the need to interrupt data access.
- l) Storage must be expandable by the addition of network bandwidth without the need to interrupt data access.
- m) Storage must support the ability to dynamically alter data protection options (RAID level) without the need to interrupt data access to the affected data.
- n) Storage must provide flexible, selectable data protection options.
- o) Storage must provide enhanced RAID 6 data protection for critical data protection environments.
- p) Storage must provide enhanced RAID 5 data protection for storage-efficient protection.
- q) Storage must provide enhanced RAID 1 data protection for higher 10 performance data protection.
- r) Data protection options must be selectable and configurable on a volume-by-volume basis.
- s) Storage system must provide advanced data recovery methods to maximize data availability.
- t) Storage systems must include dynamic sparing capability to allow immediate rebuilding of failed drives

- u) System must conduct background disk data verification to ensure maximum data availability
- v) System must have the ability to prioritize data recovery versus data access and to have that priority dynamically alterable before or during data recovery
- w) System must have the ability to prioritize recovery tasks by volume
- x) System must provide predictive sparing to identify poor performing drives in advance of failure

4.10.8 Scalability and Performance

- a) Storage system must be scalable in capacity, supporting a single volume growth to 288TB;
- b) Capacity must be added to the system in modular increments of 12 or 24TB.
- c) Capacity scaling must be non-disruptive allowing new capacity to be dynamically added to the system without interrupting access to data.
- d) Physical capacity added to the system must be configurable into new volumes or added to existing defined volumes without the need to interrupt data access
- e) Storage I/O performance must be scalable
- f) Support up to 12 controllers; complete Active/Active.
- g) System must support a minimum throughput of 2 Gigabits per second and 30,000 I/Os per second.
- h) System must allow additional bandwidth and I/O processing to be configured scaling to at least 24 Gigabits per second throughput and 360,000 I/Os per second.
- i) System must allow scaling of solid-state write cache to 600GB
- j) Addition of I/O performance capability must be non-disruptive and not require data access to be interrupted
- k) Storage system must support multiple storage hosts without the requirement for additional host software license charges
- l) Storage system must support future capacity expansion with newer technology
- m) System must provide a solid-state write-cache that scales across appliances. The system write-cache must protect in-flight data against loss of a complete appliance

4.10.9 Management

- a) The system must provide an easy-to-use graphical management capability
- b) The system must self-discover its hardware configuration
- c) The system must provide capacity and performance usage statistics
- d) The system must allow dynamic configuration of volumes
- e) The system must allow volume attributes including RAID type and volume size to be dynamically alterable without interruption of data access
- f) The system must have the ability to prioritize data migration versus data access and to have that priority dynamically alterable before and during data migration
- g) The system must provide administrator security controls
- h) The system must include a scriptable Command Line Interface

- i) The system must include advanced maintenance and manageability features.
- j) The system must log configuration changes and system events.
- k) The system must detect drive failures and graphically (via GUI) and physically (via lights) identify the failing drive.
- l) The system must provide an audible alarm option.
- m) The system must detect controller failures and graphically identify the failing controller.
- n) The system must perform predictive failure assessment of disk drives to proactively manage low performing disk drives
- o) Simple Network Management Protocol (SNMP) traps have been increased thus providing more remote notification alarms to the PIDS and FAAS Display Units in the MCCP

4.10.10 Directory Servers

The provided NVR must be controlled by contractor provided, installed and integrated dual redundant directory servers operating the Genetec Omnicast VMS. Each directory must mirror the sister directory and in the event of a directory failure, the mate directory must seamlessly continue to manage all video from the CCTV network to the video archivers. Each directory server must be deployed on a server equipped with as a minimum:

- a) Dual redundant power supplies, each supply to be hot swappable.
- b) Minimum Intel Core i7 3770 4 core processor or better
- c) Minimum 16GB DD3 RAM
- d) Minimum 2 x 256GB SATA 3 SSD configured in a RAID 1 array for redundancy
- e) Minimum 2 x 1Gb Ethernet NICs
- f) Minimum 1x 16x DVD+/- RW drive

4.11 Uninterruptible Power Supply

All components of this system shall be supported by UPSs meeting or exceeding ES/STD-0804, including cameras, switches, media converters, video converters, NVRs, and NVUSs, except NVUS monitors. UPS must provide a minimum of 30 minutes run time to attached equipment under load. Existing spare UPS capacity may be used if available. All new UPS equipment will be installed in the same racks.

All UPS units provided to support NVUS (clients) must be connected with the UPS client software to allow the UPS to command a controlled shutdown of the client when the UPS has reached a state in which only 10% of rated capacity is left.

4.12 Network Video User Station

The Network Video User Stations (NVUS) shall be located in the areas identified in rack locations on the drawings. NVUS will be rack mounted wherever possible with monitors, keyboards, mice, and joysticks remote connected to the user area. A NVUS will present no more than 9 images and will support no more than 2 monitors. KVM extenders may be either fibre or copper. Where NVUS must be placed in an office or user area the NVUS noise levels shall not exceed 50db at

3ft from the computer. NVUS video viewing streams shall be the same size, frame rate and bandwidth as the recording streams. Existing NVUS stations at each drop will be relocated from the small racks to the newer large racks (approximately 20 feet away at each drop). Each command post location will require the ability to control video monitor screens available for display viewing. Existing NVUS stations must be replaced with new stations. SIO installations must have the ability to retrieve and retain evidentiary data.

4.13 Monitors

The contractor will supply (minimum) 19" LED narrow bezel monitors in each identified monitoring location. The supplied monitors will comply with Electronic Engineering Standard – Color Monitor, ES/STD-0227. Existing monitors will be removed.

The NVUS monitors are not required to be connected to a UPS, but shall be connected to the institution's emergency power supply.

4.13.1 Configuration

Monitors provided must meet the following criteria:

- Have a minimum resolution of: 1920x1080
- Aspect Ratio: 16:9
- Response Time: 5ms or better
- Contrast Ratio: 3000:1 and incorporate automatic pixel shift technology to prevent static image burn-in
- Input Connectors: D-Sub & HDMI
- 178° / 178° Viewing Angle (Horizontal / Vertical) VESA compliant mount

4.14 Computers

All computers must be equipped with at a minimum;

Intel Core i7 2600 @ 3.4 GHz
16 GB of RAM DDR3
500 GB SA TA II hard drive for OS and Security Center applications1
1 GB PCI-Express x16 dual-head video adapter
100/1000 Ethernet Network Interface
Card 16x DVD+/- RW Drive
3 Year Hardware Warranty

4.15 Fibre Requirement

All new Fibre installations will comply with ES/SOW-0110. All new fibres will be tested in both directions with an OTDR with all signal strength values documented and provided at Acceptance Testing. The contractor shall replace and/or repair any fibre, cable, power, conduit and junction boxes used to complete this project in accordance to the electrical code.

4.16 Cooling Requirement

The contractor must provide a sufficient cooling solution for all CCTV hardware which includes venting through the exterior wall of the rooms where equipment and racks are installed. Split air cooling requirement to be identified and installed where necessary in the following rooms:

WCHL:
Unit 8 (formerly Riverbend):
OOHL:
Pe Sakastew:
Unit 7 (Formerly Rockwood):
Drumheller MSU:
Oskana:
Osborne:

4.17 Finishing

Where walls are cut, opened or damaged the contractor must repair the wall to its original appearance; including taping, sanding and colour matching existing paint. Where the contractor must use wire mould or expose conduit in office areas or other work areas, the contractor must paint the exposed conduit to colour match the office where it is installed.

5.0 ADDITIONAL REQUIREMENTS

5.1 Support

The contractor must meet the following support requirements:

5.1.1 National Distribution

- a) Contractor to have the ability to provide national distribution and local parts and service outlets

5.1.2 Escalation Plan

- a) Upon contract award, the Contractor must provide the name and credentials of qualified service technician(s) or manager(s) who must be responsible for ensuring that all inquiries or service issues related to the system are addressed satisfactorily and in a timely fashion.
- b) This/these individual(s) must have the authority, resources, and responsibility to address technical issues, dispatch a service representative to the site if required, escalate any issue that cannot be resolved within the expected time frame, and keep CSC informed at regular intervals until issues are resolved.
- c) Provide company's definitions for problem types with expected response resolution

times, and company's procedures for escalating service issues that are not resolved within expected time frames

5.1.3 System Support

- a) The Contractor must provide full support for all elements of the system through completion and acceptance by CS C and for three full years after acceptance.
- b) This support must include system upgrades (as they become available), troubleshooting, the correction of any system bugs or deficiencies, and the resolution of any operating problems.

5.2 Operator Training

The contractor shall prepare and present a one-day training course, in English, to Operator/Trainers identified by each site, responsible for the operation of the equipment in accordance with the specification ES/SOW-0101 Statement of Work. The course must concentrate on the features and proper operation of the installed system. The course must be presented on the site within two weeks of the successful acceptance testing of the system. The contractor must also meet the following training requirements:

- a) Log all operators' names who receive the informal training.
- b) Provide one session of formal operator's training for each living unit.
- c) Provide an interactive Power-Point Presentation as a training aid for the operator's training that is suitable for use during formal training and for later use by CSC for refresher training.
- d) The training plan must be included with the proposal.

5.3 Maintenance Training

The contractor shall prepare and present a two-day training course at each site, in English, to individuals responsible for the maintenance of the equipment in accordance with the specification ES/SOW -0101 Statement of Work. The course must concentrate heavily on the material contained in the technical manual and site manual. The course must be presented on the site within two weeks of the successful acceptance testing of the system.

The contractor is responsible to ensure that CSC maintenance technicians receive training to be able to provide 1st level monitoring equipment, the Contractor must also meet the following training requirements:

- a) Provide an in-depth maintenance course for the electronic maintenance technicians (ADGA).
- b) Log all the names of all technicians who receive the training.
- c) Provide one session of formal operator's training for each site.
- d) Provide an interactive Power-Point Presentation as a training aid for the operator's training that is suitable for use during formal training and for later use by CS C for refresher training.

- e) All manuals and as-built drawings must be available for the training sessions.
- f) The maintenance training plan must be included with the proposal.

5.4 Equipment Failure

In the event of any failure of equipment under this STR, including the network switching infrastructure, the contractor is responsible for immediate resolution for resumption of full system operation. This must include provision of a support for three years from system acceptance; including a response time to a service call of within 4 hours.

In order to facilitate this, the contractor must be required to ensure appropriate maintenance support agreements are in place to provide immediate support in the event of equipment failure. The contractor must provide proof of the availability of certified maintenance support.

5.5 Manuals and Drawings

The contractor must provide at least four sets of complete documentation including 4 CD's or DVD's, which must include operation manuals, service manuals, and as-built documentation for the system in English; including drawings in AutoCAD 2013 and PDF format. This documentation must be provided in accordance with CSC document ES/SOW-0101 unless superseded by this STR.

In addition to the requirements defined in the above documents, the documentation must also meet these requirements:

- a) Operator's manuals must include both a complete binder with all detailed information, and a single laminated sheet with Condensed instructions.
- b) Condensed Instructions must be laminated for durability.
- c) Provide at least 10 operator's manuals including the Condensed Instructions.
- d) Maintenance Manual: Upon completion of the project submit to CSC three (3) electronic copies (DVD disk) containing PDF files and three (3) paper copies (in loose leaf binder) of operation and maintenance manual. Include all operational and maintenance documents. Manual must include but not limited to:
 - I. Contractor/Suppliers list
 - II. System Description and Operation Data clearly explaining all system features and functions.
 - III. Detailed System Parts Specifications and Information.
 - IV. All as-built drawings c/w detailed block and wiring diagrams and schematics.
 - V. Testing and Commissioning (T & C) Reports.
- e) All manuals must be delivered to the RTEO at Regional Headquarters Prairies, 3427 Faithfull Avenue, PO Box 9223, Saskatoon, SK S7K3X5
- f) Electronic manuals must be structured based on a database framework with direct links to the appropriate PDF files. Document retrieval and viewing must be executed through a

menu driven approach. All PDF files must be enhanced with appropriate bookmarks to facilitate searching of information within the document or linked to other relevant documents for reference.

- g) Provide a handover report which includes details of the equipment, dates of warranties, contractor contact information and other project information. A copy of this document is provided as Annex A.

5.6 Software Documentation

The contractor must provide CD copies of all system software in accordance with specification ES/SOW-0101 Statement of Work. The contractor must provide two copies of the software to the site, one to the Design Authority and one to the RTEO.

5.7 Acceptance Testing Procedures

- 5.7.1 The contractor must provide a detailed ATP to the DA, or his designated representative, by fax or email, for approval at least two weeks prior to the start of installation of the CCTV equipment and system
- 5.7.2 The contractor must complete *one hundred percent* of the tests outlined in the ATP prior to the ATP testing being carried out by the DA
- 5.7.3 The contractor must provide a *fully completed and signed copy* of the ATP to the DA, or his designated representative, by fax or email, at least two working days prior to the start of the final ATP testing. This copy of the ATP must include all of the results of the tests carried out in Section 5.6.1.2
- 5.7.4 In the case where subcontractors have been used, the contractor must provide written confirmation that the work of their subcontractor has been inspected and verified. This verification must be sent to the DA or his designated representative, by fax or email, at least two days prior to the start of the ATP.
- 5.7.5 Testing may be carried out by the DA, a designated representative or a third party contractor.
- 5.7.6 The DA may repeat all of the ATP tests done by the contractor or a percentage of them. During the ATP, if an unacceptable level of failed tests is encountered, the ATP testing must be halted until the contractor has corrected the failures.
- 5.7.7 If the DA during the ATP testing finds a minor deficiency that does not affect the operational effectiveness of the CCTV equipment or system, the ATP testing may continue. If a major deficiency is found during the ATP testing that does affect the operational effectiveness of the CCTV equipment or system; the testing must cease until the deficiency has been corrected.

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- 5.7.8 ATP testing must be done during normal working hours, 08:00 to 16:00, Monday to Friday. ATP testing at other times will only be done in an emergency situation.
 - 5.7.9 The DA or designated representative will sign-off on the ATP, upon the successful conclusion of the testing. Any minor deficiencies noted during the testing must be indicated on the ATP form. This signature indicates the Conditional Acceptance of the system.
 - 5.7.10 System must be subjected to operational testing for a period of two (2) weeks following the Conditional Acceptance of the system. CSC will formally accept the system from the Contractor at the end of this two (2) week period, but only if ALL deficiencies have been corrected.
 - 5.7.11 Any deficiencies noted by CSC during this two (2) week operational testing period must be communicated to the Contractor, who will then be required to correct the deficiencies. The two (2) week operational testing period will begin again after all deficiencies have been cleared.
 - 5.7.12 Equipment warranty period will start on the date the system is formally accepted.

5.8 Institution Operations

The contractor must take every precaution to minimize any disturbance to institutional operations. Equipment and systems operational down time must be kept to a minimum. All down time must be coordinated with the Assistant Warden Operations on site or designate. The contractor's staff may be required to work during evenings, nights and/or weekends to reduce the amount of down time and to meet operational requirements. The contractor and his staff on site must cooperate fully with operational staff and conform to all security requirements.

5.8.1 Institution Addresses

Willow Cree Healing Lodge
Beardys and Okemasis 1st nation
P.O. Box 520
Duck Lake, SK
S0K 1J0
Telephone: (306) 467-1200

Okimaw Ohci Healing Lodge
43 Pacific Ave., PO Box 1929

Maple Creek, SK
S0N 1N0
Telephone: (306) 662-4700

Unit 8 (Formerly Riverbend Institution)
Saskatchewan Penitentiary
15th St W, PO Box 850
Prince Albert, SK
S6V 5S4

Pe Sakastew Center
Township Rd #444, Quarter Mile West
HWY 2A, PO Box 1500
Hobbema, AB
T0C 1N0

Unit 7 (Formerly Rockwood Institution)
HWY 7 North
PO Box 4500 STN Main
Winnipeg, MB
R0C 3A0

Drumheller MSU
Drumheller Institution
Highway 9, PO Box 3000
Drumheller, AB, T0J 0Y0

Oskana CCC
1650 Halifax St
Regina, SK, S4P 1S8

Osborne CCC
1048 Main Street
Winnipeg, MB, R2W 3R3

5.9 **Integration Responsibility**

The contractor is responsible for providing a fully functional system

5.10 **Existing Equipment Removal**

It is the responsibility of the contractor to remove from service any equipment that is being decommissioned as a result of this CCTV System upgrading. Equipment must be turned over to the local CS C Design Authority or other designated authority.

The contractor must remove and dispose of all of the wiring rendered redundant; off site in an environmentally friendly way.

5.11 Security

The Contractor must submit completed CPIC forms for all staff who will be working at the Institutions. The CPIC forms must be submitted to the RTEO, or his designate, ten (10) working days prior to the start-up date. (Form 1279-1 included)

5.12 Schedule

In accordance with ES/SOW-0101, the contractor shall provide a detailed work schedule for the installation activities. This schedule shall reflect the complete implementation plan by identifying the nature of the work to be performed and the area affected.

5.13 Safety

The Contractor must comply with the document titled "Safety Regulations for Security Electronics Contractors Working at CSC Institutions" attached as Annex B.

5.14 Communication Responsibility

The contractor is responsible for briefing institution staff prior to leaving the work site for the day. The briefing must be given to the Correctional Manager Operations (CMO), and must include, as a minimum:

- a) Work performed that day
- b) Operation status of the system, including any limitations in functionality or peculiarities
- c) Contact name and number in the event of a system failure

The contractor must maintain a record of these briefings complete with time, date and attendees. The contractor must provide a monthly report on the status of the project in accordance to CSC specifications. A teleconference to include stakeholders may be required.

CORRECTIONAL SERVICE OF CANADA
TECHNICAL SERVICES BRANCH
ELECTRONICS SYSTEMS

MAINTENANCE HANDOVER REPORT FORM

INSTITUTION:

DATE:

SYSTEM/EQUIPMENT:

APPLICABLE CONTRACT NO:

DSS FILE NO:

SPECIFICATIONS:

EQUIPMENT SUPPLIER (NAME AND ADDRESS):

SUPPLIER CONTACT (NAME AND TELEPHONE):

WARRANTY DETAILS:

Expiry date on materials/parts:

Expiry date on installation:

Expiry date on factory labor:

Travel & living expenses during the warranty period:

Chargeable to CSC ☐

Not chargeable to CSC ☐

Equipment transportation costs are paid by CSC for:

Sending to the supplier ☐

Returning from the supplier ☐

Negotiated rates for emergency repairs at site due to misuse/abuse during warranty period are as follows;

Not applicable.

Negotiated rates for labor at site after warranty period are as follows:

Not applicable.

DEFICIENCIES:None remain ☐List attached ☐**DOCUMENTATION:**

Maintenance manual:

Supplied ☐

Due by ;

As-built drawings, cabling and wiring diagrams:

Supplied ☐

Due by ;

Acceptance test results:

Supplied ☐

Due by ;

DISTRIBUTION OF DOCUMENTATION:

1 copy to CESM sent on:

1 copy to RTEO sent on:

2 copies to institution sent on:

SPARES:All delivered ☐

Delivery to be completed by ;

EQUIPMENT LIST:See attached list. ☐**MAINTENANCE TRAINING:**Completed ☐

Scheduled for ;

SIGNATURE: Project Manager**DISTRIBUTION:** CESM, NHQ
RTEO, RHQ
AWMS, Institution

SAFETY REGULATIONS FOR SECURITY ELECTRONICS CONTRACTORS
WORKING AT CSC INSTITUTIONS

1. Acts and Regulations

- a. The contractor must, at all times, be in full compliance with the latest issue of the following Acts and Regulations:
 - 1. The Occupational Health and Safety Act of the province where the work is being carried out,
 - 2. The Canada Labour Code Part II,
 - 3. The National Building Code Part VIII,
 - 4. The Workers' Compensation Board regulations of the province where the work is being carried out,
 - 5. Safety regulations and procedures prepared by the Institution where the work is being carried out,
 - 6. All other safety regulations in effect at the work site.
- b. In the event of conflict between any provisions of the above authorities the most stringent shall apply.

2. Safety Plan

- a. The contractor is responsible to ensure that a site specific Safety Plan has been completed and maintained on site. The contractor must provide the Safety Plan, when requested, to Institution Staff and the Safety Officers and Inspectors authorized by the Acts and Regulations listed in Paragraph 1.a. above. The Safety Plan shall include a hazard assessment, controls, an emergency plan and a communications strategy.
- b. The contractor shall complete a hazard assessment. All critical tasks and the associated hazards shall be identified.
- c. Once hazards are identified, controls shall be put in place to minimize the risks. The controls shall include but not be limited to Safe Work Practices, Standard Operating Procedures and safety inspections.
- d. An emergency plan shall be prepared that takes into consideration all of the identified hazards and the potential problems that could arise during the project. The emergency plan shall outline the emergency procedures to be taken in the event of an accident and shall include the contact names and telephone numbers of emergency response persons and services. The list of emergency response persons and services should include but not be limited to the following:
 - Ambulance,
 - Fire Department,
 - Police Department, and,
 - Institutional Safety Officer.
- e. A communications strategy shall be put in place that will ensure that information concerning hazards, controls and the emergency plan is communicated to all of the contractor's staff, sub-contractors, equipment operators, material suppliers, testing and inspection companies and regulatory agencies working at the institution.

- f. The Safety Plan shall address and confirm to the Acts and Regulations identified in Paragraph 1.a., above.
- g. The submission of the Safety Plan to Correctional Service Canada shall not relieve the Contractor of any legal obligations as specified by the Acts and Regulations listed in Paragraph 1.a. above.

3. Safety Training

All of the contractor's staff , sub-contractors, equipment operators, material suppliers, testing and inspection companies and regulatory agencies working at the institution shall have received the required safety training as mandated in the Acts and Regulations listed in Paragraph 1.a. above.