

Thursday, April 13, 2023

5:30PM

Zoom Video Conference

Members present: Melina Stewart (Chair), Mark Burenheide, Dave Frederick, David Heit, Donna Rae Pearson Grant Sourk, Christine Steinkuehler, Cassandra Taylor (8)

Members Absent:

Staff Present:Dan Warner, Planning Director; William Sharp, Planner, Rhiannon Friedman, Interim
Planning & Development Director

Roll Call – Chairwoman Melina Stewart called the meeting to order with 7 members present for a quorum.

Approval of Minutes from March 9, 2023 – Motion by Commissioner Pearson; Second by Commissioner Stewart. APPROVED (8-0-0)

Declaration of conflict of interest/ex parte communications – Commissioner Buernheide declared that he had a potential conflict with the Potwin Presbyterian Church, and will be abstaining from the vote.

HL23/01 by Potwin Lofts LLC, requesting to amend the District Zoning Map on approximately 0.39 acres of property located at 400 SW Washburn Ave by adding the "HL" Historic Landmark Overlay District designation to property currently zoned "PUD" Planned Unit Development with X-1 Mixed Use District and M-2 Multiple Family Dwelling District for designation as a local landmark.

Staff:

William Sharp presented the staff report and staff's recommendation for approval.

Owner's Representative:

Commissioner Buernheide stated that research has taken place to locate the artist for the stain glass windows, and unfortunately no one is able to find that information. At some point in the future, the windows will need to be replaced.

Questions/Comments from Commissioners:

Commissioner Pearson inquired why this landmark was not going after "state or national" titles. Commissioner Buernheide stated that the goal is to eventually go after those in the future.

Commissioner Pearson asked for clarification about a landmark, and whether or not it was approved at the national level, if all "titles" below it would automatically be approved as well. Mr. Sharp stated that was not true. Mr. Warner clarified even further that state/national laws do not trickle down to the local level, if a landmark is to be categorized in all 3 categories then, a process has to be followed for each one.

Commissioner Heit asked for clarification from Commissioner Buernheide as to whether or not he owned both the church and the east education center. Commissioner Buernheide confirmed that he owned the entire land. Commissioner Heit also asked for clarification on what was being turned into the proposed lofts, and Commissioner Buernheide confirmed that it was just the east education center.

Motion by Commissioner Heit, second by Commissioner Sourk: Concur with staff's recommendation that the property located at 400 SW Washburn Ave, Potwin Presbyterian Church be designated as a local landmark. Approved 7-0-1 (Mr. Burenheide abstained).

Other Non - Action Items

NRHP Nominations for the Kirkpatrick, Hazen L. House (1320 Pembroke Lane)-Ordinance No. 18420 Mr. Sharp is just seeking comments to pass along for national consideration.

Update on African American Historic Resources Survey/MDPF Mr. Sharp provided updates on the report.

Design Review Committee

Current Members: Melina Stewart, Donna Rae Pearson, Cassandra Taylor Mr. Frederick volunteered to serve as the backup committee member.

With nothing more on the agenda, the meeting adjourned at 6:01pm.



Thursday, June 8, 2023 5:30 P.M.

Zoom Video Conference

MEMBERS OF THE LANDMARKS COMMISSION

Melina Stewart (2023 Chair) Dave Frederick (2023 Vice Chair) Donna Rae Pearson Mark Burenheide David Heit Grant Sourk Christine Steinkuehler Cassandra Taylor

- The Topeka Landmarks Commission holds a public meeting on the 2nd Thursday of each month.
- The following agenda identifies and describes each proposal to be considered by the Commission.
- Each item to be considered by the Commission will be introduced by the Planning Division Staff. The Commission will then hear and consider arguments both for and against each proposal.
- Individuals wishing to address the Commission are requested to state their name and address for the official record.
- Motions on all matters which require a decision by the Commission, are made in the affirmative. On a roll call vote, Commission members then vote yes, no, or abstain based on the affirmative motion.
- The owner of the local historic landmark or property owner within the local historic district may appeal the Commission's decision to the City Council by submitting a notice of appeal to the Planning Director within 10 calendar days of the decision.



ADA Notice: For special accommodations for this event, please contact the Planning Division at 785-368-3728 at least three working days in advance.



Agenda for Thursday June 8, 2023

- A. Call to Order
- B. Approval of Minutes from April 13, 2023
- C. Announcement of Potential Conflicts
- D. Action Items
 - CLGR23/06 by AIM Strategies LLC, requesting a review under Kansas State Preservation Law Review [K.S.A. 75-2724] for the remodeling of the exterior and interior 1st floor of the building located at 913 S. Kansas Avenue. This building is designated as a contributor to the historic integrity of the South Kansas Avenue Commercial Historic District.
- E. Other Items
- F. Adjournment



CERTIFIED LOCAL GOVERNMENT KANSAS HISTORIC PRESERVATION LAW PROJECT REVIEW REPORT TOPEKA LANDMARKS COMMISSION

CASE NO: CLGR23/06	by: Aim Strategies, Inc.											
Project Address: 913 S Kansas Avenue												
Property Classification: Designated as a <i>Contributing Property</i> to the historic integrity of the												
South Kansas Avenue Commercial Historic District.												
Standards: Secretary of the Interior's Standards for Rehabilita	tion; Downtown Topeka Design											
Guidelines												
Attachments: Site Plan [] Elevations [X] Arch./	Const. Plans [X] Pictures [X]											

PROPOSAL:

This proposal is to accommodate the remodeling for the exterior and interior of the building located at 913 S Kansas Avenue. The outer entrance will be converted to a vestibule/ lounge area for the building. Interior renovations are only expected to take place on the first floor. First floor renovations will consist of a new area for a lobby and cigar shop, a men's store, and an area for six barber stations located in the back of the building.



BACKGROUND:

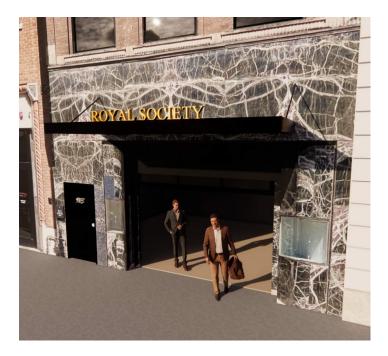
This building dates to 1910. The building is listed as a contributing structure to the historic integrity of the surrounding South Kansas Avenue Commercial Historic District in 2015. The property was listed having good integrity as a specialty store having had several different businesses occupy the structure.

In 2017, the building went through renovations on the first and second floors for the removal and partial replacement of the front façade (CLGR17/03). The removal of the façade was successful and the original materials and window openings on the second level of the façade are now visible. The lower storefront is currently encased in marble panels that have been specifically installed in a bookend pattern that reflects the mirrored "grains" of the marble within each panel. This storefront was installed during the 1950s, and is of very high quality design and craftsmanship.

PROJECT DETAILS:

The project involves changes to the interior and exterior on the 1st floor. The entrance will be an open vestibule/lounge area for customers. The previous storefront system consisting of the frame, glass, walls and associated doors will be removed. A new overhead gate door will be installed in the prior location of the entrance. The outer display cases will remain intact, along with the marble finishing along the first level façade. The inner display cases just past the entrance will be removed as part of the renovation to the future lobby and vestibule.

The project will also include a lobby and cigar shop, men's shop, and an area for six barber stations.



REVIEW SUMMARY: The Kansas State Historic Preservation Office requires that all projects occurring on any property listed on the Register of Historic Kansas Places be reviewed for their affect on the listed property and the surrounding district. State law (K.S.A. 75-2724) establishes that the Secretary of the Interior's Standards for Rehabilitation be used to evaluate changes proposed to any property that is individually listed, or is located within an historic district. The following is an analysis of the application of each Standard to the proposed project.

Standard 1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

Analysis: No change in use is proposed in conjunction with this proposal.

Standard 2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

- Analysis: No features within the existing 1st-level interior are original to the building. Based upon available historical documentation, it is estimated that the current interior treatment was installed during the late 1950s or early 1960s. The features within the existing finish treatments are extremely high quality, and have been coordinated to appear in precisely the same manner as they are today. The storefront will keep its characteristic recessed entry and the outer display windows will remain in place. Per the Downtown Topeka Historic District Design Guidelines regarding entrances, "Preserve the historic entrance configurations and materials of historic storefronts from all periods." The proposed alterations will keep with this standard. The removal and replacement of the aluminum and glass doors currently at the location will not have an effect on the historic character of the storefront. The alteration will also follow the recommendations set out in the Design Guidelines such as that the entrance will retain its historic vestibule.
- Standard 3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
- Analysis: Construction of this building will not introduce features that will create a false sense of historic development. No historic features or elements from other buildings will be added.
- Standard 4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
- **Analysis:** Although not original, the interior finish of the 1st-level interior of this building can be deemed to have acquired historic significance in its own right. The current proposal maintains the majority of these treatments within their intended and present configuration, thus preserving this interior's acquired historic integrity.
- Standard 5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
- Analysis: No distinctive features, finished, or construction techniques will be removed or altered in conjunction with this project.
- Standard 6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

Analysis: N/A

Standard 7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

Analysis: N/A

Standard 8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

Analysis: N/A

- Standard 9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
- Analysis: This Standard applies only if it pertains to new construction. The building, as proposed, would be differentiated in its design and appearance from its surrounding historic character, yet would also be compatible and complimentary in its size and scale, materials, and architectural features to the surrounding District.
- Standard 10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

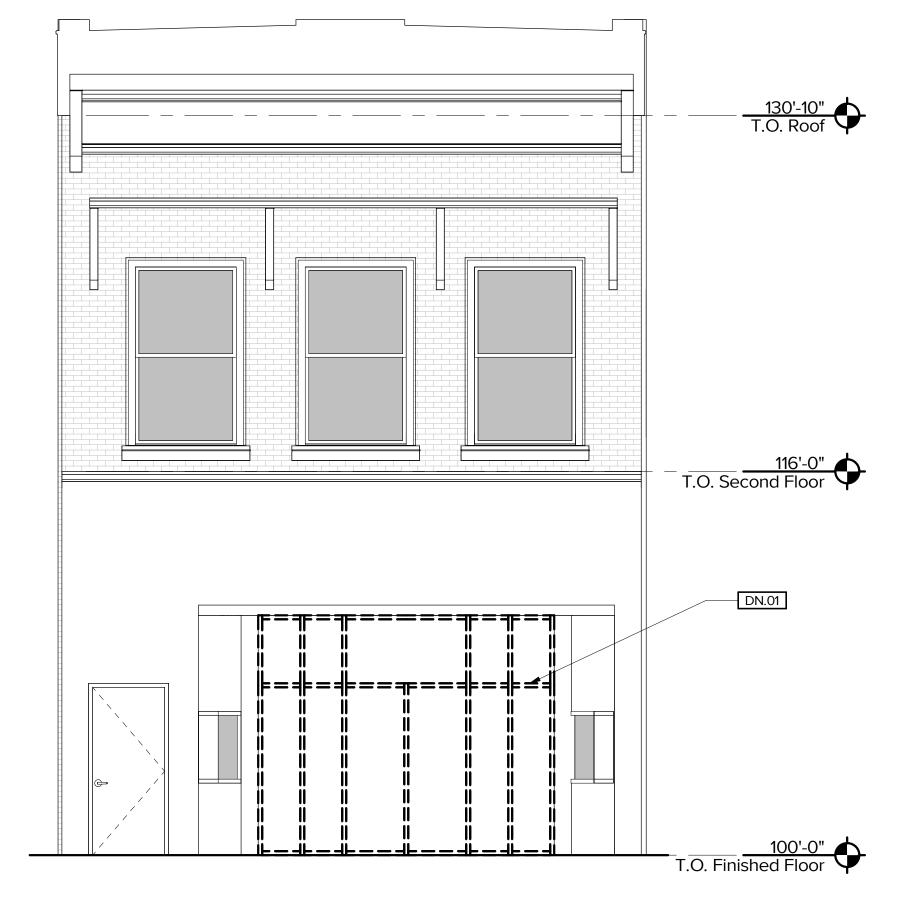
Analysis: N/A

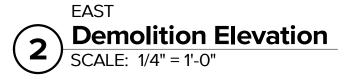
STAFF RECOMMENDATION: In the performance of this review under KSA 75-2724, Staff is recommending a finding that the proposed interior and exterior alterations to the building at 913 S Kansas Avenue IS CONSISTENT with the recommendations outlined in the Downtown Topeka Design Guidelines, and will NOT damage or destroy the historical integrity of the structure, or the surrounding South Kansas Avenue Commercial Historic District.

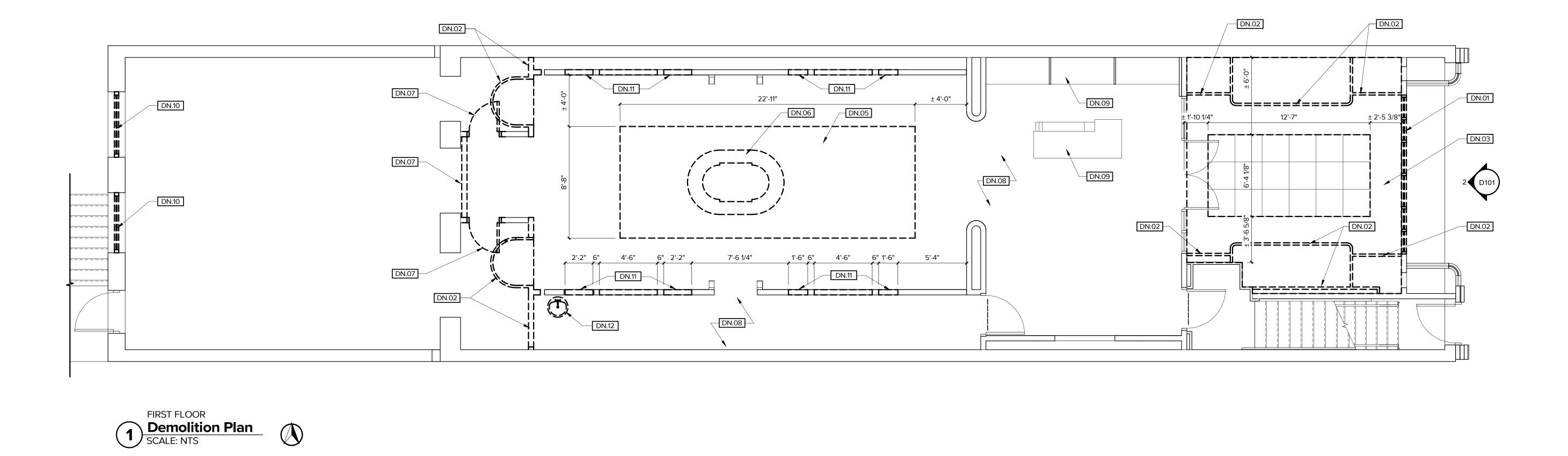
Prepared by: William Sharp, Planner I

<u>APPEAL TO THE GOVERNING BODY</u>: If the Landmarks Commission determines that the proposed treatment will damage or destroy the historic integrity of the property and/or the surrounding historic district, the applicant may appeal to the governing body. It will be incumbent upon the governing body to make a determination, after consideration of all relevant factors, that: (1) there are no feasible and prudent alternatives to the removal of the facade; and (2) that alternatives to the project include all possible planning to minimize harm to the property and the district that may result from those alternatives.

/31/2023 6:07:23 |







VI 360://23-031 913 S Kansas Ave - First Floor Remodel/23-031 913 S Kansas Ave Barber Sho

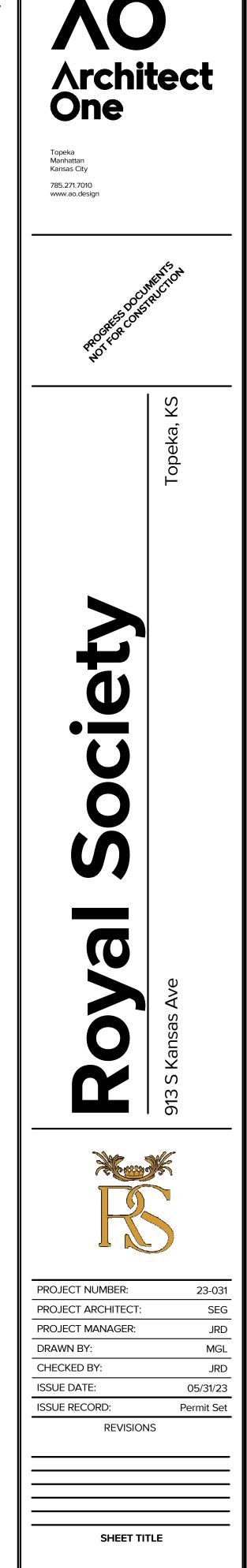
Demolition Keynotes DN.01 REMOVE STOREFRONT SYSTEM (FRAME, GLASS, WALLS & ASSOCIATED DOORS) IN ENTIRETY DN.02 REMOVE INTERIOR PARTITION WALL IN ENTIRETY

DN.01	REMOVE STOREFRONT SYSTEM
	ASSOCIATED DOORS) IN ENTIR
DN.02	REMOVE INTERIOR PARTITION V
DN.03	REMOVE PORTION OF EXISTING
DN.05	REMOVE PORTION OF EXISTING AREA FOR NEW FLOORING SYS
DN.06	REMOVE MECHANICAL EQUIPM RELOCATE
DN.07	REMOVE DOOR AND FRAME IN
DN.08	CLEAN, SAND AND RE-STAIN TH APPLY CLEAR PROTECTIVE CO
DN.09	EXISTING CASEWORK TO PRESI
DN.10	REMOVE WINDOW SYTEM AND WINDOW
DN.11	REMOVE PORTION OF EXISTING PREP. AREA FOR PRODUCTS DI
DN.12	REMOVE EXISTING HAND SINK

- NG FLOOR TILES AND PREP. AREA
- 'STEM 'MENT AND SALVAGE FOR
- N ENTIRETY THE EXISTING WOOD FLOOR.
- OAT OVER STAIN. SERVE AND REMAIN D PREPARE OPENING FOR NEW
- NG WOOD WALL FINISH AND DISPLAY

General Demolition Notes

- 1. REMOVE ALL WALLS, CEILINGS, DOORS, FRAMES, ETC. INDICATED AND SALVAGE MATERIALS FOR REUSE TO THE EXTENT PRACTICAL.
- REMOVE ALL EXISTING CARPET, VINYL, AND BASE IN ROOMS INDICATED TO BE DEMOLISHED AND ON PLANS AND SCHEDULES. REMOVE OLD ADHESIVE - OR PROVIDE NEW FLOOR STONE - TO PROVIDE SMOOTH, CLEAN SURFACE SUITABLE FOR INSTALLATION OF NEW FLOOR FINISHES. DO NOT REMOVE OR DISTURB EXIST ASBESTOS TILE
 REMOVE AND SALVAGE ALL DOORS AND FRAMES - STORE ON
- REMOVE AND SALVAGE ALL DOORS AND FRAMES STORE ON SITE WHERE APPROVED BY OWNER.
 SALVAGE ALL LIGHTS AND MECHANICAL DIFFUSERS FOR
- POSSIBLE REUSE REFERENCE MECHANICAL PLANS FOR ADDITIONAL INFORMATION.5. REMOVE AND CAP ALL WATER, WASTE, GAS, ELECTRICAL
- CONDUIT, AND ANY OTHER LINES NO LONGER TO BE USED TO 1" BELOW TOP OF CONCRETE SLAB. TERMINATE ANY ROOF PENETRATION LINES 6" BELOW ROOF DECK - DO NOT REMOVE ANY EXISTING, OR CREATE ANY NEW ROOF PENETRATIONS AS PART OF THE DEMOLITION WORK.
- 6. STRIP ANY VINYL WALL FABRIC NOT COMPLETELY COVERING AN EXISTING WALL FACE TO REMAIN TO THE NEXT 90 DEGREE WALL CORNER.
- 7. PROVIDE 6 MIL. PLASTIC ON 2X4 16" O.C. DUST PARTITION TO UNDERSIDE OF ROOF STRUCTURE OR CEILING TO REMAIN AS APPROPRIATE TO PROTECT AND ISOLATE ALL ADJACENT AREAS FROM DUST AND DEMOLITION DEBRIS. RELOCATE OR PROVIDE ADDITIONAL DUST PARTITIONS AS REQUIRED TO ACCOMMODATE ALL PHASES OF THE DEMOLITION WORK. PROVIDE PLASTIC COVERS OVER ALL RETURN AIR DUCTS WITHIN AREA OF DEMOLITION AND REPLACE FURNACE FILTERS AS NEEDED DURING THE COURSE OF DEMOLITION.
- AT THE END OF WORK EACH DAY, DEMOLITION CONTRACTOR IS TO CLEAN UP ALL DEBRIS, MATERIALS, OR OTHER DISTURBED CONDITIONS IN THE COMMON OR PUBLIC USE AREAS WHICH ARE A RESULT OF THE DEMOLITION WORK. LOCATION OF ON SITE DUMPSTER, AND REMOVAL OF ALL DEMOLITION MATERIAL TO BE AT TIMES AND THROUGH MEANS AS APPROVED BY OWNER.
- DEMOLITION CONTRACTOR IS REQUIRED TO VISIT THE LOCATION OF THE WORK AND BECOME FAMILIAR WITH THE PARAMETERS, CONDITIONS, AND CONSTRAINTS UNDER WHICH THE WORK IS TO BE EXECUTED SUCH THAT THERE ARE NO QUESTIONS IN THEIR MIND REGARDING THE SCOPE OF THE WORK REQUIRED TO COMPLETE ALL WORK INDICATED ON THE PLANS OR REQUIRED TO COMPLETELY REMOVE ALL MATERIAL REQUIRED TO FACILITATE THE NEW WORK AS PER THE PLANS.



Demolition Floor Plan & Elevation

CODE NAME

SHEET NUMBER

D101











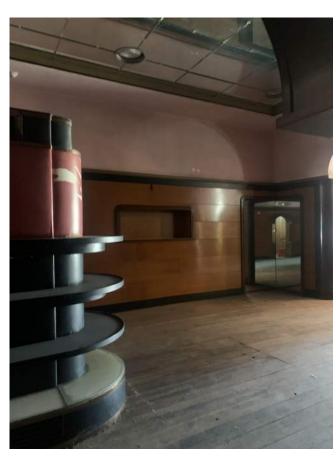
NORTH-EAST CORNER 15 Future Vestibule







SOUTH-WEST CORNER (2) Future Barber Shop

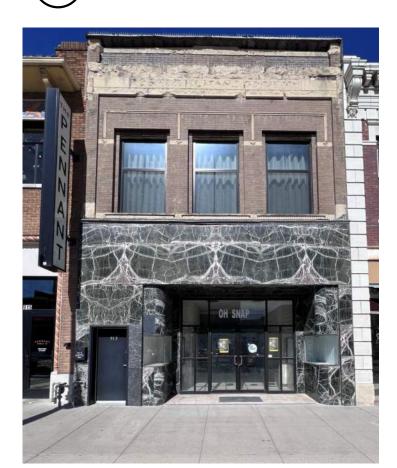






NORTH-WEST CORNER

16
Future Vestibule







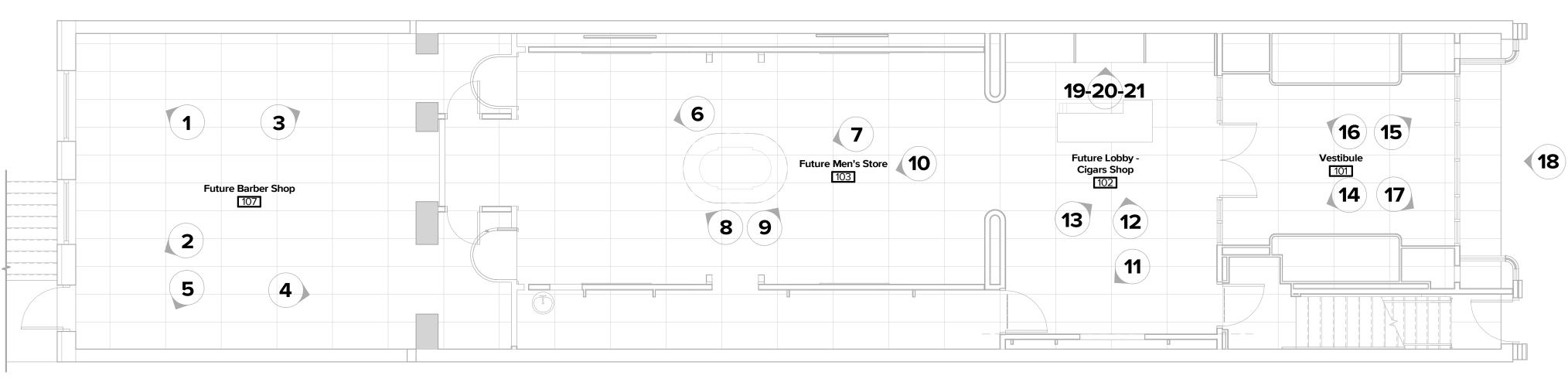












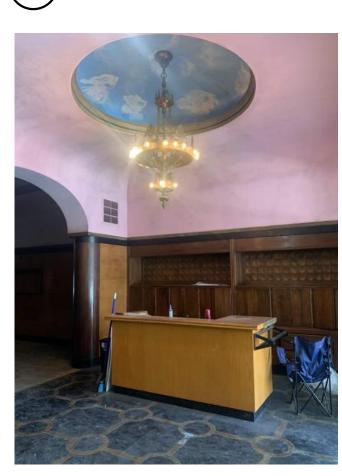




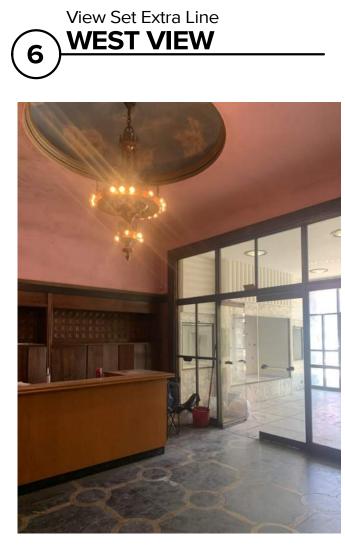
SOUTH-EAST CORNER 4 Future Barber Shop



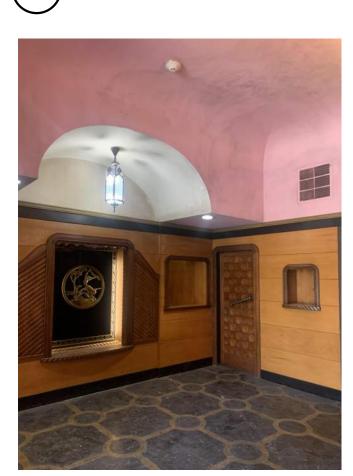
FIRE & ELECTRICAL PANELS 5 Future Barber Shop







(13) Future Lobby & Cigars



SOUTH-WEST CORNER



COUNTER / NORTH-WEST CORNER

12 Future Lobby & Cigars





COUNTER/ NORTH-EAST CORNER



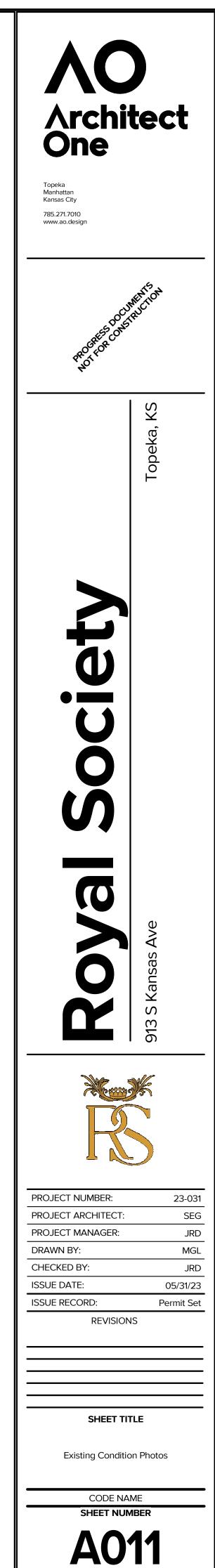
EXISTING AIR EQUIP./ NORTH WALL 7 Future Men's Store

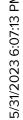


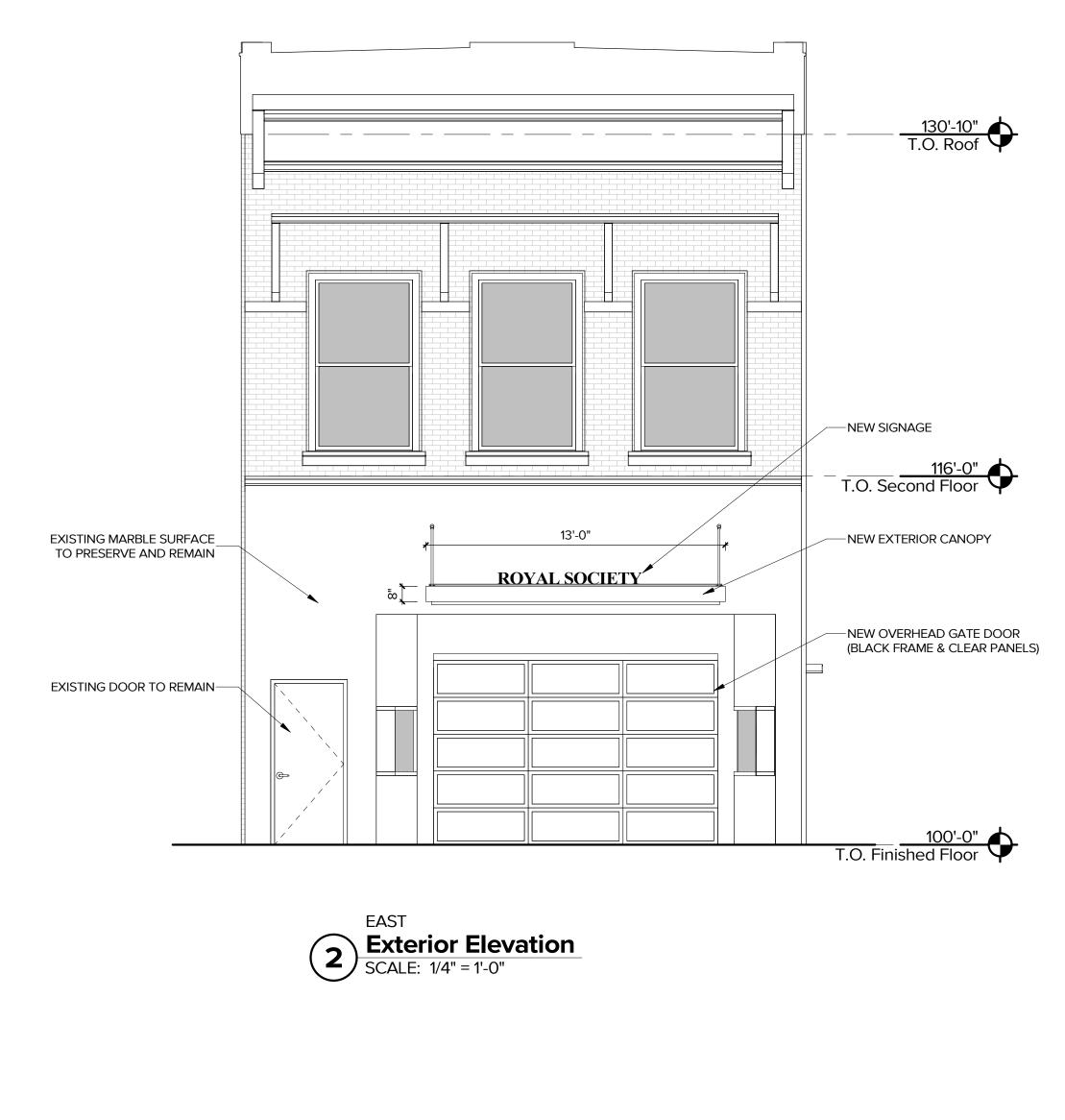
SOUTH-WEST CORNER 14 Future Vestibule

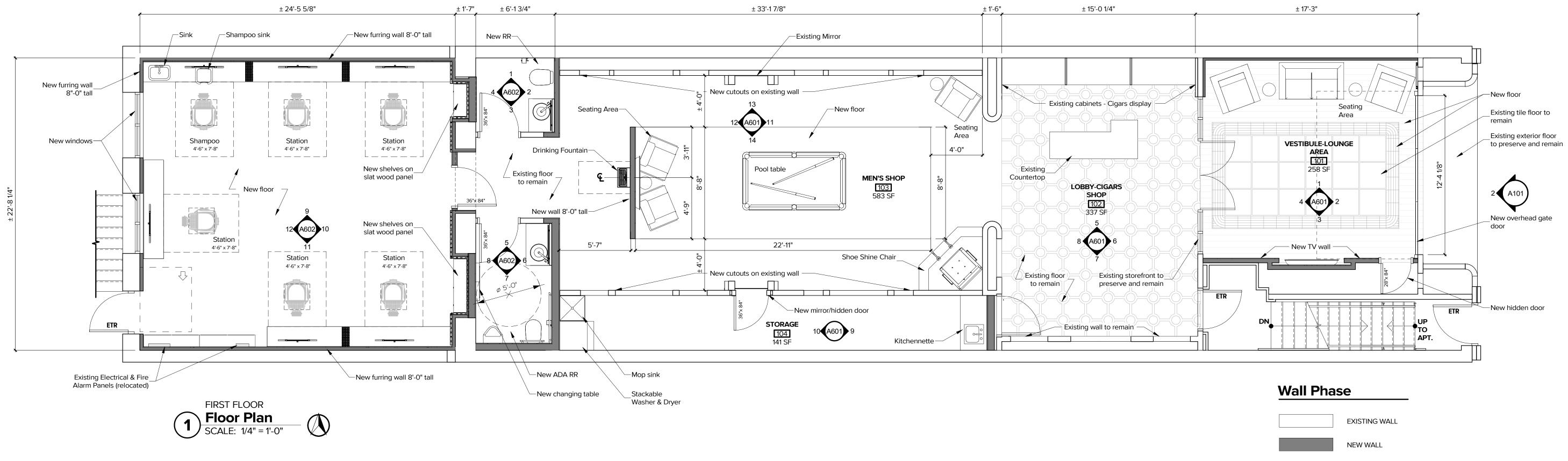


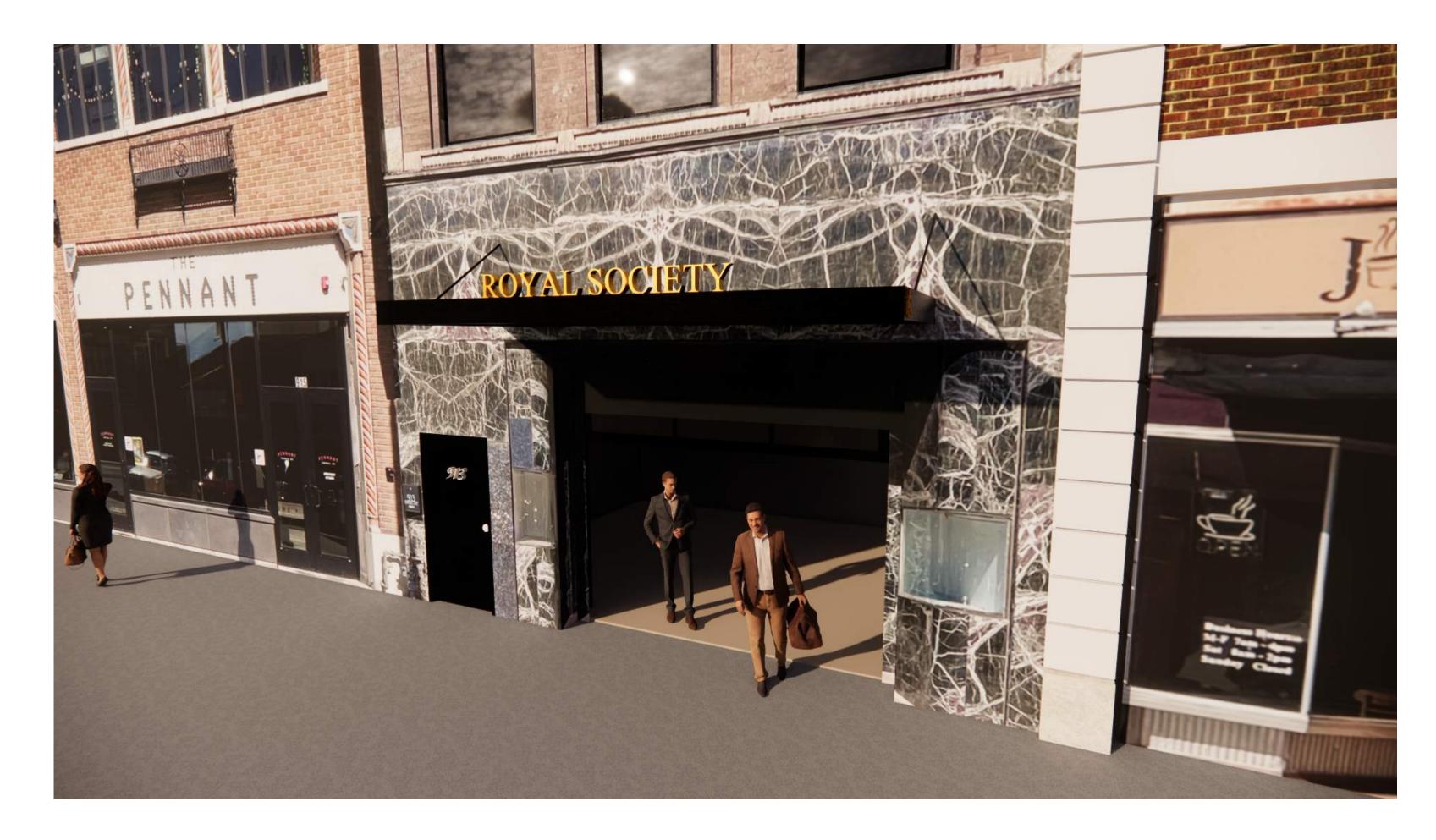




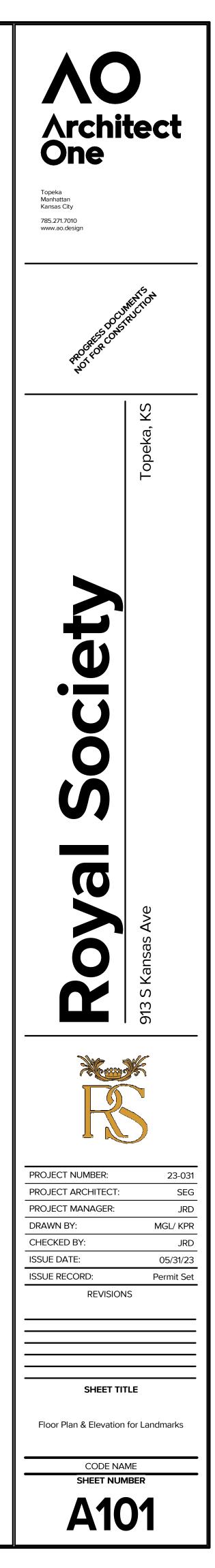


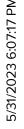


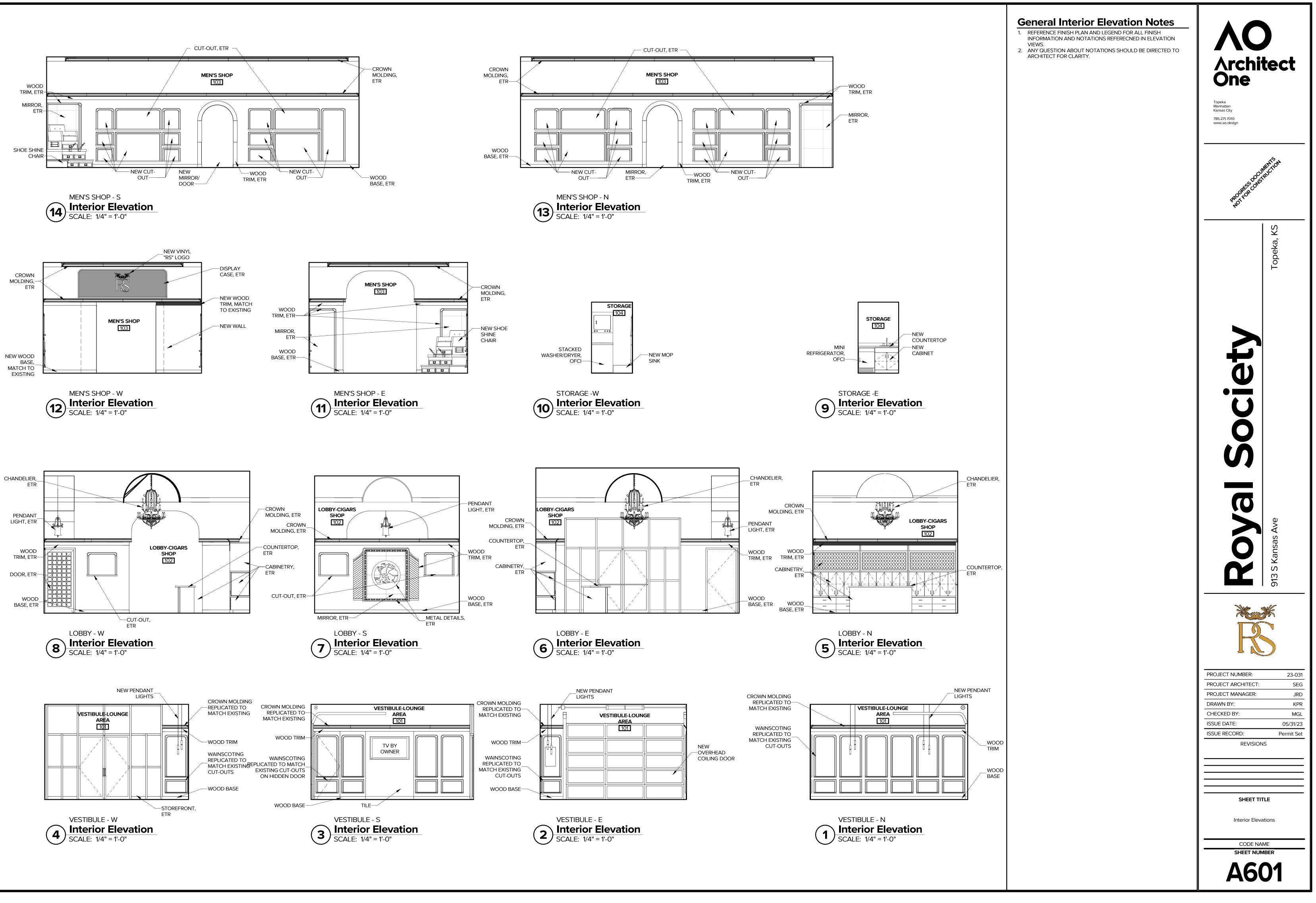




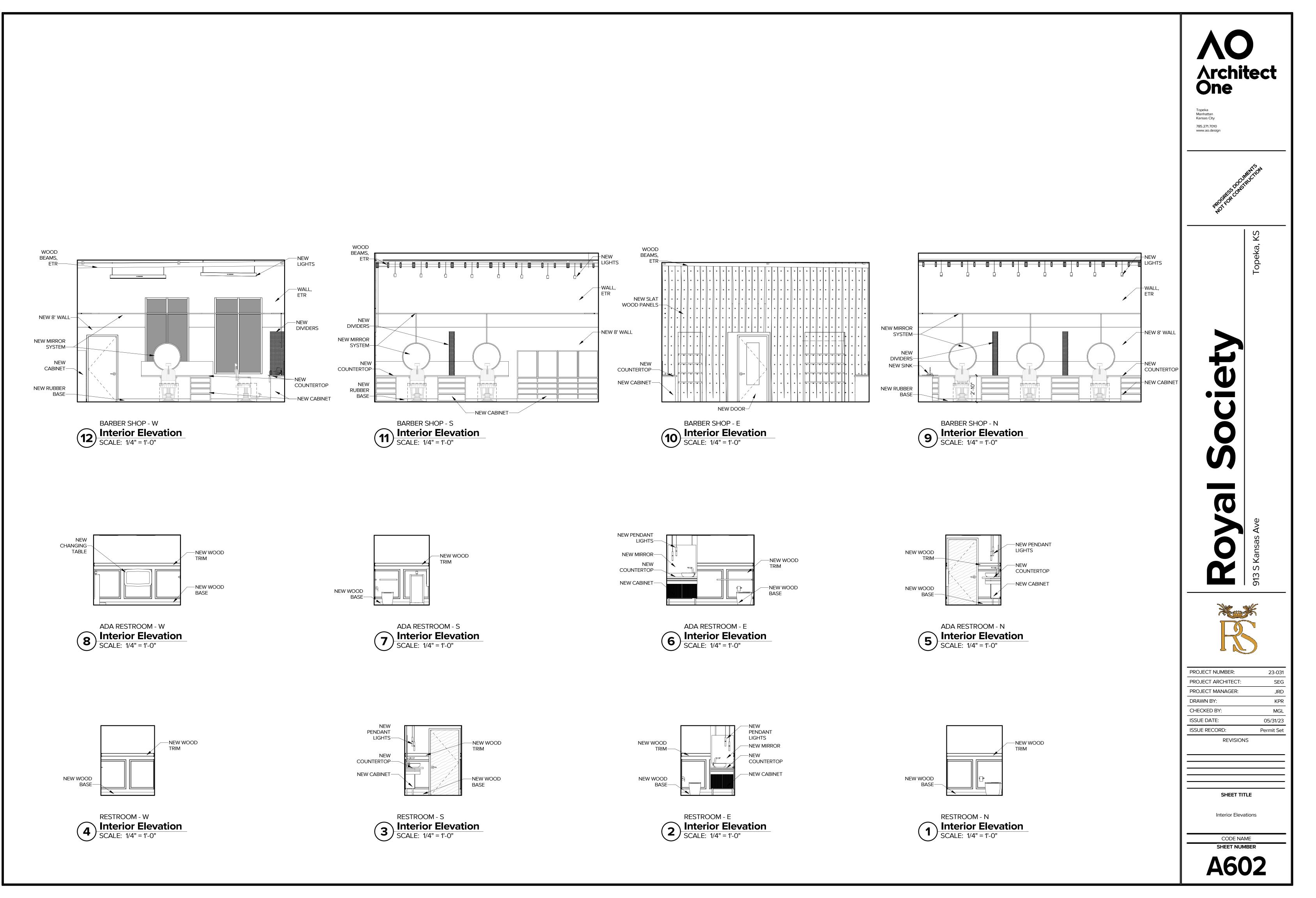
Exterior Facade Rendering











MECHA		CAMDO			
	NICAL AND PLUMBING	STINDU	LLEGEND		
SHEET METAL		MECHANICAL PI	PING	PIPING SYMBOL	S
	HIGH EFFICIENCY ROUND DUCT TAKEOFF	RL	REFRIGERANT LIQUID		SHUTOFF VALVE
	(WITH & WITHOUT MANUAL DAMPER)		REFRIGERANT SUCTION	——————————————————————————————————————	SHUTOFF VALVE IN RISER
	SPIN–IN ROUND DUCT TAKEOFF (WITH & WITHOUT MANUAL DAMPER)		DRAIN (CONDENSATE) - COMPRESSED AIR		BALANCING VALVE PLUG VALVE
			CHILLED WATER SUPPLY	_ i	AUTO FLOW CONTROL VALVE
╽╴└┸	CONICAL BELLMOUTH ROUND TAKEOFF	CWR	CHILLED WATER RETURN	—ю	PIPING ELBOW UP
	ROUND DUCT RUNOUT WITH FLEX DUCT	•	CHILLED/HOT WATER SUPPLY		PIPING ELBOW DOWN
		•	CHILLED/HOT WATER RETURN HOT WATER SUPPLY		PIPING TEE
	DUCTWORK ELBOW (WITH & WITHOUT TURNING VANES)		HOT WATER RETURN	-+' i0i	PIPING ELBOW PIPING TEE UP
	FD:FIRE DAMPER FS:FIRE/SMOKE DAMPER		COOLING TOWER SUPPLY		PIPING TEE DOWN
	SD:SMOKE DAMPER BD:BACKDRAFT DAMPER (GRAVITY)		COOLING TOWER RETURN		INCREASER / REDUCER
	AUTOMATIC MOTORIZED DAMPER		· STEAM (ANY #'S DENOTE PRESSURE) · CONDENSATE RETURN (#'S DENOTE PRESSURE)		UNION CAP
	SUPPLY DIFFUSER AND DIFFUSER CALLOUT		REFRIGERANT VENT	, ,	PIPE FLEX
	(NECK SIZE, TYPE AND CFM)		RUPTURE DISK	— , —	STRAINER
	LINEAR/SLOT DIFFUSER				CHECK VALVE
	RETURN GRILLE OR EXHAUST REGISTER	PLUMBING PIPIN	—	-+∏+	INLINE STRAINER
▲	SUPPLY AIR FLOW INDICATOR		DOMESTIC COLD WATER DOMESTIC HOT WATER		TEST PLUG GUIDE
	RETURN AND EXHAUST AIR FLOW INDICATOR		RECIRCULATING DOMESTIC HOT WATER		ANCHOR
	THERMOSTAT TEMPERATURE SENSOR	SAN		- <u></u>	TRIPLE DUTY VALVE
⊢⊕ ⊬®	HUMIDISTAT		WASTE BELOW GRADE OR FLOOR	_₹_	AUTOMATIC 2-WAY CONTROL VALVE
	CONTROL WIRING		STORM ABOVE GRADE OR FLOOR STORM BELOW GRADE OR FLOOR	x x\$	
			STORM BELOW GRADE OR FLOOR STORM OVERFLOW ABOVE GRADE OR FLOOR	۲۲۲ ۱۹۵	AUTOMATIC 3-WAY CONTROL VALVE
MEDICAL GAS		,	STORM OVERFLOW BELOW GRADE OR FLOOR	び	SOLENOID VALVE
	MEDICAL VACUUM PIPING OXYGEN PIPING	— v —	PLUMBING VENT	PIPING SPECIAL	TIES
NO	NITROUS OXIDE PIPING	—— <i>w</i> ——	WATER SERVICE	φφ	
— SA —	MEDICAL COMPRESSED AIR PIPING		GAS (NATURAL) - FROM SUMP PUMP DISCHARGE		PRESS/ TEMP GAUGE WITH COCK
— N —	NITROGEN PIPING		- COMPRESSED AIR	Q	THERMOMETER.
 v	CARBON DIOXIDE PIPING VACUUM VENT PIPING	LP	PROPANE	—ı⊤ı— HI ▶ LOW	
	WASTE ANESTHETIC GAS DISPOSAL PIPING		SOFT DOMESTIC COLD WATER	——————————————————————————————————————	PRESSURE REDUCING VALVE
GV	MEDICAL GAS VENT PIPING		SOFT DOMESTIC HOT WATER	-22	
⊢x	MEDICAL GAS OUTLET W/ DESIGNATION (RE: BELOW)	SRW ACID	SOFT RECIRCULATING HOT WATER	۲ ۲	RELIEF VALVE
	O OXYGEN		ACID WASTE VENT	U . T .	WATER HAMMER ARRESTER
	N NITROGEN NO NITROUS OXIDE	NP	NON-POTABLE		
	WAGD WASTE ANESTHETIC GAS DISPOSAL		DEIONIZED WATER	PLUMBING FIXT	URES/EQUIPMENT
	CO CARBON DIOXIDE	R0	REVERSE OSMOSIS WATER		HOSE BIBB
	MV MEDICAL VACUUM	FIRE SPRINKLEF	3	— ⊏ •WH	WALL HYDRANT
	SA SURGICAL AIR S MEDICAL SLIDE	—— F ——	FIRE PROTECTION PIPING		CLEAN OUT
		——————————————————————————————————————	SPRINKLER HEAD	RPZ DCBP	REDUCED PRESSURE BACKFLOW PREVENTER DOUBLE CHECK BACKFLOW PREVENTER
GENERAL SYME	BOLS		SIDEWALL SPRINKLER HEAD FIRE PROTECTION SIAMESE CONNECTION		
	INDICATES CONNECT TO EXISTING	¦⊗	POST INDICATOR VALVE	$\bigcup_{WC-1} \bigcirc_{S-1}$	PLUMBING FIXTURE AND CALLOUT
$\check{\Phi}$	INDICATES ELEVATION	U		₿] <u>FD-1</u>	FD: FLOOR DRAIN, AD: AREA DRAIN, FS: FLOOR SINK
$\downarrow \qquad \qquad$				(Ô) <u>RD-1</u>	RD: ROOF DRAIN
					ORD: OVERFLOW ROOF DRAIN
ELECT	RICAL SYMBOL LEGENE				
SOME SYMBOLS AI	ND ABBREVIATIONS ON THIS LEGEND MAY NOT BE USED				
		POWER DEVICE	<u>s</u>	FIRE ALARM	
	HOME RUN (2#12 1#12G UNO)	¢	DUPLEX RECEPTACLE.	F	MANUAL PULL STATION
	INDICATES 2 PHASE, 1 N, & 1 GRD CONDUCTOR	\$	LINE THRU DEVICE INDICATES ABOVE COUNTER	\overline{O}	CEILING SMOKE DETECTOR
	HOME RUN: INDICATES SHARED CIRCUIT		SPECIAL DUPLEX RECEPTACLE	\overbrace{D}	DUCT SMOKE DETECTOR
	HOME RUN: INDICATES #10 CONDUCTORS ENTIRELY	ĞFI	(GFCI, ISOLATED GROUND, ETC.)	$\langle H \rangle$	HEAT DETECTOR
			QUADPLEX RECEPTACLE	<u>\</u> "∕ ■ WF	WATERFLOW SWITCH
UTILITIES		\ominus_{5-50R}	SIMPLEX RECEPTACLE W/NEMA CONFIG AS NOTED		
	UNDERGROUND ELECTRICAL	\bigoplus_{5-50R}	MULTI-POLE RECEPTACLE W/NEMA CONFIG AS NOTED	■ TS	TAMPER SWITCH
	· OVERHEAD ELECTRICAL · TELECOMMUNICATIONS CONDUIT	5-50R	CEILING MOUNTED RECEPTACLE	75	VISIBLE NOTIFICATION DEVICE WITH CANDELA RATING. 75cd RATING UNLESS OTHERWISE NOTED ON PLANS.
	· TELECOMMUNICATIONS CONDUIT · UNDERGROUND TELECOMMUNICATIONS CONDUIT		RECEPTACLE/DEVICE MOUNTED IN "TOMBSTONE"	₩ 20	AUDIBLE/VISIBLE NOTIFICATION DEVICE WITH CANDELA
		•	POKE-THRU WITH POWER	30	RATING. 75cd UNLESS OTHERWISE NOTED ON PLANS
LIGHTING		-		$\square \!$	HORN
·	FLUORESCENT LIGHT FIXTURE		POKE-THRU WITH TELECOMMUNICATIONS	75	CEILING-MOUNTED STROBE LIGHT WITH CANDELA
•	FLUORESCENT STRIP FIXTURE		POKE-THRU W/POWER AND TELECOM		RATING. MINIMUM OF 75cd RATING. CEILING-MOUNTED COMBINATION HORN/STROBE WITH
⊙ ⊡	SURFACE/RECESSED LIGHT FIXTURE	<u>16</u>	SINGLE GANG FLOOR BOX (2, 3, 4 GANG SIMILAR)	30	CANDELA RATING. MIN. OF 75cd RATING.
ню	WALL-MOUNTED LIGHT FIXTURE		DIVIDED POWER POLE		CEILING-MOUNTED HORN
		\odot	CLOCK RECEPTACLE		CEILING-MOUNTED SPEAKER
	POLE-MOUNTED LIGHT FIXTURE		PLUG MOLD / WIRE MOLD AS SPECIFIED	R	RELAY
	EXIT LIGHT	J	JUNCTION BOX	FACP	FIRE ALARM CONTROL PANEL
A A	BATTERY_OPERATED EMERGENCY LIGHT (WALL MTD)	0		I FALLE I	FIRE ALARM CUNIRUI PANFI

JUNCTION BOX \odot BATTERY-OPERATED EMERGENCY LIGHT (WALL MTD) FU) THERMOSTAT - ELECTRIC M BATTERY-OPERATED EMERGENCY LIGHT (CEILING MTD) CH PUSH BUTTON WALL-MOUNTED COMBINATION EXIT LIGHT BATTERY-OPERATED EMERGENCY LIGHT ∕⊙∕ MOTOR LIGHT SWITCH – SINGLE POLE LIGHT SWITCH - 3-WAY TELEPHONE/DATA TELEPHONE OUTLET (SINGLE-GANG BOX WITH (1) LIGHT SWITCH - 4-WAY 3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING) LIGHT SWITCH - KEY LINE THRU DEVICE INDICATES ABOVE COUNTER LIGHT SWITCH - DIMMER DATA OUTLET (DOUBLE-GANG BOX WITH (2) 3/4" CONDUITS TO ABOVE ACCESSIBLE CEILING) LIGHT SWITCH - PILOT LIGHT TELEPHONE/DATA OUTLET (DOUBLE-GANG BOX WITH LIGHT SWITCH – 2 POLE (2) 3/4" CONDUITS TO ABOVE ACCESSIBLE CLG.) PHONE OUTLET WITH NUMBER OF PHONE JACKS AS LIGHT SWITCH - 3-WAY DIMMER √ 1V INDICATED – SEE DETAILS FOR ADD'L INFO. WALL-MOUNTED MOTION SWITCH DATA OUTLET WITH NUMBER OF PHONE JACKS AS INDICATED - SEE DETAILS FOR ADD'L INFO. CEILING-MOUNTED MOTION SWITCH PHONE/DATA OUTLET WITH NUMBER OF PHONE/DATA SWITCHBANK - REFER TO DETAILS 🗲 1D/1V JACKS AS INDICATED - SEE DETAILS FOR ADD'L INFO. FD1 DIMMER BOARD H(W) WALL-MOUNTED WIRELESS INTERNET TRANSMITTER RCS-1 REMOTE CONTROL SWITCH AS SCHEDULED $\langle W \rangle$ CEILING-MOUNTED WIRELESS INTERNET TRANSMITTER TC TIMECLOCK - REFER TO PLANS / DETAILS AUDIO/VISUAL TELEVISION OUTLET (SINGLE GANG BOX WITH (1) EQUIPMENT 3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING) DISCONNECT SWITCH. RE: PLANS FOR INFORMATION. (TR) REVERSE TELEVISION OUTLET - CABLE TO HEAD END \bowtie MAGNETIC MOTOR STARTER TDC TEACHER'S DESK CONNECTIONS - RE: DETAILS COMBINATION DISCONNECT SWITCH / MOTOR STARTER H(s) WALL SPEAKER TOGGLE-TYPE DISCONNECT. FURNISH WITH THERMAL MOTOR PROTECTION WHERE SERVING FANS/PUMPS. $\langle S \rangle$ CEILING SPEAKER SURFACE PANELBOARD WALL SPEAKER - HORN TYPE H(s)A RECESSED PANELBOARD $\langle S | \Delta \rangle$ CEILING SPEAKER - HORN TYPE DISTRIBUTION PANELBOARD (S)_{SUB} CEILING SPEAKER – SUBWOOFER SWITCHBOARD. FEEDER/MAIN CIRCUIT BREAKER CEILING SPEAKER - SOUND SYSTEM SECTION AND DISTRIBUTION SECTION. HØ VOLUME CONTROL GENERAL SYMBOLS INTERCOM CALL STATION INDICATES CONNECT TO EXISTING INTERCOM HANDSET

SOUND SYSTEM AUDIO JACK

INTERCOM MASTER STATION

REMOTE MICROPHONE CONTROL

PUBLIC ADDRESS SYSTEM AMPLIFIER

RM

PAS

IMS

INDICATES ELEVATION

FACP FIRE ALARM CONTROL PANEL FAAP FIRE ALARM ANNUNCIATOR PANEL FARA REMOTE ANNUNCIATOR PANEL FAEC FIRE ALARM EXTENDER CABINET DOOR HOLDER SINGLE / MULTI-STATION 120V SMOKE ALARM (D)120V ZAM ZONE ADDRESSABLE MODULE IAM INDIVIDUAL ADDRESSABLE MODULE HFSS KITCHEN HOOD FIRE SUPPRESSION SYSTEM PANEL KITCHEN HOOD REMOTE PULL STATION ARA AREA OF RESCUE ASSISTANCE STATION AREA OF RESCUE ASSISTANCE MASTER STATION $\square \triangleleft$ FIXED CAMERA PAN/TILT/ZOOM CAMERA PROXIMITY TYPE CARD READER CARD SWIPE CARD READER BREAK GLASS DETECTOR

DH

Η

BG

ES

MD

KP

B

<u>SECURITY</u>

ELECTRIC STRIKE SECURITY MOTION DETECTOR

KEYPAD / MAG LOCK BUTTON / MAG LOCK

15000 - MECHANICAL SPECIFICATIONS

SECTION 15000 - MECHANICAL REQUIREMENTS GENERAL REQUIREMENTS

- A. ALL WORK SHALL BE IN ACCORDANCE W/ LATEST EDITION OF INTERNATIONAL BUILDING, MECHANICAL & PLUMBING CODES, CODES AS ADOPTED BY CITY, COUNTY, STATE & ALL OTHER APPLICABLE CODES.
- FURNISH & INSTALL ALL LABOR & MATERIALS REQUIRED FOR COMPLETE, FUNCTIONING. MECHANICAL & PLUMBING SYSTEMS W/ ALL ASSOCIATED EQUIPMENT & APPARATUS AS
- SHOWN ON PLANS. "PROVIDE" MEANS TO FURNISH & INSTALL. OBTAIN & PAY FOR ALL PERMITS REQUIRED FOR EXECUTION OF THIS WORK & SHALL MAKE ARRANGEMENTS FOR MODIFICATIONS TO WATER, GAS & SEWER CONNECTIONS TO
- BUILDING AS REQUIRED. VISIT SITE & OBSERVE CONDITIONS UNDER WHICH WORK WILL BE DONE. ANY DISCREPANCIES SHALL BE CALLED TO ARCHITECT'S ATTENTION. NO SUBSEQUENT ALLOWANCE WILL BE MADE IN CONTRACT FOR ANY ERROR OR NEGLIGENCE ON
- CONTRACTOR'S PART. FINAL ACCEPTANCE OF WORK SHALL BE SUBJECT TO CONDITION THAT ALL SYSTEMS, EQUIPMENT. APPARATUS & APPLIANCES OPERATE SATISFACTORILY AS DESIGNED & INTENDED. WORK SHALL INCLUDE REQUIRED ADJUSTMENT OF SYSTEMS & CONTROL
- EQUIPMENT INSTALLED UNDER THESE SPECIFICATIONS. WARRANT TO OWNER QUALITY OF MATERIAL. EQUIPMENT. WORKMANSHIP & OPFRATION OF EQUIPMENT PROVIDED UNDER THESE SPECIFICATIONS FOR ONE YEAR FROM &
- AFTER COMPLETION OF BUILDING & ACCEPTANCE OF MECHANICAL SYSTEMS BY OWNER. ALL MATERIALS INSTALLED IN PLENUMS SHALL BE NONCOMBUSTIBLE OR HAVE FLAME/SMOKE INDEX OF NO MORE THAN 25/50 IN ACCORDANCE W/ ASTM E 84.
- ROOF PENETRATIONS MADE BY AUTHORIZED ROOFING CONTRACTOR WHEN REQUIRED. <u>SECTION 15100 - PLUMBING</u>
- WATER PIPING ALL WATER PIPING SHALL BE 95-5 TIN-ANTIMONY JOINED TYPE L COPPER. INSULATE W/ FIBERGLASS W/ ASJ & PVC COVERS. THINCKNESS IN ACCORDANCE W/ ASHRAE 90.1.
- WASTE & VENT PIPING CI BELL & SPIGOT OR HUBLESS CI W/ NEOPRENE GASKET FITTINGS W/ STAINLESS STEEL BANDS. SCHED 40 PVC W/ SOLVENT WELDS MAY BE USED WHERE ALLOWED BY LOCAL CODE. PVC NOT ALLOWED IN PLENUMS. ROOF/STORM DRAIN PIPING - CI BELL & SPIGOT OR HUBLESS CI W/ NEOPRENE GASKET FITTINGS W/ STAINLESS STEEL BANDS. SCHED 40 PVC W/ SOLVENT WELDS
- MAY BE USED WHERE ALLOWED BY LOCAL CODE. PVC NOT ALLOWED IN PLENUMS. INSULATE W/ MIN 1/3" FIBERGLASS PIPE WRAP W/ ASJ JACKET. GAS PIPING - PROVIDE SCHED 40 CONT. WELD CARBON STEEL W/ CORRESPONDING
- FITTINGS. PROVIDE THREADED FITTINGS. PROVIDE IRON BODY-BRASS PLUG GAS STOPS. PAINT ALL EXPOSED GAS PIPING ON THE EXTERIOR OF THE BUILDING INCLUDING ON THE ROOF

- EQUIVALENT VALVES LISTED ON CURRENT COMPARISON CHARTS OF SPECIFIED VALVE MANUFACTURERS BY MILWAUKEE, STOCKHAM, POWELL, RED-WHITE, CRANE, APPOLO, MUELLER, MUESSCO, WATTS, HAYS, ROCKWELL-NORDSTROM. BALL VALVES - 2" & UNDER - BRONZE FULL PORT W/ TEFLOW SEATS, BRONZE
- BALL & INSULATED HANDLE. BALANCING VALVES - ARMSTRONG MODEL CBV I OR CBV II. 125 PSI-WP AT 250 DEGREES F., METER CONNECTIONS W/ BUILT-IN CHECK VALVES SCREWED OR FLANGED
- ENDS. PROVIDE POLYURETHANE INSULATION COVER. CHECK VALVES - 2" 7 SMALLER SCREWED OR SOLDER BRONZE CHECK VALVE, 200 PSI-WOG/125 PSI-WSP, TEFLON OR BRONZE DISC & SEAT RING. 2-1/2" & LARGER
- FLANGED, ASTM 126 IRON BODY, BRONZE TRIMMED, 200 PSI-WOG/125 PSI-WSP. BUTTERFLY VALVES - 3" & LARGER LEVER ASTM A126 CI DRILLED & TAPPED FULL LUG BODY, 200 PSI-WOG, EXTENDED NECK, BRONZE DISC, STAINLESS STEEL STEM, FIELD-REPLACEABLE EPDM SLEEVE & STEM SEALS.

FIXTURES - SEE SCHEDULES

- FIXTURES: AMERICAN STANDARD, KOHLER, CRANE, ZURN, TOTO STAINLESS STEEL FIXTURES: ELKAY, JUST, MOEN COMMERCIAL
- FITTINGS & SUPPORTS: JOSAM, SMITH, WADE, ZURN, OR JONESPEC. SEATS: CHURCH, OLSONITE, BEMIS OR BENEKE.
- DRINKING FOUNTAINS: HALSEY TAYLOR, ELKAY, OASIS, OR HAWS.
- TRIM BY DELTA, ELJER, KOHLER, AMERICAN STANDARD, CRANE, SLOAN. FLUSHVALVES: SLOAN, ZURN, TOTO
- DRAINS BY WADE, ZURN, WOODFORD, SMITH, JOSAM.
- ROOF DRAINS CAST IRON ROOF DRAIN W/ FLANGE, CI MUSHROOM DOME. 2" DAM FOR OVERELOW DRAINS WALL HYDRANTS JOSAM SERIES 71000 W/ CONNECTIONS FOR 3/4" PIPE & HOSE. NON-FREEZING W/ KEY, VACUUM BREAKER, LOCKING COVER. EQUIVALENT BY J.R. SMITH. WADE. WOODFORD OR ZURN.

EQUIPMENT - SEE SCHEDULES A. WATER HEATER – STATE, RHEEM, NATIONAL, A.O. SMITH. PORCELAINIZED GLASSLINED

- TANK. COLD WATER INLET DROP TUBE. MAGNESIUM ANODE RODS. U.L. SEAL, 160 PSI, FACTORY TEMPERATURE & PRESSURE RELIEF VALVE. N.S.F. CONSTRUCTION. 3 YR
- SUBMERSIBLE SUMP PUMPS SIMPLEX/DUPLEX SUBMERSIBLE PUMP SYSTEM AS SCHED/SHOWN. PUMP CASING ONE PIECE CAST IRON W/ SUPPORT LEGS, CI SUCTION STRAINER. VERTICAL MOTOR. NEMA-6, NOT LESS THAN HP SCHED & 1750 RPM. AUTO-RESET THERMAL/OVERLOAD PROTECTION. RECIRCULATION PUMPS - HORIZONTAL, OIL-LUBRICATED, ALL BRONZE.

NON-OVERLOADING MOTOR.

- FXFCUTION A. PROVIDE UNIONS OR FLANGED JOINTS IN EACH PIPE LINE PRECEDING CONNECTIONS TO FOUIPMENT TO ALLOW REMOVAL FOR REPAIR OR REPLACEMENT, PROVIDE ALL SCREWED & CONTROL VALVES W/ UNIONS ADJACENT TO EACH CONNECTION. PROVIDE SCREWED END VALVES W/ UNION ADJACENT TO VALVE UNLESS VALVE CAN BE OTHERWISE EASILY REMOVED FROM LINE.
- AFTER PIPING IS IN PLACE TEST LINES TO ENSURE NO LEAKS. ALL PIPING & EQUIPMENT SHALL BE SUPPORTED PROPERLY FROM STRUCTURE.
- ESCUTCHEONS PROVIDE NICKEL-BRASS OR CHROME PLATED ON ALL EXPOSED PIPES WHEN PASSING THRU WALL OR CEILING OF FINISHED ROOMS.
- VERIFY FLOOR MATERIALS USED FROM ARCHITECTURAL PLANS & PROVIDE PROPER CLEANOUT TOPS, WHERE THEY OCCUR IN CARPET, QUARRY TILE, VINYL TILE OR CFRAMIC TILE.
- PROVIDE WATER HAMMER ARRESTORS FOR ALL PLUMBING BANKS W/ FIXTURES UTILIZING FLUSH VALVES IN ANY CAPACITY. LOCATE ARRESTER BETWEEN LAST TWO FIXTURES SERVED ON BRANCH LINE.

<u>SECTION 15300 - HVAC</u> GENERA

A. PROVIDE COMPLETE HVAC SYSTEM AS SHOWN ON DRAWINGS INCLUDING ALI NECESSARY EQUIPMENT, DUCTWORK, DIFFUSERS, GRILLES, & FILTERS. PROVIDE OPERATING & MAINTENANCE INSTRUCTIONS ON ALL EQUIPMENT. ALL HVAC WORK SHALL BE DONE IN STRICT ACCORDANCE W/ ALL REQUIREMENTS OF LOCAL BUILDING CODE, ASHRAE, NEC, NFPA, & ALL OTHER APPLICABLE CODES HAVING JURISDICTION.

DUCTWORK

- A. HVAC DUCTWORK SHALL BE GALV SHEET METAL OF GAUGES & JOINT TYPES SPECIFIED IN SMACNA MANUAL. PROVIDE TURNING VANES IN ELBOWS. EXPOSED SPIRAL DUCT SHALL BE DOUBLE WALL SPIRAL INTERIOR INSULATED WITH
- PERFORATED LINER WITH 1" INSULATION R VALUE OF 4 MINIMUM. VOLUME DAMPERS SHALL BE MANUAL LOCKING BLADE TYPE.
- DISHWASHER EXHAUST DUCT SHALL BE NEW COMMERCIAL QUALITY, BRIGHT TYPE 302 STAINLESS STEEL. CONSTRUCTION SHALL BE WELDED. DUCTWORK SHALL SLOPE TO
- GREASE DUCT SHALL BE NEW COMMERCIAL QUALITY BLACK STEEL FOR GREASE DUCTS. CONSTRUCTION SHALL BE WELDED, STEEL MINIMUM OF 16 GAUGE. ALL DUCTWORK MUST BE SUPPORTED PROPERLY FROM STRUCTURE
- WRAP ALL SUPPLY & OUTSIDE AIR HVAC DUCTWORK W/ CERTAINTEED 1-1/2" THICK INSULATION W/ VAPOR BARRIER IN CONCEALED LOCATIONS. ALSO LINE FIRST 10' OF SUPPLY DUCTWORK FOR SOUND ATTENUATION (IN ADDITION TO WRAP) LINE ALL RETURN AIR DUCTS & TRANSFER BOOTS $W/ \frac{1}{2}$ " LINER. DO NO WRAP EXPOSED SPIRAL
- EXTERNAL FIRE INSULATION FOR GREASE DUCTS 2 HR. FIRE RESISTANCE RATING SHALL BE PABCO SUPER FIRETIMP-L. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS. EQUIVALENT BY 3M DUCTWRAP, PROVIDE (2) 1 $\frac{1}{2}$ " LAYERS.

A. FLEXIBLE DUCTS - THERMAFLEX OR EQUAL SOUND RATED TYPE G-KM INSULATED.

- (DUCT W/O PUBLISHED ACOUSTICAL ATTENUATION RATINGS NOT ACCEPTABLE) TAKE OFF FITTING SHALL BE HI-EFF STYLE W/ LOCKING DAMPER. MAXIMUM LENGTH OF FLEXIBLE DUCTWORK SHALL BE 7'-0". DIFFUSERS & GRILLES - SEE SCHEDULE. EQUIVALENT BY PRICE, TUTTLE & BAILEY
- TITUS, MATEL-AIRE, KREUGER, NAILOR. COORDINATE COLOR, MOUNTING W/ DUCT, CEILINGS. ARCHITECT. LOUVERS - GREENHECK TYPE FSK-400 FABRICATED GALVANIZED STEEL LOUVER W/
- TRIM FLANGE. EQUIVALENT BY RUSKIN, LOUVERS & DAMPERS, GREENHECK, AMERICAN WARMING 7 VENTILATING, INDUSTRIAL LOUVERS, ACME. COORDINATE FINISH W/ ARCHITECT
- . REFRIGERANT PIPING COPPER TUBE TYPE ACR, HARD TEMPER NITROGENIZED REFRIGERANT TUBE, ASTM B-88. TYPE L OR K. BRAZED JOINTS. INSULATE W/

- ARMAFLEX IN THICKNESS PER ASHRAE 90.1. PROVIDE EXTERIOR RATED OR COATED ARMAFLEX OUTDOORS. HOT WATER PIPING – SCHED 40 CARBON STEEL ASTM-A53/A106 W/ CORRESP FITTINGS. PROVIDE THREADED FITTINGS THROUGH 2-1/2", WELDED JOINTS 3" & LARGER. CONTRACTOR OPTION TO USE COPPER TYPE L. INSULATE W/ FIBERGLASS PIPE
- INSULATION W/ ASJ JACKET IN THICKNESS PER ASHRAE 90.1. CHILLED WATER PIPING - SCHED 40 CARBON STEEL ASTM-A53/A106 W/ CORRES FITTINGS. PROVIDE THREADED FITTINGS THROUGH 2-1/2", WELDED JOINTS 3" & LARGER. CONTRACTOR OPTION TO USE COPPER TYPE L, INSULATE W/ FIBERGLASS PIPE
- INSULATION W/ ASJ JACKET IN THICKNESS PER ASHRAE 90.1. CONDENSER WATER PIPING - SCHED 40 CARBON STEEL ASTM-A53/A106 W/ CORRESP FITTINGS. PROVIDE THREADED FITTINGS THROUGH 2-1/2", WELDED JOINTS 3" & LARGER, CONTRACTOR OPTION TO USE COPPER TYPE
- STEAM PIPING SCHED 40 CARBON STEEL ASTM-A53/A106 W/ CORRESP FITTINGS. PROVIDE THREADED FITTINGS THROUGH 2-1/2''. WELDED JOINTS 3'' & LARGER. INSULATE W/ FIBERGLASS PIPE INSULATION W/ ASJ JACKET IN THICKNESS PER ASHRAE 90.1.
- STEAM CONDENSATE PIPING SCHED 80 CARBON STEEL ASTM-A53/A106 W/ CORRESP FITTINGS. PROVIDE THREADED FITTINGS THROUGH 2-1/2", WELDED JOINTS 3" & LARGER. INSULATE W/ FIBERGLASS PIPE INSULATION W/ ASJ JACKET IN THICKNESS PER ASHRAE 90.1.
- EQUIPMENT A. FURNACES, EVAPORATORS, & CONDENSING UNITS AS SCHEDULED. MIN 90% EFF NATURAL GAS, AGA CERT. ALUMINIZED STEEL HX, MULTI-SPEED DIRECT DRIVE BLOWER MOTOR. PROVIDE 2" OR 3" PLASTIC C/A & FLUE PIPING COMPLETE W/ CONCENTRIC TERMINATION KITS. 2" MERV 7 FILTERS. MOUNT FILTER IN SLIDE RACK W/ HINGED DOOR & LATCH IN R/A DUCT WORK. COIL - BLOW-THRU D/X MODULE. FULLY INSULATED METAL CASING W/ DRAIN PAN & DUCT FLANGES, COPPER TUBES W/ ALUMINUM FINS, W/ TXV. CONDENSING UNIT - HEAVY GAUGE BASE, SCROLL COMPRESSOR(S). RATED SEER NOT LESS THAN 10.3. (1) YR PARTS & LABOR SYSTEM WARRANTY & ADDITIONAL 4 YR COMPRESSOR ONLY WARRANTY. ANTI-SHORT CYCLE PREVENTION CONTROLS. LOUVERED COIL HAIL GUARDS. 30 DEG LOW AMBIENT. FOLIVALENT BY TRANE LENNOX YORK CARRIER DAIKIN
- ROOFTOP UNITS AS SCHEDULED. EQUIVALENTS BY TRANE, CARRIER, YORK, LENNOX. AAON, DAIKIN. MIN 14" ROOF CURB. PROVIDE SLOPED CURB AS REQUIRED FOR LEVEL UNIT INSTALLATION. ECONOMIZER W/ BAROMETRIC RELIEF, FIXED DRY BULB CONTROL. 2" MERV 7 FILTERS. LOUVERED HAIL GUARDS. 30 DEG LOW AMBIENT.
- SPLIT SYSTEM AHUS, EVAPORATORS, & CONDENSING UNITS AS SCHEDULED. FACTORY ASSEMBLED INCLUDING COIL, CONDENSATE PAN, FAN MOTOR(S), FILTERS & CONTROLS IN INSULATED CASING W/ TXV. ARI RATED, UL LISTED & LABELED FOR INDOOR BLOWER COIL UNITS. HEAVY GAUGE, GALV STEEL. FILTERS & CONTROLS IN INSULATED CASING W/ TXV. ARI RATED. UI LISTED & LABELED FOR INDOOR BLOWER COIL UNITS. HEAVY GAUGE. GALV STEEL. FILTERS & CONTROLS IN INSULATED CASING W/ TXV. ARI RATED, UL LISTED & LABELED FOR INDOOR BLOWER COIL UNITS. HEAVY GAUGE, GALV STEEL. INSULATED W/ FIBERGLASS. UL & CSA ELECTRIC HEAT MODULES. HEATERS AS SCHEDULED SINGLE-POINT CONNECTION & TERMINAL STRIP CONNECTIONS. HD NI-CHROM ELEMENTS. INTEGRAL DISC SWITCH & INTERNAL FUSING. 2" MERV 7 FILTERS. MOUNT FILTER IN SLIDE RACK W/ HINGED DOOR & LATCH IN R/A DUCTWORK. CONDENSING UNIT - HEAVY GAUGE BASE, SCROLL COMPRESSOR(S). RATED SEER NOT LESS THAN 10.3. (1) YR PARTS & LABOR SYSTEM WARRANTY & ADDITIONAL 4 YR COMPRESSOR ONLY WARRANTY. ANTI-SHORT CYCLE PREVENTION CONTROLS. LOUVERED COIL HAIL GUARDS. 30 DEG LOW AMBIENT. EQUIVALENT BY
- TRANE, LENNOX, YORK, CARRIER, AAON, DAIKIN. EXHAUST FANS - EQUIVALENT BY COOK, PENN, ACME, GREENHECK, JENNAIRE, TWIN CITY. PROVIDE W/ SPEED CONTROLS FOR ALL FANS LESS THAN 1/3HP TO BE FURNISHED TO E/C FOR MOUNTING AT FAN. PROVIDE W/ 14" MIN. CURB. PROVIDE GREASE TRIM & VENTILATED CURB EXTENSIONS FOR GREASE FANS.
- PROVIDE PROGRAMMABLE THERMOSTATS W/ STAGES OF HEATING AND COOLING AS REQUIRED BY STAGES OF HEATING AND COOLING ON SPECIFIED EQUIPMENT. SEVEN (7) DAY PROGRAMMING CAPABILITY W/ 2 OCC/UNOCC PERIODS/DAY. AUTO HEAT/COOL CHANGE OVER. LOCKING SETPOINTS TO PREVENT TAMPERING. PROVIDE W/ ALL INTERFACES TO OTHER EQUIPMENT AS REQUIRED. THERMOSTATS BY HONEYWELL, JOHNSON CONTROLS, WHITE-ROGERS, TRANE, CARRIER, AAON, LENNOX, DAIKIN, OR APPROVED EQUAL.
- MAKE-UP AHU SEE SCHEDULE. HEAVY GAUGE GALV STEEL CONSTRUCTION. 1" METAL MESH FILTERS, BELT DRIVEN DWDI, FC FAN. FAN & MOTOR ASSEMBLY MTD ON VIBRATION ISOLATORS. SHAFT SHALL BE MTD IN HD. SEALED BALL BEARINGS. ADJUSTABLE SHEAVES. 150% HP DRIVES AGA DIRECT GAS FIRED & C.G.A. APPROVED. CONTROLS SHALL INCLUDE MAIN GAS PRESSURE REGULATOR. MODULATING GAS VALVE. ELECTRIC SPARK IGNITION PILOT RE-LIGHT SYSTEM, SAFETY PILOT, HIGH LIMIT & 24V CONTROL TRANS. EQUIVALENTS BY CAPTIVEAIR, GREENHECK, TRANE, ENGINEERED AIR, REZNOR, HASTINGS, STERLING, AAON, DAIKIN.
- HOOD FIRE-EXTINGUISHING EQUIPMENT PROVIDE STAND ALONE. AUTOMATIC EXTINGUISHING SYSTEM FOR EXHAUST HOODS & DUCT SYSTEM MEETING REQUIREMENTS OF NFPA 96 & 17. INCLUDE ALL TANKS. PIPING, HEADS, ALARMS, INDICATORS, VALVES & CHARGE TO PROPERLY PROTECT EXHAUST SYSTEM. SYSTEM SHALL COMPLETELY SHUT-DOWN POWER & GAS TO ALL APPLIANCES LOCATED BENEATH HOOD IN EVENT OF ALARM CONDITIONS. GAS SHUT DOWN SHALL BE BY MECHANICAL GAS VALVE. COORDINATE ALL WIRING W/ EQUIPMENT & REQUIREMENTS LOCAL JURISDICTION.

EXECUTION

- COORDINATE W/ E/C TO PROVIDE ALL WIRING BETWEEN EQUIPMENT, DAMPERS, THERMOSTATS & ALL OTHER REQUIRED CONTROLS & DEVICES. PROVIDE ANY REQUIRED INTERFACES TO FIRE ALARM OR SIMILAR SYSTEMS PROVIDE GROUND-MOUNTED UNITS ON 4", REINFORCED CONCRETE BASE, 4" LARGER
- THAN UNIT ON EACH SIDE ROOF-MOUNTED UNITS ON EQUIPMENT SUPPORTS OR CURBS. ANCHOR UNITS TO
- PROVIDE FACTORY-AUTHORIZED SERVICE START UP ON FOUIPMENT TRAIN OWNER'S MAINTENANCE PERSONNEL ON STARTUP, SHUTDOWN, TROUBLESHOOTING, SERVICING, PREVENTIVE MAINTENANCE.

<u>SECTION 15900 – SYSTEM TESTING & BALANCING</u> A. CONTRACTOR SHALL PROCURE SERVICES OF INDEPENDENT TAB CONTRACTOR WHICH SPECIALIZES IN TAB OF HVAC SYSTEMS. TO BALANCE, ADJUST, & TEST AIR MOVING

- EQUIPMENT & DISTRIBUTION & EXHAUST SYSTEMS & ALL WATER FLOW CIRCUITS. WORK SHALL BE DONE UNDER ENGINEER EMPLOYED TAB. ALL INSTRUMENTS USED SHALL BE ACCURATELY CALIBRATED & MAINTAINED IN GOOD WORKING ORDER. IF REQUESTED TESTS SHALL BE CONDUCTED IN PRESENCE OF A/E RESPONSIBLE FOR PROJECT &/OR REPRESENTATIVE. TAB CONTRACTOR SHALL BE CERTIFIED BY NEBB OR AABC & ALL WORK SHALL BE PERFORMED IN ACCORDANCE W/ ORGANIZATIONS PUBLISHED PROCEDURE MANUALS.
- TESTING & BALANCING (TAB) OF BUILDING HVAC SYSTEMS WILL BE COMPLETED NEAR END OF CONSTRUCTION. M/C HAS RESPONSIBILITY TO COOPERATE W/. MAKE ADJUSTMENTS FOR & PROVIDE EQUIPMENT NECESSARY FOR TAB CONTRACTOR TO COMPLETE JOR
- PRIOR TO REQUESTING TAB CONTRACTOR TO PERFORM WORK, INSTALLING CONTRACTOR SHALL MAKE ALL NECESSARY INSPECTIONS & ADJUSTMENTS TO ENSURE THAT SYSTEMS ARE COMPLETELY INSTALLED & OPERATING ACCORDING TO MANUFACTURER'S RECOMMENDATIONS & CONTRACT DOCUMENTS.
- CHECKS SHALL BE PERFORMED ON EACH SYSTEM INSTALLED UNDER THIS CONTRACT. REPORT SHEET SHALL BE PREPARED FOR EACH SYSTEM INDICATING CHECKS MADE, CORRECTIVE ACTION TAKEN WHERE REQUIRED. DATE & NAME OF INSPECTOR. SUBMIT (1) COPY TO TAB CONTRACTOR & (1) INDICATING CHECKS MADE, CORRECTIVE ACTION TAKEN WHERE REQUIRED, DATE & NAME OF INSPECTOR. SUBMIT (1) COPY TO TAB CONTRACTOR & (1) TO A/E. TAB CONTRACTOR WILL NOT BEGIN UNTIL CHECKLIST HAS BEEN RECEIVED & REVIEWED.
- TAB CONTRACTOR SHALL AT MINIMUM: VERIFY & INSPECT THAT SYSTEMS ARE CLEAN. FAN ROTATION, BEARINGS, CLEARANCES, ALIGNMENT, VIBRATION ISOLATORS, FILTERS, DAMPER OPERATION & POSITION, EQUIPMENT IS INSTALLED, TRANSFER OPENINGS IN WALLS, AIR LEAKS, COIL FINS/DAMAGE.
- BALANCING CONTRACTOR SHALL PREPARE CERTIFIED REPORT OF ALL TESTS PERFORMED. REPORT SHALL BE WRITTEN ON STANDARD FORMS PREPARED BY NEBB OR AABC OR FACSIMILES THEREOF. BALANCING CONTRACTOR SHALL SUBMIT 3 COPIES OF THIS REPORT TO M/C WHO SHALL SUBMIT THEM TO A/E FOR REVIEW & DISTRIBUTION.
- AIR HANDLING UNIT AS INSTALLED SHOWING OUTDOOR, RETURN & SUPPLY AIR CONNECTIONS. COIL & DAMPERS ARRANGEMENTS. PSYCHOMETRIC CHART ON EACH AHU. W/ COOLING COIL, SHOWING OUTDOOR RETURN, MIXED AIR TEMPS AT MINIMUM OUTDOOR AIR CONDITION. COIL LEAVING AIR CONDITION AT FULL COOLING COIL FLOW. TAB REPORT SHALL INCLUDE ALL NEBB OR AABC FORMS COMPLETED AS REQUIRED BY CERTIFICATION.
- TAB CONTRACTOR SHALL CYCLE FACH AHU THROUGH CONTROL SEQUENCE OF OPERATION TO VERIFY PROPER OPERATION. ANY INCONSISTENCY W/ CONTRACT DOCUMENTS SHALL BE REPORTED TO A/E & TEMP CONTROL CONTRACTOR. TEMP CONTROL CONTRACTOR SHALL TAKE ACTION TO CORRECT ANY CONTROL INCONSISTENCY AS REPORTED BY TAB CONTRACTOR
- DURING INSTALLATION OF HVAC SYSTEMS TAB CONTRACTOR SHALL PERIODIC INSPECTION VISITS TO PROJECT SITE. PROPER PLACEMENT & INSTALLATION OF CONTROL & BALANCING DEVICES SHALL BE VERIFIED BY THESE INSPECTIONS. M/C SHALL MAKE ALL CORRECTIONS IN CONTROL & BALANCING DEVICE LOCATIONS AS REQUESTED BY TAB CONTRACTOR. FOLLOWING EACH VISIT TAB CONTRACTOR SHALL REPORT TO A/E ALL ITEMS NOTED, ACTION TAKEN & PROGRESS OF INSTALLATION.

SECTION 16000 - ELECTRICAL REQUIREMENTS

AS REQUIRED.

- GENERAL REQUIREMENTS STATE & ALL OTHER APPLICABLE CODES.
- B. ALL MATERIALS & EQUIPMENT SHALL BE NEW & SHALL BEAR U.L. LABEL WHERE APPLICABLE, PROVIDE WATERPROOF EQUIPMENT ENCLOSURES WHERE REQUIRED.
- EQUIPMENT & APPARATUS AS SHOWN ON PLANS. PROVIDED AS THOUGH FULLY SHOWN & SPECIFIED.
- DONE. ANY DISCREPANCIES SHALL BE CALLED TO ARCHITECT'S ATTENTION. NO NEGLIGENCE ON CONTRACTOR'S PART. G. FINAL ACCEPTANCE OF WORK SHALL BE SUBJECT TO CONDITION THAT ALL SYSTEMS.
- INTENDED. WORK SHALL INCLUDE REQUIRED ADJUSTMENT OF SYSTEMS & CONTROL EQUIPMENT INSTALLED UNDER THESE SPECIFICATIONS.
- I. ALL MATERIALS INSTALLED IN PLENUMS SHALL BE NONCOMBUSTIBLE OR HAVE FLAME/SMOKE INDEX OF NO MORE THAN 25/50 IN ACCORDANCE W/ ASTM E 84.

SECTION 16100 - CONDUIT & CONDUCTORS

- B. WIRE SHALL BE IN NON-FLEXIBLE METALLIC CONDUIT (EMT. IMC OR RMC) FOR ALL CIRCUITS AND FEEDERS GREATER THAN 30A, LIGHT SWITCH RISERS, KITCHEN CIRCUITS & HOME RUNS.
- HEALTH CARE RATED MC FOR MEDICAL TREATMENT AREAS WHEN NOT IN CONDUIT.
- ABOVE FLOOR SLAB VOLT 75 DEG C COLOR CODED AS DESCRIBED LINDER APPLICABLE CODES NO
- SHALL HAVE TEMP RATING NOT LESS THAN INDIVIDUAL FIXTURE MANUF RECOMMENDED RATING G. CIRCUITS W/ NO. 8 OR LARGER CONDUCTORS, MOTOR CIRCUITS, POWER & FEEDER CIRCUITS & BUILDING SERVICE FEEDERS SHALL BE COPPER THWN/THHN 600 VOLT,
- 75 DEG C H. ALL CONDUIT, JUNCTION BOXES, ETC. ABOVE CEILINGS SHALL BE SUPPORTED FROM CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER & PERMANENT LOCATIONS.

<u>SECTION 16200 – GROUNDING</u> A. SUPPLEMENT GROUNDED NEUTRAL OF SECONDARY DISTRIBUTION SYSTEM W/ EQUIPMENT GROUNDING SYSTEM, INSTALLED SO THAT METALLIC STRUCTURES, FRAMES. PORTABLE EQUIPMENT & OTHER CONDUCTIVE ITEMS OPERATE CONTINUOUSLY

- AT GROUND POTENTIAL & PROVIDE LOW IMPEDANCE PATH FOR GROUND FAULT CURRENTS
- D. PROVIDE IN CONDUIT GREEN INSULATED COPPER GROUND CONDUCTOR TO MAIN
- SWITCHBOARD, OR OTHER DISTRIBUTION EQUIPMENT. F. PROVIDE LOW VOLTAGE DISTRIBUTION SYSTEM W/ SEPARATE GREEN INSULATED COMMON CONDUIT WHICH SHALL SERVE AS GROUNDING CONDUCTOR.

SHOWN SHALL BE NO SMALLER THAN THAT REQUIRED BY NEC. <u>SECTION 16300 - ELECTRICAL EQUIPMENT</u> A. JUNCTION BOXES & OUTLET BOXES SHALL BE GALVANIZED KNOCKOUT TYPE. Lighting fixture boxes in ceilings shall not be less than 4" octagonal

EXCEPT OUTLETS MAY BE MOVED 4 FI CONCEALED WORK. GANGABLE BOXES SHALL BE USED IN ALL GYPBOARD SURFACES.

- PANELBOARD. A. BRANCH CIRCUIT 208/240V PANELS SHALL BE CAPACITY SHOWN W/ TIN PLATED PANELS SAME EXCEPT 25.000A AIC MIN. MINIMUM 20" WIDE W/ GALV STEEL
- ENCLOSURE W/ HINGED DOOR & KEYED LOCK. COORD TRIM WITH MOUNTING LOCATION. PANELS TO BE RECESSED WHENEVER POSSIBLE.
- C. EQUIVALENT BY SQUARE D, SIEMENS, CUTLER HAMMER, OR GE. TRANSFORMER:
- ALUMINUM WINDINGS. 150 DEG C. MINIMUM IMPEDANCE OF 2.5%. VENTILATED ENCLOSURE. SUSPEND AS REQ'D.

<u> SECTION 16350 – ELECTRICAL IDENTIFICATION</u>

SCHEDULES MOUNTED IN PANELS

ABBREVIATIONS

ARCHITECT / ENGINEER

ABOVE FINISHED FLOOR

ABOVE FINISHED GRADE

BMS BUILDING MANAGEMENT SYSTEM

COORDINATE MOUNTING HEIGHT

DCVA DOUBLE CHECK VALVE ASSEMBLY

AUTHORITY HAVING JURISDICTION

ABOVE GRADE

AHU AIR HANDLING UNIT

BFP BACKFLOW PREVENTER

ARCH ARCHITECT

BLDG BUILDING

RG BELOW GRADE

CONDUIT

CANDELA

COOLING

COLD DECK

CLEAN OUT

CTE CONNECT TO EXISTING

DCW DOMESTIC COLD WATER

DF DRINKING FOUNTAIN

DIA DIAMETER

DOWN

EA EXHAUST AIR

DHW DOMESTIC HOT WATER

E/C ELECTRICAL CONTRACTOR

DDC DIRECT DIGITAL CONTROLS

DHWR DOMESTIC HOT WATER RETURN

EDF ELECTRIC DRINKING FOUNTAIN

SFRVFD.

AFG

AH.I

16000 - ELECTRICAL SPECIFICATIONS

A. ALL WORK SHALL BE IN ACCORDANCE W/ LATEST EDITION OF INTERNATIONAL BUILDING CODE, NATIONAL ELECTRICAL CODE, NFPÁ, CODES AS ADOPTED BY CITY, COUNTY,

C. OBTAIN & PAY FOR ALL PERMITS REQUIRED FOR EXECUTION OF THIS WORK & SHALL MAKE ARRANGEMENTS FOR MODIFICATIONS TO ELECTRICAL CONNECTIONS TO BUILDING

D. CONTRACTOR SHALL PROVIDE ALL LABOR & MATERIALS REQUIRED TO HAVE COMPLETE FUNCTIONING ELECTRICAL LIGHTING & POWER SYSTEMS TOGETHER W/ ALL ASSOCIATED E. WHERE AN ELECTRICAL DEVICE IS REQUIRED BY CODE BUT NOT SHOWN, IT SHALL BE

F. CONTRACTOR SHALL VISIT SITE & OBSERVE CONDITIONS UNDER WHICH WORK WILL BE SUBSEQUENT ALLOWANCE WILL BE MADE IN THIS CONNECTION FOR ANY ERROR OR

FOUIPMENT, APPARATUS & APPLIANCES OPERATE SATISFACTORILY AS DESIGNED &

H. WARRANT TO OWNER QUALITY OF MATERIALS, EQUIPMENT, WORKMANSHIP & OPERATION OF EQUIPMENT PROVIDED UNDER THESE SPECIFICATIONS FOR ONE YEAR FROM & AFTER COMPLETION OF BUILDING & ACCEPTANCE OF MECHANICAL SYSTEMS BY OWNER.

A. FOLLOW CIRCUITING SHOWN ON PLANS. USE NO CONDUIT SMALLER THAN 1/2" & NO CONDUCTORS SMALLER THAN #12 GA. UNLESS NOTED OTHERWISE.

C. MC CABLE ACCEPTABLE FOR BRANCH CONVENIENCE CIRCUITS AND LIGHTING CIRCUITS. DO NOT DAISY CHAIN LIGHT FIXTURES. PROVIDE MC LUMINARY CABLE WITH BUILT-IN TWISTED JACKETED PAIR FOR LIGHTING CIRCUITS FOR LIGHTING CONTROLS. PROVIDE D. CONDUIT INSTALLED BELOW GRADE SHALL BE SCHEDULE 80 PVC HEAVY WALL PLASTIC CONDUIT MEFTING NEMA STANDARDS & UL LISTED FOR UNDERGROUND & EXPOSED USE. PROVIDE GRS RADIUS BENDS & RISERS AS CONDUITS RISE ABOVE GRADE OR

E. PROVIDE INTERLOCKING SPACERS FOR MULT RUNS OF UG CONDUITS IN SAME TRENCH. F. LIGHTING & RECEPTACLE CIRCUIT CONDUCTORS SHALL BE COPPER THWN/THHN 600 ROMEX PLASTIC FLEX TUBING ETC PERMITTED. LIGHT FIXTURE WIRE INSULATION

STRUCTURE. PIPE SLEEVES, HANGERS & SUPPORTS SHALL BE FURNISHED & SET &

ENCLOSURES, RACEWAYS, JUNCTION BOXES, OUTLET BOXES, CABINETS, MACHINE

B. SYSTEM SHALL COMPLY W/ NATIONAL ELECTRICAL CODE, DRAWINGS & AS SPECIFIED. C. PROVIDE EQUIPMENT GROUND BUS IN BASE OF LOW VOLTAGE, SWITCHGEAR BRAZED OR OTHERWISE ADEQUATELY CONNECTED BY AN APPROVED METHOD TO GROUND RODS. METALLIC WATER SERVICE ENTRANCE & CONNECT BY MEANS OF ADEQUATE GROUND

E. EQUIPMENT GROUNDING CONDUCTORS FOR BRANCH CIRCUIT HOME RUNS SHOWN ON DRAWINGS SHALL INDICATE AN INDIVIDUAL & SEPARATE GROUND CONDUCTOR FOR THAT BRANCH CIRCUIT WHICH SHALL BE TERMINATED AT BRANCH CIRCUIT PANELBOARD,

EQUIPMENT GROUNDING CONDUCTOR FOR EACH SINGLE OR THREE-PHASE FEEDER. SINGLE PHASE 120 VOLT BRANCH CIRCUITS FOR LIGHTING & POWER SHALL CONSIST OF PHASE & NEUTRAL CONDUCTORS & GREEN GROUND CONDUCTOR INSTALLED IN G. GROUNDING CONDUCTORS SHALL BE AS SHOWN ON PLANS OR IF NOT SPECIFICALLY

KNOCKOUT TYPE. OUTLETS SHALL BE INSTALLED IN LOCATIONS SHOWN ON DRAWINGS DIRECTION IF WITHOUT ADDITIONAL COST. BOXES SHALL BE FLUSH MOUNTED ON WALLS FOR

COPPER BUSSING & BRACED FOR MINIMUM OF 22,000A AIC OR AS OTHERWISE NOTED OR REQUIRED (SERIES RATED ACCEPTABLE). BOLT ON CIRCUIT BREAKERS. 480V

B. DISTRIBUTION PANELS SHALL BE CAPACITY SHOWN & SHALL BE SQUARE D I-LINE W/ TIN PLASTED COPPER BUSSING. 65KAIC MIN OR AS OTHERWISE NOTED/REQ'D. BOLT ON CIRCUIT BREAKERS (SERIES RATED ACCEPTABLE). GALV STEEL ENCLOSURE.

A. DRY-TYPE AS SCHEDULED. SOUND LEVEL SHALL NOT EXCEED DB PER ANSI C89.2 & NEMA TR-1. (2)2-1/2% TAPS BELOW & (2)2-1/2% TAPS ABOVE PRIMARY VOLTAGE.

A. MANUFACTURED LABELS FOR EACH PANELBOARD & TRANSFORMER. TYPEWRITTEN PANEL B. PRINTED TAPE STYLE LABEL FOR EACH RECEPTACLE INDICATING PANEL & CIRCUIT #. C. MANUFACTURED LABELS FOR ALL DISCONNECT SWITCHES INDICATING EQUIPMENT

> ELEV ELEVATION MLO MAIN LUGS ONLY EM EMERGENCY FIXTURE/DEVICE NFA NET FREE AREA NIGHT LIGHT EWT ENTERING WATER TEMPERATURE NL outside air EX EXISTING ITEM ORD OVERFLOW ROOF DRAIN FFA FROM FLOOR ABOVE P/C PLUMBING CONTRACTOR FFB FROM FLOOR BELOW FFCO FINISHED FLOOR CLEAN OUT PSI FGCO FLUSH GRADE CLEAN OUT PVC POLYVINYLCHLORIDE FL FLOW LINE RA RETURN AIR FLR FLOOR RE/REF REFER / REFERENCE FP FIRE PROTECTION Relief fan FPM FEET PER MINUTE RELOCATED ITEM FWCO FLUSH WALL CLEAN OUT RPZ G GROUND / GANG RR RESTROOM G/C GENERAL CONTRACTOR SUPPLY AIR SA GFCI GROUND FAULT CIRCUIT INTERUPTER SPD SURGE PROTECTIVE DEVICE GPM GALLONS PER MINUTE SHUNT TRIP TRANSFFR AIR TA HD HOT DECK TO FLOOR ABOV HTG HFATING TFA TFB TO FLOOR BELOW ISOLATED GROUND TAMPERPROOF JB JUNCTION BOX TP TYP TYPICAL LED LIGHT EMITTING DIODE LWT LEAVING WATER TEMPERATURE VRF M/C MECHANICAL CONTRACTOR VTR VENT THROUGH ROOF MA MIXED AIR WCO WALL CLEANOUT MAU MAKE UP AIR UNIT WG WIRE GUARD MCB MAIN CIRCUIT BREAKER WP WEATHERPROOF MECH MECHANICAL

D. BRANCH CIRCUITS - IDENTIFY EACH CIRCUIT W/ WIRE MARKERS WHEN ENCLOSURE LABEL AND WIRE COLORS DO NOT PROVIDE ENOUGH INFORMATION TO IDENTIFY EACH CIRCUIT WITHOUT TRACING. FEEDERS & BRANCH CIRCUIT HOME RUNS W/ WIRE MARKER W/ PANEL & CKT #. BOX COVERS ABOVE LAY-IN CEILINGS NEATLY MARKED W/ INDELIBLE MARKER.

E. FÍRE ALARM - NAMEPLATE ON EACH FIRE ALARM TERMINAL CABINET. LABEL ALL WIRING.

<u>SECTION 16400 – WIRING DEVICES</u> A. CONVENIENCE OUTLETS - SPEC GRADE 20 AMP DUPLEX W/ GROUND & SS WALL PLATES. OTHER OUTLETS SHALL BE VERIFIED W/ EQUIPMENT SUPPLIERS FOR PROPER NEMA CONFIGURATIONS. PROVIDE GFIC RATED DEVICES WHERE INDICATED AND AS REQ'D PER CODE.

B. PROVIDE GFIC RATED DEVICES WHERE INDICATED AND ANYWHERE REQUIRED PER THE C. PROVIDE AFCI PROTECTION ON ALL CIRCUITS REQUIRED PER THE NEC. D. PROVIDE TAMPER RESISTANT RECEPTACLES ON ALL RECEPTACLES IN PUBLIC AREAS, AREAS ACCESSIBLE TO CHILDREN, AND WHERE OTHERWISE REQUIRED TO BE TAMPER

RESISTANT PER THE NEC. E. LIGHT SWITCHES - SPEC GRADE 20 AMP TOGGLE SWITCHES W/ SS WALL PLATES. F. WALL MOTION SWITCHES - SPEC GRADE, PIR, OVERRIDE.

G. CEILING MOTION SWITCHES - SPEC GRADE, DUAL TECHNOLOGY, MODEL AS REQ'D BY ROOM CONFIGURATION. ALL NECESSARY POWER PACKS AND RELAYS. H. WALL MOTION SWITCHES (BATHROOM) - DUAL RELAY, SPEC GRADE, PIR, 2ND RELAY FOR OPERATION OF EXHAUST FAN DELAY.

COLOR OF DEVICES AS DIRECTED BY ARCHITECT. J. EQUIVALENT DEVICES BY LEVITON, BRYANT, HUBBEL, WATTSTOPPER, LITHONIA, SENSOR

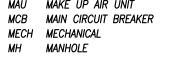
EXECUTION

A. ALL OUTLETS, SHALL BE MOUNTED W/ BOTTOM AT 18" AFF & SWITCHES W/ BOTTOM AT 44" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE ON PLANS. REFER TO ARCH FOR OTHER REQUIRED ELEVATIONS AND CABINETRY COORDINATION.

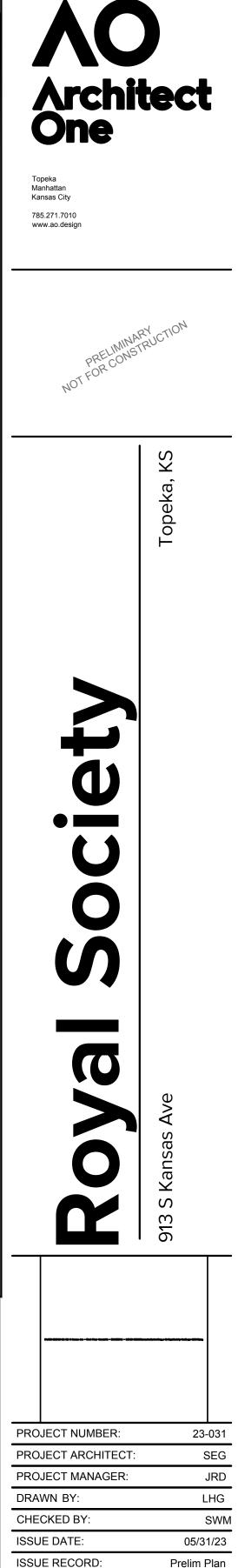
<u>ECTION 16500 – LED LUMINAIRES</u> UMINAIRES

- A. PROVIDE LIGHTING FIXTURES W/ ALL ACCESSORIES REQ'D FOR HANGING. COORD MOUNTING OF LIGHTING FIXTURES W/ ARCHITECT & G/C. ADDITIONAL FIXTURE SUPPORTS SHALL BE PROVIDED BY E/C. SUPPORTS SHALL COMPLY W/ LATEST EDITION OF NEC. PROVIDE LIGHTING FIXTURE SECURING CLIPS AS REQUIRED. CONSULT ARCH PLANS FOR CEILING TYPES & PROVIDE SURFACE & RECESSED
- LIGHTING FIXTURES W/ APPROPRIATE MOUNTING COMPONENTS & ACCESSORIES. B. REFER TO LIGHTING FIXTURE SCHEDULE PLANS FOR FIXTURE TYPES. C. EQUIVALENT LUMINAIRES BY CREE, COOPER, HUBBELL, INFINITY, LITHONIA, WILLIAMS, COLUMBIA, EXITRONICS, LITEALARM, EXIDE, MULE, DUALLITE
- <u>ECTION 16600 FIRE ALARM SYSTEM</u> A. PROVIDE COMPLETE & OPERATIONAL MICROPROCESSOR BASED FIRE ALARM SYSTEM. SYSTEM SHALL MONITOR SPRINKLER SYSTEM TAMPER & FLOW SWITCHES. OPERATE AIR HANDLING UNIT DUCT SMOKE DETECTORS & UNIT SHUTDOWN, CONTROL NOTIFICATION APPLIANCES & PROVIDE THIRD PARTY/CENTRAL STATION MONITORING THROUGH DIGITAL ALARM COMMUNICATOR OR DIALER.
- B. PROVIDED W/ BATTERY BACKUP FOR 24 HOURS OF OPERATION & 5 MINUTES OF ALARM.
- C. SUBMIT SHOP DRAWINGS W/ WIRING DIAGRAMS & BATTERY CALCS FOR APPROVAL TO FIRE MARSHALL AND AHJ. PRODUCTS
- A. MICROPROCESSOR BASED FIRE ALARM CONTROL PANEL W/ INDICATION & NOTIFICATION CIRCUITS REQUIRED BASED ON DEVICES & DESCRIPTION HEREIN. COMPLETE CONTROL PANEL W/ POWER SUPPLY, BATTERIES, PROCESSOR, DIALER, ETC. IN SINGLE CABINET. CABINFT TO HAVE HINGED LOCKABLE DOOR. SURFACE OR SEMI-RECESSED MOUNTING. MANUFACTURED BY SIEMENS, SIMPLEX, NOTIFIER, OR APPROVED EQUAL.
- B. PHOTOELECTRIC DUCT SMOKE DETECTORS W/ SAMPLING TUBE. PROVIDE REMOTE TEST SWITCH & INDICATOR FOR EACH. LOCATION APPROVED BY ARCHITECT. ACTIVATION OF DUCT SMOKE DETECTORS SHALL SHUT DOWN RESPECTIVE AIR HANDLING C. PHOTOELECTRIC CEILING MOUNTED SMOKE DETECTORS.
- D. SINGLE ACTION PULL STATIONS E. REMOTE ANNUNCIATOR FOR RECESSED MOUNTING. COORDINATE LOCATION WITH FIRE DEPARTMENT.
- F. PROVIDE ALL REQUIRED FAN AND OTHER SHUTDOWN RELAYS FOR DOORS, DAMPERS, ETC. COORDINATE W/ OTHER TRADES. G. NOTIFICATION APPLIANCES - STROBES & COMBINATION HORN/STROBES. 15/75
- CANDELA RATING UNLESS OTHERWISE NOTED OR REQUIRED. WEATHERPROOF WHERE EXTERIOR MOUNTED. H. HEAT DETECTORS – RATE OF RISE OR FIXED AS REQUIRED BY APPLICATION. . COORDINATE TO PROVIDE POWER & SHUTDOWN OR OPERATION OF FIRE/SMOKE
- DAMPERS, DOOR HOLD OPENS, POWER TO DOOR LOCKS &ACCESS CONTROL & OTHER SIMILAR SYSTEMS. J. MODULES FOR MONITORING STATUS OF SPRINKLER SYSTEM TAMPER & FLOW
- SWITCHES. EXECUTION
- A. INSTALLED & TESTED PER NFPA 72 & APPLICABLE SECTIONS OF NFPA 70. PROVIDE CUMPLETE FIRE ALARM SYSTEM AS DESCRIBED HEREIN & SHOWN TO BE WIRED CONNECTED. & IN FIRST CLASS CONDITION. INCLUDE SUFFICIENT CONTROL UNIT(S) ANNUNCIATOR(S), MANUAL STATIONS, AUTOMATIC FIRE DETECTORS, SMOKE DETECTORS, AUDIBLE & VISIBLE NOTIFICATION APPLIANCES, WIRING, TERMINATIONS, ELECTRICAL BOXES, & ALL NECESSARY MATERIAL FOR COMPLETE OPERATING SYSTEM.
- B. SYSTEM SHALL BE UL LISTED. C. SYSTEM WIRING: WIRE & CABLE SHALL BE LISTED FOR ITS INTENDED USE BY AN APPROVAL AGENCY ACCEPTABLE TO AHJ & SHALL BE INSTALLED IN ACCORDANCE W/ APPROPRIATE ARTICLES FROM CURRENT APPROVED EDITION OF NEC.
- <u> ECTION 16700 LOW VOLTAGE CABLING</u> A. PROVIDE BROADBAND RG COAXIAL CABLE FOR CABLE TELEVISION OUTLETS. B. PROVIDE ALL NECESSARY CABLING, EQUIPMENT, BOXES, SPLITTERS, CONNECTORS, COVERS, ETC. FOR COMPLETE & OPERATIONAL SYSTEM.
- A. CABLING SHALL BE INSTALLED CONCEALED IN NEW & EXISTING CONSTRUCTION. B. CABLING SHALL BE UL LISTED FOR INTENDED USE & INSTALLED IN ACCORDANCE W/ APPROPRIATE ARTICLES FROM LATEST NEC.

POUNDS PER SQUARE INCH REDUCED PRESSURE ZONE UNO UNLESS NOTED OTHERWISE VARIABLE REFRIGERANT FLO





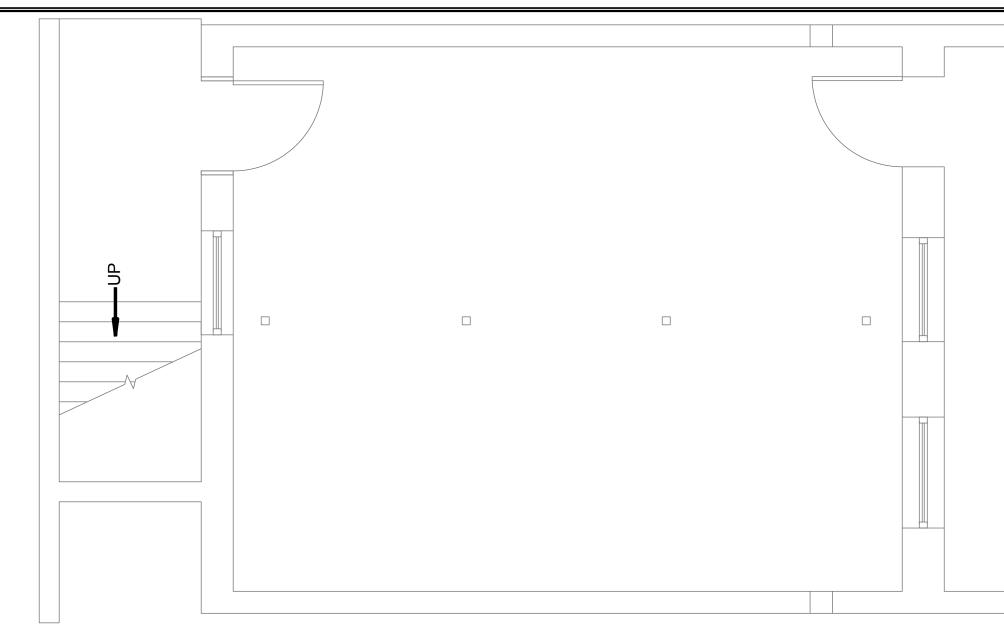


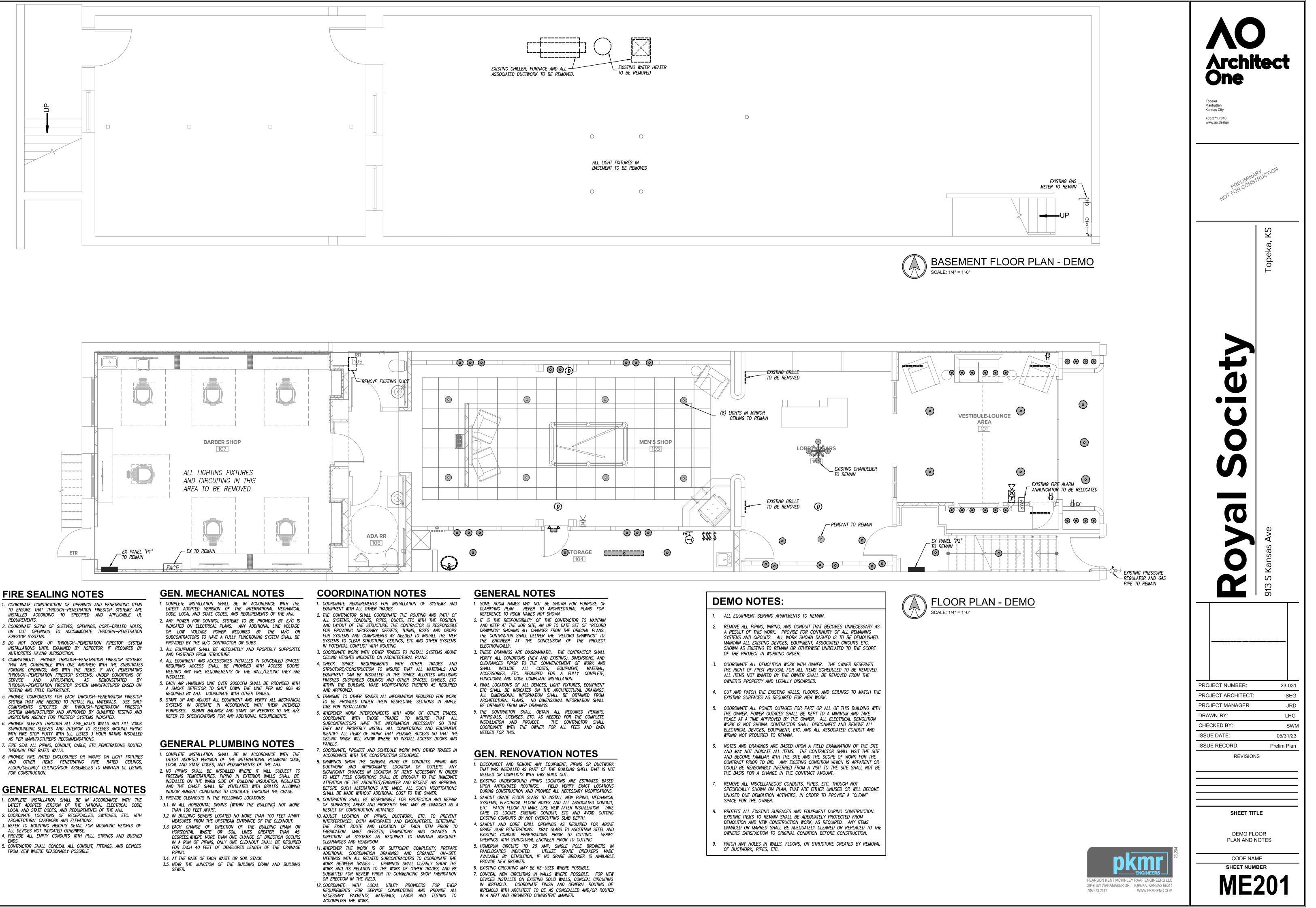
REVISIONS

SHEET TITLE

MECHANICAL AND ELECTRICAL SPECIFICATIONS

CODF NAME SHEET NUMBER





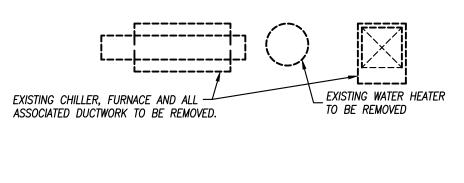
FIRE SEALING NOTES

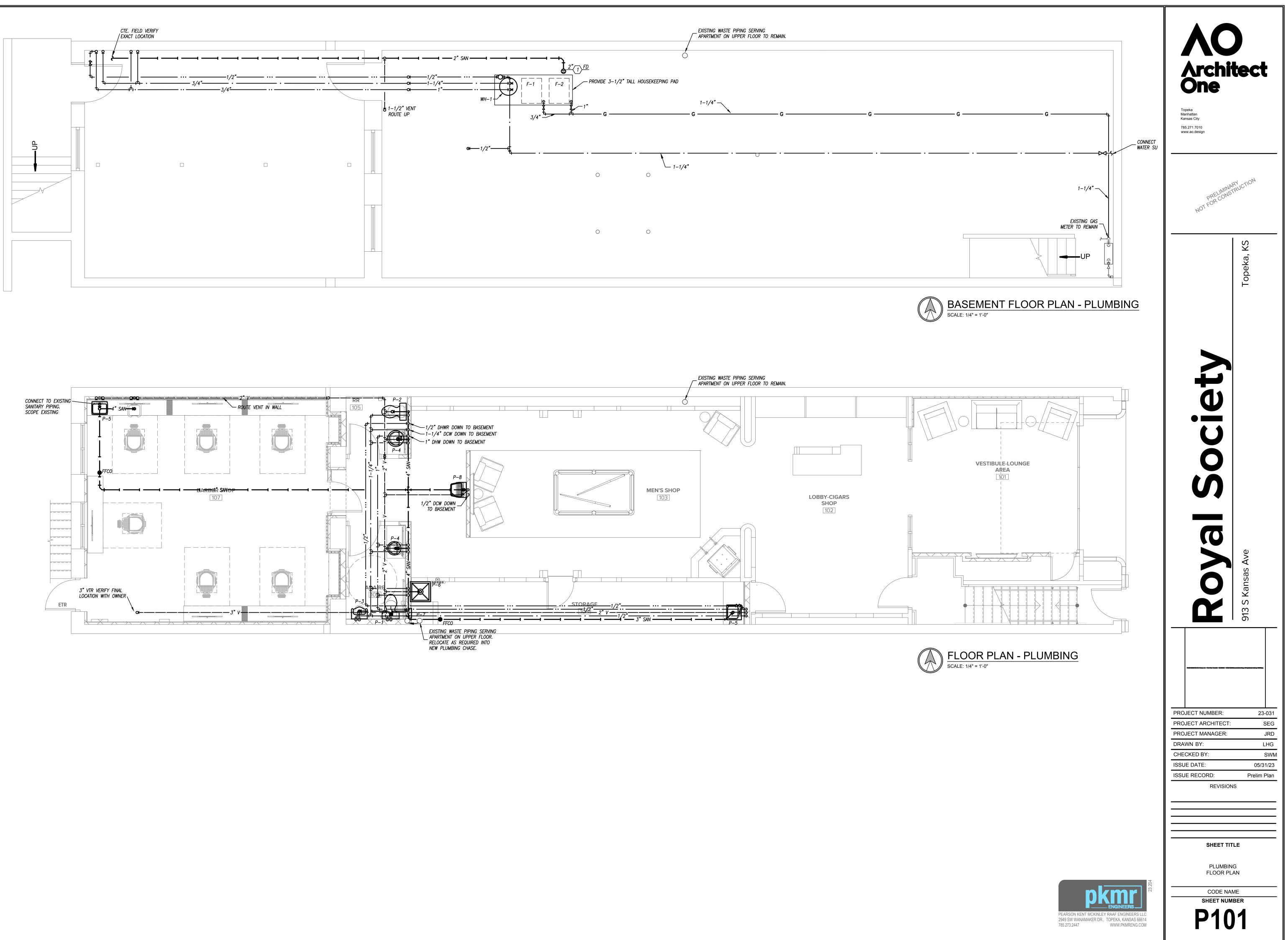
- . COORDINATE CONSTRUCTION OF OPENINGS AND PENETRATING ITEMS TO ENSURE THAT THROUGH-PENETRATION FIRESTOP SYSTEMS ARE INSTALLED ACCORDING TO SPECIFIED AND APPLICABLE UL REQUIREMENTS.
- 2. COORDINATE SIZING OF SLEEVES, OPENINGS, CORE-DRILLED HOLES, OR CUT OPENINGS TO ACCOMMODATE THROUGH-PENETRATION
- FIRESTOP SYSTEMS. 3. DO NOT COVER UP THROUGH-PENETRATION FIRESTOP SYSTEM
- INSTALLATIONS UNTIL EXAMINED BY NSPECTOR, IF REQUIRED BY AUTHORITIES HAVING JURISDICTION 4. COMPATIBILITY: PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS
- THAT ARE COMPATIBLE WITH ONE ANOTHER; WITH THE SUBSTRATES FORMING OPENINGS: AND WITH THE ITEMS. IF ANY. PENETRATING THROUGH-PENETRATION FIRESTOP SYSTEMS, UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE. 5. PROVIDE COMPONENTS FOR EACH THROUGH-PENETRATION FIRESTOP
- SYSTEM THAT ARE NEEDED TO INSTALL FILL MATERIALS. USE ONLY COMPONENTS SPECIFIED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER AND APPROVED BY QUALIFIED TESTING AND INSPECTING AGENCY FOR FIRESTOP SYSTEMS INDICATED.
- 6. PROVIDE SLEEVES THROUGH ALL FIRE_RATED WALLS AND FILL VOIDS SURROUNDING SLEEVES AND INTERIOR TO SLEEVES AROUND PIPING WITH FIRE STOP PUTTY WITH U.L. LISTED 3 HOUR RATING INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS.
- 7. FIRE SEAL ALL PIPING, CONDUIT, CABLE, ETC PENETRATIONS ROUTED THROUGH FIRE RATED WALLS.
- AND OTHER ITEMS PENETRATING FIRE RATED CEILINGS,

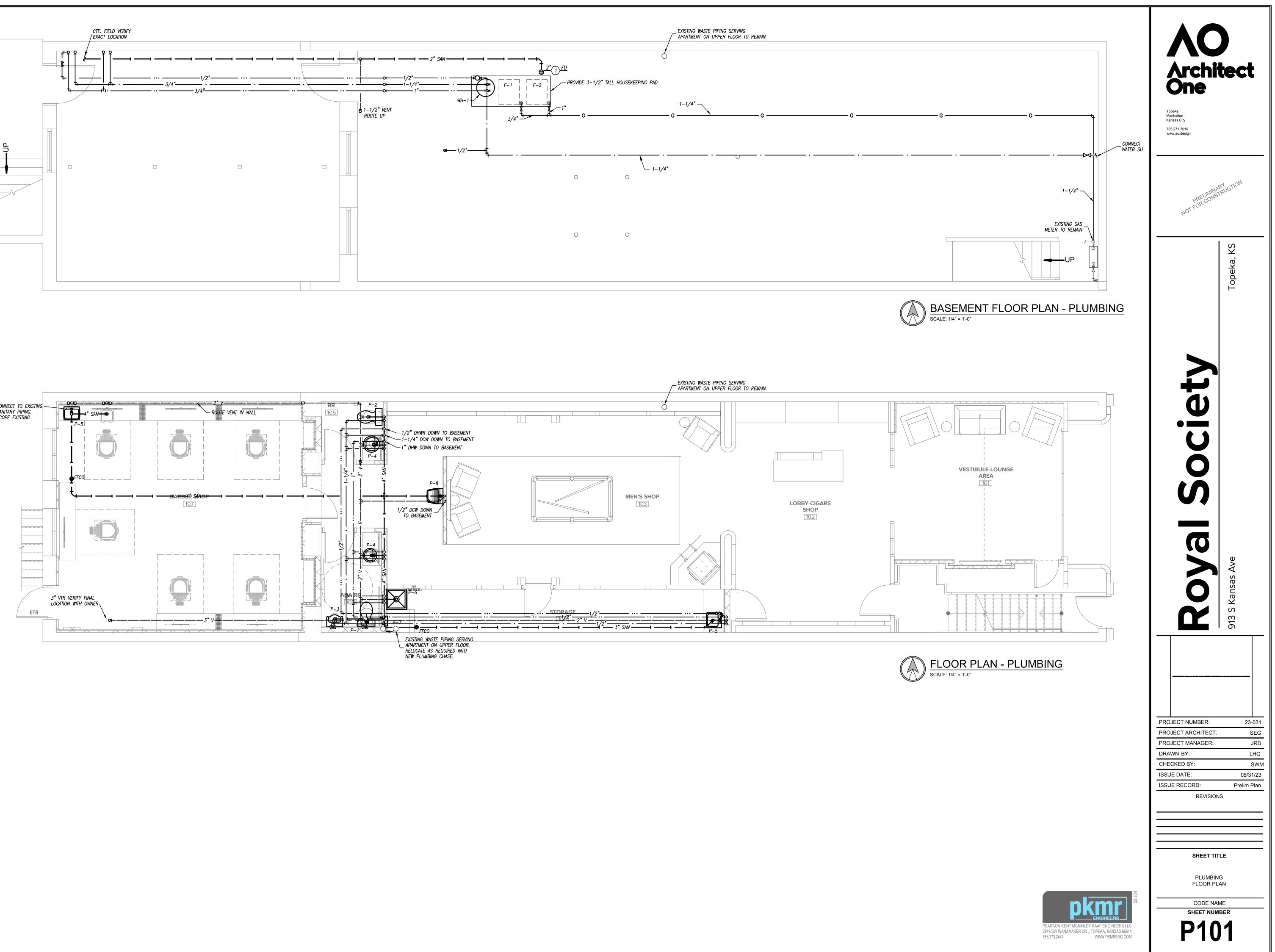
FOR CONSTRUCTION.

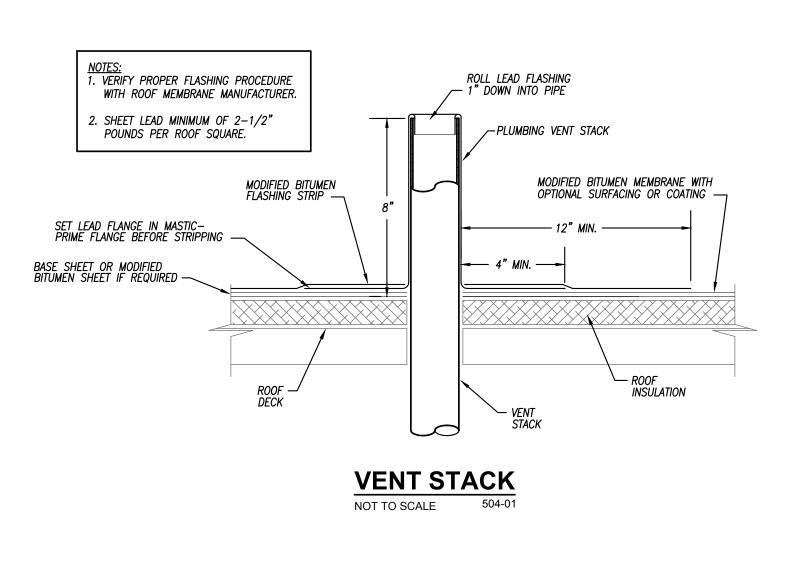
GENERAL ELECTRICAL NOTES

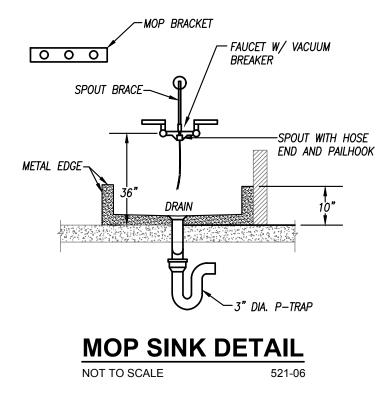
- 1. COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE,
- LOCAL AND STATE CODES. AND REQUIREMENTS OF THE AHJ. 2. COORDINATE LOCATIONS OF RECEPTACLES, SWITCHES, ETC. WITH
- ARCHITECTURAL CASEWORK AND ELEVATIONS. 3. REFER TO MOUNTING HEIGHTS DETAIL FOR MOUNTING HEIGHTS OF
- ALL DEVICES NOT INDICATED OTHERWISE. 4. PROVIDE ALL EMPTY CONDUITS WITH PULL STRINGS AND BUSHED
- 5. CONTRACTOR SHALL CONCEAL ALL CONDUIT, FITTINGS, AND DEVICES

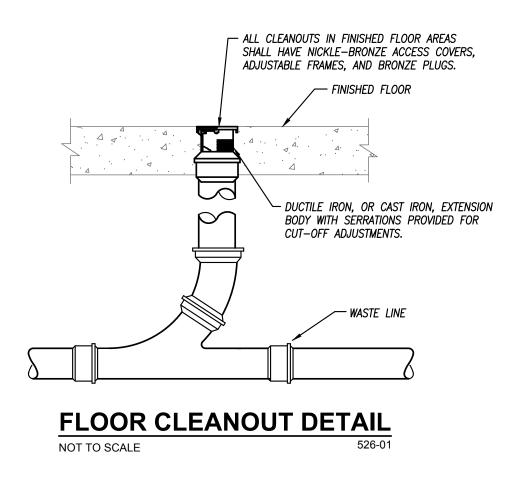


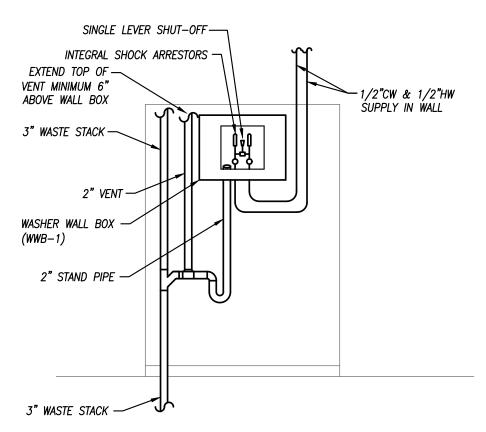




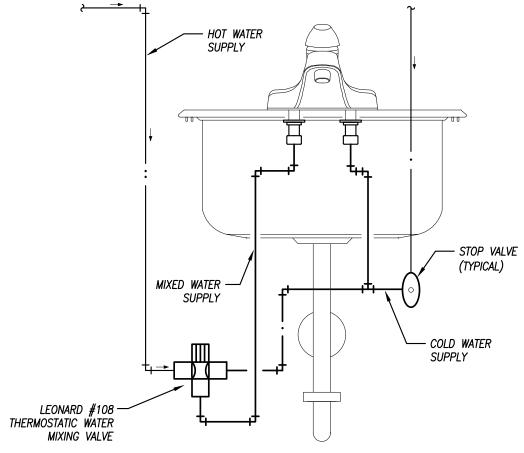








WASHER WALL BOX PIPING DETAIL NOT TO SCALE 521-05



HAND WASHING SINK/LAVATORY TEMPERED WATER SCHEMATIC NOT TO SCALE 521-01

					1	PIPE	SIZES	
PLAN MARK	FIXTURE MODEL	FIXTURE DESCRIPTION	FITTINGS MODEL	FITTINGS DESCRIPTION	WASTE	VENT	DCW	DHW
P-1	TOTO DRAKE CST744SL	ADA COMPLIANT WATER CLOSET: FLUSH TANK, WHITE ELONGATED BOWL, 1.6 GALLON SIPHON JET FLUSHING SYSTEM, 2–1/8" TRAP DIAMETER, WITH POLISHED CHROME FLUSH HANDLE MOUNTED ON WIDE SIDE OF RESTROOM STALL, WITH HANDLE STOP VALVE AND METAL FLEXIBLE WATER RISER	ТОТО SC534	SEAT: WHITE, SOLID PLASTIC, OPEN FRONT, ELONGATED	4"	2"	1/2"	
P-2	TOTO DRAKE CST744SG	WATER CLOSET: FLUSH TANK, WHITE ELONGATED BOWL, 1.6 GALLON SIPHON JET FLUSHING SYSTEM, 2–1/8" TRAP DIAMETER, WITH POLISHED CHROME FLUSH HANDLE, HANDLE STOP VALVE AND METAL FLEXIBLE WATER RISER	ТОТО SC534	SEAT: WHITE, SOLID PLASTIC, OPEN FRONT, ELONGATED	4"	2"	1/2"	
P-3	AMERICAN STANDARD 6590.001	JET FLUSHING ACTION. MOUNT FIXTURE RIM AT 17" ABOVE FLOOR WITH FLOOR MOUNTED, HEAVY DUTY TUBULAR STEEL SUPPORT CARRIER 186-0.5 FLUSH, WITH WALL AND SPUD FLANGES. MOUNT HANDLE AT 43" ABOVE FLOOR ON WIDE SIDE OF RESTROOM STALL ADA COMPLIANT LAVATORY: OVAL CAST CONCRETE VESSEL SINK-DUSK KOHLER FAUCET: SINGLE LEVER HANDLE, 1/2" CONNECTIONS, 1.2 GPM MAX		2"	2"	1"		
P-4	LARGE LISMAN	ADA COMPLIANT LAVATORY: OVAL CAST CONCRETE VESSEL SINK-DUSK GREY. PROVIDE HANDLE STOP VALVES AND FLEXIBLE METAL WATER RISERS. MOUNT TOP OF RIM AT 34" ABOVE FLOOR	KOHLER K-73168-4	FAUCET: SINGLE LEVER HANDLE, 1/2" CONNECTIONS, 1.2 GPM MAX FLOWRATE. BRASS GRID DRAIN, TAILPIECE, AND P-TRAP INSULATE THE TAILPIECE, P-TRAP, AND WATER RISERS. VERIFY COLOR WITH ARCHITECT.	2"	2"	1/2"	1/2"
			WATTS LFMMV-M1	THERMOSTATIC MIXING VALVE: BRONZE BODY THERMOSTATIC MIXING VALVE WITH 1/2" CONNECTIONS, FILTER WASHERS, CHECK VALVES AND LOCKABLE ADJUSTMENT CAP. MOUNT IN AN ACCESSIBLE LOCATION BELOW LAVATORY.				
P-5	ELKAY LR—1722	SINGLE COMPARTMENT SINK: SEAMLESS 18 GAUGE, TYPE 302 STAINLESS STEEL, SATIN FINISH WITH FULL UNDERCOAT, HOLES 4" ON CENTERS, 7 1/2" BOWL DEPTH, SELF RIMMING, PROVIDE HANDLE STOP VALVES AND FLEXIBLE METAL WATER RISERS	AMERICAN STANDARD 7500.140	CENTERSET GOOSENECK FAUCET WITH METAL LEVER HANDLES, 1/2" CONNECTIONS, POLISHED CHROME FINISH WITH BASKET STRAINER AND DRAIN, CHROME PLATED BRASS TAILPIECE AND P-TRAP, INSULATE THE TAILPIECE, P-TRAP, AND WATER RISERS	2"	2"	1/2"	1/2"
P-6	FIAT MSB-2424	JANITORS SINK: WHITE 24"X24"X10" ONE PIECE MOLDED STONE MOP BASIN, WITH STAINLESS STEEL DRAIN BODY WITH 3" WASTE WITH STAINLESS STEEL WALL GUARDS	FIAT 830—AA	CHROME PLATED BRASS WALL MOUNTED FAUCET WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK, 3/4" HOSE THREAD SPOUT, INDEXED HANDLES, WITH 5 FOOT HOSE AND BRACKET, MOP HANGER AND HOSE RACK	3"	2"	1/2"	1/2"
				PLUMBING CONTRACTOR SHALL INSTALL A SEPARATE 1/2" DOMESTIC COLD WATER STUB OUT AT THE MOP SINK AT 54" ABOVE FLOOR FOR A POSSIBLE FUTURE SOAP DISPENSER				
P-7	GUY GRAY B200	WASHING MACHINE SUPPLY AND DRAIN BACK BOX: PROVIDE WITH VALVES AND DRAIN FITTINGS.			2"	2"	1/2"	1/2"
P-8	HALSEY—TAYLOR HAC8FSQ	ADA COMPLIANT ELECTRIC WATER COOLER: 8 GPH OF 50 DEGREE WATER WITH FRONT AND SIDE PUSHBARS, MOUNT WITH 27" OF KNEE CLEARANCE, MOUNT ON CONCEALED ARM CARRIER			2"	2"	1/2"	

PLUMBING PUMP SCHEDULE

	NG PUMP S	CHEDULE						
PLAN MARK	MANUFACTURER	MODEL NUMBER	GPM	HEAD FT. W.C.	ELECTRICAL CHARACTERISTICS	MAX. RPM	NOTES	
DHW RETURN	BELL & GOSSETT	PL-30B	7	20	1/12 HP, 120V., 1ø	2650	1	
NOTES EGEND								

NOTES LEGEND 1 - ALL BRONZE CONSTRUCTION.

WATER HEATER SCHEDULE

PLAN MARK	MANUFACTURER	MODEL NUMBER	GALLONS	CAPACITY	
WATER HEATER-1	STATE	ES6 40 DOCT	40	(2) 4.5 KW NON-SIMULTANEOUS	
NOTES LEGEND					

1 - PROVIDE BASIN PAN WITH DRAIN.

FLOOR / ROOF DRAIN SCHEDULE										
PLAN MARK	MANUFACTURER	MODEL NUMBER	TOP/GRATE SIZE	WASTE SIZE	REMARKS					
FD—1	WADE	1100	FLOOR DRAIN	6 " Ø	2"					

PIPING MATERIAL & INSULATION SCHEDULE

PIPING					FIELD TEST	ALLOWABLE IN	INSUL	ATION
SYSTEM	SIZE	TYPE/SCHED	MATERIAL	ACCEPTABLE FITTINGS	PRESSURE/TIME	PLENUMS	TYPE	THICKNESS
DOMESTIC COLD WATER	1/2"-2-1/2"	L	COPPER	SOLDER, PRO-PRESS	130 PSI – 1/2HR	YES	FIBERGLASS W/ ASJ	1/2"
DOMESTIC HOT WATER & HW RETURN	1/2"-2-1/2"	L	COPPER	SOLDER, PRO-PRESS	130 PSI – 1/2HR	YES	FIBERGLASS W/ ASJ	1"
DOM. HOT & COLD BELOW GRADE	1/2"-1-1/4"	K	COPPER	CONTINUOUS TUBING, BRAZED	130 PSI – 1/2HR	YES	ELASTOMERIC	3/4" (HOT ONLY)
DOMESTIC COLD WATER	3"-6"	L	COPPER	BRAZED, PRO-PRESS	130 PSI – 1/2HR	YES	FIBERGLASS W/ ASJ	1/2"
DOMESTIC HOT WATER	3"-6"	L	COPPER	BRAZED, PRO–PRESS	130 PSI – 1/2HR	YES	FIBERGLASS W/ ASJ	1-1/2"
NATURAL GAS – ABOVE GRADE	2-1/2 & Up	SCH. 40	STEEL- SEEMED	WELDED	75 PSI – 1HR	YES		
NATURAL GAS – ABOVE GRADE	1/2"-2"	SCH. 40	STEEL- SEEMLESS	THREADED IRON	75 PSI – 1HR	YES		
NATURAL GAS BELOW GRADE	ALL	SDR-11	POLYETHYLENE	FUSION JOINTS	100 PSI – 1HR	NO		
SOIL & WASTE ABOVE GRADE	1-1/2"-6"	NO HUB / SERVICE WT.	CAST IRON	NO HUB	10 FT - 1/2HR	YES		
SOIL & WASTE ABOVE GRADE	2"-8"	SCH. 40	PVC	SOLVENT JOINED	10 FT — 1/2HR	NO		
SOIL & WASTE BELOW GRADE	2"-8"	SCH. 40	PVC	SOLVENT JOINED	10 FT — 1/2HR	NO		
DRINKING FOUNT. DRAIN	ALL					YES	ELASTOMERIC	1/2"
CONDENSATE DRAIN ON ROOF	3/4"-2"	SCH. 40	PVC	SOLVENT JOINED	10 FT - 1/2HR	NO		
CONDENSATE DRAIN INTERIOR	1/2"-2"	L	COPPER	SOLDER, PRO-PRESS	10 FT — 1/2HR	YES	FIBERGLASS W/ ASJ	1/2" (PLENUM ONLY
DOM. WATER SERVICE BELOW GRADE	4"-8"	AWWA C151	DUCTILE IRON	AWWA C111. MECH JOINTS	130 PSI – 1/2HR	YES		
DOM. WATER SERVICE BELOW GRADE	1"-3"	ĸ	COPPER	CONTINUOUS TUBING, BRAZED	130 PSI – 1/2HR	YES		
DOM. WATER SERVICE BELOW GRADE	1"-3"	DR 9	HDPE	CONTINUOUS TUBING, FUSED	130 PSI – 1/2HR	NO		

1. ALL PIPING AND MATERIALS IN PLENUMS MUST MEET ASTM E84 FLAME/SMOKE RATING OF 25/50. 2. ALL INSULATION THICKNESSES SHALL MEET ASHRAE 90.1 – 2007 REQUIREMENTS AT A MINIMUM.

3. REFER TO SPECIFICATIONS FOR MORE DETAILED INFORMATION.

ELECTRICAL	NOTES
208V, 1PH, 30AMP	1

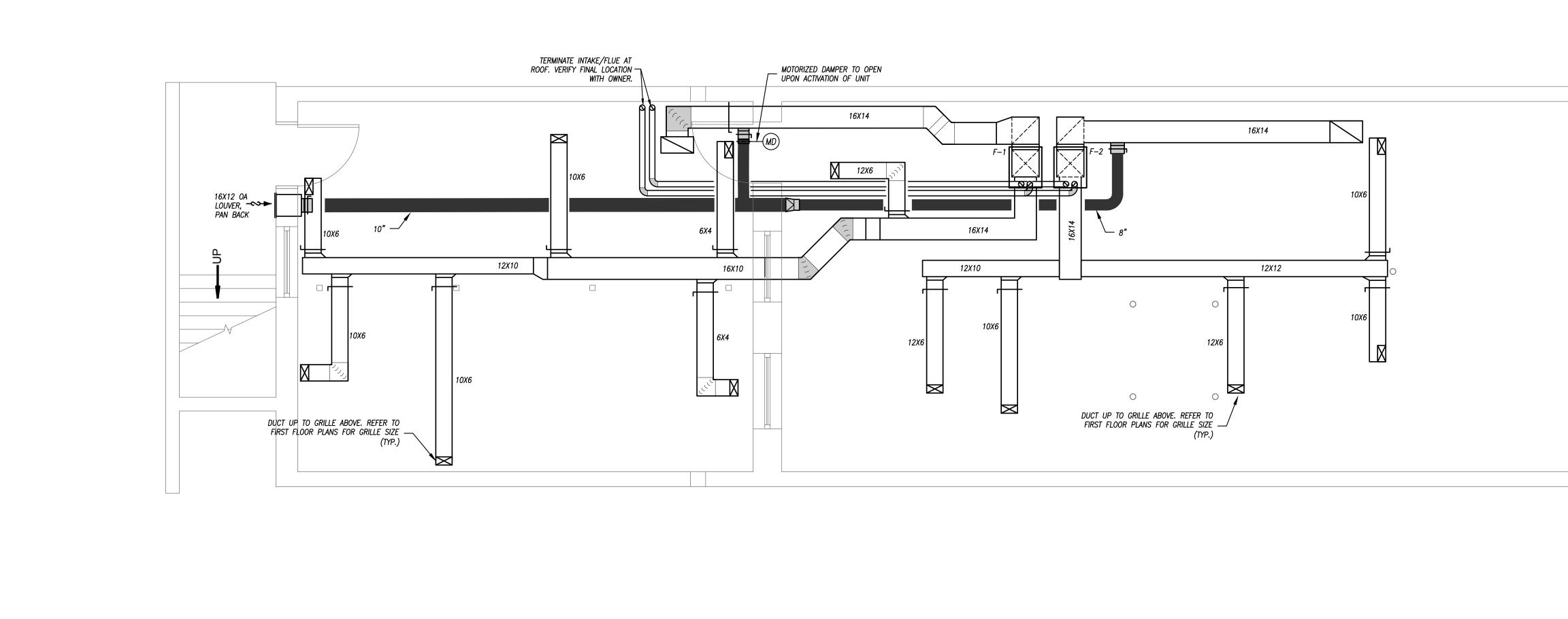
www.ao.design	RYRUCTION
ety	Topeka, KS
Royal Socie	913 S Kansas Ave
PROJECT NUMBER: PROJECT ARCHITECT: PROJECT MANAGER: DRAWN BY: CHECKED BY: ISSUE DATE: ISSUE RECORD: REVISION	23-031 SEG JRD LHG SWM 05/31/23 Prelim Plan
SHEET TIT PLUMBING DE & SCHEDU CODE NAN SHEET NUM P20	ETAILS LES ME BER

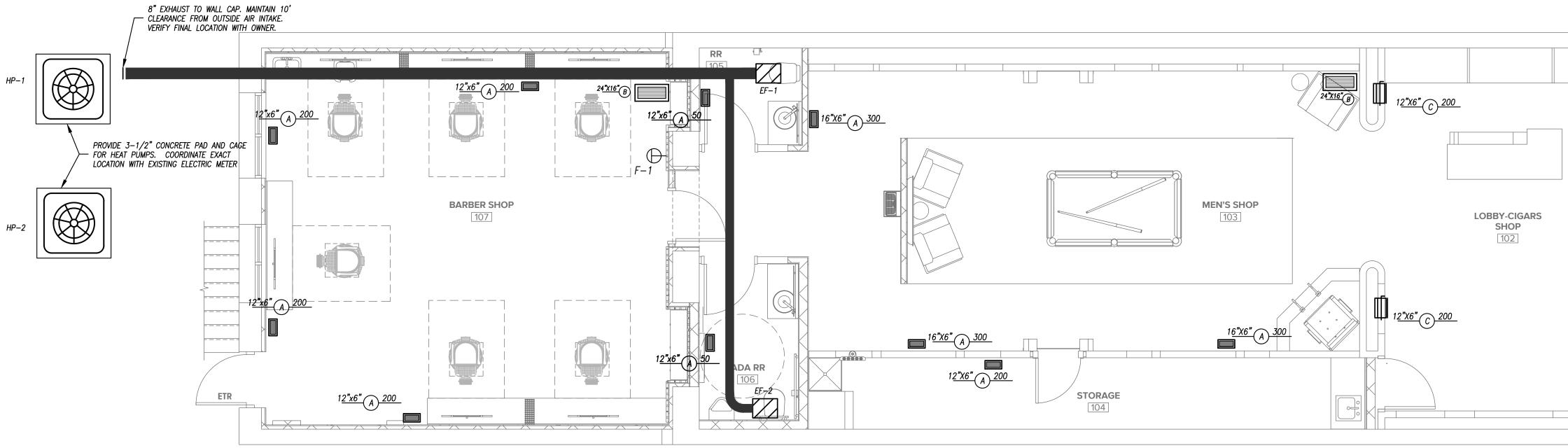
Architect One

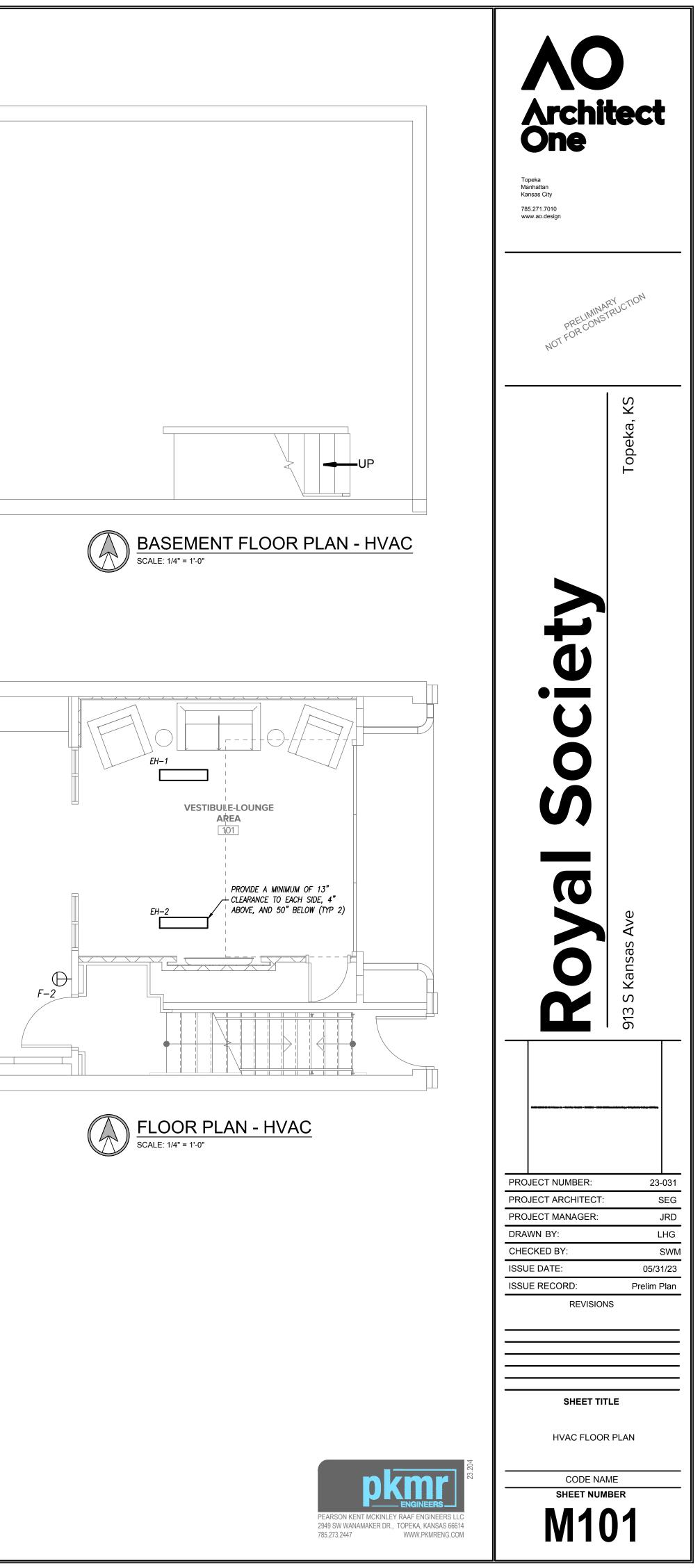
Topeka Manhattan Kansas City

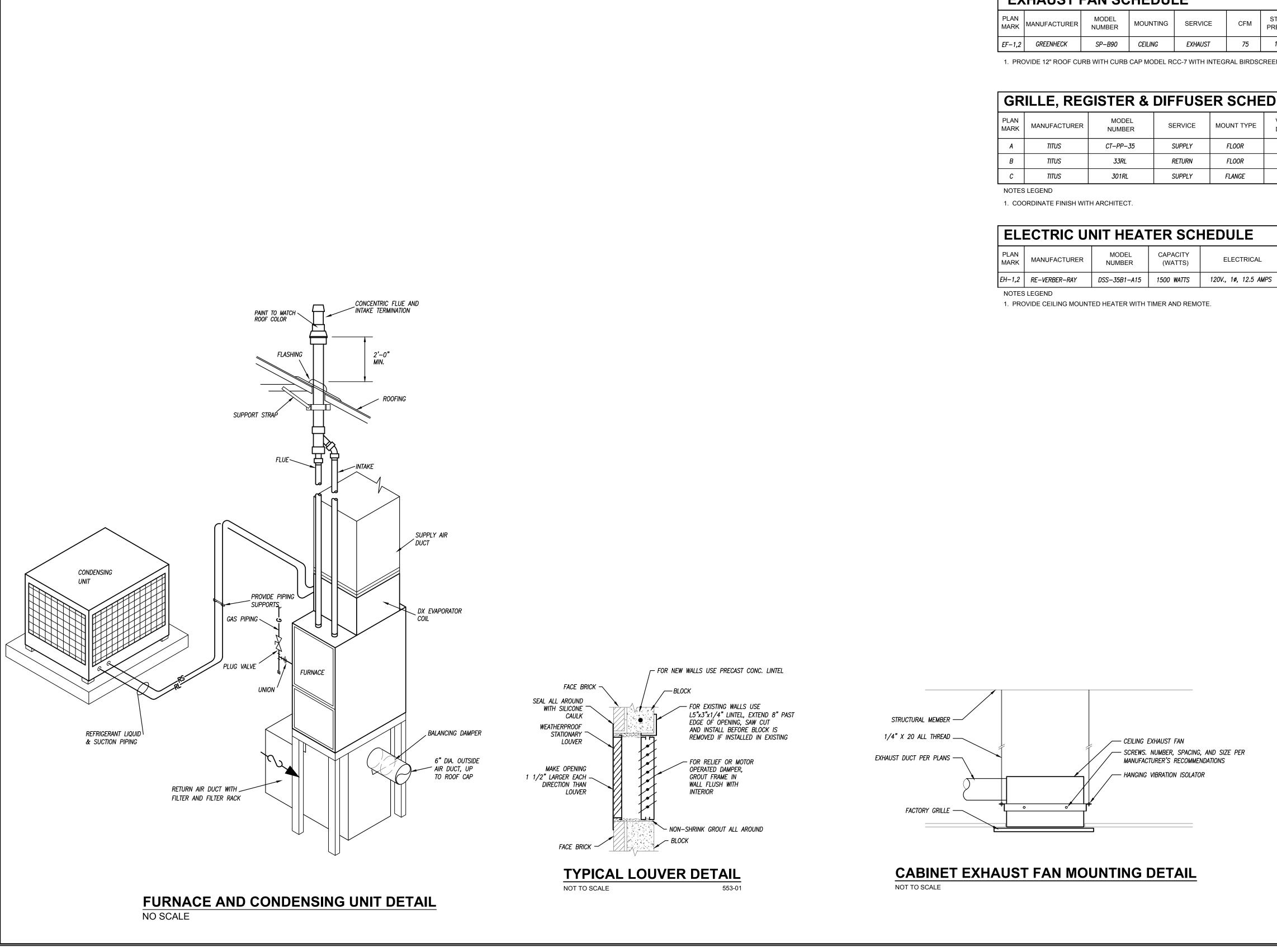
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FL	FURNACE SCHEDULE																	
PLAN MARK	MANUFACTURER	MODEL NUMBER	CABINET WIDTH	TOTAL CFM	OUTDOOR AIR CFM	STATIC PRESSURE	Motor HP/HI EFF	HEAT INPUT BTUH	HEAT OUTPUT BTUH	FLUE OUTLET	COMBUSTION AIR INLET	EVAPORATOR MODEL	COOLING CAPACITY	ENTERING AIR DRY/WET	LEAVING AIR DRY/WET	ELECTRICAL	FILTER	NOTES
F-1	DAIKIN	DM96VC0603BN	17.5	1200	120	0.5"	1/2 HP/ECM	60	57.6	2"	2"	CAPEA30	3 TON	78/65	57/55	120 V, 1 PH.	MERV 13	1
F-2	DAIKIN	DM96VC0603BN	17.5	1200	120	0.5"	1/2 HP/ECM	60	57.6	2"	2"	CAPEA30	3 TON	78/65	57/55	120 V, 1 PH.	MERV 13	1

NOTES LEGEND 1. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT

HE	HEAT PUMP SCHEDULE													
PLAN MARK	MANUFACTURER	MODEL NUMBER	NOMINAL SIZE	TOTAL MBH COOLING	TOTAL MBH HEATING	AMBIENT	SUCTION	LIQUID	COMPRESSORS	ELECTRICAL	MOCP AMPS	MIN CIRCUIT AMPS	DISCONNECT	NOTES
HP-1	DAIKIN	DZ17VSA361AA	3 TONS	34.2	34.2	100	7/8"	3/8"	1	208/240V, 1PH.	25	22.7	YES	1,2,3
HP-2	DAIKIN	DZ17VSA361AA	3 TONS	34.2	34.2	100	7/8"	3/8"	1	208/240V, 1PH.	25	22.7	YES	1,2,3
NOTES	NOTES LEGEND													

1. PROVIDE TXV VALVE, SERVICE VALVES, AND REFRIGERANT ACCUMULATOR AT SUCTION LINE

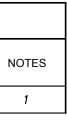
2. PROVIDE COIL HAIL GUARDS

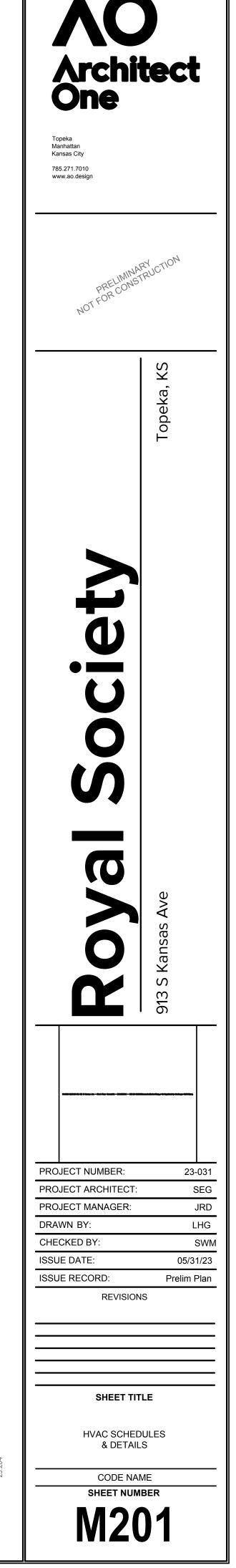
3. VERIFY EXACT REFRIGERANT LINE SIZES WITH MANUFACTURER

EXHAUST FAN SCHEDULE											
PLAN MARK	MANUFACTURER	MODEL NUMBER	MOUNTING	SERVICE	CFM	STATIC PRESSURE	ELECTRICAL	DRIVE	DISCONNECT	DAMPER	NOTES
EF—1,2	GREENHECK	SP-B90	CEILING	EXHAUST	75	1/4"	50 WATTS, 120V, 1 PH.	DIRECT	YES	BACKDRAFT	1

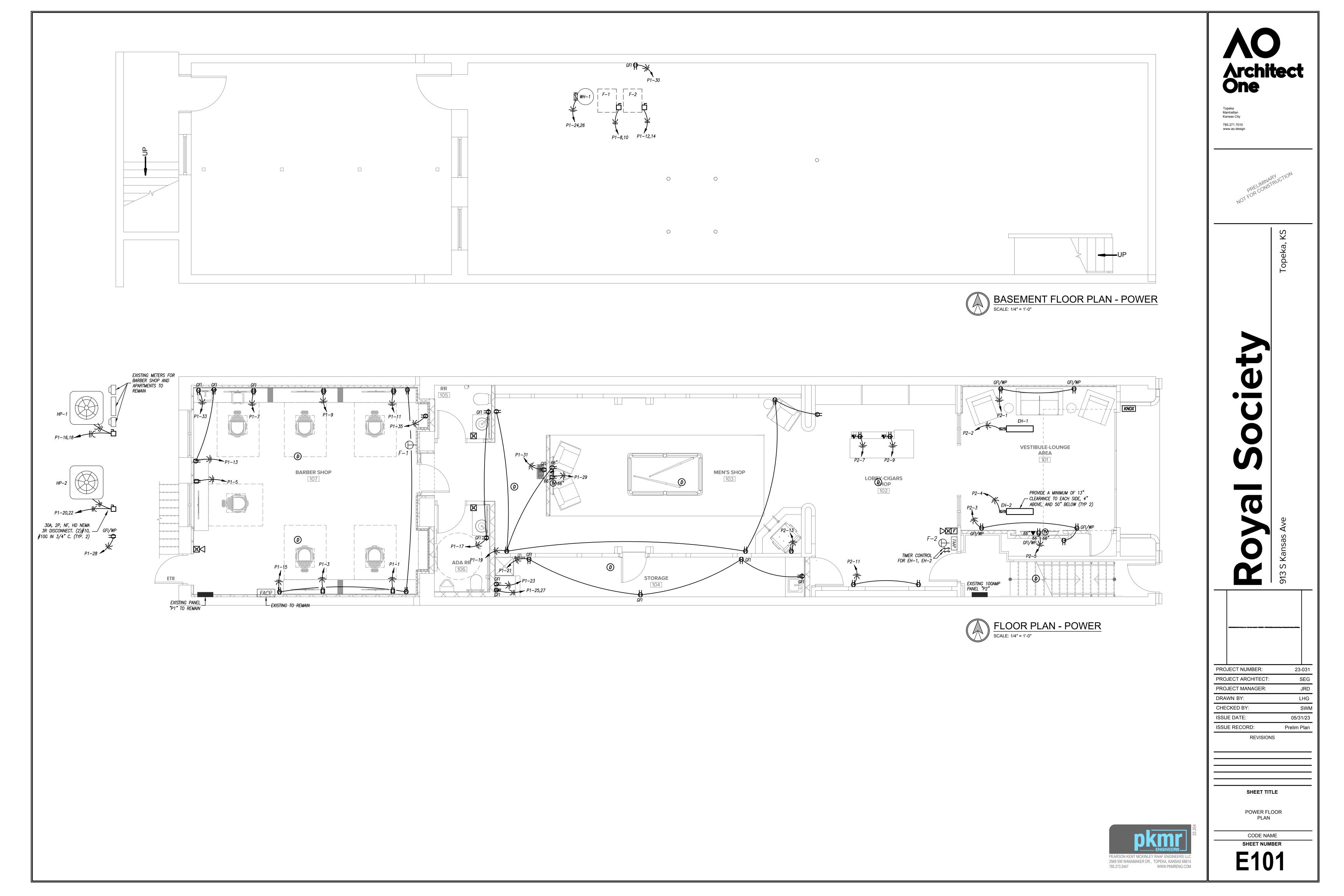
1. PROVIDE 12" ROOF CURB WITH CURB CAP MODEL RCC-7 WITH INTEGRAL BIRDSCREEN.

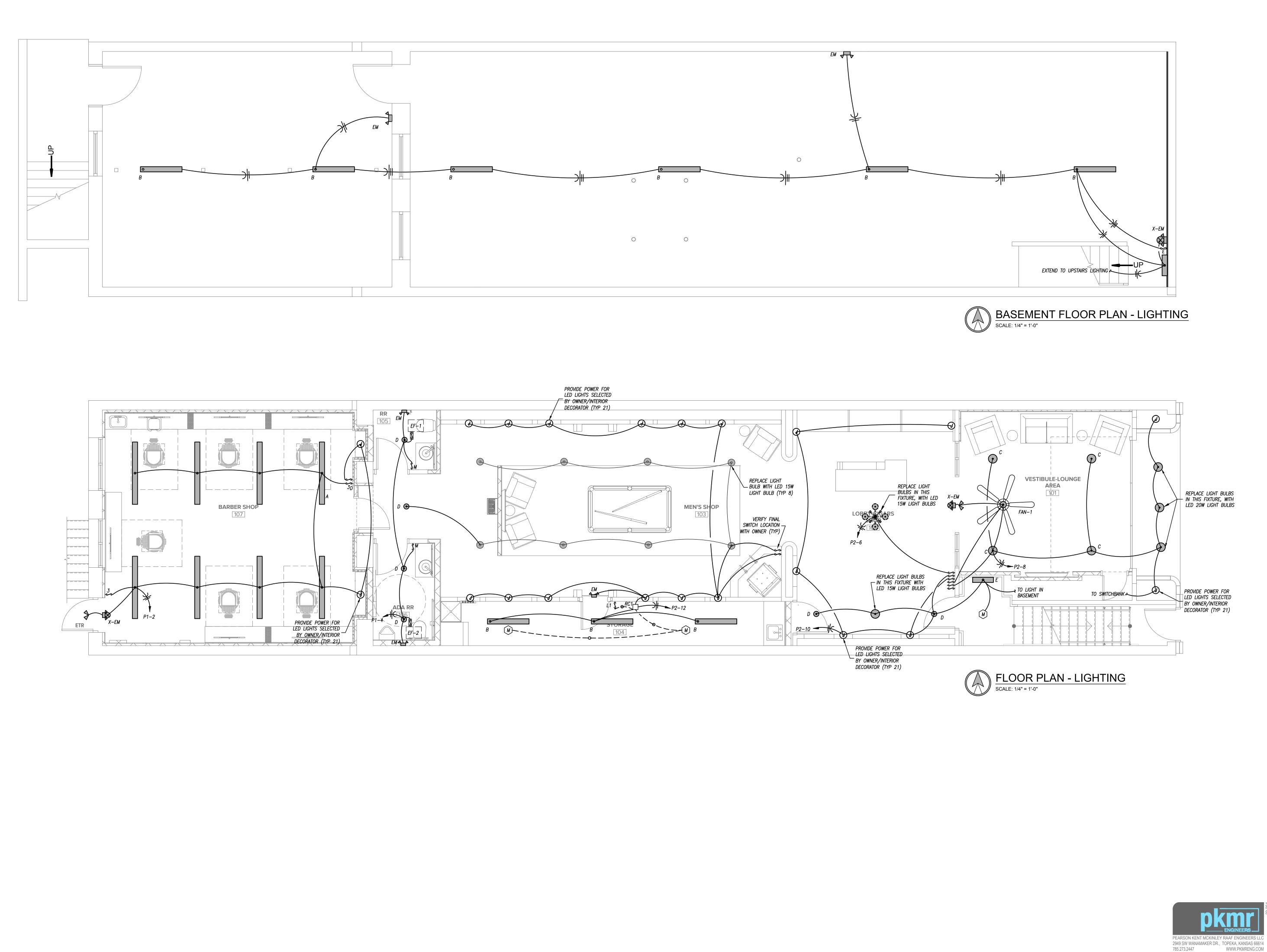
GRILLE, REGISTER & DIFFUSER SCHEDULE												
PLAN MARK	MANUFACTURER	MODEL NUMBER	SERVICE	MOUNT TYPE	VOLUME DAMPER	MATERIAL	MATERIAL COLOR	NOTES				
A	TITUS	CT-PP-35	SUPPLY	FLOOR	NO	STEEL	GALVANIZED	1				
В	TITUS	33RL	RETURN	FLOOR	NO	STEEL	GALVANIZED	1				
С	TITUS	301RL	SUPPLY	FLANGE	YES	STEEL	WHITE	1				

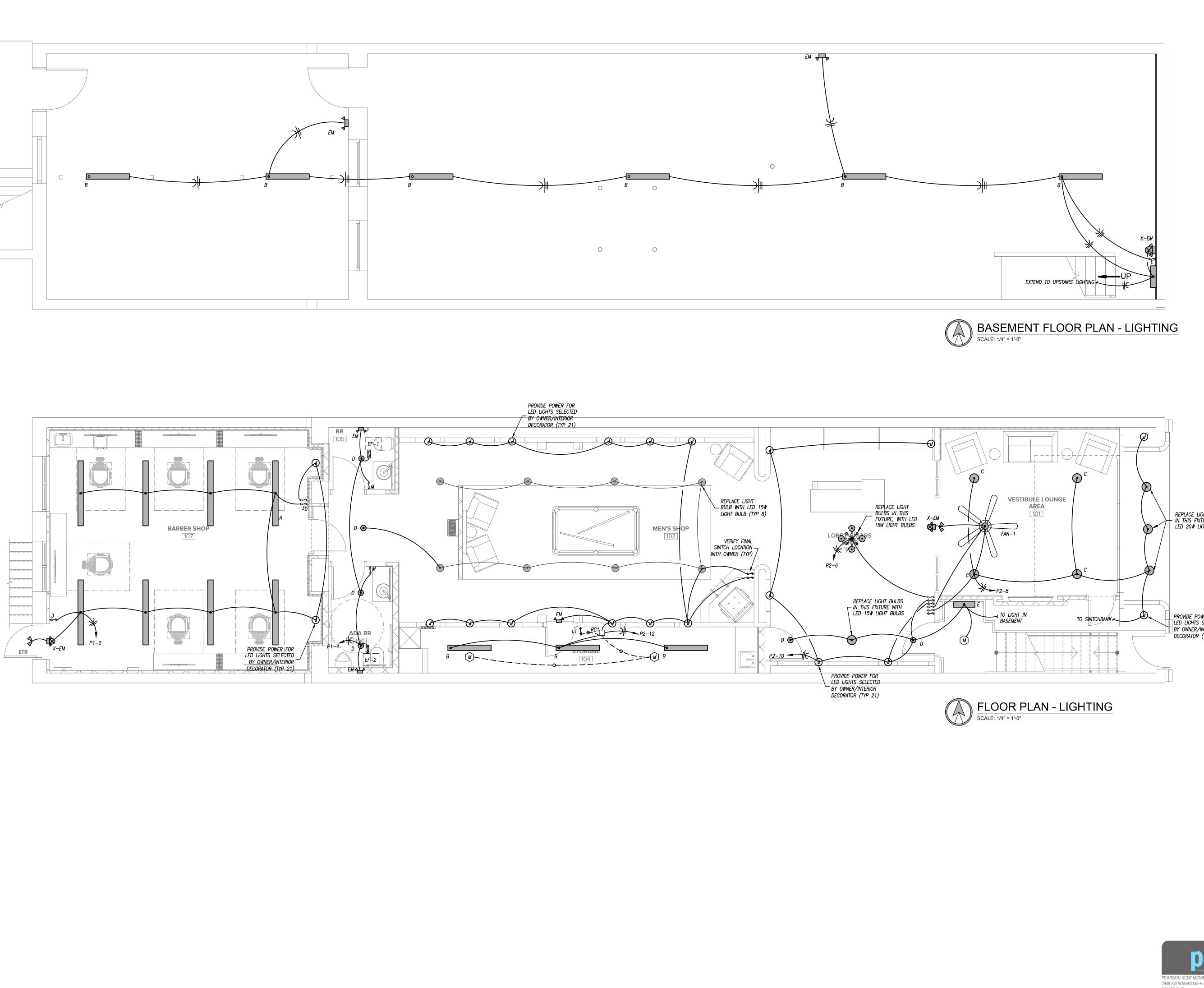


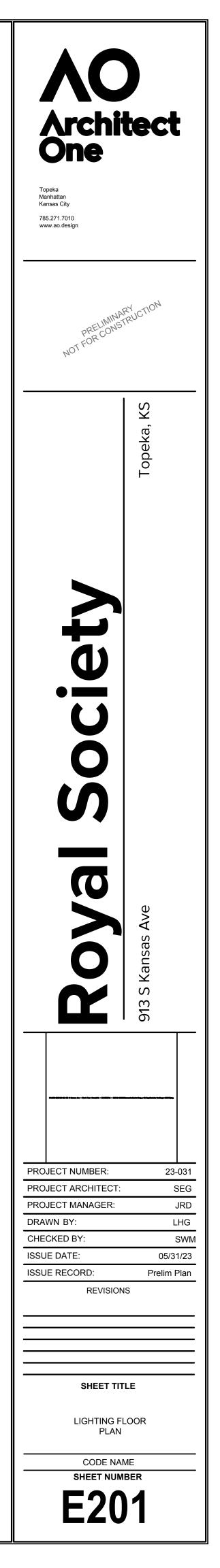




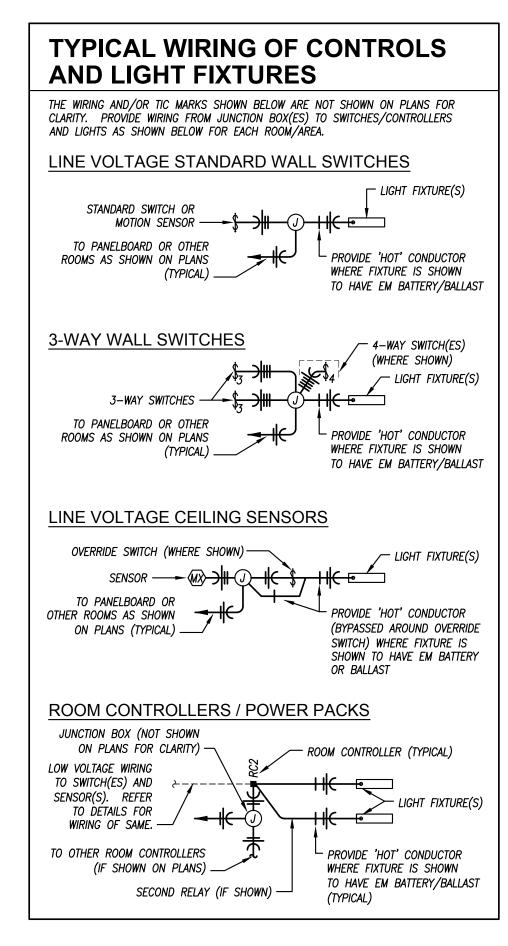








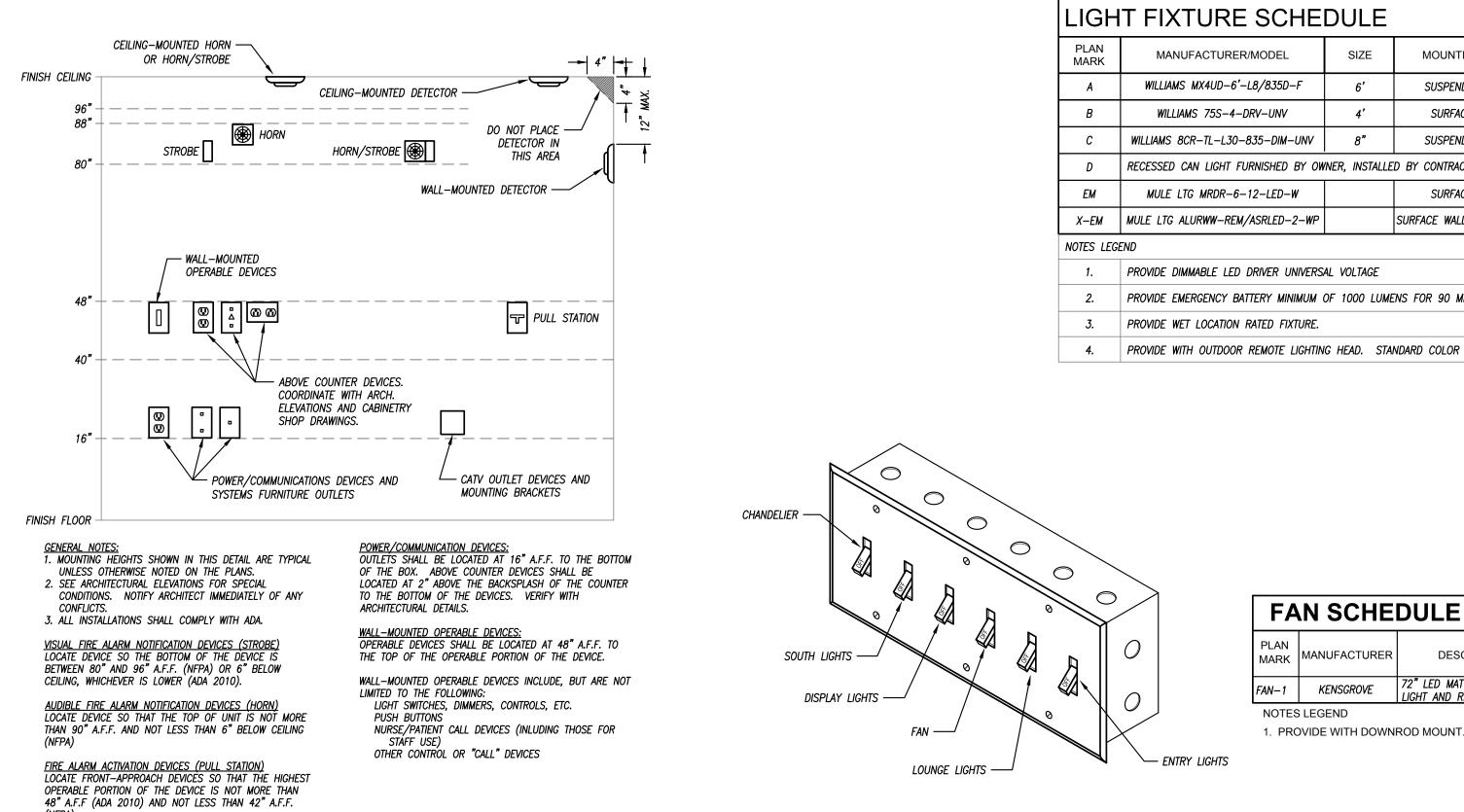
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GENERAL LIGHTING NOTES

1. REFER TO GENERAL NOTES ON MEP COVER SHEET FOR ADDITIONAL REQUIREMENTS OF WORK.

- 2. LIGHT FIXTURES INDICATED AS EMERGENCY FIXTURES ARE TO FUNCTION AS NIGHT LIGHTS UNLESS SPECIFICALLY SHOWN SWITCHED.
- 3. ALL CIRCUITING SHOWN ON THIS PLAN IS DIAGRAMMATIC.
- 3.1. ALL FIXTURES SHALL BE FED FROM JUNCTION BOXES WITH LIGHT FIXTURE WHIPS (<6'). DAISY-CHAINING OF FIXTURES IS NOT ALLOWED. 3.2. SWITCH BOX LOCATIONS SHALL BE WIRED SO THAT A NEUTRAL WIRE IS AVAILABLE AT THE SWITCH BOX LOCATION. EITHER IN THE BOX OR
- AVAILABLE TO BE ADDED VIA RACEWAY OR AN ACCESSIBLE WALL CAVITY. 3.3. WALL SWITCHES FOR SEPARATE LOAD TYPES (EM/NORMAL, 120/277V, ETC.) SHALL NOT BE IN A SINGLE BOX.
- 3.4. REFÉR TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



(NFPA).

NOT TO SCALE

MOUNTING HEIGHTS FOR WALL-MOUNTED DEVICES

SWITCHBANK DETAIL NOT TO SCALE

SINGLE-SEC	FION	PAN	IEL	BO	4F	RC) SC	HE	DUL	E		
PANEL DESIGNATION:	EYIS		C D	2			MA	AIN LUC	G AMPS:	125		
			GF	2	#		MAIN BREAKER: 100					
MOUNTING:	-					5	VOLTAGE: 240/120					
LOCATION:	-		-		CIRCUIT	2	PHASE/WIRE:			1Ø, 3W		
DESCRIPTION	PH	ASE	C/B		<u></u>	5	C/B		PHASE		DESCRIP	
	A	В	TRIP	POLE			POLE	TRIP	A	В	BEGGI	HON
REC: LOUNGE	360		20	1	1	2	1	20	1500			EH-1
REC: LOUNGE		540	20	1	3	4	1	20		1500		EH-2
REC: LOUNGE TV	180		20	1	5	6	1	20	500		EXISTING	CHANDELIER
REC: LOBBY POS		180	20	1	7	8	1	20		1000		LTG: LOUNGE
REC: LOBBY POS	180		20	1	9	10	1	20	1000		LTG: LOBE	BY/BASEMENT
REC: LOBBY		360	20	1	11	12	1	20		1000	LTG	: MEN'S SHOP
REC: SHOE SHINE	180		20	1	13	14	1	20	-			SPARE
SPARE		-	20	1	15	16	1	20		-		SPARE
SPARE	-		20	1	17	18	1	20	-			SPARE
SPARE		-	20	1	19	20	1	-		-		-
-	-		-	1	21	22	1	-	-			-
-		-	-	1	23	24	1	-		-		-
-	-		-	1	25	26	1	-	-			-
-		-	-	1	27	28	1	-		-		-
-	-		-	1	29	30	1	-	-			-
-		-	-	1	31	32	1	-		-		-
-	-		-	1	33	34	1	-	-			-
-		-	-	1	35	36	1	-		-		-
-	-		-	1	37	38	1	-	-			-
-		-	-	1	39	40	1	-		-		-
-	-		-	1	41	42	1	-	-			-
TOTALS	900	1080							3000	3500	TOTALS	
I			4					1		I	1	
PAI	NELBOA	RD SIZIN	G LOA	D						CO	NNECTED PHASE	LOADS
LOAD DESCRIPTION	CONN	ECTED	DEN	IAND	CODE MIN. (VA)			(VA)		PHASE	VA	AMPS
LIGHTS	3,5	00	1.	25			4,375			A	3,900	32.5
RECEPTACLES	1,9	80	0KVA +	50% RES	ł		1,980			В	4,580	38.2
MOTORS	()					0			TOTALS	8,480	35.3
AIR CONDITIONING	()	0.	00	1		0					
SPACE HEATING	3,0	00	1.	00			3,000			REMARKS:		
CONTINUOUS)	1.	25			0			1. CONTRACTOR MAY USE EXISTING BREAKERS		
NON-CONTINUOUS)	1.	00			0			AS AVAILABLE AND PROVIDE NEW AS REQUIRED.		
MISC. LOADS 1)	1.	00			0					
MISC. LOADS 2)	1.	00			0					
			IZING				9,355					
	5						39					

PANEL DESIGNATION:	EXIS	STIN	G P	1	1	#			JG AMPS: 225 REAKER: 225 'OLTAGE: 240/120				
MOUNTING:	-					10		VC					
LOCATION:	-					2		PHAS	E/WIRE:	1Ø, 3W			
DESCRIPTION	PHA	SE	C	/B	ī	כ	C	В	PH	ASE	DESCRIP		
DESCRIPTION	Α	В	TRIP	POLE			POLE	TRIP	Α	В	DESCRIP	TION	
REC: STATION 1	360		20	1	1	2	1	20	1000		LTG: E	BARBER SHOP	
REC: STATION 2		360	20	1	3	4	1	20		130	LTG:	BATHROOMS	
REC: STATION 3	360		20	1	5	6	1	20	180		RECEPT E	BELOW PANEL	
REC: SHAMPOO		360	20	1	7	8	1	20		936		FURNACE-1	
REC: STATION 4	360		20	1	9	10	1	20	936			FURNACE-2	
REC: STATION 5		360	20	1	11	12	1	20		-		SPARE	
REC: SINK	360		20	1	13	14	1	20	-			SPARE	
REC: BARBER SHOP		540	20	1	15	16	2	25		2724		HP-1	
REC: BATHROOM	360		20	1	17	18	-	-	2724		-		
REC: MEN'S SHOP		1080	20	1	19	20	2	25		2724	HP-2		
REC: STORAGE	720		20	1	21	22	-	-	2724		-		
REC: WASHER		1030	20	1	23	24	2	30		2496	WH-1		
REC: DRYER	2800		20	2	25	26	-	-	2496		-		
-		2800	-	-	27	28	1	20		180	REC: OUTDOOR		
REC: TV	180		20	1	29	30	1	20	180		REC: BASEMENT		
REC: DRINKING FOUNTAIN		650	20	1	31	32	1	20		-	SPARE		
REC: SINK	180		20	1	33	34	1	20	-		SPARE		
REC: DISPLAY		180	20	1	35	36	1	20		-	SPARE		
-	-		-	1	37	38	1	20	-		SPARI		
PANELBOARD EXISTING P2		4240	100	2	39	40	1	20		-		SPARE	
-	4240		-	-	41	42	1	20	-			SPARE	
TOTALS	9920	11600		1					10240	9190	TOTALS		
			1							1			
PAI	NELBOAI	RD SIZIN	G LOA	D					CONNECTED PHASE LOADS				
LOAD DESCRIPTION	CONNE	ECTED	DEN	IAND	C	OD	E MIN.	(VA)		PHASE	VA	AMPS	
LIGHTS	1,1	30	1.	25			1,413			A	20,160	168.0	
RECEPTACLES	13,5	580	0KVA +	50% RES			11,790			В	20,790	173.3	
MOTORS	0)	* * / * /				0			TOTALS	40,950	170.6	
AIR CONDITIONING	10,8	396	1.	00			10,896						
SPACE HEATING	1,8	72	0.	00	0				<u>REMARKS:</u>				
CONTINUOUS	4,9	92	1.	25			6,240			1. CONTRA	CTOR MAY USE EXIST	ING BREAKER	
NON-CONTINUOUS	0)	1.	00	0					AS AVAILABLE AND PROVIDE NEW AS			
MISC. LOADS 1	0)	1.	00			0			REQUIRED.			
MISC. LOADS 2	0)	1.	00			0						
		S	IZING	LOAD:			30,339						
SIZING LOAD (AMPS):							126						

MOUNTING	FINISH	MIN LUMEN/MAX WATTS	CRI/CCT	NOTES						
SUSPENDED	WHITE	1,683 LUMENS/FT, 14 WATTS/FT	80/3500K	1						
SURFACE	WHITE	5,300 LUMENS/48 WATTS	80/3500K	1						
SUSPENDED		3,003 LUMENS/27 WATTS	80/3500K	1						
Y CONTRACTOR										
SURFACE	WHITE			2						
RFACE WALL/CEILING	WHITE	LED/LED	2	2,4						
FOR 90 MINUTES										
RD COLOR SELECTED BY ARCHITECT.										

ULE						
DESCRIPTION	MOUNTING	SERVICE	MAX CFM	WEIGHT	ELECTRICAL	NOTES
2" LED MATTE BLACK FAN WITH IGHT AND REMOTE CONTROL	CEILING	AIR CIRCULATION	10,590	31 LB	120V, 1ø, 20A	1



