

ADDENDUM No.02, dated 2012-08-29.

This Addendum shall form part of documents referred to in "Articles of Agreement" as "Plans and Specifications".

The Plans and Specifications are amended as follows:

SPECIFICATIONS

ARCHITECTURAL:

MASONRY

Section 04 04 99

2012-07-13

1. Insert the following new article 2.7:

<u>"2.7 PRECAST CONCRETE SILLS AND HEADERS</u>	.1 Precast concrete sills and headers: .1 Cement: to CAN/CSA-A3000, Type GU. .2 Compressive strength: 30 MPa at 28 Days. .3 Exposure class: F-1 to CSA A23.1/A23.2. .4 Aggregate size: 10 mm maximum size To CSA A23.1/A23.2. .5 Air content: 6%. .6 Water: potable. .7 Finish: acid washed. .8 Sizes: .1 Sills: lug sills, dimensions and shapes as indicated. .2 Headers: dimensions as indicated on the drawings."
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2. Insert a new article 3.21:

<u>"3.21 PRECAST CONCRETE SILLS AND HEADERS</u>	.1 Install precast concrete sills and headers as indicated on the drawings."
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	THERMOPLASTIC/ APC BENTONITE WATERPROOFING SYSTEM	Section 07 13 54 2012-07-13
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2.1 MATERIALS

.1 Add new item 2.1.2.16:

“.16 Prefabricated drainage composite and base drain: Install drainage composite in accordance with manufacturer's details and instructions to promote positive drainage. Use base drain accessory connectors and outlets as required.

.1 Drainage composite: roll of three-dimensional polypropylene drainage core with a non-woven geotextile adhered to one side to allow water passage while restricting soil particles. Composite to include a thin polyethylene sheet on the back of the drainage core.

.1 Compressive strength: minimum 718 kPa (15,000 psf).

.2 Water flow rate: minimum 251 l/m/m (20 gpm/ft).

.2 Base drain: minimum 300 mm high, 25 mm thick base drain composite designed to collect water from sheet drainage composite and discharge to proper sump system or gravitate to daylight.

.1 Compressive strength: minimum 457 kPa (10,000 psf).

.2 Water flow rate: minimum 1100 l/m/m (90 gpm/f)."

	BUILT-UP BITUMINOUS ROOFING	Section 07 51 00 2012-07-13
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2.5 INSULATION

1. Item 2.5.4: Delete reference to "slope as shown on drawings" and replace with "2% slope".

MECHANICAL:

AIR HANDLING UNITS

Section 23 73 11

2012-07-04

2.14 GAS HEATING

1. Delete article 2.14 in its entirety and replace with the following:

"2.14 HOT WATER
HEATING

- .1 Coils shall be certified in accordance with AHRI Standard 410 and be leak tested.
- .2 Coils shall be constructed of copper tubes with aluminum fins mechanically bonded to the tubes and galvanized steel end casings. Fin design shall be sine wave rippled.
- .3 Coils shall be two-row, 12 fins per 25 mm.
- .4 Coils shall be located in the reheat position downstream of the cooling coil.
- .5 Control valves shall be field supplied and field installed."

MECHANICAL SCHEDULES

Section 23 90 00

2012-07-04

1. Clarification: All control valves to be supplied by Division 25 and installed by Division 23.

EMCS: GENERAL REQUIREMENTS

Section 25 05 01

2012-07-13

1. Add the following new article 3.4 SEQUENCE OF OPERATIONS:

"3.4 SEQUENCE OF
OPERATIONS

- .1 Boiler: When outdoor temperature falls below 15°C the boiler shall energize the

main heating circulation duty pump and main glycol circulation duty pump and establish flow. The boiler shall be controlled by additional controller and shall be networked to the main HVAC control system. In the event of a fault, alarm is announced at the local display on the network. The supply water set point shall be adjustable and modulated linearly between 43°C and 82°C on outdoor air temperature range of 15°C to -15°C and shall be energized on demand for heating. Boiler pump circulators controlled by 120V hardwired boiler controls via boiler panel.

- .2 VAV Box Sequence of Operation: The VAV box controller shall control the space temperature setpoint by modulating in sequence and without overlap the volume control damper, the reheat coil, and the baseboard heat. On a call for heating the VAV shall modulate to minimum. If additional heating is required the reheat coil shall be modulated to further raise the space temperature setpoint. If additional heating is required the baseboard heating shall modulate to raise the space temperature. On a call for cooling the volume control damper shall modulate between minimum and maximum airflow setpoints.
- .3 Furnace Sequence of Operation with HRV For Pods: The controls schedule shall be started by an occupancy time schedule in the stand-alone thermostat.
 - .1 Unoccupied mode: The system is in unoccupied mode when the occupancy schedule is "off". During the unoccupied periods the HRV is off. The furnace will cycle the heating to maintain the unoccupied setpoints (adjustable at thermostat).
 - .2 Occupied mode: During the occupied mode the HRV starts in set

speed. The furnace will cycle the heating to maintain occupied setpoints (adjustable at thermostat).

- .4 Rooftop Unit (HV-1, AC-1) RTU-VAV
Sequence of Operation: The time of day schedule shall be as set through a local display. The unit-mounted controller shall be responsible for control of the outdoor enthalpy economizer, heat wheel and heat wheel defrost, DX cooling and glycol heating coil control valve, as well as the discharge static pressure controls. The heating and cooling demand will be determined by the applicable networked zones. The variable frequency drive shall modulate the fan speed to maintain a constant supply duct discharge static pressure. The discharge static pressure shall be determined on site by the air balancer and in coordination with the controls contractor. The minimum fresh air shall be controlled by modulating the dampers to maintain the minimum fresh air setpoint determined during balancing. Modulate variable speed compressor to maintain discharge air setpoint.

.1 Unoccupied mode: The unoccupied mode shall be enabled by local display occupancy time schedule. When in occupied mode outside air damper shall be closed. Blowers are off. Zone VAVs will determine unoccupied demand in order to maintain space temperature at 18°C.

.2 Occupied mode: The occupied mode shall be enabled by the EMCS occupancy time schedule. In occupied mode outside air dampers open to minimum, blowers will delay on and run continuously via the VFD drive. Supply air temperature to be 14°C. Comparative dual enthalpy controller measures the R/A enthalpy and if lower than OA

enthalpy then outdoor air damper is at minimum. VFD drives will modulate S/A and R/A airflow via 0-10VDC stand-alone control signal. The DX cooling shall be disabled when the outside air is below 10°C. Auto bypass low limit will stop the unit operation if the discharge air temperature falls below 4.4°C.

- .5 Humidification: The humidifiers will operate to maintain the set return air humidity levels as determined by the following reset: 45%RH at 10°C OAT linearly down to 30%RH at -15°C OAT. Reset shall be adjustable at the local display.
- .6 Alarms: The fan systems shall be monitored and a critical alarm shall annunciate at the local display when the fan status and command are in opposite states for greater than 1 minute. High (32.2°C) and low (7.2°C) temperature and humidity alarms shall be annunciated at the building security panel. Limits are to be coordinated with the Departmental Representative.
- .7 Pumps: All pumps are duty/standby with duty pump switched once per month. Variable speed pumps modulate speed according to static pressure sensor located 2/3 downstream from pump.
- .8 Washroom Exhaust: Washroom exhaust to be enabled when AC-1 and HV-1 are in occupied mode. Exhaust fan to run when motorized damper end switch makes.
- .9 Washroom Exhaust: To achieve the above control sequences and provide additional points to allow for the control and monitoring of all powered equipment and control valves listed in Section 23 90 00 - Mechanical Schedules provide the following quantity of points:

- .1 Digital Output points: 50
- .2 Digital Input Points: 50
- .3 Analog Output Points: 34
- .4 Analog Input Points: 36
- .5 Terminal Unit Controllers (TUC) serving VAV boxes: 21 (supplied by Div. 25 to Terminal Unit Manufacturer for factory installation)."

ELECTRICAL:

	PUBLIC ADDRESS AND MASS NOTIFICATION SYSTEM	Section 27 51 16
		2012-07-04

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| <u>1.3 ZONING</u> | <ul style="list-style-type: none">1. Item 1.3.1: Delete reference to "17 zones" and replace with "16 zones".2. Delete item 1.3.1.7 in its entirety. |
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	ACCESS CONTROL	Section 28 13 00
		2012-07-04

Delete Section 28 13 00, dated 2012-07-04 and replace with the attached Section 28 13 00 - Access Control, dated 2012-08-28.

Reference Report: "Correctional Service of Canada Pittsburgh Institution, Highway 15, No.3766, Joyceville, Ontario - 44,000-600V, 1500kVA Padmount Transformer Grounding Study" dated July 2012, prepared by CADraw Corp.

Add the report as a reference to the specifications, as attached.

DRAWINGS

ARCHITECTURAL:

ADD-02-SK-A01
Eaves Protection

1. Add sketch ADD-02-SK-A01, Eaves Protection, as attached.

ADD-02-SK-A02
Precast Sill with
Lugs

1. Add sketch ADD-02-SK-A02, Precast Sill with Lugs, as attached.

ADD-02-SK-A03
Precast Header

1. Add sketch ADD-02-SK-A03, Precast Header, as attached.

MECHANICAL:

Dwg.M-105
Ground & Second
Floor Residential
Pod Plumbing
Layout

1. All concrete housekeeping pads indicated under all furnaces and domestic hot water heaters in the residential pods are to be deleted.

Dwg.M-405
Typical Plan
Residential Pod HVAC

1. All concrete housekeeping pads indicated under all furnaces and domestic hot water heaters in the residential pods are to be Deleted.

ELECTRICAL:

Dwg.E-202
Electrical Second
Floor Lighting

1. Detail 1, Residential Pod Lighting Control Schematic:

- For the "typical low level in corridor", revise circuit breaker label from "circuit 32 of suite panel" to "EM-8".

Dwg.E-601
Electrical Systems
Riser Diagrams

1. Detail 1, Power Distribution Riser Diagrams:

- Provide a 3-pole 30A breaker in panel DP-1 for baseball diamond lighting. Provide wiring from breaker to baseball diamond lighting disconnect switch as per drawing note 02 of Drawing E-200.

2. Detail 6, PA System Riser Diagram:

- Revise labelling for ground floor and second floor risers from "6#18 Communication Cable in 27mmC" to "2x(6#18 Communication Cable in 27mmC)".

- CLARIFICATION: Cabling indicated is for groups of six (6) speakers. Refer to layout plan for exact quantity of speakers as per note #1. Provide wiring to accommodate all speakers indicated on the layout plans. Cabling for each speaker to be home run back to equipment rack.

- Revise label for wiring from system access tie-in phone to cross connect boards from "1X4PR CAT6e IN 21mmC" to "1X4PR CAT6a IN 21mmC".

Dwg.E-603
Door Security
Elevations

1. Delete Detail 5, Type S5.

2. Detail 6, Type S6:

- Revise symbol of "C" in a diamond to "R" in a diamond (symbol for fire alarm relay). Coordinate relay voltage with fire alarm loop voltage and voltage for the delayed exit device.

- Provide a fire alarm pull station for the delayed exit device at this type of door. Fire alarm pull station to be located at interior door to the stairwell. Provide fire alarm loop wiring in 21mm conduit from fire alarm pull station to fire alarm junction box above door. Provide twisted shielded pair #16 wiring in 21mm conduit from auxiliary contact of fire alarm pull station to the fire alarm relay above the door.

PWGSC Ontario	PITTSBURGH INSTITUTION	Addendum No.02
Region Project	BUILDING PP85	Page 10
Number R.045087.001		2012-08-29

End of Addendum No.02, dated 2012-08-29, consisting of 10 pages and the following attached documents:

Specifications:

Revised Section 28 13 00 - Access Control, dated 2012-08-28 (14 pages)

Reference: "Correctional Service of Canada Pittsburgh Institution, Highway 15, No.3766, Joyceville, Ontario - 44,000-600V, 1500kVA Padmount Transformer Grounding Study" dated July 2012, prepared by CADraw Corp. (24 pages)

Drawings:

New sketch ADD-02-SK-A01, Eaves Protection.

New sketch ADD-02-SK-A02, Precast Sill with Lugs.

New sketch ADD-02-SK-A03, Precast Header.