DILLON CONSULTING

CONVIRON

Manufacturing Facility

Environment Act Proposal

September 2017 – FINAL – 17-6087

September 13, 2017

1558 Willson Place
Winnipeg, Manitoba
Canada
R3T 0Y4
Telephone
204.453.2301
Fax
204.452.4412

Conviron
590 Berry Street
Winnipeg, MB
R3H 0R9

Attention: Gerard Carolan
Facilities Maintenance Manager

Environment Act Proposal Form and Report for Controlled Environments Ltd.

Dear Mr. Carolan:

Please find attached the Environment Act Proposal (EAP) for our facility located at 580 and 590 Berry Street. The EAP has been prepared in accordance with Classes of Development Regulation 164/88 of the Environment Act, as a Class II Manufacturing development.

If you require any further information, please contact me at 204-453-2353 ext. 4011.

Sincerely,

DILLON CONSULTING LIMITED

Corina Peach, P.Eng.
Project Manager

Enclosure(s):

- Environment Act Proposal Form
- Environment Act Proposal Report

Dillon file: 17-6087

Table of Contents

[redacted]

Executive Summary

Controlled Environments Ltd. (Conviron) is a manufacturing facility located at 580 and 590 Berry Street in Winnipeg, Manitoba. Conviron designs, manufactures, and installs controlled environment systems. Mainly, Conviron supplies plant growth chambers and rooms, and high performance research greenhouses to markets such as agricultural biotechnology and other life-science disciplines. The controlled environment systems built at the facility range from single-chamber to large-scale, multi-chamber facilities.

The manufacturing facility requires an Environment Act Licence for continued operation in accordance with The Environment Act and the Classes of Development Regulation. This Environment Act Proposal (EAP) submission to Manitoba Sustainable Development is for the Environmental Assessment Branch review and approval of the current manufacturing facility.

The Environment Act Proposal provides an introduction and background of the manufacturing facility, a description of the development, site operation, and description of the environment, environmental and human health effects, mitigation measures, and follow-up plans.

The following Conviron documents are referenced in, and attached to, this Environment Act Proposal:

- Chemical Storage and Handling Policy
- General Workplace Safety Requirements Policy
- Waste Management Program
- Chemical Inventory Management Policy
- Fire Safety and Emergency Response Plan

Conviron has operated at this location since 1991. There are no adverse environmental effects identified nor are there any adverse effects anticipated as a result of the continued operation of the facility as described within this EAP.

1.0 Introduction and Background

Conviron is a manufacturing facility located at 580 and 590 Berry Street in Winnipeg, Manitoba, in a 6,903 m^2 (74,300 ft^2) building. Conviron designs, manufactures, and installs controlled environment systems and has been in operation since 1964. Mainly, Conviron supplies plant growth chambers and rooms, and high performance research greenhouses to markets such as agricultural biotechnology and other life-science disciplines. The controlled environment systems built at the facility range from single-chamber to large-scale, multi-chamber facilities.

The manufacturing facility requires an Environment Act Licence for continued operation in accordance with The Environment Act and the Classes of Development Regulation. This Environment Act Proposal submission to Manitoba Sustainable Development is for the Environmental Assessment Branch review and approval of the current manufacturing facility.

2.0 Description of Development

2.1 Location and Certificate of Title

Conviron, a 6,903 m^2 single floor manufacturing facility, is located in Winnipeg at 580 and 590 Berry Street. An aerial view of the facility and building layout drawings are located in Appendix A. A copy of the Certificate of Title has been attached in Appendix B.

2.2 Mineral Rights

No records of mineral rights were identified for the Conviron property by the client.

2.3 Adjacent Land Use

The land use adjacent to the site is used for light manufacturing and related permitted uses. The closest neighbour, Integrated Messaging Inc. is approximately 25 m south from the manufacturing facility. Advance Tent & Awning and Mead Signs are located 45 m west of the manufacturing facility and the Airport Motor Inn is located 120 m north of the facility.

2.4 Current Land Use and Zoning

The manufacturing facility is located in an M1 Manufacturing – Light zoning area as defined by The City of Winnipeg Zoning By-Law 200/06. The Winnipeg Zoning By-Law 200/06 states that the M1 district is intended to provide for light manufacturing, processing, service, storage, wholesale, and distribution operations with all operations contained within an enclosed building with some limited outside storage. Along with the M1 zone, the manufacturing facility is also located in a PDO-1 Airport Vicinity due to its close proximity to the Winnipeg James Armstrong Richardson International Airport.

3.0 Site Operation

Conviron designs, manufactures, and installs controlled environment systems within a 75 m by 82 m building. Approximately, 200 units are manufactured at the facility annually, ranging in size. The various processes involved in the production of the controlled environmental chambers are listed in this section. These processes include the sheet metal department, the wood shop, welding, cabinet assembly, bench assembly, refrigeration, canopy, control panel, final assembly, test, crating, and stock room. The products used for each process are summarized in Table 3-1 of Section 3.2.

3.1 Processes

3.1.1 Sheet Metal

The sheet metal department uses industrial shears, turret punches and brakes to layout, cut, and form sheet metal (aluminum, steel and stainless steel) into various parts used in Conviron products. Scrap metal produced in the shearing process is recycled. Used oil for the machinery is recycled a licenced carrier.

3.1.2 Wood Shop

The wood shop uses chop saws and table saws to cut treated wood boards, plywood, and Styrofoam for the construction of the chamber walls and crate assemblies. Two dust collector and bagging system, King Canada Model KC-30105C and King Canada Model KC-5043FX-2, located on the saw table and radial arm saw to collect the dust and other particulates generated during the cutting process. The dust collection and bagging system for the table saw and the radial arm saw have air flow ratings of 1,200 CFM and 3,980 CFM, respectively. Approximately, 50 pounds of scrap Styrofoam and sawdust is produced per week from the cutting process. This scrap Styrofoam and sawdust is collected and stored in a waste bin which is then collected weekly and disposed at a licenced waste disposal facility. Cardboard is stored in cardboard bales which are collected every two months and recycled. Approximately, one ton of scrap wood is produced per week.

3.1.3 Welding

The welding department uses MIG and TIG welders to fabricate various assemblies using aluminum, stainless steel, steel plates, bars, and tubing. Acetylene and oxygen tanks are stored securely and picked up by welder's supplies when empty. Excess full tanks are not stored on site. There is an exhaust system, Lincoln Electric Weld Fume Extraction Arm/Fan One-Pak®, located in the welding department. The exhaust system has an air flow rating of 1200 CFM.

3.1.4 Cabinet Assembly

The cabinet assembly uses Styrofoam, metal parts, and two part epoxy glue (Tri-Tex E0014a and E0014b) to fabricate the panels used in assembling Conviron products. Epoxy components that cannot

be extracted from the product drums are recycled, along with the drum (approximately eight empty drums per year), through a licenced recycler. When necessary, all-purpose cleaners are used to clean the panels before gluing.

3.1.5 Bench Assembly

The bench assembly uses metal parts as well as various purchased parts (e.g. fans, screws, spray nozzles, etc.) to fabricate various sub-assemblies. Air drills, air riveters, soldering stations, and grinding wheels are used in these processes, while some sub-assemblies require spot welding, soldering, and caulking. The bench assembly uses the same epoxy as the cabinet assembly. All products used in the bench assembly are summarized in Table 3-1. All cardboard packaging components are recycled.

3.1.6 Refrigeration

The refrigeration department uses metal plates, nitrogen gas, refrigerant gas, and purchased parts (e.g. copper fittings, refrigeration components, mounting assemblies etc.) to assemble refrigeration systems. Conviron uses Manitoba Ozone Protection Association (MOPIA) certified technicians and conforms to all MOPIA requirements for refrigerant systems. The chemicals used to assemble refrigeration systems are summarized in Table 3-1. Scrap copper produced from piping refrigeration systems is recycled. Scrap Armaflex insulation pieces may be produced when piping is wrapped in insulation using Armaflex pipe insulation and 3M Scotch-weld Neoprene contact cement. These scrap Armaflex insulation pieces are collected and disposed of as solid waste. All cardboard packaging components are recycled.

3.1.7 Canopy

The canopy department uses parts from the sheet metal department, electrical wire, printed heat shrink labels, and purchased parts (e.g. ballasts, lamp holders and bulbs) to assemble lighting canopies. Air drills, air riveters, and soldering stations are used for some of the canopy department processes. Defective electronic components are stored in an electronic recycling bin in the stockroom. Scrap wire produced from wiring is recycled. Scrap label pieces and components produced from labeling are thrown out. All cardboard packaging components are recycled. Some wire processing requires an automated wire cutter and stripper.

3.1.8 Control Panel

The control panel department uses parts from the sheet metal department, electrical wire, printed heat shrink labels, and purchased parts (e.g. breakers, relays, contractors, etc.) to assemble control panels. Air drills, air riveters, and soldering stations are used for some of the control panel department processes. Defective electronic components are stored in an electronic recycling bin in the stockroom. Scrap wire produced from wiring is recycled. Scrap label pieces and components produced from labeling are disposed as solid waste. All cardboard packaging components are recycled.

3.1.9 Final Assembly

The final assembly department uses panels from the cabinet department, sub-assemblies from the bench assembly department, refrigeration systems from the refrigeration department, control panels from the control panel department, and purchased parts (e.g. screws, rivets, caulking wire, cables, etc.) to assemble the final products. Air drills, air riveters, soldering stations, and grinding wheels are used in the final assembly process. All cardboard packaging components are recycled. Chemicals used in the final assembly department are summarized in Table 3-1.

3.1.10 Test

The test department performs functional testing on completed chambers and control panels to determine if the final product conforms to the requirements of the product. Chemicals and substances required for growing plants in the chambers (e.g. seeds, dirt, fertilizer, etc.) are not used in the manufacturing or testing process. When rework is required, some refrigeration and electrical processes are performed in the test department involving the same chemicals used in the refrigeration or electrical department.

The testing process involves:

- Checking electrical connections and rated voltage of components as per Electrical schematics.
- Connect chamber to electrical supply, cooling water or glycol lines (as applicable), humidity, and reverse osmosis (R/O) water as required. Glycol is collected after use and recycled by the facilities department. Non-contact cooling water is flushed from the system and drained into the sewer system as there is no chance of chemical contamination. R/O water is tap water run through a filter system to use in the humidity systems in Conviron products. This water is collected in the chamber's drain pan and drained into the sewer system as there is no chance of chemical contamination.
- Check functionality of various circuits and features.
- Calibration check of humidity and temperature sensors using calibrated test equipment.
- Calibration check of carbon dioxide sensors versus standard calibration 1500 ppm CO_2 gas. Gas used in this process is vented into the atmosphere.
- Pressure test refrigeration system for leaks and structural integrity.
- Install refrigeration charge in system (when required).
- Measure pressures during chamber operation with refrigeration gauge set (when required).
- Measure currents in various circuits using a calibrated ammeter.
- Measure various requirements such as temperature, humidity, and light intensity at various set points to verify the functionality of the chamber and it's conformance to customer requirements.

3.1.11 Crating

Final cleaning is performed in the crating room. After final cleaning, the crating department packages the product for shipping using heat treated wood from the wood shop, air nailers, air staplers, and chop

saws. LPS heavy duty lubricant is used in some processes. Some products require touch-up if the surface is damaged. Scrap wood is disposed of in the same waste bin as the wood collected in the wood shop. Chemical soaked rags are stored in a safe container in the crating department before licenced disposal. Unusable chemicals are stored in a chemical cabinet in the crating area before disposal or recycling back to the original purchaser. Empty aerosol cans and waste paint related materials are returned to supplier and diestone empty pails and flammable waste (solids or organics) are disposed of through licenced carrier.

3.1.12 Stock Room

The stock room receives all purchased parts and components, stores stock of internally fabricated parts, and issues these parts to other departments when required. Defective or unusable parts returned from production activities are returned to the manufacturer or recycled.

3.2 Process Chemical List

The products used for each process at the manufacturing facility are summarized in Table 3-1. The current Safety Data Sheets (SDS) are available on-site for all controlled products. Epoxy glue and glycol are only chemicals stored in larger quantities (approx. 416 L at a given time) in the test and production areas. These chemicals are stored in the original drums from the chemical supplier for use.

Table 3-1: Product List

Department	Product Name	Purpose
Sheet Metal	Diestone DLS	Cleaning sheet metal
Welding	Lincolnweld L-58	Consumed by welding equipment
	Fleet Weld 47	Consumed by welding equipment
	Weldmark Tungsten Electrodes	Consumed by welding equipment
	State Cut-N-Cool Lubricant	Required for band saw
Cabinet Assembly	Two part epoxy glue (Tri-Tex E0014a and E0014b)	Assembling products
	Diestone DLS	Clean panels before gluing
	Formula 50 RTU All-Purpose Cleaner	Clean panels before gluing
Bench Assembly	Sluyter PVC to ABS Transition Solvent Cement	Gluing of PVC pipe and fittings
	Dow Corning 1200 OS primer	Caulking operations
	Dow Corning 795 Silicone Building Sealant	Caulking operations
	Flux Stainless Steel	Soldering operations
	ZepVue RTU glass cleaner	Cleaning parts
	Wespro Air Tool Oil	Air tools
	Great Stuff Insulating Foam	Some processes
	Krylon Colour Master Spray Paint	Some processes
	Krylon Metallic Spray Paint	Some processes

Department	Product Name	Purpose
Refrigeration	Nitrogen gas	Assembling refrigerant systems
	Honeywell Solstice – N40 – Refrigerant Gas Cylinder – R-448A – UN3163	Assembling refrigerant systems
	Stay-Clean Paste Soldering Flux	Assembling refrigerant systems
	Stay-Silv White Brazing Flux	Assembling refrigerant systems
	Nu-Calgon Vacuum Pump Oil	Assembling refrigerant systems
	Emkarate Refrigeration Lubricant	Assembling refrigerant systems
	T-U Type 555 Thread Sealing Compound	Assembling refrigerant systems
	Trace Internal Refrigerant Leak Detector	Assembling refrigerant systems
	Nu-Calgon Gas Leak Detector	Assembling refrigerant systems
	3M Glass Cleaner and Protector	Cleaning parts
	ZepVue RTU Glass Cleaner	Cleaning parts
	99% Isopropyl alcohol	Cleaning parts
	Dow Corning 795 Silicone Building Sealant	Sometimes used in assembly
	Heat Transfer Compound, Virginia Thermal Mastic	Sometimes used in assembly
	Oatey Clear Primer for PVC	For PVC parts
	IPEX 100 PVC Solvent Cement	For PVC parts
	Armaflex Pipe Insulation	Piping insulation
	3M Scotch-Weld Neoprene High Performance Contact Adhesive	Piping insulation
Canopy	Oatey Clear Primer for PVC	Gluing PVC pipe and fittings
	IPEX 100 PVC Solvent Cement	Gluing PVC pipe and fittings
	Wespro Air Tool Oil	Air tools
Control Panel	Oatey Clear Primer for PVC	Gluing PVC pipe and fittings
	IPEX 100 PVC Solvent Cement	Gluing PVC pipe and fittings
	Silicone Conformal Coating	Lubricant to feed wire harnesses through conduits
	Wespro Air Tool Oil	Air tools
Final Assembly	ZepVue RTU Glass Cleaner	Cleaning items
	Diestone DLS	Cleaning items
	Oatey Clear Primer for PVC	Gluing PVC pipe and fittings
	IPEX General Purpose PVC Cement	Gluing PVC pipe and fittings
	Dow Corning 1200 Clear RTV Prime Coat	Some caulking operations on stainless steel parts
	Flux Stainless Steel	Soldering operations
	Dow Corning 795 and 791 Sealants	Sealant
	3M Hi-Tack Spray Adhesive	Adhesive
	NuFlex 454 Sealant	Sealant

Department	Product Name	Purpose
	ProForm - Custom Filling System – Rondex RX111 FV 16	
	SEM – Trim Black Aerosol - 39143	Touch-up paint
	Tremclad Spray Paint	Touch-up paint
	Wespro Air Tool Oil	Touch-up paint
	LPS Heavy Duty Lubricant	Some processes
Test	1500 PPM CO_2 Gas	Checking carbon dioxide sensors
	Glycol	Checking glycol lines
Crating	Diestone DLS	Final cleaning
	Formula 50 RTU All-Purpose Cleaner	Final cleaning
	Zep R.T.U. Glass Cleaner	Final cleaning
	CB100 ALU Degreaser	Final cleaning
	LPS Heavy Duty Lubricant	Some processes
	Ready Match Touch Up 435C1460 Fluropon Teal - Paint	Surface touching
	Krylon Color Master Spray Paint	Surface touching
	DuPont Gentari	Surface touching
	Rondex RX111 Custom Filling System	Some processes
	Hi-Tack Spray Adhesive	Some processes
Stock Room	ZepVue RTU Glass Cleaner	Occasionally cleaning parts

4.0 Description of Environment

4.1 Location and Climate

The Conviron site is located within the Winnipeg Ecodistrict of the Lake Manitoba Plain Ecoregion and Prairies Ecozone. The mean monthly air temperature in Winnipeg ranges from approximately 21°C in July to -15.3 °C in January. The annual average precipitation is 664 mm (The Weather Network).

4.2 Topography

There are no significant topographical features on site. The site and surrounding properties are located on relatively flat prairie land.

4.3 Vegetation

A small roof top greenhouse is located in the middle back of the building, with access only from the interior of the building. There is no natural vegetation on site.

4.4 Wildlife

It is unlikely that any wildlife sensitive to human disturbance would be present on site. Terrestrial and avian species found in the site area would be limited to those found in urban settings.

5.0 Environmental and Human Health Effects

The following are the environmental and human health effects associated with the production of the controlled environment products:

- Solid wastes;
- Air and particulate emissions; and,
- Chemical management.

5.1 Solid Waste

There are limited potential impacts of the development on the environment due to all processes being completed inside the manufacturing building. All solid waste generated from the construction of the control environmental products are recycled and/or disposed of as per the regulatory requirements. Controlled products are disposed of as per the manufacturer's SDS disposal instructions.

5.1.1 Recycling

Scrap metal produced in the shearing process is recycled with Chisick Metal. Cardboard is stored in cardboard bales which are collected every two months and disposed of by Hagemeister Hauling Ltd. (HH). Lamps and ballasts (non PCB) are recycled at Environmental Disposal Solutions (EDS). Batteries are recycled at EDS and Miller Environmental Group Inc. Panduit and PVC pipe off cuts from the electrical and final assembly stages are recycled at Green for Life Environmental Inc. (GFL). Paper and cans from the offices are recycled at Phoenix and GFL, respectively.

5.1.2 Disposal

Solid waste including Styrofoam scraps, sawdust, waste wood and general refuse is collected and stored for ultimate landfill disposal by GFL.

5.2 Air and Particulate Emissions

Air from the building is emitted to the environment through eight openings in the building envelope. These openings are located in the numerous areas of the manufacturing area of the building, such as in the wood and welding production area. Particulates from the cutting and welding areas are diverted and collected to a bagging system within the work area. This bagging system is connected to an opening in the building envelope, which vents the bagging system to the outside. The two dust collector systems located on the saw table and radial arm saw, King Canada Model KC-30105C and King Canada Model KC-5043FX-2, to collect the dust and other particulates generated during the cutting process have air flow ratings of 1,200 CFM and 3,980 CFM, respectively. The exhaust system, Lincoln Electric Weld Fume Extraction Arm/Fan One-Pak®, located in the welding department has an air flow rating of 1200 CFM.

Potential impacts of the development on human health are identified and managed by the standard operating procedures and health and safety manual of practise and include workplace hazards when working in a manufacturing facility. Conviron completes air quality testing when new chemicals are introduced to the building.

Winnipeg Air Testing performed an air testing survey on September 23, 2016 at Conviron as part of an ongoing health and safety program. Testing was performed for metals in the soldering area, as well as testing for hexane and toluene in areas where glue is used. The chamber cleaning area was tested for propylene glycol monomethyl ether where a strong smelling cleaner is used to wipe down the insides of assembled chambers.

The results from the survey were compared to the 2016 Threshold Limit Values (TLVs). TLVs represent time-weighted average airborne concentrations to which it is believed that a worker can be exposed, eight hours per day, 40 hours per week, without adverse effect. TLVs have been accepted in the Safety and Health legislation as the allowable exposure guidelines in Manitoba. The air testing survey found that all of the exposures measured on the day of testing were less than 10% of the TLVs.

5.3 Chemical Management

There are limited potential impacts of chemical spills having an effect on the environment due to all processes being completed inside the building. However, chemical spills could have an effect on the health of workers in the manufacturing building. Mitigation measures outlined below are in place to reduce the risk of a chemical spill occurring.

5.3.1 Recycling

Used hydraulic oil from the machinery, used glycol from the test area, diestone and other flammable wastes from the crating process and residue glue drums from the cabinet/bench assembly are recycled through Miller Environmental Group Inc.

5.3.2 Disposal

Empty aerosol cans and waste paint related materials are disposed of at the supplier company such as Rona.

6.0 Mitigation Measures

Mitigation measures are in place to protect the environment and human health through various policies and programs at Conviron. All policies, standard operating procedure (SOP), job hazard analysis (JHA), risk assessments, safety training records, etc. are uploaded to a system on the Conviron network. Table 6-1 lists the mitigation measures for each environmental and human health effects.

Table 6-1: Mitigation Measures for Environmental and Human Health Effects

Environmental and Human Health Effect	Mitigation Measures
Solid Wastes	Recycled Materials: Scrap metal produced in the shearing process is recycled with Chisick Metal. Cardboard is stored in cardboard bales which are collected every two months and disposed of by Hagemeister Hauling Ltd. (HH). Lamps and ballasts (non PCB) are recycled at Environmental Disposal Solutions (EDS). Batteries are recycled at EDS and Miller Environmental Group Inc. Panduit and PVC pipe off cuts from the electrical and final assembly stages are recycled at Green for Life Environmental Inc. (GFL). Paper and cans from the office are recycled at Phoenix and GFL, respectively.
	Disposal Materials: Solid waste including Styrofoam scraps, sawdust, waste wood and general refuse is collected and stored for ultimate landfill disposal by GFL.
Air and Particulate Emissions	There are two dust collection systems located on the saw table and radial arm saw, King Canada Model KC-30105C and King Canada Model KC-5043FX-2, and one exhaust system, Lincoln Electric Weld Fume Extraction Arm/Fan One-Pak®, in the wood shop and welding production area. The dust collection systems, used to collect the dust and other particulates generated from the cutting process, have air flow ratings of 1,200 CFM and 3,980 CFM, respectively. The exhaust system has an air flow rating of 1200 CFM.
Chemical Management	Recycled Materials: Used hydraulic oil from the machinery, used glycol from the test area, diestone and other flammable wastes from the crating process and residue glue drums from the cabinet/bench assembly are recycled through Miller Environmental Group Inc.
	Disposal Materials: Empty aerosol cans and waste paint related materials are disposed of at the supplier company such as Rona.

The subsequent sections describe the other mitigation measures in place at the manufacturing facility. To date, there have been no complaints from neighbours with respect to noise, odours and/or air emissions.

6.1 Containment

All processes involved in manufacturing controlled environment systems are completed inside the Conviron manufacturing building. If a spill is to occur, it is contained within the building and is cleaned up as per the Conviron Fire Safety and Emergency Response Plan Section 8 – Major Releases of

Hazardous Material [redacted]. This mitigates the risk of materials spilled from escaping the building confines. If a spill is to occur outdoors, the protocol is to contain the spill, prevent the chemical from contaminating the groundwater and sewer system, not to leave the spill unattended, and to contact the MSD emergency response line at (204) 944-4888.

6.2 Storage and Handling

The Chemical Storage and Handling Policy [redacted] was established to provide guidance regarding safe storage and handling chemicals. Chemicals used for each process are kept in a designated area in a chemical storage locker.

6.3 Monitoring

Conviron completes internal audits to ensure the protection of environment and human health. Conviron is in the process of becoming COR™ certified (Certificate of Recognition Program) which is an occupational health and safety accreditation program that ensures a fully implemented health and safety program which meets national standards. Once certified, Conviron will have yearly audits to maintain certification.

6.4 Treatment and Final Disposal of Manufacturing Materials

The Waste Management Policy [redacted] at Conviron ensures that every effort is made regarding handling, organization, segregation, storage, recycling and disposal of waste. [redacted] The waste management program includes recycling products such as cardboard, shrink wrap, metals, manufacturing and personal consumption waste, office paper, and pallets. The program also identifies recycling E-waste as per Manitoba's electronic waste program, and items like batteries, florescent tubes, and ballasts are recycled through local programs. Purchasing environmentally friendly products is encouraged at Conviron, and controlled products are disposed of as per the manufacturer's SDS disposal instructions.

6.5 Protection of Environment and Human Health

Conviron workers must report any issues related to contamination of the floor, air, or environment to a supervisor. Workers shall report all injuries, regardless of severity, to the supervisor in charge. Carbon monoxide detectors and alarms are present at the manufacturing facility. The Chemical Inventory Management Policy [redacted] was established to ensure that all affected employees are aware of the dangers of all hazardous chemicals used by Conviron. This policy informs workers of the hazardous properties of chemicals, safe handling procedures, and safety measures.

Conviron has developed a Fire Safety and Emergency Response Plan [redacted] as part of the Conviron Workplace Safety and Health Program. The objective of the Fire Safety and Emergency

Response Plan is to reduce the possible consequences of an emergency by preventing fatalities and injuries, minimizing damage to buildings, inventory and equipment, and accelerating the resumption of normal operations. The plan includes a section focused on the major releases of hazardous material, which outlines procedures for dealing with chemical and biological spills.

Other policies within the General Workplace Safety Requirements Policy that are in place to protect the environment and human health at Conviron include General Housekeeping, Access & Egress in the Workplace, Flammable & Hazardous Materials, Personal Hygiene, Fire Safety and Extinguisher Use, and Office Safety.

7.0 Follow-up Plans

Conviron completes internal audits to ensure the protection of environment and human health. As mentioned above, Conviron is in the process of becoming COR™ (Certificate of Recognition Program) certified which is an occupational health and safety accreditation program that ensures a fully implemented health and safety program which meets national standards. Once certified, Conviron will have audits as required to maintain certification.

8.0 Conclusions

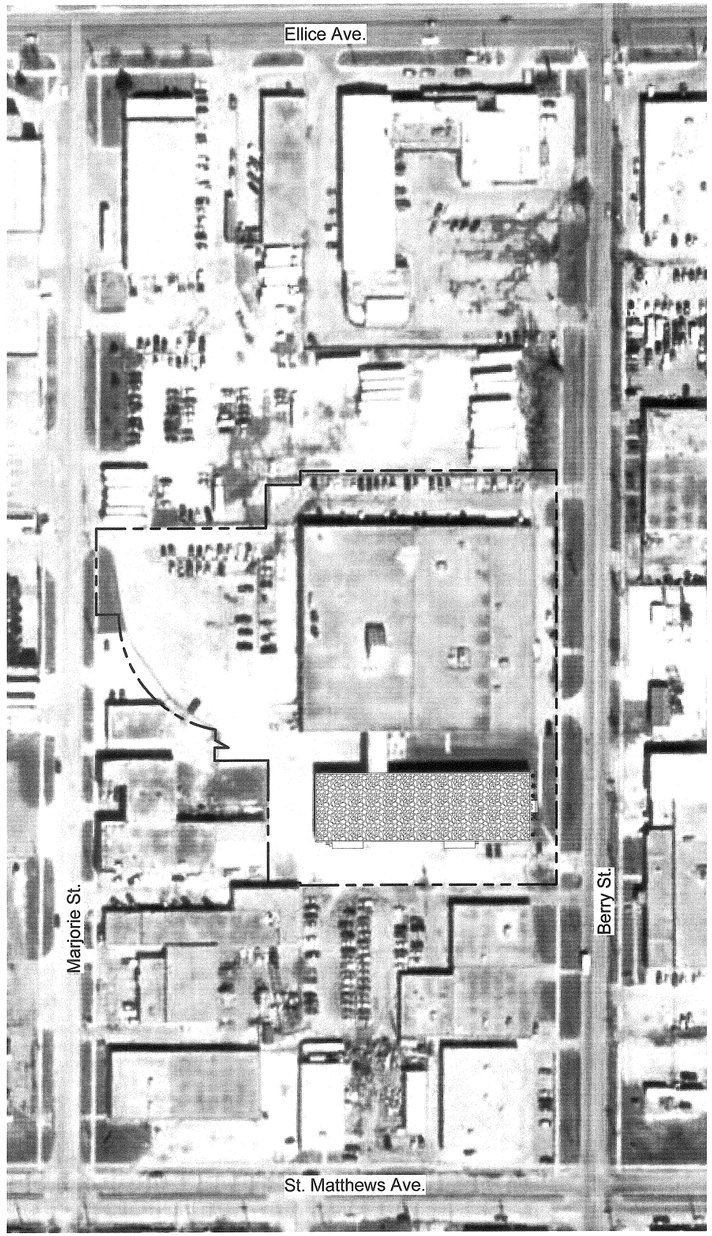
In conclusion, this Environment Act Proposal submission to Manitoba Sustainable Development is for the Environmental Assessment Branch review and approval of the Conviron manufacturing facility. The manufacturing facility requires an Environment Act Licence for continued operation in accordance with The Environment Act and the Classes of Development Regulation.

The manufacturing facility potential environmental and human health effects have mitigation measures in place to protect the environment and human health through existing policies and programs at Conviron.

Conviron has operated at this location since 1991 There are no adverse environmental effects identified nor are there any adverse effects anticipated as a result of the continued operation of the facility as described within this EAP.

Appendix A

Aerial View and Building Drawings of Facility



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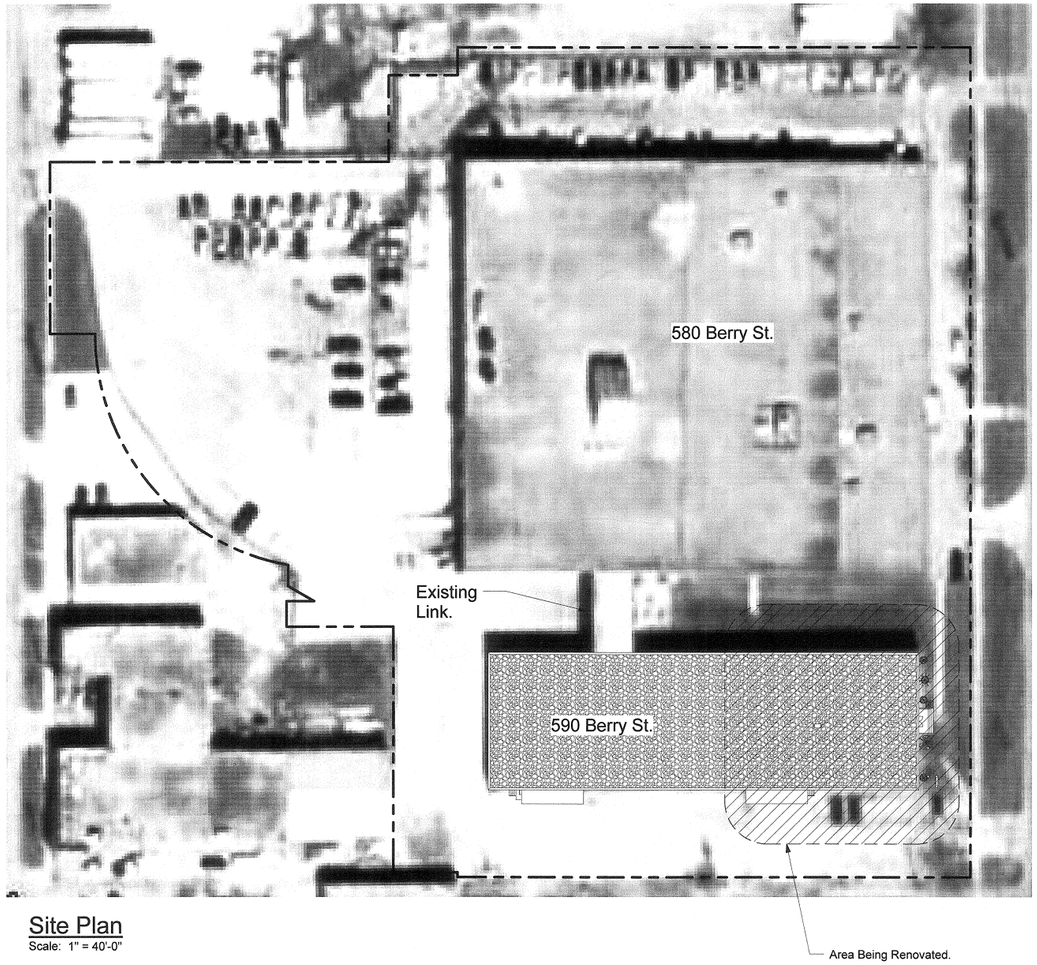
Key Plan
Scale: 1" = 80'-0"



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Site Plan
Scale: 1" = 40'-0"

Drawing List	
Sheet #	Sheet Name
D-01	Site Plan
D-02	Demolition And Construction Plan
D-03	New Floor Plan
D-04	Interior Elevations And Section
S-01	Ramp Layout Plan & Sections
S-02	Structural General Notes

Project Description:

Partitioning of a 8000 S.F. portion of the build at 590 Berry Street to serve as a research laboratory (research institution) operated in conjunction w/ Monsanto separate from the existing manufacturing facility.

Mechanical and electrical work to suit the research laboratory, including electrical service changes and new roof top unit.

Office renovations including minor changes to the office layout, repainting and new carpet and tile.

Handicap accessibility upgrades, including new handicap ramp and washroom upgrades to meet accessibility guidelines.

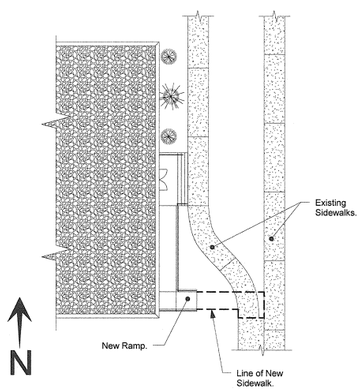
Zoning: M-1

Research Institution - Permitted Use.

Parking - All existing, no material changes in use or occupancy.

Existing building classification - **F-2: Medium Hazard Industrial** (No paragraph noted on original permit drawings from April 1955) with accessory use **Group D for office areas**.

Building is fully sprinklered.



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New Sidewalk Layout Plan
Scale: 1" = 20'-0"

AS BUILT
April 11, 2011

Pre-Con Builders
1540 Taylor Ave. Winnipeg, Manitoba, R3N 1Y1
Tel:(204)633-2515
Fax:(204)694-5576
www.preconbuilders.com

Consultant

Consultant

Description	Date	Mark
Revised Drawing List.	Oct 26/10	R1

Revisions

Seal/Permit

Project Title:
Conviron / Monsanto Research Lab
590 Berry St
Winnipeg MB, R3H 0R9

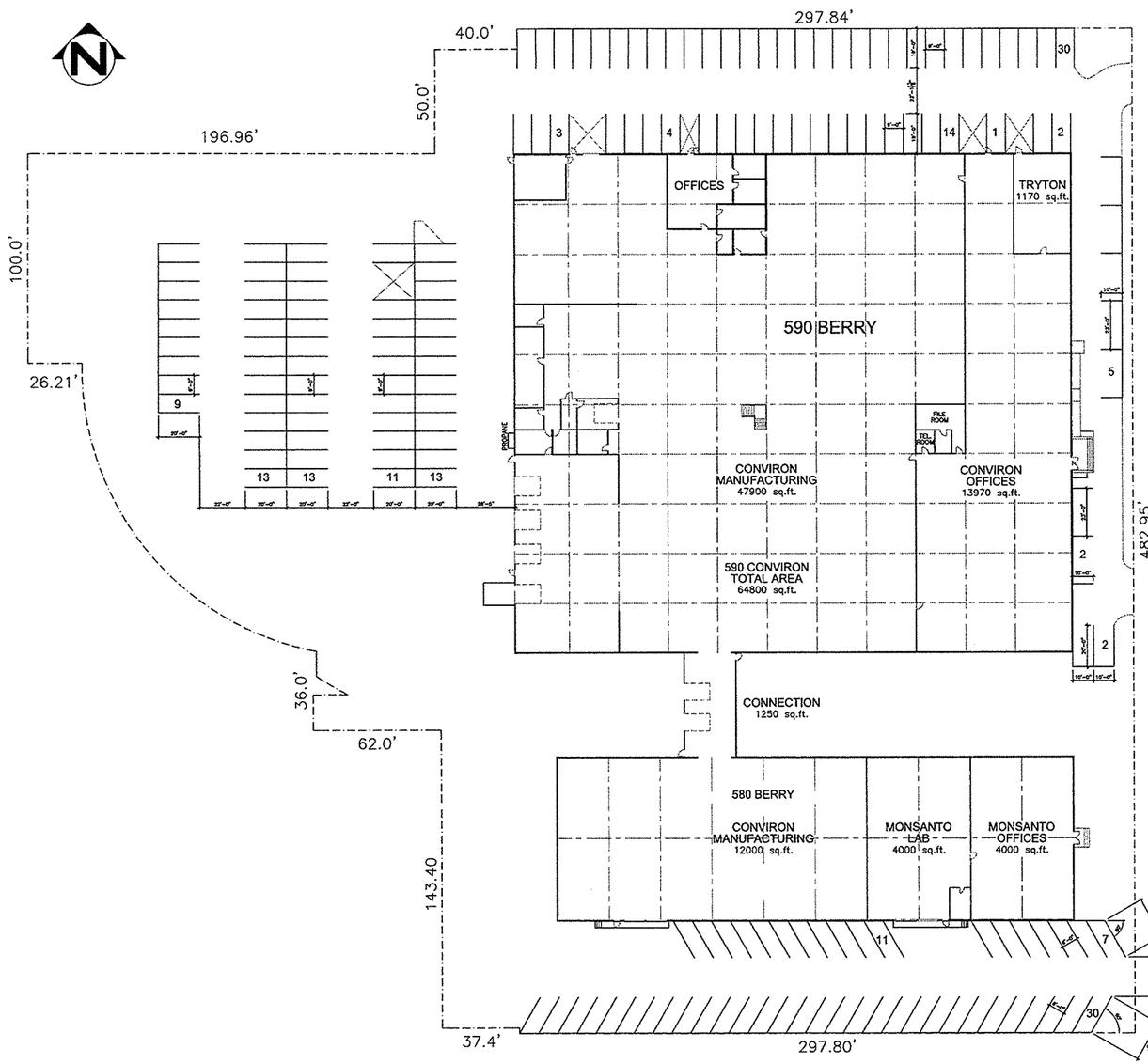
Drawing Title:
Site Plan

Project No. 9029
Drawn By: J.L.
Scale: As indicated
Date: Sept 15, 2010

Sheet No.
D-01 R1

T:\JOBS\2009\9029 Conviron 580 Berry\Drawings\10-09-13\9029 Conviron Reno 580 Berry (Aug 17 2009).rvt

THIS DWG. NOT TO BE SCALED. INSTALLERS SHALL VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF WORK. ALL ERRORS AND OMISSIONS TO BE REPORTED IMMEDIATELY TO "CONVIRON". VARIATION TO THESE DRAWINGS SHALL NOT BE CARRIED OUT WITHOUT WRITTEN PERMISSION FROM "CONVIRON".



PARKING SUMMARY			
590 BERRY AND CONNECTION		REQ'D	PROVIDED
OFFICE	16 900 SF	23	
MANUFACTURING	49 150 SF	49	
		72	122
580 BERRY AND CONNECTION		REQ'D	PROVIDED
CONVIRON - MANUFACTURING	12 000 SF	12	
MONSANTO - RESEARCH	8 000 SF	11	
		23	48
TOTAL PARKING AGGREGATE		REQ'D	PROVIDED
		95	170

CONVIRON
TOTAL AREA
86050 sq.ft.

DEVELOPMENT PERMIT
CITY OF WINNIPEG
No. 10 170788
APPROVED PLAN
Page 1 of 3
DEVELOPMENT OFFICER
Jan 28/11
DATE

CONVIRON	CUSTOMER: CONVIRON SITE PLAN 580 & 590 BERRY STREET WINNIPEG, MB	DESIGNED BY:	CHECKED BY:	SCALE: NOT TO SCALE	MODEL NUMBER: / ORDER NUMBER:
		DRAWN BY: J.Villanueva	APPROVED BY:	DATE: January 27, 2011	DRAWING NUMBER: CEL-11 / REVISION 04

SHEET METAL
SHOP LEGEND:

1. ALL STEEL LG BREAK
2. AMADA ARIES
3. ACCURSHEAR
4. DURMA BREAK
5. ALL STEEL SM Break
6. HAEGER
7. ROTEX
8. ROUSELL 1
9. ROUSELL 2
10. SHEET METAL RACK
11. SM HAND BREAK
12. FOOT SHEAR
13. LG HAND BREAK
14. AMADA PEGA

SM= SHEET METAL
CA= CABINET ASSEMBLY
BA= CABINET ASSEMBLY
FA= FINAL ASSEMBLY
RF= REFRIGERATION
WS= WOOD SHOP
CR= CRATING
WEL= WELDING
CAN= CANOPY ASSEMBLY
CP= CONTROL PANEL
EL= ELECTRICAL
WIR= WIRES
ADAP= ADAPTIS

RACK#–ROW#–SHELF#
example: FA2–R2–S3

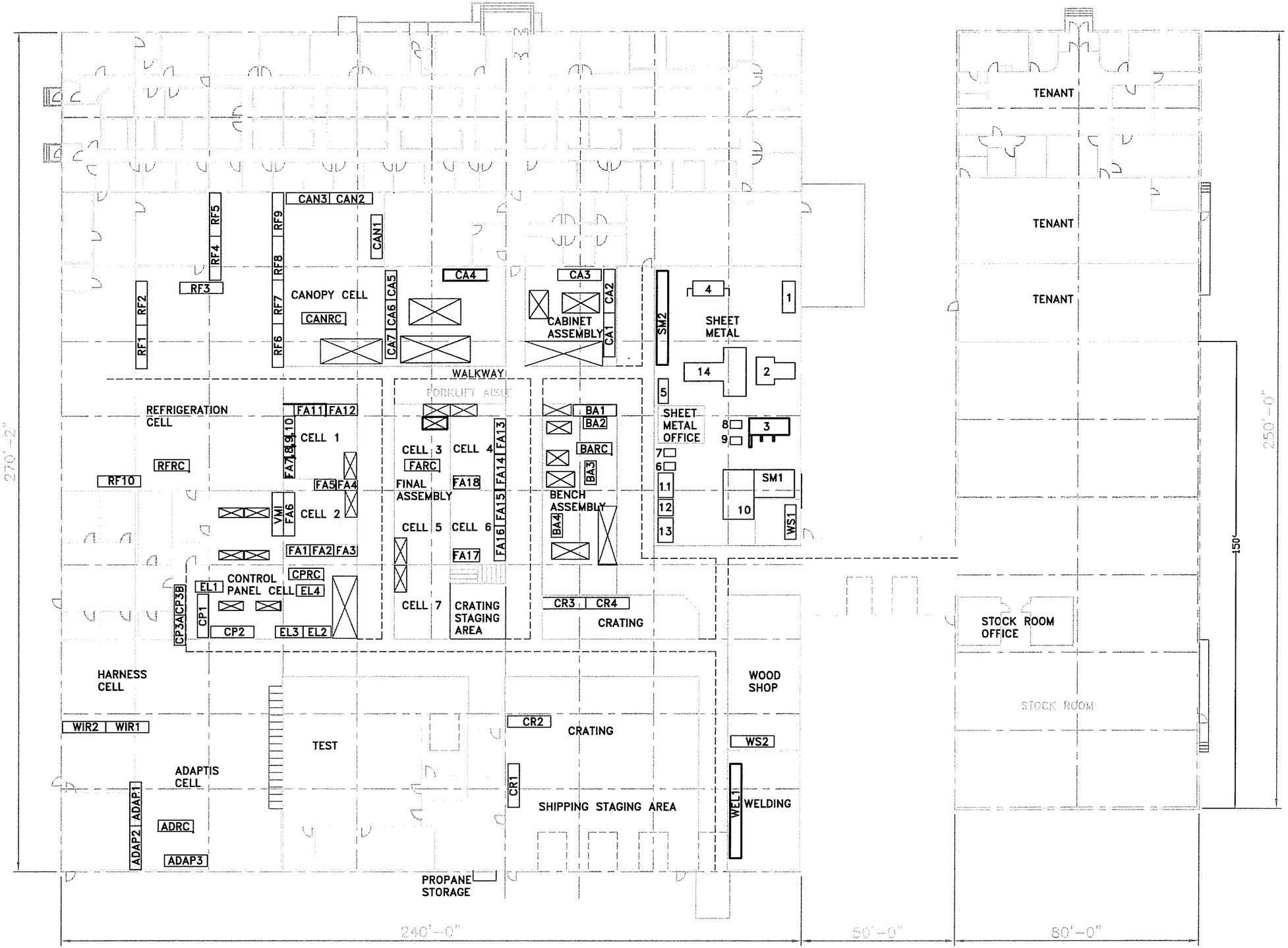
SHELF 3 *
SHELF 2
SHELF 1
ROW 1 ROW 2 ROW 3

Staging Area

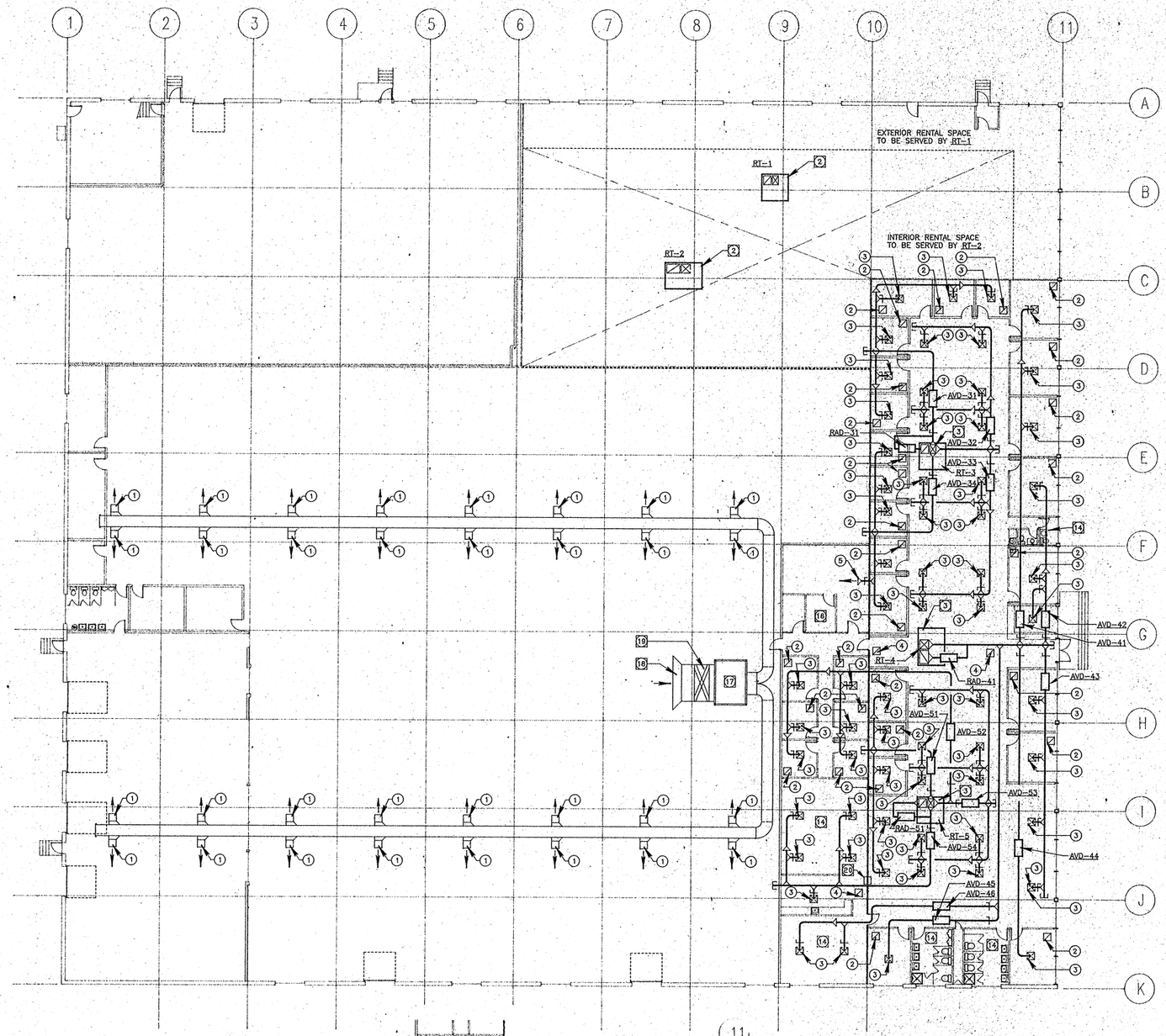
Work Bench

Walkway

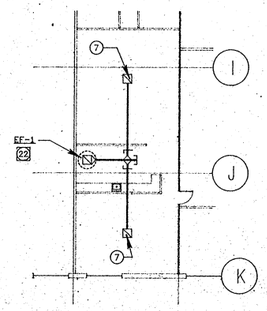
Forklift aisle



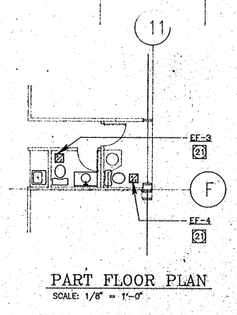
CONVIRON®	CUSTOMER: CONVIRON LAYOUT 560 & 590 BERRY STREET WINNIPEG, MB	DESIGNED BY:	CHECKED BY:	SCALE: NOT TO SCALE	MODEL NUMBER:	ORDER NUMBER:
		DRAWN BY:	APPROVED BY:	DATE: DEC 01, 2011	DRAWING NUMBER: 251287	REVISION 00



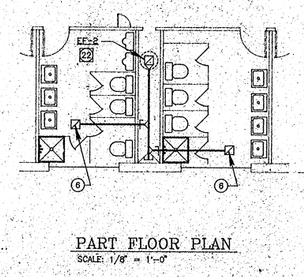
FLOOR PLAN
SCALE: 1/16" = 1'-0"



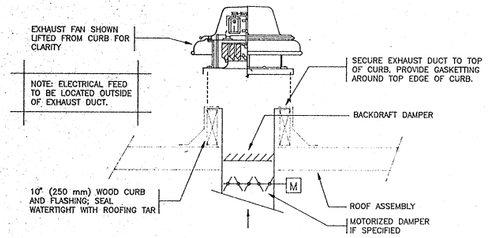
PART FLOOR PLAN
SCALE: 1/16" = 1'-0"



PART FLOOR PLAN
SCALE: 1/8" = 1'-0"



PART FLOOR PLAN
SCALE: 1/8" = 1'-0"



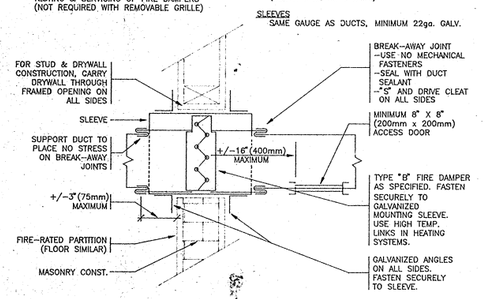
DETAIL A/M-1 CENTRIFUGAL ROOF EXHAUSTER
SCALE: NTS

GENERAL NOTES:
- INSTALLATION MUST CONFORM TO LOCAL CODES AND MANUFACTURERS RECOMMENDATIONS
- VERTICAL DUCTS SIMILAR
- PROVIDE ACCESS THROUGH CEILINGS TO ACCESS DOORS FOR TESTING & SERVICING OF FIRE DAMPERS (NOT REQUIRED WITH REMOVABLE GRILLE)

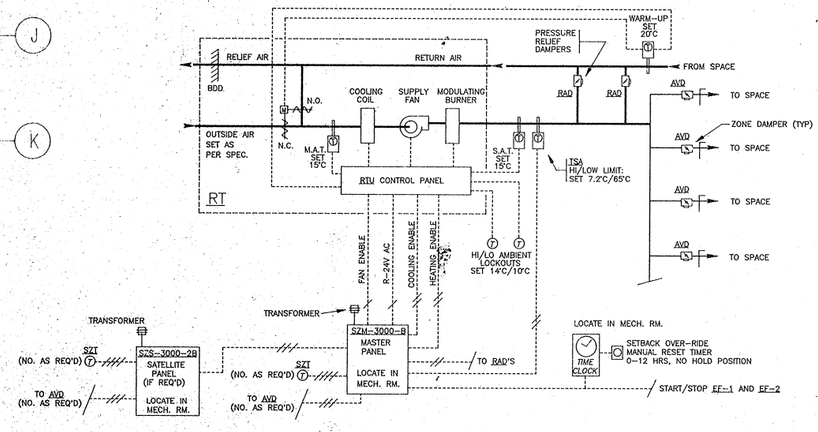
ANGLES
DAMPERS UNDER 48"(1200mm) W. OR 60"(1500mm) H., USE 1.5" x 1.5" (38mm x 38mm) x 16ga.

DAMPERS OVER 48"(1200mm) W. OR 60"(1500mm) H., USE 1.5" x 1.5" x 0.125" (38mm x 38mm x 3mm)

SLEEVES
SAME GAUGE AS DUCTS, MINIMUM 22ga. GALV.



DETAIL B/M-1 TYPE "B" FIRE DAMPER INSTALLATION
SCALE: NTS



DETAIL C/M-1 CONTROL SCHEMATIC OF ROOF-TOP UNIT WITH ZONE-ALL SYSTEM
SCALE: NTS

No.	Date:	Description:

PROVINCE OF MANITOBA — G. D. STASYNEC — 0111930 — REGISTERED ENGINEER

G.D. Stasynec and Associates Ltd.
Engineering Consultants
202-2741 Portage Avenue
Winnipeg, Manitoba
Canada, R3J 0R2
Telephone: (204) 832-1906

File: 911044
Designed: G.T./G.D.S.
Drawn: G.T.
Checked: G.D.S.
Date: OCTOBER, 1991

Project: RENOVATIONS TO: 590 BERRY ST., WPG., MAN. FOR: CONVIRON (CONTROLLED ENVIRONMENTS LTD.)
Sheet No./Revision No.: M-1/R-0
Sheet Title: VENTILATION FLOOR PLAN AND DETAILS
Scale: AS NOTED

Appendix B

Certificate of Title

ANDRE VAN DE WALLE
Land Surveys

#4-590 Roseberry Street
Winnipeg, Manitoba
R3H 0T1
Fax: 786-1657
Phone: 783-2007

AMLS MEMBER

Andre Van De Walle, M.L.S.
Res. Stonewall — 467-2520

BUILDING LOCATION CERTIFICATE

TO: Tryton Investments Company Limited
c/o Flanders Real Estate Ltd.
600 - 305 Broadway
Winnipeg MB R3C 3J7

Date of Search: April 8, 1996
Certificate of Title: 1282541
Registered Owners: Tryton Investment Company Limited

Legal Description: Lot 2, Plan 18469 WLTO in RL 33 to 35, Parish of St. James.

ENCUMBRANCES: Instrument No.'s 1463536, 1463537, 1471599, 1938568, 1938569 and 1961432 are registered against the above Certificate of Title. Encumbrances noted herein are provided for information purposes only and have not been investigated as to their intent or extent.

Date of Search: April 8, 1996
Certificate of Title: 1282540
Registered Owners: Tryton Investment Company Limited

Legal Description: Firstly: Parcel "A", Plan 17660 WLTO in RL 33, Parish of St. James. Secondly: Parcels "A", "B", and "C", Plan 6290 WLTO in RL 33 and 34, Parish of St. James.

ENCUMBRANCES: Instrument No.'s 1463536, 1463537, 1471599, 1938568 and 1938569 are registered against the above Certificate of Title. Encumbrances noted herein are provided for information purposes only and have not been investigated as to their intent or extent.

As requested, measurements have been made to determine the position of a one storey brick building, numbered 590, on the West side of Berry Street, in the City of Winnipeg, Manitoba. Above ground level, this building is contained entirely within the limits described.

There are no encroachments onto the above described land by buildings from adjoining properties.

This survey was performed on the 8th day of May, 1996.

Signed and sealed this 9th day of May, 1996.

Andre Van De Walle, Manitoba Land Surveyor

NOTE: INSTALLATION OF SURVEY MONUMENTS AT PROPERTY CORNERS WAS NOT REQUESTED FOR THIS SURVEY.

Please refer to Page 2 for Sketch.

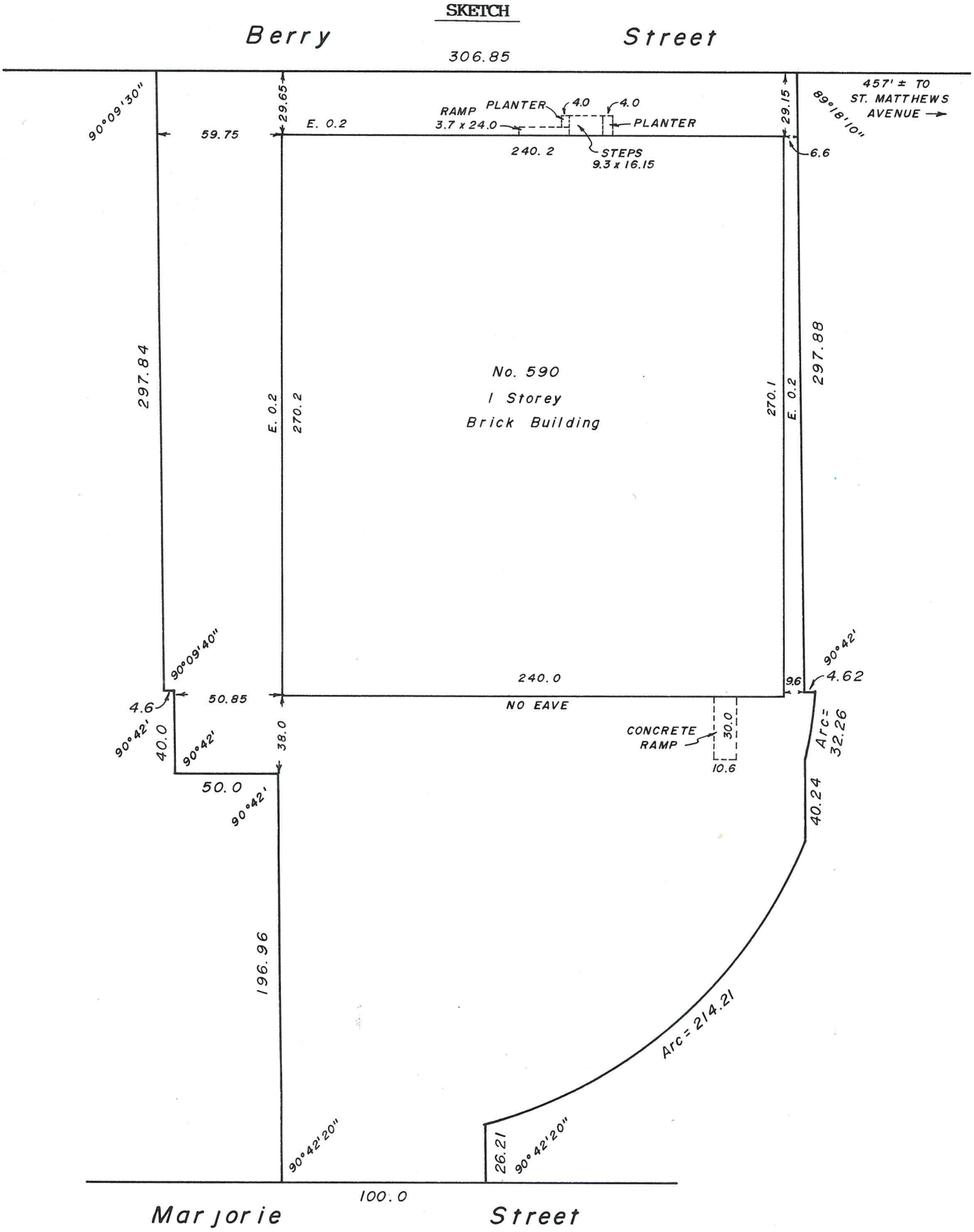
ANDRE VAN DE WALLE
Land Surveys

#4-590 Roseberry Street
Winnipeg, Manitoba
R3H 0T1
Fax: 786-1657
Phone: 783-2007

Andre Van De Walle, M.L.S.
Res. Stonewall — 467-2520

AMLS MEMBER

SKETCH



Signed and sealed this 9th day of May, 1996.

A. Van De Walle

Andre Van De Walle, Manitoba Land Surveyor

References

Agriculture and Agri-Food Canada. (1998-1999). *Terrestrial Ecozones, Ecoregions, and Ecodistricts of Manitoba. An Ecological Stratification of Manitoba's Natural Landscapes.*

Manitoba Sustainable Development. (2015). *Information Bulletin – Environment Act Proposal Report Guidelines.*

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