APPENDIX

MECHANICAL AND ELECTRICAL WORKS

A. Block B Project's Description
B. Roof Plan Showing Equipments
C. Electromechanical equipment list on roof and work to be done
D. List of Works
E. Photographs

A Block B Project's Description (1 page)

Project description « Block B »

ELECTROMECHANICAL

Presently, the roof is a wooden built-up roof on a concrete slab, present works consist in demolishing the built-up roof and redo the roof and insulation directly on concrete slab (see Architecture drawings).

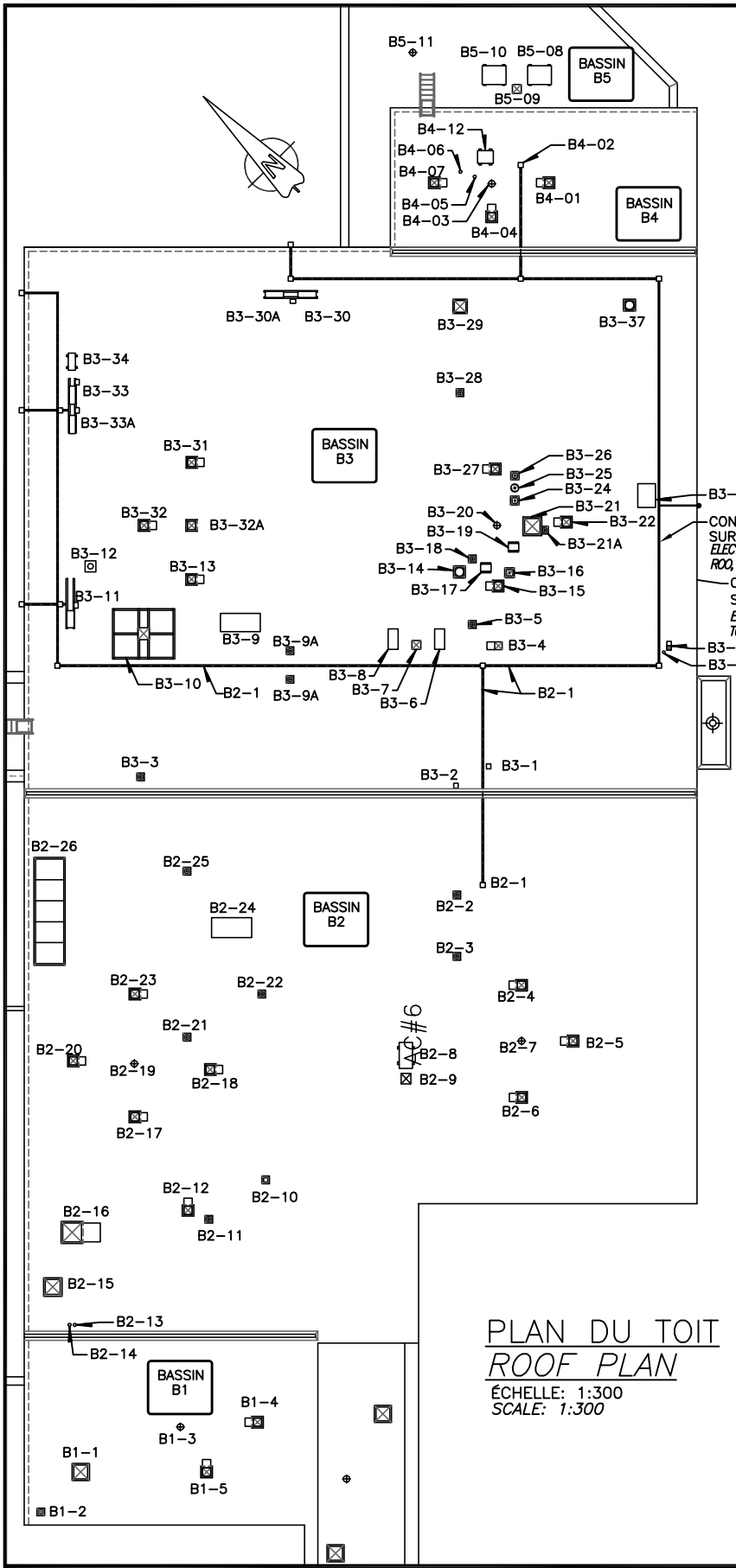
In doing so, all equipments and electromechanical accessories, except the built-up roof ventilation goose neck must be remove and install on the new roof membrane. The built-up roof ventilation goose neck will be remove by roofing contractor.

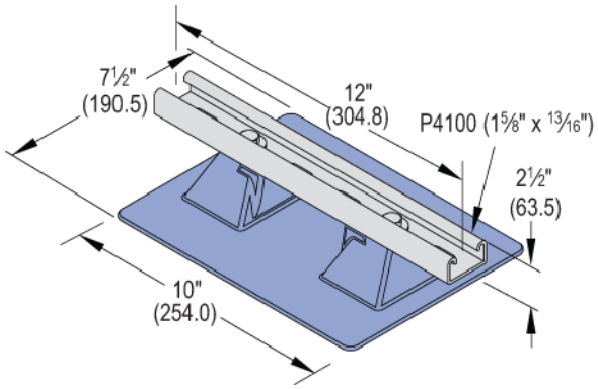
In the roof basin B3, electrical power B is routed to the different mechanical equipments through a main network of PVC conduits (refer to item/equipment B2-1) installed on the roof. Pull boxes and « T » joints (for the final connection of each equipment) complete this network. The power source comes from different electrical panels installed in the building's basement.

During roof reconstruction which will be done in phase temporary electrical connexions must be provide to feed the existing equipments which are not in the reconstructed area.

For computers rooms and control points, provide temporary air conditioning units so that these rooms operate all time.

B Roof Plan Showing Equipments (1 page)





SUPPORT MONTÉ, BASE EN POLYCARBONATE
MOUNTED SUPPORT, POLYCARBONATE BASE

ÉCHELLE: AUCUNE
SCALE: NOT TO SCALE

PLAN DU TOIT
ROOF PLAN

ÉCHELLE: 1:300
SCALE: 1:300

LCO CONSTRUCTION AND MANAGEMENT CONSULTANTS INC.
SMi LABC S.M. INC.
sdk
PAGEAUMOREL
N·F·O·E
Travaux publics et Services gouvernementaux Canada

TOITURES BLOC B
ROOF BLOCK B

RÉFECTION DE TOITURE, CRR
ÉTABLISSEMENT
SAINTE-ANNE-DES-PLAINES
SERVICE CORRECTIONNEL CANADA
TPSGC No: R-051242.011

C Electromechanical equipment list on roof and work to be done (6 pages)

Electromechanical equipment list on roof and work to be done

May 20, 2015

Bassin No.	Pageau Morel Identification	Establishment Identification	Description	Electrical Specifications				No of work to be done	Electrical feed source to be completed by CSC
				Volts	Phases	Amp	Source pannel		
B-1	B1-1		Capped base					19	
B-1	B1-2		Vent					11	
B-1	B1-3		Roof drain					12	
B-1	B1-4		Goose neck					13	
B-1	B1-5		Goose neck					13	

Electromechanical equipment list on roof and work to be done

May 20, 2015

Bassin No.	Pageau Morel Identification	Establishment Identification	Description	Electrical Specifications				No of work to be done	Electrical feed source to be completed by CSC
				Volts	Phases	Amp	Source pannel		
B-2	B2-1		Electrical outlet, conduit and wiring				LC5B	20	LC5B
B-2	B2-2		Vent					11	
B-2	B2-3		Vent					11	
B-2	B2-4		Goose neck					13	
B-2	B2-5		Goose neck					13	
B-2	B2-6		Goose neck					13	
B-2	B2-7		Roof drain					12	
B-2	B2-8	AC #6 contrôle visite	Air Conditioning (UCC)	208	1	30	ELP-7B	16	ELP-7B
B-2	B2-9		New service box for B2-8					16	
B-2	B2-10		Capped to remove					19	
B-2	B2-11		Capped to remove					19	
B-2	B2-12		Goose neck					14	
B-2	B2-13		Vent Capped, to remove					18	
B-2	B2-14		Vent Capped, to remove					18	
B-2	B2-15		Capped, to remove					19	
B-2	B2-16	Dryer outlet	Goose neck					14A	
B-2	B2-17		Goose neck					13	
B-2	B2-18		Goose neck					14	
B-2	B2-19		Roof drain					12	
B-2	B2-20		Goose neck					13	
B-2	B2-21		Vent					11	
B-2	B2-22		Vent					11	
B-2	B2-23		Goose neck					13	
B-2	B2-24	AC #4	Air conditioning RTU	600	3	30	Basement	21	Basement
B-2	B2-25		Vent					11	
B-2	B2-26	E-1 Louvered	Air intake					22	

Electromechanical equipment list on roof and work to be done

May 20, 2015

Bassin No.	Pageau Morel Identification	Establishment Identification	Description	Electrical Specifications				No of work to be done	Electrical feed source to be completed by CSC
				Volts	Phases	Amp	Source pannel		
B-3	B3-1		Antenna box to remove					23	
B-3	B3-2		Antenna box to remove					23	
B-3	B3-3		Vent					11	
B-3	B3-4		Goose neck					14	
B-3	B3-5		Vent					11	
B-3	B3-6	AC #5 UCB2-Controle B	Air Conditioning (UCC)	208	1	30	DP-B	16	DP-B
B-3	B3-7		Box for B3-6 et B3-8					16	
B-3	B3-8	AC # UCB3-Armoirie	Air Conditioning (UCC)	208	1	30	DP-B	16	DP-B
B-3	B3-9		Air Conditioning (RTU) Note: estimated elec. Specs	208	1	30	Basement	21	Basement
B-3	B3-9A		Unuse AC piping and disconnect to remove					24	
B-3	B3-10		Base for 3 satellites					25	
B-3	B3-11		Air Conditioning (UCC)	208	1	30	LC5B	16 and 27	LC5B
B-3	B3-12		Vent					11	
B-3	B3-13		Goose neck					13	
B-3	B3-14	UP Blast	Fan	120	1	15	Basement	15	Basement
B-3	B3-15		Goose neck					13	
B-3	B3-16		S.S. for steam (1/2" Ø)					17	
B-3	B3-17		Intake/exhaust					14	
B-3	B3-18		Vent					11	
B-3	B3-19		Intake/exhaust					14	
B-3	B3-20		Roof drain					12	
B-3	B3-21		Base Cappede, to remove					19	
B-3	B3-21A		Vent					11	
B-3	B3-22		Goose neck					13	
B-3	B3-23	AC #3	Air Conditioning (UCC)	600	3	30	Basement	16 and 27	Basement
B-3	B3-24		Vent					11	
B-3	B3-25		Gas Vent					11	
B-3	B3-26		S.S. for steam (6" Ø)					17	
B-3	B3-27		Goose neck					13	
B-3	B3-28		Vent					11	

Electromechanical equipment list on roof and work to be done

May 20, 2015

Bassin No.	Pageau Morel Identification	Establishment Identification	Description	Electrical Specifications				No of work to be done	Electrical feed source to be completed by CSC
				Volts	Phases	Amp	Source pannel		
B-3	B3-29		Access					19	
B-3	B3-30	AC #10	Air Conditioning (UCC)	208	1	30	LC5B	16 and 27	LC5B
B-3	B3-30A	AC #11	Air Conditioning (UCC)	208	1	30	LC5B	16 and 27	LC5B
B-3	B3-31		Goose neck					13	
B-3	B3-32		Goose neck					13	
B-3	B3-32A		Roof drain					12	
B-3	B3-33	AC #8	Air Conditioning (UCC)	208	1	30	LC5B	16 and 27	LC5B
B-3	B3-33A	AC #9	Air Conditioning (UCC)	208	1	30	LC5B	16 and 27	LC5B
B-3	B3-34		Air Conditioning (UCC)	208	1	30	LC5B	16 and 27	LC5B
B-3	B3-35		Goose neck					14	
B-3	B3-36		Vent					11	
B-3	B3-37	Versalab ARS	Fan	120	1	15	PELB	15	PELB

Electromechanical equipment list on roof and work to be done

May 20, 2015

Bassin No.	Pageau Morel Identification	Establishment Identification	Description	Electrical Specifications				No of work to be done	Electrical feed source to be completed by CSC
				Volts	Phases	Amp	Source pannel		
B-4	B4-01		Goose neck					13	
B-4	B4-02		To electrical service box B5-09					26	
B-4	B4-03		Roof drain					12	
B-4	B4-04		Goose neck					13	
B-4	B4-05		Service box for B4-12 (new by Architect)					16	
B-4	B4-06		Service box for B4-12 (new by Architect)					16	
B-4	B4-07		Goose neck					13	
B-4	B4-12	AC #12	Air Conditioning 2 zones Service boxes by Architect (B4-5 and B4-6)	208	1	30	Basement	16	Basement

Electromechanical equipment list on roof and work to be done

May 20, 2015

Bassin No.	Pageau Morel Identification	Establishment Identification	Description	Electrical Specifications				No of work to be done	Electrical feed source to be completed by CSC
				Volts	Phases	Amp	Source pannel		
B-5	B5-08	AC # 2 Salle informatique	Air Conditioning (UCC)	208	3	60	ELP-7B	16	ELP-7B
B-5	B5-09		Service boxes for B5-8 and B5-10					16	
B-5	B5-10	AC # 1 salle informatique	Air Conditioning (UCC)	208	3	60	ELP-7B	16	ELP-7B
B-5	B5-11		Roof drain not in contract						

D List of work
(3 pages)

BLOCK « B »

List of work to be done on mechanical and electrical equipment on roof.

- ventilation;
- refrigeration;
- plumbing;
- electrical.

Note 1 : all works must be done in sequence and coordinate with all other trade and as per the schedule. All services stops must be coordinate with local SCC-CSC.

Note 2 : bases for roof exhaust fans, air intakes, goosenecks. bases supply and install by roofing contractor, see architecture for height required above roof. Ventilation contractor to cut-off conduits where required and supply and install new goose neck with new damper if required.

In general, the work consist in removing the electromechanical equipment on the existing built-up roof, reinstall and reconnect them on the new roof at existing concrete slab.

11. Vent:

Plumbing: Cut off the existing vents to be 18″ from the new roof. New flashing by roofing contractor.

12. Roof drain:

Plumbing: Remove exiting drains, cut off the new connection for the new roof drain supply and install by roofing contractor supply and install the required fitting.

.13 Goose neck to ventilate the built-up roofing:

Architecture: to be remove by roofing contractor.

.14 Goose neck and gravity intake/exhaust units for ventilation systems:

Ventilation : cut off the existing duct to suit, redo a new goose neck or install existing gravity intake/exhaust units and install new damper if required. Roof cercle and flashing by roofing contractor.

.14A Goose neck for B2-16 unit:

Ventilation: B2-16 goose neck must be replace by 3-300 x 300 goose necks sitting on top of the 3 existing exhaust ducts where they pass through the concrete slab. Roof curb and flashing by rofing contractor.

.15 Roof exhausters:

Ventilation : Remove fan and damper, cut off duct to suit. After the roof refection with new base and flashing by roofing contractor. Re-install new damper and existing fan.

Electrical: turn off the power to the panel safely, disconnect the fan and damper if required, protect the wiring and conduit during the roof repair, shorten the conduit and wiring, connect the fan switch and dampe if required, start and verify the operation (see note 2).

.16 Compressor/condenser unit (UCC)

Refrigération: empty the unit of its refrigerant as required by existing codes, fill out the requested formulas, cap the piping and remove the unit. After refection of the roof, re-install the unit on a new 12″ galvanized steel frame resting on anti-vibration pads on the roof base, install by roofing contractor. Cut off the refrigerant piping to suit, do the proper pipes evacuation, purge and fill up the system with the same refrigerant as before. All this to be done as required by code and specification Redo the thermal insulation as per specification. Insulation to be done from the unit up to the conduit box on roof and/or up to wall for existing wall connexion. No conduits or piping to rest on the roof, use Unistrut pipe support, model 2.5–CS–2 at 3.8 m c/c resting on a polycarbonate sheet of 3 x 190 x 254 mm. For B2-8 unit, use B2-9 new conduit box made by architecture and for B3-6 and B3-8, use conduit box B3-7. For B4-12 unit, connections will be made through a new conduits box B4-6 made by architecture.

Electrical: turn off the power to the panel safely, disconnect the unit and controls. After reinstalling, replace with new conduit and wiring by installing fittings boxes on the new power distribution conduits on the new roof and connect UCC and controls. Start the unit and verify the operation (see note 1). For B5-8 and B5-10 units, the connection will be on B5-9 new conduits box. For B2-8 use the existing B2-9 box. For B3-6 and B3-8 units, the box will be B3-7. For B4-12 unit, connections will be made through a new conduits box made by architecture B4-6.

.17 B3-16 and B3-26 units – Steam vents

Plumbing : cut off the piping so that the outlet head be at 1800 mm from new roof.

.18 Existing caped vent to remove

Plumbing :cut and cap at existing concrete slab.

.19 Caped bases

Architecture: to be remove by roofing contractor.

.20 B2-1Equipement: Electrical conduit on roof

Electrical: replace the power distribution on the new roof and wall once it is redone and this, to preserve all existing connections, provide temporary electrical connections for units that remain operationnal. A new conduit box B2-1 will be done by architecture, to connect to existing power.

New PVC conduits and boxes with weatherproof accessories (with flexible ports against the expansion and contraction) and new wiring; all supported by supports for piping Unistrut 2.5-CS-2 on a polycarbonate sheet 3 x 190 x 254 mm at 2 m c/c.

.21 Roof top unit (RTU)

Ventilation: remove unit and prefab base, cut off conduit to suit new installation, reinstall the prefab base on new roof and reinstall unit on anti-vibration pads.

Electrical: Turn off the power to the panel safely. Disconnect the RTU. Reconnect the RTU then reinstalled by shortening the conduits and wiring. Start and verify the operation.

.22 Louvered air intake

Ventilation: Remove the air intake, cut off the duct to suit, redo the duct thermal insulation with 2″ rigid insulation. Install the air intake when the roof, new base, and flashing are done by the roofing contractor.

.23 Antennas to remove

Architecture: by roofing contractor.

.24 B3-9A, unused UCC

Refrigeration: empty the system, remove the piping completly.

Electrical: turn off the power to the panel safely and remove the conduit and wiring completely.

.25 Satellites boxes

Electrical: disconnect the cable of satellite antennas and connect on satellite antennas when relocated.

.26 B4-02 Conduit box

Feed B4-09.

Electrical: to be connected when the new distribution will be installed. Provide temporary connection to keep functional B4-8 and B4-10 units.

.27 Wall cover

Wall cover for piping, conduits, wiring for the inside evaporator feed and controls for roof top units (no. B3-11, B3-23, B3-30, B3-30A, B3-33, B3-33A et B3-34) by architectural contractor.

.28 Electrical near B3-23 wall cover

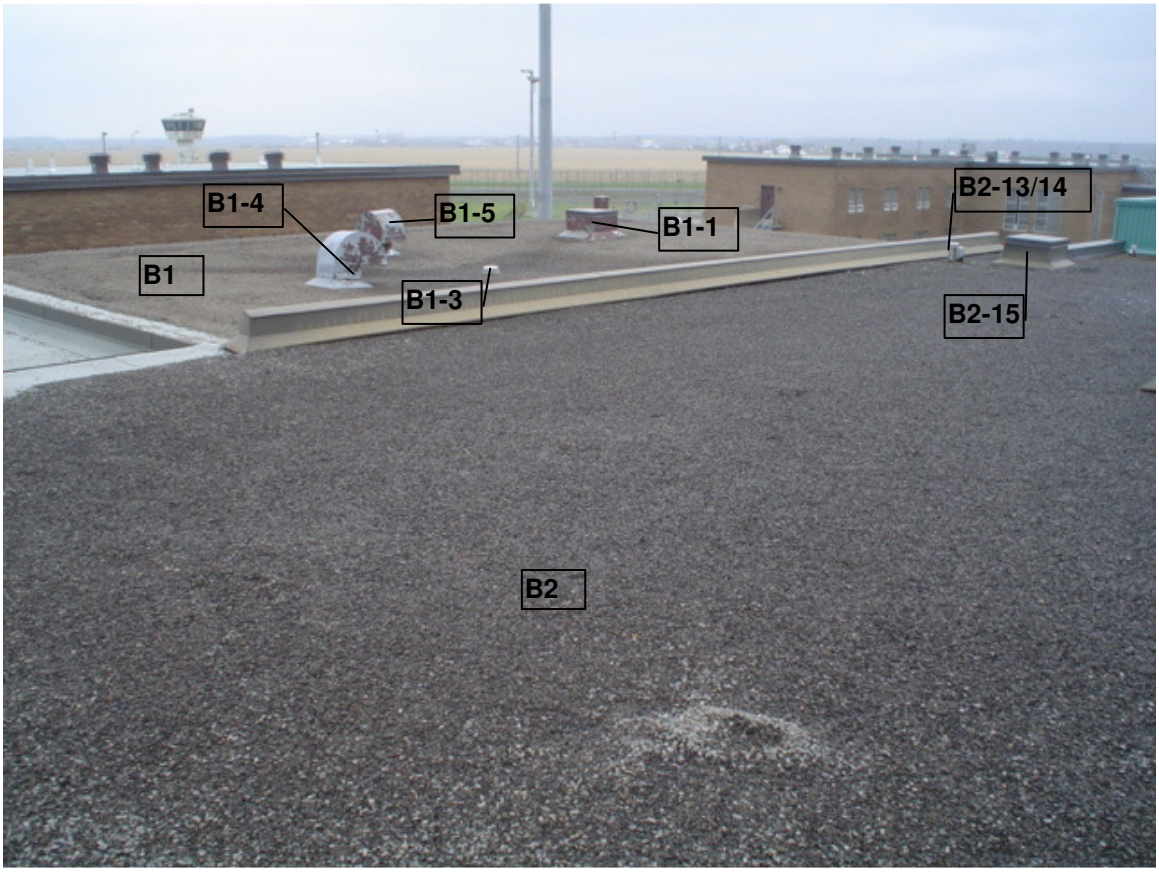
Electrical: near the wall down of the B2-23 unit, relocate the conduits and wiring that are currently attached to the wall which will be removed to lower the roof (Refer to photo 43)

E Photographs
(Photos 1 to 69)

Photo 1

Photo 2

Photo 3



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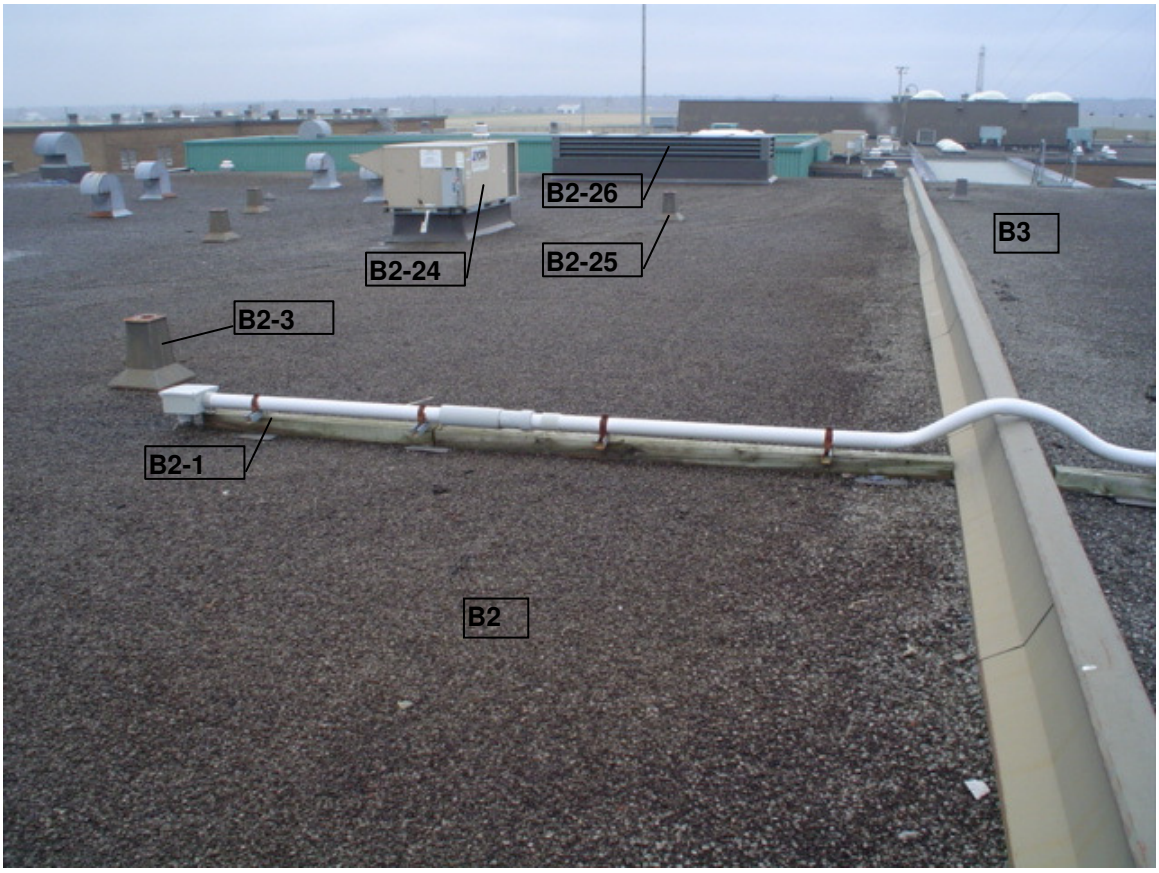

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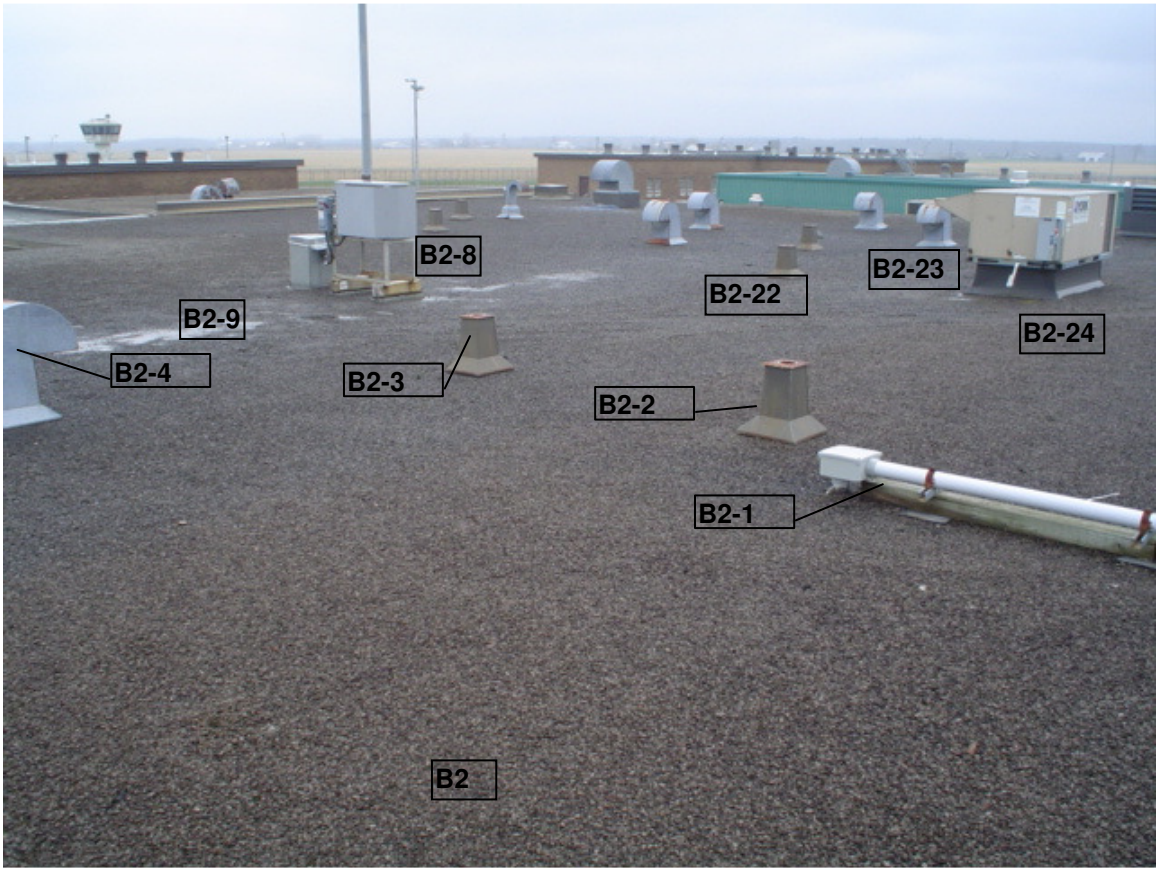

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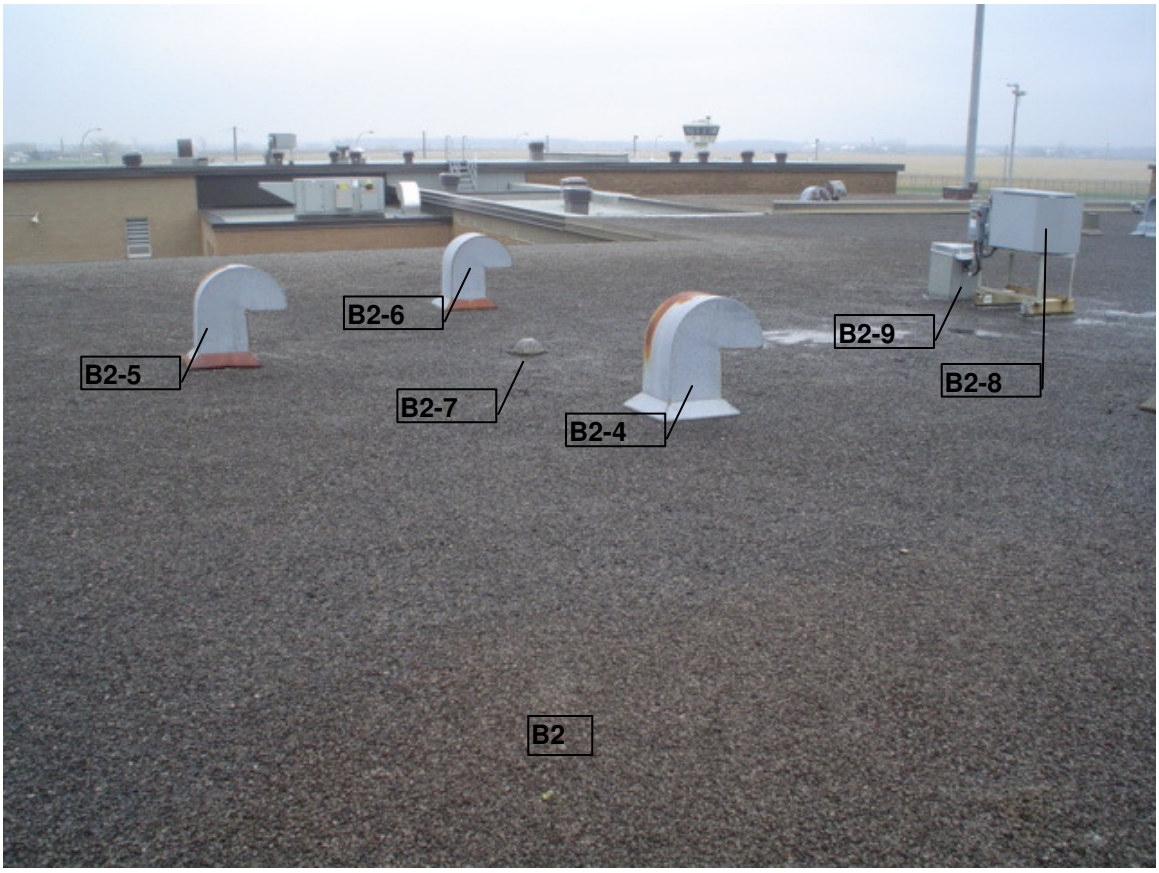

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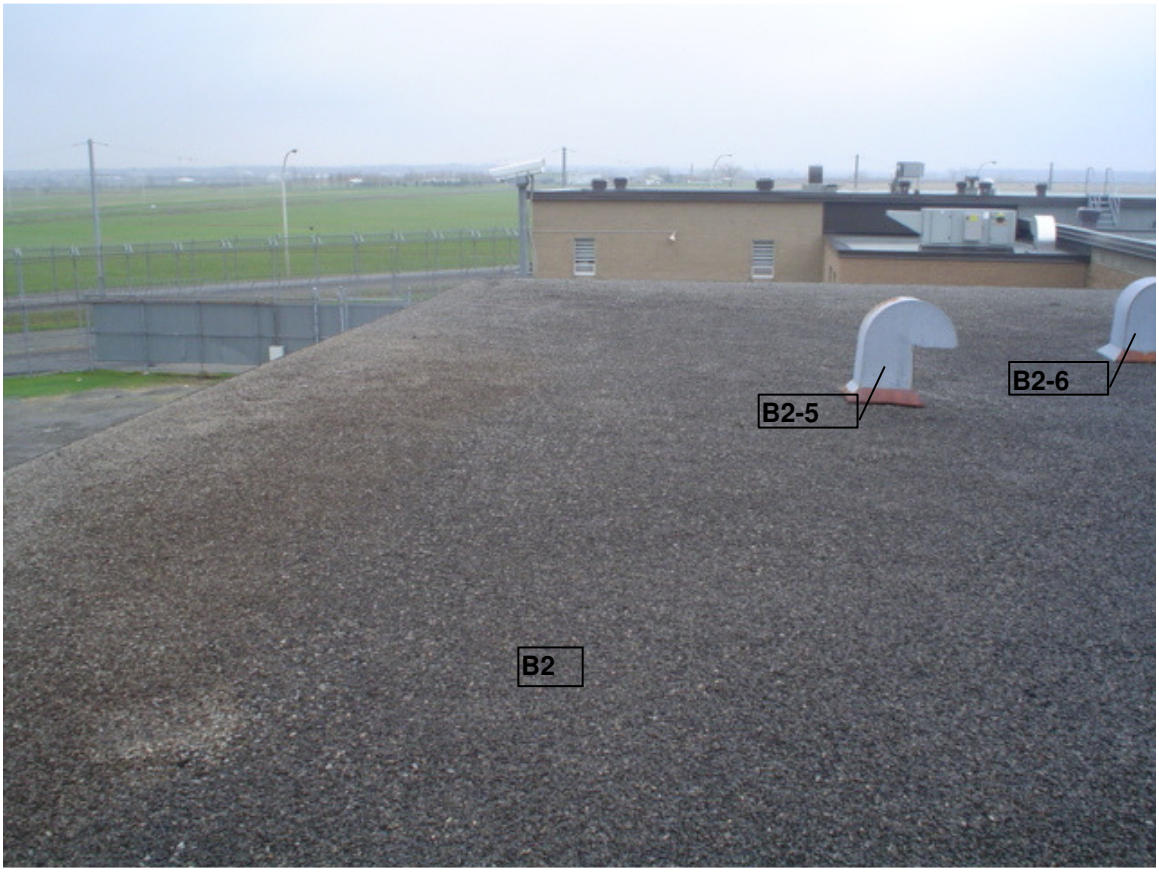

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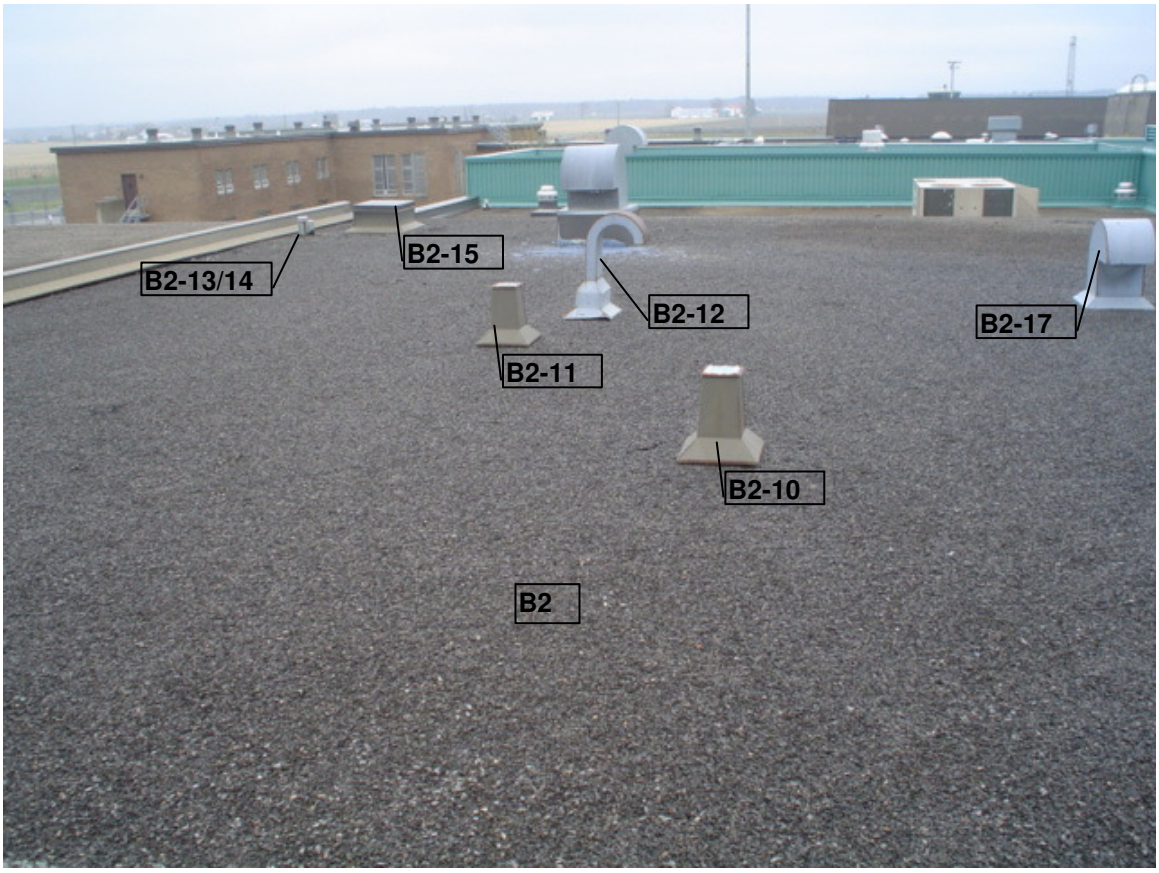

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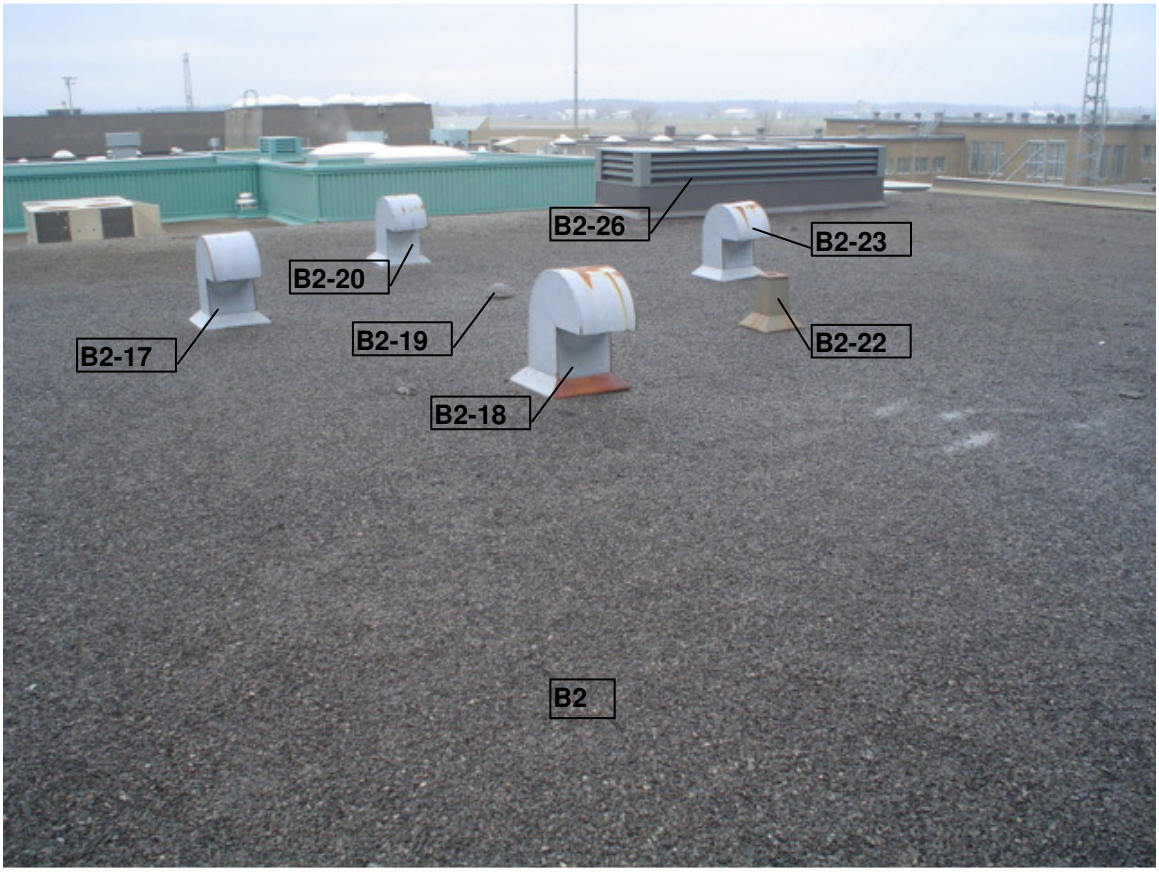
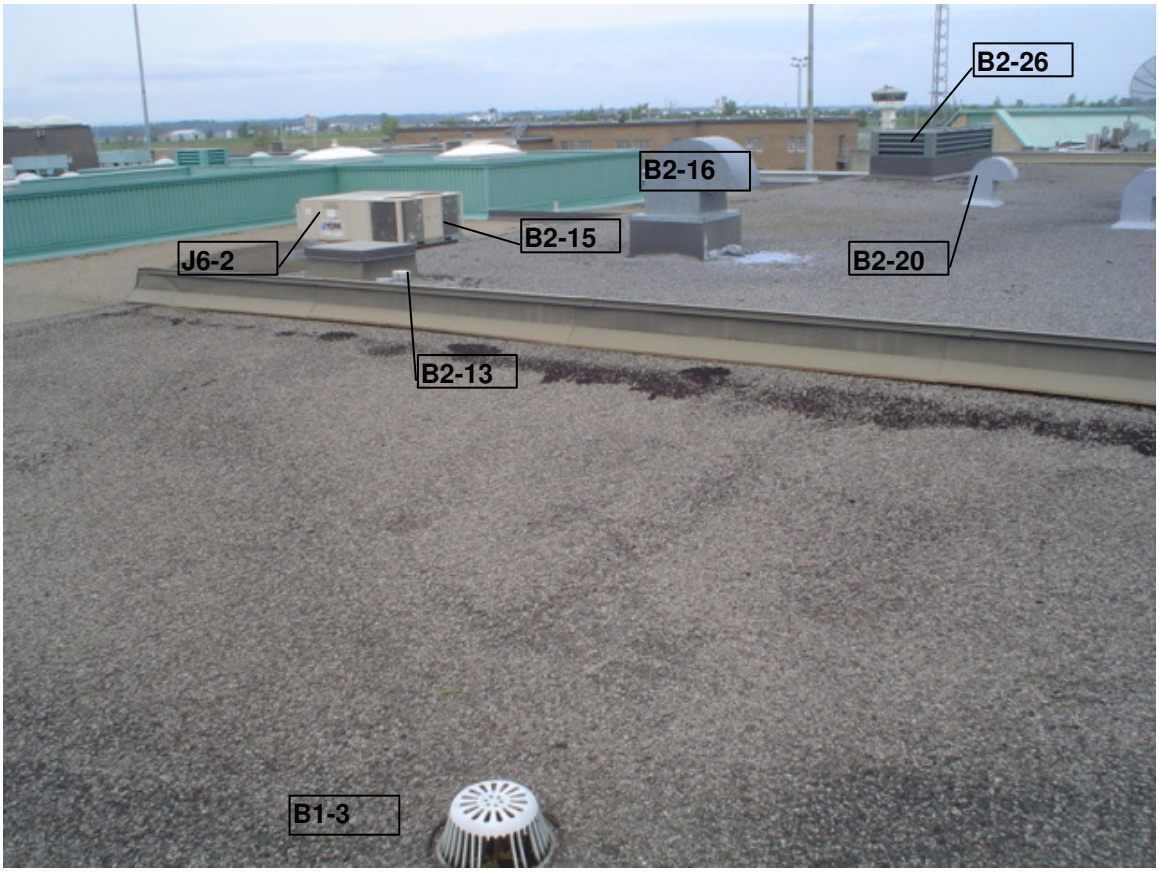


Photo 10

Photo 11

Photo 12



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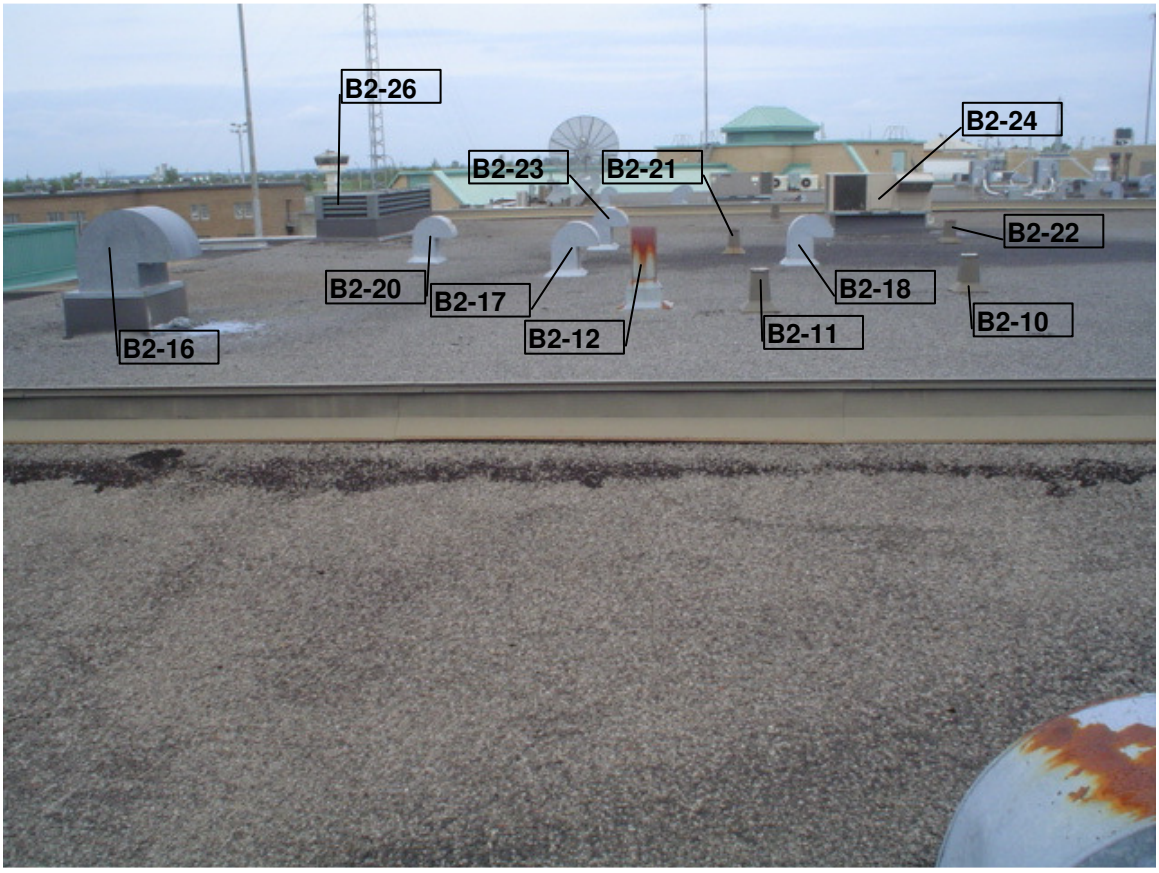

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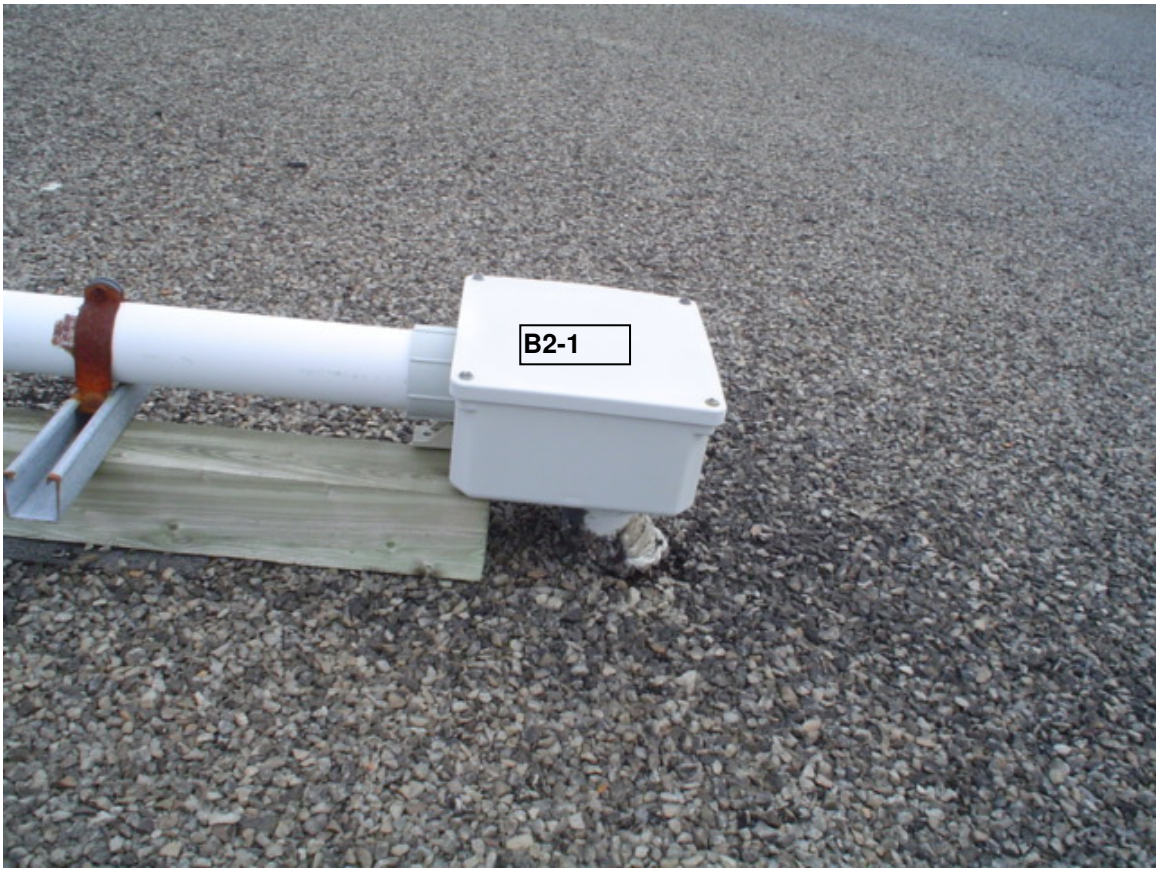

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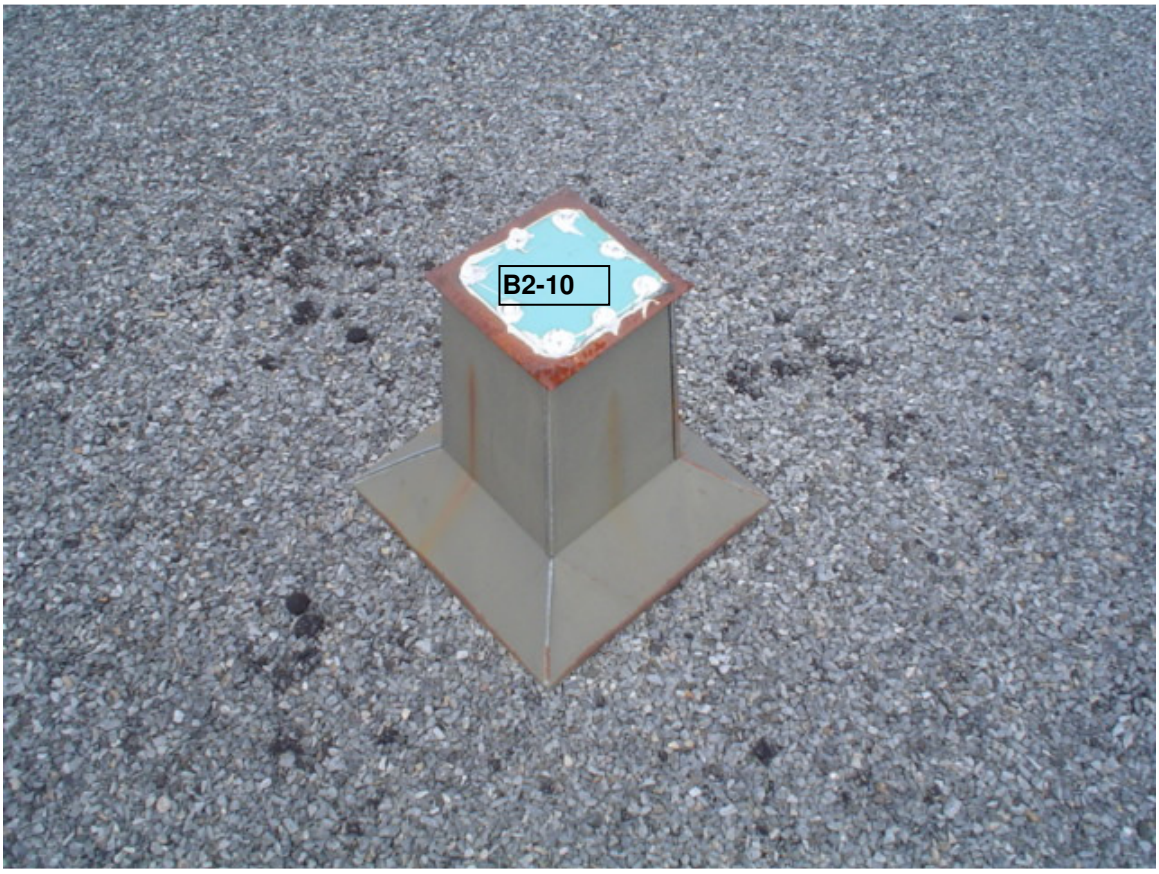

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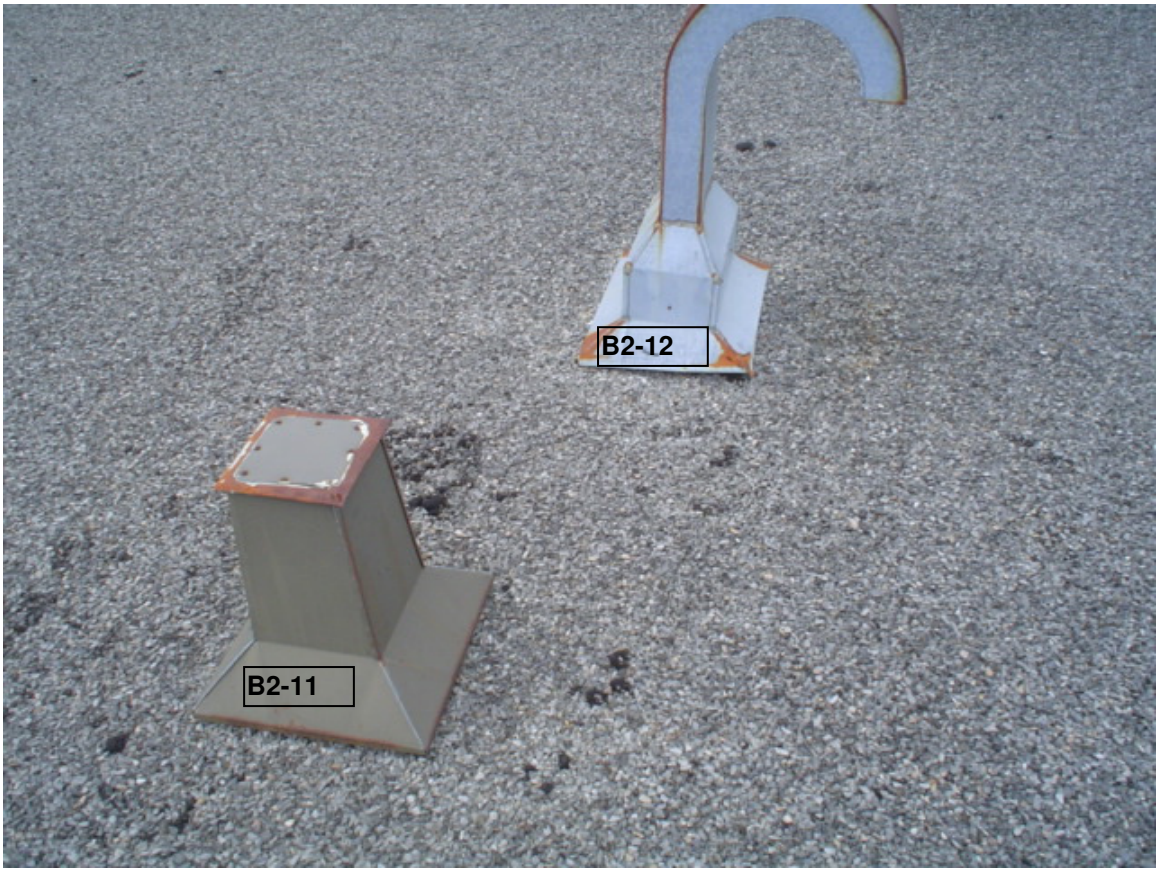
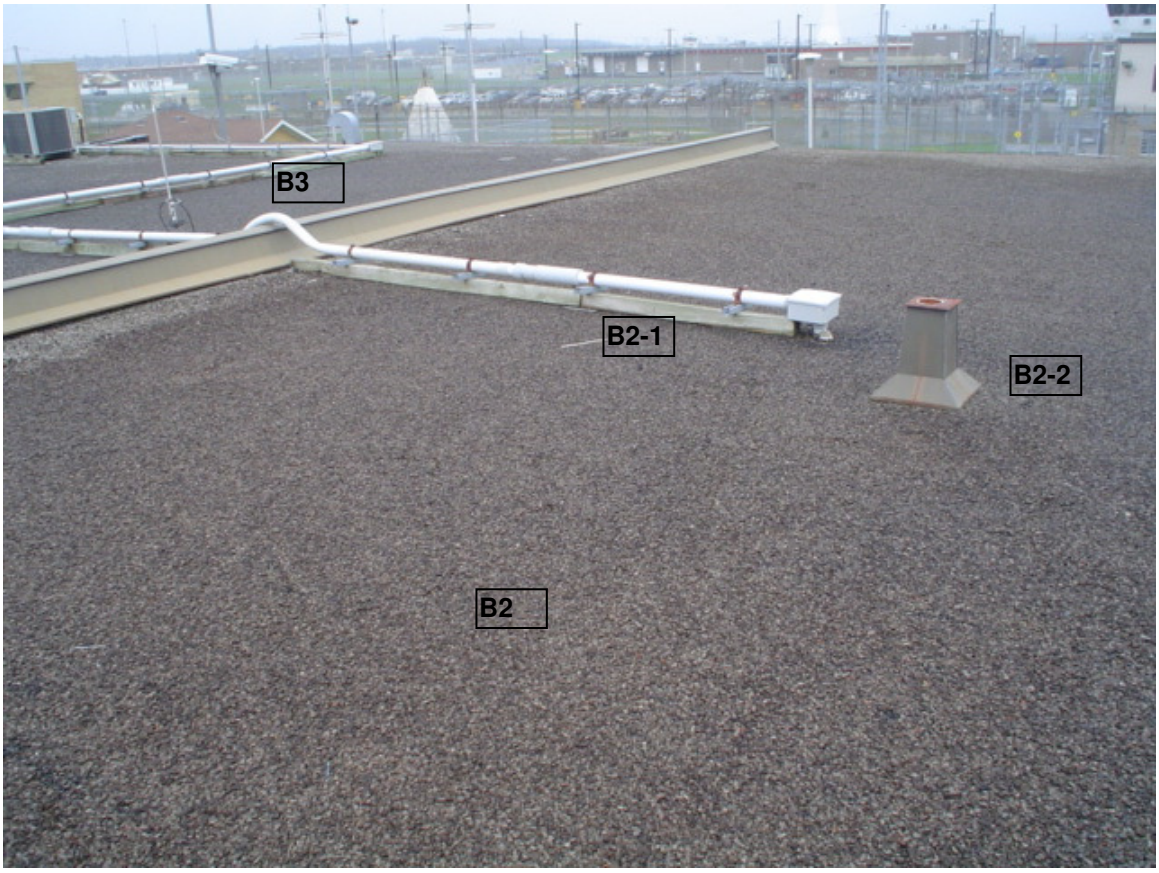


Photo 17

Photo 18

Photo 19

Photo 20



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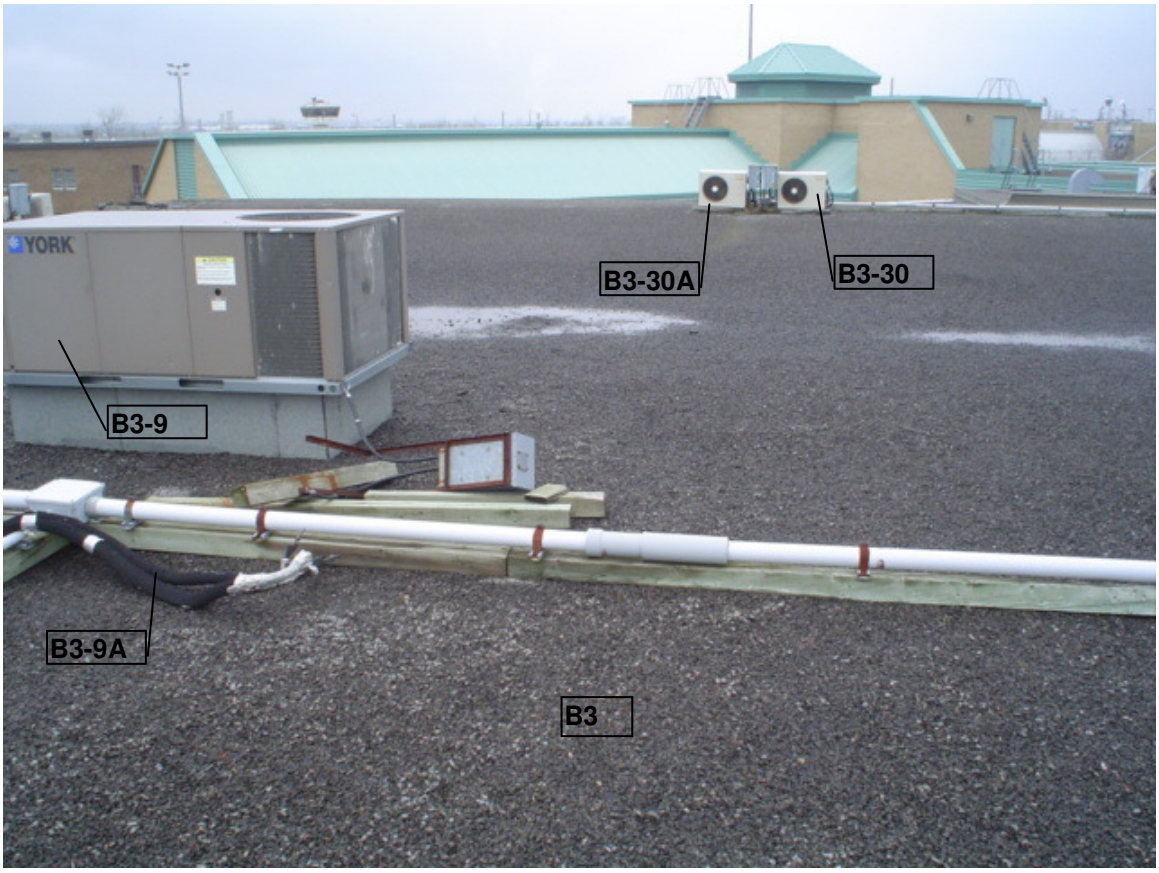

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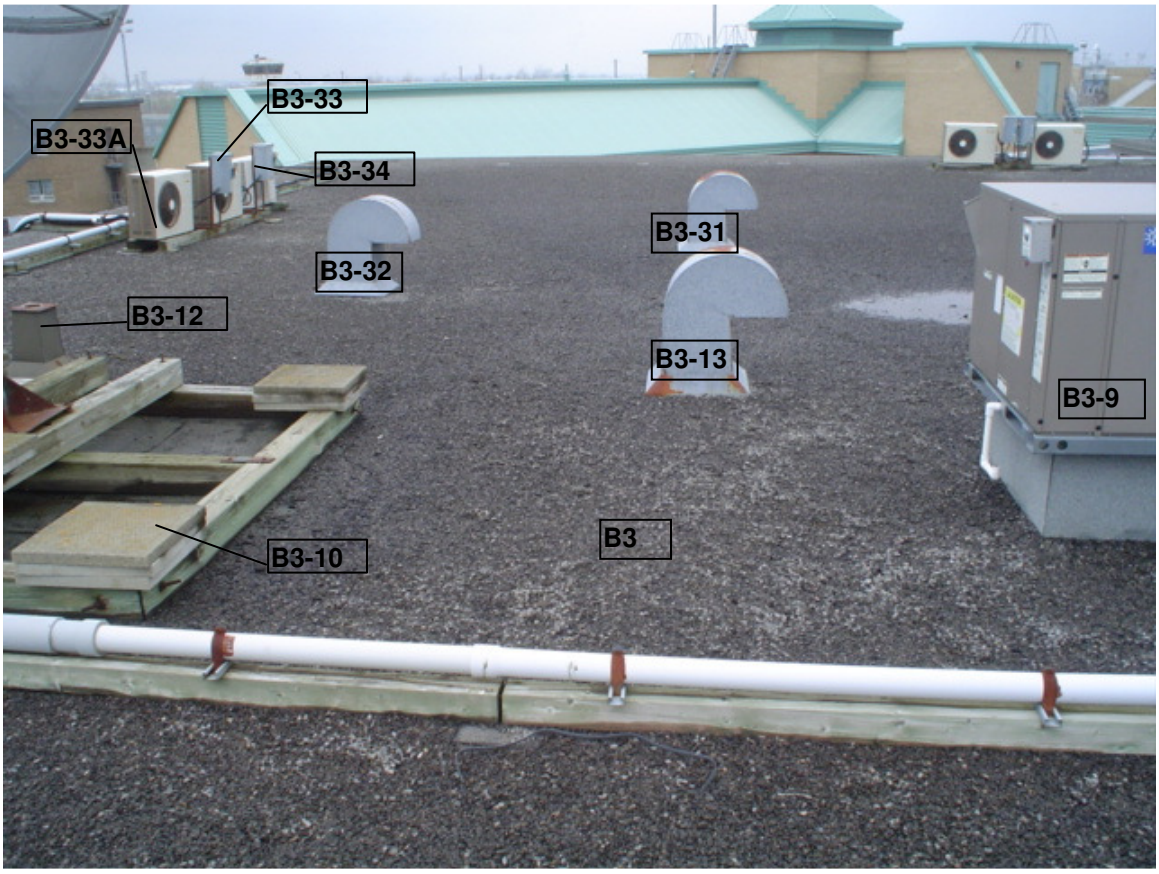

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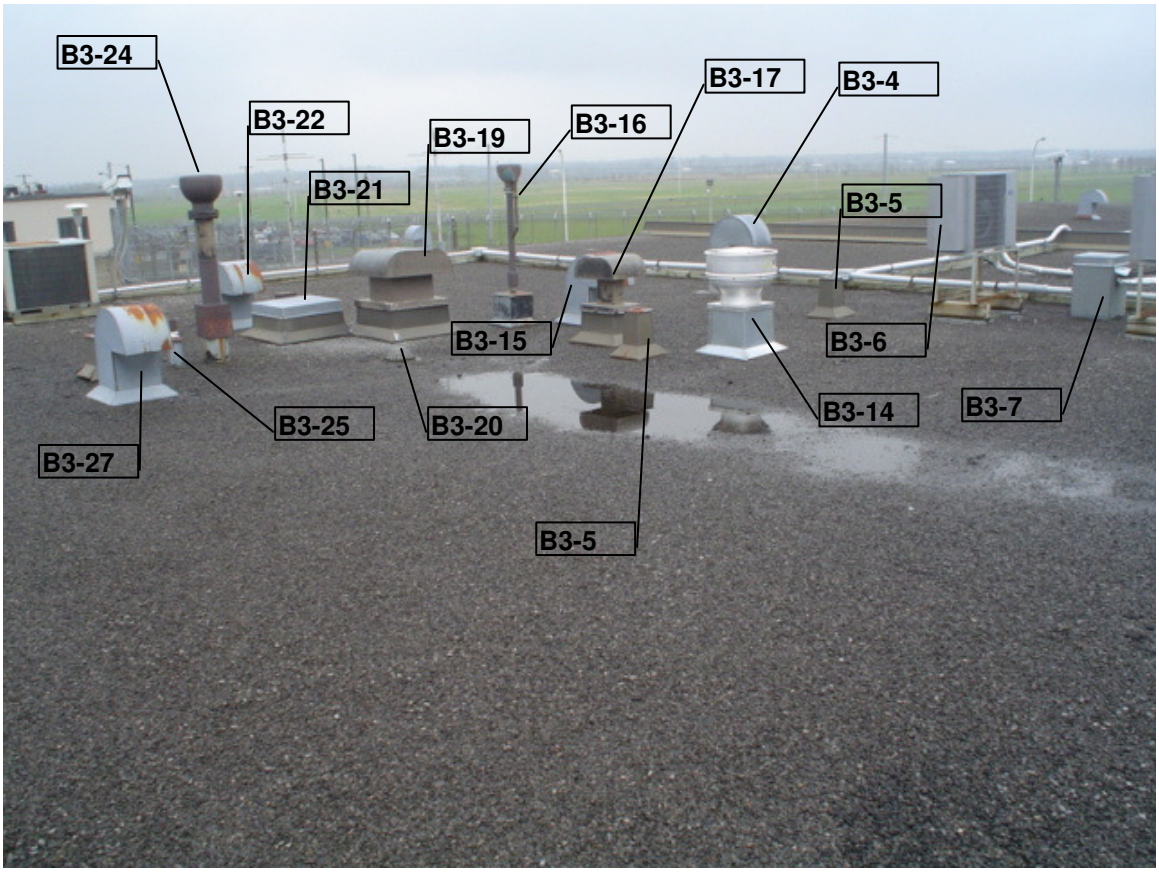

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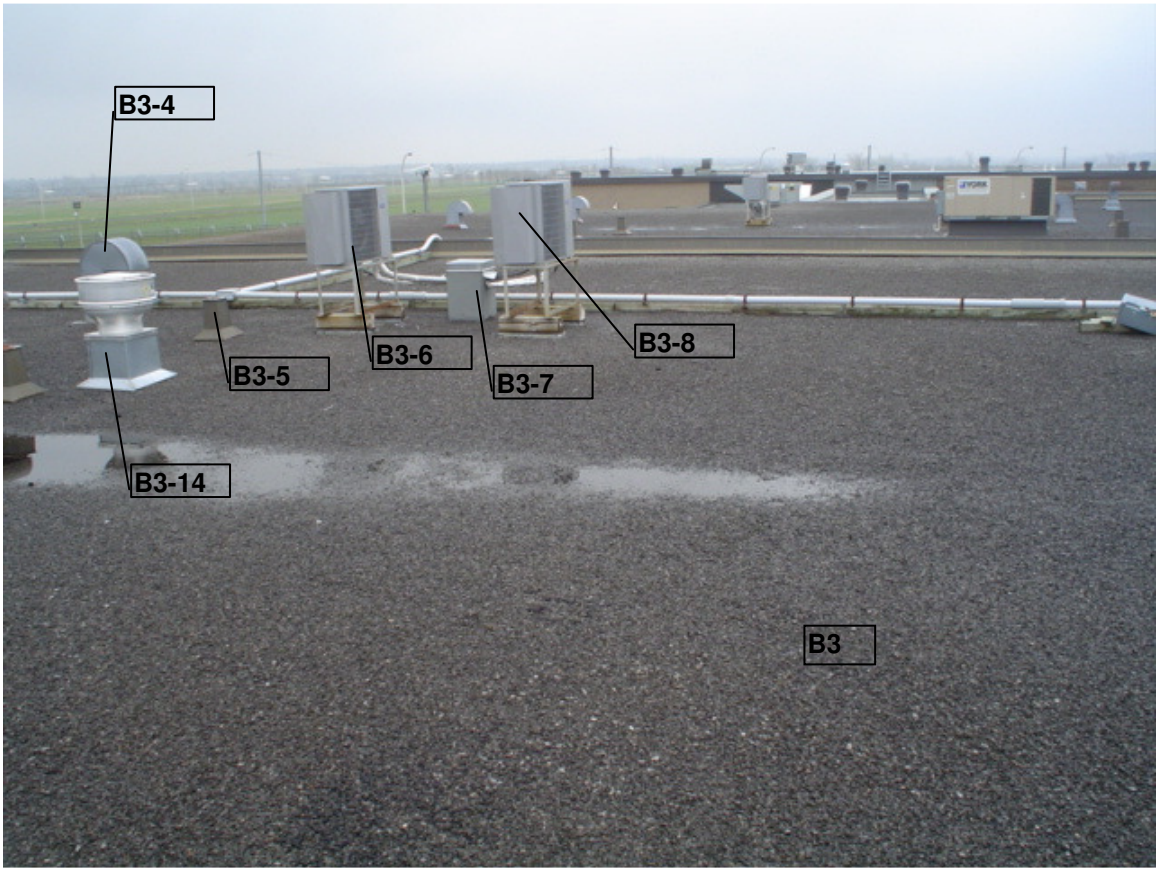

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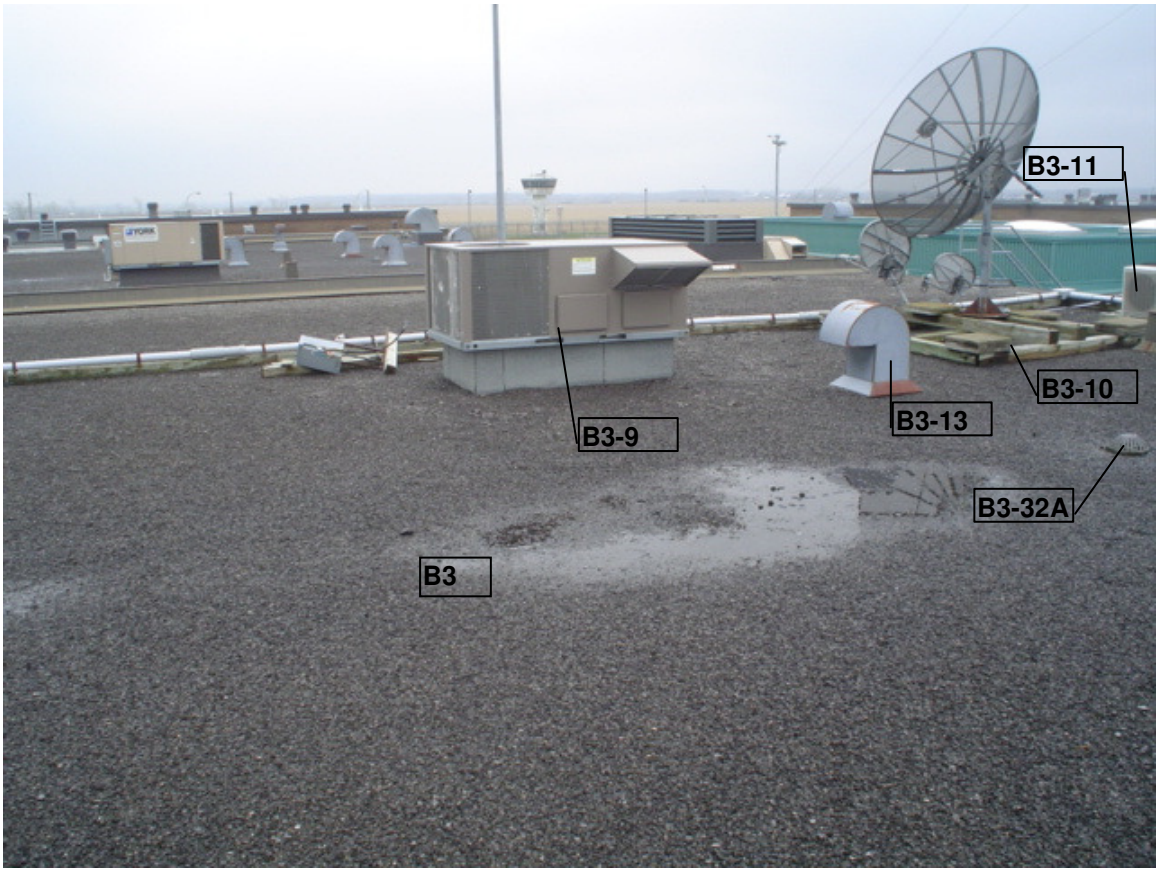

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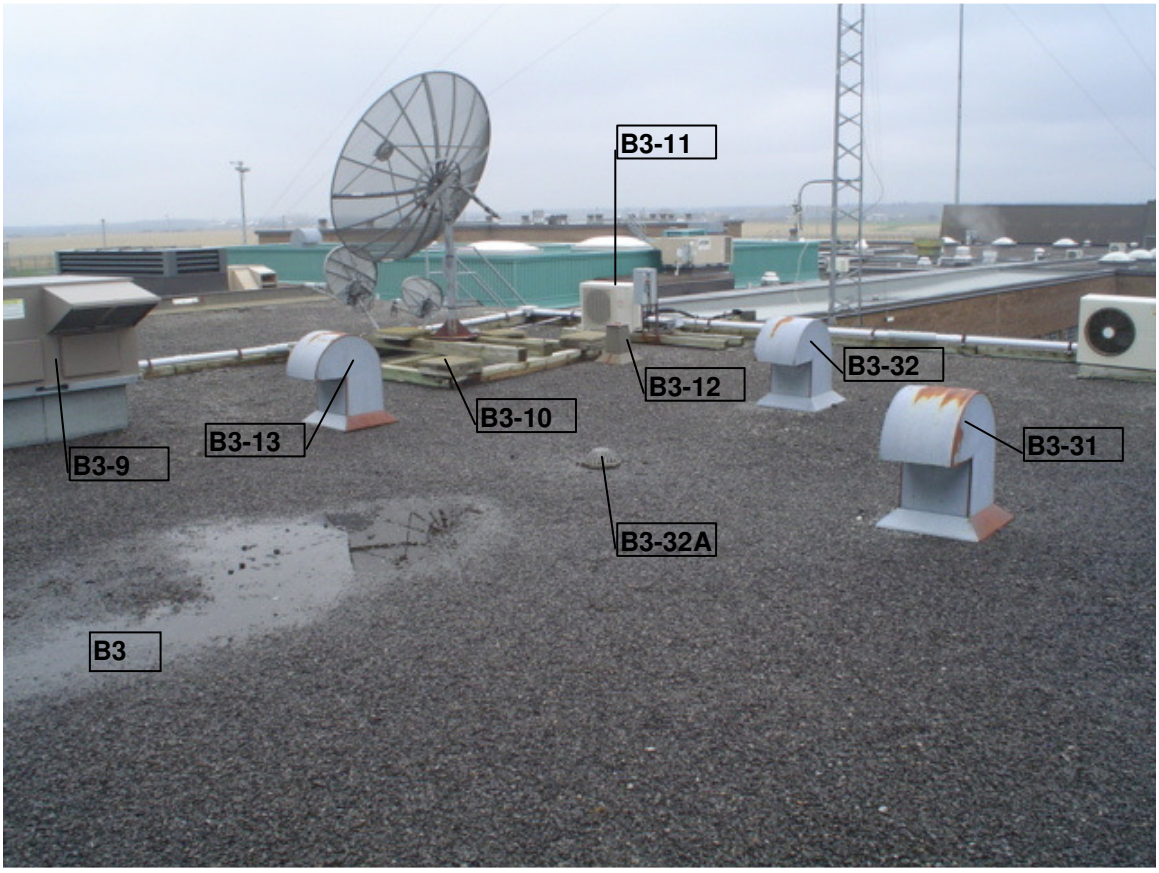

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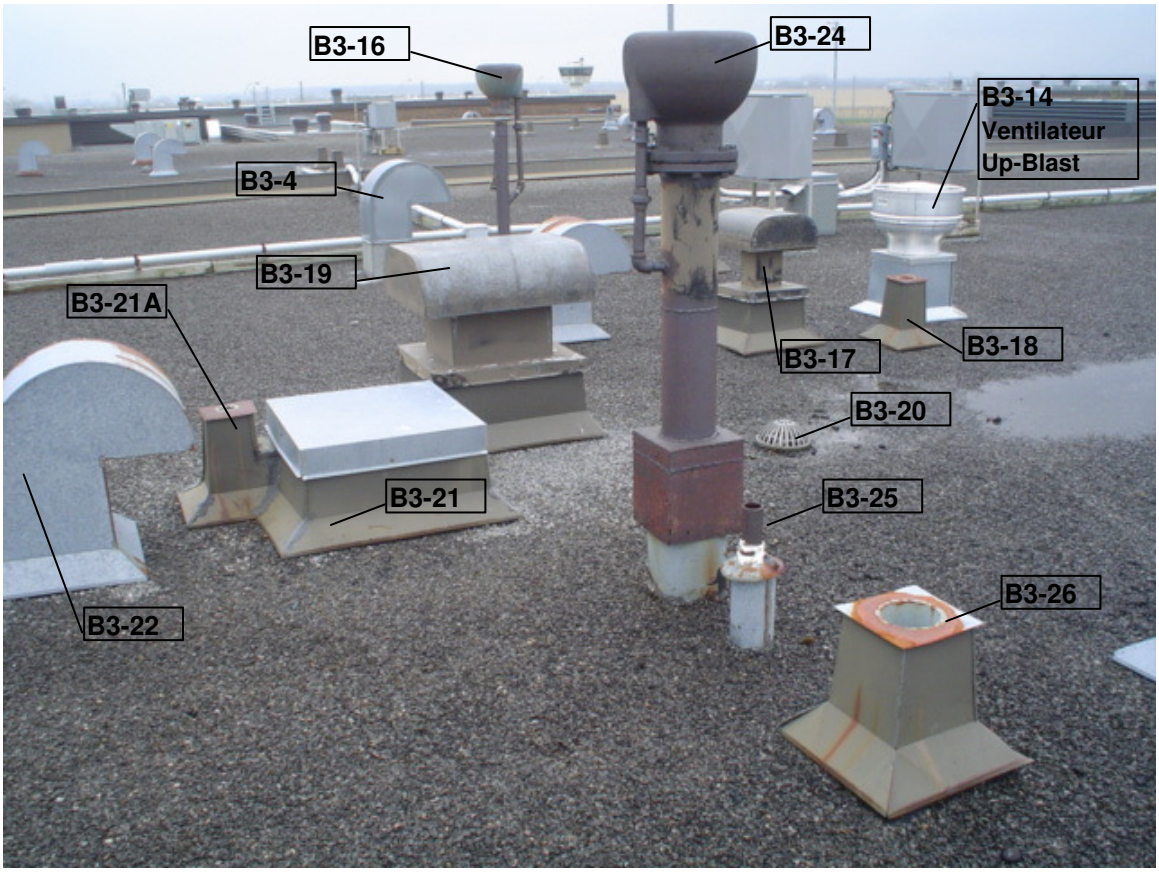
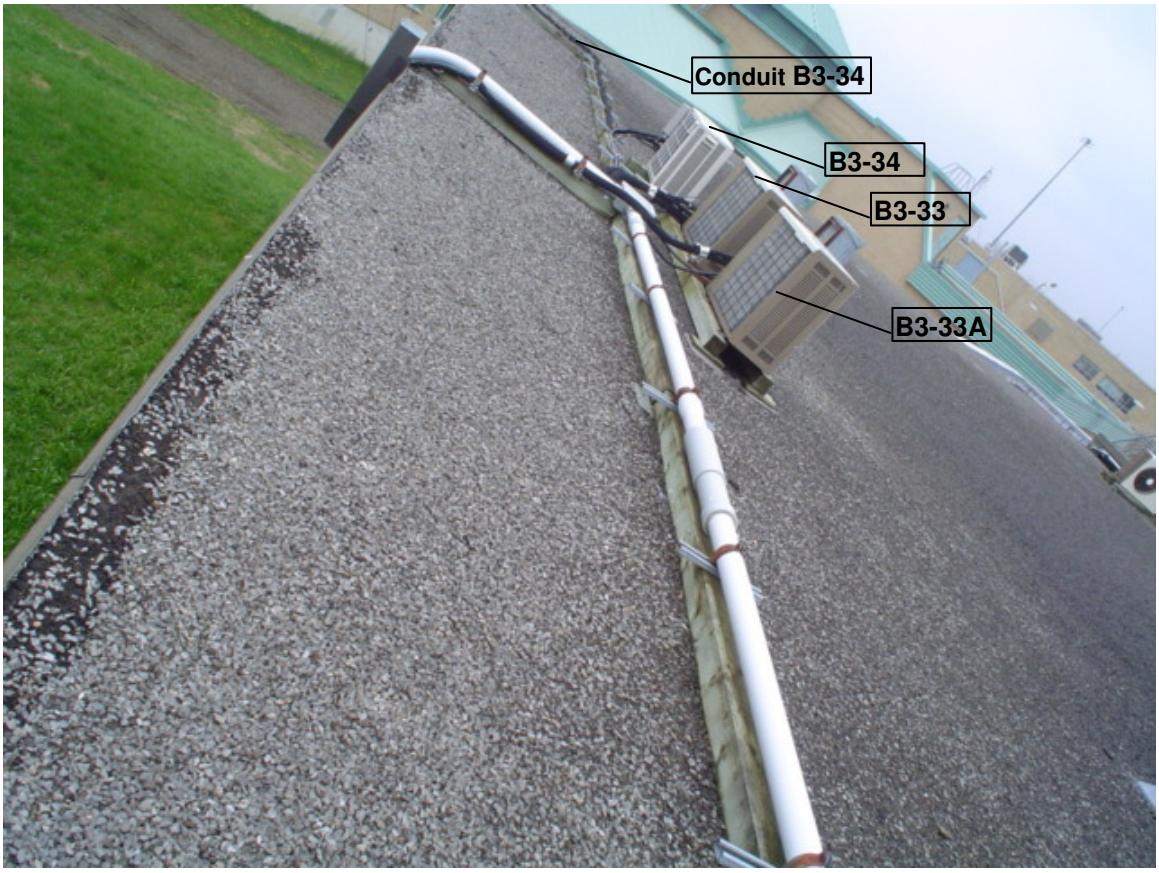


Photo 29

Photo 30

Photo 31

Photo 32



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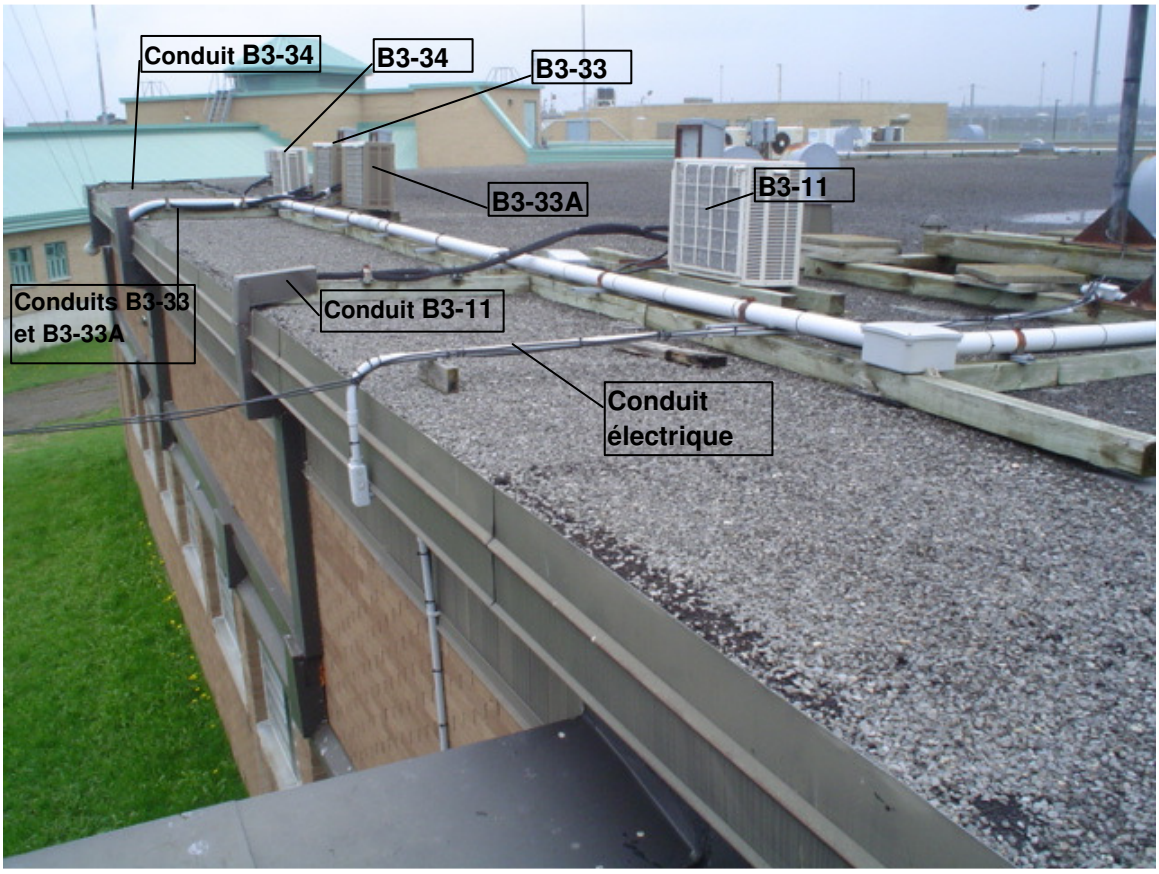

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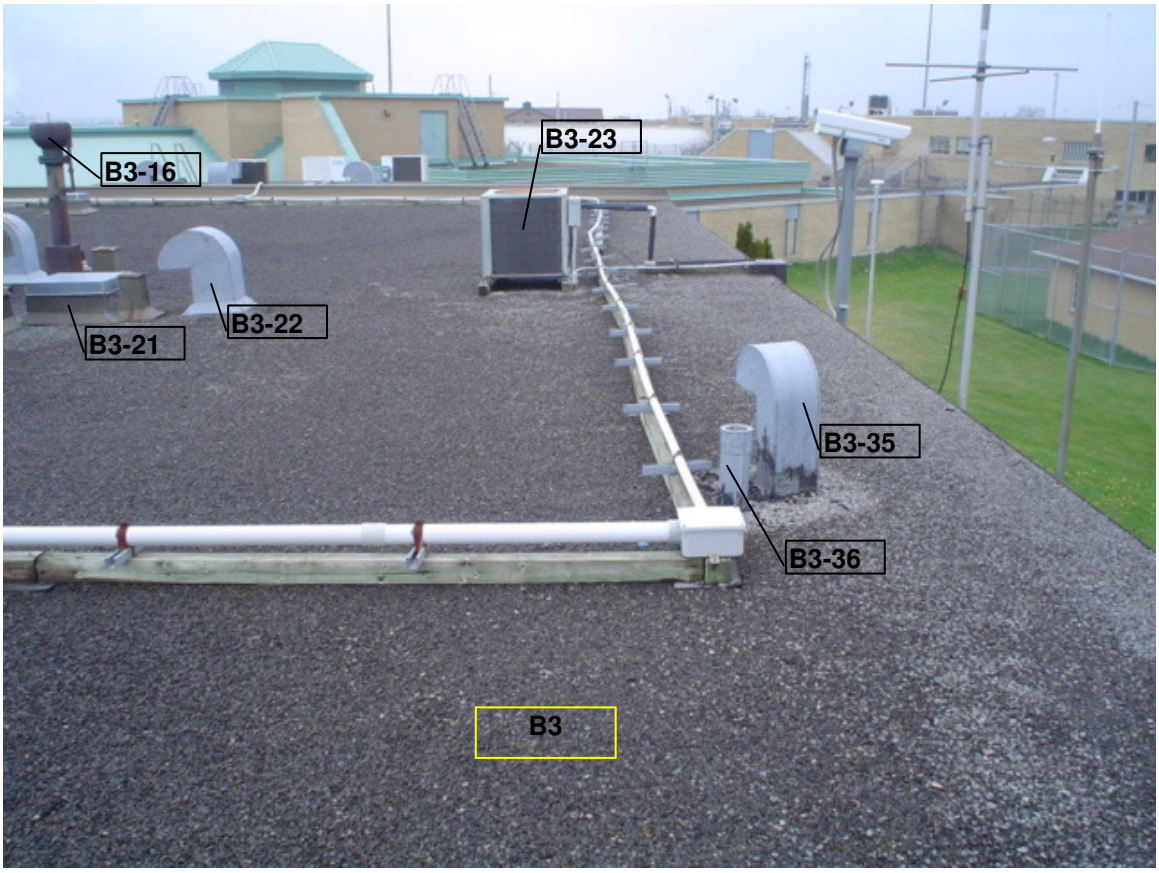


Photo 35

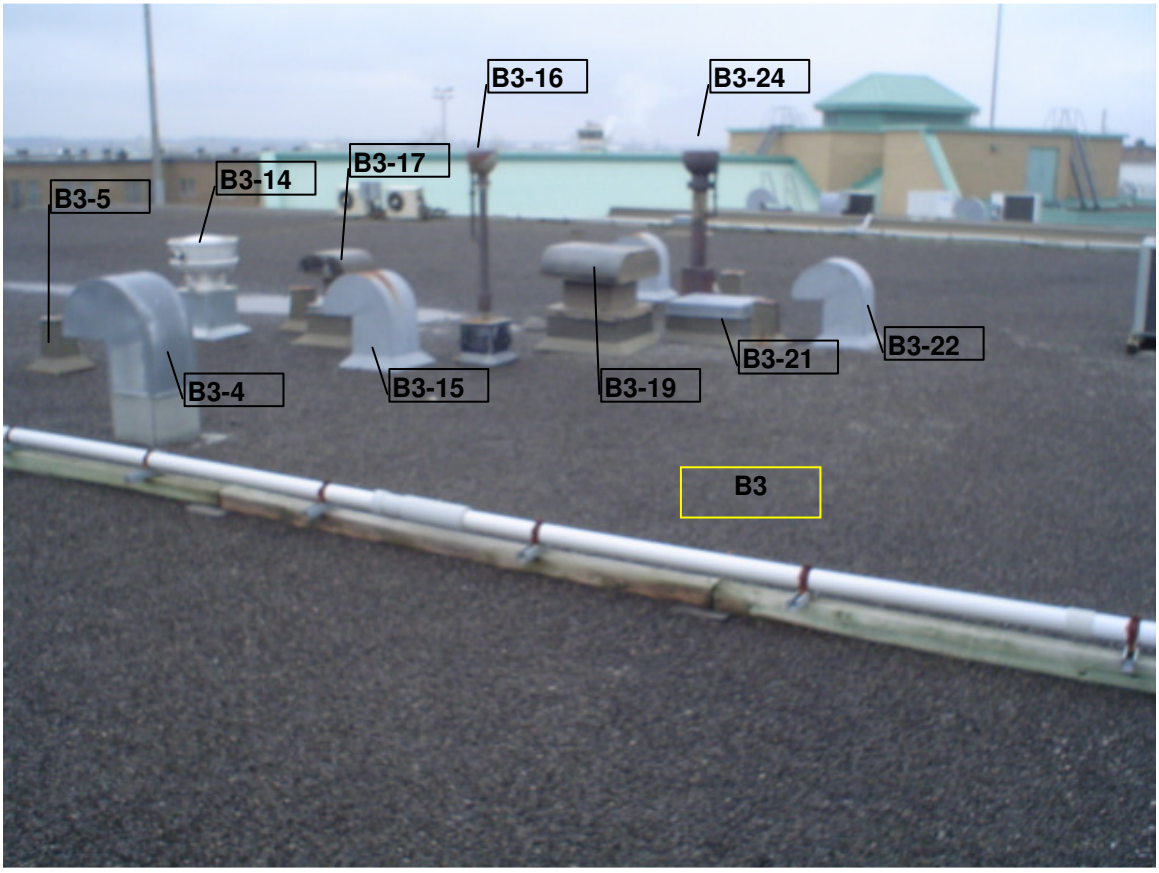


Photo 36

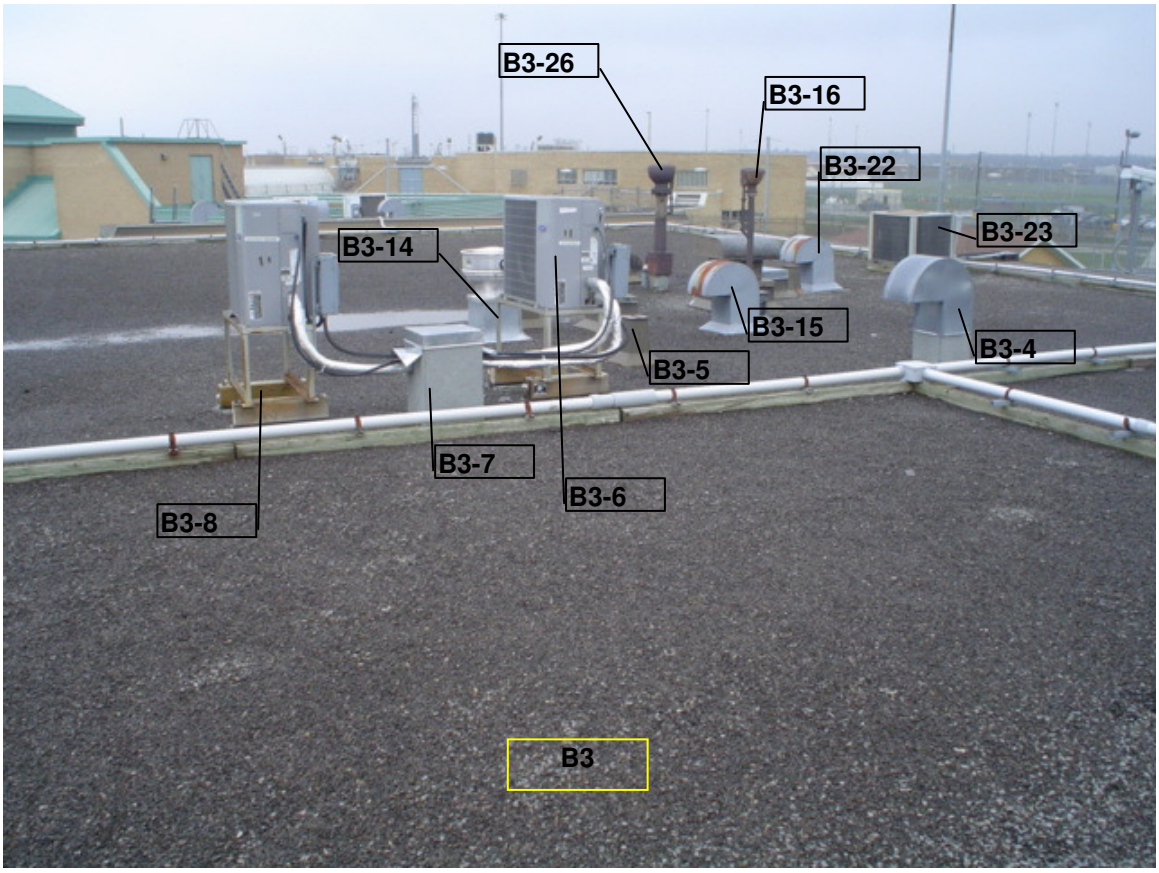


Photo 37

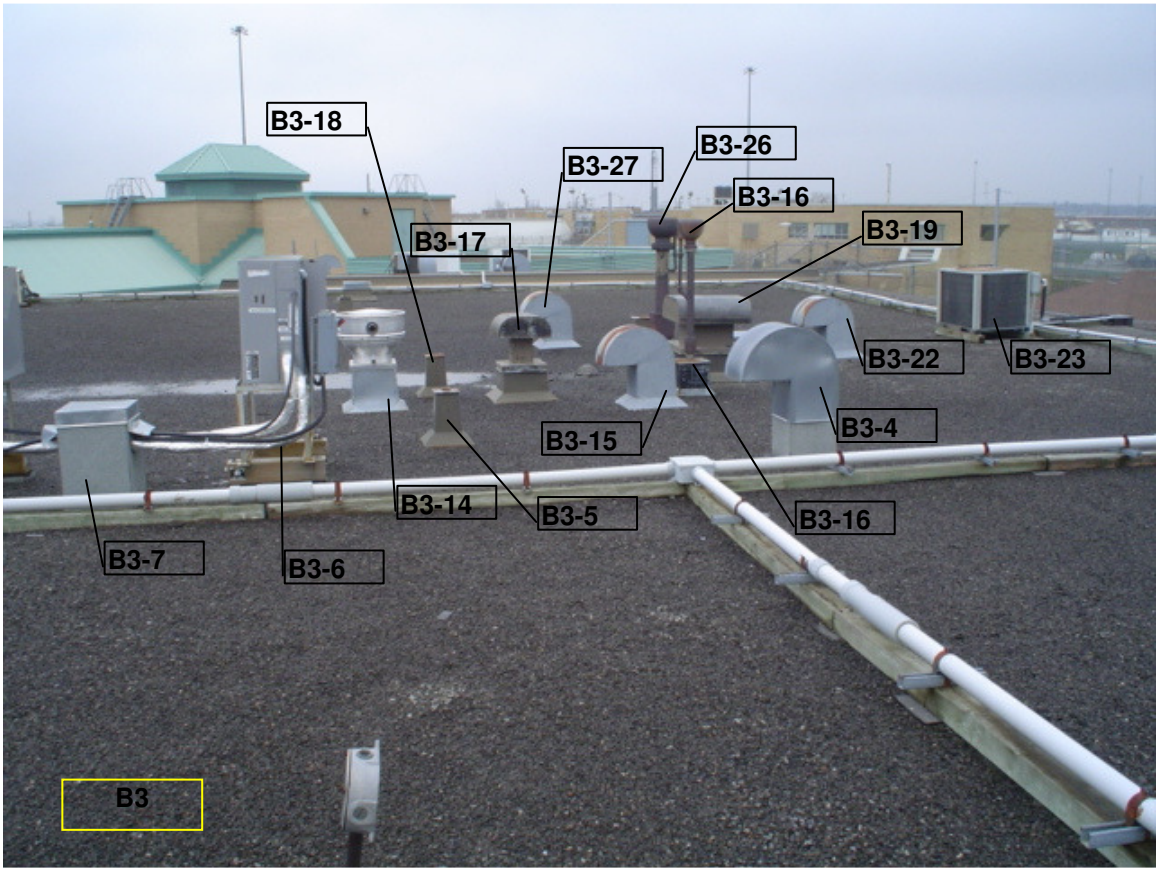


Photo 38

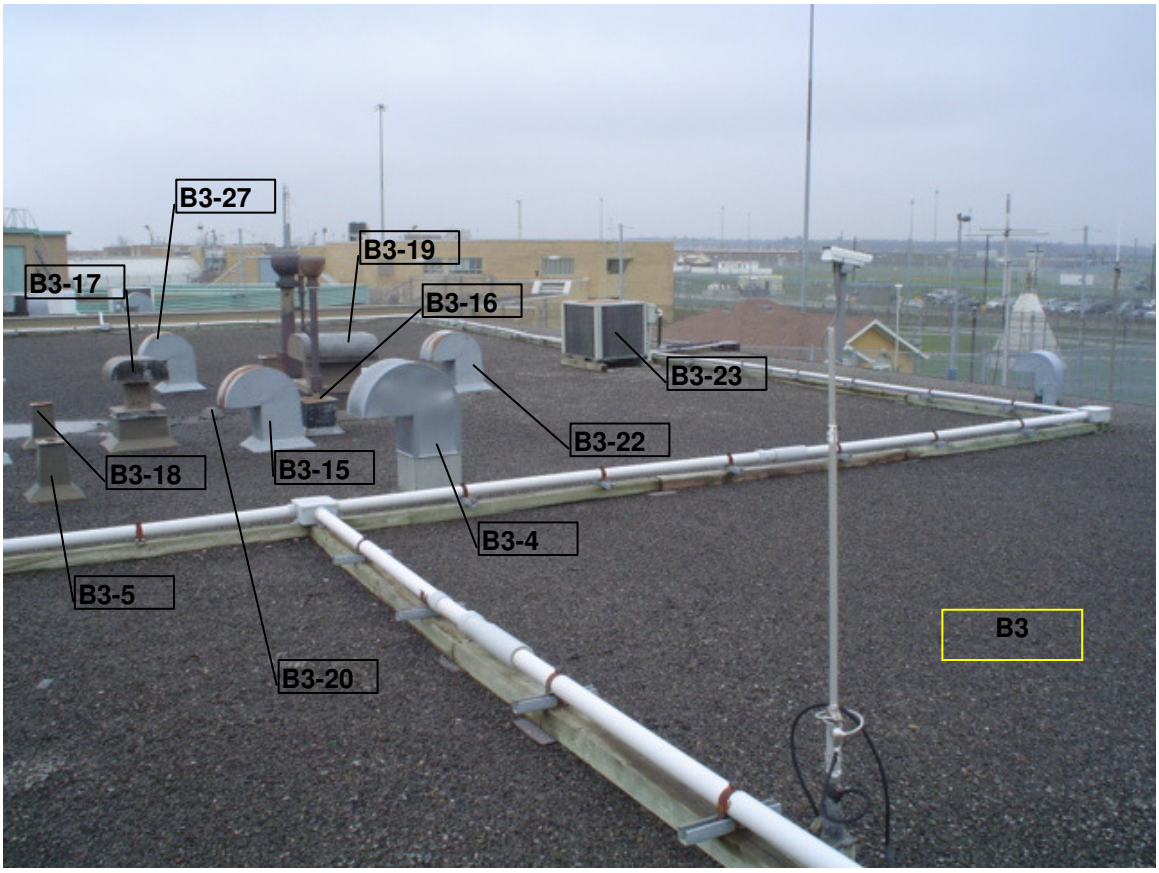


Photo 39

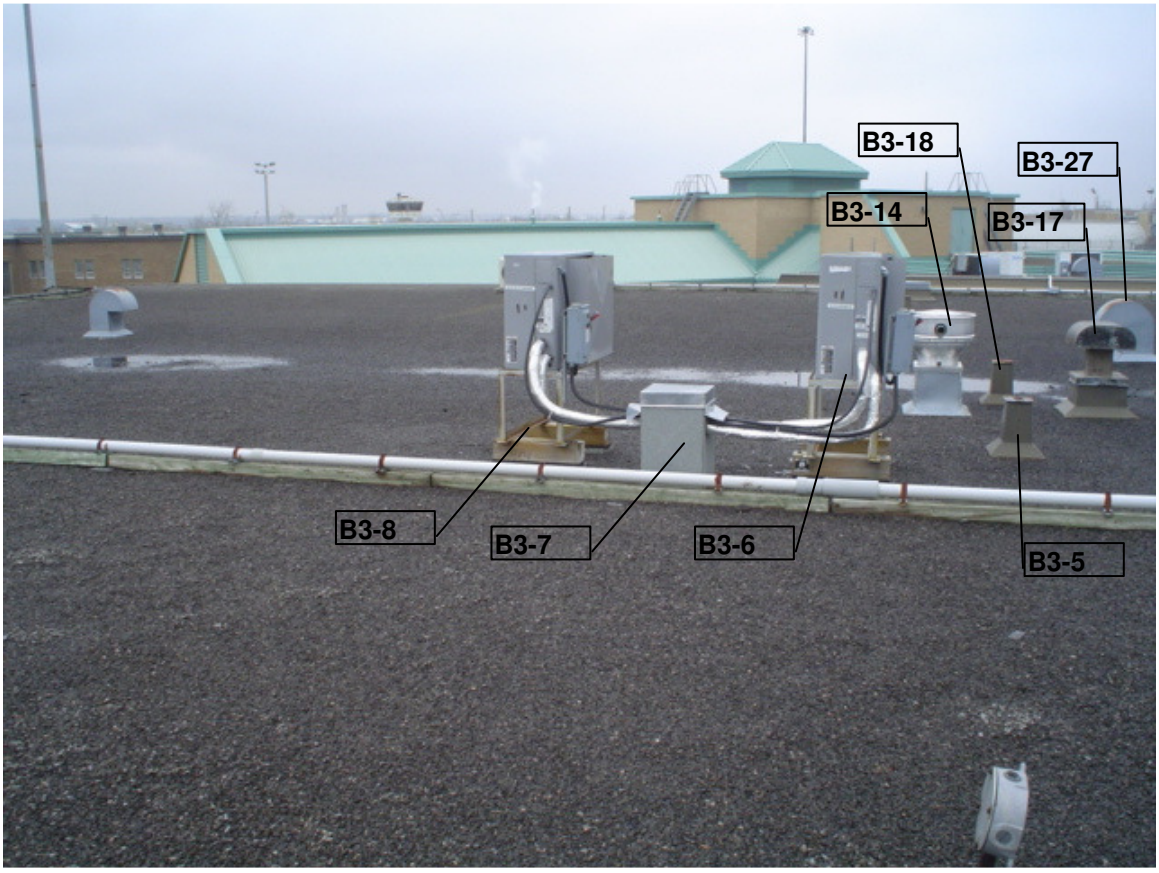


Photo 40

Photo 41

Photo 42

Photo 43

Photo 44

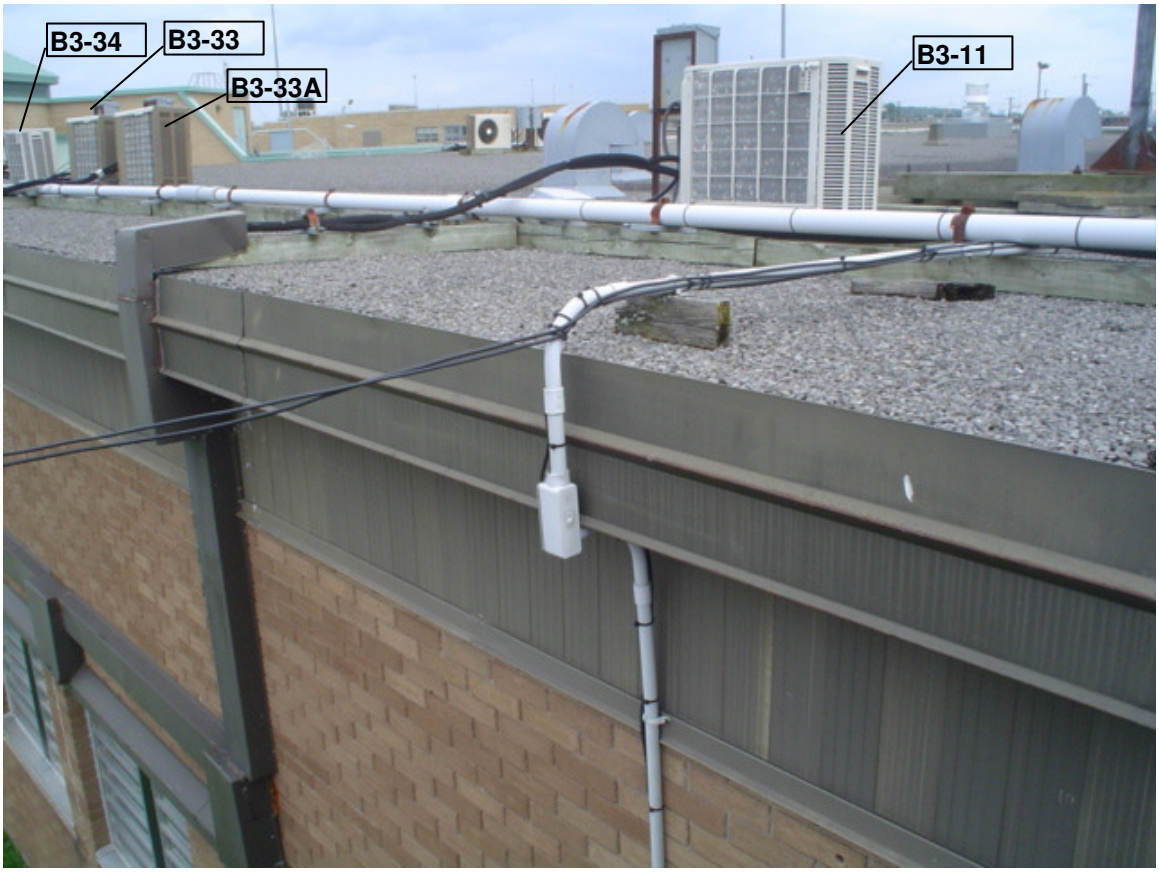


Photo 45

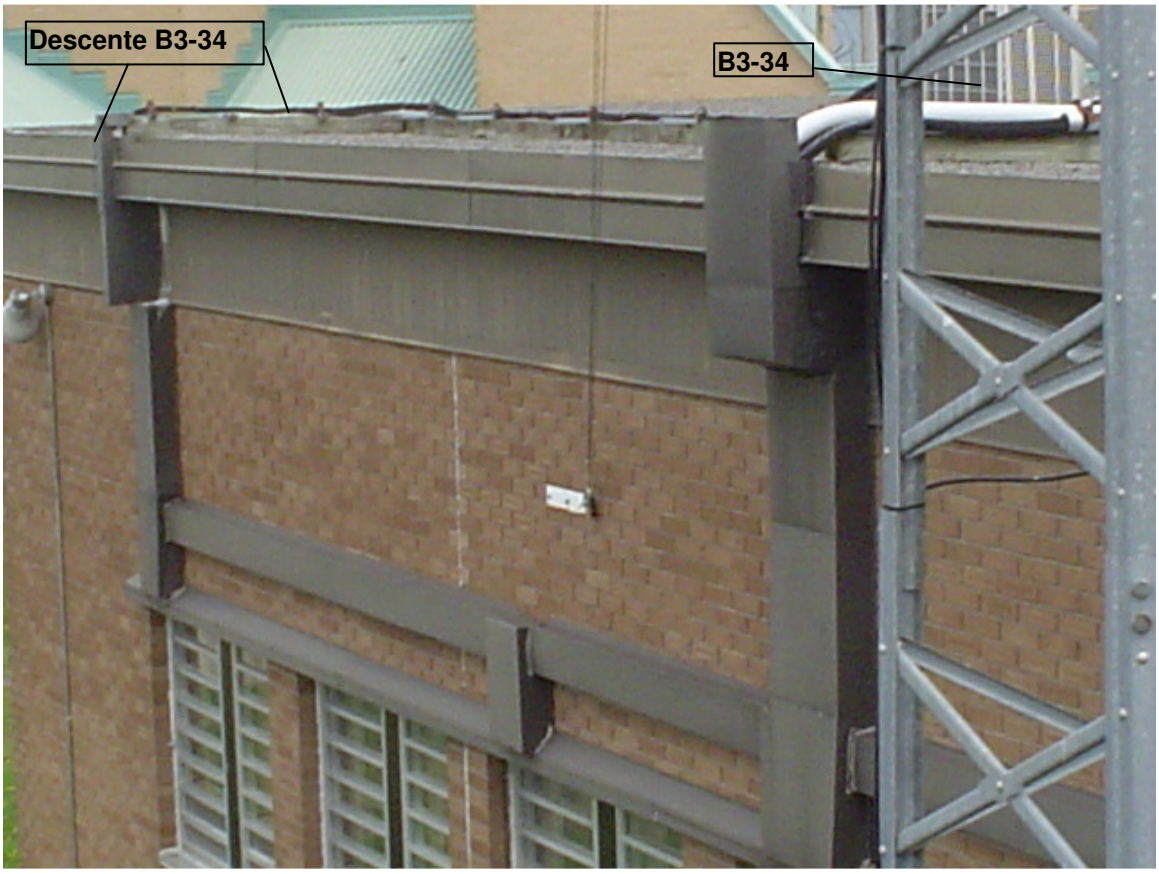
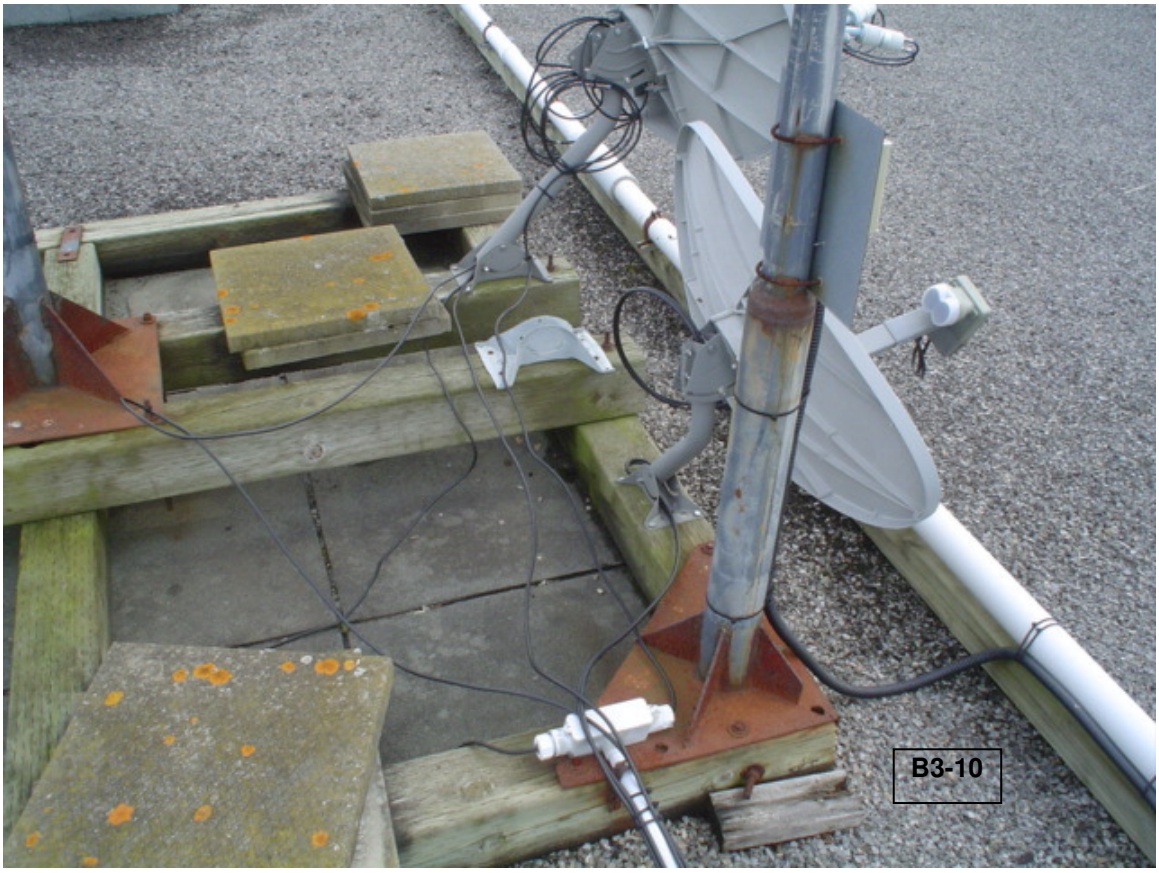


Photo 46



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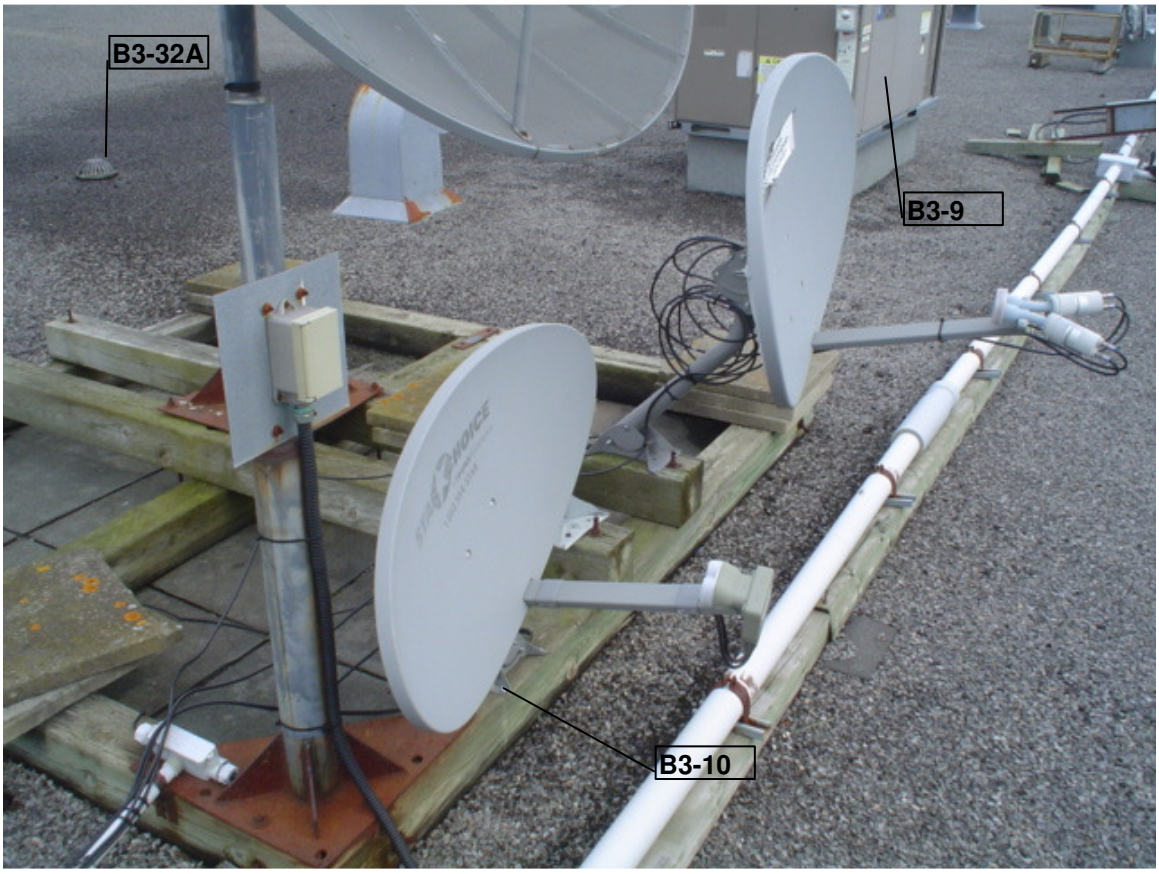

Photo 48

Photo 49

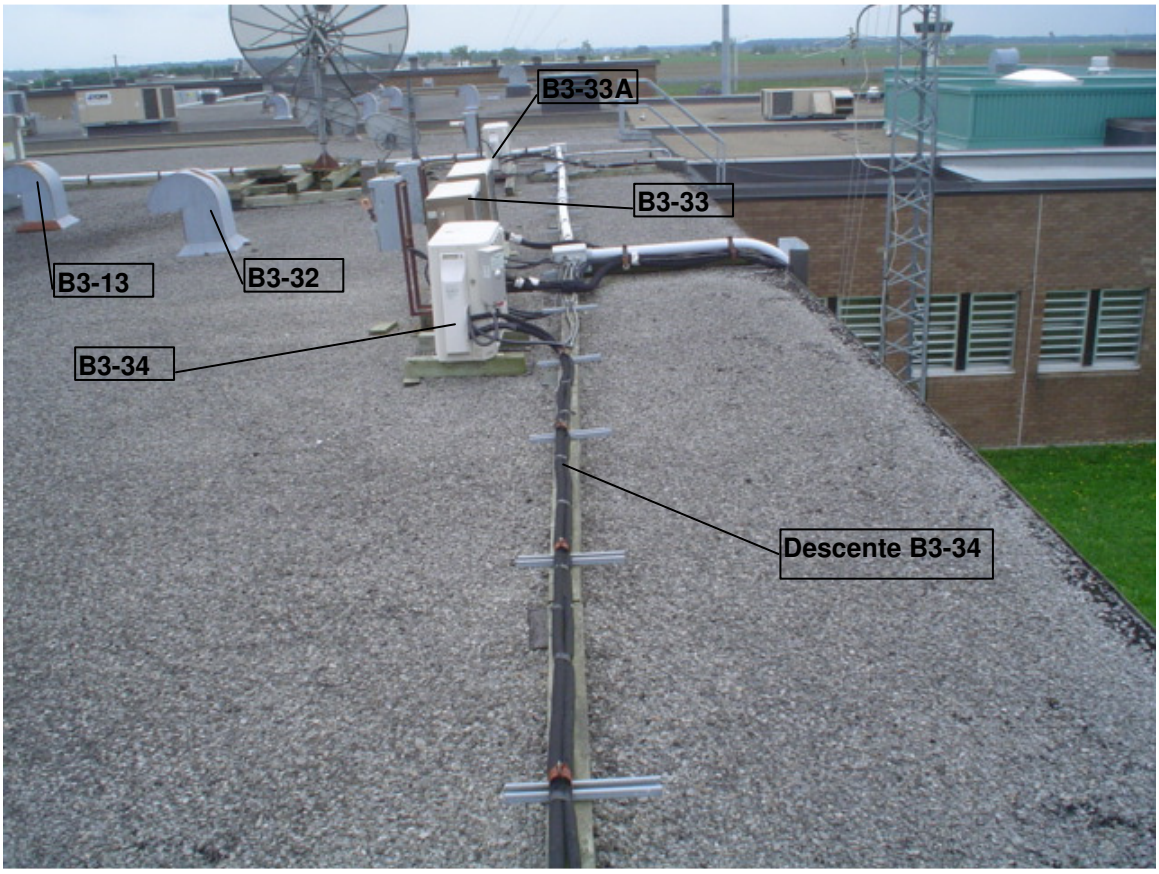

Photo 50

Photo 51

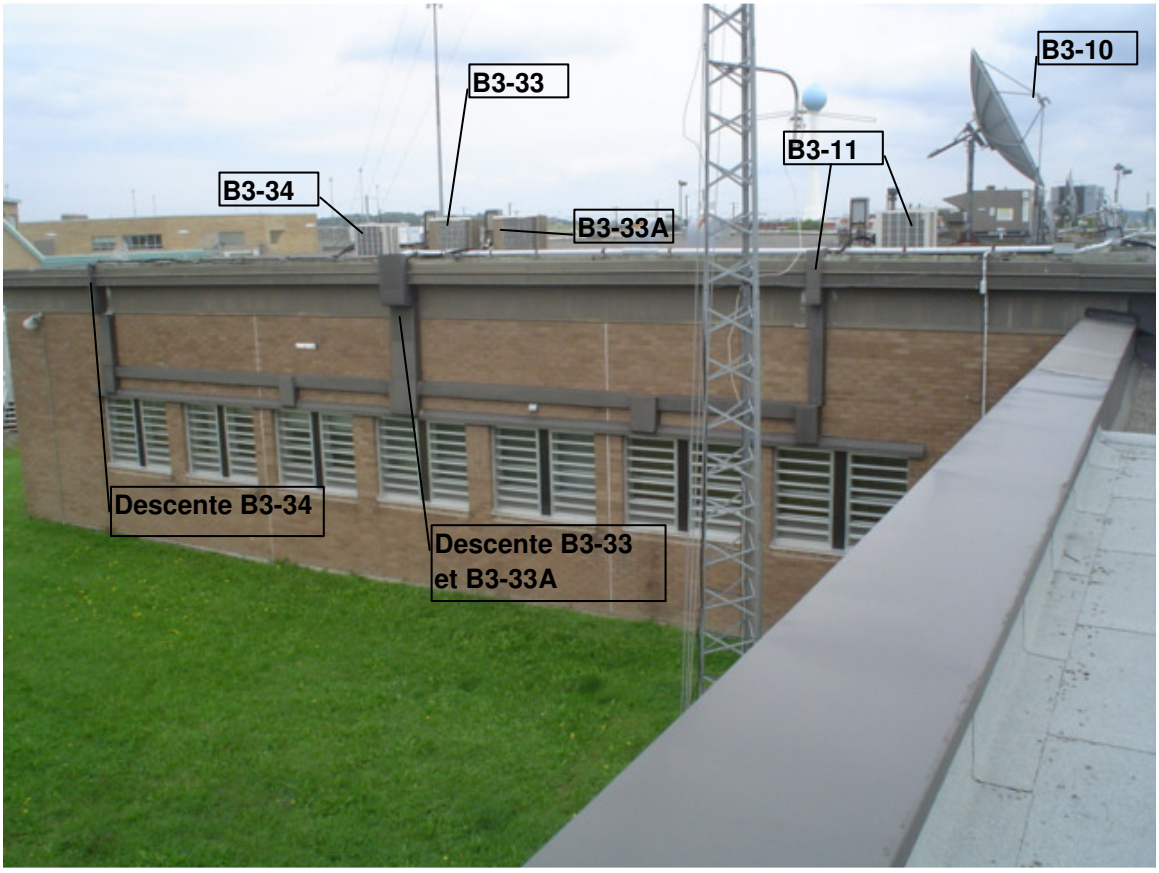

Photo 52

Photo 53

Photo 54

Photo 55

Photo 56

Photo 57

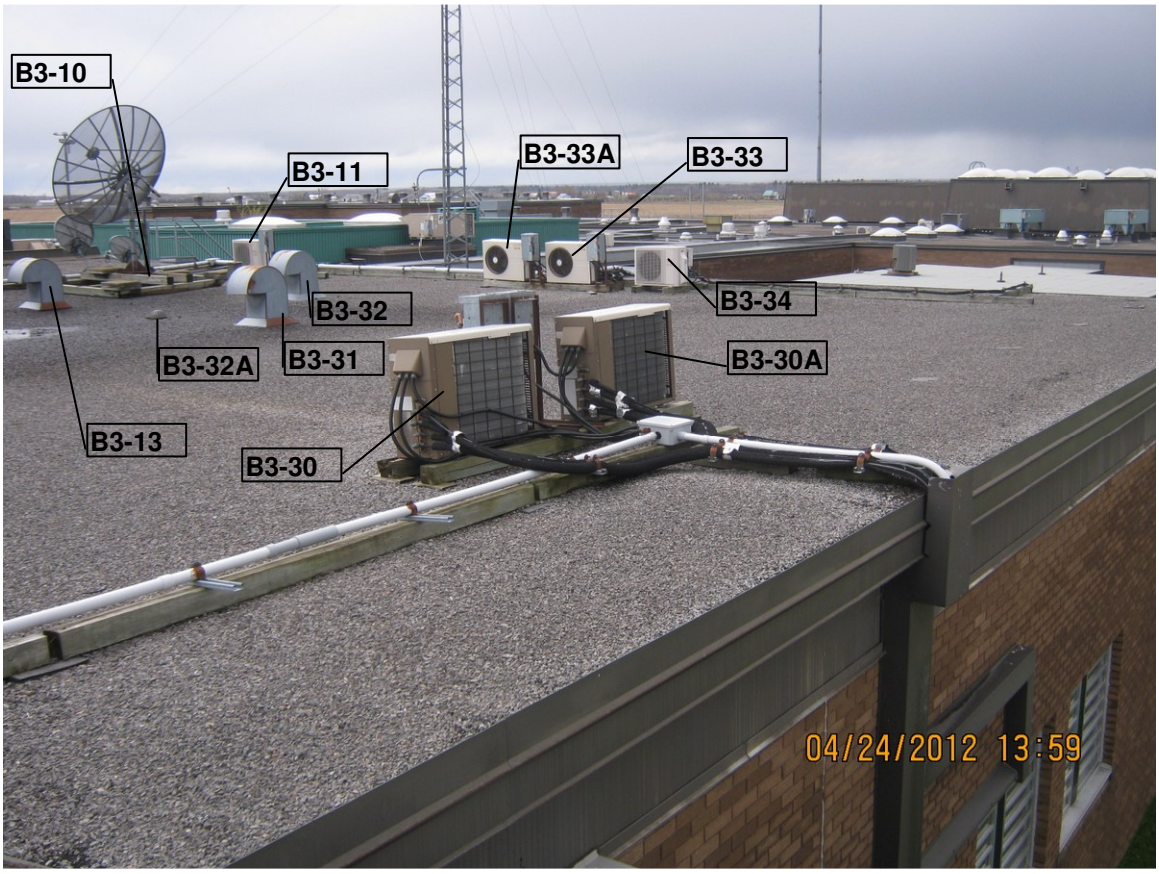

Photo 58

Photo 59

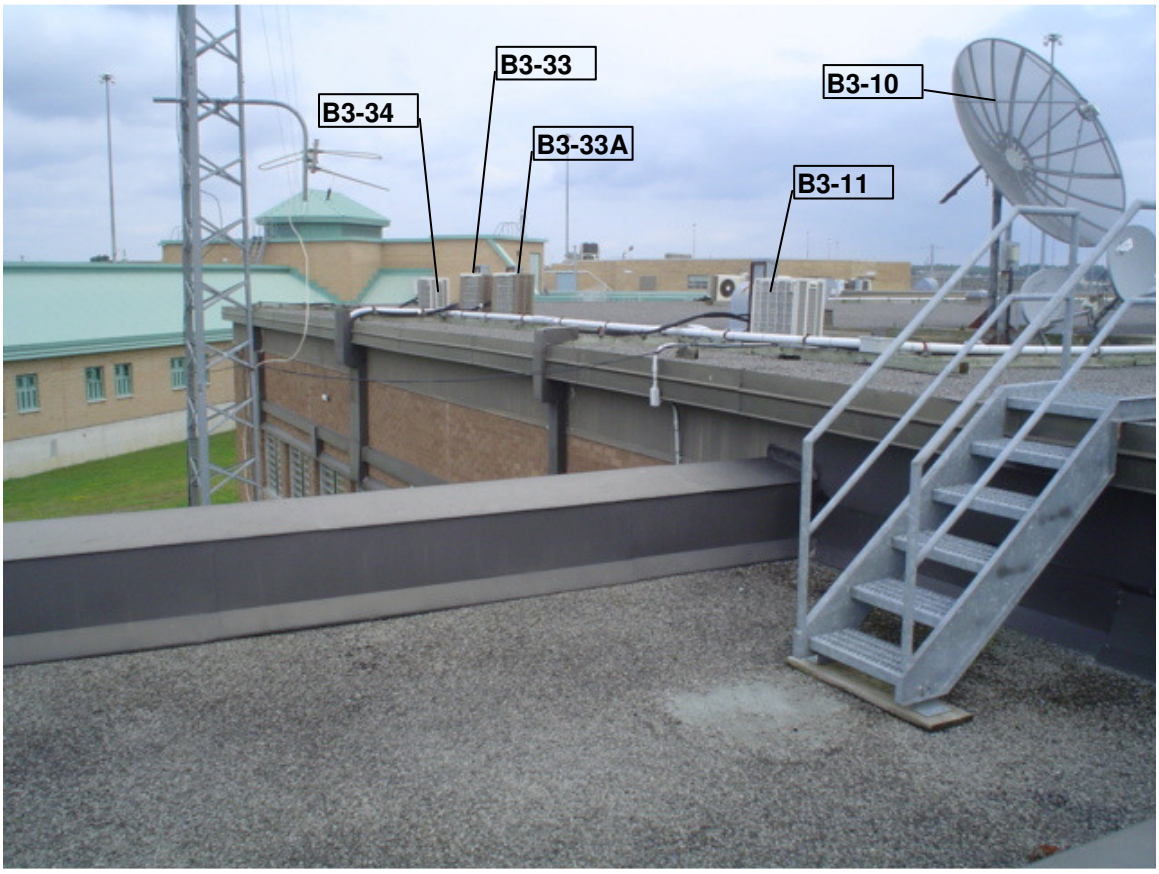

Photo 60

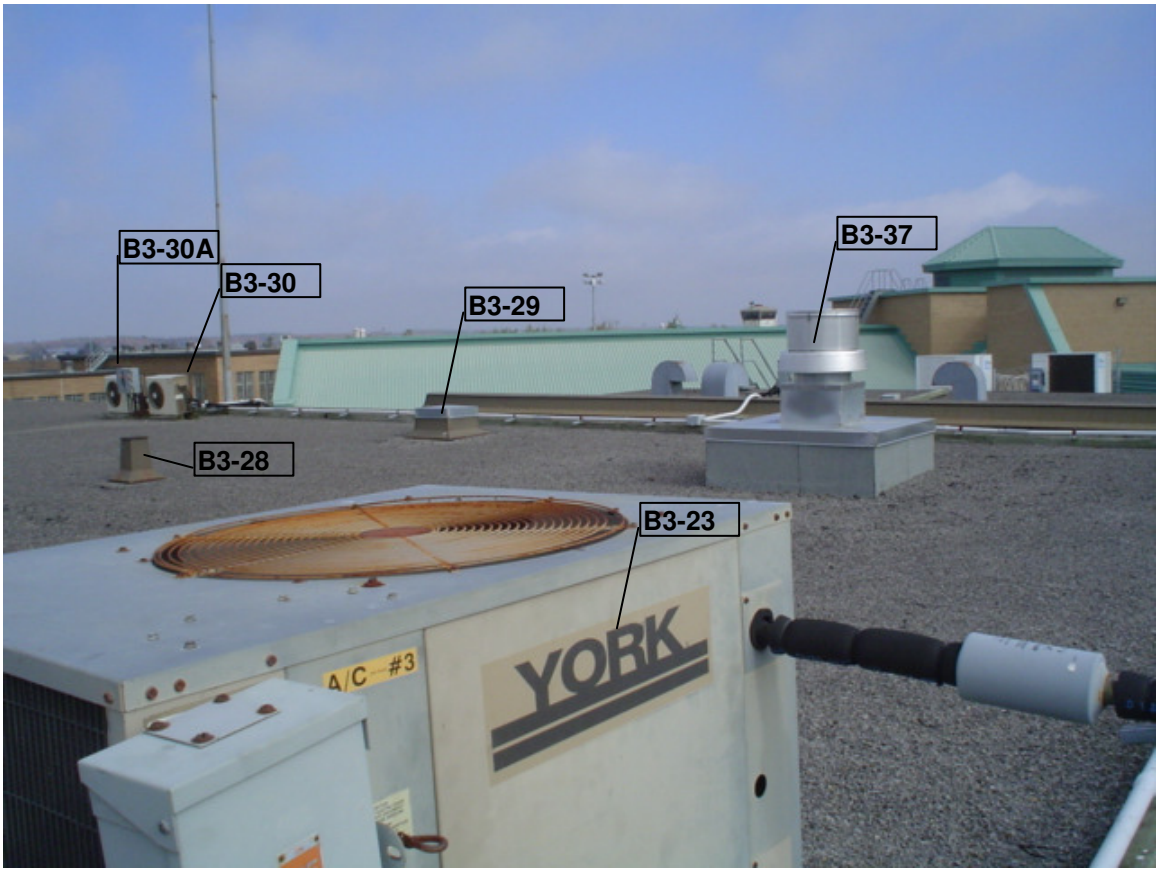

Photo 61

Photo 64

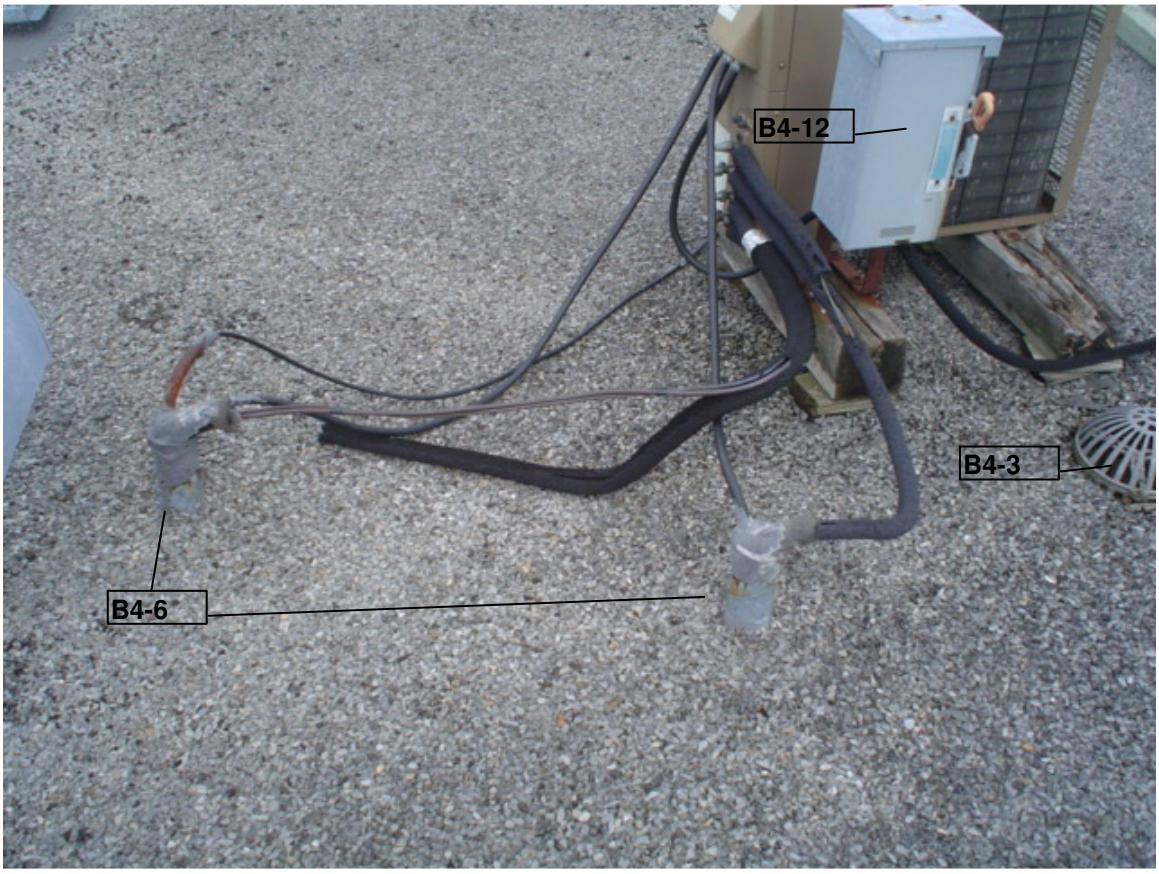

Photo 65

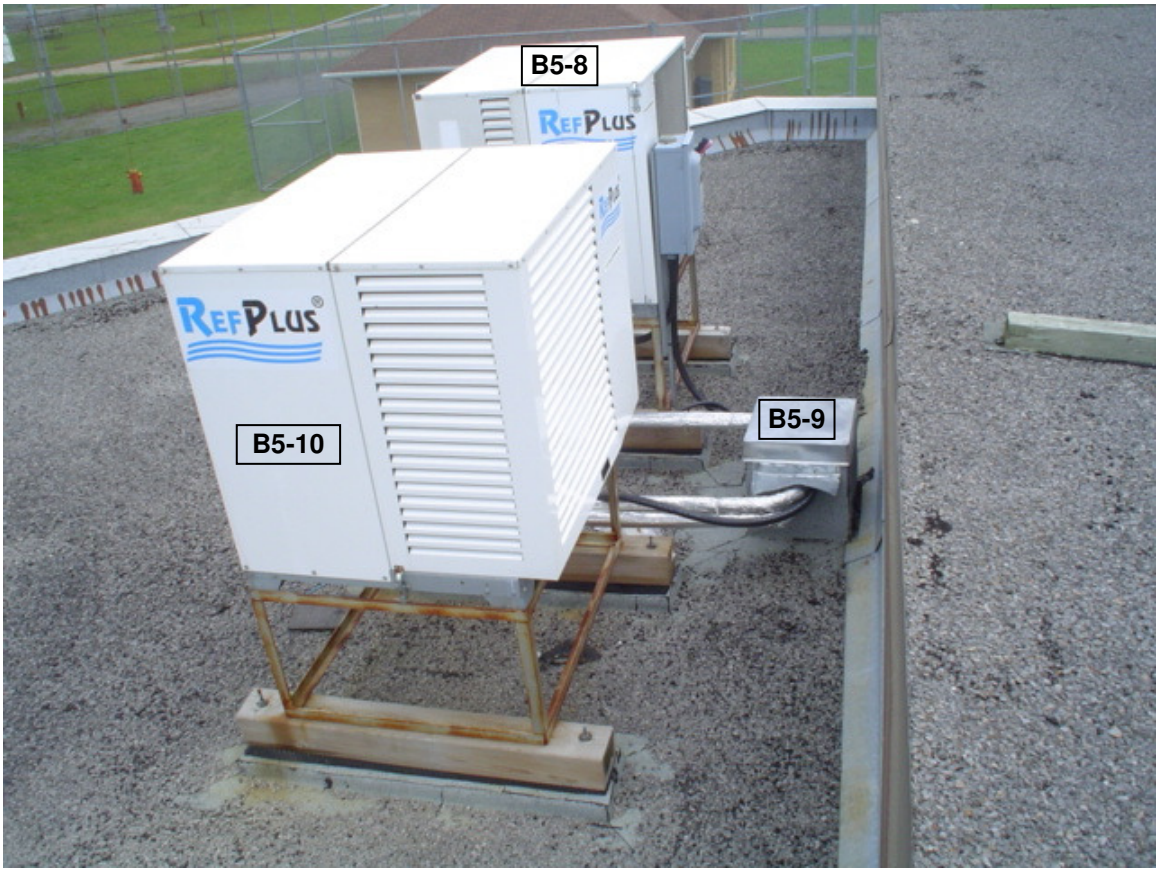

Photo 66

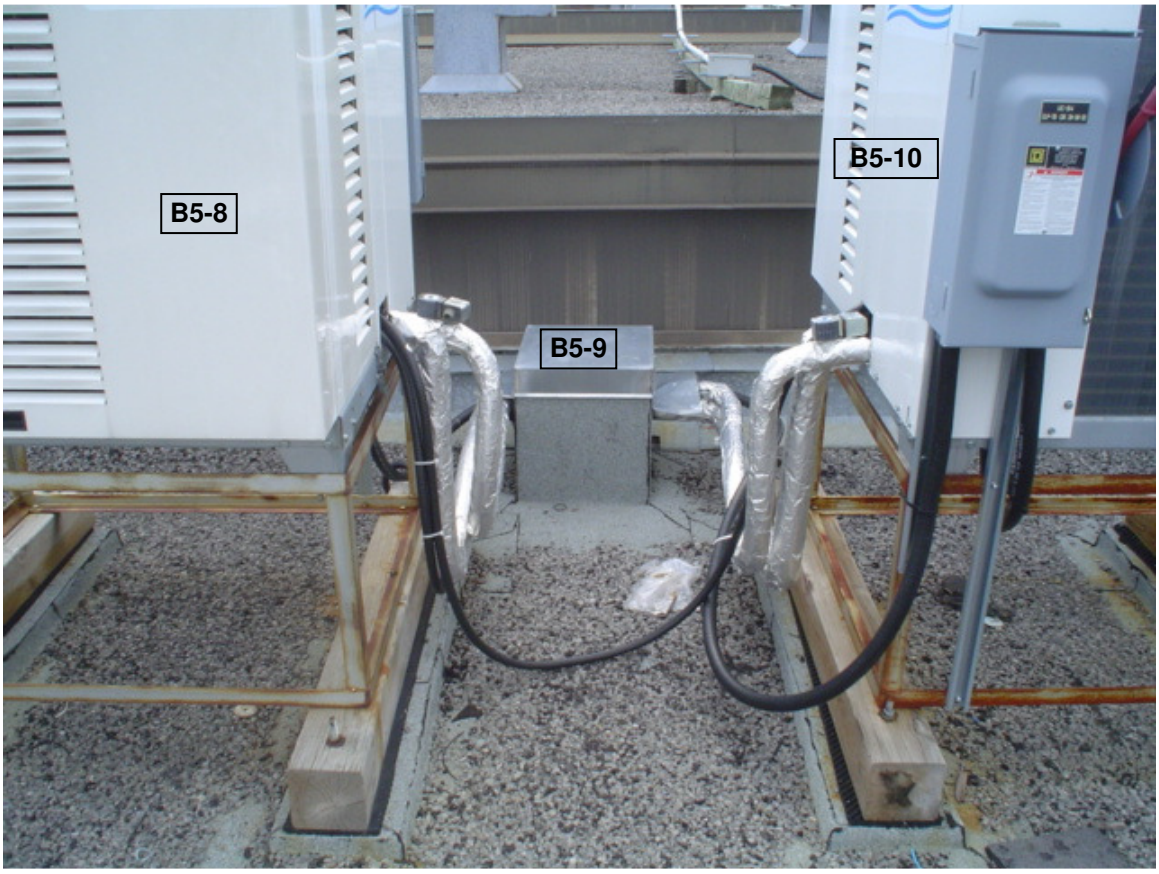

Photo 67

Photo 68

Photo 69