

Appendix C

De Nora Original Drawings

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| SENTINEL 20KW SYSTEMS ELECTRICAL DRAWINGS | | | |
|--|---------|-------|--|
| DRAWING | DWG. # | REV | |
| POWER SUPPLY & CONTROL PANEL SKID G.A. | | | |
| 3 BAY ARRANGEMENT | S100488 | REV 0 | |
| 2 BAY ARRANGEMENT | S100499 | REV 0 | |
| POWER SUPPLY FRONT VIEW & INTERNAL G.A. | | | |
| 4 TRAY ASSEMBLY | S000000 | REV 0 | |
| 3 TRAY ASSEMBLY | S000000 | REV 0 | |
| 2 TRAY ASSEMBLY | S000000 | REV 0 | |
| POWER SUPPLY TRAY | | | |
| 20KW TRAY PLAN | S100000 | REV 0 | |
| 20KW SWING OUT DOOR | S100000 | REV 0 | |
| <input checked="" type="checkbox"/> INSTRUMENTATION SUBPANEL | S100492 | REV 2 | |
| POWER SUPPLY SCHEMATICS | | | |
| 20KW 480V 9x20KW | S000000 | REV 0 | |
| 20KW 480V 6x20KW | S000000 | REV 0 | |
| 20KW 480V 3x20KW | S000000 | REV 0 | |
| CONTROL PANEL LAYOUT | | | |
| FRONT VIEW & PANEL DOOR | S000000 | REV 0 | |
| MICROLOGIX, 9x20KW VARIABLE | S000000 | REV 0 | |
| MICROLOGIX, 6x20KW VARIABLE | S000000 | REV 0 | |
| MICROLOGIX, 3x20KW VARIABLE | S000000 | REV 0 | |
| PLC CONFIGURATION DIAGRAM | | | |
| MICROLOGIX, 9x20KW VARIABLE | S000000 | REV 0 | |
| MICROLOGIX, 6x20KW VARIABLE | S000000 | REV 0 | |
| MICROLOGIX, 3x20KW VARIABLE | S000000 | REV 0 | |
| CABLE, MICROLOGIX TO TCP | X100187 | REV 0 | |

| SENTINEL 20KW SYSTEMS ELECTRICAL DRAWINGS | | | |
|---|---------|-------|--|
| DRAWING | DWG. # | REV | |
| CONTROL PANEL I/O SCHEMATICS | | | |
| MICROLOGIX, 9x20KW VARIABLE | S000000 | REV 0 | |
| MICROLOGIX, 6x20KW VARIABLE | S000000 | REV 0 | |
| MICROLOGIX, 3x20KW VARIABLE | S000000 | REV 0 | |
| TERMINAL BLOCK ARRANGEMENTS | | | |
| 9x20 PANEL TERMINATIONS | S000000 | REV 0 | |
| 6x20 PANEL TERMINATIONS | S000000 | REV 0 | |
| 3x20 PANEL TERMINATIONS | S000000 | REV 0 | |
| FABRICATIONS | | | |
| 3 BAY SKID DETAILS | D600260 | REV 0 | |
| 2 BAY SKID DETAILS | D600044 | REV 0 | |
| <input checked="" type="checkbox"/> P/S CABINET DETAILS | S600054 | REV 0 | |
| <input checked="" type="checkbox"/> P/S CABINET END PANEL | S600055 | REV 0 | |
| <input checked="" type="checkbox"/> P/S CABINET TOP FAN COVER | S600058 | REV 0 | |
| <input checked="" type="checkbox"/> P/S CAB. TOP FAN MTG. PLATE | S600057 | REV 0 | |
| <input checked="" type="checkbox"/> XFMR. SHELF FABRICATION DETAILS | S600056 | REV 0 | |
| <input checked="" type="checkbox"/> COMPONENT MOUNTING PLATE | S600063 | REV 0 | |
| <input checked="" type="checkbox"/> DC BOARD POT. MTG. PLATE | S100330 | REV 0 | |

| PROJECT SPECIFIC ELECTRICAL DRAWINGS | | | |
|--|---------|--------|--|
| DRAWING | DWG. # | REV | |
| <input checked="" type="checkbox"/> EXTERNAL WIRING DIAGRAM | S100515 | REV 3 | |
| <input checked="" type="checkbox"/> P/S & C/P SKID G.A. | S100533 | REV 0 | |
| <input checked="" type="checkbox"/> P/S FRONT & INTERNAL VIEWS | S100534 | REV 0 | |
| <input checked="" type="checkbox"/> POWER SUPPLY SCHEMATIC | S100537 | REV 4 | |
| <input checked="" type="checkbox"/> CONTROL PANEL FRONT VIEW | S100519 | REV 1 | |
| <input checked="" type="checkbox"/> CONTROL PANEL SUBPANEL G.A. | S100520 | REV 3 | |
| <input checked="" type="checkbox"/> CONTROL PANEL SIDE PANEL G.A. | S100545 | REV 2 | |
| <input checked="" type="checkbox"/> PLC CONFIGURATION DIAGRAM | S100514 | REV 0 | |
| <input checked="" type="checkbox"/> NETWORK DIAGRAM | S100532 | REV 1 | |
| <input checked="" type="checkbox"/> CONTROL SCHEMATICS | S100513 | REV 4 | |
| <input checked="" type="checkbox"/> P/S SWING PANEL G.A. 20KW | S100535 | REV 3 | |
| <input checked="" type="checkbox"/> P/S XFMR. SHELF G.A. 20KW | S100536 | REV 0 | |
| <input checked="" type="checkbox"/> TERMINAL BLOCK ARRANGEMENTS | S100531 | REV 4 | |
| <input checked="" type="checkbox"/> ENGRAVED NAMEPLATES | S100538 | REV 0 | |
| <input checked="" type="checkbox"/> REACTOR JCT. BOX JB-1 SUBPNL | S100540 | REV 2 | |
| <input checked="" type="checkbox"/> CABLE, PLC TO TCP, RS-232 | X100219 | REV 0 | |
| <input checked="" type="checkbox"/> PILOT DEVICE LEGEND PLATES | S100640 | REV 1 | |
| <input checked="" type="checkbox"/> SUPPLEMENTARY NAME PLATES | S100543 | REV 0 | |
| <input checked="" type="checkbox"/> 5 BAY SKID FABRICATION DETAILS | S600062 | REV 0 | |
| <input checked="" type="checkbox"/> SUPPLEMENTARY NAME PLATES | S100656 | REV 0 | |
| <input checked="" type="checkbox"/> ELECTRICAL DRAWING INDEX | S100539 | REV 10 | |

PROJECT NOTES:


- ONE SYSTEM SHOWN, SIX (6) SYSTEMS REQUIRED.
- CSA APPROVAL REQUIRED.
- 600 VOLT AC 60HZ INPUT POWER
- HEAT SHRINK TAGS ON ALL WIRE TERMINATIONS
- SUBPANEL NAMEPLATES TO BE FASTENED WITH STAINLESS STEEL SCREWS
- ALL I/O TO BE INDIVIDUALLY FUSED

- DENOTES DRAWINGS INCLUDED FOR THIS PROJECT

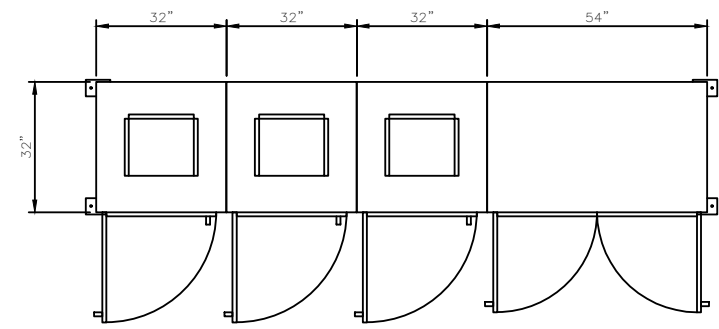
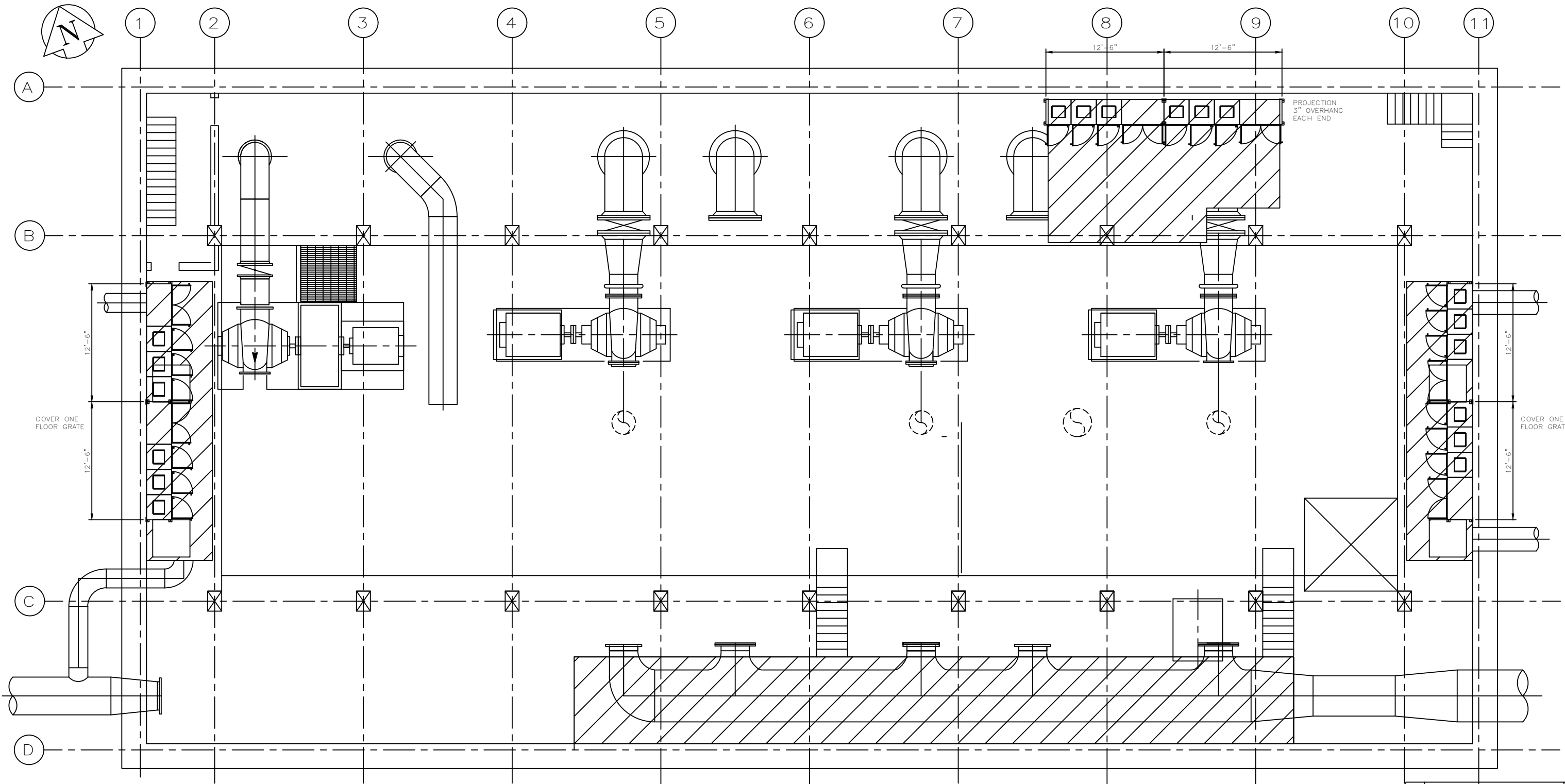
**CITY OF WINNIPEG WTP
MAINTOBA, CANADA
US-03056.WINN
9x20KW SENTINEL 48" REACTOR, 6 UNITS**

| 9 | AS NOTED | RJP | 05/19/04 |
|---|-------------|--------------------|----------|
| 8 | AS NOTED | RJP | 05/07/04 |
| 10 | AS NOTED | RJP | 08/25/04 |
| REV | DESCRIPTION | APP | DATE |
| REVISIONS | | | |
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

| | | |
|---|---------------|----------|
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| DRAFTER | RJP | 10/15/03 |
| DESIGNER | | |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | |
|--|--------------------------------------|------------------|
|  CALGON CARBON CORPORATION | | |
| CLIENT | CITY OF WINNIPEG MANITOBA, CANADA | |
| TITLE | ELECTRICAL DRAWING INDEX | |
| DWG. Size | B | SHEET No. 1 OF 1 |
| DWG. No. | S100539 | SCALE NONE |
| REV. | 10 | |

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TYPICAL PANEL

| C | | |
|-----|-------------|----------|
| B | | |
| A | | |
| REV | DESCRIPTION | APP DATE |

REVISIONS

| TOLERANCES (unless otherwise specified) | | |
|---|--------|----------------------------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) ±0.10 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) ±0.005 |
| DECIMAL (1 PLACE) | ±0.015 | DECIMAL (4 PLACES) ±0.0005 |



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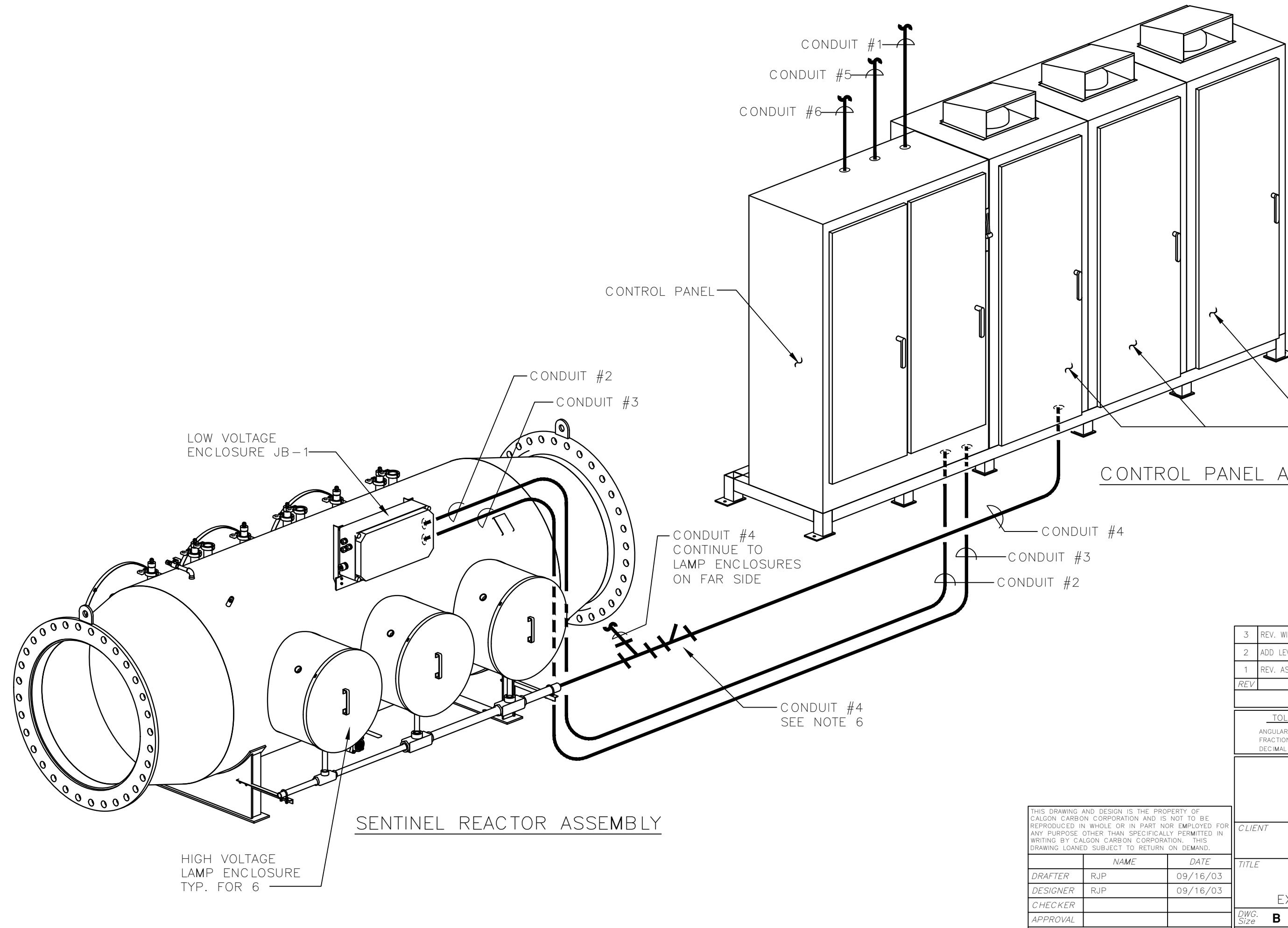
| | NAME | DATE |
|-------------|---------------|------------|
| DRAFTER | RES | 08/15/2003 |
| DESIGNER | TLB | 08/13/2003 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

CLIENT
CITY OF WINNIPEG - DEACON
UV LIGHT DISINFECTION PROJECT

TITLE
DISINFECTION PROJECT
ELECTRICAL PANEL LAYOUT
PLAN

| | | | | | |
|-----------|---------|-----------|--------|-------|------|
| DWG. Size | D | SHEET No. | 1 OF 1 | SCALE | NONE |
| DWG. No. | S100474 | | | REV. | |

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- NOTES:
1. All external wiring by customer
 2. See sheets 2-3 for conduit schedule
 3. All wiring shall be to Canadian Electrical code part 1, 19th edition. C22.1.02 and the Winnipeg Electrical By-law No. 36/2003.
 4. Conduit runs require 10% spare wires
 5. For minimum clearance about Power Supply cabinets see Canadian Electrical Code Part 1 Articles 2-308, 2-310 & Article 2-312.
 6. Contractor to install EYS type fittings in conduit #4 to prevent possible water infiltration.
 7. One system shown, typ. for 6 systems.

CONTROL PANEL AND POWER SUPPLY

SENTINEL REACTOR ASSEMBLY

| | | | |
|-----------|-------------------------------|-----|----------|
| 3 | REV. WIRE NO.S AS NOTED | GTL | 01/26/04 |
| 2 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |
| 1 | REV. AS PER CUSTOMER COMMENTS | RJP | 10/10/03 |
| REV | DESCRIPTION | APP | DATE |
| REVISIONS | | | |

| | | | |
|---|--------|--------------------|--------|
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

CLIENT CITY OF WINNIPEG
MANITOBA, CANADA

TITLE 9 X 20 KW SENTINEL
ELECTRICAL
EXTERNAL WIRING DIAGRAM

| | | | | | |
|-----------|----------|-----------|--------|-------|-----|
| DWG. Size | B | SHEET No. | 1 OF 3 | SCALE | NTS |
| DWG. No. | S100515 | | | REV. | 3 |

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| | | |
|-------------|---------------|----------|
| | NAME | DATE |
| DRAFTER | RJP | 09/16/03 |
| DESIGNER | RJP | 09/16/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

HIGH VOLTAGE LAMP ENCLOSURE TYP. FOR 6

LOW VOLTAGE ENCLOSURE JB-1

CONTROL PANEL

POWER SUPPLY

CONDUIT #4 CONTINUE TO LAMP ENCLOSURES ON FAR SIDE

CONDUIT #4 SEE NOTE 6

CONDUIT #2

CONDUIT #3

CONDUIT #1

CONDUIT #5

CONDUIT #6

CONDUIT #4

CONDUIT #3

CONDUIT #2

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| CONDUIT | FROM / TO | WIRE FUNCTION | TAG NUMBERS | WIRE NUMBERS | WIRE SIZE AND QUANTITY |
|------------|--|---|---|---|---|
| CONDUIT #1 | MAIN AC SUPPLY FROM CUSTOMER TO MAIN DISC. LOC. IN CONTROL CABINET | 600V 60Hz 213 FULL LOAD AMPS | | L1, L2, L3 GND | 3-1/C #300MCM & GROUND THWN (or equivalent) |
| CONDUIT #2 | FROM UV PLC PANEL TO REACTOR LOW VOLTAGE ENCLOSURE JB-1 | REACTOR LOW LEVEL SWITCH REACTOR HIGH TEMP. SWITCH MOISTURE DETECTOR (LAMP BANK 1) MOISTURE DETECTOR (LAMP BANK 2) MOISTURE DETECTOR (LAMP BANK 3) REACTOR COVERS (LAMP BANK 1) REACTOR COVERS (LAMP BANK 2) REACTOR COVERS (LAMP BANK 3) PROXIMITY SWITCH PROXIMITY SWITCH PROXIMITY SWITCH PROXIMITY SWITCH PROXIMITY SWITCH PROXIMITY SWITCH 24Vdc, 0Vdc BRUSH DRIVE MOTOR #1 BRUSH DRIVE MOTOR #2 BRUSH DRIVE MOTOR #3 | LSL-1100 TSH-1100 AS-1111 AS-1121 AS-1131 ZS-1111 ZS-1121 ZS-1131 ZSE-1111 ZSR-1111 ZSE-1121 ZSR-1121 ZSE-1131 ZSR-1131 SC-1111 SC-1121 SC-1131 | FU234, 100012 FU232, 100011 FU303, 100017 FU328, 100025 FU403, 100033 FU305, 100018 FU330, 100026 FU405, 100034 FU432, 100043 FU434, 100044 FU436, 100045 FU438, 100046 FU440, 100047 FU442, 100048 24V-4, 24VCOM GND BD1-A1, & BD1-A2 BD2-A1, & BD2-A2 BD3-A1, & BD3-A2 | 31-1/C 14awg \triangle_2 3 EA 1-PR #14awg SHIELDED BELDEN #9314 |
| CONDUIT #3 | FROM UV PLC PANEL TO REACTOR LOW VOLTAGE ENCLOSURE JB-1 | <u>UV SENSORS</u> UVT-1111 UVT-1112 UVT-1113 UVT-1121 UVT-1122 UVT-1123 UVT-1131 UVT-1132 UVT-1133 | UVT-1111 UVT-1112 UVT-1113 UVT-1121 UVT-1122 UVT-1123 UVT-1131 UVT-1132 UVT-1133 | \triangle_3 FU802, 300001 FU810, 300003 FU827, 300005 FU902, 300009 FU910, 300011 FU927, 300013 FU1002, 300018 FU1010, 300020 FU1027, 300022 | 9 EA 1-TW/PR #18 SHIELDED BELDEN #8760 |
| CONDUIT #4 | FROM UV POWER SUPPLY CABINET TO REACTOR HIGH VOLTAGE LAMP ENCLOSURES | <u>LAMP WIRES</u> LAMP#1-1 LAMP#1-2 LAMP#1-3 LAMP#2-1 LAMP#2-2 LAMP#2-3 LAMP#3-1 LAMP#3-2 LAMP#3-3 | | LP1B, LP1C LP2B, LP2C LP3B, LP3C LP4B, LP4C LP5B, LP5C LP6B, LP6C LP7B, LP7C LP8B, LP8C LP9B, LP9C | 18-1/C #14awg 15kV CABLE, TYPE GTO NO BREAKS 3-1/C #12awg GRD |
| CONDUIT #5 | FROM PROCESS FLOW METER TO SENTINEL PLC PANEL | (ISOLATED) FLOW SENSOR SIGNAL 24V POWER | FT-XXXX \triangle_3 | 300007A 300007B FUFTXXXX, 24VCOM | 1 EA 1-TW/PR #18 SHLD, BELDEN #8760 1 EA 1-PR #14awg SHLD. & GND BELDEN #9314 |
| CONDUIT #6 | FROM SENTINEL PLC PANEL TO CUSTOMER INTERLOCKS | SYSTEM READY SYSTEM RUNNING STSTEM WARNING SYSTEM SHUT DOWN REMOTE START/STOP | YS-1084 YS-1085 YS-1086 YS-1087 XS-1087 | 602A, 602B 604A, 604B 606A, 607B 608A, 608B FU213, 100006 | 10-1/C #14awg & GRD |

- NOTES:
- All external wiring by customer
 - See sheets 1-3 for conduit & conduit schedule
 - All wiring shall be to Canadian Electrical code part 1, 19th edition. C22.1.02 and the Winnipeg Electrical By-law No. 36/2003.
 - Conduit runs require 10% spare wires
 - For minimum clearance about Power Supply cabinets see Canadian Electrical Code Part 1 Articles 2-308, 2-310 & Article 2-312.
 - Contractor to install EYS type fittings in conduit #4 to prevent possible water infiltration.
 - One system shown, typ. for 6 systems.

| 3 | REV. WIRE NO.S AS NOTED | GTL | 01/26/04 |
|-----------|-------------------------------|-----|----------|
| 2 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |
| 1 | REV. AS PER CUSTOMER COMMENTS | RJP | 10/10/03 |
| REV | DESCRIPTION | APP | DATE |
| REVISIONS | | | |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
9 X 20 KW SENTINEL
ELECTRICAL
EXTERNAL WIRING DIAGRAM

DWG. Size **B** SHEET No. 2 OF 3 SCALE NTS
 DWG. No. S100515 REV. 3

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | RJP | 09/16/03 |
| DESIGNER | RJP | 09/16/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

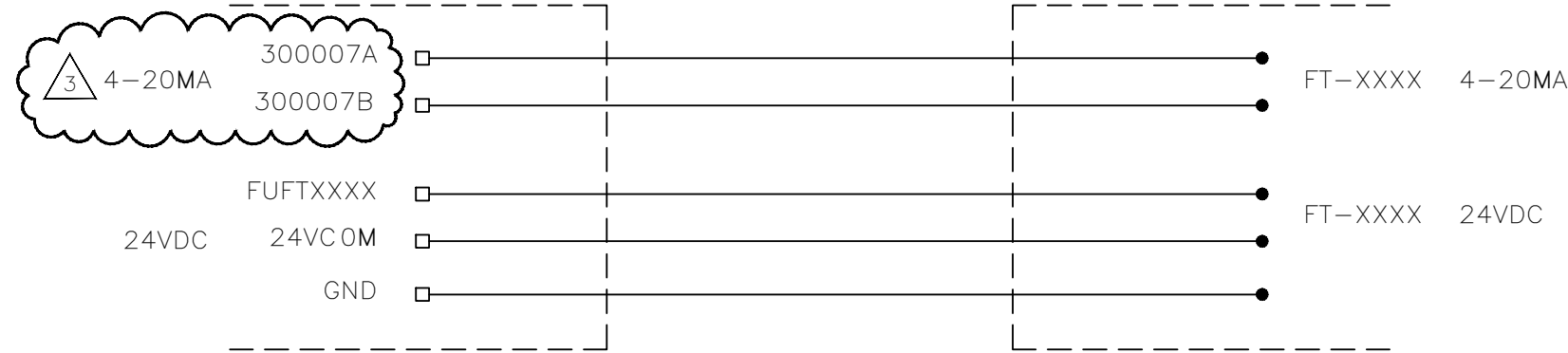
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CUSTOMER EXTERNAL INTERFACE WIRING

SENTINEL CONTROL PANEL

CONDUIT #5

FLOW METER FT-XXXX

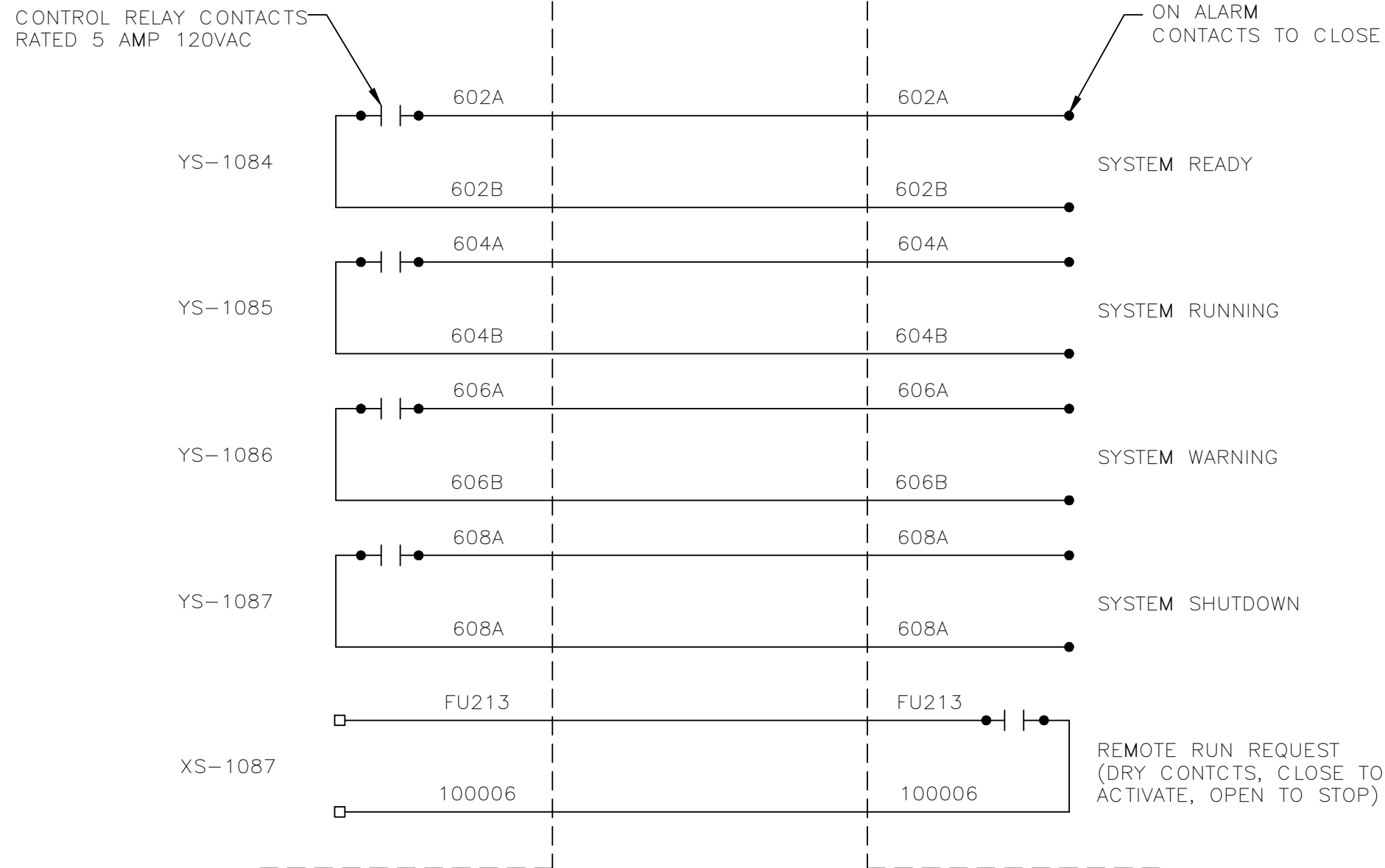


- NOTES:
1. All external wiring by customer
 2. See sheets 1-2 for conduit & conduit schedule.
 3. All wiring shall be to Canadian Electrical code part 1, 19th edition. C22.1.02 and the Winnipeg Electrical By-law No. 36/2003.
 4. Conduit runs require 10% spare wires
 5. For minimum clearance about Power Supply cabinets see Canadian Electrical Code Part 1 Articles 2-308, 2-310 & Article 2-312.
 6. Contractor to install EYS type fittings in conduit #4 to prevent possible water infiltration.
 7. One system shown, typ. for 6 systems.

SENTINEL CONTROL PANEL

CONDUIT #6

CUSTOMER'S EQUIPMENT



| 3 | REV. WIRE NO.S AS NOTED | GTL | 01/26/04 |
|-----------|-------------------------------|-----|----------|
| 2 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |
| 1 | REV. AS PER CUSTOMER COMMENTS | RJP | 10/10/03 |
| REV | DESCRIPTION | APP | DATE |
| REVISIONS | | | |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
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CALGON CARBON CORPORATION

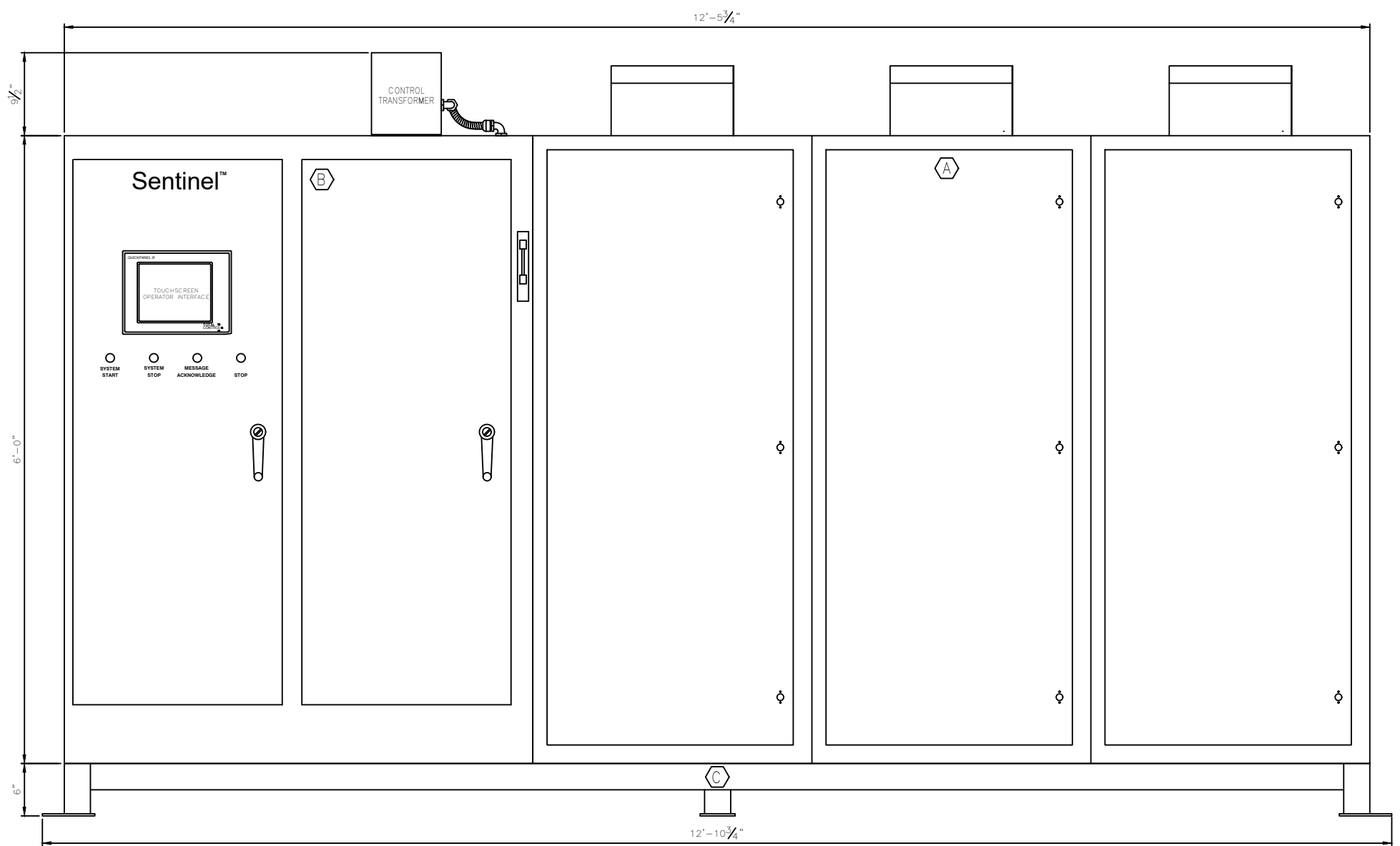
CLIENT CITY OF WINNIPEG
MANITOBA, CANADA

TITLE 9 X 20 KW SENTINEL
ELECTRICAL
EXTERNAL WIRING DIAGRAM

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| DRAFTER | RJP | 09/16/03 |
| DESIGNER | RJP | 09/16/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | | | | |
|-----------|----------|-----------|--------|-------|-----|
| DWG. Size | B | SHEET No. | 3 OF 3 | SCALE | NTS |
| DWG. No. | S100515 | | | REV. | 3 |

| BILL OF MATERIAL | | | |
|------------------|---------|------|--|
| ITEM | SAP # | QTY | DESCRIPTION |
| A | S100534 | 1 EA | POWER SUPPLY ASSEMBLY, 9 LAMP 20KW VARIABLE 600VAC, 3 PH, 60 HZ. CALGON CARBON CORP. |
| B | S100519 | 1 EA | CONTROL PANEL, MODICON QUANTUM, 9 LAMP CALGON CARBON CORP. |
| C | S600062 | 1 EA | FRAME ASSEMBLY, 5 BAY, TUBE STEEL, FABRICATED CALGON CARBON CORP. |



CONTROL PANEL
POWER SUPPLY CABINET
POWER SUPPLY CABINET
POWER SUPPLY CABINET

- NOTES:**
- ONE SYSTEM SHOWN, SIX (6) SYSTEMS REQUIRED.
 - CSA APPROVAL REQUIRED.
 - 600 VOLT AC 60HZ INPUT POWER

| REV | DESCRIPTION | APP | DATE |
|-----|-------------|-----|------|
| | | | |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
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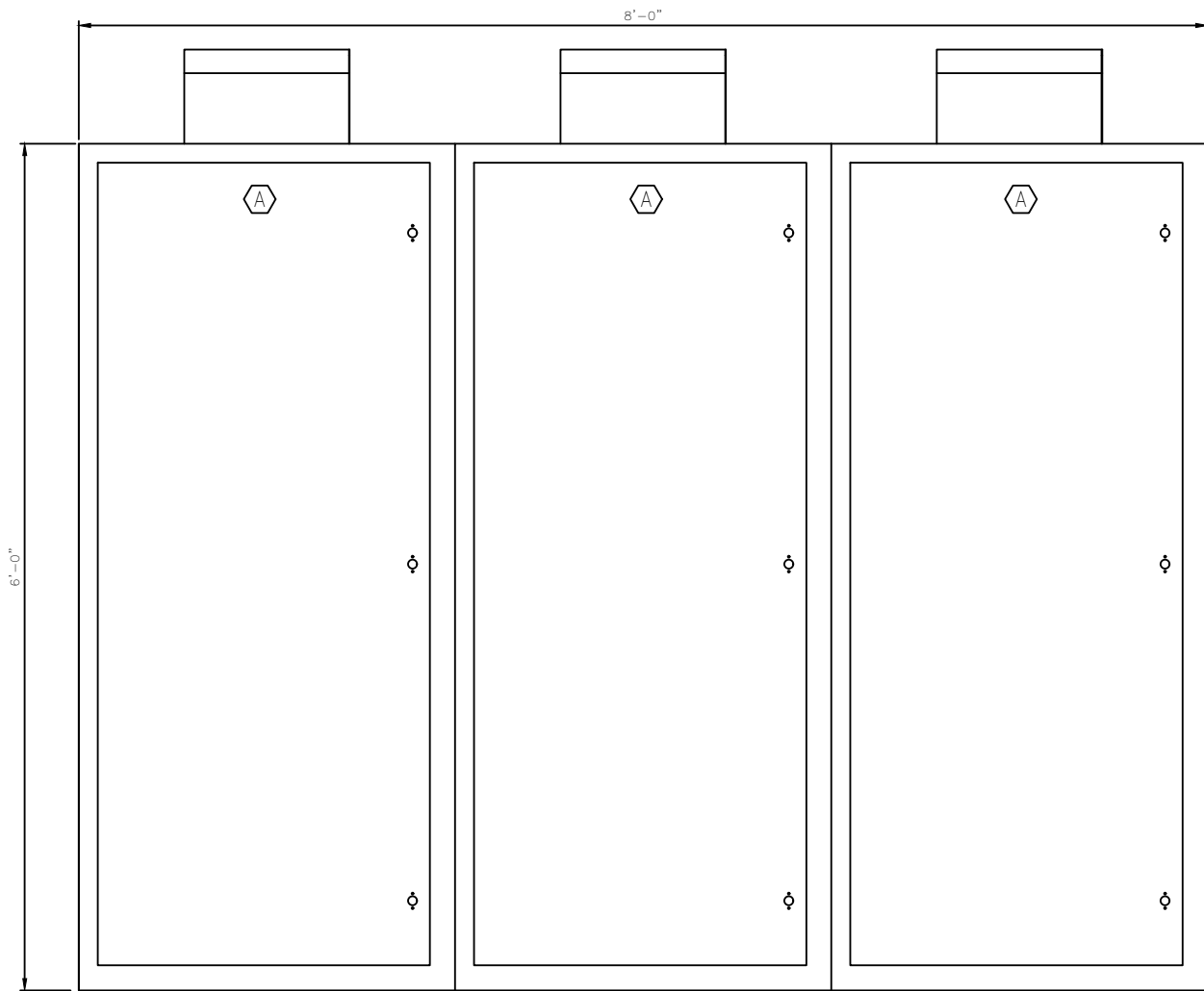
CLIENT
CITY OF WINNIPEG
MANITOBA CANADA

TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
P/S & CONTROL PANEL SKID
GENERAL ARRANGEMENT

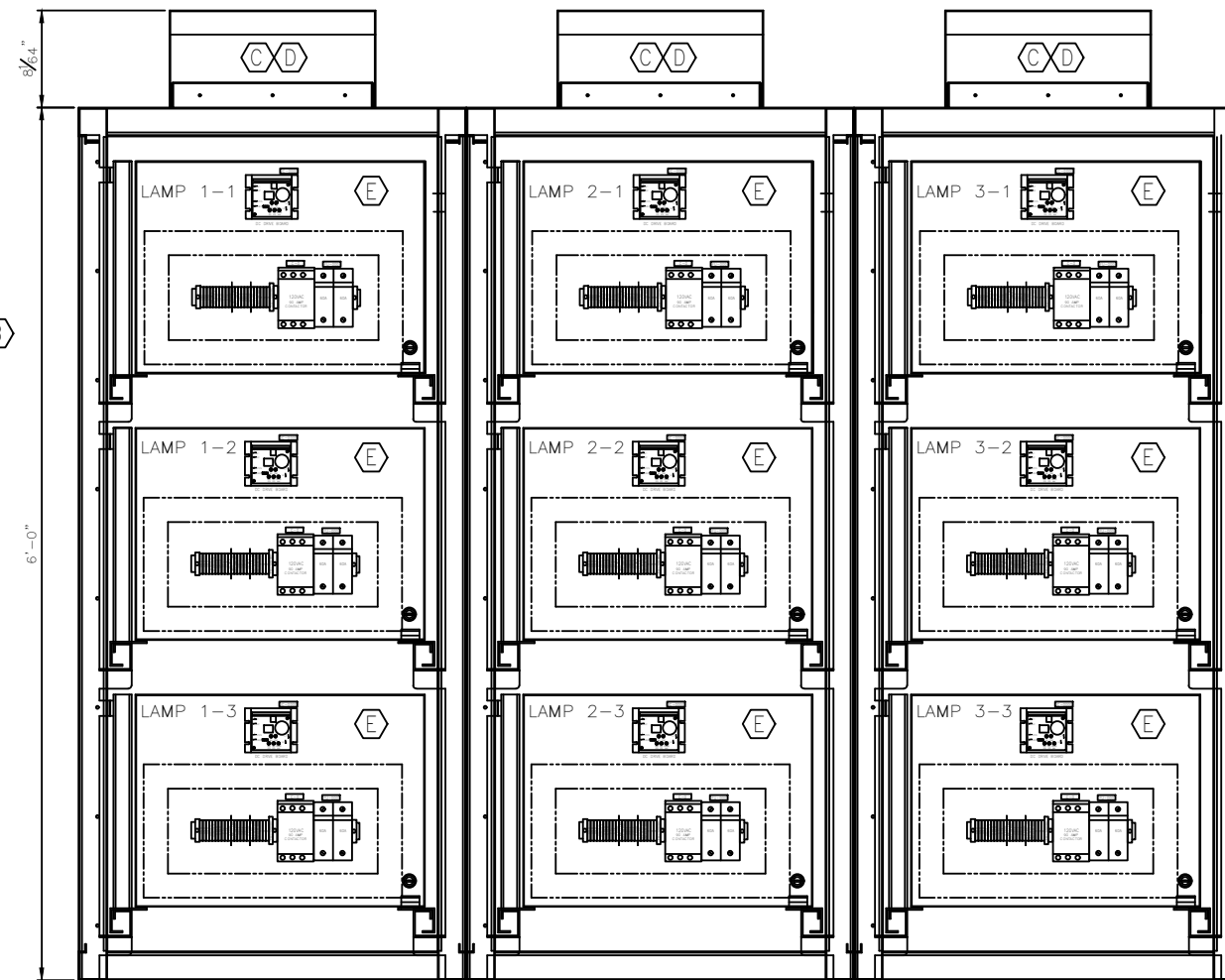
| | | | | | |
|-----------|---------|-----------|--------|-------|------------|
| DWG. Size | D | SHEET No. | 1 OF 1 | SCALE | 1/8" = 12" |
| DWG. No. | S100533 | | | REV. | 0 |

| | | |
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| | NAME | DATE |
| DRAFTER | RJP | 10/20/03 |
| DESIGNER | RJP | 10/20/03 |
| CHECKER | GTL | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

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POWER SUPPLY CABINETS



POWER SUPPLY CABINETS INTERNAL LAYOUT
SWING PANELS SHOWN

| BILL OF MATERIAL | | | |
|------------------|--------------------|-------|---|
| ITEM | SAP # | QTY | DESCRIPTION |
| A | S600054 | 3 EA | POWER CABINET, 72"x32"x32" DP. C/W FRAME, DOOR & LATCHES NEMA 12 AGORA MFG. |
| B | S600055 | 1 EA | POWER CABINET END PANEL AGORA MFR. |
| C | 350222 | 3 EA | FAN ASSY. VOTRON ELECTRONICS #W2E200-HH86-01 |
| D | S600057 S600058 | 3 EA | FAN COVER & MOUNTING PLATE AGORA |
| E | S100536 | 9 EA | TRANSFORMER SHELF ASSEMBLY, 20KW ASSEMBLED ITEM |
| F | X800005 | 1 EA | WARNING DECALS, SELF-ADHESIVE SHEET CALGON CARBON CORP |
| G | 150023 | 3 EA | SWITCH, DOOR PANEL CUTLER HAMMER #8410 K3 |
| H | X100065 | 3 EA | SWITCH, BRACKET FOR PART 150023 CALGON CARBON CORP |
| J | 150288 | 3 EA | SWITCH, TEMPERATURE 160 DEG. F. WHITE-ROGERS #3L01-160 |
| K | 150334 | 12 EA | CONDUIT INSULATED BUSHING GMB1 1-1/4 |
| L | 151042 | 12 EA | CONDUIT LOCKNUT, 1 1/4" ROBERTSON ELECTRIC |
| M | S100538 | 1 SET | NAMEPLATES, LAMACOID, WHT W/ BLK LETTERS PURCHASED ITEM |

NOTES:

- ONE SYSTEM SHOWN, SIX (6) SYSTEMS REQUIRED.
- CSA APPROVAL REQUIRED.
- 600 VOLT AC 60HZ INPUT POWER
- FOR TRANSFORMER ARRANGEMENT SEE SHEET 2.

| REV | DESCRIPTION | APP | DATE |
|-----|-------------|-----|------|
| C | | | |
| B | | | |
| A | | | |

| REVISIONS | | | |
|---|--------|--------------------|--------|
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | +0'30" | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CLIENT
CITY OF WINNIPEG
MANITOBA CANADA

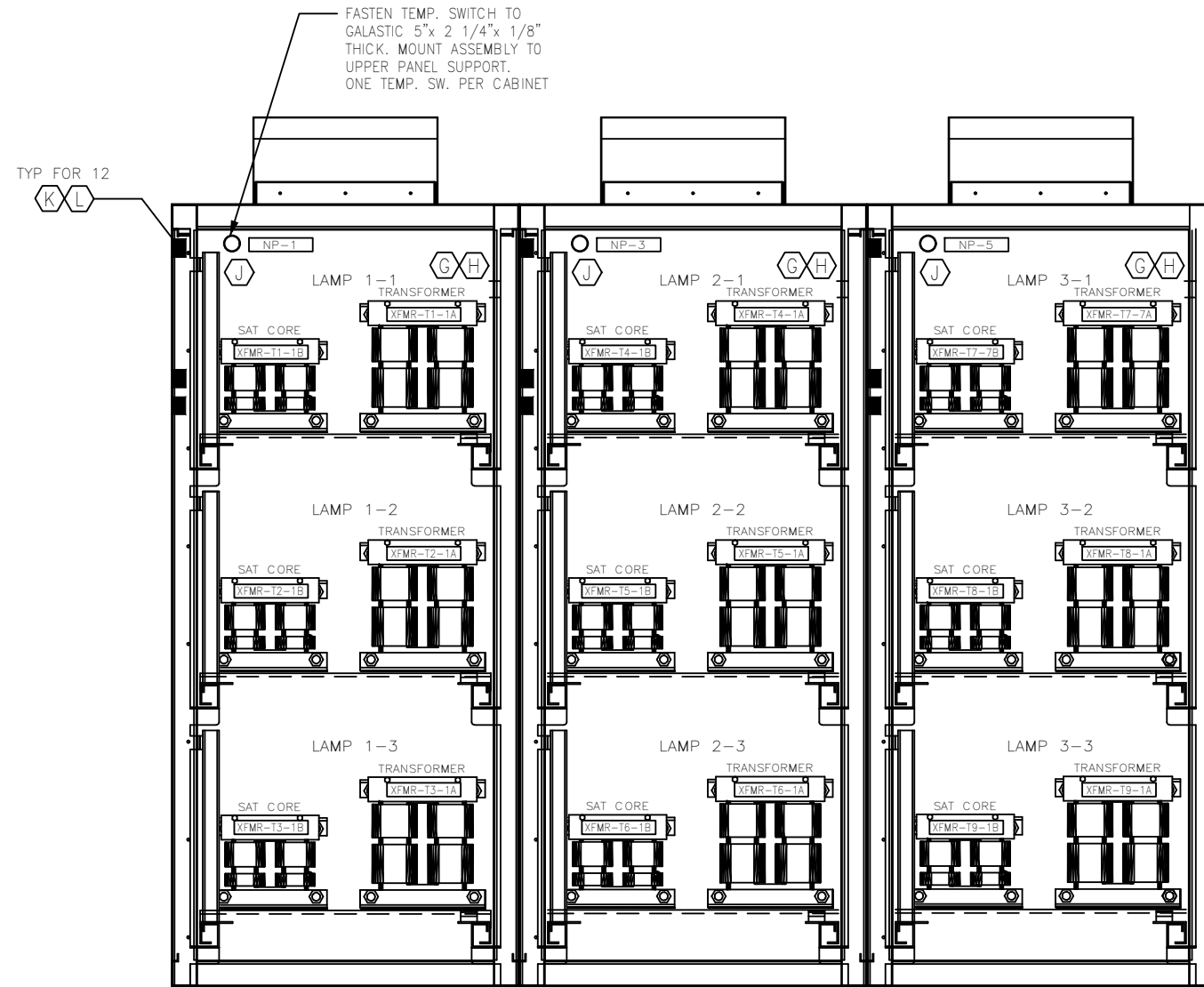
TITLE
(6) 48"φ, 9 X 20KW SENTINEL
POWER SUPPLY FRONT VIEW &
INTERNAL GENERAL ARRANGEMENTS

THIS DRAWING AND DESIGN IS THE PROPERTY OF CALGON CARBON CORPORATION AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY CALGON CARBON CORPORATION. THIS DRAWING LOANED SUBJECT TO RETURN ON DEMAND.

| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | RJP | 10/20/03 |
| DESIGNER | RJP | 10/20/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| DWG. Size | SHEET No. | SCALE | REV |
|-----------|-----------|------------|-----|
| D | 1 OF 2 | 1/8" = 12" | 0 |

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POWER SUPPLY CABINETS INTERNAL LAYOUT
SHOWN WITH SWING PANELS REMOVED

NOTES:

- ONE SYSTEM SHOWN, SIX (6) SYSTEMS REQUIRED.
- CSA APPROVAL REQUIRED.
- 600 VOLT AC 60HZ INPUT POWER
- FOR FRONT VIEW & SWING PANEL VIEW SEE SHEET 1.
- FOR BILL OF MATERIAL, SEE SHEET 1

| C | | | |
|-----|-------------|-----|------|
| B | | | |
| A | | | |
| REV | DESCRIPTION | APP | DATE |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



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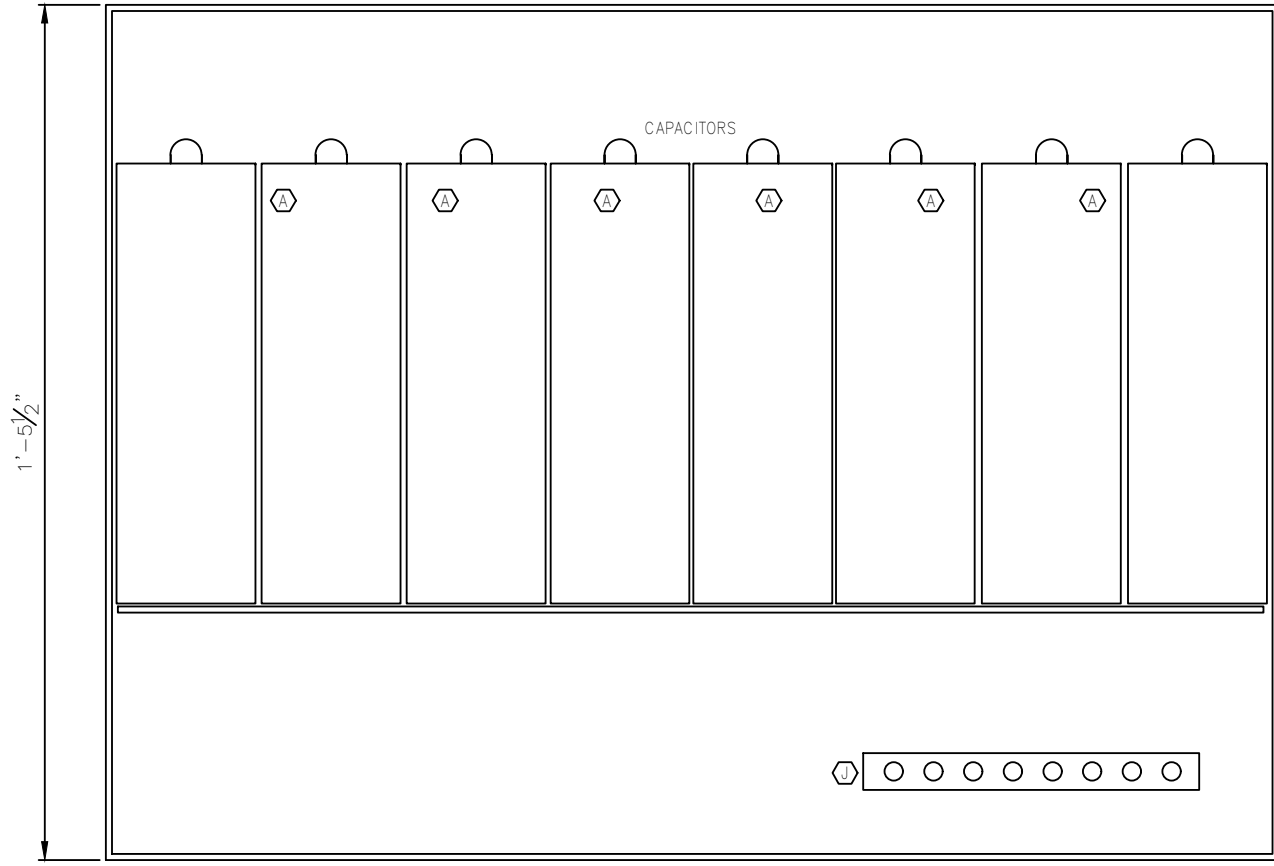
| | | |
|-------------|---------------|----------|
| | NAME | DATE |
| DRAFTER | RJP | 10/20/03 |
| DESIGNER | RJP | 10/20/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | |
|-----------|---|
| CLIENT | CITY OF WINNIPEG MANITOBA CANADA |
| TITLE | (6) 48"φ, 9 X 20KW SENTINEL POWER SUPPLY FRONT VIEW & INTERNAL GENERAL ARRANGEMENTS |
| DWG. Size | D |
| SHEET No. | 2 OF 2 |
| SCALE | 1/8" = 12" |
| DWG. No. | S100534 |
| REV. | 0 |

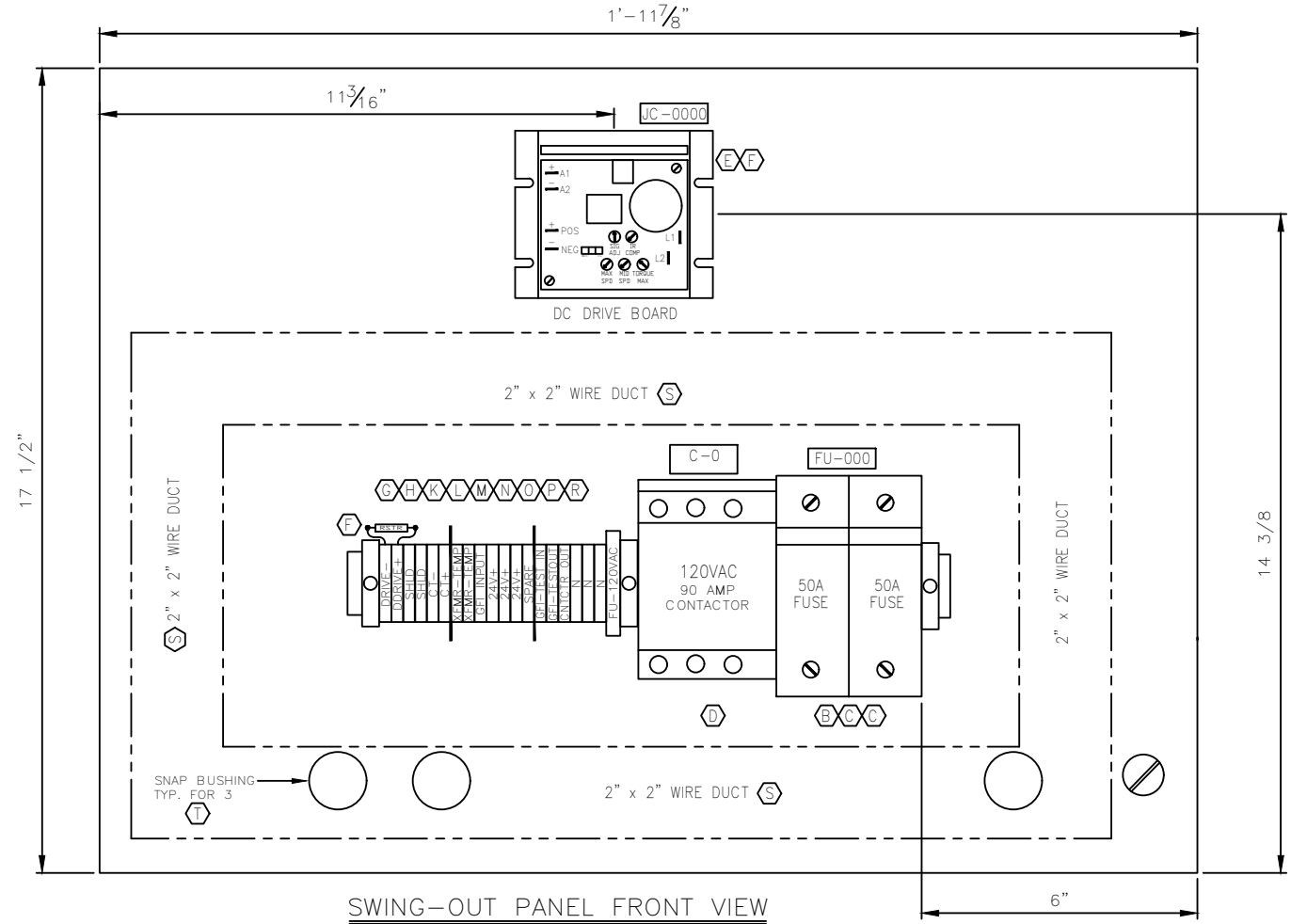
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BILL OF MATERIAL

| ITEM | SAP # | QTY | DESCRIPTION |
|------|---------|-------|--|
| (A) | 153892 | 1 EA | CAPACITOR, 2.1uF, 4000V, W/INTERNAL RESISTOR CALGON CARBON CORP. (8 SUPPLIED W/153480) |
| (B) | 153795 | 1 EA | FUSEHOLDER, 60A, 600V, 2 POLE, DEAD FRONT LITTLEFUSE #LPSJ60-21D |
| (C) | 153800 | 2 EA | FUSE, 60 AMP, 600VAC, CLASS J LITTLEFUSE #JTD-60ID |
| (D) | 153824 | 1 EA | CONTACTOR, 90A, 600V, 3P, 120VAC COIL NEMA ABB #A75N3-30-11-84 |
| (E) | 153715 | 1 EA | P/S VARIABLE, 0-130VDC, 5 AMP MINARIK #PCMXP05-115AC |
| (F) | 153829 | 1 EA | RESISTOR, 510 OHM, 1/2W. FOR ITEM 153715 MULTICOMP #84N1652 |
| (G) | 152773 | 1 EA | TERMINAL BLOCK FUSED, 120VAC, W/IND ALLEN-BRADLEY #1492-H4 |
| (H) | 152782 | 20 EA | TERMINAL BLOCK 300V, 25A ALLEN-BRADLEY #1492-F1 |
| (J) | 152581 | 1 EA | EQUIPMENT GROUND BAR SQUARE D #1130-PK9GTA |
| (K) | 152784 | 2 EA | TERMINAL BLOCK, END ANCHOR A-B #1492-N23 |
| (L) | 152783 | 2 EA | TERMINAL BLOCK, END BARRIER A-B #1492-N18 |
| (M) | 152911 | 1 FT | TERMINAL BLOCK, MTG. RAIL, SCORED A-B #1492-N1 |
| (N) | 153826 | 1 EA | TERMINAL BLOCK, MARKING STRIP, UNPRINTED A-B #1492-N5 |
| (O) | 153827 | 1 EA | TERMINAL BLOCK JUMPER STRIP 50 POSITION A-B #1492-N24 |
| (P) | 152788 | 1 EA | TERMINAL BLOCK, FUSED, END BARRIER A-B #1492-N37 |
| (R) | 153019 | 1 EA | FUSE, 3 AMP, 250VAC, AGC STYLE LITTLEFUSE #312003 |
| (S) | 151192 | 4 FT | WIRE DUCT, 2"x2" WIELAND #DNG50050 |
| (T) | 153779 | 3 EA | SNAP BUSHING, 1-1/4" I.D. HEYCO PRODUCTS #2201 |
| (U) | S600065 | 1 EA | CAPACITOR TIE DOWN TO BE DEVELOPED BY ESP |
| (W) | 152995 | 1 FT | TERMINAL BLOCK, MTG. RAIL, SCORED PHOENIX #08 01 73 3 |



SWING-OUT PANEL REAR VIEW



SWING-OUT PANEL FRONT VIEW

NOTES:

1. WIRE LABELS SHALL BE WHITE HEAT SHRINK TYPE BRADY SERIES B-321 OR EQUAL.

| REV | DESCRIPTION | APP | DATE |
|-----|---------------------------------|-----|----------|
| 3 | AS BUILT | RJP | 08/24/04 |
| 2 | REV CPCTR. SIZE, ADDED RESISTOR | RJP | 05/19/04 |
| 1 | REV FUSES 50A TO 60A | RJP | 11/12/03 |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|---------|
| ANGULAR | +0°30' | DECIMAL (2 PLACES) | ±0.10 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±0.005 |
| DECIMAL (1 PLACE) | ±0.015 | DECIMAL (4 PLACES) | ±0.0005 |



CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"φ, 9 X 20KW SENTINEL
POWER SUPPLY SWING PANEL G.A.
20KW TRANSFORMER

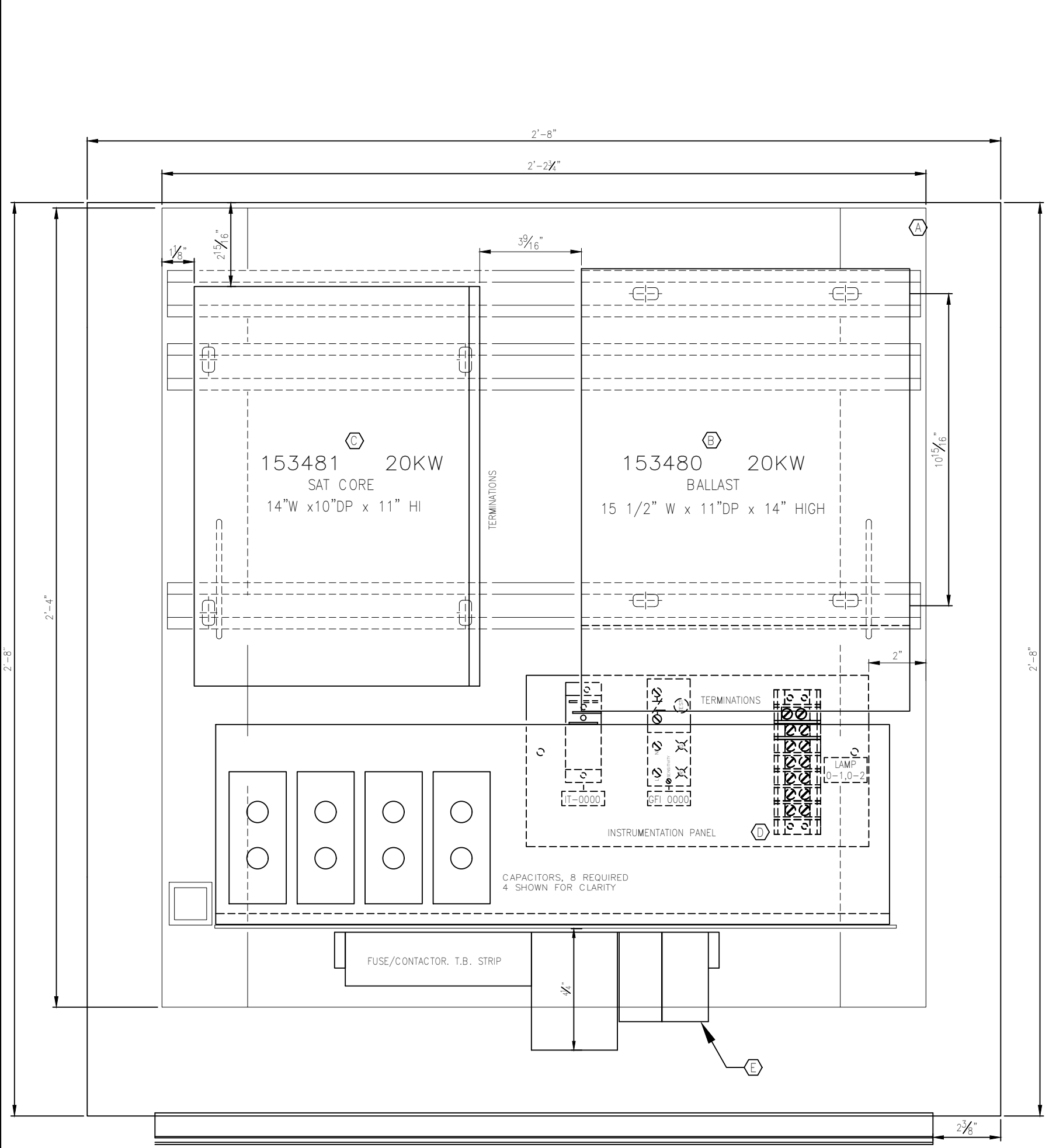
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|---|---------------|----------|
| DRAFTER | RJP | 10/15/03 |
| DESIGNER | RJP | 10/15/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03065.WINN | |

| DWG. No. | SHEET No. | SCALE | REV. |
|----------|-----------|------------|------|
| D | 1 OF 1 | 1/2" = 12" | 3 |

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BILL OF MATERIAL

| ITEM | SAP # | QTY | DESCRIPTION |
|------|---------|-------|--|
| (A) | S600056 | 1 EA | TRANSFORMER SHELF, 32" CABINET FABRICATED ASSEMBLY |
| (B) | 153480 | 1 EA | XFMR, 20KW, 600/480VAC 60 HZ INPUT CALGON CARBON CORP. |
| (C) | 153481 | 1 EA | REACTOR, FOR ITEM #153480 CALGON CARBON CORP. |
| (D) | S100492 | 1 EA | INSTRUMENTATION PANEL ASSEMBLY |
| (E) | S100535 | 1 EA | SWING PANEL, 20KW TRANSFORMER G.A. ASSEMBLY |
| (F) | 152208 | 20 FT | WIRE, 1/C #14AWG, 15KV, UL239 ANIXTER |
| (G) | 150358 | 20 FT | WIRE, 1/C #14AWG, WHITE, TEW105 ANIXTER |
| (H) | 150359 | 20 FT | WIRE, 1/C #14AWG, RED, TEW105 ANIXTER |
| (J) | 151242 | 20 FT | WIRE, 1/C #14AWG, GRN/YEL, TEW105 ANIXTER |
| (K) | 150037 | 30 FT | WIRE, 1/C #16AWG, BLUE, TEW105 ANIXTER |
| (L) | 153329 | 20 FT | WIRE, 1/C #16AWG, WHT/BLU, TEW105 ANIXTER |
| (M) | 152922 | 25 FT | CABLE, 1-TW/PR #18 SHLD. BELDEN #8760 |
| (N) | 153830 | 30 FT | WIRE, 1/C #6AWG, ORANGE, TEW105 ANIXTER |
| (O) | 153831 | 30 FT | WIRE, 1/C #6AWG, BROWN, TEW105 ANIXTER |
| (P) | 153832 | 30 FT | WIRE, 1/C #6AWG, YELLOW, TEW105 ANIXTER |



PLAN VIEW

- NOTES:
1. WIRE LABELS SHALL BE WHITE HEAT SHRINK TYPE BRADY SERIES B-321 OR EQUAL.

| REV | DESCRIPTION | APP | DATE |
|-----|-------------|-----|------|
| C | | | |
| B | | | |
| A | | | |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | +0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON
CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"φ, 9 X 20KW SENTINEL
TRANSFORMER SHELF G.A.
20KW TRANSFORMER

DWG. Size **D** SHEET No. 1 OF 1 SCALE 1/2" = 12"

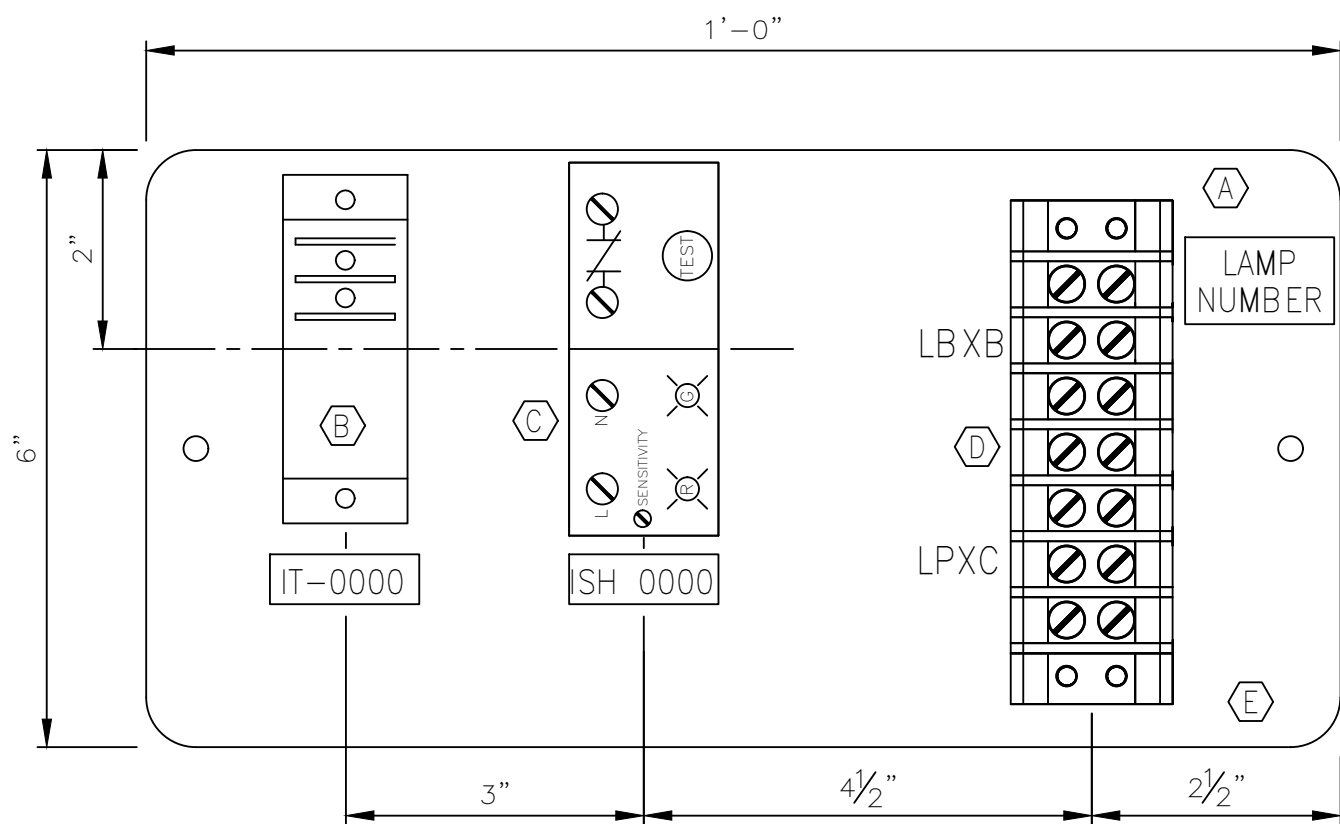
DWG. No. US-03065.WINN SHEET No. S100536 REV. 0

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | RJP | 10/15/03 |
| DESIGNER | RJP | 10/15/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03065.WINN | |

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P/S INSTRUMENTATION PANEL

NOTES:

| BILL OF MATERIAL | | | |
|------------------|---------|------|--|
| ITEM | SAP # | QTY | DESCRIPTION |
| (A) | S600063 | 1 EA | MOUNTING PLATE, 12"x6" 14 GAUGE CARBON STEEL |
| (B) | 153699 | 1 EA | CT TRANSDUCER, 10/20/50A, 4-20MA, TRUE RMS ENERCORP #SA200-1-V |
| (C) | 151453 | 1 EA | GFI-CT, 30MA TRIP, 24VDC ENERCORP #AGI-NCDC-120-NF-030 |
| (D) | 151726 | 1 EA | TERMINAL BLOCK, 7 POSITION, 30 AMP CINCH #7-542 |
| (E) | 650483 | 4 EA | STANDOFF. #6-32UNC., .2509 OD X 1" PHENOLIC |

| | | |
|---|----------|----------|
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| | NAME | DATE |
| DRAFTER | RJP | 04/15/03 |
| DESIGNER | RJP | 04/15/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |

| | | | |
|-----|--------------------------|-----|----------|
| 3 | | | |
| 2 | REV. MOUNTING | RJP | 08/24/04 |
| 1 | REV. TITLE, ADD. S600063 | RJP | 10/22/03 |
| REV | DESCRIPTION | APP | DATE |

| REVISIONS | | | |
|---|--------|--------------------|--------|
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

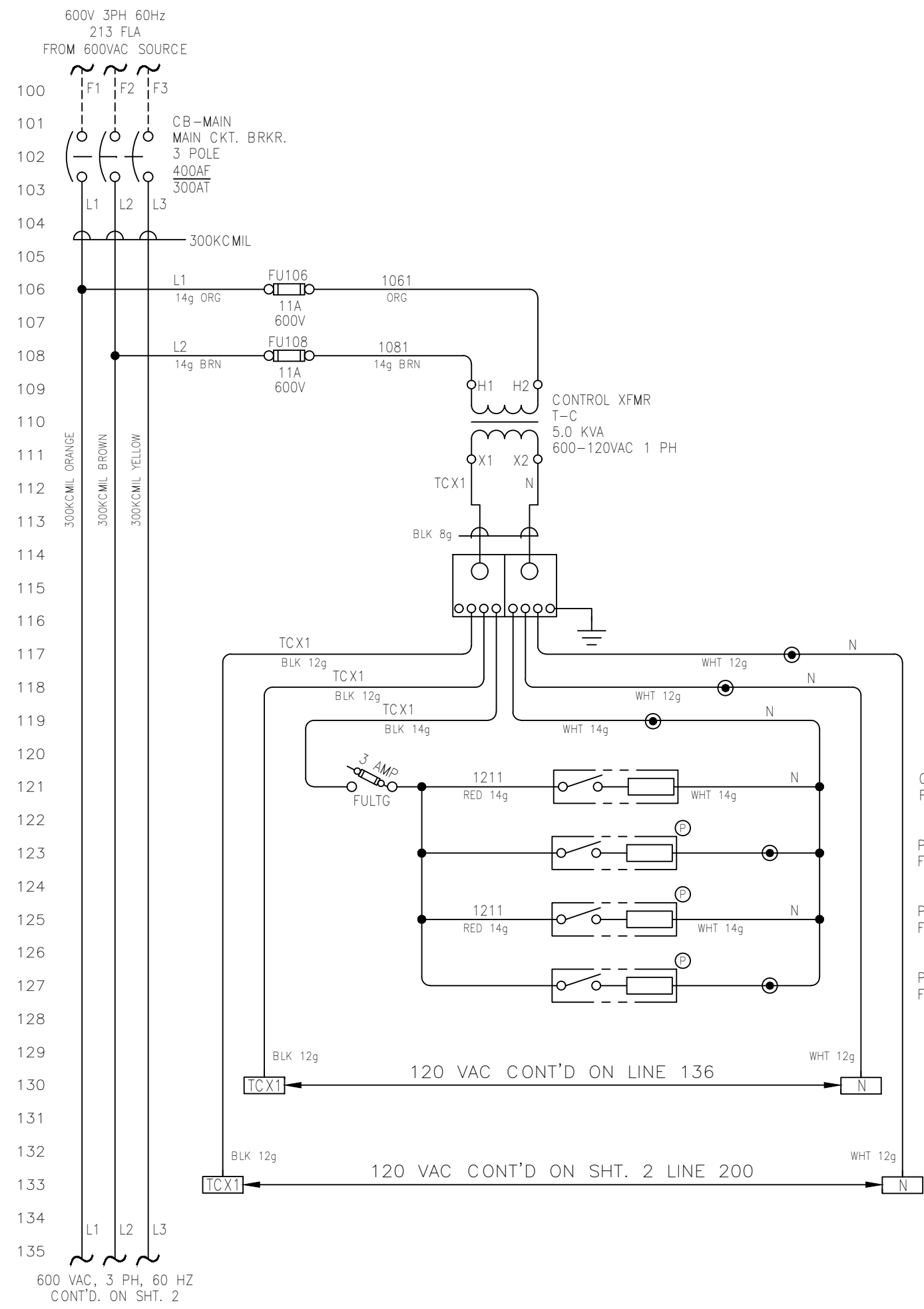
CALGON
CALGON CARBON CORPORATION

CLIENT
CALGON CARBON CORP
PITTSBURGH, PA.

TITLE
VARIABLE SENTINEL
P/S INSTRUMENTATION PANEL
GENERAL ARRANGEMENT

| | | | | | |
|-----------|----------|-----------|--------|-------|-----|
| DWG. Size | B | SHEET No. | 1 OF 1 | SCALE | 1/2 |
| DWG. No. | S100492 | | | REV. | 2 |

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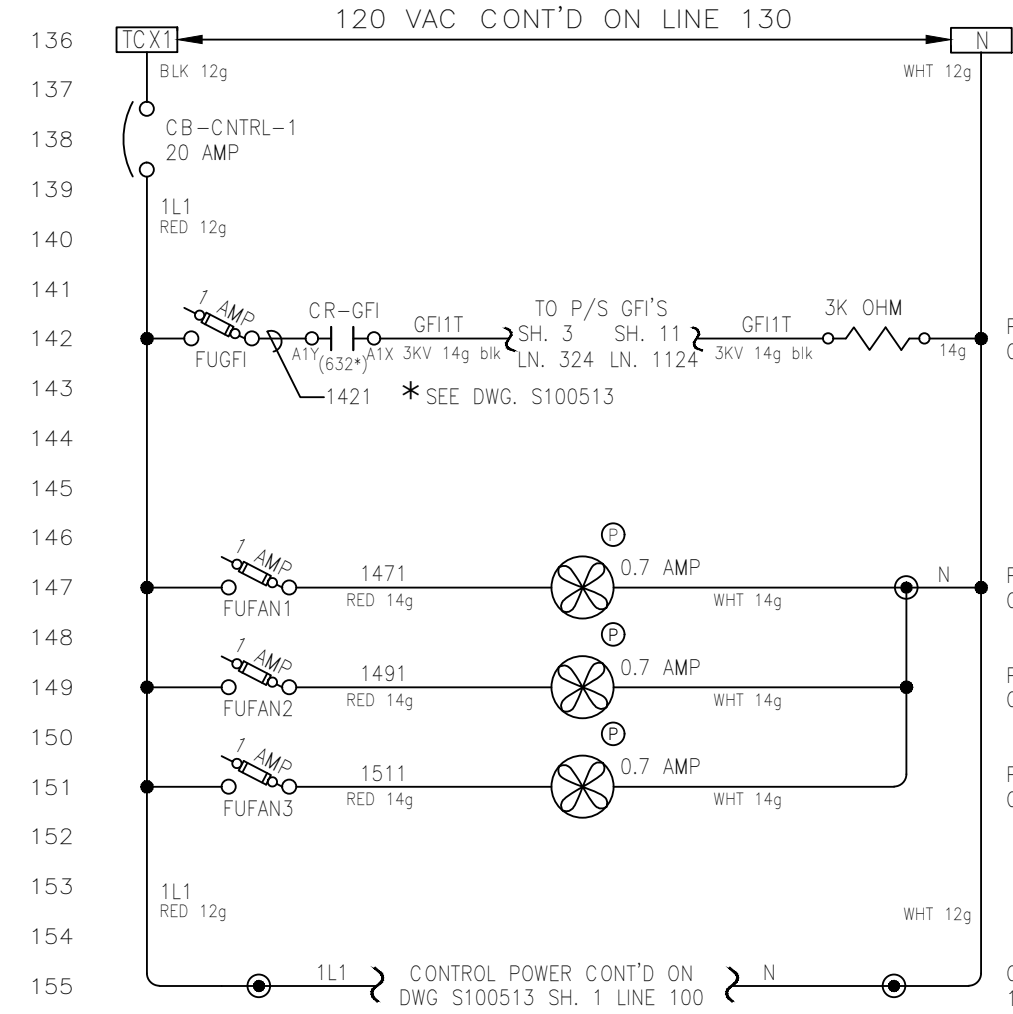


CONTROL PANEL
FLUOR. LIGHT W/SW

POWER SUPPLY PANEL #1
FLUOR. LIGHT W/SW

POWER SUPPLY PANEL #2
FLUOR. LIGHT W/SW

POWER SUPPLY PANEL #3
FLUOR. LIGHT W/SW



NOTE:
1. ALL DEVICES LOCATED IN CONTROL
PANEL CABINET EXCEPT AS NOTED.

| REV | DESCRIPTION | APP | DATE |
|-----|-----------------------------|-----|----------|
| 5 | CORRECTED SPELLING | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | REV. WIRE NO. & CAP. BANK | GTL | 01/26/04 |
| 2 | CLARIFY CAP. BANK CWV | GTL | 11/17/03 |
| 1 | REV FUSES 50A TO 60A 9 SHTS | RJP | 11/12/03 |

LEGEND:

- TB IN PROCESS PANEL
- ⊕ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- EXTERNAL WIRING
- FUSED TYPE T.B.

COLOUR CODE:

- blue 24 Vdc signal
- wht/blu 0 Vdc common
- red 120 Vac control
- white neutral
- green ground
- orange 600V Ph. 'A'
- brown 600V Ph. 'B'
- yellow 600V Ph. 'C'

All wiring #16g unless indicated otherwise.

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | RJP | 10/10/03 |
| DESIGNER | RJP | 10/10/03 |
| CHECKER | GTL | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°40' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON
CALGON CARBON CORPORATION

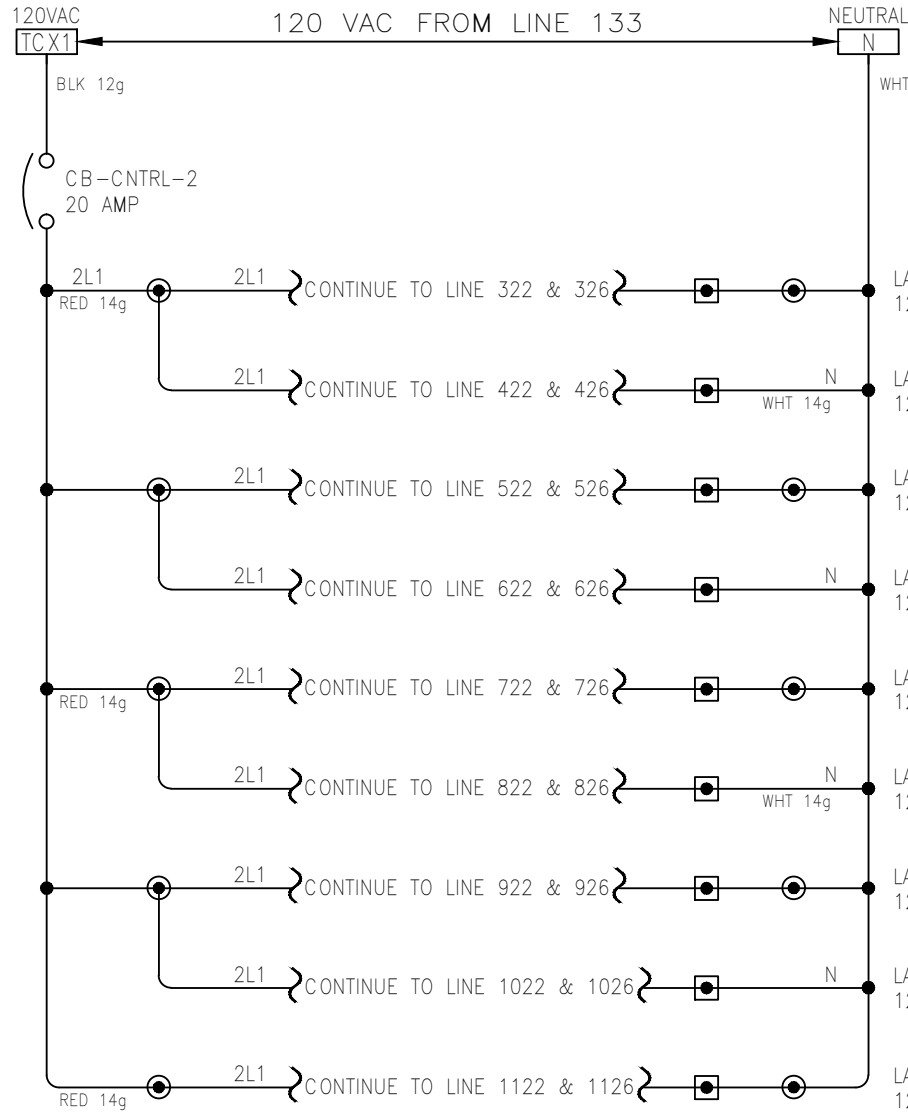
CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
POWER SUPPLY SCHEMATIC

| | | | | | |
|-----------|----------|-----------|---------|-------|------|
| DWG. Size | B | SHEET No. | 1 OF 11 | SCALE | NONE |
| DWG. No. | S100537 | | | REV. | 5 |

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600V 3 PH 60Hz
CONT'D FROM SH. 1



600 VAC, 3 PH, 60 HZ
CONT'D. ON SHT. 3

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NOTE:

1. ALL DEVICES LOCATED IN CONTROL PANEL CABINET EXCEPT AS NOTED.

LEGEND:

- TB IN PROCESS PANEL
- ⊕ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- EXTERNAL WIRING
- FUSED TYPE T.B.

All wiring #16g unless indicated otherwise.

COLOUR CODE:

- blue 24 Vdc signal
- wht/blu 0 Vdc common
- red 120 Vac common
- white neutral
- green ground
- orange 600V Ph. 'A'
- brown 600V Ph. 'B'
- yellow 600V Ph. 'C'

| 5 | CORRECTED SPELLING | RJP | 09/13/05 |
|-----|-----------------------------|-----|----------|
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | REV. WIRE NO. & CAP. BANK | GTL | 01/26/04 |
| 2 | CLARIFY CAP. BANK CWV | GTL | 11/17/03 |
| 1 | REV FUSES 50A TO 60A 9 SHTS | RJP | 11/12/03 |
| REV | DESCRIPTION | APP | DATE |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°40' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

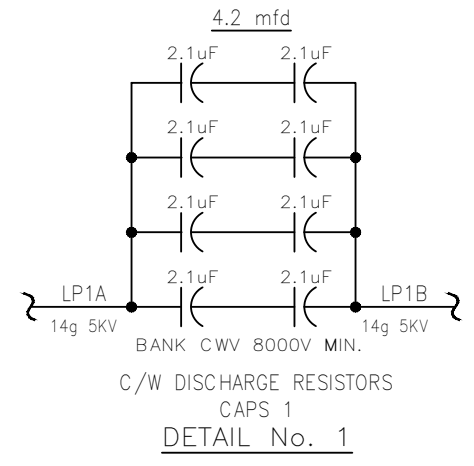
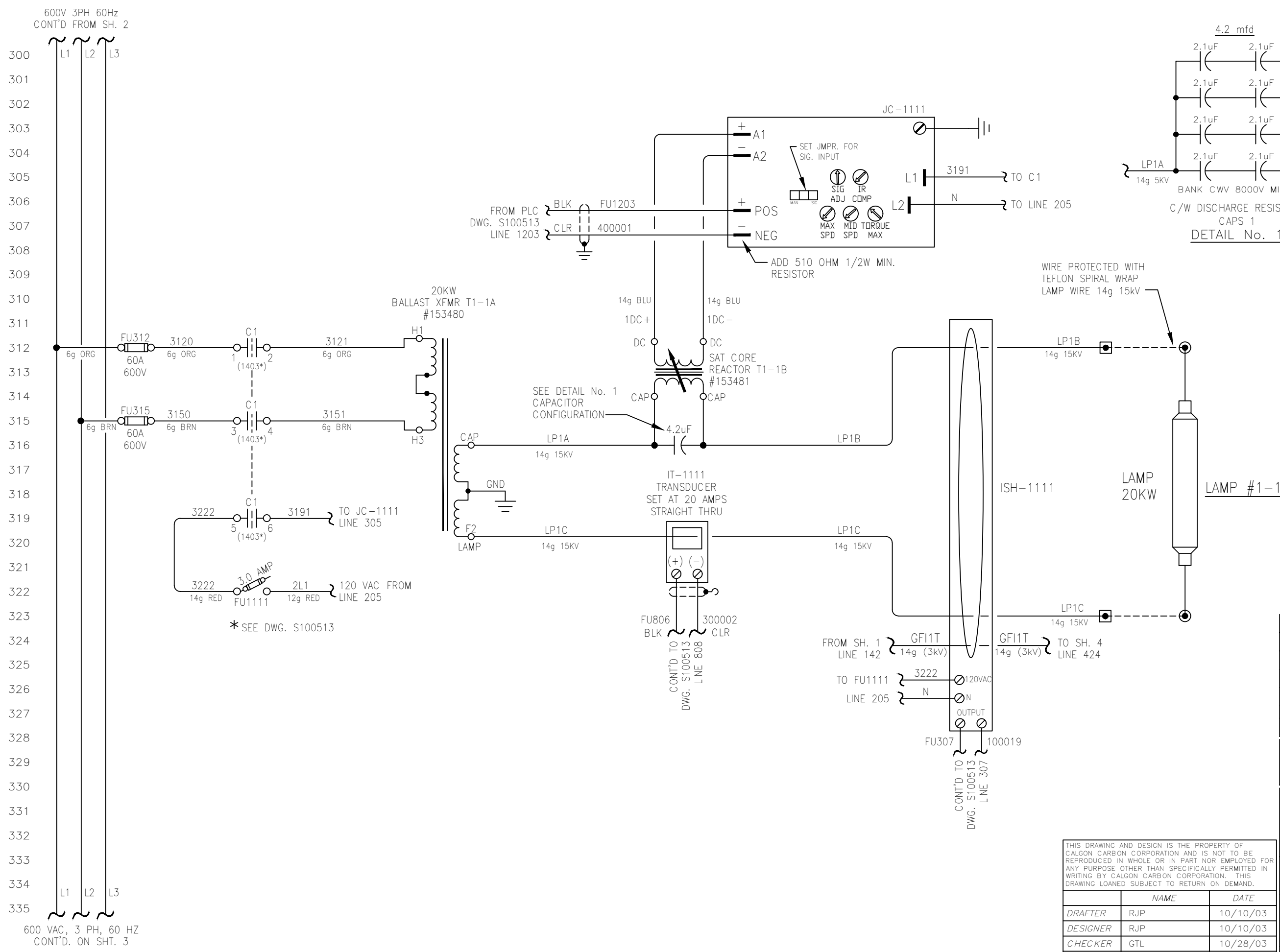
CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"ø, 9 X 20KW SENTINEL
POWER SUPPLY SCHEMATIC

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | RJP | 10/10/03 |
| DESIGNER | RJP | 10/10/03 |
| CHECKER | GTL | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | | | | |
|-----------|----------|-----------|---------|-------|------|
| DWG. Size | B | SHEET No. | 2 OF 11 | SCALE | NONE |
| DWG. No. | S100537 | | | REV. | 5 |



NOTE:
1. ALL DEVICES LOCATED IN POWER SUPPLY CABINET EXCEPT AS NOTED.

LEGEND:
 HIGH VOLTAGE TERMINATIONS
 [Symbol] LOCATED IN POWER SUPPLY
 [Symbol] LAMP LEAD TERMINATION (POST)
 - - - DENOTES FIELD WIRING
 [Symbol] DENOTES TAPE BACK SHIELD
 [Symbol] LOC. IN CONTROL PANEL CABINET

| 5 | CORRECTED SPELLING | RJP | 09/13/05 |
|-----------|-----------------------------|-----|----------|
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | REV. WIRE NO. & CAP. BANK | GTL | 01/26/04 |
| 2 | CLARIFY CAP. BANK CWV | GTL | 11/17/03 |
| 1 | REV FUSES 50A TO 60A 9 SHTS | RJP | 11/12/03 |
| REV | DESCRIPTION | APP | DATE |
| REVISIONS | | | |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
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| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

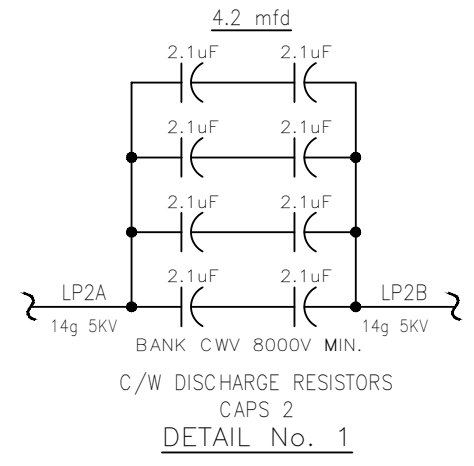
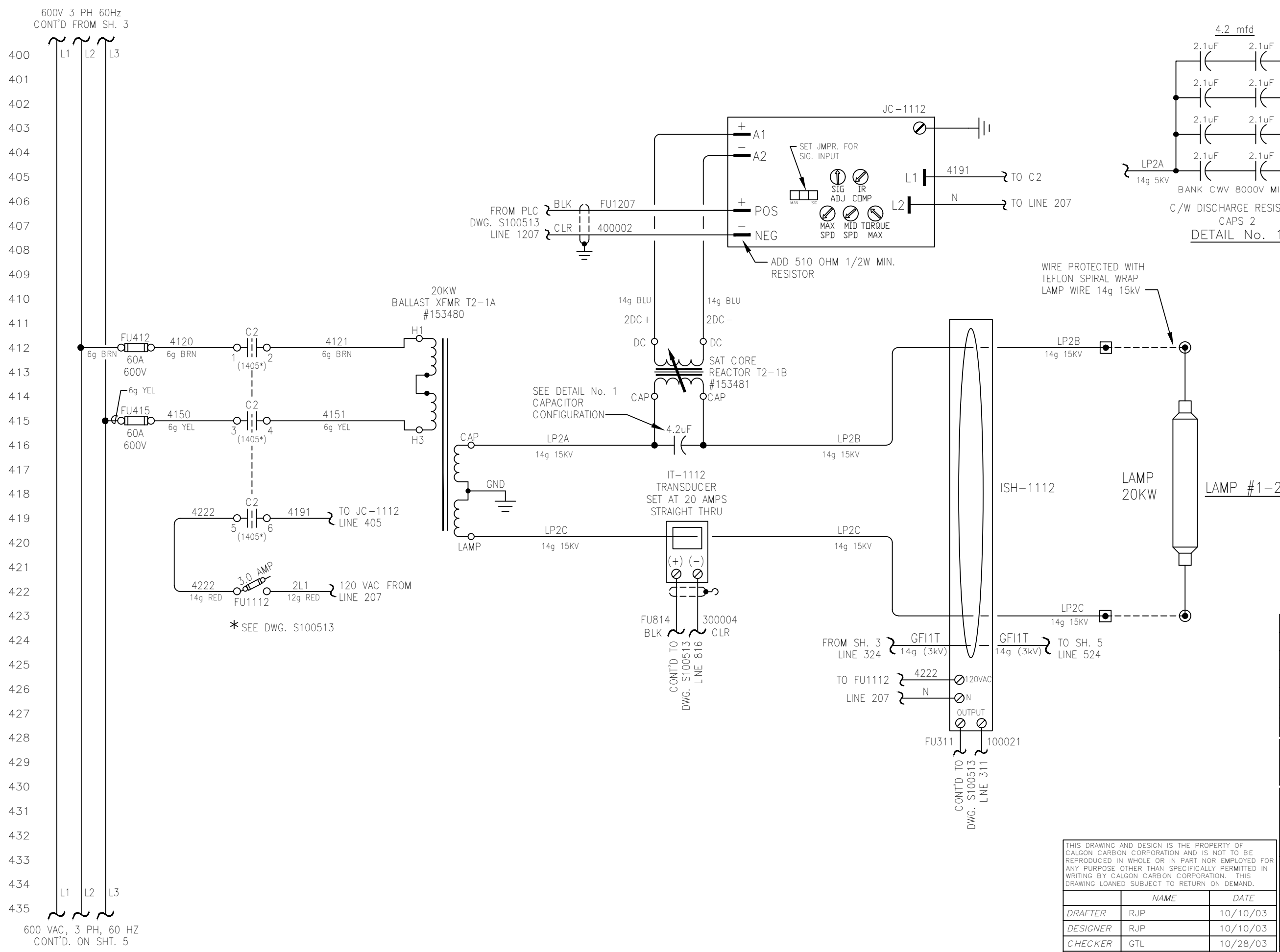


CALGON CARBON CORPORATION

| | |
|-----------|---|
| CLIENT | CITY OF WINNIPEG MANITOBA, CANADA |
| TITLE | (6) 48"Ø, 9 X 20KW SENTINEL POWER SUPPLY SCHEMATIC |
| DWG. Size | B SHEET 3 OF 11 SCALE NONE |
| DWG. No. | S100537 REV. 5 |

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|---|---------------|----------|
| NAME | DATE | |
| DRAFTER | RJP | 10/10/03 |
| DESIGNER | RJP | 10/10/03 |
| CHECKER | GTL | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

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NOTE:
 1. ALL DEVICES LOCATED IN POWER SUPPLY CABINET EXCEPT AS NOTED.

LEGEND:
 HIGH VOLTAGE TERMINATIONS
 [Symbol] LOCATED IN POWER SUPPLY
 [Symbol] LAMP LEAD TERMINATION (POST)
 --- DENOTES FIELD WIRING
 [Symbol] DENOTES TAPE BACK SHIELD
 [Symbol] LOC. IN CONTROL PANEL CABINET

| REV | DESCRIPTION | APP | DATE |
|-----|-----------------------------|-----|----------|
| 5 | CORRECTED SPELLING | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | REV. WIRE NO. & CAP. BANK | GTL | 01/26/04 |
| 2 | CLARIFY CAP. BANK CWV | GTL | 11/17/03 |
| 1 | REV FUSES 50A TO 60A 9 SHTS | RJP | 11/12/03 |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°40' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

CLIENT
 CITY OF WINNIPEG
 MANITOBA, CANADA

TITLE
 (6) 48"Ø, 9 X 20KW SENTINEL
 POWER SUPPLY SCHEMATIC

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | RJP | 10/10/03 |
| DESIGNER | RJP | 10/10/03 |
| CHECKER | GTL | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

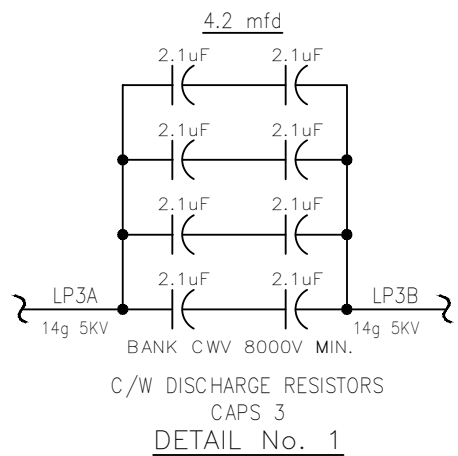
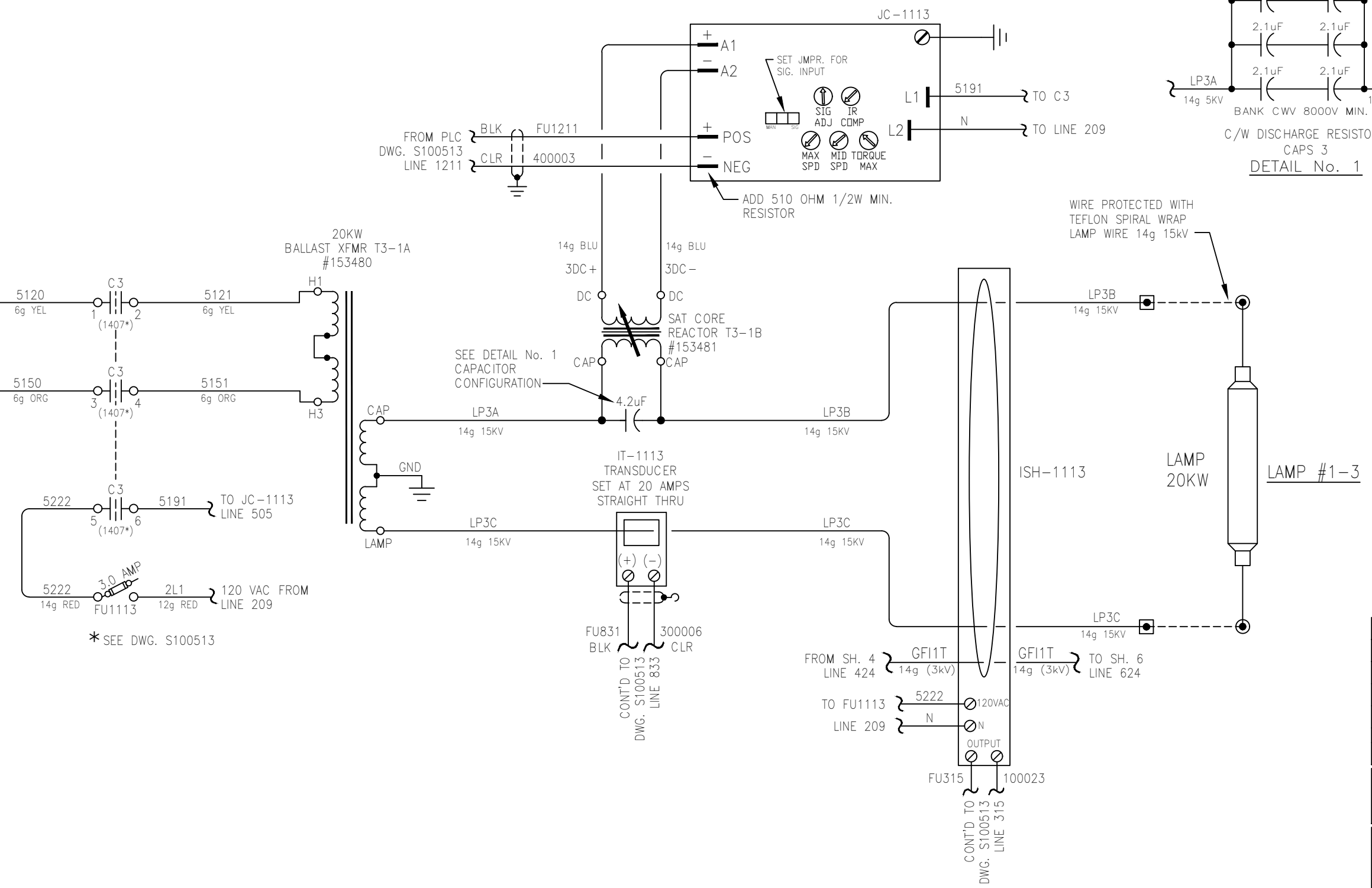
| DWG. Size | B | SHEET No. | 4 OF 11 | SCALE | NONE |
|-----------|---------|-----------|---------|-------|------|
| DWG. No. | S100537 | | | REV. | 5 |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\Old Revisions\S100537_005.dwg Aug 10, 2021 - 2:03pm

600V 3 PH 60Hz
CONT'D FROM SH. 4

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600 VAC, 3 PH, 60 HZ
CONT'D. ON SHT. 6



NOTE:
1. ALL DEVICES LOCATED IN POWER SUPPLY CABINET EXCEPT AS NOTED.

LEGEND:
HIGH VOLTAGE TERMINATIONS
● LOCATED IN POWER SUPPLY
⊙ LAMP LEAD TERMINATION (POST)
--- DENOTES FIELD WIRING
--- DENOTES TAPE BACK SHIELD
Ⓞ LOC. IN CONTROL PANEL CABINET

| REV | DESCRIPTION | APP | DATE |
|-----|-----------------------------|-----|----------|
| 5 | CORRECTED SPELLING | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | REV. WIRE NO. & CAP. BANK | GTL | 01/26/04 |
| 2 | CLARIFY CAP. BANK CWV | GTL | 11/17/03 |
| 1 | REV FUSES 50A TO 60A 9 SHTS | RJP | 11/12/03 |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°40' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
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CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

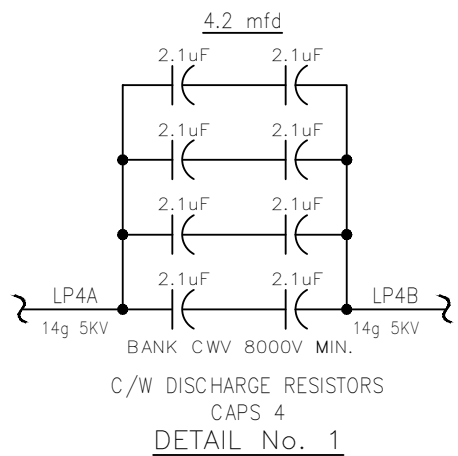
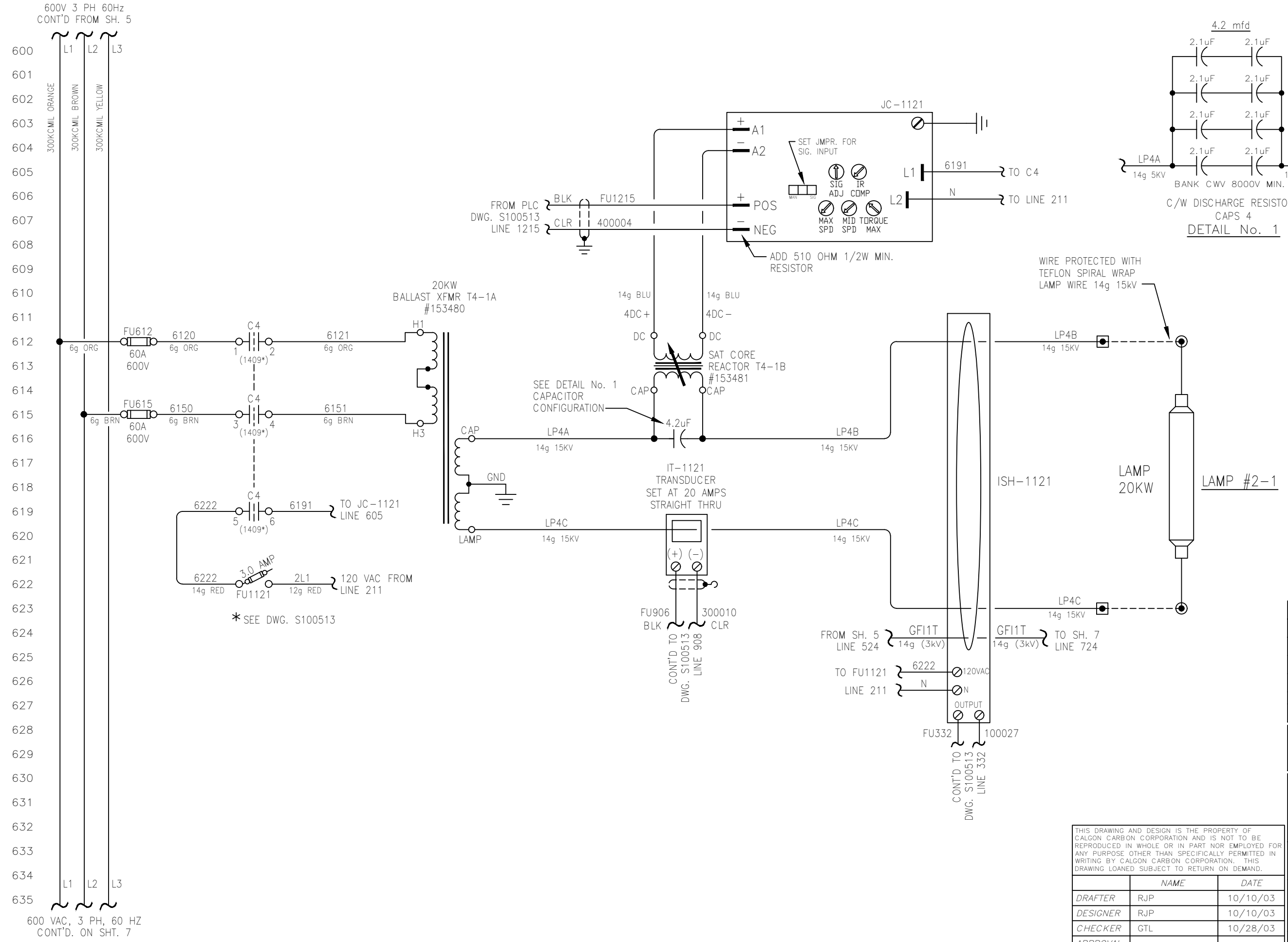
TITLE
(6) 48"ø, 9 X 20KW SENTINEL
POWER SUPPLY SCHEMATIC

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | RJP | 10/10/03 |
| DESIGNER | RJP | 10/10/03 |
| CHECKER | GTL | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | | | | |
|-----------|----------|-----------|---------|-------|------|
| DWG. Size | B | SHEET No. | 5 OF 11 | SCALE | NONE |
| DWG. No. | S100537 | | | REV. | 5 |

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NOTE:
1. ALL DEVICES LOCATED IN POWER SUPPLY CABINET EXCEPT AS NOTED.

- LEGEND:**
- HIGH VOLTAGE TERMINATIONS
 - LOCATED IN POWER SUPPLY
 - LAMP LEAD TERMINATION (POST)
 - DENOTES FIELD WIRING
 - DENOTES TAPE BACK SHIELD
 - LOC. IN CONTROL PANEL CABINET

| REV | DESCRIPTION | APP | DATE |
|-----|-----------------------------|-----|----------|
| 5 | CORRECTED SPELLING | RJP | 09/13/05 |
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| 1 | REV FUSES 50A TO 60A 9 SHTS | RJP | 11/12/03 |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
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CALGON CARBON CORPORATION

CLIENT
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MANITOBA, CANADA

TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
POWER SUPPLY SCHEMATIC

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | RJP | 10/10/03 |
| DESIGNER | RJP | 10/10/03 |
| CHECKER | GTL | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

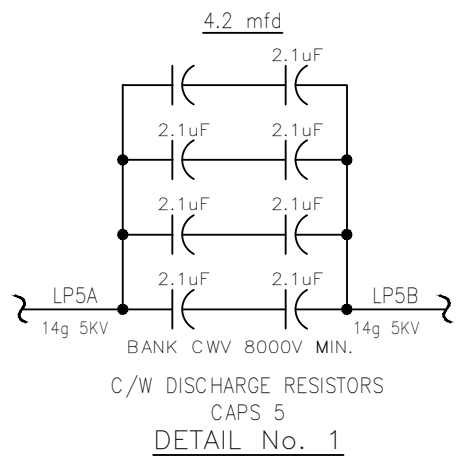
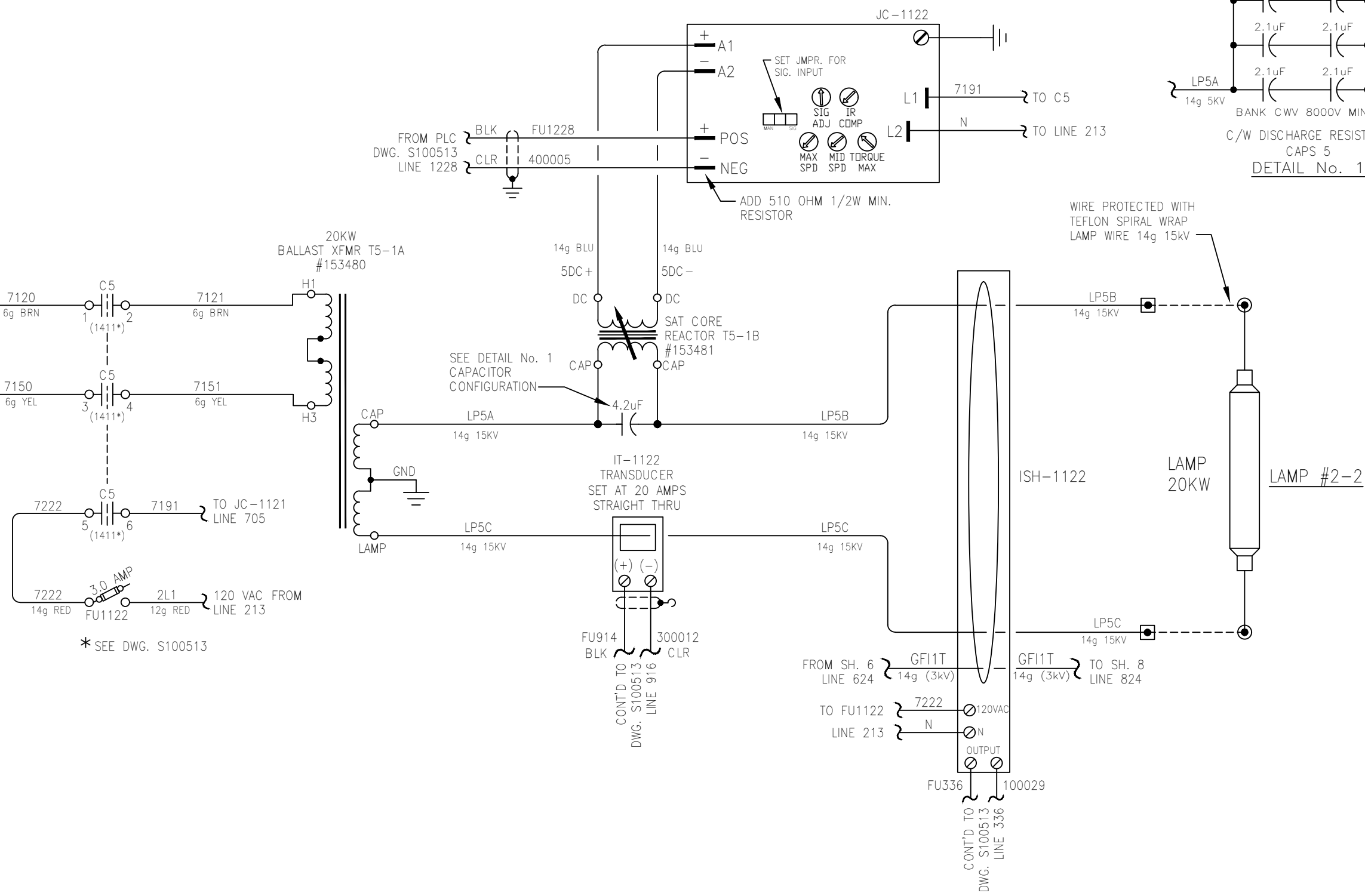
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|-----------|----------|-----------|---------|-------|------|
| DWG. Size | B | SHEET No. | 6 OF 11 | SCALE | NONE |
| DWG. No. | S100537 | | | REV. | 5 |

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600V 3 PH 60Hz
CONT'D FROM SH. 6

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735

600 VAC, 3 PH, 60 HZ
CONT'D. ON SHT. 8



NOTE:
1. ALL DEVICES LOCATED IN POWER SUPPLY CABINET EXCEPT AS NOTED.

LEGEND:
HIGH VOLTAGE TERMINATIONS
● LOCATED IN POWER SUPPLY
⊙ LAMP LEAD TERMINATION (POST)
--- DENOTES FIELD WIRING
- - - DENOTES TAPE BACK SHIELD
⊙ LOC. IN CONTROL PANEL CABINET

| REV | DESCRIPTION | APP | DATE |
|-----|-----------------------------|-----|----------|
| 5 | CORRECTED SPELLING | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | REV. WIRE NO. & CAP. BANK | GTL | 01/26/04 |
| 2 | CLARIFY CAP. BANK CWV | GTL | 11/17/03 |
| 1 | REV FUSES 50A TO 60A 9 SHTS | RJP | 11/12/03 |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°40' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±0.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
POWER SUPPLY SCHEMATIC

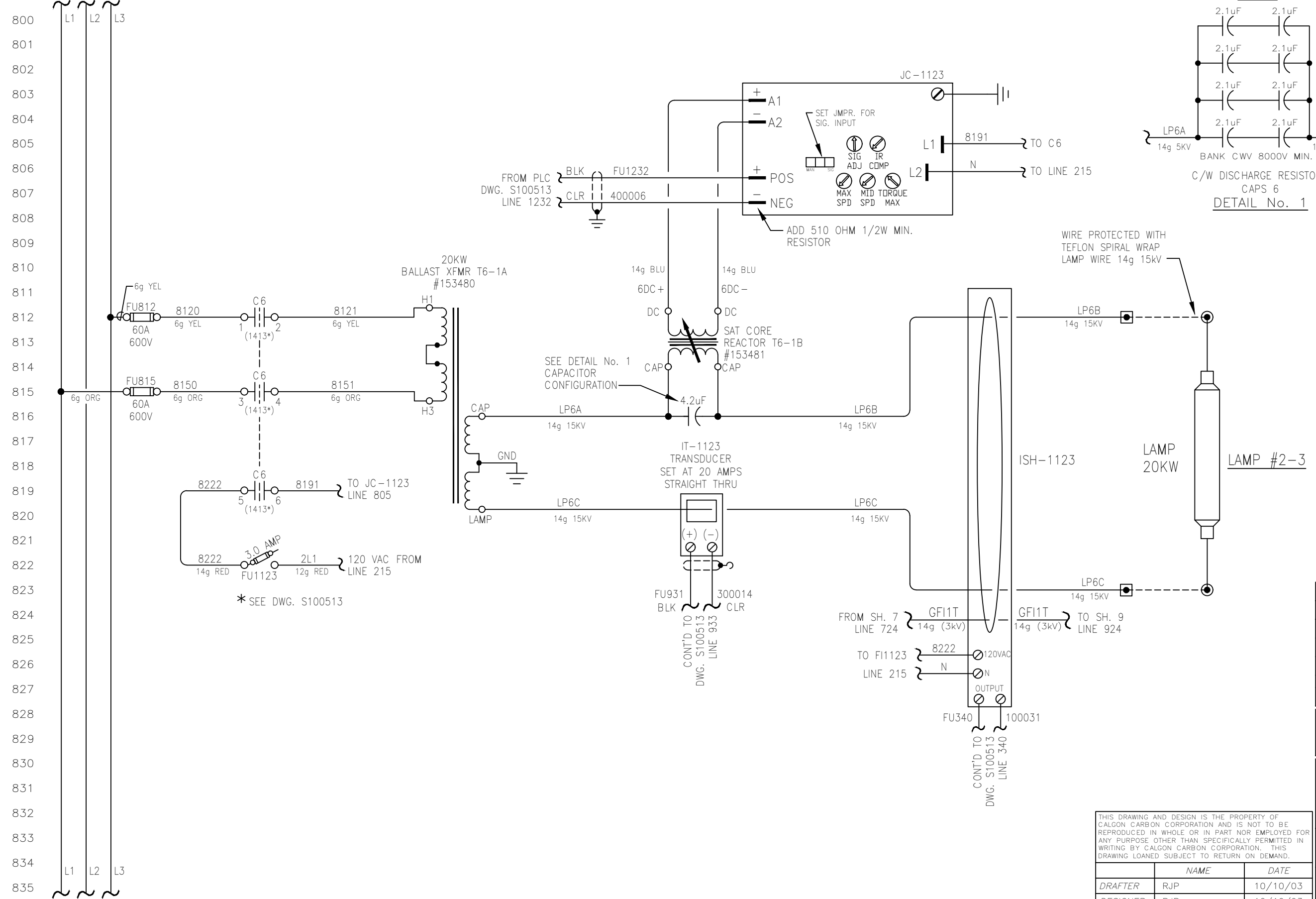
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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | RJP | 10/10/03 |
| DESIGNER | RJP | 10/10/03 |
| CHECKER | GTL | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| DWG. Size | B | SHEET No. | 7 OF 11 | SCALE | NONE |
|-----------|---------|-----------|---------|-------|------|
| DWG. No. | S100537 | | REV. | 5 | |

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600V 3 PH 60Hz
CONT'D FROM SH. 7



* SEE DWG. S100513

NOTE:
1. ALL DEVICES LOCATED IN POWER SUPPLY CABINET EXCEPT AS NOTED.

LEGEND:
 HIGH VOLTAGE TERMINATIONS
 ● LOCATED IN POWER SUPPLY
 ○ LAMP LEAD TERMINATION (POST)
 --- DENOTES FIELD WIRING
 --- DENOTES TAPE BACK SHIELD
 ⊙ LOC. IN CONTROL PANEL CABINET

| 5 | CORRECTED SPELLING | RJP | 09/13/05 |
|-----|-----------------------------|-----|----------|
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | REV. WIRE NO. & CAP. BANK | GTL | 01/26/04 |
| 2 | CLARIFY CAP. BANK CWV | GTL | 11/17/03 |
| 1 | REV FUSES 50A TO 60A 9 SHTS | RJP | 11/12/03 |
| REV | DESCRIPTION | APP | DATE |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0'40" | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

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CITY OF WINNIPEG
MANITOBA, CANADA

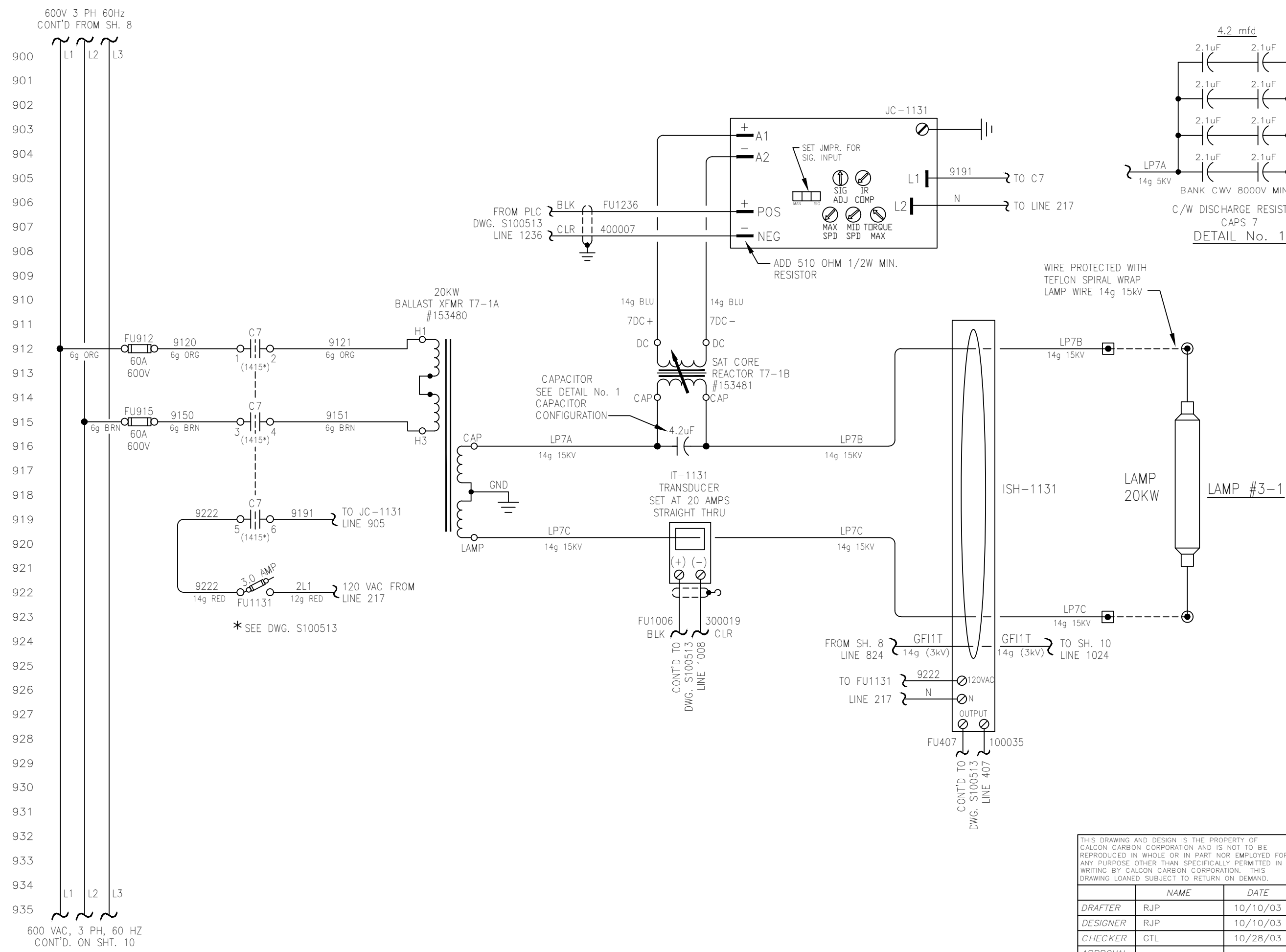
TITLE
(6) 48"φ, 9 X 20KW SENTINEL
POWER SUPPLY SCHEMATIC

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|---|---------------|----------|
| NAME | DATE | |
| DRAFTER | RJP | 10/10/03 |
| DESIGNER | RJP | 10/10/03 |
| CHECKER | GTL | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | | | | |
|-----------|----------|-----------|---------|-------|------|
| DWG. Size | B | SHEET No. | 8 OF 11 | SCALE | NONE |
| DWG. No. | S100537 | | | REV. | 5 |

600 VAC, 3 PH, 60 HZ
CONT'D. ON SHT. 9

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NOTE:
1. ALL DEVICES LOCATED IN POWER SUPPLY CABINET EXCEPT AS NOTED.

LEGEND:
HIGH VOLTAGE TERMINATIONS
● LOCATED IN POWER SUPPLY
⊙ LAMP LEAD TERMINATION (POST)
--- DENOTES FIELD WIRING
--- DENOTES TAPE BACK SHIELD
⊙ LOC. IN CONTROL PANEL CABINET

| REV | DESCRIPTION | APP | DATE |
|-----|-----------------------------|-----|----------|
| 5 | CORRECTED SPELLING | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | REV. WIRE NO. & CAP. BANK | GTL | 01/26/04 |
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| 1 | REV FUSES 50A TO 60A 9 SHTS | RJP | 11/12/03 |

| TOLERANCES (unless otherwise specified) | | | |
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| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



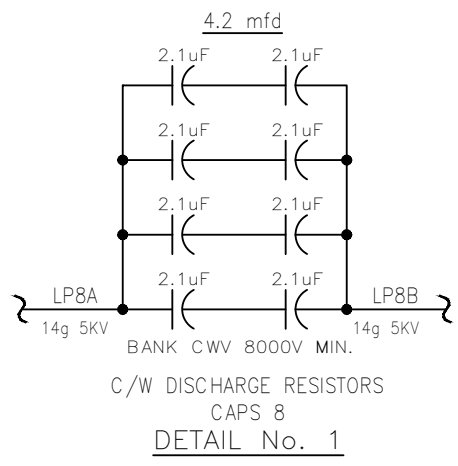
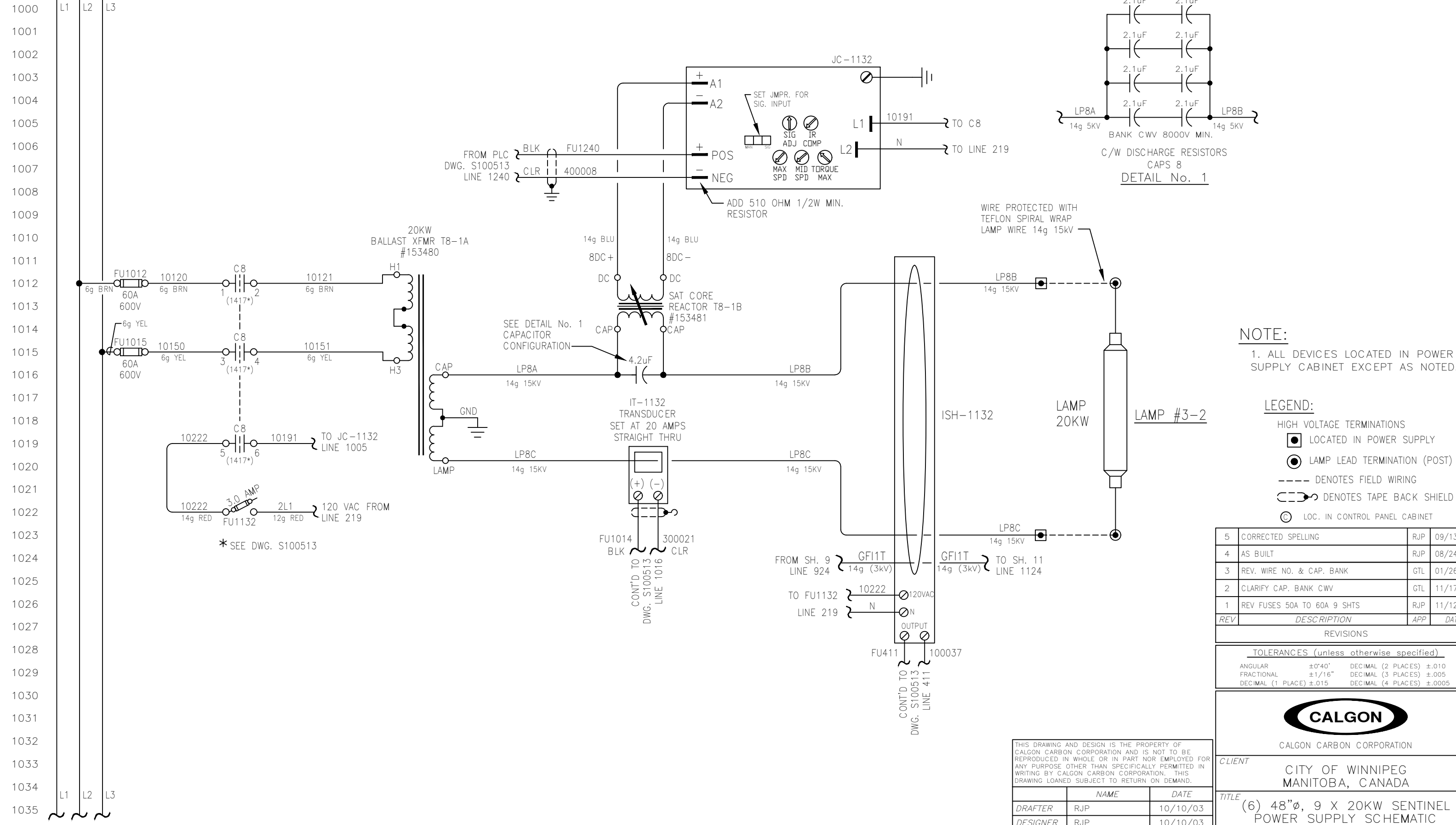
CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"ø, 9 X 20KW SENTINEL
POWER SUPPLY SCHEMATIC

| NAME | DATE |
|-------------|---------------|
| DRAFTER | RJP 10/10/03 |
| DESIGNER | RJP 10/10/03 |
| CHECKER | GTL 10/28/03 |
| APPROVAL | |
| PROJECT No. | US-03056.WINN |

| DWG. Size | B | SHEET No. | 9 OF 11 | SCALE | NONE |
|-----------|---------|-----------|---------|-------|------|
| DWG. No. | S100537 | REV. | 5 | | |

600V 3 PH 60Hz
CONT'D FROM SH. 9



NOTE:
1. ALL DEVICES LOCATED IN POWER SUPPLY CABINET EXCEPT AS NOTED.

- LEGEND:**
- HIGH VOLTAGE TERMINATIONS
 - ⊙ LOCATED IN POWER SUPPLY
 - ⊙ LAMP LEAD TERMINATION (POST)
 - - - - DENOTES FIELD WIRING
 - ⊓ DENOTES TAPE BACK SHIELD
 - ⊙ LOC. IN CONTROL PANEL CABINET

* SEE DWG. S100513

| REV | DESCRIPTION | APP | DATE |
|-----|-----------------------------|-----|----------|
| 5 | CORRECTED SPELLING | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | REV. WIRE NO. & CAP. BANK | GTL | 01/26/04 |
| 2 | CLARIFY CAP. BANK CWV | GTL | 11/17/03 |
| 1 | REV FUSES 50A TO 60A 9 SHTS | RJP | 11/12/03 |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°40' | DECIMAL (2 PLACES) | ±.010 |
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CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"ø, 9 X 20KW SENTINEL
POWER SUPPLY SCHEMATIC

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| | NAME | DATE |
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| DRAFTER | RJP | 10/10/03 |
| DESIGNER | RJP | 10/10/03 |
| CHECKER | GTL | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

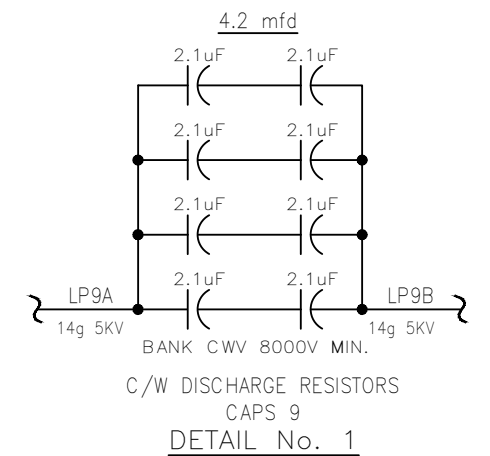
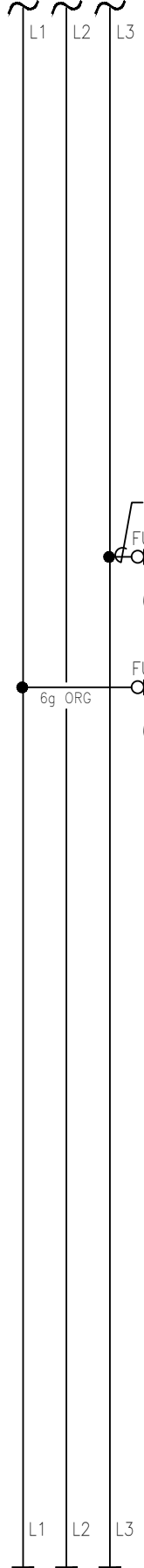
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|-----------|---------|-----------|----------|-------|------|
| DWG. Size | B | SHEET No. | 10 OF 11 | SCALE | NONE |
| DWG. No. | S100537 | REV. | 5 | | |

600 VAC, 3 PH, 60 HZ
CONT'D. ON SHT. 11

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600V 3 PH 60Hz
CONT'D FROM SH. 10

1100
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1102
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1122
1123
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NOTE:
1. ALL DEVICES LOCATED IN POWER SUPPLY CABINET EXCEPT AS NOTED.

LEGEND:
 HIGH VOLTAGE TERMINATIONS
 ■ LOCATED IN POWER SUPPLY
 ● LAMP LEAD TERMINATION (POST)
 --- DENOTES FIELD WIRING
 - - - DENOTES TAPE BACK SHIELD
 ⊙ LOC. IN CONTROL PANEL CABINET

| REV | DESCRIPTION | APP | DATE |
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| 5 | CORRECTED SPELLING | RJP | 09/13/05 |
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| 1 | REV FUSES 50A TO 60A 9 SHTS | RJP | 11/12/03 |
| REVISIONS | | | |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°40' | DECIMAL (2 PLACES) | ±.010 |
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CALGON CARBON CORPORATION

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CITY OF WINNIPEG
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TITLE
(6) 48"ø, 9 X 20KW SENTINEL
POWER SUPPLY SCHEMATIC

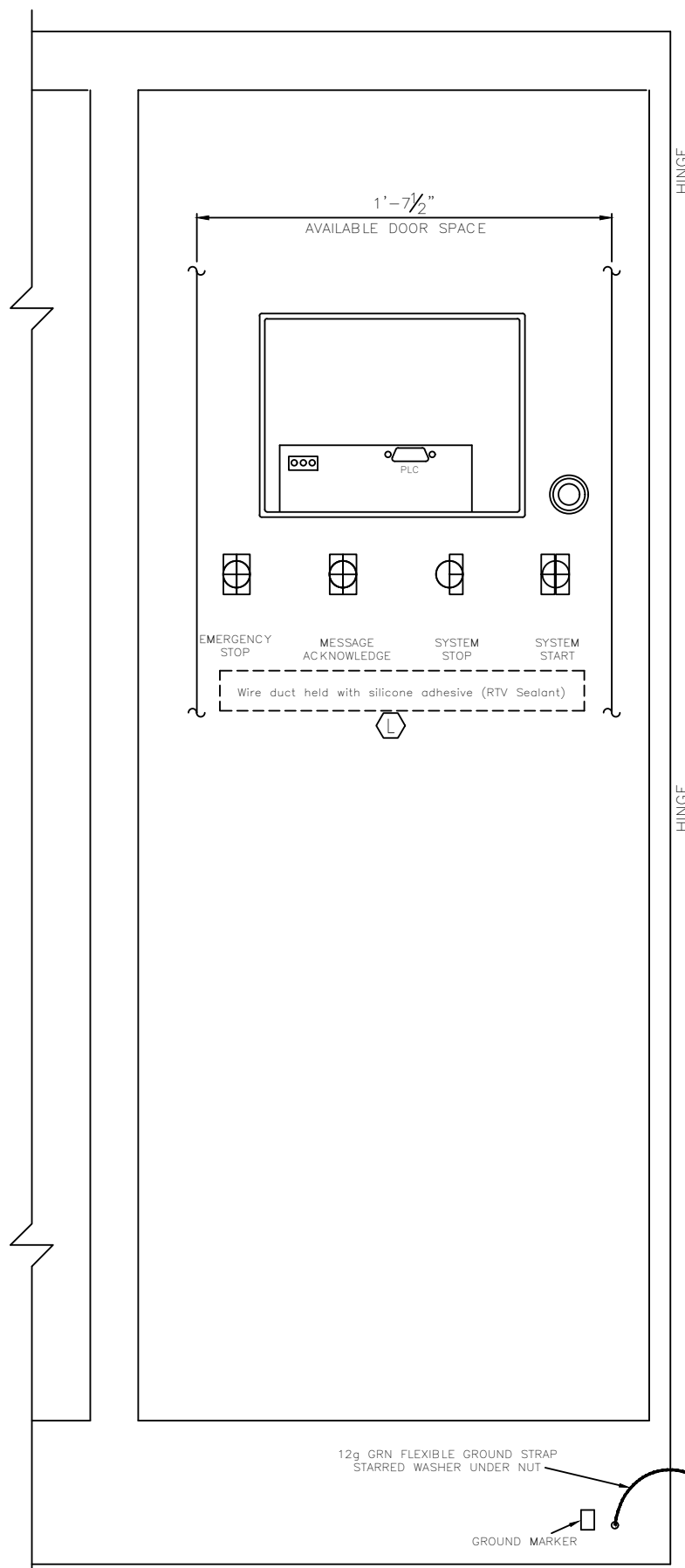
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|-----------|----------|-----------|----------|-------|------|
| DWG. Size | B | SHEET No. | 11 OF 11 | SCALE | NONE |
| DWG. No. | S100537 | | | REV. | 5 |

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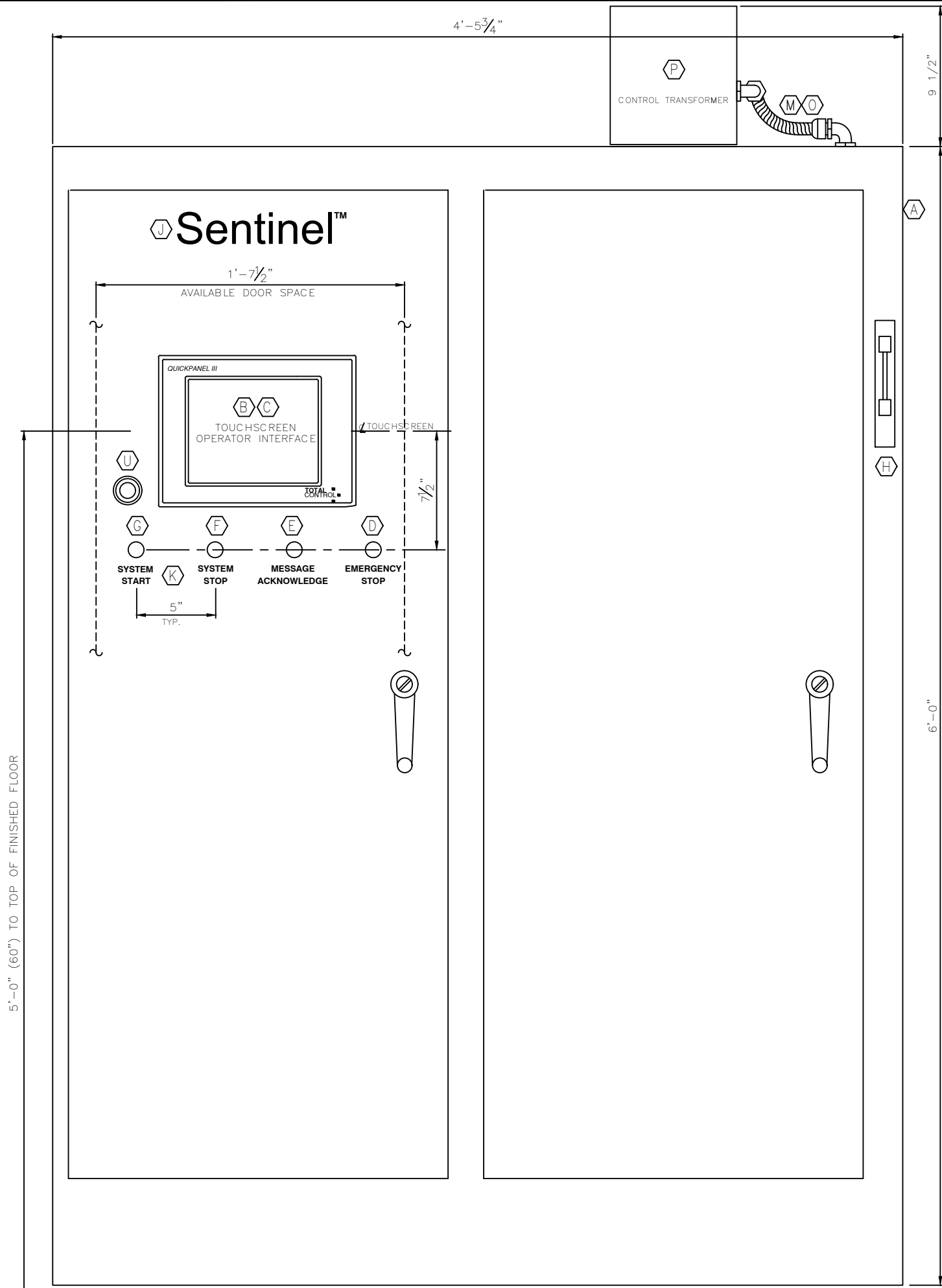
| NAME | DATE |
|--------------|---------------|
| DRAFTER RJP | 10/10/03 |
| DESIGNER RJP | 10/10/03 |
| CHECKER GTL | 10/28/03 |
| APPROVAL | |
| PROJECT No. | US-03056.WINN |

600 VAC, 3 PH, 60 HZ
END

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CONTROL PANEL DOOR REAR VIEW

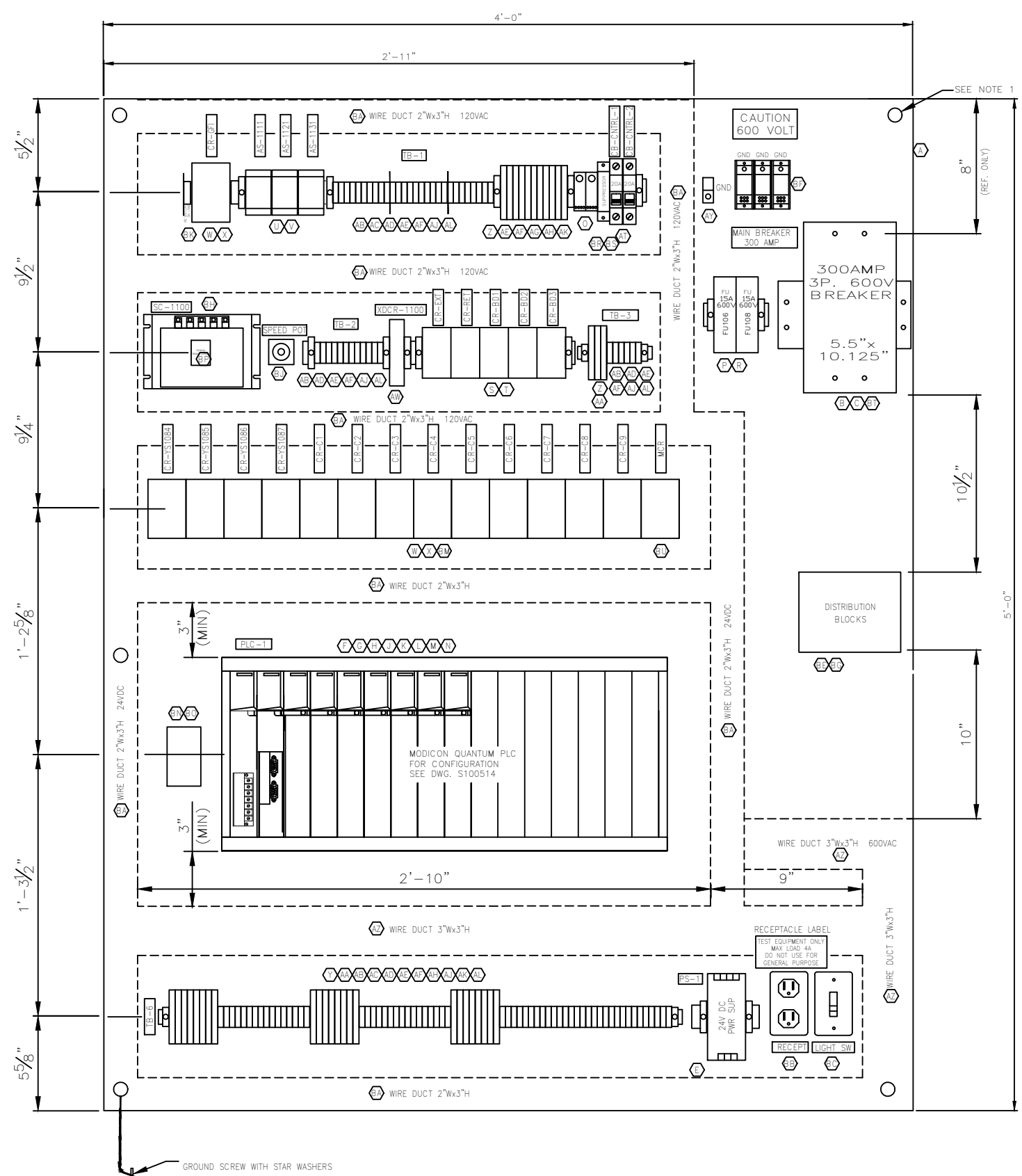


CONTROL PANEL FRONT VIEW

| BILL OF MATERIAL | | | |
|------------------|---------|------|--|
| ITEM | SAP # | QTY | DESCRIPTION |
| A | 153805 | 1 EA | ENCLOSURE 72"x53 3/4"x24" DP. NEMA 12 SAGINAW #SCE-72XM5424 |
| B | 152747 | 1 EA | DISPLAY UNIT, 10.5" MONOCHROME, 24VDC TCP #QPI-2D100-L2P |
| C | X100219 | 1 EA | DISPLAY UNIT, COMMUNICATION CABLE ASSEMBLED ITEM |
| D | 153792 | 1 EA | PUSHBUTTON, E-STOP, LATCHING, MUSHRM. HD. ALLEN-BRADLEY #800H-FRXT6A1 |
| E | 152848 | 1 EA | PUSHBUTTON, MOMENTARY, BLACK, 1-N.O. CONTACT ALLEN-BRADLEY #800H-AR2D1 |
| F | 153807 | 1 EA | PUSHBUTTON, MOMENTARY, RED, 1-N.C. CONTACT ALLEN-BRADLEY #800H-BR6A |
| G | 153731 | 1 EA | PUSHBUTTON, MNTY, ILLUM, GREEN, 1-N/O,1-N/C 24VDC, ALLEN-BRADLEY #800H-QRBH24B |
| H | 153835 | 1 EA | CABLE OPERATOR, W/HANDLE, 3 FT. FLEX. CABLE ALLEN-BRADLEY #140U-K-FCX03 |
| J | S100017 | 1 EA | LABEL 'SENTINEL' LOGO CALGON CARBON CORP |
| K | S100030 | 1 EA | LABEL 'CONTROL PB'S' LOGO CALGON CARBON CORP |
| L | 151192 | 2 FT | DUCT, WIRING, 2"Wx2"H C/W COVER WEILAND |
| M | 1007748 | 1 FT | LIQUIDTIGHT FLEXIBLE CONDUIT, 1/2" DIA. HUBBELL #G1050 |
| N | 153625 | 2 EA | CONNECTOR, LIQUIDTITE, 1/2" DIA. 90 DEG. SEALCON # ET16NA-BK |
| P | 153823 | 1 EA | XFMR, CNTRL 500VA 600-120VAC 60 HZ ENCLSD REX #CE-5000JA |
| S | S100520 | 1 EA | CONTROL PANEL SUBPANEL ASSEMBLY ASSEMBLED ITEM |
| T | S100545 | 1 EA | CONTROL PANEL END PANEL ASSEMBLY ASSEMBLED ITEM |
| U | 150000 | 1 EA | ALARM BUZZER, 24VDC SONALERT #SC648D |

- NOTES:**
- SCRAPE PAINT AT BACK PANEL MOUNTING NUT AND ALL GROUND CONNECTIONS.
 - FOR ENGRAVED NAMEPLATES SEE TABLE 1 ON ENGRAVED NAMEPLATE DRAWING.

| 1 | AS BUILT | RJP | 08/24/04 |
|---|---------------|--------------------|----------|
| REV | DESCRIPTION | APP | DATE |
| REVISIONS | | | |
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±0.015 | DECIMAL (4 PLACES) | ±.0005 |
| CALGON | | | |
| CALGON CARBON CORPORATION | | | |
| CLIENT | | | |
| CITY OF WINNIPEG MANITOBA, CANADA | | | |
| TITLE | | | |
| (6) 48"Ø, 9 X 20KW SENTINEL CONTROL PANEL FRONT VIEW & DOOR REAR VIEW | | | |
| DRAFTER | GTL | DATE | 10/15/03 |
| DESIGNER | GTL | DATE | 10/15/03 |
| CHECKER | RJP | DATE | 10/28/03 |
| APPROVAL | | | |
| PROJECT No. | US.03056.WINN | | |
| DWG. No. | S100519 | | REV. 1 |



CONTROL PANEL SUBPANEL FRONT VIEW

| BILL OF MATERIAL | | | | BILL OF MATERIAL | | | |
|------------------|----------------------------|-------|--|------------------|---------|-------|--|
| ITEM | SAP # | QTY | DESCRIPTION | ITEM | SAP # | QTY | DESCRIPTION |
| AG | 152791 | 3 FT | TERMINAL BLOCK, DIN RAIL, 35MM, 1M LONG ALLEN-BRADLEY #199-DR1 | A | ----- | 1 EA | SUBPANEL, 60" x 48", STEEL SAGINAW (INCL. W/ENCLOSURE) |
| AI | 153432 | 4 EA | TERMINAL BLOCK FUSED, 10 POLE, SIDE JUMPER ALLEN-BRADLEY #1492-N49 | B | 153833 | 1 EA | CIRCUIT BREAKER, 600V. 300A. 3P ALLEN-BRADLEY #140U-K6D3-D30 |
| AJ | 153827 | 1 EA | TERMINAL BLOCK, 50 POLE, SIDE JUMPER ALLEN-BRADLEY #1492-N24 | C | 153834 | 6 EA | LUGS FOR MAIN BREAKER ALLEN-BRADLEY #140U-K-TLA1 |
| AK | 153851 | 2 EA | TERMINAL BLOCK FUSED, MARKING SYS, UNPRINTED ALLEN-BRADLEY #1492-SM8X12 | D | S100538 | 40 EA | LAMACOID IDENTIFICATION PLATES, BLACK LETTERS ON WHITE BACKGROUND |
| AL | 153826 | 2 EA | TERMINAL BLOCK, MARKING SYS, UNPRINTED ALLEN-BRADLEY #1492-N5 | E | 153785 | 1 EA | POWER SUPPLY, 24VDC, 4.8AMP PHOENIX #29 38 58 1 |
| AM | 152574 | 25 EA | FUSE, 0.5 AMP, 250 VOLT, AGC STYLE LITTLEFUSE #312.500 | F | 153837 | 1 EA | PLC, CPU, MODBUS & MODBUS PLUS, 512K MODICON QUANTUM #140 CPU 113 03 |
| AN | 153021 | 4 EA | FUSE, 1 AMP, 250 VOLT, AGC STYLE LITTLEFUSE #312001 | G | 153842 | 1 EA | PLC, POWER SUPPLY, 115/230VAC, 8 AMP MODICON QUANTUM #140 CPS 114 20 |
| AO | 153020 | 3 EA | FUSE, 2 AMP, 250 VOLT, AGC STYLE LITTLEFUSE #312002 | H | 153838 | 2 EA | PLC, DIGITAL INPUT MODULE, 24VDC, 32 POINT MODICON QUANTUM #140 DDI 353 00 |
| AP | 153019 | 4 EA | FUSE, 3 AMP, 250 VOLT, AGC STYLE LITTLEFUSE #312003 | J | 153839 | 1 EA | PLC, DIGITAL OUTPUT MODULE, 24VDC, 32 POINT MODICON QUANTUM #140 DDO 353 01 |
| AP | 153439 | 2 EA | FUSE, 4 AMP, 250 VOLT, AGC STYLE LITTLEFUSE #312004 | K | 153840 | 2 EA | PLC, ANALOG INPUT MODULE, 16 POINT MODICON QUANTUM #140 ACI 040 00 |
| AS | 153030 | 2 EA | FUSE, 5 AMP, 250 VOLT, AGC STYLE LITTLEFUSE #312005 | L | 153841 | 2 EA | PLC, ANALOG OUTPUT MODULE, 8 POINT MODICON QUANTUM #140 ACO 130 00 |
| AT | 150148 | 2 EA | BREAKER, 1P, 20 AMP, 240VAC SQUARE D #MG24435 | M | 153843 | 1 EA | PLC, 16 SLOT BACKPLANE MODICON QUANTUM #140 XBP 016 00 |
| AW | 153651 | 1 EA | TRANSUDER, 1/1, 1-5A IN 4-20MA OUT 24VDC PHOENIX #28 14 71 5 | N | 153844 | 9 EA | PLC, WIRING ARM, 40 POINT SCREW TERMINAL MODICON QUANTUM #140 XTS 002 00 |
| AY | 150274 | 1 EA | GROUND LUG PANDUIT #LAMA-1/0-14-Q | O | 153846 | 1 EA | MINI DISTRIBUTION BLOCK, 2 POLE, 1 #2 IN/4 #10 OUT SQUARE D #LBA261104 |
| AZ | 150049 | 6 FT | DUCT, WIRING, 3"Wx3"H C/W COVER WEILAND #DNG-75075 | P | 153860 | 2 EA | FUSE, 15 AMP, 600V, CLASS J, TIME DELAY LITTLEFUSE #JTD-15ID |
| BA | 150007 | 20 FT | DUCT, WIRING, 2"Wx3"H C/W COVER WEILAND #DNG-75025G | R | 153701 | 1 EA | FUSEHOLDER, 30 AMP, 2P, DEAD FRONT LITTLEFUSE #LPSJ30-2ID |
| BB | 153863 | 1 EA | RECEPTACLE, GFI DUAL UTILITY, 15A, DIN RAIL MT. PHOENIX PART #56 00 462 | S | 153512 | 5 EA | RELAY, DPST-NO, 5A @150VDC CNTCTS, 24VDC COIL POTTER-BRUMFIELD #KUEP-7D15-24 |
| BC | 150700 153717 153718 | 1 EA | LIGHT SWITCH, 1P, C/W UTILITY BOX & COVER ASSEMBLED ITEM | T | 151392 | 5 EA | RELAY BASE, FOR PART 153512 RELECO #S5-S |
| BD | 153713 153714 | 1 EA | LIGHT, FLUORESCENT 18" 1 LAMP, W/15W LAMP ASSEMBLED ITEM | U | 150260 | 3 EA | RELAY, MOISTURE, 120 VAC COIL CARLO-GAVAZZI #S-195-166-115 |
| BE | 153847 | 1 EA | DIST. BLOCK POWER, 3P, 1-IN/8-OUT SQUARE D #9080-LBA364108 | V | 350022 | 3 EA | RELAY, BASE, 11 PIN, FOR PART 150260 RELECO #793080 |
| BF | 153720 | 3 EA | DIST. BLOCK POWER, 1P, 1-IN/4-OUT SQUARE D #9080-LBA162104 | W | 153849 | 15 EA | HEAVY-DUTY RELAYS, 10A CONTACTS, 24VDC COIL ALLEN-BRADLEY #700DC-P400Z24 |
| BG | 153848 | 1 EA | DIST. BLOCK POWER, 3P, COVER, PLASTIC SQUARE D #9080-LB43 | X | 151211 | 20 EA | SUPPRESSOR DIODE, 33V. ELECTRO SONIC #SOK525 |
| BH | 151521 | 1 EA | DC DRIVE BOARD, VARIABLE, 0-90V LEESON #PCM23001A | Y | 152978 | 25 EA | TERMINAL BLOCK FUSED, 24VDC, W/IND ALLEN-BRADLEY #1492-H5 |
| BI | S100330 | 1 EA | SPEED POT MTG BRACKET, FABRICATED ITEM 10K SPEED POT INCL. W/DRIVE CHASSIS | Z | 152773 | 15 EA | TERMINAL BLOCK FUSED, 120VAC, W/IND ALLEN-BRADLEY #1492-H4 |
| BJ | X100103 | 1 EA | RESISTOR ASSEMBLY, G.F.I. TEST BOARD ASSEMBLED ITEM | AA | 152788 | 5 EA | TERMINAL BLOCK FUSED, END BARRIER ALLEN-BRADLEY #1492-N37 |
| BM | 153850 | 1 EA | A-B 700P RELAY MTG RAIL, MOUNTS 16 RELAYS ALLEN-BRADLEY #700-MP16 | AB | 152782 | 90 EA | TERMINAL BLOCK 300V, 25A ALLEN-BRADLEY #1492-F1 |
| BN | 153858 | 1 EA | MODBUS PLUS TAP MODULE PHOENIX CONTACT #5603903 | AC | 153825 | 24 EA | TERMINAL BLOCK, GROUND, GREEN ALLEN-BRADLEY #1492-F1G |
| BO | 153859 | 1 EA | MODBUS PLUS CABLE, 8 FT LONG MODICON #990NAD21110 | AD | 152783 | 10 EA | TERMINAL BLOCK, END BARRIER ALLEN-BRADLEY #1492-N18 |
| BP | 151007 | 1 EA | SURGE SUPPRESSOR PHOENIX #27 98 68 2 | AE | 152784 | 12 EA | TERMINAL BLOCK, END STOP ALLEN-BRADLEY #1492-N23 |
| BS | 151008 | 1 EA | SURGE SUPPRESSOR BASE FOR 151007 PHOENIX #27 98 69 5 | AF | 152911 | 6 FT | TERMINAL BLOCK, MTG RAIL, 3' SCORED A-B RAIL ALLEN-BRADLEY #1492-N1 |
| BT | 153836 | 1 EA | PADLOCKABLE HASP FOR MAIN BREAKER ALLEN-BRADLEY #140U-K-PL | | | | |
| BT | 1032521 | 1 EA | RELAY, ADDED DECK, 2 POLE ALLEN-BRADLEY #700-PB20 | | | | |

- NOTES:
1. SCRAPE PAINT AT BACK PANEL MOUNTING NUT AND ALL GROUND CONNECTIONS.
 2. SEE DWG. S100538 FOR NAMEPLATES
 3. FASTEN NAMEPLATES WITH STAINLESS STEEL SCREWS
 4. SEE DWG. S100531 FOR TERMINAL BLOCK ENGRAVING

| REV | DESCRIPTION | APP | DATE |
|-----|--------------------------------|-----|----------|
| 3 | AS BUILT | RJP | 08/24/04 |
| 2 | ADD MCR CONTACT BLOCK, ITEM BU | RJP | 05/07/04 |
| 1 | ADDED ITEM 'BT' | RJP | 03/15/04 |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±0.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON
CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
CONTROL PANEL SUBPANEL G. A.
FRONT VIEW

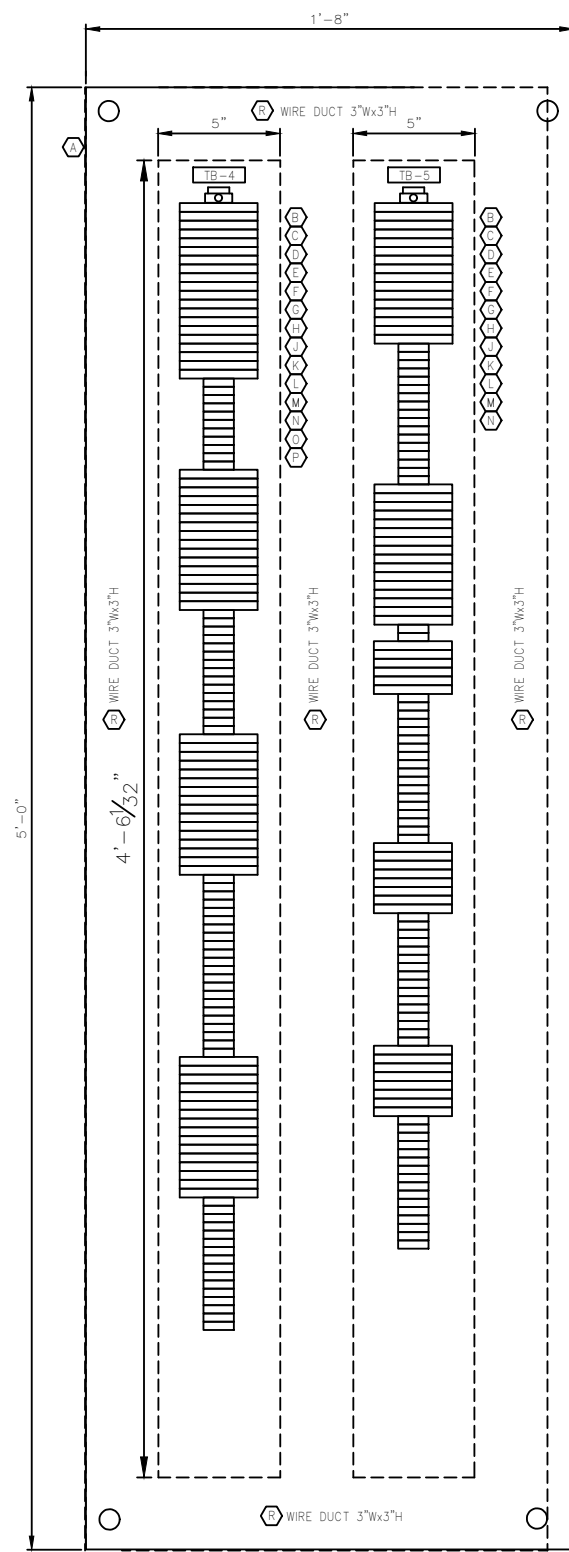
DWG. Size **D** SHEET No. 1 OF 1 SCALE 1/4" = 12"

DWG. No. **S100520** REV. 3

| NAME | DATE |
|---------------------------|----------|
| DRAFTER GTL | 9/22/03 |
| DESIGNER GTL | 9/22/03 |
| CHECKER RJP | 10/28/03 |
| APPROVAL | |
| PROJECT No. US-03056.WINN | |

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CONTROL PANEL SIDE PANEL

| BILL OF MATERIAL | | | |
|------------------|---------|--------|---|
| ITEM | SAP # | QTY | DESCRIPTION |
| A | ----- | 1 EA | SUBPANEL, 60" x 20", STEEL SAGINAW (INCL. W/ENCLOSURE) |
| B | 152978 | 126 EA | TERMINAL BLOCK FUSED, 24VDC, W/IND ALLEN-BRADLEY #1492-H5 |
| C | 152788 | 10 EA | TERMINAL BLOCK FUSED, END BARRIER ALLEN-BRADLEY #1492-N37 |
| D | 152782 | 135 EA | TERMINAL BLOCK 300V, 25A ALLEN-BRADLEY #1492-F1 |
| E | 152783 | 9 EA | TERMINAL BLOCK, END BARRIER ALLEN-BRADLEY #1492-N18 |
| F | 152784 | 8 EA | TERMINAL BLOCK, END STOP ALLEN-BRADLEY #1492-N23 |
| G | 152911 | 9 FT | TERMINAL BLOCK, MTG RAIL, 3' SCORED A-B RAIL ALLEN-BRADLEY #1492-N1 |
| H | 153432 | 6 EA | TERMINAL BLOCK FUSED, 10 POLE, SIDE JUMPER ALLEN-BRADLEY #1492-N49 |
| J | 153827 | 2 EA | TERMINAL BLOCK, 50 POLE, SIDE JUMPER ALLEN-BRADLEY #1492-N24 |
| K | 153851 | 2 EA | TERMINAL BLOCK FUSED, MARKING SYS, UNPRINTED ALLEN-BRADLEY #1492-SM8X12 |
| L | 153826 | 2 EA | TERMINAL BLOCK, MARKING SYS, UNPRINTED ALLEN-BRADLEY #1492-N5 |
| M | 152574 | 88 EA | FUSE, 0.5 AMP, 250 VOLT, AGC STYLE LITTLEFUSE #312.500 |
| N | 153021 | 35 EA | FUSE, 1 AMP, 250 VOLT, AGC STYLE LITTLEFUSE #312001 |
| O | 153019 | 3 EA | FUSE, 3 AMP, 250 VOLT, AGC STYLE LITTLEFUSE #312003 |
| P | 153439 | 2 EA | FUSE, 4 AMP, 250 VOLT, AGC STYLE LITTLEFUSE #312004 |
| R | 150049 | 14 FT | DUCT, WIRING, 3"Wx3"H C/W COVER WEILAND #DNG-75075 |
| S | S100538 | 2 EA | LAMACOID IDENTIFICATION PLATES, BLACK LETTERS ON WHITE BACKGROUND |

NOTES:

1. SCRAPE PAINT AT BACK PANEL MOUNTING NUT AND ALL GROUND CONNECTIONS.
2. SEE DWG. S100538 FOR NAMEPLATES
3. SEE DWG. S100531 FOR TERMINAL BLOCK ENGRAVING

| REV | DESCRIPTION | APP | DATE |
|-----|-------------------------|-----|----------|
| 2 | AS BUILT | RJP | 08/24/04 |
| 1 | ADDED FUSE BLOCK & FUSE | RJP | 05/07/04 |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|---------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±0.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±0.005 |
| DECIMAL (1 PLACE) | ±0.015 | DECIMAL (4 PLACES) | ±0.0005 |



CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
CONTROL PANEL SIDE PANEL G. A.

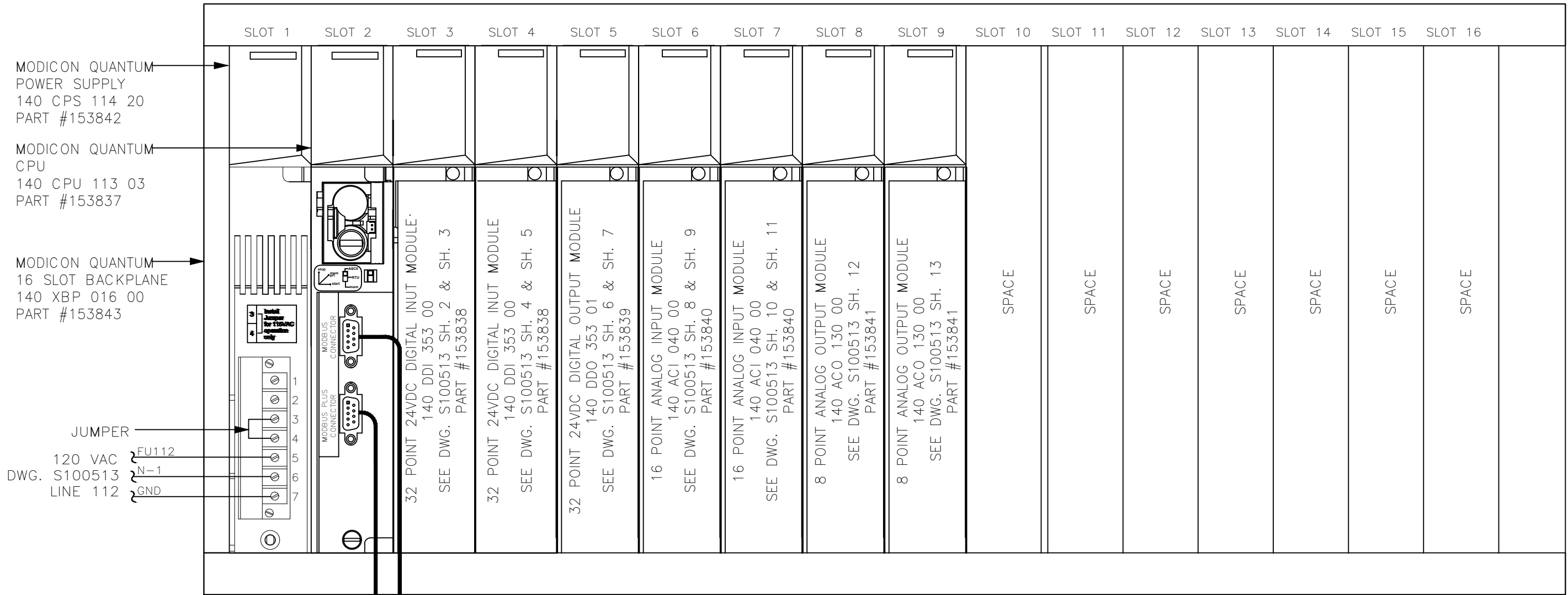
THIS DRAWING AND DESIGN IS THE PROPERTY OF CALGON CARBON CORPORATION AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY CALGON CARBON CORPORATION. THIS DRAWING LOANED SUBJECT TO RETURN ON DEMAND.

| | NAME | DATE |
|----------|------|----------|
| DRAFTER | GTL | 10/17/03 |
| DESIGNER | GTL | 10/17/03 |
| CHECKER | RJP | 10/28/03 |

APPROVAL
PROJECT No. US-03056.WINN

DWG. Size D SHEET No. 1 OF 1 SCALE 1/4" = 12"
DWG. No. S100545 REV. 2

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MODICON QUANTUM
POWER SUPPLY
140 CPS 114 20
PART #153842

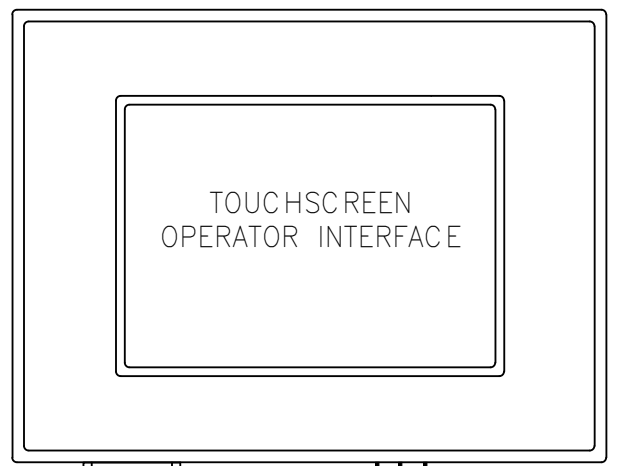
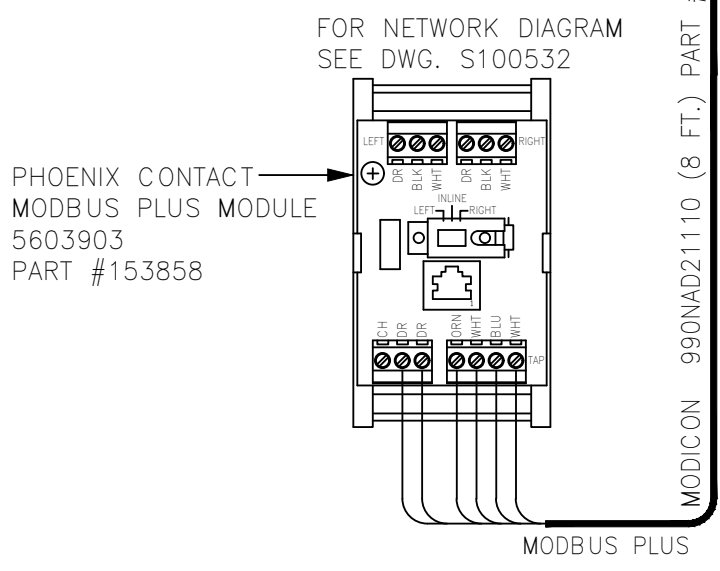
MODICON QUANTUM
CPU
140 CPU 113 03
PART #153837

MODICON QUANTUM
16 SLOT BACKPLANE
140 XBP 016 00
PART #153843

JUMPER
120 VAC
DWG. S100513
LINE 112

FU112
N-1
GND

PLC I/O RACK 1



PART #X100219
RS232

- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.

| | | |
|---|---------------|----------|
| THIS DRAWING AND DESIGN IS THE PROPERTY OF CALGON CARBON CORPORATION AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY CALGON CARBON CORPORATION. THIS DRAWING LOANED SUBJECT TO RETURN ON DEMAND. | | |
| NAME | DATE | |
| DRAFTER | GTL | 9/22/03 |
| DESIGNER | GTL | 9/22/03 |
| CHECKER | MB | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| REV | DESCRIPTION | APP | DATE |
|-----------|-------------|-----|------|
| REVISIONS | | | |

| | | | |
|---|--------|--------------------|--------|
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±0.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON

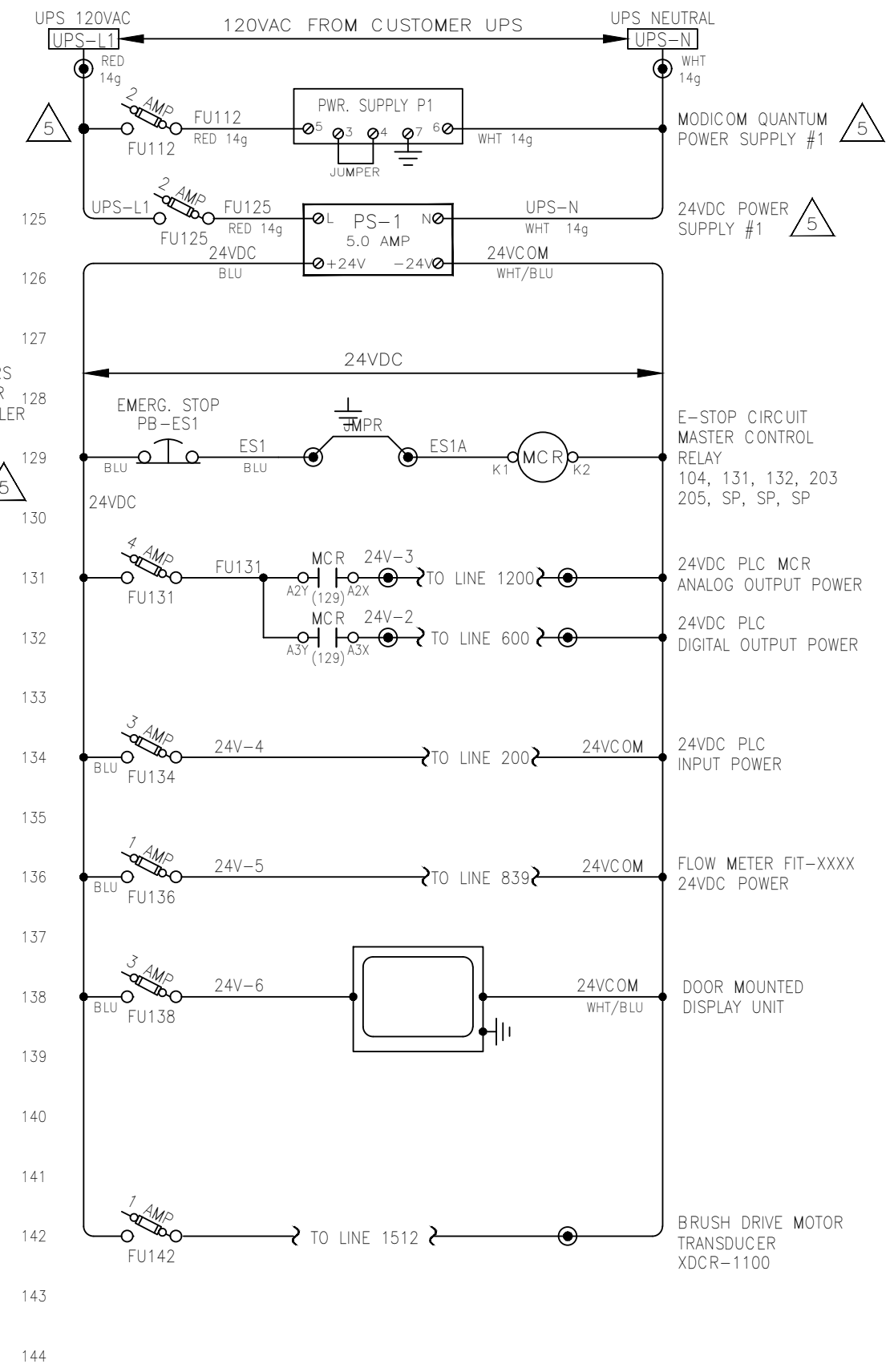
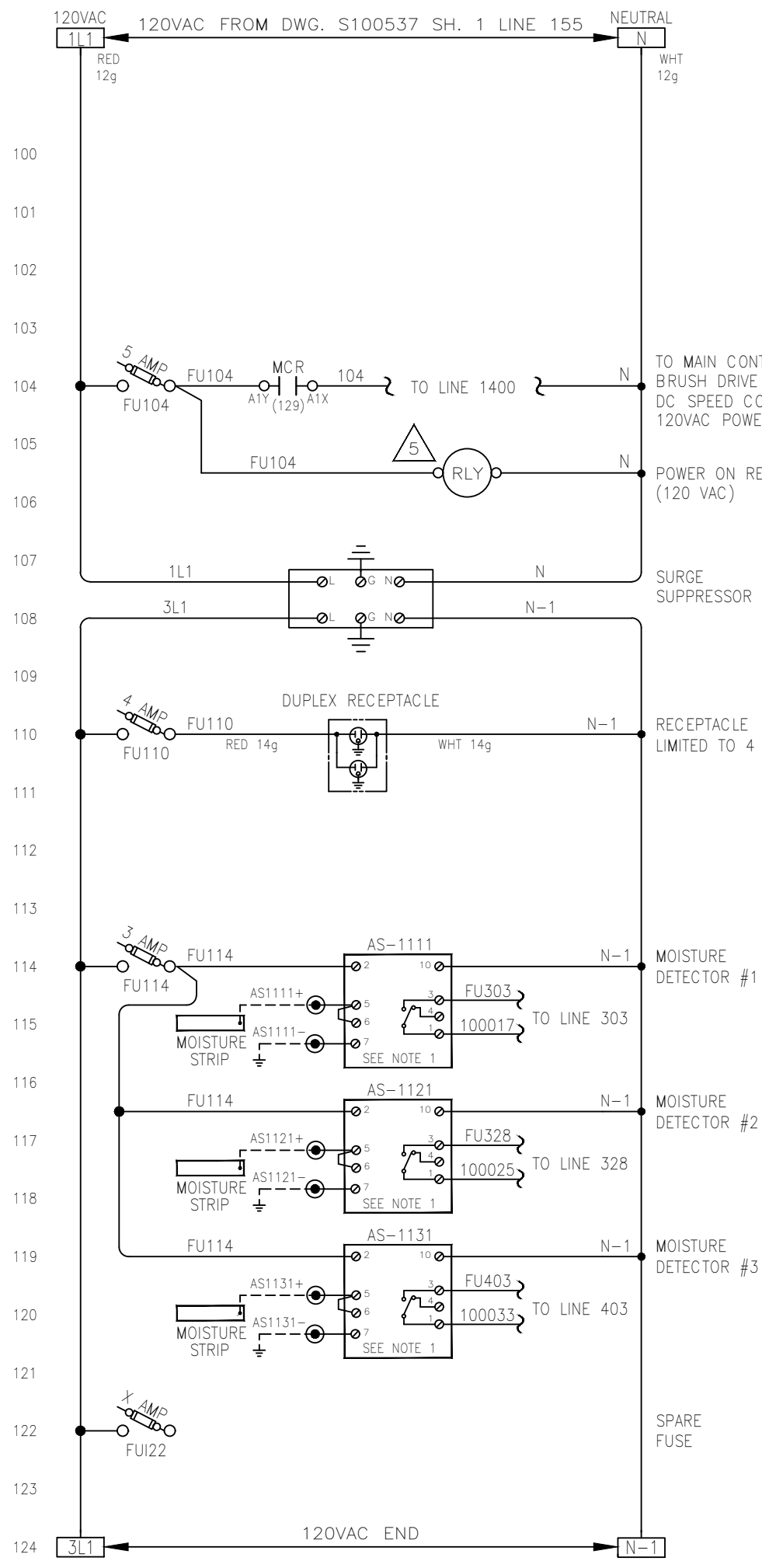
CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
PLC CONFIGURATION DIAGRAM

| | | | | | |
|-----------|----------|-----------|--------|-------|-----|
| DWG. Size | B | SHEET No. | 1 OF 1 | SCALE | NTS |
| DWG. No. | S100514 | | | REV. | 0 |

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- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.
 3. MOISTURE SWITCH SET TO "IN"

LEGEND:

- TB IN CONTROL PANEL
- ⊙ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- - - EXTERNAL WIRING
- FUSED TYPE TERM. BLK. (FUSES RATED 250V)

All wiring #16g unless indicated otherwise.

COLOUR CODE:
 blue 24VDC signal
 wht/blu 0 Vdc common
 red 120VAC control
 white neutral
 green ground

| REV | DESCRIPTION | APP | DATE |
|-----|---|-----|----------|
| 5 | ADDED PLC TO UPS FEEDER , PWR. ON RLY | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATICS | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON
CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
POWER DISTRIBUTION DIAGRAM

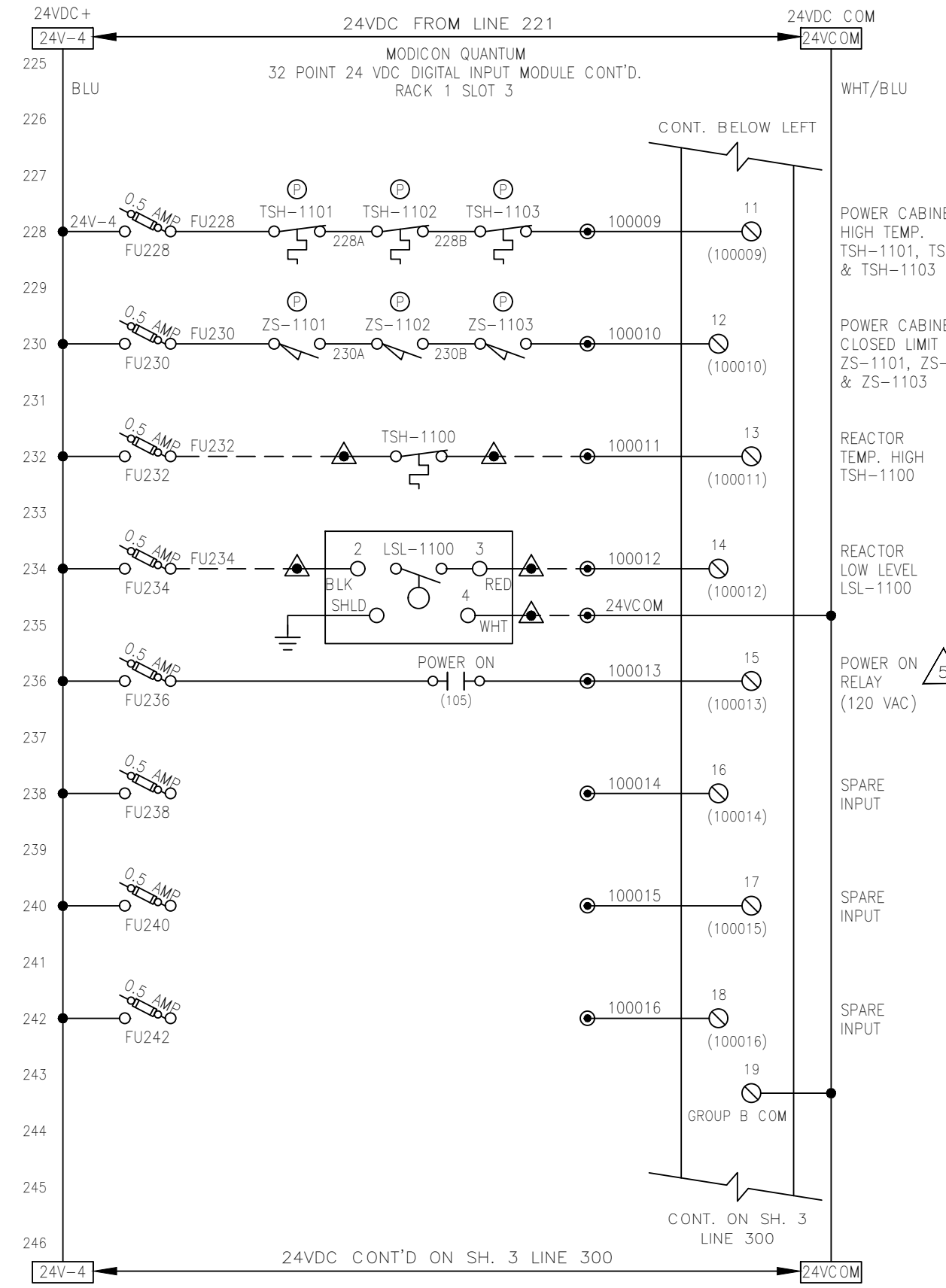
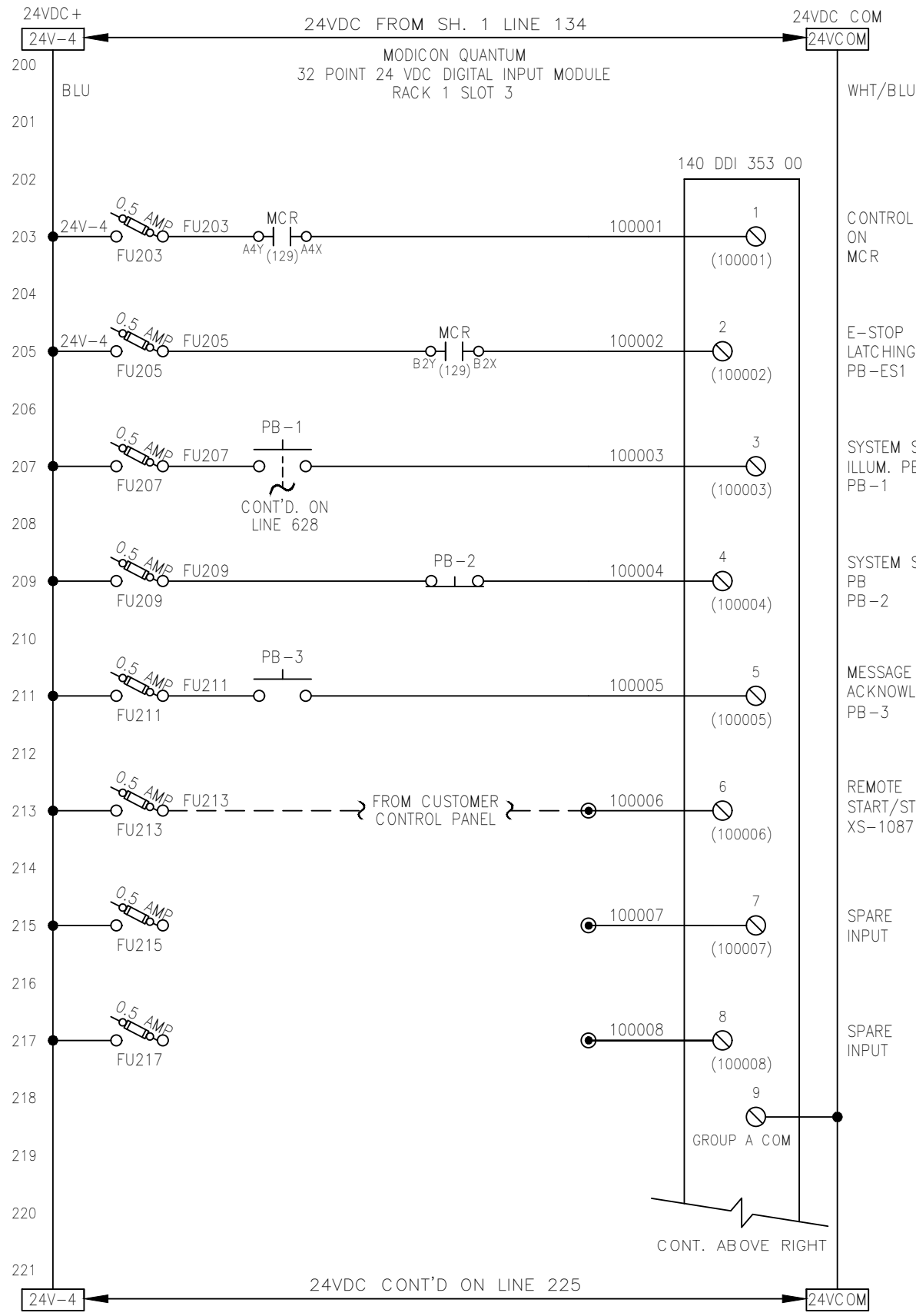
DWG. Size **B** SHEET No. 1 OF 15 SCALE NTS

DWG. No. S100513 REV. 5

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

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- NOTES:**
- ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 - DRAWING SET IS FOR 6 SENTINEL SYSTEMS.

LEGEND:

- TB IN CONTROL PANEL
- ⊙ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- EXTERNAL WIRING
- ⊘ FUSED TYPE TERM. BLK. (FUSES RATED 250V)

All wiring #16g unless indicated otherwise.

COLOUR CODE:
 blue 24VDC signal
 wht/blu 0 Vdc common
 red 120VAC control
 white neutral
 green ground

| REV | DESCRIPTION | APP | DATE |
|-----|---|-----|----------|
| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

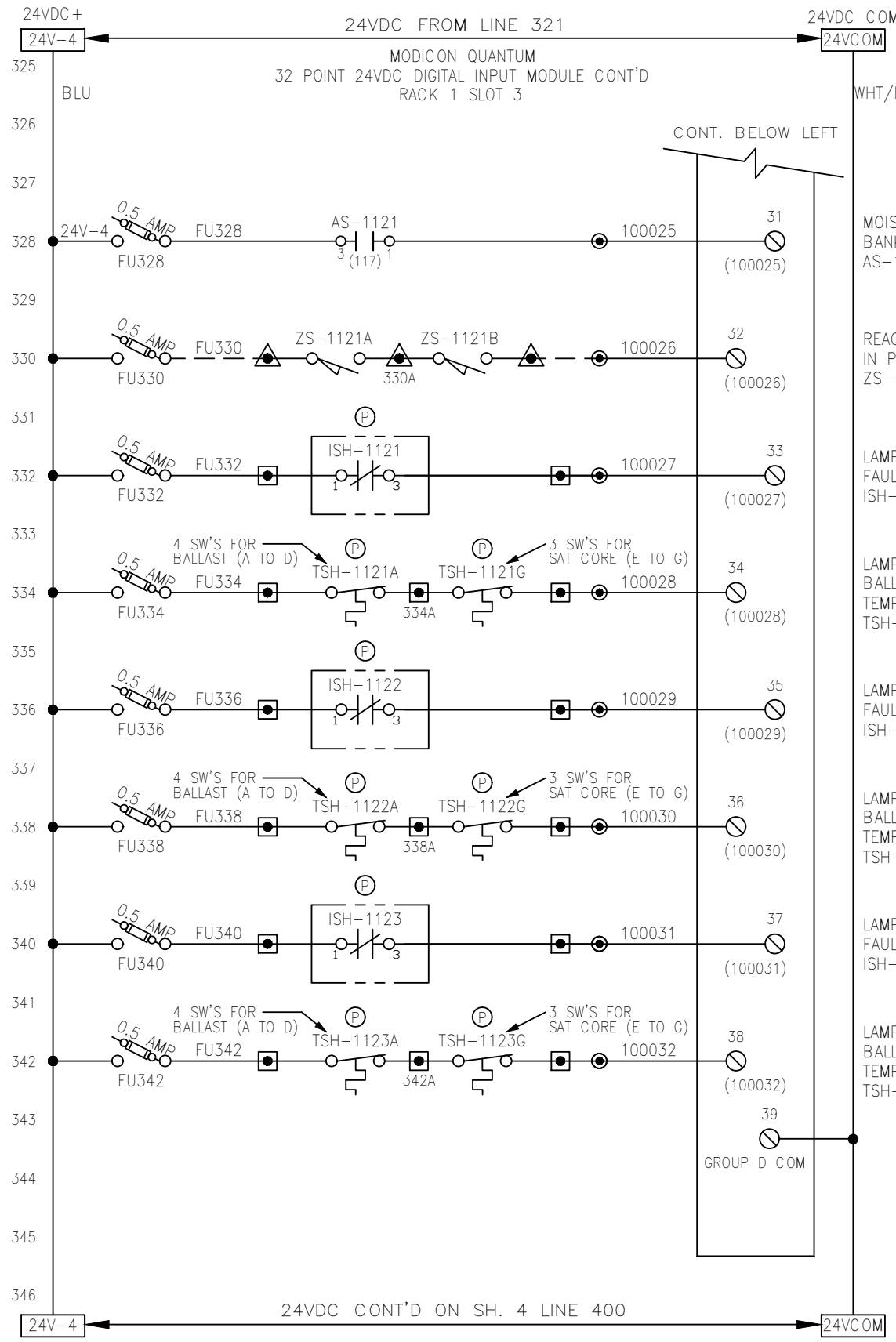
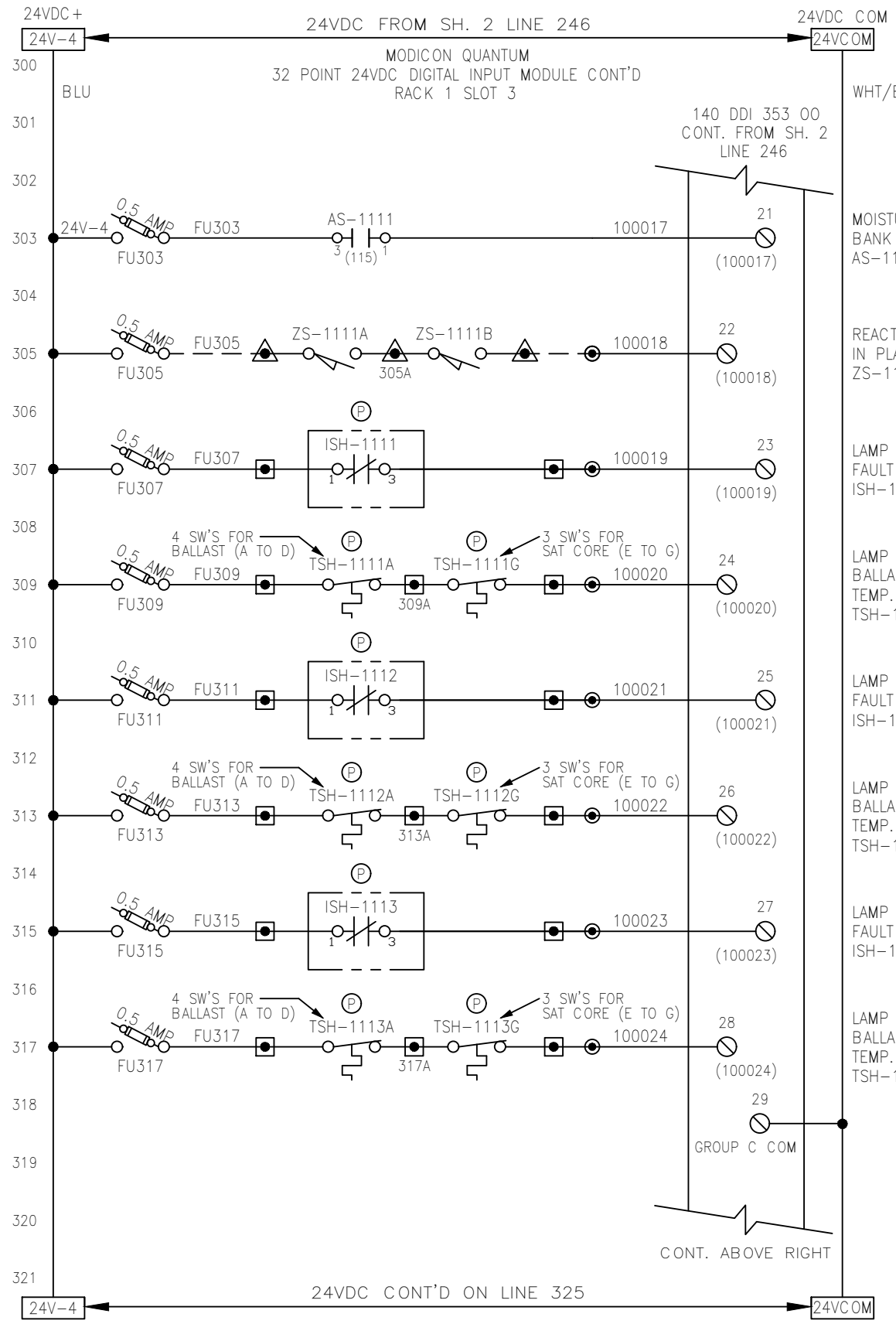
TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
PLC I/O SCHEMATICS

DWG. Size **B** SHEET No. 2 OF 15 SCALE NTS
DWG. No. S100513 REV. 5

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\Old Revisions\S100513_005.dwg Aug 10, 2021 - 2:04pm



- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.
 3. MOISTURE SWITCH SET TO "IN"

LEGEND:

- TB IN CONTROL PANEL
- Ⓟ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- EXTERNAL WIRING
- ⚡ FUSED TYPE TERM. BLK. (FUSES RATED 250V)

COLOUR CODE:

- blue 24VDC signal
- wht/blu 0 Vdc common
- red 120VAC control
- white neutral
- green ground

| REV | DESCRIPTION | APP | DATE |
|-----|---|-----|----------|
| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

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MANITOBA, CANADA

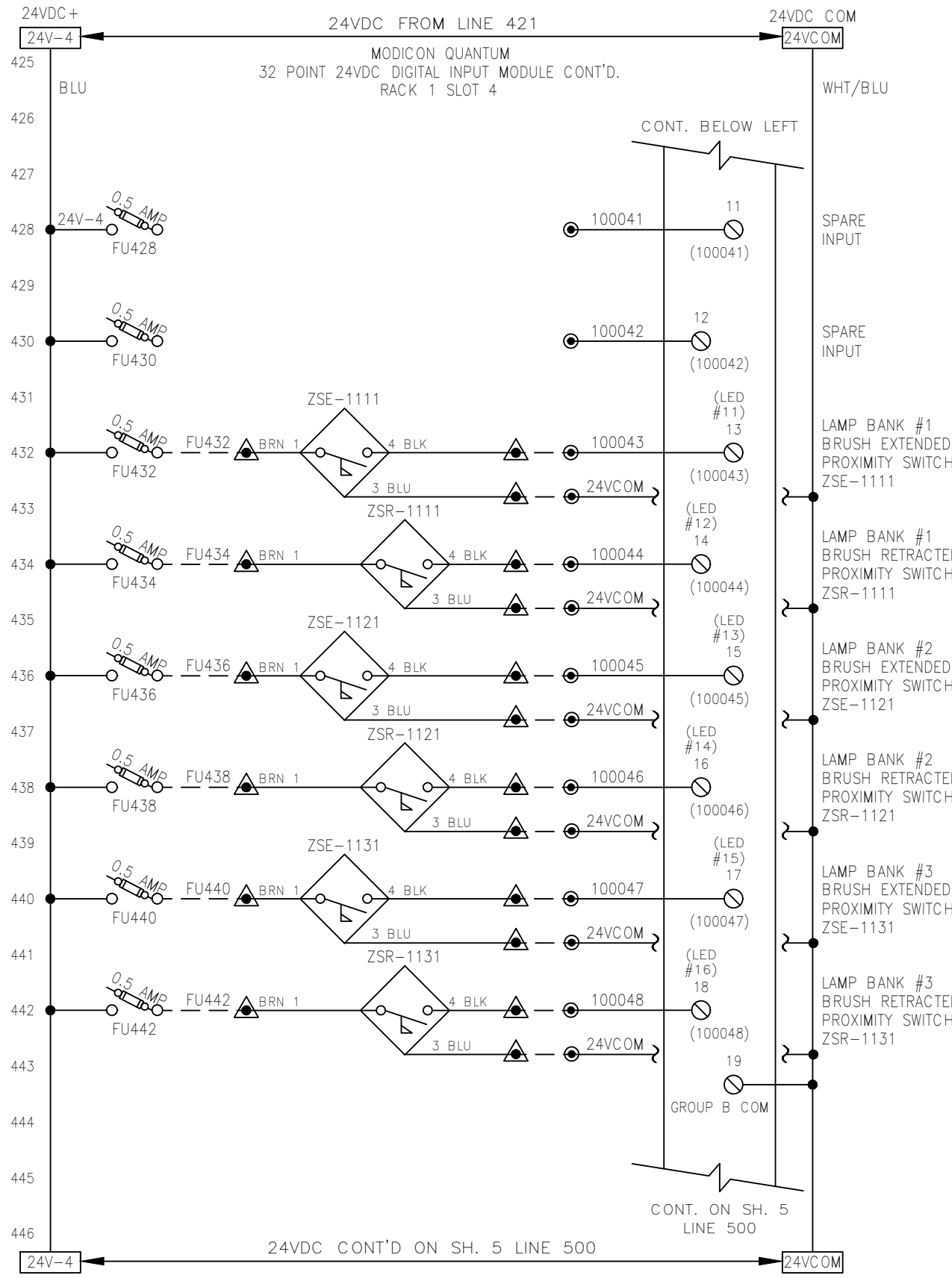
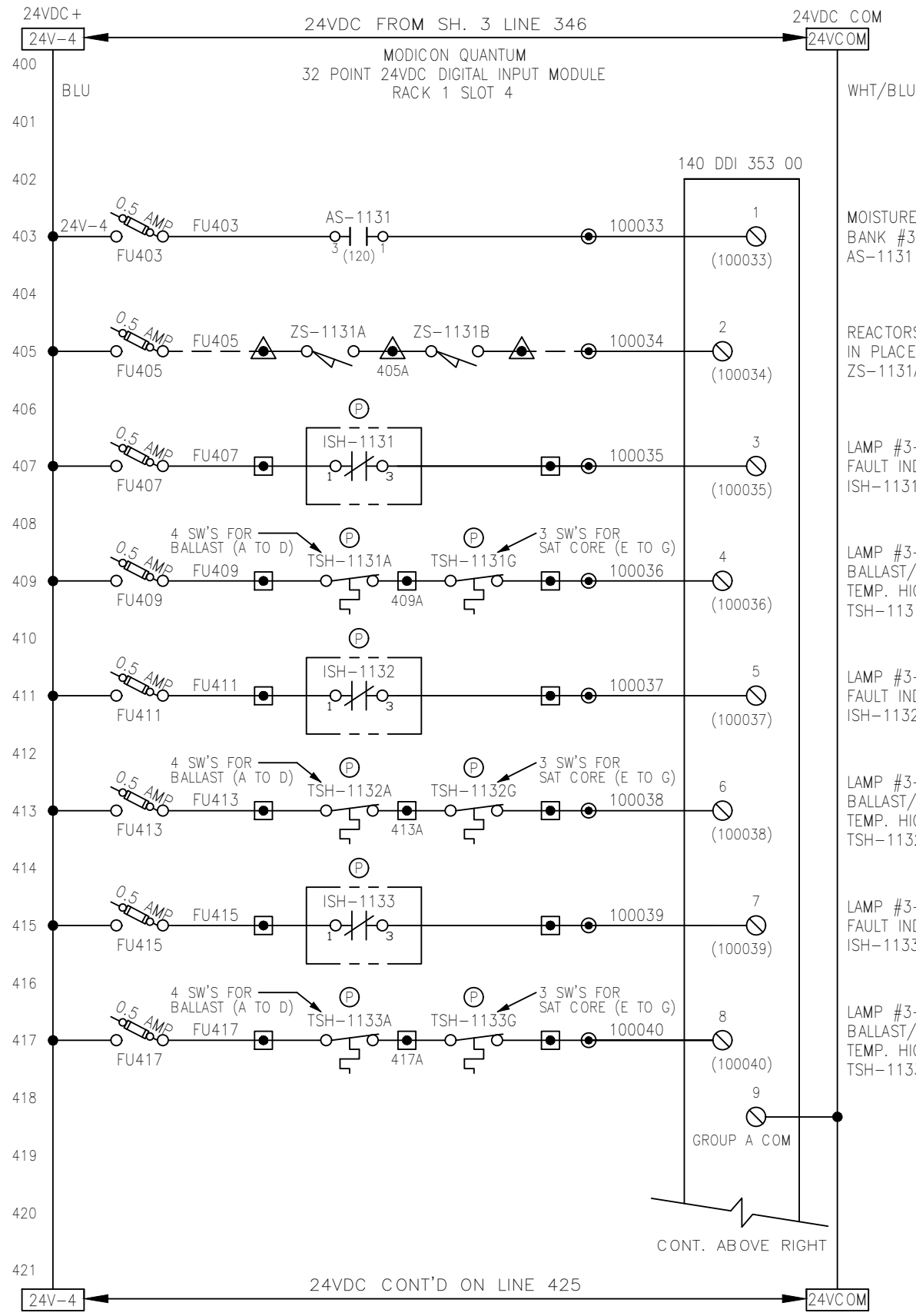
TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
PLC I/O SCHEMATICS

DWG. Size **B** SHEET No. 3 OF 15 SCALE NTS
DWG. No. S100513 REV. 5

THIS DRAWING AND DESIGN IS THE PROPERTY OF CALGON CARBON CORPORATION AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY CALGON CARBON CORPORATION. THIS DRAWING LOANED SUBJECT TO RETURN ON DEMAND.

| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\Old Revisions\S100513_005.dwg Aug 10, 2021 - 2:04pm



- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.
 3. MOISTURE SWITCH SET TO "IN"

LEGEND:

- TB IN CONTROL PANEL
- Ⓟ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- EXTERNAL WIRING
- ⚡ FUSED TYPE TERM. BLK. (FUSES RATED 250V)

All wiring #16g unless indicated otherwise.

COLOUR CODE:
 blue 24VDC signal
 wht/blu 0 Vdc common
 red 120VAC control
 white neutral
 green ground

| REV | DESCRIPTION | APP | DATE |
|-----|---|-----|----------|
| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

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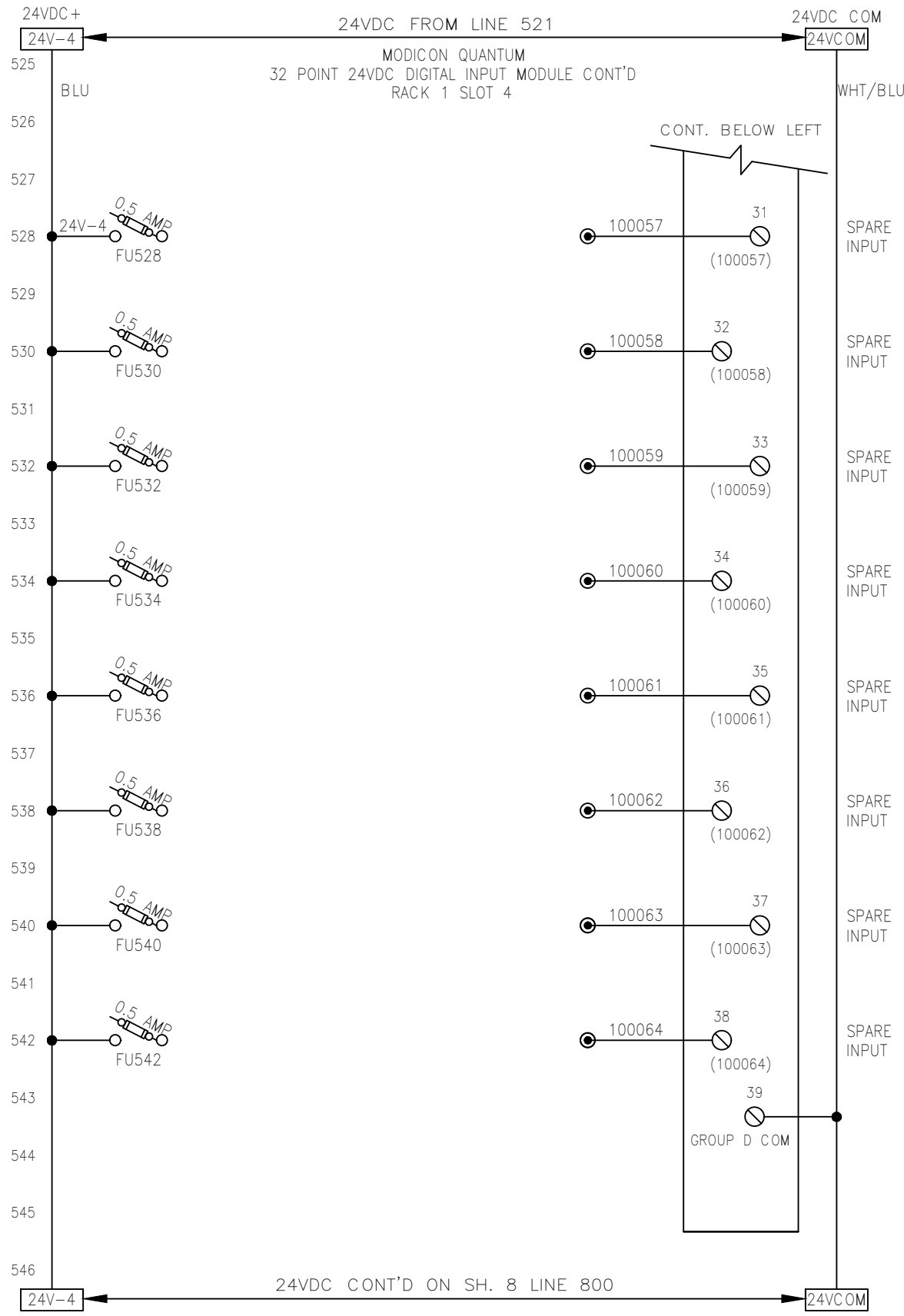
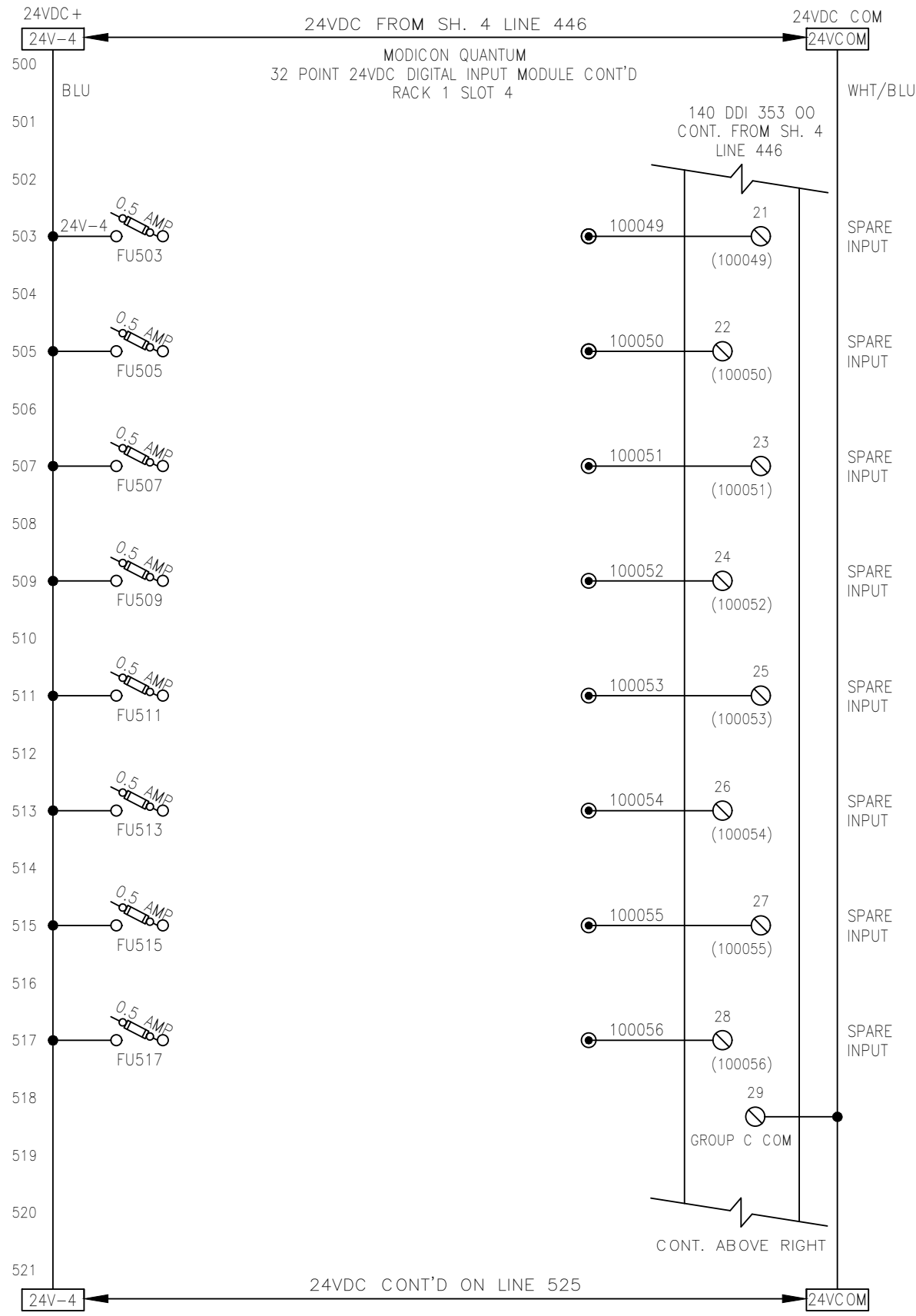
TITLE
 (6) 48"ø, 9 X 20KW SENTINEL
 MAIN CONTROL PANEL
 PLC I/O SCHEMATICS

| | | | | | |
|-----------|----------|-----------|---------|-------|-----|
| DWG. Size | B | SHEET No. | 4 OF 15 | SCALE | NTS |
| DWG. No. | S100513 | | | REV. | 5 |

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\Old Revisions\S100513_005.dwg Aug 10, 2021 - 2:04pm



- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.

LEGEND:

- TB IN CONTROL PANEL
- ⊕ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- EXTERNAL WIRING
- FUSED TYPE TERM. BLK. (FUSES RATED 250V)

All wiring #16g unless indicated otherwise.

COLOUR CODE:

- blue 24VDC signal
- wht/blu 0 Vdc common
- red 120VAC control
- white neutral
- green ground

| REV | DESCRIPTION | APP | DATE |
|-----|---|-----|----------|
| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

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CITY OF WINNIPEG
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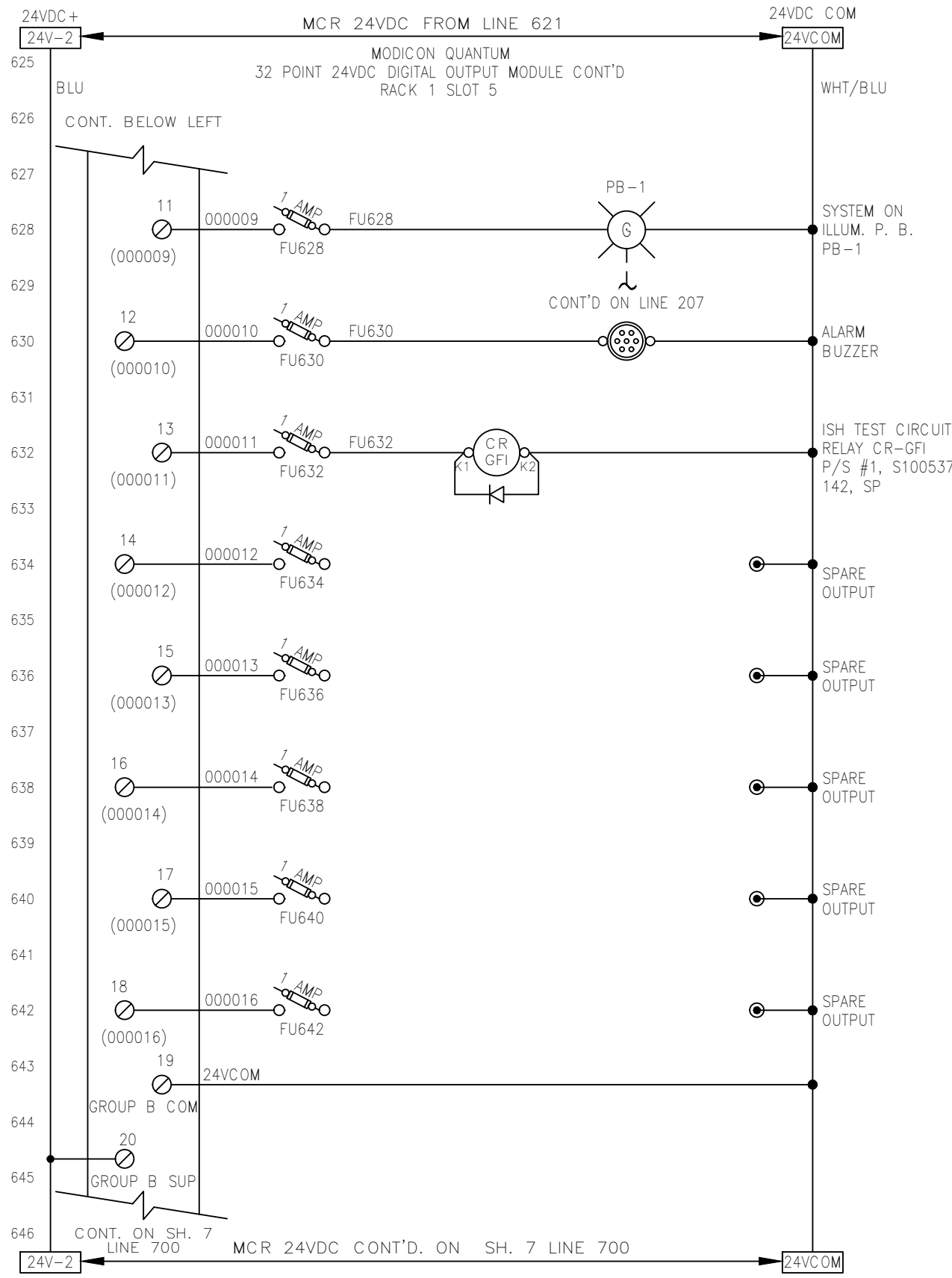
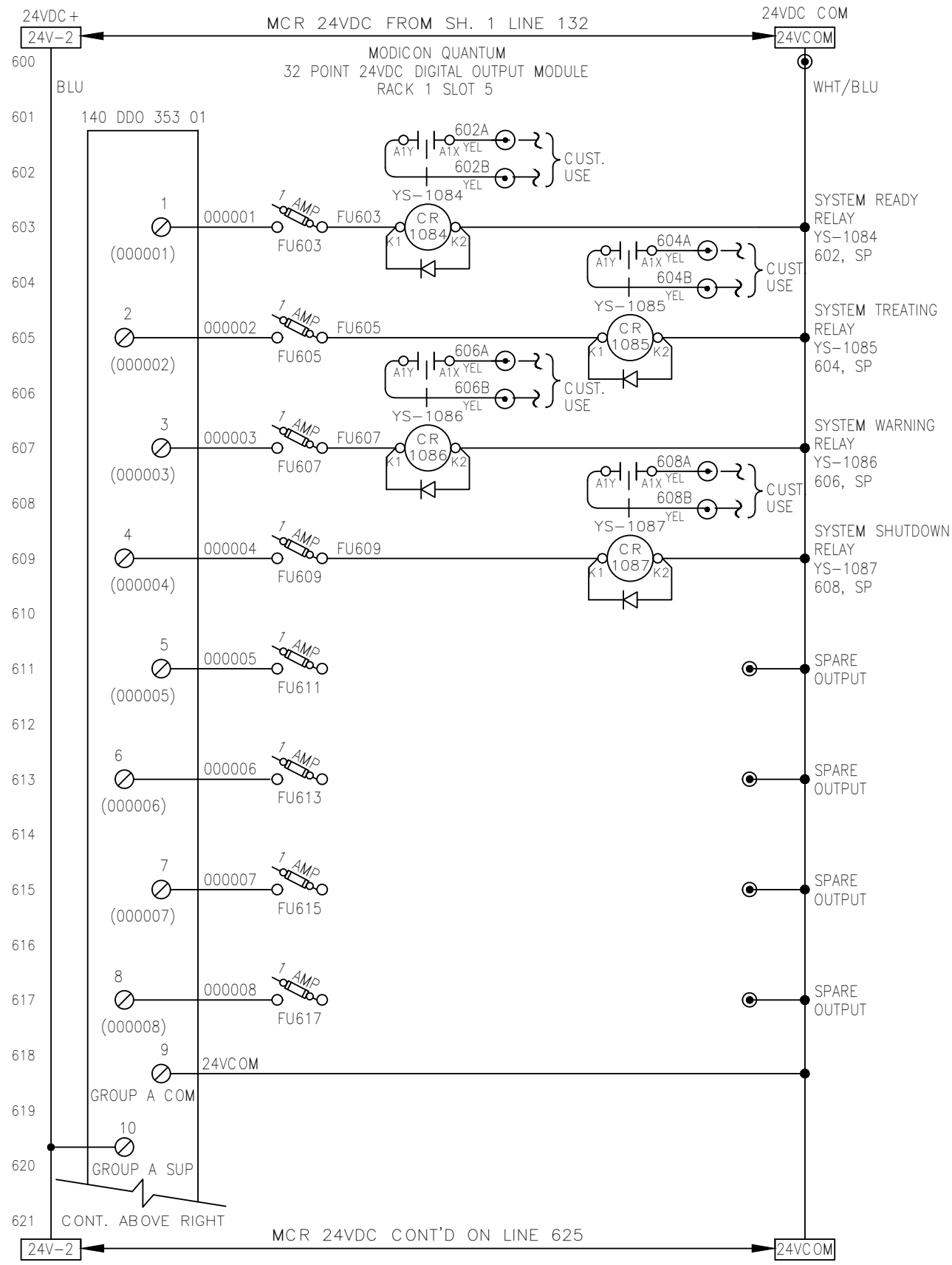
TITLE
(6) 48"ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
PLC I/O SCHEMATICS

THIS DRAWING AND DESIGN IS THE PROPERTY OF CALGON CARBON CORPORATION AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY CALGON CARBON CORPORATION. THIS DRAWING LOANED SUBJECT TO RETURN ON DEMAND.

| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | | | | |
|-----------|----------|-----------|---------|-------|-----|
| DWG. Size | B | SHEET No. | 5 OF 15 | SCALE | NTS |
| DWG. No. | S100513 | | | REV. | 5 |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\Old Revisions\S100513_005.dwg Aug 10, 2021 - 2:04pm



- NOTES:**
- ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 - DRAWING SET IS FOR 6 SENTINEL SYSTEMS.

LEGEND:

- TB IN CONTROL PANEL
- Ⓟ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- EXTERNAL WIRING
- /○ FUSED TYPE TERM. BLK. (FUSES RATED 250V)

All wiring #16g unless indicated otherwise.

COLOUR CODE:
 blue 24VDC signal
 wht/blu 0 Vdc common
 red 120VAC control
 white neutral
 green ground

| REV | DESCRIPTION | APP | DATE |
|-----|---|-----|----------|
| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



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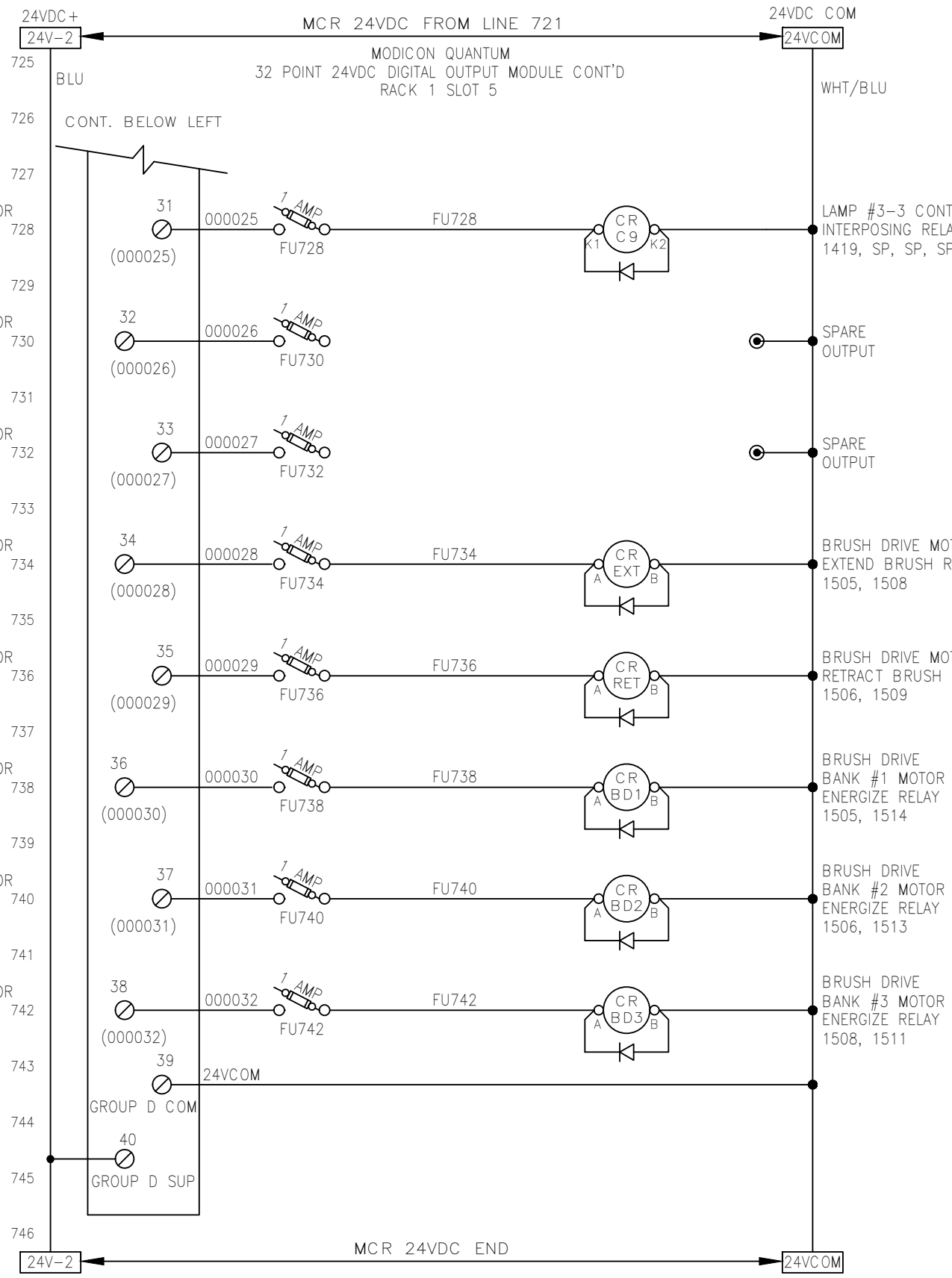
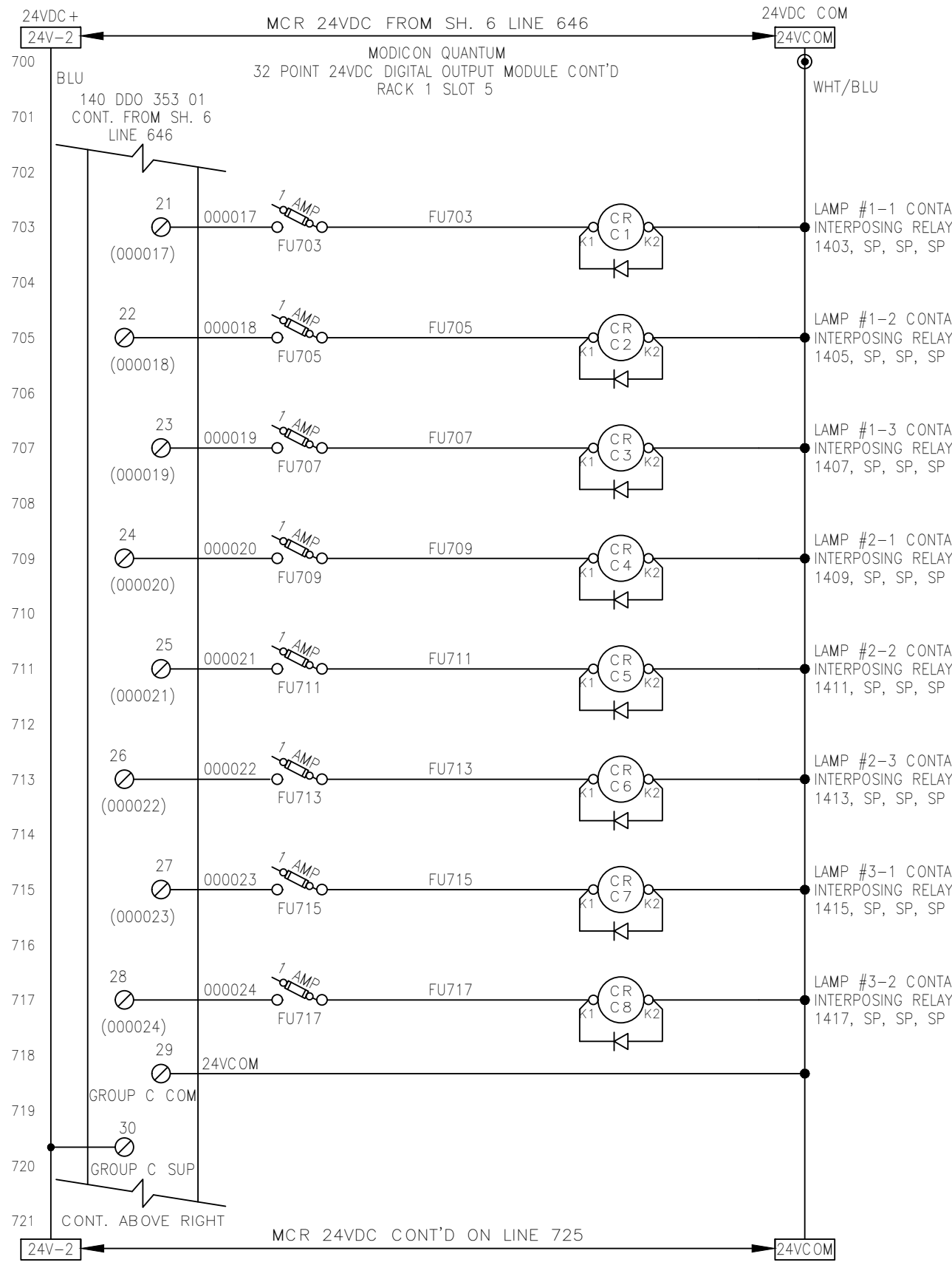
TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
PLC I/O SCHEMATICS

DWG. Size **B** SHEET No. 6 OF 15 SCALE NTS
DWG. No. S100513 REV. 5

THIS DRAWING AND DESIGN IS THE PROPERTY OF CALGON CARBON CORPORATION AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY CALGON CARBON CORPORATION. THIS DRAWING LOANED SUBJECT TO RETURN ON DEMAND.

| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\Old Revisions\S100513_005.dwg Aug 10, 2021 - 2:04pm



- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.

LEGEND:

- TB IN CONTROL PANEL
- ⊖ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- EXTERNAL WIRING
- ⊗ FUSED TYPE TERM. BLK. (FUSES RATED 250V)

All wiring #16g unless indicated otherwise.

COLOUR CODE:
 blue 24VDC signal
 wht/blu 0 Vdc common
 red 120VAC control
 white neutral
 green ground

| REV | DESCRIPTION | APP | DATE |
|-----|---|-----|----------|
| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

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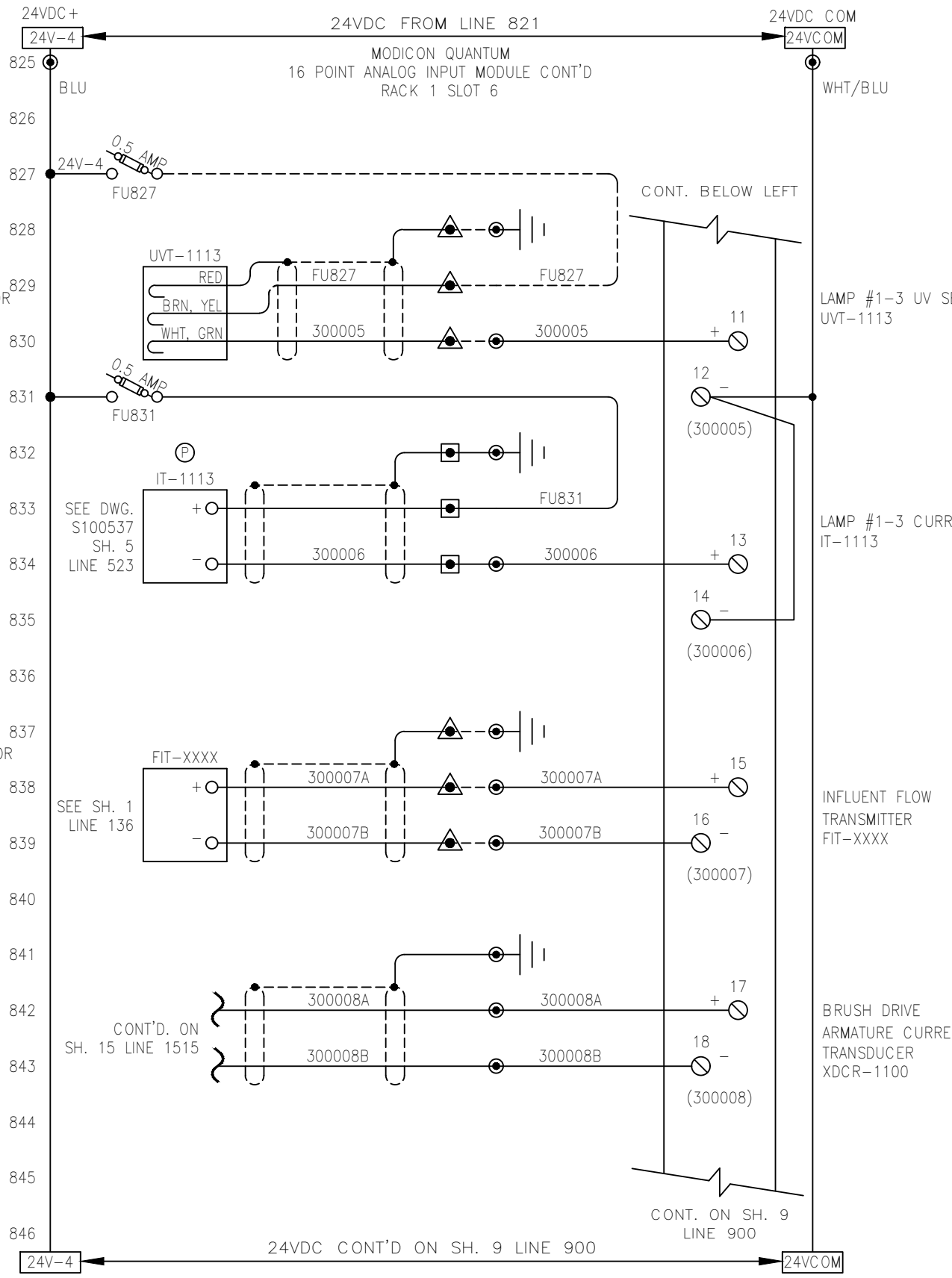
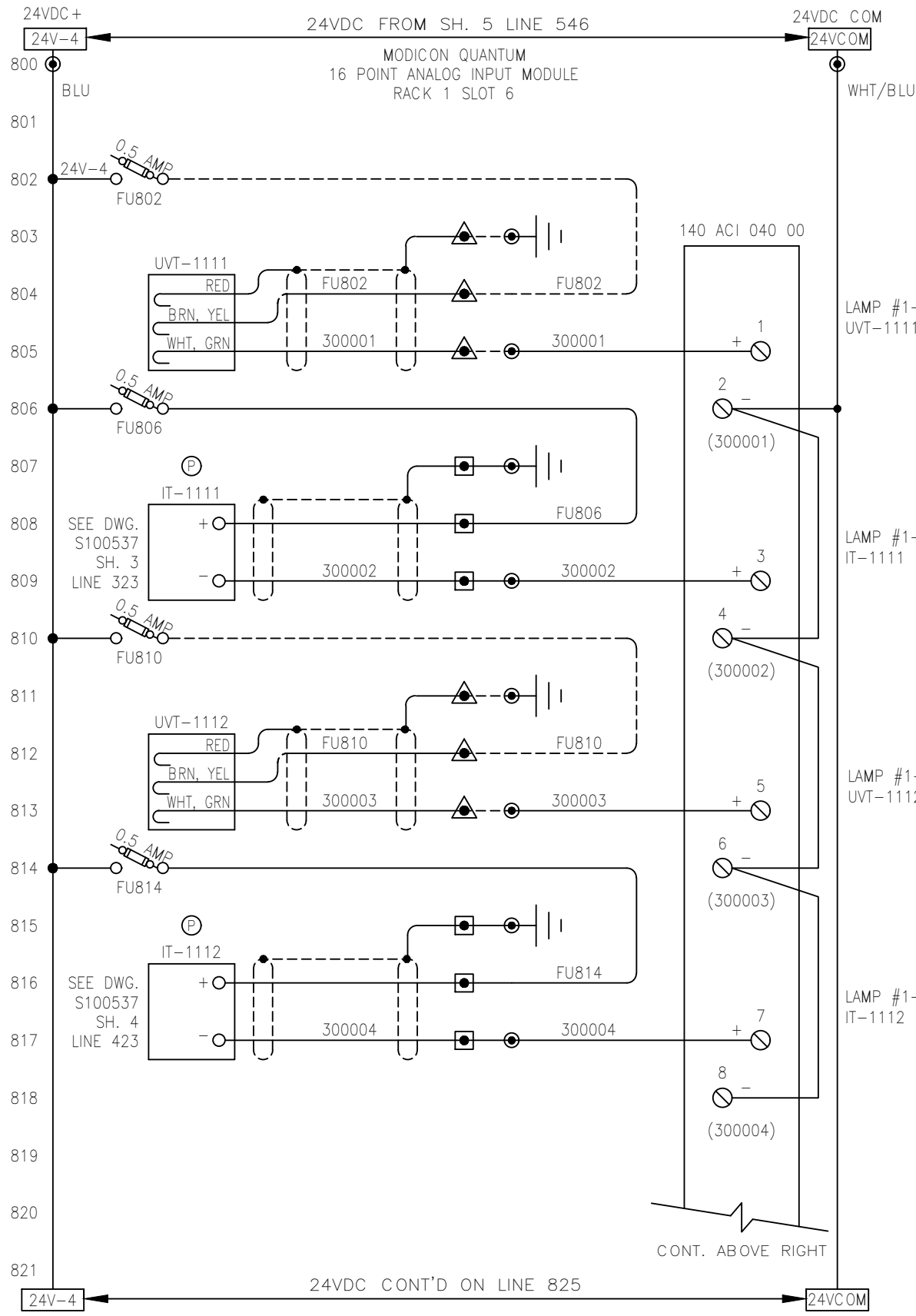
TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
PLC I/O SCHEMATICS

DWG. Size **B** SHEET No. 7 OF 15 SCALE NTS
DWG. No. S100513 REV. 5

THIS DRAWING AND DESIGN IS THE PROPERTY OF CALGON CARBON CORPORATION AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY CALGON CARBON CORPORATION. THIS DRAWING LOANED SUBJECT TO RETURN ON DEMAND.

| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

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- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.

LEGEND:

- TB IN CONTROL PANEL
- Ⓟ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- - - EXTERNAL WIRING
- /○ FUSED TYPE TERM. BLK. (FUSES RATED 250V)

All wiring #16g unless indicated otherwise.

COLOUR CODE:
 blue 24VDC signal
 wht/blu 0 Vdc common
 red 120VAC control
 white neutral
 green ground

| REV | DESCRIPTION | APP | DATE |
|-----|---|-----|----------|
| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON

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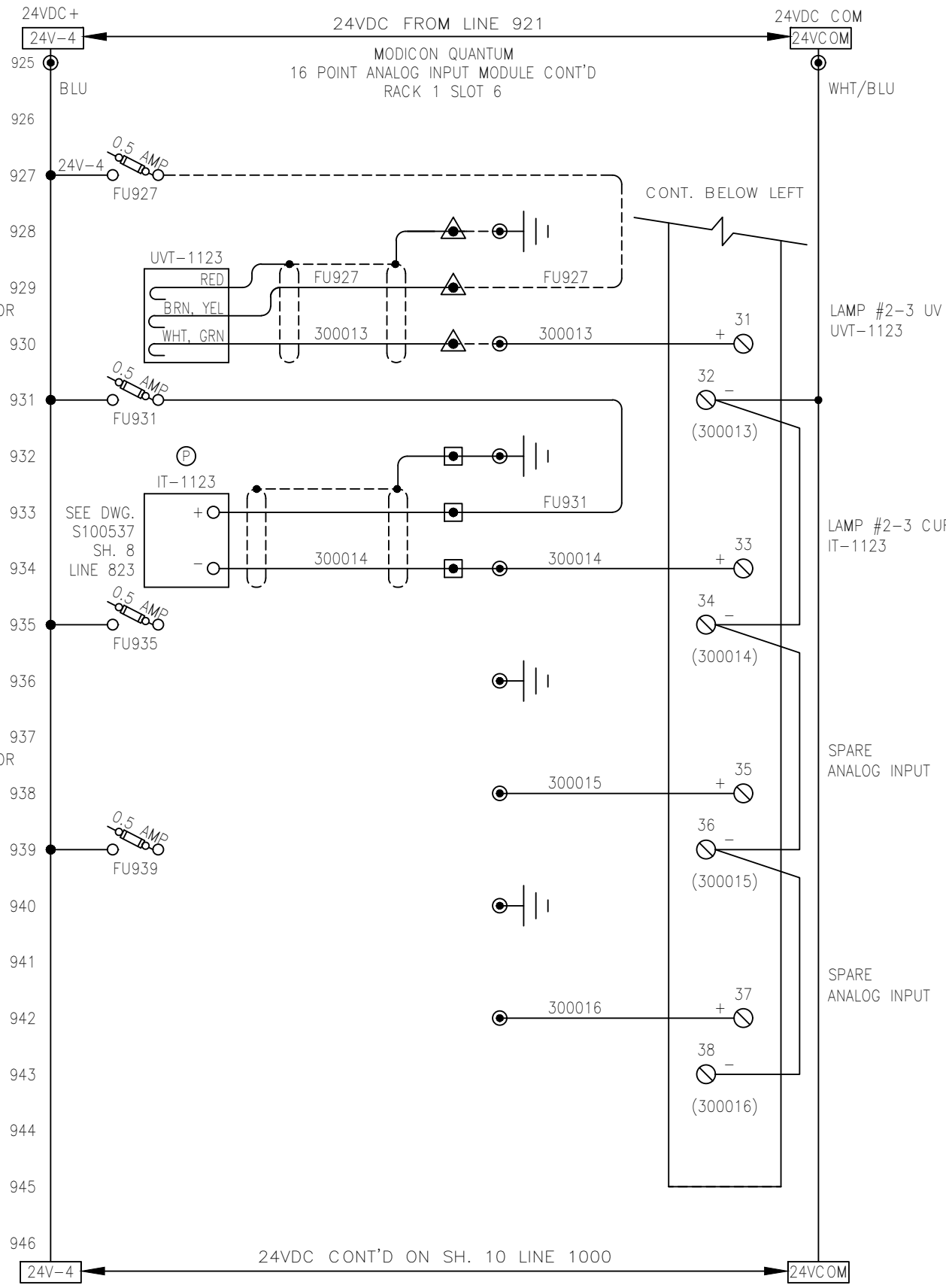
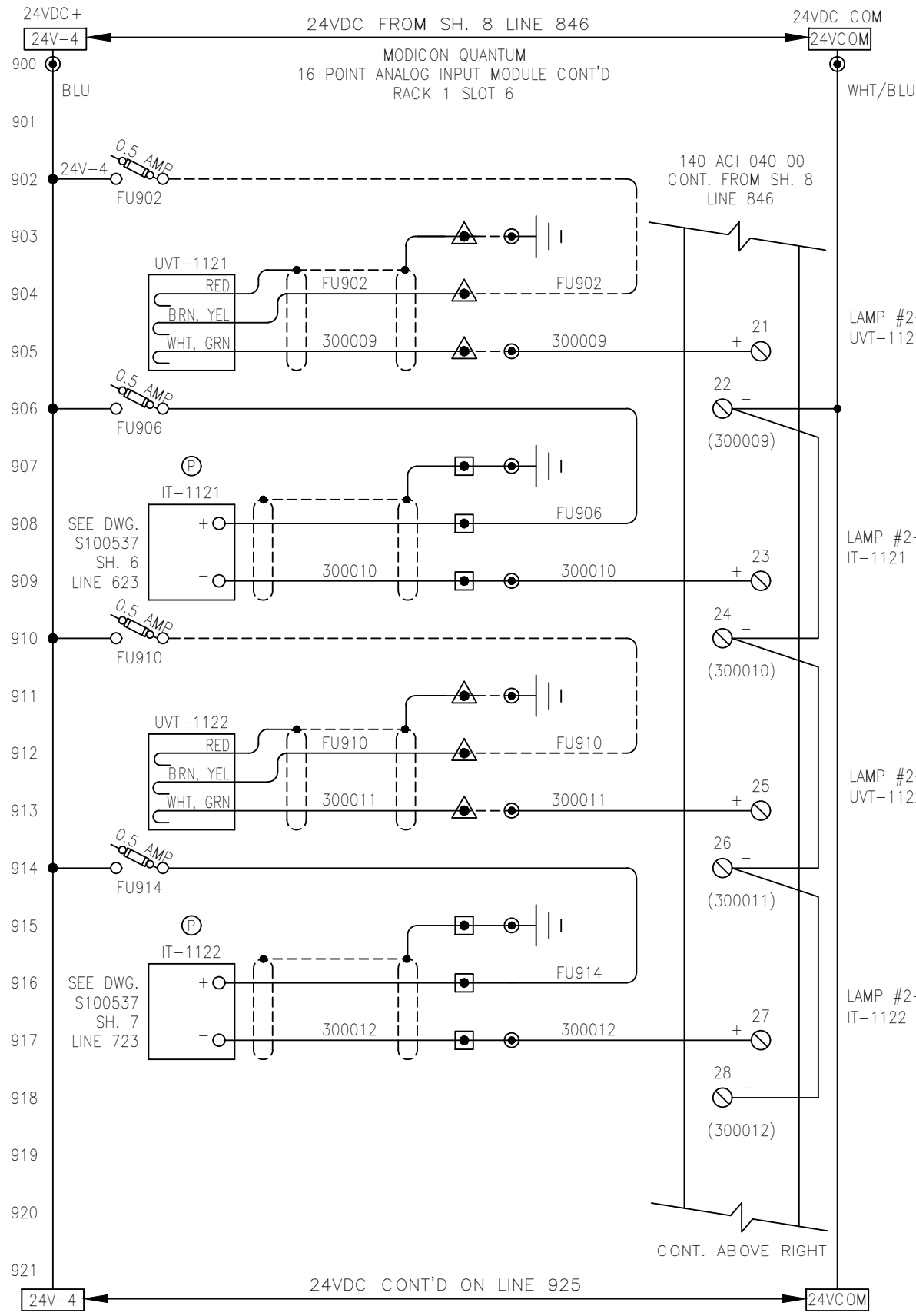
TITLE
 (6) 48"Ø, 9 X 20KW SENTINEL
 MAIN CONTROL PANEL
 PLC I/O SCHEMATICS

| | | | | | |
|-----------|----------|-----------|---------|-------|-----|
| DWG. Size | B | SHEET No. | 8 OF 15 | SCALE | NTS |
| DWG. No. | S100513 | | | REV. | 5 |

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

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- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.

LEGEND:

- TB IN CONTROL PANEL
- Ⓟ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- EXTERNAL WIRING
- ⚡ FUSED TYPE TERM. BLK. (FUSES RATED 250V)

All wiring #16g unless indicated otherwise.

COLOUR CODE:
 blue 24Vdc signal
 wht/blu 0 Vdc common
 red 120VAC control
 white neutral
 green ground

| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
|-----|---|-----|----------|
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |
| REV | DESCRIPTION | APP | DATE |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
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| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
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CALGON CARBON CORPORATION

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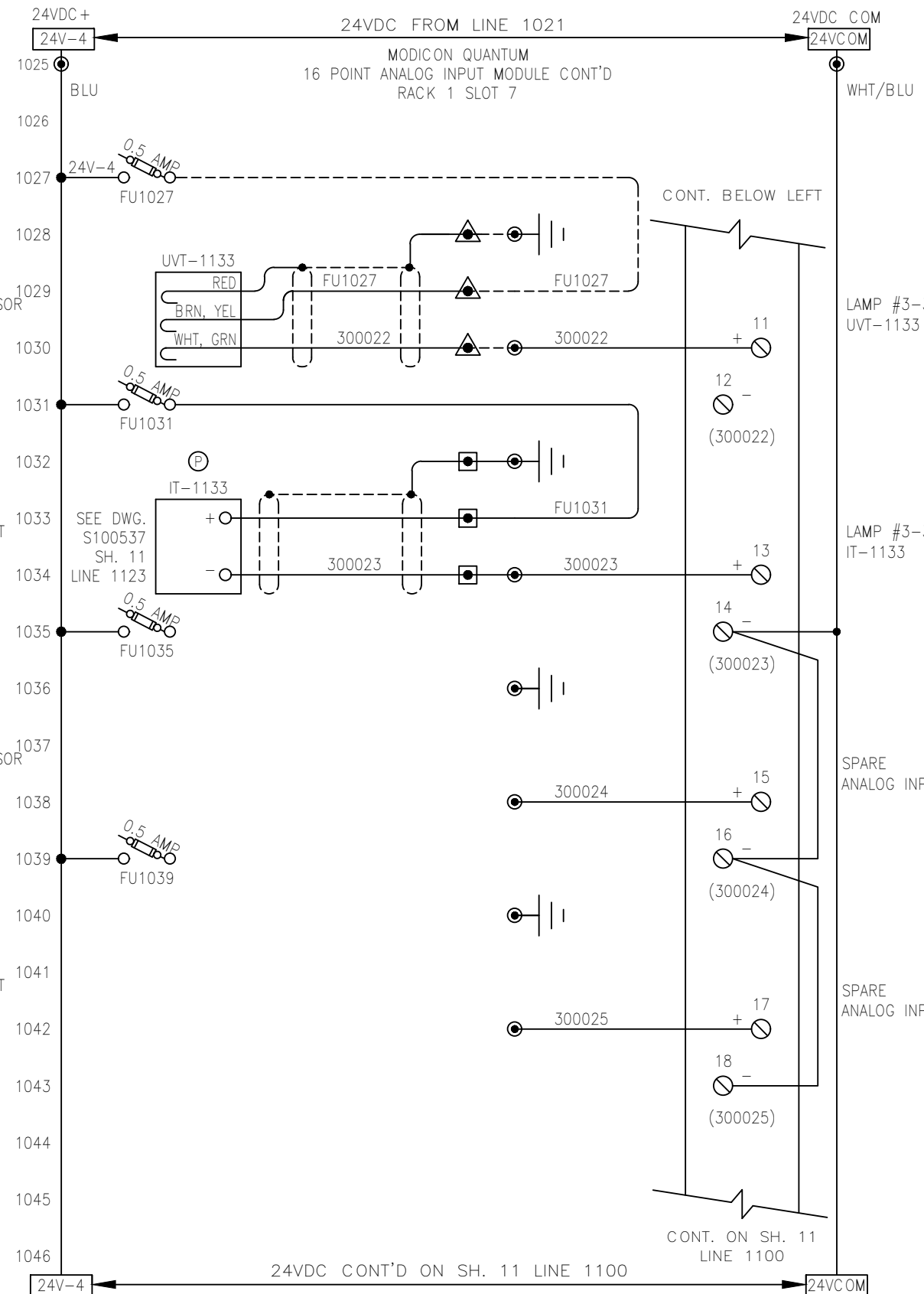
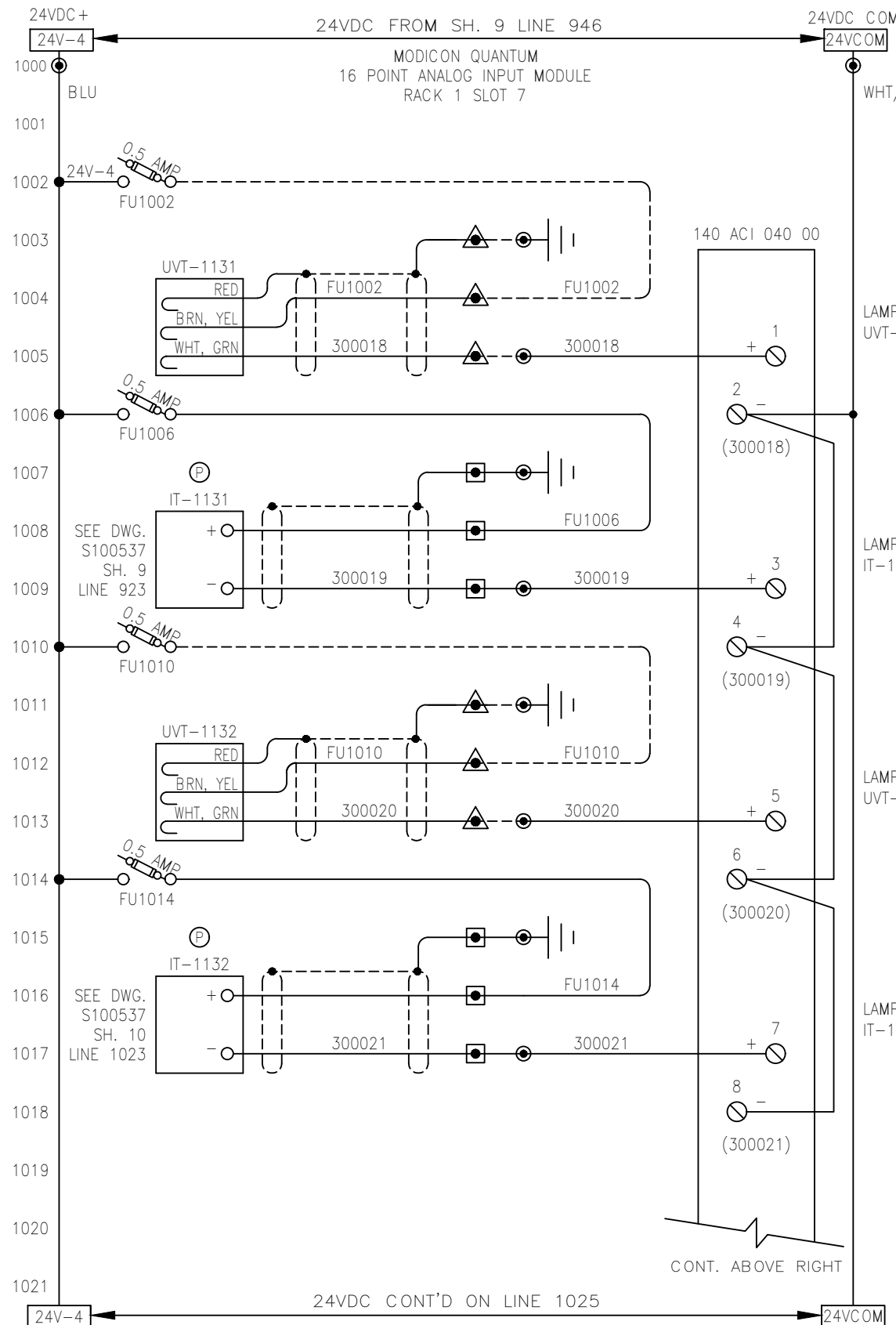
TITLE
 (6) 48"Ø, 9 X 20KW SENTINEL
 MAIN CONTROL PANEL
 PLC I/O SCHEMATICS

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | | | | |
|-----------|----------|-----------|---------|-------|-----|
| DWG. Size | B | SHEET No. | 9 OF 15 | SCALE | NTS |
| DWG. No. | S100513 | | | REV. | 5 |

T:\Projects\2003\US-03056.WINN\Drawings\Electrical\Old Revisions\S100513_005.dwg Aug 10, 2021 - 2:04pm



- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.

LEGEND:

- TB IN CONTROL PANEL
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All wiring #16g unless indicated otherwise.

COLOUR CODE:
 blue 24VDC signal
 wht/blu 0 Vdc common
 red 120VAC control
 white neutral
 green ground

| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
|-----|---|-----|----------|
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |
| REV | DESCRIPTION | APP | DATE |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
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| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
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CLIENT CITY OF WINNIPEG
MANITOBA, CANADA

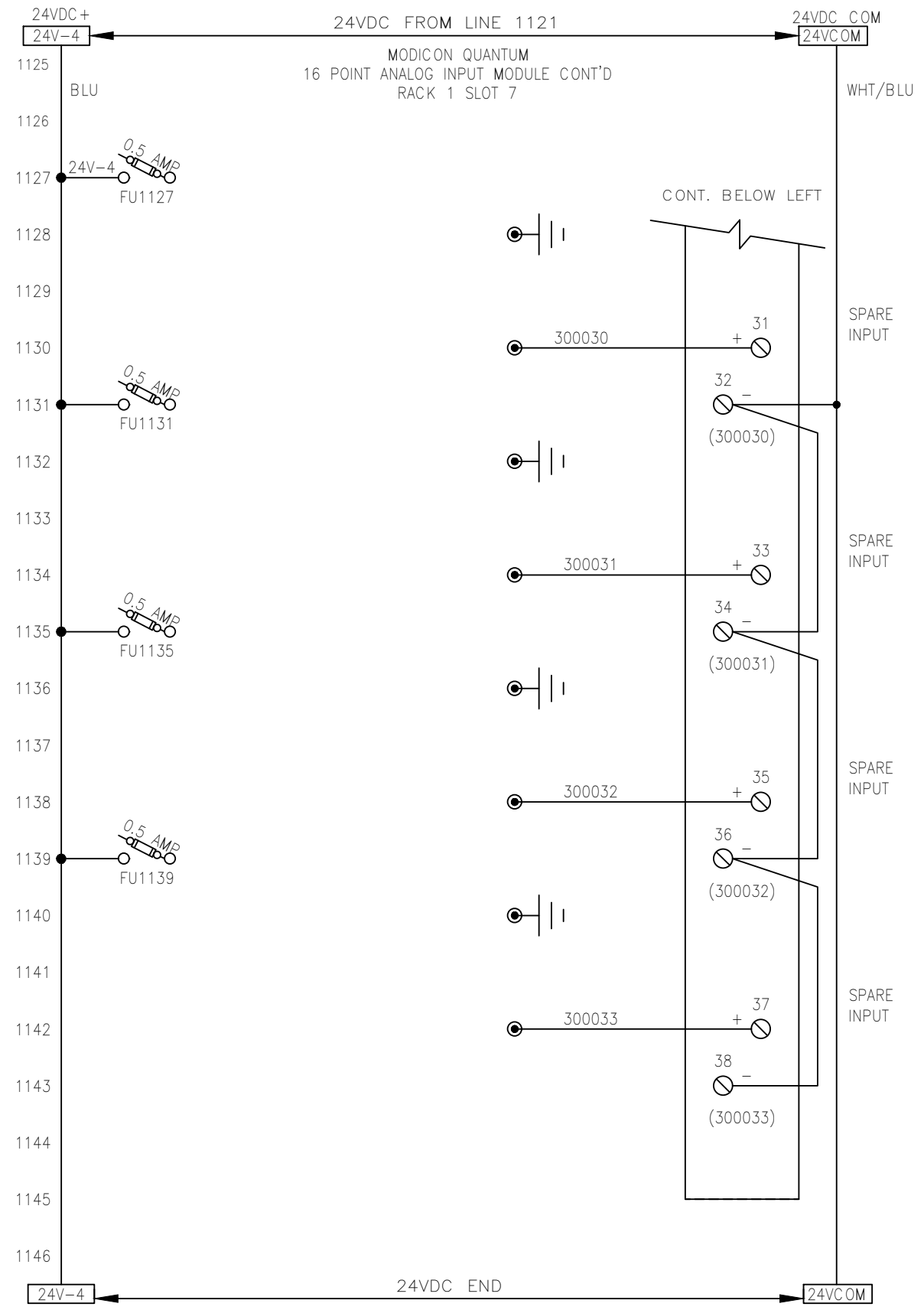
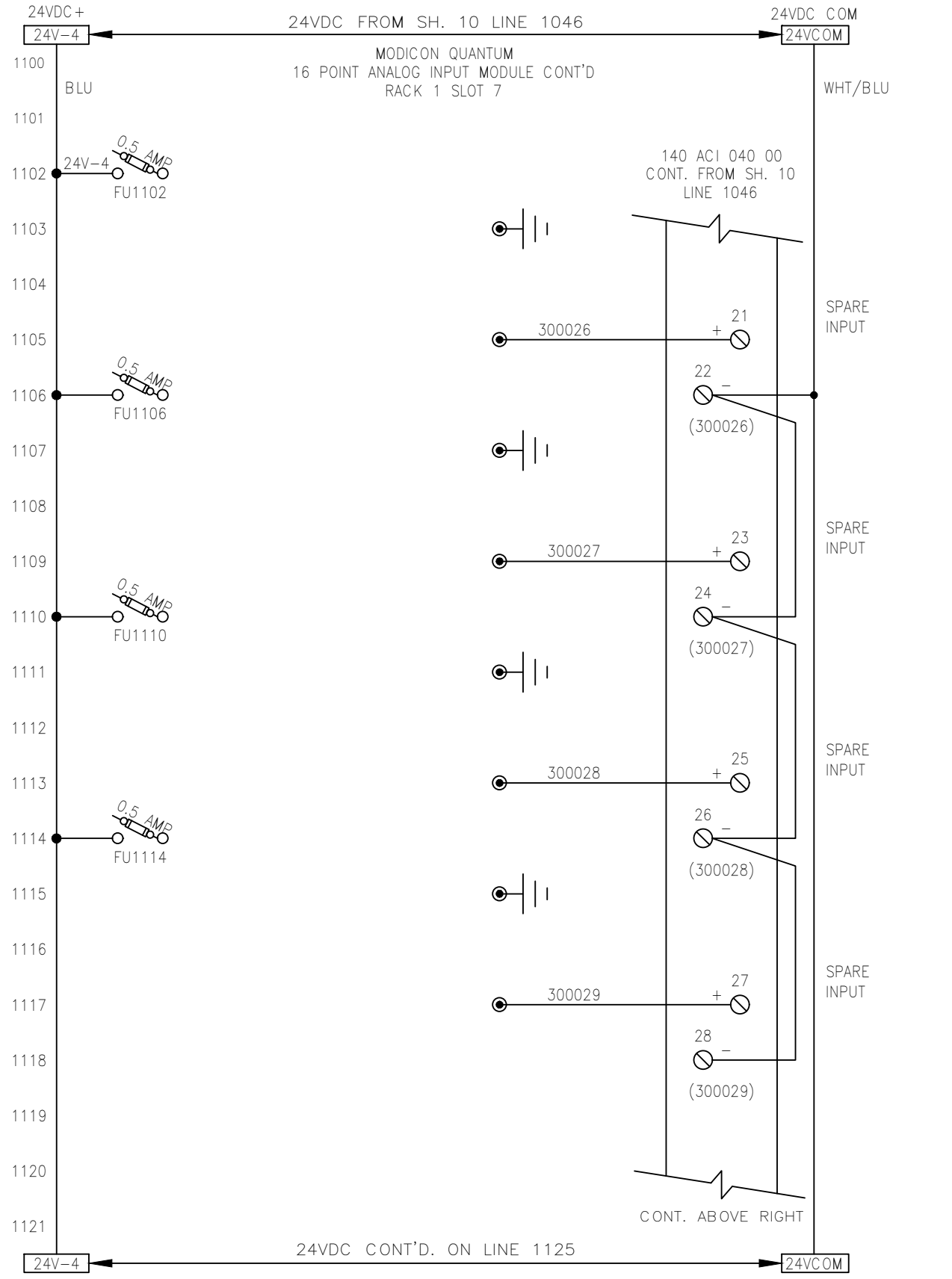
TITLE (6) 48"ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
PLC I/O SCHEMATICS

| | | | | | |
|-----------|----------|-----------|----------|-------|-----|
| DWG. Size | B | SHEET No. | 10 OF 15 | SCALE | NTS |
| DWG. No. | S100513 | | | REV. | 5 |

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\Old Revisions\S100513_005.dwg Aug 10, 2021 - 2:04pm



- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.

LEGEND:

- TB IN CONTROL PANEL
- ⊙ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- EXTERNAL WIRING
- FUSED TYPE TERM. BLK. (FUSES RATED 250V)

All wiring #16g unless indicated otherwise.

COLOUR CODE:

- blue 24VDC signal
- wht/blu 0 Vdc common
- red 120VAC control
- white neutral
- green ground

| REV | DESCRIPTION | APP | DATE |
|-----|---|-----|----------|
| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON

CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

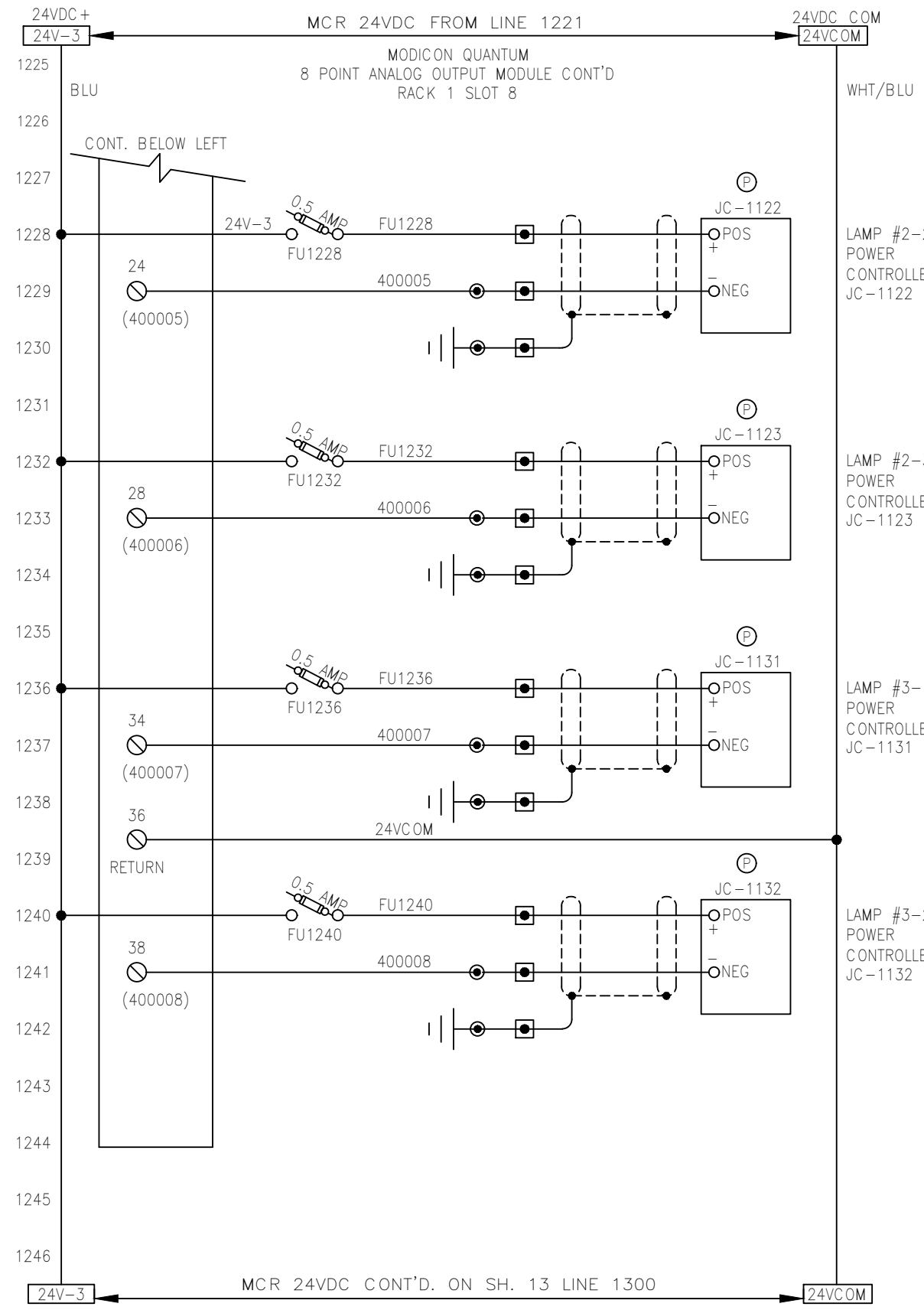
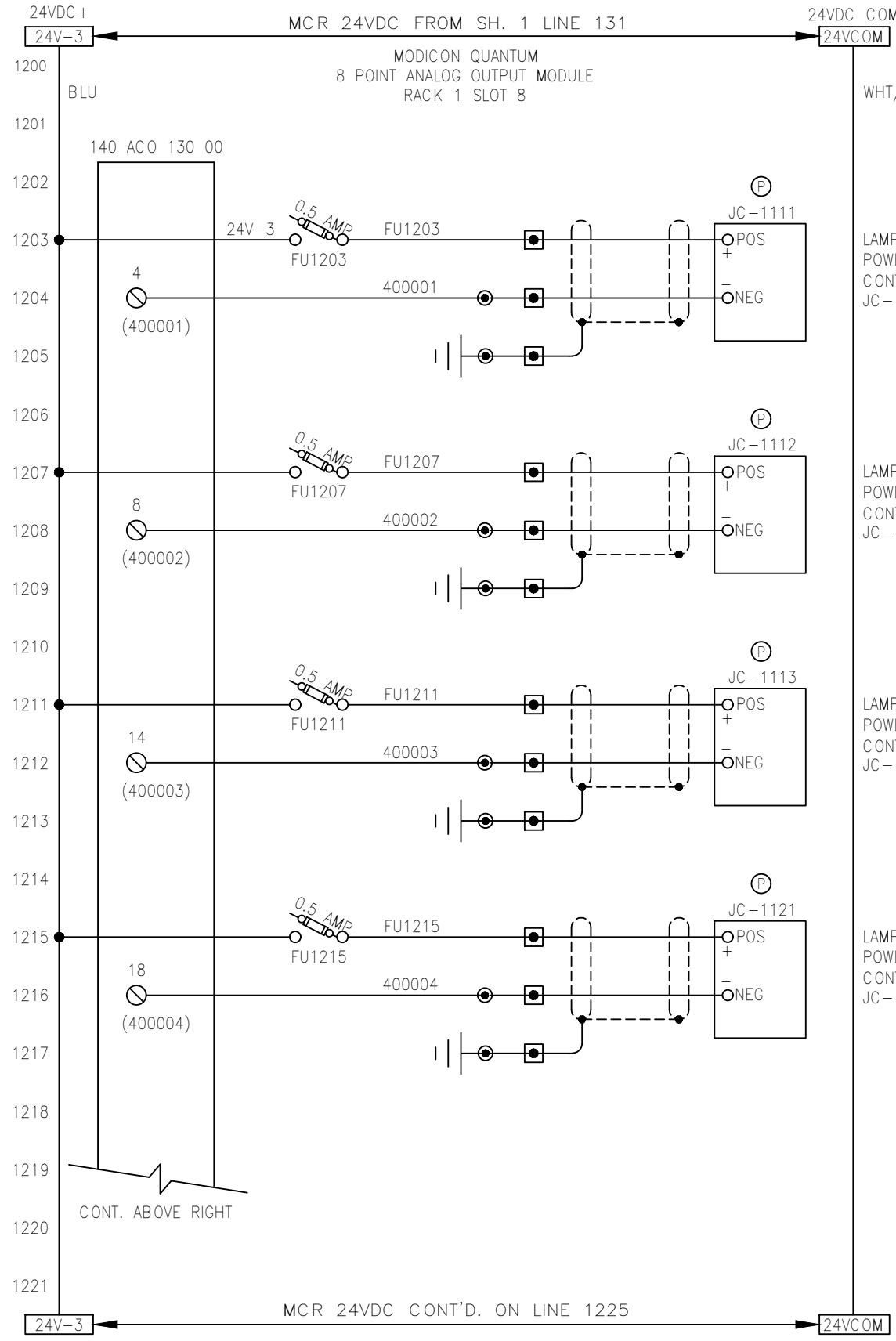
TITLE
(6) 48"ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
PLC I/O SCHEMATICS

| | | | | | |
|-----------|----------|-----------|----------|-------|-----|
| DWG. Size | B | SHEET No. | 11 OF 15 | SCALE | NTS |
| DWG. No. | S100513 | | | REV. | 5 |

THIS DRAWING AND DESIGN IS THE PROPERTY OF CALGON CARBON CORPORATION AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY CALGON CARBON CORPORATION. THIS DRAWING LOANED SUBJECT TO RETURN ON DEMAND.

| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\Old Revisions\S100513_005.dwg Aug 10, 2021 - 2:04pm



- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.

LEGEND:

- TB IN CONTROL PANEL
- Ⓟ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- - - EXTERNAL WIRING
- FUSED TYPE TERM. BLK. (FUSES RATED 250V)

All wiring #16g unless indicated otherwise.

COLOUR CODE:
 blue 24VDC signal
 wht/blu 0 Vdc common
 red 120VAC control
 white neutral
 green ground

| REV | DESCRIPTION | APP | DATE |
|-----|---|-----|----------|
| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0'30" | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

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MANITOBA, CANADA

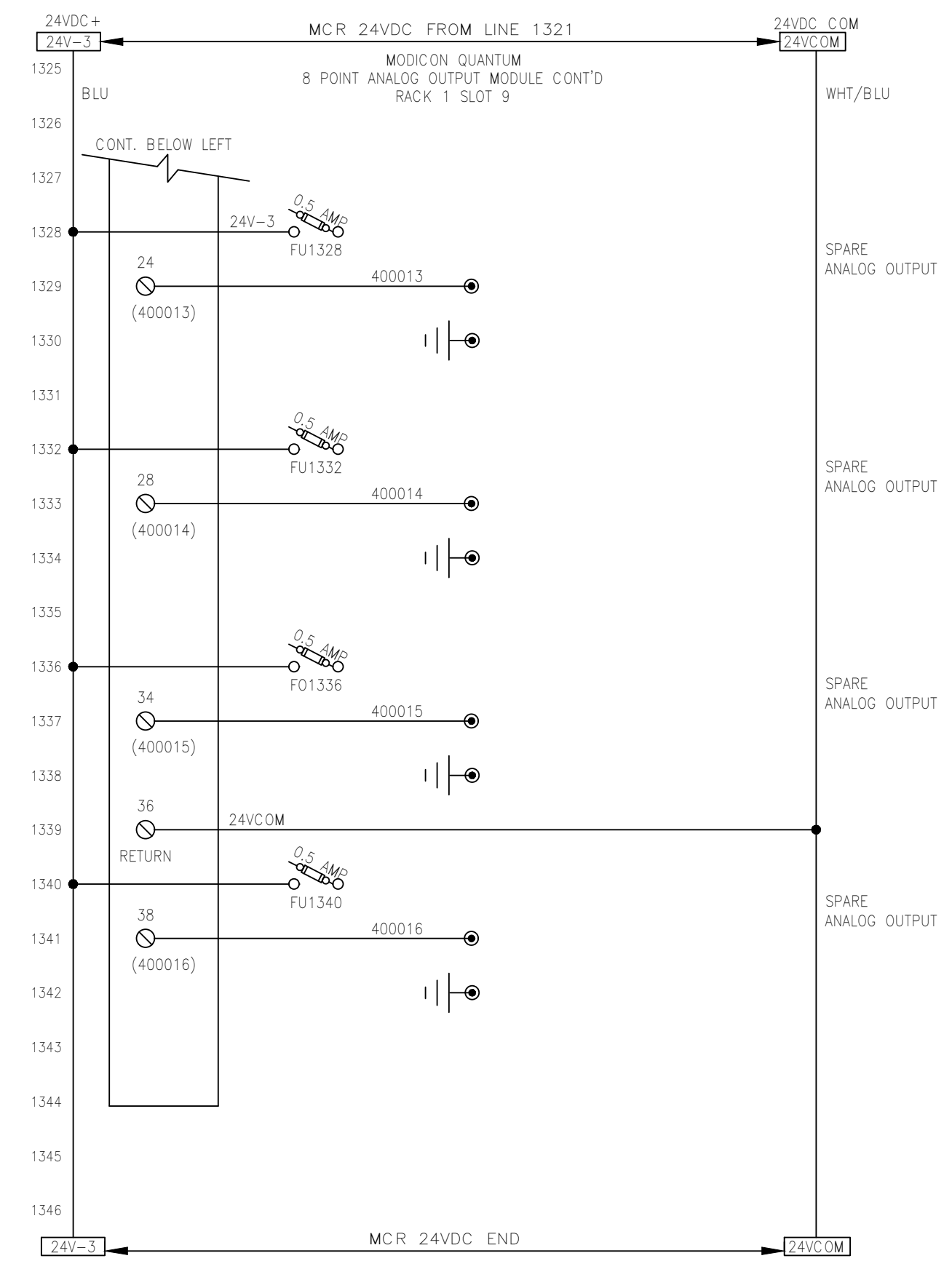
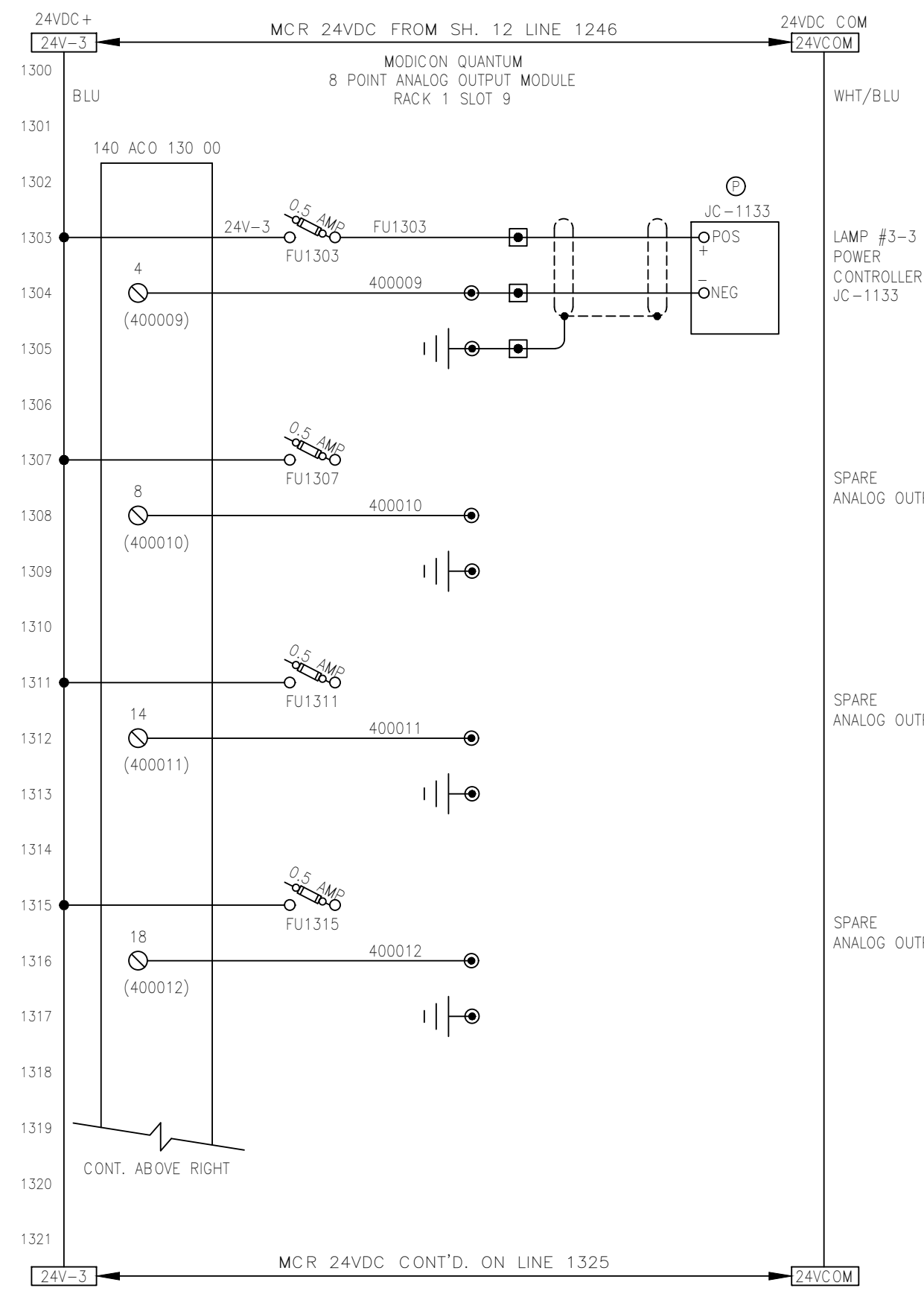
TITLE
(6) 48"ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
PLC I/O SCHEMATICS

| | | | | | |
|-----------|----------|-----------|----------|-------|-----|
| DWG. Size | B | SHEET No. | 12 OF 15 | SCALE | NTS |
| DWG. No. | S100513 | | | REV. | 5 |

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\Old Revisions\S100513_005.dwg Aug 10, 2021 - 2:04pm



- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.

LEGEND:

- TB IN CONTROL PANEL
- Ⓟ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- - - EXTERNAL WIRING
- ⚡ FUSED TYPE TERM. BLK. (FUSES RATED 250V)

COLOUR CODE:
 blue 24VDC signal
 wht/blu 0 Vdc common
 red 120VAC control
 white neutral
 green ground

| REV | DESCRIPTION | APP | DATE |
|-----|---|-----|----------|
| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON

CALGON CARBON CORPORATION

CLIENT
 CITY OF WINNIPEG
 MANITOBA, CANADA

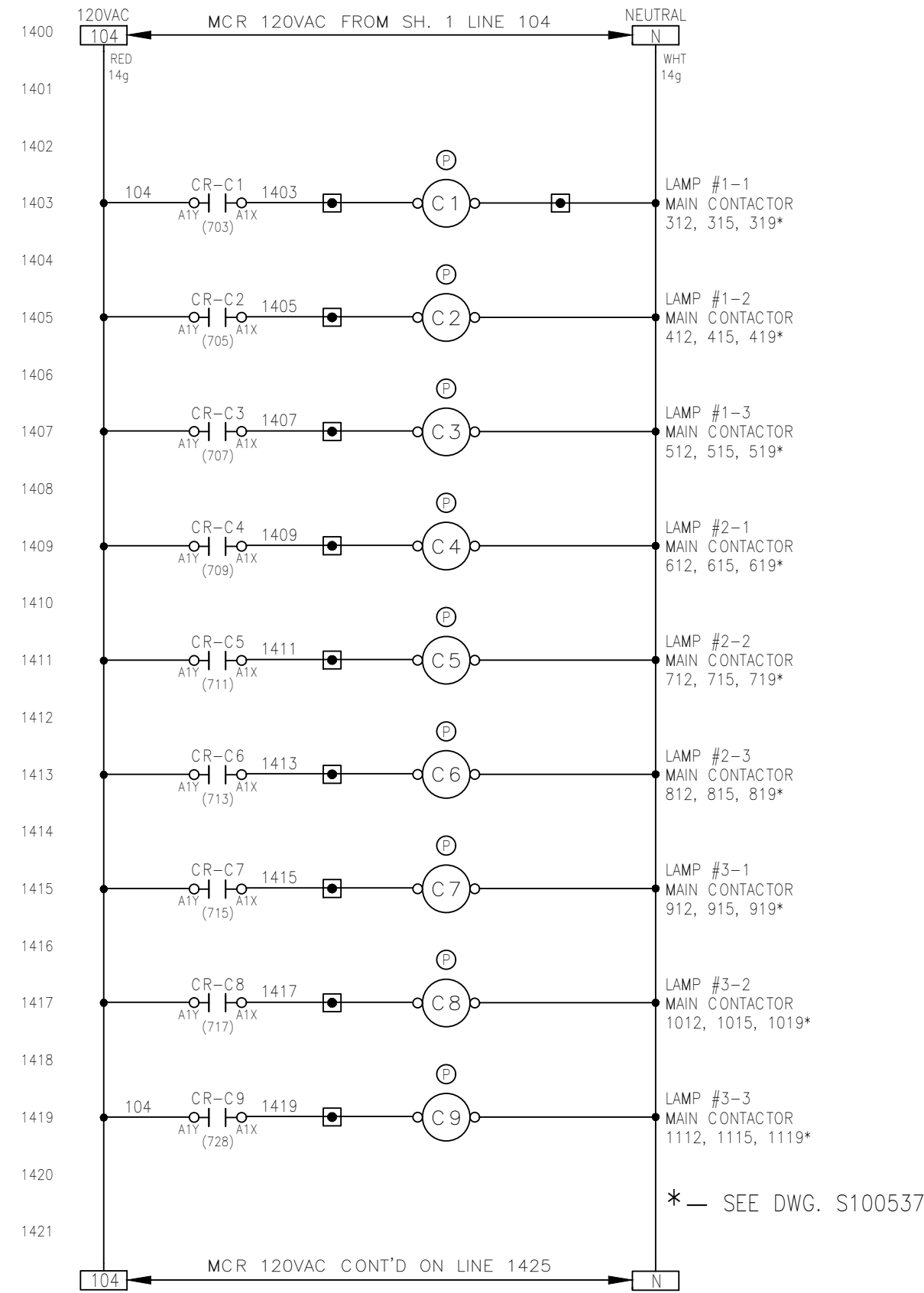
TITLE
 (6) 48"Ø, 9 X 20KW SENTINEL
 MAIN CONTROL PANEL
 PLC I/O SCHEMATICS

| | | | | | |
|-----------|----------|-----------|----------|-------|-----|
| DWG. Size | B | SHEET No. | 13 OF 15 | SCALE | NTS |
| DWG. No. | S100513 | | | REV. | 5 |

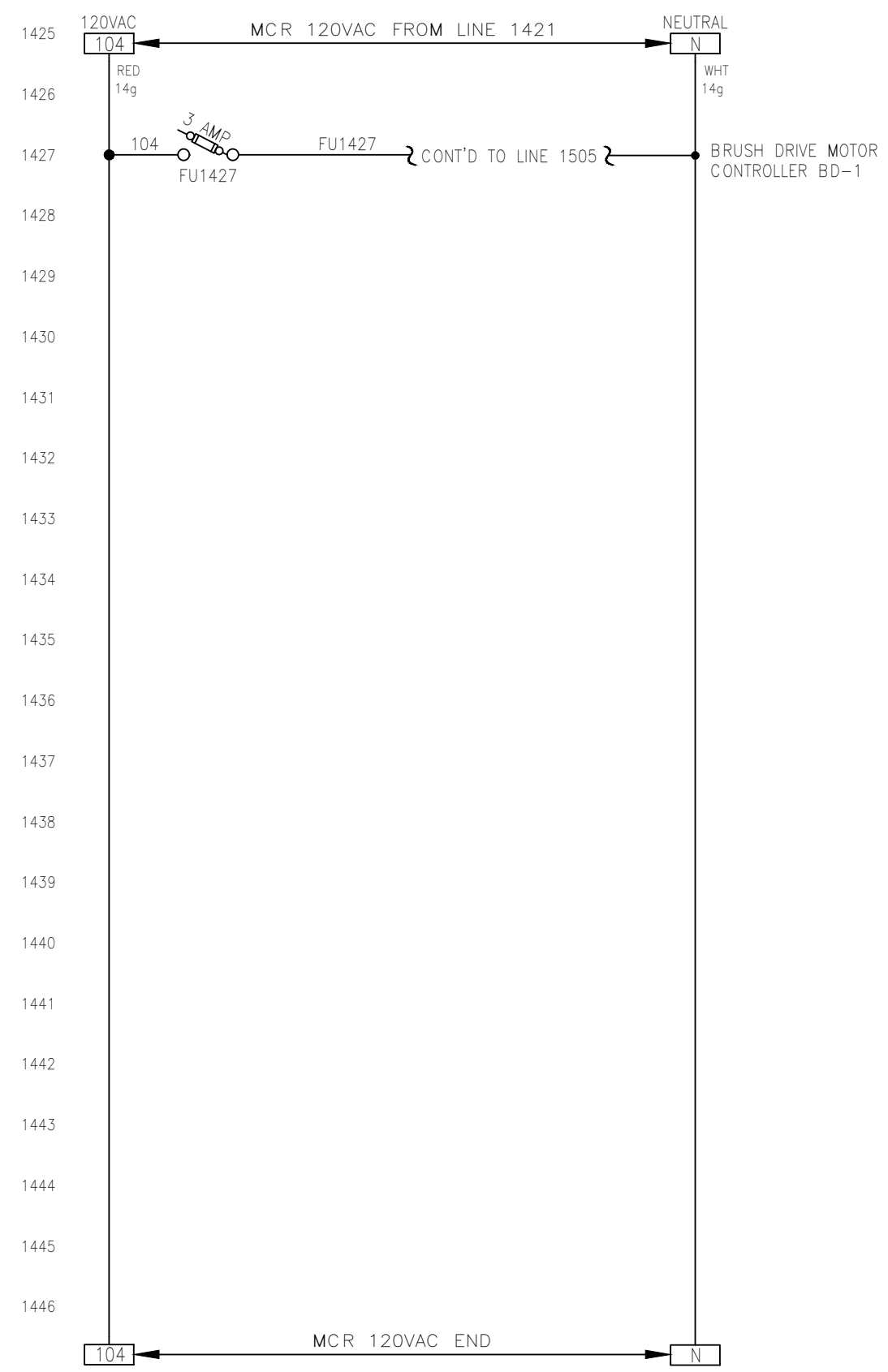
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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\Old Revisions\S100513_005.dwg Aug 10, 2021 - 2:04pm



* — SEE DWG. S100537



- NOTES:**
1. ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 2. DRAWING SET IS FOR 6 SENTINEL SYSTEMS.

LEGEND:

- TB IN CONTROL PANEL
- ⊙ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- EXTERNAL WIRING
- FUSED TYPE TERM. BLK. (FUSES RATED 250V)

All wiring #16g unless indicated otherwise.

COLOUR CODE:

- blue 24VDC signal
- wht/blu 0 Vdc common
- red 120VAC control
- white neutral
- green ground

| REV | DESCRIPTION | APP | DATE |
|-----|---|-----|----------|
| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
PLC I/O SCHEMATICS

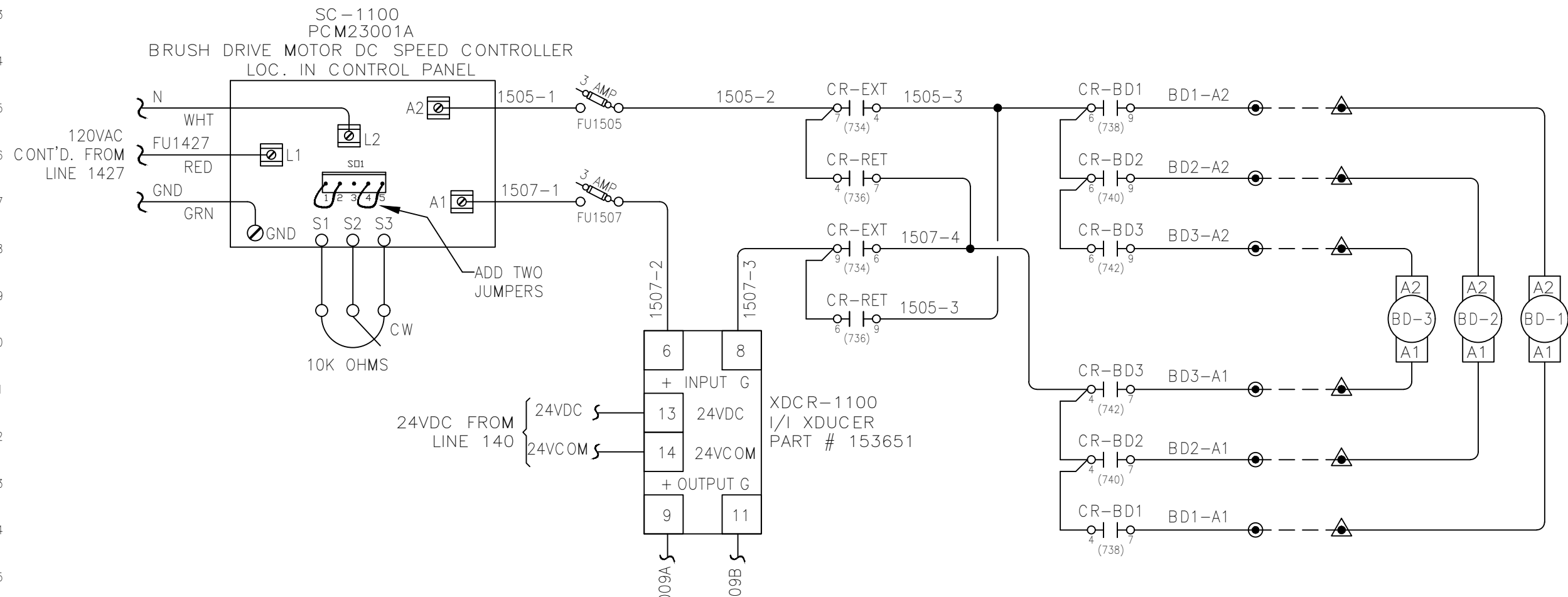
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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | | | | |
|-----------|----------|-----------|----------|-------|-----|
| DWG. Size | B | SHEET No. | 14 OF 15 | SCALE | NTS |
| DWG. No. | S100513 | | | REV. | 5 |

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1500
1501
1502
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1505
1506
1507
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1516
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1518
1519
1520
1521



BRUSH DRIVE MOTORS LOC. ON REACTOR

LEGEND:

- TB IN CONTROL PANEL
- ⊙ LOC. IN POWER CABINET
- ▲ TB IN FIELD DEVICE
- TB IN POWER CABINET
- EXTERNAL WIRING
- ⊗ FUSED TYPE TERM. BLK. (FUSES RATED 250V)

COLOUR CODE:
 blue 24VDC signal
 wht/blu 0 Vdc common
 red 120VAC control
 white neutral
 green ground

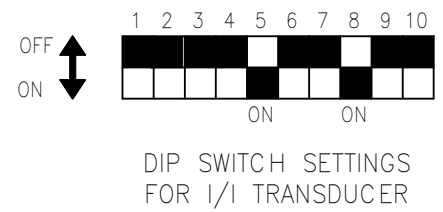
24VDC FROM LINE 140

24VDC
24VCOM

XDCR-1100
I/I XDUCER
PART # 153651

300009A
300009B

4-20MA OUTPUT
CONT'D TO LINE 842



| 5 | ADDED PLC TO UPS FEEDER, PWR. ON RLY | RJP | 09/13/05 |
|-----|---|-----|----------|
| 4 | AS BUILT | RJP | 08/24/03 |
| 3 | ADD MCR CONTACTS, REV SCHEMATIC | RJP | 05/07/04 |
| 2 | REV. ANALOG INPUT ADDRESSES & WIRE NO.S | GTL | 01/26/04 |
| 1 | ADD LEVEL SW. LSL-1100 | GTL | 11/20/03 |
| REV | DESCRIPTION | APP | DATE |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0'30" | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON
CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48"Ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
BRUSH DRIVE SCHEMATIC

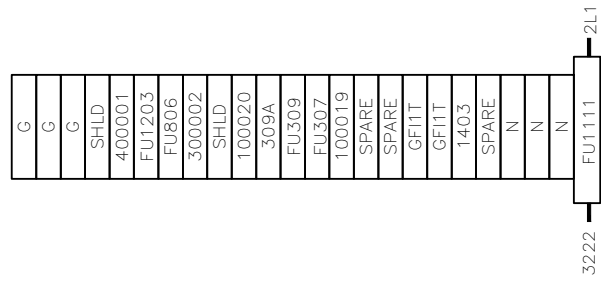
| | | | | | |
|-----------|----------|-----------|----------|-------|-----|
| DWG. Size | B | SHEET No. | 15 OF 15 | SCALE | NTS |
| DWG. No. | S100513 | | | REV. | 5 |

- NOTES:**
- ALL DEVICES LOCATED IN CONTROL PANEL EXCEPT AS NOTED.
 - DRAWING SET IS FOR 6 SENTINEL SYSTEMS.
 - WIRING SHALL BE 1/C #16 BLUE COLOUR, EXCEPT AS NOTED.

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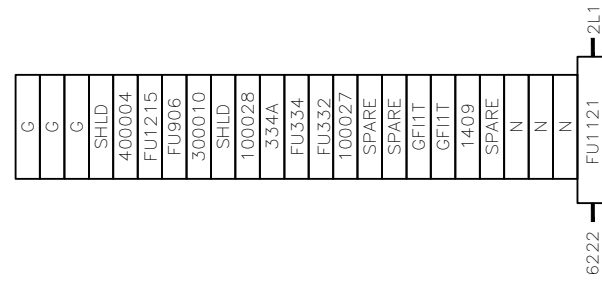
| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/15/03 |
| DESIGNER | GTL | 9/15/03 |
| CHECKER | RJP | 10/23/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

POWER SUPPLY MODULE #1-1 110VAC/24VDC



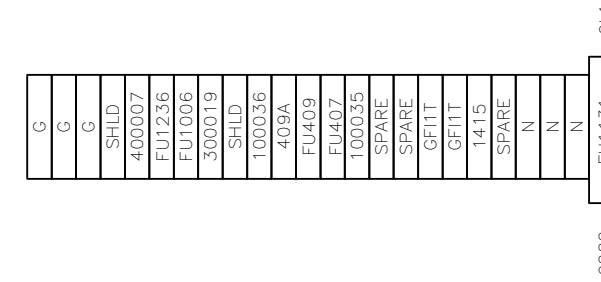
1 FUSE, 20 SINGLES, 3 GROUNDS

POWER SUPPLY MODULE #2-1 110VAC/24VDC



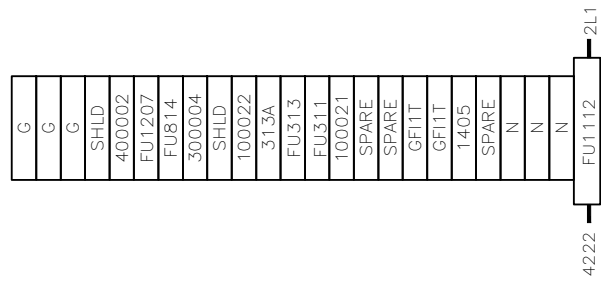
1 FUSE, 20 SINGLES, 3 GROUNDS

POWER SUPPLY MODULE #3-1 110VAC/24VDC



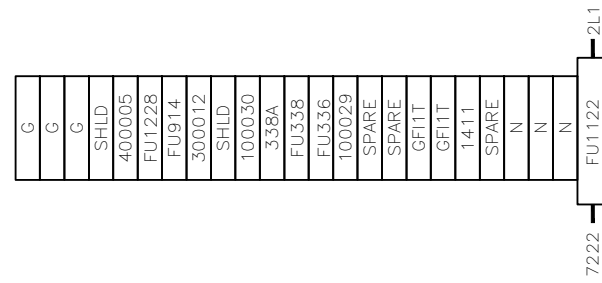
1 FUSE, 20 SINGLES, 3 GROUNDS

POWER SUPPLY MODULE #1-2 110VAC/24VDC



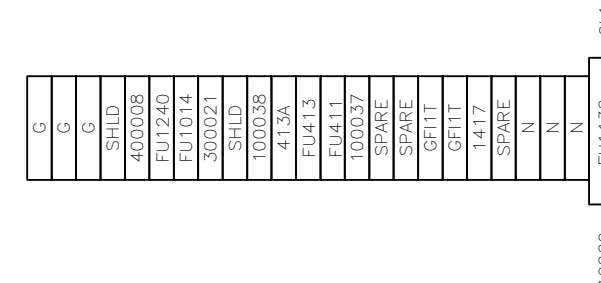
1 FUSE, 20 SINGLES, 3 GROUNDS

POWER SUPPLY MODULE #2-2 110VAC/24VDC



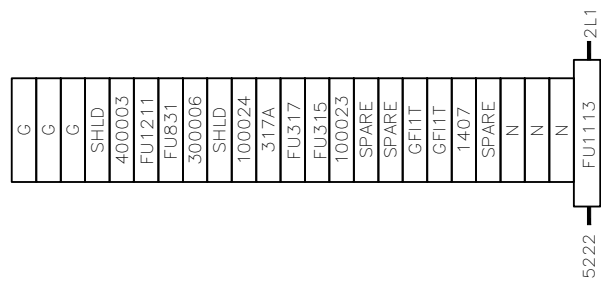
1 FUSE, 20 SINGLES, 3 GROUNDS

POWER SUPPLY MODULE #3-2 110VAC/24VDC



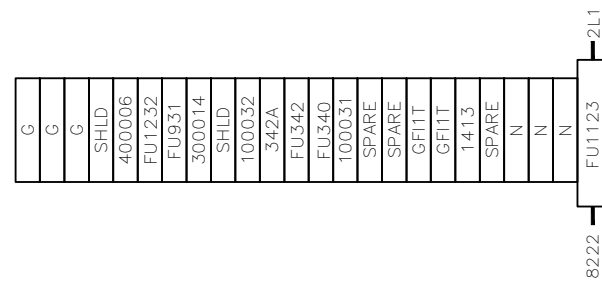
1 FUSE, 20 SINGLES, 3 GROUNDS

POWER SUPPLY MODULE #1-3 110VAC/24VDC



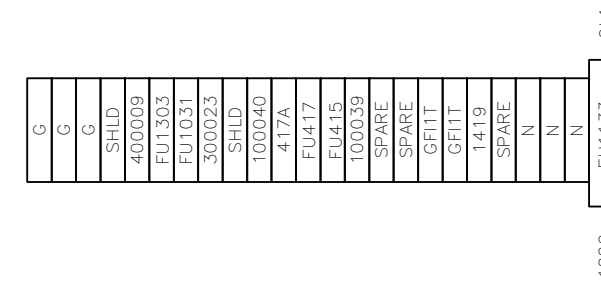
1 FUSE, 20 SINGLES, 3 GROUNDS

POWER SUPPLY MODULE #2-3 110VAC/24VDC



1 FUSE, 20 SINGLES, 3 GROUNDS

POWER SUPPLY MODULE #3-3 110VAC/24VDC



1 FUSE, 20 SINGLES, 3 GROUNDS

NOTES:

- ALL TERMINAL BLOCKS ALLEN-BRADLEY 1492-F1 UNLESS NOTED. QUANTITY OF TWO (2) MARKERS REQUIRED PER BLOCK.
- ALL FUSED TERMINAL BLOCKS ALLEN-BRADLEY 1492-H4 (120VAC) AND 1492-H5 (24VDC). FUSES (FUXXX) REQUIRE TWO (2) MARKERS PER FUSE. ONE MARKER ON THE LOAD SIDE AND A DIFFERENT MARKER ON THE LINE SIDE AS INDICATED.
- WIRE LABELS SHALL BE WHITE HEAT SHRINK TYPE BRADY SERIES B-321 OR EQUAL.

| | | | |
|---|-----------------------------------|-----|----------|
| 4 | AS BUILT | RJP | 08/24/04 |
| 3 | ADD FUSE FU-205 | RJP | 05/07/04 |
| 2 | REV. WIRE NOS AS NOTED | GTL | 01/26/04 |
| 1 | ADD WIRE # FOR LEVEL SW. LSL-1100 | GTL | 11/20/03 |

| REV | DESCRIPTION | APP | DATE |
|---|-------------|--------------------|--------|
| REVISIONS | | | |
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

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CITY OF WINNIPEG
MANITOBA, CANADA

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 9/24/03 |
| DESIGNER | GTL | 9/24/03 |
| CHECKER | RJP | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | |
|---|----------------------|
| TITLE CONTROL PANEL & POWER SUPPLIES TERMINAL BLOCK ARRANGEMENT | |
| DWG. Size D | SHEET No. 1 OF 2 |
| DWG. No. S100531 | SCALE NONE REV. 4 |

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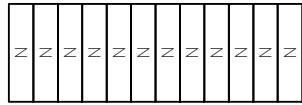
CONTROL PANEL
120VAC TB-1



21 SINGLES, 7 GROUNDS

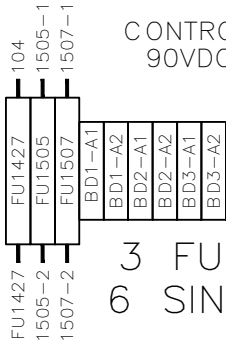
11 FUSES

CONTROL PANEL
120VAC TB-2



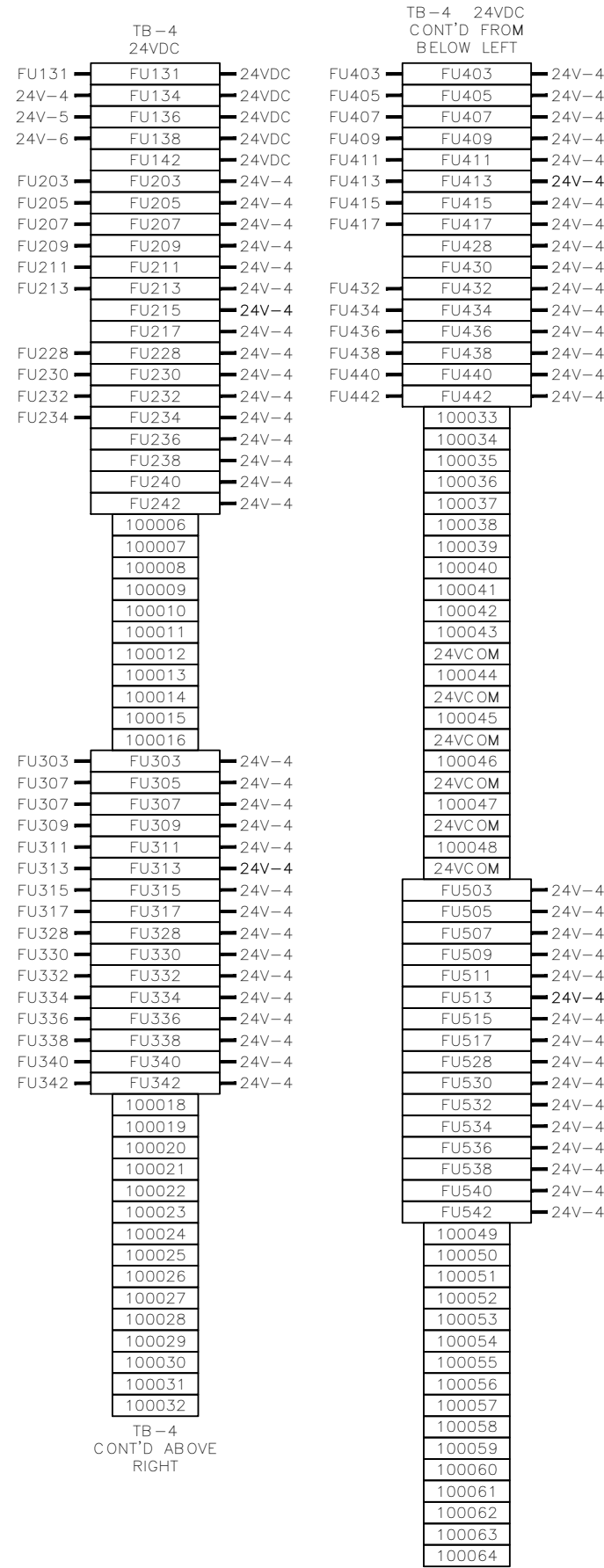
12 SINGLES

CONTROL PANEL
90VDC TB-3



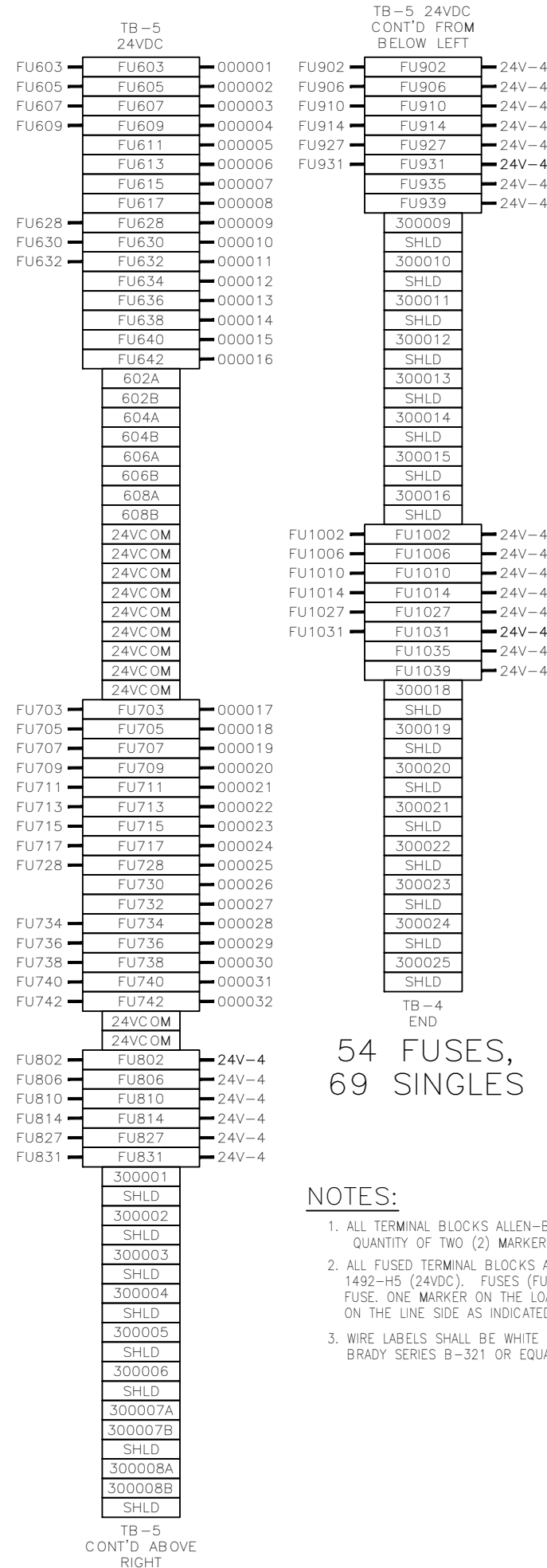
3 FUSES,
6 SINGLES

CONTROL PANEL 24VDC TB-4



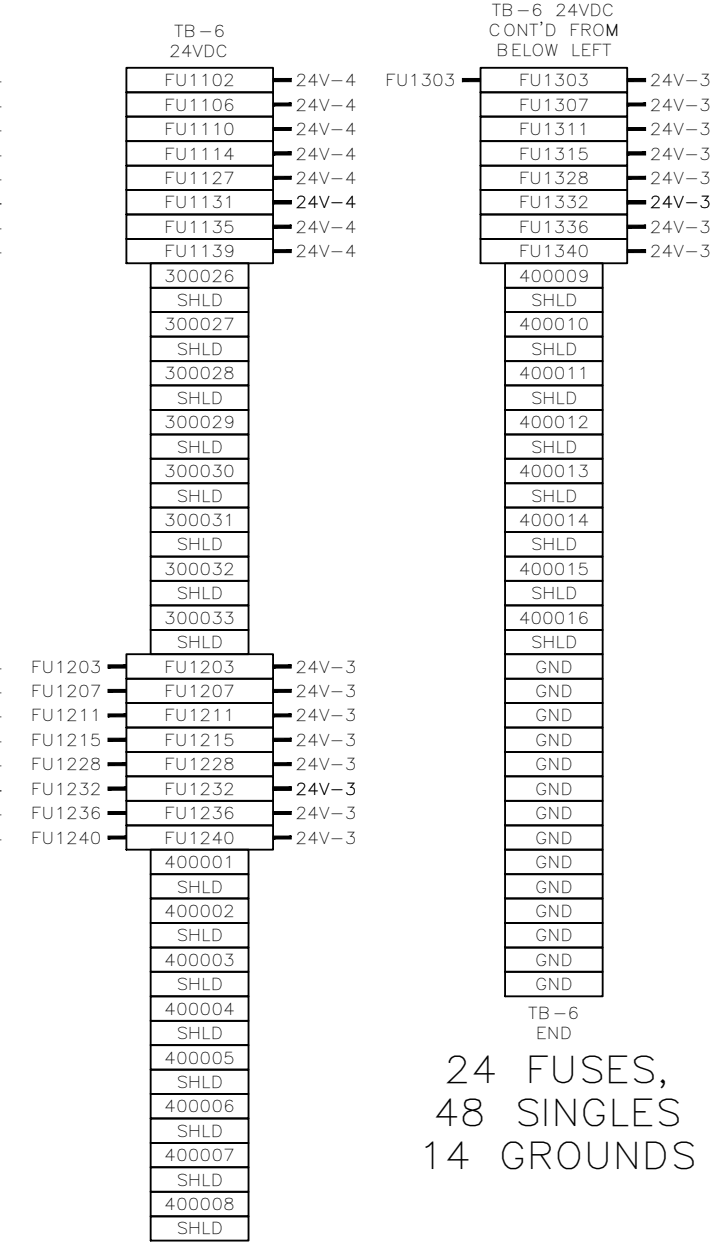
68 FUSES,
64 SINGLES

CONTROL PANEL 24VDC TB-5



54 FUSES,
69 SINGLES

CONTROL PANEL 24VDC TB-6
(MOUNTED HORIZONTAL ON SUBPANEL)



24 FUSES,
48 SINGLES
14 GROUNDS

NOTES:

- ALL TERMINAL BLOCKS ALLEN-BRADLEY 1492-F1 UNLESS NOTED. QUANTITY OF TWO (2) MARKERS REQUIRED PER BLOCK.
- ALL FUSED TERMINAL BLOCKS ALLEN-BRADLEY 1492-H4 (120VAC) AND 1492-H5 (24VDC). FUSES (FOX) REQUIRE TWO (2) MARKERS PER FUSE. ONE MARKER ON THE LOAD SIDE AND A DIFFERENT MARKER ON THE LINE SIDE AS INDICATED.
- WIRE LABELS SHALL BE WHITE HEAT SHRINK TYPE BRADY SERIES B-321 OR EQUAL.

| 4 | AS BUILT | RJP | 08/24/04 |
|-----|-----------------------------------|-----|----------|
| 3 | ADD FUSE FU-205 | RJP | 05/07/04 |
| 2 | REV. WIRE NO.5 AS NOTED | GTL | 01/26/04 |
| 1 | ADD WIRE # FOR LEVEL SW. LSL-1100 | GTL | 11/20/03 |
| REV | DESCRIPTION | APP | DATE |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | +0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

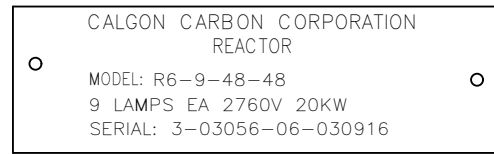
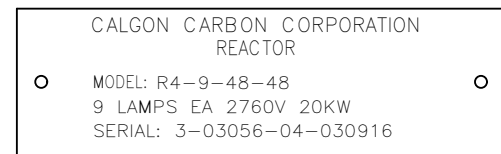
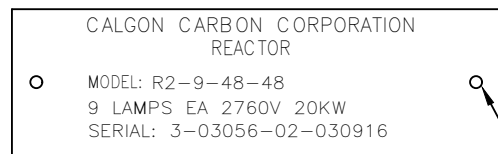
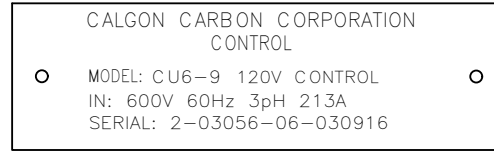
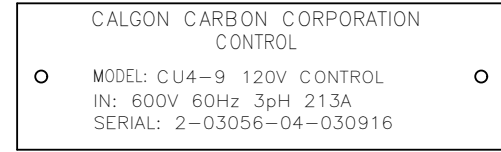
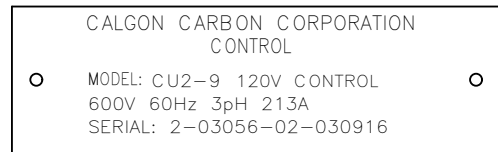
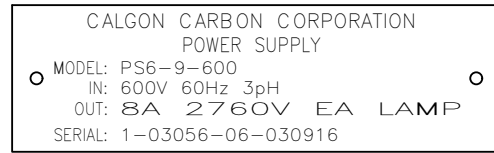
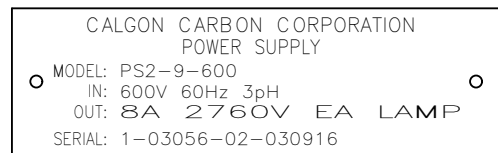
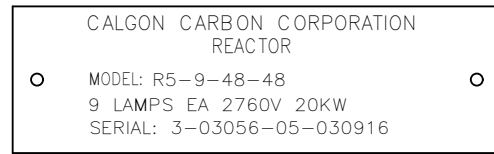
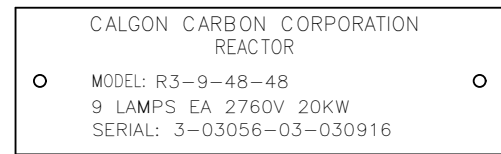
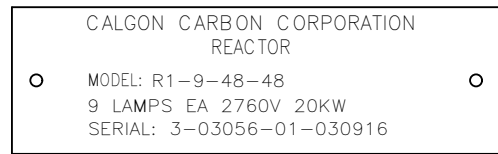
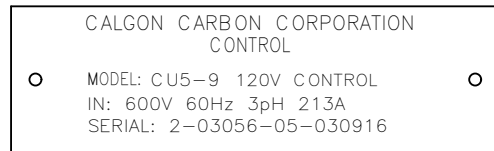
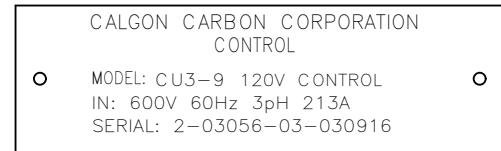
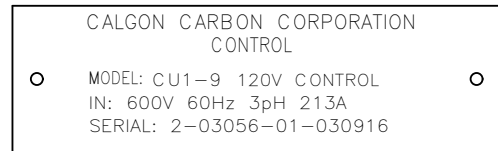
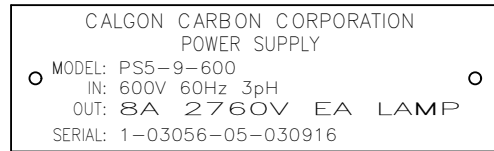
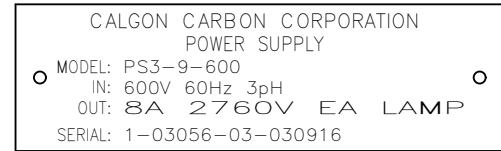
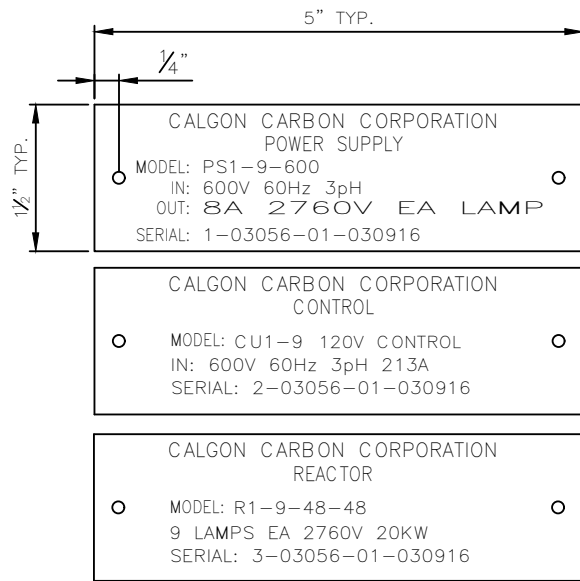
CALGON
CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
CONTROL PANEL & POWER SUPPLIES
TERMINAL BLOCK ARRANGEMENT

| | | |
|-------------|---------------|----------|
| DRAWN | NAME | DATE |
| DESIGNER | GTL | 9/24/03 |
| CHECKER | RJP | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

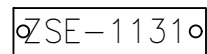
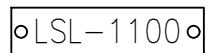
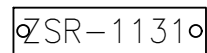
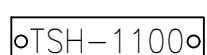
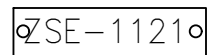
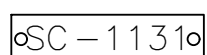
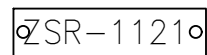
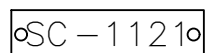
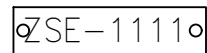
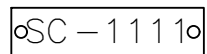
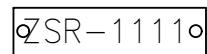
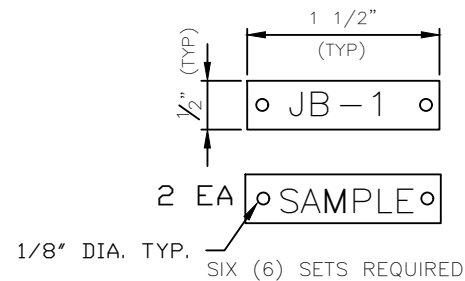
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|-----------|----------|-----------|--------|-------|------|
| DWG. Size | D | SHEET No. | 2 OF 2 | SCALE | NONE |
| DWG. No. | S100531 | | | REV. | 4 |



1/8" DIA. TYP.

NOTES:

1. NAMEPLATES SHALL BE LAMINATED PHENOLIC MATERIAL W/ ENGRAVED LETTERS
 2. ALL LETTERING WHITE ON BLACK BACKGROUND. UNLESS OTHERWISE NOTED.
 3. ALL LETTERING 0.25" HIGH UNLESS OTHERWISE NOTED.
 3. BORDER SIZE TO SUIT LETTERING.
 4. ADHESIVE BACKING UNLESS OTHERWISE NOTED.
 6. ONE (1) SET REQUIRED EXCEPT AS NOTED
- TOTAL NO. OF PIECES: 102



SIX (6) SETS REQUIRED

SIX (6) SETS REQUIRED

| C | | | |
|-----|-------------|-----|------|
| B | | | |
| A | | | |
| REV | DESCRIPTION | APP | DATE |

| REVISIONS | | | |
|---|--------|--------------------|---------|
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±0.10 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±0.005 |
| DECIMAL (1 PLACE) | ±0.015 | DECIMAL (4 PLACES) | ±0.0005 |



CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48Ø, 9 X 20KW SENTINEL
ENGRAVED NAMEPLATES

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|---|---------------|
| NAME | DATE |
| DRAFTER RJP | 10/21/03 |
| DESIGNER RJP | 10/21/03 |
| CHECKER | |
| APPROVAL | |
| PROJECT No. | US-03056.WINN |

| | | | | | |
|-----------|---------|-----------|--------|-------|------|
| DWG. Size | D | SHEET No. | 1 OF 2 | SCALE | NONE |
| DWG. No. | S100538 | | | REV. | 0 |

| TABLE 1 CONTROL PANEL LEGEND PLATE ENGRAVING | | |
|--|------------------|------------|
| ITEM | ENGRAVING | ENGRAVING |
| | LINE 1 | LINE 2 |
| NP-1 | MAIN BREAKER | 300 AMP |
| NP-2 | CB-CNTRL-1 | |
| NP-3 | CB-CNTRL-2 | |
| NP-4 | PS-1 24VDC | |
| NP-5 | GND (3 REQUIRED) | |
| NP-6 | AS-1111 | |
| NP-7 | AS-1121 | |
| NP-8 | AS-1131 | |
| NP-9 | MCR | |
| NP-10 | PLC-1 | |
| NP-11 | TB-1 | 120VAC |
| NP-12 | TB-2 | 120VAC |
| NP-13 | TB-3 | 90VDC |
| NP-14 | TB-4 | 24VDC |
| NP-15 | TB-5 | 24VDC |
| NP-16 | TB-6 | |
| NP-17 | RECEPT | 4 AMP MAX |
| NP-18 | CR-EXT | |
| NP-19 | CR-RET | |
| NP-20 | SPEED POT | |
| NP-21 | XDCR-1100 | |
| NP-22 | CABINET LIGHT | |
| NP-23 | CR-GFI | |
| NP-24 | SC-1100 | |
| NP-25 | XFMR T-CNTRL | |
| NP-26 | FU106 | 15.0 AMP |
| NP-27 | FU108 | 15.0 AMP |
| NP-28 | CR-1084 | |
| NP-29 | CR-1085 | |
| NP-30 | CR-1086 | |
| NP-31 | CR-1087 | |
| NP-32 | CR-C1 | |
| NP-33 | CR-C2 | |
| NP-34 | CR-C3 | |
| NP-35 | CR-C4 | |
| NP-36 | CR-C5 | |
| NP-37 | CR-C6 | |
| NP-38 | CR-C7 | |
| NP-39 | CR-C8 | |
| NP-40 | CR-C9 | |
| NP-41 | CR-BD1 | |
| NP-42 | CR-BD2 | |
| NP-43 | CR-BD3 | |
| NP-44 | E-NET MODBUS | TAP MODULE |

| TABLE 2 POWER SUPPLY LEGEND PLATE ENGRAVING | | |
|---|-----------|-----------|
| ITEM | ENGRAVING | ENGRAVING |
| | LINE 1 | LINE 2 |
| NP-1 | TSH-1101 | |
| NP-2 | ZS-1101 | |
| NP-3 | TSH-1102 | |
| NP-4 | ZS-1102 | |
| NP-5 | TSH-1103 | |
| NP-6 | ZS-1103 | |

| TABLE 3 POWER SUPPLY MODULE #1 LEGEND PLATE ENGRAVING | | |
|---|----------------|-----------|
| ITEM | ENGRAVING | ENGRAVING |
| | LINE 1 | LINE 2 |
| NP-1 | XFMR T1-1A | |
| NP-2 | SAT CORE T1-1B | |
| NP-3 | C 1 | |
| NP-4 | IT-1111 | |
| NP-5 | ISH-1111 | |
| NP-6 | JC-1111 | |
| NP-7 | LAMP 1-1 | |
| NP-8 | POWER SUPPLY | MODULE #1 |
| NP-9 | TB-1 | |
| NP-10 | GND | |
| NP-11 | FU312 | 50A |
| NP-12 | FU315 | 50A |

| TABLE 6 POWER SUPPLY MODULE #4 LEGEND PLATE ENGRAVING | | |
|---|----------------|-----------|
| ITEM | ENGRAVING | ENGRAVING |
| | LINE 1 | LINE 2 |
| NP-1 | XFMR T4-1A | |
| NP-2 | SAT CORE T4-1B | |
| NP-3 | C 4 | |
| NP-4 | IT-1121 | |
| NP-5 | ISH-1121 | |
| NP-6 | JC-1121 | |
| NP-7 | LAMP 2-1 | |
| NP-8 | POWER SUPPLY | MODULE #4 |
| NP-9 | TB-4 | |
| NP-10 | GND | |
| NP-11 | FU612 | 50A |
| NP-12 | FU615 | 50A |

| TABLE 9 POWER SUPPLY MODULE #7 LEGEND PLATE ENGRAVING | | |
|---|----------------|-----------|
| ITEM | ENGRAVING | ENGRAVING |
| | LINE 1 | LINE 2 |
| NP-1 | XFMR T7-1A | |
| NP-2 | SAT CORE T7-1B | |
| NP-3 | C 7 | |
| NP-4 | IT-1131 | |
| NP-5 | ISH-1131 | |
| NP-6 | JC-1131 | |
| NP-7 | LAMP 3-1 | |
| NP-8 | POWER SUPPLY | MODULE #7 |
| NP-9 | TB-7 | |
| NP-10 | GND | |
| NP-11 | FU912 | 50A |
| NP-12 | FU915 | 50A |

| TABLE 4 POWER SUPPLY MODULE #2 LEGEND PLATE ENGRAVING | | |
|---|----------------|-----------|
| ITEM | ENGRAVING | ENGRAVING |
| | LINE 1 | LINE 2 |
| NP-1 | XFMR T2-1A | |
| NP-2 | SAT CORE T2-1B | |
| NP-3 | C 2 | |
| NP-4 | IT-1112 | |
| NP-5 | ISH-1112 | |
| NP-6 | JC-1112 | |
| NP-7 | LAMP 1-2 | |
| NP-8 | POWER SUPPLY | MODULE #2 |
| NP-9 | TB-2 | |
| NP-10 | GND | |
| NP-11 | FU412 | 50A |
| NP-12 | FU415 | 50A |

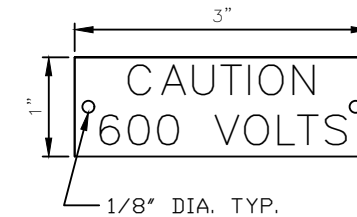
| TABLE 7 POWER SUPPLY MODULE #5 LEGEND PLATE ENGRAVING | | |
|---|----------------|-----------|
| ITEM | ENGRAVING | ENGRAVING |
| | LINE 1 | LINE 2 |
| NP-1 | XFMR T5-1A | |
| NP-2 | SAT CORE T5-1B | |
| NP-3 | C 5 | |
| NP-4 | IT-1122 | |
| NP-5 | ISH-1122 | |
| NP-6 | JC-1122 | |
| NP-7 | LAMP 2-2 | |
| NP-8 | POWER SUPPLY | MODULE #5 |
| NP-9 | TB-5 | |
| NP-10 | GND | |
| NP-11 | FU712 | 50A |
| NP-12 | FU715 | 50A |

| TABLE 10 POWER SUPPLY MODULE #8 LEGEND PLATE ENGRAVING | | |
|--|----------------|-----------|
| ITEM | ENGRAVING | ENGRAVING |
| | LINE 1 | LINE 2 |
| NP-1 | XFMR T8-1A | |
| NP-2 | SAT CORE T8-1B | |
| NP-3 | C 8 | |
| NP-4 | IT-1132 | |
| NP-5 | ISH-1132 | |
| NP-6 | JC-1132 | |
| NP-7 | LAMP 3-2 | |
| NP-8 | POWER SUPPLY | MODULE #8 |
| NP-9 | TB-8 | |
| NP-10 | GND | |
| NP-11 | FU1012 | 50A |
| NP-12 | FU1015 | 50A |

| TABLE 5 POWER SUPPLY MODULE #3 LEGEND PLATE ENGRAVING | | |
|---|----------------|-----------|
| ITEM | ENGRAVING | ENGRAVING |
| | LINE 1 | LINE 2 |
| NP-1 | XFMR T3-1A | |
| NP-2 | SAT CORE T3-1B | |
| NP-3 | C 3 | |
| NP-4 | IT-1113 | |
| NP-5 | ISH-1113 | |
| NP-6 | JC-1113 | |
| NP-7 | LAMP 1-3 | |
| NP-8 | POWER SUPPLY | MODULE #3 |
| NP-9 | TB-3 | |
| NP-10 | GND | |
| NP-11 | FU512 | 50A |
| NP-12 | FU515 | 50A |

| TABLE 8 POWER SUPPLY MODULE #6 LEGEND PLATE ENGRAVING | | |
|---|----------------|-----------|
| ITEM | ENGRAVING | ENGRAVING |
| | LINE 1 | LINE 2 |
| NP-1 | XFMR T6-1A | |
| NP-2 | SAT CORE T6-1B | |
| NP-3 | C 6 | |
| NP-4 | IT-1123 | |
| NP-5 | ISH-1123 | |
| NP-6 | JC-1123 | |
| NP-7 | LAMP 2-3 | |
| NP-8 | POWER SUPPLY | MODULE #6 |
| NP-9 | TB-6 | |
| NP-10 | GND | |
| NP-11 | FU812 | 50A |
| NP-12 | FU815 | 50A |

| TABLE 11 POWER SUPPLY MODULE #9 LEGEND PLATE ENGRAVING | | |
|--|----------------|-----------|
| ITEM | ENGRAVING | ENGRAVING |
| | LINE 1 | LINE 2 |
| NP-1 | XFMR T9-1A | |
| NP-2 | SAT CORE T9-1B | |
| NP-3 | C 9 | |
| NP-4 | IT-1133 | |
| NP-5 | ISH-1133 | |
| NP-6 | JC-1133 | |
| NP-7 | LAMP 3-3 | |
| NP-8 | POWER SUPPLY | MODULE #9 |
| NP-9 | TB-9 | |
| NP-10 | GND | |
| NP-11 | FU1112 | 50A |
| NP-12 | FU1115 | 50A |

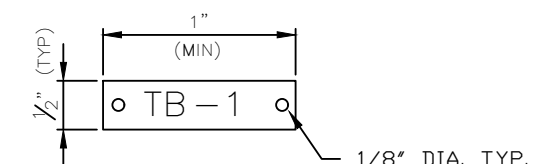


LAMACOID W/ 5/16" RED
LETTERING ON WHITE
BACKGROUND DRILLED
AS SHOWN
SIX (6) REQUIRED

NOTES:

- NAMEPLATES SHALL BE LAMINATED PHENOLIC MATERIAL W/ BLACK ENGRAVED LETTERS ON WHITE BACKGROUND, 3/16" HIGH
- NAMEPLATES SHALL BE 1/2" HIGH FOR 1 LINE DESCRIPTION, 3/4" HIGH FOR 2 LINE DESCRIPTION. LENGTH AS REQUIRED, 1" MINIMUM, DRILLED AS SHOWN
- SIX (6) SETS REQUIRED

TOTAL NO. OF PIECES: 996



| | | | |
|-----|-------------|-----|------|
| C | | | |
| B | | | |
| A | | | |
| REV | DESCRIPTION | APP | DATE |

| REVISIONS | | | |
|---|--------|--------------------|---------|
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | +0°30' | DECIMAL (2 PLACES) | ±0.10 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±0.005 |
| DECIMAL (1 PLACE) | ±0.015 | DECIMAL (4 PLACES) | ±0.0005 |

CALGON
CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
(6) 48Ø, 9 X 20KW SENTINEL
ENGRAVED NAMEPLATES

DWG. Size D SHEET No. 2 OF 2 SCALE NONE

DWG. No. S100538 REV. 0

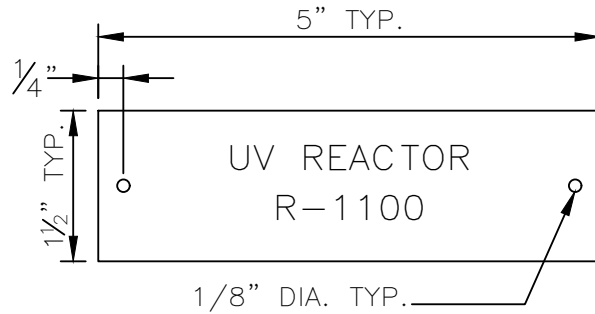
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| NAME | DATE |
|--------------|---------------|
| DRAFTER RJP | 10/21/03 |
| DESIGNER RJP | 10/21/03 |
| CHECKER | |
| APPROVAL | |
| PROJECT No. | US-03056.WINN |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\S100538.dwg Aug 10, 2021 - 2:04pm

LEGEND PLATE ENGRAVING

| ITEM | SIZE | LETTER SIZE | LINE 1 | LINE 2 | LINE 3 |
|------|-------------|-------------|--------------|--------|--------|
| ① | SEE DET. #1 | 1/4" | UV REACTOR | R-1100 | |
| ② | SEE DET. #1 | 1/4" | UV REACTOR | R-1200 | |
| ③ | SEE DET. #1 | 1/4" | UV REACTOR | R-2100 | |
| ④ | SEE DET. #1 | 1/4" | UV REACTOR | R-2200 | |
| ⑤ | SEE DET. #1 | 1/4" | UV REACTOR | R-2300 | |
| ⑥ | SEE DET. #1 | 1/4" | UV REACTOR | R-2400 | |
| ⑦ | SEE DET. #1 | 1/4" | CONTROL | R-1100 | |
| ⑧ | SEE DET. #1 | 1/4" | CONTROL | R-1200 | |
| ⑨ | SEE DET. #1 | 1/4" | CONTROL | R-2100 | |
| ⑩ | SEE DET. #1 | 1/4" | CONTROL | R-2200 | |
| ⑪ | SEE DET. #1 | 1/4" | CONTROL | R-2300 | |
| ⑫ | SEE DET. #1 | 1/4" | CONTROL | R-2400 | |
| ⑬ | SEE DET. #1 | 1/4" | POWER SUPPLY | R-1100 | |
| ⑭ | SEE DET. #1 | 1/4" | POWER SUPPLY | R-1200 | |
| ⑮ | SEE DET. #1 | 1/4" | POWER SUPPLY | R-2100 | |
| ⑯ | SEE DET. #1 | 1/4" | POWER SUPPLY | R-2200 | |
| ⑰ | SEE DET. #1 | 1/4" | POWER SUPPLY | R-2300 | |
| ⑱ | SEE DET. #1 | 1/4" | POWER SUPPLY | R-2400 | |



DETAIL NO. 1
TYPICAL TWO LINE ENGRAVING

TEXT TO BE 1/4" HEIGHT
LETTERING TO BE BLACK ON
WHITE BACKGROUND

PIECES REQUIRED 18



CALGON CARBON CORPORATION

CLIENT

CITY OF WINNIPEG
MANITOBA, CANADA

TITLE

SUPPLEMENTARY
ENGRAVED NAMEPLATES

DWG. Size
No.

A

SHEET

1 OF 1

SCALE

NONE

DWG. No.

S100543

REV. 0

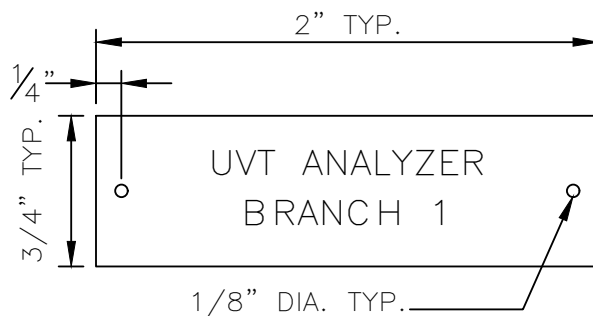
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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | RJP | 03/22/04 |
| DESIGNER | RJP | 03/22/04 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| REV | DESCRIPTION | APP | DATE |
|-----------|-------------|-----|------|
| 2 | | | |
| 1 | | | |
| 0 | | | |
| REVISIONS | | | |

LEGEND PLATE ENGRAVING

| ITEM | SIZE | LETTER SIZE | LINE 1 | LINE 2 | LINE 3 |
|------|-------------|-------------|--------------|----------|--------|
| ① | SEE DET. #1 | 1/8" | UVT ANALYZER | BRANCH 1 | |
| ② | SEE DET. #1 | 1/8" | UVT ANALYZER | BRANCH 2 | |



DETAIL NO. 1
TYPICAL TWO LINE ENGRAVING

TEXT TO BE 1/8" HEIGHT
LETTERING TO BE BLACK ON
WHITE BACKGROUND,
PHENOLIC MATERIAL

PIECES REQUIRED 2



CALGON CARBON CORPORATION

CLIENT

CITY OF WINNIPEG
MANITOBA, CANADA

TITLE

SUPPLEMENTARY
ENGRAVED NAMEPLATES

DWG. Size
No.

A

SHEET No.

1 OF 1

SCALE

NONE

DWG. No.

S100656

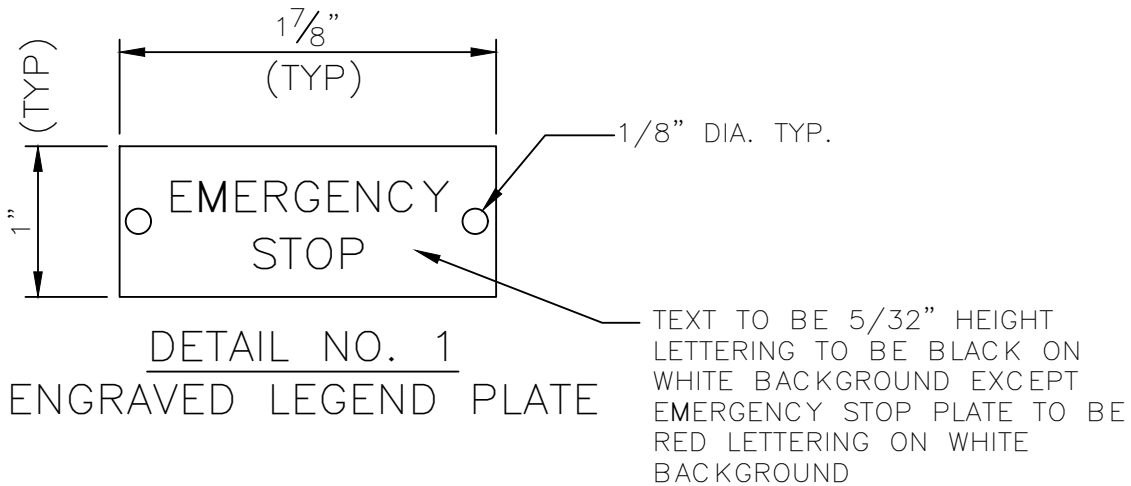
REV. 0

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | RJP | 05/19/04 |
| DESIGNER | RJP | 05/19/04 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |


| REV | DESCRIPTION | APP | DATE |
|-----------|-------------|-----|------|
| 2 | | | |
| 1 | | | |
| 0 | | | |
| REVISIONS | | | |

| LEGEND PLATE ENGRAVING | | | | |
|------------------------|-------------|-------------|-----------|-------------|
| ITEM | SIZE | LETTER SIZE | LINE 1 | LINE 2 |
| ① | SEE DET. #1 | STNRD | EMERGENCY | STOP |
| ② | SEE DET. #1 | STNRD | SYSTEM | START |
| ③ | SEE DET. #1 | STNRD | SYSTEM | STOP |
| ④ | SEE DET. #1 | STNRD | MESSAGE | ACKNOWLEDGE |



DETAIL NO. 1
ENGRAVED LEGEND PLATE

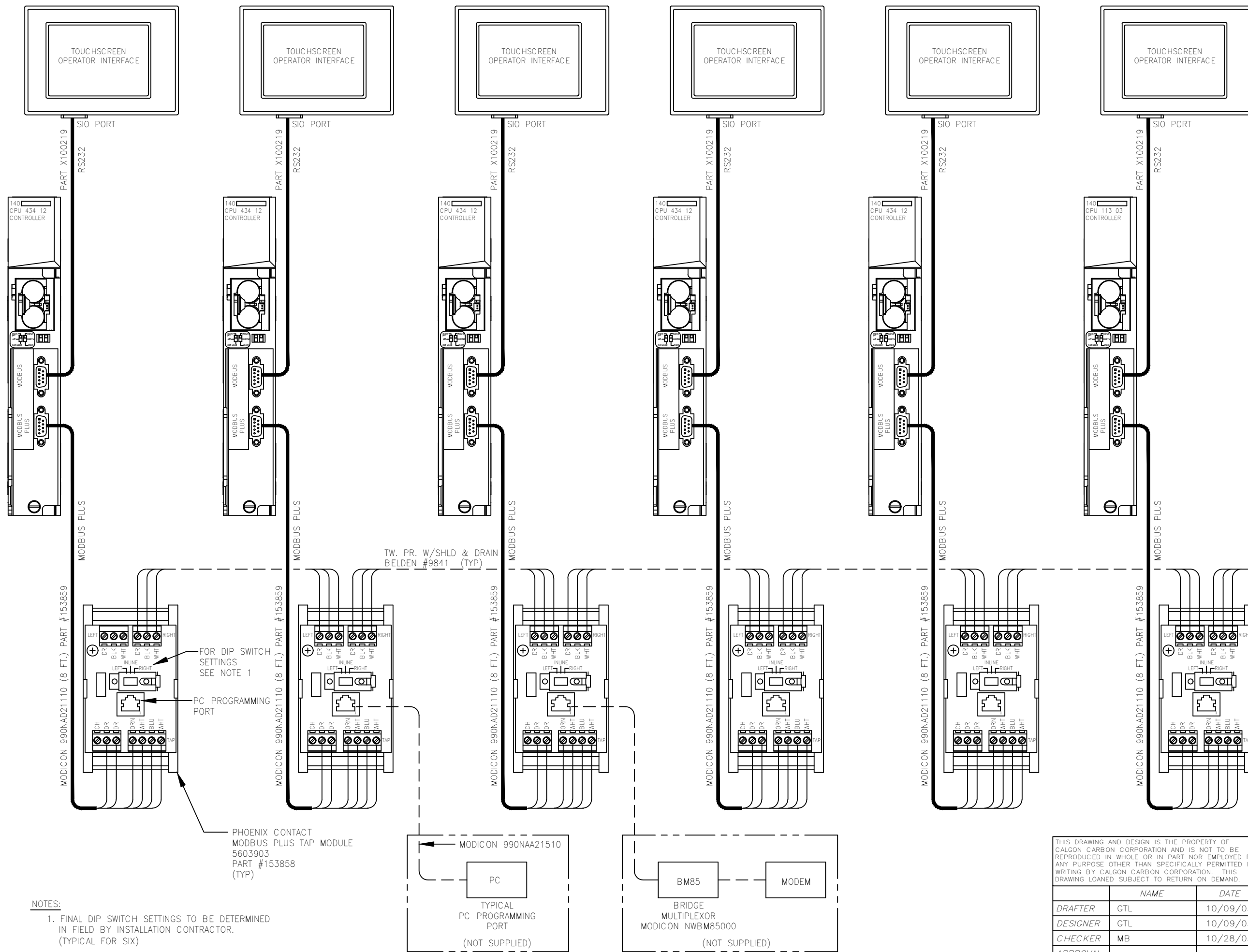
SIX (6) SETS REQUIRED

| | | | |
|---|----------|-----------|--------|
|  | | | |
| CALGON CARBON CORPORATION | | | |
| CLIENT CALGON CARBON CORPORATION PITTSBURGH, PENNSYLVANIA | | | |
| TITLE ENGRAVED LEGEND PLATE CONTROL PANEL STANDARD | | | |
| DWG. Size | A | SHEET No. | 1 OF 1 |
| | | SCALE | NONE |
| DWG. No. | | S100640 | |
| | | REV. | 1 |

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| | NAME | DATE |
|-------------|----------|----------|
| DRAFTER | RJP | 03/15/04 |
| DESIGNER | RJP | 03/15/04 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |

| REV | DESCRIPTION | APP | DATE |
|-----------|--------------------|-----|----------|
| C | | | |
| B | | | |
| 1 | REV. CONFIGURATION | RJP | 03/22/04 |
| REVISIONS | | | |



TW. PR. W/SHLD & DRAIN
BELDEN #9841 (TYP)

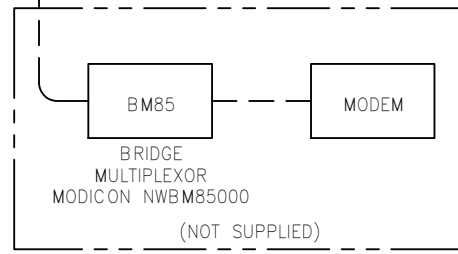
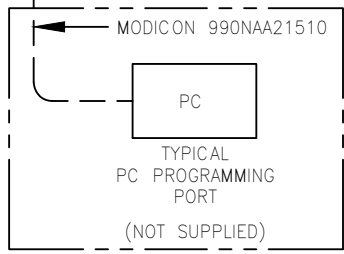
TO SHEET 2
MODBUS PLUS
TW. PR. W/SHLD & DRAIN
BELDEN #9841
(FIELD TO SUPPLY & INSTALL)

NOTES:
1. FINAL DIP SWITCH SETTINGS TO BE DETERMINED IN FIELD BY INSTALLATION CONTRACTOR. (TYPICAL FOR SIX)

FOR DIP SWITCH SETTINGS SEE NOTE 1

PC PROGRAMMING PORT

PHOENIX CONTACT
MODBUS PLUS TAP MODULE
5603903
PART #153858
(TYP)



| 1 | SCADA ADDITION | MAB | 11/08/04 |
|-----|----------------|-----|----------|
| REV | DESCRIPTION | APP | DATE |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

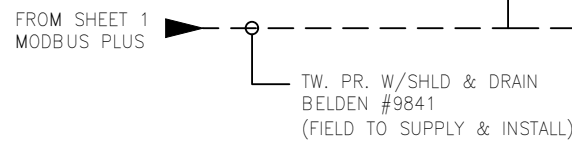
TITLE
(6) 48"ø, 9 X 20KW SENTINEL
MAIN CONTROL PANEL
NETWORK DIAGRAM

THIS DRAWING AND DESIGN IS THE PROPERTY OF CALGON CARBON CORPORATION AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY CALGON CARBON CORPORATION. THIS DRAWING LOANED SUBJECT TO RETURN ON DEMAND.

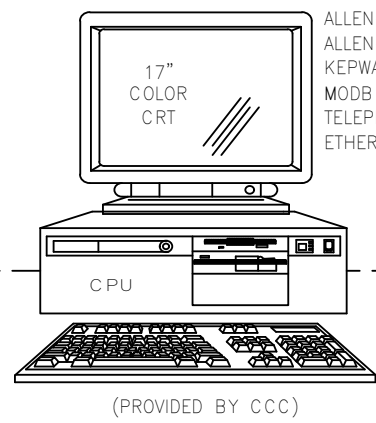
| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 10/09/03 |
| DESIGNER | GTL | 10/09/03 |
| CHECKER | MB | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | | | | |
|-----------|----------|-----------|--------|-------|-----|
| DWG. Size | B | SHEET No. | 1 OF 2 | SCALE | NTS |
| DWG. No. | S100532 | | REV. | 1 | |

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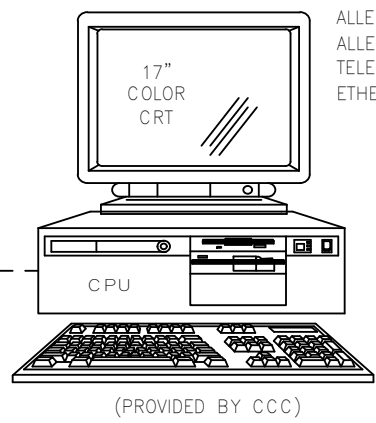


NOTE 1



ALLEN-BRADLEY RSVIEW32 SCADA [5000 TAGS]
 ALLEN-BRADLEY ACTIVE DISPLAY SERVER
 KEPCORE TECHNOLOGIES MODBUS+ DRIVER
 MODBUS+ COMMUNICATION ADAPTER
 TELEPHONE PHONE MODEM
 ETHERNET COMM PORT

LEASED PHONE LINE
 (FIELD TO SUPPLY & INSTALL)



ALLEN-BRADLEY ACTIVE DISPLAY DEDICATED CLIENT
 ALLEN-BRADLEY PLAYWAVE ACTIVE X CONTROL
 TELEPHONE PHONE MODEM
 ETHERNET COMM PORT

NOTES:
 1. FINAL SCADA INTERFACE CONNECTION TO MODBUS+ NETWORK TO BE FINALIZED

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | GTL | 10/09/03 |
| DESIGNER | GTL | 10/09/03 |
| CHECKER | MB | 10/28/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| REV | DESCRIPTION | APP | DATE |
|-----|----------------|-----|----------|
| 1 | SCADA ADDITION | MAB | 11/08/04 |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON

CALGON CARBON CORPORATION

CLIENT
 CITY OF WINNIPEG
 MANITOBA, CANADA

TITLE
 (6) 48"Ø, 9 X 20KW SENTINEL
 MAIN CONTROL PANEL
 NETWORK. DIAGRAM

| | | | | | |
|-----------|----------|-----------|--------|-------|-----|
| DWG. Size | B | SHEET No. | 2 OF 2 | SCALE | NTS |
| DWG. No. | S100532 | | | REV. | 1 |

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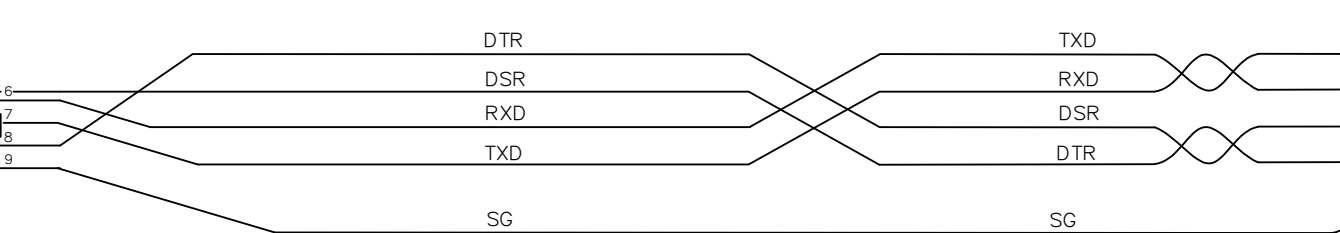
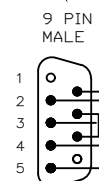
| REVISIONS | | | |
|-----------|-------------|------|--------|
| REV | DESCRIPTION | DATE | APPV'D |
| A | | | |
| B | | | |
| C | | | |
| D | | | |
| E | | | |

NOTES

WIRE MARKER COVERED WITH CLEAR SHRINK AT THE PART LABEL AND BOTH END LABELS
 CABLE #1
 25 PIN CONNECTOR HOOD PART# 150619
 25 PIN MALE D-CONNECTOR PART# 150611
 CLEAR 3/8" SHRINK WRAP PART# 150861
 9 PIN CONNECTOR HOOD PART# 150621
 9 PIN MALE D-CONNECTOR PART# 150618
 WIRE, 18GA, 3 PAIR SHIELDED PART# 152353

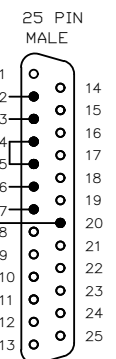
MODICON QUANTUM MODBUS PORT

LABELLED "PLC"



TCP QUICKPANEL SERIAL PORT

LABELLED "DISPLAY"



10 FT. CABLE

| CABLE PINOUT | | |
|--------------|-------|-----|
| PLC | | TCP |
| 2 | _____ | 2 |
| 3 | _____ | 3 |
| 4 | _____ | 6 |
| 5 | _____ | 7 |
| 6 | _____ | 20 |
| 7 | _____ | 4 |
| 8 | □ | 5 |

FINISH

MATERIAL

DIMENSIONS IN INCHES (unless otherwise specified)
TOLERANCES (unless otherwise specified)
 ANGULAR ±0.30° DECIMAL 2 PLACES ±.010
 FRACTIONAL ±1/32 DECIMAL 3 PLACES ±.005
 DECIMAL 1 PLACE ±.015 DECIMAL 4 PLACES ±.0005



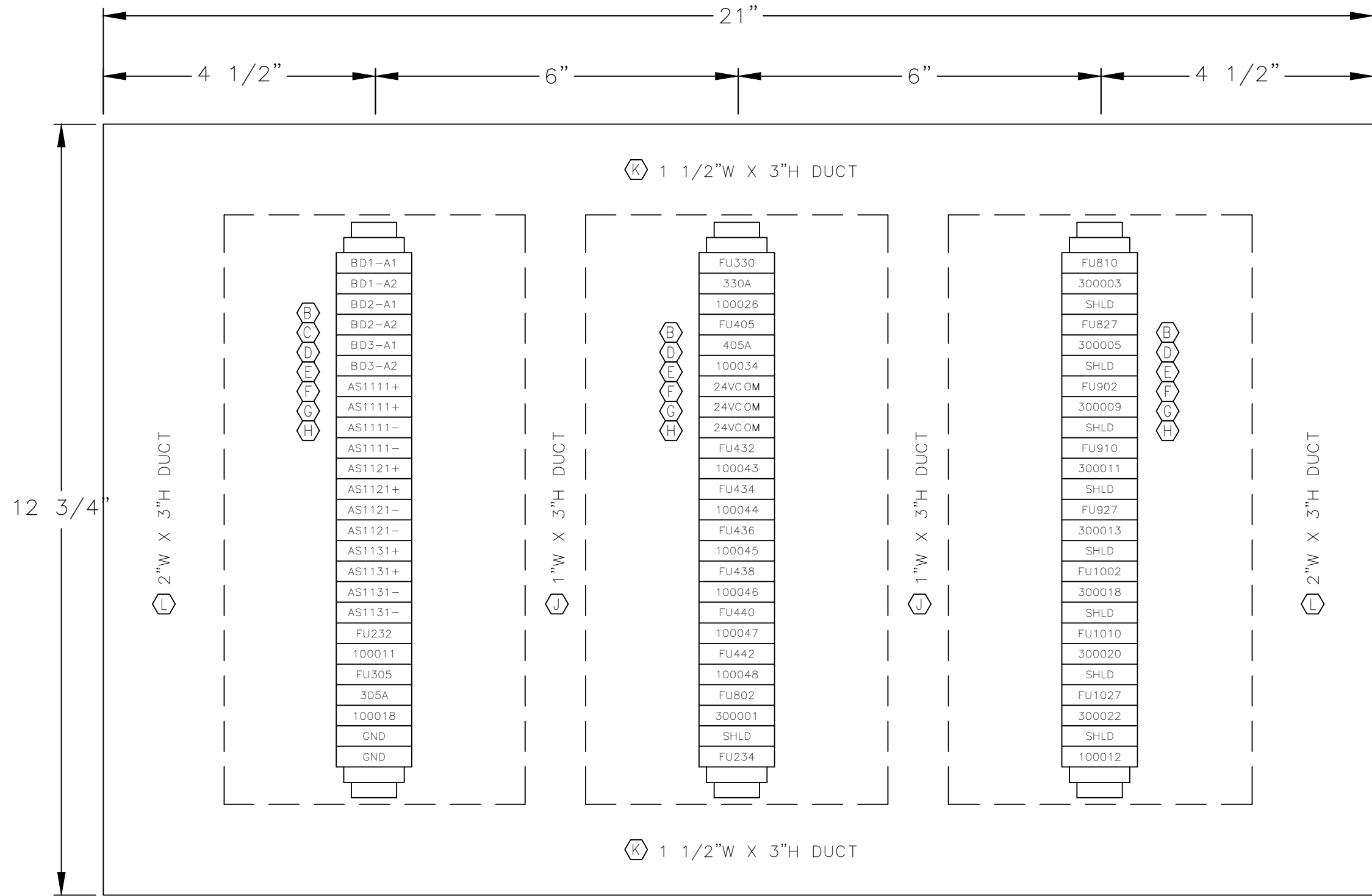
CALGON CARBON CORPORATION

| | NAME | SIGN. | DATE |
|---------|------|-------|----------|
| DRAFT. | GTL | | 10/22/03 |
| DESIGN. | GTL | | 10/22/03 |
| CHECK | MB | | 10/28/03 |
| APPR. | | | |

TITLE CABLE, MODICON QUANTUM RS232C 9PIN TO TCP QUICKPANEL

| | | |
|-----------|--------------|--------------|
| SHEET No. | SHEET 1 OF 1 | SCALE (NONE) |
| DWG. No. | 000-X-100219 | REV. 0 |

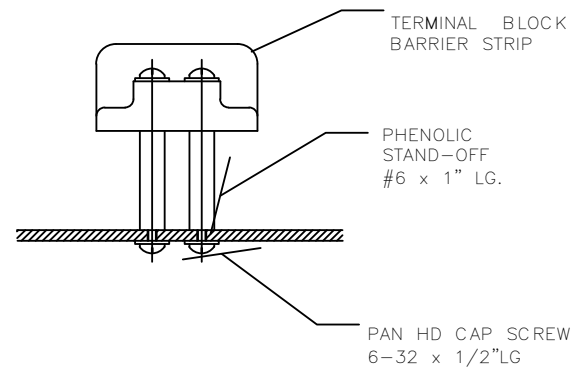
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| BILL OF MATERIAL | | | |
|------------------|--------|-------|--|
| ITEM | SAP # | QTY | DESCRIPTION |
| A | 153857 | 1 EA | SUBPANEL, 21"x12.75" ALUMINUM VYNCKIER #BP2414A |
| B | 152782 | 73 EA | TERMINAL BLOCK, 300V, 25A ALLEN-BRADLEY #1492-FI |
| C | 153825 | 2 EA | TERMINAL BLOCK, GROUND, GREEN ALLEN-BRADLEY #1492-F1G |
| D | 152788 | 3 EA | TERMINAL BLOCK, END BARRIER ALLEN-BRADLEY #1492-N37 |
| E | 152784 | 6 EA | TERMINAL BLOCK, END STOP ALLEN-BRADLEY #1492-N23 |
| F | 152911 | 3 FT | TERMINAL BLOCK, MTG RAIL, 3' SCORED A-B RAIL ALLEN-BRADLEY #1492-N1 |
| G | 153827 | 1 EA | TERMINAL BLOCK, 50 POLE, SIDE JUMPER ALLEN-BRADLEY #1492-N24 |
| H | 153826 | 1 EA | TERMINAL BLOCK MARKING SYS, UNPRINTED ALLEN-BRADLEY #1492-N5 |
| J | 150005 | 2 FT | WIRE DUCT, 1" W x 3" H, PVC, W/ COVER WIELAND #DNG-75025G OR EQUAL |
| K | 152017 | 4 FT | WIRE DUCT, 1 1/2" W x 3" H, PVC, W/ COVER WIELAND #DNG-75037G OR EQUAL |
| L | 150007 | 3 FT | WIRE DUCT, 2" W x 3" H, PVC, W/ COVER WIELAND #DNG-75050G OR EQUAL |

**JUNCTION BOX #1
BACKPLATE ARRANGEMENT**

**DETAIL
TERMINAL MOUNTING**



| REV | DESCRIPTION | APP | DATE |
|-----|-------------------------------------|-----|----------|
| 3 | | | |
| 2 | REV. WIRE NO.'S AS NOTED | GTL | 01/26/04 |
| 1 | ADD WIRE #'S FOR LEVEL SW. LSL-1100 | GTL | 11/20/03 |

REVISIONS

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

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| | NAME | DATE |
|----------|------|----------|
| DRAFTER | GTL | 10/24/03 |
| DESIGNER | GTL | 10/24/03 |
| CHECKER | RJP | 10/27/03 |
| APPROVAL | | |

PROJECT No. US-03056.WINN

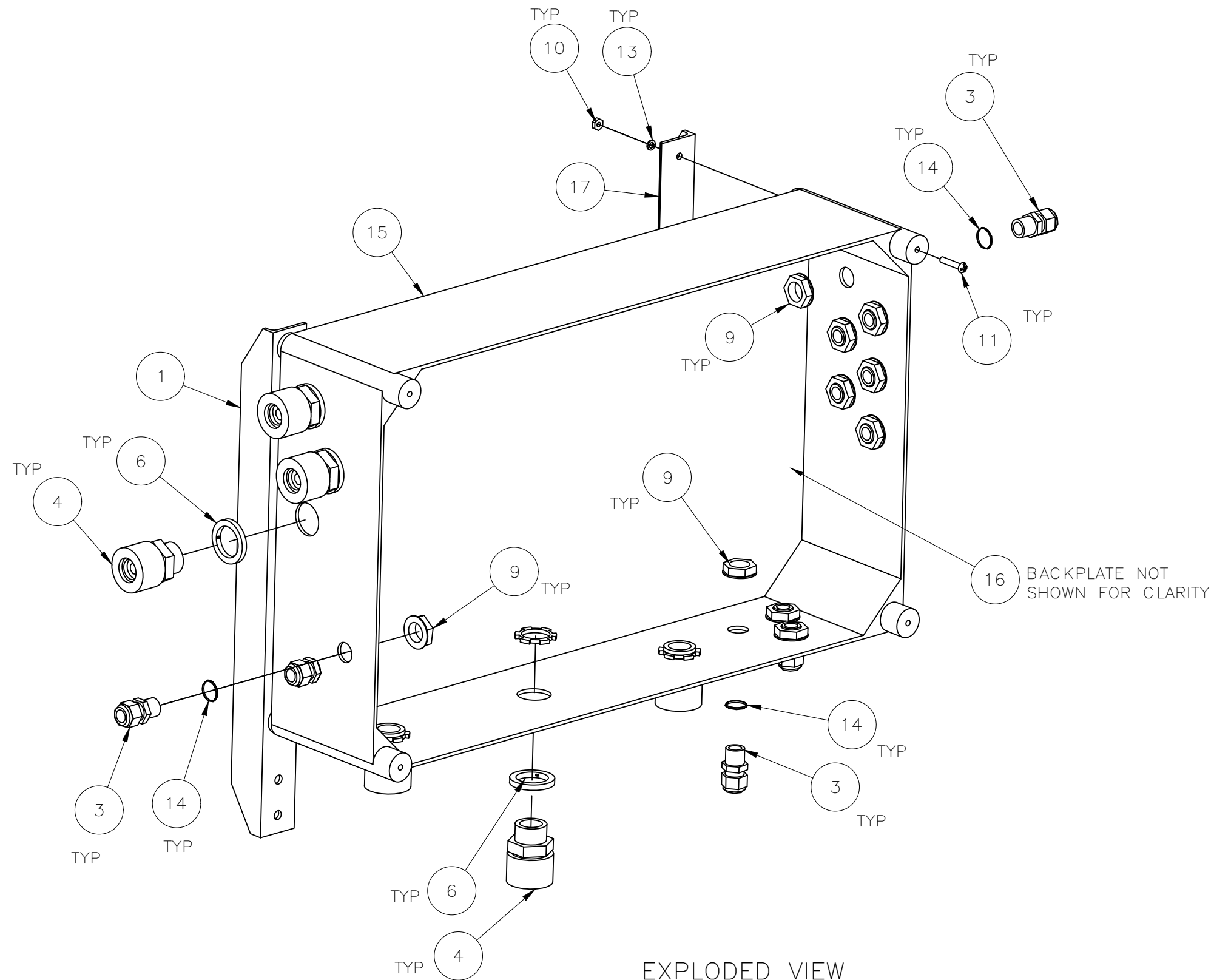
CALGON
CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
REACTOR JUNCTION BOX JB-1
BACKPLATE ARRANGEMENT

| | | | | | |
|-----------|----------|-----------|--------|-------|-----------|
| DWG. Size | B | SHEET No. | 1 OF 1 | SCALE | 1/2" = 1" |
| DWG. No. | S100540 | REV. | 2 | | |

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EXPLODED VIEW
ENCLOSURE LID NOT SHOWN FOR CLARITY

16 BACKPLATE NOT SHOWN FOR CLARITY

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | BKM | 10/27/03 |
| DESIGNER | BKM | 10/27/03 |
| CHECKER | M. ANTONETTI | 10/31/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| 2 | | | |
|-----|------------------------|-----|----------|
| 1 | REVISED PARTS LIST | MA | 12/22/03 |
| 0 | ISSUED FOR FABRICATION | MA | 10/31/03 |
| REV | DESCRIPTION | APP | DATE |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

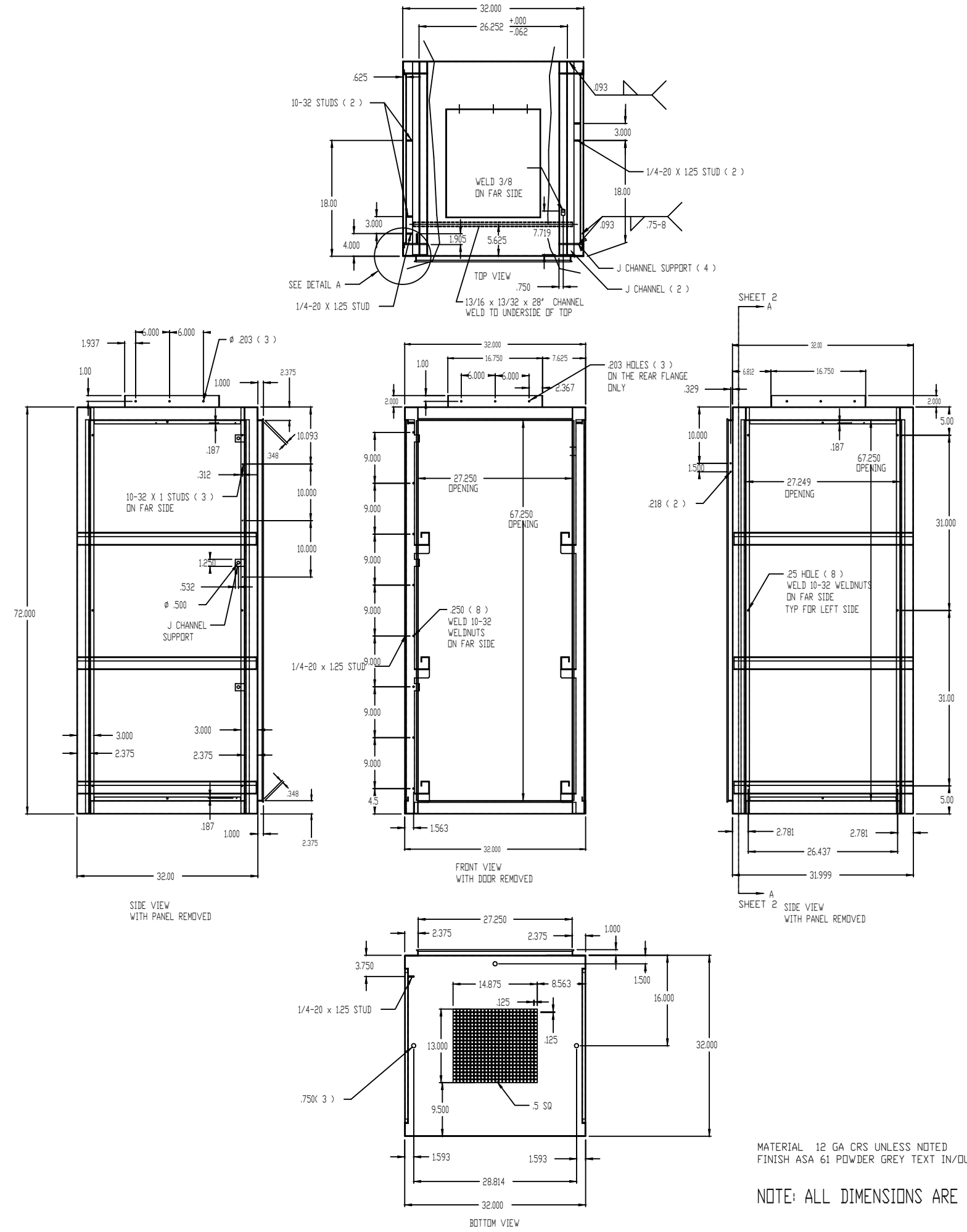


CLIENT
CITY OF WINNEPEG
MANITOBA, CANADA

TITLE
SENTINEL SYSTEM
ENCLOSURE ASSEMBLY
ASSEMBLY

| | | | | | |
|-----------|----------|-----------|--------|-------|------|
| DWG. Size | B | SHEET No. | 1 OF 1 | SCALE | NONE |
| DWG. No. | S100541 | | REV. | 1 | |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\S600054.dwg Aug 10, 2021 - 2:04pm



- NOTES:**
1. ALL DIMENSIONS ARE O.D.
 2. FOR FRONT DOOR DETAILS SEE SHEET 2.
 3. MATERIAL 12 GA CRS UNLESS NOTED FINISH ASA 61 POWDER GREY TEXT IN/OUT
 4. DOOR TO BE COMPLETE WITH GASKETING TO MAINTAIN A NEMA TYPE 12 RATING.

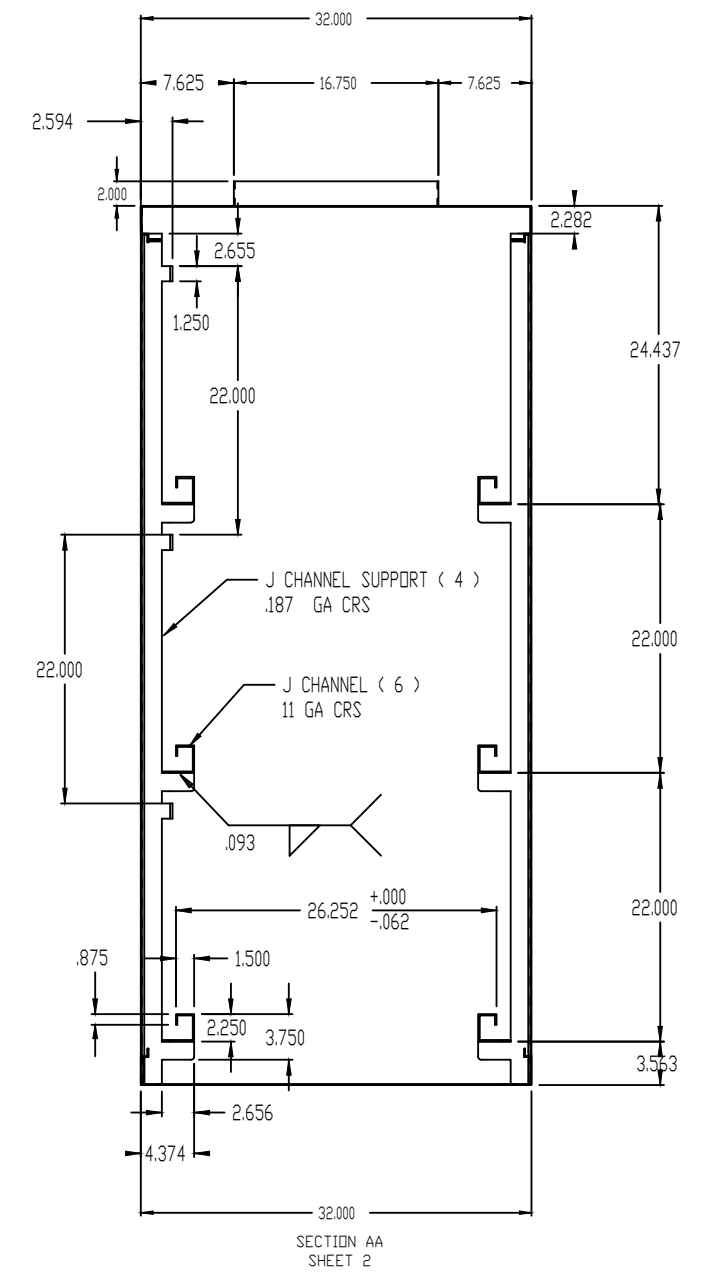
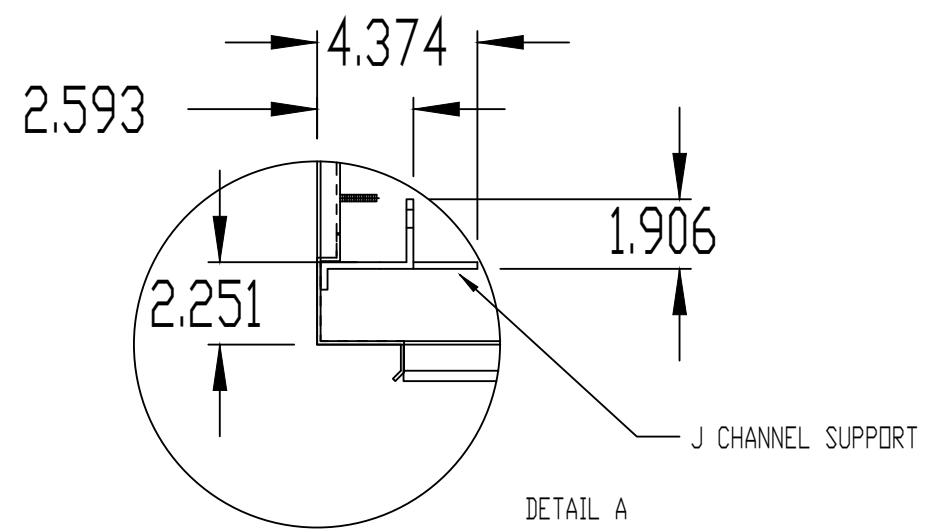
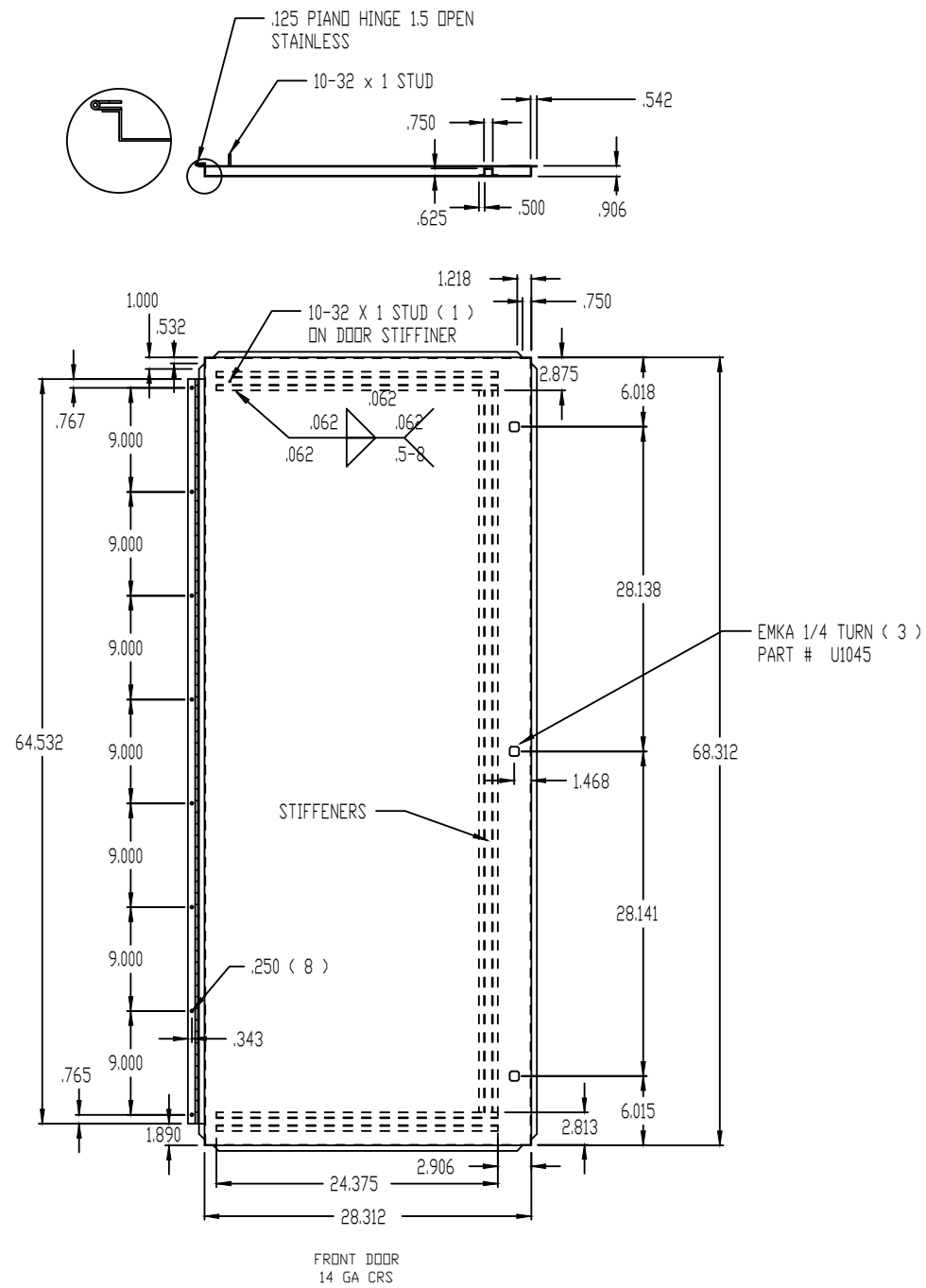
MATERIAL 12 GA CRS UNLESS NOTED
FINISH ASA 61 POWDER GREY TEXT IN/OUT

NOTE: ALL DIMENSIONS ARE O.D.

| | | |
|---|----------|----------|
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| | NAME | DATE |
| DRAFTER | RJP | 10/20/03 |
| DESIGNER | RJP | 10/20/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |

| | | | |
|--|-------------|--------------------|--------|
| C | | | |
| B | | | |
| A | | | |
| REV | DESCRIPTION | APP | DATE |
| REVISIONS | | | |
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | +0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |
| CALGON | | | |
| CALGON CARBON CORPORATION | | | |
| CLIENT CALGON CARBON CORPORATION PITTSBURGH, PA. | | | |
| TITLE POWER SUPPLY CABINET 32" x 32" x 72" MODULAR DESIGN NEMA-12 VENTILATED G.A. | | | |
| DWG. No. | SHEET No. | SCALE | |
| D | 1 OF 3 | 3/16" = 12" | |
| DWG. No. | S600054 | REV. | 0 |

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- NOTES:**
1. ALL DIMENSIONS ARE O.D.
 2. DOOR INCLUDED WITH CABINET
 3. MATERIAL 12 GA CRS UNLESS NOTED FINISH ASA 61 POWDER GREY TEXT IN/OUT
 4. DOOR TO BE COMPLETE WITH GASKETING TO MAINTAIN A NEMA TYPE 12 RATING.

| REV | DESCRIPTION | APP | DATE |
|-----|-------------|-----|------|
| C | | | |
| B | | | |
| A | | | |

TOLERANCES (unless otherwise specified)
ANGULAR ±0.30° DECIMAL (2 PLACES) ±.010
FRACTIONAL ±1/16" DECIMAL (3 PLACES) ±.005
DECIMAL (1 PLACE) ±.015 DECIMAL (4 PLACES) ±.0005



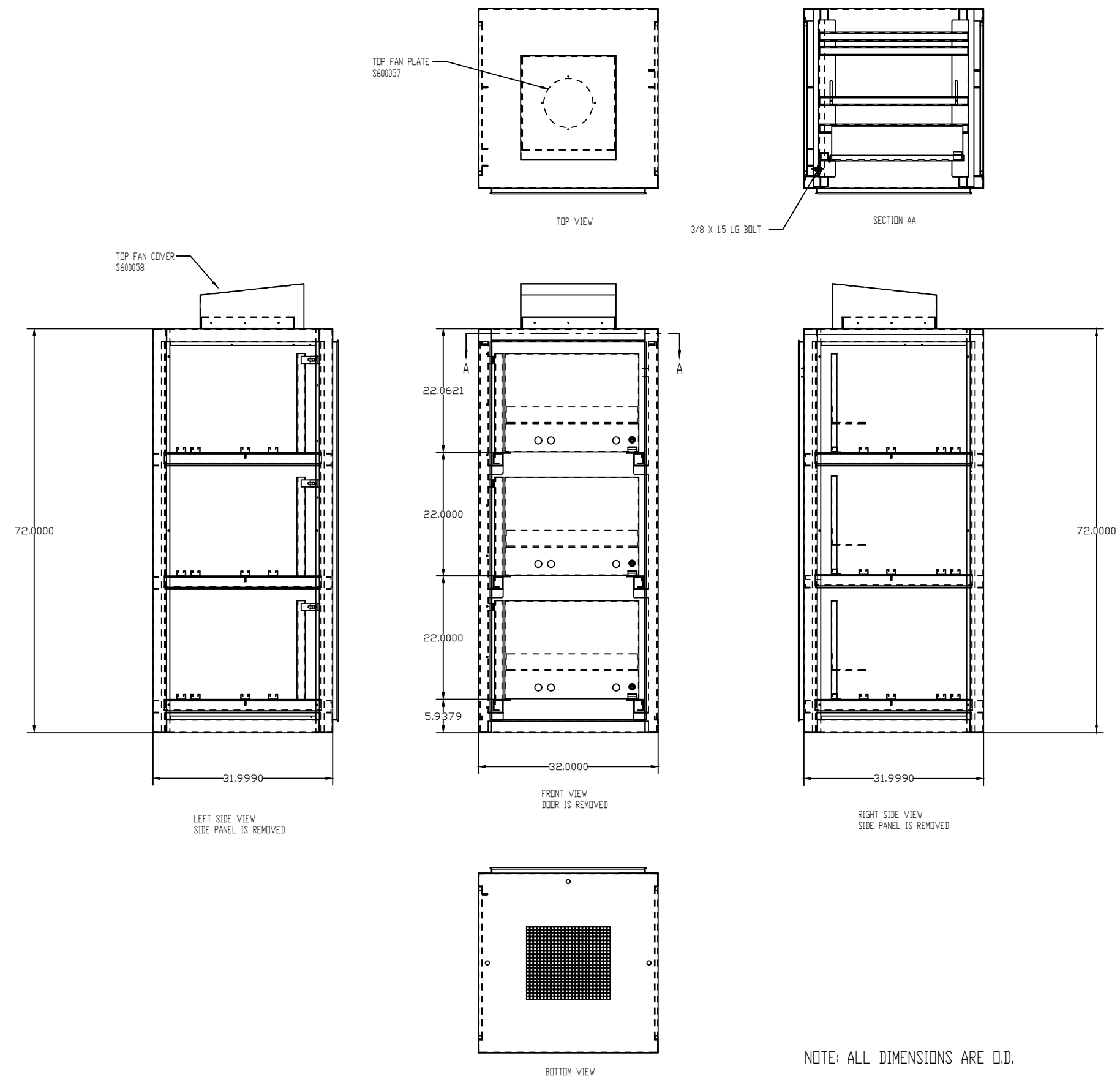
CLIENT
CALGON CARBON CORPORATION
PITTSBURGH, PA.

TITLE
POWER SUPPLY CABINET
32" x 32" x 72" MODULAR DESIGN
DOOR DETAILS & SECTION 'A-A'

| NAME | DATE |
|--------------|----------|
| DRAFTER RJP | 10/20/03 |
| DESIGNER RJP | 10/20/03 |
| CHECKER | |
| APPROVAL | |
| PROJECT No. | STANDARD |

DWG. Size **D** SHEET No. 2 OF 3 SCALE 3/16" = 12"
DWG. No. S600054 REV. 0

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NOTE: ALL DIMENSIONS ARE O.D.

NOTES:

1. ALL DIMENSIONS ARE O.D.
2. DOOR INCLUDED WITH CABINET
3. MATERIAL 12 GA CRS UNLESS NOTED
FINISH ASA 61 POWDER GREY TEXT IN/OUT
4. DOOR TO BE COMPLETE WITH GASKETING
TO MAINTAIN A NEMA TYPE 12 RATING.

| C | | | |
|-----|-------------|-----|------|
| B | | | |
| A | | | |
| REV | DESCRIPTION | APP | DATE |

| REVISIONS | | | |
|---|--------|--------------------|--------|
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | +0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



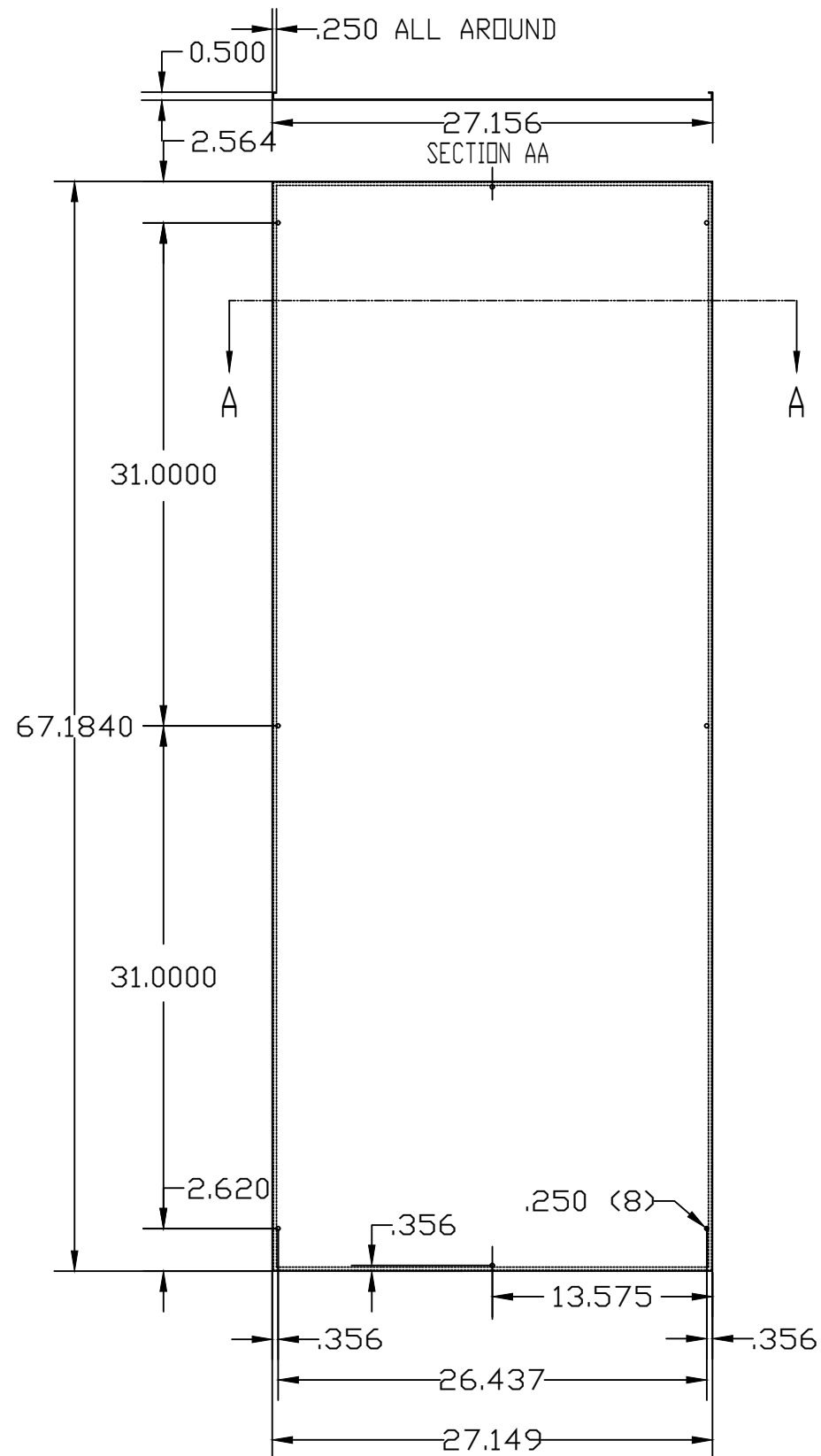
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| | NAME | DATE |
|-------------|----------|----------|
| DRAFTER | RJP | 10/20/03 |
| DESIGNER | RJP | 10/20/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |

| | | | |
|-----------|---|------------------|-------------------|
| CLIENT | CALGON CARBON CORPORATION PITTSBURGH, PA. | | |
| TITLE | POWER SUPPLY CABINET 32" x32" x72" MODULAR DESIGN XFMR SHELF SUPPORT G.A. | | |
| DWG. Size | D | SHEET No. 3 OF 3 | SCALE 3/16" = 12" |
| DWG. No. | S600054 | | REV. 0 |

BILL OF MATERIAL

| ITEM | SAP # | QTY | DESCRIPTION |
|------|-------|-----|-------------|
|------|-------|-----|-------------|



SIDE PANEL
16 GA CRS
SIDE PANELS TO BE GASKETED
WITH 1/16 X 1/4 GASKET

NOTES:

1. ALL DIMENSIONS ARE O.D.
2. MATERIAL 12 GA CRS UNLESS NOTED
FINISH ASA 61 POWDER GREY TEXT IN/OUT
3. SIDE PANEL TO BE COMPLETE WITH
GASKETING TO MAINTAIN A NEMA TYPE 12 RATING.

| REV | DESCRIPTION | APP | DATE |
|-----|-------------|-----|------|
| C | | | |
| B | | | |
| A | | | |

REVISIONS

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | +0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

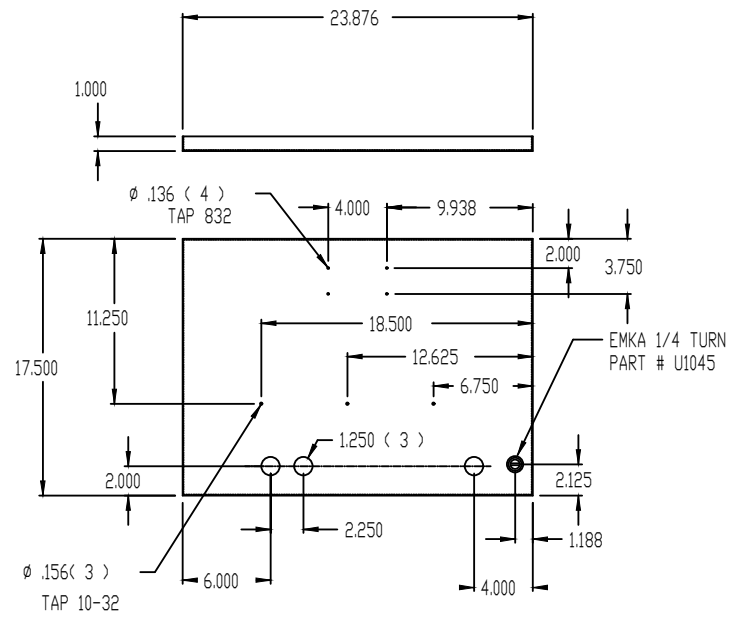
CLIENT
CALGON CARBON CORPORATION
PITTSBURGH, PA.

TITLE
POWER SUPPLY CABINET
32" x32" x72" MODULAR DESIGN
SIDE PANEL

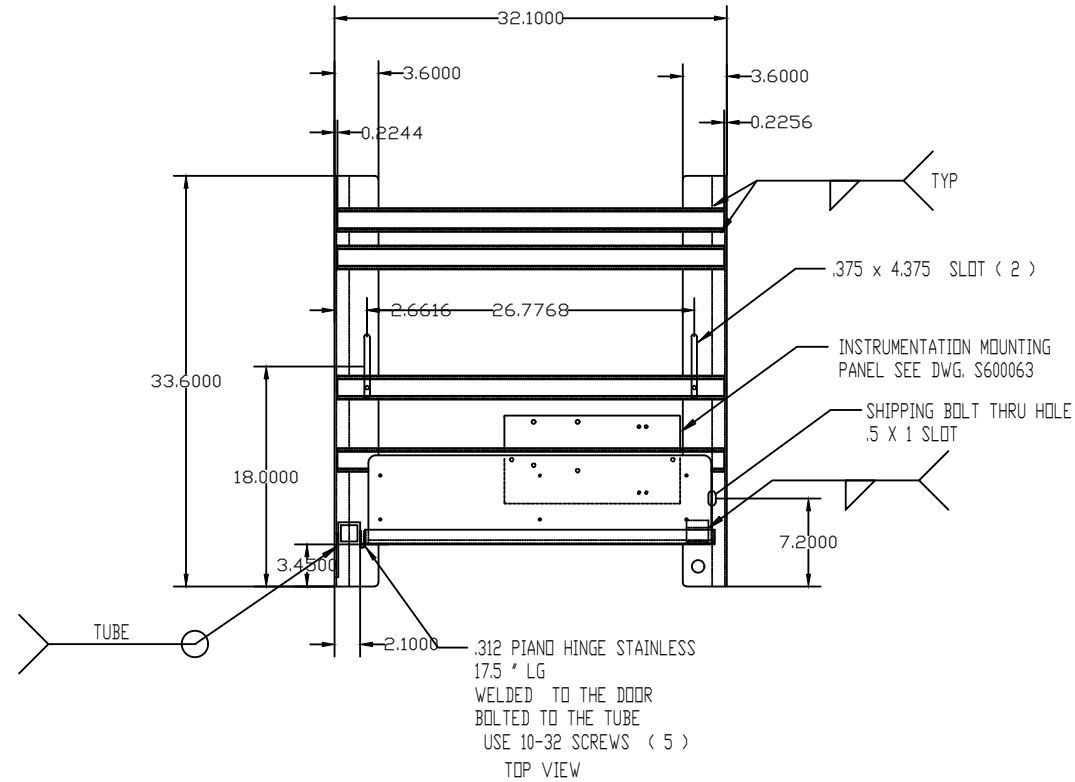
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| | NAME | DATE |
|-------------|----------|----------|
| DRAFTER | RJP | 10/20/03 |
| DESIGNER | RJP | 10/20/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |

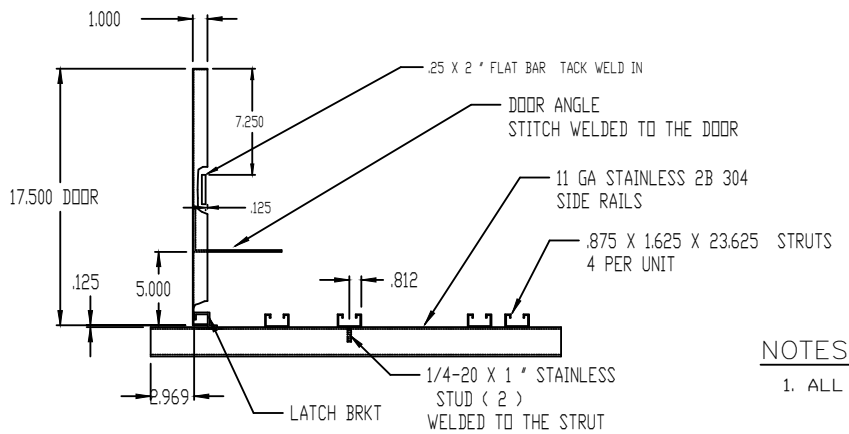
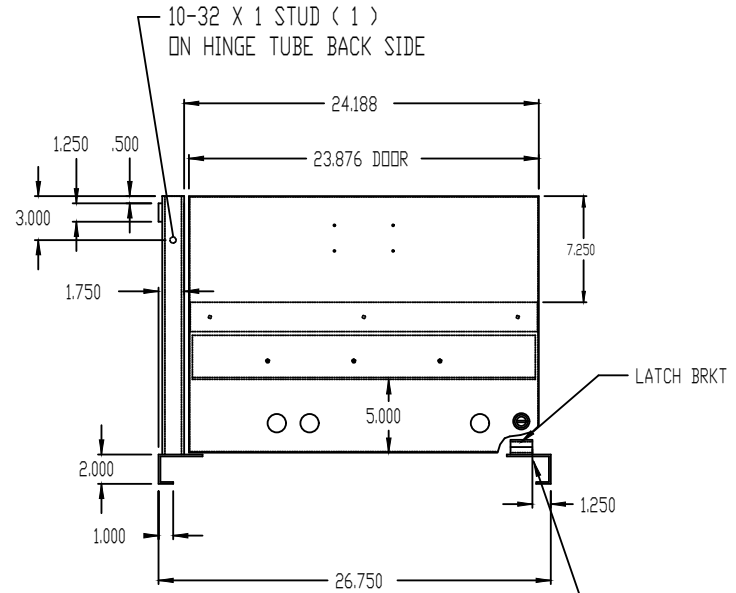
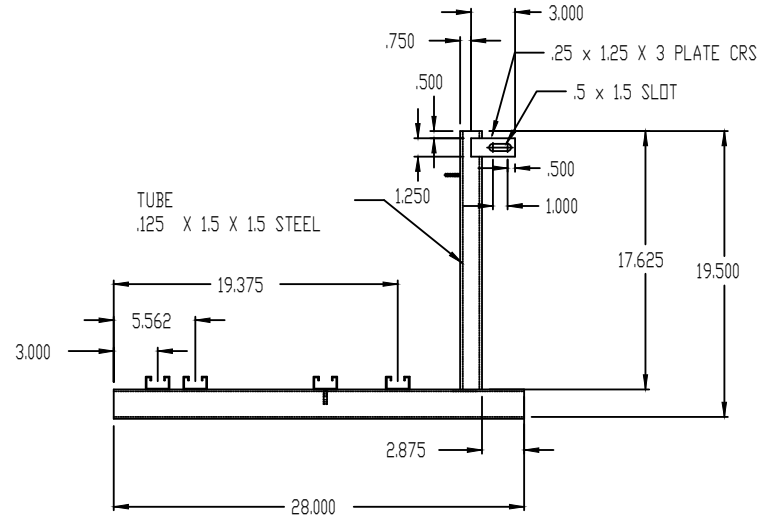
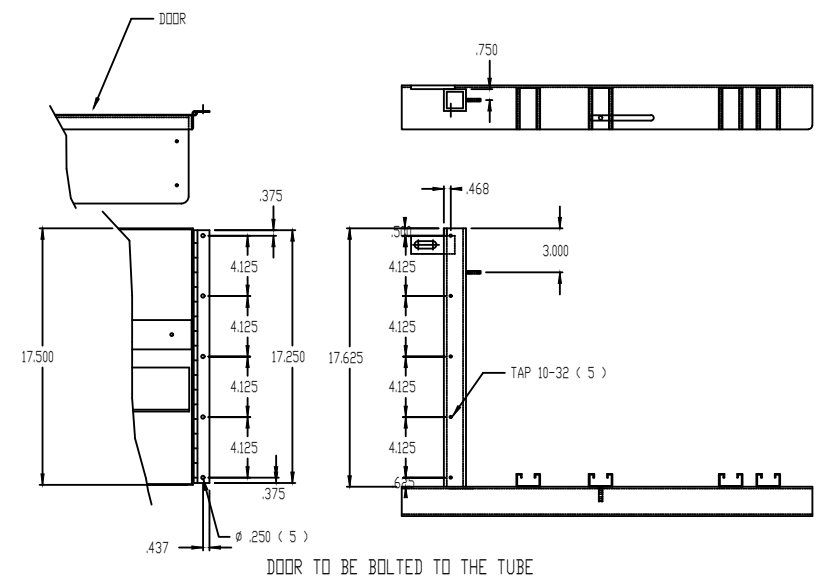
| | | | | | |
|-----------|----------|-----------|--------|-------|-------------|
| DWG. Size | D | SHEET No. | 1 OF 1 | SCALE | 3/16" = 12" |
| DWG. No. | S600055 | | | REV. | 0 |



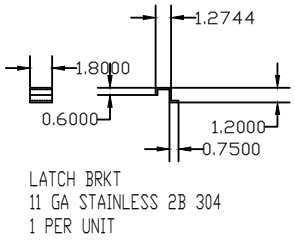
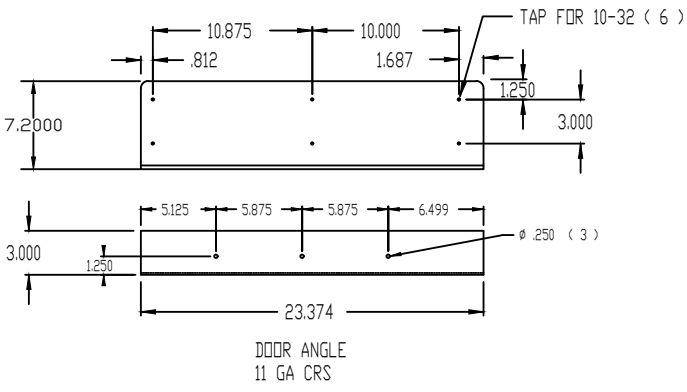
DOOR
14 GA CRS



PAINT FINISH WHITE POWDER
DO NOT PAINT THE BOTTOM OF THE SIDE RAIL
THAT SITS ON TOP OF THE J CHANNEL IN THE CABINET



NOTES:
1. ALL DIMENSIONS ARE O.D.



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| NAME | DATE |
|--------------|----------|
| DRAFTER RJP | 10/20/03 |
| DESIGNER RJP | 10/20/03 |
| CHECKER | |
| APPROVAL | |
| PROJECT No. | STANDARD |

| REV | DESCRIPTION | APP | DATE |
|-----------|-------------|-----|------|
| REVISIONS | | | |

TOLERANCES (unless otherwise specified)
ANGULAR ±0°30' DECIMAL (2 PLACES) ±0.10
FRACTIONAL ±1/16" DECIMAL (3 PLACES) ±0.005
DECIMAL (1 PLACE) ±0.015 DECIMAL (4 PLACES) ±0.0005

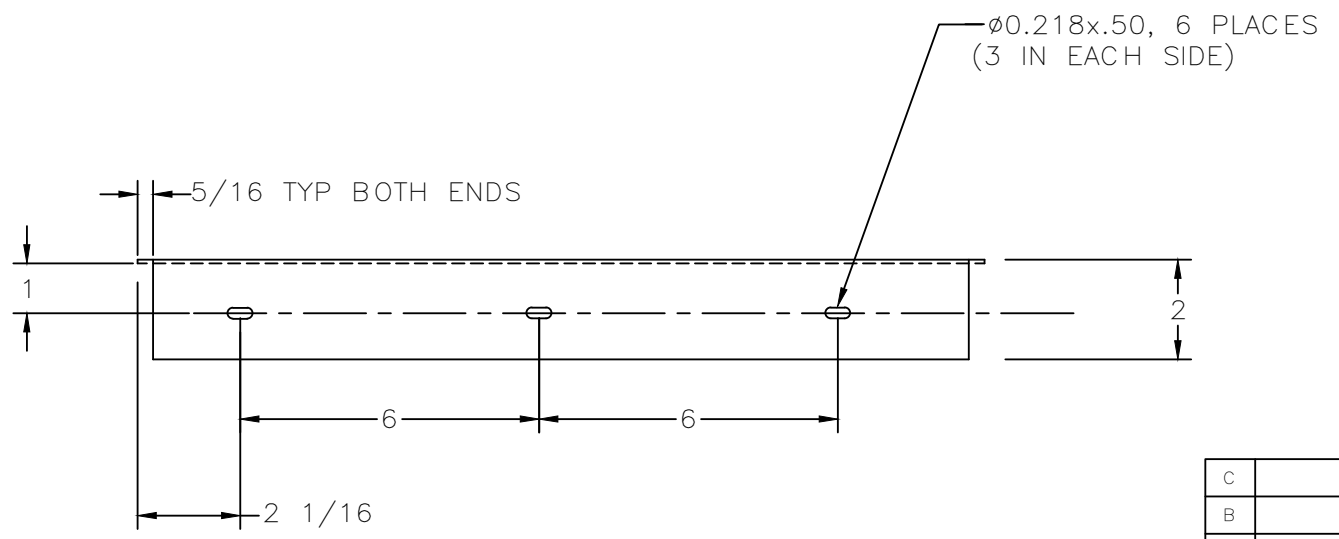
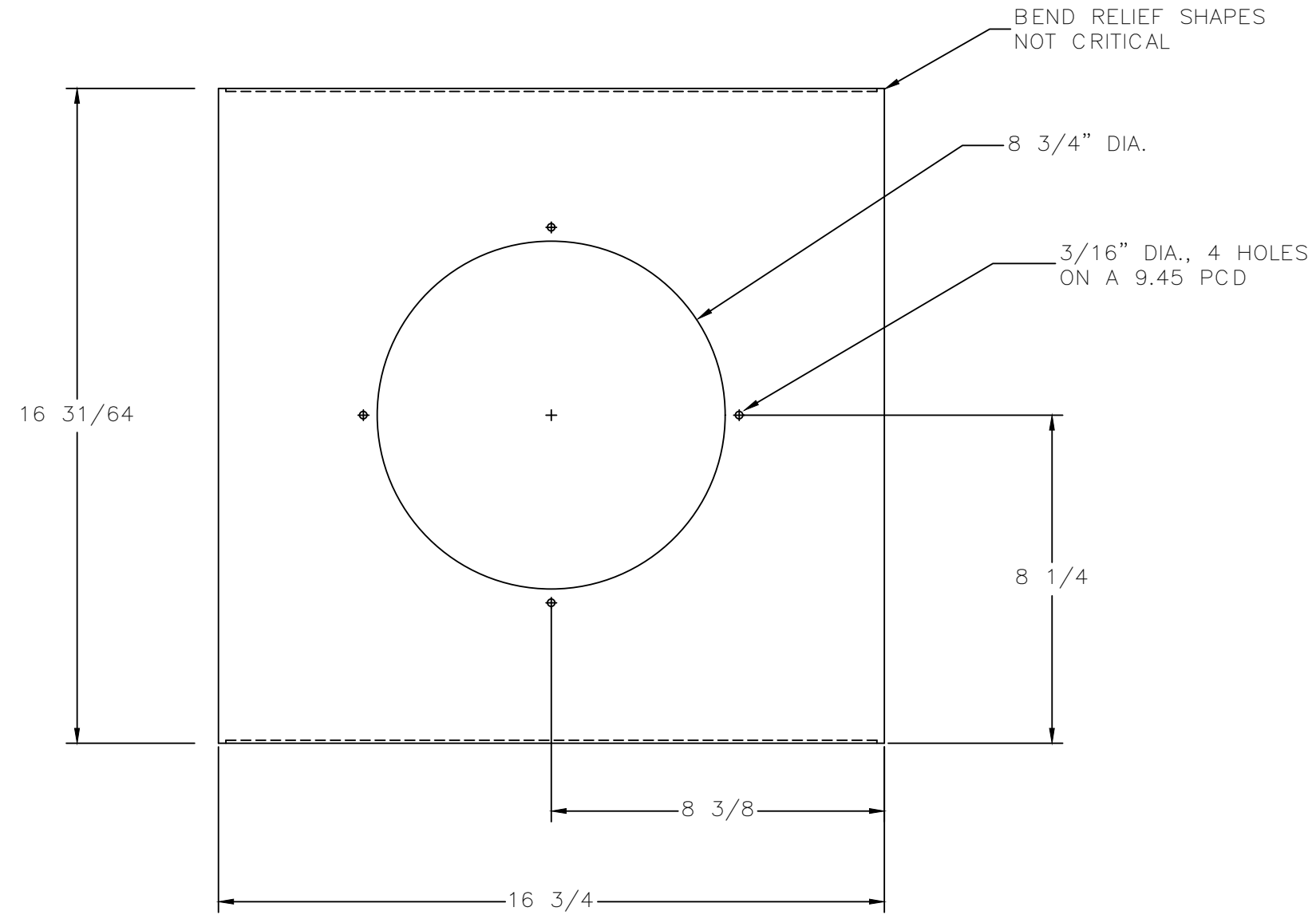
CALGON
CALGON CARBON CORPORATION

CLIENT
CALGON CARBON CORPORATION
PITTSBURGH, PA.

TITLE
POWER SUPPLY CABINET
32" x 32" x 72" MODULAR DESIGN
TRANSFORMER SHELF

DWG. Size **D** SHEET No. 1 OF 1 SCALE 3/16" = 12"
DWG. No. S600056 REV. 0

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\S600057.dwg Aug 10, 2021 - 2:05pm



NOTES:

1. MATERIAL 14 GA CRS UNLESS NOTED
FINISH ASA 61 POWDER GREY TEXT IN/OUT
2. GASKETING TO BE PROVIDED TO MAINTAIN NEMA TYPE 12 RATING

| REV | DESCRIPTION | APP | DATE |
|-----|-------------|-----|------|
| C | | | |
| B | | | |
| A | | | |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

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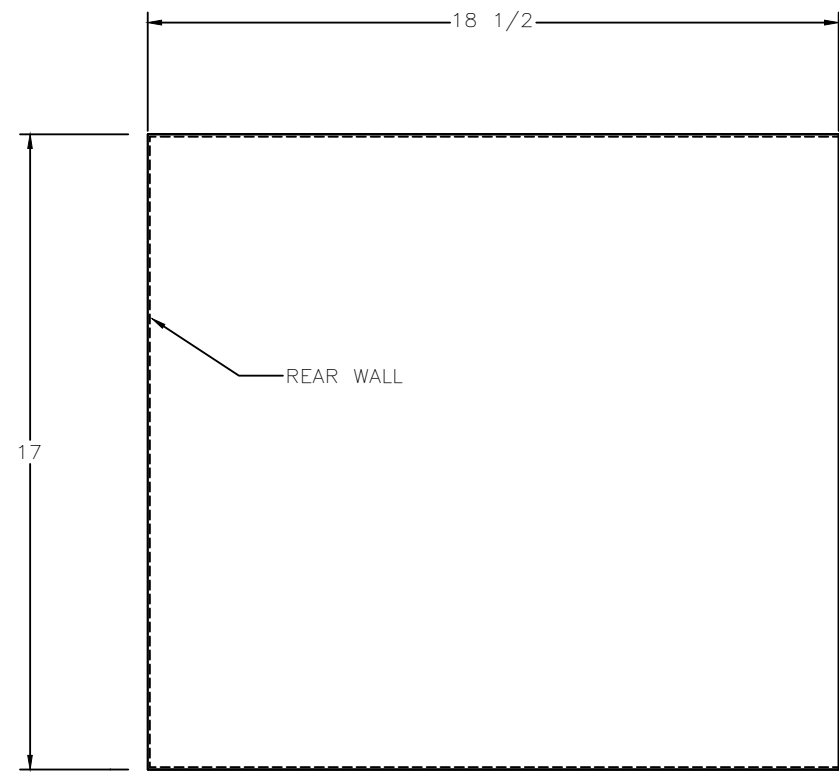
| | NAME | DATE |
|-------------|----------|----------|
| DRAFTER | RJP | 10/20/03 |
| DESIGNER | | |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |



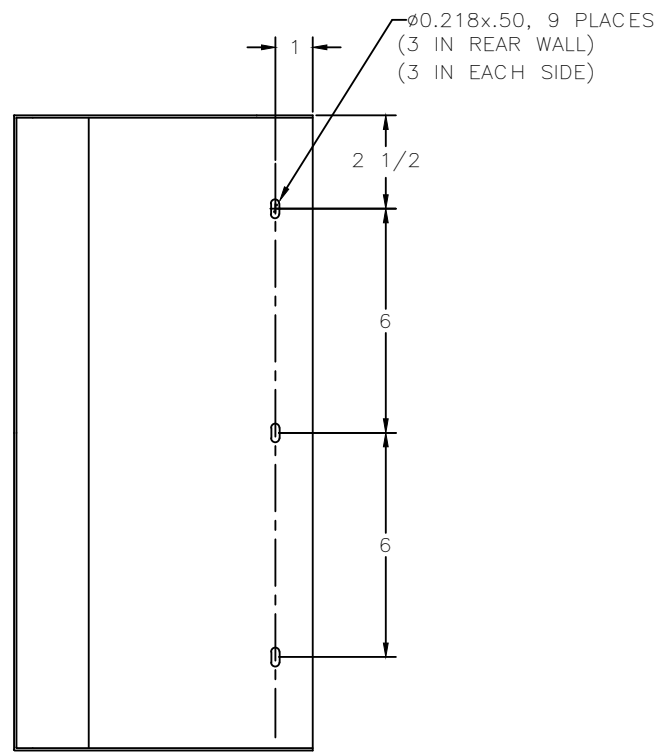
CALGON CARBON CORPORATION

| | | | |
|-----------|--|------------------|------------|
| CLIENT | CALGON CARBON CORP. PITTSBURGH, PA. | | |
| TITLE | POWER SUPPLY CABINET TOP FAN MOUNTING PLATE 14 GA. STEEL | | |
| DWG. Size | B | SHEET No. 1 OF 1 | SCALE NONE |
| DWG. No. | S600057 | | REV. 0 |

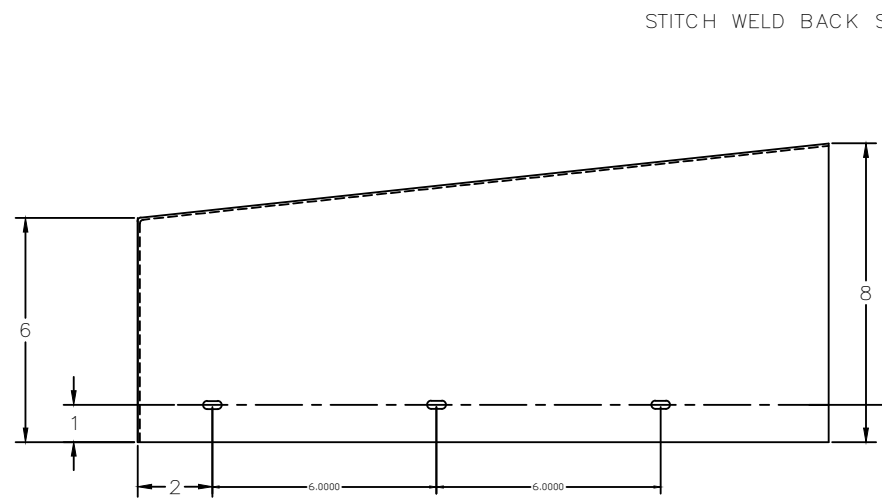
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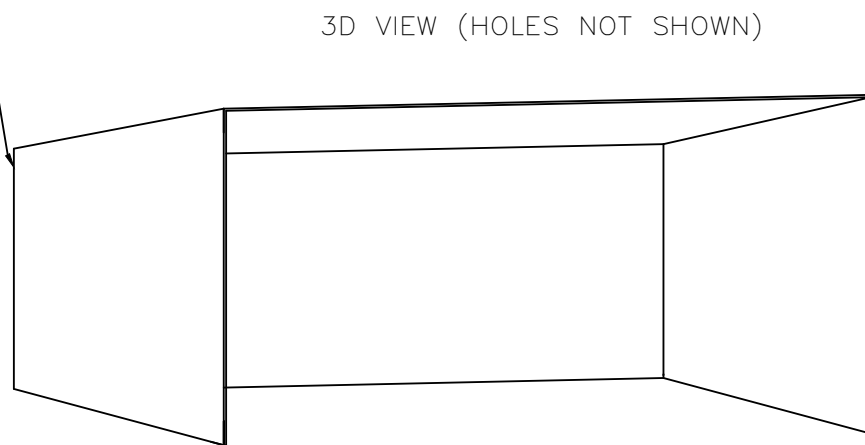
TOP VIEW



FRONT VIEW



SIDE VIEW



3D VIEW (HOLES NOT SHOWN)

NOTES:

1. MATERIAL 14 GA CRS UNLESS NOTED
FINISH ASA 61 POWDER GREY TEXT IN/OUT
2. GASKETING TO BE PROVIDED TO MAINTAIN
NEMA 12 RATING



CALGON CARBON CORPORATION

CLIENT
CALGON CARBON CORP.
PITTSBURGH, PA.

TITLE
POWER SUPPLY CABINET
TOP FAN COVER
14 GA. STEEL

DWG. Size **B** SHEET No. 1 OF 1 SCALE NONE

DWG. No. S-600058 REV. 0

| REV | DESCRIPTION | APP | DATE |
|---|-------------|--------------------|--------|
| C | | | |
| B | | | |
| A | | | |
| REVISIONS | | | |
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

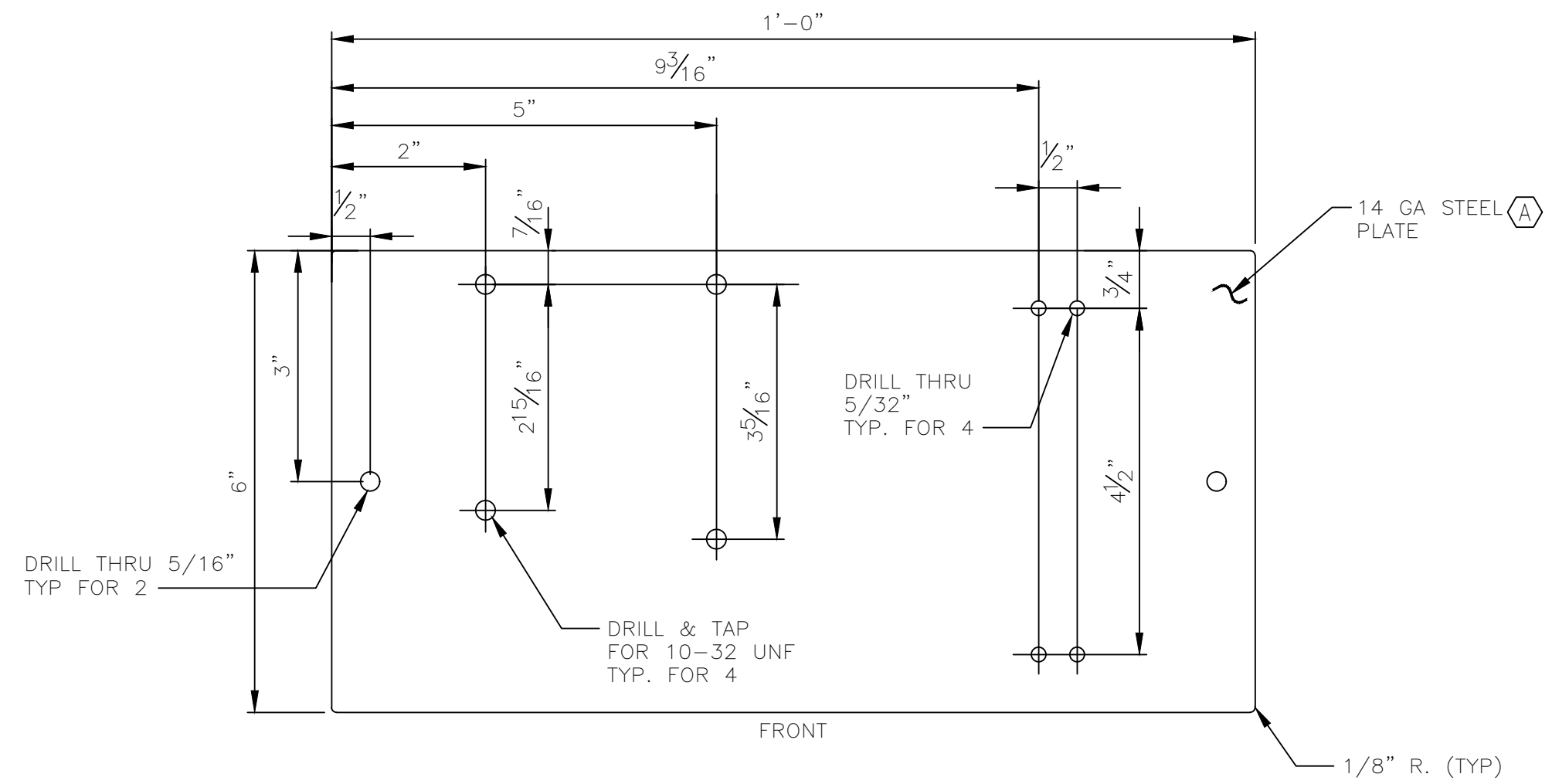
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| | NAME | DATE |
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| DESIGNER | | |
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| APPROVAL | | |
| PROJECT No. | STANDARD | |

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BILL OF MATERIAL

| ITEM | SAP # | QTY | DESCRIPTION |
|------|-------|------|---|
| ⬡ | ---- | 1 EA | MOUNTING PLATE, 12"x6" 14 GAUGE (0.0778) CARBON STEEL |



- NOTES:**
1. PAINT FINISH WHITE POWDER
 2. REMOVE ALL BURRS AND SHARP EDGES.

| C | | | |
|-----------|-------------|-----|------|
| B | | | |
| A | | | |
| REV | DESCRIPTION | APP | DATE |
| REVISIONS | | | |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

CLIENT
CALGON CARBON CORP
PITTSBURGH, PA.

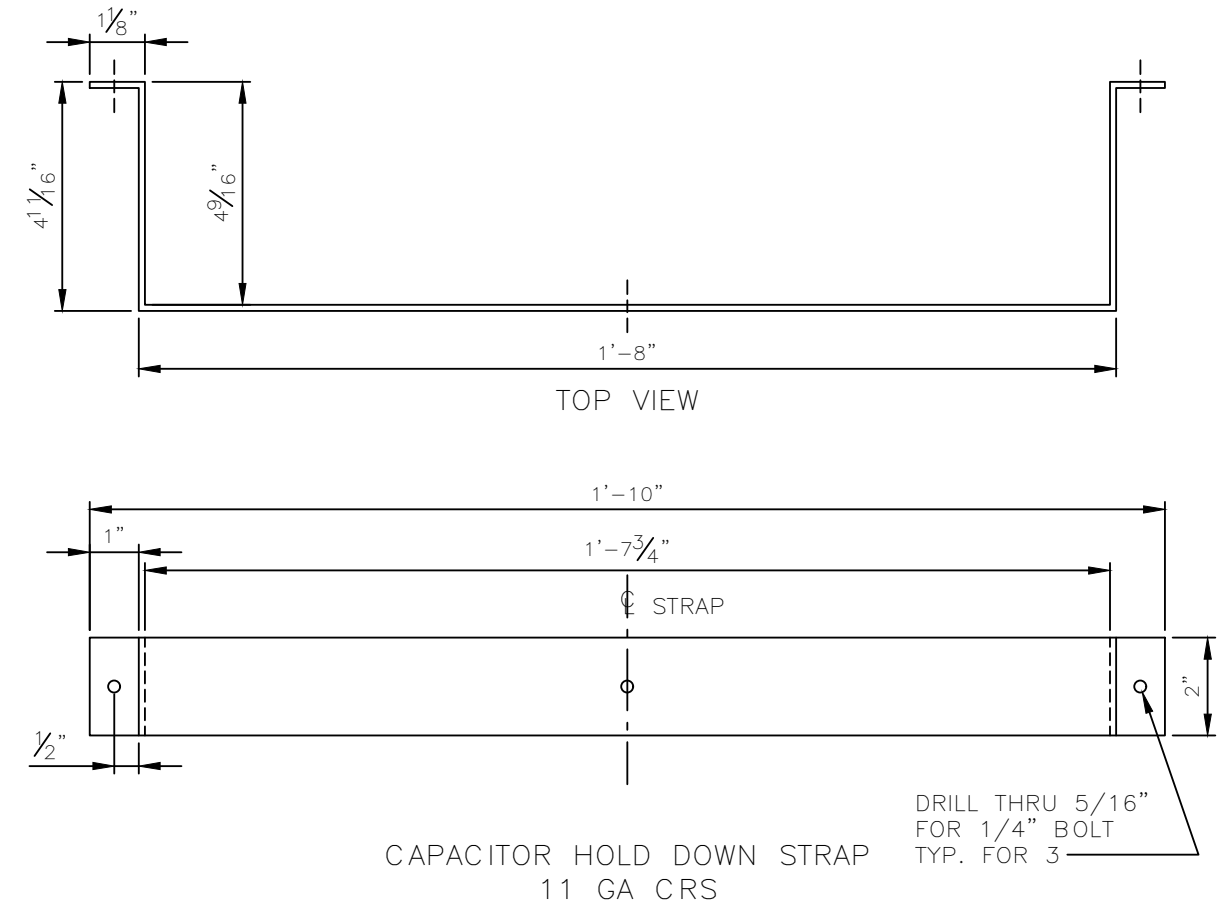
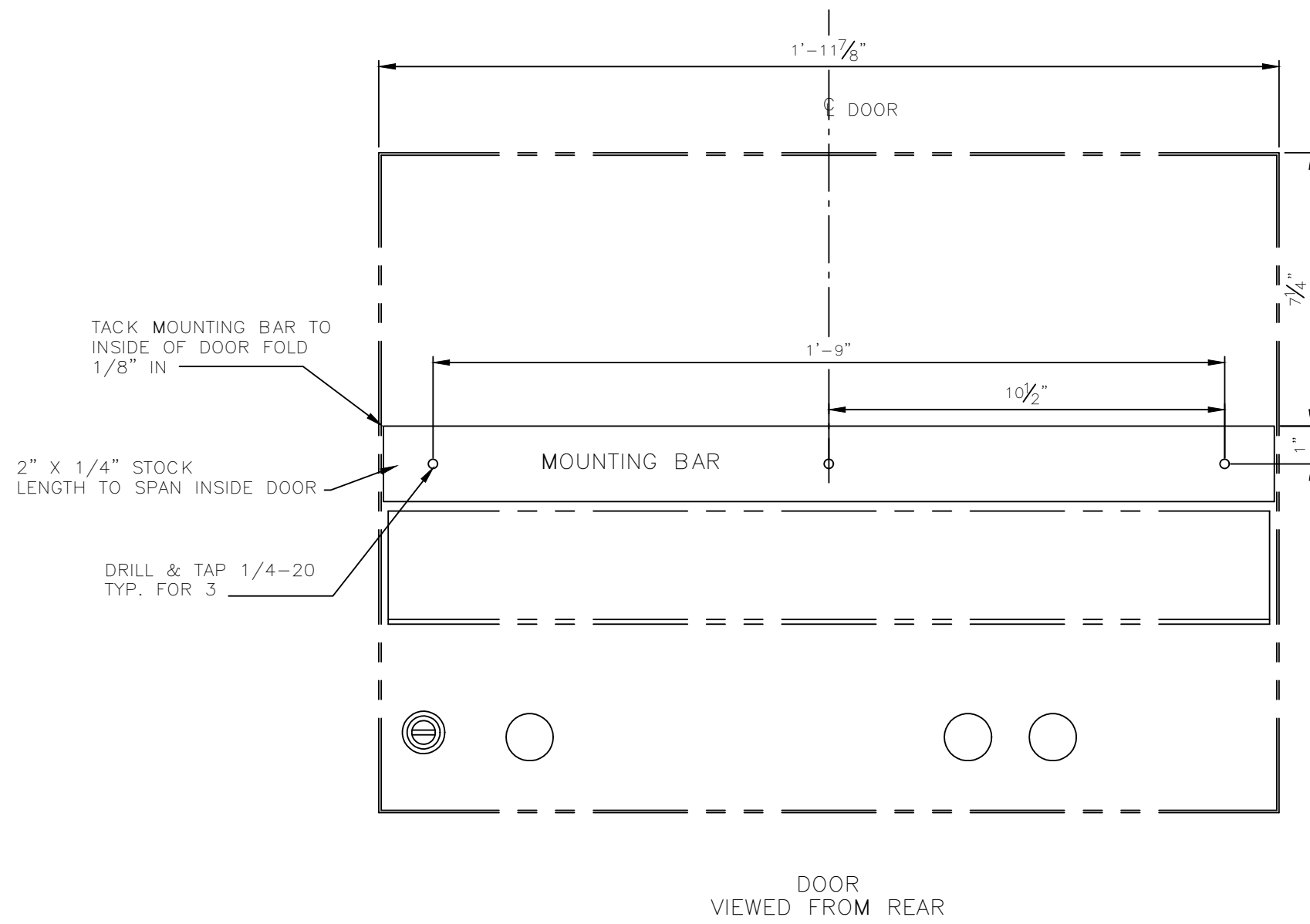
TITLE
P/S INSTRUMENTATION PANEL
FABRICATION DETAILS
COMPONENT MOUNTING PLATE

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|-------------|----------|----------|
| DRAFTER | RJP | 10/17/03 |
| DESIGNER | RJP | 10/17/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |

| | | | | | |
|-----------|----------|-----------|--------|-------|-----|
| DWG. Size | B | SHEET No. | 1 OF 1 | SCALE | 1/2 |
| DWG. No. | S600063 | | | REV. | 0 |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\S600065.dwg Aug 10, 2021 - 2:05pm



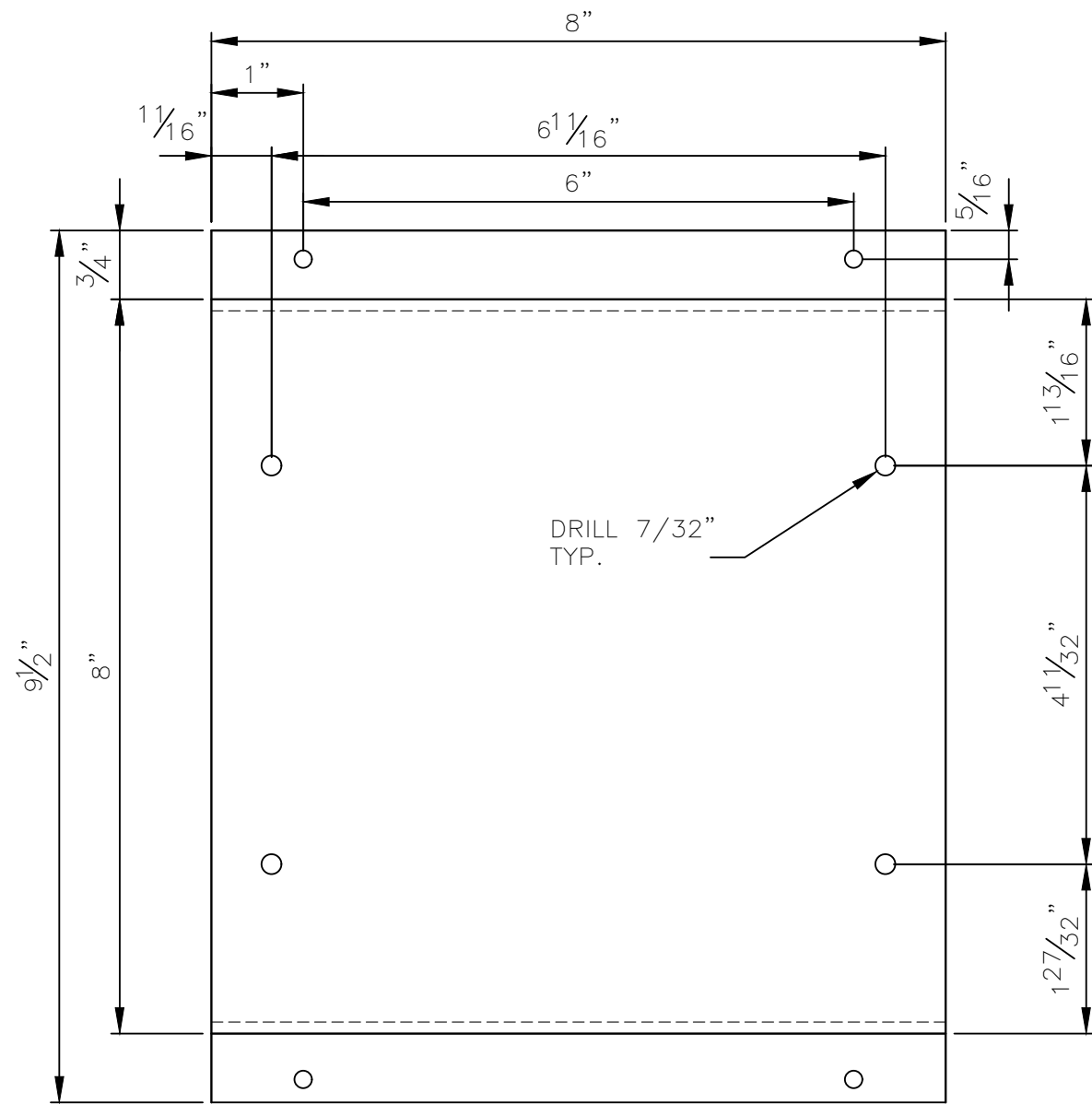
NOTES:
1. PAINT FINISH WHITE POWDER

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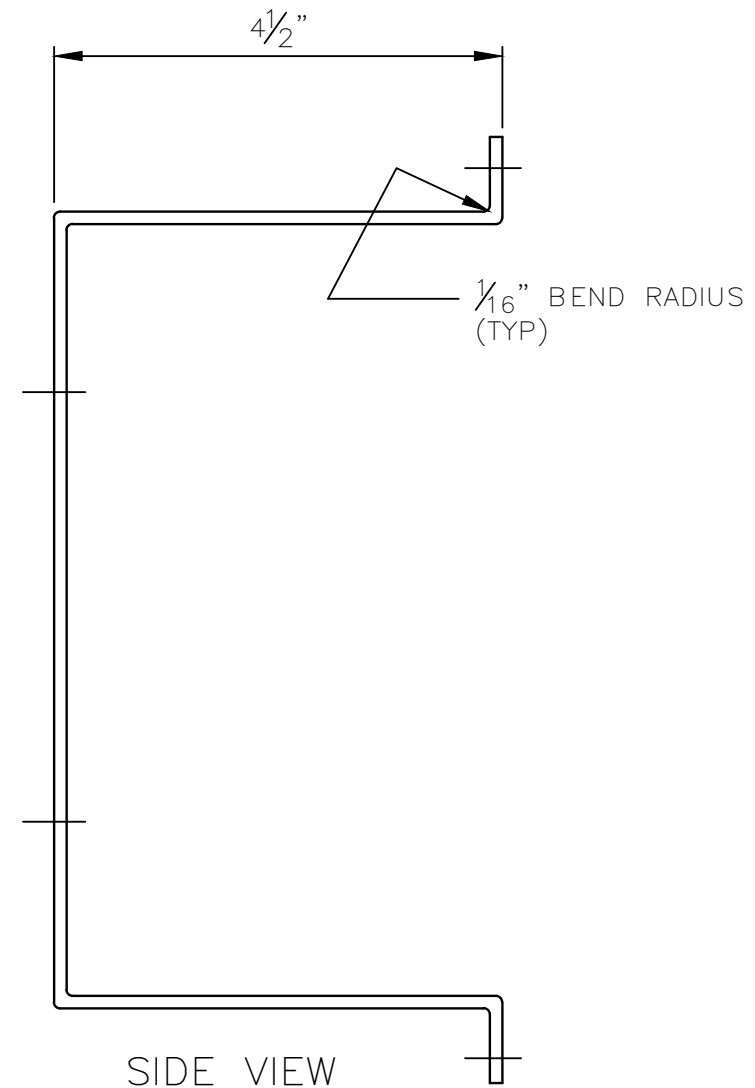
| | NAME | DATE |
|-------------|----------|----------|
| DRAFTER | RJP | 10/20/03 |
| DESIGNER | RJP | 10/20/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |

| C | | | |
|--|-------------|----------------------------|------------------|
| B | | | |
| A | | | |
| REV | DESCRIPTION | APP | DATE |
| REVISIONS | | | |
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | +0°30' | DECIMAL (2 PLACES) ±0.10 | |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) ±0.005 | |
| DECIMAL (1 PLACE) | ±0.015 | DECIMAL (4 PLACES) ±0.0005 | |
| CALGON | | | |
| CALGON CARBON CORPORATION | | | |
| CLIENT CALGON CARBON CORP PITTSBURGH, PA | | | |
| TITLE CAPACITOR HOLD DOWN STRAP AND MOUNTING BAR 20 KW SYSTEM | | | |
| DWG. Size | D | SHEET No. 1 OF 1 | SCALE 1/2" = 12" |
| DWG. No. | S600065 | | REV. 0 |

T:\UV Projects\2003\US-03056.WINN\Drawings\Electrical\S600068.dwg Aug 10, 2021 - 2:05pm



FRONT VIEW



SIDE VIEW

- NOTES:
1. MATERIAL: 12 GA. CARBON STL..
 2. REMOVE ALL BURRS AND SHARP EDGES.

| 2 | | | |
|-----|-------------|-----|------|
| 1 | | | |
| 0 | | | |
| REV | DESCRIPTION | APP | DATE |

REVISIONS

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CLIENT: STANDARDS

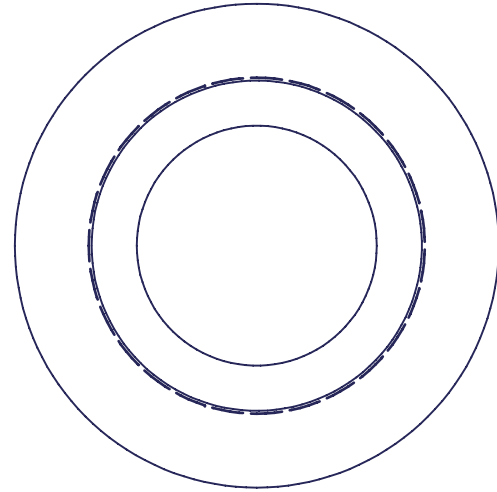
TITLE: SENTINEL SYSTEM
100 AMP FUSED DISCONNECT SWITCH
OFFSET BRACKET

| | | | | | |
|-----------|----------|-----------|--------|-------|------|
| DWG. Size | B | SHEET No. | 1 OF 1 | SCALE | FULL |
| DWG. No. | S600068 | | | REV. | 0 |

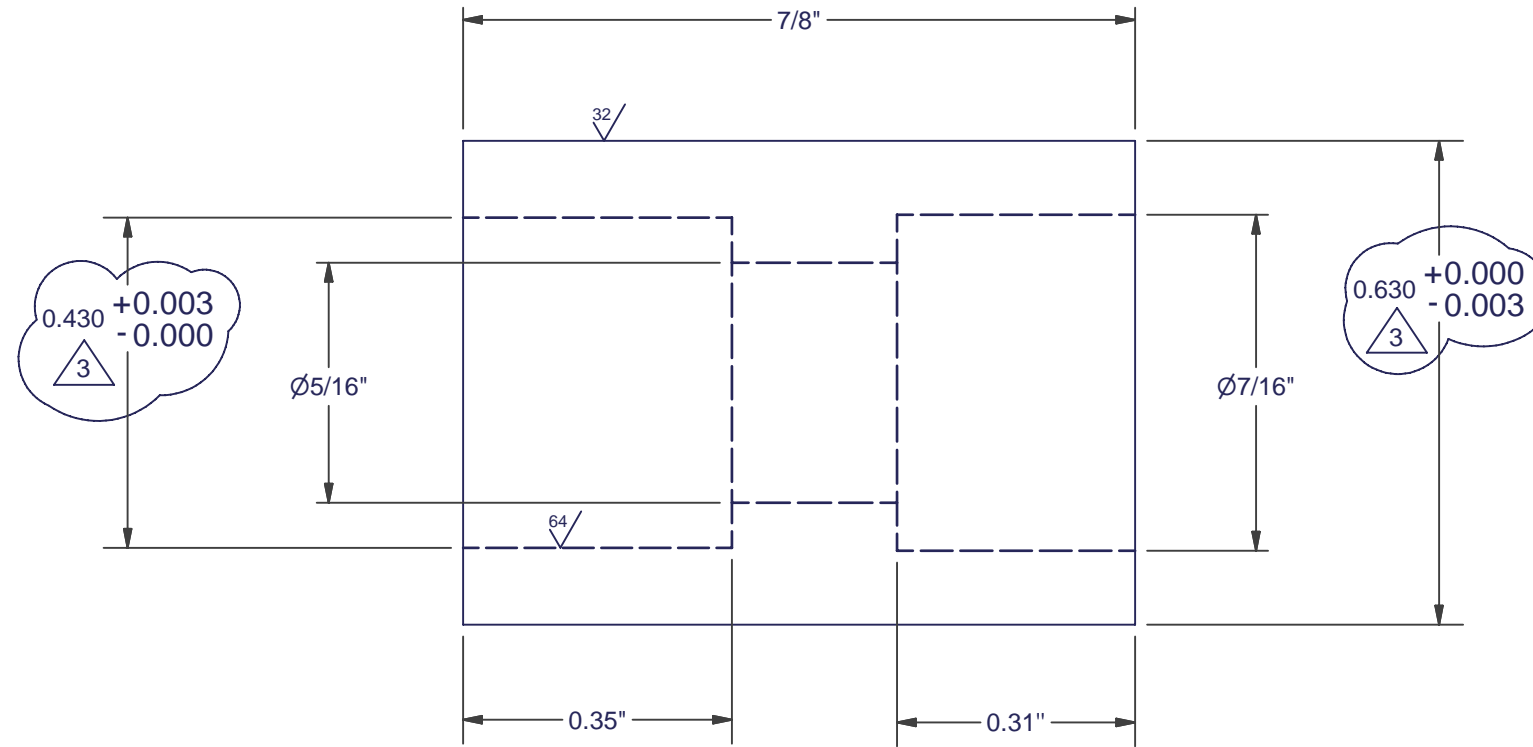
ALL SURFACES ARE TO BE 250 ✓ UNLESS OTHERWISE SPECIFIED

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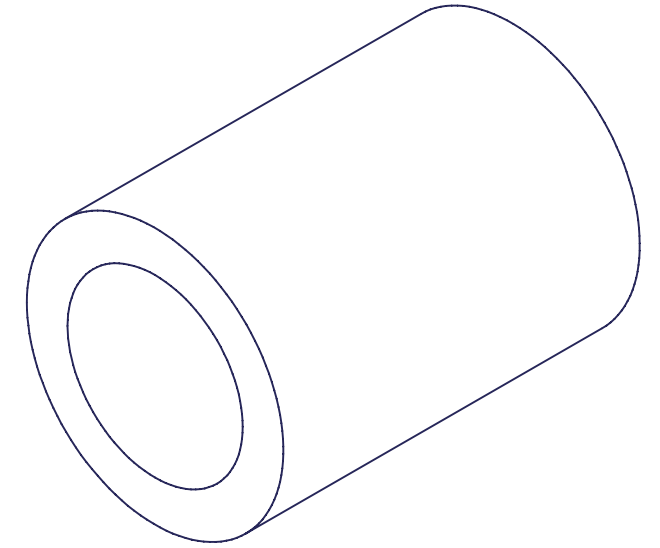
| | NAME | DATE |
|-------------|----------|----------|
| DRAFTER | RJP | 12/31/03 |
| DESIGNER | RJP | 12/31/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |



END VIEW



SIDE VIEW



ISOMETRIC VIEW

NOTES:

- 1. MATERIAL: ERTALYTE TX
- 2. REMOVE ALL BURRS & SHARP EDGES.

| REV | DESCRIPTION | APP | DATE |
|-----|-----------------------------|-----|----------|
| 3 | REVISED DIMENSIONS AS NOTED | JLZ | 03/05/08 |
| 2 | CHG'D MATERIAL FROM TEFLON | JAS | 10/06/06 |
| 1 | CHANGED DIMENSIONS | PJA | 06/27/06 |
| 0 | ISSUED FOR FABRICATION | MA | 02/02/04 |

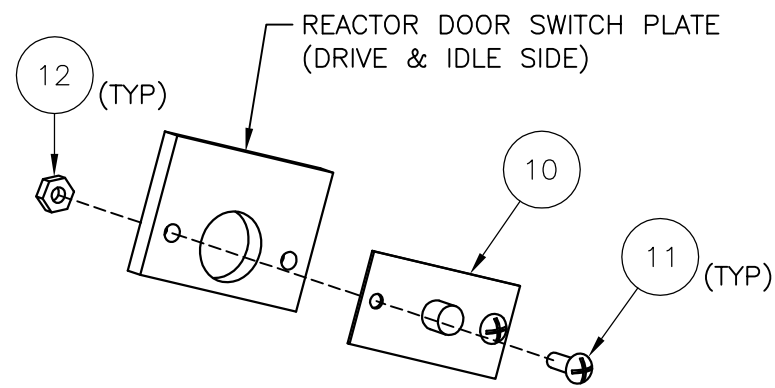
| REVISIONS | | | |
|---|---------|--------------------|---------|
| TOLERANCES (UNLESS OTHERWISE SPECIFIED) | | | |
| ANGULAR | ± 0°30' | DECIMAL (2 PLACES) | ± .010 |
| FRACTIONAL | ± 1/16" | DECIMAL (3 PLACES) | ± .005 |
| DECIMAL (1 PLACE) | ± 0.15 | DECIMAL (4 PLACES) | ± .0005 |

ALL SURFACES ARE TO BE UNLESS OTHERWISE SPECIFIED

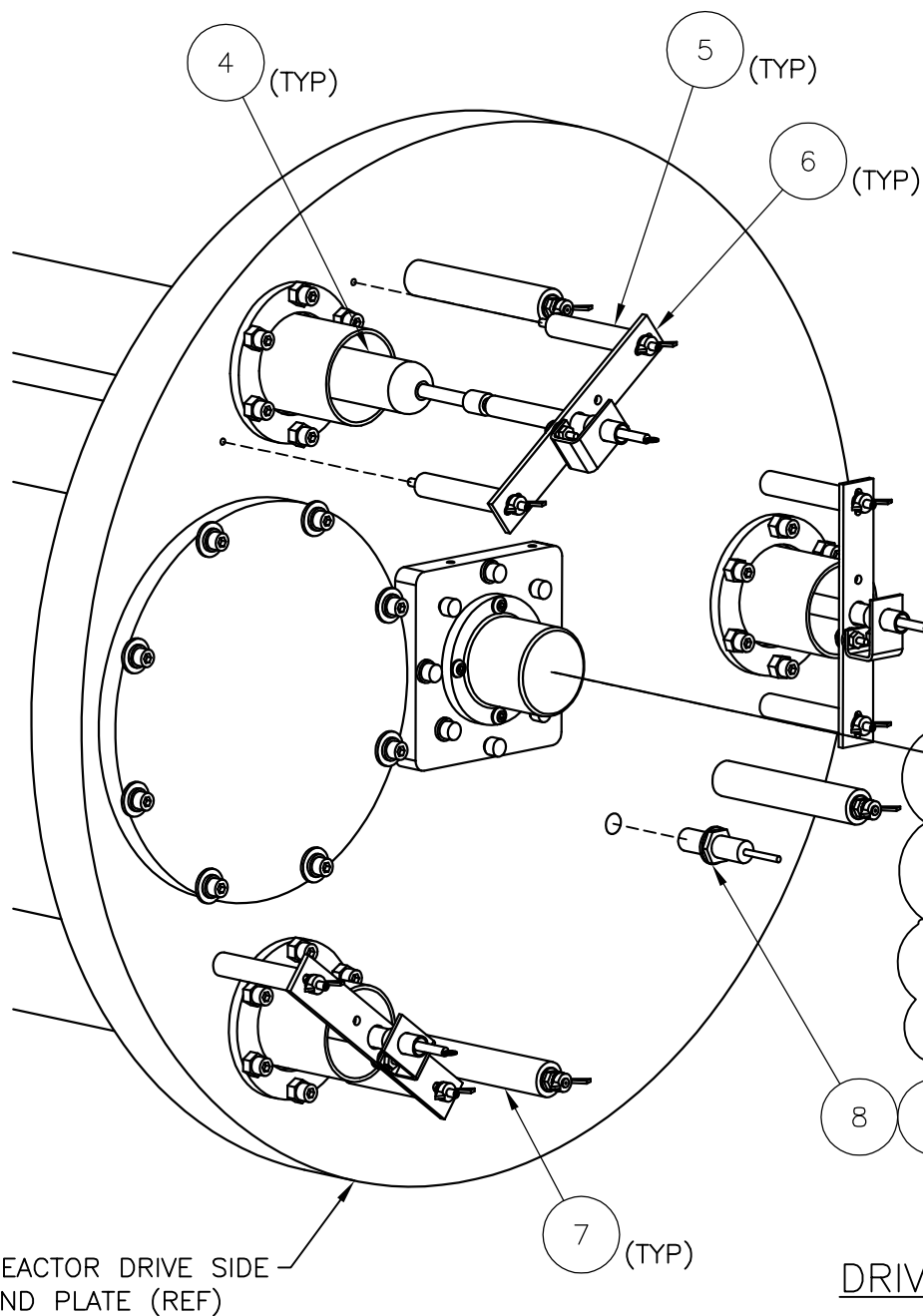
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| | NAME | DATE |
|-------------|--------------|----------|
| DRAFTER | BKM | 10/24/02 |
| DESIGNER | BKM | 10/24/02 |
| CHECKER | M. ANTONETTI | 12/08/03 |
| APPROVAL | | |
| PROJECT No. | STANDARD | |

| | | |
|---------------------------|---|------------------|
| CALGON | | |
| CALGON CARBON CORPORATION | | |
| CLIENT | STANDARD | |
| TITLE | SENTINEL DRIVE SCREW SLEEVE PART DETAIL | |
| DWG. SIZE | B | SHEET No. 1 OF 1 |
| DWG. No. | S300445 | SCALE NONE |
| | | REV. 3 |

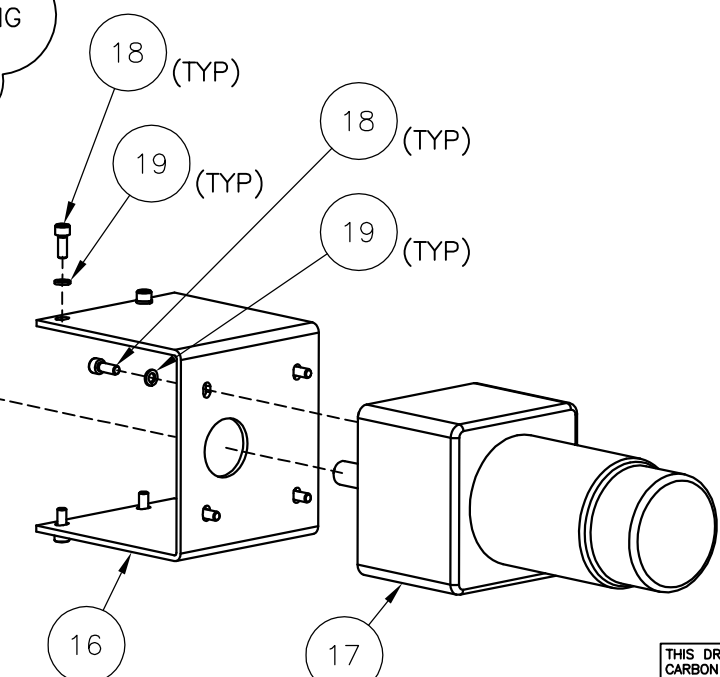
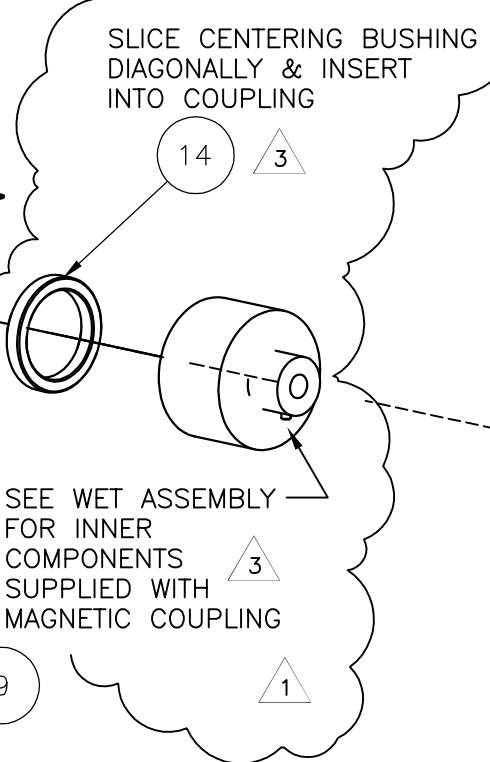


DOOR SWITCH DETAIL
(TYP 2 PLACES)



REACTOR DRIVE SIDE
END PLATE (REF)

DRIVE SIDE END PLATE EXPLODED VIEW
(FOR IDLE SIDE SEE SHT 2)



Parts List

| ITEM | QTY | NAME | DESCRIPTION |
|------|-----|----------|---|
| 1 | 0 | NOT USED | |
| 2 | 0 | NOT USED | |
| 3 | 0 | NOT USED | |
| 4 | 3 | S300353 | LAMP, 20KW, RX, W/METAL END, |
| 5 | 12 | D300941 | STAND-OFF ASSY. LAMP HOLDER SENTINEL (8-32 holes in plates) |
| 6 | 6 | D300938 | LAMP HOLDER, CENTERED |
| 7 | 6 | D300947 | LAMP HOLDER STAND-OFF, 4" LG |
| 8 | 2 | 153735 | SNSR, MAG PROX, 12mmX1, DC OUT, N.O., NO CABLE |
| 9 | 2 | 153736 | CABEL, PVC, 5 METER, STRAIGHT CONNECTOR |
| 10 | 2 | 150023 | SW, DOOR PAN |
| 11 | 4 | 650387 | FSTN,S18.8, SCW,MCPNPHL, 8-32 X 1/2"LG |
| 12 | 4 | 650463 | FSTN, S18.8, NUT, FIN HEX, 8-32 |
| 13 | 0 | NOT USED | |
| 14 | 1 | S300670 | CENTERING BUSHING, PART DETAIL |
| 15 | 0 | NOT USED | |
| 16 | 1 | S300649 | MOTOR MOUNTING FRAME, PART DETAIL |
| 17 | 1 | 153806 | MOTOR, 1/18 H.P., 57.5 RPM, GEAR REDUCTION |
| 18 | 8 | 650081 | FSTN, S18.8, SCW, SCCP, 10-32X1/2"LG |
| 19 | 8 | 650131 | FSTN, S18.8, WSH, LOCK MEDIUM, #10 |

NOTES:

1. DRIVE SIDE SHOWN, FAR SIDE IS IDENTICAL EXCEPT THERE IS NO MOTOR OR MOTOR CONNECTIONS (ITEMS 13 THRU 19).
2. ITEM 9 NOT SHOWN.
3. ELECTRICAL FIELD DEVICES TO BE TAGGED WITH BRADY WIRE MARKERS.

| REV | DESCRIPTION | APP | DATE |
|-----|---------------------------------------|-----|----------|
| 3 | DELETE ITEMS 13 & 15, REVISED ITEM 14 | JPT | 5/24/05 |
| 2 | REVISED QUANTITIES | JPT | 4/12/04 |
| 1 | REVISED DRIVE MOTOR | MA | 12/1/03 |
| 0 | ISSUED FOR FABRICATION | MA | 11/14/03 |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON
CALGON CARBON CORPORATION

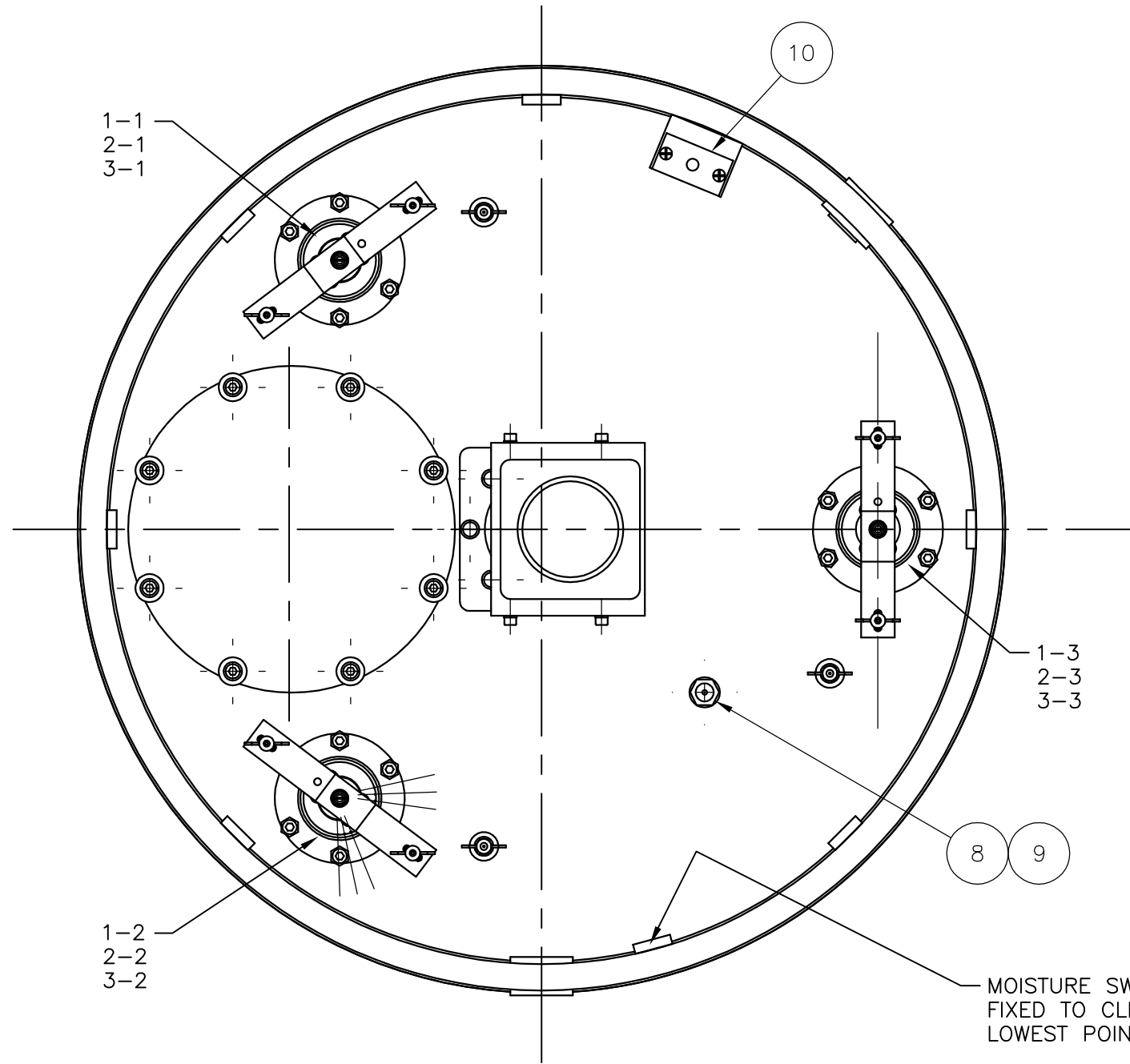
CLIENT: STANDARDS

TITLE: 20kW SENTINEL SYSTEM
LAMP COMPONENT DETAIL
ASSEMBLY DETAIL

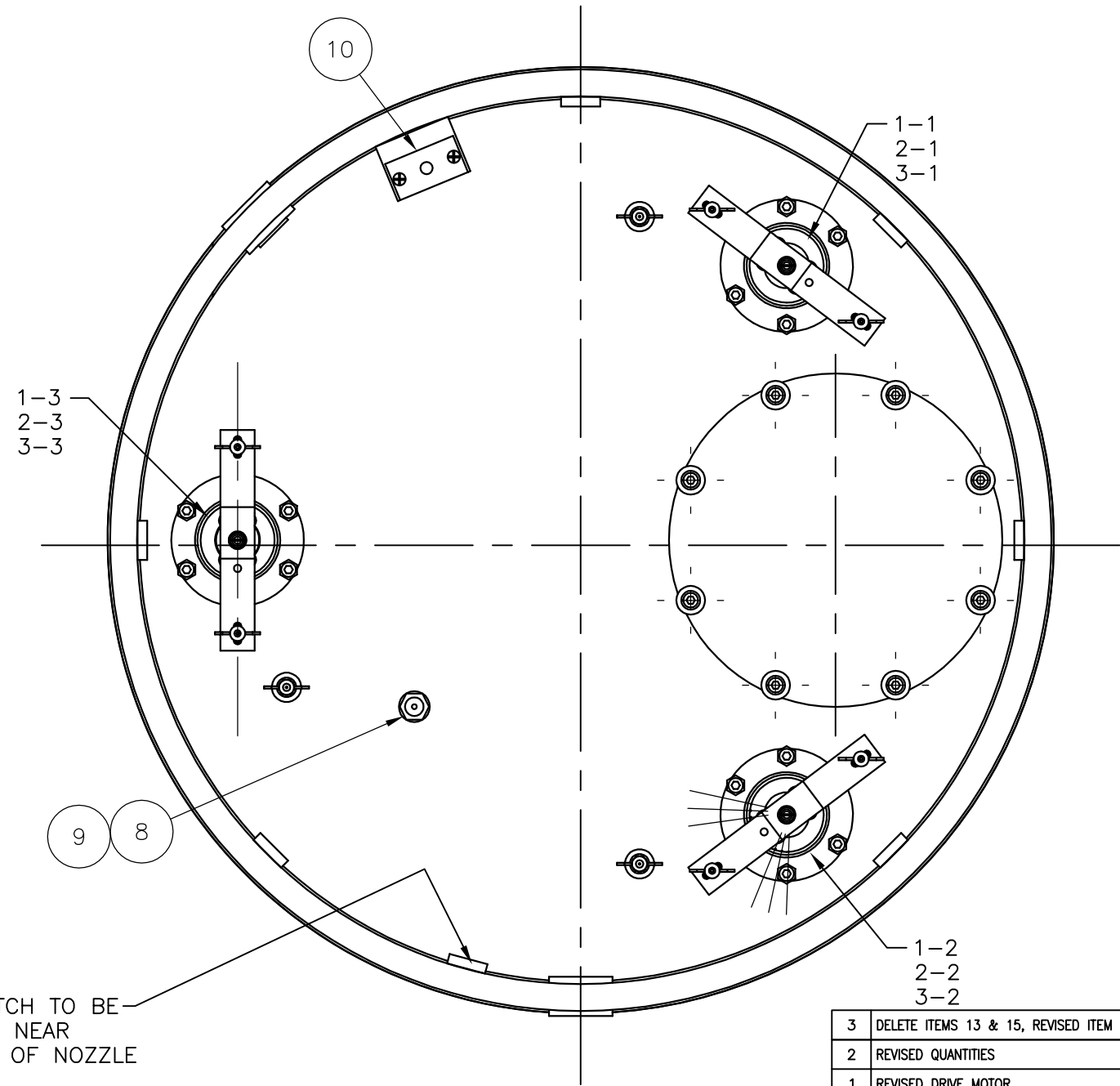
DWG. Size: B SHEET No. 1 OF 2 SCALE: NONE
DWG. No. S300600 REV. 3

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| | NAME | DATE |
|-------------|--------------|---------|
| DRAFTER | PJA | 8/21/03 |
| DESIGNER | PJA | 8/21/03 |
| CHECKER | M. ANTONETTI | 12/1/03 |
| APPROVAL | | |
| PROJECT No. | STANDARD | |



DRIVE SIDE END PLATE



IDLE SIDE END PLATE

MOISTURE SWITCH TO BE FIXED TO CLIP NEAR LOWEST POINT OF NOZZLE

| 3 | DELETE ITEMS 13 & 15, REVISED ITEM 14 | JPT | 5/24/05 |
|-----|---------------------------------------|-----|----------|
| 2 | REVISED QUANTITIES | JPT | 4/12/04 |
| 1 | REVISED DRIVE MOTOR | MA | 12/1/03 |
| 0 | ISSUED FOR FABRICATION | MA | 11/14/03 |
| REV | DESCRIPTION | APP | DATE |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON
CALGON CARBON CORPORATION

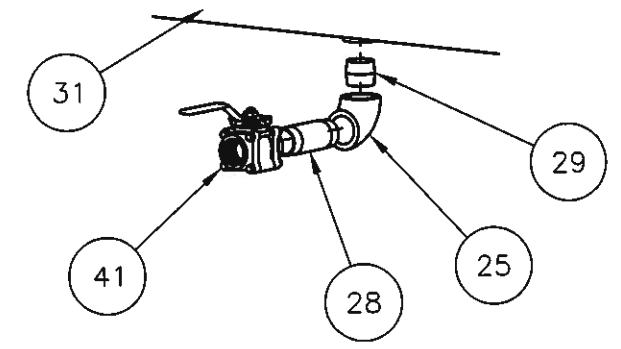
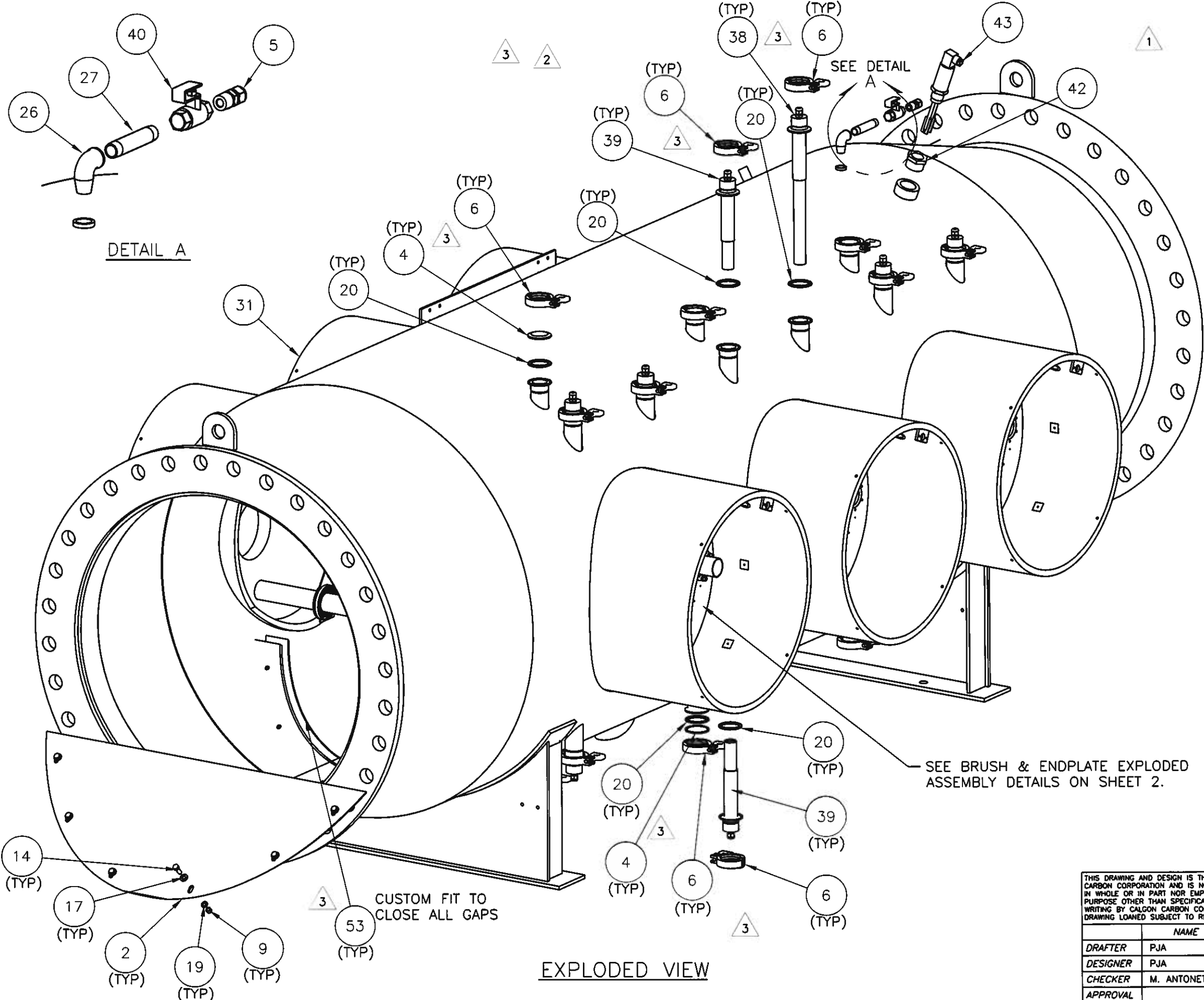
CLIENT: STANDARDS

TITLE: 20kW SENTINAL SYSTEM LAMP COMPONENT DETAIL ASSEMBLY DETAIL

| | | | | | |
|-----------|----------|-----------|--------|-------|------|
| DWG. Size | B | SHEET No. | 2 OF 2 | SCALE | NONE |
| DWG. No. | S300600 | | | REV. | 3 |

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| | NAME | DATE |
|-------------|--------------|---------|
| DRAFTER | PJA | 8/21/03 |
| DESIGNER | PJA | 8/21/03 |
| CHECKER | M. ANTONETTI | 12/1/03 |
| APPROVAL | | |
| PROJECT No. | STANDARD | |



EXPLODED DRAIN VIEW

NOTES:
 1. UV SENSOR WINDOW AND WELLS TO BE STAMPED WITH CORRESPONDING LAMP NUMBER.

SEE BRUSH & ENDPLATE EXPLODED ASSEMBLY DETAILS ON SHEET 2.

CUSTOM FIT TO CLOSE ALL GAPS

EXPLODED VIEW

| REV | DESCRIPTION | APP | DATE |
|-----|--|-----|----------|
| 5 | REVISE WIPER ASSY & GEN. BOM REVISIONS | JLZ | 1/10/07 |
| 4 | REVISE CLIENT TITLE SPELLING | JPT | 6/22/05 |
| 3 | DELETE ITEM 10, ADDED BACKING PLATE | MA | 2/18/04 |
| 2 | REVISED SCREW DRIVE COUPLING | MA | 12/1/03 |
| 1 | ADDED LEVEL SWITCH | MA | 11/4/03 |
| 0 | ISSUED FOR FABRICATION | MA | 10/21/03 |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

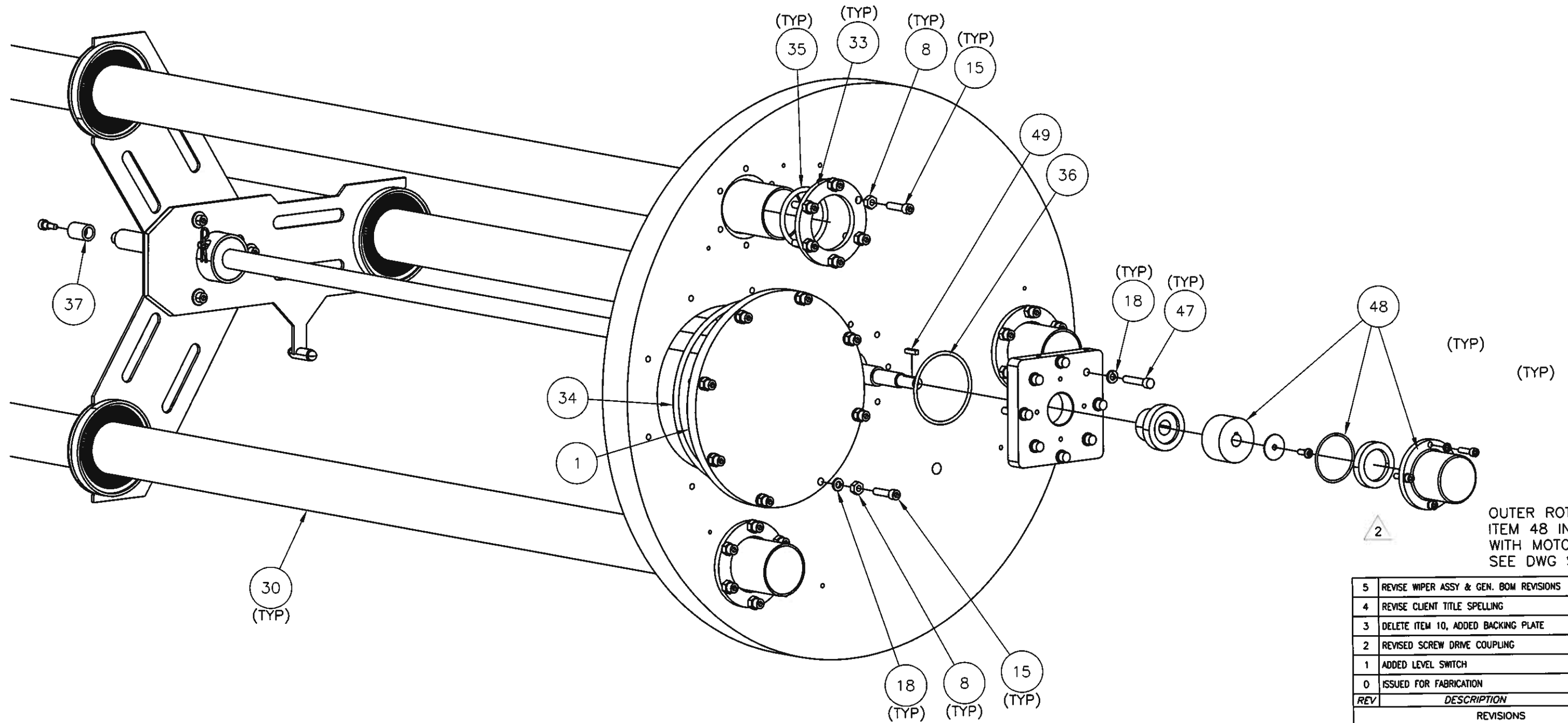
CLIENT CITY OF WINNIPEG MANITOBA, CANADA

TITLE 9 x 20KW SENTINEL SYSTEM REACTOR WET ASSEMBLY ASSEMBLY DETAIL

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| | NAME | DATE |
|-------------|---------------|---------|
| DRAFTER | PJA | 8/20/03 |
| DESIGNER | PJA | 8/20/03 |
| CHECKER | M. ANTONETTI | 12/1/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | | | | |
|-----------|---------|-----------|--------|-------|------|
| DWG. Size | B | SHEET No. | 1 OF 3 | SCALE | NONE |
| DWG. No. | S300611 | | | REV. | 5 |



OUTER ROTOR OF
ITEM 48 INSTALLED
WITH MOTOR,
SEE DWG S300600

EXPLODED ENDPLATE ASSEMBLY
(TYP 3-PLS)

| | | | |
|---|--|-----|----------|
| 5 | REVISE WIPER ASSY & GEN. BOM REVISIONS | JLZ | 1/10/07 |
| 4 | REVISE CLIENT TITLE SPELLING | JPT | 6/22/05 |
| 3 | DELETE ITEM 10, ADDED BACKING PLATE | MA | 2/18/04 |
| 2 | REVISED SCREW DRIVE COUPLING | MA | 12/1/03 |
| 1 | ADDED LEVEL SWITCH | MA | 11/4/03 |
| 0 | ISSUED FOR FABRICATION | MA | 10/21/03 |

| REV | DESCRIPTION | APP | DATE |
|-----|-------------|-----|------|
|-----|-------------|-----|------|

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

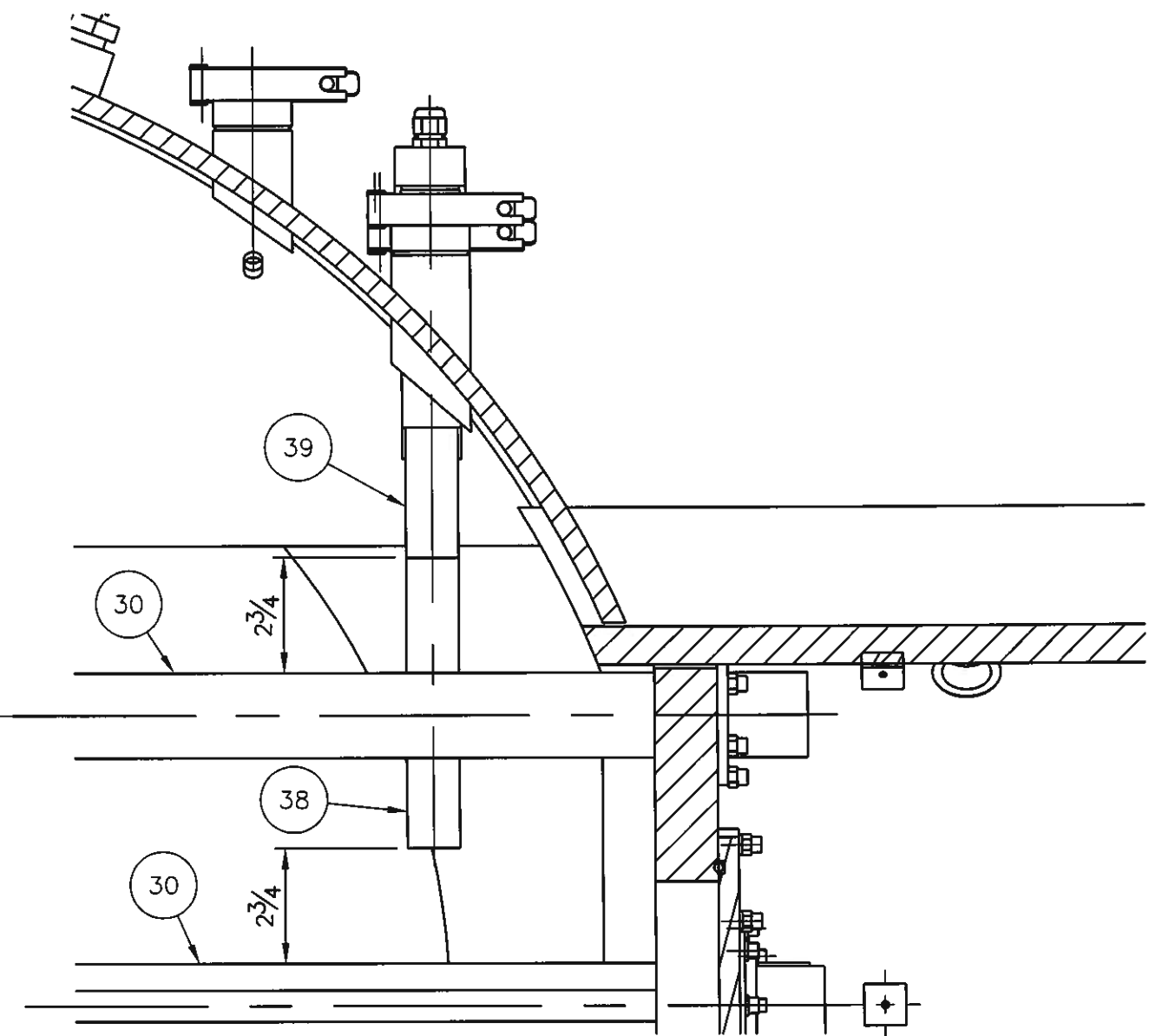
TITLE
9 x 20KW SENTINEL SYSTEM
REACTOR WET ASSEMBLY
ASSEMBLY DETAIL

| | | | | | |
|-----------|---------|-----------|--------|-------|------|
| DWG. Size | B | SHEET No. | 2 OF 3 | SCALE | NONE |
| DWG. No. | S300611 | | | REV. | 5 |

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| | NAME | DATE |
|-------------|---------------|---------|
| DRAFTER | PJA | 9/8/03 |
| DESIGNER | PJA | 9/8/03 |
| CHECKER | M. ANTONETTI | 12/1/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| Parts List | | | |
|------------|-----|----------|--|
| ITEM | QTY | NAME | DESCRIPTION |
| 1 | 6 | S300415 | ACCESS COVER, PART DETAIL |
| 2 | 6 | S300410 | BAFFLE - BOLTED SEG, 16-3/4" LG, PART DETAIL |
| 3 | 0 | NOT USED | |
| 4 | 6 | 551994 | CAP, SANITARY, S316L, 2" |
| 5 | 1 | 550339 | CFIT, S316, NPT(F), 1/2" TU, 1/2" |
| 6 | 15 | 1007278 | 2" SANITARY CLAMP, SS |
| 7 | 0 | NOT USED | |
| 8 | 156 | 650112 | FSTN, S18.8, NUT, FIN HEX, 1/4-28 |
| 9 | 36 | 650039 | FSTN, S18.8, NUT, FIN HEX, 3/8-16 |
| 10 | 0 | NOT USED | |
| 11 | 0 | NOT USED | |
| 12 | 0 | NOT USED | |
| 13 | 0 | NOT USED | |
| 14 | 36 | 650059 | FSTN, S18.8, SCW, HXCP, 3/8-16X1" LG |
| 15 | 156 | 650111 | FSTN, S18.8, SCW, SCCP, 1/4-28X1" LG |
| 16 | 3 | 651016 | FSTN, S316, SCW, SCCP, 1/4X1/4 SHDR |
| 17 | 36 | 650065 | FSTN, S18.8, WSH, FLAT SAE, 3/8" |
| 18 | 72 | 650154 | FSTN, S18.8, WSH, LOCK MEDIUM, 1/4" |
| 19 | 36 | 650041 | FSTN, S18.8, WSH, LOCK MEDIUM, 3/8" |
| 20 | 15 | 1007447 | GASKET, SANITARY, TEFLON, 2" |
| 21 | 0 | NOT USED | |
| 22 | 0 | NOT USED | |
| 23 | 0 | NOT USED | |
| 24 | 0 | NOT USED | |
| 25 | 1 | 551677 | PPG, S316L, ELB, NPT(F), 90, 2", 3000LB |
| 26 | 1 | 551145 | PPG, S316L, ELB, STRT, 1/2" NPT, 150 LB |
| 27 | 1 | 550059 | PPG, S316L, NPL, 1/2"NPT(M) X 4" LG |
| 28 | 1 | 550110 | PPG, S316L, NPL, 2"NPT(M) X 6" LG |
| 29 | 1 | 550383 | PPG, S316L, NPL, 2"NPT(M) X CLS |
| 30 | 9 | S300470 | QUARTZ, 52.0mm, 52.5" LG. |
| 31 | 1 | S300610 | REACTOR WELDED VESSEL, 48"x36", 9 x 20KW SENTINEL, ASS'Y DETAIL |
| 32 | 3 | S300891 | SCREW, S316, 3/4" X .5 PITCH, 0.125" LEAD, 4 STARTS, PART DETAIL |
| 33 | 18 | C300002 | SEAL RING, QTZ TUBE, 52.5mm DIA. PART DETAIL |
| 34 | 6 | 350346 | SEAL, ORNG, EPDM-NSF 6.98"ID X 2.1"W |
| 35 | 18 | 350342 | SEAL, ORNG, EPDM-NSF, 2.0"ID X 0.1875" |
| 36 | 3 | 350331 | SEAL, ORNG, EPDM-NSF, 2.625"ID X 0.125" |
| 37 | 3 | S300445 | SLEEVE, 5/8" O.D, TEFLON, PART DETAIL |
| 38 | 3 | S300654 | UV SENSOR ASSEMBLY, 14-3/4" INSERTION |
| 39 | 6 | S300655 | UV SENSOR ASSEMBLY, 8-3/8" INSERTION |
| 40 | 1 | 551600 | VLV, 1/2" BALL, NPT(F), SS316, NSF C-HDL |
| 41 | 1 | 551658 | VLV, 2" BALL, NPT(F), S316, NSF |
| 42 | 1 | 550530 | PPG, S316L, BUSH., 1-1/2"NPT(M) X 1"NPT(F) |
| 43 | 1 | 551509 | SW, LIQUID LVL (S316) FORK TYPE 1" MNPT |
| 44 | 3 | S300870 | SCREW DRIVE ADAPTER PLATE, PART DETAIL |
| 45 | 0 | NOT USED | |
| 46 | 0 | NOT USED | |
| 47 | 24 | 650268 | FSTN, S18.8, SCW, SCCP, 1/4-28X1-1/4" LG |
| 48 | 3 | 350351 | MAGNETIC COUPLING ASSEMBLY |
| 49 | 3 | 650905 | FSTN, S18.8, KEY STOCK, 4mm x 4mm |
| 50 | 12 | 650184 | FSTN, S18.8, SCW, SCCP, 10-32X3/4" LG |
| 51 | 3 | 650976 | FSTN, S316, WSH, FENDER, #10 X 1" O.D. |
| 52 | 3 | 650977 | FSTN, S316, SCW, BUTTON HD SCCP, 10-32X1/2" LG |
| 53 | 6 | S300682 | WELDED BAFFLE BACKING PLATE |
| 54 | 3 | S300860 | WIPER, ASSEMBLY DETAIL |
| 55 | 12 | 650131 | FSTN, S18.8, WSH, LOCK MEDIUM, #10 |
| 56 | 3 | S300810 | DRIVE PLATE SCREW BEARING |
| 57 | 3 | S300811 | THRUST BEARING |



NOTES:
 1. ITEMS 38 & 39 SELECTIONS BASED ON DESIGN CONDITIONS.
 2. ITEMS 38 & 39 PROVIDE A SENSOR INSERTION DEPTH OF 2-3/4" FROM O.D. OF QUARTZ (ITEM 30) TO FACE OF SENSOR WINDOW.

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| | NAME | DATE |
|-------------|---------------|---------|
| DRAFTER | PJA | 9/8/03 |
| DESIGNER | PJA | 9/8/03 |
| CHECKER | M. ANTONETTI | 12/1/03 |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| REV | DESCRIPTION | APP | DATE |
|-----|--|-----|----------|
| 5 | REVISE WIPER ASSY & GEN. BOM REVISIONS | JLZ | 1/10/07 |
| 4 | REVISE CLIENT TITLE SPELLING | JPT | 6/22/05 |
| 3 | DELETE ITEM 10, ADDED BACKING PLATE | MA | 2/18/04 |
| 2 | REVISED SCREW DRIVE COUPLING | MA | 12/1/03 |
| 1 | ADDED LEVEL SWITCH | MA | 11/4/03 |
| 0 | ISSUED FOR FABRICATION | MA | 10/21/03 |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON

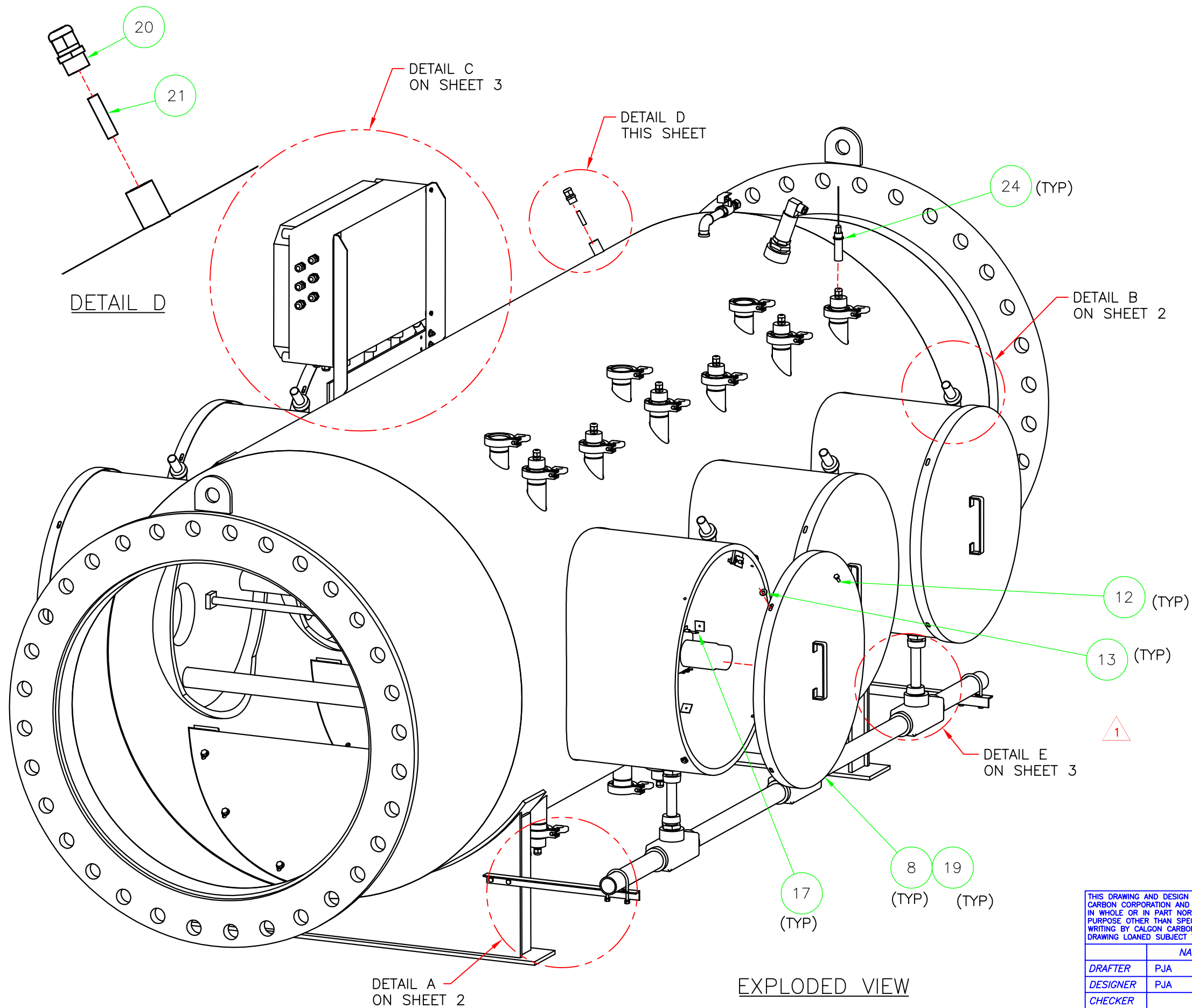
CALGON CARBON CORPORATION

CLIENT: CITY OF WINNIPEG MANITOBA, CANADA

TITLE: 9 x 20KW SENTINEL SYSTEM REACTOR WET ASSEMBLY ASSEMBLY DETAIL

DWG. Size: B SHEET No. 3 OF 3 SCALE: NONE

DWG. No. S300611 REV. 5



- NOTES:**
- ITEM 19 ADHERED TO INSIDE EDGE OF ITEM 8.
 - TO INSTALL ITEM 24 YOU MUST REMOVE THE CAP SCREW AND RESTRAINT TUBE FROM THE SENSOR WINDOW.
 - APPLY SEALING CEMENT & FILLER AT REACTOR CONDUIT TERMINATION POINTS INDICATED. CEMENT TO PROVIDE A WATER TIGHT SEAL.

| REV | DESCRIPTION | APP | DATE |
|-----|------------------------|-----|----------|
| 2 | ADDED NOTE 3 | JPT | 7/14/05 |
| 1 | REVISED CONDUIT | MA | 1/7/04 |
| 0 | ISSUED FOR FABRICATION | MA | 10/31/03 |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
9 x 20KW SENTINEL SYSTEM,
T/L REACTOR ASSEMBLY
ASSEMBLY DETAIL

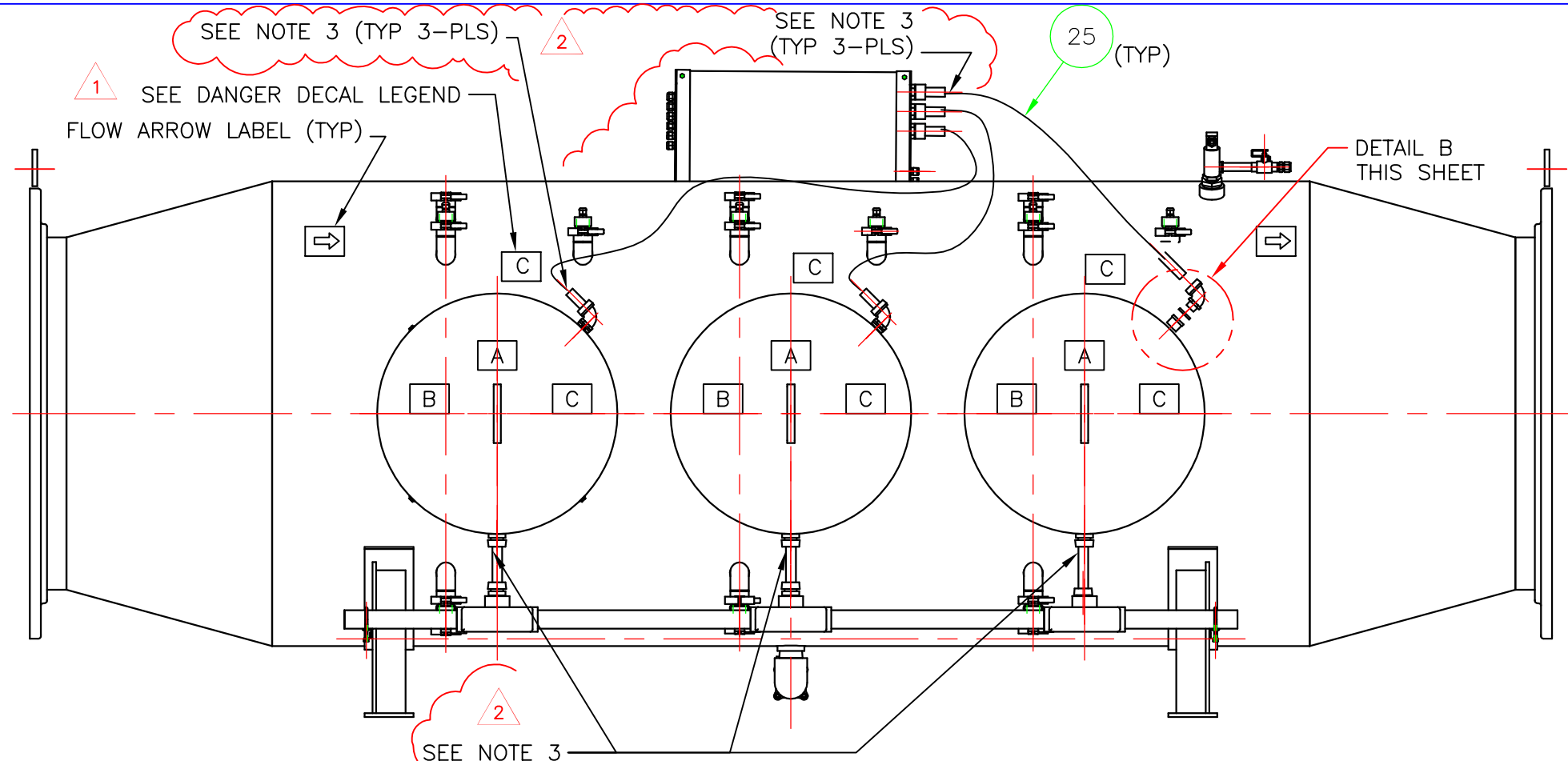
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| | NAME | DATE |
|----------|------|---------|
| DRAFTER | PJA | 8/26/03 |
| DESIGNER | PJA | 8/26/03 |
| CHECKER | | |
| APPROVAL | | |

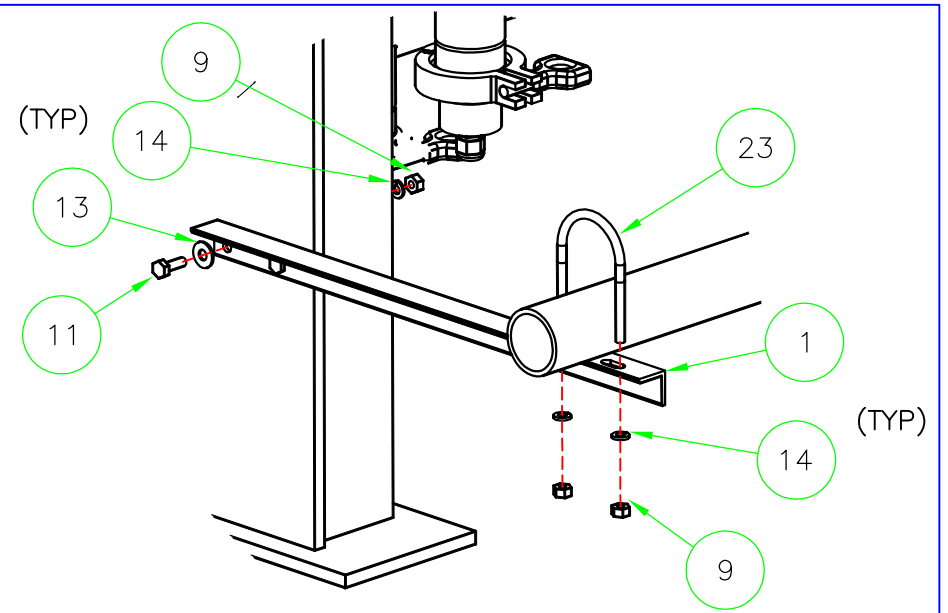
PROJECT No. US-03056.WINN

DWG. Size B SHEET No. 1 OF 3 SCALE NONE
DWG. No. S300612 REV. 2

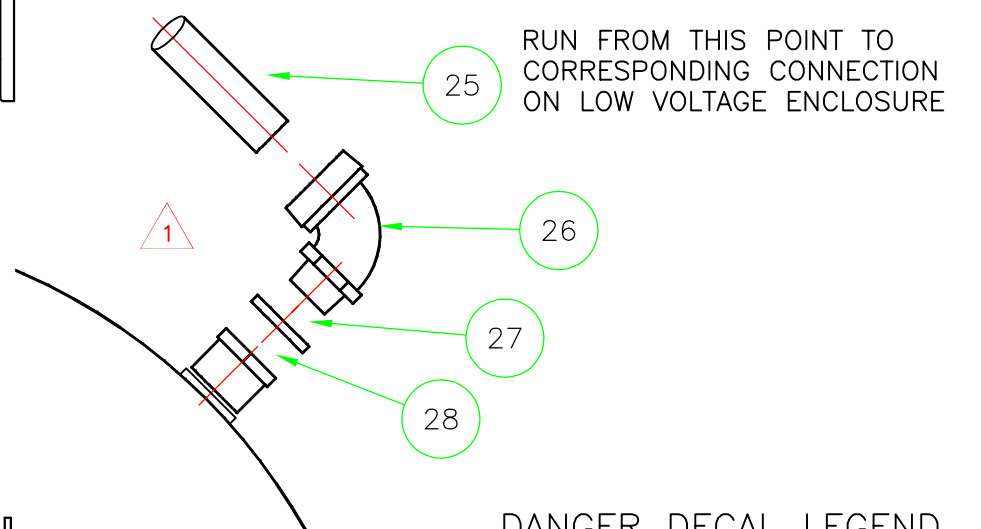
EXPLODED VIEW



ELEVATION VIEW (FRONT)

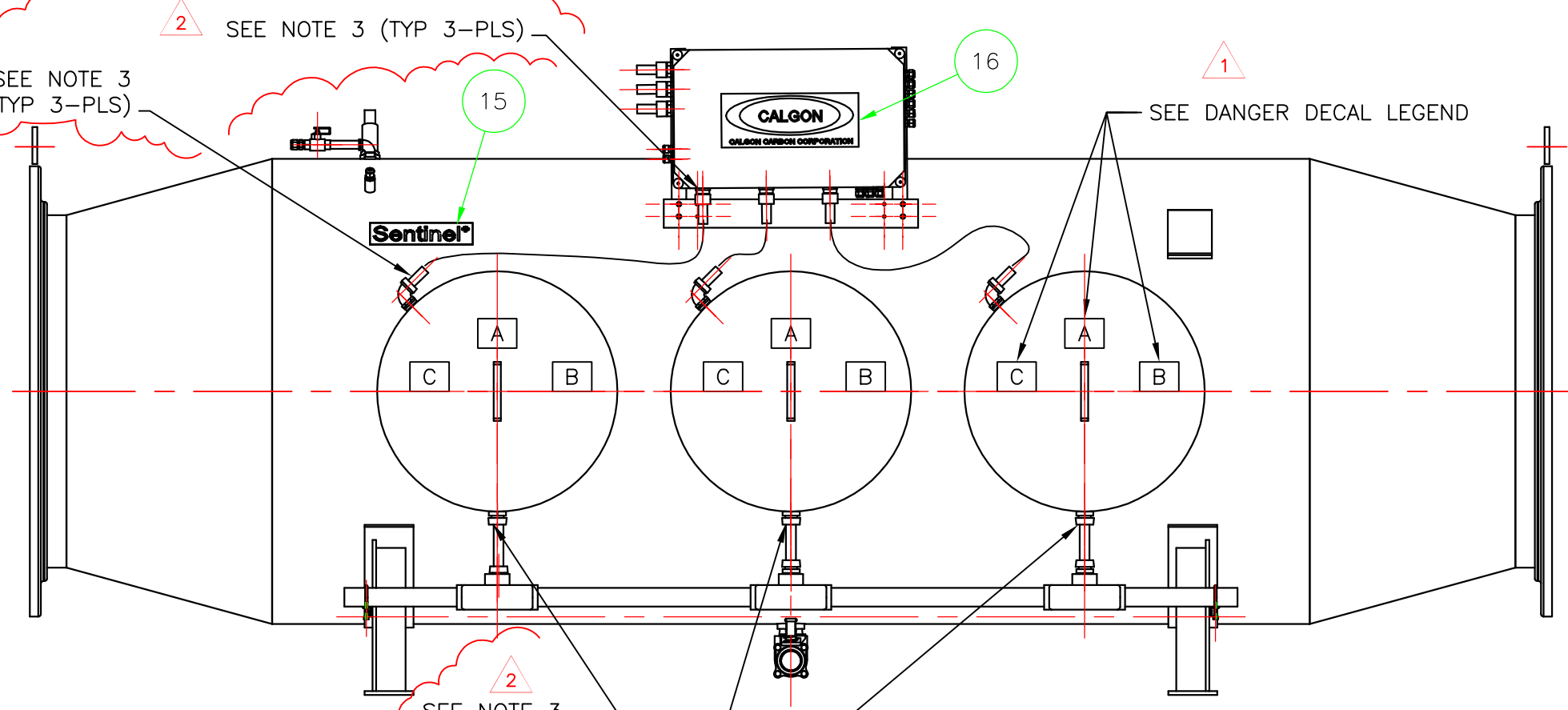


DETAIL A



DETAIL B
(TYP 6 PLACES)

DANGER DECAL LEGEND
 A. DANGER HIGH VOLTAGE
 B. DANGER ULTRA VIOLET RADIATION
 C. DANGER EYE SIGHT



ELEVATION VIEW (REAR)

| REV | DESCRIPTION | APP | DATE |
|-----|------------------------|-----|----------|
| 2 | ADDED NOTE 3 | JPT | 7/14/05 |
| 1 | REVISED CONDUIT | MA | 1/7/04 |
| 0 | ISSUED FOR FABRICATION | MA | 10/31/03 |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

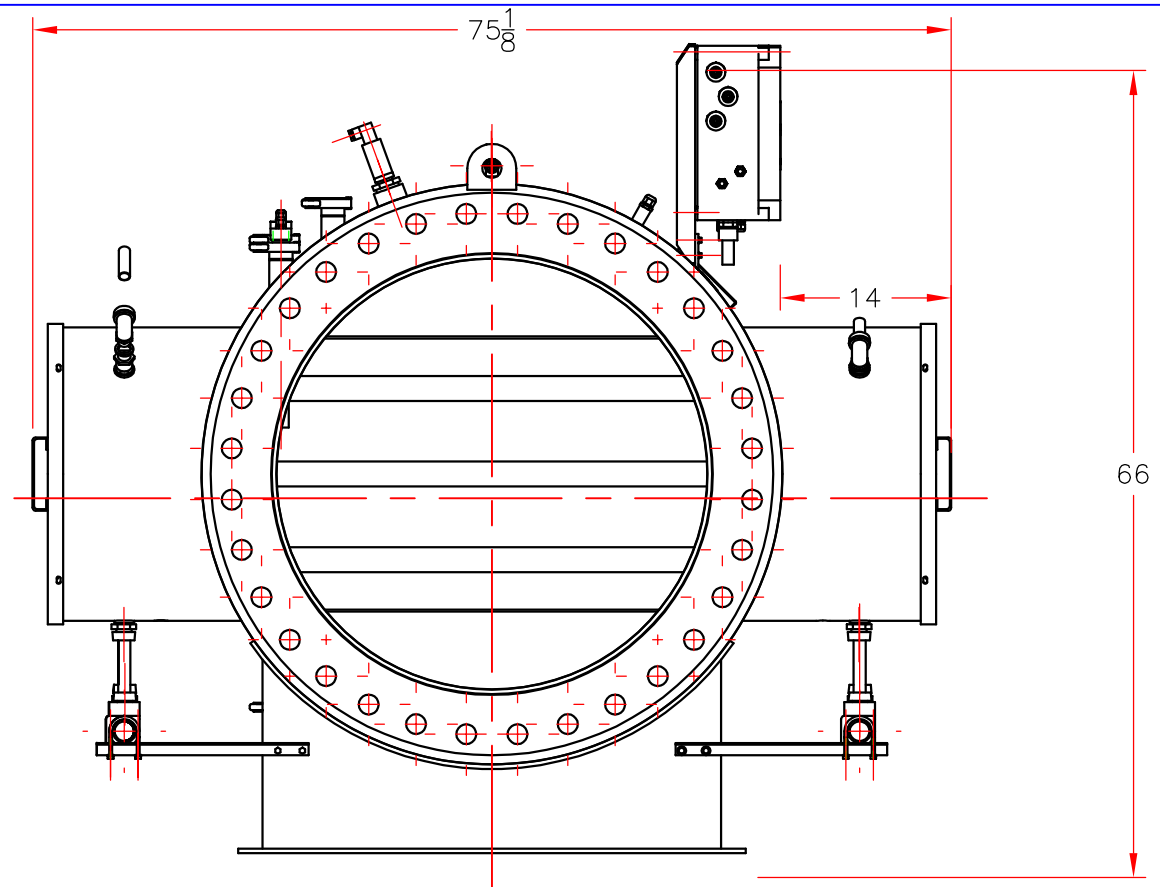
CLIENT
 CITY OF WINNIPEG
 MANITOBA, CANADA

TITLE
 9 x 20KW SENTINEL SYSTEM,
 T/L REACTOR ASSEMBLY
 ASSEMBLY DETAIL

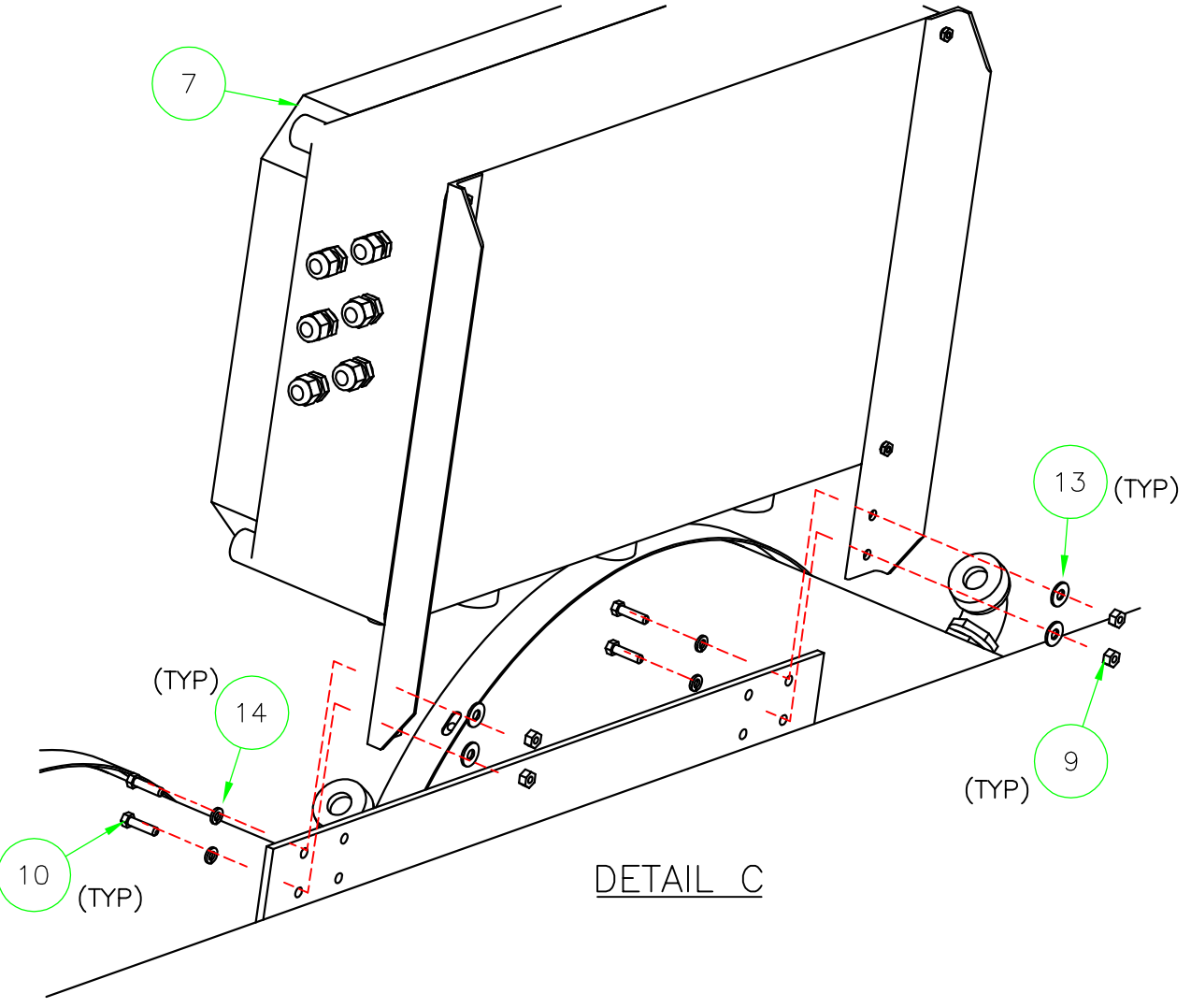
| | | | | | |
|-----------|---------|-----------|--------|-------|------|
| DWG. Size | B | SHEET No. | 2 OF 3 | SCALE | NONE |
| DWG. No. | S300612 | | | REV. | 2 |

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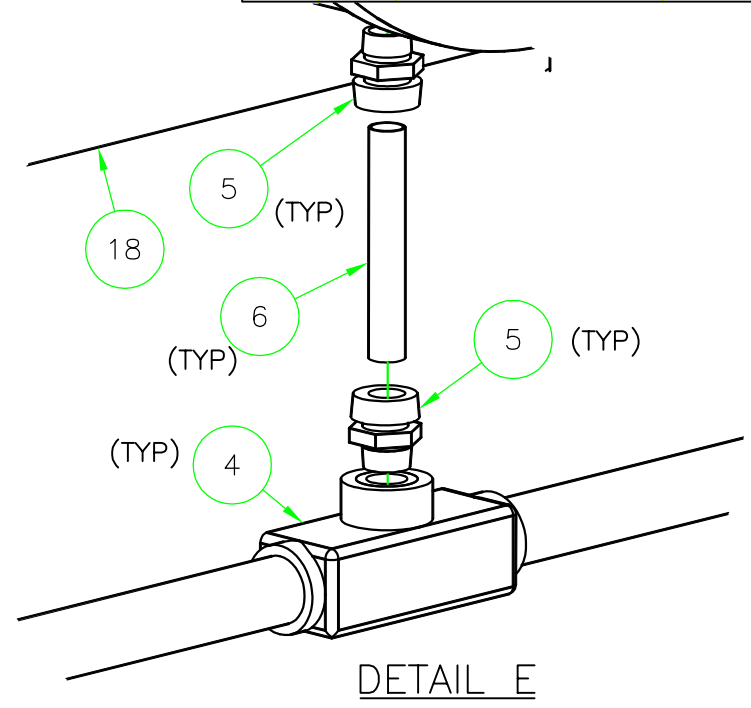
| | NAME | DATE |
|-------------|---------------|--------|
| DRAFTER | PJA | 9/9/03 |
| DESIGNER | PJA | 9/9/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |



END VIEW



DETAIL C



DETAIL E

| Parts List | | | |
|------------|-----|----------|---|
| ITEM | QTY | NAME | DESCRIPTION |
| 1 | 2 | S300630 | BRACKET (L), ANGLE 1X1X1/8", 316L S.STL. 9x20kW, FAB DET'S |
| 2 | 2 | S300629 | BRACKET (R), ANGLE 1X1X1/8", 316L S.STL. 9x20kW, FAB DET'S |
| 3 | 0 | NOT USED | |
| 4 | 2 | D102591 | HIGH VOLTAGE CONDUIT ASSEMBLY |
| 5 | 12 | 153784 | COND, LIQT, CON, 1" |
| 6 | 6 | 152403 | COND, LIQT, PIPE, 1" 7" LG. |
| 7 | 1 | S100541 | ENCLOSURE ASSEMBLY, 24x15x7, FRP, SENTINEL |
| 8 | 6 | S600035 | ENCLOSURE COVER, 24-9/16" O.D., PART DETAIL |
| 9 | 20 | 650228 | FSTN, S18.8, NUT, FIN HEX, 1/4-20 |
| 10 | 4 | 650582 | FSTN, S18.8, SCW, HXCP, 1/4-20x1" LG |
| 11 | 8 | 650366 | FSTN, S18.8, SCW, HXCP, 1/4-20x3/4" LG |
| 12 | 24 | 650844 | FSTN, S18.8, SCW, HXCP, 1/4-28x3/4" LG |
| 13 | 36 | 650155 | FSTN, S18.8, WSH, FLAT SAE, 1/4" |
| 14 | 20 | 650154 | FSTN, S18.8, WSH, LOCK MEDIUM, 1/4" |
| 15 | 1 | S100037 | LABEL, "SENTINEL" LOGO, BLACK VINYL, 9", PART DETAIL |
| 16 | 1 | X100052 | LABEL, CCC, BLACK, 13", PRESSURE SENSITIVE VINYL, PART DET. |
| 17 | 3 | S300600 | LAMP COMPONENT DETAIL, 48"Ø, 20kW SENTINEL SYSTEM |
| 18 | 1 | S300611 | REACTOR WET, 9 x 20KW SENTINEL, ASSEMBLY DETAIL |
| 19 | 6 | 650533 | SEALSTRIP, 1/2" W x 1/4" THK. SILCN SP SELFADH |
| 20 | 1 | 152312 | STRAIN RELIEF, 1/2", NICKEL PL. |
| 21 | 1 | S100016 | TEMP. SWITCH ASSY. 40C (104F), ASSEMBLY DETAIL |
| 22 | 0 | NOT USED | |
| 23 | 4 | 1010107 | U-BOLT; 1-1/2"; HD GALV |
| 24 | 9 | 350310 | UV SENSOR (0-200W/m2. 30 DEG) |
| 25 | 1 | 151066 | COND, LIQT, PIPE, 3/4" (40 FT.) |
| 26 | 6 | 150101 | COND, LIQT, CON, 3/4" X 90 DEG. |
| 27 | 6 | 151166 | COND, LIQT, SEAL RING, 3/4" |
| 28 | 6 | 550176 | PPG, S316L, BUSH, 1"NPT(M)x3/4"NPT(F) |

1

1

NOTES:

1. ITEM 24 HAS BEEN SELECTED BASED ON DESIGN CONDITIONS.

| | | |
|---|---------------|--------|
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| | NAME | DATE |
| DRAFTER | PJA | 9/9/03 |
| DESIGNER | PJA | 9/9/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | | |
|-----|------------------------|-----|----------|
| 2 | ADDED NOTE 3 | JPT | 7/14/05 |
| 1 | REVISED CONDUIT | MA | 1/7/04 |
| 0 | ISSUED FOR FABRICATION | MA | 10/31/03 |
| REV | DESCRIPTION | APP | DATE |

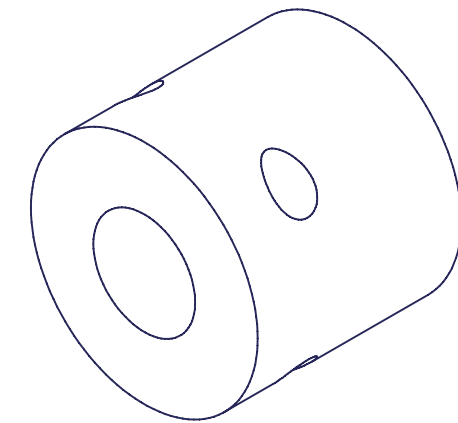
| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

CALGON
CALGON CARBON CORPORATION

CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

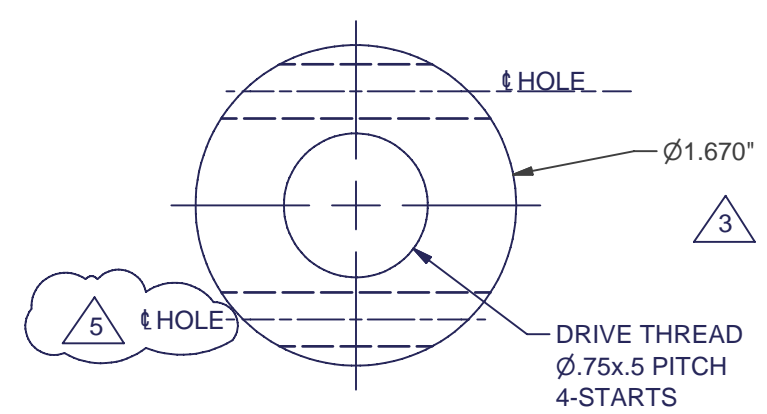
TITLE
9 x 20KW, SENTINEL SYSTEM,
T/L REACTOR ASSEMBLY
ASSEMBLY DETAIL

| | | | | | |
|-----------|---------|-----------|--------|-------|------|
| DWG. Size | B | SHEET No. | 3 OF 3 | SCALE | NONE |
| DWG. No. | S300612 | | | REV. | 2 |

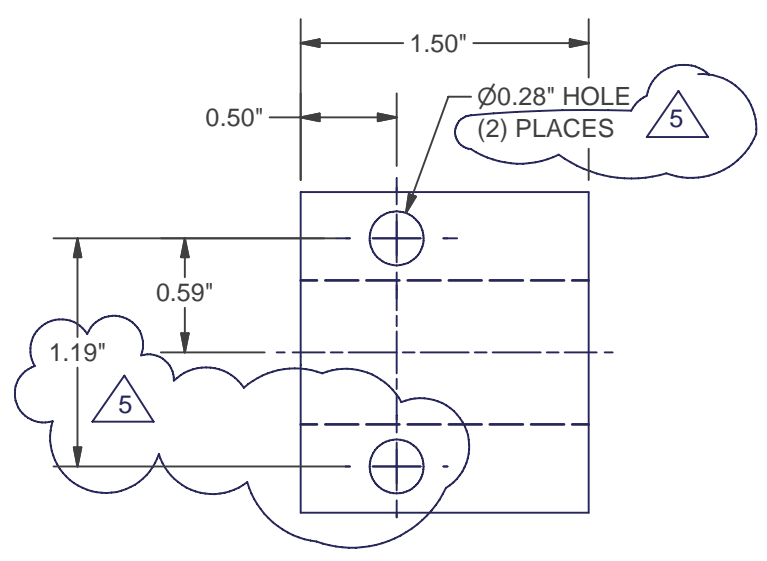


ISOMETRIC VIEW

- NOTES:**
1. MATERIAL: ERTALYTE TX
 2. REMOVE ALL BURS AND SHARP EDGES.
 3. DRIVE THREAD TO BE THREADED BY ROTON ON A ROTON SUPPLIED TAP.



END VIEW



SIDE VIEW

| REV | DESCRIPTION | APP | DATE |
|-----|----------------------------------|-----|----------|
| 5 | ADD A .28 DIA HOLE & DIMENSIONS. | JAS | 5/22/06 |
| 4 | CHANGED MATERIAL FROM DELRIN AF | JAS | 5/11/06 |
| 3 | CHANGED OUTSIDE DIAMETER | JPT | 6/21/05 |
| 2 | MATERIAL CHANGE | JPT | 5/2/05 |
| 1 | CHANGED DIMENSIONS | JPT | 1/6/05 |
| 0 | ISSUED FOR FABRICATION | JPT | 11/15/04 |

| REVISIONS | | | |
|---|---------|--------------------|---------|
| TOLERANCES (UNLESS OTHERWISE SPECIFIED) | | | |
| ANGULAR | ± 0°30' | DECIMAL (2 PLACES) | ± .010 |
| FRACTIONAL | ± 1/16" | DECIMAL (3 PLACES) | ± .005 |
| DECIMAL (1 PLACE) | ± 0.15 | DECIMAL (4 PLACES) | ± .0005 |



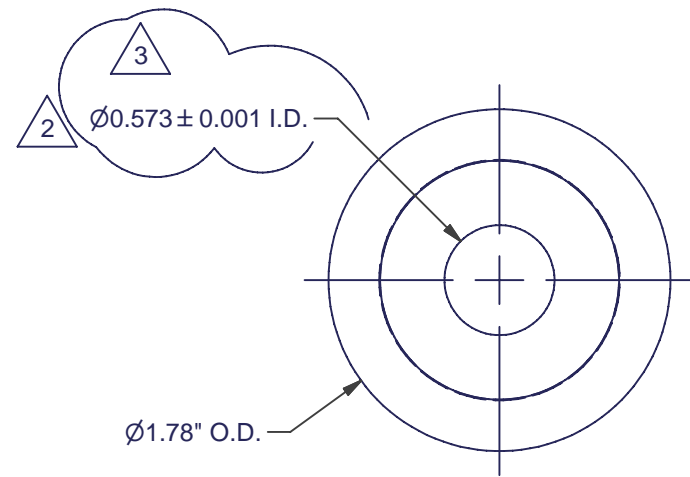
CALGON CARBON CORPORATION

| | |
|--------|--------------------------------------|
| CLIENT | STANDARD |
| TITLE | SENTINEL DRIVE NUT PART DETAIL |

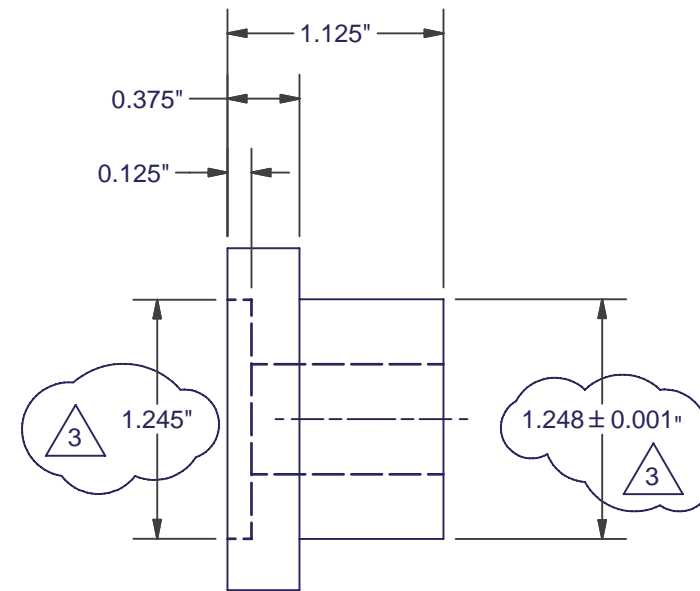
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| | NAME | DATE |
|-------------|----------|----------|
| DRAFTER | PJA | 11/15/04 |
| DESIGNER | PJA | 11/15/04 |
| CHECKER | | |
| APPROVAL | JPT | 11/15/04 |
| PROJECT No. | STANDARD | |

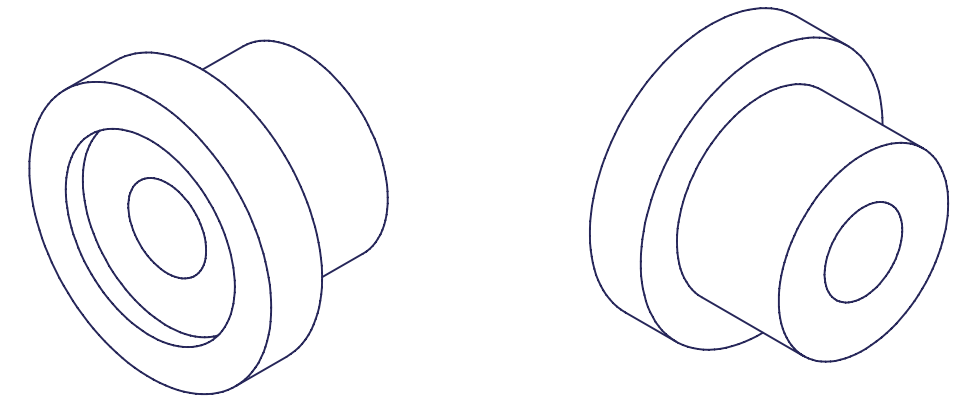
| | | | | | |
|-----------|---------|-----------|--------|-------|------|
| DWG. SIZE | B | SHEET No. | 1 OF 1 | SCALE | FULL |
| DWG. No. | S300807 | | | REV. | 5 |



END VIEW



SIDE VIEW



ISOMETRIC VIEWS

- NOTES:**
1. MATERIAL: ERTALYTE TX
 2. REMOVE ALL BURRS AND SHARP EDGES.

| REV | DESCRIPTION | APP | DATE |
|-----|---------------------------------|-----|----------|
| 3 | REVISED DIMENSIONS AS NOTED | JLZ | 03/05/08 |
| 2 | CHG'D. I.D. TO 0.58" | | 06/26/06 |
| 1 | CHANGED MATERIAL FROM DELRIN AF | JAS | 05/11/06 |
| 0 | ISSUED FOR FABRICATION | JPT | 3/23/05 |

REVISIONS

| TOLERANCES (UNLESS OTHERWISE SPECIFIED) | | | |
|---|---------|--------------------|---------|
| ANGULAR | ± 0°30' | DECIMAL (2 PLACES) | ± .010 |
| FRACTIONAL | ± 1/16" | DECIMAL (3 PLACES) | ± .005 |
| DECIMAL (1 PLACE) | ± 0.15 | DECIMAL (4 PLACES) | ± .0005 |



CALGON CARBON CORPORATION

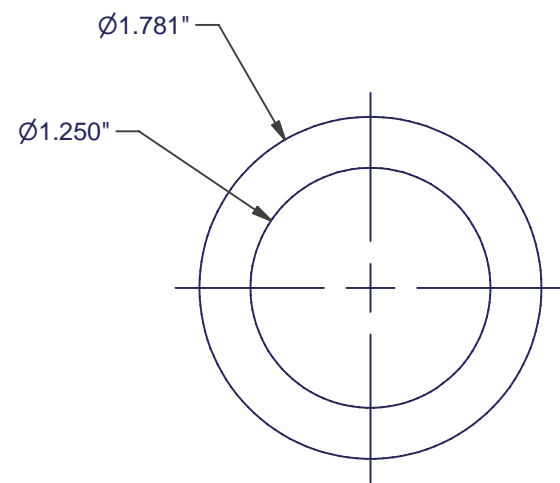
CLIENT
STANDARD

TITLE
**SENTINEL
DRIVE PLATE SCREW BEARING
PART DETAIL**

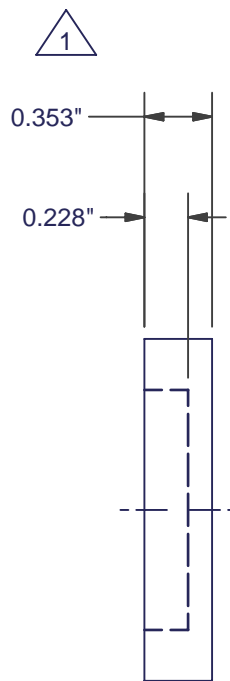
DWG. SIZE **B** SHEET No. **1 OF 1** SCALE **FULL**
 DWG. No. **S300810** REV. **3**

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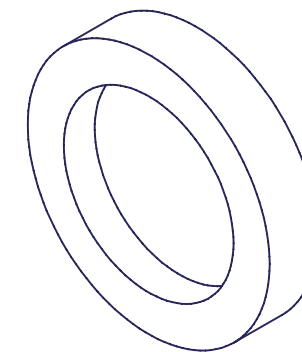
| | NAME | DATE |
|-------------|-----------------|----------|
| DRAFTER | PJA | 01/26/05 |
| DESIGNER | PJA | 01/26/05 |
| CHECKER | JPT | 03/23/05 |
| APPROVAL | | |
| PROJECT No. | STANDARD | |



END VIEW



SIDE VIEW



ISOMETRIC VIEW

- NOTES:**
1. MATERIAL: ERTALYTE TX
 2. REMOVE ALL BURRS AND SHARP EDGES.
 3. ALL SURFACES ARE TO BE 125 RMS UNLESS OTHERWISE SPECIFIED.

| REV | DESCRIPTION | APP | DATE |
|-----|---------------------------------|-----|---------|
| 2 | CHANGED MATERIAL FROM DELRIN AF | JAS | 5/11/06 |
| 1 | REVISED DIMENSIONS | JPT | 6/30/05 |
| 0 | ISSUED FOR FABRICATION | JPT | 3/23/05 |

| REVISIONS | | | |
|---|---------|--------------------|---------|
| TOLERANCES (UNLESS OTHERWISE SPECIFIED) | | | |
| ANGULAR | ± 0°30' | DECIMAL (2 PLACES) | ± .010 |
| FRACTIONAL | ± 1/16" | DECIMAL (3 PLACES) | ± .005 |
| DECIMAL (1 PLACE) | ± 0.15 | DECIMAL (4 PLACES) | ± .0005 |

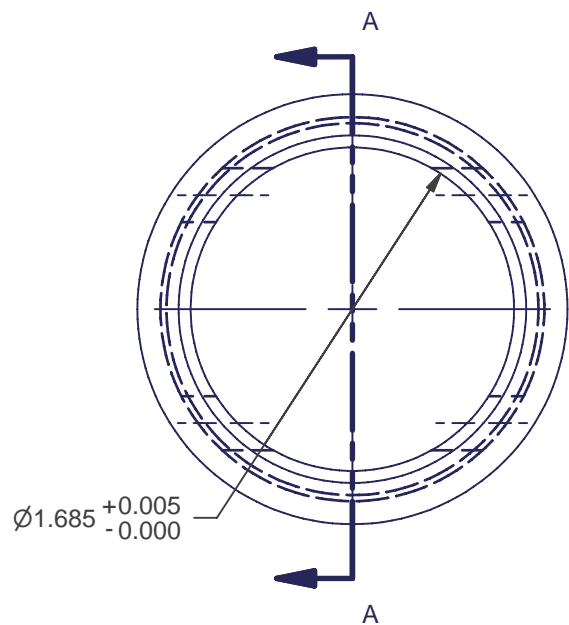


CALGON CARBON CORPORATION

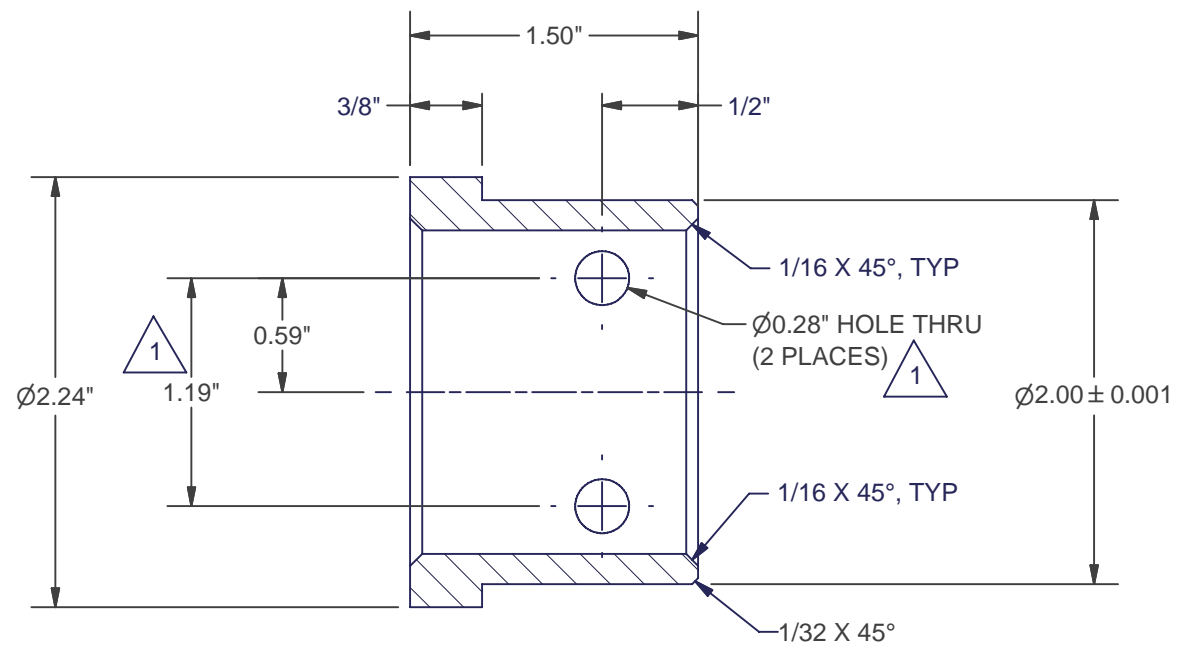
| | | | |
|-----------|--|-----------|------------|
| CLIENT | STANDARD | | |
| TITLE | 12" SENTINEL THRUST BEARING, PART DETAIL | | |
| DWG. SIZE | B | SHEET No. | 1 OF 1 |
| DWG. No. | S300811 | | SCALE FULL |
| REV. No. | | | 2 |

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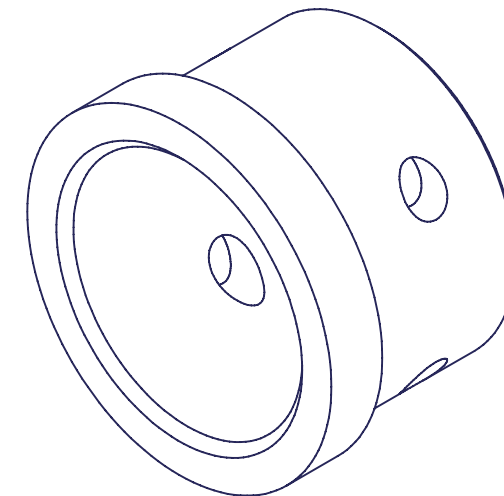
| | NAME | DATE |
|-------------|----------|---------|
| DRAFTER | PJA | 1/27/05 |
| DESIGNER | PJA | 1/27/05 |
| CHECKER | JPT | 3/23/05 |
| APPROVAL | | |
| PROJECT No. | STANDARD | |



END VIEW



SECTION A-A



ISOMETRIC VIEW



NOTES:



- 1. MATERIAL: 316L SS
- 2. REMOVE ALL BURS AND SHARP EDGES.

| REV | DESCRIPTION | APP | DATE |
|-----|---------------------------------|-----|----------|
| 3 | ADDED MATERIAL NOTE | JLZ | 03/07/08 |
| 2 | RE-DESIGNED | JLZ | 03/03/08 |
| 1 | ADDED .28 DIA. HOLE WITH DIM'S. | JAS | 05/22/06 |
| 0 | ISSUED FOR FABRICATION | JPT | 03/23/05 |

| REVISIONS | | | |
|---|---------|--------------------|---------|
| TOLERANCES (UNLESS OTHERWISE SPECIFIED) | | | |
| ANGULAR | ± 0°30' | DECIMAL (2 PLACES) | ± .010 |
| FRACTIONAL | ± 1/16" | DECIMAL (3 PLACES) | ± .005 |
| DECIMAL (1 PLACE) | ± 0.15 | DECIMAL (4 PLACES) | ± .0005 |



CALGON CARBON CORPORATION

CLIENT: STANDARD

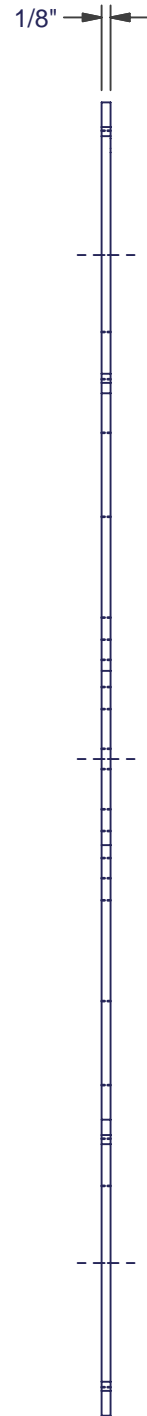
TITLE: SENTINEL DRIVE NUT HOUSING PART DETAIL

DWG. SIZE: B SHEET No. 1 OF 1 SCALE: FULL
 DWG. No. S300816 REV. 3

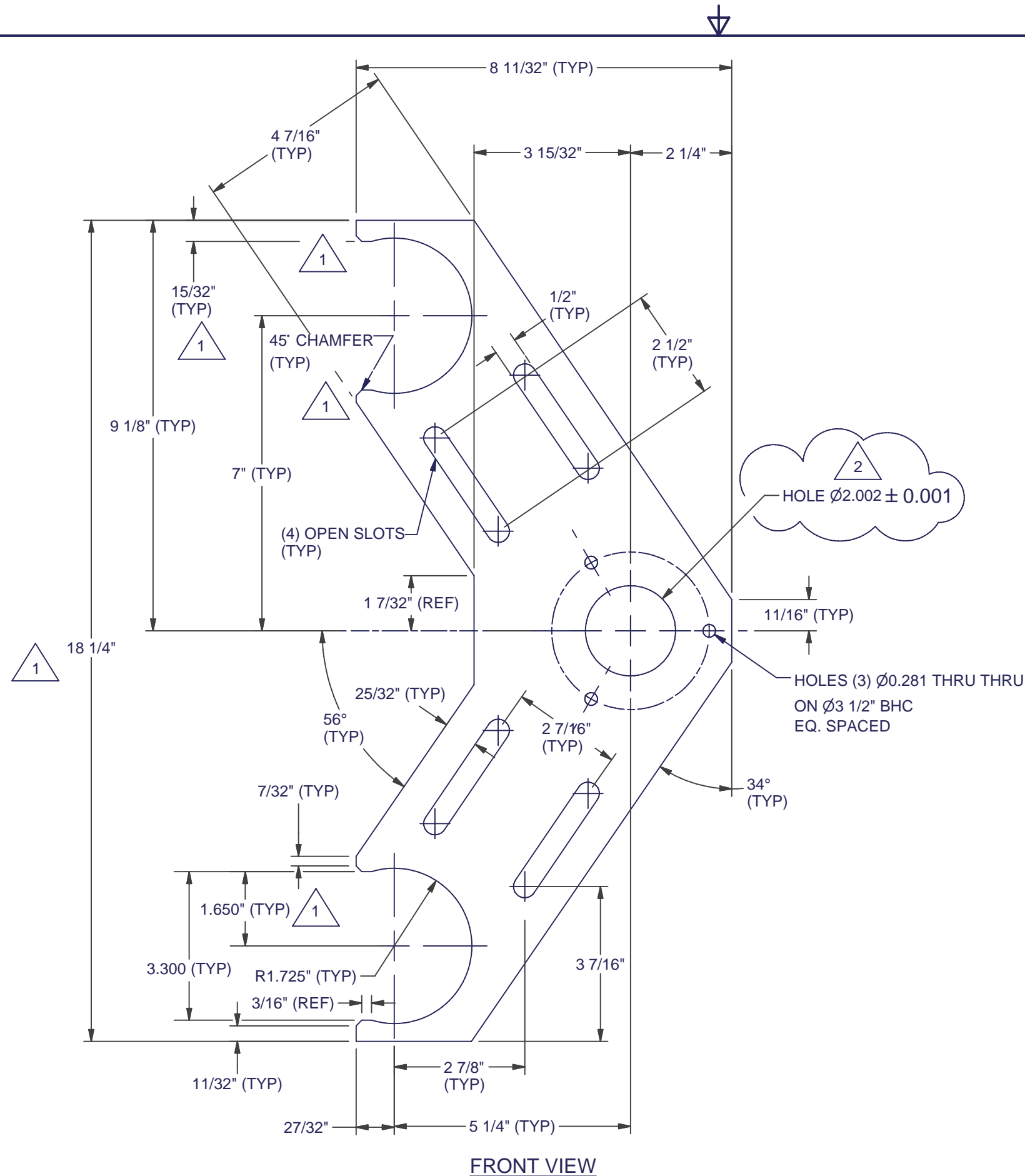
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| | NAME | DATE |
|-------------|----------|----------|
| DRAFTER | PJA | 03/01/05 |
| DESIGNER | PJA | 03/01/05 |
| CHECKER | JPT | 3/23/05 |
| APPROVAL | | |
| PROJECT No. | STANDARD | |

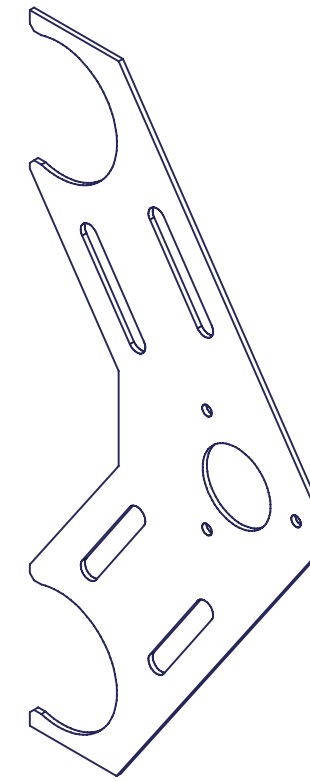




SIDE VIEW



FRONT VIEW



ISOMETRIC VIEW

2
HOLE $\varnothing 2.002 \pm 0.001$

HOLES (3) $\varnothing 0.281$ THRU THRU ON $\varnothing 3 1/2$ BHC EQ. SPACED

- NOTES:**
 1. MATERIAL: 316L SS
 2. REMOVE ALL BURS AND SHARP EDGES.

| REV | DESCRIPTION | APP | DATE |
|-----|------------------------|-----|----------|
| 2 | INCREASED HOLE SIZE | JLZ | 03/03/08 |
| 1 | REV ARM ENDS % DIMS. | JPT | 06/16/05 |
| 0 | ISSUED FOR FABRICATION | JPT | 02/22/05 |

| REVISIONS | | | |
|---|--------------|--------------------|-------------|
| TOLERANCES (UNLESS OTHERWISE SPECIFIED) | | | |
| ANGULAR | $\pm 0'30''$ | DECIMAL (2 PLACES) | $\pm .010$ |
| FRACTIONAL | $\pm 1/16''$ | DECIMAL (3 PLACES) | $\pm .005$ |
| DECIMAL (1 PLACE) | ± 0.15 | DECIMAL (4 PLACES) | $\pm .0005$ |

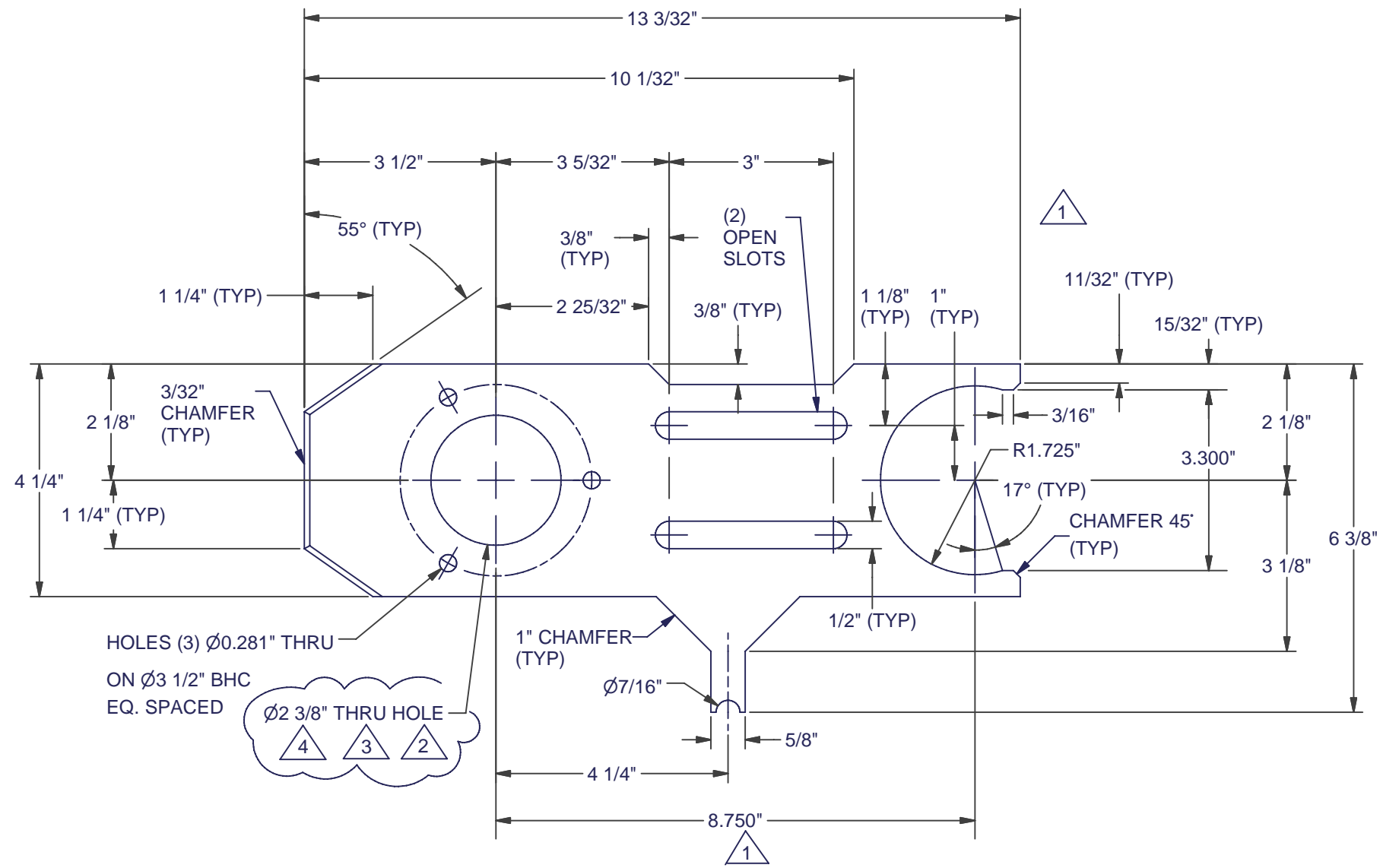


CALGON CARBON CORPORATION

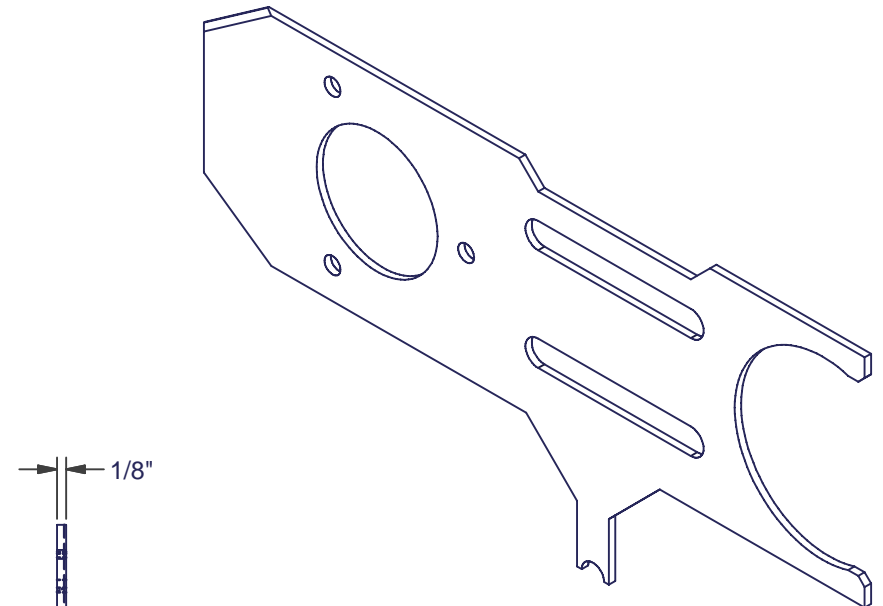
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| | NAME | DATE |
|-------------|----------|----------|
| DRAFTER | PJA | 02/22/05 |
| DESIGNER | PJA | 02/22/05 |
| CHECKER | | |
| APPROVAL | JPT | |
| PROJECT No. | STANDARD | |

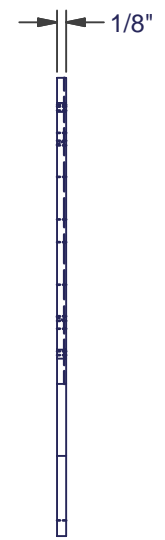
| | |
|-----------|--|
| CLIENT | STANDARD |
| TITLE | 48" SENTINEL, BRUSH PLATE, 2-ARM, 316L SS, PART DETAIL |
| DWG. SIZE | B |
| SHEET No. | 1 OF 1 |
| SCALE | 3/8" = 1" |
| DWG. No. | S300856 |
| REV. | 2 |



FRONT VIEW



ISOMETRIC VIEW



SIDE VIEW

- NOTES:**
 1. REMOVE ALL BURRS AND SHARP EDGES.
 2. MATERIAL: 316L SS.

| REV | DESCRIPTION | APP | DATE |
|-----|------------------------|-----|----------|
| 4 | INCREASED HOLE SIZE | JLZ | 03/03/08 |
| 3 | INCREASED HOLE SIZE | JLZ | 05/24/07 |
| 2 | CHANGE HOLE SIZE | JPT | 06/21/05 |
| 1 | GENERAL REVISION | JPT | 05/12/05 |
| 0 | ISSUED FOR FABRICATION | JPT | 02/22/05 |

| REVISIONS | | | |
|---|---------|--------------------|---------|
| TOLERANCES (UNLESS OTHERWISE SPECIFIED) | | | |
| ANGULAR | ± 0°30' | DECIMAL (2 PLACES) | ± .010 |
| FRACTIONAL | ± 1/16" | DECIMAL (3 PLACES) | ± .005 |
| DECIMAL (1 PLACE) | ± 0.15 | DECIMAL (4 PLACES) | ± .0005 |



CALGON CARBON CORPORATION

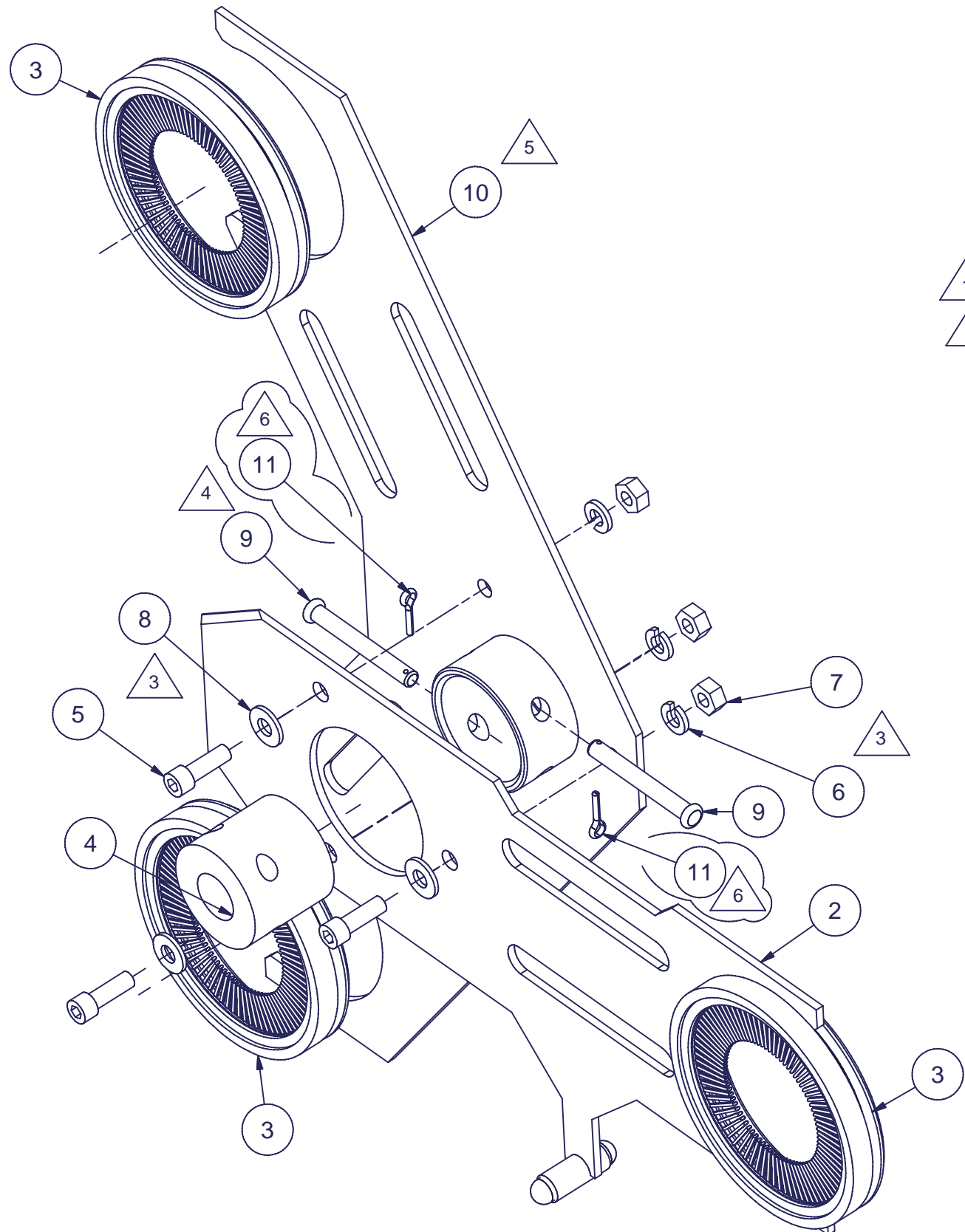
CLIENT
STANDARD

TITLE
**48" SENTINEL
BRUSH PLATE, 1-ARM, 316L SS,
PART DETAIL**

DWG. SIZE **B** SHEET No. **1 OF 1** SCALE **3/8" = 1"**
 DWG. No. **S300857** REV. **4**

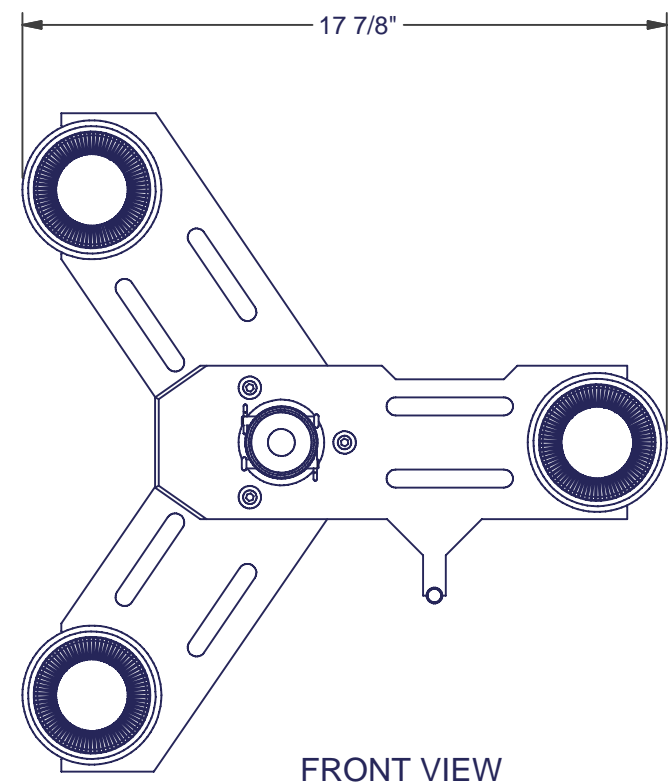
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| | NAME | DATE |
|-------------|-----------------|----------|
| DRAFTER | PJA | 02/22/05 |
| DESIGNER | PJA | 02/22/05 |
| CHECKER | JPT | 06/21/05 |
| APPROVAL | | |
| PROJECT No. | STANDARD | |



EXPLODED VIEW

| Parts List | | | |
|------------|-----|-------------|--|
| ITEM | QTY | PART NUMBER | DESCRIPTION |
| 1 | | | |
| 2 | 1 | S300859 | BRUSH PLATE, 1 ARM WELDED, 48" SENTINEL, ASSEMBLY DETAIL |
| 3 | 3 | S300861 | WIPER, SINGLE, 48" DIA. SENTINEL, ASSEMBLY DETAIL |
| 4 | 1 | S300807 | DRIVE NUT, PART DETAILS |
| 5 | 3 | 650984 | FSTN, S316, SCW, SCCP, 1/4-28X3/4"LG |
| 6 | 3 | 650727 | FSTN, S316, WSH, LOCK REGULAR, 1/4" |
| 7 | 3 | 650985 | FSTN, S316, NUT, FIN HEX, 1/4-28 |
| 8 | 3 | 650980 | FSTN, S316, WSH, FLAT SAE, 1/4" |
| 9 | 2 | 650922 | FSTN, RING PIN, 316 SS, 1/4" DIA. X 2-1/8" LONG |
| 10 | 1 | S301094 | BRUSH PLATE, 2 ARM WELDED, 48" SENTINEL, ASSEMBLY DETAIL |
| 11 | 2 | 651004 | FSTN, PIN, COTTER, 3/32" DIA. X 1/2" LG. |



FRONT VIEW

6 NOTES:
 1. DISCARD RETAINING PIN INCLUDED WITH PART 650922 AND REPLACE WITH PART 651004.

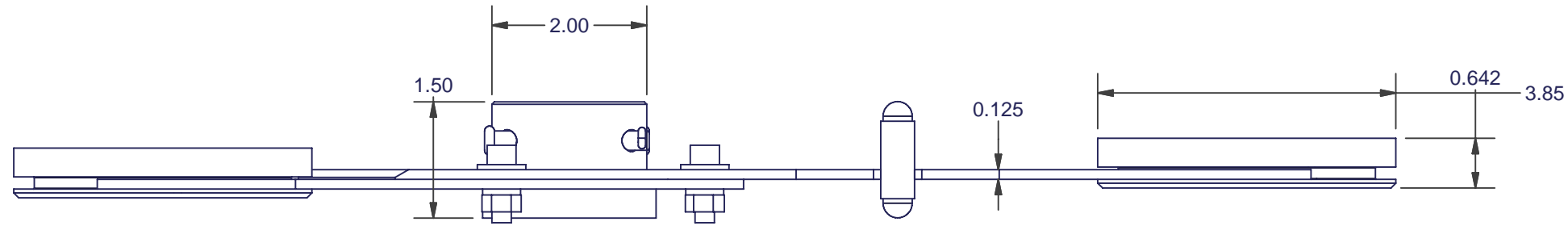
| REV | DESCRIPTION | APP | DATE |
|-----|--------------------------------------|-----|----------|
| 6 | REVISED BOM & ADDED NOTE | JLZ | 03/03/08 |
| 5 | REVISED BOM & UPDATE VIEWS | JLZ | 05/29/07 |
| 4 | INCREASED QTY OF 650922 | JLZ | 01/29/07 |
| 3 | CHG'D S18.8 FASTENER MAT'L. TO S316 | | 04/28/06 |
| 2 | DELETE PART 650929 | JPT | 07/21/05 |
| 1 | REVISED ITEM 1 & 2 & QTY. OF ITEM 10 | JPT | 05/12/05 |
| 0 | ISSUED FOR ASSEMBLY | JPT | 02/24/05 |

| REVISIONS | | | |
|---|---------|--------------------|---------|
| TOLERANCES (UNLESS OTHERWISE SPECIFIED) | | | |
| ANGULAR | ± 0°30' | DECIMAL (2 PLACES) | ± .010 |
| FRACTIONAL | ± 1/16" | DECIMAL (3 PLACES) | ± .005 |
| DECIMAL (1 PLACE) | ± 0.15 | DECIMAL (4 PLACES) | ± .0005 |

| | | | |
|---------------------------|----------|--|--------|
| CALGON | | | |
| CALGON CARBON CORPORATION | | | |
| CLIENT | | STANDARD | |
| TITLE | | 48" SENTINEL WIPER ASSEMBLY DETAIL | |
| DWG. SIZE | B | SHEET No. | 1 OF 2 |
| DWG. No. | S300860 | SCALE | NONE |
| PROJECT No. | STANDARD | REV. | 6 |

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| | NAME | DATE |
|----------|------|----------|
| DRAFTER | PJA | 02/24/05 |
| DESIGNER | PJA | 02/24/05 |
| CHECKER | | |
| APPROVAL | | |



TOP VIEW

| | | | |
|-----|--------------------------------------|-----|----------|
| 6 | REVISED BOM & ADDED NOTE | JLZ | 03/03/08 |
| 5 | REVISED BOM & UPDATE VIEWS | JLZ | 05/29/07 |
| 4 | INCREASED QTY OF 650922 | JLZ | 01/29/07 |
| 3 | CHG'D S18.8 FASTENER MAT'L. TO S316 | | 04/28/06 |
| 2 | DELETE PART 650929 | JPT | 07/21/05 |
| 1 | REVISED ITEM 1 & 2 & QTY. OF ITEM 10 | JPT | 05/12/05 |
| 0 | ISSUED FOR ASSEMBLY | JPT | 02/24/05 |
| REV | DESCRIPTION | APP | DATE |

| REVISIONS | | | |
|---|---------|--------------------|---------|
| TOLERANCES (UNLESS OTHERWISE SPECIFIED) | | | |
| ANGULAR | ± 0°30' | DECIMAL (2 PLACES) | ± .010 |
| FRACTIONAL | ± 1/16" | DECIMAL (3 PLACES) | ± .005 |
| DECIMAL (1 PLACE) | ± 0.15 | DECIMAL (4 PLACES) | ± .0005 |



CALGON CARBON CORPORATION

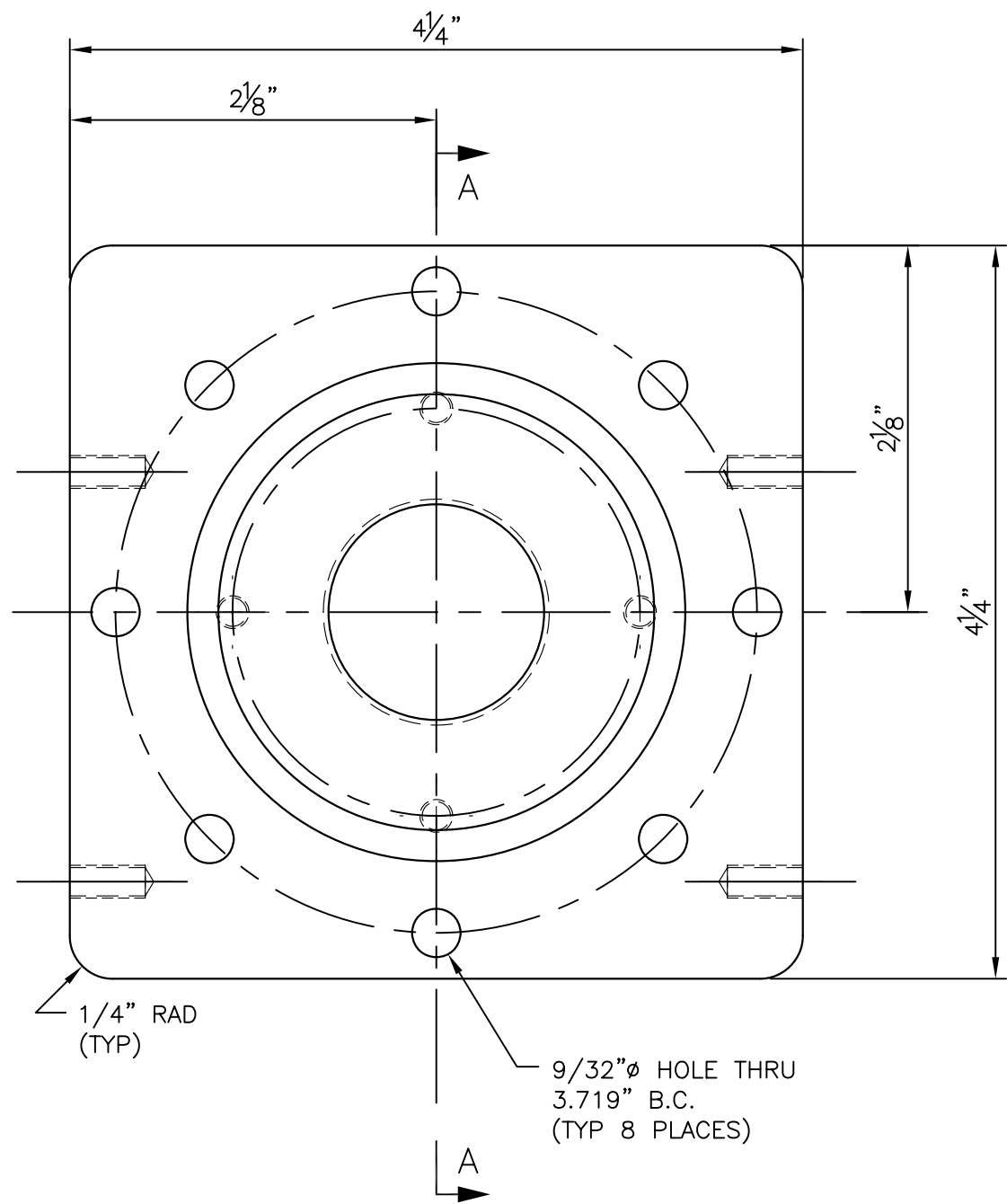
CLIENT
STANDARD

TITLE
48" SENTINEL
WIPER
ASSEMBLY DETAIL

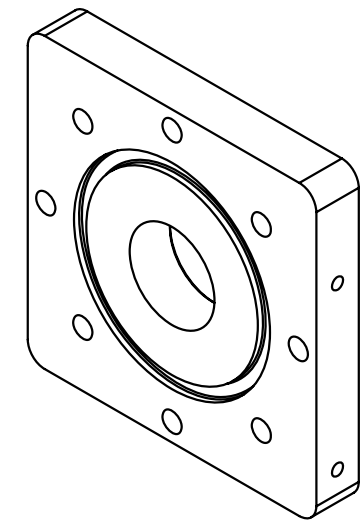
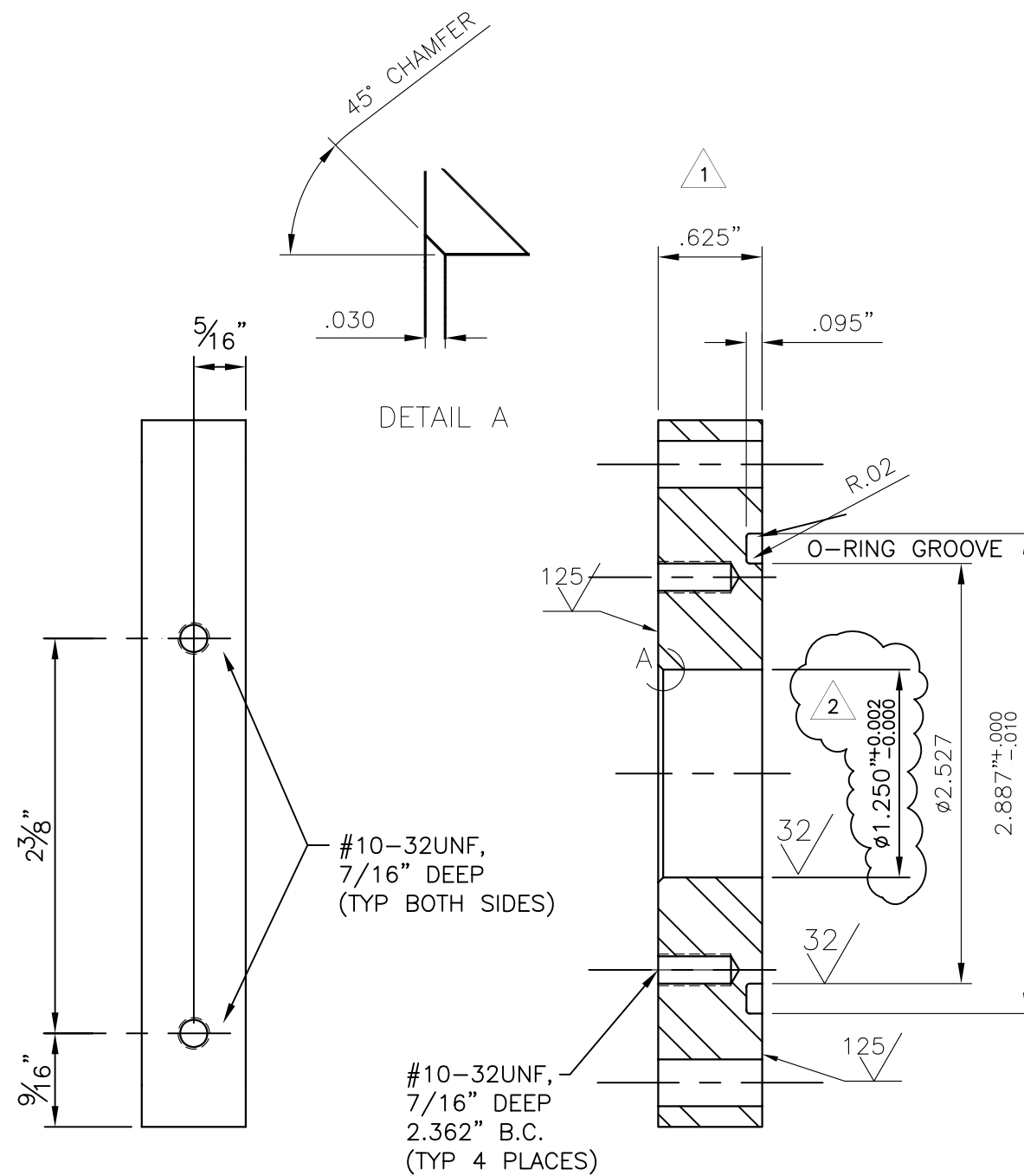
DWG. SIZE B SHEET No. 2 OF 2 SCALE NONE
DWG. No. S300860 REV. 6

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| | NAME | DATE |
|-------------|----------|----------|
| DRAFTER | PJA | 02/24/05 |
| DESIGNER | PJA | 02/24/05 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |



FRONT VIEW



ISOMETRIC VIEW

NOTES:

1. MATERIAL: 316L S.STL.
2. REMOVE ALL BURRS AND SHARP EDGES.
3. PROVIDE MATERIAL TEST REPORTS.

| 3 | | | |
|-----|-------------------------------------|-----|----------|
| 2 | ADDED TOLERANCE TO CENTER THRU HOLE | JLZ | 11/12/07 |
| 1 | CHG'D PLATE THICKNESS | JPT | 9/8/05 |
| 0 | ISSUED FOR FABRICATION | JPT | 6/16/05 |
| REV | DESCRIPTION | APP | DATE |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------------|--------------------|--------------|
| ANGULAR | $\pm 0'30''$ | DECIMAL (2 PLACES) | ± 0.10 |
| FRACTIONAL | $\pm 1/16''$ | DECIMAL (3 PLACES) | ± 0.005 |
| DECIMAL (1 PLACE) | ± 0.015 | DECIMAL (4 PLACES) | ± 0.0005 |



CALGON CARBON CORPORATION

CLIENT STANDARDS

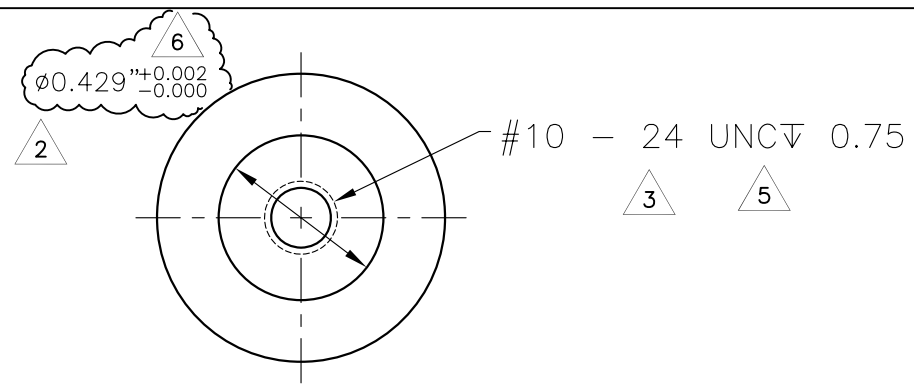
TITLE SENTINEL SYSTEM SCREW DRIVE ADAPTER PLATE PART DETAIL

DWG. Size B SHEET No. 1 OF 1 SCALE NONE
 DWG. No. S300870 REV. 2

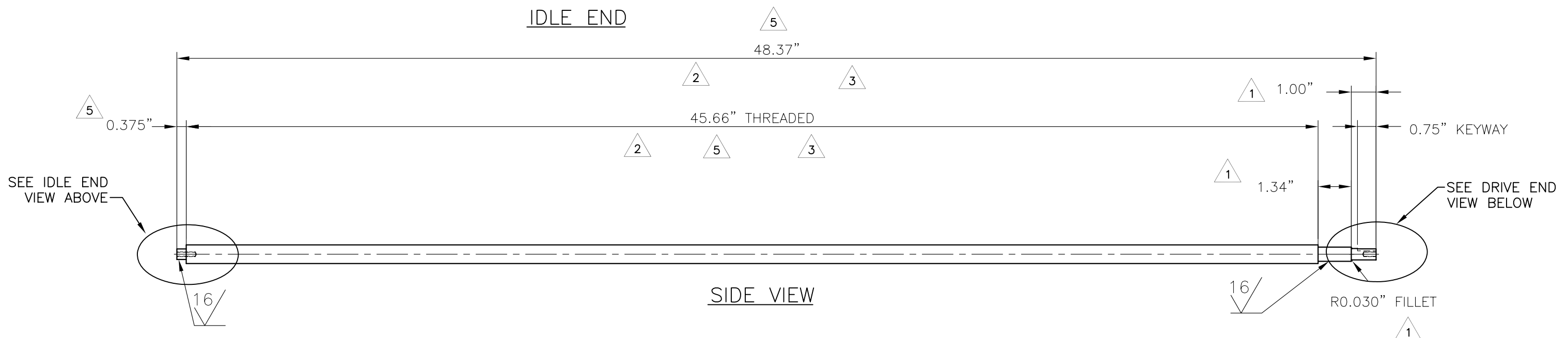
ALL SURFACES ARE TO BE 250 UNLESS OTHERWISE SPECIFIED

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| | NAME | DATE |
|-------------|----------|---------|
| DRAFTER | PJA | 6/16/05 |
| DESIGNER | PJA | 6/16/05 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |



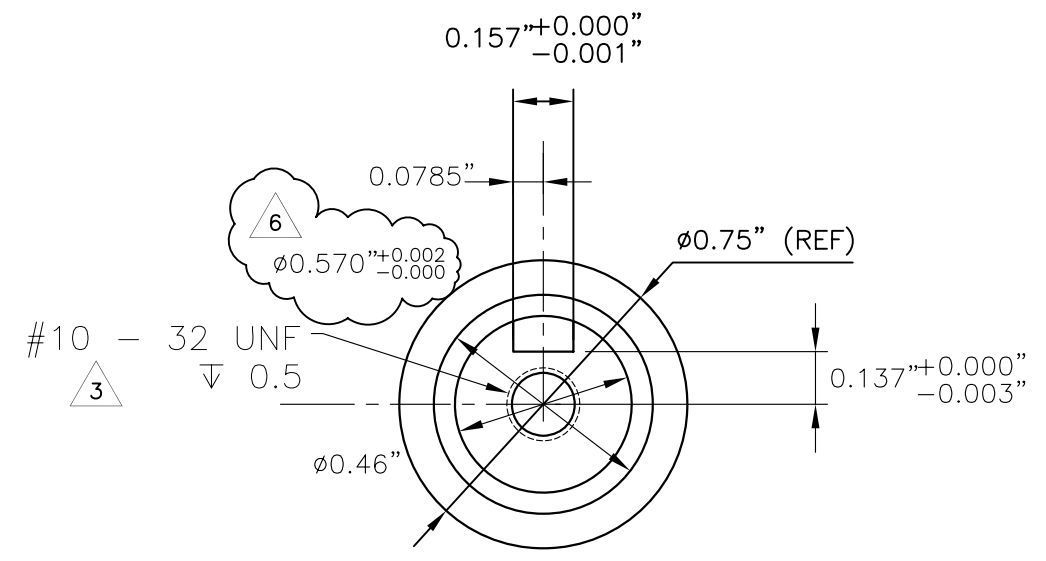
IDLE END



SIDE VIEW

IDLE END

DRIVE END



DRIVE END

NOTES:

- MAT'L. 316 SS
- DRIVE THREAD: ROTON $\phi 0.75$ "x.5 PITCH, 0.125" LEAD, 4 STARTS.
- REMOVE ALL BURRS AND SHARP EDGES.

| 6 | CHANGED TOLERANCES | JLZ | 11/12/07 |
|-----|---|-----|----------|
| 5 | CHG'D TAP THREAD & LENGTHS | JAS | 6/22/06 |
| 4 | CHG'D. LEAD FROM .5" TO .125" | PJA | 2/1/06 |
| 3 | CHG. TOTAL & THREADED LENGTH DIMS | | 12/16/05 |
| 2 | REDUCED THREADED LENGTH & ADDED DIM. | JPT | 9/1/05 |
| 1 | REVISED NOTES, CHAMFER, FILLET, AND DIMS. | JPT | 6/29/05 |
| 0 | ISSUED FOR FABRICATION | JPT | 6/17/05 |
| REV | DESCRIPTION | APP | DATE |

| TOLERANCES (unless otherwise specified) | | | |
|---|-------------|--------------------|--------------|
| ANGULAR | $\pm 0'30"$ | DECIMAL (2 PLACES) | ± 0.10 |
| FRACTIONAL | $\pm 1/16"$ | DECIMAL (3 PLACES) | ± 0.005 |
| DECIMAL (1 PLACE) | ± 0.015 | DECIMAL (4 PLACES) | ± 0.0005 |



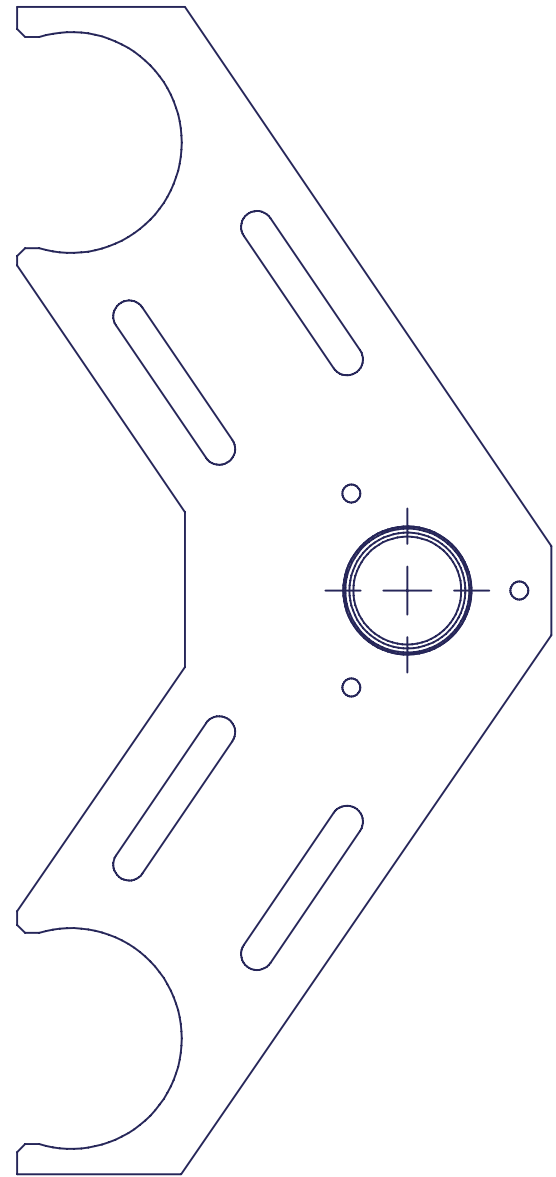
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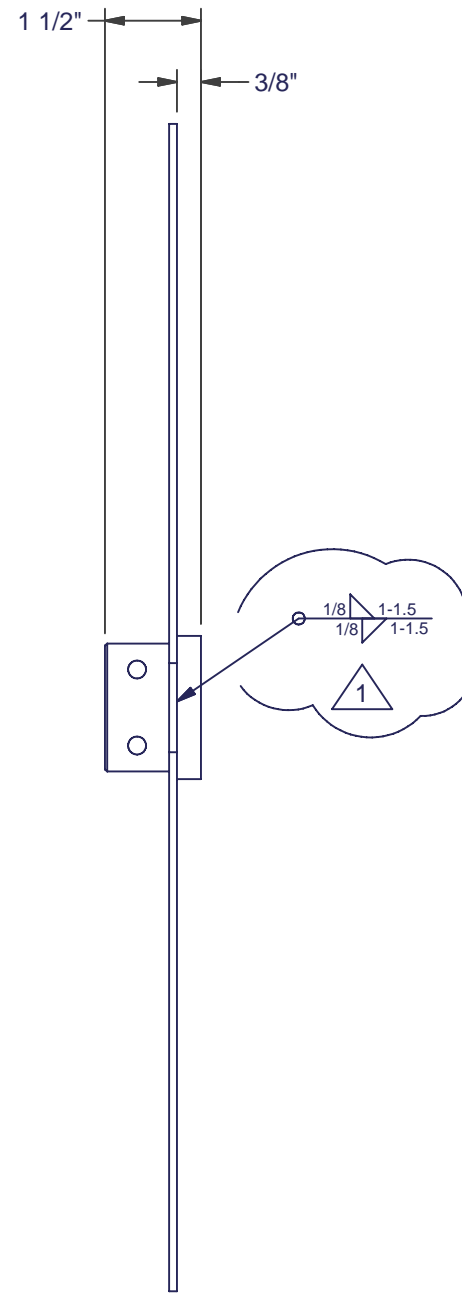
| | NAME | DATE |
|-------------|----------|---------|
| DRAFTER | PJA | 6/17/05 |
| DESIGNER | PJA | 6/17/05 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |

| | | | |
|-----------|--------------------------------------|------------------|------------|
| CLIENT | STANDARDS | | |
| TITLE | 48" SENTINEL DRIVE SCREW PART DETAIL | | |
| DWG. Size | B | SHEET No. 1 OF 1 | SCALE NONE |
| DWG. No. | S300891 | REV. | 6 |

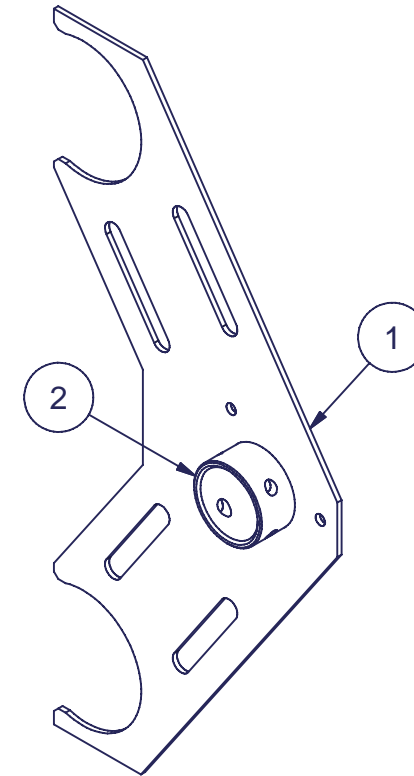
| Parts List | | | |
|------------|-----|---------|--|
| ITEM | QTY | PART# | DESCRIPTION |
| 1 | 1 | S300856 | BRUSH PLATE, 2-ARM, 316L SS, 48" SENTINEL, PART DETAIL |
| 2 | 1 | S300816 | HOUSING, BRUSH NUT, PART DETAIL |



FRONT VIEW



END VIEW



ISOMETRIC VIEW

| REV | DESCRIPTION | APP | DATE |
|-----|---------------------------------|-----|----------|
| 2 | | | |
| 1 | REVISE WELD NOTE & UPDATE VIEWS | JLZ | 03/03/08 |
| 0 | ISSUED FOR FABRICATION | JLZ | 05/29/07 |

REVISIONS

| TOLERANCES (UNLESS OTHERWISE SPECIFIED) | | | |
|---|---------|--------------------|---------|
| ANGULAR | ± 0°30' | DECIMAL (2 PLACES) | ± .010 |
| FRACTIONAL | ± 1/16" | DECIMAL (3 PLACES) | ± .005 |
| DECIMAL (1 PLACE) | ± 0.15 | DECIMAL (4 PLACES) | ± .0005 |



CALGON CARBON CORPORATION

CLIENT
STANDARD

TITLE
48" SENTINEL
BRUSH PLATE 2-ARM, WELDED
SUB-ASSEMBLY DETAIL

THIS DRAWING AND DESIGN IS THE PROPERTY OF CALGON CARBON CORPORATION AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY CALGON CARBON CORPORATION. THIS DRAWING LOANED SUBJECT TO RETURN ON DEMAND.

| | NAME | DATE |
|-------------|----------|----------|
| DRAFTER | JLZ | 05/29/07 |
| DESIGNER | JLZ | 05/29/07 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | STANDARD | |

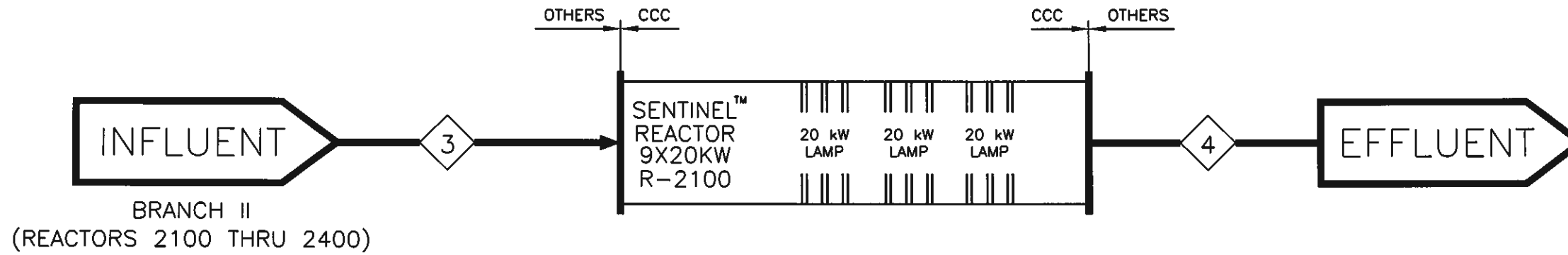
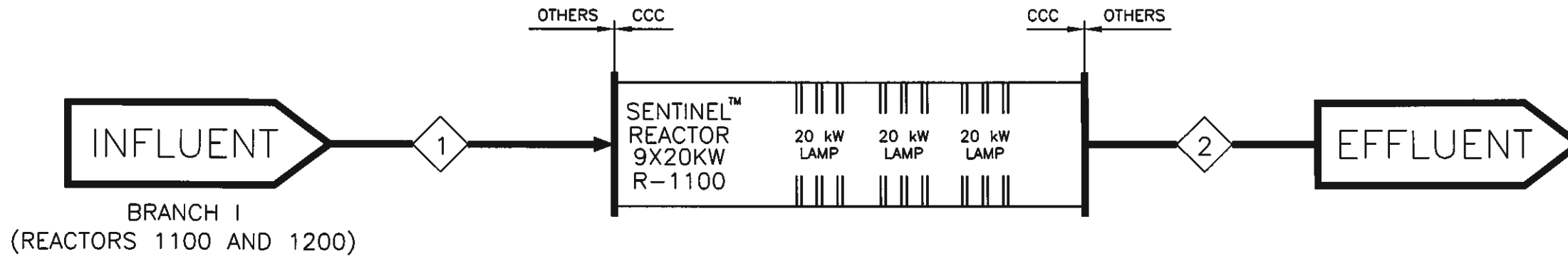
| | | | | | |
|-----------|---------|-----------|--------|-------|------|
| DWG. SIZE | B | SHEET No. | 1 OF 1 | SCALE | NONE |
| DWG. No. | S301094 | | | REV. | 1 |

R-1100
 SENTINEL™ REACTOR
 CAPACITY - 180 Kw
 LAMP SET POINT - 20 Kw
 DESIGN TEMP - 25°C
 DESIGN PRESSURE - 150 PSI



NOTES:

1. PIPE SUPPORTS, REDUCERS, BYPASS PIPING, ISOLATION VALVES, AND ALL INTERCONNECTING PIPING BY OTHERS.
2. LAMPS POSITIONED HORIZONTALLY IN REACTOR PERPENDICULAR TO FLOW.
3. REACTOR TO REMAIN FULL AT ALL TIMES.
4. ENSURE THAT ISOLATION VALVES, BY OTHERS, DO NOT INTRUDE SENTINEL REACTOR.
5. VALVES DOWNSTREAM OF REACTOR TO BE SLOW CLOSING TO PREVENT WATER HAMMER.



T:\UV Projects\2003\US-03056.WINN\Drawings\Process\S500109-001.dwg Apr 15, 2008 - 8:56am

| STREAM # | 1 | 2 | 3 | 4 |
|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| DESCRIPTION | SENTINEL™ R-1100 INFLUENT | SENTINEL™ R-1100 EFFLUENT | SENTINEL™ R-2100 INFLUENT | SENTINEL™ R-2100 EFFLUENT |
| FLOW MAX | 82 MLD | 82 MLD | 82 MLD | 82 MLD |
| FLOW MAX (FUTURE) | 125 MLD | 125 MLD | 102 MLD | 102 MLD |
| FLOW AVE | 49 MLD | 49 MLD | 31.5 MLD | 31.5 MLD |
| FLOW MIN | 25 MLD | 25 MLD | 12.5 MLD | 12.5 MLD |
| pH | 7.4 - 8.0 | 7.4 - 8.0 | 7.4 - 8.0 | 7.4 - 8.0 |
| %T @ 254nm | 75% | 75% | 75% | 75% |
| %T @ 254nm (FUTURE) | 90% | 90% | 90% | 90% |
| TEMPERATURE | 1.75° C - 23° C | 1.75° C - 23° C | 1.75° C - 23° C | 1.75° C - 23° C |
| PRESSURE | 50 - 100 PSI | 50 - 100 PSI | 50 - 100 PSI | 50 - 100 PSI |



| 1 | REVISE CLIENT ADDRESS SPELLING | JPT | 9/14/05 |
|-----------|----------------------------------|-----|---------|
| 0 | REVISE CLIENT TITLE SPELLING | JPT | 6/22/05 |
| A | UPDATED PER PROJECT REQUIREMENTS | | |
| REV | DESCRIPTION | APP | DATE |
| REVISIONS | | | |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0.30° | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

CLIENT 1 CITY OF WINNIPEG MANITOBA, CANADA 0

TITLE PROCESS FLOW DIAGRAM
 48", 9X20KW SENTINEL UNIT

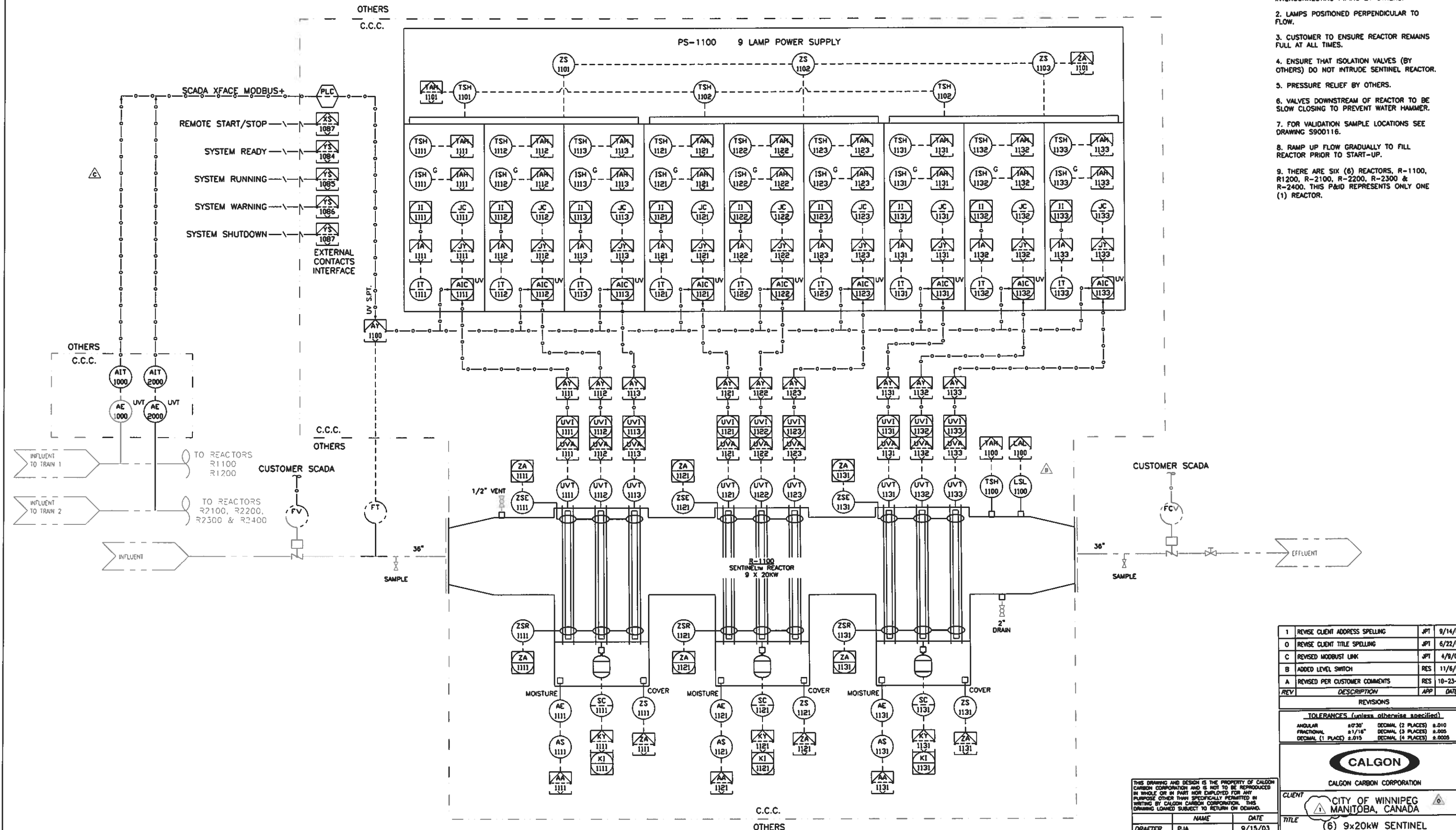
THIS DRAWING AND DESIGN IS THE PROPERTY OF CALGON CARBON CORPORATION AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY CALGON CARBON CORPORATION. THIS DRAWING LOANED SUBJECT TO RETURN ON DEMAND.

| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | PJA | 09/15/03 |
| DESIGNER | | |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | | | | |
|-----------|---------|-----------|--------|-------|-----|
| DWG. Size | B | SHEET No. | 1 OF 1 | SCALE | NTS |
| DWG. No. | S500109 | | | REV. | 1 |

NOTES:

- PIPE SUPPORTS, REDUCERS, BYPASS PIPING, ISOLATION VALVES AND ALL INTERCONNECTING PIPING BY OTHERS.
- LAMPS POSITIONED PERPENDICULAR TO FLOW.
- CUSTOMER TO ENSURE REACTOR REMAINS FULL AT ALL TIMES.
- ENSURE THAT ISOLATION VALVES (BY OTHERS) DO NOT INTRUDE SENTINEL REACTOR.
- PRESSURE RELIEF BY OTHERS.
- VALVES DOWNSTREAM OF REACTOR TO BE SLOW CLOSING TO PREVENT WATER HAMMER.
- FOR VALIDATION SAMPLE LOCATIONS SEE DRAWING S900116.
- RAMP UP FLOW GRADUALLY TO FILL REACTOR PRIOR TO START-UP.
- THERE ARE SIX (6) REACTORS, R-1100, R1200, R-2100, R-2200, R-2300 & R-2400. THIS P&ID REPRESENTS ONLY ONE (1) REACTOR.



TYPICAL FOR REACTORS 1100,1200,2100,2200,2300 & 2400

| REV | DESCRIPTION | APP | DATE |
|-----|--------------------------------|-----|----------|
| 1 | REVISE CLIENT ADDRESS SPELLING | JPT | 9/14/05 |
| 0 | REVISE CLIENT TITLE SPELLING | JPT | 6/22/05 |
| C | REVISED MODBUS LINK | JPT | 4/9/04 |
| B | ADDED LEVEL SWITCH | RES | 11/6/03 |
| A | REVISED PER CUSTOMER COMMENTS | RES | 10-23-03 |

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|---------|
| ANGULAR | ±0.30° | DECIMAL (2 PLACES) | ±0.10 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±0.005 |
| DECIMAL (1 PLACE) | ±0.015 | DECIMAL (4 PLACES) | ±0.0008 |

CALGON
CALGON CARBON CORPORATION

CLIENT: CITY OF WINNIPEG MANITOBA, CANADA

TITLE: (6) 9x20kW SENTINEL UV REACTORS PROCESS & INSTRUMENTATION DIAGRAM

DWG No. S500110 SCALE NONE REV. 1

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| NAME | DATE |
|--------------|---------|
| DRAFTER: PJA | 9/15/03 |
| DESIGNER: | |
| CHECKER: RES | 10-7-03 |
| APPROVAL: | |

PROJECT No. US-03056.WINN

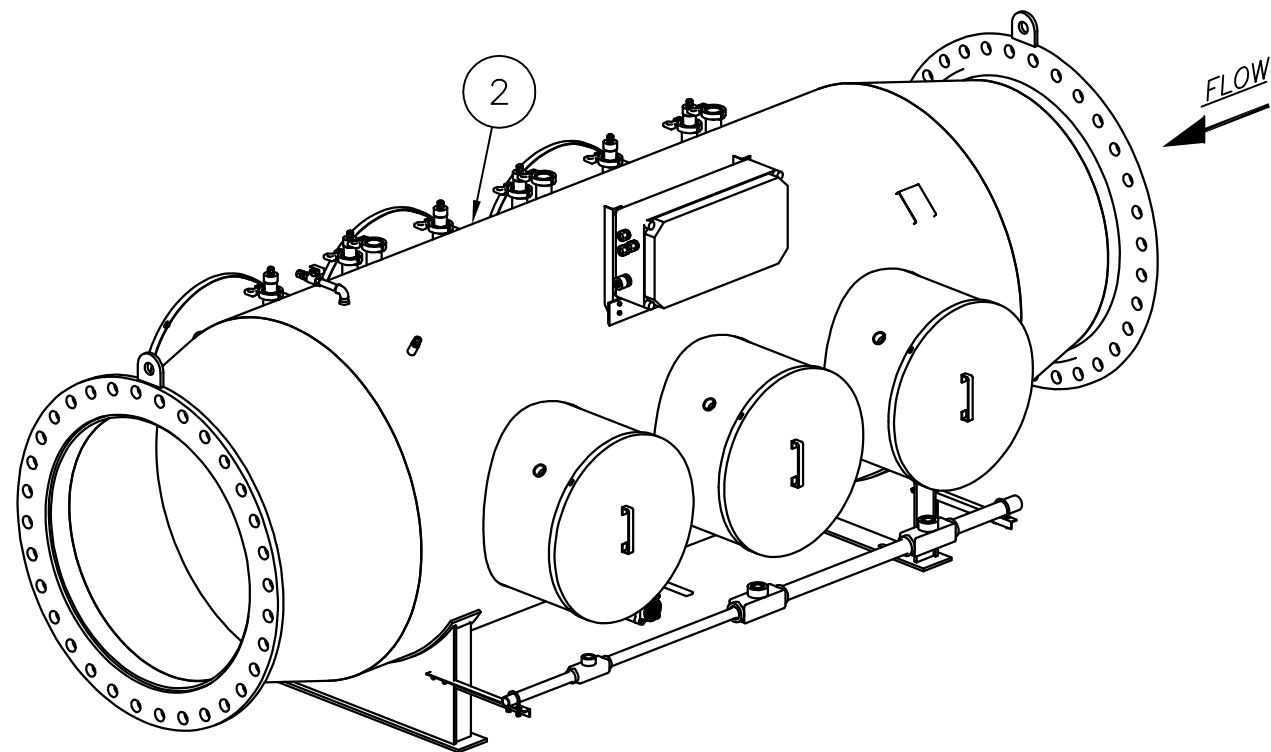
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PARTS LIST

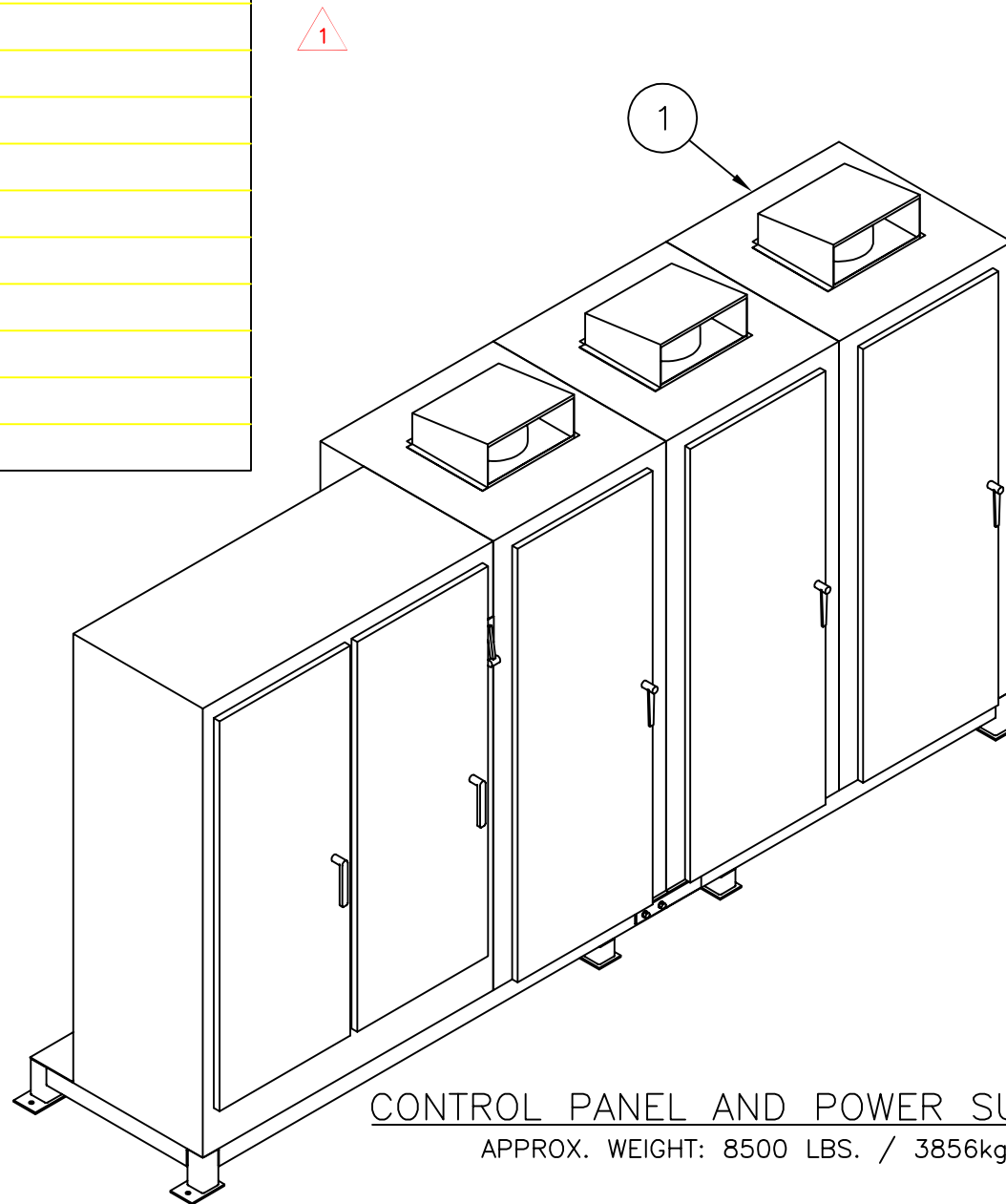
| ITEM | QTY | NAME | DESCRIPTION |
|--------------------------------------|-----|---------|--|
| 1 | 6 | S100533 | 48"φ, 9x20kW SENTINEL, POWER SUPPLY AND CONTROL PANEL SKID |
| 2 | 6 | S300612 | 48"φ, 9x20kW SENTINEL, T/L REACTOR ASSEMBLY |
| 3 | 2 | 450598 | ANALYZER, ONLINE %T,DISINFECTION MONITOR W/ ISOL. OUTPUT |
| SPARE PARTS PURCHASED WITH EQUIPMENT | | | |
| | 169 | S300353 | 20kW LAMP ASSEMBLY |
| | 3 | S300401 | BRUSH, SINGLE ASSEMBLY |
| | 3 | S300444 | NUT, SCREW DRIVE FLANGE, TEFLON |
| | 3 | S300445 | SLEEVE, SCREW END SUPPORT, PTFE |
| | 10 | S300470 | QUARTZ SLEEVE, 52mm x 48mm x 52.5" LG. |
| | 3 | S300648 | TEFLON BUSHING |
| 2 | 10 | 153892 | CAPACITOR, 2.1MFD, 4000V |
| | 1 | 350307 | UV REFERENCE MEASURING INSTRUMENT |
| | 3 | 350310 | UV SENSOR, 0-200W/m2 |
| | 3 | 350331 | SEAL, MOTOR MOUNT O-RING |
| | 100 | 350342 | SEAL, ORNG, EPDM-NSF, 2.0"ID x 0.1875"W |
| | 3 | 350346 | SEAL, HAND HOLE O-RING |
| | 3 | 1007447 | GASKET, SANITARY, TEFLON, 2" |

NOTES:

- SENTINEL REACTOR PROVIDED WITH 36" 125 LB. FLAT FACE FLANGES.
- INFLUENT AND EFFLUENT PIPING BY OTHERS.
- CONTROL PANEL AND POWER SUPPLY MAY BE SEPARATED FROM THE SENTINEL REACTOR TO FACILITATE INSTALLATION BY NO MORE THAN 500 FEET / 150M OF CABLE.
- ENTIRE FRONT AND TOP OF POWER SUPPLY CABINETS TO BE UNOBSTRUCTED FOR COOLING AIR FLOW.
- REQUIRED CLEARANCE FOR LAMP REMOVAL OF 48" MAY BE PROVIDED ON EITHER SIDE OF THE REACTOR.
- TOTAL HEAT REJECTION FROM ELECTRICAL CABINETS IS 49,000 BTU's.



SENTINEL REACTOR ASSEMBLY
APPROX. WEIGHT: 6000 LBS. / 2720kg
MATERIAL: 316L S.STL.



CONTROL PANEL AND POWER SUPPLY
APPROX. WEIGHT: 8500 LBS. / 3856kg

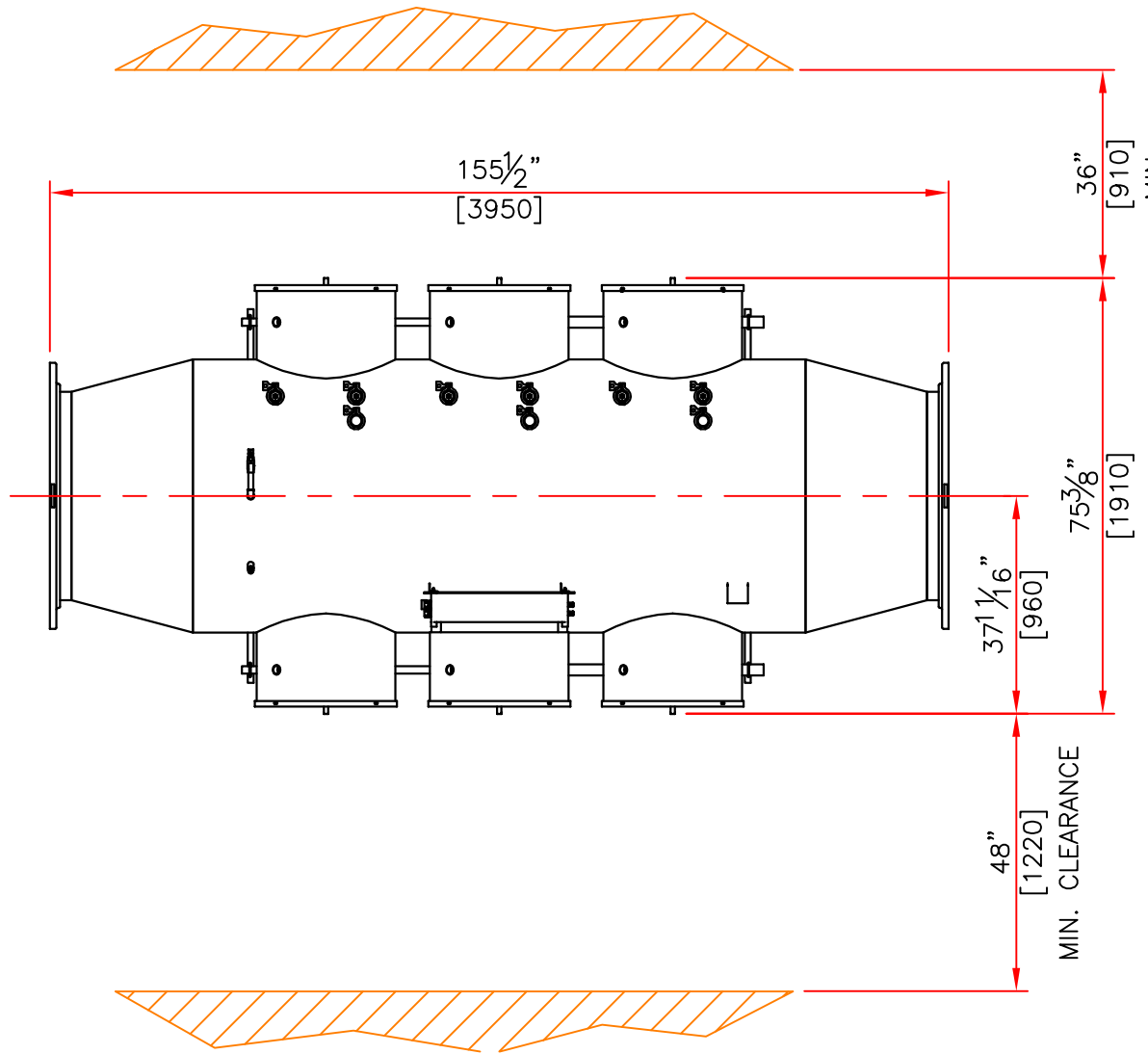
| DESIGN CONDITIONS | | |
|------------------------|--------|-----------|
| FLOW | 21.6 | MGD |
| UV TRANSMITTANCE (MIN) | 75 | %T |
| UV TRANSMITTANCE (MAX) | 85 | %T |
| PRESSURE | 150 | PSI |
| TEMPERATURE | 77 | *F |
| REACTOR CONFIGURATION | 9 LAMP | STAGGERED |

| | | |
|---|---------------|---------|
| THIS DRAWING AND DESIGN IS THE PROPERTY OF CALGON CARBON CORPORATION AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART NOR EMPLOYED FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY CALGON CARBON CORPORATION. THIS DRAWING LOANED SUBJECT TO RETURN ON DEMAND. | | |
| | NAME | DATE |
| DRAFTER | PJA | 9/15/03 |
| DESIGNER | PJA | 9/15/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

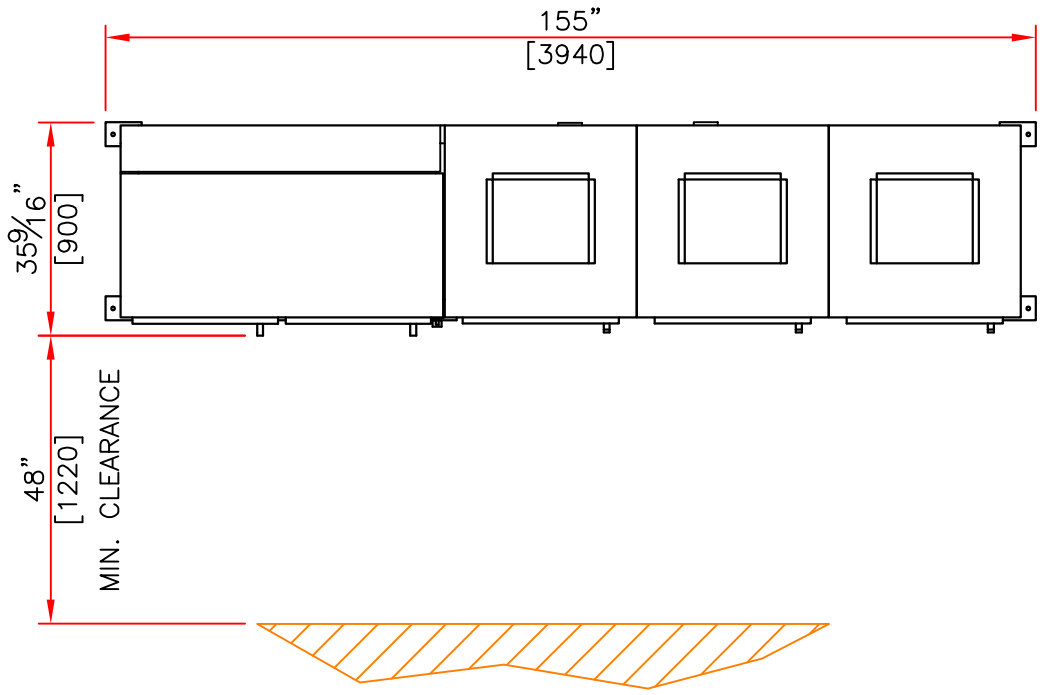
| REV | DESCRIPTION | APP | DATE |
|-----|-------------------------------------|-----|----------|
| 4 | REVISED CLIENT TITLE SPELLING | JPT | 6/22/05 |
| 3 | ADDED NOTE 6 & SHT. 4 | JPT | 4/8/04 |
| 2 | ADDED SHIPPING ARRANGEMENT, REVISED | MA | 1/4/04 |
| 1 | ANCHOR BOLT PATTERN AND SPARE PARTS | | |
| 0 | ADDED SPARE PARTS | MA | 1/6/04 |
| 0 | ISSUED FOR FABRICATION | MA | 11/14/03 |

| REVISIONS | | | |
|---|--------|--------------------|--------|
| TOLERANCES (unless otherwise specified) | | | |
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

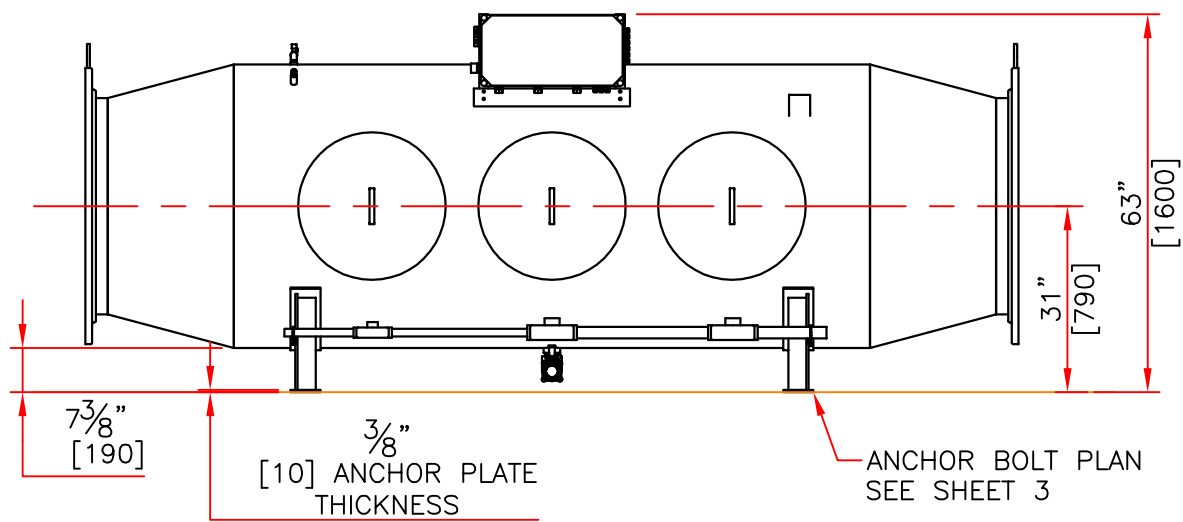
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|--|---|-----------|------------|
| CALGON CALGON CARBON CORPORATION | | | |
| CLIENT | CITY OF WINNIPEG MANITOBA, CANADA | | |
| TITLE | 9x20kW SENTINEL EQUIPMENT LAYOUT ISOMETRIC VIEW | | |
| DWG. Size | B | SHEET No. | 1 OF 4 |
| DWG. No. | S900113 | | SCALE NONE |
| | | | REV. 4 |



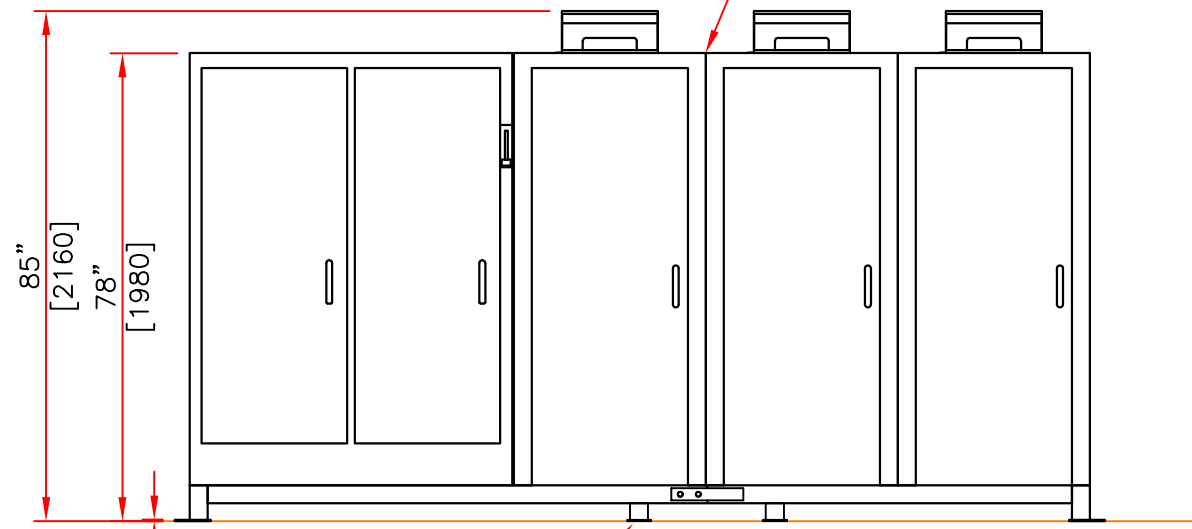
PLAN



PLAN



ELEVATION



ELEVATION

2
PANELS SHALL BE BOLTED TOGETHER AND REWIRED ONCE SET IN PLACE.

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| | NAME | DATE |
|-------------|---------------|---------|
| DRAFTER | PJA | 9/15/03 |
| DESIGNER | PJA | 9/15/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| REV | DESCRIPTION | APP | DATE |
|-----|-------------------------------------|-----|----------|
| 4 | REVISED CLIENT TITLE SPELLING | JPT | 6/22/05 |
| 3 | ADDED NOTE 6 & SHT. 4 | JPT | 4/8/04 |
| 2 | ADDED SHIPPING ARRANGEMENT, REVISED | MA | 1/4/04 |
| 1 | ADDED SPARE PARTS | MA | 1/6/04 |
| 0 | ISSUED FOR FABRICATION | MA | 11/14/03 |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |

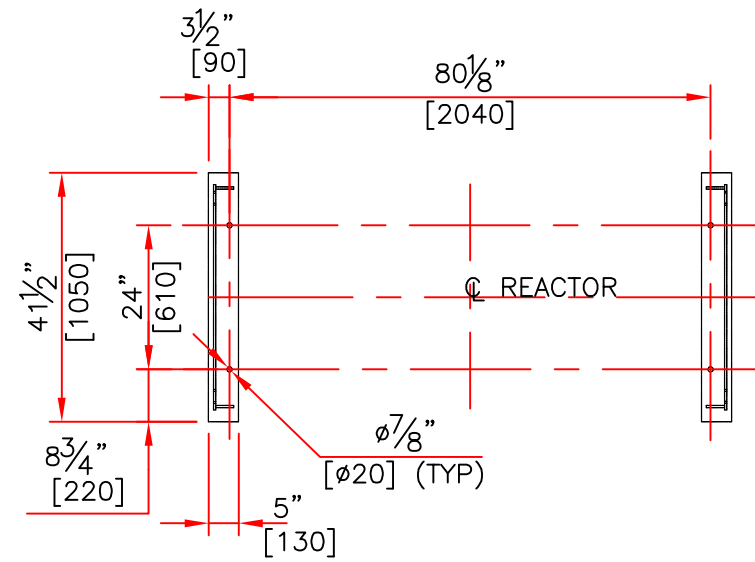


CALGON CARBON CORPORATION

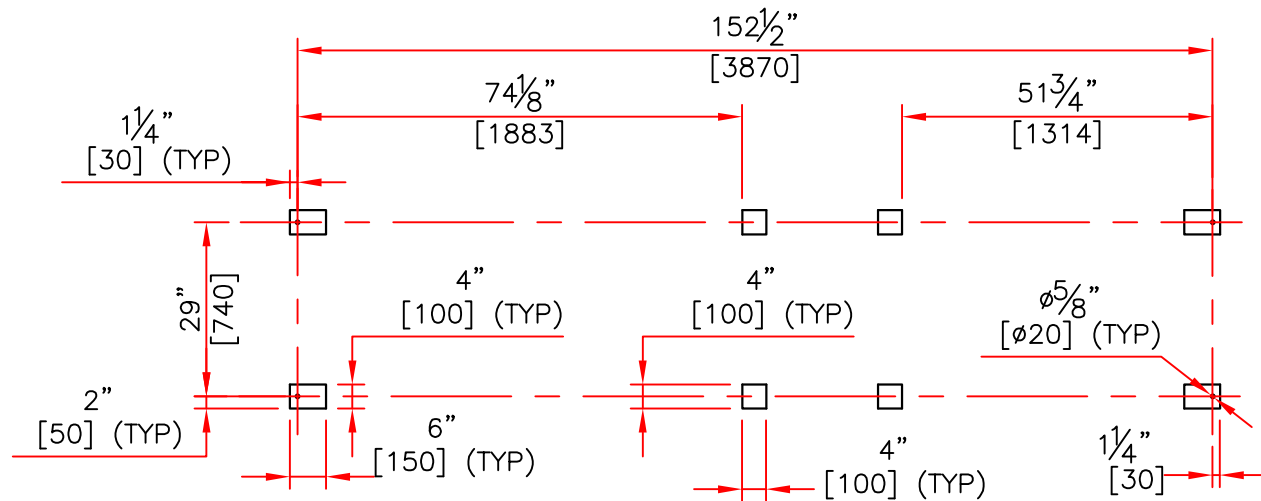
CLIENT: CITY OF WINNIPEG MANITOBA, CANADA

TITLE: 9x20kW SENTINEL EQUIPMENT LAYOUT PLAN AND ELEVATION

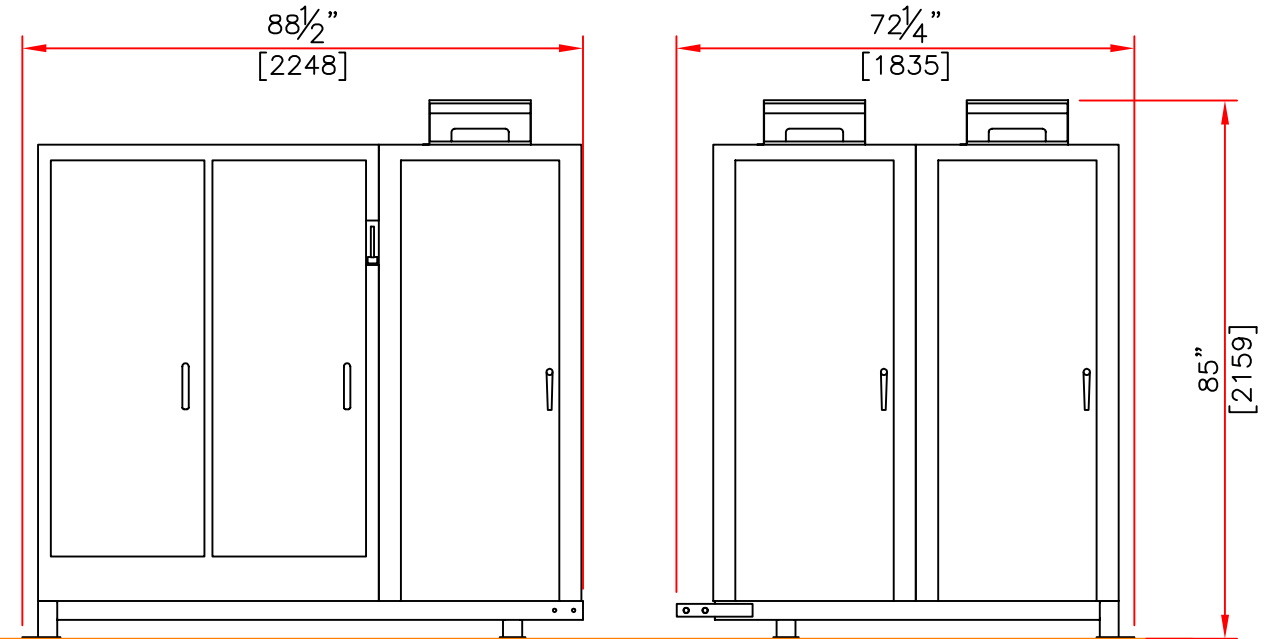
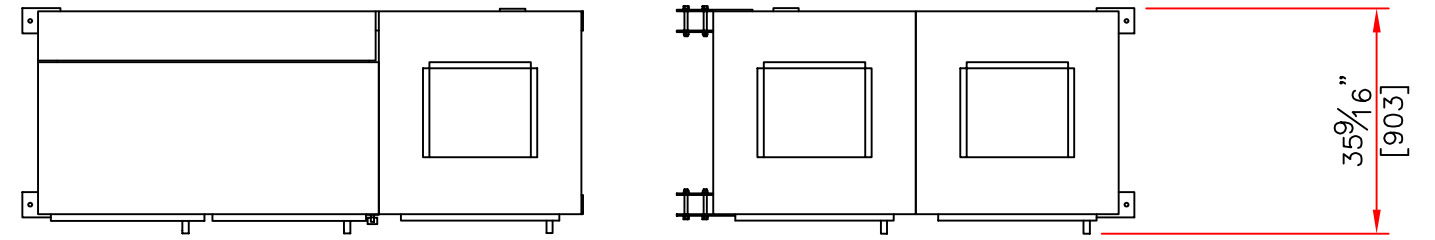
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|-----------|---------|-----------|--------|-------|------|
| DWG. Size | B | SHEET No. | 2 OF 4 | SCALE | NONE |
| DWG. No. | S900113 | | | REV. | 4 |



REACTOR
ANCHOR BOLT PATTERN
LAYOUT



CONTROL PANEL
& POWER SUPPLY
ANCHOR BOLT PATTERN
LAYOUT



APPROX. WEIGHT: 3500 LBS. / 1588kg

APPROX. WEIGHT: 5000 LBS. / 2268kg

SHIPPING ARRANGEMENT

| 4 | REVISED CLIENT TITLE SPELLING | JPT | 6/22/05 |
|-----|-------------------------------------|-----|----------|
| 3 | ADDED NOTE 6 & SHT. 4 | JPT | 4/8/04 |
| 2 | ADDED SHIPPING ARRANGEMENT, REVISED | MA | 1/4/04 |
| 1 | ADDED SPARE PARTS | MA | 1/6/04 |
| 0 | ISSUED FOR FABRICATION | MA | 11/14/03 |
| REV | DESCRIPTION | APP | DATE |

REVISIONS

TOLERANCES (unless otherwise specified)

| | | | |
|-------------------|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

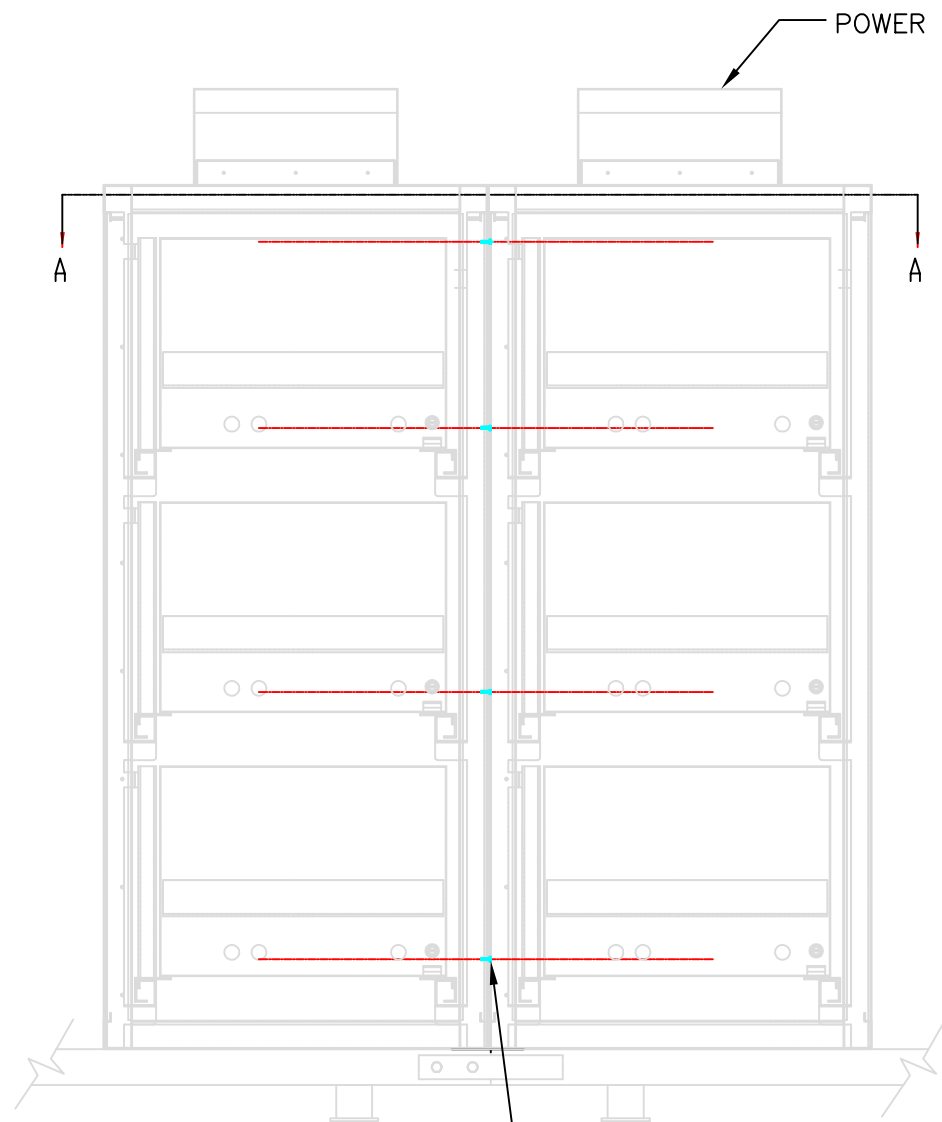
CLIENT
CITY OF WINNIPEG
MANITOBA, CANADA

TITLE
9x20kW SENTINEL
EQUIPMENT LAYOUT
PLAN AND ELEVATION

| | | | | | |
|-----------|----------|-----------|--------|-------|------|
| DWG. Size | B | SHEET No. | 3 OF 4 | SCALE | NONE |
| DWG. No. | S900113 | REV. | 4 | | |

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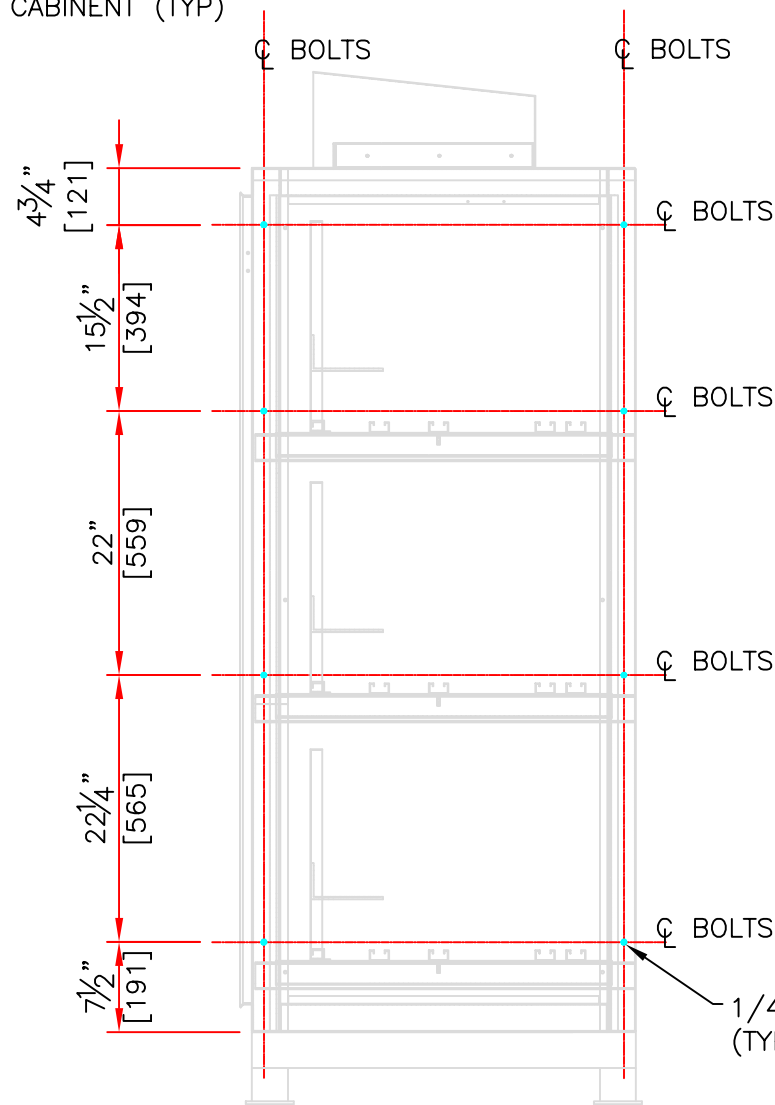
| | NAME | DATE |
|-------------|---------------|---------|
| DRAFTER | PJA | 9/15/03 |
| DESIGNER | PJA | 9/15/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |



1/4" HEX HEAD BOLT W/NUT AND WASHERS
(TYPICAL FRONT AND REAR)

FRONT VIEW

POWER SUPPLY CABINET (TYP)



1/4" HEX HEAD BOLT W/NUT AND WASHERS
(TYPICAL 8-PLACES)

SIDE VIEW

3

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| | NAME | DATE |
|-------------|---------------|---------|
| DRAFTER | PJA | 9/15/03 |
| DESIGNER | PJA | 9/15/03 |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| 4 | REVISED CLIENT TITLE SPELLING | JPT | 6/22/05 |
|-----------|-------------------------------------|-----|----------|
| 3 | ADDED NOTE 6 & SHT. 4 | JPT | 4/8/04 |
| 2 | ADDED SHIPPING ARRANGEMENT, REVISED | MA | 1/4/04 |
| | ANCHOR BOLT PATTERN AND SPARE PARTS | | |
| 1 | ADDED SPARE PARTS | MA | 1/6/04 |
| 0 | ISSUED FOR FABRICATION | MA | 11/14/03 |
| REV | DESCRIPTION | APP | DATE |
| REVISIONS | | | |

TOLERANCES (unless otherwise specified)

| | | |
|-------------------|-----------------------------|---------------------------|
| ANGULAR | ADDED SPAREPARTS (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) ±.0005 |

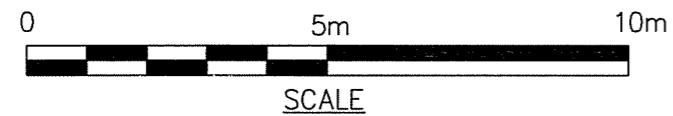
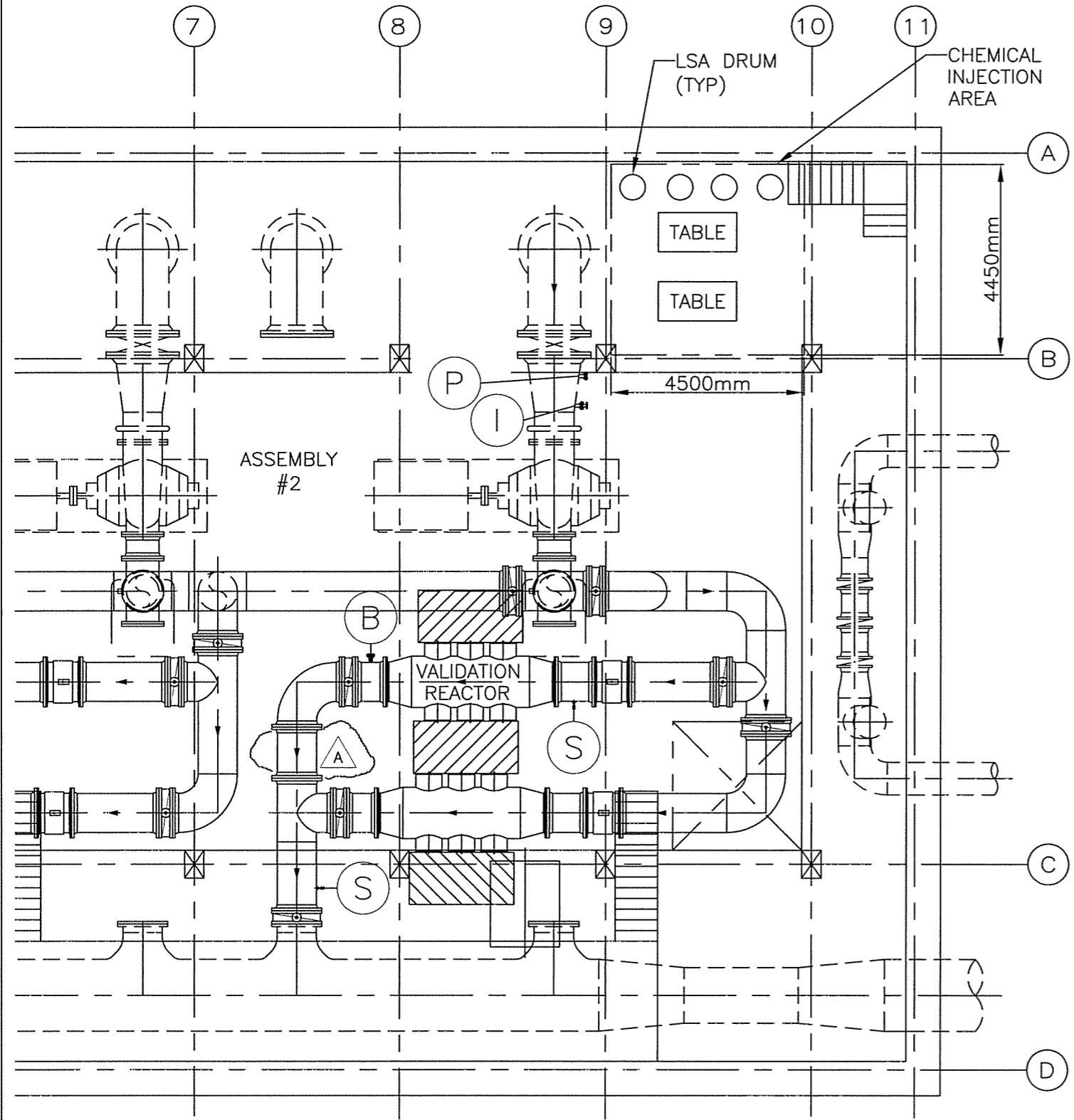


CALGON CARBON CORPORATION

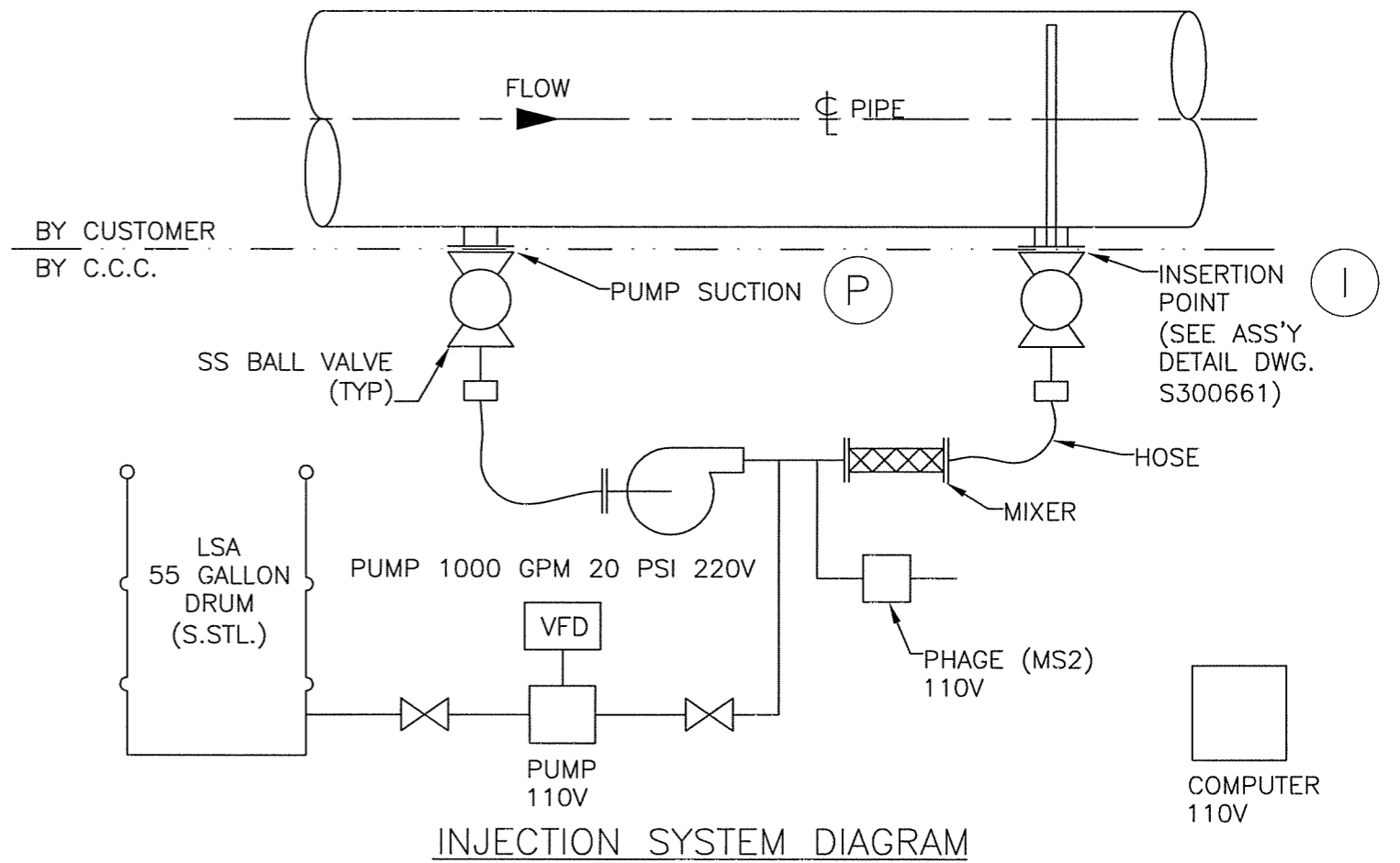
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|-----------|---|------------------|-----------|
| CLIENT | CITY OF WINNIPEG MANITOBA, CANADA | | |
| TITLE | 9x20KW SENTINEL EQUIPMENT LAYOUT PLAN AND ELEVATION | | |
| DWG. Size | B | SHEET No. 4 OF 4 | SCALE NTS |
| DWG. No. | S900113 | REV. | 4 |

4

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GENERAL ARRANGEMENT LAYOUT PLAN



INJECTION SYSTEM DIAGRAM

LEGEND:

- (P) PUMP SUCTION POINT
- (I) INJECTION POINT
- (S) SAMPLE POINT
- (B) INJECTION POINT (BLANKED)

NOTES:

1. FOR CHEMICAL INJECTION AND SAMPLE POINT DETAILS, SEE DRAWINGS S300658 & S300661.

| | | | |
|-----|---------------|-----|---------|
| C | | | |
| B | | | |
| A | REMOVED MIXER | JPT | 12/6/04 |
| REV | DESCRIPTION | APP | DATE |

| TOLERANCES (unless otherwise specified) | | | |
|---|--------|--------------------|--------|
| ANGULAR | ±0°30' | DECIMAL (2 PLACES) | ±.010 |
| FRACTIONAL | ±1/16" | DECIMAL (3 PLACES) | ±.005 |
| DECIMAL (1 PLACE) | ±.015 | DECIMAL (4 PLACES) | ±.0005 |



CALGON CARBON CORPORATION

CLIENT CITY OF WINNIPEG
WINNIPEG, MANITOBA

TITLE VALIDATION
EQUIPMENT LAYOUT
PLAN & DETAILS

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| | NAME | DATE |
|-------------|---------------|----------|
| DRAFTER | PJA | 10/28/03 |
| DESIGNER | | |
| CHECKER | | |
| APPROVAL | | |
| PROJECT No. | US-03056.WINN | |

| | | | | | |
|-----------|---------|-----------|--------|-------|---------|
| DWG. Size | B | SHEET No. | 1 OF 1 | SCALE | VARIOUS |
| DWG. No. | S900116 | | | REV. | A |

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| REVISIONS | | | |
|-----------|-------------|------|--------|
| REV | DESCRIPTION | DATE | APPY'D |
| A | | | |
| B | | | |
| C | | | |
| D | | | |
| E | | | |

NOTES

WIRE MARKER COVERED WITH CLEAR SHRINK AT THE PART LABEL AND BOTH END LABELS

CABLE #1

25 PIN CONNECTOR HOOD
PART# 150619

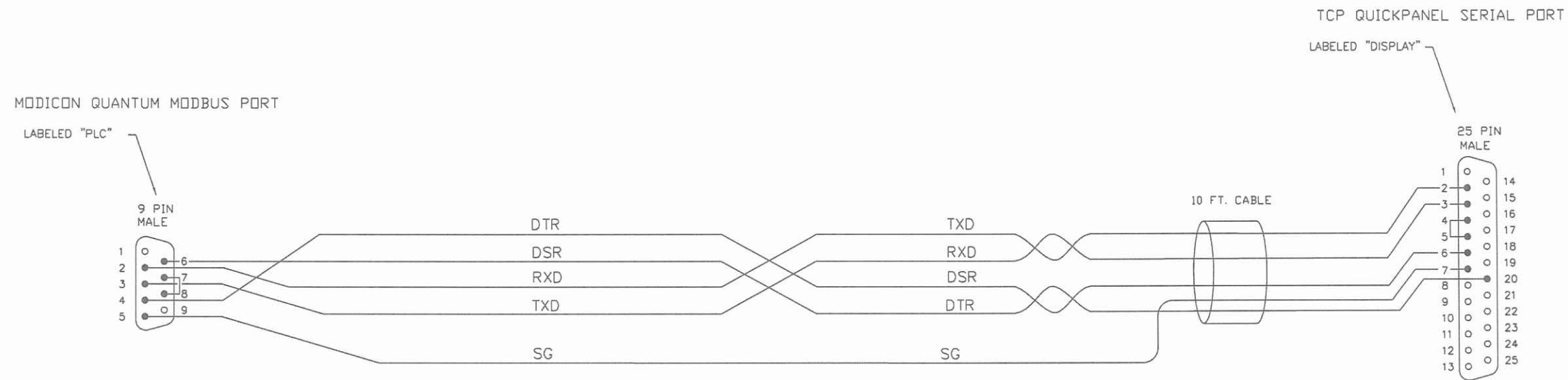
25 PIN MALE D-CONNECTOR
PART# 150611

CLEAR 3/8" SHRINK WRAP
PART# 150861

9 PIN CONNECTOR HOOD
PART# 150621

9 PIN MALE D-CONNECTOR
PART# 150618

WIRE, 18GA, 3 PAIR SHIELDED
PART# 152353



| CABLE PINDOUT | | |
|---------------|-------|-----|
| PLC | | TCP |
| 2 | ————— | 2 |
| 3 | ————— | 3 |
| 4 | ————— | 6 |
| 5 | ————— | 7 |
| 6 | ————— | 20 |
| 7 | ————— | 4 |
| 8 | □ | 5 |

FINISH

MATERIAL

DIMENSIONS IN INCHES (unless otherwise specified)

TOLERANCES (unless otherwise specified)

| | | | |
|-----------------|--------|------------------|--------|
| ANGULAR | ±0°30' | DECIMAL 2 PLACES | ±.010 |
| FRACTIONAL | ±1/32 | DECIMAL 3 PLACES | ±.005 |
| DECIMAL 1 PLACE | ±.015 | DECIMAL 4 PLACES | ±.0005 |



CALGON CARBON CORPORATION

| | NAME | SIGN. | DATE |
|---------|------|-------|----------|
| DRAFT. | GTL | | 10/22/03 |
| DESIGN. | GTL | | 10/22/03 |
| CHECK | MB | | 10/28/03 |
| APPR. | | | |

TITLE
CABLE, MODICON QUANTUM RS232C 9PIN TO TCP QUICKPANEL

| | | |
|-----------|--------------|--------------|
| SHEET No. | SHEET 1 OF 1 | SCALE (NONE) |
| DWG. No. | 000-X-100219 | REV. 0 |