1 General

1.1 REFERENCES

.1 ASTM D2235-89, Specification for Solvent Cement for Acrylonitrille-Butadiene-Styrene (ABS) Plastic Pipe and Fittings.
.2 CAN/CSA-B181.1-M90, ABS Drain, Waste and Vent Pipe and Pipe Fittings.

1.2 QUALITY ASSURANCE

.1 Health and Safety:
  .1 Do construction in accordance with occupational health and safety.

1.3 DELIVERY STORAGE AND DISPOSAL

.1 Waste Management and Disposal:
  .1 Separate and recycle waste materials in accordance with the architectural drawings– Cleaning and Waste Management.
  .2 Collect and separate for disposal paper packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.

2 Products

2.1 PIPING AND FITTINGS

.1 For buried or above ground DWV piping to:
  .1 CAN/CSA-B181.1.
  .2 CAN/CSA-B181.2.
  .3 CAN/CSA-B182.1.

2.2 JOINTS

.1 Solvent weld for ABS: to ASTM D2235.

3 Execution

3.1 INSTALLATION

.1 Install in accordance with Ontario Plumbing Code.

3.2 TESTING

.1 Pressure test buried systems before backfilling.
.2 Hydraulically test to verify grades and freedom from obstructions.

3.3 PERFORMANCE VERIFICATION

.1 Cleanouts:
  .1 Ensure that access doors are correctly located.
  .2 Verify that cleanout rods can probe as far as the next cleanout, at least.
.2 Test to ensure traps are fully and permanently primed.
.3 Ensure that fixtures are properly anchored, connected to system and effectively vented.

END OF SECTION

1 General

1.1 SUMMARY

.1 Section Includes:
  .1 Materials and installation for plumbing specialties and accessories.
.2 Related Sections:
  .1 Architectural drawings- Submittal Procedures.

1.2 REFERENCES

.1 American Society for Testing and Materials International (ASTM).
  .1 ASTM A126-95(2001), Specification for Flanges and Pipe Fittings.

1.3 SUBMITTALS

.1 Submittals in accordance with the architectural drawings - Submittal Procedures.
.2 Product Data:
  .1 Submit manufacturer's printed product literature, specifications and datasheet for fixtures and equipment.
  .2 Indicate dimensions, construction details and materials for specified items.
.3 Shop Drawings:
  .1 Submit shop drawings to indicate materials, for all system specified herein.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Store and manage any hazardous materials in an approved safe manner.
.2 Waste Management and Disposal:
  .1 Separate waste materials for reuse in accordance with the architectural drawings– Cleaning and Waste Management.
  .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.

2 Products

2.1 MATERIALS

.1 Materials specified herein shall be new and free from any defects.

2.2 FLOOR DRAINS

.1 Floor Drains: to CSA B79.
.2 Type FD-1: Floor drain with round heavy duty strainer. Baked epoxy coated cast iron with anchor flange and primary/secondary weepholes. Adjustable nickel bronze strainer. Trap seal primer tap connection.

2.3 CLEANOUTS

.1 Cleanout Plugs: male ferrule with brass screws and threaded brass or bronze plug. Sealing-caulked lead seat or neoprene gasket.
.2 Access Covers:

  .1 Floor Access: round and:
    .1 Plugs: bolted bronze with neoprene gasket.
    .2 Cover for Unfinished Concrete Floors: cast iron, gasket, vandal-proof screws.

3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheet.

3.2 INSTALLATION

.1 Install in accordance with National Plumbing Code of Canada.
.2 Install in accordance with manufacturer's instructions and as specified.

3.3 CLEANOUTS

.1 Install cleanouts at locations required code, and as indicated.
.2 Bring cleanouts to wall or finished floor.
.3 Provide building main drain cleanout.

3.4 START-UP

.1 General:
  .1 In accordance with manufacturer’s recommendations and as specified herein.
.2 Timing: start-up only after:
  .1 Pressure tests have been completed.

3.5 TESTING AND ADJUSTING

.1 General:
  .1 In accordance with manufacturer’s recommendations.
  .2 Clean out baskets.
.2 Cleanouts:
  .1 Verify covers are gas-tight, secure, yet readily removable.

END OF SECTION

1 GENERAL

1.01 Related Requirements

.1 Section 01 01 00 General Instructions.

1.02 Products Supplied But Not Installed Under This Section

.1 Notify Departmental Representative and supplier authorized to release material of proposed date for use of materials; order and schedule shipments to coincide with construction schedule.

.2 Where reclaimed asphalt pavement (RAP) is to be incorporated into mix, use only material obtained from this contract.

1.03 Measurement And Payment

.1 Measure asphalt concrete paving in tonnes of asphalt concrete actually incorporated into Work.

.2 Measure supply of asphalt cement in litres at 15 degrees C.

.3 Measure supply of hydrated lime in tonnes.

1.04 References

.1 American Association of State Highway and Transportation Officials (AASHTO)
- .1 AASHTO M320-10, Standard Specification for Performance Graded Asphalt Binder.
- .2 AASHTO R29-08, Standard Specification for Grading or Verifying the Performance Graded of an Asphalt Binder.
- .3 AASHTO T245-97(2008), Standard Method of Test for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus.

.2 Asphalt Institute (AI)
- .1 AI MS-2-1994, Mix Design Methods for Asphalt Concrete and Other Hot-Mixes.

.3 ASTM International
- .1 ASTM C 88-05, Standard Test Method for Soundness of Aggregates by Use of Sodium Sulphate or Magnesium Sulphate.
- .2 ASTM D 698-12, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ftü (600 kN-m/mü)).

.4 Ontario Provincial Standard Specifications (OPSS)
- .1 OPSS 302-2012, Construction Specification for Primary Granular Base.
- .2 OPSS 310-2012, Construction Specification for Hot Mixed Asphalt.
- .3 OPSS 314-2004, Construction Specification for Untreated Granular, Subbase, Base, Surface Shoulder and Stockpiling.
- .4 SP 110S13-2011, Amendment to OPSS 1010, Material Specification for

Aggregates, Granular A, B, M and Select Subgrade Material.
.5 OPSS 1103-2012, Material Specification for Emulsified Asphalt.
.6 OPSS 1150-2010, Material Specification for Hot Mixed Asphalt.

.5 The Master Painters Institute (MPI)
.1 Architectural Painting Specification Manual - current edition.
.1 MPI #32, Traffic Marking Paint, Alkyd.

1.05 Action And Informational Submittals

.1 Submit in accordance with Section 01 01 00 General Instructions.

.2 Product Data:
.1 Submit manufacturer's instructions, printed product literature and data sheets for [asphalt mixes and aggregate] and include product characteristics, performance criteria, physical size, finish and limitations.
.2 Submit viscosity-temperature chart for asphalt cement to be supplied showing either Saybolt Furol viscosity in seconds or Kinematic Viscosity in centistokes, temperature range 105 to 175 degrees C 4 weeks prior to beginning Work.

.3 Samples:
.1 Inform Departmental Representative of proposed source of aggregates and provide access for sampling 4 weeks prior to beginning Work.

.4 Sustainable Design Submittals:
.1 Erosion and Sedimentation Control: submit copy of erosion and sedimentation control plan in accordance with authorities having jurisdiction.
.2 Construction Waste Management:
.1 Submit project Waste Management Plan highlighting recycling and salvage requirements.
.2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50% of construction wastes were recycled or salvaged.
.3 Recycled Content:
.1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer content, and total cost of materials for project.
.4 Regional Materials: submit evidence that project incorporates required percentage % of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.

1.06 Delivery, Storage And Handling

.1 Deliver, store and handle materials in accordance with Section 01 01 00 General Instruction and with manufacturer's written instructions.

.2 Deliver and stockpile aggregates in accordance with Section 01 01 00 General Instruction and erosion and sedimentation control plan. Stockpile minimum 50% of total amount of aggregate required before beginning asphalt mixing operation.

.3 When necessary to blend aggregates from one or more sources to produce required gradation, do not blend in stockpiles.

.4 Stockpile fine aggregate separately from coarse aggregate, although separate stockpiles for more than two mix components are permitted.

.5 Provide approved storage, heating tanks and pumping facilities for asphalt cement.

.6 Submit to Departmental Representative copies of freight and waybills for asphalt cement as shipments are received.
.1 Departmental Representative reserves right to check weights as material is received.

.7 Stockpile crushed RAP separately in accordance with Section 01 01 00 General Instruction and where directed by Departmental Representative.

.8 Protect and cover stockpiles of crushed RAP from rain to approval of Departmental Representative in accordance with erosion and sedimentation control plan.

.9 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 01 00 General Instruction.

.10 Packaging Waste Management: remove for reuse and return of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 01 00 General Instructions.

2 PRODUCTS

2.01 Materials

.1 Aggregates to: SP 110S13.
.1 Granular A.
.2 Granular B Type II.
.3 Select subgrade.

.2 Prime coat: MTO Primer to OPSS 1103.

.3 Tack coat: SS-1 to OPSS 1103.

.4 Asphalt concrete: to OPSS 1150.

.5 Aggregates: to CCDG.
.1 Crushed Granular MG 20.
.2 Natural Gravel 80-0.
.3 Gravel and sand.

.6 Prime coat: RC-30 to CCDG.

.7 Tack coat: SS-1 to CCDG.

.8 Asphalt concrete: to CCDG.

.9 Granular subbase: B Type II.

.10 Granular base: A.

.11 Traffic paint: yellow to MPI # 32.

3 EXECUTION

3.01 Examination

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for asphalt paving in accordance with manufacturer's written instructions.
  .1 Visually inspect substrate in presence of Departmental Representative.
  .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
  .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.02 Foundations

.1 Foundations for roadways comprise:
  .1 300 mm compacted thickness of granular subbase B Type II.
  .2 150 mm compacted thickness of granular base A.

.2 Foundations for parking lots to comprise:
  .1 [300] mm compacted thickness of granular base A.

.3 Construction of granular foundations: OPSS 314.

.4 Compaction: compact each lift of granular material to 98% maximum density to ASTM D 698. Maximum lift thickness: 150 mm.

3.03 Pavement Thickness

.1 Pavements for roadways:
  .1 Base course: 50 mm HL8.
  .2 Wear course: 40 mm HL3.

.2 Pavements for parking lots:
  .1 Wear course: 50 mm HL3.

3.04 Pavement Construction

.1 Application of prime coat: OPSS 302.

.2 Construction of asphalt concrete: OPSS 310.

.3 Surface preparation: CCDG.

.4 Application of prime coat [and tack coat]: CCDG.

.5 Construction of asphalt concrete: CCDG.

3.05 Traffic Markings

.1 Paint parking space divisions and other pavement markings in accordance with manufacturers recommendations and as indicated.

.2 Use paint thinner in accordance with manufacturer's requirements.

3.06 Cleaning

.1 Progress Cleaning: clean in accordance with Section 01 01 00 General Instruction.
  .1 Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 01 00 General Instruction.

.3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 01 00 General Instruction.
  .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION

1 GENERAL

1.01 RELATED REQUIREMENTS

.1 Section 01 01 00 General Instruction.

1.02 MEASUREMENT AND PAYMENT

.1 Measure supply and erection of chain link fence in metres erected including gates.

.2 Measure supply and erection of chain link fence gates as units of each size erected.

1.03 REFERENCES

.1 ASTM International
- .1 ASTM A 53/A 53M-10, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
- .2 ASTM A 90/A 90M-09, Standard Test Method for Weight [Mass] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings.
- .3 ASTM A 121-07, Standard Specification for Zinc-Coated (Galvanized) Steel Barbed Wire.
- .4 A653/A653M-10, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .5 ASTM C 618-08a, Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
- .6 ASTM F 1664-08, Standard Specification for Poly(Vinyl Chloride) (PVC)-Coated Steel Tension Wire Used with Chain-Link Fence.
- .7 ASTM A 123/A 123M-09, Standard Specification for Zinc (Hot Dip Galvanized) coatings on Iron and Steel Products.

.2 Canadian General Standards Board (CGSB)
- .1 CAN/CGSB-138.2-96, Steel Framework for Chain Link Fence.
- .2 CAN/CGSB-138.3-96, Installation of Chain Link Fence.
- .3 CAN/CGSB-138.4-96, Gates for Chain Link Fence.
- .4 CAN/CGSB-1.181-99, Ready-Mixed Organic Zinc-Rich Coating.

.3 CSA International
- .1 CSA A23.1/A23.2-09, Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.
- .2 CAN/CSA-A3000-08, Cementitious Materials Compendium.

.4 Master Painters Institute (MPI)
- .1 Architectural Painting Specification Manual - current edition.

1.04 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 01 00 General Instructions.

.2 Product Data:
- .1 Submit manufacturer's instructions, printed product literature and data sheets for [concrete mixes, fences, posts and gates] and include product characteristics, performance criteria, physical size, finish and limitations.

1.05 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 01 00 General Instruction and with manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:
- .1 Store materials in accordance with manufacturer's recommendations.
- .2 Store and protect fence and gate materials from damage.
- .3 Replace defective or damaged materials with new.

.4 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 01 00 General Instructions.

.5 Packaging Waste Management: remove for reuse and return of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 01 00 General Instruction.

2 PRODUCTS

2.01 MATERIALS

.1 Concrete mixes and materials: in accordance with Section 03 30 00 - Cast-in-Place ConcreteCSA A23.1.
- .1 Nominal coarse aggregate size: 20-5.
- .2 Compressive strength: 20 MPa minimum at 28 days.
- .3 Additives: fly ash to CSA A3000.
- .4 Recycled content: incorporate SCM's in concrete mix, minimum of % post-industrial recycled content.

.2 Chain-link fence fabric: to CAN/CGSB-138.1.
- .1 Type 1, Class A, heavy style, Grade 1.
- .2 Height of fabric: as indicated.

.3 Posts, braces and rails: to CAN/CGSB-138.2, galvanized steel pipe. Dimensions as indicated.

.4 Top and bottom tension wire: to CAN/CGSB-138.2, single strand, [galvanized] [aluminum coated] [vinyl coated] steel wire.

.5 Tie wire fasteners: aluminum alloy wire.

.6 Tension bar: to[ASTM A 653/A 653M, 5 x 20 mm minimum galvanized steel.

.7 Gates: to[CAN/CGSB-138.4.

.8 Gate frames: to ASTM A 53/A 53M, galvanized steel pipe, standard weight 45 mm outside diameter pipe for outside frame, 35 mm outside diameter pipe for interior bracing.
- .1 Fabricate gates as indicated with electrically welded joints, and [hot-dip galvanized] [painted with zinc pigmented paint] after welding.
- .2 Furnish gates with galvanized malleable iron hinges, latch and latch catch with provision for padlock which can be attached and operated from either side of installed gate.

.3 Furnish double gates with chain hook to hold gates open and centre rest with drop bolt for closed position.

.9 Fittings and hardware: to CAN/CGSB-138.2, galvanized steel.
- .1 Tension bar bands: 3 x 20 mm minimum galvanized steel or 5 x 20 mm minimum aluminum.
- .2 Post caps to provide waterproof fit, to fasten securely over posts and to carry top rail.
- .3 Overhang tops to provide waterproof fit, to hold top rails and an outward projection to hold barbed wire overhang.
- .4 Include projection with clips or recesses to hold 3 strands of barbed wire spaced 100 mm apart.
- .5 Projection of approximately 300 mm long to project from fence at 45 degrees above horizontal.
- .6 Turnbuckles to be drop forged.

.10 Organic zinc rich coating: to CAN/CGSB-1.181.

.11 Barbed wire : to ASTM A 121 2 mm diameter galvanized steel wire 4 point barbs 125 mm spacing.

.12 Barbed wire: to CAN/CGSB-138.2, 2.5 mm diameter.

.13 Grounding rod: 16 mm diameter copperwell rod, 3 m long.

2.02 FINISHES

.1 Galvanizing:
- .1 For chain link fabric: to CAN/CGSB-138.1 Grade 2.
- .2 For pipe: 550 g/mý minimum to ASTM A 90.
- .3 For barbed wire: to ASTM A 121, Class 2 CAN/CGSB-138.2.
- .4 For other fittings: to ASTM A 123/A 123M.

.2 Aluminum coating:
- .1 For barbed wire: to ASTM A 121, Class 2.

.3 Vinyl coating: to ASTM F 1664.
- .1 0.045 mm dry film thickness minimum.

3 EXECUTION

3.01 EXAMINATION

.1 Verification of Conditions: verify conditions of substrate previously installed under other Sections or Contracts are acceptable for fence and gate installation in accordance with manufacturer's written instructions.
- .1 Visually inspect substrate in presence of Departmental Representative.
- .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.02 PREPARATION

.1 Temporary Erosion and Sedimentation Control:
- .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction and erosion control plan, specific to site, that complies with EPA 832/R-92-005 or requirements of authorities having jurisdiction, whichever is more stringent.
- .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

.2 Grading:
- .1 Remove debris and correct ground undulations along fence line to obtain smooth uniform gradient between posts.
  - .1 Provide clearance between bottom of fence and ground surface of 30 mm to 50 mm.

3.03 ERECTION OF FENCE

.1 Erect fence along lines as indicated and to CAN/CGSB-138.3.

.2 Excavate post holes[to dimensions indicated.

.3 Space line posts 3 m apart, measured parallel to ground surface.

.4 Space straining posts at equal intervals not to exceed 150 m if distance between end or corner posts on straight continuous lengths of fence over reasonably smooth grade, is greater than 150 m.

.5 Install additional straining posts at sharp changes in grade and where directed by Departmental Representative.

.6 Install corner post where change in alignment exceeds 10 degrees.

.7 Install end posts at end of fence and at buildings.
- .1 Install gate posts on both sides of gate openings.

.8 Place concrete in post holes then embed posts into concrete to depths indicated.
- .1 Extend concrete 50 mm above ground level and slope to drain away from posts.
- .2 Brace to hold posts in plumb position and true to alignment and elevation until concrete has set.

.9 Install fence fabric after concrete has cured, minimum of 5 days.

.10 Install brace between end and gate posts and nearest line post, at inclination as indicated.
- .1 Install braces on both sides of corner and straining posts in similar manner.

.11 Install overhang tops and caps.

.12 Install top rail between posts and fasten securely to posts and secure waterproof caps and overhang tops.

.13 Install bottom tension wire, stretch tightly and fasten securely to end, corner, gate and straining posts with turnbuckles and tension bar bands.

.14 Lay out fence fabric. Stretch tightly to tension recommended by manufacturer and fasten to end, corner, gate and straining posts with tension bar secured to post with tension bar bands spaced at [300] mm intervals.
- .1 Knuckled selvedge at bottom.
- .2 Twisted selvedge at top.

.15 Secure fabric to top rails, line posts and bottom tension wire with tie wires at 450 mm intervals.
- .1 Give tie wires minimum two twists.

.16 Install barbed wire strands and clip securely to lugs of each projection.

.17 Install grounding rods as indicated.

3.04 INSTALLATION OF GATES

.1 Install gates in locations as indicated.

.2 Level ground between gate posts and set gate bottom approximately 40 mm above ground surface.

.3 Determine position of centre gate rest for double gate.
- .1 Cast gate rest in concrete as directed.
- .2 Dome concrete above ground level to shed water.

.4 Install gate stops where indicated.

3.05 TOUCH UP

.1 Clean damaged surfaces with wire brush removing loose and cracked coatings. Apply two coats of organic zinc-rich paint to damaged areas in accordance with Section 09 91 13 - Exterior Painting.
- .1 Pre-treat damaged surfaces according to manufacturers' instructions for zinc-rich paint.

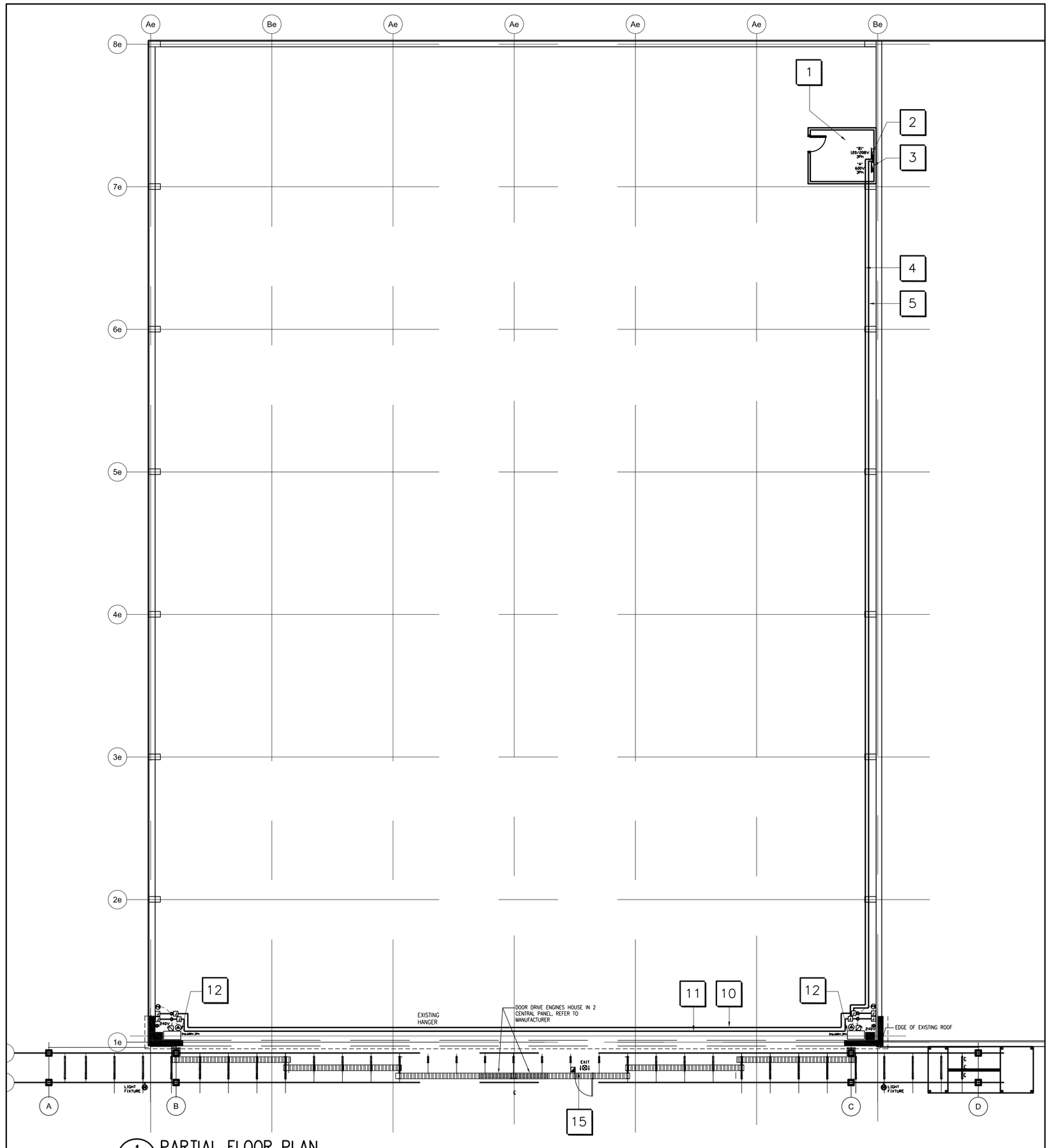
3.06 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 01 00 General Instruction.
- .1 Leave Work area clean at end of each day.

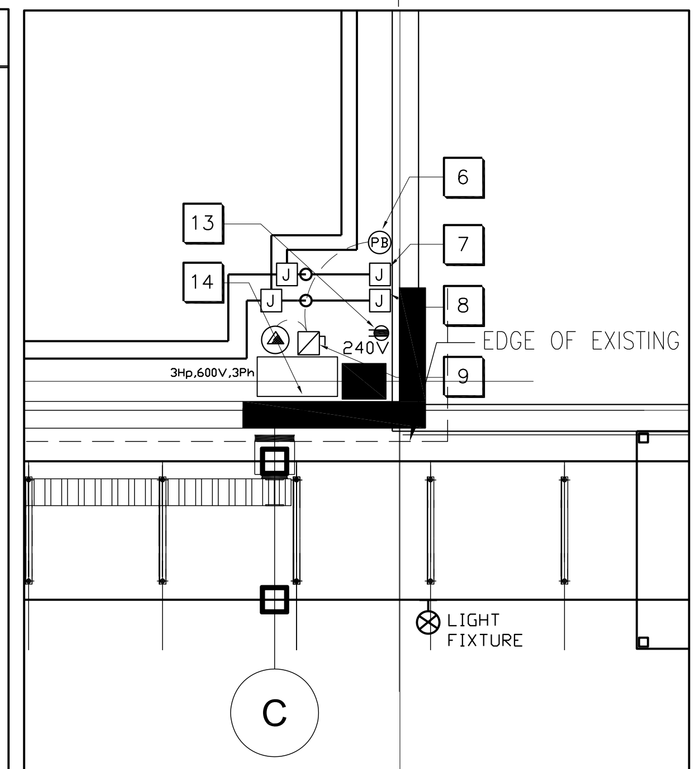
.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 01 00 General Instructions.

.3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 01 00 General Instruction.
- .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

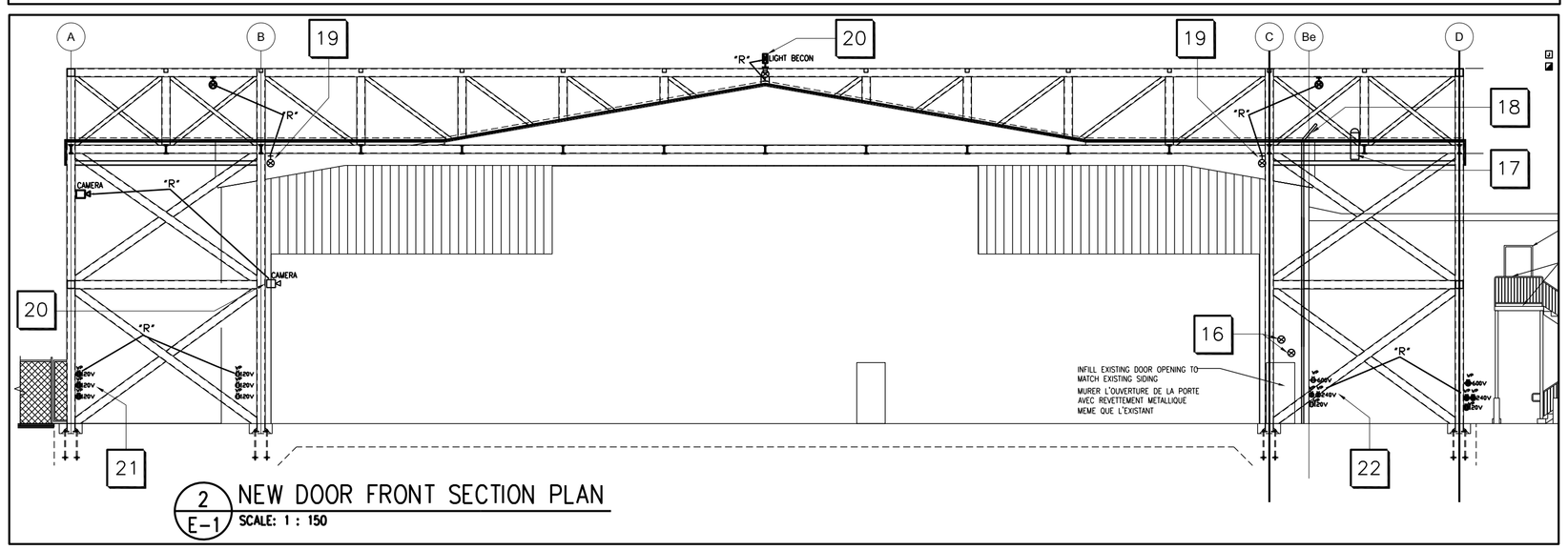
END OF SECTION



1 PARTIAL FLOOR PLAN
E-1 SCALE: 1 : 150



3 PARTIAL FLOOR PLAN DETAIL
E-1 SCALE: 1 : 50



2 NEW DOOR FRONT SECTION PLAN
E-1 SCALE: 1 : 150

ELECTRICAL LEGEND:

	120/208V PANEL BOARD OR 347/600V PANEL BOARD
	LOW VOLTAGE TRANSFORMER
	MANUAL DISCONNECT SWITCH
	600V RECEPTACLE
	240V RECEPTACLE
	120V DUPLEX RECEPTACLE
J	JUNCTION BOX
PB	ALARM / PUSH SWITCH
	WALL MOUNTED LIGHT FIXTURE
	SECURITY CAMERA
	MOTOR DIRECT CONNECTION
WP	WEATHER PROOF INSTALLATION
	EMERGENCY EXIT SIGN
	F/A POOL STATION
	FIRE DETECTOR I - SMOKE DETECTOR T - HEAT DETECTOR
$ D/M/T/P	SWITCH D - DIMMER M - MOTOR RATED T - TIMER
WP GF AF	WEATHER-PROOF GROUND FAULT CIRCUIT ARC FAULT CIRCUIT
	"EMT" CONDUIT SIZE AS SHOWN ON DRAWING

DRAWING NOTES:

1. EXISTING ELECTRICAL ROOM TO REMAIN. MODIFY EXISTING POWER DISTRIBUTION PANELS AS REQUIRED TO PROVIDE NEW POWERS FOR NEW HANGAR DOOR OPENERS.

2. EXISTING ELECTRICAL DISTRIBUTION PANEL "A" 600V, 3Ph, 60Hz, 225AMP TO REMAIN. PROVIDE TWO NEW 3 POLE, 600V, 3Ph, 15AMP BREAKERS FOR NEW 3Hp DOOR OPENERS ELECTRIC MOTORS. NEW BREAKERS TO MATCH EXISTING DISTRIBUTION PANEL.

3. EXISTING ELECTRICAL DISTRIBUTION PANEL "B1" 120/208V, 3Ph, 60Hz, 225AMP TO REMAIN. PROVIDE SIX NEW DEDICATED CIRCUITS AND 1 POLE, 120V, 1Ph, BREAKERS FOR NEW DOOR OPERATORS AS FOLLOWS. NEW BREAKERS TO MATCH EXISTING DISTRIBUTION PANEL.
– ONE BREAKER FOR CONTROLS 120V, 1Ph, 60Hz, 15AMP CIRCUIT.
– TWO 2POLE BREAKERS FOR HEATING SNOW MELTING TRACING CABLES 208V, 1Ph, 60Hz, 20AMP CIRCUITS.
– ONE BREAKER FOR MISCELLANEOUS 120V, 1Ph, 60Hz, 15AMP CIRCUIT.
(TYPICAL FOR TWO LOCATIONS).

4. PROVIDE 35mm DIAMETER "EMT" CONDUIT RUN UP BETWEEN JOISTS SPACE COMPLETE WITH 6 DEDICATED CIRCUITS 120V, 1Ph, 60Hz AND WIRING 8x SIZE #8 AWG COPPER RUN FROM EXISTING DISTRIBUTION PANEL "B1" AND END DEVICES LOCATIONS. PROVIDE ALL CONDUIT HANGERS AND SUPPORTS AS PER ELECTRICAL CODE.

5. PROVIDE 35mm DIAMETER "EMT" CONDUIT RUN UP BETWEEN JOISTS SPACE COMPLETE WITH 2 DEDICATED CIRCUITS 600V, 3Ph, 60Hz AND WIRING 8x SIZE #8 AWG COPPER RUN FROM EXISTING DISTRIBUTION PANEL "A" AND DOOR MOTORS LOCATIONS. PROVIDE ALL CONDUIT HANGERS AND SUPPORTS AS PER ELECTRICAL CODE.

6. PROVIDE CONTROL WIRING C/W "EMT" CONDUITS BETWEEN OPEN PUSH BUTTON UNITS AND DOOR OPERATOR CONTROL PANEL SUPPLY BY DOOR MANUFACTURE. ALL THIS WORK SHALL BE COORDINATED WITH DOOR INSTALLER PRIOR TO FINAL WIRING AND CONDUITS INSTALLATION (TYPICAL FOR 2 LOCATIONS).

7. PROVIDE ELECTRICAL DISTRIBUTION JUNCTION BOX 900mm ABOVE FINISH FLOOR C/W THREE DEDICATED POWER CIRCUITS 120V, 1Ph, 60Hz, AS DESCRIBED ABOVE NOTE # 3. ELECTRICAL CONTRACTOR TO COORDINATE ALL THIS WORK WITH DOOR INSTALLER PRIOR TO FINAL WIRING AND CONDUITS INSTALLATION (TYPICAL FOR 2 LOCATIONS).

8. PROVIDE ELECTRICAL DISTRIBUTION JUNCTION BOX 900mm ABOVE FINISH FLOOR C/W THREE DEDICATED POWER CIRCUITS 600V, 3Ph, 60Hz. ELECTRICAL CONTRACTOR TO COORDINATE ALL THIS WORK WITH DOOR INSTALLER PRIOR TO FINAL WIRING AND CONDUITS INSTALLATION (TYPICAL FOR 2 LOCATIONS).

9. PROVIDE WALL MOUNTED DISCONNECT SWITCH FOR DOOR MOTOR 3HP, 600V, 3Ph INSTALL 900mm ABOVE FINISH FLOOR C/W DEDICATED POWER CIRCUITS 600V, 3Ph, 60Hz, 20A, PANEL "A" CIRCUITS 31,33,35 AND 42,44,46. ELECTRICAL CONTRACTOR TO COORDINATE ALL THIS WORK WITH DOOR INSTALLER PRIOR TO FINAL WIRING AND CONDUITS INSTALLATION (TYPICAL FOR 2 LOCATIONS).

10. PROVIDE 25mm DIAMETER "EMT" CONDUIT RUN UP BETWEEN JOISTS SPACE COMPLETE WITH 3 DEDICATED CIRCUITS 120V, 1Ph, 60Hz AND WIRING 4x SIZE #10 AWG COPPER RUN FROM EXISTING DISTRIBUTION PANEL "B1" AND END DEVICES LOCATIONS. PROVIDE ALL CONDUIT HANGERS AND SUPPORTS AS PER ELECTRICAL CODE.

11. PROVIDE 25mm DIAMETER "EMT" CONDUIT RUN UP BETWEEN JOISTS SPACE COMPLETE WITH 1 DEDICATED CIRCUIT 600V, 3Ph, 60Hz AND WIRING 4x SIZE #10 AWG COPPER RUN FROM EXISTING DISTRIBUTION PANEL "A" AND DOOR MOTORS LOCATIONS. PROVIDE ALL CONDUIT HANGERS AND SUPPORTS AS PER ELECTRICAL CODE.

12. REFER TO DRAWING NOTES #6, 7, 8, 9 & 13.

13. PROVIDE DEDICATED POWER CIRCUIT 240V, 1ø, 60Hz, 20A CAPACITY FROM PANEL "B1" FOR HEAT TRACE CABLES ON EACH SIDE OF NEW DOOR. CONTRACTOR TO COORDINATE THIS WORK WITH THE DOOR MANUFACTURE AND INSTALLATION REQUIREMENTS PRIOR TO FINAL POWER BOX LOCATIONS. (TYPICAL OF 2).

14. EXISTING EXIT SIGN, EMERGENCY LIGHTING BATTERY PACK AND WALL MOUNTED FIRE ALARM PULL STATION INSIDE OF EXISTING EXIT DOOR TO BE REMOVED C/W ALL RELATED WIRES BACK TO NEAREST DISTRIBUTION POWER JUNCTION BOX. REUSE EXISTING EXIT SIGN POWER CIRCUIT AND FIRE ALARM ZONE CIRCUIT FOR NEW DEVICE LOCATIONS.

15. PROVIDE NEW EXIT SIGN AND FIRE ALARM POOL STATION AT EXIT DOORS. MEW EXIT AND ALARM DEVICES TO MATCH EXISTING ON SITE. EXTEND EXISTING POWER AND ALARM CIRCUIT FROM EXISTING LOCATIONS REFER TO DRAWING NOTE #15. EXACT LOCATIONS OF NEW EXIT DOOR DEVICES MUST BE COORDINATED WITH HANGER DOOR MANUFACTURE PRIOR TO FINAL DEVICES LOCATIONS.

16. TWO EXISTING LIGHT FIXTURES LOCATED OVER THE EXIT DOOR TO BE DELETED C/W ALL RELATED WIRES AND CONDUITS BACK TO POWER SOURCE.

17. EXISTING EXTERIOR DUCTWORK TO BE REMOVED BACK DURING CONSTRUCTION OF NEW HANGAR DOOR. EXISTING DUCTWORK TO BE MODIFIED AND INSTALLED BACK TO SUIT NEW DOOR STRUCTURE.

18. EXISTING EXTERIOR GROUNDING CABLE TO BE REMOVED BACK DURING CONSTRUCTION OF NEW HANGAR DOOR. EXISTING GROUNDING CABLE TO BE MODIFIED AND INSTALLED BACK TO SUIT NEW DOOR STRUCTURE.

19. EXISTING EXTERIOR WALL MOUNTED LIGHT FIXTURE TO BE REMOVED AND RELOCATED TO NEW LOCATION AS SHOWN. REMOVE EXISTING WIRING AND CONDUIT BACK TO NEAREST POWER DISTRIBUTION JUNCTION BOX. PROVIDE NEW WIRING AND CONDUITS BETWEEN JUNCTION BOX AND NEW LIGHT LOCATION. ALL INSTALLATION OF LIGHT FIXTURE AND RELATED CONDUITS AND CONDUITS FITTINGS TO BE WEATHER PROOF (TYPICAL OF 2).

20. EXISTING EXTERIOR WALL MOUNTED SECURITY CAMERA TO BE REMOVED AND RELOCATED TO NEW LOCATION AS SHOWN. REMOVE EXISTING WIRING AND CONDUIT BACK TO NEAREST POWER DISTRIBUTION JUNCTION BOX. PROVIDE NEW WIRING AND CONDUITS BETWEEN JUNCTION BOX AND NEW CAMERA LOCATION. ALL INSTALLATION OF SECURITY CAMERA AND RELATED CONDUITS AND CONDUITS FITTINGS TO BE WEATHER PROOF.

21. EXISTING THREE EXTERIOR WALL MOUNTED WEATHER PROOF DUPLEX RECEPTACLES TO BE REMOVED AND RELOCATED TO NEW LOCATION AS SHOWN. REMOVE EXISTING WIRING AND CONDUIT BACK TO NEAREST POWER DISTRIBUTION JUNCTION BOXES. PROVIDE NEW WIRING (SIZE TO MATCH EXISTING) AND CONDUITS BETWEEN JUNCTION BOXES AND NEW RECEPTACLES LOCATIONS. ALL INSTALLATION OF RECEPTACLES AND RELATED CONDUITS AND CONDUITS FITTINGS TO BE WEATHER PROOF (TYPICAL OF 3).

22. EXISTING THREE EXTERIOR WALL MOUNTED WEATHER PROOF RECEPTACLES (ONE 600V, TWO 240V AND ONE DUPLEX 120V) TO BE REMOVED AND RELOCATED TO NEW LOCATION AS SHOWN. REMOVE EXISTING WIRING AND CONDUIT BACK TO NEAREST POWER DISTRIBUTION JUNCTION BOXES. PROVIDE NEW WIRING (SIZE TO MATCH EXISTING) AND CONDUITS BETWEEN JUNCTION BOXES AND NEW RECEPTACLES LOCATIONS. ALL INSTALLATION OF RECEPTACLES AND RELATED CONDUITS AND CONDUITS FITTINGS TO BE WEATHER PROOF.

logo

WOODMAN ARCHITECT & ASSOCIATES LTD.

4 BEECHWOOD, SUITE 201, OTTAWA, ONTARIO, CANADA K1L 8L9
TEL:613 228 9850 FAX:613 228 9848
mailbox@woodmanarchitect.com

logo

ANTARES

Antares Engineering Group Inc.
Professional Mechanical, Electrical, Testing and Research Engineers
159 Colonnade Road, Unit 1, Ottawa, Ontario, K2E 7J4
Phone (613) 723-6034 Fax (613) 723-5749

North/Nord

Stamp/Étampe

REGISTERED PROFESSIONAL ENGINEER
J. C. JARRETT
30 OCT. 2015
PROVINCE OF ONTARIO

KEY PLAN / PLAN-REPÈRE — AS SHOWN

revision		date
05		
04		
03		
02	ISSUED FOR TENDER/PERMIT	30-10-15
01	ISSUED FOR 99% REVIEW	23-10-15

A detail no. no. du détail
B location drawing no. no. de localisation
C drawing no. no. du dessin

project / projet
HANGAR DOOR
ONTARIO

drawing / dessin
ELECTRICAL NEW WORK FLOOR PLAN

designed / conçu	S.J.S.
date	23-10-2015
drawn / dessiné	S.J.S.
date	23-10-2015
reviewed / revisé	
date	
approved / approuvé	
date	
tender / soumission	A. CHOW
Departmental Representative	Representant Ministeriel
project no. / no. du projet	PTS 3447
scale / echelle	AS SHOWN
drawing no. / no. du dessin	E-1 of 1

PWGSC / TPSGC B1

0mm 10 20 40 60 80 100 120 140 160 180 200 mm