CAUTION: IF THIS SHEET IS NOT 30"x42" IT IS A REDUCED PRINT

GENERAL PROJECT NOTES

NOTE: SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL CONSTRUCTION REQUIREMENTS

1. THE CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL NECESSARY FOR A COMPLETE, OPERATIONAL AND PROPERLY FUNCTIONING ELECTRICAL SYSTEM
2. MATERIALS AND INSTALLATION SHALL COMPLY WITH CODES, LAWS AND ORDINANCES OF FEDERAL, STATE AND LOCAL GOVERNING BODIES HAVING JURISDICTION.
3. MATERIALS AND EQUIPMENT SHALL BE LISTED AND/OR LABELED BY U.L., ETL, CSA OR ANOTHER RECOGNIZED TESTING LAB. ALL MATERIAL, EQUIPMENT, WIRING DEVICES, ETC. SHALL BE NEW, UNLESS SPECIFICALLY INDICATED AS EXISTING TO BE REUSED.
4. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO GOVERNMENTAL AGENCIES AND UTILITY COMPANIES SHOP DRAWINGS REQUIRED BY THESE AGENCIES FOR APPROVAL. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, GOVERNMENTAL FEES, TAXES AND LICENSES NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE ELECTRICAL WORK. THIS CONTRACTOR SHALL SECURE AND PAY ALL FEES AND PERMITS PERTAINING TO THIS CONTRACT, SHALL BE RESPONSIBLE FOR WORKER'S IDENTIFICATION AND BADGING, SAFETY, AND LIABILITY INSURANCE. PROVIDE BARRICADES, WARNING SIGNS, AND TRASH REMOVAL FOR THE SAFETY OF THE WORKERS UNDER THIS CONTRACTOR'S EMPLOY.
5. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER/OWNER OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE, UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES OR REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
6. THE CONTRACTOR SHALL PREPARE THE DOCUMENTS, INCLUDING DRAWINGS, REQUIRED TO OBTAIN APPROVAL OF THE EQUIPMENT AND LOCATIONS OF THE DEVICES THAT COMPRISE THE BUILDING FIRE ALARM LIFE SAFETY SYSTEM. THE DRAWINGS AND CUT SHEETS SHALL BE PROVIDED TO A PROFESSIONAL ENGINEER FOR REVIEW AND APPROVAL. THE APPROVED DRAWINGS WILL BE STAMPED, SIGNED AND RETURNED TO E.C. TO SUBMIT TO THE BUILDING DEPARTMENT.
7. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DOCUMENTS, VISIT THE SITE, AND THOROUGHLY BECOME FAMILIAR WITH THE BUILDING STANDARDS, LOCAL JURISDICTIONAL CODES AND REQUIREMENTS, AND LOCAL CONDITIONS RELATING TO THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT. SUBMISSION OF PROPOSAL IN CONNECTION WITH THIS WORK SHALL IMPLY THAT THE BIDDER HAS EXAMINED THE JOB SITE. NO EXTRA CHARGE WILL BE ALLOWED FOR CHANGES AS A RESULT FROM FAILURE TO EXAMINE THE JOB SITE.
8. THE CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND WIRING FOR THE PERFORMANCE OF ALL TRADES, FOR THE ENTIRE PERIOD OF CONSTRUCTION AND SHALL REMOVE ALL TEMPORARY WIRING AT THE COMPLETION OF CONSTRUCTION.
9. THE EXISTING POWER, SIGNAL AND COMMUNICATION SYSTEMS ARE TO REMAIN IN SERVICE TO PROVIDE FOR THE OWNER'S FUNCTION. SHOULD IT BECOME NECESSARY TO SHUT-DOWN ANY SYSTEM OR PORTION OF A SYSTEM, APPROVAL IN WRITING MUST BE OBTAINED FROM THE OWNER AND SHALL ONLY APPLY FOR THE PERIOD AND TIME AGREED UPON. THE BID IS TO INCLUDE THE COST OF ANY TEMPORARY WIRING AND PREMIUM TIME REQUIRED FOR THE SHUTDOWN.
10. ALL MATERIALS AND EQUIPMENT SHALL BE ERECTED, INSTALLED, CONNECTED, CLEANED, ADJUSTED, TESTED, CONDITIONED, AND PLACED IN SERVICE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS.
11. ALL CUTTING, DRILLING AND PATCHING OF MASONRY, STEEL OR IRON WORK BELONGING TO THE BUILDING MUST BE DONE BY THIS CONTRACTOR IN ORDER THAT HIS WORK MAY BE PROPERLY INSTALLED, BUT UNDER NO CONDITIONS MAY STRUCTURAL WORK BE CUT, EXCEPT AT THE DIRECTION OF THE ARCHITECT-DESIGNER OR THEIR REPRESENTATIVE.
12. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ELECTRICAL FIXTURES AND ELECTRICAL DEVICES. MOUNTING HEIGHTS SHALL CONFORM TO ADA/ICC/ANSI STANDARDS.
13. ALL WORK REQUIRED FOR THE INSTALLATION AS SHOWN ON DRAWINGS INCLUDING LABOR, EQUIPMENT AND MATERIALS SHALL BE IN STRICT COMPLIANCE WITH THE BUILDING STANDARDS.
14. PROVIDE COMPLETE METAL RACEWAY SYSTEMS AND ENCLOSURES FOR ALL WIRING THROUGHOUT THE EXTENT OF THE REQUIRED SYSTEM.
15. ALL TELE/ DATA BOXES SHALL BE PROVIDED WITH A 1/2" CONDUIT AND BUSHING WITH PULL STRING RUN 6" ABOVE FINISHED CEILING OR CEILING GRID. ELECTRICAL METALLIC TUBING (EMT) SHALL BE USED FOR ALL WALL OUTLETS & TELEPHONE WIRING RUNNING BELOW RAISED FLOOR OR ABOVE HARD CEILINGS.
16. ALL RECEPTACLES NOTED AS ISOLATED GROUND (IG) OR DEDICATED OR CIRCUITED AS DEDICATED SHALL BE PROVIDED WITH A DEDICATED GROUND AND NEUTRAL.
17. MINIMUM CONDUIT SIZE SHALL BE 3/4" UNLESS OTHERWISE INDICATED. CONDUITS LARGER THAN 2" DIAMETER OR CONDUITS OF ANY SIZE ROUTED OUTDOORS SHALL BE INTERMEDIATE METAL CONDUIT (IMC).
18. FLEXIBLE CONDUIT CONNECTIONS TO RECESSED LIGHTING FIXTURES SHALL BE MADE WITH FLEXIBLE STEEL CONDUIT, 3/8 INCH MINIMUM.
19. FINAL CONNECTIONS TO MOTORS SHALL BE MADE WITH LIQUID TIGHT FLEXIBLE STEEL CONDUIT, 1/2 INCH MINIMUM.
20. WIRE NO. 8 AND SMALLER INSTALLED IN DRY LOCATIONS SHALL BE TYPE THWN OR THHN THERMOPLASTIC 600V INSULATED COPPER CONDUCTORS. NO WIRE SMALLER THAN NO.12 SHALL BE USED FOR LIGHTING OR POWER WIRING. WIRE NO. 8 AND LARGER SHALL BE STRANDED. ALL CONDUCTORS INSTALLED IN EXTERIOR OR WET LOCATIONS SHALL BE TYPE THWN 600V INSULATED COPPER CONDUCTORS.
21. ALL NEW CIRCUIT BREAKERS FOR NEW OR EXISTING PANELBOARDS SHALL MATCH EXISTING OR NEW BUILDING STANDARD PANELBOARD MANUFACTURER AND BREAKER TYPE. THE CONTRACTOR SHALL PROVIDE NEW ACCURATE AND DETAILED TYPE WRITTEN PANEL DIRECTORIES PER NEC 408.4 FOR ALL NEW OR MODIFIED PANELS. NUMBERED CIRCUITS ARE FOR CONVENIENCE OF DESIGN ONLY. E.C. TO FIELD VERIFY ACTUAL CIRCUIT NUMBERS USED AND CORRECTLY INDICATE ON "AS-BUILT" DRAWINGS. THE E.C. SHALL REMOVE ALL ABANDONED CIRCUITS.
22. PROVIDE #10 FOR BRANCH CIRCUITS OVER 75' AT 120V AND OVER 150' AT 277V. E.C. TO FIELD VERIFY BRANCH CIRCUIT LENGTHS AND SIZE CONDUCTORS FOR VOLTAGE DROP.
23. EACH SWITCH, LIGHT, RECEPTACLE AND ALL OTHER DEVICES SHALL BE PROVIDED AND INSTALLED WITH A GALVANIZED OR SHERARDIZED PRESSED STEEL JUNCTION BOX OF NOT LESS THAN NO. 14 U.S. GAUGE STEEL. CONDUITS SHALL BE FASTENED WITH LOCKNUTS AND BUSHINGS AND ALL UNUSED KNOCKOUTS MUST BE LEFT SEALED. THERE MUST BE SUFFICIENT ROOM FOR WIRES AND BUSHINGS AND DEEP BOXES SHALL BE INSTALLED WHERE REQUIRED. BOXES SHALL BE SECURELY AND ADEQUATELY SUPPORTED.
24. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SPECIAL OUTLET BOXES THAT MAY BE REQUIRED TO ENCLOSE RECEPTACLES.
25. IN SUSPENDED CEILINGS SUPPORT CONDUIT AND JUNCTION BOXES DIRECT FROM THE STRUCTURAL SLAB, DECK, OR FRAMING PROVIDED FOR THAT PURPOSE. LIGHTING BRANCH CIRCUIT CONDUITS SHALL NOT BE CLIPPED TO THE CEILING SUPPORT WIRES OR SPLINE UNLESS THE CEILING SYSTEM HAS BEEN SPECIFICALLY DESIGNED FOR THAT PURPOSE.
26. PROVIDE LOCAL DISCONNECT SWITCHES FOR ALL MOTORS (PLENUM APPROVED WHERE REQUIRED).
27. THE E.C. SHALL INCLUDE IN HIS COST THE REMOVAL OF ALL EXISTING ELECTRICAL DEVICES, CONDUITS, FIXTURES AND EQUIPMENT THAT IS NOT TO BE REUSED. DISCARD ALL EQUIPMENT AS REQUIRED. E.C. SHALL BE RESPONSIBLE FOR DISCONNECTING PRIMARY SERVICE AND TEMPORARY POWER.
28. PROVIDE WARRANTY GUARANTEED FOR A PERIOD OF ONE YEAR AFTER COMPLETION AND ACCEPTANCE. REPLACE ALL DEFECTIVE WORKMANSHIP, EQUIPMENT AND MATERIALS WITHOUT ADDITIONAL CHARGES.
29. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFEKEEPING OF HIS/HER OWN PROPERTY ON THE JOB SITE. THE OWNER OR TENANT ASSUMES NO RESPONSIBILITY FOR PROTECTION OF THIS CONTRACTOR'S PROPERTY AGAINST FIRE, THEFT, OR ENVIRONMENTAL CONDITIONS.
30. WHERE CONDUIT, CABLES, DUCTWORK OR PIPING PASSES THROUGH FIRE RATED FLOORS, WALLS, OR PARTITIONS, THE SLEEVES SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS U.L. LISTED (EQUAL TO DOW CORNING) AND ACCEPTED BY THE BUILDING DEPARTMENT AND FIRE DEPARTMENT AS BEING SUITABLE FOR THE SERVICE. THIS MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTRUCTIONS IN ORDER TO MAINTAIN THE FIRE RATING OF THE PENETRATED WALL, FLOOR, OR PARTITION. INSTALLATION SHALL BE A THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLED AS TESTED IN ACCORDANCE WITH ASTM AND U.L. THE FIRE RATING SHALL MATCH THE RATING OF THE BARRIER BEING PENETRATED.
31. SUBMIT SIX (6) SETS OF SHOP DRAWINGS, CONTROL DIAGRAMS, AND EQUIPMENT CUTS TO THE ENGINEER FOR APPROVAL PRIOR TO STARTING RELATED WORK. SHOP DRAWINGS SHALL INCLUDE MANUFACTURER'S NAMES, CATALOG NUMBERS, CUTS, DIAGRAMS AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED TO IDENTIFY AND REVIEW THE EQUIPMENT. SUBMITTALS SHALL BE IN LOGICAL GROUPS, PARTIAL SUBMITTALS WILL NOT BE REVIEWED.
32. UPON COMPLETION OF CONSTRUCTION, SUPPLY THE ENGINEER WITH ONE COMPLETE SET OF FULL SIZE AS-BUILT DRAWINGS. PROVIDE THE OWNER WITH THREE (3) SETS OF OPERATION AND MAINTENANCE MANUALS FOR EACH TYPE OF EQUIPMENT INSTALLED.
33. THIS CONTRACTOR SHALL ASSUME ALL ADDED EXPENSES TO ALL TRADES ASSOCIATED WITH THE INSTALLATION OF SUBMITTED AND APPROVED ALTERNATE EQUIPMENT.
34. THE CONTRACTOR SHALL COORDINATE THE LAYOUT OF THE FIRE ROOM WITH ALL OTHER DISCIPLINES, ESPECIALLY THE FIRE ALARM AND FIRE PROTECTION DESIGN-BUILD CONTRACTORS PRIOR TO ANY WORK.
35. IF ANY CHANGES ARE MADE TO ACCOMMODATE FIELD CONDITIONS NOTIFY THE ENGINEER IMMEDIATELY OF WHAT THE CHANGES WERE, THE REASON FOR THE CHANGES, AND THE COST IMPACTS.
36. LOCATE ALL ELECTRICAL SWITCHBOARDS, PANELBOARDS AND ELECTRICAL DISTRIBUTION EQUIPMENT IN DEDICATED SPACES AND PROTECTED FROM DAMAGE WITH ADEQUATE WORKING CLEARANCE ACCORDANCE WITH NEC 110 REQUIREMENTS. PROVIDE PROTECTION FROM ANY FOREIGN SYSTEM INSTALLED ABOVE THE DEDICATED EQUIPMENT SPACE PER NEC 110.26(E).
37. ELECTRICAL ROOM DOORS SHALL BE EQUIPPED WITH PANIC BARS, PRESSURE PLATES, OR OTHER DEVICES THAT ARE NORMALLY LATCHED BUT OPEN UNDER SIMPLE PRESSURE IN ACCORDANCE WITH NEC 110.26(C)(3)
38. FOR ANY PATIENT CARE AREAS, AS DETERMINED BY THE GOVERNING BODY OF THE FACILITY OR AUTHORITY HAVING JURISDICTION, THE E.C. SHALL PROVIDE HEALTHCARE FACILITY CABLE (HCF) TYPE MC OR AC WIRING METHODS AS REQUIRED IN ORDER TO COMPLY WITH NEC 517.13 (A) AND (B) AND NEC 517.80 FOR LOW VOLTAGE SYSTEMS. IN ADDITION PROVIDE TAMPER-RESISTANT COVERS FOR RECEPTACLES IN PEDIATRIC LOCATIONS PER NEC 517.8

FIRE ALARM SYSTEM NOTES

FIRE ALARM SYSTEM IS TO BE DESIGN/BUILD BY THE CONTRACTOR.

CODE COMPLIANCE STATEMENT

THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODES:

- 2014 NATIONAL ELECTRIC CODE (NEC)
- 2012 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)

ELECTRICAL LEGEND

NOTE: NOT ALL ITEMS APPEAR ON DRAWINGS. SYMBOLS MAY DIFFER FROM EXISTING AND DEMO WORK OR DEVICES REFERENCED OR SYMBOLS USED FROM DRAWINGS BY OTHERS.

POWER AND LIGHTING

- GROUNDED SWITCHED DUPLEX RECEPTACLE
- GROUNDED SPLIT-WIRED RECEPTACLE
- GROUNDED DUPLEX RECEPTACLE
- GROUNDED QUADRAPLEX RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE
- FLOOR/CEILING MOUNTED RECEPTACLE
- JUNCTION BOX
- WALL MOUNTED JUNCTION BOX
- DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- THERMAL OVERLOAD SWITCH
- ELECTRICAL PANEL BOARD
- TRANSFORMER
- CIRCUIT 'IM' HOMERUN TO PANEL 'X' (ARROWS NOT USED IF CIRCUIT NUMBERS APPEAR NEXT TO DEVICES)
- PORCELAIN LAMP HOLDER
- RECESSED FLUORESCENT LIGHT FIXTURE
- SURFACE MOUNTED FLUORESCENT FIXTURE
- CEILING FIXTURE
- WALL/WASHER or ADJUSTABLE DOWNLIGHT
- SINGLE POLE SWITCH, OR # POLE
- DIMMER SWITCH
- EXIT SIGN - SHADED INDICATES FACE
- EMERGENCY FIXTURE - SHADED
- BATTERY PACK EMERGENCY LIGHT or COMBO EXIT - SEE SCHEDULE

LOW VOLTAGE SYSTEMS

- TELEPHONE TERMINAL BOARD
- FLOOR/CEILING MOUNTED DATA OUTLET
- FLOOR/CEILING MOUNTED TELEPHONE OUTLET
- DATA OUTLET
- TELEPHONE/DATA OUTLET PROJECT STANDARD
- TELEPHONE OUTLET
- CATV/MONITOR A/V OUTLET
- SPEAKER
- FIRE ALARM PANEL
- FIRE ALARM REMOTE ANNUNCIATOR PANEL
- S-SMOKE, T-HEAT DETECTOR
- DUCT FIRE DETECTOR

ABBREVIATIONS

EWC	ELECTRIC WATER COOLER
EF	EXHAUST FAN
GFI	GROUND FAULT INTERRUPTING
AFI	ARC FAULT INTERRUPTING
CCT	CIRCUIT
E.C.	ELECTRICAL CONTRACTOR
AG	ABOVE COUNTER GFI - VERIFY HEIGHT
AC	ABOVE COUNTER - VERIFY HEIGHT
WP	WEATHER PROOF
TTB	TELEPHONE TERMINAL BOARD
AFF	ABOVE FINISH FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
(E)	EXISTING TO REMAIN
(EX)	EXISTING TO BE REMOVED
(ER)	EXISTING TO BE RELOCATED
(R) (RL)	RELOCATE/RELOCATED LOCATION

REFERENCE SYMBOLS

- KEYED NOTE
- EQUIPMENT - SEE SCHEDULE
- FEEDER - SEE SCHEDULE
- TRANSFORMER WITH GROUNDING AND OVERCURRENT DEVICES SEE TRANSFORMER SCHEDULE

REMODEL WORK TYPICAL SYMBOLS, LINEWEIGHTS, LINETYPES AND ABBREVIATIONS:

- (EX) DEMOLITION, TO BE REMOVED
- (ER) EXISTING TO BE REMOVED FOR RELOCATION AND REUSE
- (E) EXISTING TO REMAIN
- (RL) RELOCATED LOCATION
- (N) NEW WORK

PROJECT SPECIFIC SYMBOLS

- ABOVE COUNTER OUTLET

Feeder Schedule

3000/W	8(W-500kcmil, 400kcmil, 3-1/2"C)
2000/W	6(W-400kcmil, 250kcmil, 3"C)
1600/W	5(W-400kcmil, 4/0G, 3"C)
1200/W	4(W-350kcmil, 3/0G, 3"C)
1000/W	3(W-400kcmil, 2/0G, 3"C)
800/W	3(W-300kcmil, 1/0G, 3"C)
750/W	3(W-250kcmil, 1/0G, 3"C)
600/W	2(W-350kcmil, #1G, 3"C)
500/W	2(W-250kcmil, #2G, 3"C)
400/W	2(W-3/0, #3G, 2"C)
350/W	2(W-2/0, #3G, 2"C)
300/W	W-350kcmil, #4G, 3"C)
250/W	W-250kcmil, #4G, 3"C
225/W	W-4/0, #4G, 2"C
200/W	W-3/0, #5G, 2"C
175/W	W-2/0, #5G, 2"C
150/W	W-1/0, #6G, 2"C
125/W	W#1, #6G, 1-1/2"C
110/W	W#2, #6G, 1-1/4"C
100/W	W#1, #6G, 1-1/2"C
90/W	W#2, #8G, 1-1/4"C
80/W	W#3, #8G, 1-1/4"C
70/W	W#4, #8G, 1-1/4"C
60/W	W#4, #8G, 1-1/4"C
50/W	W#6, #10G, 1"C
40/W	W#8, #10G, 1" C
30/W	W#10, #10G, 3/4"C
20/W	W#12, #12G, 3/4"C

This table indicates minimum conductor size for feeders of the ampacity indicated where #W indicates the #-Ampacity and W-numbers of wire, #S/W indicates no ground.

All conductors shall be Copper unless noted as Aluminum 'Al'

Conductor Ampacities shall be based on table 310.15(B)(16) 60 degree column up to 100 Amps and 75 degree column above 100 Amps unless otherwise permitted by NEC. Ampacity rating shall be selected in accordance NEC 110.14 (C).

The installer electrician shall be responsible for ensuring that no feeders or branch circuits are installed in a manner or sized in such a way as to violate the NEC.

Service Ground Table		Equipment Ground Table	
150G	#6	20EG	#12
200G	#4	60EG	#10
300G	#2	100EG	#8
500G	1/0	200-1200A per Above	
800G	2/0	1600EG	4/0
>800G	3/0	2000EG	250kcmil

Service Ground Conductors sized Per NEC Table 250.66

Equipment Ground Conductors sized Per NEC Table 250.122

All conductors shall be Copper unless noted as Aluminum 'Al'

The service ground chart indicates the minimum Service Ground Conductor based on #G where # is the ampacity from the chart above, and the equipment ground chart indicates the minimum equipment grounding conductor size #EG where # is the rating/ setting of the overcurrent device protecting the conductors and equipment.

Where discrepancies occur between the Feeder Schedule Schedule and the Grounding Tables, the larger conductor shall be used unless otherwise permitted by the NEC.

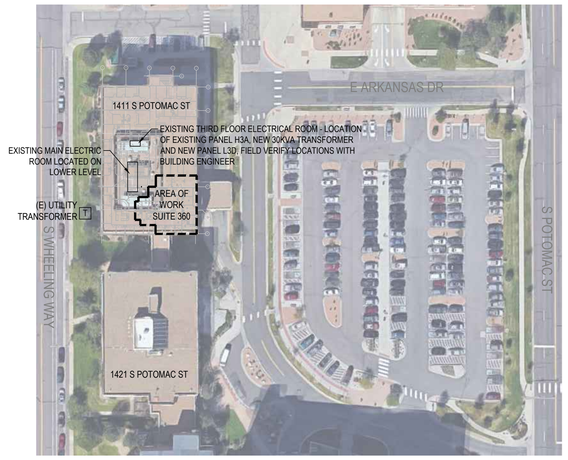
The installation shall meet all NEC 250 grounding and bonding requirements including 250.4 Path for Fault Current. Provide complete raceway systems metallically joined, connected, and fittings as required for electrical continuity per NEC 300.10

Transformer Schedule

Primary OCP 480V, 3Ø	Size kVA	Ground Cu	Secondary OCP 208V, 3Ø
20A	15	#8	50A
50A	30	#6	100A
70A	45	#6	150A
125A	75	#2	250A
175A	112.5	#2	400A
225A	150	1/0	500A
350A	225	2/0	800A

Primary shall be 3-Wire and Secondary shall be 4-Wire unless noted otherwise. All transformers 45kVA and smaller shall be suspended and all transformers larger than 45kVA shall be floor mounted unless noted otherwise. Primary and Secondary Feeders shall be sized based on the Overcurrent Protection Device Ampere Rating.

The installation shall meet all NEC 250 grounding and bonding requirements. Provide Equipment Ground on Primary Feeder and Seperately Derived Grounded System at the Transformer Secondary in accordance with NEC 250.30(A). Provide Grounding Electrode connection to Structural Metal or Metal Water Pipe in accordance with 250.30(A)(4) and sized in accordance with NEC Table 250.66



2 E0.0 PROXIMITY PLAN

SCALE: NTS

Project North

GENERAL NOTES:

1. PLAN SHOWN FOR REFERENCE ONLY. E.C. SHALL FIELD VERIFY EXISTING CONDITIONS.

LUMINAIRE SCHEDULE

May 12, 2017

Label	Light Fixture Description	Specification	Lamping	Voltage	Mounting	Comment
Emergency Lighting						
EM	Emergency Light Fixture, Dual Head LED with 90-Minute Battery Pack	Cooper Sure-Lites APEL	(2) 3.6V, 78W LED Included	120/277	Surface 18' on Center	
X	LED Exit Sign with 90-Minute Battery Pack	Cooper Sure-Lites APX7X	1.33W Max. LED Included	120/277	Surface 18' on Center	
XEM	Combination Exit Sign/Emergency Egress Light Twin Head LED with 90-Minute Battery Pack	Cooper Sure-Lites APC7	(2) 3.6V, 78W LED Included	120/277	Surface 18' on Center	

NOTES: Apply to all fixtures where applicable

1. EMERGENCY FIXTURES - All Fixtures Indicated as Emergency shall be provided with a 90-Minute Battery Pack with minimum 1300 Lumen output.
2. VERIFY VOLTAGES - The E.C. shall verify voltages on drawings prior to ordering or any work, the engineer shall be notified of any discrepancies in the voltage of the circuiting on the drawings and the luminiare schedule prior to any purchase or work.
3. VERIFY LAMPING - The E.C. shall verify lamping with the manufacturer prior to ordering and notify the engineer of any lamping discrepancies.
4. PROVIDE A COMPLETE INSTALLATION - The E.C. shall provide all labor and material to provide a complete and functional system per the design intent as dictated by the switching type and location (including dimmer switches and compatible ballasts or transformers), ceiling type and location, circuiting, voltages, and lamping types.
5. BALLAST DISCONNECT - All electric discharge luminaires shall comply with NEC 410.130 and shall have a means of disconnect for the ballast.
6. DUAL LEVEL SWITCHING - For fixtures with more than one switch designation shown on plans provide fixtures with additional ballasts for dual level light control by separate switching of inboard and outboard lamps as required to conform to IECC Requirements.
7. OWNER APPROVAL - Approve all light fixture types with tenant/owner before ordering any materials or any work.

COMcheck Software Version 4.0.2.0

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2015 IECC
Project Title: Cornerstone Family Practice
Project Type: New Construction

Construction Site:
1411 S Potomac Street
Suite 360
Aurora, CO 80012

Owner/Agent:

Designer/Contractor:
Dawn Keller
D.Keller Electrical Design
7498 West Layton Place
Littleton, CO 80123
303.918.9475
Dawn@dkellereng.com

Additional Efficiency Package

High efficiency HVAC. Systems that do not meet the performance requirement will be identified in the mechanical requirements checklist report.

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-medical office (Health Care-Clinic)	2950	0.90	2655
		Total Allowed Watts =	2655

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-medical office (Health Care-Clinic)				
Linear Fluorescent 1: A: 2'x4' Troffer: 48" T8 32W: Electronic:	3	23	89	2047
Linear Fluorescent 1 copy 1: A: 2'x4' Troffer: 48" T8 32W: Electronic: Exemption:Lighting for Medical/Age Related Issues	3	16	89	Exempt
Linear Fluorescent 2: A1: 2'x2' Troffer: 24" T8 17W: Electronic:	2	1	28	28
Linear Fluorescent 2 copy 1: A1: 2'x2' Troffer: 24" T8 17W: Electronic: Exemption:Lighting for Medical/Age Related Issues	2	1	28	Exempt
			Total Proposed Watts =	2075

Interior Lighting PASSES: Design 22% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.0.2.0 and to comply with the mandatory requirements listed in the Inspection Checklist.

Dawn Keller — Name - Title
Dawn K — Signature
05.22.17 — Date

PANEL SCHEDULE: H3A

D:\Dropbox (Personal)\2017 Projects\2017.030 Cornerstone Family Practice\H3A.xlsm August 23, 2017

BUS RATING: 200 Amperes 3%%C, 4-WIRE
MAIN C.B.: or M.L.O: 200A
MOUNTING: Surface
COMMENTS: Existing Panelboard
VOLTAGE L-L: 480
VOLTAGE L-G: 277
S.C.RMS RATING (AIC): 14,000

NO.	AMPS	POLE	LOAD (VA)	NEC Demand	LOAD DESCRIPTION	Phase	LOAD DESCRIPTION	NEC Demand	LOAD (VA)	POLE	AMPS	NO.
1	20	1	2216	1.25	Hall Lighting	A	FVAV3-1	1.00	2216	1	20	2
3	20	1	2216	1.25	Ste 300 Lighting	B	FVAV3-2	1.00	2216	1	20	4
5	20	1	2216	1.25	Ste 300 Lighting	C	FVAV3-3	1.00	2216	1	20	6
7	20	1	2216	1.25	Spare	A	FVAV3-4	1.00	2216	1	20	8
9	20	1	2216	1.25	Ste 350 Lighting	B	FVAV3-5	1.00	2216	1	20	10
11	20	1	2216	1.25	Ste 310 Lighting	C	FVAV3-6	1.00	2216	1	20	12
13					Bussed Space	A	FVAV3-7	1.00	2216	1	20	14
15	20	1	2216	1.25	Ste 340 Lighting	B	FVAV3-8	1.00	2216	1	20	16
17	20	1	2216	1.25	Ste 320 Lighting	C	CUH #2	1.00	2216	1	20	18
19	20	1	2216	1.25	Ste 360 Lighting	A	Existing Load	1.00	2216	1	20	20
21	20	1	2216	1.25	Ste 360 Lighting	B	Bussed Space					22
23	20	1	2216	1.25	Ste 330 Lighting	C	Bussed Space					24
25					Bussed Space	A	Bussed Space					26
27					Bussed Space	B	Bussed Space					28
29					Bussed Space	C	Bussed Space					30
31					Bussed Space	A	Bussed Space					32
33					Bussed Space	B	Bussed Space					34
35					Bussed Space	C	Bussed Space					36
37					Bussed Space	A	Bussed Space					38
39					Bussed Space	B	Bussed Space					40
41					Bussed Space	C	Bussed Space					42

CONNECTED LOAD:
PHASE A (VA): 15,512
PHASE B (VA): 15,512
PHASE C (VA): 15,512
TOTAL LOAD (VA): 46,536

CALCULATED DEMAND LOAD: — LOAD IMBALANCE — Phase Amps
PHASE A (VA): 17,174 — 2.1% — 62
PHASE B (VA): 17,728 — 1.1% — 64
PHASE C (VA): 17,728 — 1.1% — 64
CALCULATED DEMAND LOAD (VA): 52,630 — 63.31 A

NOTES:
1. No new work - shown for reference only

PANEL SCHEDULE: L3D

May 22, 2017

BUS RATING: 100 Amperes 3Ø, 4-WIRE
MAIN C.B.: 100A/3P or M.L.O:
MOUNTING: Flush
COMMENTS: New Panelboard
VOLTAGE L-L: 208
VOLTAGE L-G: 120
S.C.RMS RATING (AIC): 10,000

NO.	AMPS	POLE	LOAD (VA)	NEC Demand	LOAD DESCRIPTION	Phase	LOAD DESCRIPTION	NEC Demand	LOAD (VA)	POLE	AMPS	NO.
1	20	1	540	1.00	Work Room Receptacle	A	Bussed Space					2
3	20	1	540	1.00	Res Rm/Library Receptacle	B	Bussed Space					4
5	20	1	720	1.00	Exam 302,303 Receptacle	C	Bussed Space					6
7	20	1	540	1.00	Exam 304,305 Receptacle	A	Bussed Space					8
9	20	1	720	1.00	Proc 306, Exam 307 Rec	B	Bussed Space					10
11	20	1	720	1.00	Exam 308,309 Receptacle	C	Bussed Space					12
13	20	1	180	1.00	Restroom	A	Bussed Space					14
15	20	1	360	1.00	Telephone Board	B	Bussed Space					16
17	20	1	360	1.00	IT Equipment	C	Bussed Space					18
19	20	1	540	1.00	Exam 312,318 Receptacle	A	Bussed Space					20
21	20	1	720	1.00	Hallway, MA Station Rec	B	Bussed Space					22
23	20	1	360	1.00	MA Station Receptacle	C	Bussed Space					24
25	20	1	500	1.00	Office Equipment	A	Bussed Space					26
27	20	1	360	1.00	Conference Rm Receptacle	B	Bussed Space					28
29	20	1	360	1.00	Break Rm AC/GFI Rec	C	Bussed Space					30
31	20	1	650	1.00	Dishwasher	A	Bussed Space					32
33	20	1	1176	1.00	Disposal	B	Bussed Space					34
35	20	1	750	1.00	Refrigerator	C	Bussed Space					36
37	20	1	750	1.00	Exam 319,320 Receptacle	A	Bussed Space					38
39	20	1			Spare	B	Bussed Space					40
41	20	1			Spare	C	Bussed Space					42

CONNECTED LOAD:
PHASE A (VA): 3,700
PHASE B (VA): 3,876
PHASE C (VA): 3,270
TOTAL LOAD (VA): 10,846

CALCULATED DEMAND LOAD:
PHASE A (VA): 3,700
PHASE B (VA): 3,876
PHASE C (VA): 3,270
CALCULATED DEMAND LOAD (VA): 10,846 — 30.11 A

NOTES:
1. Not Used.

Only highlighted or clouded revisions are approved on this review. All previous comments apply.