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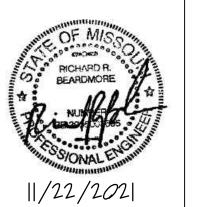
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### elswood smith carlson

7133 west 95th street suite 200 overland park, ks 66212 ph: 913-649-7557

www.escarchitects.com
elswood smith carlson architects, pa.
Kansas state certificate of authority # A-142
Missouri state certificate of authority # 000338

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VIEW FARMS

SUMMIT VIEW
POOL HOUSE
LEE'S SUMMIT, MISSOU

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2 CITY REVIEW 11-22-21

Weston E. Coble

Architect
KS# 6705
MO# A-2016011206

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project no. 20091

date 01/14/2021

project no. 20091
date 01/14/20
revised
design by RRB
drawn by CAD
struct. by APEX

Site Photometric
Plan

sheet no.

NEW SHEET E-1

CONSULTING ENGINEER

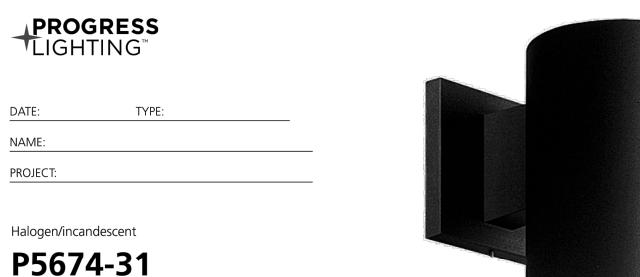
3639 SW Summerfield Drive, Suite A

Topeka, Kansas 66614-3974

8625 College Boulevard, Suite 102

Overland Park, Kansas 66210 Telephone: (785) 233-3232 Email: lsapa@lsapa.com

LSA PROJECT NO. 2004036



Halogen/incandescent

#### Cylinder

5" wall cylinder. The P5674 Series are ideal for a wide variety of interior and exterior applications including residential and commercial. This modular approach results in an encapsulated luminaire that unites performance, cost and safety benefits.

- Black finish.
- Powder coat finish.
- Ideal for a wide variety of interior and exterior applications. Die-cast aluminum wall brackets and heavy duty aluminum framing.

Category: Outdoor

Glass/Shade: Metal shade

**Construction:** Aluminum Construction

octagonal recessed outlet box 4.5" W.

Finish: Black (powder coat paint)

MOUNTING	ELECTRICAL	LAMPING	ADDITIONAL INFORMATION
Wall mounted	Pre-wired	Quantity:	UL-CUL Wet location listed
Mounting plate for outlet box included	6" of wire supplied	One 75w max. PAR-30 or BR-30 E26 base porcelain socket	1 year warranty
Back plate covers a standard 4"		·	

Width: 5"

Depth: 8"

Height: 7-1/4"

H/CTR: 2-1/2"

PROGRESS LIGHTING™

TYPE: **"E"** NAME: PROJECT:

Halogen/incandescent

#### P5641-20

#### Cylinder

6" downlight wall cylinders are ideal for a wide variety of interior and exterior applications including residential and commercial. The aluminum Cylinders offers a contemporary design with its sleek cylindrical form and elegant Antique Bronze finish, perfect for today's inspired exteriors. Modern details feature a die-cast aluminum wall bracket and heavy-duty aluminum framing - resulting in an impeccable modern accent that adds panache and H/CTR: 4-1/2" sophistication to your outdoor spaces.

Antique Bronze finish.

 Interior finish matches exterior finish. • Ideal for a wide variety of interior and exterior applications.

One 250w PAR-38 or 150w BR-40.

Category: Outdoor Finish: Antique Bronze (powder coat paint)

Construction: Cast aluminum Construction

MOUNTING	ELECTRICAL	LAMPING	ADDITIONAL INFORMATION
Wall mounted	Pre-wired	Quantity:	UL-CUL Wet location listed
Mounting strap for outlet box included  Back plate covers a standard 4" octagonal recessed outlet box  4.5" W., 4.5" ht., 2.93" depth	6" of wire supplied 120 V	One 250w max. PAR-38 E26 base porcelain socket	1 year warranty

701 Millennium Blvd. Greenville, South Carolina 29607 www.progresslighting.com 701 Millennium Blvd. Greenville, South Carolina 29607

www.progresslighting.com

Width: 6"

Height: 12"

Depth: 8-7/8"

Rev. 05/19

Project	Catalog	Туре	"SL1", "SL2", "SL3", "SL4"
Prepared by	Notes	Date	



#### **McGraw-Edison GLEON Galleon**

Area / Site Luminaire

**Product Features** 





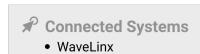




Rev. 05/19







Enlighted

**Dimensional Details** 

**Quick Facts** 

(34W - 640W)

**№** Interactive Menu

Ordering Information page 2

• Optical Distributions page 4

• Product Specifications page 4

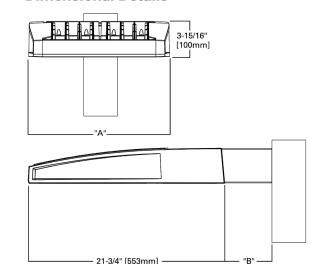
Efficacy up to 156 lumens per watt

Energy and Performance Data page 4

Lumen packages range from 4,200 - 80,800

Mounting Details page 3

Control Options page 9



	Light Squares	"A" Width	Standard Arm Length	Extended Arm Length <sup>1</sup>	Quick Mount Arm Length	Quick Mount Extended Arm Length
	1-4	15-1/2"	7"	10"	10-5/8"	16-9/16"
	5-6	21-5/8"	7"	10"	10-5/8"	16-9/16"
	7-8	27-5/8"	7"	13"	10-5/8"	-
	9-10	33-3/4"	7"	16"	-	-
1-4 15-1/2" 7" 10" 10-5/8" 16-9/10  5-6 21-5/8" 7" 10" 10-5/8" 16-9/10  7-8 27-5/8" 7" 13" 10-5/8" —						

Number of "B" "B" "B" "B" "B"

NOTES:

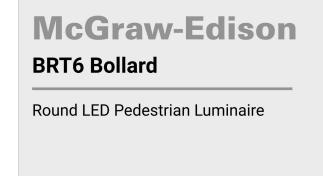
1. Visit <a href="https://www.designlights.org/search/">https://www.designlights.org/search/</a> to confirm qualification. Not all product variations are DLC qualified.

2. IDA Certified for 3000K CCT and warmer only.

**COOPER** PS500020EN page 1 August 2, 2021 5:15 PM

Project	Catalog #	Туре	
Prepared by	Notes	Date	





Interactive Menu









**Quick Facts** 

COOPER
Lighting Solutions

4 Optical Distributions

 Available in 30", 36", and 42" Lumen packages range from 560 - 4400 (5W - 49W)

 Efficacy up to 122 lumens per watt Zero uplight on all configurations

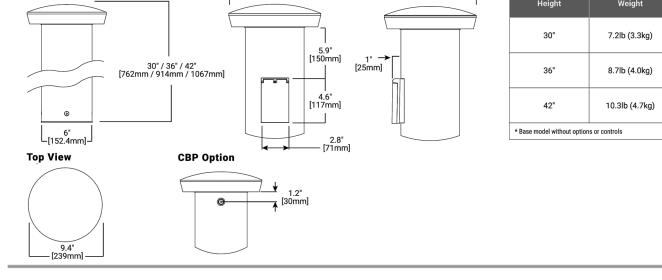
• Ordering Information page 2

Optical Distributions page 2

Product Specifications page 2

• Energy and Performance Data page 3

ınt	Dimensiona Side View	l Details
th		
,		
,"		30" / 36" [762mm / 914mr
_	•	
$\dashv$	6" -[152.4mm]	
	Top View	(



**GFI Option** 

PS500048EN page 1 October 8, 2021 6:48 PM

	Luminaire Schedule - Units and Buildings									
MARK	DESCRIPTION	MFGR	MODEL	MOUNTING	FINISH	LAMPS	NOTES			
D	Exterior Sconce	Progress	P5674-31-30K	wall	black	1600 lumen 15W 3000K LED				
E	Trellis	Progress	P5641-20/30K	ceiling	bronze	1355 Lumen 29W 3000K LED				
SL1	Exterior Pole	McGraw Edison	GLEON -AF-02 LED E1 T4FT	pole	bronze	113W 12252 Lumen 4000K led	provide with 15 ft pole			
SL2	Exterior Pole	McGraw Edison	GLEON-AF-01-LED-E1-SL4	pole	bronze	(2) 59W 5922 Lumen 4000K led	provide with 15 ft pole			
SL3	Exterior Pole	McGraw Edison	GLEON-AF-01-LED-E1-T3	pole	bronze	59W 6235 Lumen 4000K led	provide with 15 ft pole			
SL4	Bollard	McGraw Edison	BRT6-A2-740-U-T3	bollard	bronze	11W 1075 Lumen 4000K led	3 FT w/ WP-GFI receptacle			

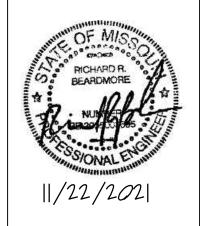
STATISTICS										
Description	Avg	g Max M		Max/Min	Avg/Min					
PARKING LOT	2.6 FC	7.0 FC	0.3 FC	23.3:1	9.0:1					
PROPERTY LINE	0.1 FC	0.5 FC	0.0 FC	N/A	N/A					
POOL AREA	1.5 FC	16.4 FC	0.0 FC	N/A	N/A					
SITE	1.1 FC	16.4 FC	0.0 FC	N/A	N/A					

architects, p.a. 7133 west 95th street

suite 200 overland park, ks 66212 ph: 913-649-7557 www.escarchitects.com

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ARMS VIEW SUMMIT POOL HOUSE

MISSOU

SUMMIT,

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2 CITY REVIEW 11-22-21

Weston E. Coble KS# 6705 MO# A-2016011206

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design by RRB drawn by CAD struct. by APEX **Site Details and** 

**Schedules** sheet no.

CONSULTING ENGINEER

3639 SW Summerfield Drive, Suite A Topeka, Kansas 66614-3974 8625 College Boulevard, Suite 102

Overland Park, Kansas 66210

Telephone: (785) 233-3232

GENERAL PROVISIONS

#### CONTRACT DOCUMENTS

ALL CONTRACT DOCUMENTS INCLUDING DRAWINGS, ALTERNATES, ADDENDA AND MODIFICATIONS PRECEDING THIS SPECIFICATION DIVISION ARE APPLICABLE TO MECHANICAL CONTRACTOR AND HIS SUB-CONTRACTORS, AND MATERIAL SUPPLIERS.

#### SPECIFICATION FORM AND DEFINITIONS

THESE SPECIFICATIONS ARE ABBREVIATED FORM AND CONTAIN INCOMPLETE SENTENCES. OMISSIONS OF WORDS OR PHRASES SUCH AS "THE CONTRACTOR SHALL", "SHALL BE", "AS NOTED ON THE DRAWINGS", "ACCORDING TO THE DRAWINGS", "A". "AN". "THE" AND "ALL" ARE INTENTIONAL, OMITTED WORDS AND PHRASES SHALL BE SUPPLIED BY INFERENCE.

ENGINEER WHEREVER USED IN THESE SPECIFICATIONS, SHALL MEAN LATIMER, SOMMERS & ASSOCIATES, P.A., 3639 SW SUMMERFIELD DRIVE, SUITE A, TOPEKA, KANSAS 66614, PHONE 785-233-3232.

CONTRACTOR, WHEREVER USED IN THESE SPECIFICATIONS, SHALL MEAN ANY TRADE CONTRACTOR THAT ENTERS INTO CONTRACT WITH THE OWNER TO PERFORM THIS SECTION OF

WHEN A WORD, SUCH AS "PROPER", "SATISFACTORY", "EQUIVALENT", AND "AS DIRECTED", IS USED, IT REQUIRES ENGINEER'S REVIEW. "PROVIDE" MEANS FURNISH AND INSTALL.

#### QUALIFICATIONS

THE CONTRACTOR(S) RESPONSIBLE FOR WORK UNDER THIS SECTION SHALL HAVE COMPLETED A JOB OF SIMILAR SCOPE AND MAGNITUDE WITHIN THE LAST 3 YEARS AND BE ABLE TO DOCUMENT SUCH WORK UPON REQUEST. THE CONTRACTOR(S) SHALL EMPLOY AN EXPERIENCED, COMPETENT AND ADEQUATE WORK FORCE LICENSED IN THEIR SPECIFIC TRADE AND PROPERLY SUPERVISED AT ALL TIMES. MECHANICAL CONTRACTING SHALL BE THE COMPANY'S PRIMARY NATURE OF BUSINESS. UNLICENSED WORKERS AND GENERAL LABORERS SHALL BE ADEQUATELY SUPERVISED TO INSURE COMPETENT AND QUALITY WORK AND WORKMANSHIP REQUIRED BY THIS CONTRACT AND ALL OTHER REGULATIONS, CODES AND PRACTICES. AT ALL TIMES THE CONTRACTOR(S) SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL GUIDELINES, PRACTICES AND REGULATIONS. CONTRACTOR MAY BE REQUIRED TO SUBMIT A STATEMENT OF QUALIFICATIONS, PERTAINING TO THE TYPE OF WORK TO BE PERFORMED, UPON REQUEST BEFORE ANY FINAL APPROVAL AND SELECTION. FAILURE TO BE ABLE TO COMPLY WITH THESE REQUIREMENTS IS SUITABLE REASON FOR REJECTION OF A BID WHETHER ACTING AS A PRIME OR SUBCONTRACTOR.

#### LOCAL CONDITIONS

VISIT SITE AND DETERMINE EXISTING LOCAL CONDITIONS AFFECTING WORK IN CONTRACT. FAILURE TO DETERMINE SITE CONDITIONS OR NATURE OF EXISTING OR NEW CONSTRUCTION WILL NOT BE CONSIDERED A BASIS FOR GRANTING ADDITIONAL COMPENSATION.

#### CONTRACT CHANGES

CHANGES OR DEVIATIONS FROM CONTRACT, INCLUDING THOSE FOR EXTRA OR ADDITIONAL WORK MUST BE SUBMITTED IN WRITING FOR REVIEW OF ARCHITECT-ENGINEER. NO VERBAL ORDERS WILL BE RECOGNIZED.

#### LOCATIONS AND INTERFERENCES

A. LOCATIONS OF EQUIPMENT, PIPING AND OTHER MECHANICAL WORK IS INDICATED DIAGRAMMATICALLY BY MECHANICAL DRAWINGS. DETERMINE EXACT LOCATIONS ON JOB, SUBJECT TO STRUCTURAL CONDITIONS, WORK OF OTHER CONTRACTORS, ACCESS REQUIREMENTS FOR INSTALLATION AND MAINTENANCE TO APPROVAL OF ARCHITECT-ENGINEER.

#### EXTENT OF CONTRACT WORK AND CODES - MECHANICAL

PROVIDE MECHANICAL SYSTEMS INDICATED ON DRAWINGS. SPECIFIED OR REASONABLY IMPLIED. PROVIDE EVERY DEVICE AND ACCESSORY NECESSARY FOR PROPER OPERATION AND COMPLETION OF MECHANICAL SYSTEMS. IN NO CASE WILL CLAIMS FOR "EXTRA WORK" BE ALLOWED FOR WORK ABOUT WHICH CONTRACTOR COULD HAVE BEEN INFORMED BEFORE BIDS WERE TAKEN.

DRAWINGS AND SPECIFICATIONS INDICATE MINIMUM CONSTRUCTION STANDARD. SHOULD ANY WORK INDICATED BE SUB-STANDARD TO ANY ORDINANCES, LAWS, CODES, RULES OR REGULATIONS BEARING ON WORK, CONTRACTOR SHALL PROMPTLY NOTIFY ARCHITECT-ENGINEER IN WRITING BEFORE PROCEEDING WITH WORK SO THAT NECESSARY CHANGES CAN BE MADE. HOWEVER, IF CONTRACTOR PROCEEDS WITH WORK KNOWING IT TO BE CONTRARY TO ANY ORDINANCES, LAWS, RULES, AND REGULATIONS, CONTRACTOR SHALL THEREBY HAVE ASSUMED FULL RESPONSIBILITY FOR AND SHALL BEAR ALL COSTS REQUIRED TO CORRECT NON-COMPLYING WORK.

#### PIPE HANGERS AND SUPPORTS

PROVIDE AND BE RESPONSIBLE FOR LOCATIONS OF PIPING HANGERS, SUPPORTS AND INSERTS, ETC., REQUIRED FOR INSTALLATION OF PIPING DESIGN OF HANGERS AND SUPPORTS SHALL CONFORM TO CURRENT ISSUE OF MANUFACTURERS STANDARDIZATION SOCIETY SPECIFICATION (MSS) SP-58.

PIPE HANGERS SHALL BE CAPABLE OF SUPPORTING PIPING IN ALL CONDITIONS OF OPERATION. THEY SHALL ALLOW FREE EXPANSION AND CONTRACTION OF PIPING, AND PREVENT EXCESSIVE STRESS RESULTING FROM TRANSFERRED WEIGHT BEING INDUCED INTO PIPE OR CONNECTED EQUIPMENT. SUPPORT HORIZONTAL OR VERTICAL PIPES AT LOCATIONS OF LEAST VERTICAL MOVEMENT.

PROVIDE SUFFICIENT HANGERS TO ADEQUATELY SUPPORT PIPING SYSTEM AT CHANGES IN PIPING DIRECTION AND AT CONCENTRATED LOADS. HANGERS SHALL PROVIDE FOR VERTICAL ADJUSTMENT TO MAINTAIN PITCH REQUIRED FOR PROPER DRAINAGE, AND FOR LONGITUDINAL TRAVEL DUE TO EXPANSION AND CONTRACTION OF PIPING.

#### PIPING AND FITTINGS

PIPING AND FITTINGS USED THROUGHOUT PROJECT SHALL BE AS INDICATED IN SCHEDULE ON PLANS. PIPING SHALL BE PLAINLY MARKED WITH MANUFACTURERS NAME AND WEIGHT, ALL MATERIALS LISTED MAY NOT BE REQUIRED ON THIS PROJECT. SEE PIPING MATERIAL SCHEDULE AT END OF THIS SECTION FOR MATERIALS TO BE USED FOR EACH PIPING SYSTEM. PIPING MATERIALS SHALL BE AS FOLLOWS:

1)CONDENSATE DRAIN - SCH 40 PVC 2)DOM. WATER <2" - PEX/CPVC

3)DWV BELOW GRADE - SCH 40 SOLID PVC 4)DWV ABOVE GRADE - SCH 40 PVC

5)GAS ABOVE GRADE - SCH 40 BLACK STEEL

6)GAS BELOW GRADE - POLYPROPYLENE 7)REFRIGERANT - COPPER/SILVER SOLDER

INSTALL NECESSARY VALVES WITHIN PIPING SYSTEMS TO PROVIDE REQUIRED FLOW CONTROL AND TO ALLOW ISOLATION FOR INSPECTION, MAINTENANCE AND REPAIR OF EACH PIECE OF EQUIPMENT OR FIXTURE, AND ON EACH MAIN AND BRANCH SERVICE LOOP.

VALVES INSTALLED IN PIPING SYSTEMS SHALL BE AS SCHEDULED ON PLANS AND SHALL BE COMPATIBLE WITH SYSTEM MAXIMUM TEST PRESSURE, PIPE MATERIALS, PIPE JOINING METHOD, AND FLUID OR GAS CONVEYED IN SYSTEM.

SCHEDULE STOP CHECK BALANCE

1) DOM. WATER <2.5" BRONZE BALL AUTO FLOW BRONZE SWING 2)GAS BRONZE/IRON PLUG

PROVIDE UNIONS IN EACH LINE PRECEDING CONNECTIONS TO EQUIPMENT OR VALVES REQUIRING MAINTENANCE. PROVIDE STOCKHAM BRONZE TO IRON GROUND SEAT UNIONS O MATERIAL AND PRESSURE RATING REQUIRED BY PIPING SYSTEM.

WHERE PIPING SYSTEMS OF DISSIMILAR MATERIALS ARE JOINTED TOGETHER PROVIDE PROPER INSULATING UNION AS SPECIFIED UNDER THIS SPECIFICATION.

#### STRAINERS

INSTALL STRAINERS WHERE SHOWN ON PLANS. STRAINERS SHALL BE SAME SIZE AS PIPING. PROVIDE STRAINERS WITH PROPER ISOLATION AND BLOW DOWN VALVES TO ALLOW BASKET REMOVAL FOR CLEANING. STRAINER SHALL BE SELF CLEANING WITH SCREWED AND GASKETED CAPS AND SCREWED

#### PIPE INSULATION

PROVIDE NECESSARY MATERIALS AND ACCESSORIES FOR INSTALLATION OF INSULATION MECHANICAL SYSTEMS. PROVIDE INSULATION MATERIALS MANUFACTURED BY ARMSTRONG INDUSTRIES, DOW CHEMICAL, SCHULLER.

#### SCHEDULE

1) REFRIGERANT - 3/4" ARMAFLEX DUCTWORK INSULATION

A. PROVIDE NECESSARY MATERIALS AND ACCESSORIES FOR INSTALLATION OF INTERIOR AND EXTERIOR DUCTWORK INSULATION AS SPECIFIED AND/OR DETAILED ON DRAWINGS. PROVIDE INSULATION MATERIALS MANUFACTURED BY SCHULLER, KNAUF FIBERGLASS, CERTAIN/TEED, OR OWENS-CORNING FIBERGLASS.

C. PROVIDE ROUND SHEET METAL DUCTWORK WITH EXTERIOR THERMAL INSULATION OF TYPE AND THICKNESS LISTED IN INSULATION SCHEDULE, APPLY INSULATION WITH JOINTS TIGHTLY BUTTED TOGETHER WITH LONGITUDINAL AND END JOINT STRIPS SEALED WITH VAPOR BARRIER ADHESIVE. INSULATE FITTINGS WITH INSULATION THICKNESS EQUAL TO ADJOINING INSULATION WITH COVER OVERLAPPING 2" ONTO ADJACENT COVERING.

D. DUCT INSULATION MATERIALS BY TYPE SHALL BE AS FOLLOWS:

TYPE 2-DEW: EXTERNAL THERMAL INSULATION SHALL BE 1.0 LB. DENSITY STANDARD DUCT INSULATION TYPE IV WITH FOIL-SCRIM-CRAFT FACING AND .27 BTUH THERMAL CONDUCTIVITY AT 75 DEGREES MEAN TEMPERATURE.

E. SPECIFIC INSULATION MATERIALS AND INSTALLATION

METHODS FOR DUCTWORK SYSTEMS SHALL BE AS FOLLOWS:

INSULATION

TYPE DUCTWORK SYSTEM THICKNESS

ROUND/RECTANGULAR SUPPLY 2-DEW 1-1/2" EXHAUST -NONE

#### DUCTWORK

A. CONSTRUCT DUCTWORK AS DETAILED ON DRAWINGS AND AS DETAILED IN THE LATEST EDITION OF THE SHEET METAL AND AIR CONDITIONING CONTRACTOR'S ASSOCIATION (SMACNA) DUCT

B. CONSTRUCT AND INSTALL DUCTWORK TO BE COMPLETELY FREE FROM VIBRATION UNDER ALL CONDITIONS OF OPERATION. SUPPORT AND SECURELY ANCHOR DUCTWORK AND EQUIPMENT FROM STRUCTURAL FRAMING OF BUILDING. PROVIDE SUITABLE INTERMEDIATE METAL FRAMING WHERE REQUIRED BETWEEN BUILDING STRUCTURAL FRAMING.

C. SEALING OF DUCTWORK SHALL BE WITH CLASS 'C' CAULK.

#### GRILLES, REGISTERS AND DIFFUSERS

PROVIDE GRILLES, REGISTERS AND DIFFUSERS AS SHOWN ON THE DRAWINGS AND HEREINAFTER SPECIFIED. SET ALL UNITS WITH RUBBER GASKETS FOR AIR TIGHT CONNECTION WITH MOUNTING SURFACE, SEE DRAWINGS FOR TYPES, SIZES, AIR FLOW AND QUANTITY.

B. INSTALL ALL REGISTERS WITH CURVE OF LOUVER AWAY FROM LINE OF SIGHT. UNLESS NOTED OTHERWISE, PROVIDE DUCT MOUNTED DIFFUSERS AND REGISTERS WITH STANDARD MARGINS. FINISH SHALL BE OFF WHITE WHEN MOUNTED IN CEILING, PRIME COAT WHEN MOUNTED ON WALL FINISH.

#### SPLIT SYSTEMS - AIR HANDLERS

A. AIR HANDLING UNITS SHALL BE COMPLETELY FACTORY ASSEMBLED INCLUDING COIL, CONDENSATE DRAIN PAN, FAN MOTOR(S), FILTERS AND CONTROLS IN AN INSULATED CASING THAT CAN BE APPLIED IN EITHER VERTICAL OR HORIZONTAL CONFIGURATION. UNITS SHALL BE RATED AND TESTED IN ACCORDANCE WITH ARI STANDARD 210/240, 340/360. UNITS SHALL BE UL LISTED AND LABELED IN ACCORDANCE WITH UL 465/1995 FOR INDOOR BLOWER COIL UNITS.

B. UNIT CASING SHALL BE CONSTRUCTED OF ZINC COATED, HEAVY GAUGE, GALVANIZED STEEL. CASING SHALL BE COMPLETELY INSULATED WITH CLEANABLE, FOIL-FACED, FIRE-RETARDANT, PERMANENT, ODORLESS GLASS FIBER MATERIAL. ALL INSULATION EDGES SHALL BE EITHER CAPTURED OR SEALED. KNOCKOUTS SHALL BE PROVIDED FOR UNIT ELECTRICAL POWER AND REFRIGERANT PIPING CONNECTIONS. CAPTIVE SCREWS SHALL BE STANDARD ON ALL ACCESS PANELS.

C. EVAPORATOR COIL TO HAVE CONFIGURED ALUMINUM FIN SURFACE, MECHANICALLY BONDED TO 3/8" INTERNALLY ENHANCED COPPER TUBING AND FACTORY PRESSURE AND LEAK TESTED AT 365 PSIG. COIL IS ARRANGED FOR DRAW-THROUGH AIRFLOW AND SHALL PROVIDE A DOUBLE SLOPED CONDENSATE DRAIN PAN CONSTRUCTED OF PVC PLASTIC.

D. EVAPORATOR FAN SHALL BE DOUBLE INLET, DOUBLE WIDTH, FORWARD CURVED, DIRECT DRIVE CENTRIFUGAL-TYPE FAN(S). THERMAL OVERLOAD PROTECTION SHALL BE STANDARD ON MOTOR. FAN AND MOTOR BEARINGS SHALL BE PERMANENTLY LUBRICATED.

E. MAGNETIC EVAPORATOR FAN CONTACTOR, LOW VOLTAGE TERMINAL STRIP, CHECK VALVE(S), AND SINGLE POINT POWER ENTRY AND DISCONNECT SHALL BE INCLUDED. ALL CONTROLS SHALL BE FACTORY-INSTALLED AND WIRED. EVAPORATOR DEFROST CONTROL SHALL BE INCLUDED TO PREVENT COMPRESSOR SLUGGING BY TEMPORARILY INTERRUPTING COMPRESSOR OPERATION WHEN LOW EVAPORATOR COIL TEMPERATURES ARE ENCOUNTERED.

F. FILTERS SHALL BE ONE INCH MERV-8 THROWAWAY. FILTERS SHALL BE ACCESSIBLE FROM THE FRONT OF THE UNIT. G. PROVIDE MANUAL CHANGEOVER 7-DAY (NOT 5/2)

PROGRAMMABLE HEATING/COOLING THERMOSTAT. SPLIT SYSTEMS - OUTDOOR UNITS

INCLUDED.

CASING SHALL BE GALVANIZED STEEL WITH WEATHER RESISTANT POWDER PAINT. REFRIGERANT CONTROLS TO INCLUDE CONDENSER FAN AND COMPRESSOR CONTACTOR AND CONTROL SYSTEM.

COMPRESSOR OVERLOAD PROTECTION, AND SERVICE VALVES ARE

TO BE PROVIDED. HERMETIC COMPRESSOR TO HAVE OVER TEMPERATURE/PRESSURE PROTECTION, EPOXY-DIPPED WINDINGS. A 5 YEAR LIMITED COMPRESSOR WARRANTY TO BE

CONDENSER COIL TO BE COPPER TUBES, ALUMINUM FINS WITH BRAZED JOINTS PROTECTED BY LOUVERED PANELS. PROVIDE ALL ACCESSORIES FOR PROPER SYSTEM OPERATION TAKING INTO CONSIDERATION REFRIGERANT PIPE LENGTH, EXPOSURE AND POSITION FROM AHU TO ACCOUNT FOR EACH SPECIFIC UNIT INSTALLATION. REVIEW DRAWINGS WITH SUPPLIER.

F AIR HANDLERS TO BE PIPED TO APPROPRIATE DRAIN, MOUNTED WITH ACCESS FOR SERVICE, WITH FLEXIBLE DUCT CONNECTIONS. OUTDOOR UNITS SHALL BE MOUNTED ON MONOLITHIC CONCRETE PADS. STRAP DOWN CONDUITS AND SECURE DX PIPING TO WALL OR SLAB WHERE OVER 3 FEET IN LENGTH. INSTALL WITH CLEARANCES PER MANUFACTURER'S RECOMMENDATIONS.

#### ELECTRICAL SPECIFICATIONS

ELECTRICAL

#### EXTENT OF CONTRACT WORK AND CODES

PROVIDE ELECTRICAL SYSTEMS INDICATED ON DRAWINGS, SPECIFIED OR REASONABLY IMPLIED. PROVIDE EVERY DEVICE AND ACCESSORY NECESSARY FOR PROPER OPERATION AND COMPLETION OF ELECTRICAL SYSTEMS. IN NO CASE WILL CLAIMS FOR "EXTRA WORK" BE ALLOWED FOR WORK ABOUT WHICH ELECTRICAL CONTRACTOR COULD HAVE BEEN INFORMED BEFORE BIDS WERE TAKEN.

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#### BASIC MATERIALS AND METHODS

#### IDENTIFICATION OF WIRING

ALL WIRES FOR BRANCH CIRCUIT WORK SHALL BE COLOR CODED. IDENTIFY THE SAME PHASE CONDUCTOR OF SAME VOLTAGE SYSTEM WITH SAME COLOR THROUGHOUT.

ALL BRANCH CIRCUITS SHALL HAVE DEDICATED HOT, NEUTRAL, GROUND. COMMON NEUTRALS SHALL NOT BE UTILIZED. ONE GROUNDING CONDUCTOR CAN BE PROVIDED FOR A MAXIMUM OF (3) SINGLE PHASE CIRCUITS, EACH ON A SEPARATE PANEL PHASE IN A COMMON CONDUIT.

#### CONDUCTORS

PROVIDE CODE GRADE SOFT ANNEALED COPPER CONDUCTORS WITH SPECIFIED COLORED INSULATION TO CONFORM WITH COLOR CODING SPECIFIED. COMPACT ALUMINUM MAY BE USED FOR FEEDERS LARGER THAN #2 AS PER CODE AND LOCAL JURISDICTION. PROVIDE CONDUCTORS NO. 8 GAUGE AND LARGER STRANDED AND CONDUCTORS NO. 10 GAUGE AND SMALLER SHALL BE SOLID.

USE NO CONDUCTORS SMALLER THAN NO. 12 GAUGE UNLESS SPECIFICALLY CALLED FOR OR APPROVED BY FNGINFFR.

#### PROVIDE CONDUCTORS FOR LISTED APPLICATIONS AS

LIGHTING AND RECEPTACLE CIRCUITS: TYPE THWN, OR THWN/THHN 600 VOLT, 75 DEGREES C (1670F) HERMOPLASTIC INSULATED BUILDING CONDUCTOR OR BETTER. TYPE NM MAY BE USED WHERE ALLOWED BY LOCAL CODE AND THE NEC. NO EXTERIOR CIRCUITS MAY BE TYPE NM.

LIGHTING AND RECEPTACLES CIRCUITS WITH NO. 8 OR ARGER CONDUCTORS, MOTOR CIRCUITS, POWER AND FEEDER CIRCUITS AND BUILDING SERVICE FEEDERS: TYPE THHN/THWN 600 VOLTS, 75 DEGREES C (1670F) THERMOPLASTIC INSULATED BUILDING CONDUCTOR

#### CONDUCTOR INSTALLATION

RUN CONDUCTORS IN CONDUIT CONTINUOUS BETWEEN OUTLETS AND JUNCTION BOXES WITH NO SPLICES OR TAPS PULLED INTO CONDUITS.

NEATLY ROUTE, TIE AND SUPPORT CONDUCTORS TERMINATING AT SWITCHBOARDS, MOTOR CONTROL CENTERS, PANELBOARDS, SOUND EQUIPMENT, ETC., WITH THOMAS & BETTS TY-RAP CABLE TIES AND CLAMPS OR EQUIVALENT BY LECTROVERT OR PANDUIT.

#### GROUNDING

SUPPLEMENT GROUNDED NEUTRAL OF SECONDARY DISTRIBUTION SYSTEM WITH EQUIPMENT GROUNDING SYSTEM, INSTALLED SO THAT METALLIC STRUCTURES, ENCLOSURES, RACEWAYS, JUNCTION BOXES, OUTLET BOXES, CABINETS, MACHINE FRAMES, PORTABLE EQUIPMENT AND OTHER CONDUCTIVE ITEMS OPERATE CONTINUOUSLY AT GROUND POTENTIAL AND PROVIDE LOW IMPEDANCE PATH FOR GROUND FAULT CURRENTS.

SYSTEM SHALL COMPLY WITH NATIONAL ELECTRICAL CODE AND AS SPECIFIED.

#### GROUNDING CONNECTIONS

EQUIPMENT GROUNDING CONDUCTORS FOR BRANCH CIRCUIT HOME RUNS SHOWN ON THE DRAWINGS SHALL INDICATE AN INDIVIDUAL AND SEPARATE GROUND CONDUCTOR FOR THAT BRANCH CIRCUIT WHICH SHALL BE TERMINATED AT THE BRANCH CIRCUIT PANELBOARD, SWITCHBOARD, OR OTHER DISTRIBUTION EQUIPMENT. GROUNDING CONDUCTORS SIZED ACCORDING TO THE SIZE OF THE OVERCURRENT DEVICE AND NEC TABLE 250-95 SHALL BE ALLOWED.

REQUIRED EQUIPMENT GROUNDING CONDUCTORS AND STRAPS SHALL BE SIZED IN COMPLIANCE WITH N.E.C. TABLE 250-95. EQUIPMENT GROUNDING CONDUCTORS SHALL BE PROVIDED WITH GREEN TYPE TW 600 VOLT INSULATION. RELATED FEEDER AND BRANCH CIRCUIT GROUNDING CONDUCTORS SHALL BE CONNECTED TO GROUND BUS WITH APPROVED PRESSURE CONNECTORS.

PROVIDE LOW VOLTAGE DISTRIBUTION SYSTEM WITH A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR FOR EACH SINGLE-PHASE FEEDER. SINGLE PHASE 120 VOLT BRANCH CIRCUITS FOR LIGHTING AND POWER SHALL CONSIST OF PHASE AND NEUTRAL CONDUCTORS AND A GREEN GROUND CONDUCTOR INSTALLED IN COMMON METALLIC CONDUIT WHICH SHALL SERVE AS GROUNDING CONDUCTOR. PROVIDE FLEXIBLE METALLIC CONDUIT UTILIZED IN CONJUNCTION WITH ABOVE SINGLE PHASE BRANCH CIRCUITS WITH SUITABLE GREEN INSULATED GROUNDING CONDUCTORS CONNECTED TO APPROVED GROUNDING TERMINALS AT EACH END OF FLEXIBLE CONDUIT. SINGLE PHASE BRANCH CIRCUIT INSTALLED IN NONMETALLIC CONDUITS SHALL BE PROVIDED WITH SEPARATE GROUNDING CONDUCTOR. INSTALL GROUNDING CONDUCTOR IN COMMON CONDUIT WITH RELATED PHASE AND/OR NEUTRAL CONDUCTORS. WHERE PARALLEL FEEDERS ARE INSTALLED IN MORE THAN ONE RACEWAY, EACH RACEWAY SHALL HAVE A GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.

D. GROUNDING CONDUCTORS SHALL BE AS SHOWN ON PLANS OR IF NOT SPECIFICALLY SHOWN SHALL BE NO SMALLER THAN THAT REQUIRED BY THE NEC.

### CONDUIT

CONDUITS

CONDUIT OR GALVANIZED RIGID STEEL TUBING: (EMT) CONDUIT SHALL BE GALVANIZED STEEL ELECTRICAL METALLIC

TUBING AND BEAR AND UNDERWRITERS' LABORATORY LABEL. CONDUIT SHALL CONFORM TO FEDERAL SPECIFICATION WWC-563 AND ANSI SPECIFICATION C80.3. B. MC CABLE AND FLEXIBLE METAL CONDUIT: WHERE

ALLOWABLE BY CODE, MC CABLE AND FLEXIBLE METAL CONDUIT (FMC) WITH CONDUCTORS AND GROUND MAY BE USED ONLY IN THE FORM OF 8' WHIPS (OR LESS) FOR BRANCH CIRCUIT DROPS FROM JBS TO INDIVIDUAL LIGHTING FIXTURES, VAV BOXES, SMALL EXHAUST FANS, AND OTHER FRACTIONAL HP EQUIPMENT. IN ALL CASES, THE FLEXIBLE CONDUIT AND/OR MC CABLE SHALL CONTAIN A DEDICATED EQUIPMENT GROUNDING CONDUCTOR.

C. RIGID SCH. 40 PVC MAY BE USED BELOW SLAB/GRADE.

#### CONDUIT FITTINGS

A. EMT CONDUIT: COUPLINGS AND BOX CONNECTORS SHALL BE DIE CAST SET SCREW TYPE. UNILETS SHALL BE MALLEABLE IRON WITH BLANK COVER.

B. FLEXIBLE CONDUIT: CONNECTORS SHALL BE THREADED TYPE IRON WITH INSULATED THROAT.

C. PROVIDE GROUNDING BUSHINGS WHERE FEEDER CONDUIT ATTACHES TO PANELBOARD BACKBOX. BOND GROUNDING BUSHING TO GROUND BUS.

#### CONDUIT INSTALLATION

A. ALIGN CONDUIT TERMINATIONS AT PANELBOARDS, SWITCHBOARDS, MOTOR CONTROL EQUIPMENT, JUNCTION BOXES, ETC. AND INSTALL TRUE AND PLUMB. PROVIDE SUPPORTS OR TEMPLATES TO HOLD CONDUIT ALIGNMENT DURING ROUGH-IN STAGE OF WORK.

B. INSTALL CONDUIT CONTINUOUS BETWEEN OUTLET BOXES, CABINETS AND EQUIPMENT. MAKE BENDS SMOOTH AND EVEN WITHOUT FLATTENING OR FLAKING CONDUIT. RADIUS OF BENDS SHALL NOT BE SHORTER THAN RADIUS LISTED IN THE NEC. LONG RADIUS ELBOWS MAY BE USED WHERE NECESSARY.

C. INSTALL NO CONDUITS OR OTHER RACEWAYS SIZED SMALLER THAN PERMITTED IN APPLICABLE NEC TABLES. WHERE CONDUIT SIZES SHOWN ON DRAWINGS ARE SMALLER THAN PERMITTED BY CODE, CONTRACTOR SHALL INCLUDE COST FOR PROPER SIZE CONDUIT IN HIS BASE BID. IN NO CASE REDUCE CONDUIT SIZES INDICATED ON DRAWINGS OR SPECIFIED WITHOUT WRITTEN APPROVAL OF ENGINEER.

#### OUTLET BOXES

PROVIDE ELECTRICAL SERVICE OUTLETS, INCLUDING PLUG RECEPTACLES, LAMP RECEPTACLES, LIGHTING FIXTURES AND SWITCHES WITH STEEL CITY, RACO, OR EQUIVALENT FOUR INCH CODE GAUGE STEEL KNOCKOUT BOXES GALVANIZED OR SHERADIZED OF REQUIRED DEPTH FOR SERVICE OR DEVICE.

B. PVC BOXES MAY BE USED WHERE NOT EXPOSED.

#### SWITCHES, RECEPTACLES AND COVER PLATES

PROVIDE WHERE SHOWN ON PLANS WIRING DEVICES. PART NUMBERS SHALL BE AS LISTED FOR EACH DEVICE SPECIFIED. EQUIVALENT DEVICES BY HUBBELL, PASS & SEYMOUR.

#### INDUSTRY REFERENCES

A. UNDERWRITER'S LABORATORIES (UL)

SWITCHES (UL 20) RECEPTACLES, PLUGS & CONNECTORS (UL 498) PIN & SLEEVE CONNECTORS (UL 1286) DEVICE PLATES (UL 514) GFC1'S (UL 943)

B. NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION (NEMA) WD-1 (DEVICES, PLATES, COLORS) WD-6

A. GENERAL: PROVIDE FACTORY-FABRICATED WIRING DEVICES IN TYPES, COLORS, AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED. WHEREVER POSSIBLE, DEVICES SHALL BE BACK AND SIDE WIRED. ALL SWITCHES AND RECEPTACLES SHALL INCORPORATE A METAL MOUNTING STRAP: NON-METALLIC MOUNTING STRAPS ARE NOT ACCEPTABLE. SWITCHES SHALL BE SPEC GRADE AND LISTED PER UL 20 AND CERTIFIED BY UL TO FED SPEC. WS-596E. RECEPTACLES SHALL BE SPEC GRADE AND LISTED PER UL 498 AND CERTIFIED BY UL TO FED. SPEC. WS-896E. BOTH SWITCHES AND RECEPTACLES SHALL BE VISIBLY MARKED WITH THE "UL-FS" MARK TO CONFIRM CERTIFICATION. ALL DEVICES SHALL BE FROM THE SAME MANUFACTURER. ALL DEVICES SHALL BE GRAY UNLESS OTHERWISE ON PLANS. ALL SURFACE RACEWAY SHALL BE SATIN ALUMINUM UNLESS NOTED OTHERWISE ON PLANS.

B. EACH CONVENIENCE RECEPTACLE OUTLET SHALL BE EQUIPPED WITH A 20 AMPERE DUPLEX PLUG RECEPTACLES EXCEPT WHERE NOT ON A CODE-REQUIRED DWELLING UNIT 20-AMP CIRCUIT AND THEN MAY BE 15 AMP. RECEPTACLES SHALL BE 3 WIRE GROUNDING TYPE. RECEPTACLES SHALL BE RESIDENTIAL GRADE, TAMPER-RESISTANT PER CODE WHERE IN DWELLING UNITS AND SPEC GRADE ELSEWHERE.

#### SWITCH AND RECEPTACLE FLUSH WALL PLATES

WALL PLATES: WALL PLATES FOR ALL FLUSH OUTLETS AND SWITCHES SHALL BE SMOOTH STAINLESS STEEL. ALL PLATES SHALL OF THE SAME MANUFACTURER AS THE DEVICES. PLATES FOR SURFACE MOUNTED DEVICE OUTLETS SHALL BE DRAWN GALVANIZED STEEL FOR STEEL BOXES AND CAST FOR CAST BOXES.

#### LIGHTING FIXTURES

A. PROVIDE LIGHTING FIXTURES COMPLETE WITH NOTED LAMP SOURCES AND ACCESSORIES REQUIRED FOR INSTALLATION. CONTRACTOR SHALL INSURE THAT FIXTURES ARE CLEAN AT TIME OF FINAL INSPECTION. MOUNT RECESSED FIXTURES WITH TRIM FLUSH TO CEILINGS, FREE OF GAPS OR CRACKS.

B. COORDINATE MOUNTING OF CEILING MOUNTED LIGHTING FIXTURES WITH GENERAL CONTRACTOR. WHERE ADDITIONAL FIXTURE SUPPORTS ARE REQUIRED DUE TO LIGHTING FIXTURE LOCATION OR WEIGHT, SUPPORTS SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR, UNLESS OTHERWISE SPECIFIED UNDER CEILING SPECIFICATIONS.

#### CIRCUIT BREAKER PANELBOARDS

PROVIDE DEAD\_FRONT PANELBOARDS WITH MOLDED CASE CIRCUIT BREAKERS AS LISTED IN SCHEDULE. PANELBOARDS SHALL CONFORM TO NEMA STANDARD PUBLICATION NO. PB $_{-1}$  AND UL STANDARDS NO. 50 & 67 FOR PANELBOARDS.

BOXES SHALL BE GALVANIZED STEEL STANDARD WIDTH AND DEPTH EXCEPT WHERE SCHEDULED OTHERWISE. FRONTS SHALL BE CODE GAUGE STEEL FINISHED WITH RUST\_INHIBITING PRIMER AND BAKED ENAMEL FINISH. FRONTS SHALL HAVE FLUSH DOORS WITH FLUSH CYLINDER TUMBLER TYPE LOCKS, SPRING\_LOADED DOOR PULLS, CONCEALED DOOR HINGES. PROVIDE DOORS HIGHER THAN 48" WITH THREE POINT CATCH.

PROVIDE TIN\_FINISHED ALUMINUM BARS FULL LENGTH OF PANEL WITH RATING LISTED IN SCHEDULE. BUS BAR CONNECTION TO BRANCH CIRCUIT BREAKERS SHALL BE "PHASE SEQUENCE" TYPE DESIGNED AND ASSEMBLED SO CIRCUIT BREAKERS CAN BE REPLACED WITHOUT DISTURBING ADJACENT BREAKERS OR REMOVING MAIN BUS OR BRANCH CIRCUIT CONNECTORS. PROVIDE BUS BARS WITH WIRE LUGS SUITABLE FOR COPPER OR ALUMINUM CONDUCTORS. PROVIDE EACH PANEL WITH EQUIPMENT GROUNDING BUS GROUNDED TO BOX AND NEUTRAL BUS INSULATED FROM BOX.

BRANCH CIRCUIT BREAKERS SHALL BE QUICK\_MAKE, QUICK\_BREAK WITH TRIP INDICATION. CIRCUIT BREAKERS SHALL OPERATE BOTH MANUALLY FOR NORMAL SWITCH FUNCTIONS AND AUTOMATICALLY UNDER OVERLOAD AND SHORT CIRCUIT CONDITIONS. OPERATING HANDLE OF CIRCUIT BREAKER SHALL OPEN AND CLOSE ALL POLES OF A MULTI-POLE BREAKER SIMULTANEOUSLY AND CONFORM TO NEMA STANDARDS PUBLICATIONS NO. PB\_1 AND BE APPROVED BY UL. CIRCUIT BREAKER SHALL HAVE A THERMAL MAGNETIC TRIP UNIT FOR EACH POLE FOR INVERSE TIME DELAYED OVERLOAD PROTECTION AND AN INSTANTANEOUS MAGNETIC ELEMENT FOR SHORT CIRCUIT PROTECTION.

E. PANELS SHALL HAVE BRANCH CIRCUIT DIRECTORY HOLDERS WITH CLEAR PLASTIC COVER. PROVIDE NEATLY TYPED LIST OF BRANCH CIRCUIT LOADS CORRESPONDING INDICATING EQUIPMENT SERVED AND SPECIFIC LOCATION TO BRANCH CIRCUIT NUMBERS.

PANELBOARDS FOR APARTMENTS SHALL BE SQUARE "D" NOOD FOR 400 A AND LESS.

#### DISCONNECT SWITCHES

PROVIDE HEAVY DUTY HORSEPOWER RATED SAFETY SWITCHES RATED IN ACCORDANCE WITH NEMA ENCLOSED SWITCH STANDARD KS 1\_1969 AND L98 STANDARD.

ENCLOSURE SHALL BE NEMA TYPE REQUIRED BY

INTERLOCK WITH DEFEATER TO PREVENT OPENING DOOR WHEN SWITCH IS ENERGIZED OR CLOSING SWITCH WITH DOOR OPEN. FUSE HOLDERS SHALL BE HIGH PRESSURE SUITABLE FOR USE WITH DUAL ELEMENT FUSES OR REJECTION TYPE

CURRENT LIMITING FUSES WHERE REQUIRED. FUSE HOLDERS

SHALL BE COMPLETELY ACCESSIBLE FROM FRONT OF SWITCH.

SWITCH LOCATION AND ENVIRONMENT, ENCLOSURE DOOR

SHALL LATCH WITH MEANS FOR PADLOCKING AND COVER

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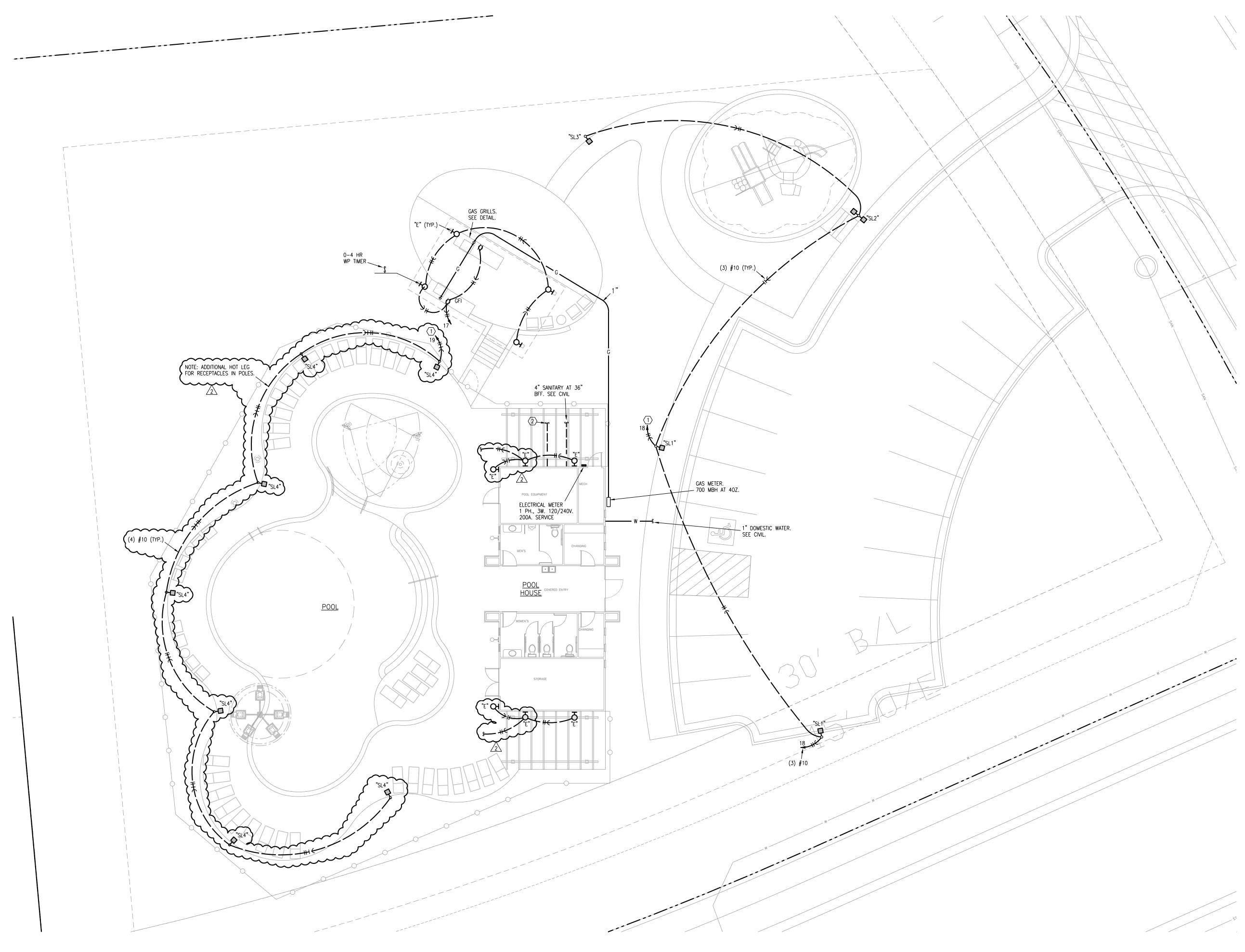
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Weston E. Coble

design by RRB drawn by CAD struct. by APEX Mech/Elec **Specifications** sheet no.

ONSULTING ENGINEER 3639 SW Summerfield Drive, Suite A Topeka, Kansas 66614-3974 8625 College Boulevard, Suite 102 Overland Park, Kansas 66210 Telephone: (785) 233-3232 Email: lsapa@lsapa.com LSA PROJECT NO. 2004036



- SEE CIVIL, ARCHITECTURAL AND LANDSCAPE DRAWING FOR FURTHER INFORMATION AND WORK.
- NOTIFY UTILITY PROVIDERS PRIOR TO ANY EXCAVATION, TRENCHING OR GRADING TO MARK UTILITIES.
- PROVIDE ALL UTILITY PROVIDER REQUIREMENTS WITH REGARDS TO INTERFACING WITH THEIR WORK AND INCLUDE ALL ITEMS REQUIRED FOR PROPER INSTALLATION.
- TRANSFORMER AND PRIMARY LOCATIONS ARE TO BE VERIFIED WITH THE PROVIDER AS TO FINAL LOCATIONS BASED ON THEIR DESIGN AND CONTRACTOR REQUIREMENTS.
- ALL SITE LIGHTING CIRCUITS ROUTE THROUGH PHOTOCELL/TIME CLOCK AND HAVE (3) #10 WIRES UNLESS NOTED OTHERWISE.
- POLE FIXTURES SHALL HAVE SCREW IN BASE, FLUSH WITH GRADE. POLE SHALL BE 15' AND FIXTURE AT TOP SHALL NOT EXTEND ABOVE TOP OF THE POLE.

#### LEGEND:

- 1) THRU PHOTOCELL/TIMECLOCK.
- 2 6" POOL BACKWASH TO SITE DRAIN. SEE CIVIL, CONFORM TO CITY STANDARDS.

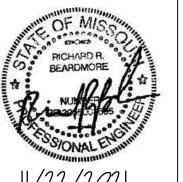
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for all consequences arriving out of such changes.
Contractor shall check and verify all dimensions.



11/22/2021

**FARMS** SUMMIT POOL HOUSE

MISSOU

LEE'S SUMMIT, I

1 UPDATES
2 CITY REVIEW

11-22-21

Weston E. Coble Architect KS# 6705

design by RRB drawn by CAD struct. by APEX Site Plan -

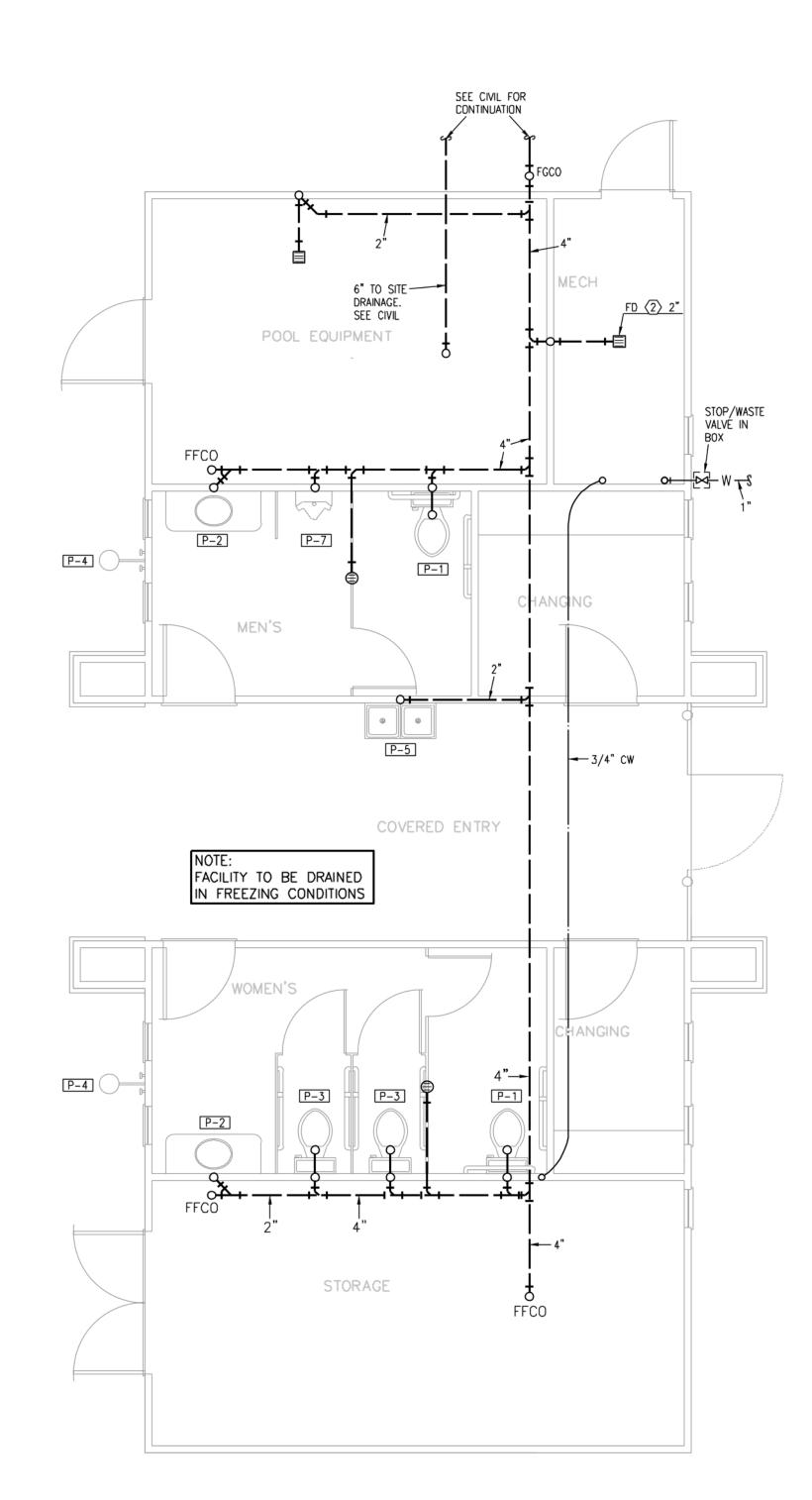
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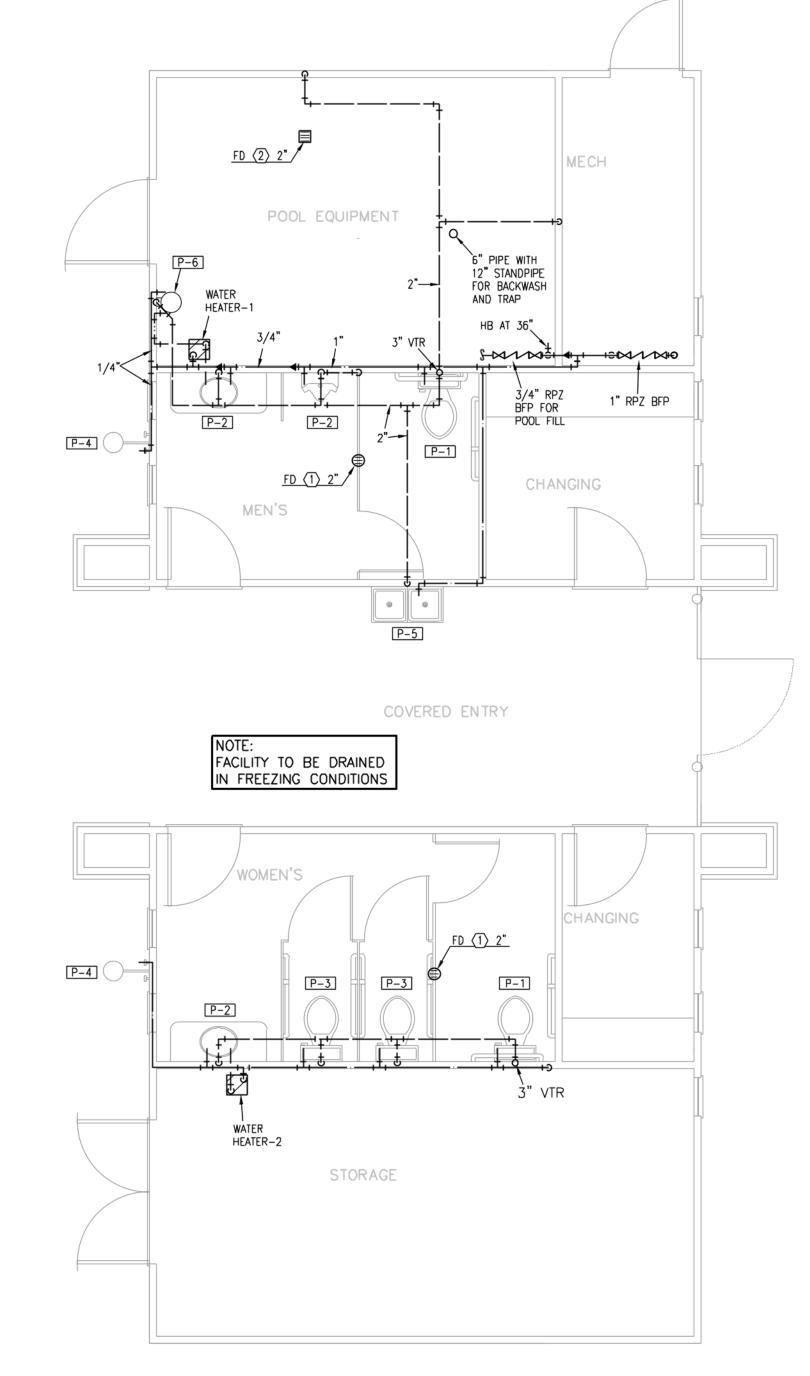
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#### NOTES: PLUMBING

- COORDINATE WITH OTHER SUB-CONTRACTORS FOR PLACEMENT OF WORK PRIOR TO INSTALLATION BEGINNING.
- ALL DRAIN, WASTE AND VENT PIPING IS 2" UNLESS NOTED OTHERWISE. ALL 2" AND 3" WASTE SLOPE AT 1/4" PER FT. PIPING 4" AND GREATER MAY BE AT 1/8" PER FT UNLESS NOTED OTHERWISE.
- ANY BELOW SLAB SUPPLY PIPING SHALL BE PEX WITH NO JOINTS.
- ALL SUPPLY PIPING IS 1/2" UNLESS NOTED OTHERWISE OR REQUIRED BY THE PLUMBING CODE.
- CONNECT ALL APPLIANCES OR EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS.
- ALL PLUMBING VENTS SHALL BE 10 FEET FROM OPENINGS OR INTAKES.
- ALL FIXTURES SHALL HAVE AIR CHAMBERS OR BLADDER TYPE SHOCK SUPPRESSORS FOR EACH CHASE.
- SEE THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS.
- REFER TO THE ARCHITECTURAL DRAWINGS FOR FLOOR DRAIN LOCATIONS AND FLOOR SLOPES IF PRESENT. ALL FLOOR DRAINS ARE 2" TYPE 1 UNLESS NOTED OTHERWISE.
- O. ROUTE DRAIN PIPING FROM WATER HEATERS, AIR HANDLERS OR EQUIPMENT TO FLOOR DRAINS. PROVIDE PROPER TRAPS.
- 1. ROUTE NO PIPING OVER ELECTRICAL EQUIPMENT.

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# **FARMS** VIEW SUMMIT POOL HOUSE -------LEE'S SUMMIT, I

MISSOU

Weston E. Coble
Architect
KS# 6705

project no. 20091
date 01/14/2021 revised design by RRB
drawn by CAD
struct. by APEX

First Floor Plan - Mech/Elec

CONSULTING ENGINEER

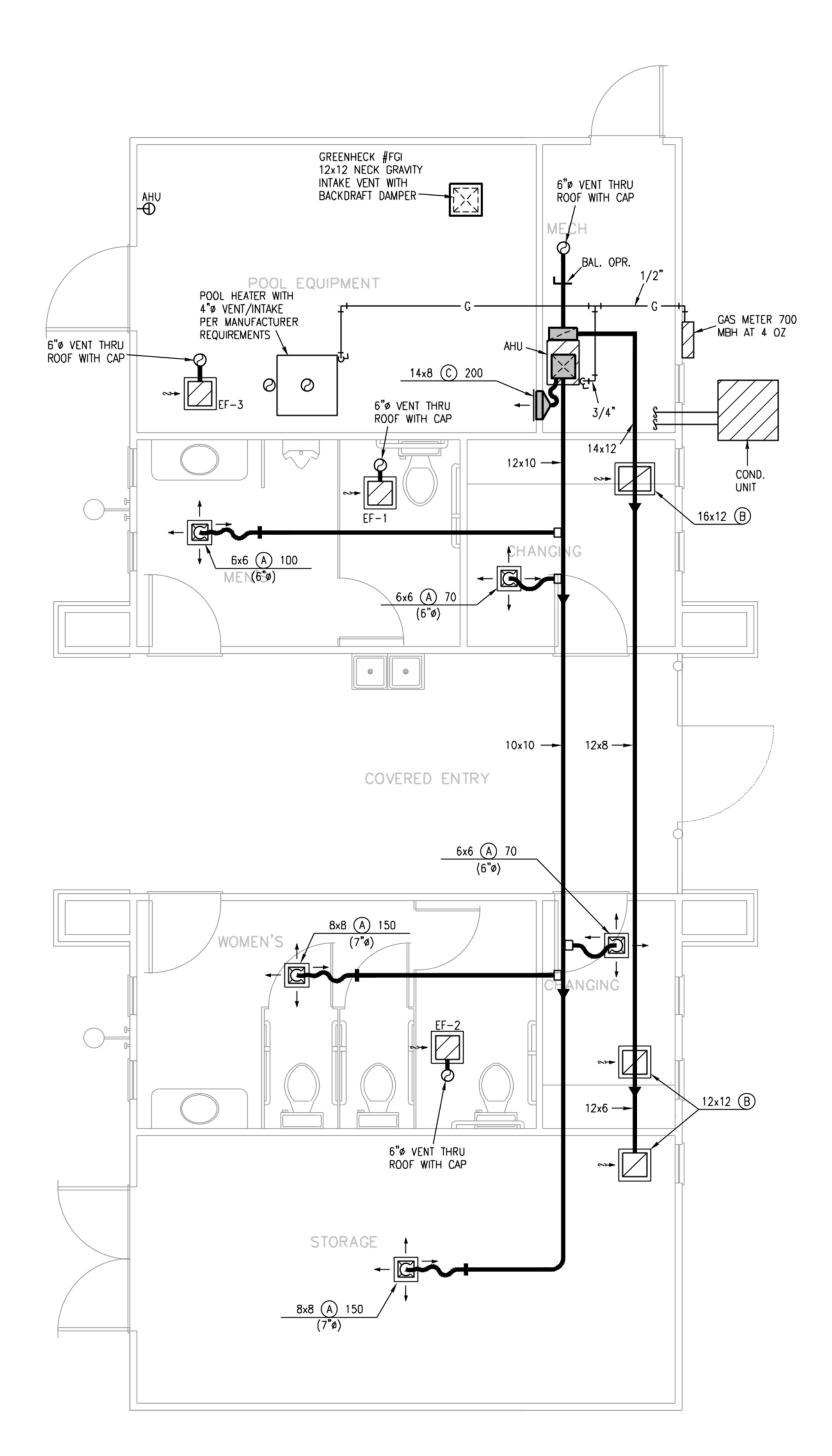
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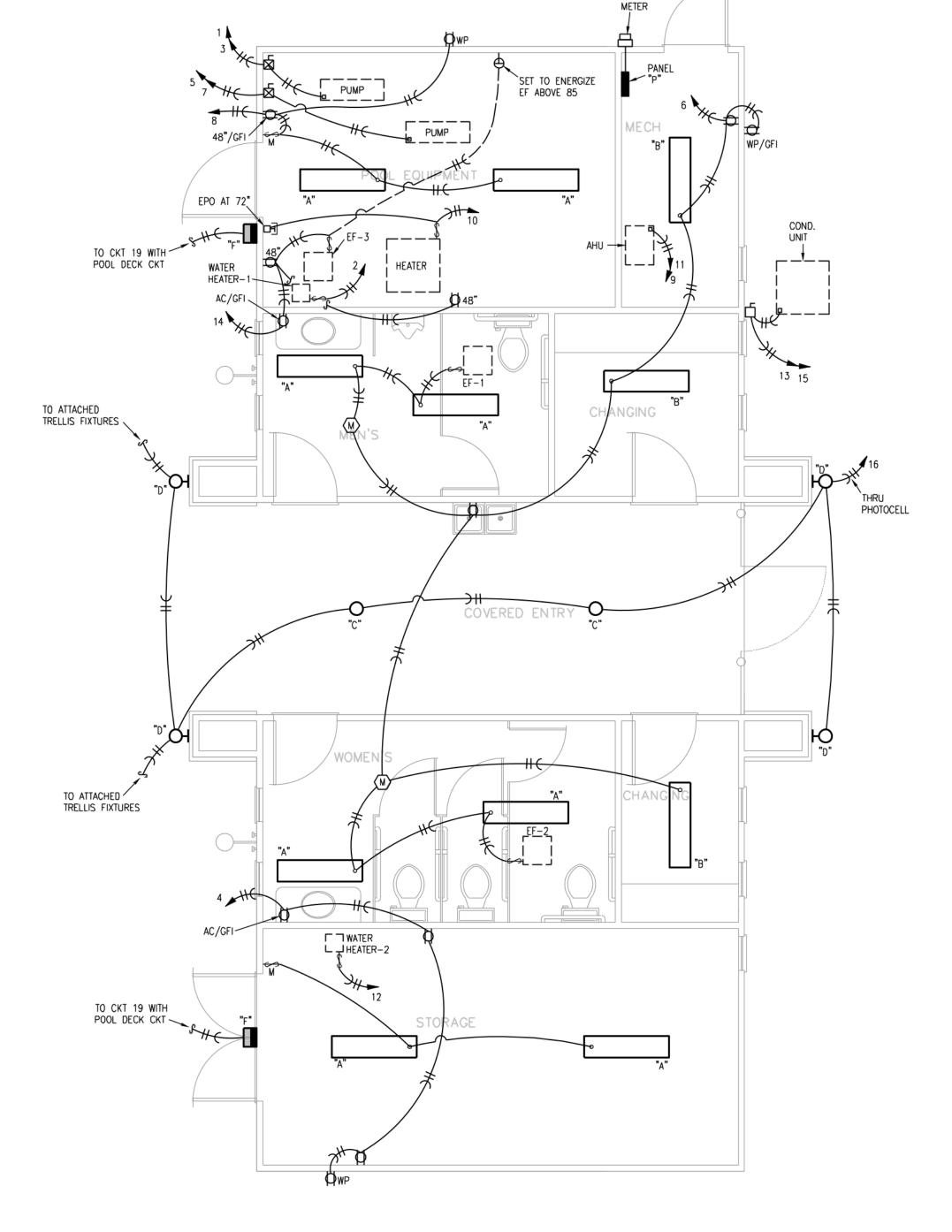
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sheet no.

#### NOTES: HVAC

- COORDINATE WITH OTHER SUB-CONTRACTORS FOR PLACEMENT OF WORK PRIOR TO INSTALLATION BEGINNING.
- 2. ALL INDIVIDUAL BRANCH DUCTS ARE THE SIZE OF THE DIFFUSER NECK LISTED AND HAVE A MANUAL BALANCING DAMPER WHERE NOT INTEGRAL WITH THE DIFFUSER.
- SEE THE ARCHITECTURAL, LIGHTING AND STRUCTURAL DRAWINGS FOR CLEARANCES.
- 4. MAINTAIN 3 FEET CLEARANCE FROM EXHAUST DUCTS TO BUILDING OPENINGS AND 10 FEET TO AIR INTAKES.
- 5. ROUTE NO DUCTS OVER ELECTRICAL EQUIPMENT.
- FLEXIBLE DUCT LENGTHS SHALL NOT EXCEED 15 FEET AND SHALL BE AS STRAIGHT AS POSSIBLE AND NOT KINKED AT DIFFUSER OR TAKE-OFF.
- 7. RECTANGULAR DUCT RUNS MAY BE CONVERTED TO EQUIVALENT ROUND WITH THE SAME STATIC LOSS PER 100 FT.





NOTES: ELECTRICAL

EQUIPMENT.

DETAILS.

NUMBER SERVED.

ROOMS/EQUIPMENT SERVED.

COORDINATE WITH OTHER SUB-CONTRACTORS FOR PLACEMENT OF WORK PRIOR TO INSTALLATION BEGINNING.

PROVIDE NEC CLEARANCES FOR ALL PANELS AND ELECTRICAL

LABEL ALL JUNCTION BOXES AS TO THE PANEL AND CIRCUIT

SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS AND

PANEL DIRECTORIES SHALL BE SPECIFIC TO THE





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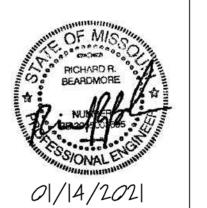
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IEW FARMS

SUMMIT VIEW
POOL HOUSE
LEE'S SUMMIT, MISSOUR

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date 01/14/2021

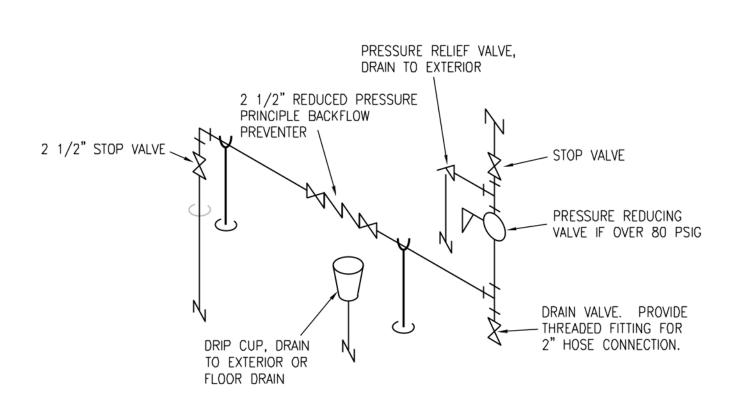
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First Floor Plan
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sheet no.

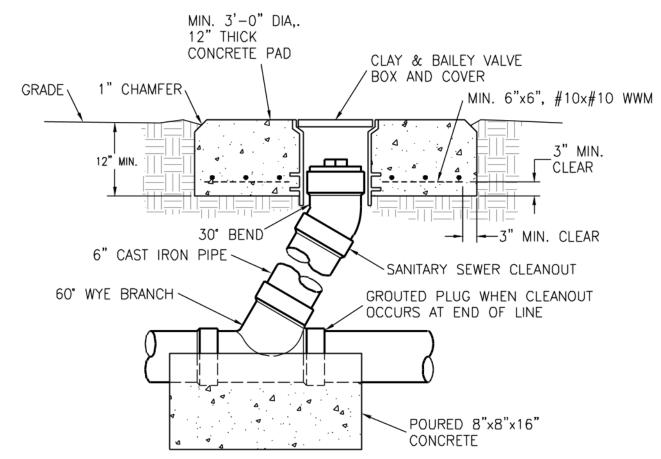
ME-3



#### CLEARANCES SHALL BE MAINTAINED — WALL FOR ALL DISCONNECTING MEANS AND SERVICING PER CODE ≥12" FOR NON-AIRFLOW SIDE, $\geq$ 24" FOR AIRFLOW SIDE AND BETWEEN UNITS \* SUPPORT FLEX CONDUIT OR HVAC PULL-OUT-TYPE DS LINE SETS OVER 48" LONG EXPOSED WALL CAP/BOOT FOR— DX LINE SETS/T'STAT CONDUIT WIRE (SEE DÉTAIL) PRE-MANUFACTURED SYNTHETIC PAD WP/GFCI -RECEPTACLE

## DOMESTIC WATER ENTRANCE RISER

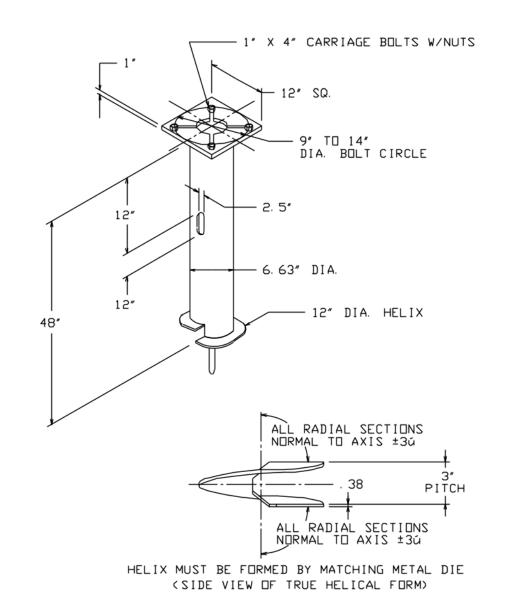
ALL WATER SERVICE INSTALLATIONS INCLUDING BACKFLOW DEVICES ARE SUBJECT TO FIELD VERIFICATION AND APPROVAL BY THE WATER DEPARTMENT INSPECTOR.



## 3 FLUSH GRADE CLEANOUT DETAIL NO SCALE

LIGHT POLE FOUNDATION

CAT. NO. C11242NG4VP



-NOTES-FINISH: HOT DIP GALVANIZE PER ASTM-A153 (LATEST REVISION).

BASEPLATE TO BE PERPENDICULAR TO SHAFT AXIS (±1ú) AND HOLE CENTERLINE CONCENTRIC (±.188) TO SHAFT AXIS.

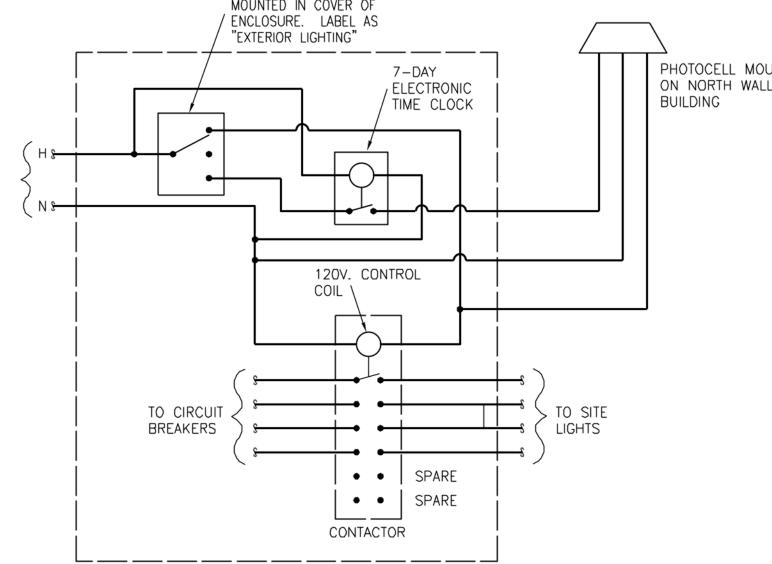
STENCIL MIN. 1/2 IN. LETTERS MANUFACTURER'S NUMBER AFTER GALVANIZING. AFTER GALVANIZING.

4. PILOT POINT AND SHAFT AXES TO BE CONCENTRIC (±. 125 FIM) AND PILOT POINT AND SHAFT AXES TO BE CONCENTRIC (±.125 FIM) AND IN LINE (±2ú).
 FLAME CUT SLOT PERPENDICULAR TO THE BASEPLATE.
 PREHEAT, TUMBLEBLAST, HANDGRIND, AND CLEAN BASEPLATE, HELIX, AND PILOT POINT ON ALL WELDED AREAS.
 FLAMECUT IRREGULARITIES PERMISSIBLE: (1) VALLEYS NOT TO EXCEED 3/32 IN. BELOW NOMINAL SURFACE LEVEL, (2) PEAKS OR POSITIVE IRREGULARITIES NOT TO EXCEED 1/32 IN. ABOVE NOMINAL SURFACE LEVEL OR INTERSECTIONS OF NOMINAL SURFACES.
 MANUFACTURER TO HAVE IN EFFECT INDUSTRY RECOGNIZED WRITTEN QUALITY CONTROL FOR ALL MATERIALS AND MANUFACTURING PROCESSES.
 ALL MATERIAL IS TO BE NEW, UNUSED AND MILL TRACEABLE MEETING THE FOLLOWING SPECIFICATIONS: BASEPLATE: ASTM A36-(LATEST REVISION) HOT ROLLED STEEL PLATE, (CONFORM TO AASHTO TECH. BUL. #270)

STEEL PIPE PILES, SEAMLESS OR STRAIGHT WELDED, GRADE-2 PER ASTM A252. ALT. MATERIAL: STEEL PIPE TYPE E OR S, GRADE-B PER ASTM A53. HELIX: ASTM A635 (LATEST REVISION) HOT ROLLED STEEL.

PILOT POINT: ASTM A575 (LATEST REVISION) STEEL BAR. BOLTS: CARR BOLT PER ANSI B-18. 2. 1, SAE J429 GRADE-5. 10. BASEPLATE IS PERMANENTLY STAMPED WITH MANUFACTURER'S IDENTIFICATION "ABC" IN 1/2" LETTERS AND DATE CODE IN 1/4" LETTERS.



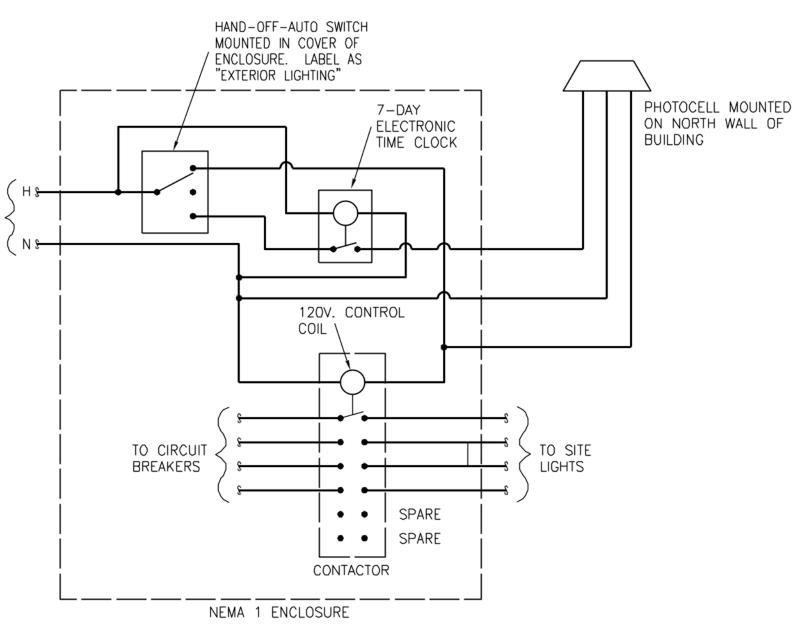


**EXTERIOR LIGHTING** CONTROL PANEL SCHEMATIC

## GROUND-MOUNTED CONDENSING UNIT DETAIL NO SCALE

TURN ROOFING AND F DOWN UNDER CLAMPI	
SECONDARY FLASHING CLAMP	ROOF DRAIN
FLASHING AS REQUIRED BY ROOFING MANUFACTURER	ROOFING
	ROOF
	ROOF
DRAIN RECEIVER	STRUCTURE
DECK / CLAMP	SEE PLANS FOR PIPE
INSULATE WITH VAPOR	SIZE AND LOCATION
BARRIER AND SEAL AT SEAM	ROOF-DRN

## 4 ROOF DRAIN DETAIL NO SCALE



ELECTRICAL SYMBOLS LEGEND  CONDUIT CONCEALED IN CEILING OR WALL  CONDUIT CONCEALED IN FLOOR SLAB  SWITCH - SINGLE POLE  SWITCH - SINGLE  SWITCH -			
	ELECTRICAL SY	MBO	LS LEGEND
	CONDUIT CONCEALED IN CEILING OR WALL	\$	SWITCH - SINGLE POLE
/#\	CONDUIT CONCEALED IN FLOOR SLAB	\$ 3, 4	3-WAY, 4-WAY
/-#	EXPOSED CONDUIT	"A"	LIGHT FIXTURE AND TYPE
_	HOMERUN - ARROW INDICATES CKT., LINES INDICATE WIRES	⊗⊗⊣	EXIT LIGHT (CEILING OR WALL MOUNTED)
$\rightarrow$	GROUND WIRE		FLUSH PANELBOARD
<b>—</b>  i·	GROUNDING ROD		SURFACE PANELBOARD
ф	SINGLE RECEPTACLE		DISTRIBUTION PANEL OR SWITCHBOARD
ø	DUPLEX RECEPTACLE (20 AMP UNLESS NOTED)	AC	DEVICE LOCATED ABOVE COUNTER
#	FOURPLEX RECEPTACLE	AFF	ABOVE FINISHED FLOOR
ф	208 OR 240 VOLT RECEPTACLE (20 AMP UNLESS NOTED)	D	DIMMER
8	PUSHBUTTON	EDF	ELECTRIC DRINKING FOUNTAIN
Ó	MOTOR	GFI	GROUND FAULT INTERRUPTER
\$	FUSIBLE SWITCH (BUSSMAN SSU)	NL	NIGHTLIGHT FIXTURE, WIRED HOT
Q-	DISCONNECT SWITCH (D.S.)	WP	WEATHERPROOF
4⊠	COMBINATION MOTOR STARTER (CMS)		LOCKABLE GUARD
R	RELAY	M	CEILING MOTION SENSOR

REFER TO MECHANICAL SYMBOLS LEGEND FOR MECHANICAL

MAY NOT APPEAR ON PLANS. SYMBOLS THAT MAY BE SHOWN ON ELECTRICAL PLANS.

WALL MOTION SENSOR

JUNCTION BOX

THERMOSTAT

NOTES: ALL SYMBOLS SHOWN ABOVE

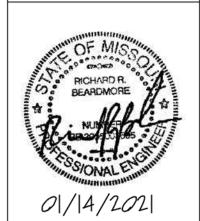
	MECHANICAL SY	MBC	LS LEGEND
P-1 (D)	WATER CLOSET & TYPE (TYP. FOR ALL PLUMBING FIXTURES)	7	MANUAL DAMPER
	WASTE LINE ABOVE EARTH (W.)	@ <del>     </del>	BACKDRAFT DAMPER
++	WASTE LINE IN EARTH (W.)		AUTOMATIC DAMPER
<b>—</b> IICO	CLEAN OUT	6×6(A)80 □	GRILLE, REGISTER OR DIFFUSER, SIZE, TYPE & CFM
FFCO O	FLUSH FLOOR CLEAN OUT		VOLUME EXTRACTOR AND TURNING VANES
FGCO O	FLUSH GRADE CLEAN OUT		RETURN, EXHAUST OR FRESH AIR DUCT SECTION UP & DOWN
<u>2" ⟨1⟩ FD</u> ⊜	FLOOR DRAIN AND TYPE	$\boxtimes$	SUPPLY AIR DUCT SECTION UP AND DOWN
	VENT LINE (V.)		ROUND OR RECTANGULAR RIGID DUCT
—·—	DOMESTIC COLD WATER SUPPLY (DCW)		FLEXIBLE DUCT
	DOMESTIC HOT WATER SUPPLY (DHW)	<del>P</del>	THERMOSTAT
→ HB/36"	HOSE BIBB AND MOUNTING HEIGHT	<u> </u>	REFRIGERANT LIQUID
<del>—</del> wн	WALL HYDRANT	— s —	REFRIGERANT SUCTION
— D —	DRAIN LINE	AD	ACCESS DOOR
— g —	NATURAL GAS LINE	AFF	ABOVE FINISHED FLOOR
<del></del>	RISE & DROP IN PIPE WITH CUT-OFF VALVE	EA	EXHAUST AIR
<b>——</b>	REDUCER	OA	OUTSIDE AIR
<b>─</b> /─	CHECK VALVE	RA	RETURN AIR
—⋈—	STOP VALVE	SA	SUPPLY AIR
>	PLUG VALVE	VBS	VENT BELOW SLAB
<b>⊸</b> \$—	PRESSURE REDUCING VALVE	VTR	VENT THRU ROOF
<u> </u>	STRAINER		LOCKABLE GUARD
	UNION		
<b>→</b> ~—	FLEXIBLE PIPE CONNECTION		
	SYMBOLS SHOWN ABOVE REFER TO ELECTRICAL SYMBOLS LEGEND NOT APPEAR ON PLANS. SYMBOLS THAT MAY BE SHOWN ON MECH		L



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**FARMS** VIEV SUMMIT HOUSE POOL

MISSOU

SUMMIT

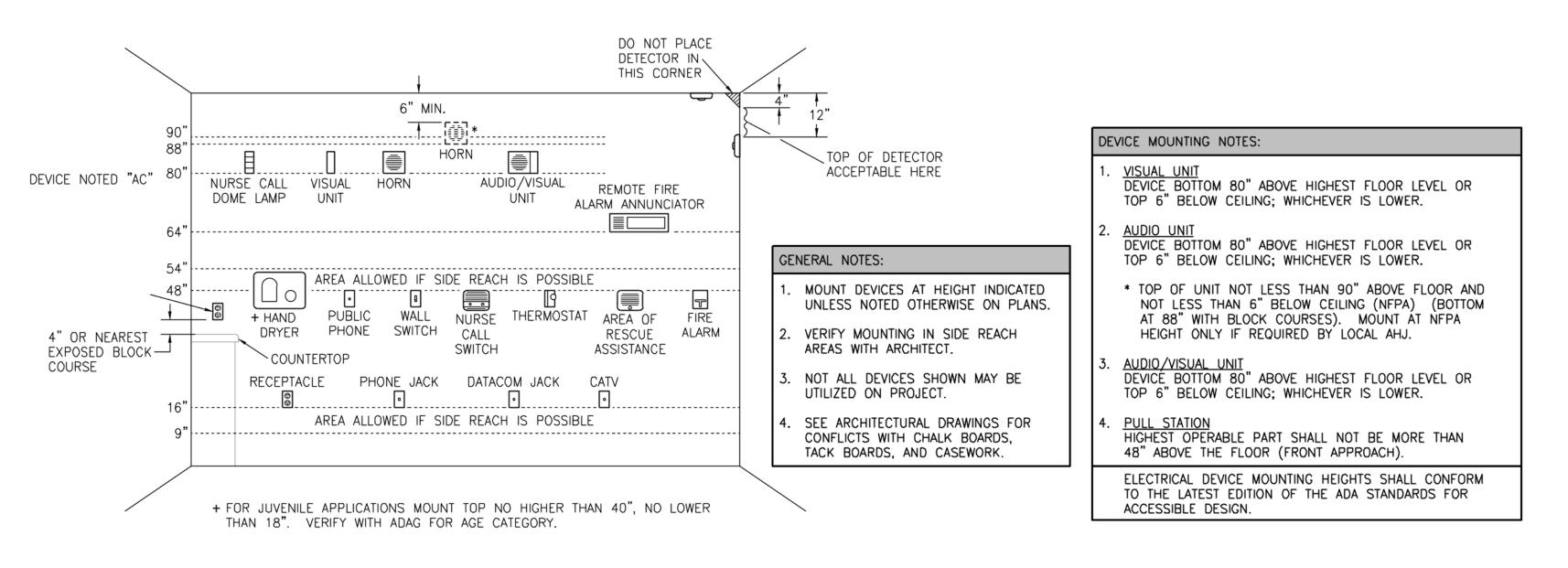
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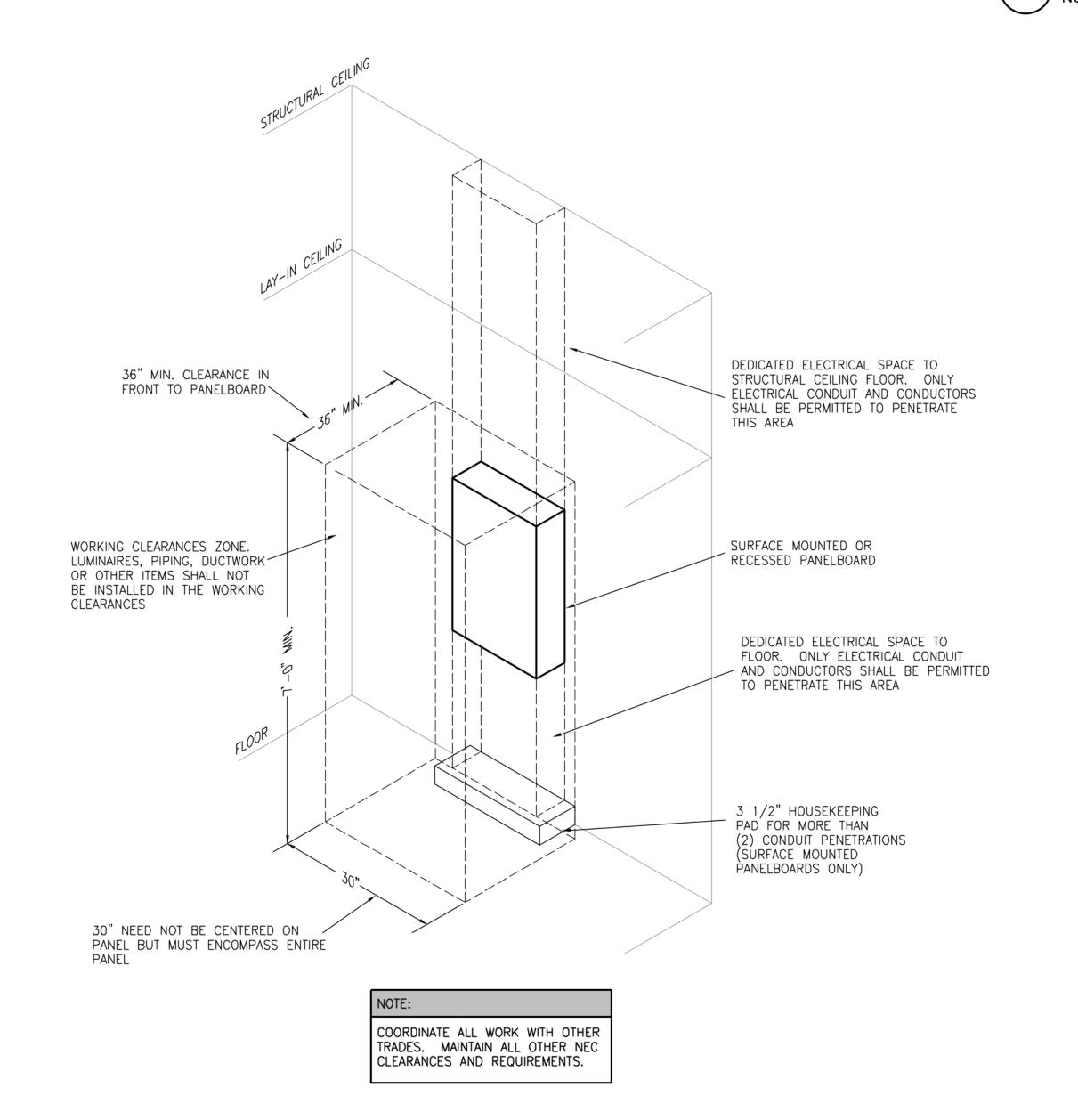
project no. | 20091 01/14/2021 revised design by RRB drawn by CAD struct. by APEX

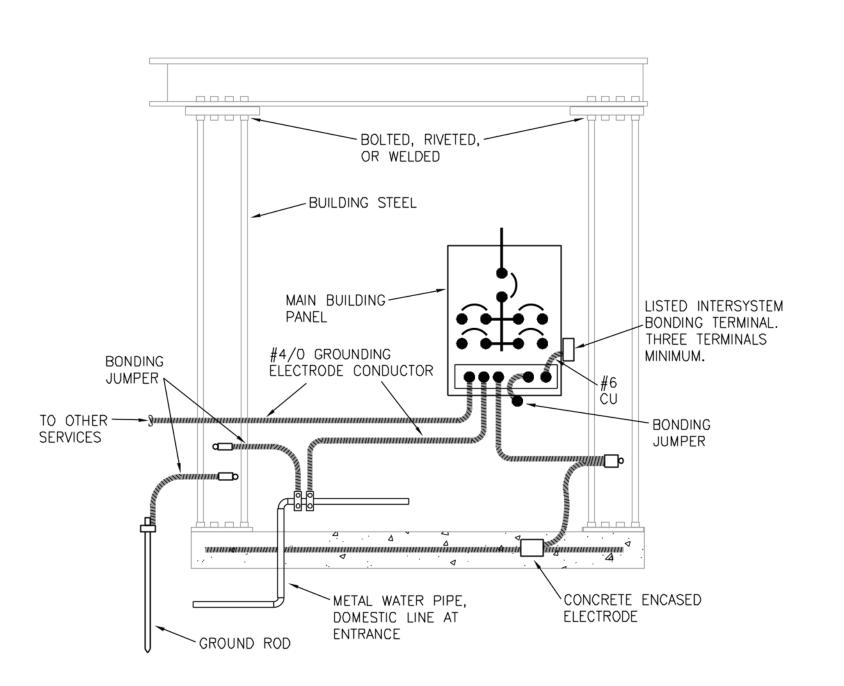
MECH./ELEC. CONSULTING ENGINEER **DETAILS** 3639 SW Summerfield Drive, Suite A

Topeka, Kansas 66614-3974 8625 College Boulevard, Suite 102 sheet no. Overland Park, Kansas 66210 Telephone: (785) 233-3232 Email: lsapa@lsapa.com LSA PROJECT NO. 2004036

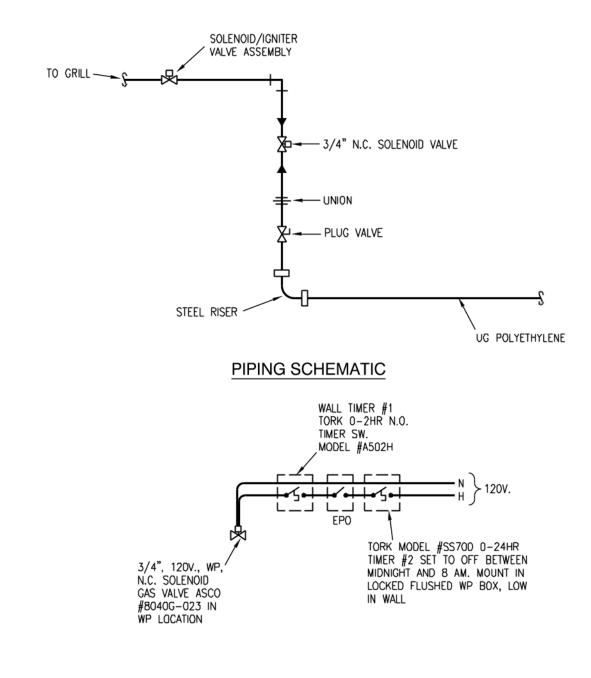


## ELECTRICAL DEVICE MOUNTING HEIGHTS





**GROUNDING ELECTRODE SYSTEM DETAIL** 



CONTROL SCHEMATIC







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**ARMS** VIEW

MISSOU SUMMIT, SUMMIT POOL HOUSE

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Weston E. Coble MO# A-2016011206

project no. 20091 01/14/2021

revised design by RRB
drawn by CAD
struct. by APEX

MECH./ELEC. **DETAILS** sheet no.

			PLUMBING FIXTURE SCI	HEDU	LE								
∕/ark	ltem	Model	Description		Individual (	Connection	•			Access	ories		
nank	item	Woder	Description	W	V	CW	HW	Supplies	Stops	Carrier		Drain	Other
<b>&gt;</b> -1	Accessible Water Closet, Tank Type	Proflo #1203WH with PFTS2000wh	Floor-mounted ADA height white vitreous china elongated bowl 1.6 gpf gravity type with Fluidmaster 400A flush mechanicsm and bolt covers. Provide solid plastic open front elongated white heavy duty seat with integral bumpers, external check hinges with stainless steel posts.	3" or 4"	2"	1/2"		2	1				3
		Proflo #PF20174BS with Peerless	20" x 17" oval vitreous china countertop lavatory with overflow. Faucet is 4" o.c. single lever ADA										
2-2	Accessible Lavatory, Countertop	#PFLL1011MBN Proflo #1201WH	handle, copper waterways, chrome finish.  Floor-mounted standard height white vitreous china elongated bowl 1.6 gpf gravity type with Fluidmaster 400A flush mechanicsm and bolt covers. Provide solid plastic open front elongated white heavy duty seat with integral bumpers, external check hinges	2"	1 1/2" or 2"	1/2"	1/2"	2, 4	1		1	1	1
P-3	Water Closet, Tank Type	with PFTS2000wh	with stainless steel posts.	3" or 4"	2"	1/2"		2	1				3
P-4	Outdoor Shower	Symmons SYM-3- 325	Self-closing single temperature metering valve with fixed head			1/2"							
D-5	Accessible Dual Height Water Cooler with Bottle Filler	Halsey Taylor #HAC8BLFSQ	ADA compliant dual bowl cooler providing 8 gph of 50 deg water at 90 deg ambient. Provide front and side push bars, lead free, mounted with 27" knee clearance and spout no more than 36" AFF. Provide bottle filler in backsplash.	2"	1 1/2" or 2"		1/2"	2	1		1		1
P-6 P-7	Eye Wash Urinal		Wall-mounted stainless steel bowl with cover, paddle valve, thermostatic mixing valve. White vitreous china wall hung with 3/4" top spud, 1.0 gallon siphon jet flushing action. Mount rim per Architectural elevation.	2"	2"	1/2"	1/2"	3		1			
Supplies	Flexible braided stainless stee     Flexible braided compression     Sloan Royal 186 1.0 gpf diaph     Provide tempering valve below	hose. Iragm type.					I						
Stops	1 - Angle handle compression												
Carrier	1 - Steel tube floor-mounted in-wa 2 - Cast iron floor mount adjustab		oset										
P-Trap	1 - PVC with deep escutcheon 2 - PVC 3 - deep seal PVC trap and 30" s	tandpipe.											
Orain	1 - Metal pop-up with tailpiece     2 - Basket strainers in finish to m     3 - Chrome drain cover.	atch faucet, tailpiece	s.										

1 - Provide trap and supply guard if exposed. 2 - Hose and bracket, mop hanger and hose rack.

4 - Provide Watts Tempering valve, max 110 Deg. F.

3 - Open front seat in public restrooms

						H	IVA	C SY	STE	EM SCH	HEDU	LE								
				AHU						OUTDOOR UNIT										
MARK	MFGR	NOM TON	MODEL	CFM	OA CFM	E.S.P.	HP	SMBH	TMBH	HEAT CAP	ELEC	FLA	OCP	MFGR	MODEL	ELEC	FLA	OCP	SEER	NOTES
AHU/CU	GOODMAN	2	ARUF25B14	750	130	0.4	0.33	16.9	23.0	6 KW	240/1	27	40	GOODMAN	GSX14-0241	240/1	8.4	15	14.0	

#### COOLING EAT = 80/67/95

	WATER HEATER SCHEDULE												
MARK	MFGR	MODEL	FUEL	VOLTAGE/PH/ AMPS	INPUT	EFFICIENCY /PF	GALLONS STORAGE	GPH RECOVERY @ 80° RISE	FLUE TYPE	EXPANSION	CIRCULATOR GPM/HD	NOTES	
WH - L1, L2	EEMAX	EMT-1	ELEC	120/1/12	1.4 KW	0.95	1.5	5	N/A				

DRAIN SCHEDULE											
MARK	APPLICATION	MFGR	MODEL	BODY MATL	DEPTH	GRATE MATL	GRATE SHAPE	ACCESSORIES			
FD-1	FLOOR	ZURN	ZN-415S	COATED CAST IRON	3"	NICKEL BRONZE	6" ROUND	1, 2			
FD-2	FLOOR	ZURN	Z-611-S	COATED CAST IRON	6"	COATED CAST IRON	9" SQUARE	1, 2, 3			

#### ACCESSORIES:

- 1 DEEP TRAP, ADJUSTABLE GRATE 2 - USE WIDE FLANGE MODEL WHERE IN WOOD CONSTRUCTION
- 3 INTERNAL STRAINER

	AIR TERMINAL DEVICE SCHEDULE											
MARK	MANUFACTURER	MODEL	FINISH	DAMPER	FRAME TYPE	NOTES						
Α	AIR MATE	A140, A190	WHITE	YES	GYP BD							
В	AIR MATE	170	WHITE	NO	GYP BD							
С	AIR MATE	240 VO	WHITE	YES	GYP BD							

		FAN SC	HEDU	JLE						
							ELEC	CTRICA	(L	
					FAN	VOLT	FL			CONFIGURATIO
MARK	MFGR	MODEL	CFM	ESP	HP	S/ PH	Α	OCP	WIRING	N - NOTES
EF - 1, 2, 3	GREENHECK	SP-A390	210-280	0.25	Fr.	120/1	3	15	(3) #12	ceiling, 1, 2
NOTES:	1-CEILING GRILLI 2-BD DAMPER, D		CONTROL	LER,	WAL	L/ROC	F C	AP		

			Luminaire Schedule - Ur	its and Buil	dings		
MARK	DESCRIPTION	MFGR	MODEL	MOUNTING	FINISH	LAMPS	NOTES
D	Exterior Sconce	Progress	P5674-31-30K	wall	black	1600 lumen 15W 3000K LED	
E	Trellis	Progress	P5641-20/30K	ceiling	bronze	1355 Lumen 29W 3000K LED	
SL1	Exterior Pole	McGraw Edison	GLEON -AF-02 LED E1 T4FT	pole	bronze	113W 12252 Lumen 4000K led	provide with 15 ft pole
SL2	Exterior Pole	McGraw Edison	GLEON-AF-01-LED-E1-SL4	pole	bronze	(2) 59W 5922 Lumen 4000K led	provide with 15 ft pole
SL3	Exterior Pole	McGraw Edison	GLEON-AF-01-LED-E1-T3	pole	bronze	59W 6235 Lumen 4000K led	provide with 15 ft pole
SL4	Bollard	McGraw Edison	BRT6-A2-740-U-T3	bollard	bronze	11W 1075 Lumen 4000K led	3 FT w/ WP-GFI receptacle

					1 / 3	(1 AL		HED	OLL		
PANEL: P			LOCATIO	N:						MOUNTING:	SURFACE
BUS: 200 A	MAINS:	MLO	VOLTAG	E	120/	/240		PHA SE/V	VIRE:	1 Ph 3 Wire	KAIC: 42
	WA	TTS			PO	LE			WA	TTS	
DESCRIPTION	А	В	BRKR	WIRE			WRE	BRKR	A	В	DESCRIPTION
POOL PUMP	2200		30	10	1	2	12	20	1500		WH-L1
5 HP - VERIFY		2200	2P	10	3	4	12	20		800	RECEPTACLES
POOL PUMP	1300		20	12	5	6	12	20	1000		LTS/RECEPTS
3 HP - VERIFY		1300	2P	12	7	8	12	20		600	LTS/RECEPTS
AHU	3200		40	8	9	10	12	20	200		POOL HEATER
		3200	2P	8	11	12	12	20		1500	WH-L2
CU	1000		20	12	13	14	12	20	600		RECEPTACLES
		1000	2P	12	15	16	12	20		200	LIGHTING
COOKING STATION	600		20	12	17	18	10	20	1000		LIGHTING
LIGHTING		700	20	10	19	20					SPACE
SPARE			20		21	22					SPACE
SPARE			2P		23	24					SPACE
SPARE			20		25	26					SPACE
SPARE			20		27	28					SPACE
SPARE			20		29	30					SPACE
CONNECTED LOAD-WATTS	12600	11500			FE	EEDE	RLOAD-\	WATTS			
CONNECTED LOAD-AMPS	105	96			F	EEDE	R LOAD	-AMPS			
CONTINUOUS LOAD						FE	EDER WI	RE			
RECEPTACLES						FE	EDER O	CP			200 A
NON-CONTINUOUS LOAD											
OTHER DIVERSIFIED LOAD			@	0							

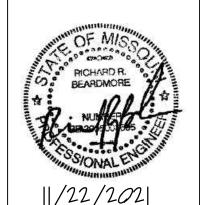


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**FARMS** 

VIEW

MISSOU SUMMIT POOL HOUSE LEE'S SUMMIT, I

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2 CITY REVIEW 11-22-21

Weston E. Coble Architect KS# 6705

MO# A-2016011206

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MECH./ELEC. **SCHEDULES** 

sheet no.