

NEW PHYSICAL THERAPY RENOVATIONS FOR:

ORTHOPAEDIC INSTITUTE OF LAKE CITY

LAKE CITY, FLORIDA

BUILDING CODES

FACILITY DESCRIPTION

BUSINESS (B)
TYPE OF ROOF - ASPHALT SHINGLE, SLOPED (EXISTING)

BUILDING AND SITE INFORMATION

ZONING - BUSINESS / RETAIL
LAND USE - BUSINESS (EXISTING)
PARKING LOT CRITERIA (EXISTING)

BUILDING HEIGHT AND AREA

HEIGHT - 1 STORY
EXTD. BUILDING AREA: BUSINESS (B) 17,531 SF
RENOVATION AREA: BUSINESS (B) 4,241 SF

TYPE OF CONSTRUCTION

III-B - NON-SPRINKLERED EXTD.

OCCUPANCY CLASSIFICATION & LOAD

(B) BUSINESS 4841 SF / 100 SF = 48 OCCUPANTS

PLUMBING REQUIREMENTS

BUSINESS -	FIXTURES REQUIRED	FIXTURES PROVIDED
WATER CLOSETS (FEMALE) -	1 per 25	1
WATER CLOSETS (MALE) -	1 per 25	1
LAVATORIES (FEMALE) -	1 per 40	1
LAVATORIES (MALE) -	1 per 40	1
ELEC WATER COOLER -	1 per 100	N/A

EGRESS REQUIREMENTS

EXIT ACCESS TRAVEL DISTANCE
2010 FBC TABLE 1016.1 - NON-SPRINKLERED

MAXIMUM DISTANCE ALLOWABLE TO MAIN EXIT - 200'-0"
MAXIMUM DISTANCE TO SINGLE EXIT PROVIDED - 123'-0"



STRUCTURAL LOADS

ROOF LIVE LOADS - 20 PSF REDUCIBLE
COLLATERAL LOAD - 3 PSF
FLOOR LIVE LOADS - 100 PSF

WIND LOADS

DESIGN CRITERIA

SO. FT.	WIND	WIND
10	22.1	-23.8
20	21.1	-22.6
50	19.8	-21.0
100	18.8	-20.0

DESIGN CODE REFERENCE

BUILDING CODE - FLORIDA BUILDING CODE - 2010 EDITION
ELECTRICAL CODE - NATIONAL ELECTRIC CODE - 2008 EDITION
PLUMBING CODE - FLORIDA PLUMBING CODE - 2010 EDITION
MECHANICAL CODE - FLORIDA MECHANICAL CODE - 2010 EDITION
FIRE CODE - FLORIDA FIRE PREVENTION CODE - 2010 EDITION
GAS CODE - FLORIDA FUEL GAS CODE - 2010 EDITION
NFPA 58 - LIQUEFIED PETROLEUM GAS - (LATEST EDITION)
NFPA 13 - SPRINKLER SYSTEM INSTALLATION (LATEST EDITION)
NFPA 72 - NATIONAL FIRE ALARM CODE (LATEST EDITION)
NFPA 72E AUTOMATIC DETECTION DEVICES
NFPA LIFE SAFETY CODE (LATEST EDITION)
NFPA 80 - FIRE DOORS AND WINDOWS (LATEST EDITION)
OSHA
ACI-318-08 BUILDING REQUIREMENTS FOR REINFORCED CONCRETE
ASCE CODE OF STANDARD PRACTICE (MANUAL OF STEEL CONSTRUCTION, 9th EDITION)
9-310 SPECIFICATIONS FOR THE DESIGN FABRICATION AND ERECTION OF STEEL
STANDARD SPECIFICATIONS FOR OPEN WEB STEEL JOISTS, ADOPTED BY THE STEEL
JOIST INSTITUTE AND THE ASCE
SPECIFICATIONS FOR STRUCTURAL JOISTS USING ASTM A-325 BOLTS
STEEL JOIST INSTITUTE DESIGN MANUAL
STRUCTURAL WELDING CODE AWS D1.1
ASCE SPECIFICATIONS FOR THE DESIGN OF LIGHT GAUGE COLD FORMED STRUCTURAL
STEEL MEMBERS FOR METAL DECK'S
METAL BUILDING MANUFACTURERS ASSOCIATIONS DESIGN PRACTICES MANUAL
ASME E FOR MECHANICAL WORK
ASME BOILER CODES

GENERAL CONSTRUCTION NOTES

GENERAL

001 - THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OR START OF CONSTRUCTION.
002 - THE GENERAL CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, ALL WORKERS AND ALL OTHER PEOPLE PRESENT DURING CONSTRUCTION. HE SHALL SUPERVISE AND DIRECT THE WORK AND BE RESPONSIBLE FOR ALL CONSTRUCTION.
003 - THE GENERAL CONTRACTOR SHALL COORDINATE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ANCHORS, EMBEDS, SUPPORTS, OR ANY OTHER ITEMS WHICH MAY EFFECT STRUCTURAL DRAWINGS.
004 - SHOULD THE CONTRACTOR DISCOVER ANY CONDITION WHICH COULD PREVENT THE ATTAINMENT OF THE STATED DESIGN PRESSURE, HE SHALL NOTIFY THE ARCHITECT OR ENGINEER IMMEDIATELY.

FOUNDATION

F01 - ALL ORGANIC MATERIALS, REFUSE MATERIALS AND SOFT AREAS IN SOIL SHALL BE REMOVED AND THE SOIL PREPARED FOR AN ALLOWABLE BEARING PRESSURE OF 3000psf.
F02 - SHOULD THE CONTRACTOR DISCOVER ANY CONDITION WHICH COULD PREVENT THE ATTAINMENT OF THE STATED DESIGN PRESSURE, HE SHALL NOTIFY THE ARCHITECT OR ENGINEER IMMEDIATELY.
F03 - COMPACT INTERIOR FILL TO 95% MINIMUM MAX DRY DENSITY (MODIFIED PROCTOR, ASTM D1557-58T OPTIMUM MOISTURE CONTENT). SOIL COMPACTION SHALL BE FIELD CONTROLLED BY A REPRESENTATIVE FROM A QUALIFIED LABORATORY APPROVED BY THE ENGINEER. EACH LAYER OF FILL SHALL NOT EXCEED 10" AND SHALL BE COMPACTED PRIOR TO THE PLACEMENT OF THE NEXT FILL LAYER.
F03 - ALL FLOOR SLABS SHALL BE PLACED UPON A 4" THICK SAND LAYER FOR FINE GRADING.

CONCRETE AND REINFORCING

C01 - CONCRETE WORK SHALL CONFORM TO ACI STANDARD BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-08).
C02 - CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH AS FOLLOWS:
FOUNDATIONS, FILLED CELLS AND CONCRETE BEAMS - 3000psi
SLABS ON GRADE - 3000psi
C03 - ALL REBAR SHALL CONFORM TO ASTM-A615, GRADE 40, AND SHALL LAP A MINIMUM OF 25" AT ALL JOINTS.
C04 - COVER FOR ALL REINFORCING STEEL SHALL BE AS FOLLOWS (UNLESS NOTED):
ALL FOOTINGS - 3"
SLABS ON GRADE - 1-1/2" FROM TOP OF CONCRETE
ALL BEAMS - 1-1/2" ON STIRRUPS
C05 - VERTICAL REBAR WALL REINFORCING SHALL BE A STANDARD HOOK WITH A 25" PROJECTION ABOVE SLAB AND HAVE A MINIMUM 3" EMBEDMENT.
C06 - COVER FOR FILLED CELLS SHALL BE POURED OR PUMPED IN LIFTS NOT TO EXCEED 10'-0" IN HEIGHT AND SHALL BE CONSOLIDATED AT THE TIME OF POURING BY ROOING OR VIBRATING.
C07 - PROVIDE HANGOUTS IN CMU AT THE BASE OF EACH FILLED CELL TO ALLOW VISUAL VERIFICATION OF COMPLETE GROUT PENETRATION.

MASONRY

M01 - ALL MASONRY CONSTRUCTION SHALL CONFORM TO ACI STANDARD BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-08).
M02 - ALL CONCRETE BLOCKS SHALL CONFORM TO ASTM C 90. 128 DAY STRENGTH MUST EQUAL 2000psi, FM SHALL EQUAL 1500psi LAD IN A RUNNING BOND.
M03 - ALL MORTAR SHALL BE TYPE S OR M.
M04 - REINFORCE ALL CMU WALLS WITH A CONTINUOUS HORIZONTAL BOND BEAM GROUTED SOLID AND REINFORCE WITH A MINIMUM OF (1) #5 REBAR WITH A 25" OVERLAP AT EACH JOINT.
M05 - WHERE SHOWN, ALL VERTICAL CELLS OF BLOCK MASONRY SHALL BE FILLED WITH 3000psi GROUT HAVING A 28 DAY STRENGTH OF 3000psi AND A GROUND SLUMP NOT LESS THAN 8". REINFORCE WITH A MINIMUM OF (1) #5 VERTICAL REBAR WITH A MINIMUM 25" OVERLAP AT EACH JOINT.
M06 - GROUT FOR FILLED CELLS SHALL BE POURED OR PUMPED IN LIFTS NOT TO EXCEED 10'-0" IN HEIGHT AND SHALL BE CONSOLIDATED AT THE TIME OF POURING BY ROOING OR VIBRATING.
M07 - PROVIDE HANGOUTS IN CMU AT THE BASE OF EACH FILLED CELL TO ALLOW VISUAL VERIFICATION OF COMPLETE GROUT PENETRATION.

STRUCTURAL LUMBER

L01 - ALL STRUCTURAL AND LOAD BEARING WALLS SHALL HAVE A MINIMUM FB OF 1200psi.
L02 - WALLS HIGHER THAN 8'-0" SHALL HAVE INTERMEDIATE BRIDGING SPACED NOT GREATER THAN 72" APART.
L03 - ALL LOAD BEARING WALLS SHALL HAVE A DOUBLE END No.2 TOP PLATE.
L04 - ALL WALLS ON MASONRY OR CONCRETE SHALL HAVE SOLE SATL SOLUTION TREATED SOLE PLATES.

STRUCTURAL STEEL

S01 - STEEL WORK SHALL CONFORM TO THE ASCE SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS (USE THE LATEST EDITION).

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- UL DETAILS
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A2 - REFLECTED CEILING PLAN
A3 - CASEWORK DRAWINGS
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E2 - ELECTRICAL WEZZANINE
E3 - ELECTRICAL LIGHTING PLAN
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PLUMBING RISER DIAGRAM

DRAWING ISSUE: ISSUED FOR PERMIT
DATE: 15 SEPT 2014

SCALE

GENERAL CONTRACTOR

David P. King, Jr
ARCHITECT

REGISTRATION: STATE OF FLORIDA AT 12,899
STATE OF GEORGIA 5044

PROJECT
NEW
PHYSICAL THERAPY
RENOVATION

FOR
ORTHOPAEDIC
INSTITUTE OF
LAKE CITY

LAKE CITY, FL.

DRAWN BY: EBC

CHECKED BY:

APPROVED BY: DPK

ARCHITECT'S PROJECT No.:

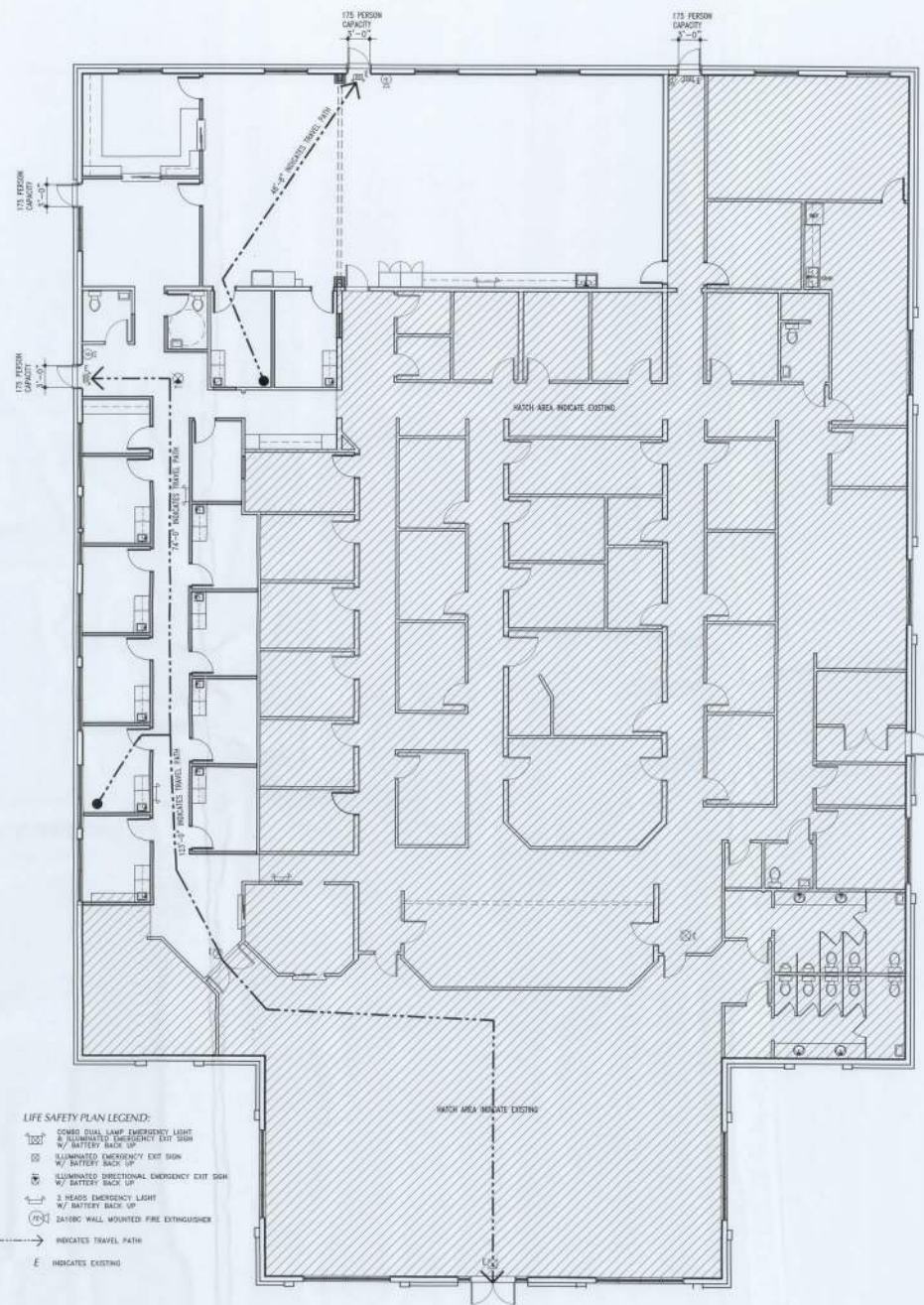
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COVER
BUILDING CODE DATA

SHEET NUMBER:

C





- LIFE SAFETY PLAN LEGEND:**
- CORNER DUAL LAMP EMERGENCY LIGHT & ILLUMINATED EMERGENCY EXIT SIGN W/ BATTERY BACK UP
 - ILLUMINATED EMERGENCY EXIT SIGN W/ BATTERY BACK UP
 - ILLUMINATED DIRECTIONAL EMERGENCY EXIT SIGN W/ BATTERY BACK UP
 - 2 HEADS EMERGENCY LIGHT W/ BATTERY BACK UP
 - SAFORB WALL MOUNTED FIRE EXTINGUISHER
 - INDICATES TRAVEL PATH
 - INDICATES EXISTING

LIFE SAFETY PLAN
Scale: 1/8" = 1'-0"

DRAWING ISSUE DATE REVISIONS: ISSUED FOR PERMIT 19 SEPT 2014



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PROJECT
NEW
PHYSICAL THERAPY
RENOVATION

FOR
ORTHOPAEDIC
INSTITUTE OF
LAKE CITY

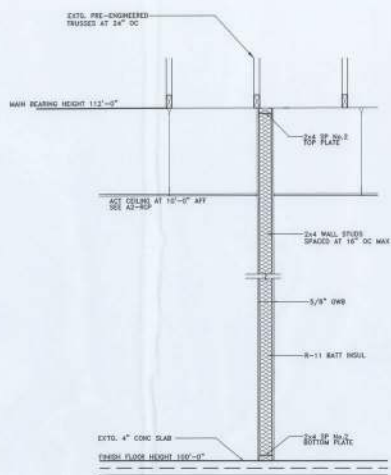
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DRAWN BY: ESC
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APPROVED BY: DPK
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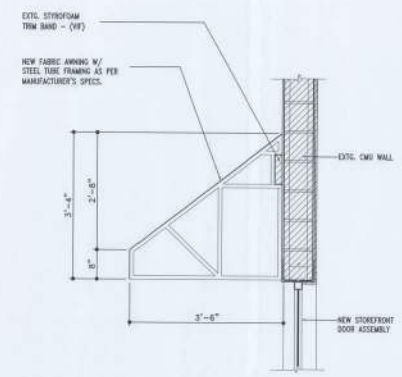
LIFE SAFETY PLAN

SHEET NUMBER

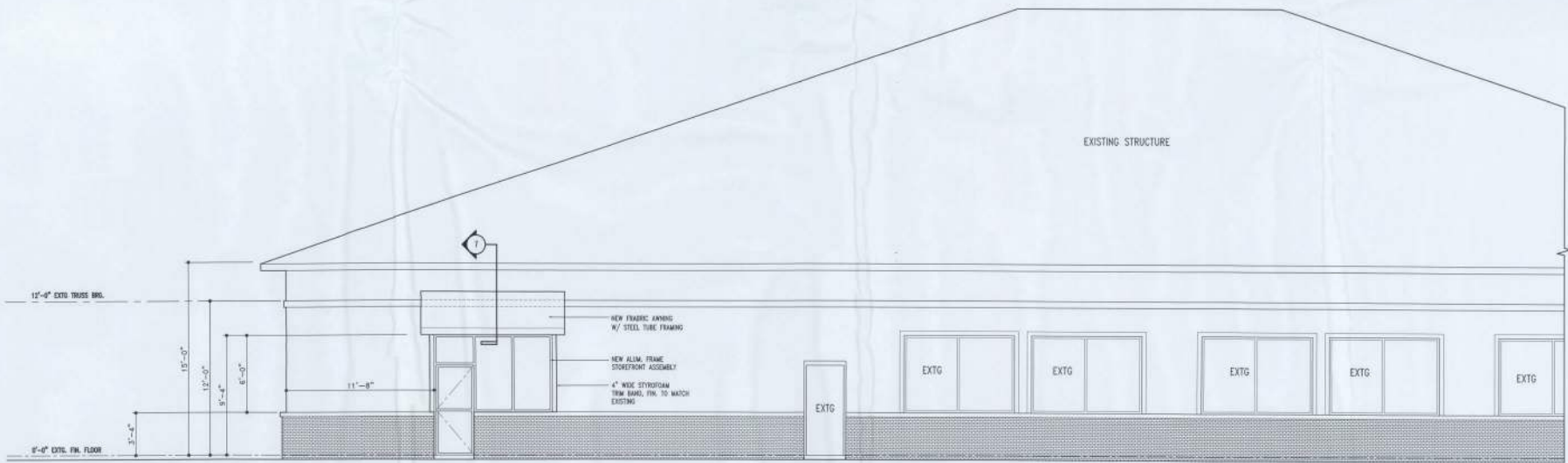
LS1



WALL SECTION DETAIL - TYP
Scale: 3/4" = 1'-0"



AWNING SECTION DETAIL
Scale: 3/4" = 1'-0"



EAST ELEVATION
Scale: 1/4" = 1'-0"

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PHYSICAL THERAPY
RENOVATION

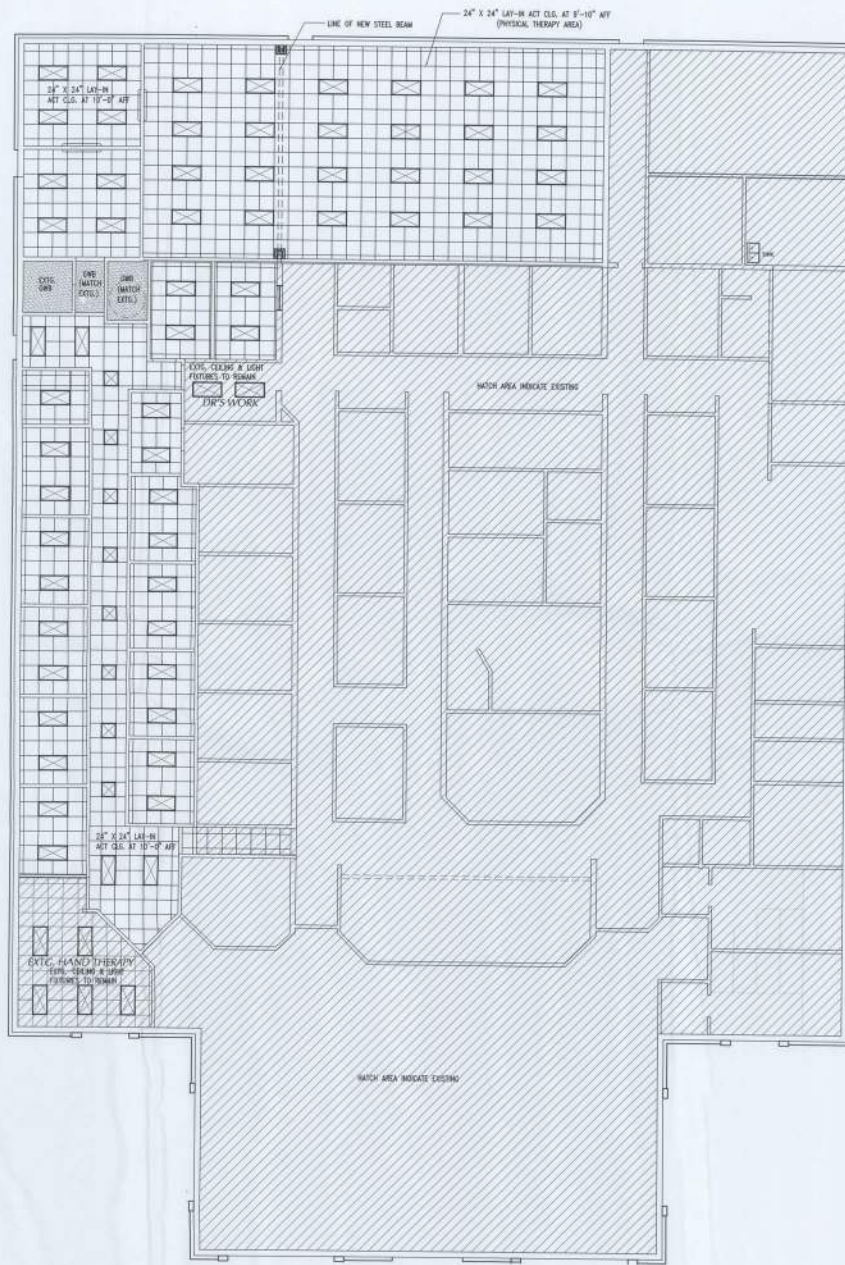
FOR
ORTHOPAEDIC
INSTITUTE OF
LAKE CITY

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ARCHITECT'S PROJECT No.:

SHEET TITLE:
ELEVATION
WALL SECTION
AWNING DETAIL

SHEET NUMBER

A1.1



REFLECTED CEILING SYMBOLS

- 24" X 24" LAY-IN ACT CEILING @ 10'-0" AFF
- 2'x4" LAY-IN FLUORESCENT LIGHT
- 2'x2" LAY-IN FLUORESCENT LIGHT
- INDICATE EXISTING
- GWB CEILING
- EXHAUST FAN
- 2X2 SUPPLY AIR CEILING GRILLE
- 2X2 RETURN AIR CEILING GRILLE

REFLECTED CEILING PLAN
Scale: 1/8" = 1'-0"

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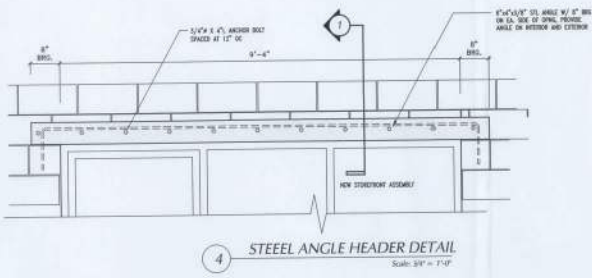
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STATE OF FLORIDA AR 12,999
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PROJECT
NEW
PHYSICAL THERAPY RENOVATION

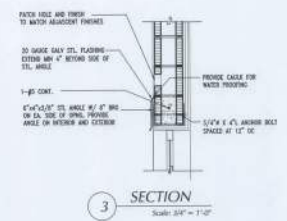
FOR
ORTHOPAEDIC INSTITUTE OF LAKE CITY

LAKE CITY, FL.
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APPROVED BY: SPK
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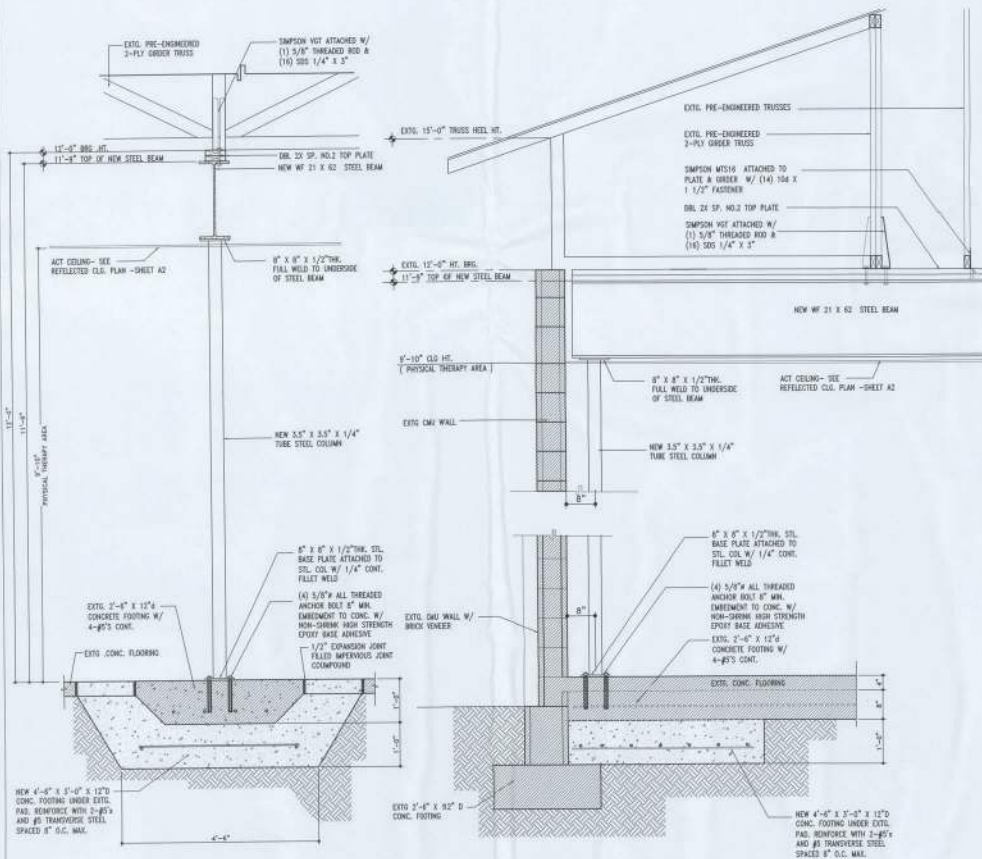
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REFLECTED CLG. PLAN
SHEET NUMBER:



4 STEEL ANGLE HEADER DETAIL
Scale: 3/4\"/>



3 SECTION
Scale: 3/4\"/>



1 FOOTING DETAIL
Scale: 1/8\"/>

2 FOOTING DETAIL
Scale: 1/8\"/>

FOUNDATION PLAN
Scale: 1/8\"/>

DRAWING ISSUE DATE: REVISED: ISSUED FOR PERMIT 15 SEPT 2014



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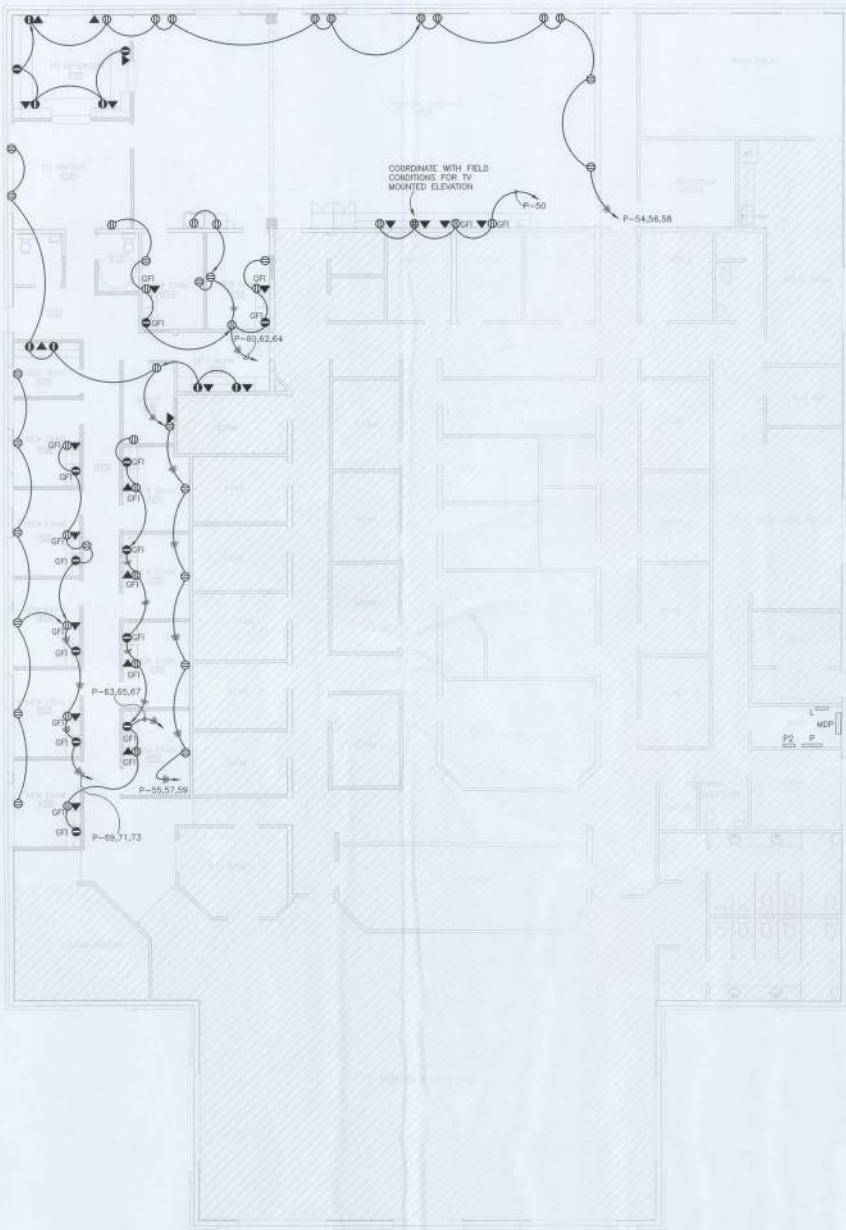
FOR ORTHOPAEDIC INSTITUTE OF LAKE CITY

LAKE CITY, FL
DRAWN BY: EDC
CHECKED BY:
APPROVED BY: DPK
ARCHITECT'S PROJECT No.:

SHEET TITLE: FOUNDATION PLAN

SHEET NUMBER:

S1



ELECTRICAL FLOOR PLAN - NEW WORK
SCALE: 1/8" = 1'-0"

ELECTRICAL ABBREVIATIONS

A	AMPS	CU	CONDENSING UNIT
AC	AIR CONDITIONING UNIT	GFI	GROUND FAULT INTERRUPTER
AFF	ABOVE FINISHED FLOOR	HP	HEAT PUMP OR HORSEPOWER
AHU	AIR HANDLING UNIT	LTC	LIGHTING
AICS	AMPS INTERRUPTING CAPACITY SYMMETRICAL	V	VOLTS
BR	BREAKER	VA	VOLT-AMPERES
C	CONDUIT	W	WATTS OR WIRE
CKT	CIRCUIT	#	PHASE



ELECTRICAL LEGEND

- Ⓚ DUPLEX RECEPTACLE OUTLET WITH GROUND 16" A.F.F. OR AS INDICATED - NEMA 5-20R
- Ⓚ DUPLEX RECEPTACLE OUTLET WITH GROUND MOUNTED 42" A.F.F. OR 8" ABOVE COUNTERTOP (TO CLEAR BACK SPLASH) OR AS INDICATED - NEMA 5-20R
- Ⓚ DOUBLE DUPLEX RECEPTACLE OUTLET WITH GROUND 18" A.F.F. - NEMA 5-20R
- Ⓚ EQUIPMENT CONNECTION OUTLET - VERIFY LOCATION
- Ⓚ DISCONNECT SWITCH - POLES, RATING AND FUSING AS INDICATED
- Ⓚ BRANCH CIRCUIT PANELBOARD
- Ⓚ SHADED LIGHTING FIXTURES INDICATE THAT THE FIXTURE HAS AN EMERGENCY BATTERY INVERTER UNIT IN THE BALLAST COMPARTMENT
- Ⓚ CEILING LIGHTING OUTLETS
- Ⓚ HOMERUN TO PANELBOARD, "L1" INDICATES THE PANELBOARD NUMBER, "1,3" INDICATES THE BRANCH CIRCUIT NUMBERS, HATCH MARKS DENOTE NUMBER OF CONDUCTORS EXCLUDING GROUND CONDUCTOR, NO HATCH MARKS DENOTES TWO #12 CONDUCTORS AND ONE #12 GROUNDING CONDUCTOR.

ELECTRICAL NOTES

- ALL MATERIALS AND LABOR PROVIDED SHALL COMPLY WITH REQUIREMENTS OF THE 2010 EDITION OF THE FLORIDA BUILDING CODE WITH ALL ADOPTED AMENDMENTS.
- ALL BRANCH CIRCUITS SHALL BE PROVIDED WITH AN INDEPENDENT AND SEPARATE GROUNDING CONDUCTOR (NEUTRAL) WHICH IS NOT SHARED BY ANY OTHER CIRCUITS, UNLESS THE BRANCH CIRCUITS WHICH SHARE THE SAME NEUTRAL ALL SUPPLY THE SAME INDIVIDUAL ELECTRICAL LOAD SUCH AS THE SAME 3-PHASE MOTOR.
- COORDINATE LOCATIONS OF ELECTRICAL EQUIPMENT, DEVICES, OUTLETS, FIXTURES, ETC. WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REFLECTED CEILING PLANS PRIOR TO ROUGH-IN WORK. DO NOT SCALE ELECTRICAL DRAWINGS.
- THERE SHALL BE NO WALL OUTLETS INSTALLED BACK TO BACK; OFFSET TWELVE INCHES MINIMUM.
- ALL WIRE SHALL BE COPPER.
- PROVIDE AN INSULATED GROUNDING CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUITS.
- REMOVE ALL UNUSED EXISTING EXPOSED CONDUIT, WIRE, AND BOXES. PULL OUT ALL WIRE FROM EXISTING CONCEALED CONDUIT THAT HAS BEEN ABANDONED.
- CONTRACTOR SHALL REPAIR - TO ORIGINAL CONDITION TO OWNER'S SATISFACTION - ANY EXISTING WALL, FLOOR, CEILING, OR OTHER EXISTING ITEMS REMOVED, ALTERED, OR DAMAGED DURING CONSTRUCTION.
- REPLACE EXISTING RECEPTACLES NOT CONFORMING WITH N.E.C. WITH APPLICABLE NEMA GROUNDING TYPE.
- EXISTING FIXTURES ARE REINSTALLED OR RELOCATED, AFFECTED FIXTURES SHALL BE STORED SAFELY, CLEANED, AND SHALL HAVE NEW BALLASTS, LENSES, AND LAMPS PROVIDED, AS NECESSARY.
- DIVISION 16 DESIGN PROVIDES A NUMBER OF BRANCH CIRCUITS, PHASES, AMPACITY, AND OVERCURRENT PROTECTION DEVICES FOR DESIGN-BASIS EQUIPMENT PROVIDED BY DIVISION 15 OR OTHER DIVISIONS OF THIS CONTRACT CONFORMING TO MANUFACTURER'S SPECIFICATIONS AND REQUIREMENTS AVAILABLE AT TIME OF DESIGN. IF REQUIREMENTS OF EQUIPMENT ACTUALLY PROVIDED UNDER CONTRACT FOR CONSTRUCTION ARE DIFFERENT, CONTRACTOR SHALL MAKE ALL CHANGES REQUIRED WITHOUT INCREASE IN THE CONTRACT AMOUNT OR TIME SCHEDULE. SUCH CHANGES REQUIRED MAY INCLUDE - BUT SHALL NOT BE LIMITED TO - QUANTITY AND SIZE OF WIRES, QUANTITY AND SIZE OF CONDUITS, AND QUANTITY, TYPE, AND SIZE OF CIRCUIT BREAKERS, FUSE PROTECTION, AND DISCONNECT SWITCHES. DIVISION 16 SYSTEM SHALL COMPLY WITH REQUIREMENTS OF EQUIPMENT PROVIDED BY OTHER DIVISIONS OF THIS CONTRACT EVEN IF DIFFERENT FROM DESIGN-BASIS REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE ADDITIONAL JUNCTION BOXES, CONDUCTORS, AND OTHER MATERIALS AND LABOR NECESSARY TO CONNECT PARALLEL OR OVERSIZED FEEDER RUNS WHERE SUCH FEEDERS EXCEED CONTRACTOR'S CAPACITY OF CIRCUIT BREAKERS, PANELBOARDS, AND OTHER CONNECTION POINTS.
- ALL RECEPTACLES IN TOILET ROOMS, OUTSIDE, AND WITHIN 6'-0" OF A SINK OR OTHER SOURCE OF WATER SHALL BE A GROUND FAULT INTERRUPTER (GFI) RECEPTACLE. CONTRACTOR MAY NOT USE GROUND FAULT CIRCUIT BREAKERS AND SHALL NOT FEED THROUGH A GROUND FAULT INTERRUPTER RECEPTACLE TO SERVE OTHER RECEPTACLES.
- PROVIDE A SINGLE GFI RECEPTACLE OUTLET AT EACH ELECTRIC WATER COOLER (EWC) AND LOCATE BEHIND UNIT. COORDINATE EXACT LOCATION WITH DIVISION 15.
- ELECTRICAL CONTRACTOR SHALL SECURELY MOUNT ALL OUTLET BOXES MOUNTED IN DRYWALL CEILING TO THE METAL STUD SYSTEM. PROVIDE PROPER EXTENSION RINGS SO THAT OUTSIDE EDGE OF RING IS FLUSH WITH FINISH CEILING. ANY OUTLET BOX NOT MEETING THE ABOVE REQUIREMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL COST TO THE OWNER.
- ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WALL AND FLOOR OUTLET LOCATIONS WITH MILLWORK DRAWINGS, LOCATIONS OF CHALKBOARDS, TACKBOARDS, FURNITURE PLANS, AND ANY OTHER APPLICABLE ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION OF ANY BOXES.
- REFER TO ARCHITECTURAL DRAWINGS FOR PHASING OF CONSTRUCTION, TEMPORARY AND PERMANENT FENCES, AND ALL CONCRETE WORK.
- EXISTING UTILITIES AND OTHER UNDERGROUND OR CONCEALED ITEMS ARE SHOWN FOR REFERENCE ONLY. ADDITIONAL ITEMS NOT SHOWN ARE LIKELY TO BE PRESENT AND LOCATIONS MAY DIFFER FROM THAT SHOWN. CONTRACTOR SHALL EXCAVATE AND CONDUCT DEMOLITION AS NECESSARY TO AVOID DAMAGE TO EXISTING ITEMS. SHALL NOTIFY OWNER AND ENGINEER AT ONCE OF ALL DAMAGE, AND SHALL REPAIR DAMAGE TO ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER AND ENGINEER.
- ALL RACEWAY PROVIDED SHALL BE CONCEALED UNDERGROUND, IN FLOORS, IN CEILING, OR IN WALLS UNLESS NOTED OTHERWISE.
- PROVIDE PERMANENT MARKER LABELING (WHICH IS NOT PAINTED OVER) ON ALL BOXES OR DEVICES PROVIDED WHICH INDICATES PANELBOARD NAME AND CIRCUIT NUMBER IN AN ACCESSIBLE LOCATION. LABELING SHALL BE VISIBLE WITHOUT REMOVING DEVICE FROM BOX BUT SHALL NOT BE VISIBLE UNLESS COVERPLATE OR CEILING TILES ARE REMOVED.
- PROVIDE MATERIALS AND LABOR NECESSARY TO INDICATE CIRCUIT NUMBER FOR EACH SWITCH OR RECEPTACLE PROVIDED AS FOLLOWS: DEVICE SHALL BE LABELED WITH 1/4 INCH MINIMUM HEIGHT VINYL CLOTH ADHESIVE MARKER (THOMAS AND BETTS E-Z CODE MARKERS, OR APPROVED EQUAL) IN A LOCATION WHICH IS VISIBLE WITH ONLY THE REMOVAL OF THE DEVICE COVERPLATE. LABELING SHALL NOT BE VISIBLE WITH COVERPLATE INSTALLED.



EQUIPMENT SCHEDULE

DESIG.	CONDUCTORS	CONDUIT SIZE	UNFUSED DISCONNECT
AHU-7	5#4, 1#8 GRD	1"	BY DIVISION 15
CU-7	5#12, 1#12 GRD	1/2"	BY DIVISION 15

ELECTRICAL LOAD SUMMARY

REFLECTS AN INCREASE OF AMPERAGE ON PANEL "P" AS FOLLOWS:

	PHASE A	PHASE B	PHASE C
NET CHANGE	+17.0 A	-2.8 A	+9.7 A
CONNECTED LONG AMPS	202 A	194 A	200 A
RATED SIZE OF "P":	300 A		

REFLECTS AN INCREASE OF AMPERAGE ON PANEL "L" AS FOLLOWS:

	PHASE A	PHASE B	PHASE C
NET CHANGE	+5.0 A	+5.24 A	+5.14 A
CONNECTED LONG AMPS	23 A	31 A	35 A
RATED SIZE OF "L":	100 A		

REFLECTS AN INCREASE OF AMPERAGE ON PANEL "MCP" AS FOLLOWS:

	PHASE A	PHASE B	PHASE C
NET CHANGE	+55.81 A	+65.81 A	+65.81 A
CONNECTED LONG AMPS	55 A	65 A	65 A

RATED MAIN SERVICE BREAKER: 800 A PEAK DEMAND MEASURED BY UTILITY COMPANY IS 237A SO 66A OF ADDITIONAL LOAD LEAVES ADEQUATE SHARED CAPACITY.

-AS CALCULATED USING 80-BULLET PANEL SCHEDULES

ELECTRICAL MEZZANINE - NEW WORK
SCALE: 1/8" = 1'-0"

CAMPBELL SPELLICY ENGINEERING

3720 NW 43rd Street
Suite 106
Gainesville, Florida 32608
Phone: 352-372-6967
Fax: 352-372-7732
www.CampbellSpellicy.com
Certificate of Authorization:
00088613

PROJECT NAME:
**THE ORTHOPEDIC INSTITUTE
PHYSICAL THERAPY RENOVATION
LAKE CITY, FL**

SEAL
KEVIN O CAMPBELL
PE - 0055531

REVISIONS

NO.	DATE	REFERENCE

14039
CONSTRUCTION DOCUMENTS

DATE ISSUED
08-12-14
DRAWN BY
JSA
APPROVED BY
KOC



REVISIONS		
NO.	DATE	REFERENCE

14039
CONSTRUCTION DOCUMENTS
DATE ISSUED: 09-12-14
DRAWN BY: JSA
APPROVED BY: KOC

P--SECTION 2 PANELBOARD SCHEDULE 208/120V 3-PHASE 4-WIRE SURFACE-MTD MAIN CKT BKR

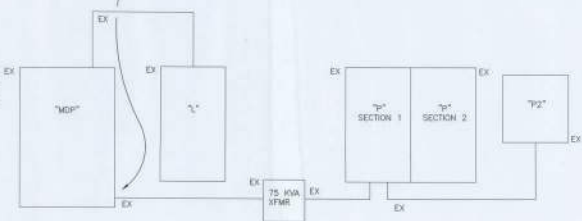
NO.	LOAD DESCRIPTION	CKT BKR		PHASE LOADS AMPS			CKT BKR		LOAD DESCRIPTION	NO.		
		POLE	TRIP	A	B	C	POLE	TRIP				
300A MAIN												
43	EXISTING LOAD	1	30	4.5	4.5			1	20	EXISTING LOAD	44	
45	EXISTING LOAD	1	30		6.0	6.0		1	20	EXISTING LOAD	46	
47	EXISTING LOAD	1	20		6.0	3.0		1	20	EXISTING LOAD	48	
49	EXISTING LOAD	1	20	6.0	7.5			1	20	RECEPTACLE	50	
51	EXISTING LOAD	1	20		8.0	3.0		1	20	EXISTING LOAD	52	
53	EXISTING LOAD	1	20		6.0	9.0		1	20	RECEPTACLE	54	
55	RECEPTACLE	1	20	7.5	9.0			1	20	RECEPTACLE	56	
57	RECEPTACLE	1	20		7.5	6.0		1	20	RECEPTACLE	58	
59	RECEPTACLE	1	20		6.0	3.0	9.0	1	20	RECEPTACLE	60	
61	EXISTING LOAD	1	20	4.5	3.0			1	20	RECEPTACLE	62	
63	RECEPTACLE	1	20		8.0	4.0		1	20	RECEPTACLE	64	
65	RECEPTACLE	1	20		6.0	8.5		1	20	EXISTING LOAD	66	
67	RECEPTACLE	1	20	4.5	1.5			1	20	EXISTING LOAD	68	
69	RECEPTACLE	1	20		8.0	8.3		1	20	EXISTING LOAD	70	
71	RECEPTACLE	1	20		8.0	2.0	9.0	4.1	1	20	EXISTING LOAD	72
73	RECEPTACLE	1	20		8.0	2.0			1	20	EXISTING LOAD	74
75	EXISTING LOAD	1	20		8.0	10.8			1	20	EXISTING LOAD	76
77	EXISTING LOAD	1	20				12.5	0.0	1	20	EXISTING LOAD	78
79	EXISTING LOAD	1	20	0.0	0.0				1	20	EXISTING LOAD	80
81	EXISTING LOAD	1	20		4.1	0.0			1	20	EXISTING LOAD	82
83	EXISTING LOAD	1	20				0.0	0.0	1	20	EXISTING LOAD	84
CONNECTED LOAD FROM P--SECTION 1		=		142.00	114.00	123.80						
TOTAL CONNECTED LOAD		=		202	194	200						

L PANELBOARD SCHEDULE 480Y/277V 3-PHASE 4-WIRE SURFACE-MTD MAIN CKT BKR

NO.	LOAD DESCRIPTION	CKT BKR		PHASE LOADS AMPS			CKT BKR		LOAD DESCRIPTION	NO.		
		POLE	TRIP	A	B	C	POLE	TRIP				
100A MAIN												
1	EXISTING LIGHTING	1	20	2.0	2.0			1	20	EXISTING LIGHTING	2	
3	EXISTING LIGHTING	1	20		2.1	2.1		1	20	EXISTING LIGHTING	4	
5	LIGHTING	1	20				2.6	2.4	1	20	EXISTING LIGHTING	6
7	EXISTING LIGHTING	1	20	3.0	3.0				1	20	EXISTING LIGHTING	8
9	EXISTING LIGHTING	1	20		2.1	2.1			1	20	EXISTING LIGHTING	10
11	EXISTING LIGHTING	1	20		2.4	2.4			1	20	EXISTING LIGHTING	12
13	EXISTING LIGHTING	1	20	2.0	0.0				1	20	SPACE ONLY	14
15	EXISTING LIGHTING	1	20		2.1	0.0			1	20	SPACE ONLY	16
17	EXISTING LIGHTING	1	20			0.0	2.4	0.0	1	20	SPACE ONLY	18
19	EXISTING LIGHTING	1	20	3.0	0.0				1	20	SPACE ONLY	20
21	LIGHTING	1	20		7.2	0.0			1	20	SPACE ONLY	22
23	LIGHTING	1	20			6.8	0.0		1	20	SPACE ONLY	24
25	LIGHTING	1	20	8.3	0.0				1	20	SPACE ONLY	26
27	SPACE ONLY	1	20		0.0	0.0			1	20	SPACE ONLY	28
29	SPACE ONLY	1	20			0.0	0.0		1	20	SPACE ONLY	30
31	SPACE ONLY	1	20	0.0	0.0				1	20	SPACE ONLY	32
33	SPACE ONLY	1	20		0.0	0.0			1	20	SPACE ONLY	34
35	SPACE ONLY	1	20			0.0	0.0		1	20	SPACE ONLY	36
37	SPACE ONLY	1	20	0.0	3.0				3	20	EXISTING WATER HEATER	38
38	SPACE ONLY	1	20		0.0	3.0			-	-	EXISTING WATER HEATER	40
41	SPACE ONLY	1	20			0.0	3.0		-	-	EXISTING WATER HEATER	42
CONNECTED LOAD		=		24	21	22						

ALL NEW BRANCH CIRCUITS FOR THIS RENOVATION SHALL BE SUPPLIED BY EXISTING CIRCUIT BREAKERS TO REMAIN IN EXISTING PANELBOARDS L AND P TO REMAIN.

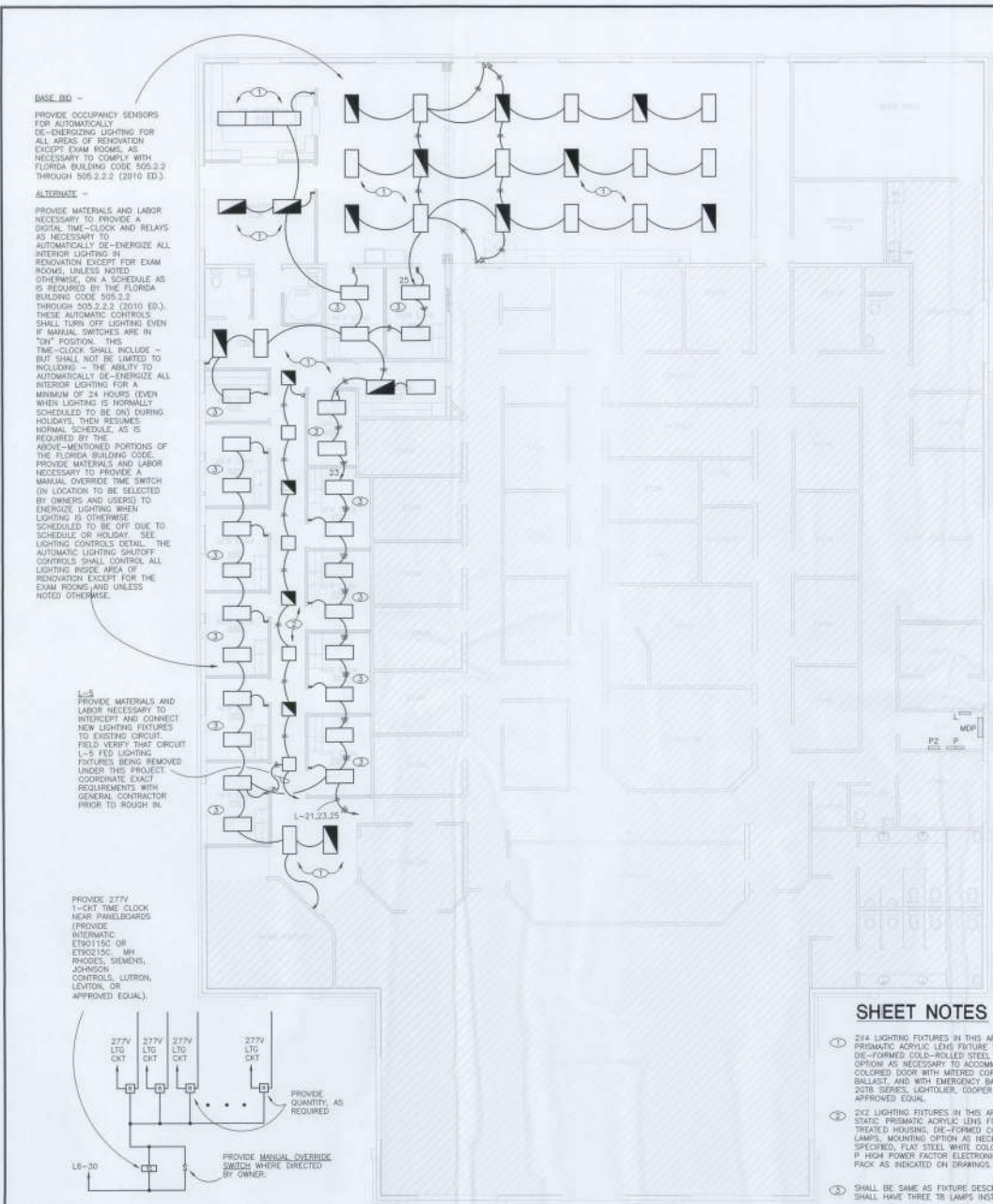
IN ORDER TO ENSURE THAT 75KVA STEP-DOWN TRANSFORMER IS ADEQUATELY PROTECTED AS REQUIRED BY NEC, PROVIDE MATERIALS AND LABOR NECESSARY TO REPLACE EXISTING CIRCUIT BREAKER BY MOP WHICH SUPPLIES 75KVA STEP-DOWN TRANSFORMER WITH 3-POLE 80A CIRCUIT BREAKER WITH SHORT CIRCUIT INTERRUPTING CAPACITY TO MATCH MAXIMUM EXISTING RATING IN PANELBOARD MOP. COORDINATE EXACT REQUIREMENTS WITH FIELD CONDITIONS PRIOR TO PRICING.



PARTIAL POWER DISTRIBUTION RISER
NOT TO SCALE

SHEET NOTES

- ① 2x4 LIGHTING FIXTURES IN THIS AREA SHALL BE RECESSED FLUORESCENT STATIC PRISMATIC ACRYLIC LENS FIXTURE WITH MULTI-STAGE PHOSPHATE TREATED HOUSING, DIE-FORMED COLD-ROLLED STEEL FIXTURE, FOUR 32 WATT T8 LAMPS, MOUNTING OPTION AS NECESSARY TO ACCOMMODATE CEILING TYPE SPECIFIED. FLAT STEEL WHITE COLORED DOOR WITH MITERED CORNERS, CLASS P HIGH POWER FACTOR ELECTRONIC BALLAST, AND WITH EMERGENCY BATTERY PACK AS INDICATED ON DRAWINGS. LITRONIX 2078 SERIES, LIGHTOLIER, COOPER LIGHTING, HUBBELL LIGHTING, DAYBRITE, OR APPROVED EQUAL.
- ② 2x2 LIGHTING FIXTURES IN THIS AREA SHALL BE RECESSED FLUORESCENT STATIC PRISMATIC ACRYLIC LENS FIXTURE WITH MULTI-STAGE PHOSPHATE TREATED HOUSING, DIE-FORMED COLD-ROLLED STEEL FIXTURE, TWO 16W 32W LAMPS, MOUNTING OPTION AS NECESSARY TO ACCOMMODATE CEILING TYPE SPECIFIED. FLAT STEEL WHITE COLORED DOOR WITH MITERED CORNERS, CLASS P HIGH POWER FACTOR ELECTRONIC BALLAST, AND WITH EMERGENCY BATTERY PACK AS INDICATED ON DRAWINGS. COOPER LIGHTING 2068 SERIES.
- ③ SHALL BE SAME AS FIXTURE DESCRIBED BY SHEET NOTE 1, ABOVE, EXCEPT SHALL HAVE THREE T8 LAMPS INSTEAD OF FOUR.



LIGHTING ALT. CONTROLS DETAIL
NOT TO SCALE

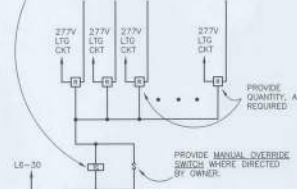
ELECTRICAL FLOOR PLAN - LIGHTING
SCALE: 1/8" = 1'-0"

BASE BID -
PROVIDE OCCUPANCY SENSORS FOR AUTOMATICALLY DE-ENERGIZING LIGHTING FOR ALL AREAS OF RENOVATION EXCEPT EXAM ROOMS. AS NECESSARY TO COMPLY WITH FLORIDA BUILDING CODE 505.2.2 THROUGH 505.2.3 (2010 ED.).

ALTERNATE -
PROVIDE MATERIALS AND LABOR NECESSARY TO PROVIDE A DIGITAL TIME-CLOCK AND RELAYS AS NECESSARY TO AUTOMATICALLY DE-ENERGIZE ALL INTERIOR LIGHTING IN RENOVATION EXCEPT FOR EXAM ROOMS. UNLESS NOTED OTHERWISE, ON A SCHEDULE AS IS REQUIRED BY THE FLORIDA BUILDING CODE 505.2.2 THROUGH 505.2.3 (2010 ED.). THESE AUTOMATIC CONTROLS SHALL TURN OFF LIGHTING EVEN IF MANUAL SWITCHES ARE IN "ON" POSITION. THIS TIME-CLOCK SHALL INCLUDE - BUT SHALL NOT BE LIMITED TO INCLUDING - THE ABILITY TO AUTOMATICALLY DE-ENERGIZE ALL INTERIOR LIGHTING FOR A MINIMUM OF 24 HOURS (EVEN WHEN LIGHTING IS NORMALLY SCHEDULED TO BE ON) DURING HOLIDAYS, THEN RESUMES NORMAL SCHEDULE. AS IS REQUIRED BY THE ABOVE-MENTIONED PORTIONS OF THE FLORIDA BUILDING CODE. PROVIDE MATERIALS AND LABOR NECESSARY TO PROVIDE A MANUAL OVERRIDE TIME SWITCH (IN LOCATION TO BE SELECTED BY OWNERS AND USERS) TO DE-ENERGIZE LIGHTING WHEN LIGHTING IS OTHERWISE SCHEDULED TO BE OFF DUE TO SCHEDULE OR HOLIDAY. SEE LIGHTING CONTROLS DETAIL. THE AUTOMATIC LIGHTING SHUTOFF CONTROLS SHALL CONTROL ALL LIGHTING INSIDE AREA OF RENOVATION EXCEPT FOR THE EXAM ROOMS AND UNLESS NOTED OTHERWISE.

L-5
PROVIDE MATERIALS AND LABOR NECESSARY TO INTERCEPT AND CONNECT NEW LIGHTING FIXTURES TO EXISTING CIRCUIT FIELDS. VERIFY THAT CIRCUIT L-5 FED LIGHTING FIXTURES BEING REMOVED UNDER THIS PROJECT. COORDINATE EXACT REQUIREMENTS WITH GENERAL CONTRACTOR PRIOR TO ROUGH IN.

PROVIDE 277V 1-CKT TIME CLOCK NEAR PANELBOARDS (PROVIDE INTERMATIC ET901152 OR ET902156 OR MANNESMANN, SIEMENS, JOHNSON CONTROLS, LUTRON, LEVITON, OR APPROVED EQUAL).



ELECTRICAL SPECIFICATIONS

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE AND WORKING ELECTRICAL SYSTEM AS INDICATED WITHIN THESE DRAWINGS.
2. ALL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES AND WITH MANUFACTURERS RECOMMENDATIONS. ALL WORK, MATERIALS AND EQUIPMENT SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE.
3. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS PRIOR TO SUBMITTING HIS BID. THE ARCHITECT SHALL BE NOTIFIED OF ANY CONFLICTS, OR INTERFERENCE THAT OCCUR BETWEEN INDIVIDUAL DRAWINGS OR BETWEEN THE DRAWINGS AND SPECIFICATIONS.
4. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN A NEAT, FIRST CLASS, WORKMANLIKE MANNER, TO THE APPROVAL OF THE ARCHITECT/ENGINEER AND GOVERNING AUTHORITIES.
5. GUARANTEES AND SERVICE - IN ADDITION TO THE MANUFACTURERS STANDARD GUARANTEES, THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT AND WORKMANSHIP AGAINST DEFECTS FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE, AND SHALL CORRECT ANY DEFECTS AT NO ADDITIONAL COST TO THE OWNER. ALL LAMPS SHALL BE GUARANTEED FOR 30 DAYS.
6. CONDUIT AND WIRING - THE CONTRACTOR SHALL PROVIDE COPPER CONDUCTORS IN METALLIC RACEWAY UNLESS NOTED OTHERWISE. CONDUITS SHALL CONTAIN AN INSULATED GREEN GROUND CONDUCTOR. FOLLOW RULES AND REGULATIONS OF THE NEC FOR PROPER INSTALLATION REGARDING INSTALLATION AND SUPPORT.
7. PVC SHALL ONLY BE USED IN STRAIGHT SECTIONS OF RACEWAY WHICH ARE COMPLETELY BELOW GRADE OR IN SLAB ON GRADE. ALL UNDERGROUND ELBOWS AND ALL CONDUITS PENETRATING GRADE OR SLAB-ON-GRADE SHALL BE BITUMASTIC-COATED (WITH TWO COATS) RGS CONDUIT. ALL EXPOSED EXTERIOR RACEWAY SHALL BE RGS. ALL INTERIOR RACEWAY ABOVE GRADE AND NOT EXPOSED TO HAZARDOUS CONDITIONS SHALL BE EMT. INTERIOR RACEWAY EXPOSED TO WET OR HAZARDOUS CONDITIONS SHALL BE RGS. EXPOSED INTERIOR RACEWAY SHALL BE PAINTED TO MATCH WALL FINISH. EXTERIOR EQUIPMENT CONNECTIONS SHALL BE LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT. INTERIOR EQUIPMENT CONNECTIONS SHALL BE FLEXIBLE METALLIC CONDUIT. ALL FITTINGS SHALL BE COMPRESSION TYPE EXCEPT FOR SIZES 2" AND ABOVE WHICH MAY BE SET-SCREW TYPE. PROVIDE COPPER CONDUCTORS WITH DUAL RATED THWN/THHN TYPE INSULATION.
8. DISCONNECT SWITCHES - DISCONNECT SWITCHES SHALL BE HEAVY DUTY, QUICK-MAKE/QUICK-BREAK HORSEPOWER RATED FUSED WHERE INDICATED ON THE DRAWINGS. INTERIOR UNITS SHALL BE NEMA TYPE 1 ENCLOSURES AND EXTERIOR UNIT SHALL BE NEMA TYPE 3R ENCLOSURES.
9. OUTLET BOXES - CONTRACTOR SHALL INSTALL BOXES BEST SUITED TO LOCATION AND TYPE OF CONSTRUCTION. BOXES SHALL BE RIGIDLY INSTALLED TRUE AND PLUMB. BOXES AND/OR EXTENSION RINGS SHALL BE FLUSH WITH FINISHED SURFACE OF WALL OR CEILING. ALL ELEVATIONS SHALL BE MEASURED TO CENTER OF BOX UNO.
10. WIRING DEVICES AND PLATES - (A) SWITCHES SHALL BE SPECIFICATION GRADE 20 AMP 120/277 VOLT - WHITE. (B) RECEPTACLES SHALL BE 20A, NEMA 5-20R WITH GROUND - WHITE. (C) GROUND FAULT PROTECTED RECEPTACLES SHALL BE DUPLEX WITH TEST BUTTON AND RESET BUTTON - WHITE. (D) EXTERIOR RECEPTACLES SHALL BE GROUND FAULT INTERRUPTING TYPE WITH WEATHERPROOF GASKETED COVER. (E) PLATES SHALL BE WHITE NYLON.
11. GROUNDING AND BONDING - ALL NON-CURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, RACEWAY SYSTEMS AND NEUTRAL CONDUCTOR OF THE WIRING SYSTEM SHALL BE GROUNDED. THE NEUTRAL GROUND CONNECTION SHALL BE MADE ONLY AT THE MAIN SERVICE EQUIPMENT. GROUND CONNECTIONS SHALL BE MADE TO 3/4"x10" COPPERCLAD DRIVEN GROUND RODS ON THE EXTERIOR OF THE BUILDING. GROUNDING AND BONDING SHALL BE IN COMPLIANCE WITH THE NEC AND LOCAL AUTHORITIES. RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS.
12. TESTING AND IDENTIFICATION - ALL WIRING AND EQUIPMENT SHALL BE TESTED AND LABELED AND THE INSTALLATION SHALL BE IN WORKING ORDER PRIOR TO ACCEPTANCE.
13. CIRCUIT BREAKERS SHALL BE MOLDED CASE FULLY RATED CIRCUIT BREAKERS. NO SERIES-RATED CIRCUIT BREAKERS SHALL BE USED.



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PROJECT NAME:

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 PHYSICAL THERAPY RENOVATION
 LAKE CITY, FL

SEAL

KEVIN O CAMPBELL
 PE - 0055531



REVISIONS

NO.	DATE	REFERENCE

14039

CONSTRUCTION DOCUMENTS

DATE ISSUED

09-12-14

DRAWN BY

JSA

APPROVED BY

KOC

E-3

3 OF 3

SEAL

KEVIN M. SPELLICY
PE - 0076968



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CONSTRUCTION DOCUMENTS

DATE ISSUED

09-12-14

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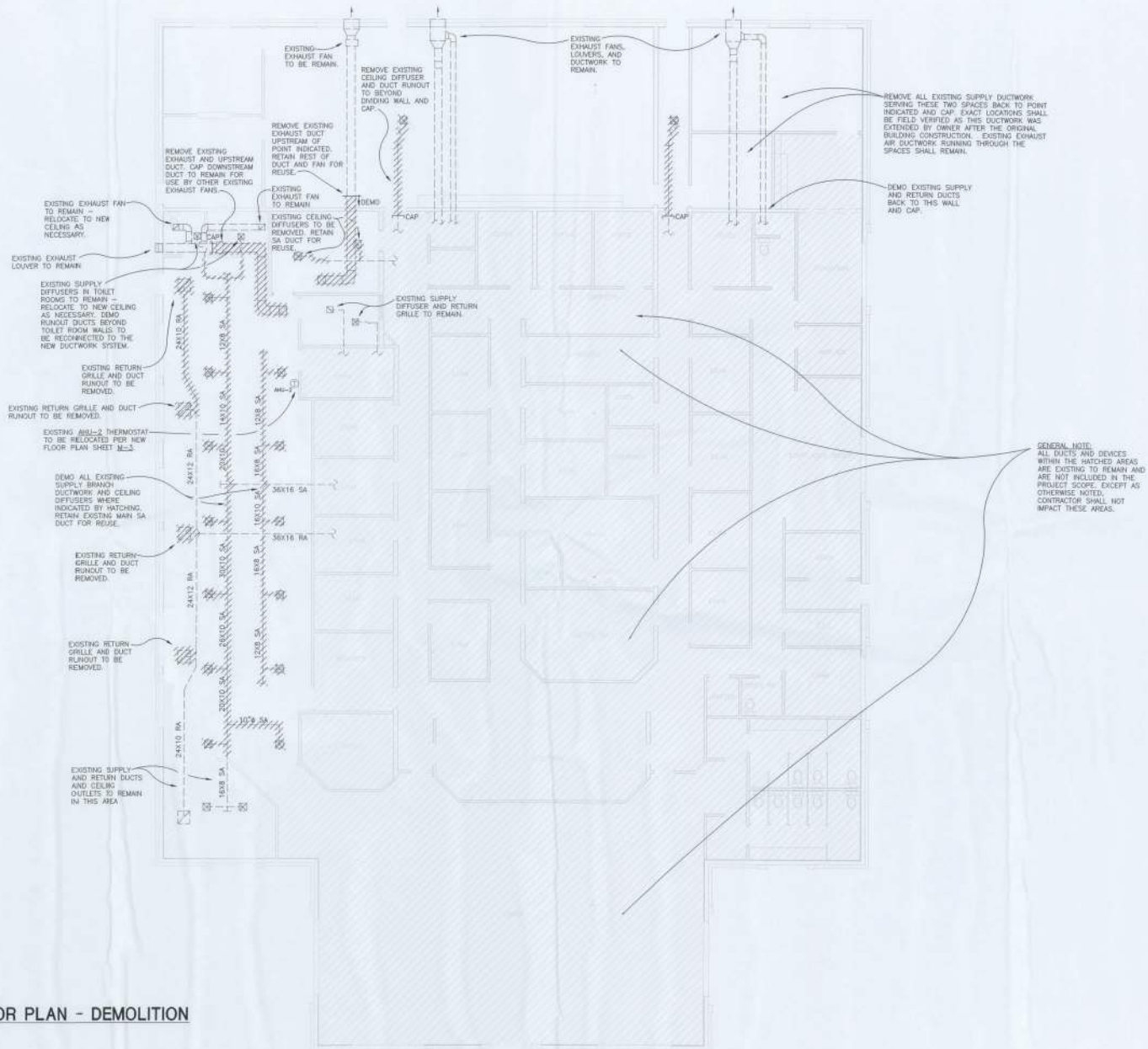
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KMS

M-2

2 OF 4



MECHANICAL FLOOR PLAN - DEMOLITION
SCALE: 1/8" = 1'-0"



REVISIONS		
NO.	DATE	REFERENCE

14039

CONSTRUCTION DOCUMENTS

DATE ISSUED: 09-12-14

DRAWN BY: KMS

APPROVED BY: KMS

MECHANICAL SPECIFICATIONS

GENERAL NOTES:

- DUCTWORK SIZES SHOWN ARE CLEAR INSIDE SHEET METAL. NO DUCTWORK SHALL RUN PARALLEL WITH AND OVER WALLS.
- VERIFY COLLAR SIZES ON ALL AIR TERMINALS, EQUIPMENT INLETS AND OUTLETS. TRANSITION DUCTWORK AS NECESSARY. EXTERNALLY INSULATE TRANSITION AT EQUIPMENT CONNECTIONS.
- SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL CEILING OUTLETS.
- CONTRACTOR SHALL VERIFY CLEARANCE SPACE AVAILABLE, OFFSETS REQUIRED, STRUCTURAL OPENINGS, AND WORK BY OTHER TRADES PRIOR TO FABRICATION OF DUCTWORK. SUBMIT SHOP DRAWINGS ON DUCTWORK LAYOUT, SHOWING LIGHTS, CEILING OUTLETS, STRUCTURAL, BOTTOM ELEVATION OF DUCTWORK ABOVE FINISHED FLOOR, AND PIPING. COORDINATE WITH ROOF TRUSSES/STRUCTURE.
- PRESSURE TEST ALL DUCTWORK FOR LEAKS. RETURN AND EXHAUST DUCTS SHALL BE TESTED UNDER NEGATIVE PRESSURE.
- MIXING BOXES ON BACK (RA SIDE) OF ALL AIR HANDLING UNITS SHALL BE THE FULL SIZE OF THE DUCT CONNECTION TO THE UNIT. EXTERNALLY INSULATE MIXING BOXES.
- PROVIDE DUCT FLEX CONNECTION FOR ALL UNITS. EXTERNALLY INSULATE FLEXIBLE CONNECTIONS.
- ALL SUPPLY, RETURN AND EXHAUST DUCTS SHALL BE 2" PRESSURE CLASS DUCT.
- PROVIDE INSULATED COPPER CONDENSATE DRAIN FROM ALL AIR HANDLING UNIT(S) TO BUILDING EXTERIOR. DRAIN TO BE FULL SIZE OF UNIT. PROVIDE A TRAP ON ALL CONDENSATE DRAIN OUTLETS. SLOPE ALL CONDENSATE PIPING 1/8" PER FOOT, TOWARD POINT OF DISPOSAL.
- ALL REFRIGERANT PIPING SHALL BE COPPER, TYPE L, WITH SILVER-SOLDERED JOINTS.
- CONTRACTOR SHALL INSTALL, ALL EQUIPMENT, PIPING AND DUCTWORK SUCH THAT MANUFACTURER'S RECOMMENDED CLEARANCES ARE MET FOR ALL ACCESS PANELS, MOTORS, FANS, BELTS, FILTERS AND AIR INTAKES.
- PROVIDE ACCESS PANELS IN ALL NON-ACCESSIBLE CONSTRUCTIONS (INCLUDING CEILING, WALLS, ETC.) SIZED AND LOCATED AS REQUIRED TO PROVIDE PROPER SERVICE ACCESS IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATION FOR ALL HVAC EQUIPMENT INCLUDING DAMPERS AND VALVES.
- PROVIDE NEOPRENE PAD VIBRATION ISOLATORS UNDER EACH AIR HANDLING UNIT.
- PROVIDE CONCRETE PAD WITH HURRICANE TIE-DOWNS FOR OUTDOOR UNITS. PAD SHALL EXTEND 6" BEYOND ALL UNITS ON ALL FOUR SIDES.

CODES AND STANDARDS:

- SMACNA STANDARDS: COMPLY WITH SMACNA'S DUCT CONSTRUCTION STANDARDS FOR FABRICATION AND INSTALLATION OF DUCTWORK.
- NFPA COMPLIANCE: COMPLY WITH NFPA 90A "STANDARD FOR THE INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS."
- STATE OF FLORIDA: FLORIDA BUILDING CODE, 2012 EDITION.

PRODUCTS:

- ACCEPTABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE INSULATION PRODUCTS BY KNAUF, OWENS-CORNING, SCHULLER, CERTAINEED.
- FLAME/SMOKE RATINGS: PROVIDE COMPOSITE MECHANICAL INSULATION (INSULATION, COVERINGS, SEALERS, MASTIC, AND ADHESIVE) WITH A FLAME SPREAD RATING OF 25 OR LESS, AND A SMOKE- DEVELOPED RATING OF 50 OR LESS AS TESTED BY ANSI/ASTM 84.
- FLEXIBLE FIBERGLASS INSULATION: ASTM C553, TYPE I, CLASS B-3 (TEMPERATURE LESS THAN 350°F). DUCT WRAP SHALL BE 1 PCF DENSITY WITH UL RATED ALUMINUM FOIL VAPOR BARRIER (FSK).
- GENERAL PURPOSE MASTIC: BENJAMIN FOSTER 35-00 SERIES, INSULCOUSTIC VAC MASTIC, CHILDERS CP-10, OR APPROVED EQUAL. THE FINAL SELECTION OF THIS PRODUCT FOR THE SPECIFIC APPLICATION INDICATED IS THE RESPONSIBILITY OF THE INSULATION SUPPLIER. THE INSULATION SYSTEM MUST MEET THE SPECIFIED APPLICATION.
- VAPOR BARRIER SEALANT: BENJAMIN FOSTER 30-35, INSULCOUSTIC IC-501, 3M EC-1378, CHILDERS CP-30, OR APPROVED EQUAL. PROVIDE "LOW ODOR" TYPE. THE FINAL SELECTION OF THIS PRODUCT FOR THE SPECIFIC APPLICATION INDICATED IS THE RESPONSIBILITY OF THE INSULATION SUPPLIER. THE INSULATION SYSTEM MUST MEET THE SPECIFIED APPLICATION.
- ADHESIVE: BENJAMIN FOSTER 85-20, INSULCOUSTIC IC-205, 3M EC-35, CHILDERS CP-82, CHILDERS CP-89, OR APPROVED EQUAL. THE FINAL SELECTION OF THIS PRODUCT FOR THE SPECIFIC APPLICATION INDICATED IS THE RESPONSIBILITY OF THE INSULATION SUPPLIER. THE INSULATION SYSTEM MUST MEET THE SPECIFIED APPLICATION.
- FIBER-GLASS MESH: 10X10 MESH. FOSTER MASTAFAB OR EQUAL.
- SQUARE PLAQUE DIFFUSERS (CD): PROVIDE SQUARE PLAQUE FACE, ADJUSTABLE, 360 DEGREE PATTERN DIFFUSERS, NO CORNER JOINTS, ROUND NECKS. PROVIDE LAY-IN PANEL AS REQUIRED. PROVIDE TRIM RING FOR DIFFUSERS IN HARD CEILINGS TO ALLOW OPENING TO BE USED FOR ACCESS. BASIS OF DESIGN: PRICE MODEL SPD OR EQUAL.
- THERMALLY POWERED VAV DIFFUSERS: PROVIDE HEATING AND COOLING VARIABLE AIR VOLUME THERMALLY POWERED DIFFUSERS WITH ADJUSTABLE SETPOINTS AND INTEGRAL WAX TEMPERATURE SENSING MEANS. PROVIDE 10-YEAR WARRANTY. BASIS OF DESIGN: PRICE VAVTHERM.
- RETURN GRILLES (RG): PROVIDE RETURN GRILLES REGISTERS WITH ONE SET OF 45 DEGREE FIXED LOUVERS, PARALLEL TO THE LONG DIMENSION. PROVIDE OPPOSED BLADE DAMPER, SCREWDRIVER OPERATED FROM THE FACE. PROVIDE MOUNTING FRAME FOR ALL WALL AND PLASTER CEILING INSTALLATIONS. BASIS OF DESIGN: PRICE SERIES MODEL 630 OR EQUAL.
- SPLIT SYSTEM AIR CONDITIONING UNITS: FURNISH AND INSTALL WHERE SHOWN ON PLANS AIR CONDITIONING UNITS OF THE TYPE, SIZE, AND CAPACITY AS INDICATED ON THE DRAWINGS. ARCHITECTURAL CHANGES WILL NOT BE MADE TO ACCOMMODATE EQUIPMENT REQUIRING MORE SPACE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THAT THE UNIT CONFORMS TO THE SPACE ASSIGNED ON THE PLANS, WITH CLEARANCE FOR INSPECTION AND MAINTENANCE. TRAPPED DRAIN FITTINGS SHALL BE PROVIDED. UNIT SHALL BE IN SECTIONS ARRANGED AS SHOWN ON DRAWINGS AND AS MANUFACTURED BY TRANE, LENNOX, OR YORK.
- ROOM THERMOSTAT SHALL BE LOW VOLTAGE, 7-DAY PROGRAMMABLE, REMOTE-MOUNTED WITH SUB-BASE AND THERMOMETER FOR CONTROLLING HEATING AND COOLING CYCLES. THE FAN SELECTOR SHALL INCLUDE "AUTO-ON" CONTROLS. THE SYSTEM SELECTOR SHALL INCLUDE "OFF-COOL-HEAT-EM HT" CONTROLS. AUTOMATIC CHANGEOVER THERMOSTATS SHALL BE MANUALLY ADJUSTABLE BY OCCUPANTS AND SHALL INDICATE SETTING AND TEMPERATURE IN DEGREES FAHRENHEIT. PROVIDE TWO HEATING STAGES.
- FLEXIBLE DUCTS: PROVIDE CPE INNER LINER WITH GALVANIZED STEEL HELIX WITH FACTORY APPLIED 2" THICK EXTERNAL INSULATION (R-6) AND VAPOR BARRIER. PROVIDE FIRE RETARDANT REINFORCED METALIZED POLYESTER JACKET, COMPLYING WITH UL 181. PROVIDE CONICAL FITTINGS WITH DAMPER AND WITHOUT SCOOP FOR ALL FLEXIBLE DUCT TAKE OFFS. PROVIDE 1" STANDOFF FOR DAMPER. USE FLEXIBLE DUCTS ONLY WHERE SHOWN ON THE DRAWINGS. FLEXMASTER 8MR6 OR THERMAX FLEX MKF R-6, ATCO 36, FLEX SR-6A.

EXECUTION:

- INSULATE: ALL SUPPLY, RETURN AND OUTDOOR AIR DUCTWORK EXPOSED IN MECHANICAL ROOMS, MEZZANINES, FAN LOFTS OR IN ANY FINISHED SPACES WITH -1/2" THICK RIGID FIBERGLASS INSULATION WITH VAPOR BARRIER.
- INSTALLATION OF RIGID INSULATION:
 - CLEAN AND DRY DUCTWORK PRIOR TO INSULATING. BUTT INSULATION FIRMLY TOGETHER TO ENSURE COMPLETE AND TIGHT FIT OVER SURFACES TO BE COVERED. INSTALL INSULATION MATERIALS WITH SMOOTH AND EVEN SURFACES. MAINTAIN INTEGRITY OF ALUMINUM VAPOR BARRIER WHEREVER POSSIBLE. EXTEND INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS AND SIMILAR DUCTWORK PENETRATIONS EXCEPT WHERE OTHERWISE INDICATED.
 - ADHERE INSULATION TO DUCT WITH 50 PERCENT COVERAGE USING APPROVED INSULATION ADHESIVE APPLIED IN 6-INCH WIDE SWATHS WITH 6-INCH SPACES BETWEEN SWATHS. ADDITIONALLY SECURE INSULATION WITH PERFORATED PINS AND TUFF-BOND OR BY SELF-STICKING PINS WITH A 3/8" SELF-TAPPING SCREW. SPACE ON 12-INCH CENTERS AND 3 INCHES FROM ALL EDGES. DUCTS FROM ALL EDGES. DUCTS UP THROUGH 24" WIDE ONLY REQUIRE ONE ROW OF PINS. DUCTS OVER 24" WIDE SHALL HAVE PINS SPACED AS DESCRIBED HEREIN.
 - APPLY OPEN MESH GLASS FABRIC EMBEDDED IN VAPOR BARRIER MASTIC. THEN APPLY A SECOND COAT OF GENERAL PURPOSE MASTIC WITH ALUMINUM GREY COLOR. THIS FINISH SHALL BE COMPLETE OVER ALL RIGID INSULATION.
- INSULATE: ALL SUPPLY, RETURN AND OUTDOOR AIR DUCTWORK CONCEALED ABOVE CEILINGS, IN CHASES, OR ELSEWHERE WITH 2" THICK FIBERGLASS BLANKET INSULATION WITH VAPOR BARRIER (R-2.0).

INSTALLATION OF FLEXIBLE INSULATION:

- INSULATE ROUND ELBOWS AND FITTINGS WITH WRAP SUCH THAT THICKNESS IS EQUAL TO ADJOINING DUCT COVERING. CLEAN AND DRY DUCTWORK PRIOR TO INSULATING.
- ADHERE INSULATION TO DUCT WITH 50 PERCENT COVERAGE USING APPROVED INSULATION ADHESIVE APPLIED IN 6-INCH WITH SWATHS WITH 6-INCH SPACES BETWEEN SWATHS. ADDITIONALLY SECURE INSULATION WITH PERFORATED PINS AND TUFF-BOND OR BY SELF-STICKING PINS WITH A 3/8" SELF-TAPPING SCREW. SPACE ON 12-INCH CENTERS AND 3 INCHES FROM ALL EDGES. DUCTS UP THROUGH 24" WIDE ONLY REQUIRE ONE ROW OF PINS. DUCTS OVER 24" WIDE SHALL HAVE PINS SPACED AS DESCRIBED HEREIN.
- LAP ALL JOINTS 2 INCHES AND SEAL JOINTS 4-INCH WIDE STRIPS OF OPEN MESH GLASS FABRIC EMBEDDED IN TWO COATS OF GENERAL PURPOSE MASTIC.
- SEAL ALL PUNCTURES AND BREAKS IN ALUMINUM VAPOR BARRIER WITH OPEN MESH GLASS FABRIC AND VAPOR BARRIER SEALANT.

TESTING AND BALANCING:

- BEFORE ACCEPTANCE OF THE SYSTEM, THE CONTRACTOR SHALL CONDUCT TESTS, AS REQUIRED, TO DEMONSTRATE ALL EQUIPMENT OPERATES IN ACCORDANCE WITH SPECIFIED PERFORMANCE REQUIREMENTS.
- A DATED TEST AND BALANCE REPORT SHALL BE FURNISHED TO THE ENGINEER AT SUBSTANTIAL COMPLETION.
- TEST AND BALANCING SHALL INCLUDE THE FOLLOWING:
 - BALANCE DAMPERS, VOLUME CONTROLS, AND FAN SPEEDS TO OBTAIN SPECIFIED AIR DELIVERY WITH MINIMUM NOISE LEVEL.
 - RECORD GRILLE AND CEILING OUTLET VELOCITY AFTER COMPLETION.
 - RECORD ALL FAN SPEEDS.
 - RECORD OUTSIDE DRY AND WET BULB TEMPERATURES.
 - RECORD REFRIGERANT LIQUID AND SUCTION TEMPERATURES.
 - RECORD SUCTION AND DISCHARGE STATIC PRESSURE AND EACH FAN.
 - RECORD COMPLETE NAMEPLATE DATA, RUNNING AMPS, VOLTAGE, FUSE SIZE AND TYPE, AND OVERLOAD DEVICE TYPE AND RATING FOR ALL MOTORS, FANS, AIR CONDITIONING UNITS, AND ALL OTHER EQUIPMENT.



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REVISIONS

NO.	DATE	REFERENCE

14039

CONSTRUCTION DOCUMENTS

DATE ISSUED

08-12-14

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