STATE OF NEW YORK
OFFICE OF GENERAL SERVICES
DESIGN AND CONSTRUCTION GROUP
THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA
ALBANY, NY 12242

ADDENDUM NO. 9 TO PROJECT NO. 44611

ELECTRICAL WORK WITH ASBESTOS ABATEMENT
PROVIDE PAS, FIRE PROTECTION IMPROVEMENTS AND ACM ABATEMENT
VARIOUS BUILDINGS
Hutchings Psychiatric Center
620 Madison Avenue
Syracuse, NY 13210

June 9, 2014

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

SPECIFICATION GROUP

1. Page 283100 – 18, Add the Following Article to Part 2 PRODUCTS:

2.26 COMBINATION SMOKE/CARBON MONOXIDE DETECTORS

A. Detectors shall consist of the following part numbers:
   1. 4098-9714, Photoelectric smoke sensor
   2. 4098-9798, CO Base with Sounder

B. Remote LED indicator shall be 2098-9808 indicator on single gang plate.

C. Mount carbon monoxide detector in accordance with manufacturer's published instructions.

DRAWINGS

2. Drawing No. FA0.02:
   a. FLOOR PLAN: Add subscripts SB and CO to legend, identifying sounder base and carbon monoxide detector, respectively.
3. Drawing No. FD5-1.02: See Drawing No. FA0.02 Addendum 9 Revision dated June 5, 2014.
   a. FLOOR PLAN: Demolish existing carbon monoxide detector in Lounge or Transitional Living Unit. See Drawing No. FD5-1.02 Addendum 9 Revision dated June 5, 2014.
4. Drawing No. FA5-1.02:
   a. FLOOR PLAN: Add smoke detectors with sounder bases in bedrooms 128, 129, 130, 131, 132. See Drawing No. FA5-1.02 Addendum 9 Revision dated June 5, 2014.
5. Drawing No. FA5-1.02:

   a. FLOOR PLAN: Add CO sounder bases to two smoke detectors within corridor in Transitional Living Unit. See Drawing No. FA5-1.02 Addendum 9 Revision dated June 5, 2014.
6. Drawing No. FA5-1.02:
   a. FLOOR PLAN: Delete monitor IAM for existing CO detector in Lounge or Transitional Living Unit. See Drawing No. FA5-1.02 Addendum 9 Revision dated June 5, 2014.
7. Drawing No. FA5-1.02:
   a. FLOOR PLAN: Revise conduit and wiring within Transitional Living Unit. See Drawing No. FA5-1.02 Addendum 9 Revision dated June 5, 2014.
8. Drawing No. FA5-3.01:
   a. FLOOR PLAN: Add smoke detector with sounder base to riser diagram. See Drawing No. FA5-3.01 Addendum 9 Revision dated June 5, 2014.
9. Drawings No. FA5-6.01:
   a. FLOOR PLAN: Revised points list and sequence of operations matrix to account for new bedroom smoke detectors with sounder bases and new CO detectors with sounder bases. See Drawing No. FA5-6.01 Addendum 9 Revision dated June 5, 2014.
10. Drawings No. FA5-6.02:
   a. FLOOR PLAN: Revised battery calculations to account for new bedroom smoke detectors with sounder bases and new CO detectors with sounder bases. See Drawing No. FA5-6.02 Addendum 9 Revision dated June 5, 2014.

END OF ADDENDUM

Margaret F. Larkin
Acting Executive Director

SYMBOL LEGEND:

- CONDUIT PATH – MIN. 3/4" EMT.
- NEW END OF LINE RESISTOR (EOL)
- AV — COMBINATION HORN/STROBE – WALL MOUNT
- SV — COMBINATION SPEAKER/STROBE – WALL MOUNT
- S — SPEAKER – WALL MOUNT
- V — STROBE – WALL MOUNT
- H — HORN – WALL MOUNT
- B — BELL– WALL MOUNT
- B — BELL/STROBE – WALL MOUNT
- C — CHIME– WALL MOUNT
- SV — COMBINATION SPEAKER/STROBE – CEILING MOUNT
- S — SPEAKER – CEILING MOUNT
- V — STROBE – CEILING MOUNT
- SD — SMOKE DETECTOR
- HD — HEAT DETECTOR
- DD — DUCT DETECTOR
- G — GAS DETECTOR
- CO — CARBON MONOXIDE DETECTOR
- DH — DOOR HOLD OPEN
- F — MANUAL PULL STATION
- J — JUNCTION BOX
- ANN — REMOTE ANNUNCIATOR
- FACP — FIRE ALARM CONTROL PANEL
- NAC — NOTIFICATION APPLIANCE CIRCUIT PANEL
- XPDR — FIRE ALARM TRANSPONDER PANEL
- FATC — FIRE ALARM TERMINAL CABINET
- NDU — NETWORK DISPLAY UNIT
- DACT — FIRE ALARM COMMUNICATOR
- ETL — ELECTRO–THERMAL FUSIBLE LINK
- ANS — KITCHEN HOOD SUPPRESSION PANEL
- CZ — ADDRESSABLE CONTROL RELAY
- MZ — MONITOR MODULE
- DZ — MONITOR MODULE WITH T–SENSE
- WS — WATER FLOW SWITCH
- TS — TAMPER SWITCH
- PS — PRESSURE SWITCH
- R — FAN SHUT DOWN RELAY
- CONDUIT RISER LOCATION
- EXISTING HATCH
- MANHOLE
- DASHED LINE TYPE INDICATES "TO BE DEMOLISHED"
- THIN LINE TYPE INDICATES "EXISTING TO REMAIN"

CH=XX	CEILING HEIGHT = XX INCHES ABOVE FINISHED FLOOR
A	SPEAKER CIRCUIT, 18/2 SHIELDED FPLP
V	VISIBLE APPLIANCE CIRCUIT, 14/2 THHN SOLID
M	IDNET SIGNALING LINE CIRCUIT, 16/2 SHIELDED FPLP
AN1	ANNUNCIATOR RUI CIRCUIT, 18/2 SHIELDED FPLP
AP1	ANNUNCIATOR POWER CIRCUIT, 18/2 FPLP
RM	REMOTE MIC CIRCUIT, 18/4 SHIELDED FPLP
F	62.5/125 MULTI–MODE FIBER OPTIC CABLE
P	DOOR HOLDER/DAMPER POWER CIRCUIT, 14/2 THHN SOLID
SB	SOUNDER BASE
CO	INTEGRAL CARBON MONOXIDE DETECTOR

X E (VXX)

- CONDUCTOR TYPE
- INDICATES TYPE OF CIRCUIT (VISUAL, SPEAKER, ZONE, ETC.) REFER TO LIST OF ABBREVIATIONS
- INDICATES CIRCUIT OR ZONE NUMBER
- INDICATES NUMBER OF CABLES

CONDUIT FILL TABLES:

Electrical Metallic Tubing

Trade Size Inches	Internal Diameter Inches	Total Area 100% Sq. In.	2 Wires 31% Sq. In.	Over 2 Wires 40% Sq. In.	1 Wire 53% Sq. In.
0.500	0.622	0.304	0.094	0.122	0.161
0.750	0.824	0.533	0.165	0.213	0.283
1.000	1.049	0.864	0.268	0.346	0.458
1.250	1.380	1.496	0.464	0.598	0.793
1.500	1.610	2.036	0.631	0.814	1.079
2.000	2.067	3.356	1.040	1.342	1.778
2.500	2.731	5.858	1.816	2.343	3.105
3.000	3.356	8.846	2.742	3.538	4.688
3.500	3.834	11.545	3.579	4.618	6.119
4.000	4.334	14.753	4.573	5.901	7.819

BASED ON NFPA 70, CHAPTER 9, TABLE 4

Cable Specifications

Based on Paige Wire & Cable Data

NEC Type	Catalog No.	No. of Conductors	AWG Size (Solid Copper)	Nominal O.D. Inches	Cable Area Sq. In.
THHN	700151	1	14	0.1120	0.0099
FPL	454736ARE	2	16 OAS	0.1610	0.0204
FPL	454722ARE	2	18 OAS	0.1610	0.0204
THHN	THHN	1	12	0.1210	0.0115

Raceway Capacity Chart 40% Fill (3 or more Cables)

EMT Trade Size Inches		0.5	0.75	1	1.25	1.5	2	2.5	3	3.5	4
EMT Internal Area Sq. In.		0.122	0.213	0.346	0.598	0.814	1.342	2.343	3.538	4.618	5.901
Cable	Area Sq. In.	Maximum No. of Cables Per Raceway									
14 AWG THHN	0.0099	12	21	35	60	82	136	237	359	468	598
16/ 2 SH FPL	0.0204	5	10	16	29	40	65	115	173	226	289
18 / 2 SH FPL	0.0204	5	10	16	29	40	65	115	173	226	289
12 AWG THHN	0.0115	10	18	30	52	70	116	203	307	401	513

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CONTRACT:
ELECTRICAL

TITLE:
PROVIDE PAS, FIRE PROTECTION IMPROVEMENTS AND ACM ABATEMENT

LOCATION:
HUTCHINGS PSYCHIATRIC CENTER
620 MADISON STREET
SYRACUSE, NY 13210

CLIENT:
NYS OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
B	06/05/14	ADDENDUM 9
A	03/03/14	FINAL BID DOCUMENTS

PROJECT NUMBER:	44611
DESIGNED BY:	XXX
DRAWN BY:	XXX
FIELD CHECK:	–
APPROVED:	XXX

SHEET TITLE:
FIRE ALARM LEGENDS

DRAWING NUMBER:
FA0.02

SHEET 57 OF 196

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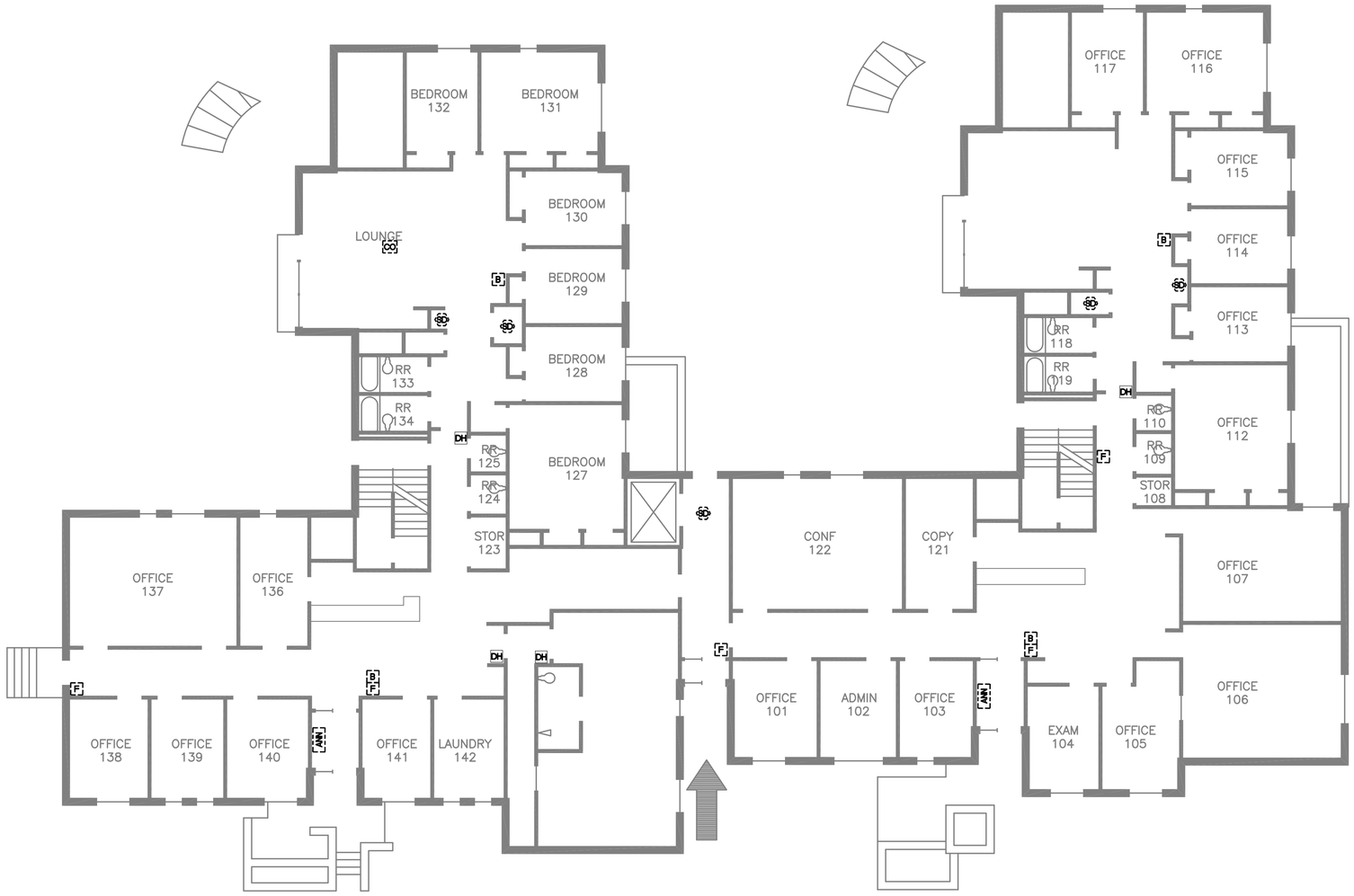

FIRE ALARM DEMOLITION FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

0 4' 8' 16'
1/8"=1'-0"

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CLIENT:
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MARK	DATE	DESCRIPTION
B	06/05/14	ADDENDUM 9
A	03/03/14	FINAL BID DOCUMENTS

PROJECT NUMBER:	44611
DESIGNED BY:	XXX
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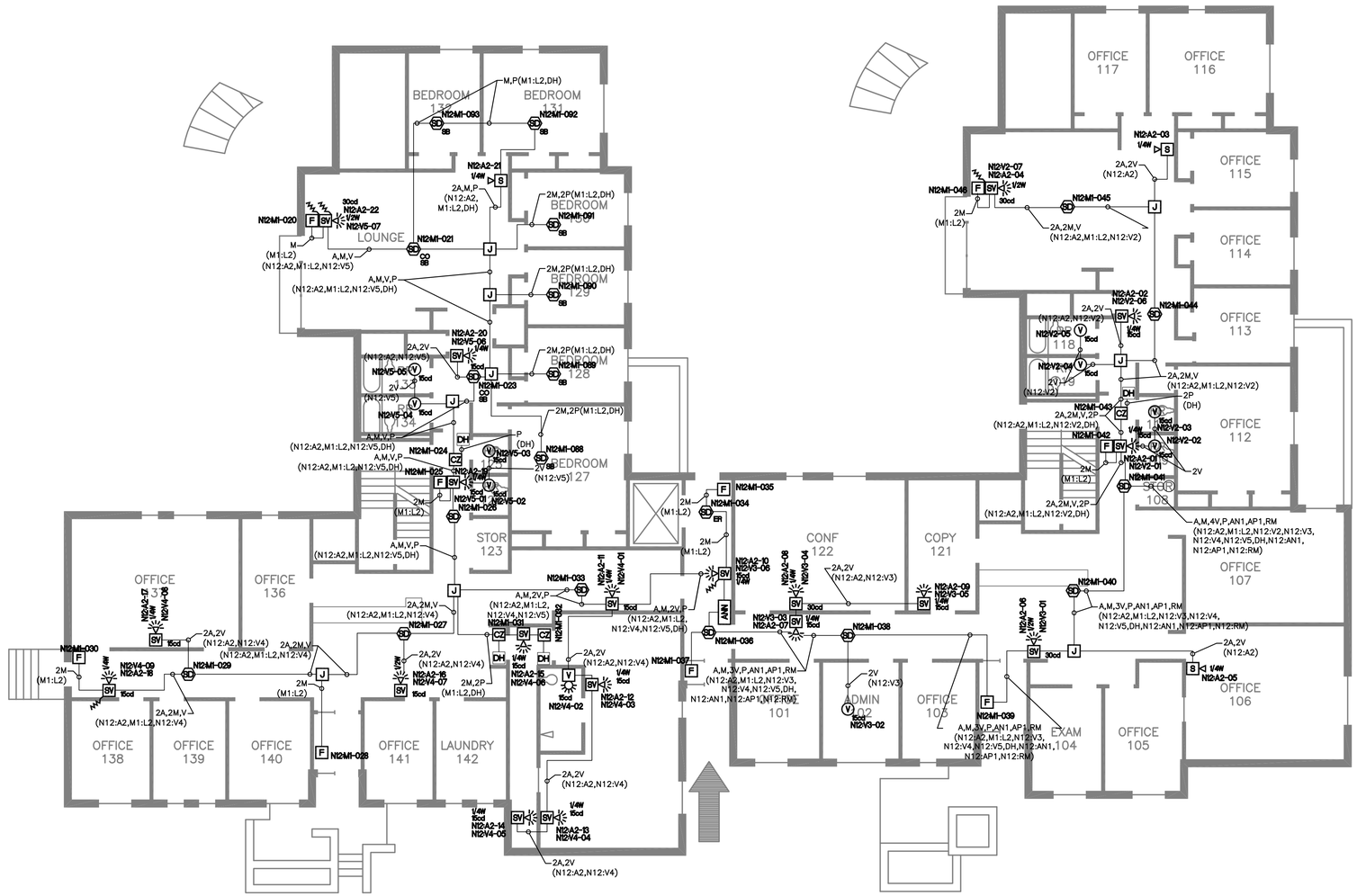
FIELD CHECK:	–
APPROVED:	XXX

SHEET TITLE:
BUILDING 5
FIRE ALARM DEMOLITION
FIRST FLOOR
PLAN

DRAWING NUMBER:
FD5–1.02



FIRE ALARM FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

0 4' 8' 16'
1/8"=1'-0"

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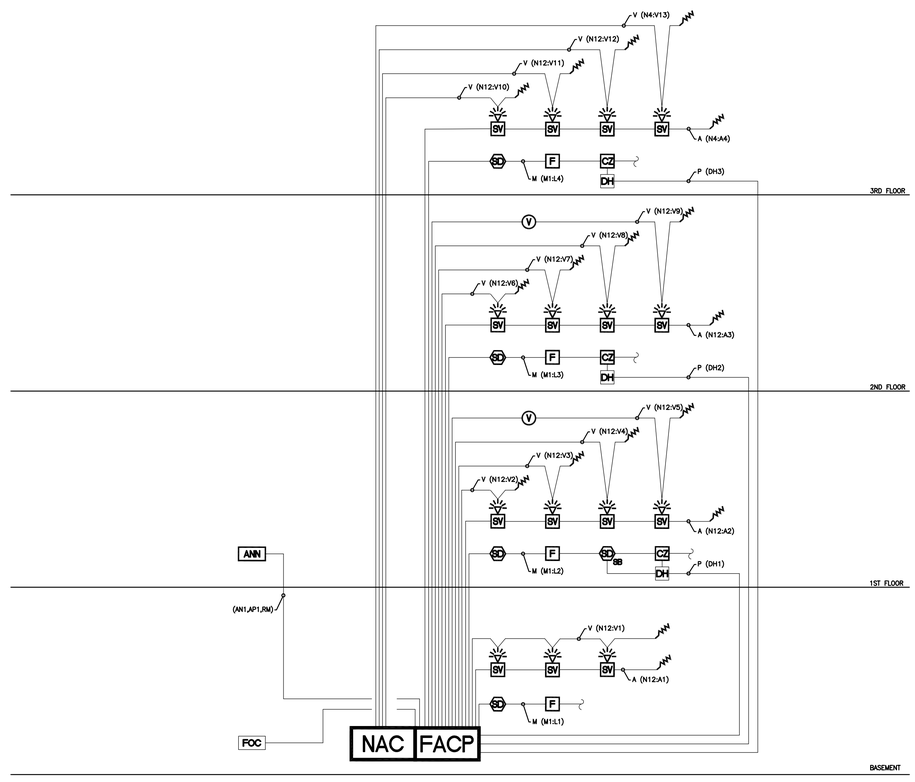
FIRST FLOOR
PLAN

DRAWING NUMBER:
FA5–1.02



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SHEET TITLE:
BUILDING 5
FIRE ALARM
WIRING DIAGRAM

DRAWING NUMBER:
FA5–3.01

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FIRE ALARM CONTROL PANEL IDNET CHANNEL 1

IDnet Number	Device Type	Point Type	Room Number (Max 40 Characters)	SWITCH SETTINGS 1	2	3	4	5	6	7	8	
N12:M1-1	RIAM	RELAY	BASEMENT NW FAN ROOM	X	X	X	X	X	X	X	X	ON
N12:M1-2	RIAM	ALTERN	BASEMENT NW FAN ROOM	X	X	X	X	X	X	X	X	ON
N12:M1-3	RIAM	PRIMARY	BASEMENT NW FAN ROOM	X	X	X	X	X	X	X	X	ON
N12:M1-4	PHOTO	SMOKE	BASEMENT NW FAN ROOM	X	X	X	X	X	X	X	X	ON
N12:M1-5	RPHOTO	DUCT	BASEMENT NW FAN ROOM	X	X	X	X	X	X	X	X	ON
N12:M1-6	ADRPUL	PULL	BASEMENT WEST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-7	PHOTO	SMOKE	BASEMENT CORR NEAR WEST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-8	PHOTO	SMOKE	BASEMENT CORR NEAR LAUNDRY RM	X	X	X	X	X	X	X	X	ON
N12:M1-9	PHOTO	SMOKE	BASEMENT ELEVATOR LOBBY	X	X	X	X	X	X	X	X	ON
N12:M1-10	PHOTO	SMOKE	BASEMENT CORR NEAR STOR 006	X	X	X	X	X	X	X	X	ON
N12:M1-11	PHOTO	SMOKE	BASEMENT CORR NEAR STOR 005	X	X	X	X	X	X	X	X	ON
N12:M1-12	IAM	WATER	BASEMENT STORAGE 005	X	X	X	X	X	X	X	X	ON
N12:M1-13	IAM	SUPERV	BASEMENT STORAGE 005	X	X	X	X	X	X	X	X	ON
N12:M1-14	PHOTO	SMOKE	BASEMENT STORAGE 004	X	X	X	X	X	X	X	X	ON
N12:M1-15	PHOTO	SMOKE	BASEMENT CORR NEAR BOILER RM	X	X	X	X	X	X	X	X	ON
N12:M1-16	IAM	SUPERV	BASEMENT BOILER RM	X	X	X	X	X	X	X	X	ON
N12:M1-17	PHOTO	SMOKE	BASEMENT CORR NEAR EAST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-18	ADRPUL	PULL	BASEMENT EAST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-19	RPHOTO	DUCT	BASEMENT FAN RM 002	X	X	X	X	X	X	X	X	ON
N12:M1-20	ADRPUL	PULL	FIRST FLR NW LOUNGE EXIT	X	X	X	X	X	X	X	X	ON
N12:M1-21	MCOPS	LATSUPV	FIRST FLR NW LOUNGE	X	X	X	X	X	X	X	X	ON
N12:M1-22				X	X	X	X	X	X	X	X	ON
N12:M1-23	MCOPS	LATSUPV	FIRST FLR CORR NEAR BED 128	X	X	X	X	X	X	X	X	ON
N12:M1-24	RIAM	DHOLDER	FIRST FLR CORR NEAR WEST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-25	ADRPUL	PULL	FIRST FLR WEST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-26	PHOTO	SMOKE	FIRST FLR CORR NEAR WEST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-27	PHOTO	SMOKE	FIRST FLR CORR NEAR OFFICE 141	X	X	X	X	X	X	X	X	ON
N12:M1-28	ADRPUL	PULL	FIRST FLR SW EXIT	X	X	X	X	X	X	X	X	ON
N12:M1-29	PHOTO	SMOKE	FIRST FLR CORR NEAR OFFICE 137	X	X	X	X	X	X	X	X	ON
N12:M1-30	ADRPUL	PULL	FIRST FLR WEST EXIT	X	X	X	X	X	X	X	X	ON
N12:M1-31	RIAM	DHOLDER	FIRST FLR NEAR LAUNDRY RM	X	X	X	X	X	X	X	X	ON
N12:M1-32	RIAM	DHOLDER	FIRST FLR NEAR LAUNDRY RM	X	X	X	X	X	X	X	X	ON
N12:M1-33	PHOTO	SMOKE	FIRST FLR CORR	X	X	X	X	X	X	X	X	ON
N12:M1-34	PHOTO	SMOKE	FIRST FLR ELEVATOR LOBBY	X	X	X	X	X	X	X	X	ON
N12:M1-35	ADRPUL	PULL	FIRST FLR ELEVATOR LOBBY	X	X	X	X	X	X	X	X	ON
N12:M1-36	PHOTO	SMOKE	FIRST FLR SOUTH EXIT	X	X	X	X	X	X	X	X	ON
N12:M1-37	ADRPUL	PULL	FIRST FLR SOUTH EXIT	X	X	X	X	X	X	X	X	ON
N12:M1-38	PHOTO	SMOKE	FIRST FLR CORR NEAR ADMIN 102	X	X	X	X	X	X	X	X	ON
N12:M1-39	ADRPUL	PULL	FIRST FLR SE CORR EXIT	X	X	X	X	X	X	X	X	ON
N12:M1-40	PHOTO	SMOKE	FIRST FLR SE CORR NEAR OFFICE 107	X	X	X	X	X	X	X	X	ON
N12:M1-41	PHOTO	SMOKE	FIRST FLR COR NEAR EAST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-42	ADRPUL	PULL	FIRST FLR EAST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-43	RIAM	DHOLDER	FIRST FLR COR NEAR EAST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-44	PHOTO	SMOKE	FIRST FLR CORR NEAR OFFICE 113	X	X	X	X	X	X	X	X	ON
N12:M1-45	PHOTO	SMOKE	FIRST FLR NE LOUNGE	X	X	X	X	X	X	X	X	ON
N12:M1-46	ADRPUL	PULL	FIRST FLR NE LOUNGE EXIT	X	X	X	X	X	X	X	X	ON
N12:M1-47	ADRPUL	PULL	SECOND FLR NW STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-48	PHOTO	SMOKE	SECOND FLR NW LOUNGE	X	X	X	X	X	X	X	X	ON
N12:M1-49	PHOTO	SMOKE	SECOND FLR NW CORR NEAR BED 221	X	X	X	X	X	X	X	X	ON
N12:M1-50	RIAM	DHOLDER	SECOND FLR CORR NEAR WEST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-51	ADRPUL	PULL	SECOND FLR WEST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-52	PHOTO	SMOKE	SECOND FLR CORR NEAR WEST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-53	PHOTO	SMOKE	SECOND FLR SW CORR NEAR PORCH	X	X	X	X	X	X	X	X	ON
N12:M1-54	PHOTO	SMOKE	SECOND FLR SW CORR NEAR BED 232	X	X	X	X	X	X	X	X	ON
N12:M1-55	PHOTO	SMOKE	SECOND FLR CORR NEAR CHART RM	X	X	X	X	X	X	X	X	ON
N12:M1-56	PHOTO	SMOKE	SECOND FLR CHART RM 233	X	X	X	X	X	X	X	X	ON
N12:M1-57	PHOTO	SMOKE	SECOND FLR ELEVATOR LOBBY	X	X	X	X	X	X	X	X	ON
N12:M1-58	PHOTO	SMOKE	SECOND FLR SOUTH LOUNGE	X	X	X	X	X	X	X	X	ON
N12:M1-59	HEAT	HEAT	SECOND FLR ROOM 201	X	X	X	X	X	X	X	X	ON
N12:M1-60	RIAM	RELAY	SECOND FLR ROOM 201	X	X	X	X	X	X	X	X	ON
N12:M1-61	PHOTO	SMOKE	SECOND FLR SE LOUNGE	X	X	X	X	X	X	X	X	ON
N12:M1-62	PHOTO	SMOKE	SECOND FLR SE LOUNGE	X	X	X	X	X	X	X	X	ON
N12:M1-63	PHOTO	SMOKE	SECOND FLR CORR NEAR EAST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-64	ADRPUL	PULL	SECOND FLR EAST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-65	RIAM	DHOLDER	SECOND FLR CORR NEAR EAST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-66	PHOTO	SMOKE	SECOND FLR CORR NEAR BED 207	X	X	X	X	X	X	X	X	ON
N12:M1-67	PHOTO	SMOKE	SECOND FLR NE LOUNGE	X	X	X	X	X	X	X	X	ON
N12:M1-68	ADRPUL	PULL	SECOND FLR NE STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-69	ADRPUL	PULL	THIRD FLR NW STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-70	PHOTO	SMOKE	THIRD FLR NW LOUNGE	X	X	X	X	X	X	X	X	ON
N12:M1-71	PHOTO	SMOKE	THIRD FLR CORR NEAR BED 326	X	X	X	X	X	X	X	X	ON
N12:M1-72	RIAM	DHOLDER	THIRD FLR CORR NEAR WEST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-73	ADRPUL	PULL	THIRD FLR WEST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-74	PHOTO	SMOKE	THIRD FLR CORR NEAR WEST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-75	PHOTO	SMOKE	THIRD FLR SW LOUNGE	X	X	X	X	X	X	X	X	ON
N12:M1-76	PHOTO	SMOKE	THIRD FLR SW CORR	X	X	X	X	X	X	X	X	ON
N12:M1-77	PHOTO	SMOKE	THIRD FLR CORR NEAR CONF 338	X	X	X	X	X	X	X	X	ON
N12:M1-78	PHOTO	SMOKE	THIRD FLR ELEVATOR LOBBY	X	X	X	X	X	X	X	X	ON
N12:M1-79	PHOTO	SMOKE	THIRD FLR CORR NEAR STOR 301	X	X	X	X	X	X	X	X	ON
N12:M1-80	PHOTO	SMOKE	THIRD FLR CORR NEAR GROUP 320	X	X	X	X	X	X	X	X	ON
N12:M1-81	PHOTO	SMOKE	THIRD FLR SE LOUNGE	X	X	X	X	X	X	X	X	ON
N12:M1-82	PHOTO	SMOKE	THIRD FLR CORR NEAR EAST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-83	ADRPUL	PULL	THIRD FLR EAST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-84	RIAM	DHOLDER	THIRD FLR CORR NEAR EAST STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-85	PHOTO	SMOKE	THIRD FLR CORR NEAR RM 309	X	X	X	X	X	X	X	X	ON
N12:M1-86	PHOTO	SMOKE	THIRD FLR NE LOUNGE	X	X	X	X	X	X	X	X	ON
N12:M1-87	ADRPUL	PULL	THIRD FLR NE STAIR	X	X	X	X	X	X	X	X	ON
N12:M1-88	SPHOTO	SUPERV	FIRST FLR BED 127	X	X	X	X	X	X	X	X	ON
N12:M1-89	SPHOTO	SUPERV	FIRST FLR BED 128	X	X	X	X	X	X	X	X	ON
N12:M1-90	SPHOTO	SUPERV	FIRST FLR BED 129	X	X	X	X	X	X	X	X	ON
N12:M1-91	SPHOTO	SUPERV	FIRST FLR BED 130	X	X	X	X	X	X	X	X	ON
N12:M1-92	SPHOTO	SUPERV	FIRST FLR BED 131	X	X	X	X	X	X	X	X	ON
N12:M1-93	SPHOTO	SUPERV	FIRST FLR BED 132	X	X	X	X	X	X	X	X	ON

	ACTIVATE ALARM CONDITION AT FACU AND REMOTE ANNUNC.	ACTIVATE SUPERVISORY CONDITION AT FACU AND REMOTE ANNUNC.	ACTIVATE TROUBLE CONDITION AT FACU AND REMOTE ANNUNC.	TRANSMIT ALARM SIGNAL TO BLDG 16 IMS/NCA	TRANSMIT SUPERVISORY SIGNAL TO BLDG 16 IMS/NCA	TRANSMIT TROUBLE SIGNAL TO BLDG 16 IMS/NCA	ACTIVATES VOICE EVACUATION MESSAGE THROUGHOUT BUILDING	ACTIVATES STROBES THROUGHOUT BUILDING	SILENCE AUDIBLE ALARM APPLIANCE (STROBES CONTINUE TO OPERATE)	SHUT DOWN ASSOCIATED HVAC UNIT	RECALL ELEVATOR TO PRIMARY LEVEL	RECALL ELEVATOR TO SECONDARY LEVEL	ACTIVATE INTEGRAL SOUNDER
SPRINKLER WATERFLOW	X			X			X	X					
VALVE SUPERVISORY SWITCH		X			X								
MANUAL PULL STATION	X			X			X	X					
HEAT DETECTOR	X			X			X	X					
ELEVATOR SMOKE DETECTOR (PRIMARY FLOOR)	X			X			X	X				X	
ELEVATOR SMOKE DETECTOR (SECONDARY FLOOR)	X			X			X	X			X		
ELEVATOR MACHINE ROOM SMOKE DETECTOR	X			X			X	X			X		
BUILDING SMOKE DETECTOR	X			X			X	X					
DUCT DETECTOR		X			X					X			
GAS DETECTOR		X			X								
LOSS OF PRIMARY (AC) POWER AT CONTROL EQUIPMENT			X			X							
CIRCUIT OR DEVICE FAULT			X			X							
ACTIVATE ALARM SILENCE SWITCH AT FACU OR ANN			X			X			X				
SLEEPING ROOM SMOKE DETECTOR		X			X								X
CO DETECTOR		X			X								X

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STATE OF NEW YORK · DONALD HOPKINS JR · LICENSED PROFESSIONAL ENGINEER · NY 080367

CONTRACT:
ELECTRICAL

TITLE:
PROVIDE PAS, FIRE PROTECTION IMPROVEMENTS AND ACM ABATEMENT

LOCATION:
HUTCHINGS PSYCHIATRIC CENTER
620 MADISON STREET
SYRACUSE, NY 13210

CLIENT:
NYS OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
B	06/05/14	ADDENDUM 9
A	03/03/14	FINAL BID DOCUMENTS

PROJECT NUMBER:	44611
DESIGNED BY:	XXX
DRAWN BY:	XXX
FIELD CHECK:	–
APPROVED:	XXX

SHEET TITLE:
BUILDING 5
FIRE ALARM
SCHEDULES

DRAWING NUMBER:
FA5–6.01

SHEET 100 OF 196

File: R:\PROJECT DIRECTORY\1DHJ\1DHJ00030 & 31 NYS OGS\1DHJ00030 INDIVIDUAL WORK ASSIGNMENTS\1DHJ00030.018.001 WA17 HPC CONSTRUCTION DOCUMENTS\DWGS\44611F-CL0561.DWG
Saved: 6/6/2014 11:16:05 AM Plotted: 6/6/2014 11:43:32 AM User: Jeff Reetz
36x24 PLOT SHEET

Building 5, Node 12

Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm	Battery Set #1 Qty	Battery Set #2 Qty	Battery Set #3 Qty
Panel Equipment									
4100-9111	1	4100U CONFIG. DOMESTIC 120V	0.373000	0.373000	0.470000	0.470000	1		
4100-6014	1	NETWORK IF CARD, WIRED	0.046000	0.046000	0.046000	0.046000	1		
4100-6057	2	NETWORK MEDIA CARD FIBER OPTIC	0.025000	0.050000	0.025000	0.050000	2		
4100-9620	1	BASIC AUDIO WITH MICROPHONE - ANALOG	0.075000	0.075000	0.082000	0.082000	1		
4100-1313	1	50W AMP W/3 CLASS B NACS 70V	0.082000	0.082000	5.624000	5.624000	1		
4100-5101	2	EXPANSION PWR SUPPLY (XPS) - 120VAC 60HZ	0.050000	0.100000	0.050000	0.100000	2		
4100-1254	2	2 CHANNEL AUDIO OPERATOR INTERFACE	0.000000	0.000000	0.024000	0.048000	2		
4100-1280	2	8 SWITCH, 8 RED LED MODULE	0.000000	0.000000	0.024000	0.048000	2		
4100-1243	2	LOCAL MICROPHONE	0.002400	0.004800	0.006000	0.012000	2		
4100-3103	1	MAPNET ISOLATOR MODULE	0.050000	0.050000	0.050000	0.050000	1		
4100-1245	1	FLEX 50 EXPANSION NAC BOARD	0.000600	0.000600	0.060000	0.060000	1		
4100-1292	1	REMOTE COMMAND CENTER (PANEL MTD. LCD ANNUN.)	0.030000	0.030000	0.170000	0.170000	1		
XXXX-XXXX	0	DESCRIPTION	0.000000	0.000000	0.000000	0.000000	0		
XXXX-XXXX	0	REMOTE ANNUNCIATORS & MINIPLEX TRANSPONDERS	0.003500	0.000000	0.003500	0.000000	0		
			Total Panel Stby	**0.811400**	**Total Panel Alarm**	**6.760000**			
Peripheral Devices									
4099-9001	19	IDNET SINGLE ACTION PULL STATION *	0.000000	0.000000	0.000000	0.000000	19		
4098-9714	55	TRUEALARM PHOTO SMOKE SENSOR	0.000000	0.000000	0.000000	0.000000	55		
4098-9733	1	TRUEALARM HEAT SENSOR	0.000000	0.000000	0.000000	0.000000	1		
4098-9792	48	TRUEALARM SENSOR BASE *	0.000000	0.000000	0.000000	0.000000	48		
4098-9756	2	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT *2	0.002400	0.004800	0.015000	0.030000	2		
4090-9002	12	IDNET RELAY IAM *	0.000000	0.000000	0.000000	0.000000	12		
4090-9001	3	IDNET SUPERVISED IAM *	0.000000	0.000000	0.000000	0.000000	3		
4603-9101	1	SERIAL LCD ANNUNCIATOR	0.030000	0.030000	0.170000	0.170000	1		
4098-9794	6	TRUEALARM SENSOR SOUNDER BASE *	0.000000	0.000000	0.020000	0.120000	6		
4098-9798	2	CO SOUNDER BASE *	0.000000	0.000000	0.017000	0.034000	2		
XXXX-XXXX	0	DESCRIPTION	0.000000	0.000000	0.000000	0.000000	0		
Miscellaneous Outside Purchased Items Requiring System Power									
XXXX-XXXX	1	A/V	0.000000	0.000000	5.718000	5.718000	1		
XXXX-XXXX	0	Description	0.000000	0.000000	0.000000	0.000000	0		
XXXX-XXXX	0	Description	0.000000	0.000000	0.000000	0.000000	0		
			Total Periph Stby	**0.0348**	**Total Periph Alarm**	**6.072**			
			Total Standby Amps	**0.846**	**Total Alarm Amps**	**12.832**			

*** Current Draw Included With Device Addresses Used (See additional current draws)**
1. 2-wire detector alarm current is included in the alarm current of the Initiating Device Circuit.
2. 50% of these devices in alarm, are used in the calculations below

Building 5 4009 Extender

Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4009-9201	1	4009 IDNET NAC EXTENDER, 120 VAC	0.085	0.085	0.185	0.185
4009-9807	1	NAC CARD, 4PT, IDNET	0.040	0.040	0.040	0.040
4009-9808	0	ADAPTER, CLASS A, IDNET	0.000	0.000	0.000	0.000
4009-9809	0	NAC REPEATER, IDNET	0.070	0.000	0.070	0.000
4009-9810	0	FIBER RECEIVER, IDNET	0.065	0.000	0.065	0.000
4009-9811	0	FIBER RECEIVER, CLASS A, IDNET	0.080	0.000	0.080	0.000
			Total Panel Stby	**0.125**	**Total Panel Alarm**	**0.225**
Peripheral Devices						
XXXX-XXXX	0	DESCRIPTION	0.000	0.000	0.000	0.000
Mult-Candella Strobes (Select Candella Rating)						
4906-9103	13	V/O M-C NON-ADDRESS, WHT, WALL 15cd	0.000	0.000	0.060	0.780
4906-9103	5	V/O M-C NON-ADDRESS, WHT, WALL 30cd	0.000	0.000	0.094	0.470
4906-9103	3	V/O M-C NON-ADDRESS, WHT, WALL 75cd	0.000	0.000	0.186	0.558
4906-9102	6	V/O M-C NON-ADDRESS, RED CEIL 15cd	0.000	0.000	0.075	0.450
Miscellaneous Outside Purchased Items Requiring System Power						
XXXX-XXXX	0	Description	0.000	0.000	0.000	0.000
			Total Periph Stby	**0.000**	**Total Periph Alarm**	**2.258**
			Total Standby Amps	**0.125**	**Total Alarm Amps**	**2.483**

Battery Calculations			Standby Current		Alarm Current
Control Panel Card Power			0.125		0.225
Power For External Peripheral Devices			0.000		2.258
			0.125	<-- Totals -->	2.483
Additional Battery Capacity Required	0%		0.000		0.000
Standby Time =	24	Hrs	3.000	Standby Ah	
Alarm Time =	15	Mins	0.621	Alarm Ah	
	Standby + Alarm =		3.621		
Battery Required	2081-9272 6.2		**4.725**	**Total Ah Required (see note below)**	

Note: The total Ah required takes into account any physical and chemical properties of battery discharge rates, high alarm current draw of a battery after a long (standby) low current draw, and reflects the manufacturers discharge rates per their recommendations and UL standards.

Battery Set #1 (Cabinet/Charger #1)		Qty	Standby Current		Alarm Current
Cabinet #1 Card Power			0.733	Backup Amplifier	4.494
Current Draw For 100 Watt Or 95 Watt Amplifiers		0	0.000	0	0.000
Current Draw For Flex 35 and 50 Watt Amplifiers		1	0.082		2.270
Power For External Peripheral Devices			0.03480		6.05940
			0.850	<-- Sub Totals -->	12.823
Additional Current Draws					
MAPNET/IDNet Device Addresses ordered / used	98	98.0	0.080		0.092
Spare addressable point capacity included for battery calc	20%	20	0.016		0.018
			0.945	**:--Grand Totals --:**	**12.933**
Additional Battery Capacity Required	0%		0.000		0.000
Standby Time =	24	Hrs	22.685	Standby Ah	
Alarm Time =	15	Mins.	3.233	Alarm Ah	
Battery Required	2081-9296 50AH		**34.833**	**Total Ah**	

BUILDING 5, NODE 12

SPEAKER CIRCUIT LOAD CALCULATION

SPEAKER CIRCUIT DESCRIPTION	PANEL CIRCUIT NUMBER	WIRE GAUGE (18, 16, 14 12)	CIRCUIT VOLTAGE (25 OR 70 VRMS)	SPEAKER TAPPED AT 0.25 Watts	SPEAKER TAPPED AT 0.5 Watts	SPEAKER TAPPED AT 1 Watts	SPEAKER TAPPED AT 2 Watts	SPEAKER TAPPED AT 4 Watts	SPEAKER TAPPED AT 8 Watts	SPEAKER TAPPED AT 15 Watts	TOTAL CIRCUIT LOAD (WATTS)	ESTIMATED CIRCUIT LENGTH (FEET)	ACTUAL WIRE/LOSS (dB)	MAXIMUM ALLOWABLE CKT. LENGTH (FEET)	TOTAL CIRCUIT RESISTANCE (OHMS)
				APPLIANCES QUANTITIES / TAP VALUES									MAXIMUM -3 dB DROP PER CIRCUIT		
BASEMENT	A1	18 awg	70 vrms	6	4	0	0	0	0	0	3.50 Watts	290 ft.	-0.02 dB	45,328 ft.	3.7 Ohms
FIRST FLOOR	A2	18 awg	70 vrms	18	4	0	0	0	0	0	6.50 Watts	700 ft.	-0.10 dB	24,407 ft.	9.0 Ohms
SECOND FLOOR	A3	18 awg	70 vrms	10	7	0	0	0	0	0	6.00 Watts	730 ft.	-0.10 dB	26,441 ft.	9.3 Ohms
THIRD FLOOR	A4	18 awg	70 vrms	15	5	0	0	0	0	0	6.25 Watts	800 ft.	-0.11 dB	25,384 ft.	10.2 Ohms
				Appliance Summary							**Total Load (Watts)**				
				49	**20**	**0**	**0**	**0**	**0**	**0**	**22.25**				

Building 5, Node 12

APPLIANCE / QUANTITIES / CURRENT DRAW @ 16 V — 16 Volt

NAC SCHEDULE / VOLTAGE DROP CALCULATION
17 % MAXIMUM VOLTAGE DROP
CIRCUIT OUTPUT VOLTAGE = 19.5 (FOR CALCULATIONS)

CIRCUIT	DESCRIPTION	CIRCUIT TYPE	V/O 4906-9103 15cd	V/O 4906-9103 30cd	V/O 4906-9103 75cd	V/O 4906-9103 110cd	A/V 4906-9129 15cd	A/V 4906-9129 30cd	A/V 4906-9129 75cd	A/V 4906-9129 110cd	CEIL V/O 4906-9102 15cd	CEIL V/O 4906-9102 30cd	CEIL V/O 4906-9102 75cd	A/V MTWP-2475W-FR 75cd	VOLTAGE DROP TOTALS: TOTAL CKT. LOAD (AMPS)	WIRE GAUGE (18, 16, 14, 12)	ESTIMATED CIRCUIT LENGTH	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	MAXIMUM ALLOWABLE CKT. LENGTH
			0.060000	0.094000	0.186000	0.252000	0.075000	0.116000	0.221000	0.285000	0.075000	0.125000	0.233000	0.19							
N12:V1	CIRCUIT 1	VI	5	4	1	0	0	0	0	0	0	0	0	0	0.862	14	300 ft.	7.15%	1.460	1.7 Ohms	719 ft.
N12:V2	CIRCUIT 2	VI	2	1	0	0	0	0	0	0	4	0	0	0	0.514	14	150 ft.	2.13%	0.435	0.8 Ohms	1,206 ft.
N12:V3	CIRCUIT 3	VI	3	2	0	0	0	0	0	0	1	0	0	0	0.443	14	250 ft.	3.06%	0.625	1.4 Ohms	1,400 ft.
			Appliance Summary												**Total Load (AMPS)**						
			10	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**1.819**						

METHOD USED TO CALCULATE VOLTAGE DROP:
[(CIRCUIT LENGTH IN FEET X 2) (AMPS) (OHMS / FT)]

Building 5, Node 12

APPLIANCE / QUANTITIES / CURRENT DRAW @ 16 V — 16 Volt

NAC SCHEDULE / VOLTAGE DROP CALCULATION
17 % MAXIMUM VOLTAGE DROP
CIRCUIT OUTPUT VOLTAGE = 19.5 (FOR CALCULATIONS)

CIRCUIT	DESCRIPTION	CIRCUIT TYPE	V/O 4906-9103 15cd	V/O 4906-9103 30cd	V/O 4906-9103 75cd	V/O 4906-9103 110cd	A/V 4906-9129 15cd	A/V 4906-9129 30cd	A/V 4906-9129 75cd	A/V 4906-9129 110cd	CEIL V/O 4906-9102 15cd	CEIL V/O 4906-9102 30cd	CEIL V/O 4906-9102 75cd	A/V MTWP-2475W-FR 75cd	VOLTAGE DROP TOTALS: TOTAL CKT. LOAD (AMPS)	WIRE GAUGE (18, 16, 14, 12)	ESTIMATED CIRCUIT LENGTH	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	MAXIMUM ALLOWABLE CKT. LENGTH
			0.060000	0.094000	0.186000	0.252000	0.075000	0.116000	0.221000	0.285000	0.075000	0.125000	0.233000	0.19							
N12:V4	CIRCUIT 4	VI	8	0	0	0	0	0	0	0	0	0	0	0	0.480	14	275 ft.	3.65%	0.745	1.6 Ohms	1,292 ft.
N12:V5	CIRCUIT 5	VI	2	1	0	0	0	0	0	0	4	0	0	0	0.514	14	300 ft.	4.27%	0.870	1.7 Ohms	1,206 ft.
N12:V6	CIRCUIT 6	VI	2	0	1	0	0	0	0	0	4	0	0	0	0.606	14	175 ft.	2.93%	0.599	1.0 Ohms	1,023 ft.
			Appliance Summary												**Total Load (AMPS)**						
			12	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**1.600**						

METHOD USED TO CALCULATE VOLTAGE DROP:
[(CIRCUIT LENGTH IN FEET X 2) (AMPS) (OHMS / FT)]

Building 5, Node 12

APPLIANCE / QUANTITIES / CURRENT DRAW @ 16 V — 16 Volt

NAC SCHEDULE / VOLTAGE DROP CALCULATION
17 % MAXIMUM VOLTAGE DROP
CIRCUIT OUTPUT VOLTAGE = 19.5 (FOR CALCULATIONS)

CIRCUIT	DESCRIPTION	CIRCUIT TYPE	V/O 4906-9103 15cd	V/O 4906-9103 30cd	V/O 4906-9103 75cd	V/O 4906-9103 110cd	A/V 4906-9129 15cd	A/V 4906-9129 30cd	A/V 4906-9129 75cd	A/V 4906-9129 110cd	CEIL V/O 4906-9102 15cd	CEIL V/O 4906-9102 30cd	CEIL V/O 4906-9102 75cd	A/V MTWP-2475W-FR 75cd	VOLTAGE DROP TOTALS: TOTAL CKT. LOAD (AMPS)	WIRE GAUGE (18, 16, 14, 12)	ESTIMATED CIRCUIT LENGTH	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	MAXIMUM ALLOWABLE CKT. LENGTH
			0.060000	0.094000	0.186000	0.252000	0.075000	0.116000	0.221000	0.285000	0.075000	0.125000	0.233000	0.19							
N12:V7	CIRCUIT 7	VI	1	0	3	0	0	0	0	0	0	0	0	1	0.808	14	300 ft.	6.71%	1.368	1.7 Ohms	767 ft.
N12:V8	CIRCUIT 8	VI	1	2	2	0	0	0	0	0	1	0	0	1	0.885	14	150 ft.	3.67%	0.749	0.8 Ohms	701 ft.
N12:V9	CIRCUIT 9	VI	2	0	1	0	0	0	0	0	4	0	0	0	0.606	14	250 ft.	4.19%	0.855	1.4 Ohms	1,023 ft.
			Appliance Summary												**Total Load (AMPS)**						
			4	**2**	**6**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**2**	**2.299**						

METHOD USED TO CALCULATE VOLTAGE DROP:
[(CIRCUIT LENGTH IN FEET X 2) (AMPS) (OHMS / FT)]

Building 5, Node 12

APPLIANCE / QUANTITIES / CURRENT DRAW @ 16 V — 16 Volt

NAC SCHEDULE / VOLTAGE DROP CALCULATION
17 % MAXIMUM VOLTAGE DROP
CIRCUIT OUTPUT VOLTAGE = 19.5 (FOR CALCULATIONS)

CIRCUIT	DESCRIPTION	CIRCUIT TYPE	V/O 4906-9103 15cd	V/O 4906-9103 30cd	V/O 4906-9103 75cd	V/O 4906-9103 110cd	A/V 4906-9129 15cd	A/V 4906-9129 30cd	A/V 4906-9129 75cd	A/V 4906-9129 110cd	CEIL V/O 4906-9102 15cd	CEIL V/O 4906-9102 30cd	CEIL V/O 4906-9102 75cd	A/V MTWP-2475W-FR 75cd	VOLTAGE DROP TOTALS: TOTAL CKT. LOAD (AMPS)	WIRE GAUGE (18, 16, 14, 12)	ESTIMATED CIRCUIT LENGTH	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	MAXIMUM ALLOWABLE CKT. LENGTH
			0.060000	0.094000	0.186000	0.252000	0.075000	0.116000	0.221000	0.285000	0.075000	0.125000	0.233000	0.19							
N12:V10	CIRCUIT 10	VI	2	0	2	0	0	0	0	0	4	0	0	0	0.792	14	230 ft.	5.04%	1.028	1.3 Ohms	783 ft.
N12:V11	CIRCUIT 11	VI	3	2	0	0	0	0	0	0	0	0	0	0	0.368	14	250 ft.	2.55%	0.519	1.4 Ohms	1,685 ft.
N12:V12	CIRCUIT 12	VI	4	3	0	0	0	0	0	0	0	0	0	0	0.522	14	330 ft.	4.77%	0.972	1.9 Ohms	1,188 ft.
N12:V13	CIRCUIT 13	VI	4	0	1	0	0	0	0	0	2	0	0	0	0.576	14	325 ft.	5.18%	1.057	1.8 Ohms	1,077 ft.
			Appliance Summary												**Total Load (AMPS)**						
			13	**5**	**3**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**2.258**						

METHOD USED TO CALCULATE VOLTAGE DROP:
[(CIRCUIT LENGTH IN FEET X 2) (AMPS) (OHMS / FT)]

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WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS 'A' MISDEMEANOR.

STATE OF NEW YORK · DONALD HOPKINS JR. · LICENSED PROFESSIONAL ENGINEER · No. 080367

CONTRACT:
ELECTRICAL

TITLE:
PROVIDE PAS, FIRE PROTECTION IMPROVEMENTS AND ACM ABATEMENT

LOCATION:
HUTCHINGS PSYCHIATRIC CENTER
620 MADISON STREET
SYRACUSE, NY 13210

CLIENT:
NYS OFFICE OF MENTAL HEALTH

MARK	DATE	DESCRIPTION
B	06/05/14	ADDENDUM 9
A	03/03/14	FINAL BID DOCUMENTS

PROJECT NUMBER:	44611
DESIGNED BY:	XXX
DRAWN BY:	XXX
FIELD CHECK:	–
APPROVED:	XXX

SHEET TITLE:
BUILDING 5
FIRE ALARM
CALCULATIONS

DRAWING NUMBER:
FA5–6.02

SHEET 101 OF 196

File: R:\PROJECT DIRECTORY\IDHJ\IDHJ00030 & 31 NYS OGS\IDHJ00030 INDIVIDUAL WORK ASSIGNMENTS\IDHJ00030.018.001 WA17 HPC CONSTRUCTION DOCUMENTS\DWGS\44611F-CL0562.DWG
Saved: 6/6/2014 11:36:41 AM Plotted: 6/6/2014 11:43:17 AM User: Jeff Reetz
36x24 PLOT SHEET