

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

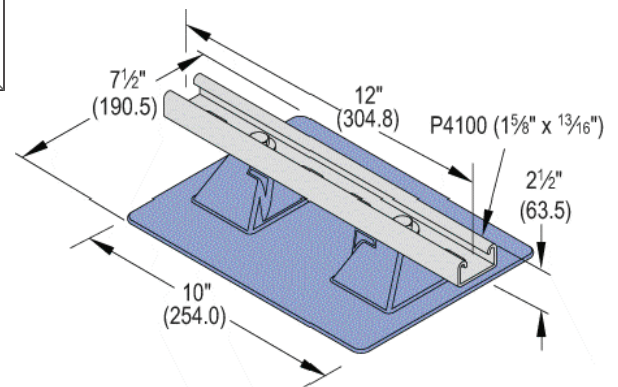
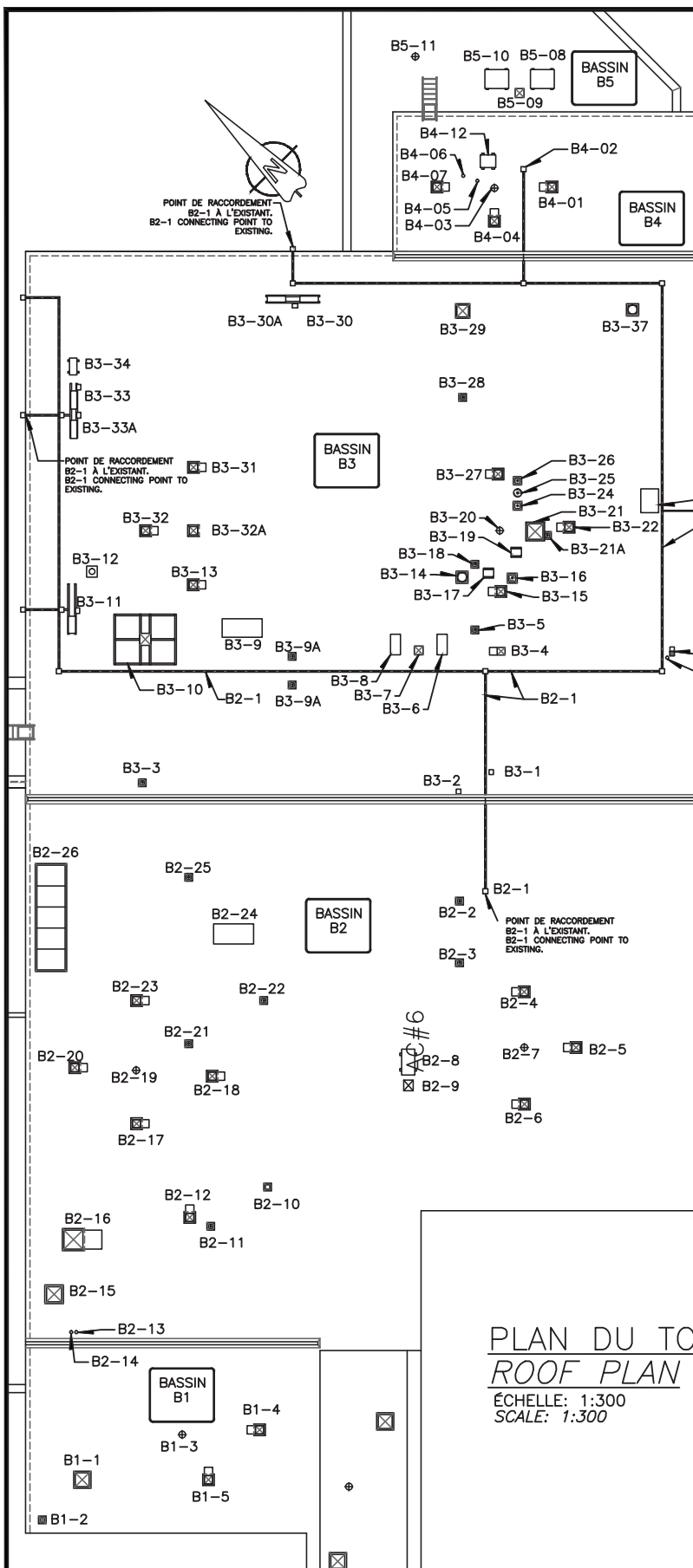
Presently, the roof is a wooden built-up roof on a concrete slab, present works consist in demolishing the built-up roof and redo the roof and insulation directly on concrete slab (see Architecture drawings). In doing so, all equipments and electromechanical accessories, except the built-up roof ventilation goose neck must be removed and installed on the new roof membrane. Related works are described in the following appendixes. The built-up roof ventilation goose neck will be removed by roofing contractor (refer to architecture).

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.

Temporarily support the electromechanical equipment during roof repairs around equipments. Minimize the shut off of the equipments.

During the shut-off of the condensing units B2-8, B3-6 and B3-8 (computer rooms, control station and armory), install 3 tons temporary condensers compatible with existing, to maintain the operation of the evaporators. Coordinate the sequence and the amounts of condensing units according to the required work.

B Roof Plan Showing Equipments
(1 page)



SUPPORT MONTÉ, BASE EN
POLYCARBONATE
MOUNTED SUPPORT,
POLYCARBONATE BASE

ÉCHELLE: AUCUNE
SCALE: NOT TO SCALE

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

Electromechanical equipment list on roof and work to be done

October 6th, 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
October 6th, 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

October 6th, 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-Armoire	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

October 6th, 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

October 6th, 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

October 6th, 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 above the new roof, refer to the architectural plans for the connection to the prefabricated event. 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 Neck to ventilate the built-up roofing:

Architecture: To be remove by roofing contractor.

.14 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 roofing 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, protect the wiring and conduit during the roof repair. To allow the installation of the system on the new roof, shorten the conduit and wiring, connect the fan switch and damper, start and verify the operation (see note 2).

.16 Compressor/condenser unit (UCC)

Refrigeration: 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 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, remove wiring (power and controls) and shorten as required existing conduits. To allow the installation of the system on the new roof, extend as required the conduits, install new wiring (controls and power) for condensers and associated evaporators by installing fittings boxes on the new power distribution conduits on the new roof. 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 B4-6 built by architectural division.

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

Plumbing: Cut off the piping of the outlet head. Refer to the architectural drawings

.18 Existing capped vent to remove

Plumbing: Cut and cap at existing concrete slab.

.19 Capped bases

Architecture: To be remove by roofing contractor.

.20 B2-1 Equipement: Electrical conduit on roof

Electrical: Replace the power distribution on the new roof in order to resupply all existing systems' connections including new wiring, conduits and boxes. Provide temporary electrical connections for units that remain operational according to the work sequence. A new conduit box B2-1 to cover conduits will be built by architectural division, 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 when reinstalled by modifying all conduits and wiring as required. 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 completely.

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

.25 Satellites boxes

Electrical: disconnect the cable of satellite antennas and connect on satellite antennas when relocated. Disconnect the GFCI outlet, replace the GFCI outlet and relocate it to the unit B3-9 once it installed.

.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)

PWGSC – PROJECT : R.051242-017

Roof Repairs – Lot 2 – Block B

CRR - Sainte-Anne-des-Plaines Institution (Québec)

E Photographs
(Photos 1 to 69)



Photo 1



Photo 2



Photo 3

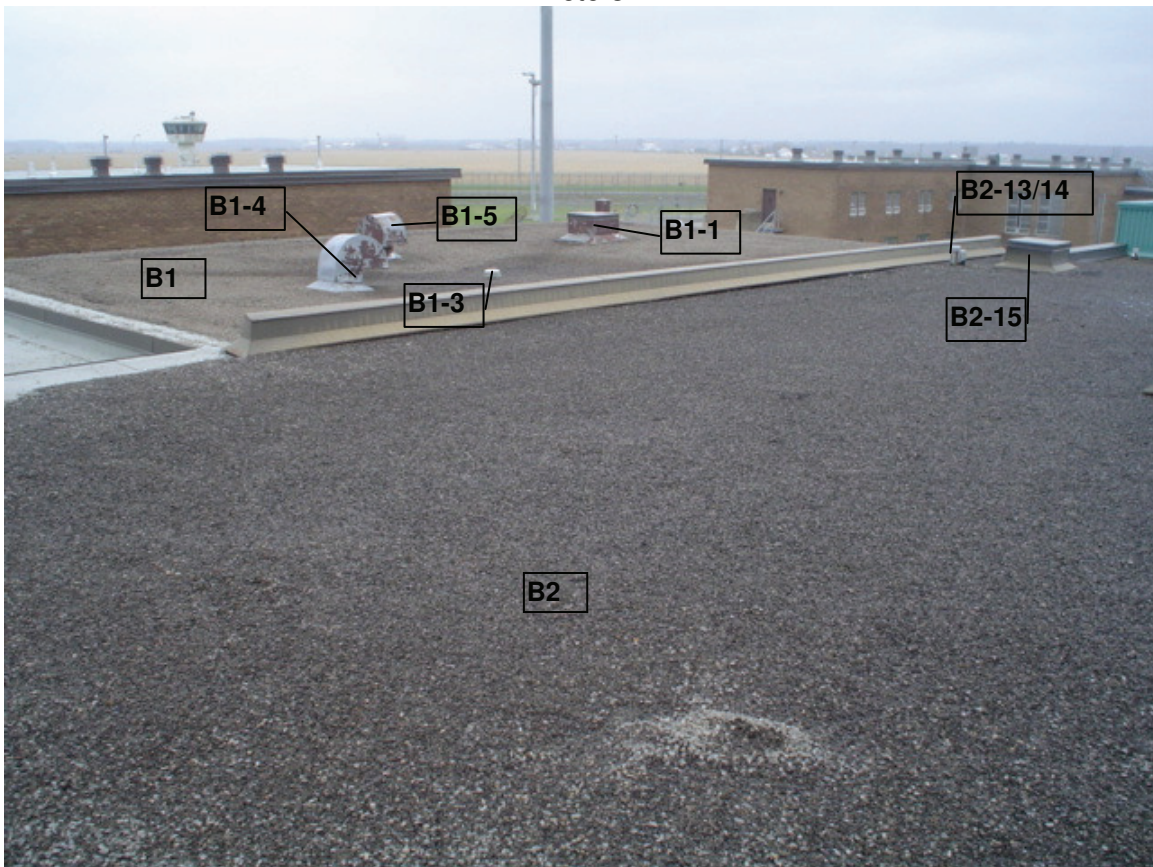


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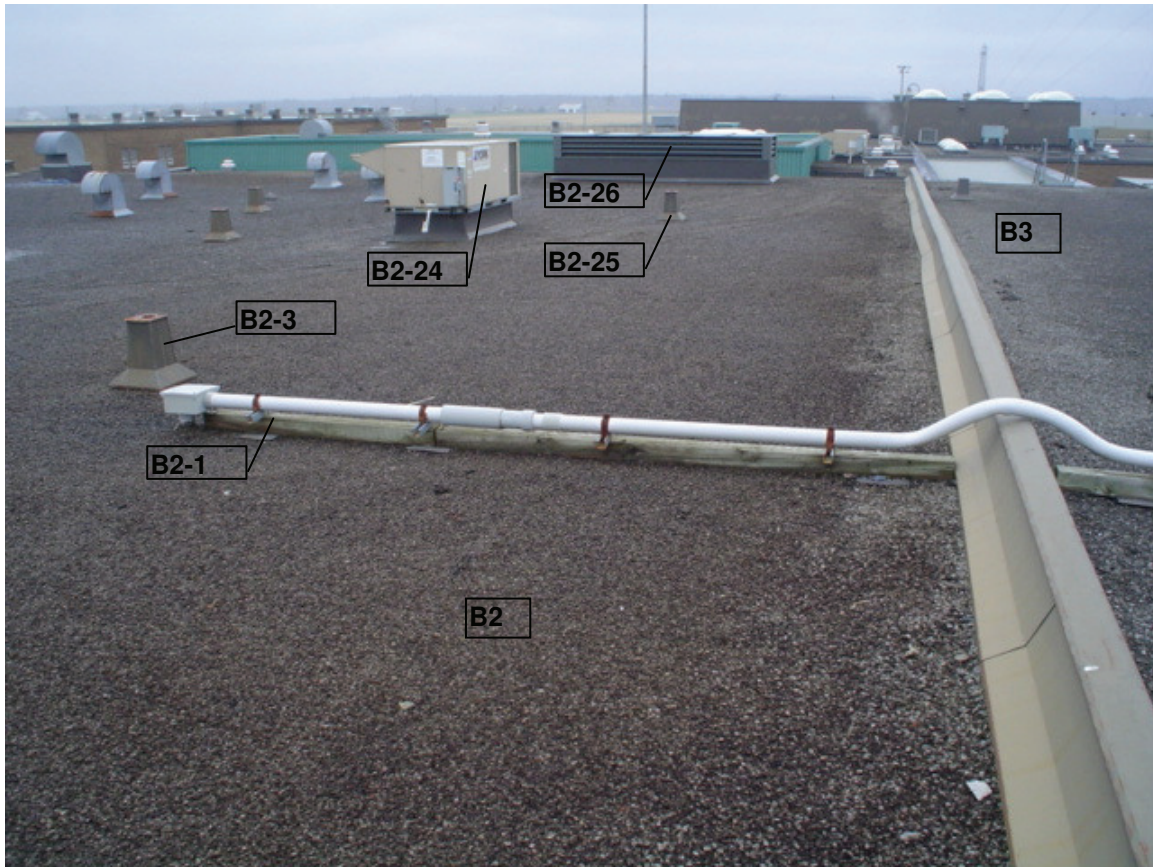


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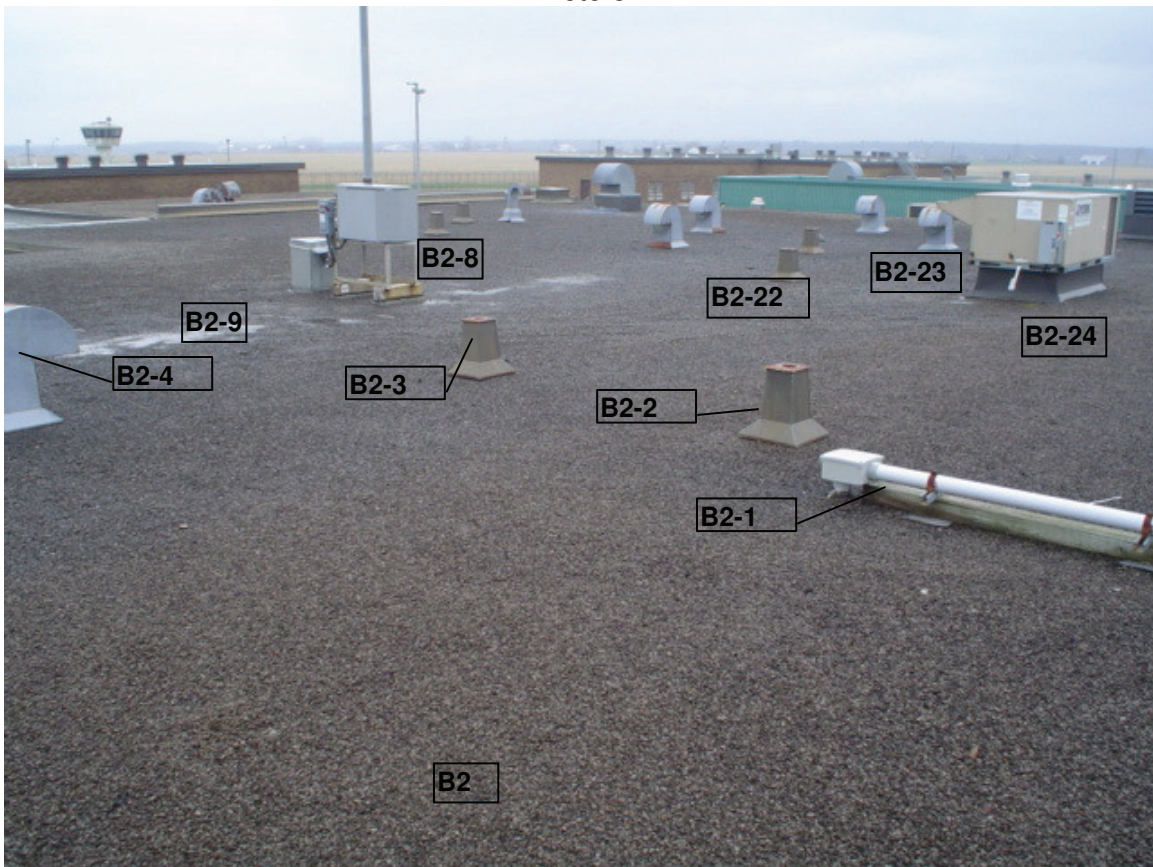


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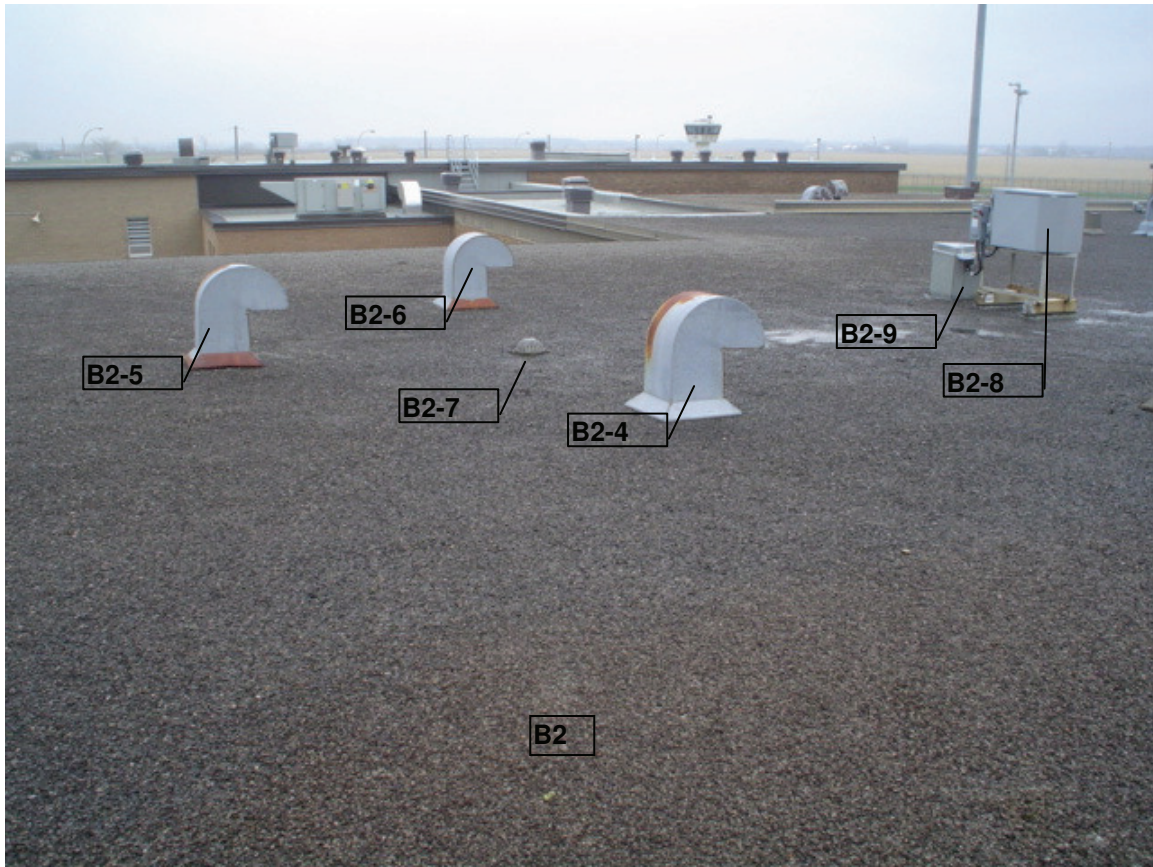


Photo 7



Photo 8

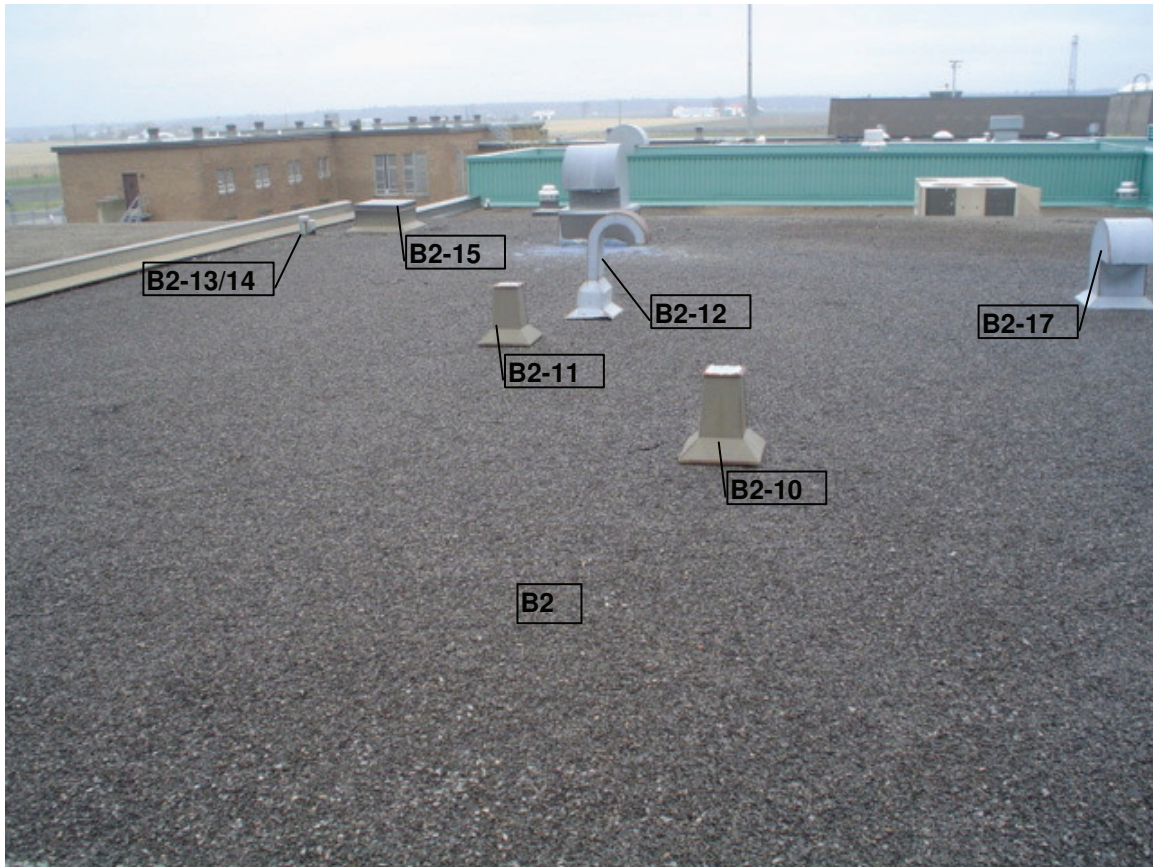


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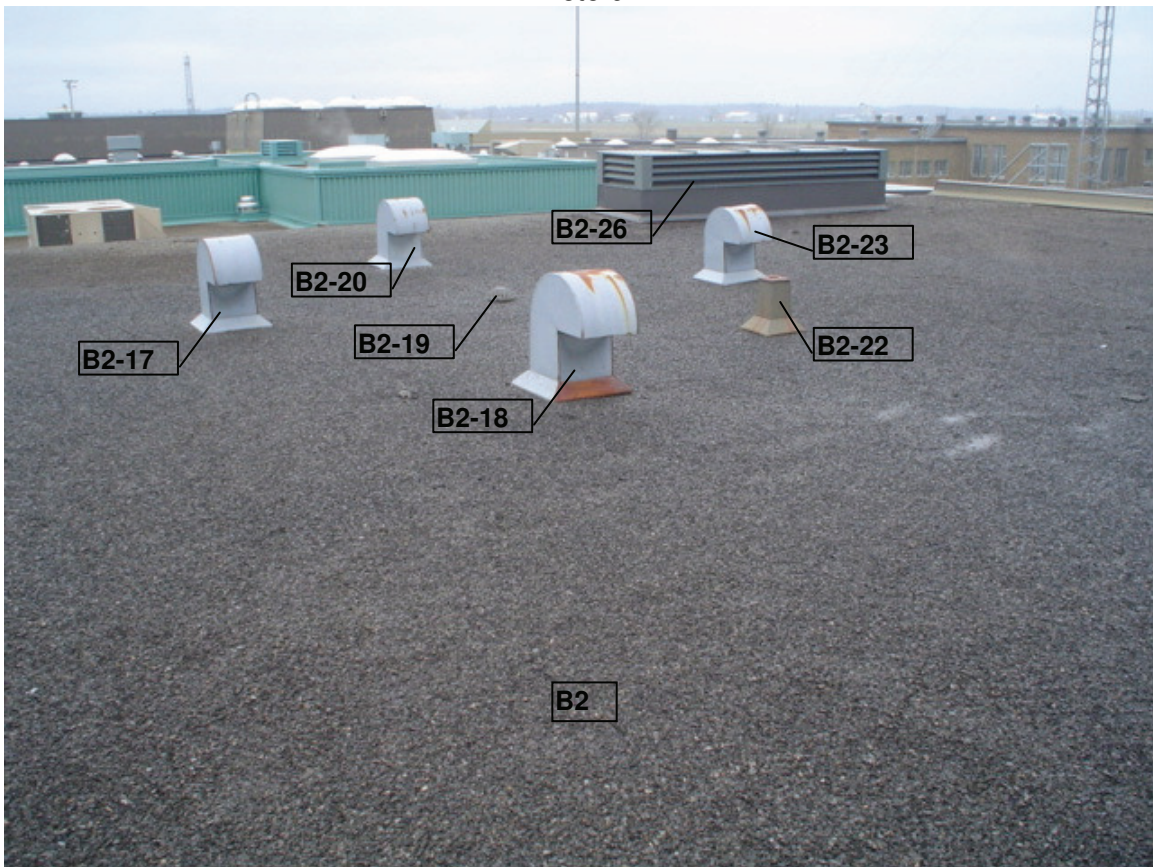


Photo 10



Photo 11



Photo 12

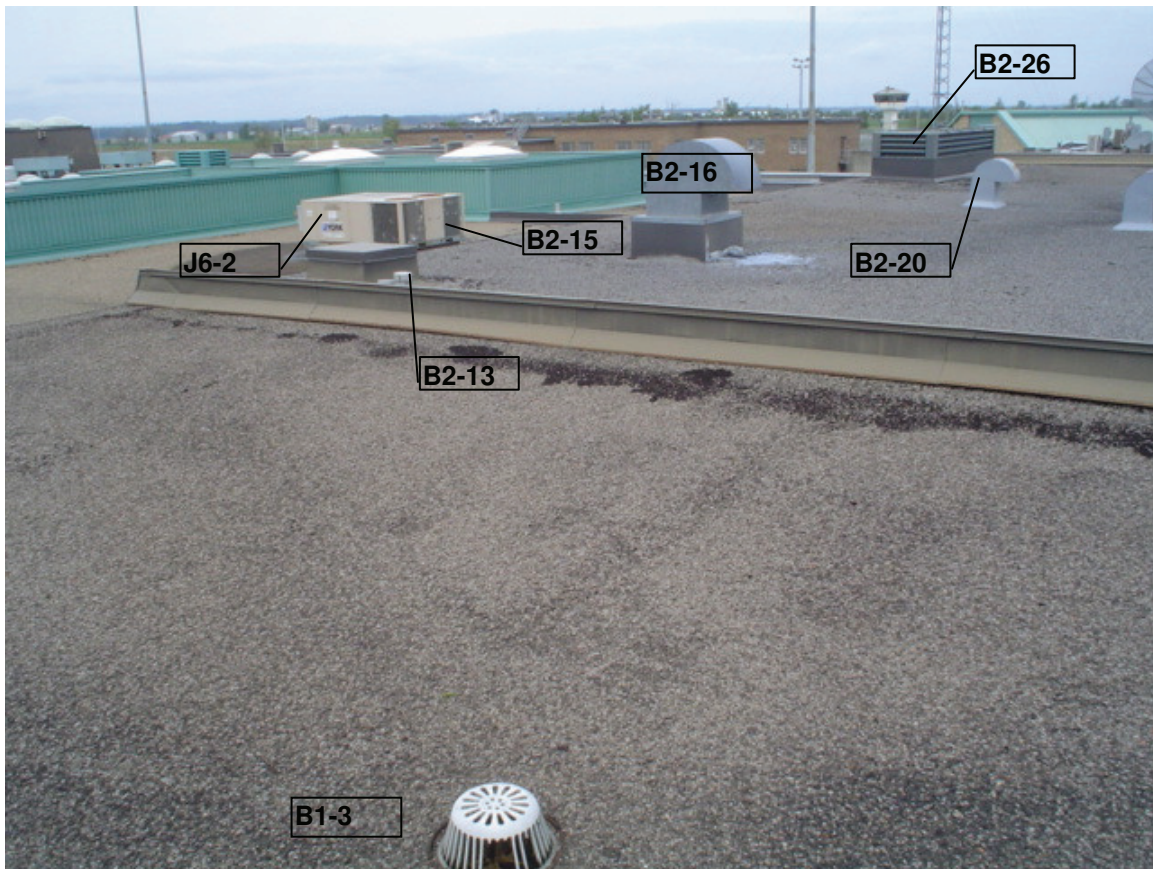


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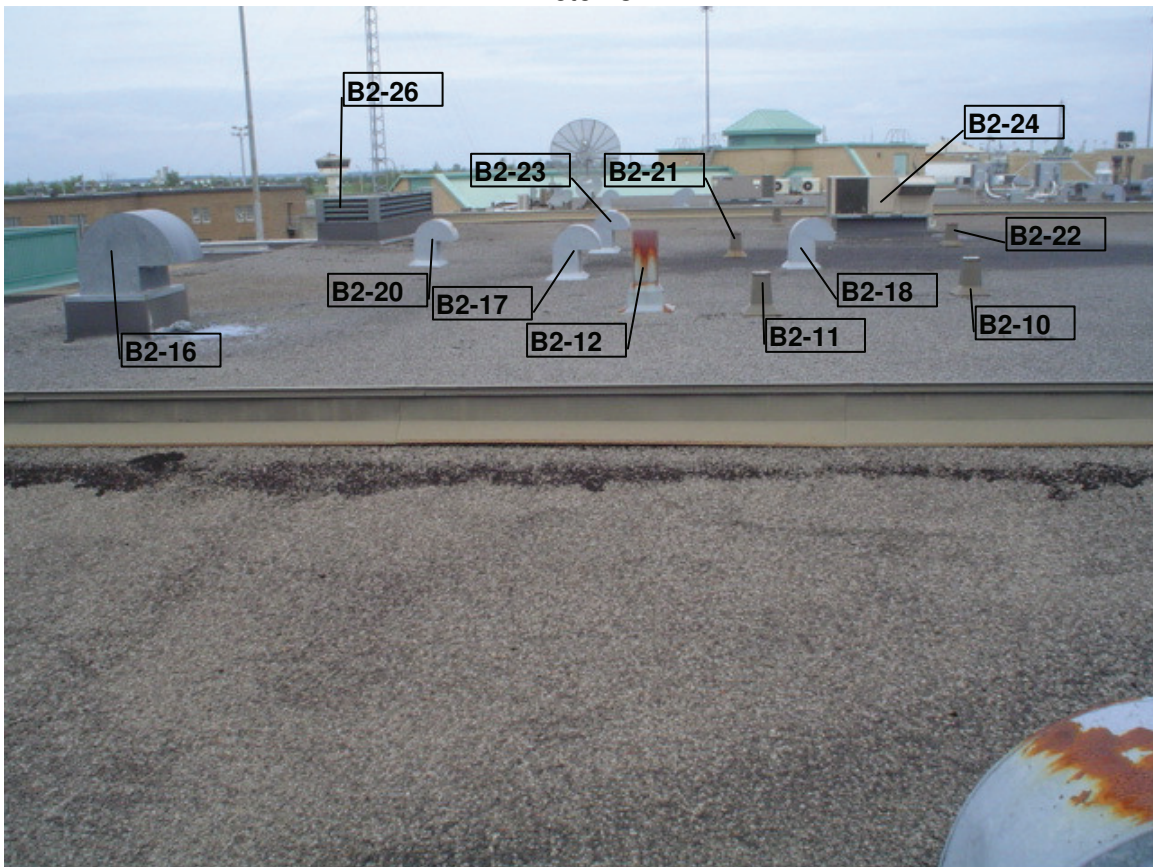


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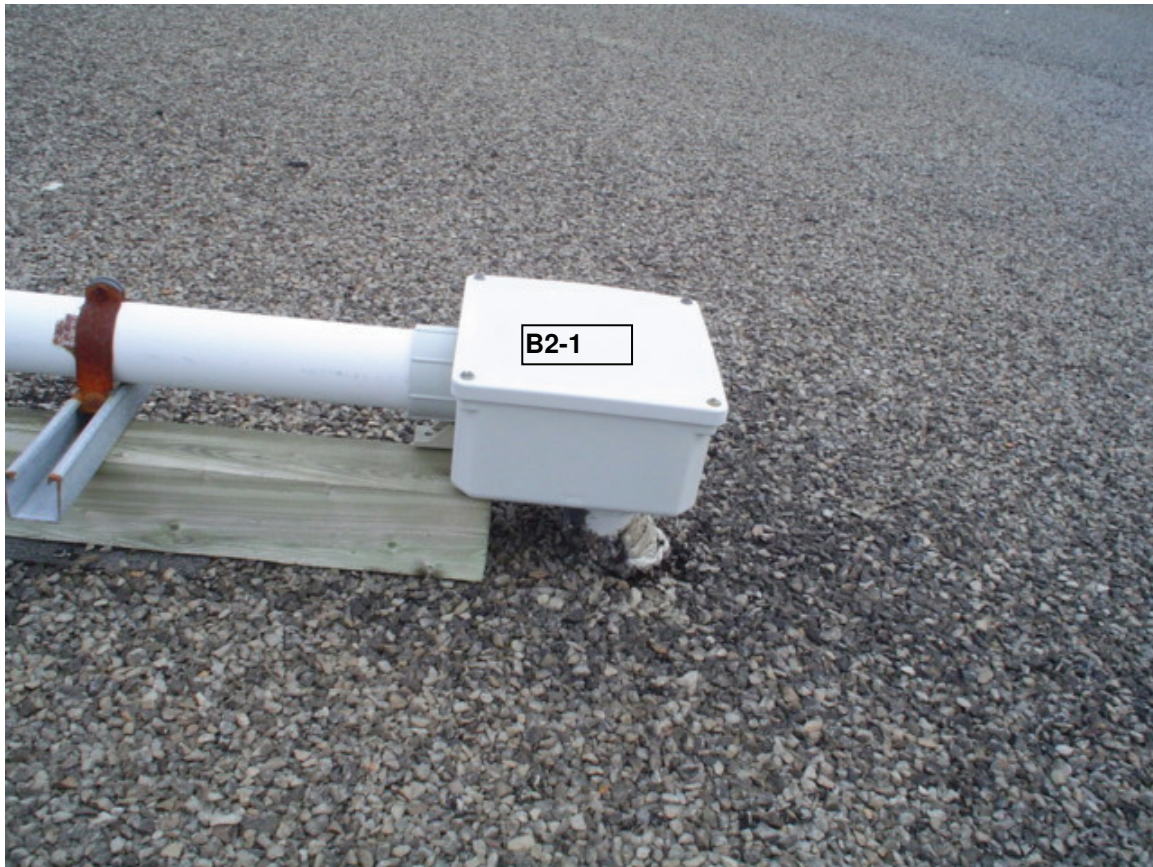


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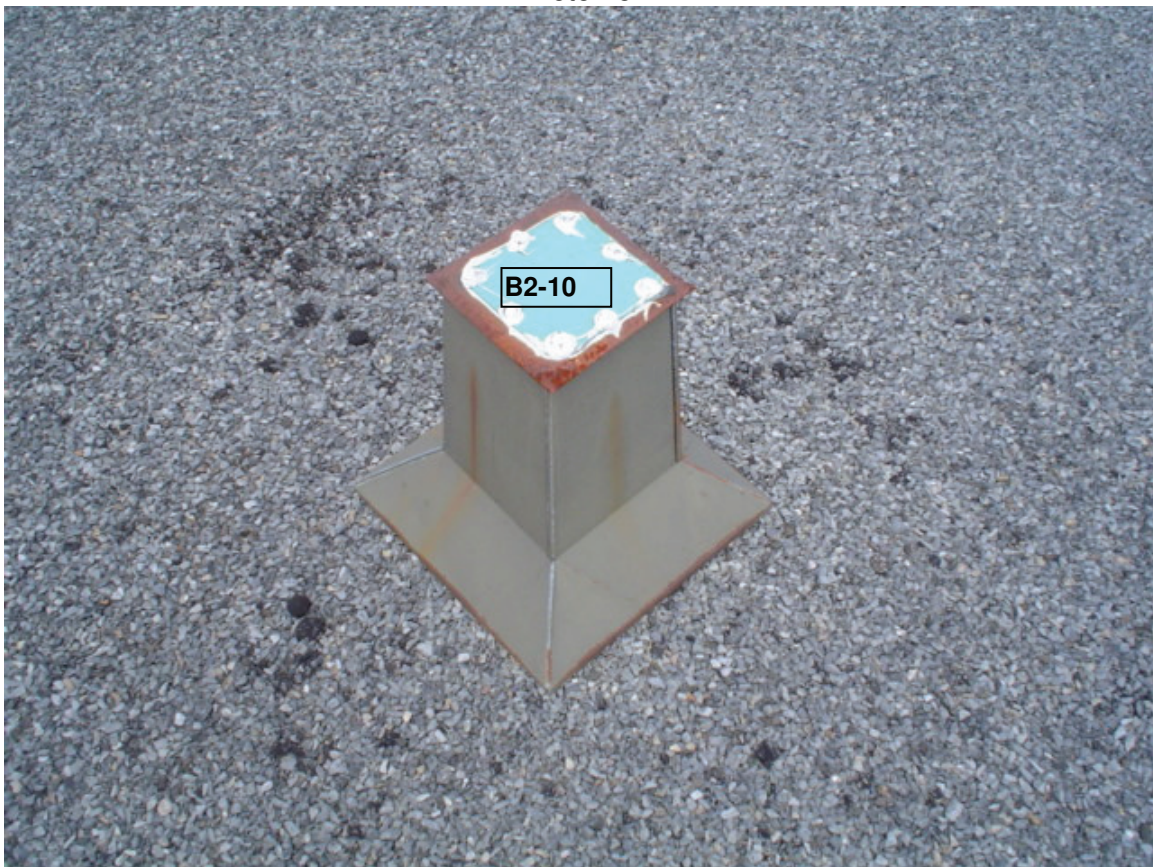


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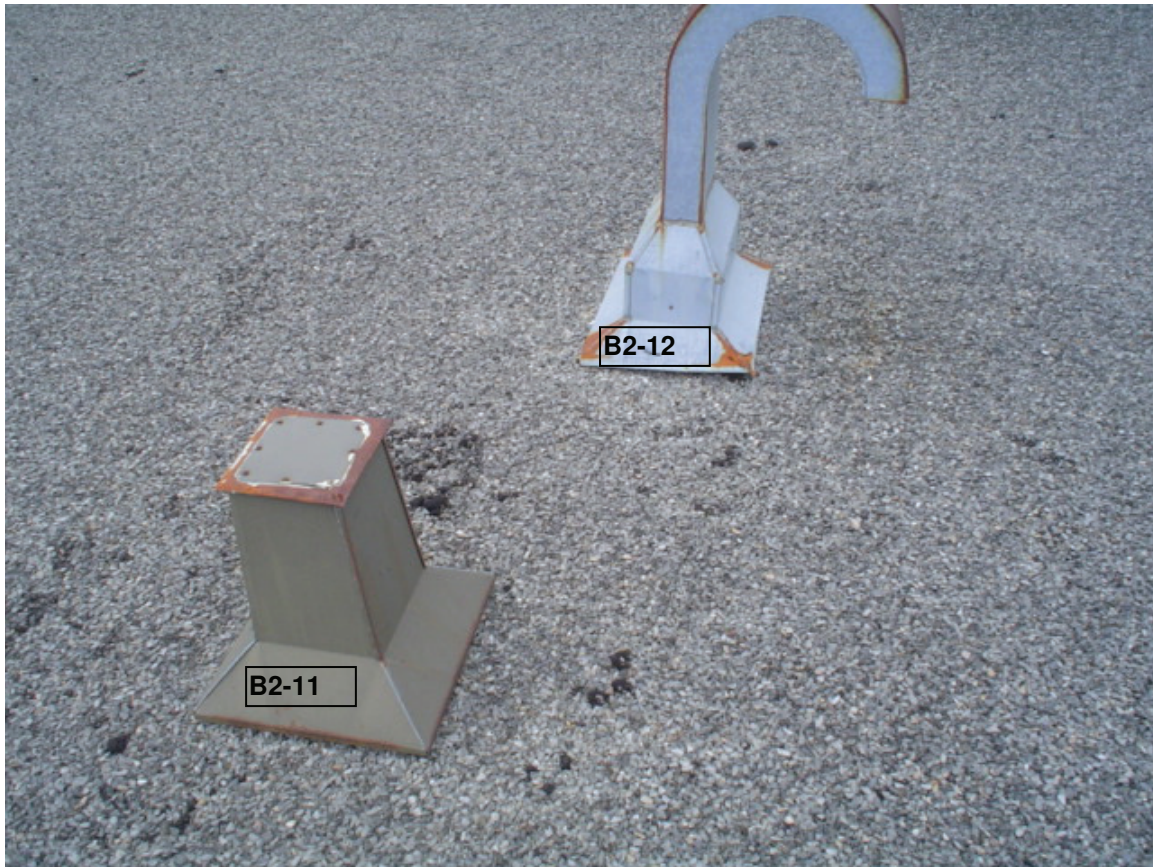


Photo 17



Photo 18



B3

Photo 19



Bassin B3

Photo 20



Photo 21



Photo 22

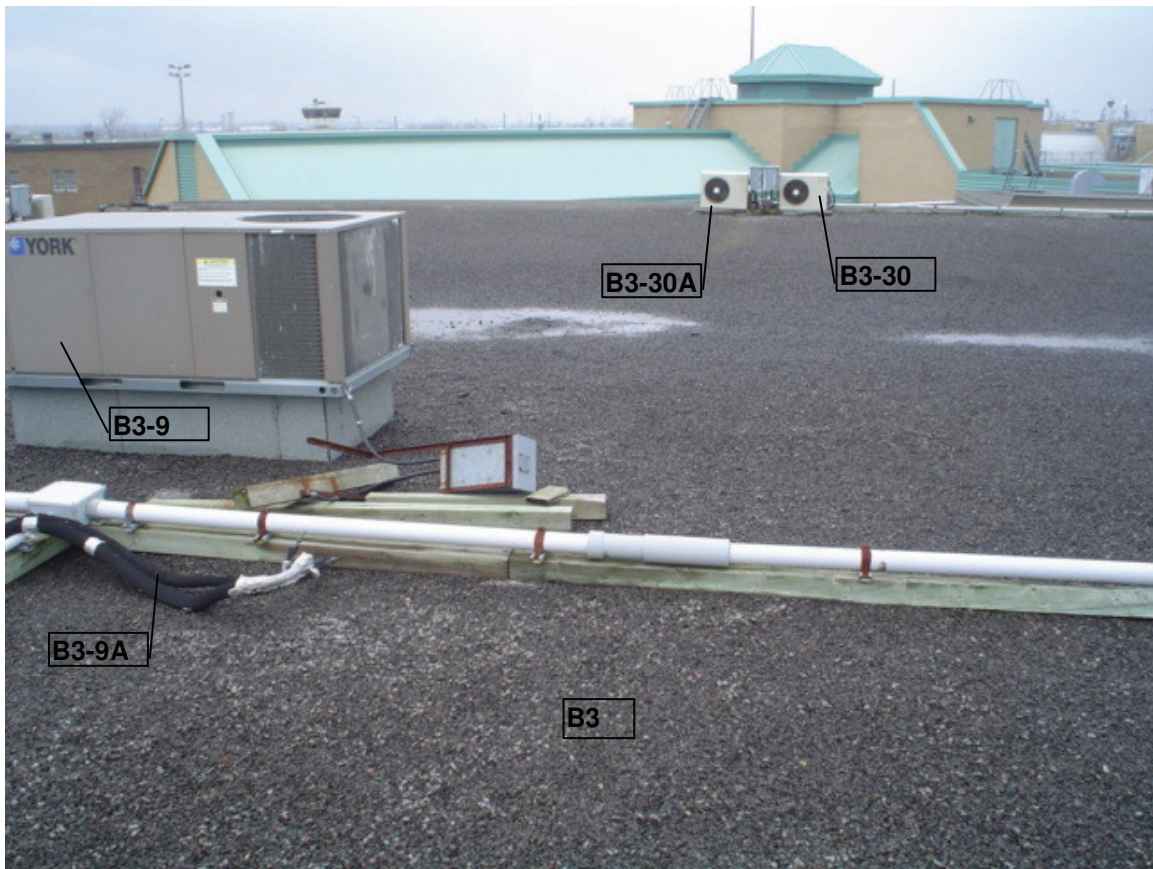


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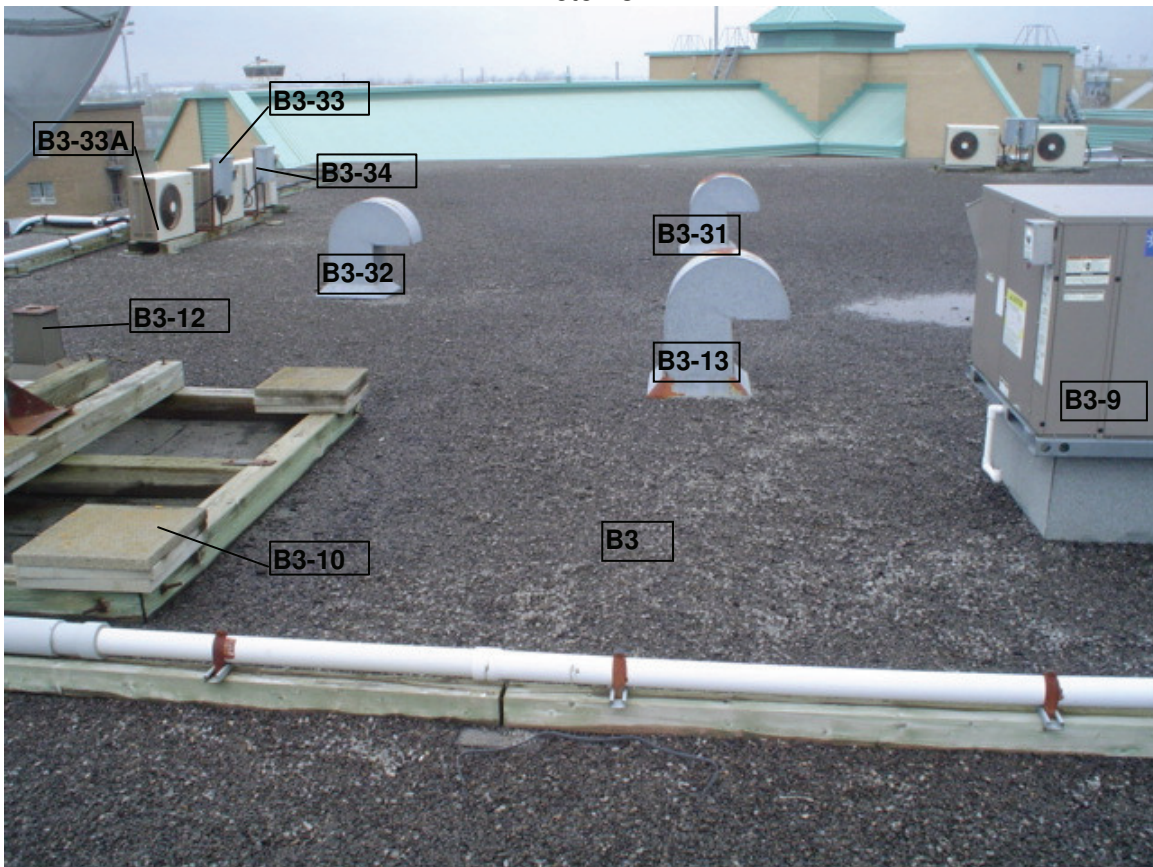


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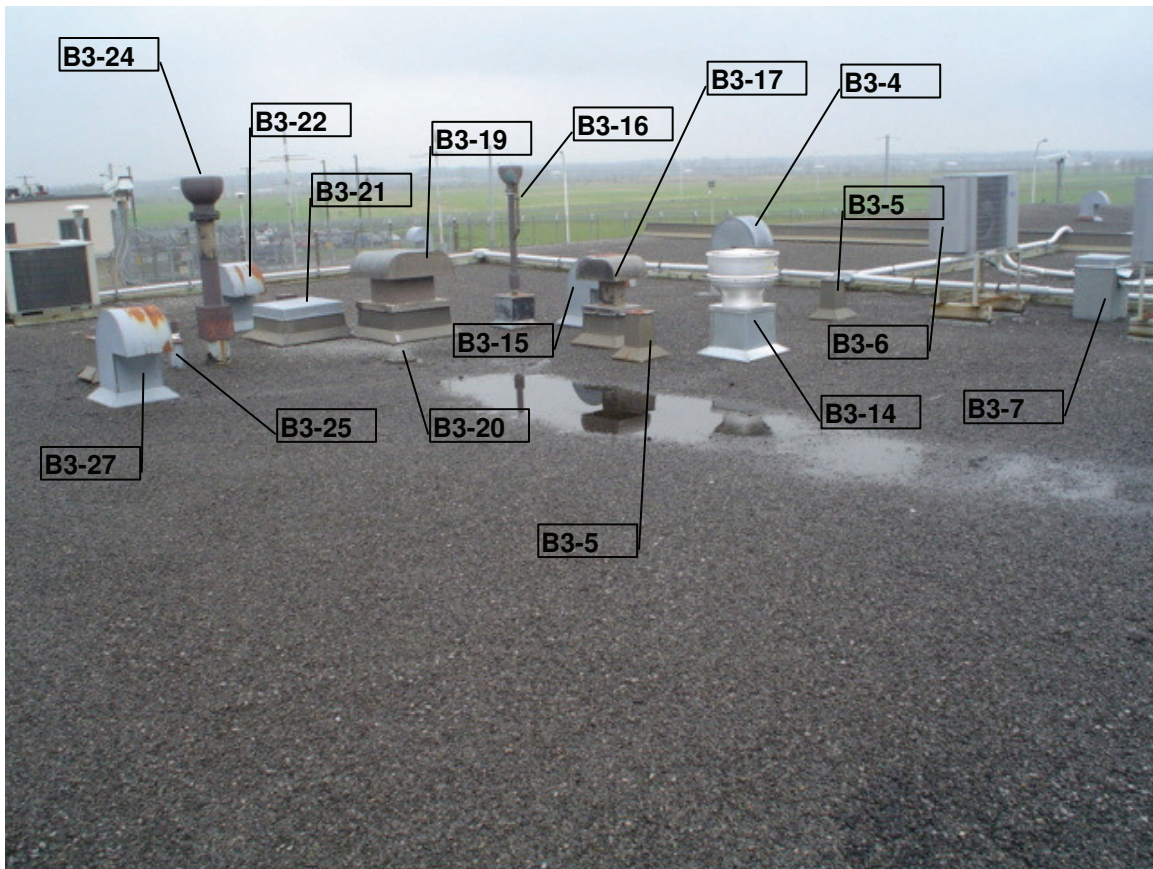


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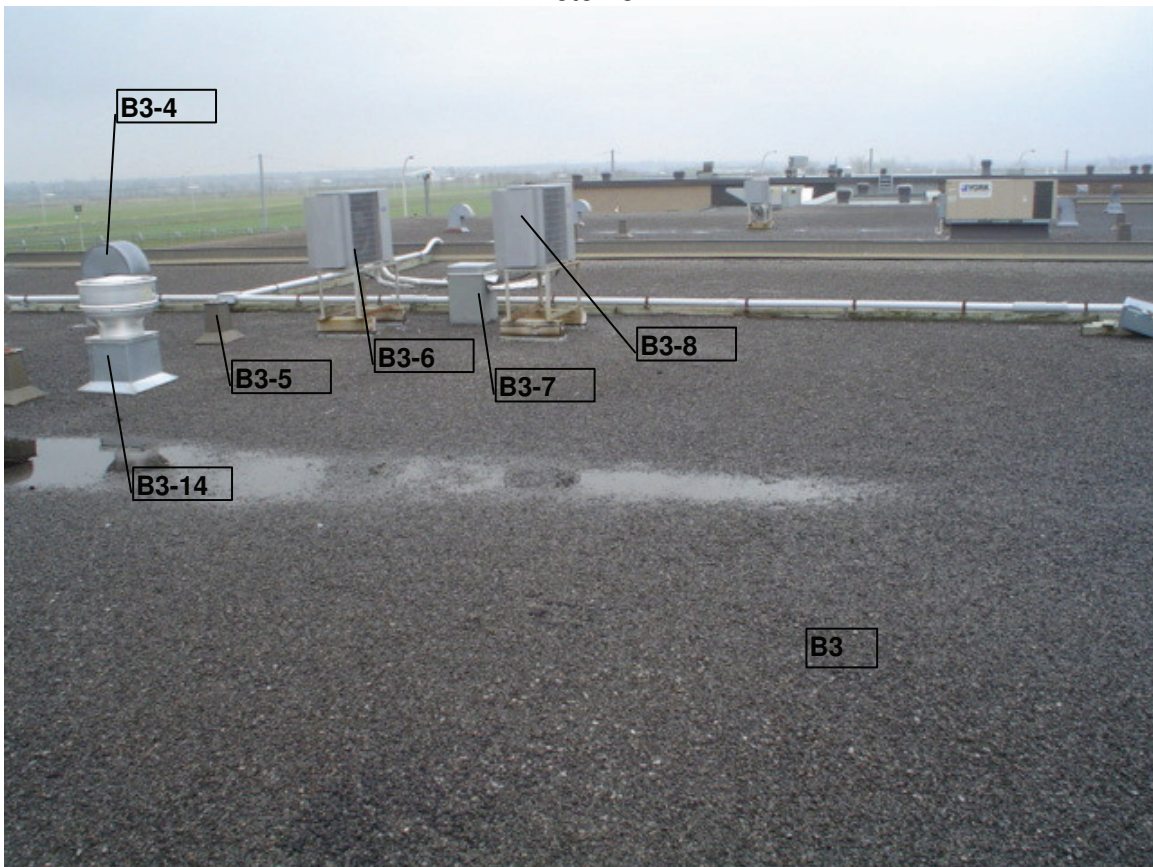


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Photo 27

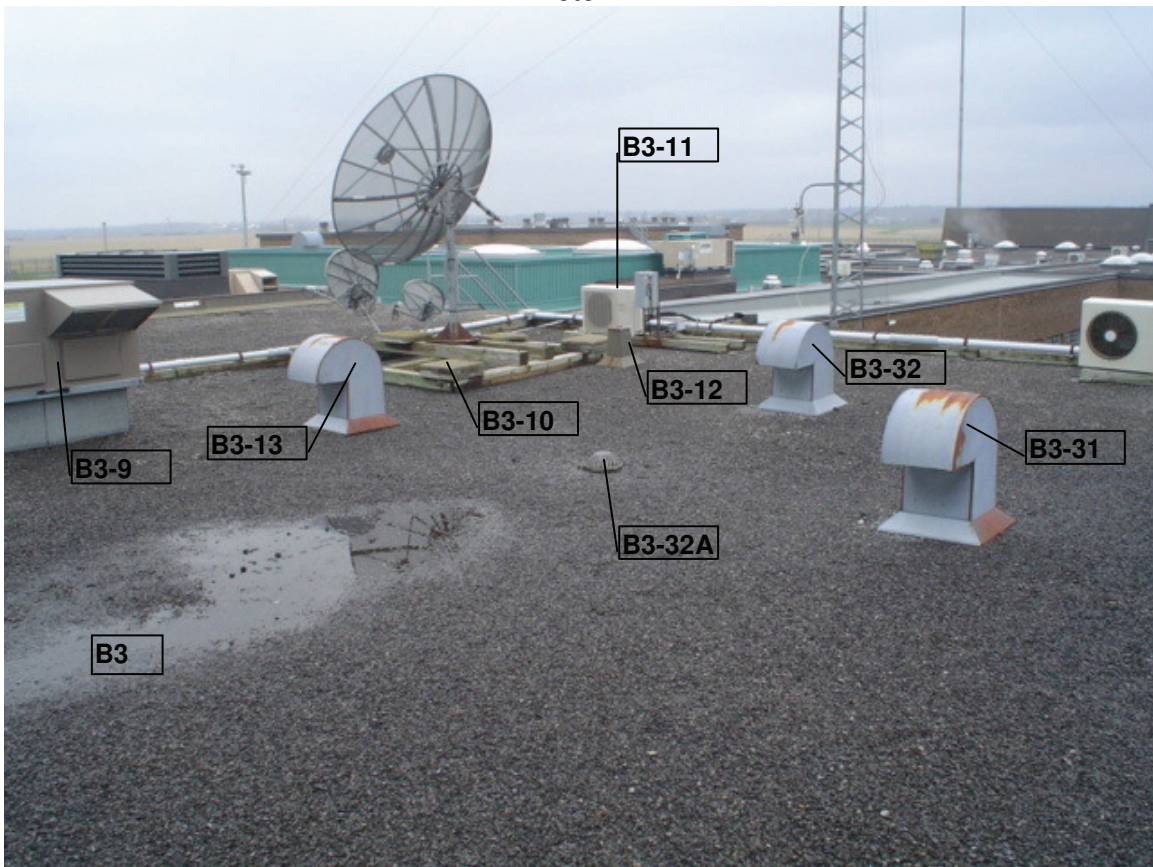


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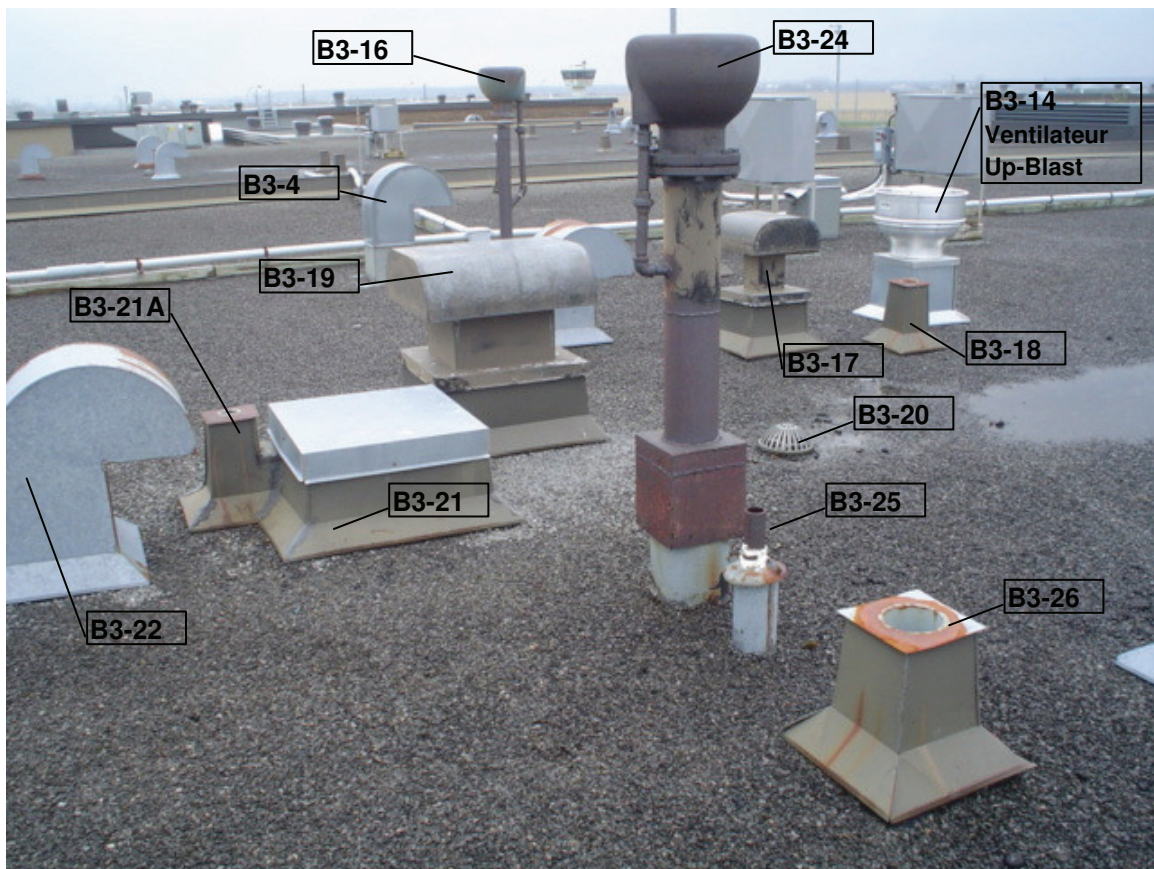


Photo 29



Photo 30



Photo 31



Photo 32

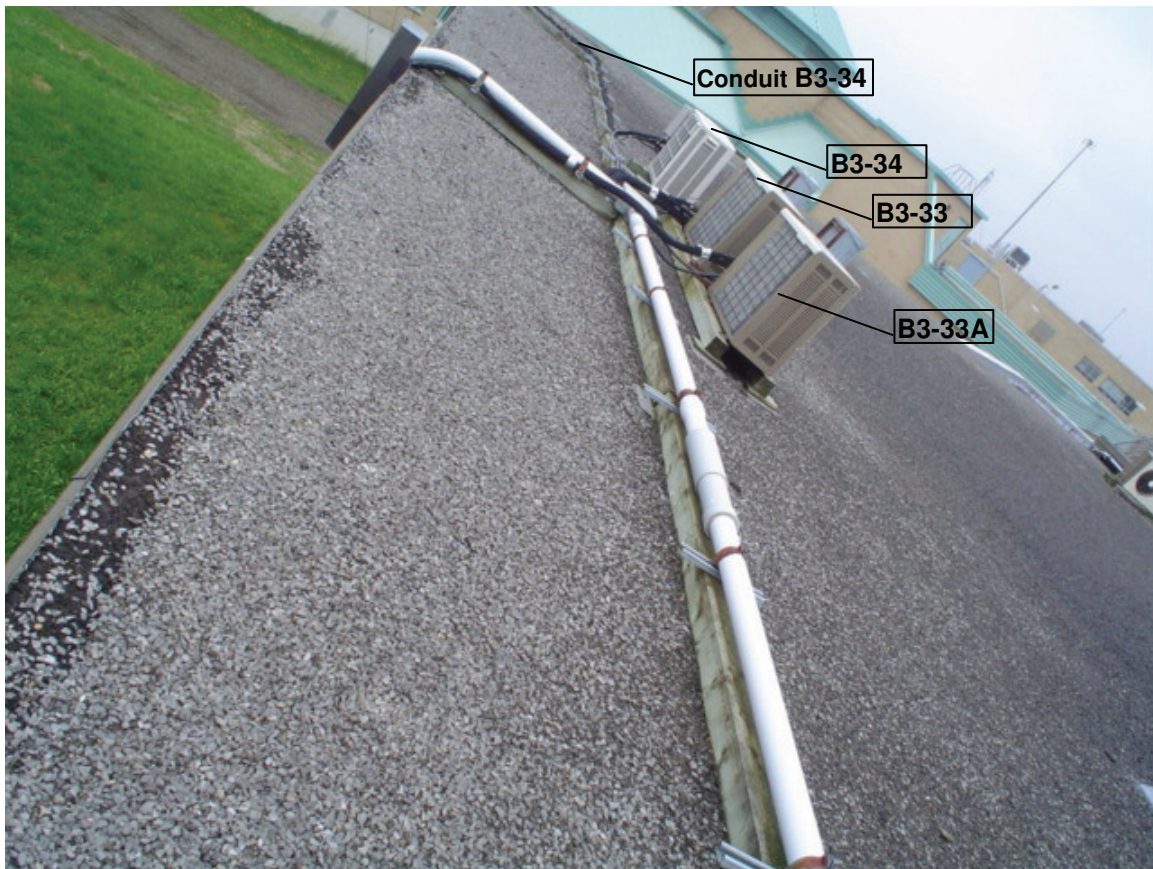


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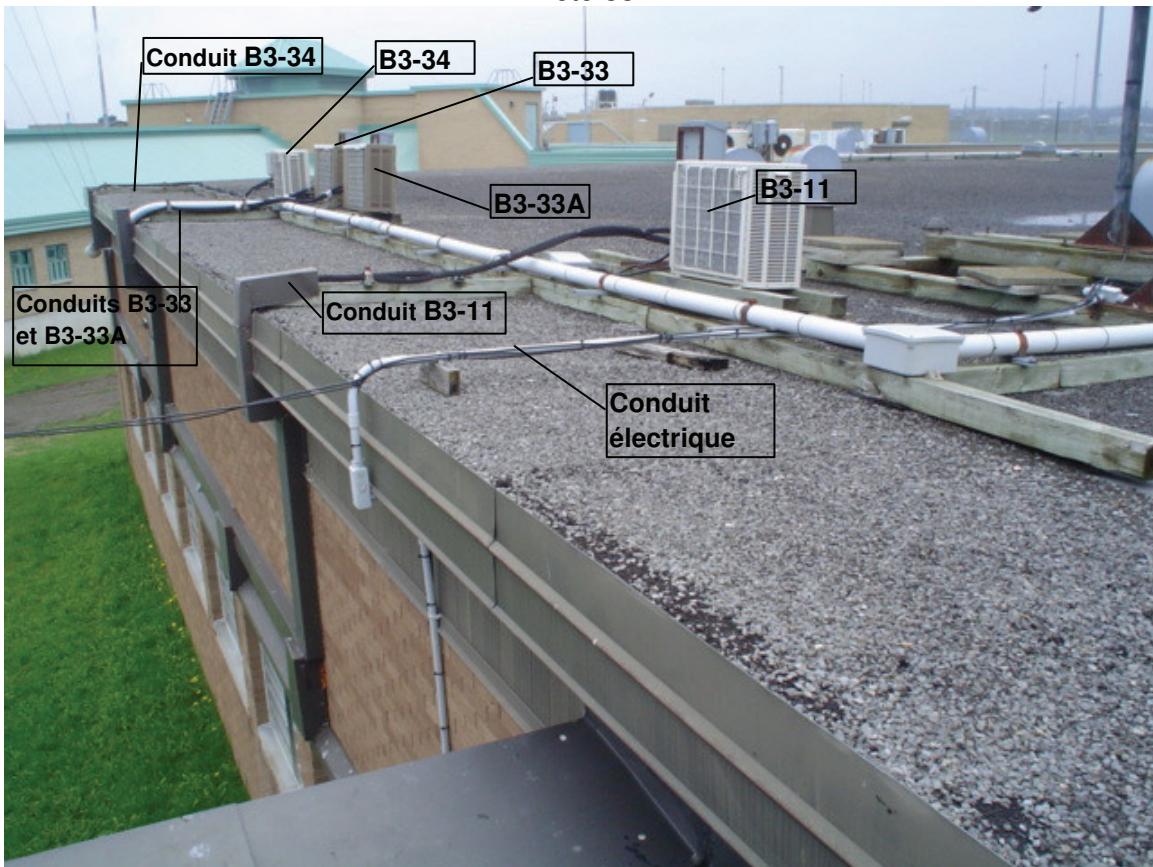


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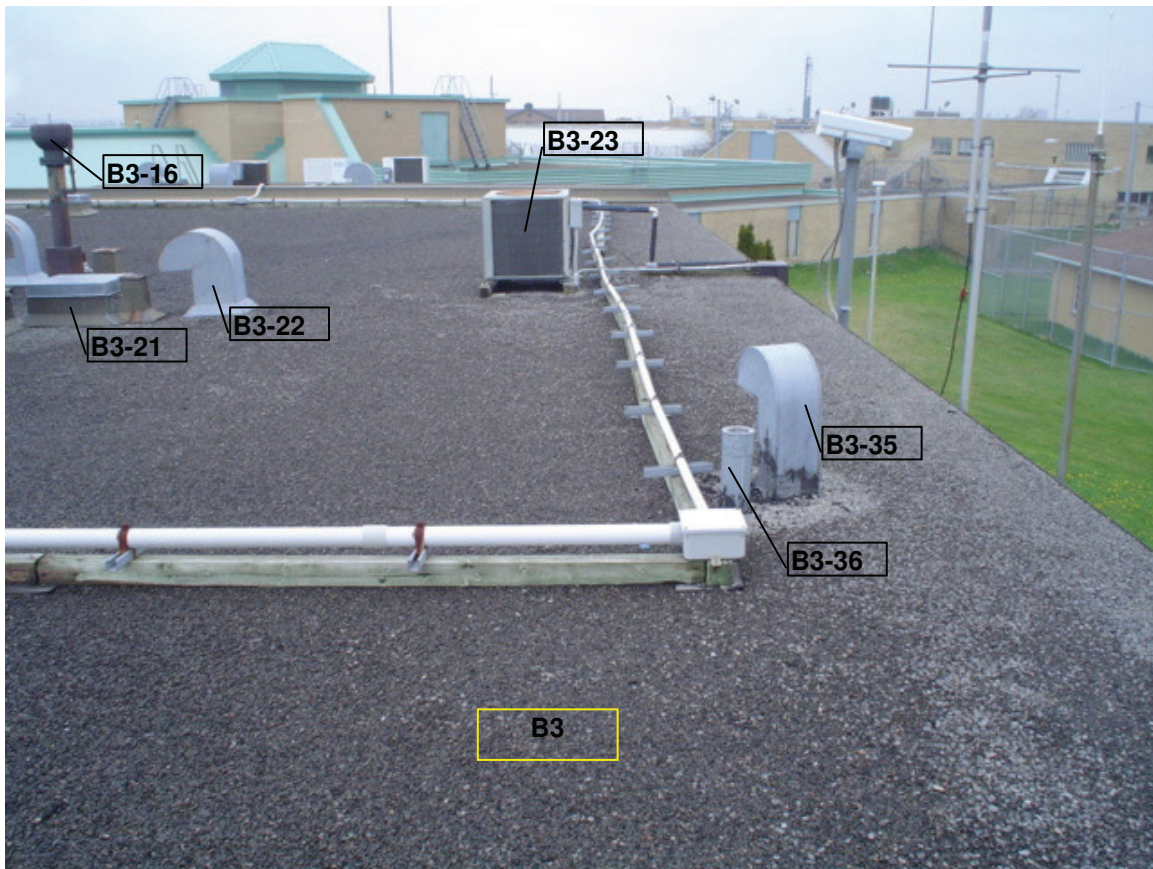


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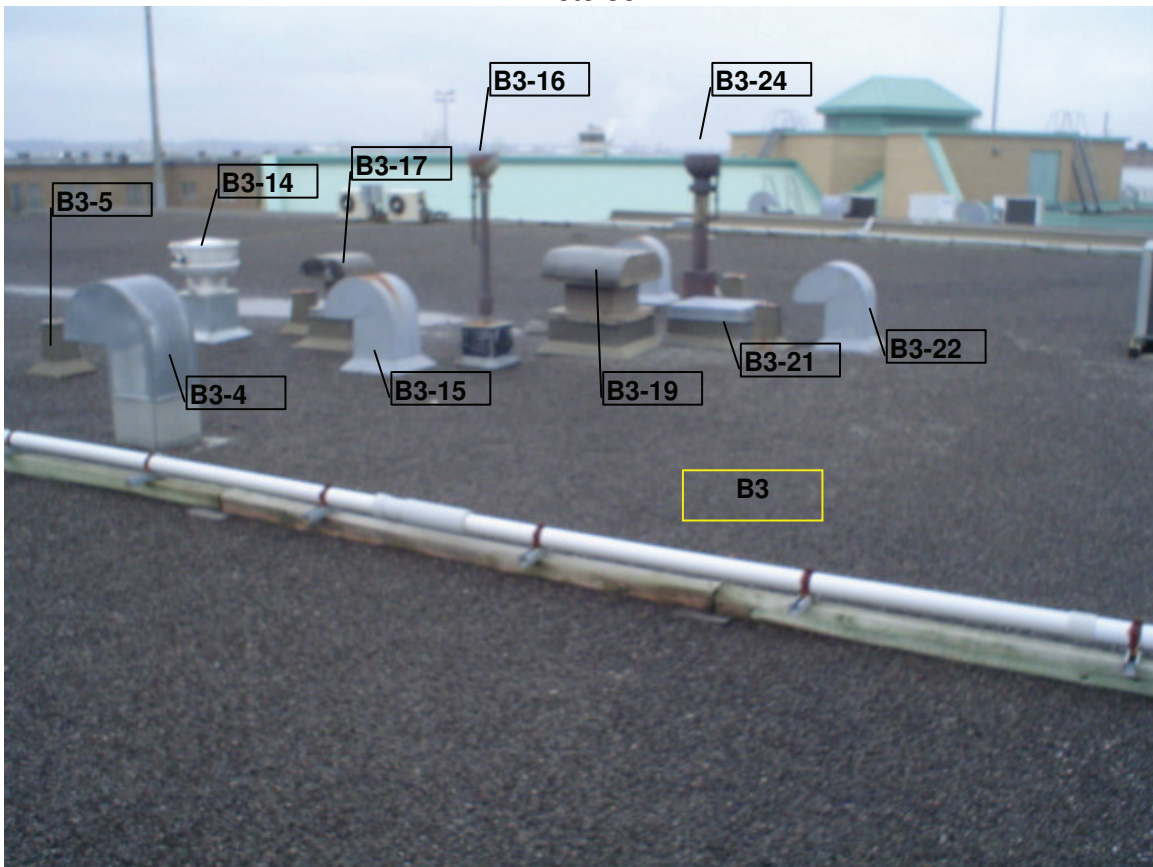


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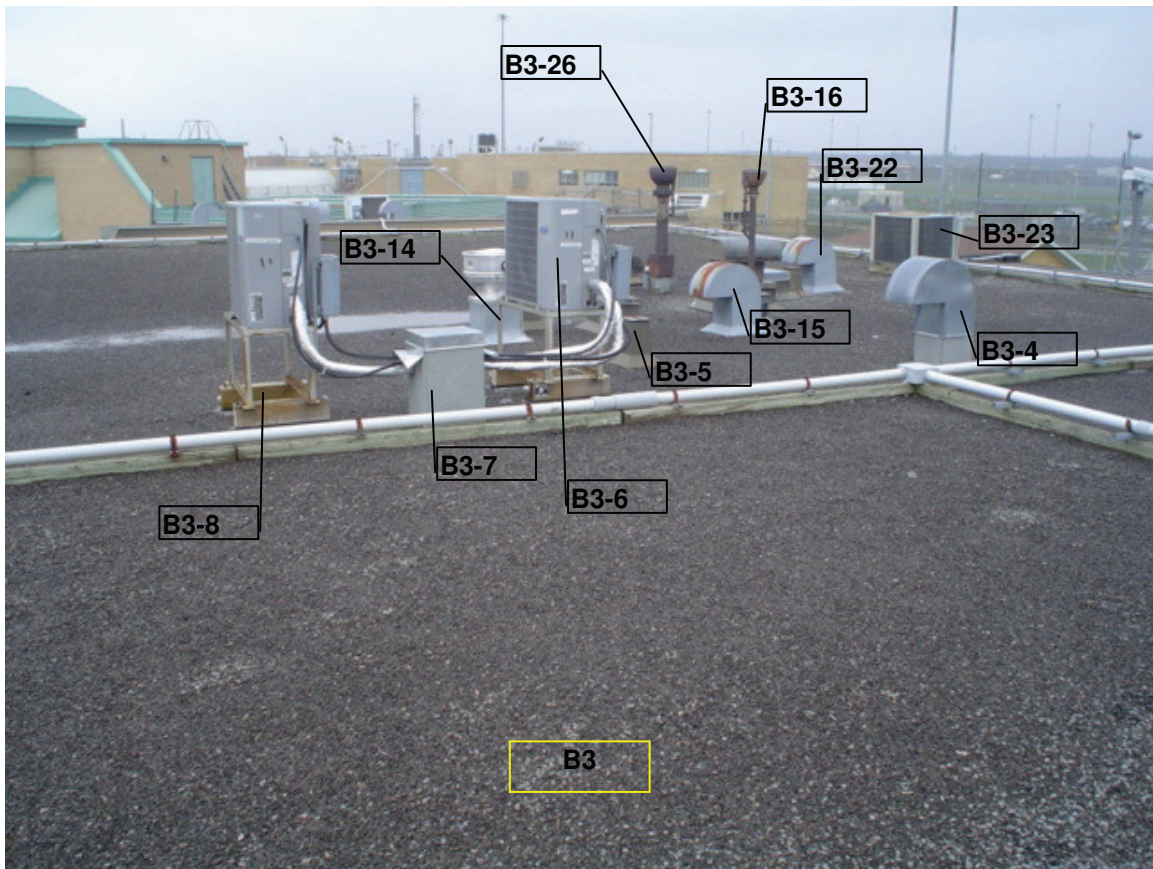


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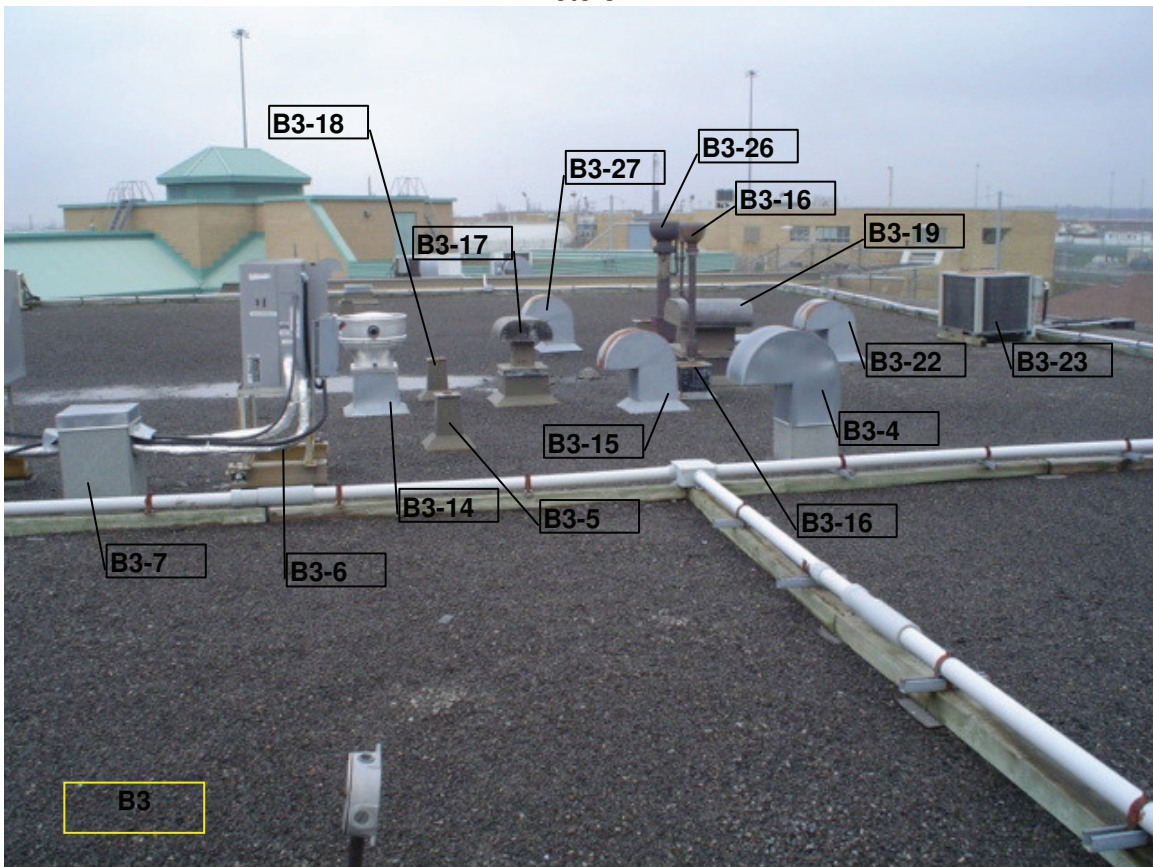


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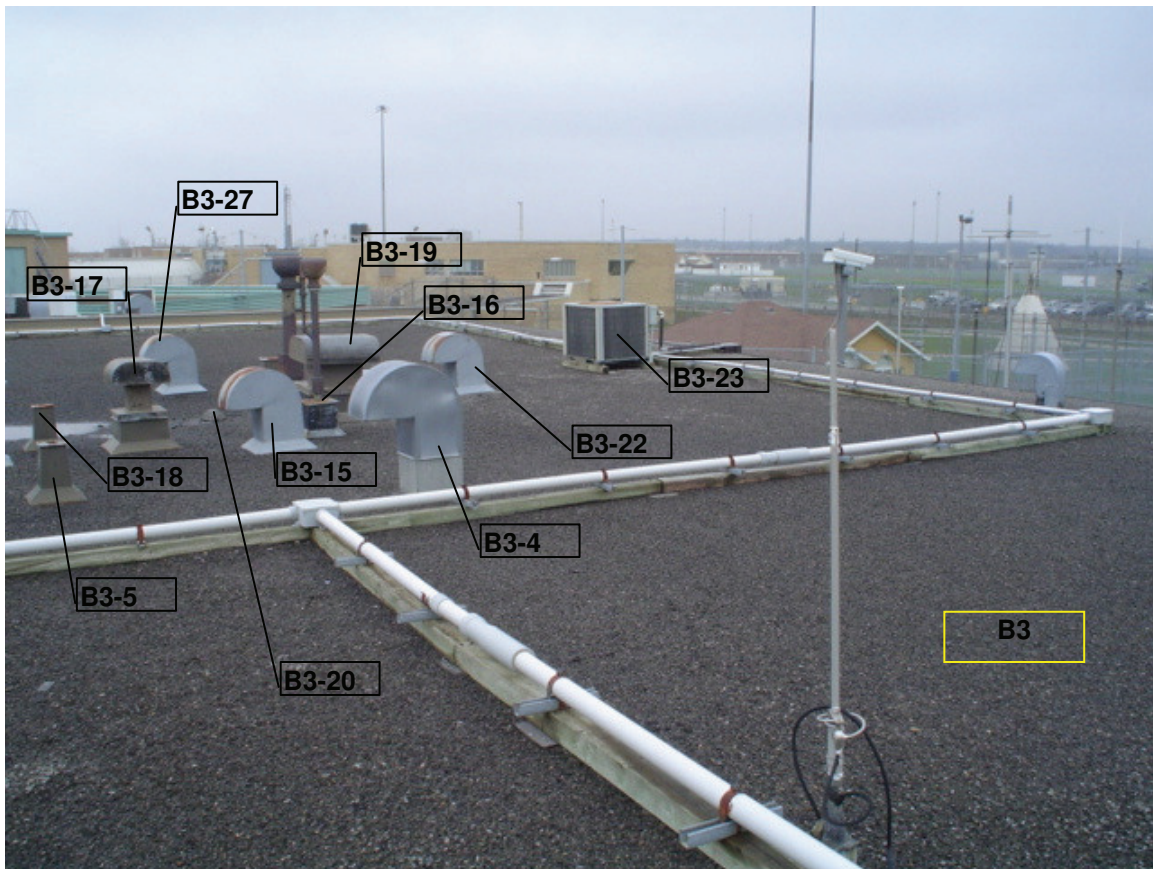


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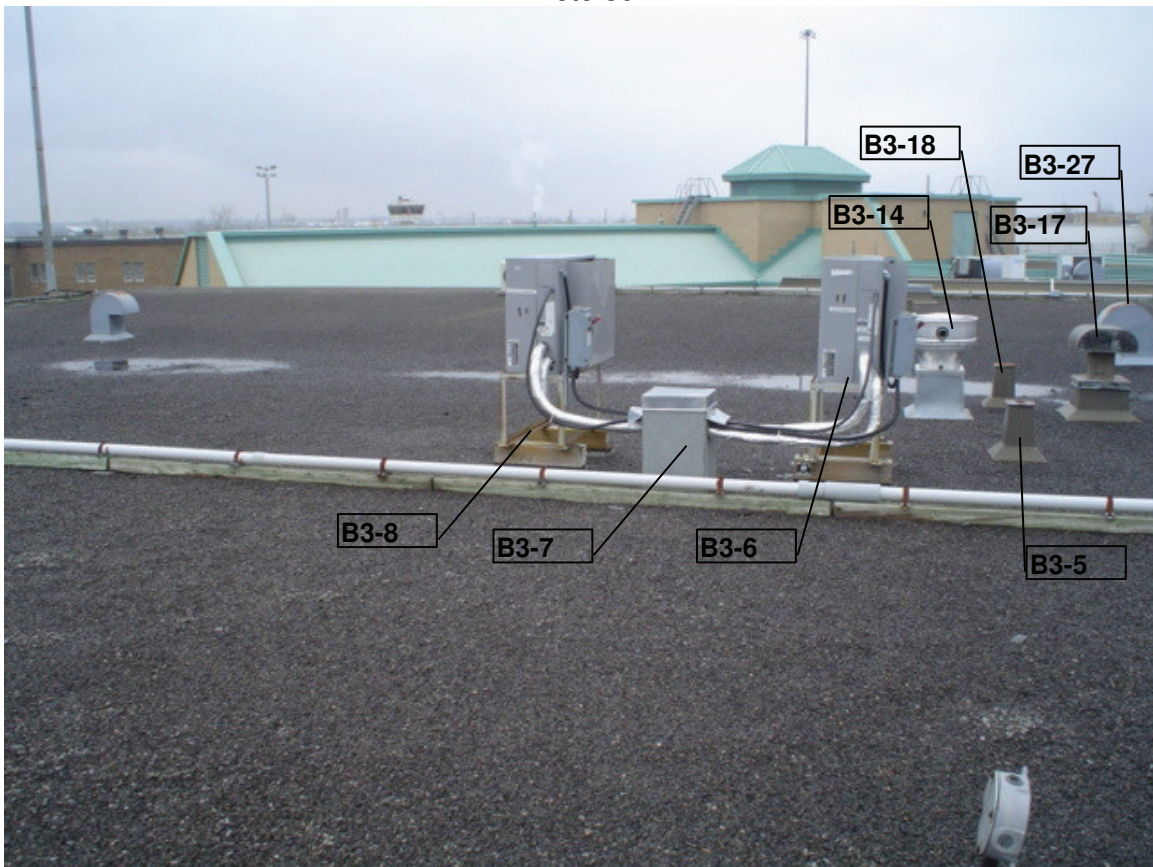


Photo 40



Photo 41



Photo 42



**Descente/Down
B3-23**

**Conduits électriques à
relocaliser/Electrical
Conduits to Relocate**

Photo 43



Photo 44

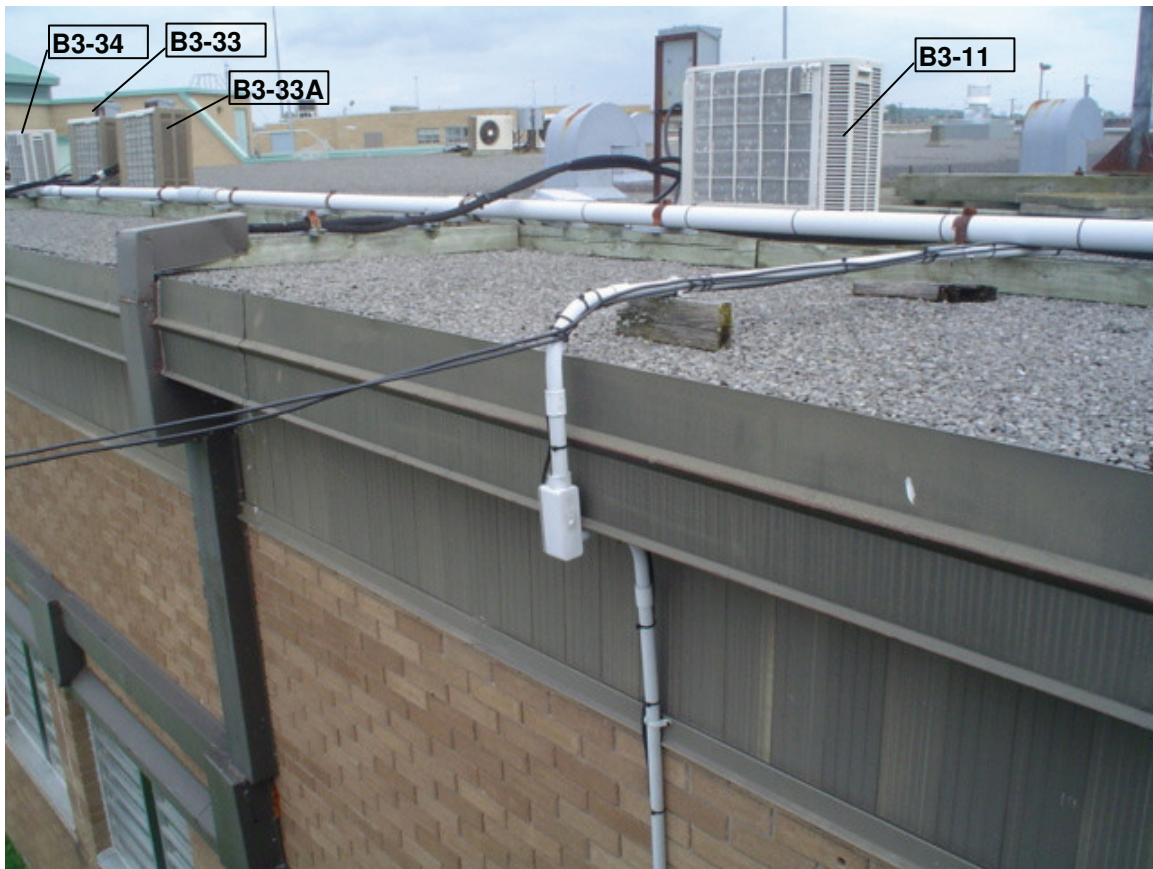


Photo 45



Photo 46

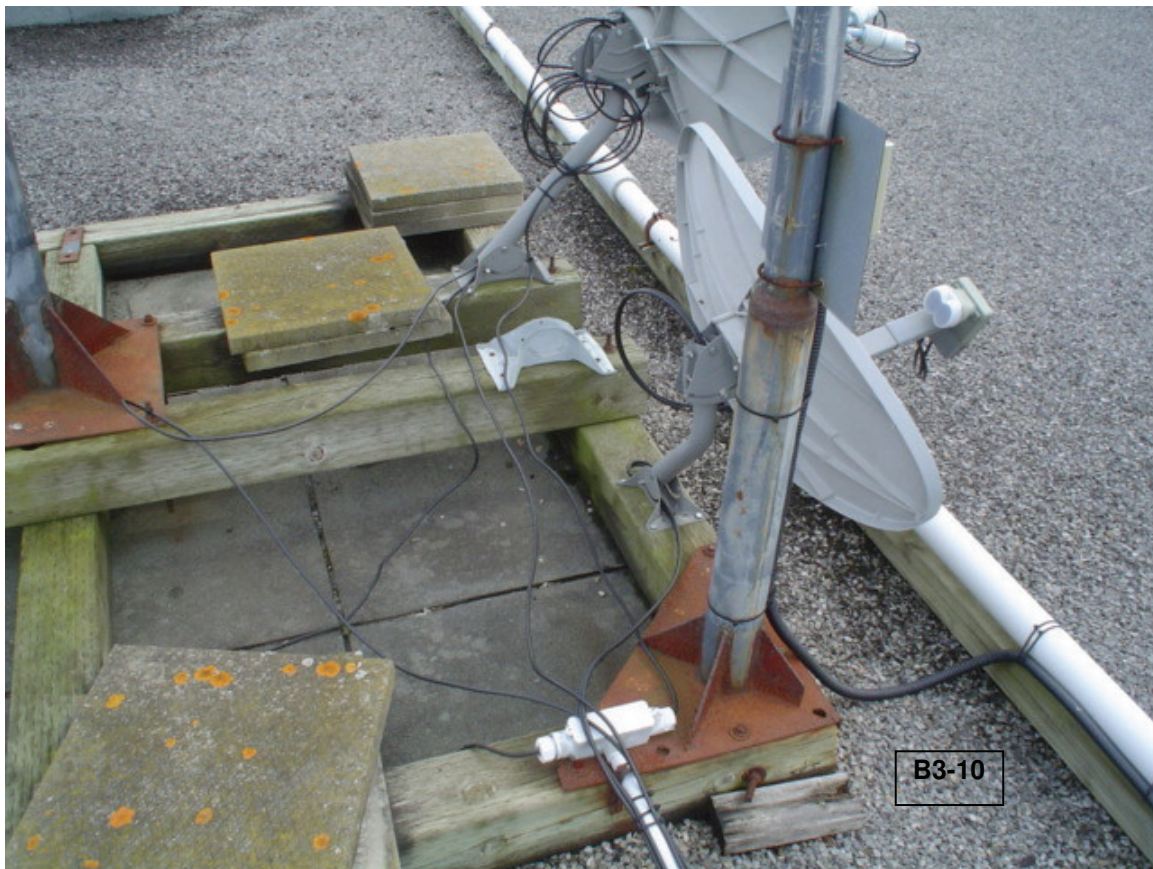


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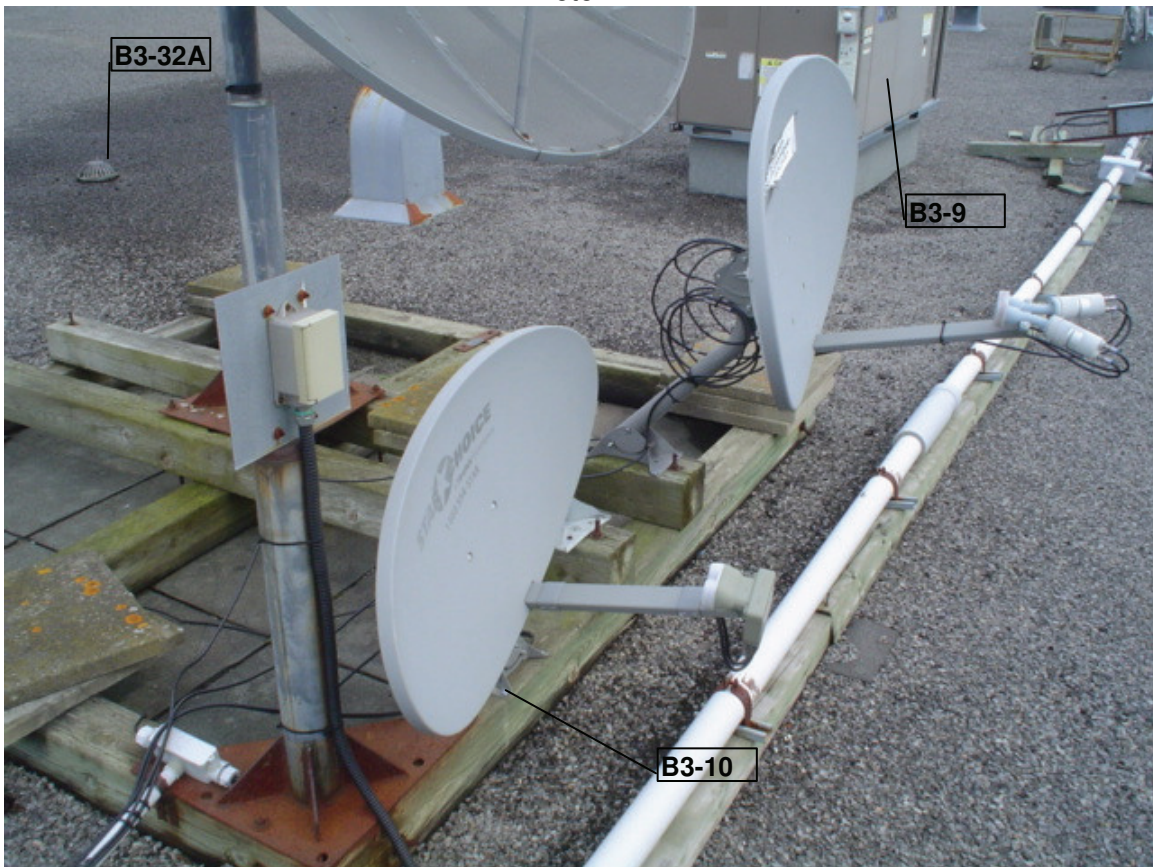


Photo 48



Photo 49

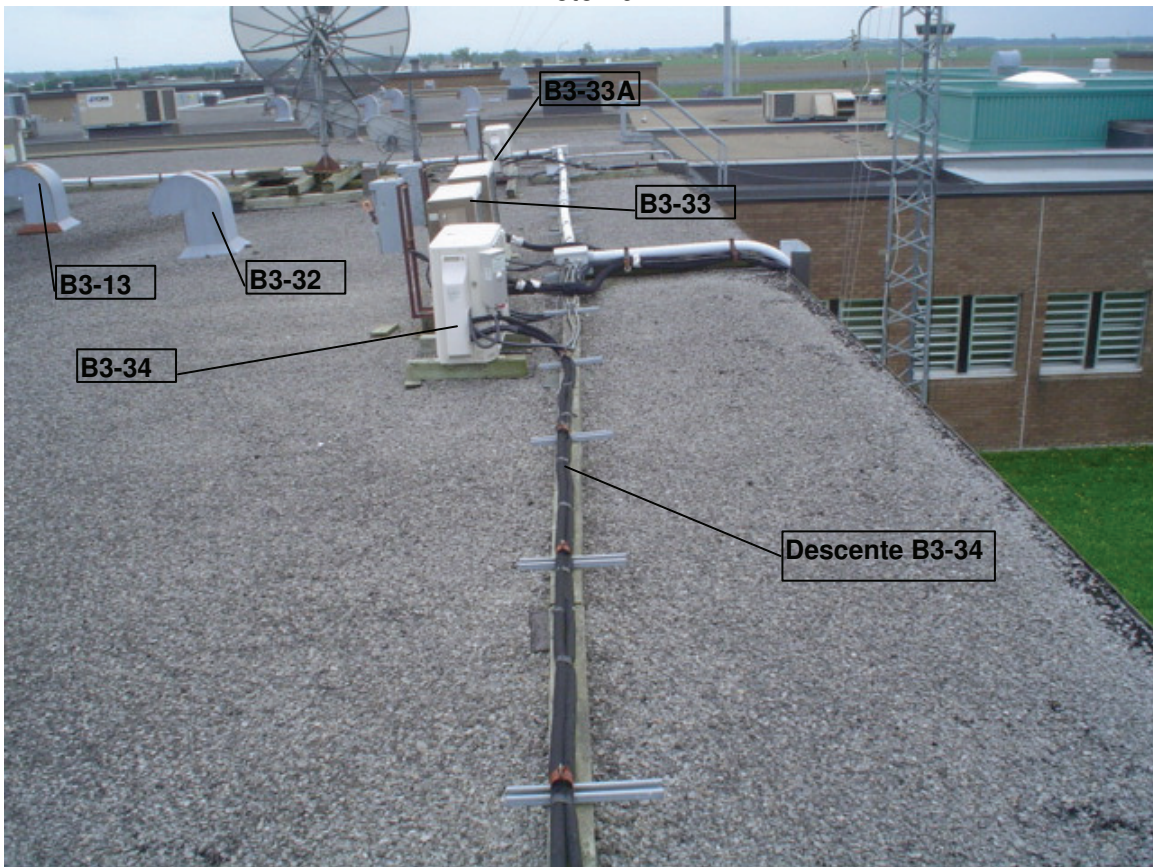


Photo 50



Photo 51

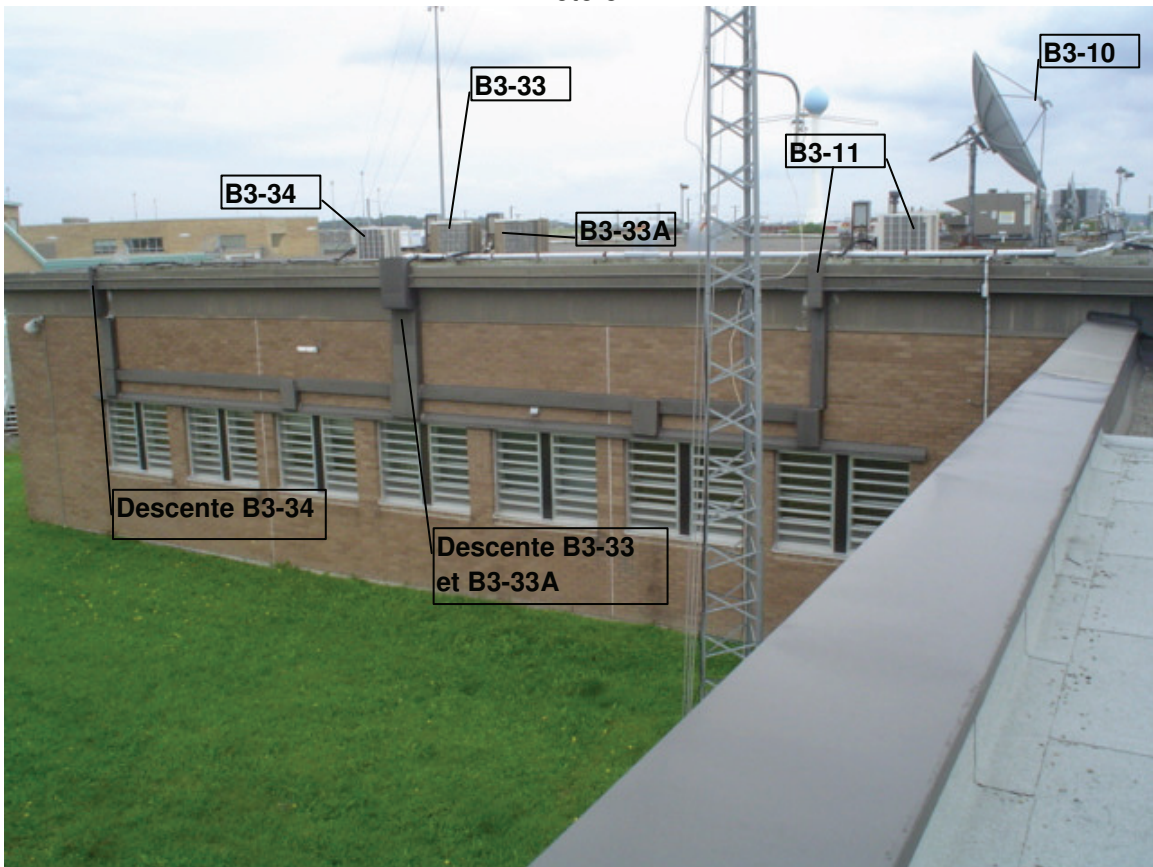


Photo 52



Photo 53



Photo 54



Photo 55

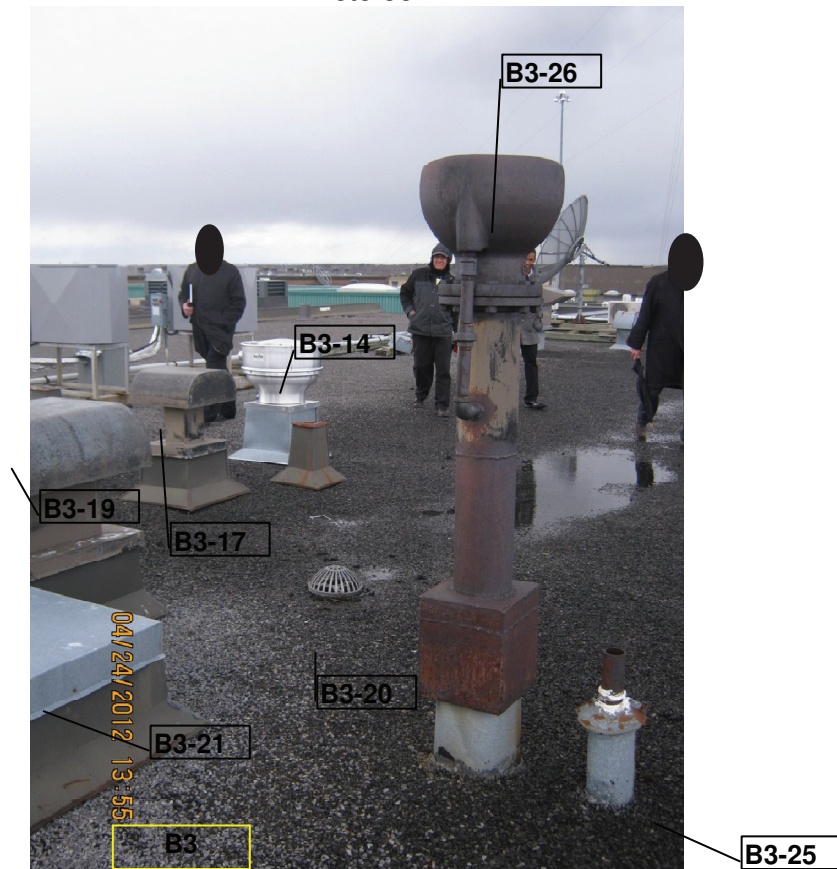


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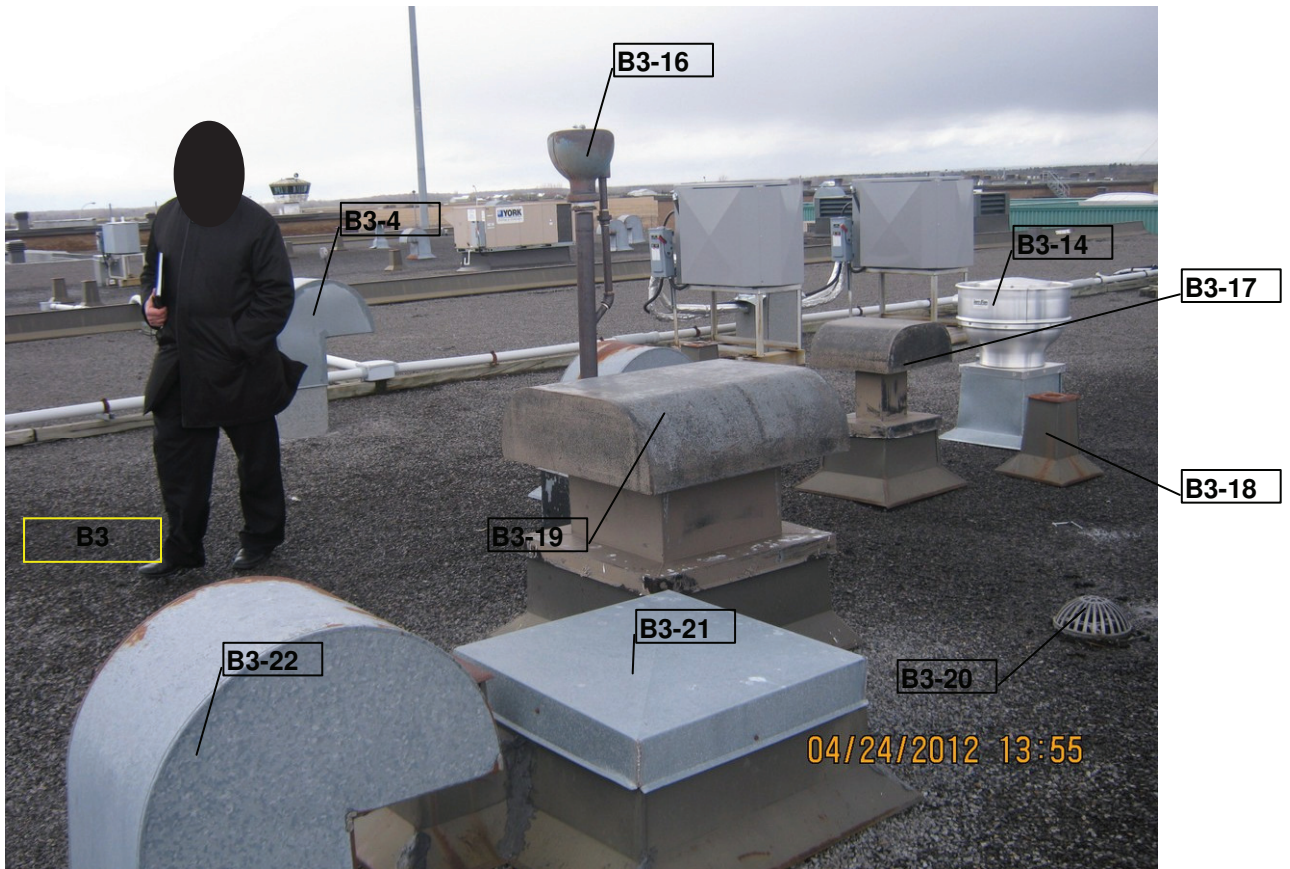


Photo 57



Photo 58



Photo 59



Photo 60

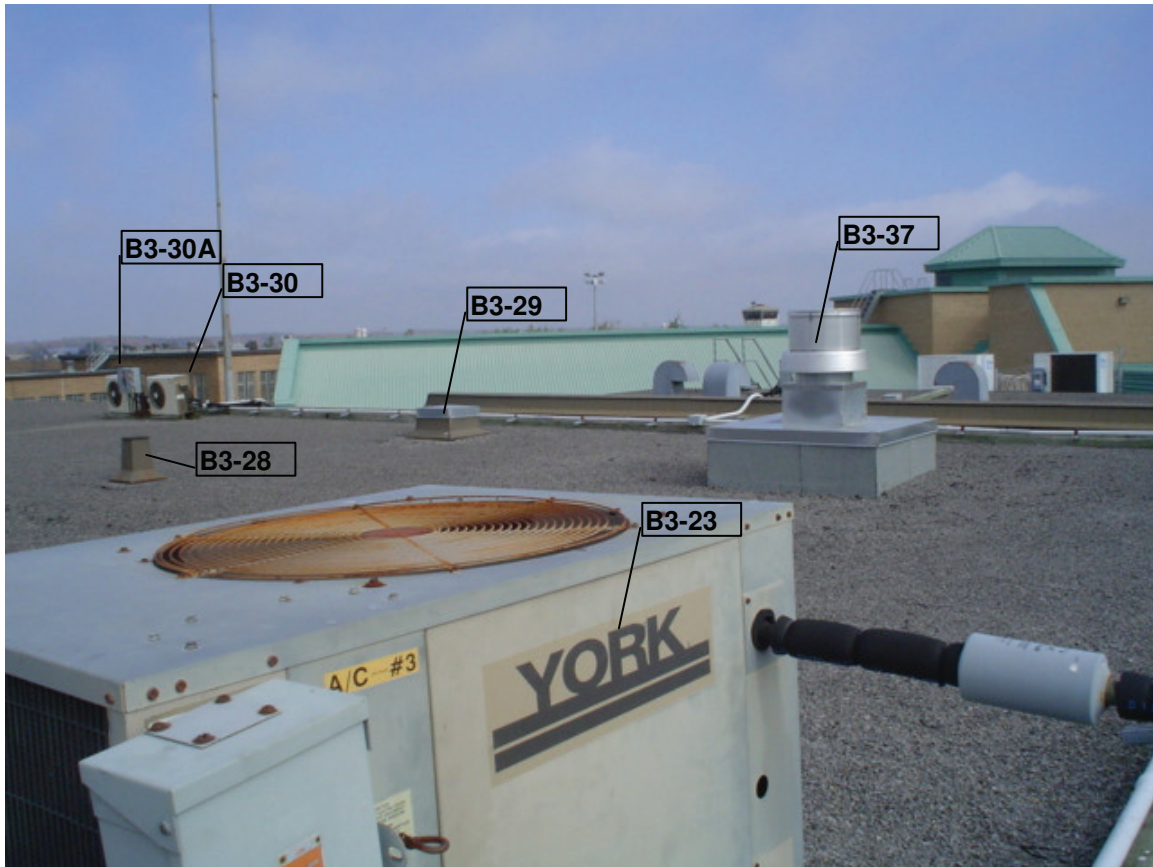


Photo 61



Photo 62



Photo 63



Photo 64

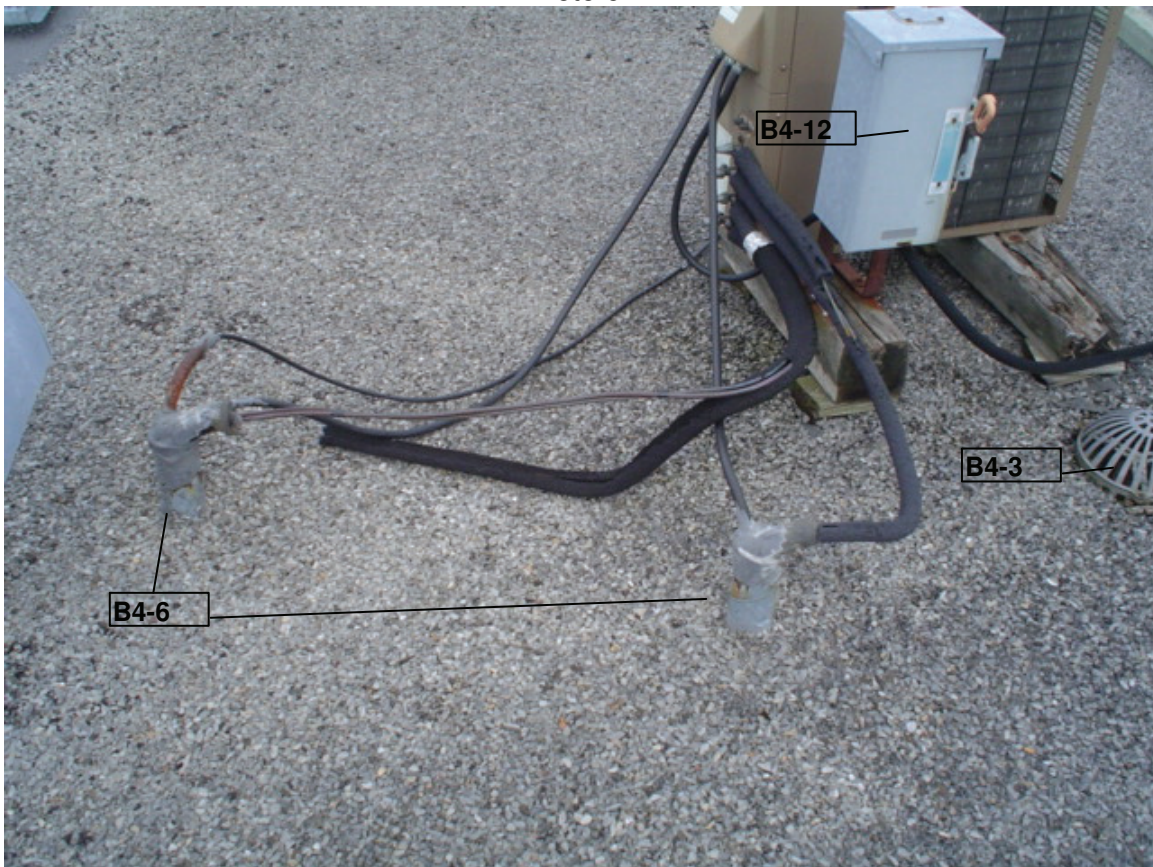


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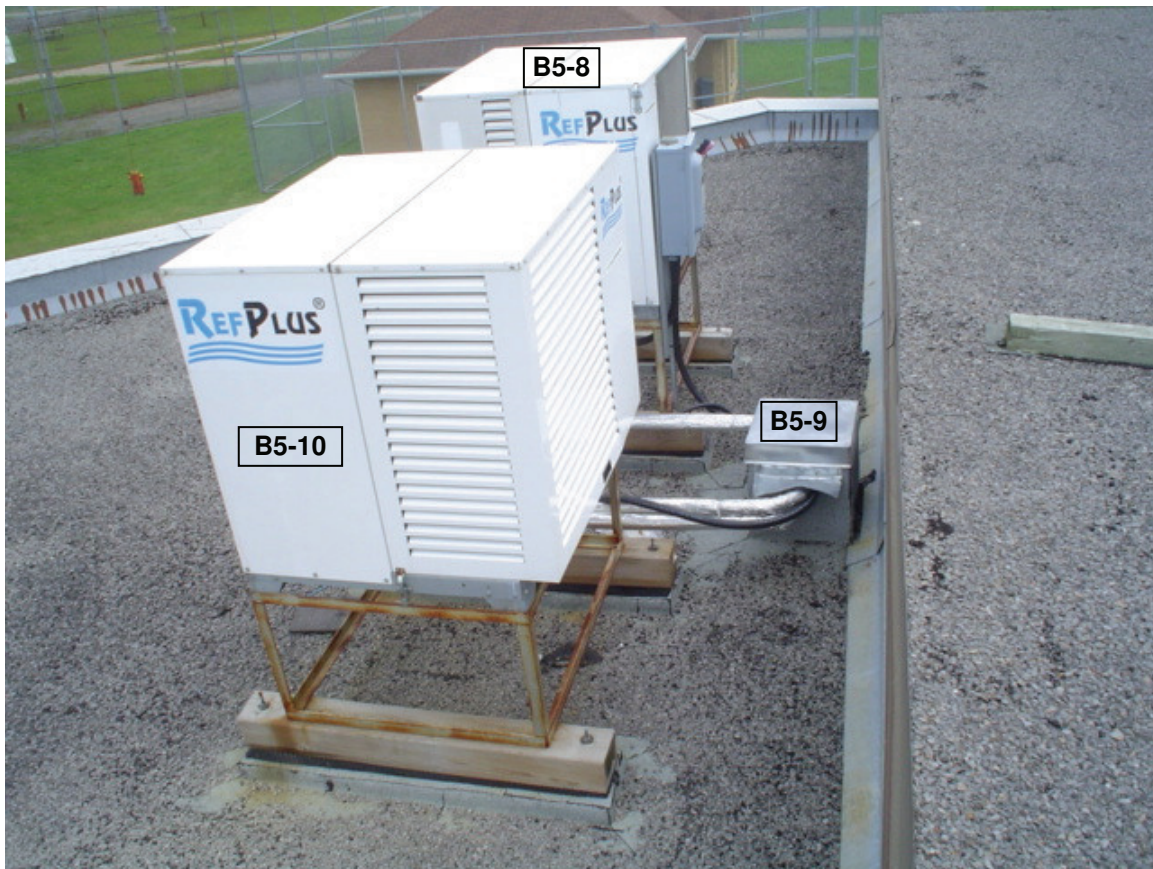


Photo 66

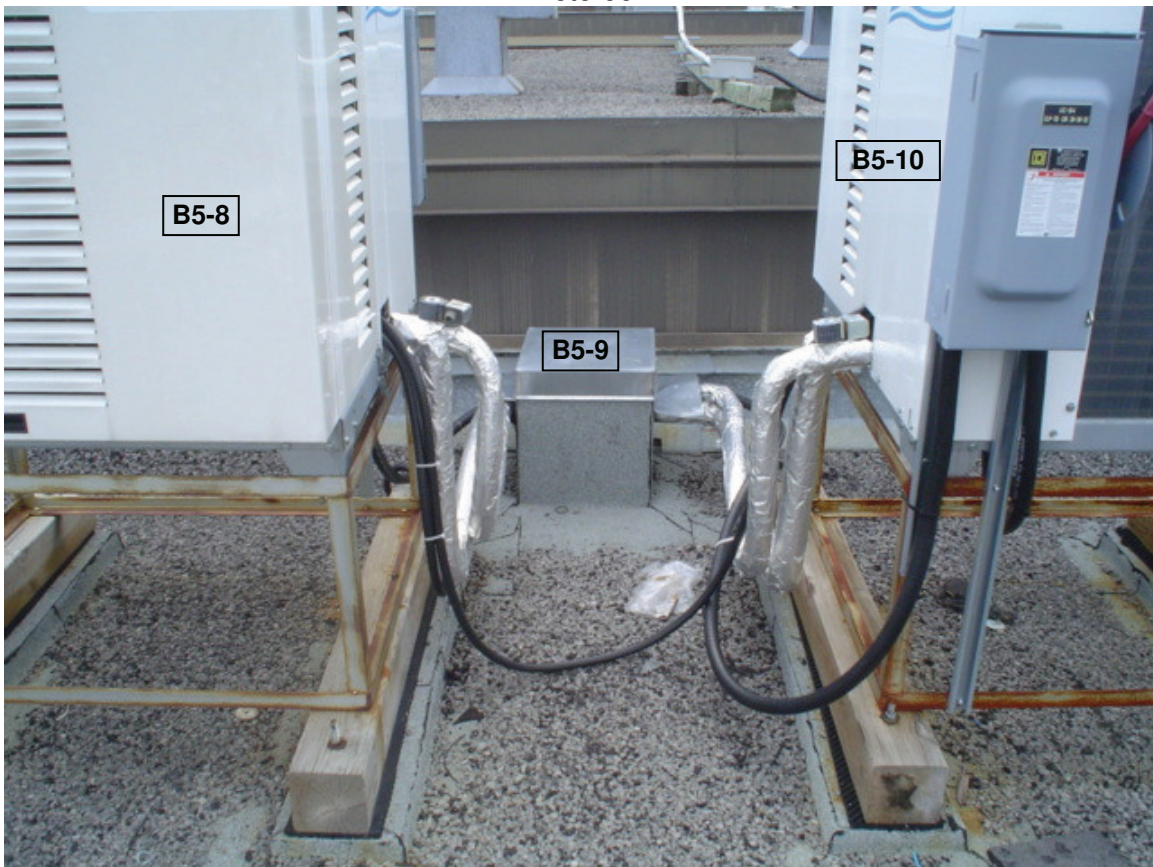


Photo 67