City of Aurora
Building Codes Division
15151 E Alameda Pkwy
Aurora, CO 80012
(303) 739-7420

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No.: DS-472
Date: May, 2009

BERNER INTERNATIONAL CORP.

MAXAIR
Electric Heated
Data Sheet

STANDARD FEATURES
- 7½" high
- 1/5 hp direct driven motor(s)
- Intelliswitch™ digital programmable controller - *see features below*
- Aluminum cross-flow blower wheels
- Aluminum air directional vanes
- Clear anodized aluminum exterior cabinet
- Wall mounting plate and ¼" threaded inserts for top mounting
- UL Listed (United States, Canada)
- Two year parts warranty
- Crafted with Pride in the USA

HEATER FEATURES
- Helical coil with point suspension of elements for longer life
- Available single or three phase(not all models)
- Easily replaceable heating elements
- Galvanized steel frame
- Thermal protection against overheating

OPTIONAL FEATURES
- Bronze anodized aluminum finish
- Stainless steel finish
- Reduced kW available (consult factory)

MODEL	Nozzle Width (in)	Max. Velocity (fpm)	Avg. Outlet Velocity (fpm)	Air Volume (scfm)	Motor(s) @ hp	Power Rating (kW)	Outlet Velocity Uniformity (%)	Electric Capacity (kW)	Temp Rise °F	Net Wgt (lbs)	Ship Wgt (lbs)
MAX1030E	28.00	3000	1777	691	1 @ 1/5	.18	89	5.4 or 7.2	24	40.5	47
MAX1036E	35.25	3000	2118	1036	1 @ 1/5	.32	94	10	30	45.5	52
MAX1042E	41.25	3000	2115	1212	1 @ 1/5	.32	94	10	26	50	57
MAX1048E	47.25	3000	2104	1381	1 @ 1/5	.32	94	14.4	33	56	63.5
MAX1060E	59.00	3000	2052	1682	1 @ 1/5	.32	94	14.4	28	68.5	76.5
MAX1072E	72.50	3000	2118	2072	1 @ 1/5	.32	94	20	30	76.5	85
MAX2084E	84.25	3000	2115	2424	2 @ 1/5	.64	94	20	26	100	109
MAX2096E	96.25	3000	2104	2762	2 @ 1/5	.64	94	28.8	33	111.5	121
MAX2120E	119.75	3000	2046	3364	2 @ 1/5	.64	94	28.8	28	137	163

Performance data based on high speed.

MOTOR VOLTAGES/AMP DRAWS					
Volts	120	208	240	110*	220*
Phase	1	1	1	1	1
Hertz	60	60	60	50	50
Amps per Motor	3.4	1.7	1.7	2.8	1.4

* Operation at 50 Hz will generate approximately a 17% reduction in performance.

HEATER kW/AMP DRAWS					
HEATER kW	208/1/60	240/1/60	208/3/60	240/3/60	480/3/60**
5.4	26.0	22.5	-	-	-
7.2	34.6	30.0			
10.0	48.1	41.7	27.8	24.1	12.0
14.4	69.2*	60.0*	40.0	34.6	17.3
20.0	-	-	55.5*	48.1*	24.1
28.8	-	-	79.9*	69.3*	34.6

* Two circuits required.
** A separate 120/208 or 240 power supply required for motors.

FDA RECOMMENDED

USDA RECOMMENDED

c UL us 10-44710 4

Intelliswitch Features
intelli SWITCH
- Time Delay
- 10 Speed Fan Slection
- On/Off/Auto Operation
- Start/Stop Times
- Thermostat
- Low Voltage Control Circuit
- Time Clock
- LED Display
- Lockable Display

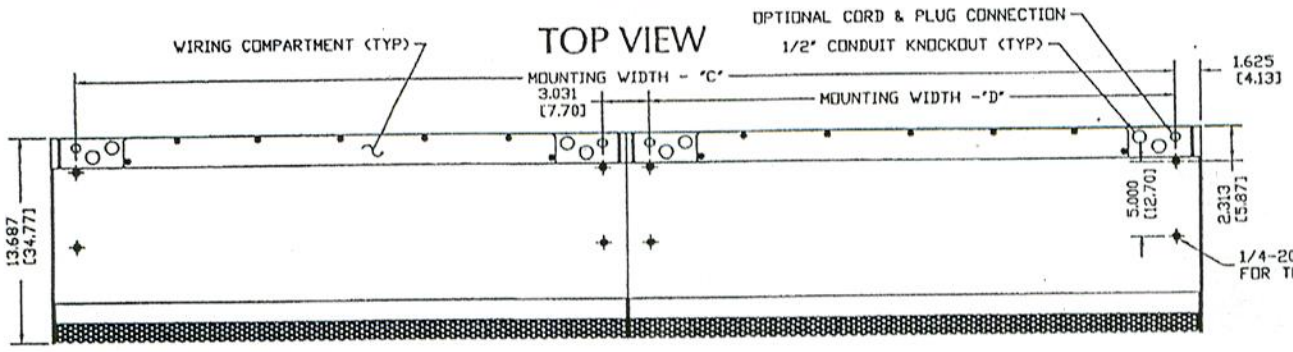
Sound level measured 10' (3m) from the unit in free field:
1 Motor: **54 dBA**
2 Motors: **57 dBA**

Berner reserves the right to alter specifications without prior notice.

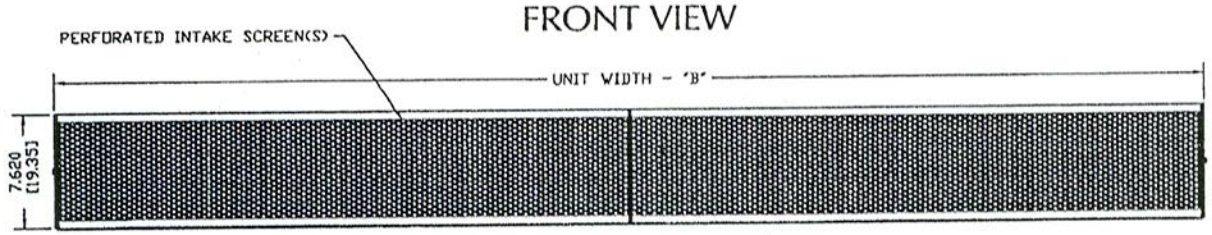
Berner International Corporation New Castle, PA 16101 / USA / Telephone (724) 658-3551 / FAX (724) 652-0682 / www.berner.com / airdoors@berner.com
MADE IN U.S.A.
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MAXAIR
ELECTRIC HEATED

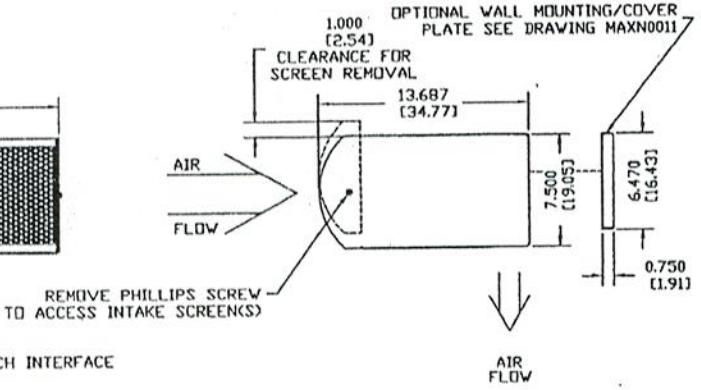
TOP VIEW



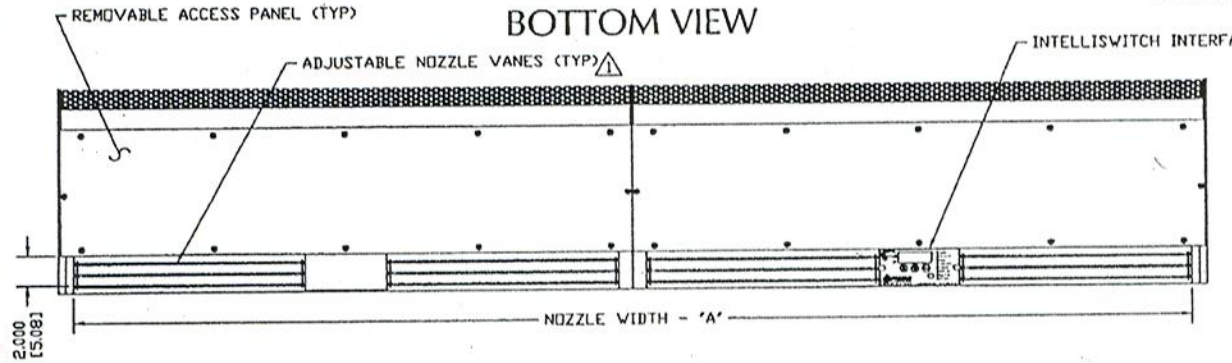
FRONT VIEW



END VIEW



BOTTOM VIEW



MODEL 6	NOZZLE WIDTH 'A'	UNIT WIDTH 'B'	MOUNTING WIDTH 'C'	MOUNTING WIDTH 'D'
MAX1030E	28.00 [71.12]	30.00 [76.20]	26.75 [67.95]	-
MAX1036E	35.25 [89.54]	37.25 [94.62]	34.00 [86.36]	-
MAX1042E	41.25 [10478]	43.25 [109.86]	40.00 [101.60]	-
MAX1048E	47.25 [120.02]	49.25 [125.10]	46.00 [116.84]	-
MAX1060E	59.00 [149.86]	61.00 [154.94]	57.75 [146.69]	-
MAX1072E	72.25 [183.59]	74.25 [188.60]	71.00 [180.34]	-
MAX2084E	84.25 [213.00]	86.25 [219.08]	83.00 [210.82]	40.00 [101.60]
MAX2096E	96.25 [244.48]	98.25 [249.56]	95.00 [241.30]	44.00 [111.76]
MAX2120E	119.75 [304.17]	121.75 [309.25]	118.50 [300.99]	57.75 [146.69]

NOTES:

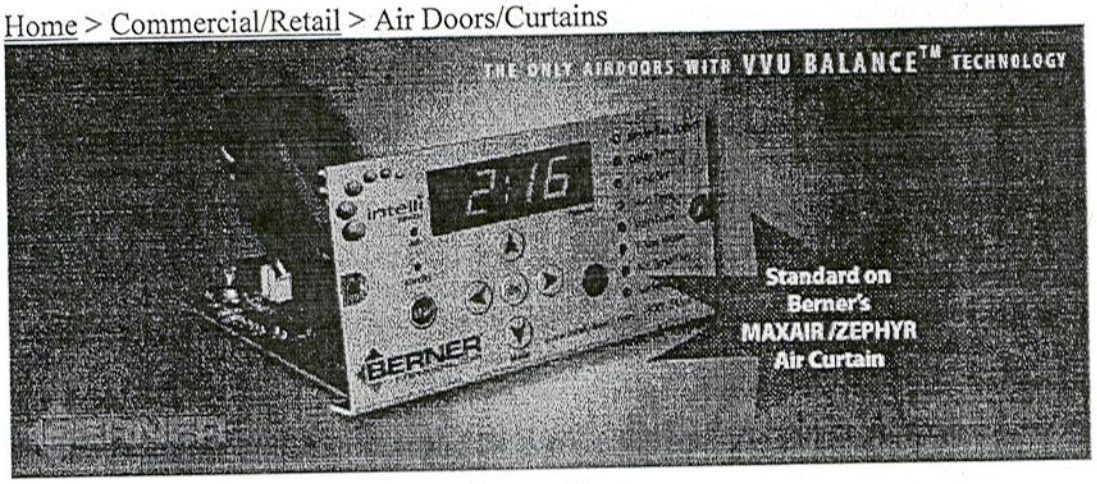
1. AIR CURTAIN MUST BE INSTALLED SO AIR STREAM IS NOT OBSTRUCTED WHEN DEFLECTED 20° TO EITHER SIDE OF ℄.
2. ELECTRICAL CONNECTIONS TO BE FLEXIBLE.
3. FIELD VERIFY DIMENSIONS.
4. ANCHORS TO SUPPORTING STRUCTURE BY OTHERS.
5. ADEQUACY OF SUPPORTING STRUCTURE IS TO BE VERIFIED BY A PROFESSIONAL STRUCTURAL ENGINEER.
6. LETTER 'E' IN MODEL NUMBER DESIGNATES ELECTRIC HEATED UNIT.
7. DIMENSIONS IN INCHES [CENTIMETERS].

PROJECT		
LOCATION		
ARCHITECT		
ENGINEER		
DWG. NO.	ZPRR0036	TITLE: BERNER MODEL MAXAIR AIR CURTAIN ELECTRIC HEATED SYSTEM
DATE	23FEB04	
BY	A.Johnston	
REPLACES	10MAR03	BERNER INTERNATIONAL CORP. NEW CASTLE,PA
BY	D. Johnson	

10-47104

Intelliswitch

Home > Commercial/Retail > Air Doors/Curtains



The Industry's Only Digital, Multi-Programmable Controller

Only available on Berner MaxAir Series Air Curtains

- **Easy to operate**
- **Energy efficient flexible control**
- **Lower installation costs**
- **Patented technology**

Basic Operation

- One switch controls:
  - Fan speed
  - Time delay
  - Thermostat (temperature and mode)
  - Start/stop time
  - Customizable programs
  - Number of zones
  - Days of week to operate per zone
  - Diagnosic Capabilities

General Features

- Ten speeds maintained +/- 5 rpm, utilizes feedback
- Full speed start

- LED clock display
- Low voltage output for door switch activation: 5 volt for door/limit switch/dry contact
- Master/Slave connection - Serial RS485 unlimited slaves up to 500 ft. away
- External thermostat provision
- Commercial Component Operating Range: 0° - 70°C or 32° - 158°F
- Backwards compatible for field installation on existing MaxAir/Zephyr air curtains
- RoHS Compliant

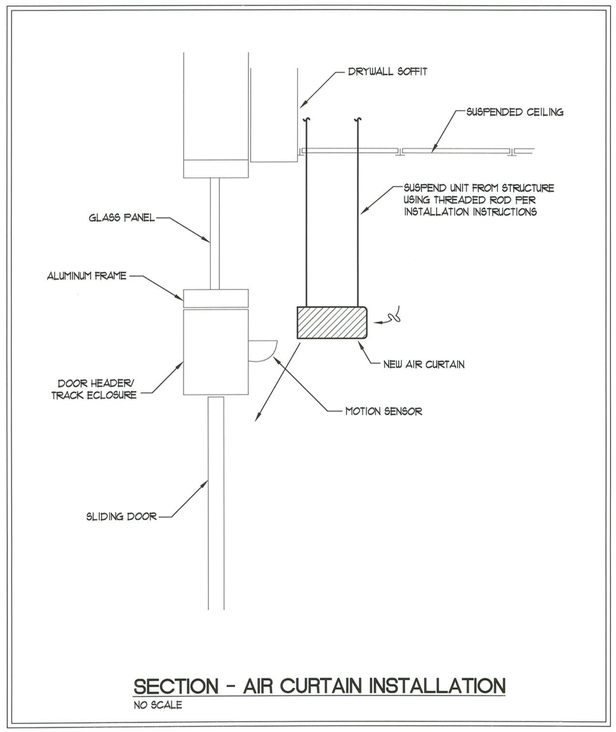
Safety Features

- Lockable/Tamper proof
- Optional PASScode to unlock
- Auto lock (on/off, locks control after 5 min)
- Emergency stop
- Fan fail lock out: prevents electric heater activation if fans not running

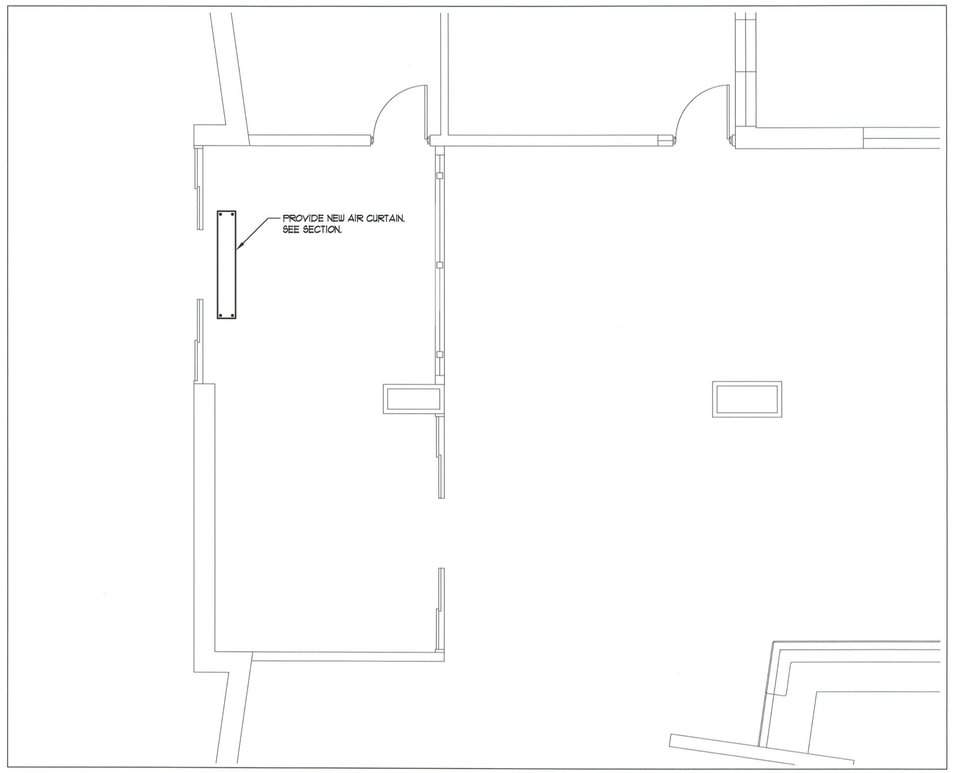
Optional accessories

- Infra-red remote control
- Remote mountable display/interface

10-447104



SECTION - AIR CURTAIN INSTALLATION
NO SCALE

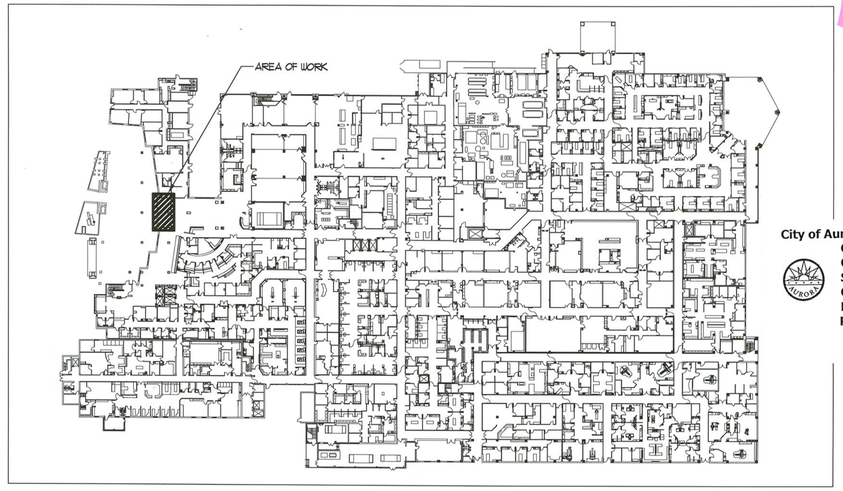


MECHANICAL PLAN
1/4"=1'-0"

AIR CURTAIN

BERNER MAXI072
480V / 3Ø, 14 KW
MOTOR: 120V / 1Ø
PROVIDE INTELLISWITCH CONTROLS

NOTE: PROGRAM UNIT FOR "COMFORT PLUS" OPERATION. PROVIDE DOOR SWITCH AS REQUIRED.



KEY PLAN
NO SCALE

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation per 2006 IBC 105.4.

City of Aurora Plan Review
Occ. Type: I-2
Const. Type: 1FR SPK
Square Footage:
Code: 2006
RSN: 514720
Permit No. 10-447104

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE APPROVED JAN 13 2010

Tolin Mechanical Systems Company,
a service logic company

SLK Consulting Group
780 Pitkin Way
Castle Rock, Colorado 80104
Phone: 303-974-5598 Fax: 303-974-5599 sknopp@comcast.net

COLORADO LICENSED
DOUGLAS SENNO
22992
PROFESSIONAL ENGINEER
12-24-09
STAMP

MEDICAL CENTER OF AURORA
AIR CURTAIN ADDITION
1501 SOUTH POTOMAC
AURORA, COLORADO

REVISIONS	
DESCRIPTION	DATE

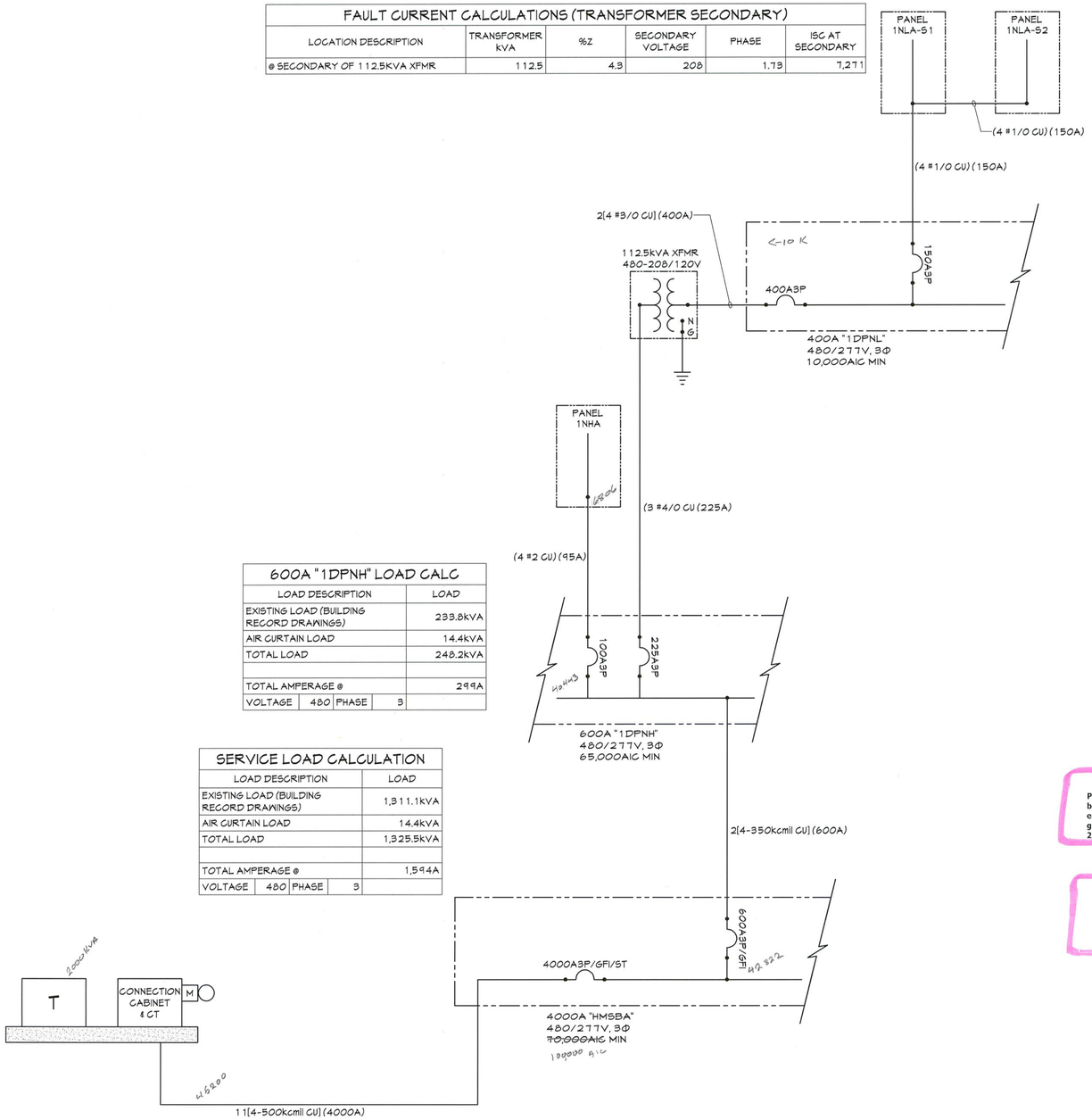
ISSUE DATE: 12/24/09
PROJECT #: 09-181
SCALE: 1/4"=1'-0"
DRAWN BY: CJK
DESIGNED BY: SLK
CHECKED BY: PDS
MECHANICAL PLAN
SHEET:
M-1
OF 1

FAULT CURRENT CALCULATIONS (END OF CONDUCTOR)

LOCATION DESCRIPTION	STARTING ISC	MINIMUM CONDUCTOR LENGTH	PHASE MULTIPLIER	VOLTAGE	# OF CONDUCTOR SETS	C VALUE	ISC END
@ 4000A "HSMBA"	56,500	100	1.73	480	11	26,706	52,837
@ 600A "1DPNH"	52,837	15	1.73	480	2	22,736	49,714
@ PANEL "1NHA"	49,714	200	1.73	480	1	6,044	7,175

FAULT CURRENT CALCULATIONS (TRANSFORMER SECONDARY)

LOCATION DESCRIPTION	TRANSFORMER kVA	%Z	SECONDARY VOLTAGE	PHASE	ISC AT SECONDARY
@ SECONDARY OF 112.5KVA XFMR	112.5	4.9	208	1.73	7,271



600A "1DPNH" LOAD CALC

LOAD DESCRIPTION				LOAD
EXISTING LOAD (BUILDING RECORD DRAWINGS)				233.8kVA
AIR CURTAIN LOAD				14.4kVA
TOTAL LOAD				248.2kVA
TOTAL AMPERAGE @				299A
VOLTAGE	480	PHASE	3	

SERVICE LOAD CALCULATION

LOAD DESCRIPTION				LOAD
EXISTING LOAD (BUILDING RECORD DRAWINGS)				1,311.1kVA
AIR CURTAIN LOAD				14.4kVA
TOTAL LOAD				1,325.5kVA
TOTAL AMPERAGE @				1,594A
VOLTAGE	480	PHASE	3	

1 PARTIAL EXISTING ONE-LINE DIAGRAM
NOT TO SCALE

LEGEND

NOTE: ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT

DEVICES

- S_{TO} THERMAL OVERLOAD SWITCH

POWER DISTRIBUTION

- SWITCHBOARD OR EQUIPMENT ENCLOSURE
- ELECTRICAL PANEL
- SWITCH WITH FUSE
- SWITCH
- PULLOUT FUSED DISCONNECT
- CIRCUIT BREAKER
- NF NON-FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- MAGNETIC STARTER OR CONTACTOR
- COMBINATION STARTER
- ELECTRIC METER - UTILITY METER U.O.N.
- CT CURRENT TRANSFORMER
- M MOTOR
- TRANSFER SWITCH
- G GENERATOR
- J/B OR J JUNCTION BOX
- CIRCUIT RUN CONCEALED IN WALL OR CEILING
- CIRCUIT RUN IN OR UNDER FLOOR OR IN EARTH
- CIRCUIT RUN SURFACE MOUNTED
- CONDUIT UP, CONDUIT DOWN
- CONDUIT STUB - CAP IF UNDERGROUND
- FLEXIBLE CONNECTION TO EQUIPMENT
- HOMERUN - ARROWS INDICATE # OF PHASE COND.
- GROUNDING ELECTRODE
- PAD MOUNTED TRANSFORMER
- T TRANSFORMER

ABBREVIATIONS

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFI/AFCI	ARC-FAULT CIRCUIT INTERRUPTER
AIC	AMPERE INTERRUPTING CAPACITY (MINIMUM RATING)
ATS	AUTOMATIC TRANSFER SWITCH
CD	CORD DROP
CLG	CEILING MOUNTED
E OR (E)	EXISTING
FLR	FLOOR MOUNTED
G OR GND	GROUND
GFI/GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
IG	ISOLATED GROUND
ISC	AVAILABLE FAULT CURRENT (RMS SYMMETRICAL)
ILT	LET-THROUGH FAULT CURRENT (RMS SYMMETRICAL)
N OR (N)	NEW
NO/NC	NORMALLY OPEN/NORMALLY CLOSED
O.C.	ON CENTER
R OR (R)	RELOCATE
ST	SHUNT-TRIP
TL	TWIST-LOCK
TR	TAMPER RESISTANT
UC	UNDER COUNTER
UON	UNLESS OTHERWISE NOTED
WP	WEATHER PROOF
XP	EXPLOSION PROOF

Provide a grounded electrode system bonded to the service equipment enclosure, grounded conductors, and grounded electrode conductors per 2008 NEC 250-50 and 250-104.

Locate the required overcurrent protection per 2008 NEC 240-21.

ELECTRICAL SPECIFICATIONS

GENERAL REQUIREMENTS

DRAWINGS ARE DIAGRAMMATIC AND DO NOT INDICATE ALL FITTINGS, JUNCTION BOXES, ETC. REQUIRED. PROVIDE ALL REQUIRED EQUIPMENT, CONDUIT, FITTINGS, WIRING, BOXES, ETC. FOR A COMPLETE AND OPERATIONAL INSTALLATION.

WORK AND EQUIPMENT SHALL COMPLY WITH STATE AND LOCALLY ADOPTED CODES AND STANDARDS, INCLUDING THE NATIONAL ELECTRICAL CODE (NEC), INTERNATIONAL CODES (I-CODES), AND LOCAL AMENDMENTS.

ANYTHING DRAWN OR SPECIFIED SHALL NOT BE CONSTRUED TO CONFLICT WITH STATE AND LOCALLY ADOPTED CODES AND STANDARDS, INCLUDING THE NATIONAL ELECTRICAL CODE, WHICH GOVERNS THE INSTALLATION OF ANY ELECTRICAL WORK. ITEMS SHALL NOT BE INSTALLED IN CONFLICT WITH THE NEC. RESOLVE ANY AND ALL CONFLICTS PRIOR TO INSTALLATION.

BECOME THOROUGHLY ACQUAINTED WITH THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. EXAMINE ALL SERVICES, EQUIPMENT, AND EXISTING CONDITIONS, WHICH THIS WORK IS IN ANY WAY DEPENDENT UPON, AND BRING ANY DISCREPANCIES OR OMISSIONS FOUND IN THE DRAWINGS TO THE ELECTRICAL ENGINEER'S ATTENTION PRIOR TO SUBMITTING BID.

THE LOCATION OF OUTLETS AND EQUIPMENT SHOWN ON THE DRAWINGS ARE APPROXIMATE. THE ARCHITECT AND ENGINEER SHALL HAVE THE RIGHT TO ADJUST THE LOCATION OF OUTLETS OR FIXTURES, WITHIN 10' OF THE SPECIFIED LOCATION, BEFORE THEY ARE INSTALLED AND WITHOUT ADDITIONAL COST.

PROVIDE DRAWINGS TO LOCAL BUILDING AUTHORITY AND OBTAIN A PERMIT PRIOR TO STARTING ANY WORK.

NOTIFY ELECTRICAL ENGINEER OF ANY CHANGES REQUESTED BY THE LOCAL BUILDING AUTHORITY IMMEDIATELY AND PRIOR TO STARTING WORK.

VERIFY AND COMPLY WITH UTILITY COMPANY REQUIREMENTS. PROVIDE METERING, CONNECTION CABINETS, CT CABINETS, AND TRANSFORMER AND CONNECTION CABINET PADS PER LOCAL UTILITY COMPANY REQUIREMENTS.

PROVIDE A REDLINED AS-BUILT SET OF ELECTRICAL DRAWINGS TO OWNER UPON COMPLETION OF WORK.

ELECTRICAL WORK SHOWN LIGHT OR MARKED 'E' IS EXISTING, SHOWN DARK IS NEW, AND SHOWN DASHED IS EXISTING TO BE REMOVED OR RELOCATED UNLESS OTHERWISE INDICATED. DASHING MAY ALSO INDICATE UNDER FLOOR OR UNDER GROUND CONDUIT. IF UNCLEAR, CONTACT ELECTRICAL ENGINEER FOR CLARIFICATION.

EQUIPMENT, WIRING, AND DEVICES SHOWN ARE NEW UNLESS OTHERWISE NOTED.

MAINTAIN CIRCUITING TO EXISTING EQUIPMENT AND DEVICES TO REMAIN.

INSTALL EQUIPMENT AND DEVICES PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. NOTIFY ELECTRICAL ENGINEER, PRIOR TO INSTALLING EQUIPMENT AND DEVICES, IF MANUFACTURER'S INSTALLATION INSTRUCTIONS CONFLICT WITH ELECTRICAL INFORMATION ON THE THESE DRAWINGS.

ELECTRICALLY OPERATED EQUIPMENT SHOWN ON PLANS, AND NOT CIRCUITED ON THE ELECTRICAL PLANS, WILL REQUIRE ELECTRICAL SERVICE. CONTACT ELECTRICAL ENGINEER FOR CONNECTION REQUIREMENTS AND CLARIFICATION PRIOR TO BID. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE BID.

PROVIDE HANGERS AND SUPPORTS TO ADEQUATELY AND SECURELY SUPPORT ELECTRICAL SYSTEM COMPONENTS IN A NEAT AND WORKMANLIKE MANNER.

MAINTAIN THE FIRE RATING OF THE ASSEMBLY (CEILING, WALL, OR FLOOR) IN WHICH EQUIPMENT, WIRING, AND DEVICES ARE TO BE INSTALLED.

SUBMITTALS AND SUBSTITUTIONS

PROVIDE PRODUCT DATA SHEETS AND SHOP DRAWINGS FOR EQUIPMENT, FIXTURES, AND DEVICES TO ELECTRICAL ENGINEER PRIOR TO PURCHASING. REVIEW, STAMP AND INITIAL ALL ELECTRICAL SUBMITTALS AND SHOP DRAWINGS CERTIFYING THAT THE SUBMITTALS HAVE BEEN REVIEWED PRIOR TO SUBMITTING TO ELECTRICAL ENGINEER FOR REVIEW.

EQUIPMENT AND FIXTURES SPECIFIED REPRESENT REQUIRED QUALITY AND PERFORMANCE.

PROVIDE PRODUCT DATA SHEETS AND SHOP DRAWING OF PROPOSED SUBSTITUTIONS TO SPECIFIED EQUIPMENT TO ELECTRICAL ENGINEER FOR REVIEW. ELECTRICAL ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF SUBSTITUTIONS TO SPECIFIED EQUIPMENT. REVIEW, STAMP AND INITIALED ALL ELECTRICAL SUBMITTALS AND SHOP DRAWINGS CERTIFYING THAT SUBMITTALS HAVE BEEN REVIEWED PRIOR TO SUBMITTING TO ELECTRICAL ENGINEER FOR REVIEW.

SUBMITTALS AND SHOP DRAWINGS ARE TO INCLUDE THE FOLLOWING: KEY TO PLAN DESIGNATIONS, MANUFACTURER, MODEL NUMBER, DATA SHEETS, QUANTITIES, COLORS, LABELS, DIMENSIONS, INSTALLATION INSTRUCTIONS, AND ANY ADDITIONAL INFORMATION REQUIRED TO DETERMINE IF THE PRODUCT MEETS THE DESIGN INTENT.

CONSTRUCTION PHASE REVIEW REQUIREMENTS

INSTALL POWER, LIGHTING, COMMUNICATIONS AND SPECIAL SYSTEM (FIRE ALARM, SECURITY, BUILDING AUTOMATION, ETC) BOXES PRIOR TO RUNNING CABLE OR CONDUIT TO BOXES. ARRANGE FOR OWNER, ARCHITECT, AND ENGINEER TO REVIEW BOX LOCATIONS PRIOR TO RUNNING CABLE OR CONDUIT TO BOXES. ADJUST BOXES AS DIRECTED BY OWNER, ARCHITECT, AND ENGINEER.

REQUESTS FOR MODIFICATIONS TO THE CONTRACT (CHANGE ORDERS)

REQUESTS BY CONTRACTOR FOR ADDITION OR REDUCTION TO THE CONTRACT AMOUNT SHALL BE ACCOMPANIED BY THE FOLLOWING FOR EVALUATION BY THE OWNER AND ENGINEER:

1. ORIGIN AND DATE OF CLAIM
2. QUANTITIES OF PRODUCTS, LABOR, AND EQUIPMENT
3. DOLLAR AMOUNT OF TAXES, OVERHEAD, AND PROFIT
4. JUSTIFICATION FOR ANY CHANGE IN CONTRACT TIME
5. CREDIT AMOUNT FOR DELETIONS (WITH DOCUMENTATION)
6. DATES AND TIMES OF WORK PERFORMED, AND BY WHOM
7. TIME RECORDS AND WAGE RATES PAID
8. INVOICES AND RECEIPTS FOR PRODUCTS AND EQUIPMENT

SUBMIT ALL DOCUMENTATION TO ENGINEER AND OWNER, AND OBTAIN WRITTEN APPROVAL PRIOR TO STARTING ANY WORK THAT AFFECTS THE CONTRACT AMOUNT OR COMPLETION DATE.

EXISTING CONDITIONS

THESE DRAWINGS CONTAIN INFORMATION REGARDING EXISTING CONDITIONS. THIS INFORMATION WAS COMPILED FROM EXISTING DRAWINGS OR CASUAL FIELD OBSERVATIONS. IN SOME CASES, ASSUMPTIONS WERE MADE WHEN FIELD OBSERVATIONS OR EXISTING DRAWINGS DID NOT PROVIDE NECESSARY INFORMATION (I.E. LOCKED DISCONNECTS, NO WIRE SIZE INDICATED, NAMEPLATE DATA MISSING, INACCURATE AS-BUILT DRAWINGS, ETC.).

EXISTING CONDITIONS SHALL BE VERIFIED AND ALLOWED FOR PRIOR TO BID AND CONSTRUCTION. NOTIFY THE ELECTRICAL ENGINEER OF ANY DISCREPANCIES WITH THESE DRAWINGS IMMEDIATELY AND PRIOR TO COMMENCING ANY FURTHER WORK.

COORDINATION

THE ELECTRICAL DRAWINGS ARE ONLY ONE PART OF A COMPLETE SET OF CONSTRUCTION DOCUMENTS. EXAMINE THE MECHANICAL DRAWINGS PRIOR SUBMITTING BID AND STARTING WORK TO DETERMINE THE FULL EXTENT OF ELECTRICAL WORK REQUIRED.

COORDINATE WORK WITH OTHER TRADES PRIOR TO ROUGH-IN. COORDINATION SHALL INCLUDE REVIEWING THE MECHANICAL DRAWINGS AND SHOP DRAWINGS PRIOR TO BID AND CONSTRUCTION.

OBTAIN AND REVIEW SHOP DRAWINGS, PRODUCT DATA, MANUFACTURER'S WIRING DIAGRAMS AND MANUFACTURER'S INSTRUCTIONS FOR EQUIPMENT PROVIDED BY OTHERS.

THE FINAL LOCATION OF EQUIPMENT SHALL BE COORDINATED IN THE FIELD, PRIOR TO ROUGH-IN, TO MEET APPLICABLE LOCATION, HEIGHT AND CLEARANCE REQUIREMENTS.

MAINTAINING EXISTING SERVICES

MAINTAIN THE ELECTRICAL SERVICE TO EXISTING TENANTS AND AREAS. ANY SERVICE DISCONTINUITY SHALL BE COORDINATED AND APPROVED BY OWNER AND TENANTS PRIOR TO OUTAGE. IF REQUIRED, PROVIDE TEMPORARY POWER DURING OUTAGE.

WIRING AND CONDUIT

NEW WIRING SHALL BE THHN/THWN-2, 90°C INSULATED COPPER UNLESS OTHERWISE NOTED. ALUMINUM CONDUCTORS SHALL BE XHHW-2, INSULATED COMPACT STRAND.

THE CONDUCTORS FOR 15A AND 20A BRANCH CIRCUITS SHALL BE #12 THHN/THWN-2, 90°C INSULATED COPPER.

BRANCH-CIRCUIT CONDUCTORS GREATER THAN 20A SHALL BE AS INDICATED ON PLANS OR REQUIRED PER CODE.

CONDUCTOR INSULATION SHALL BE COLOR CODED AS FOLLOWS:
208/120V, 3Φ: PHASE: A - BLACK; PHASE B - RED; PHASE C - BLUE
480/277V, 3Φ: PHASE A - BROWN; PHASE B - ORANGE; PHASE C - YELLOW

20 AMPERE BRANCH CIRCUIT HOMERUNS OVER 75' SHALL BE #10AWG CU AND OVER 150' SHALL BE #8AWG CU.

THE MAXIMUM NUMBER OF CONDUCTORS IN A CONDUIT FOR A 3Φ SYSTEM SHALL BE THREE (AΦ, BΦ, CΦ), NOT INCLUDING NEUTRAL AND EQUIPMENT GROUNDING CONDUCTORS, UNLESS OTHERWISE INDICATED. CONDUIT SIZE SHALL BE BASED UPON NEC CHAPTER 9 AND ANNEX C. MORE THAN 3 CURRENT-CARRYING CONDUCTORS MAY BE INSTALLED IN A RACEWAY IF THE APPROPRIATE AMPACITY DERATING FACTORS ARE APPLIED.

PROVIDE A DEDICATED NEUTRAL FOR EACH LINE-TO-NEUTRAL CIRCUIT UNLESS MULTI-POLE BREAKER IS PROVIDED (LISTED BREAKER-TIES ARE PERMITTED).

PROVIDE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR WITH ALL FEEDERS AND BRANCH-CIRCUIT WIRING.

INCREASE CONDUIT SIZE AS REQUIRED TO ACCOMMODATE EQUIPMENT GROUNDING CONDUCTOR.

CONDUIT SHALL BE CONCEALED IN WALLS, FLOOR OR CEILING IN FINISHED AREAS UNLESS OTHERWISE INDICATED.

IN FINISHED AREAS, WHERE CONDUIT AND CABLE CAN NOT BE CONCEALED IN WALLS OR CEILINGS (I.E. EXISTING MASONRY CONSTRUCTION), PROVIDE WIREMOLD OR EQUAL SURFACE MOUNTED RACEWAY AS APPROVED BY ARCHITECT OR ENGINEER.

THE TYPE OF CONDUIT SHALL BE AS FOLLOWS FOR ALL FEEDERS AND BRANCH CIRCUITS, UNLESS OTHERWISE SPECIFIED OR REQUIRED. REFERENCE THE NEC FOR ADDITIONAL APPLICATION REQUIREMENTS.

APPLICATION	TYPE OF CONDUIT
IN CONCRETE OR MASONRY	EMT, GRC OR PVC
OUTDORS (ABOVE GRADE)	EMT OR GRC
BRANCH CIRCUITS (EXPOSED)	EMT OR GRC
BRANCH CIRCUITS (CONCEALED)	MC CABLE OR EMT

FINAL CONNECTIONS TO MECHANICAL OR VIBRATING EQUIPMENT, SUCH AS MOTORS AND TRANSFORMERS, SHALL BE MADE WITH FLEXIBLE METAL CONDUIT. FINAL CONNECTIONS TO LIGHT FIXTURES SHALL BE MADE WITH FLEXIBLE METAL CONDUIT WITH A MAXIMUM LENGTH OF 6'.

ALL CONDUITS AND CABLES PASSING THROUGH RATED WALLS, FLOORS OR CEILINGS SHALL BE FIRE STOPPED WITH APPROVED FIRE BARRIER CAULK. INSTALL CAULK PER MANUFACTURES INSTRUCTIONS AND MAINTAIN THE RATING OF THE WALL, FLOOR, OR CEILING BEING PENETRATED.

DISTRIBUTION EQUIPMENT

PROVIDE DISTRIBUTION PANELS, DISCONNECTS, CONTACTORS, ETC. OF VOLTAGE, AMPERAGE, PHASE, AND SHORT-CIRCUIT RATINGS AS INDICATED ON PLANS.

ENCLOSURES FOR EQUIPMENT AND DEVICES SHALL BE SUITABLE FOR THE INSTALLED LOCATION.

PROVIDE A LISTED BREAKER-TIE OR MULTI-POLE BREAKER FOR EACH MULTIWIRE (SHARED NEUTRAL) BRANCH CIRCUIT.

PROVIDE DISTRIBUTION EQUIPMENT AS MANUFACTURED BY AMERICAN MIDWEST POWER, SQUARE D, ELECTRO-MECHANICAL INDUSTRIES, CUTLER-HAMMER, SIEMENS, ERICKSON ELECTRIC, GE OR METRON.

PROVIDE A TYPED PANEL SCHEDULE WITH LOAD DESCRIPTIONS FOR PANELS AFFECTED BY THIS PROJECT.

MECHANICAL EQUIPMENT

REFERENCE MECHANICAL DRAWINGS FOR EXACT LOCATION AND REQUIREMENTS OF MECHANICAL EQUIPMENT.

ELECTRICALLY OPERATED EQUIPMENT SHOWN ON THE MECHANICAL PLANS AND NOT SHOWN ON THE ELECTRICAL PLANS WILL REQUIRE ELECTRICAL SERVICE. CONTACT ELECTRICAL ENGINEER FOR CONNECTION REQUIREMENTS PRIOR TO BID. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE BID.

VERIFY MECHANICAL EQUIPMENT NAMEPLATE DATA (VOLTAGE, PHASE, FLA, MCA, MOCP, ETC.) PRIOR TO ROUGH-IN. NOTIFY ELECTRICAL ENGINEER IN WRITING OF ANY DISCREPANCIES WITH THESE DRAWINGS IMMEDIATELY AND PRIOR TO COMMENCING ANY FURTHER WORK.

MECHANICAL CONTRACTOR SHALL PROVIDE STARTERS FOR MECHANICAL EQUIPMENT.

MECHANICAL CONTRACTOR SHALL PROVIDE CONDUIT, WIRE, AND DEVICES FOR MECHANICAL EQUIPMENT CONTROLS, UNLESS OTHERWISE INDICATED ON THE ELECTRICAL DRAWINGS.

ELECTRICAL CONTRACTOR SHALL PROVIDE MECHANICAL EQUIPMENT CONTROL WIRING, CONDUIT, AND DEVICES IF INDICATED ON THE ELECTRICAL DRAWINGS. NOTIFY ELECTRICAL ENGINEER IN WRITING OF ANY DISCREPANCIES WITH THESE DRAWINGS IMMEDIATELY AND PRIOR TO COMMENCING ANY FURTHER WORK.

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE APPROVED/JAN 1 2010

10-467104

Kazin & Associates
Consulting Electrical Engineers
Est. 1984
Village Square at Lone Tree
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Project Number: 09296

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System Design & Installation
Facility Maintenance & Operation
Automation Systems & Service
Maintenance & repair Service

TOLIN

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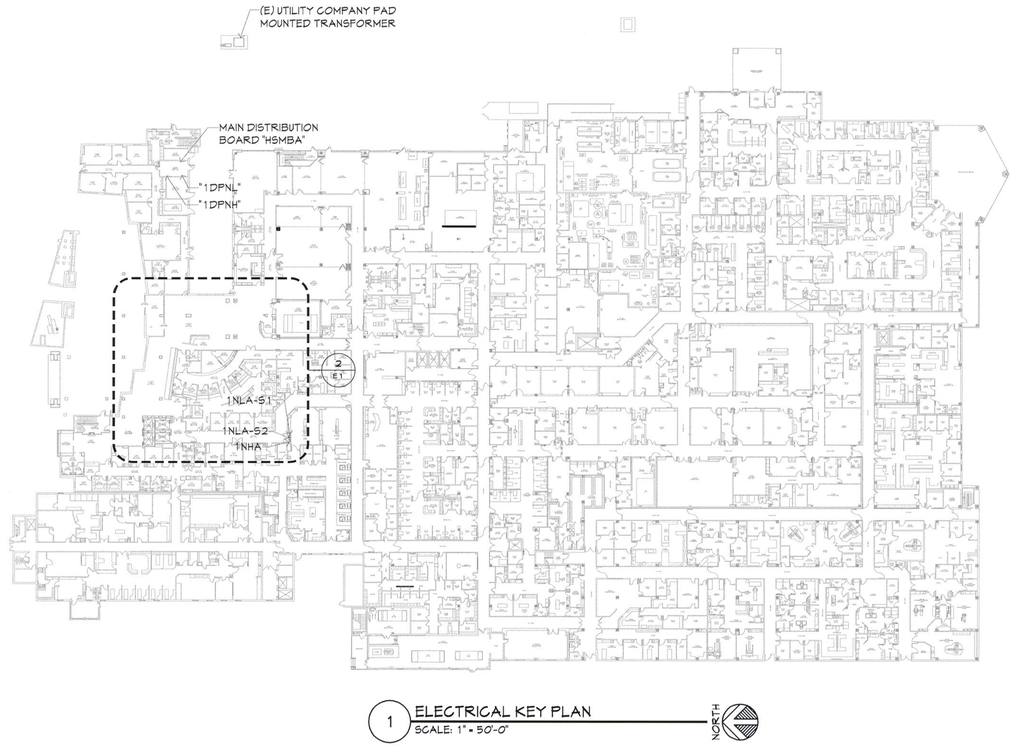
MEDICAL CENTER OF AURORA SOUTH
1501 S POTOMAC ST
AURORA, COLORADO

REVISIONS		
NO.	DATE	DESCRIPTION
1.		

DRAWN BY: BEK
CHECKED BY: BEK
ISSUE DATE: 12/23/09
SHEET NO. E1
JOB NO.



2 PARTIAL POWER PLAN
SCALE: 1/8" = 1'-0"



1 ELECTRICAL KEY PLAN
SCALE: 1" = 50'-0"

| | | |