

CITY OF NEW BRAUNFELS, TEXAS HISTORIC LANDMARK COMMISSION MEETING CITY HALL - COUNCIL CHAMBERS 550 LANDA STREET



TUESDAY, OCTOBER 10, 2023 at 8:30 AM

AGENDA

1. CALL TO ORDER

2. ROLL CALL

3. <u>APPROVAL OF MINUTES</u>

 A) Approval of the September 12, 2023 regular meeting <u>23-1278</u> minutes

4. <u>CITIZENS' COMMUNICATIONS</u>

This time is for citizens to address the Historic Landmark Commission on issues and items of concerns not on this agenda. There will be no Historic Landmark Commission action at this time.

SPECIAL PRESENTATIONS

A) Presentation of Historic Plaque for 636 S Castell, a new <u>23-1249</u> local historic landmark

5. INDIVIDUAL ITEMS FOR CONSIDERATION

A) HLC Case HST23-383: Discuss and consider a <u>23-1344</u> Certificate of Alteration to perform various maintenance work, replace an existing door, add lighting, and create an enclosed patio at the property located at 278 W San Antonio, located in the Downtown Historic District.

6. <u>STAFF REPORT</u>

- A) Presentation, discussion, and possible direction to staff <u>23-1291</u> about the ongoing historic design guidelines updates.
- B) Upcoming Historic Window Workshop October 14, <u>23-1292</u> 2023
- C) Update from the Comal County Historical Commission <u>23-1279</u>

7. ITEMS FOR NEXT MEETING

8. ADJOURNMENT

CERTIFICATION

I hereby certify the above Notice of Meeting was posted on the bulletin board at the New Braunfels City Hall.

Board Liaison

NOTE: Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services such as interpreters for persons who are deaf or hearing impaired, readers, or large print, are requested to contact the City Secretary's Office at 221-4010 at least two (2) work days prior to the meeting so that appropriate arrangements can be made.



10/10/2023

Agenda Item No. A)

SUBJECT:

Approval of the September 12, 2023 regular meeting minutes

3

Historic Landmark Commission Meeting Minutes September 12, 2023

Members Present

Chair Teresa Johnson Vice-Chair Nathan Feingold Justin Ball Richard Hillyer Christi Sims

Staff Present

Jean Drew, Assistant Director of Planning & Development Services Nathan Brown, Assistant City Attorney Katie Totman, Historic Preservation Officer Colton Barker, Assistant Planner Evin Wilson, Assistant Planner

Members Absent

Jillian Bliss Joel Rector Susan Sonier Thomas Tumlinson

1. CALL TO ORDER

Vice-Chair Feingold called the meeting to order at 8:37 am

2. ROLL CALL

Roll was called and a quorum was not declared.

The board decided to wait for Chair Johnson to arrive.

Chair Johnson arrived at 8:52 am and a quorum was declared.

3. APPROVAL OF MINUTES

No motion was declared.

Chair Johnson said, "All in favor for approving the minutes say aye."

All present members said "aye".

4. CITIZENS COMMUNICATION

No one spoke.

5. ITEMS FOR CONSIDERATION

A) DM2023-2235: Determine whether the property located at 240 S Kowald Ln meets the historic landmark eligibility criteria in response to a demolition permit submission. *Presented by Katie Totman, Historic Preservation Officer*

Katie Totman invited the applicant to speak, as they had previously discussed a postponement.

The applicant stated that he wished to postpone the case.

Motion by Commissioner Ball, seconded by Commissioner Sims to postpone the discussion for the historic landmark eligibility of the property located at 240 S Kowald Ln in response to a demolition permit submission. Motion carried (5-0-0).

B) HST23-314: Discuss and consider a Certificate of Alteration to install a projecting sign on the building located at 189 N Seguin Avenue, located in the Downtown Historic District. Presented by Katie Totman, Historic Preservation Officer

Katie Totman presented the staff report.

Chair Johnson asked if there were any questions for staff.

Commissioner Hillyer mentioned that it is unnecessary to have two signs on the structure.

Katie Totman clarified and stated that there are currently no signs and there is only one proposed sign.

Chair Johnson asked if there were further discussion or a motion.

Motion by Commissioner Ball, seconded by Vice-Chair Feingold to approve a Certificate of Alteration to install a projecting sign on the building located at 189 N Seguin Avenue, located in the Downtown Historic District. Motion carried (5-0-0).

C) HST23-346: Discuss and consider a Certificate of Alteration to install two (2) wall signs on the building at 111 W San Antonio, located in the Downtown Historic District. Presented by Katie Totman, Historic Preservation Officer

Katie Totman presented the staff report.

Chair Johnson asked if there was any further discussion or a motion.

Motion by Commissioner Hillyer seconded by Commissioner Ball, to approve a Certificate of Alteration to install two (2) wall signs on the building at 111 W San Antonio, located in the Downtown Historic District. Motion carried. (5-0-0).

6. Staff Report

There were no updates at this time.

Sims proposed a special meeting amongst the board to discuss design guidelines.

7. ADJOURNMENT

There being no further business, Chair Johnson adjourned the meeting at 9:04 am.

Chair

Date



10/10/2023

Agenda Item No. A)

PRESENTER: Katie Totman, HPO

SUBJECT: Presentation of Historic Plaque for 636 S Castell, a new local historic landmark

DEPARTMENT: Planning & Development Services

COUNCIL DISTRICTS IMPACTED: 5

BACKGROUND INFORMATION:

The property located at 636 S Castell was designated as a local historic landmark by City Council on June 12, 2023. As part of the incentive for local historic designation the City furnishes a plaque recognizing that the property is a local landmark. Staff would like to celebrate this new landmark and the property owners, David and Sharon Dumenil, by presenting them with their plaque at the October HLC meeting.

ISSUE: N/A

FISCAL IMPACT: N/A

6



10/10/2023

Agenda Item No. A)

PRESENTER:

Katie Totman, HPO

SUBJECT:

HLC Case HST23-383: Discuss and consider a Certificate of Alteration to perform various maintenance work, replace an existing door, add lighting, and create an enclosed patio at the property located at 278 W San Antonio, located in the Downtown Historic District.

DEPARTMENT: Planning & Development Services

COUNCIL DISTRICTS IMPACTED: 5

APPLICABLE CITATIONS:

Code of Ordinances, Chapter 66 - Historic Preservation

Sec. 66-57. Alteration certificates for alteration or new construction affecting landmarks or historic districts.

No person shall carry out any exterior alteration, restoration, reconstruction, new construction, removal or relocation of any city designated historic landmark or on any property within a city designated historic district which may affect the appearance and cohesiveness of any historic landmark or any property within a historic district without first obtaining an alteration certification authorizing the change.

Sec. 66-58. Criteria for approval of an alteration certificate.

In considering an application for an alteration certificate, the commission shall be guided by any adopted design guidelines, and where applicable, the following from the secretary of the interior's standards for the rehabilitation of historic buildings. Any adopted design guidelines and secretary of the interior's standards shall be made available to the property owners of historic landmarks or within historic districts.

- (1) Every reasonable effort shall be made to adapt the property in a manner which requires minimal alteration of the building, structure, object, or site and its environment.
- (2) The distinguishing original qualities or character of a building, structure, object, or site and its environment shall not be destroyed when possible. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.
- (3) All buildings, structures, objects, and sites shall be recognized as products of their own time. Alterations that

have no historical basis and which seek to create an earlier appearance shall be discouraged.

- (4) Changes which may have taken place in the course of time are evidence of the history and development of a building, structure, object, or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected.
- (5) Distinctive stylistic features or examples of skilled craftsmanship which characterize a building, structure, object, or site shall be kept where possible.
- (6) Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material shall reflect the material being replaced in composition, design, color, texture, and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historical, physical, or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other buildings or structures.
- (7) The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken.
- (8) Every reasonable effort shall be made to protect and preserve archeological resources affected by, or adjacent to, any project.
- (9) Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural, or cultural material, and such design is compatible with the size, scale, color, material, and character of the property, neighborhood, or environment.
- (10) Wherever possible, new additions or alterations to buildings, structures, objects, or sites shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the building, structure, object, or site would be unimpaired.

FINDINGS:

a. The primary commercial building located at 278 W San Antonio was built ca. 1896. The rear part of the building, however, was built ca. 1920-1930; this is where the scope of work is proposed to take place.

b. DOOR REPLACEMENT (SERVICE ENTRANCE) - The applicant is requesting to replace the existing metal doors at the rear of the structure with a rollup door. The opening is to remain the same, and the existing metal doors will be repurposed into the patio wall design. Staff finds that this is generally consistent with Criteria 9 in that the opening is remaining the same and the service door is being repurposed on site. The change is also reversible.

c. DOOR REPLACEMENT (PEDESTRIAN DOOR) - The applicant is requesting to replace the existing pedestrian door at the rear of the building with a new door to match as well as replace/rebuild the door frame. No changes are being made to the opening itself. Staff finds this to be consistent with Criteria 1 as the existing door is being replaced in kind and the opening is not being altered.

d. LIGHTING - The applicant is requesting to install one electric light above each window at the rear of the building. Staff finds that this is generally consistent with Criteria 9 in that the addition of the lights is reversible

and will not produce a significant change in the appearance. Additionally, staff recommends that the lights be installed into the mortar joints to avoid permanent damage to the masonry face of the building.

e. REPAIR/MAINTENANCE - The applicant is requesting to restore the existing wood windows at the rear of the building. This is consistent with Criteria 6 for approval.

f. PATIO AREA - The applicant is requesting to create an enclosed bricked patio area. The wall will be masonry and feature the repurposed service entrance door as well as wrought iron elements. Staff finds that this is generally consistent with Criteria 9; the site work shall not adversely impact the historic structures in any way.

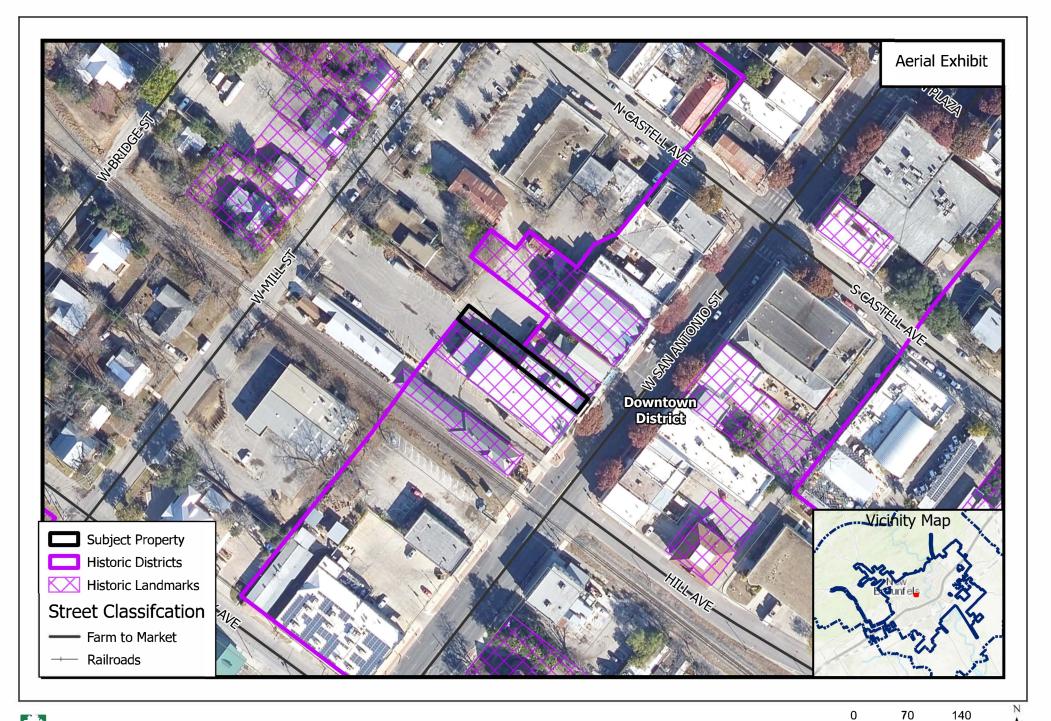
RECOMMENDATION:

Staff recommends approval of the Certificate of Alteration based on finding b through f. Generally, staff finds that the changes will not disrupt the overall appearance or cohesiveness of the district and are otherwise consistent with the criteria for approval.

ATTACHMENTS:

- 1. GIS Location Map
- 2. Pictures
- 3. Construction drawings

q



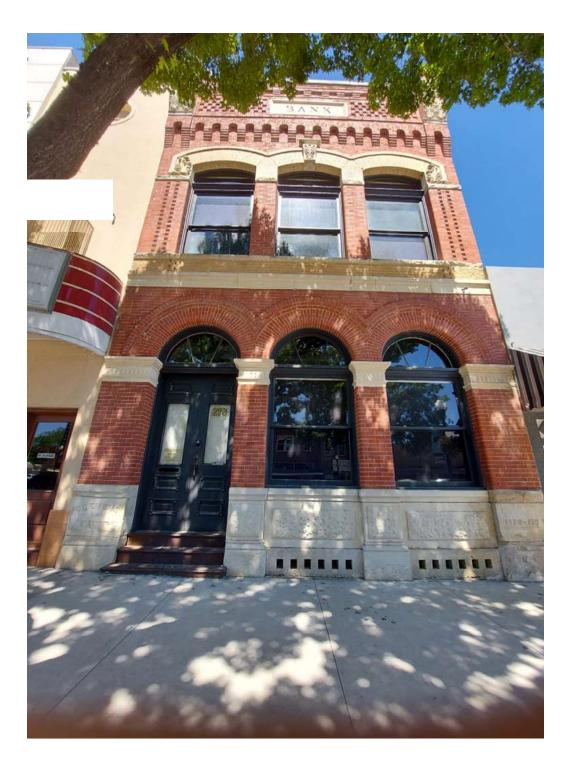


278 W San Antonio

DISCLAIMER: This map and information contained in it were developed exclusively for use by the City of New Braunfels. Any use or reliance on this map by an else is at that party's risk and without liability to the City of New Braunfel **10** officials or employees for any discrepancies, errors, or variances which may ex

I Feet

Front of the Building (not in the scope of work)

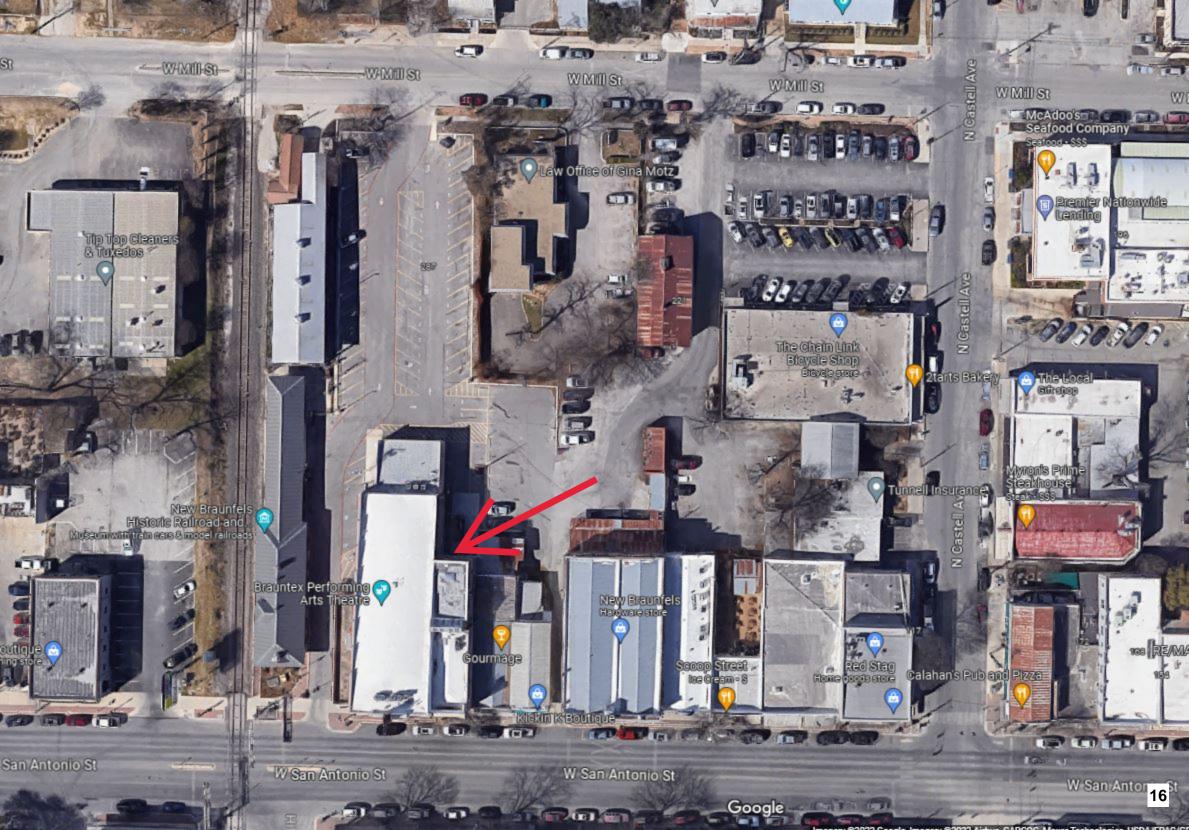


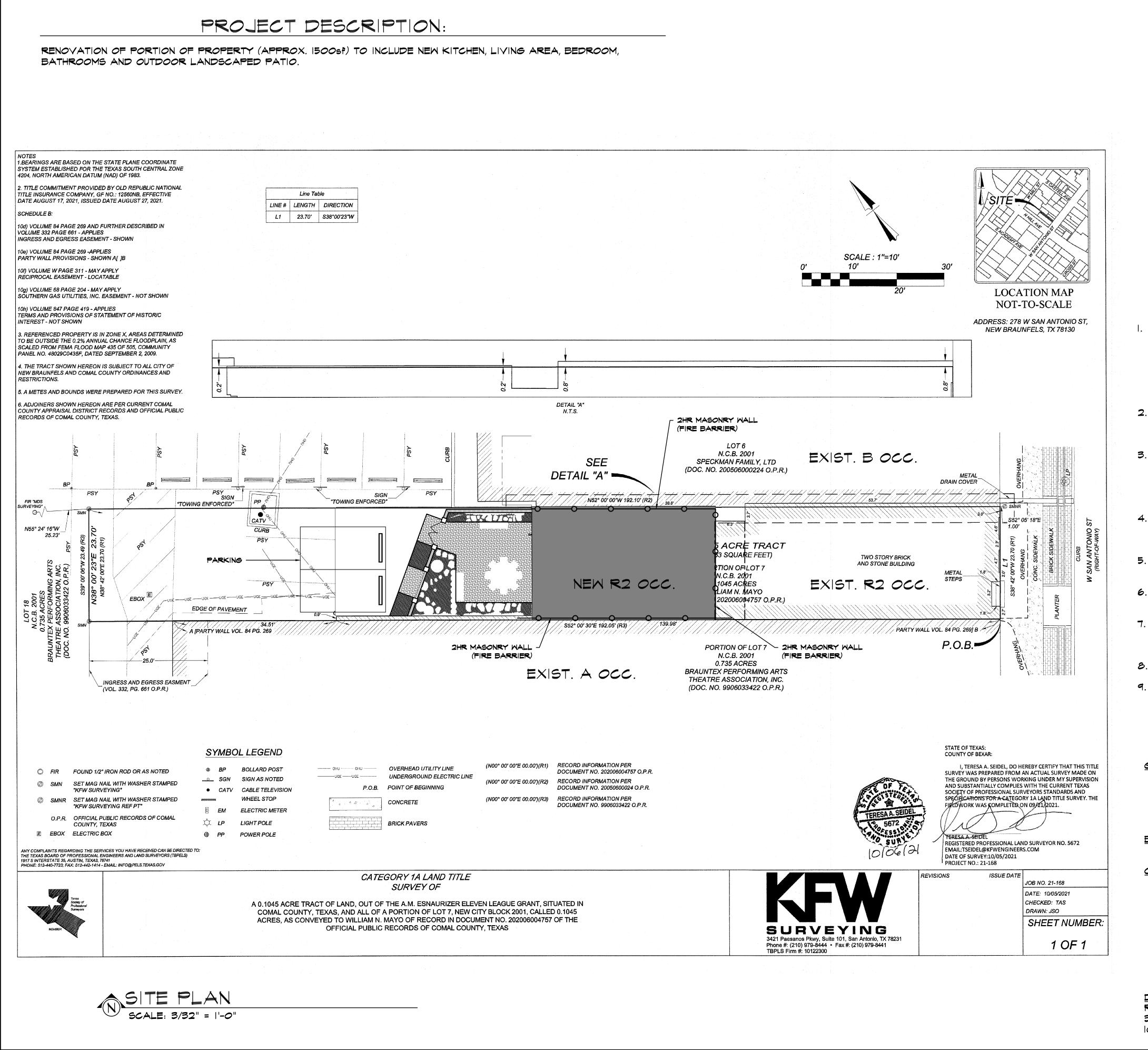












DESIGN LOADS: ROOF LOAD 30#/SF LIVE LOAD 10#/SF DEAD LOAD

DRAWING INDEX: COVER SHEET EXISTING FLOOR PLANS A2 PROPOSED FLOOR PLANS A3 BUILDING SECTIONS, ELEVATIONS, & DETAILS A4 MO.O MECHANICAL LEGEND MI.O MECHANICAL PLANS M2.0 MECHANICAL SCHEDULES & DETAILS E0.0 ELECT. SYMBOLS, ABBREVIATIONS & GEN. NOTES EO.I ELECTRICAL SPECIFICATIONS EI.O ELECTRICAL LIGHTING PLAN E2.0 ELECTRICAL POWER PLAN E3.0 ELECTRICAL ONE-LINE DIAGRAM E3.I ELECTRICAL PANEL SCHEDULES ELECTRICAL DETAILS E4.0 P0.0 PLUMBING LEGEND PI.O PLUMBING DWV PLANS **P**|.| PLUMBING WATER PLANS P2.0 PLUMBING RISER DIAGRAMS P3.0 PLUMBING SCHEDULES & DETAILS

GENERAL NOTES:

ALL CONSTRUCTION SHALL COMPLY WITH THE BUILDING CODES ADOPTED BY THE TOWN OF SPRING BRANCH, TX. THE COUNTY OF COMAL AND ALL OTHER RECOGNIZED JURISDICTIONS HAVING AUTHORITY OVER THE PROJECT AT THE TIME OF DESIGN, THESE INCLUDED: INTERNATIONAL RESIDENTIAL CODE 2018

INTERNATIONAL ENERGY CONSERVATION CODE 2018

NATIONAL ELECTRIC CODE 2017 THESE DRAWINGS ARE DIAGRAMMATIC AND REPRESENT THE ARCHITECT'S DESIGN INTENT AND ARE NOT TO BE SCALED. DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE

DETAILS ARE KEYED ONCE ON THE DRAWINGS AND ARE TYPICAL FOR SIMILAR CONDITIONS THROUGHOUT, UNLESS OTHERWISE NOTED. DETAILS INCLUDED HEREIN ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO ADAPT TO JOB CONDITIONS OR SITUATIONS

4. INSTALL BRIDGING, BLOCKING, SHIMS, AND BACKER AS REQUIRED FOR PROPER INSTALLATION OF WALLS, DOORS, WINDOWS, SKYLIGHT, CASEWORK, SHELVING, HVAC & ELECTRICAL FIXTURES.

THE CONTRACTOR/OWNER SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES & PROCEDURES.

ALL EASEMENTS AND UTILITIES TO BE MARKED ON SITE PRIOR TO DIGGING AND KEPT VISIBLE THROUGHOUT CONSTRUCTION.

NEIGHBORING PROPERTIES TO BE PROTECTED FROM DAMAGE DEBRIS & AIRBORN PARTICULATES DURING CONSTRUCTION. PROVIDE SILT AND EROSION CONTROL REQUIRED BY THE LOCAL BUILDING JURISDICTION.

PROVIDE WASTE CONTAINMENT AREA TO PREVENT DEBRIS FROM LITTERING SITE.

PROVIDE HUMAN WASTE REMOVAL FACILITIES FOR ALL WORKERS.

CODE DETERMINATIONS:

<u>Governing Code:</u>

INTERNATIONAL RESIDENTIAL CODE 2018 INTERNATIONAL ENERGY CONSERVATION CODE NEC

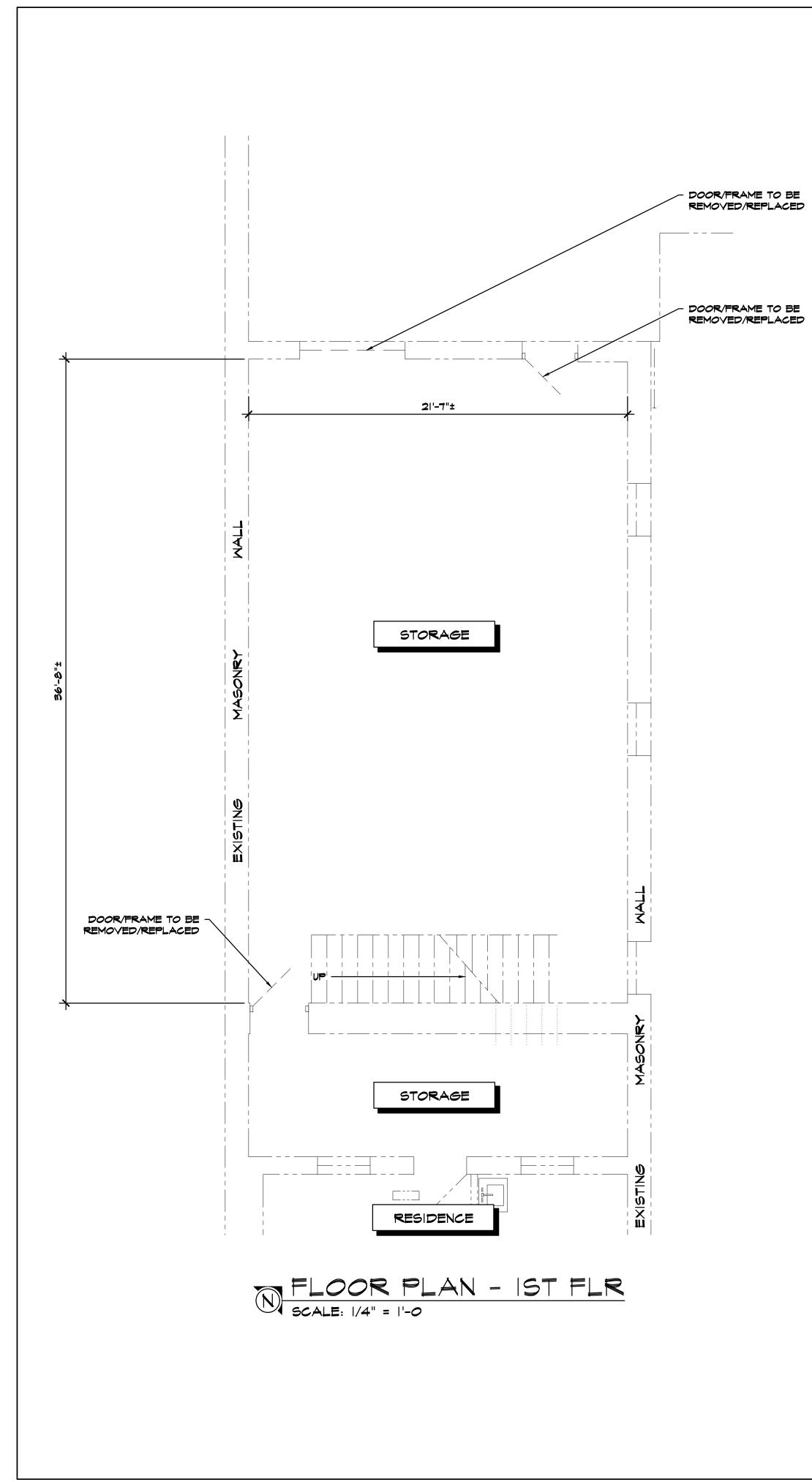
COMAL COUNTY AMENDMENTS

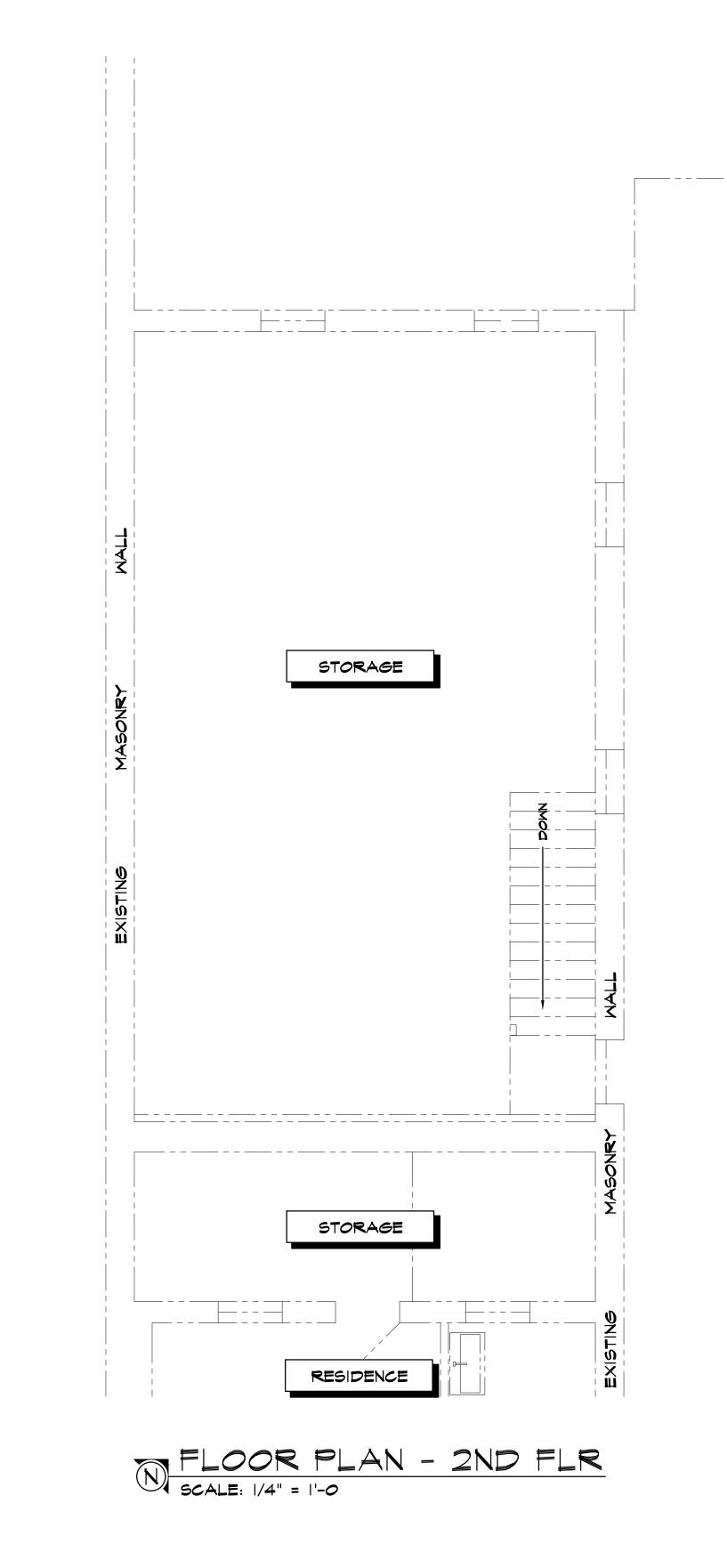
BUILDING CONSTRUCTION TYPE: TYPE VB

OCCUPANCY CLASSIFICATION: R2 OCCUPANCY - EXIST IST FLR = 12205F 2ND FLR = 1084SFTOTAL HTD = 23045F

> R2 OCCUPANCY - NEW IST FLR = 795SF 2ND FLR = 795SFTOTAL HTD = 1590SF





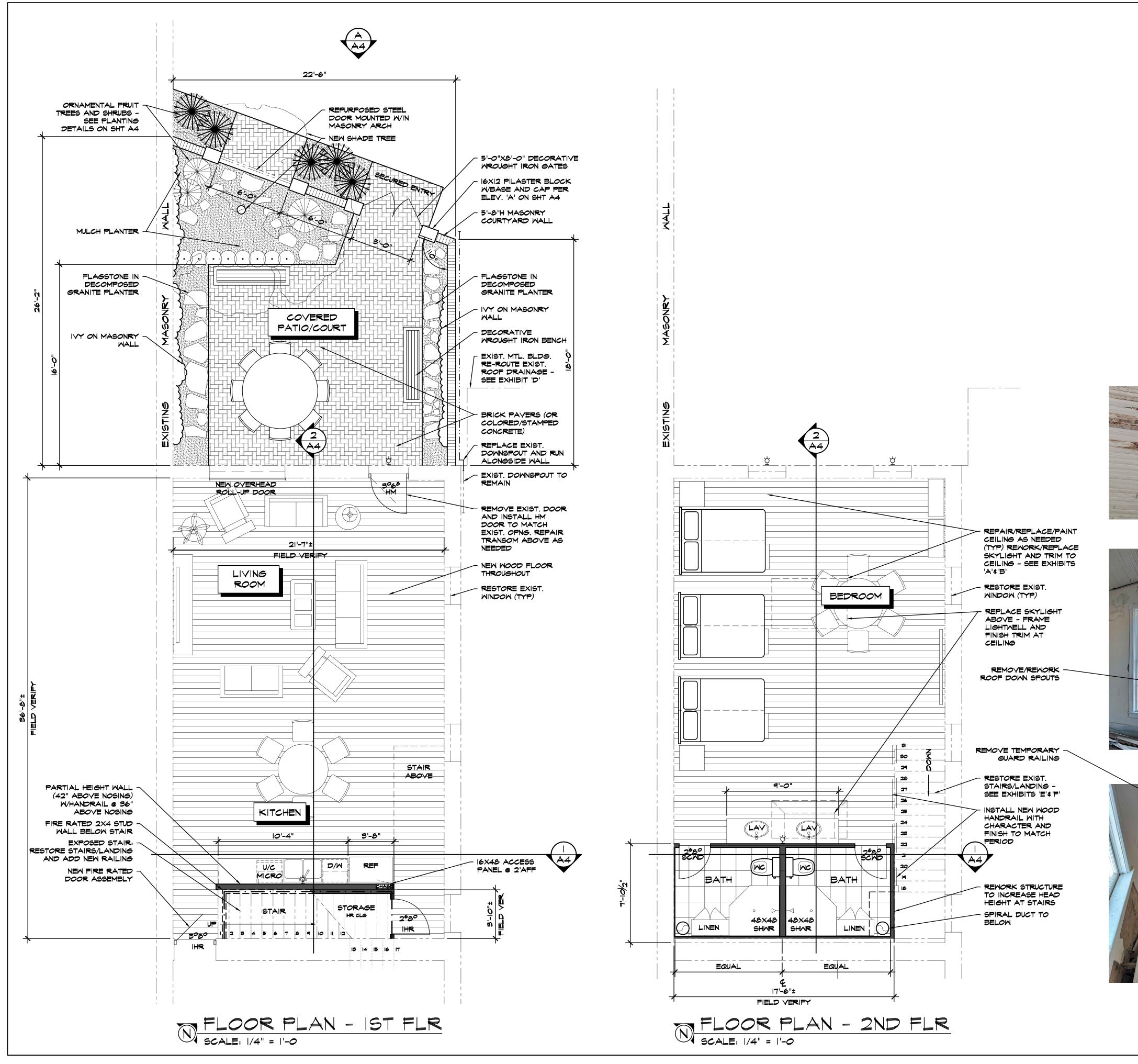


- DOOR/FRAME TO BE REMOVED/REPLACED

MATERIALS LEGEND

EXISTING TO REMAIN _____ EXISTING TO BE REMOVED _____





MATERIALS LEGEND

NEW BUILDING ELEMENTS

- EXISTING TO REMAIN STORM DRAIN LEADER ____ · · ___ · · ____
- REFERENCE LINE ABOVE OR BELOW ____
 - FIRE RATED ASSEMBLY
 - NEW WALLS
 - wood flooring
 - BRICK PAVERS
 - FLOOR TILE
 - CRUSHED GRANITE/GROUND COVER

В

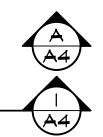
EXTERIOR CMU WALL

SHEET NUMBER

SHEET NUMBER

ELEVATION DESIGNATION

SECTION DESIGNATION

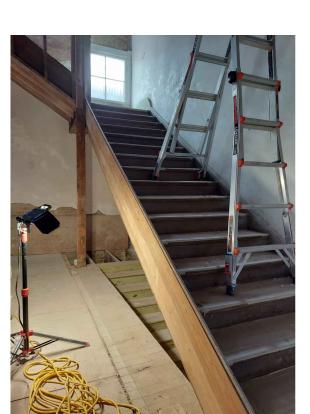


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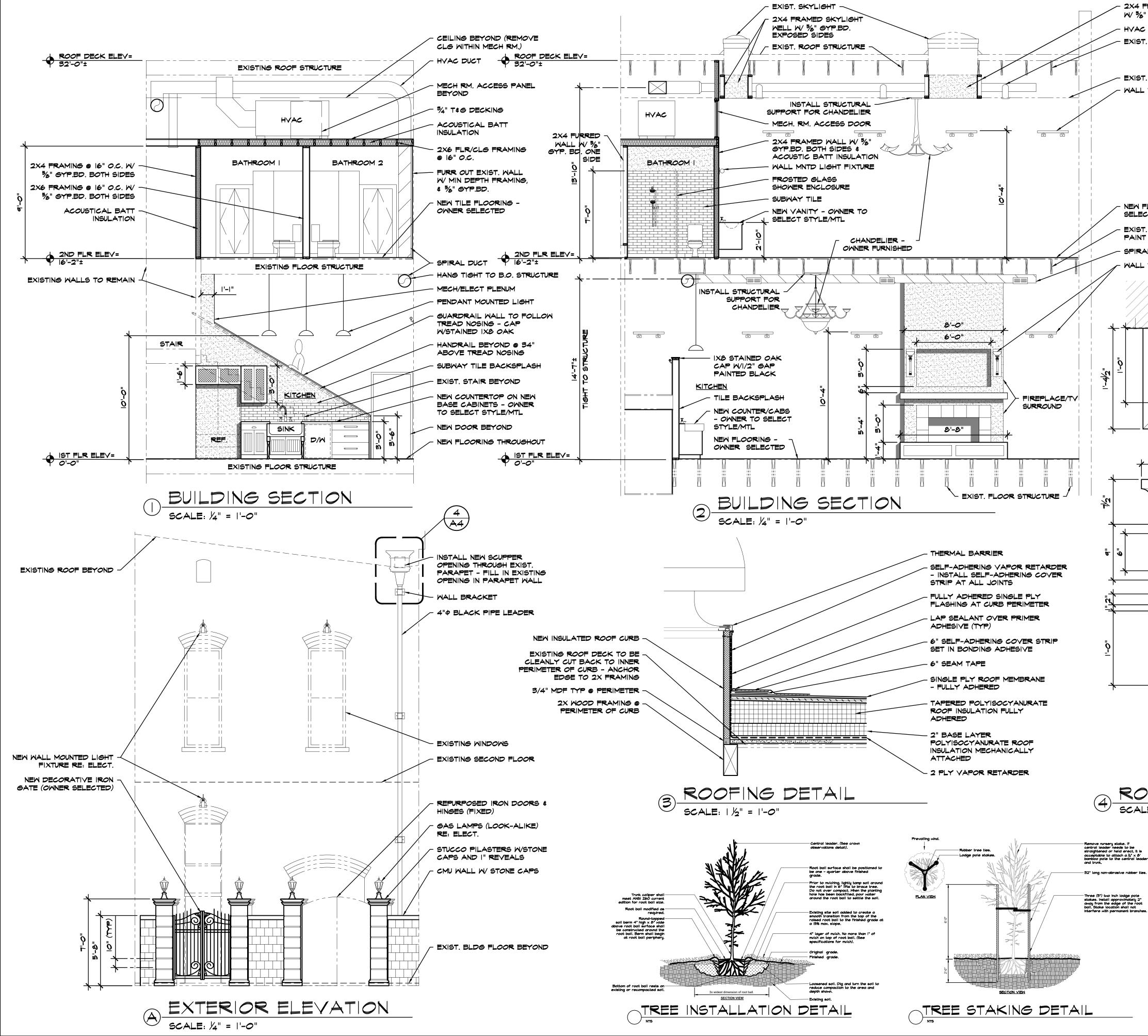




D

EXISTING CONDITIONS





2X4 FRAMED SKYLIGHT WELL
 W ⁵/₆" GYP.BD. EXPOSED SIDES
 HVAC DUCT
 EXIST. ROOF STRUCTURE

- Exist. Ceiling to Remain - Wall MNTD Light Fixture

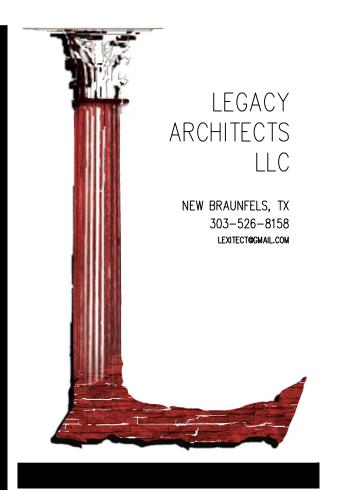
- NEW FLOORING - OWNER SELECTED - EXIST. FLOOR STRUCTURE -Paint flat black (typ) - SPIRAL DUCT - WALL MNTO LIGHT FIXTURE BRONZE PAINTED SHEET METAL MNTG FLANGE - 12"MXIO"H OPENING IN PARAPET BRONZE PAINTED SHEET METAL LEADER BOX Plan - Overflow openings -2'-3" Thicken to ¾" @ OPNGS BRONZE PAINTED SHEET METAL LEADER BOX OVERFLOW OPENINGS EQUALLY SPACED (TYP 6 . . FRONT AND 3 SIDES) 12"WXIO"H OPENING IN PARAPET (BEYOND) BRONZE PAINTED SHEET METAL MNT FLANGE BRONZE PAINTED SHEET METAL REDUCTION 1'-2" |'-6" BRONZE PAINTED SHT METAL TAPERED COLLECTOR 6" TRANSITION/PIPE FITTING - 4" COATED BLACK PIPE // ¹/₄" BLACK PAINTED PLATE W/WELDED COLLAR ELEVATION ROOF LEADER DETAIL Root ball. —4" high x 8" wide round - topped soil berm above root ball surface shall be constructed around the root ball. Berm shall begin at root ball periphery. 4" layer of mulch. No more than 1" of mulch on top of root ball. (See specifications for Prior to mulching, lightly tamp soil around the root ball in 6" lifts to brace which Do not over compact. When the planting hole has been backfilled, pour water around the root ball to settle the soil. Finished grad Modified soil.— Depth varies. (See specifications for soil modification). Existing soil. Root ball rests on-existing or recompacted soil. SECTION VIEW SHRUB PLANTING DETAIL



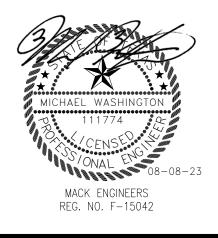
	CONTROLS SCHEMATIC SYMBOLS LEGEND	DUCTWORK	MECHANICAL
AIR DEVICE TYPE (RE: SCHEUDLE)	AI ANALOG INPUT AO ANALOG OUTPUT DI/BI DIGITAL/BINARY INPUT		 PIPING AND DUCTWORK SHOWN ON PL DUCTWORK ROUTING. OFFSET AND RL PIPING, DUCTWORK, FITTING, INSULAT EXACT LOCATIONS OF GRILLES AND D/ ALLOW ADEQUATE CLEARANCES. EQUIPMENT SIZES, DIMENSIONS, AND F
A 10°0 225 CFM AIRFLOW RATE SQUARE SUPPLY AIR CEILING DIFFUSER SQUARE RETURN AIR CEILING DEVICE	DO/BO DIGITAL/BINARY OUTPUT MD ON-OFF MOTORIZED DAMPER MMD MODULATING TYPE MOTORIZED DAMPER AFMS AIR FLOW MEASURING STATION	FD FIRE DAMPER SD SMOKE DAMPER FSD COMBINATION FIRE/SMOKE DAMPER M MOTORIZED DAMPER	 CUTSHEETS BEFORE FABRICATING OF CONTRACTOR SHALL COORDINATE WI DUCT SIZES SHOWN ON PLANS ARE CL PROVIDE RECTANGULAR BRANCH DUC
SQUARE EXHAUST AIR CEILING DEVICE ROUND SUPPLY AIR CEILING DEVICE	MCV CONTROL VALVE MODULATING TYPE VFD VARIABLE FREQUENCY DRIVE CSR CURRENT SENSING RELAY FRZ FREEZESTAT	- DUCT CONTINUATION	 ALL MEDIUM AND LOW PRESSURE DUC SMACNA STANDARDS FOR MEDIUM AN ALL OUTSIDE AIR, SUPPLY AIR, AND RE INSULATION WHERE LOCATED IN UNCO WHERE LOCATED OUTSIDE THE BUILD AND ADDITIONAL REQUIREMENTS.
RECTANGULAR SUPPLY OF RETURN SIDEWALL GRILLE	HSL HIGH STATIC LIMIT SPT STATIC PRESSURE TRANSMITTER DPT DIFFERENTIAL PRESSURE TRANSDUCER FM FLOW METER	RECTANGULAR DUCT TAP RECTANGULAR DUCT SIZE (WIDTH X HEIGH	 ALL DUCTWORK SHALL BE CONSTRUC JOINTS AND SEAMS SHALL BE SEALED DUCT WALL PENETRATIONS, SPIN-INS, CONNECTIONS TO EQUIPMENT. OPENI SPECIFICATION 23 31 13 METAL DUCTV ALL EXPOSED DUCTWORK AND PIPING BE PAINTED. REFER TO ARCHITECT FC
WALL MOUNTED SENSOR TYPES	FS FLOW SWITCH DAT DISCHARGE AIR TEMPERATURE SENSOR S WALL SENSOR T THERMOSTAT	SUPPLY AIR DEVICE FLEXIBLE DUCT CONNECTION ROUND DUCT (BRANCH) ROUND DUCT TAP	 DIVISION 23 MECHANICAL CONTRACTO OF TEMPERATURE SENSORS AND HUN PROVIDE REMOTE SPIN-IN DAMPER OF CEILINGS. PROVIDE AIRFOIL TYPE TURNING VANE
 THERMOSTAT HUMIDISTAT CARBON DIOXIDE SENSOR 	CO2 CARBON DIOXIDE SENSOR SP SET POINT S/A SUPPLY AIR R/A RETURN AIR O/A OUTSIDE AIR	SUPPLY OR OUTSIDE AIR DUCT DOWN TURNING VANES DUCTWORK TEE SLOT DIFFUSER W/PLENUM CONNECTION	 PROVIDE AIRFOIL TYPE TURNING VANE PROVIDE INSULATED ACCESS DOORS I DUCT CLEANING. PROVIDE ACCESS DO COORDINATE LOCATIONS OF FLOOR A ALL CEILING MOUNTED AND WALL MOU CONTRACTOR SHALL COORDINATE CO NO PIPE HANGERS SHALL BE SPACED I
 CARBON MONOXIDE SENSOR NITROGEN DIOXIDE SENSOR ON/OFF SWITCH 	HC HEATING COIL CC COOLING COIL DX DIRECT EXPANSION COOLING COIL PICCV PRESSURE INDEPENDENT CHARACTERIZED CONTROL VALVE AFC AIRFLOW CROSS	DEMO UP TO LOCATION INDICATED	SPECIFICATIONS. 18. MECHANICAL CONTRACTOR SHALL CO DISTANCE BETWEEN OUTSIDE AIR INTA
PIPING TYPES	DPS DIFFERENTIAL PRESSURE SWITCH		
CDCONDENSATE DRAIN LINECHSCHILLED WATER SUPPLYCHRCHILLED WATER RETURNHWSHOT WATER SUPPLYHWRHOT WATER RETURNCWSCONDENSER WATER SUPPLYCWRCONDENSER WATER RETURNREFREFRIGERANT PIPING SIZED BY MFR.			
DRAWING/DETAIL REFERENCE KEY			
REFER TO DRAWING/ DETAIL NUMBER SHEET NUMBER M5.01			

AL GENERAL NOTES

- N PLANS ARE SCHEMATIC ONLY. COORDINATE WITH OTHER TRADES FOR PIPING AND ORUN PIPING DUCTWORK INSIDE THE STRUCTURE IF REQUIRED. PROVIDE ALL NECESSARY LATION, AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATIONS.
- D DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND
- OF DUCTWORK, PIPING, OR POURING OF CONCRETE HOUSEKEEPING PADS. WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
- E CLEAR INSIDE DIMENSIONS.
- DUCT TAP FOR ALL RECTANGULAR DUCT CONNECTIONS TO RECTANGULAR DUCT TRUNKS. DUCTWORK AND ASSOCIATED ACCESSORIES SHALL BE CONSTRUCTED TO MEET THE LATEST AND LOW PRESSURE DUCTWORK.
- RETURN AIR DUCTWORK AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-8 NCONDITIONED SPACES AND SHALL BE INSULATED WITH A MINIMUM OF R-8 INSULATION ILDING. REFER TO SPECIFICATION 23 07 13 DUCT INSULATION FOR FURTHER INFORMATION
- RUCTED TO SEAL CLASS 'A' AS REFERENCED IN SMACNA STANDARDS. ALL NON-WELDED .ED. THIS INCLUDES BUT IS NOT LIMITED TO TRANSVERSE JOINTS, LONGITUDINAL SEAMS, NS, TAPS, AND OTHER BRANCH CONNECTIONS, ACCESS DOORS, ACCESS PANELS, AND DUCT ENINGS FOR ROTATING SHAFTS SHALL ALSO BE SEALED WITH BUSHINGS. REFER TO CTWORK FOR FURTHER INFORMATION.
- ING WITH ASSOCIATED ACCESSORIES IN AREAS WITH NO CEILING OR PARTIAL CEILING SHALL FOR COLOR.
- CTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ACTUAL INSTALLATION HUMIDITY SENSORS.
- OPERATOR FOR SPIN-IN CONNECTIONS AND VOLUME DAMPERS LOCATED OVER GYPSUM
- ANES IN ALL 90 DEGREE ELBOWS. RS FOR DUCTWORK DOWNSTREAM OF AIR HANDLING UNITS AT EVERY 20'-0" TO FACILITATE DOORS WITHIN 5'-0" OF EACH ELBOW.
- R AND WALL OPENINGS WITH ARCHITECT AND STRUCTURAL ENGINEER.
- MOUNTED AIR DEVICE FINISHES SHALL MATCH ADJACENT ARCHITECTURAL SURFACE. COLOR WITH ARCHITECT.
- ED MORE THAN 10'-0" O.C. COMPLY WITH PIPE SPACING AS SPECIFIED IN THE PIPING SUPPORT
- COORDINATE EXACT LOCATIONS OF ALL OUTSIDE AIR INTAKES TO MAINTAIN 15 FEET NTAKES AND ANY EXHAUST AIR OUTLET, FLUES OR PLUMBING VENTS.



ARCHITECT/ENGINEER



B&B RENOVATION

HEX INDUSTRIES 278 W. SAN ANTONIO ST. NEW BRAUNFELS, TX. 78130

PROJECT NUMBER:

DRAWN BY:

0007-23

CHECKED BY:

DATE: REVISION:

DATE: ISSUED AS: 8-8-23 PERMIT SET .

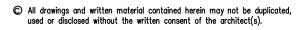
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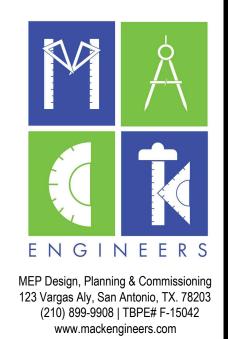
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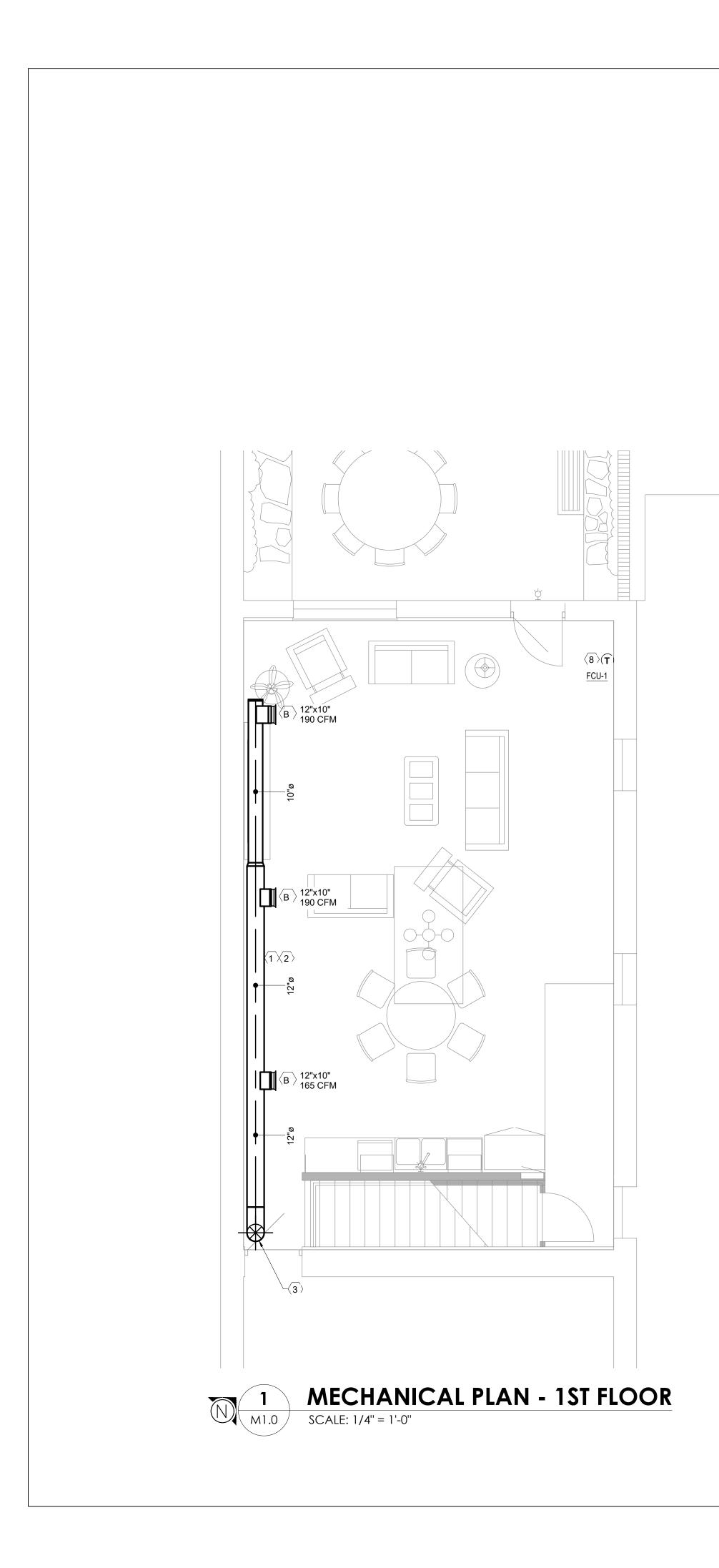
MECHANICAL LEGEND

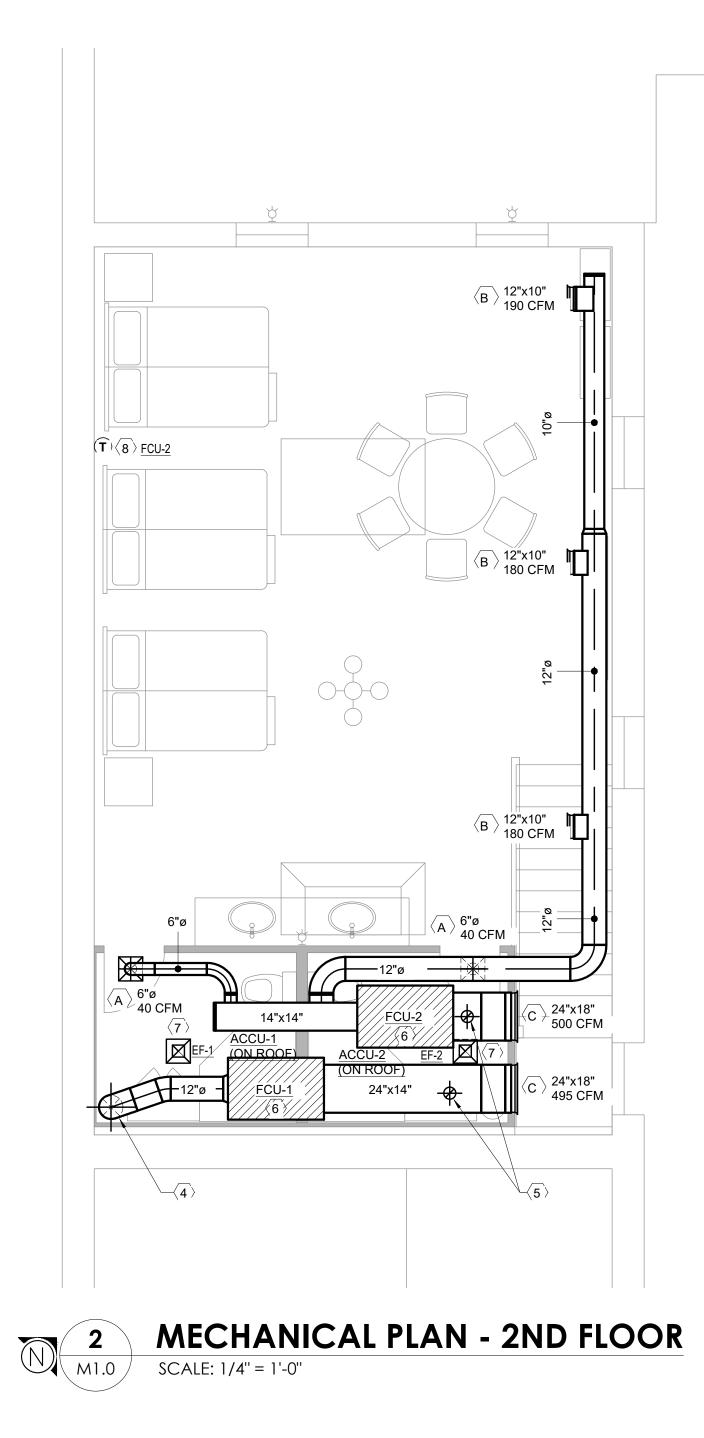
SHEET NUMBER:

© All drawings and written material contained herein may not be duplicate

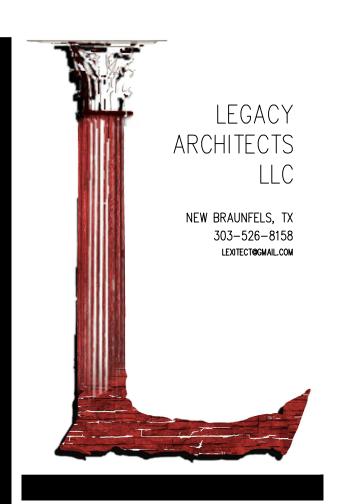




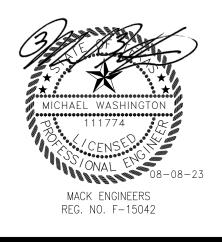




#	MECHANICAL KEYED NOTES
1	INSTALL DUCTWORK AS HIGH AS POSSIBLE.
2	ALL EXPOSED DUCTWORK SHALL BE INTERNALLY INSULATED SPIRAL DUCT INSTALLED IN A CLEAN, WORKMAN LIKE, EYE APPEALING MANNER.
3	12" SUPPLY DOWN FROM ABOVE.
4	12" SUPPLY AIR DOWN TO LEVEL ONE.
5	6" FRESH AIR INTAKE UP TO WEATHERPROOF INTAKE HOOD AT ROOF. ROUTE TO LOCATE MINIMUM 10'-0" FROM ANY EXHAUST TERMINATION.
6	CONNECT CONDENSATE TO THE LAVATORY TAILPIECE IN THE RESTROOM BELOW. ROUTE REFRIGERANT PIPING TO AIR COOLED CONDENSING UNIT LOCATED ON ROOF. REFRIGERANT PIPING AND ACCESSORIES SHALL BE SIZED AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
7	6X6 EXHAUST UP TO ROOF MOUNTED EXHAUST FAN. FAN SHALL OPERATE WITH SEPARATE SWITCH LOCATED WITH LIGHT SWITCH. ROUTE SO THE EXHAUST TERMINATION IS LOCATED MINIMUM 10'-0" FROM ANY FRESH AIR INTAKE.
8	24/7 DIGITAL PROGRAMMABLE HEAT PUMP THERMOSTAT AND HUMIDISTAT.



ARCHITECT/ENGINEER



B&B RENOVATION

HEX INDUSTRIES 278 W. SAN ANTONIO ST. NEW BRAUNFELS, TX. 78130

PROJECT NUMBER:

DRAWN BY:

0007-23

CHECKED BY: MLW

DATE: REVISION:

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DATE:	ISSUED AS:
8-8-23	PERMIT SET

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SHEET TITLE:



SHEET NUMBER:





C All drawings and written material contained herein may not be duplicated, used or disclosed without the written consent of the architect(s).

EQUIP	MENT		MANUFACTURER	MODEL NUMBER	
TYPE	NUMBER	SERVICE	INDOOR UNIT	OUTDOOR UNIT	SUPPLY CFM
FCU	1	LEVEL 1	FDMQ18RVJU	RXL18RMVJUA	545
FCU	2	LEVEL 2	FDMQ24RVJU	RXL24RMVJUA	630

PROVIDE WITH 7 DAY DIGITAL PROGRAMMABLE HEAT PUMP THERMOSTAT/HUMIDISTAT. ROUTE AND SIZE REFRIGERANT PIPING PER MANUFACTURERS RECOMMENDATIONS. POWER FOR INDOOR AND OUTDOOR UNITS FED THRU OUTDOOR UNIT.

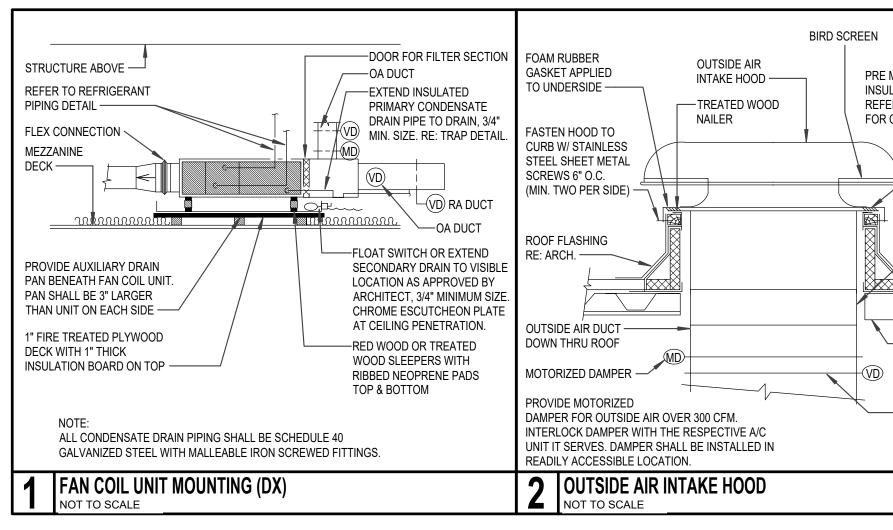
AIR DEVICE SCHEDULE

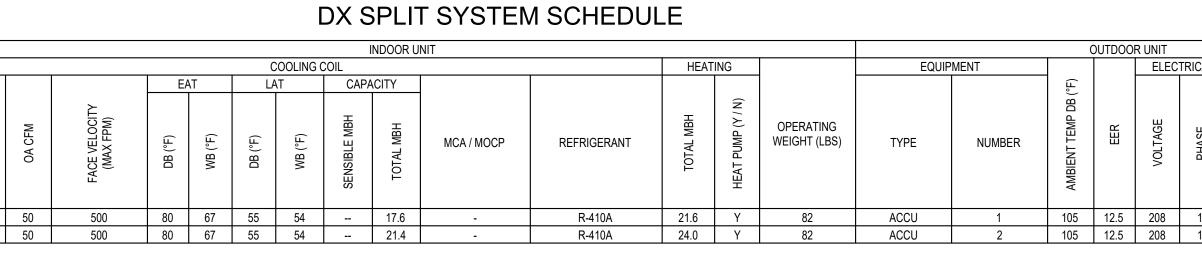
						-
DESIGNATION	MANUFACTURER	MODEL	SERVICE	FACE DIMENSIONS	NECK DIMENSIONS	DESCRIPT
А	TITUS	TMS-AA	SUPPLY	12x12	SEE PLANS	LOUVER FA
В	TITUS	272FL	SUPPLY	SEE PLANS	SEE PLANS	SIDEWA
С	TITUS	350FL	RETURN / EXH	SEE PLANS	SEE PLANS	SIDEWA

NOTES: REFER TO PLANS AND NECK SIZE SCHEDULE FOR NECK SIZES. PROVIDE VOLUME DAMPER AT EACH BRANCH TAP.

DIFFU	ISER NECK S	SI
CFM (MIN - MAX)	RECTANGULAR SIZE (IN)	
0-100	6x6	
101-200	8x8	
201-400	10x10	
401-600	12x12	
601-900	14x14	

NOTES: WHERE PLANS DIFFER FROM SCHEDULE, THE LARGER SIZE BETWEEN 1. THE SCHEDULE AND THE NECK SIZE ON THE PLANS SHALL BE USED.





PTION NOTES FACED ALL ALL ALL ALL ALL

FAN SCHEDULE

EQUIF	PMENT			UNIT					MOTOR							
TYPE	NUMBER	SERVICE	LOCATION	MANUFACTURER	MODEL	CFM	EXTERNAL S.P. (IN. W.G.)	RPM	ВНР	FLA	VOLTAGE	PHASE	EMERGENCY POWER	VARIABLE SPEED	OPERATIONAL WEIGHT (LBS)	NOTES
EF	1	EXHAUST	CEILING	GREENHECK	CSP-110	100	0.17	950	0.01	0.19	115	1	N	Ν	17	ALL
EF	2	EXHAUST	CEILING	GREENHECK	CSP-110	100	0.17	950	0.01	0.19	115	1	N	N	17	ALL
NOTES:																

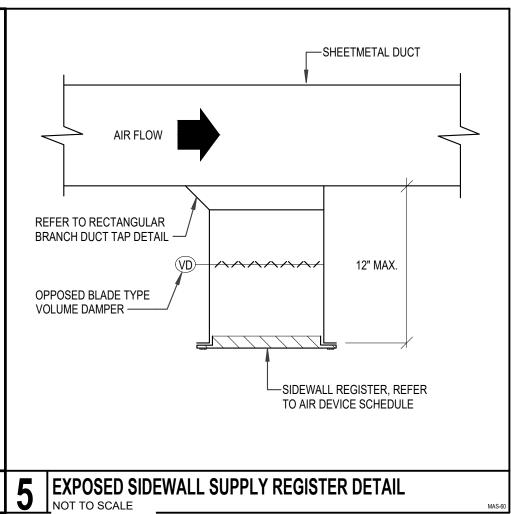
PROVIDE WALL SWITCH AT RESTROOM WITH LIGHT SWITCH. INSTALL PER MANUFACTURERS RECOMMENDATIONS.

PROVIDE WITH WEATHER PROOF WALL HOOD AND BACKDRAFT DAMPER. 3.

IZES ROUND SIZE (Ø) 6" 8" 10" 12" 14"

-AIR COOLED CONDENSING UNIT PRE MANUFACTURED INSULATED ROOF CURB -SUSPENDED FAN FROM REFER TO ARCH. DETAILS STRUCTURE ABOVE FOR CURB FLASHING. VIBRATION ISOLATORS ------BASE FLASHING CONT. GALVANIZED ALL OVER TOP OF CURB EXHAUST DUCT — CONNECTION THREAD RODS MIN. 2'-0" ISOLATORS (FOUR) ABOVE FIN. —FAN CABINET - ROOF -BOLT UNIT TO 18 GA. SHT. MTL. CURB -TRANSITION RUNNER AND BASE PLATE BY AS REQUIRED "THYCURB" OR aggadell. -REFER TO -MOUNTING CLIP APPROVED EQ. ANCHOR ARCHITECTURAL TO DECK @ 24" O.C. -DRAWINGS FOR FLASHING DETAIL EXHAUST GRILLE PROVIDED W/ -REFER TO ARCH. FIBER CANT STRIP -ROOF EXHAUST FAN -----FOR ROOF CONSTRUCTION DETAILS. -SET VD FOR NOTE: SCHEDULED OA CFM 1. PROVIDE CLEARANCE AROUND UNIT FOR AIRFLOW AND SERVICE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. NOTE: PROVIDE FAN U.L RADIATION DAMPER FOR FIRE RATED CEILING. 3 CONDENSING UNIT ROOF MOUNTED NOT TO SCALE 4 CEILING MOUNTED EXHAUST FAN NOT TO SCALE

0.4.1.1				
CAL II	VFORMA	TION		
PHASE	MCA	MFA	operating Weight (LBS)	NOTES
1	12.8	15	97	ALL
1	16.9	20	108	ALL







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ELECTRICAL SYMBOLS & ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	ABBRE	VIATION DESCRIPTION
GENERAL		RACEWAYS		FIRE A	_ARM (CON'T)	ІМС	INTERMEDIATE STEEL CONDUIT
\wedge	MOTOR, HP AS INDICATED	TB PLYV	NOOD TELEPHONE BACKBOARD	H	HEAT DETECTOR	IN INC	INCHES INCANDESCENT
 	DISCONNECT SWITCH		DUIT CONCEALED IN WALL OR CEILING WITH ONE PHASE,	FS	FLOW SWITCH	IG	ISOLATED GROUND
\boxtimes	MOTOR CONTROLLER		TRAL AND GROUND CONDUCTOR U.N.O.	TS	TAMPER SWITCH	JB	JUNCTION BOX
\bigtriangledown	COMBINATION MOTOR CONTROLLER/DISCONNECT UNIT		DUIT UNDER FLOOR OR CAST IN STRUCTURE WITH ONE SE, NEUTRAL AND GROUND CONDUCTOR U.N.O.	K	FIRE ALARM HORN AND LIGHT	КV	KILOVOLT
VFD	VARIABLE FREQUENCY DRIVE	CON	DUIT EXPOSED WITH ONE PHASE, NEUTRAL AND GROUND	M	FIRE ALARM MINI-HORN AND LIGHT	KVA	KILOVOLT AMPERE
C IC	CONTACTOR INTERCOM J BOX WALL MOUNTED AT HEIGHT INDICATED		DUCTOR U.N.O.	 F_0	FIRE ALARM HORN, WEATHERPROOF	_ KVAC KVAR	KILOVOLT AMPERE CAPACITIVE KILOVOLT AMPERE REACTIVE
	ON DRAWINGS		CH LEG	L	FIRE ALARM, VISUAL ONLY	KW	KILOWATT
(J)	JUNCTION BOX, CEILING MOUNTED		NCH CIRCUIT HOMERUN, WITH PANEL AND BREAKER POSITION CATED.	DH	MAGNETIC DOOR HOLDER	- KWH	KILOWATT HOUR
J PC	JUNCTION BOX, WALL MOUNTED		TI-OUTLET ASSEMBLY	R	RELAY	LB	POUND
-		T TELE	PHONE	PJ	FIRE FIGHTERS PHONE JACK	– LPS	LOW PRESSURE SODIUM
	MICROPHONE OUTLET, C - CEILING MOUNTED	BUS	DUCT WITH TAKE OFF DEVICE	FF	FIRE FIGHTERS TELEPHONE	м	MANHOLE
S H(S)	SPEAKER, CEILING MOUNTED SPEAKER, WALL MOUNTED	P/D ● POW	ER/DATA POWER POLE.	DC	DOOR CONTACT	MAX MCC	MAXIMUM MOTOR CONTROL CENTER
s ^v	SPEAKER WITH WALL MOUNTED VOLUME CONTROL			ML	MAGNETIC LOCK	MECH	MECHANICAL
 	TIME CLOCK	OUTLET DEVICES				MEP MH	MECHANICAL, ELECTRICAL, & PLUMBING MOUNTING HEIGHT
VC	VOLUME CONTROL		PLEX TWIST-LOCK RECEPTACLE NEMA L5-20	ABBREV	IATION DESCRIPTION	MIN	MINIMUM
	BELL		PLEX RECEPTACLE – 20A, 120V 3W NEMA 5–20	Α	AMPERE(S)	MLO	MAIN LUGS ONLY
	BUZZER	Ψ I WP	PLEX RECEPTACLE – 20A, 120V 3W NEMA 5–20 U.N.O. = WEATHERPROOF NEMA 3R WHILE IN USE	ABV	ABOVE	M.S. MTG	MOTOR STARTER MOUNTING
۲	PUSHBUTTON		= ABOVE COUNTER, BC = BELOW COUNTER, T = TAMPER PROOF PLEX RECEPTACLE - 20A, 120V 3W NEMA 5-20	AC A/C	ABOVE COUNTER AIR CONDITIONING	MV	MERCURY VAPOR
G	CEILING MOUNTED CLOCK	₩ INST	TALLED AT 48" AFF OR 4" ABOVE COUNTER TOP	AIC	AMPERE INTERRUPTING CAPACITY	NA	NOT APPLICABLE
⊣⊖ D.F.	WALL MOUNTED CLOCK - SINGLE OR D.F.=DOUBLE FACE	····	ATED GROUND, DUPLEX RECEPTACLE – 20A, 120V 3W NEMA 5–20	AFF AFG	ABOVE FINISHED FLOOR ABOVE FINISHED GRADE	NC NF	NORMALLY CLOSED NON FUSED
₽<	PROGRAM HORN, WEATHERPROOF	н Ф. СЕСІ	ATED GROUND, QUADRAPLEX RECEPTACLE – 20A, 120V	AHU	AIR HANDLING UNIT	NL	NIGHT LIGHT (CONNECTED TO UNSWITCHED CIRCUIT)
	TRANSFORMER	₩ G.F.	I. DUPLEX RECEPTACLE - 20A, 120V 3W NEMA 5-20	ATS	AUTOMATIC TRANSFER SWITCH	NO	UNSWITCHED CIRCUIT) NORMALLY OPEN
ATS	AUTOMATIC TRANSFER SWITCH	11	DRAPLEX RECEPTACLE – 20A, 120V 3W NEMA 5–20 DRAPLEX RECEPTACLE – 20A, 120V 3W NEMA 5–20	B.F.	BELOW FLOOR	N.T.S.	NOT-TO-SCALE
 □	EQUIPMENT CONNECTION, HARD WIRED DURESS ALARM BUTTON		TALLED AT 48" AFF OR 4" ABOVE COUNTER TOP	BFF BFG	BELOW FINISHED FLOOR BELOW FINISHED GRADE	ос	ON CENTER
	CARD READER	_ Ø ^R OVE	RHEAD ELECTRIC CORD REEL	BLDG	BUILDING	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
DR	DOOR RELEASE		OR OUTLET DEVICE. SUBSCRIPT ICATES TYPE. SEE SCHEDULES AND SPECIFICATIONS.	С	CONDUIT	ОН	OVERHEAD
MD	MOTION DETECTOR (SECURITY SYSTEM)		CIAL PURPOSE OUTLET. SUBSCRIPT INDICATES TYPE.	СВ	CIRCUIT BREAKER	P PA	POLE PUBLIC ADDRESS
MS	MOTION SENSOR (LIGHTING CONTROL SYSTEM)	X SPE	SCHEDULES AND SPECIFICATIONS.	CCTV CKT	CLOSE CIRCUIT TELEVISION CIRCUIT	PB	PUSHBUTTON
	FIXED VIEW CAMERA		EPHONE OUTLET 15" AFF (SUBSCRIPT W=WALL	COND	CONDUCTOR	PBX PC	PRIVATE BUILDING EXCHANGE PULL CHAIN
PTZ 🛛	PAN, TILT, ZOOM CAPABLE CAMERA.		ONE AT 54" AFF)	CPU	CENTRAL PROCESSING UNIT	PC	PHOTO CELL
LIGHTING			,	DIA	DIAMETER	PNL PSI	PANELBOARD POUNDS PER SQUARE INCH
0	INCANDESCENT OR HID FIXTURE, CEILING MOUNTED	V	IBINATION TELEPHONE AND DATA OUTLET – 15" AFF U.N.O.	DIST DN	DISTRIBUTION DOWN	PVC	POLY VINYL CHLORIDE CONDUIT
•	HID FIXTURE EQUIPED WITH QUARTZ RESTRIKE		EVISION OUTLET – 15" AFF U.N.O.	DWGS	DRAWINGS	PWR	POWER
Ю	INCANDESCENT OR HID FIXTURE, WALL MOUNTED		L MOUNTED INTERCOM SPEAKER VOLUME CONTROL	EC	EMPTY CONDUIT	RGS RMC	RIGID GALVANIZED STEEL CONDUIT RIGID METAL CONDUIT
	INCANDESCENT OR HID WALL WASH FIXTURE, CEILING MOUNTED CLEAR SIDE INDICATES DIRECTION OF WASH			EDF	ELECTRIC DRINKING FOUNTAIN		
a	FLUORESCENT FIXTURE, CEILING OR WALL MOUNTED, SUBSCRIPT INDICATES ASSOCIATED SWITCHING	SWITCH DEVICES		EF FMT	EXHAUST FAN ELEC. METALLIC TUBING	SC SN	SPLIT CIRCUIT SOLID NEUTRAL
\otimes \bowtie	FIXTURE CONNECTED TO EMERGENCY SYSTEM	_	GLE POLE SWITCH TCH - DOUBLE POLE, 3-WAY OR 4 WAY	EQMT	EQUIPMENT	S.J.B.	SOUND JUNCTION BOX
	FIXTURE WITH ONE BALLAST CONNECTED TO EMERGENCY		OPERATED SWITCH	EWC	ELECTRIC WATER COOLER	SPEC. SQFT, 🗹	SPECIFICATION SQUARE FOOT
	SYSTEM OR TO BATTERY BACK UP FLUORESCENT PENDANT FIXTURES.	S SWIT	CH WITH PILOT LIGHT IN HANDLE (ON	ELEC EXH	ELECTRICAL EXHAUST	SW	SWITCH
	EXIT LIGHT, SINGLE/DOUBLE FACE CEILING MOUNTED WITH		ITED UNLESS OTHERWISE NOTED)	EXP	EXPLOSION PROOF	SWBD	SWITCHBOARD
	ARROWS AS INDICATED IN DRAWINGS		UAL MOTOR STARTER (T=THERMAL OVERLOAD	EXIST	EXISTING	TC	TIME CLOCK TELEPHONE
	EXIT LIGHT, WALL MOUNTED , SINGLE/DOUBLE FACE WITH ARROWS AS INDICATED IN DRAWINGS	SIZE	D FOR MOTOR)	F/A	FIRE ALARM	TELE TSTAT	THERMOSTAT
	EMERGENCY LIGHT, BATTERY TYPE WITH CHARGER	- ^{SD()} AS S	SHOWN IN () 6=600, 1=1000, 5=1500, 2-2000	FC FCU	FOOTCANDLES FAN COIL UNIT	TV	TELEVISION
	SYMBOL IDENTIFYING FIXTURE TYPE. ALL FIXTURES THIS		ORESCENT DIMMER SWITCH, NUMBER OF LAMPS SHOWN IN ()	FLEX	FLEXIBLE METAL CONDUIT	TYP.	TYPICAL
Â	ROOM ARE FIXTURE TYPE INDICATED UNLESS INDIVIDUALLY MARKED		UPANCY SENSOR SWITCH	FLUOR FN	FLUORESCENT FULL NEUTRAL	U.G.	
₽₽₽₽	POLE MOUNTED LUMINAIRE, QUANTITY AS INDICATED	803	L CIRCUIT OCCUPANCY SENSOR SWITCH SIVE INFRARED OCCUPANCY SWITCH	FT	FEET, FOOT	UH U.N.O.	UNIT HEATER UNLESS NOTED OTHERWISE
\sim	EXTERIOR FLOOD LIGHT		R SWITCH VOLTAGE OVERRIDE SWITCH	F.F.	FINISHED FLOOR	v	VOLT(S)
- 	TRACK LIGHT – TYPE, LENGTH AND QUANTITY OF		AKER CALL BACK SWITCH	GALV GFCI	GALVANIZED GROUND FAULT CIRCUIT INTERRUPTER	VP	VAPOR PROOF
	FIXTURES AS SCHEDULED.	FIRE ALARM		GFCI	GROUND FAULT INTERRUPTER	w	WIRE
os os	OCCUPANCY SENSOR – WALL AND CEILING MOUNT RESPECTIVELY			GND	GROUND	W/	WITH WEATHERPROOF
			ALARM CONTROL PANEL	HID	HIGH INTENSITY DISCHARGE		
PANELS A	ND RELATED ITEMS		ALARM ANNUNCIATOR PANEL	HP HOA	HORSEPOWER HAND OFF AUTOMATIC	XFMR XPD	TRANSFORMER TRANSPONDER
	PANELBOARD, 120/208 VOLT		OTE COMMAND CENTER	HDA HPS	HIGH PRESSURE SODIUM	-	IMPEDANCE
	PANELBOARD, POWER OR 277/480V		UAL PULL STATION 48" AFF	HVAC	HEATING/VENTILATING/AIR CONDITIONING HERTZ		
SWBD	SWITCHBOARD OR DISTRIBUTION BOARD			HZ		Ø 1P	PHASE ONE POLE
MCC	MOTOR CONTROL CENTER		KE DETECTOR, DUCT MOUNTED	IC		2P	TWO POLE
PB	PULL BOX		SWITCH/REMOTE INDICATOR	ID	INSIDE DIAMETER	3P	THREE POLE
		PS FIRE	SPRINKLER PRESSURE SWITCH				

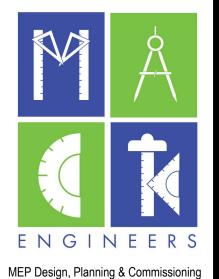
[SOME SYMBOLS MAY NOT BE USED ON THIS PROJECT]

GENERAL NOTES

- A. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS AND REVIEW ALL RELATED DRAWINGS AND SPECIFICATIONS PRIOR TO BID.
- B. THE DRAWINGS ARE DIAGRAMMATICAL. CONTRACTOR SHALL VERIFY FIELD CONDITIONS AND DETERMINE CONDUIT ROUTING AND EXACT LOCATIONS OF EQUIPMENT AND DEVICES. NOTIFY THE ARCHITECT/ENGINEER IF THE APPROXIMATE CONDUIT ROUTING SHOWN ON PLANS IS NOT FEASIBLE. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS PRIOR TO ROUGH-IN.
- C. LOCATIONS OF DEVICES ARE DIAGRAMMATICAL. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS PRIOR TO ROUGH-IN.
- D. PROVIDE LISTED FIRE-STOP CAULKING TO MAINTAIN INTEGRITY OF RATED WALLS AT ALL RACEWAY AND CABLE TRAY PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF RATED WALLS.
- E. REFERENCE EQUIPMENT CONNECTION SCHEDULE FOR REQUIREMENTS AND ADDITIONAL INFORMATION OF TAGGED EQUIPMENT SHOWN ON PLAN.
- F. LOCATIONS OF MECHANICAL EQUIPMENT TO BE COORDINATED WITH MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND QUANTITY.
- G. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT ISSUE OF THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL CODES. ALL WORK SHALL MATCH THE EXISTING BUILDING'S ELECTRICAL INSTALLATION. ALL SYSTEMS SHALL BE INSTALLED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH APPLICABLE STANDARDS AND SPECIFICATIONS APPROVED BY ALL AUTHORITIES HAVING JURISDICTION.
- H. ALL NEW DUPLEX RECEPTACLES TO BE MOUNTED HORIZONTAL AT 18" AFF TO BOTTOM OF BOX AND LIGHT SWITCHES TO BE MOUNTED AT 48" AFF UNLESS NOTED OTHERWISE, AND IN FULL COMPLIANCE WITH A.D.A.
- I. PROVIDE A TYPED PANEL DIRECTORY FOR EACH NEW OR MODIFIED ELECTRICAL PANEL. DIRECTORY SHALL IDENTIFY THE CIRCUIT NUMBER, DEVICES SERVED, AND LOCATION OF DEVICES BY ROOM NUMBER. FILE COPY OF DIRECTORIES WITH THE OWNER'S REPRESENTATIVE WHEN WORK IS COMPLETED, AND PROVIDE COPIES WITH THE OWNER'S MANUALS.
- J. ALL FUSES/CIRCUIT BREAKERS IN PANELS, DISCONNECT SWITCHES, MOTOR STARTERS, ETC, SERVING MOTORS AND EQUIPMENT SHALL BE SIZED AS RECOMMENDED BY THE MANUFACTURER OF THE PARTICULAR LOAD DEVICE SERVED. COORDINATE WITH OTHER TRADES AS REQUIRED.
- K. INDICATED SPARE AND/OR SPACES IN ALL EQUIPMENT ON THE ELECTRICAL ONE-LINE DIAGRAM AND IN THE PANEL SCHEDULES ARE THE MINIMUM NUMBER REQUIRED FOR THIS PROJECT.
- L. ALL CONNECTIONS TO MOTORS, OR OTHER DEVICES SUBJECT TO VIBRATION SHALL BE MADE USING A MINIMUM OF 12" LENGTH OF LIQUID TIGHT FLEXIBLE METALLIC CONDUIT. PROVIDE CONTINUOUS SEPARATE GROUND WIRE THROUGH ALL FLEXIBLE METALLIC CONDUIT CONNECTIONS.
- M. PROVIDE UL, CLASS A GROUND FAULT INTERRUPTER CIRCUIT PROTECTIVE DEVICES ON ALL CONSTRUCTION RECEPTACLE CIRCUITS, OUTSIDE RECEPTACLE CIRCUITS, BATH OR TOILET ROOM RECEPTACLE CIRCUITS AND ON ALL OTHER CIRCUITS REQUIRED OR RECOMMENDED IN THE NATIONAL ELECTRIC CODE.

GENERAL DEMOLITION NOTES

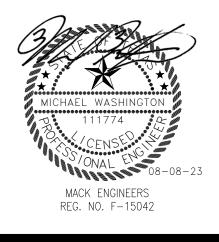
- A. CONDUCT ALL DEMOLITION WORK IN SUCH A MANNER AS TO MAINTAIN A SAFE WORK ENVIRONMENT AND IN ACCORDANCE WITH APPLICABLE SAFETY RULES AND PROCEDURES WITHIN NEC, NECA AND OSHA REQUIREMENTS.
- B. CONTRACTOR SHALL REQUEST AND REVIEW ANY HAZARDOUS MATERIALS SURVEYS FROM THE OWNER'S REPRESENTATIVE. OBSERVE RECOMMENDED PRECAUTIONS AND VERIFY THE STATUS OF ANY REMEDIAL WORK RECOMMENDED OR NOTED WITHIN THE HAZARDOUS MATERIAL SURVEY. NOTIFY THE OWNER'S REPRESENTATIVE IF ANY HAZARDOUS MATERIALS ARE SUSPECTED OR OBSERVED DURING THE COURSE OF EXECUTING THIS CONTRACT.
- C. SURVEY AREAS OF THE FACILITY SCHEDULED FOR RENOVATION OR PARTIAL DEMOLITION PRIOR TO ANY WORK BEING PERFORMED. SUBMIT REPORT OF THE PRE-WORK SURVEY DETAILING ANY UTILIZATION EQUIPMENT OR SYSTEMS THAT ARE NOT IN GOOD WORKING ORDER IN ADVANCE OF ANY DEMOLITION WORK AND REVIEW WITH THE OWNER'S REPRESENTATIVE.
- D. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL FOR SALVAGED MATERIAL. REQUEST THAT THE OWNER PROVIDE DIRECTION ON DISPOSITION OF SALVAGED MATERIAL FIVE(5) WORKING DAYS PRIOR TO REMOVAL. IF SO DIRECTED BY THE OWNER, SALVAGED MATERIAL SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE DELIVERED BY THE CONTRACTOR TO A LOCATION AS DIRECTED. REMOVE AND DISPOSE ANY SALVAGED MATERIAL NO RETAINED BY THE OWNER.
- E. UNLESS OTHERWISE NOTED, DEMOLISH ELECTRICAL DEVICES, INCLUDING BUT NOT LIMITED TO: POWER AND DATA OUTLETS, WIRING, RACEWAYS, PANELBOARDS, LIGHTING DEVICES, EQUIPMENT CONTROL DEVICES AND POWER CONNECTIONS TO HVAC AND PLUMBING EQUIPMENT SCHEDULED FOR DEMOLITION.
- F. CONTRACTOR SHALL UPDATE PANELBOARD DIRECTORIES AT EACH PANEL WHERE CIRCUIT MODIFICATIONS ARE MADE.



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ARCHITECT/ENGINEER



B&B RENOVATION

HEX INDUSTRIES 278 W. SAN ANTONIO ST. NEW BRAUNFELS, TX. 78130

 PROJECT NUMBER:

 0007-23

 DRAWN BY:

 CSW

 CHECKED BY:

 MLW

 DATE:
 REVISION:

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SHEET TITLE:

ELEC. SYMBOLS, ABBREVIATIONS & GENERAL NOTES

SHEET NUMBER:

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SECTION 260510 - BASIC REQUIREMENTS FOR ELECTRICAL

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division O Specification Sections, apply to this Section.
- B. Drawings and Specifications
- 1. Division 26 specifications are written in imperative and streamlined format. This imperative language is directed to the Contractor. The word "shall be included by inference where a colon (:) is used within sentences and phrases.
- C. Codes and Standards Work shall comply with the local city codes and ordinances, the regulations of state authorities having lawful jurisdiction and the codes, statues and reference standards identified within these Specifications. These Specifications shall not be construed as negating the regulations or requirements of lawful jurisdictions. 2. Where Specifications require materials or equipment exceeding the minimum requirements of applicable codes and ordinances, the requirements of these Specifications shall take precedence.
- 1.2 DEFINITIONS & ABBREVIATIONS A. DEFINITIONS
 - 1. Contract Documents Drawings and the project manual, including Specifications.
 - 2. Install:to set in place in position for service.
 - 3. Furnish:to supply. 4. Provide:to install and furnish.
 - 5. City When used in an otherwise non—specific reference anywhere in the Contract documents, City is defined to refer to the local municipal authority governing the project address or the City whose ETJ includes the project address.
- B. Utilities: The Contract Documents reflect the general location and routing of utilities required for this project. Visit the site, and coordinate and confirm the exact requirements for electrical and telephone services. 1. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated: a. Notify the Owner's representative no fewer than fourteen 14 days in advance of proposed interruption of electric
- b. Indicate method of providing temporary electric service. c. Do not proceed with interruption of electric service without the Owner's representative's written permission.
- 2. Temporary Services:
- a. Provide temporary electrical service and electric power distribution and temporary lighting throughout the construction site. Install and maintain in accordance with National Electrical Code and OSHA requirements. Make arrangements with the serving utility for point of service for temporary electric service and pay costs for delivery to and use at
- b. Existing electrical distributions systems at the site may be utilized for temporary construction power. Submit to the Owner in writing, documents identifying the locations and anticipated maximum demand at which power will be utilized, and obtain the Owner's approval, in writing, prior to connection and utilization. 1.3 SUBMITTAL REQUIREMENTS
- A. Provide all electrical submittals at the same time. Submittals are required for new electrical distribution equipment and lighting. Submittal requirements are waived for other sections if specified materials are used. B. Submittals shall be provided in binders and arranged in sequence by Specification section number. Provide submittals only for specification sections that list this requirement.
- C. Submittals may be provided in PDF form. PART 2 - PRODUCTS
- 2.1 GENERAL MATERIALS AND EQUIPMENT REQUIREMENTS
- A. Materials and equipment shall conform to National Electrical Code requirements and shall be listed by Underwriters Laboratories, Inc. (UL). UL listing will be accepted as evidence that the material or equipment conform to the standards of that agency. In lieu of this listing, submit a statement from a nationally recognized testing agency, indicating that products have been tested in accordance with UL criteria and that the materials and equipment comply with Contract requirements
- PART 3 EXECUTION
- 3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION
- A. Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise Coordinate location of access panels and doors with Architect prior to the associated equipment rough-in. B. Apply firestopping to penetrations of fire—rated floor and wall assemblies for electrical installations to restore origina fire—resistance rating of assembly.
- 3.2 VIBRATION ISOLATION
- A. Provide vibration isolation means for equipment and materials to prevent the transmission of perceptible vibration, structure borne or air borne noise. Items requiring vibration isolation include: Switchgear, motor control centers, motor starter panelboards, motors, transformers and rotating and reciprocatin equipment shall be mounted on cork, rubber or steel spring isolator units properly sized, spaced and loaded a recommended by manufacturer. 2. Electrical Conduit: Isolate from dry type transformers, rotating and reciprocating machinery using flexible conduit, 18" minimum length or 12" of flexible conduit per 1" of conduit diameter with maximum of 36".
 - SECTION 260519 LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
- PART 1 GENERAL
- 1.1 MANUFACTURERS
- A. <u>Manufacturers</u>: Subject to compliance with requirements, provide one of the following:
- 1. Allied Wire & Cable. 2. American Insulated Wire Corp.; a Leviton Company.
- 3. General Cable Corporation.
- 4. Senator Wire & Cable Company.
- 5. <u>Southwire Company</u>
- 1.2 CONDUCTOR MATERIAL APPLICATIONS
- A. Feeders: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- B. Branch Circuits: Copper, Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger,
- 1.3 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS
- A. Service Entrance: Type THHN-THWN, single conductors in raceway or Type XHHW, single conductors in raceway. B. All other applications: Type THHN—THWN, single conductors in raceway.
- 1.4 INSTALLATION OF CONDUCTORS AND CABLES
- A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
- B. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours
- C. Provide support for conductors in vertical raceways in accordance with NEC 300.19. Refer to Table 300.19(A) for support spacing distance requirements of specific cable sizes. 1.5 CONNECTIONS
- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B
- B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings
- C. Wiring at Outlets: Install conductor at each outlet, with at least 12 inches of slack
- 1.6 MANUFACTURERS
- A. <u>Manufacturers</u>: Subject to compliance with requirements, provide one of the following:
- 1. AFC Cable Systems, Inc.,
- 2. Hubbell Power Systems, Inc. 3. <u>0-Z/Gedney; EGS Electrical Group LLC</u>.
- 4. <u>3M: Electrical Products Division</u>.
- 5. TE Connectivity.
- B. Description: Factory—fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated. 1.7 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS
- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling." 1.8 FIRESTOPPING
- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating. SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS 1.1 CONDUCTORS
- A. Insulated Conductors: Copper or tinned—copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction. 1.2 CONNECTORS
- A. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, pressure type with at least two bolts. B. Bus-bar Connectors: Mechanical type, cast silicon bronze, solderless, compression type wire terminals, and long-barrel, two-bolt connection to ground bus bar.
- 1.3 GROUNDING ELECTRODES
- A. Ground Rods: Copper-clad steel 3/4 inch by 10 feet (19 mm by 3 m) in diameter.
- PART2 EXECUTION
- 2.1 EQUIPMENT GROUNDING

SECTION 260529 - HANGERS AND SU PART 1 – GENERAL

- 1.1 PERFORMANCE REQUIREMENTS
- A. Design supports for multiple raceways capable of supportin B. Design equipment supports capable of supporting comb systems and components.
- 1.2 COORDINATION
- A. Coordinate size and location of concrete bases. Cast and B. Coordinate installation of roof curbs, equipment supports,
- PART 2 PRODUCTS
- 2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS A. Steel Slotted Support Systems: 1. For exterior applications, provide hot—dipped galvanized Hot dipped galvanized.
 - 2. For interior applications, provide electro-galvanized supp 3. Channel Dimensions: Selected for applicable load criter
- B. Conduit and Cable Support Devices: Steel and malleableand sizes of raceway or cable to be supported. C. Support for Conductors in Vertical Conduit: Factory-f
- wedging plug or plugs for non-armored electrical conduct and shape of conductor gripping pieces as required to nalleable iron.
- D. Structural Steel for Fabricated Supports and Restraints: E. Mounting, Anchoring, and Attachment Components: Iter surfaces include the following:
- Powder-Actuated Fasteners: Threaded-steel stud, for tension, shear, and pullout capacities appropriate for su
- 2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc concrete with tension, shear, and pullout capacities
- 3. Concrete Inserts: Steel or malleable-iron, slotted supp 4. Clamps for Attachment to Steel Structural Elements.
- 5. Through Bolts: Structural type, hex head, and high structural 6. Toggle Bolts: All-steel, springhead type.
- 7. Hanger Rods: Threaded steel.
- 2.2 MANUFACTURERS
- A. Manufacturers: Subject to compliance with requirements,
- 1. <u>Allied Tube & Conduit</u>. 2. Cooper B-Line Inc.; a division of Cooper Industries
- 3. ERICO Internation Corporation.
- 4. Thomas & Betts Corporation. 5. Unistrut: Tycp International, Ltd.
- PART 3 EXECUTION
- 3.1 APPLICATION
- A. Maximum Support Spacing and Minimum Hanger Rod Siz required by NFPA 70. Minimum rod size shall be 1/4 inc
- B. Multiple Raceways or Cables: Install trapeze-type support capacity can be increased by at least 25 percent in futur 3.2 INSTALLATION OF FABRICATED METAL SUPPORTS
- A. Cut, fit, and place miscellaneous metal supports accurate electrical materials and equipment. 3.3 CONCRETE BASES
- A. Construct concrete bases of dimensions indicated but not
- B. Use minimum, 3000-psi, 28-day compressive-strength co C. Anchor equipment to concrete base.
 - END OF SECTIO SECTION 260533 - RACEWAYS AND
- PART 1 GENERAL
- 1.1 DEFINITIONS

1.3 MANUFACTURERS

PART 2 - EXECUTION

2.1 RACEWAY APPLICATION

- A. EMT: Electrical Metallic Tubing. B. GRC, RGS: Galvanized rigid steel conduit.
- C. IMC: Intermediate metal conduit.

1.2 METAL CONDUITS, TUBING, AND FITTINGS

2.2 INSTALLATION

DIVISION 26 - ELECTRICAL SPECIFICATIONS

A. Install insulated equipment grounding conductors with all feeders and branch circuits.	D. Install above grade conduits parallel or perpendicular to building lines.	3. <u>Leviton Mfg. Company</u>
	E. Support conduit within 12 inches of enclosures to which attached. F. Use EMT for raceways for stub—ups to above recessed ceilings. Provide insulated conduit bushing terminate stub—ups.	4. <u>Pass & Seymour/Leg</u> r B. Source Limitations: Obto
SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS	G. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install	2.2 DECORATOR-STYLE DEVICES
T 1 – GENERAL PERFORMANCE REQUIREMENTS	bushings on conduits up to 1—1/4—inch trade size and insulated throat metal bushings on 1—1/2—inch trade size and larger conduits terminated with locknuts. Install insulated throat, metal grounding bushings on service conduits.	A. Convenience Receptacles UL 498.
A. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.	H. Install pull wires in empty raceways. Cap underground raceways designated as spare above grade alongside raceways in use.	1. <u>Products:</u> Subject to a a. <u>Cooper; 6252</u> .
B. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.	END OF SECTION 260533	b. <u>Hubbell; DR15</u> . c. <u>Leviton; 16252</u> .
COORDINATION	SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS	d. Pass & Seymour; 2
 A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. B. Coordinate installation of roof curbs, equipment supports, and roof penetrations. 	 1.1 IDENTIFICATION SCHEDULE A. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and 	B. Tamper-Resistant and W NEMA WD 6 Configuration
z = PRODUCTS	handholes, use color-coding conductor tape to identify the phase. 1. Color-Coding for Phase and Voltage Level Identification, 600 V or Less: Use colors listed below for ungrounded	1. <u>Products</u> : Subject to a. <u>Cooper; TWRBR15</u> .
SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS	service, feeder, and branch—circuit conductors. a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction	b. <u>Hubbell; DR15TR</u> . c. <u>LevitonTRW15</u> .
A. Steel Slotted Support Systems: 1. For exterior applications, provide hot—dipped galvanized supports and hardware. Stainless steel may be used in lieu of	permit. b. Colors for 240/120-V Circuits:	d. <u>Pass & Seymour; 1</u> 2. Description: Labeled
Hot dipped galvanized. 2. For interior applications, provide electro-galvanized supports and hardware.	1) Phase A: Black.	"Tamper-Resistant Rec
3. Channel Dimensions: Selected for applicable load criteria.	2) Phase B: Red. c. Field—Applied, Color—Coding Conductor Tape: Apply in half—lapped turns for a minimum distance of 6 inches from	C. GFCI, Feed -Through Ty Configuration 5-15R, UL
B. Conduit and Cable Support Devices: Steel and malleable—iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.	terminal points and in boxes where splices or taps are made. Locate bands to avoid obscuring factory cable markings.	1. <u>Products</u> : Subject to a. <u>Cooper; VGF15</u> .
C. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have_number, size,	B. Locations of Underground Lines: Identify with underground—line warning tape for power, lighting, communication, control wiring, and optical fiber cable.	b. <u>Hubbell; GF15LA</u> . c. <u>Leviton; 8599</u> .
and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.	1.2 WARNING LABELS AND SIGNS A. Comply with NFPA 70 and 29 CFR 1910.145.	d. <u>Pass & Seymour;</u> ´
D. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates,	B. Self-Adhesive Warning Labels: Factory-printed, multicolor, pressure-sensitive adhesive labels, configured for	2.3 WALL PLATES A. Single and combination t
E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:	display on front cover, door, or other áccess to equipment unless otherwise indicated. C. Warning label and sign shall include, but are not limited to, the following legends	1. Plate-Securing Screws
 Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used. Automatical Functional Automatical Automatical	 Warkspace Clearance Warning: "WARNING – OSHA REGULATION – AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES. 	2. Material for Finished S 3. Material for Unfinished
 Mechanical—Expansion Anchors: Insert—wedge—type, zinc—coated or stainless steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used. 	2. ARC FLASH.	 Material for Damp Loo damp locations.
3. Concrete Inserts: Steel or malleable-iron, slotted support system units.	1.3 EQUIPMENT IDENTIFICATION LABELS	B. Wet-Location, Weatherpro
 Clamps for Attachment to Steel Structural Elements. Through Bolts: Structural type, hex head, and high strength. 	A. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. White letters on a dark—gray background. Minimum letter height shall be 3/8 inch	2.4 FINISHES
6. Toggle Bolts: All-steel, springhead type. 7. Hanger Rods: Threaded steel.	B. Stenciled Legend: In non—fading, waterproof, black ink or paint. Minimum letter height shall be 1 inch	A. Device Color: 1. Wiring Devices Connec
MANUFACTURERS	END OF SECTION 260553	NFPA ⁻ 70 or device lis
 <u>Manufacturers</u>: Subject to compliance with requirements, provide one of the following: <u>Allied Tube & Conduit</u>. 	SECTION 262416 - PANELBOARDS	B. Wall Plate Color: For pl PART 3 — EXECUTION
2. <u>Cooper B-Line Inc.; a division of Cooper Industries</u> .	PART 1 – GENERAL	3.1 INSTALLATION
3. <u>ERICO Internation Corporation</u> . 4. <u>Thomas & Betts Corporation</u> .	 SUBMITTALS A. Product Data: For each type of panelboard, switching and overcurrent protective device, transient voltage suppression 	A. Receptacle Orientation: 1. Install ground pin of v
5. <u>Unistrut: Tycp International, Ltd.</u>	device, accessory, and component indicated. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.	B. Device Plates: Do not u device plates do not fit
APPLICATION	B. Shop Drawings: For each panelboard and related equipment.	device plates do not ne
A. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as	 Include dimensioned plans, elevations, sections, and details. Show tabulations of installed devices, equipment features, and ratings. 	
required by NFPA 70. Minimum rod size shall be 1/4 inch in diameter. B. Multiple Raceways or Cables: Install trapeze—type supports fabricated with steel slotted or other support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.	2. Detail enclosure types and details for types other than NEMA 250, Type 1. 3. Detail bus configuration, current, and voltage ratings.	PART 1 – PRODUCTS
capacity can bé increased by at least 25 percent in future without exceeding specified design load limits. ´ INSTALLATION OF FABRICATED METAL SUPPORTS	 Short—circuit current rating of panelboards and overcurrent protective devices. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary 	1.1 MANUFACTURERS A. <u>Manufacturers</u> : Subject
A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor	components. 6. Include wiring diagrams for power, signal, and control wiring.	1. <u>Cooper Bussmann, Inc</u>
electrical materials and equipment. CONCRETE BASES	1.2 QUALITY ASSURANCE	2. <u>Edison Fuse, Inc</u> . 3. <u>Ferraz Shawmut, Inc</u> .
A. Construct concrete bases of dimensions indicated but not less than 4 inches larger in both directions than supported unit.	A. Source Limitations: Obtain panelboards, overcurrent protective devices, components, and accessories from single source from single manufacturer.	4. <u>Littelfuse, Inc</u> . 1.2 FUSE APPLICATIONS
B. Use minimum, 3000-psi, 28-day compressive-strength concrete.	B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for panelboards including clearances between panelboards and adjacent surfaces and other items. Comply with indicated maximum dimensions.	A. Cartridge Fuses:
C. Anchor equipment to concrete base. END OF SECTION 260529	1.3 COORDINATION	1. Service Entrance: Cla 2. Feeders: Class RK5.
SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS	A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them including electrical and other types of equipment raceways piping encumbrances to workspace	3. Motor Branch Circuits:
T 1 – GENERAL	supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.	
	PART 2 – PRODUCTS	PART 1 – PRODUCTS
A. EMT: Electrical Metallic Tubing. B. GRC, RGS: Galvanized rigid steel conduit.	 2.1 GENERAL REQUIREMENTS FOR PANELBOARDS A. Enclosures: Refer to drawings and schedules for- cabinet mounting requirements. 	1.1 FUSIBLE AND NON-FUSIBLE
C. IMC: Intermediate metal conduit.	 Provide cabinets rated for environmental conditions at locations indicated on the drawings. If not otherwise noted on the drawings or schedules, refer to the following: 	A. Manufacturers: Subject
D. LFMC: Flexible steel conduit with PVC jacket.	a. Indoor Dry and Clean Locations: NEMA 250, Type 1.	1. <u>Eaton Electrical Inc.; (</u> 2. <u>General Electric Comp</u>
METAL CONDUITS, TUBING, AND FITTINGS A. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.	b. Outdoor Locations: NEMA 250, Type 3R. 2. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.	3. <u>Siemens Energy & Au</u> 4. <u>Square D; a brand of</u>
1. Fittings for EMT: a. Material: Steel.	3. Finishes: a. Panels and Trim: Galvanized steel, factory finished immediately after cleaning and pre-treating with manufacturer's	B. Type HD, Heavy Duty, Si with clips or bolt pads
b. Type: Compression.	a. Panels and Trim: Galvanized steel, factory finished immediately after cleaning and pre—treating with manufacturer's standard two—coat, baked—on finish consisting of prime coat and thermosetting topcoat. b. Back Boxes: Galvanized steel.	padlocks, and interlocked
MANUFACTURERS	B. Incoming Mains Location: Coordinate a planned route for panelboard feeders prior to submittal. Provide mains at locations required by the panel location and feeder routing.	C. Accessories: 1. Equipment Ground Kit:
 <u>Manufacturers</u>: Subject to compliance with requirements, provide one of the following: <u>Allied Tube & Conduit: a Tyco International Ltd. Co</u>. 	C. Phase, Neutral, and Ground Busses:	2. Neutral Kit: Internall neutral conductors.
2. <u>Anamet Electrical Inc.</u> 3. <u>Electri-Flex Company</u> .	1. Material: Tin—plated aluminum or Hard—drawn copper, 98 percent conductivity. 2. Equipment Ground Bus: Adequate for feeder and branch—circuit equipment grounding conductors; bonded to box.	3. Class R Fuse Kit: Pr 1.2 ENCLOSURES
4. <u>O-Z/Gedney: a brand of EGS Electrical Group</u> . 5. <u>Republic Conduit</u> .	D. Service Equipment Label: NRTL labeled for use as service equipment for panelboards or load centers with one or more	A. Enclosed Switches and (
6. <u>Thomas & Betts Corporation</u> .	main service disconnecting and overcurrent protective devices. E. Future Devices: Mounting brackets, bus connections, filler plates, and necessary appurtenances required for future	conditions at installed lo 1. Indoor, Dry and Clean
7. <u>Western Tube and Conduit Company</u> . 8. <u>Wheatland Tube Company: a division of John Maneely Company</u>	installation of devices. F. Manufacturers: Subject to compliance with requirements, provide products by one of the following:	2. Outdoor Locations: N
T 2 – EXECUTION	1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.	1.3 INSTALLATION A. Install individual wall—mo
RACEWAY APPLICATION	2. <u>General Electric Company; GE Consumer & Industrial — Electrical Distribution</u> . 3. <u>Siemens Energy & Automation, Inc.</u>	B. Temporary Lifting Provisi parts from enclosures ar
 A. Outdoors: Apply raceway products as specified below unless otherwise indicated: 1. Exposed Conduit: GRC (GRS) or IMC or RNC, Type EPC-80-PVC. RNC conduit is not allowed on or above roofs. 	4. <u>Square D: a brand of Schneider Electric.</u> 2.2 INSTALLATION	C. Install fuses in fusible de
 Concealed Conduit, Aboveground: EMT. Underground Conduit (Service entrance and feeders): concrete encased RNC, Type EPC-40-PVC or Type EPC-80-PVC, 	A. Mount top of trim 90 inches above finished floor unless otherwise indicated.	D. Comply with NECA 1.
 3. Underground Conduit (Service entrance and reeders): concrete encased RNC, type EPC-40-PVC or type EPC-80-PVC, 4. Underground Conduit (Branch Circuits): Type EPC-80-PVC, direct buried. 	B. Mount panelboard cabinet plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.	1.4 IDENTIFICATION A. Comply with requirements
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven	C. Install overcurrent protective devices and controllers not already factory installed.	1. Identify field-installed
Equipment): LFMC. 6. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.	1. Set field-adjustable, circuit-breaker trip ranges.	2. Label each enclosure
 B. Indoors: Apply raceway products as specified below unless otherwise indicated: 1. Exposed, Not Subject to Physical Damage: EMT 	D. Install filler plates in unused spaces. E. Stub four, 1—inch empty conduits from panelboard into accessible ceiling space.	
2. Exposed, Not Subject to Severe Physical Damage: EMT.	F. Arrange conductors in gutters into groups and bundle and wrap with wire ties.	PART 1 – GENERAL
3. Exposed and Subject to Severe Physical Damage (below 20 feet in elevation): GRC (GRS) or IMC. 4. Concealed in Ceilings and Interior Walls and Partitions: EMT.		1.1 RELATED DOCUMENTS
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor—Driven Equipment): FMC, except use LFMC in damp or wet locations.	A. Create a directory to indicate installed circuit loads after balancing panelboard loads; incorporate Owner's final room designations.	A. Refer to lighting fixture requirements within that
6. Damp or Wet Locations: GRC (GRS) or IMC.	B. Panelboard Nameplates: Label each panelboard with an engraved, phenolic nameplate. C. Device Nameplates: Label each branch circuit device in distribution panelboards with an engraved phenolic nameplate	1.2 ACTION SUBMITTALS
7. Boxes and Enclosures: Type 1, except use Type 3R stainless steel in institutional and commercial kitchens and damp or wet locations.	C. Device Nameplates: Label each branch circuit device in distribution panelboards with an engraved, phenolic nameplate. END OF SECTION 262416	A. Product Data: For eac accessories, finishes, and
C. Minimum Raceway Size: 3/4—inch trade size.	SECTION 262726 - WIRING DEVICES	1. Physical description of 2. Emergency lighting un
 D. Raceway Fittings: Compatible with raceways and suitable for use and location. 1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. 	PART 1 - GENERAL	3. Ballast, including BF.
 2. EMT: Use compression, steel fittings. Comply with NEMA FB 2.10. 3. Flexible Conduit: Use only fittings listed for use with flexible conduit. 	1.1 GENERAL REQUIREMENTS	4. Energy—efficiency data 5. Life, output (lumens,
E. Install surface raceways only where indicated on Drawings.	 A. Coordination: 1. Receptacles for Owner-Furnished Equipment: Match plug configurations. 	6. Photometric data and & Calculation Guides
F. Do not install nonmetallic conduit at roof applications or where ambient temperature exceeds 120 deg F.	2. Cord and Plug Sets: Match equipment requirements.	accessories identical t a. Testing Agency Cer
INSTALLATION A. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot—water pipes. Install horizontal	PART 2- PRODUCTS 2.1 MANUFACTURERS	B. Installation instructions.
raceway runs above water and steam piping.	A. <u>Manufacturers'</u> Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:	1.3 COORDINATION A. Coordinate layout and in:
B. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches of changes in direction.	other Part 2 articles: 1. <u>Cooper Wiring Devices; Division of Cooper Industries, Inc. (Cooper)</u> .	or is supported by them
C. Conceal raceways within finished walls, ceilings, and floors unless otherwise indicated.	2. <u>Hubbell Incorporated; Wiring Device-Kellems (Hubbell)</u> .	

Mfg. Company Inc. (Leviton). <u>& Seymour/Legrand (Pass & Seymour)</u>.

imitations: Obtain each type of wiring device and associated wall plate from single source manufacturer.

ence Receptacles: Square face, 125 V, 15 A; comply with NEMA WD 1, NEMA WD 6 Configuration 5—15R, and <u>cts:</u> Subject to compliance with requirements, provide one of the following:

ss & Seymour; 26252.

Resistant and Weather—Resistant Convenience Receptacles: Square face, 125 V, 15 A; comply with NEMA WD 1, 0 6 Configuration 5—15R, and UL 498. <u>icts</u>: Subject to compliance with requirements, provide one of the following: per: TWRBR15.

<u>bbell; DR15TR</u>. <u>tonTRW15</u>.

<u>s & Seymour; TRW26252</u>. iption: Labeled to comply with NFPA 70, "Receptacles, Cord Connectors, and Attachment Plugs (Caps)" Article, er-Resistant Receptacles in Dwelling Units" Section, when installed in wet and damp locations. ed —Through Type, Convenience Receptacles: Square face, 125 V, 15 A; comply with NEMA WD 1, NEMA WD 6 Ition 5—15R, UL 498, and UL 943 Class A. <u>icts</u>: Subject to compliance with requirements, provide one of the following:

bell; GF15LA. <u>viton: 8599</u>.

<u>s & Seymour: 1594</u>

nd combination types shall match corresponding wiring devices.

Securing Screws: Metal with head color to match plate finish. ial for Finished Spaces: 0.035-inch- thick, satin-finished, Type 302 stainless steel.

ial for Unfinished Spaces: Smooth, high-impact thermoplastic. al for Damp Locations: Cast aluminum with spring—loaded lift cover, and listed and labeled for use in wet and tion, Weatherproof Cover Plates: NEMA 250, complying with Type 3R, weather-resistant, die-cast aluminum with

g Devices Connected to Normal Power System: As selected by Architect unless otherwise indicated or required by 70 or device listing. Color: For plastic covers, match device color.

ground pin of vertically mounted receptacles up , and on horizontally mounted receptacles to the right Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard plates do not fit flush or do not cover rough wall opening. END OF SECTION 262726

SECTION 262813 - FUSES

turers: Subject to compliance with requirements, provide one of the following: <u>Bussmann, Inc</u>. Fuse, Inc.

Entrance: Class RK1, time delay ers: Class RK5, time delay

Branch Circuits: Class RK5, time delay.

END OF SECTION 262813 SECTION 262816 - ENCLOSED SWITCHES

ID NON-FUSIBLE SWITCHES

turers: Subject to compliance with requirements, provide one of the following::

Electrical Inc.; Cutler-Hammer Business Unit. <u>al Electric Company: GE Consumer & Industrial — Electrical Distribution.</u>

ens Energy & Automation, Inc. e D; a brand of Schneider Electric

), Heavy Duty, Single Throw, 240 or 600—V ac, 1200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, so or bolt pads to accommodate indicated fuses where noted, lockable handle with capability to accept three s, and interlocked with cover in closed position.

ment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors. Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum R Fuse Kit: Provides rejection of other fuse types when Class R fuses are specified.

Switches and Circuit Breakers: NEMA AB 1, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental , Dry and Clean Locations: NEMA 250, Type 1 r Locations: NEMA 250. Type 3R .

dividual wall—mounted switches and circuit breakers with tops at uniform height unless otherwise indicated. ry Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving om enclosures and components. uses in fusible devices.

with requirements in Section 260553 "Identification for Electrical Systems. r field—installed conductors, interconnecting wiring, and components; provide warning signs. each enclosure with engraved metal or laminated-plastic nameplate

END OF SECTION 262816

SECTION 265100 - INTERIOR LIGHTING

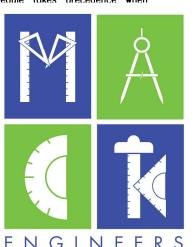
lighting fixture schedule for specific product requirements. Light fixture schedule takes precedence when ents within that schedule and this specification section are contradictory. Data: For each type of lighting fixture, arranged in order of fixture designati ies, finishes, and the following:

al description of lighting fixture including dimensions. ency lighting units including battery and charger.

including BF. -efficiency data.

output (lumens, CCT, and CRI), and energy—efficiency data for lamps. metric data and adjustment factors based on laboratory tests, complying with IESN alculation Guides, of each lighting fixture type. The adjustment factors shal sories identical to those indicated for the lighting fixture as applied in this Project. sting Agency Certified Data: Photometric data shall be certified by a qualified inde instructions.

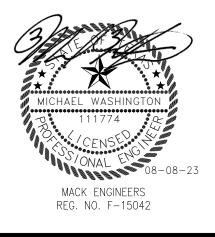
ite layout and installation of lighting fixtures and suspension system with other con: \mid ported by them, including HVAC equipment, fire-suppression system, and partition END OF SECTION 265100



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B & B RFNOVATION

HEX INDUSTRIES 278 W. SAN ANTONIO ST. NEW BRAUNFELS, TX. 78130

PROJECT NUMBER:

DRAWN BY: CSW

0007-23

CHECKED BY: MLW

DATE: REVISION

DATE: ISSUED AS: PERMIT SET 8-8-23

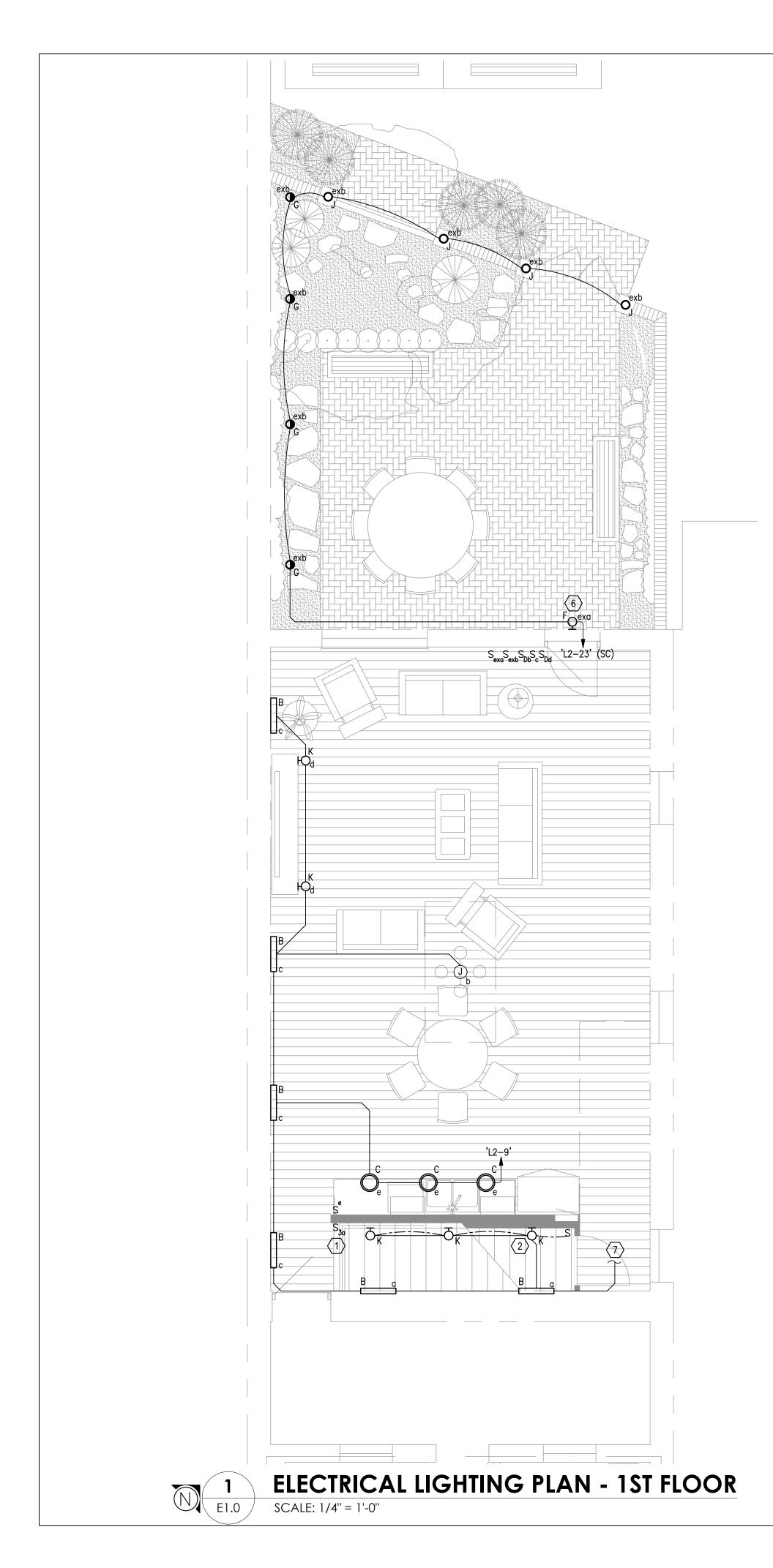
SHEET TITLE:

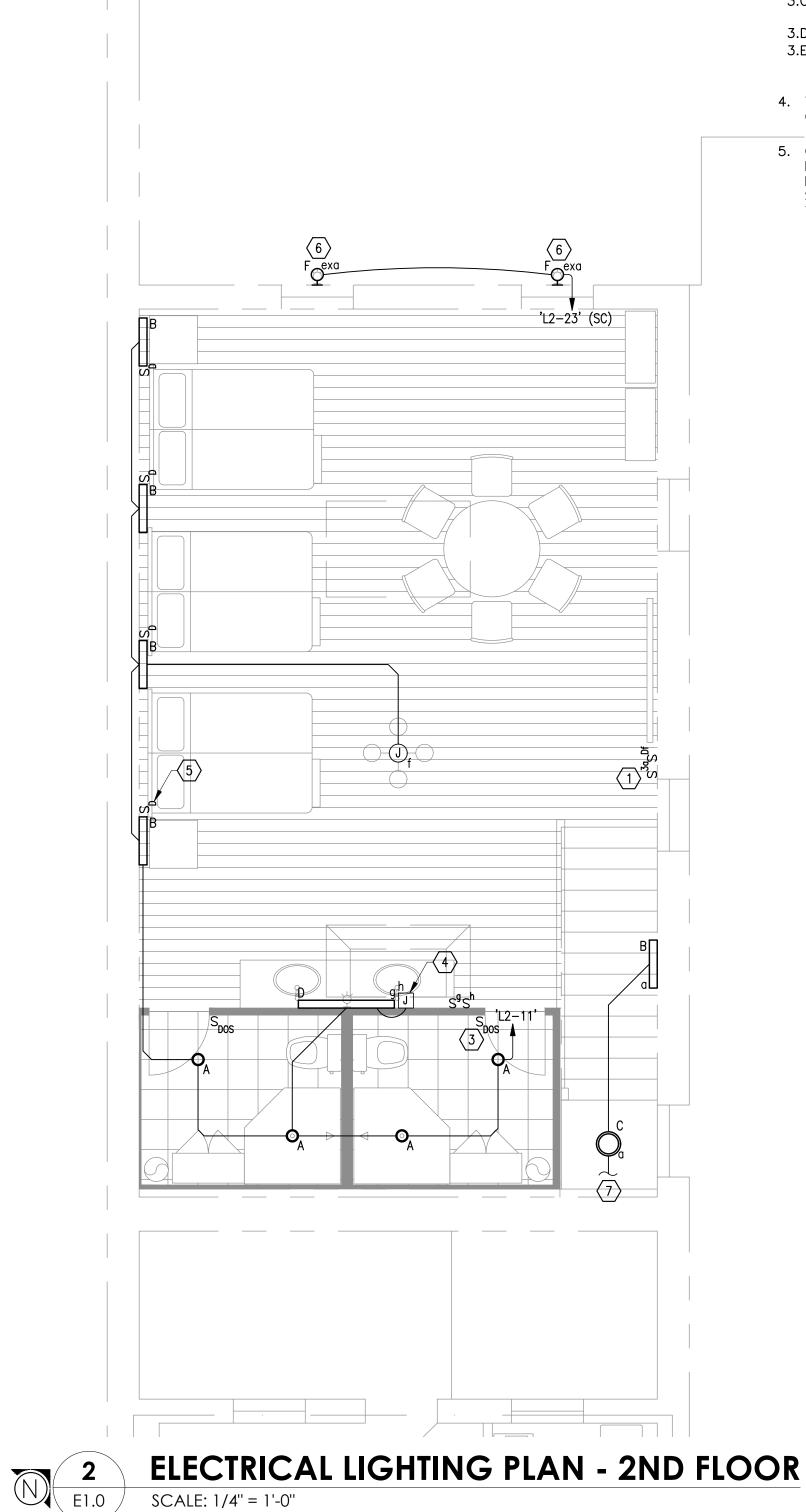
ELECTRICAL SPECIFICATIONS

SHEET NUMBER:

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EO.





LIGHTING FUNCTIONAL TESTING AND COMMISSIONING PLAN:

- 1. CONTRACTOR SHALL ENGAGE A 3RD PARTY CERTIFIED COMMISSIONING AGENT TO COMPLETE THE TASKS BELOW TO VERIFY THE LIGHTING CONTROLS ARE OPERATING AS PRESCRIBED BY THE PROJECT DOCUMENTS AND APPLICABLE CODES. WRITTEN DOCUMENTATION SHALL BE PROVIDED TO THE ARCHITECT UPON COMPLETION AND SHALL INCLUDE THE FOLLOWING INFORMATION FOR EACH TASK: DATE PERFORMED, PERSON COMPLETING THE TASK, INITIAL SETTINGS OBSERVED, AND FINAL SETTING UPON COMPLETION. 2. CONTRACTOR SHALL COMPLETE AND DOCUMENT THE FOLLOWING TASKS:
- 2.A. ENSURE LIGHT FIXTURES ARE INSTALLED AND OPERATIONAL. 2.B. PERFORM OPERATIONAL TESTING OF EMERGENCY EXIT AND EGRESS LIGHTING COMPONENTS AS REQUIRED BY NFPA 101 FOR ANNUAL TESTING.
- 2.C. ENSURE OCCUPANCY SENSORS ARE INSTALLED AND OPERATIONAL.
- ENSURE DAYLIGHT PHOTOSENSORS ARE INSTALLED AND 2.D. OPERATIONAL.
- 3. TEST OF OCCUPANCY SENSOR DEVICES SHALL ENSURE THE FOLLOWING:
- 3.A. LOCATION AND AIMING ARE SET PER MANUFACTURER'S
- INSTRUCTIONS, DEVICE STATUS INDICATORS ARE FUNCTIONING, 3.B.
- FIXTURES ARE SWITCHED OR DIMMED AS INDICATED IN THE 3.C. DRAWINGS,
- 3.D. TIME DELAYS ARE SET APPROPRIATELY, AND 3.E. MOVEMENT OUTSIDE OF THE SPACE DOES NOT CAUSE THE SENSOR TO OPERATE.
- 4. TEST ON/OFF SYSTEM WHERE APPLICABLE FOR CORRECT OPERATION.
- 5. CONTRACTOR SHALL ENSURE THE STEPS ABOVE ARE COMPLETED PRIOR TO SUBSTANTIAL COMPLETION TO AVOID POTENTIAL DELAYS IN OBTAINING CERTIFICATE OF OCCUPANCY. CONTRACTOR SHALL PROVIDE ALL DOCUMENTATION AS REQUIRED BY THE AHJ TO SATISFY ALL PERMITTING OBLIGATIONS.

A. PROVIDE UNSWITCHED CONDUCTORS IN CIRCUITS SERVING BATTERY ARCHITECTS POWERED EGRESS LIGHTS AND EXIT SIGNS. B. ELECTRICAL DRAWINGS SHOW GENERAL LOCATIONS OF LIGHTING FIXTURES ONLY. FOR EXACT LOCATIONS AND SPACING, SEE ARCHITECTURAL DRAWINGS/ELEVATIONS. IF CONTRACTOR DETERMINES THAT THERE IS A NEW BRAUNFELS, TX DIFFERENCE IN QUANTITY OF FIXTURES SHOWN ON THE ARCHITECTURAL 303-526-8158 AND ELECTRICAL DRAWINGS, HE SHALL USE THE HIGHER NUMBER OF THE TWO QUANTITIES FOR BIDDING, THEN CONTACT THE DESIGN TEAM FOR FINAL RESOLUTION. COORDINATE LIGHTING FIXTURE LOCATIONS IN MECHANICAL AND TELECOM EQUIPMENT ROOMS BASED ON ACTUAL EQUIPMENT LAYOUT. REVIEW LAYOUT WITH MECHANICAL AND LOW VOLTAGE CABLING CONTRACTORS PRIOR TO ROUGH-IN. D. PROVIDE LIGHTING CONTROL SYSTEM WITH ALL NECESSARY ACCESSORIES FOR A COMPLETE INSTALLATION. LIGHTING CONTROL SYSTEM SHALL INCLUDE ASTRONOMICAL TIMECLOCK SYSTEM, HOUSEKEEPING OVERRIDE "ON" SWITCH CONTROL. PROVIDE THE FOLLOWING LIGHTING CONTROL E. EXTERIOR LIGHTING: E.A. TO BE CONTROLLED BY BY 2-CHANNEL TIME CLOCK WITH OVERRIDE TOGGLE SWITCH FOR LOCAL CONTROL OF BUILDING WALL MOUNTED FIXTURE FOR CHANNEL 1 AND ALL OTHER EXTERIOR FIXTURES ON ARCHITECT/ENGINEER CHANNEL 2. F. ALL SENSORS TO HAVE 30-MINUTE TIME DELAY FOR OPERATION. G. PROVIDE FIRE-RATED MATERIAL AROUND ALL PENETRATIONS CREATED BY CONDUITS, ETC. IN FIRE RATED PARTITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DESIGNATED AREAS. H. REFERENCE LIGHT FIXTURE SCHEDULE FOR ADDITIONAL FIXTURE HAFI WASHIN INFORMATION. 11774 1955*0.0*. MACK ENGINEERS REG. NO. F-15042 B & B RENOVATION $\langle \# \rangle$ KEYED NOTES: (THIS SHEET ONLY) HEX INDUSTRIES 1. PROVIDE THREE-WAY SWITCH FOR CONTROL OF STAIRWAY LIGHTING DENOTED BY LETTER 'a'. 278 W. SAN ANTONIO ST. NEW BRAUNFELS, TX. 78130 2. LIGHTING TO BE MOUNTED UNDER STAIRS IN CLOSET/STAIRWAY AREA. 3. PROVIDE WALL MOUNTED, DUAL TECHNOLOGY, DUAL CIRCUIT, OCCUPANCY SENSOR FOR LIGHTING AND EXHAUST FAN CONTROL. REFERENCE LIGHTING CONTROL DETAILS, SHEET E4.1, FOR ADDITIONAL INFORMATION. (TYPICAL) PROJECT NUMBER: 4. PROVIDE RECESSED JUNCTION BOX FOR POWER CONNECTION TO LIGHTED 0007-23 MIRROR. CONNECT TO SWITCH FOR CONTROL AS NOTED. DRAWN BY: 5. PROVIDE DIMMER SWITCH FOR CONTROL OF WALL SCONCE. (TYPICAL) CSW 6. LIGHT FIXTURE TO BE MOUNTED AT THE FOLLOWING HEIGHTS: 1ST FLOOR AT 12" ABOVE WINDOW BRICK ARCH. 2ND FLOOR AT 6" ABOVE WINDOW BRICK ARCH. CHECKED BY: 7. CONTINUE CIRCUIT TO POWER STAIR FIXTURES FROM 1ST FLOOR LIGHTING POWER CIRCUIT. MLW DATE: **REVISION:** DATE: ISSUED AS: PERMIT SET 8-8-23 SHEET TITLE:

GENERAL NOTES: (THIS SHEET ONLY)

SCHEME:



ELECTRICAL LIGHTING PLAN

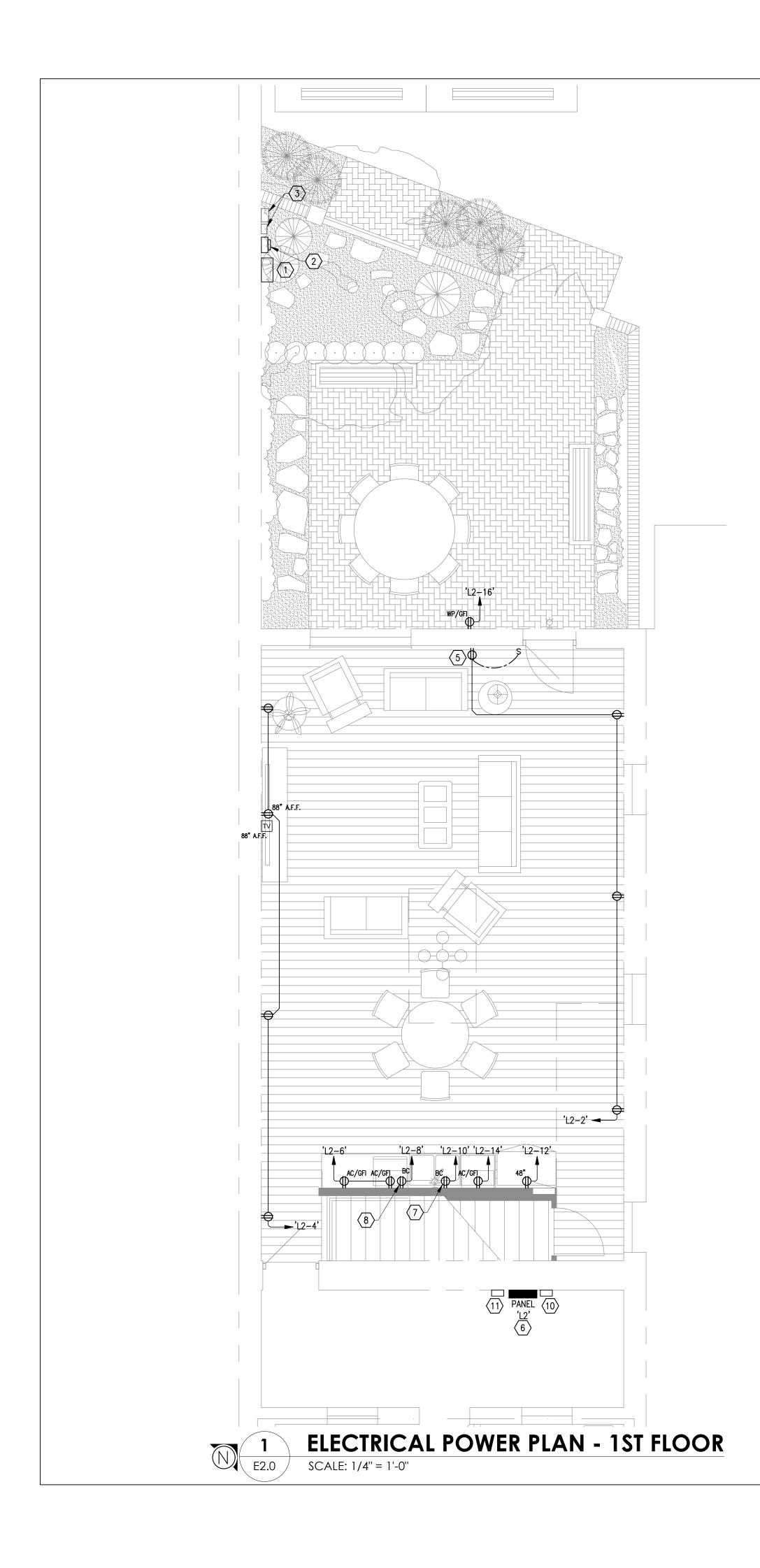
LEGACY

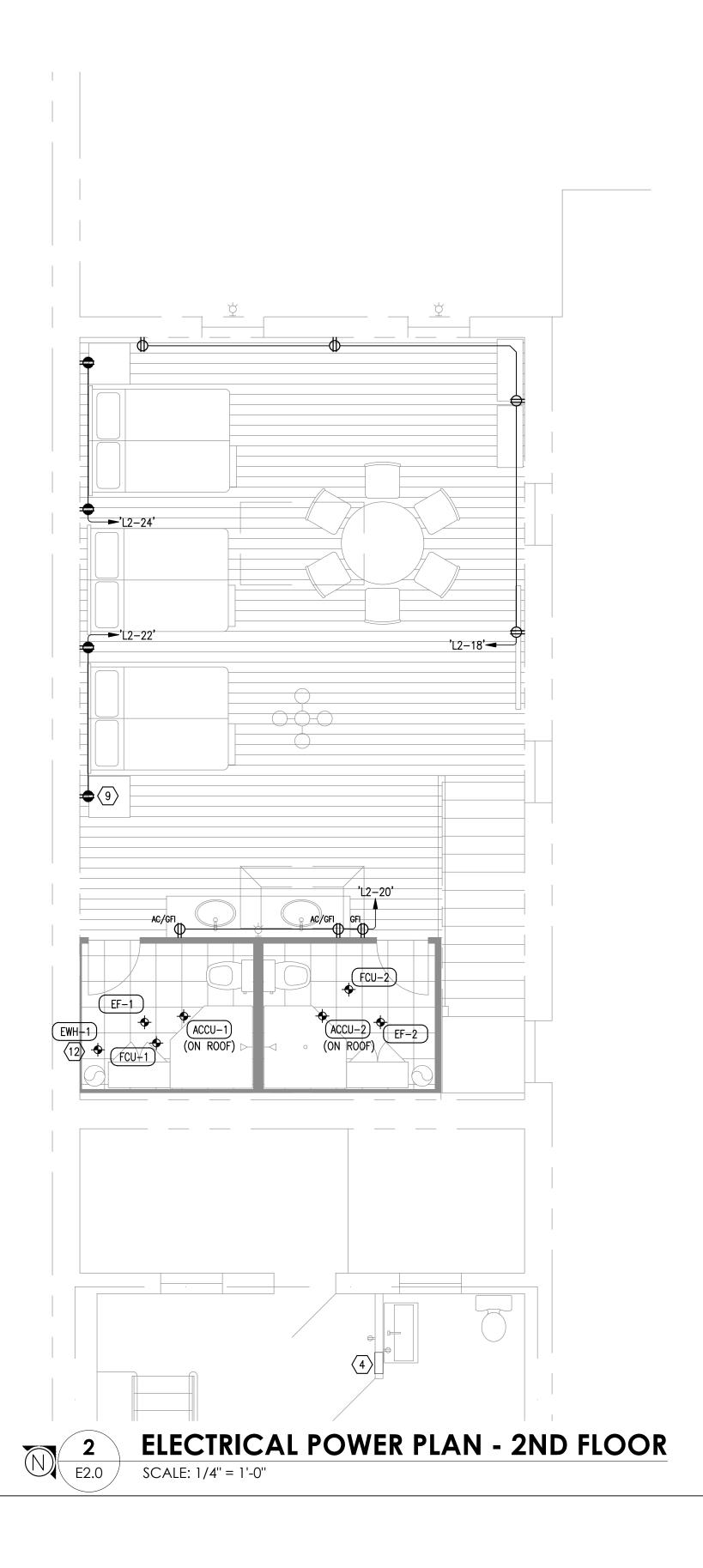
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SHEET NUMBER:

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GENERAL NOTES: (THIS SHEET ONLY)

- A. REFERENCE EQUIPMENT CONNECTION SCHEDULE FOR REQUIREMENTS AND ADDITIONAL INFORMATION OF TAGGED EQUIPMENT SHOWN ON PLAN.
- B. COORDINATE EXACT LOCATIONS OF MECHANICAL/PLUMBING EQUIPMENT WITH OTHER DISCIPLINES.
- C. COORDINATE ALL RECEPTACLES LOCATIONS WITH ARCHITECTURAL INTERIOR ELEVATIONS.
- D. RECEPTACLES LOCATED WITHIN 6' OF ANY PLUMBING FIXTURE, AT BREAK ROOM COUNTERTOPS, AT THE EXTERIOR OR OTHERWISE EXPOSED TO WATER SHALL BE TYPE GFCI. PROVIDE "WHILE-IN-USE", CAST ALUMINUM COVERS FOR EXTERIOR RECEPTACLES.
- E. ALL RECEPTACLES SHALL BE COMMERCIAL SPECIFICATION GRADE UNLESS NOTED OTHERWISE.
- F. PROVIDE 120V POWER TO EACH HVAC DDC CONTROL PANEL. COORDINATE EXACT LOCATIONS AND QUANTITIES WITH MECHANICAL DRAWINGS.
- G. COORDINATE DISCONNECT SWITCHES, VFDS AND STARTER LOCATIONS WITH EQUIPMENT INSTALLERS TO MAINTAIN PROPER MAINTENANCE ADN CODE CLEARANCES.
- H. RECEPTACLES LOCATED IN ROOMS ACCESSIBLE TO VISITORS SHALL BE TAMPER RESISTANT.

KEYED NOTES: (THIS SHEET ONLY)

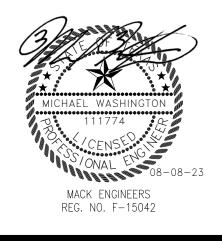
- 1. NEW MAIN SERVICE PANEL. REFERENCE ONE-LINE DIAGRAM, SHEET E3.0, FOR ADDITIONAL INFORMATION.
- UTILITY METER. REFERENCE ONE-LINE DIAGRAM, SHEET E3.0, FOR ADDITIONAL INFORMATION.
- 3. EXISTING WALL MOUNTED COMMUNICATIONS EQUIPMENT TO REMAIN.
- 4. EXISTING ELECTRICAL PANEL 'L1' TO REMAIN. REFERENCE ELECTRICAL ONE-LINE DIAGRAM, SHEET E3.0, FOR ADDITIONAL INFORMATION.
- 5. DUPLEX RECEPTACLE TO BE CONTROL BY LIGHT SWITCH.
- 6. NEW LOAD CENTER 'L2' LOCATION. REFERENCE ONE-LINE DIAGRAM, SHEET E3.0, FOR ADDITIONAL INFORMATION.
- 7. BELOW COUNTER RECEPTACLE FOR GARBAGE DISPOSAL. PROVIDE MOMENTARY SWITCH ABOVE COUNTER FOR CONTROL.
- 8. BELOW COUNTER RECEPTACLE FOR DISHWASHER.
- 9. DUPLEX RECEPTACLE WITH TWO 5A-USB PORTS. (TYPICAL FOR SHADED RECEPTACLE)
- 10. TIME CLOCK FOR EXTERIOR LIGHTING CONTROL. REFERENCE ONE-LINE DIAGRAM, SHEET E3.0, FOR ADDITIONAL INFORMATION.
- 11. COMMUNICATIONS BOX FOR INTERNET AND CABLE TV. COORDINATE INSTALLATION WITH SERVICE PROVIDER.
- 12. PROVIDE ELECTRICAL CONNECTION FOR HEAT TRACE AS REQUIRED BY PLUMBING EQUIPMENT SCHEDULE. CONNECT TO CIRCUIT IN PANEL SCHEDULE 'L2'. COORDINATE FINAL POWER REQUIREMENTS WITH EQUIPMENT MANUFACTURER BEFORE ROUGH-IN.



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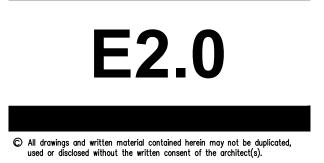
B&B RENOVATION

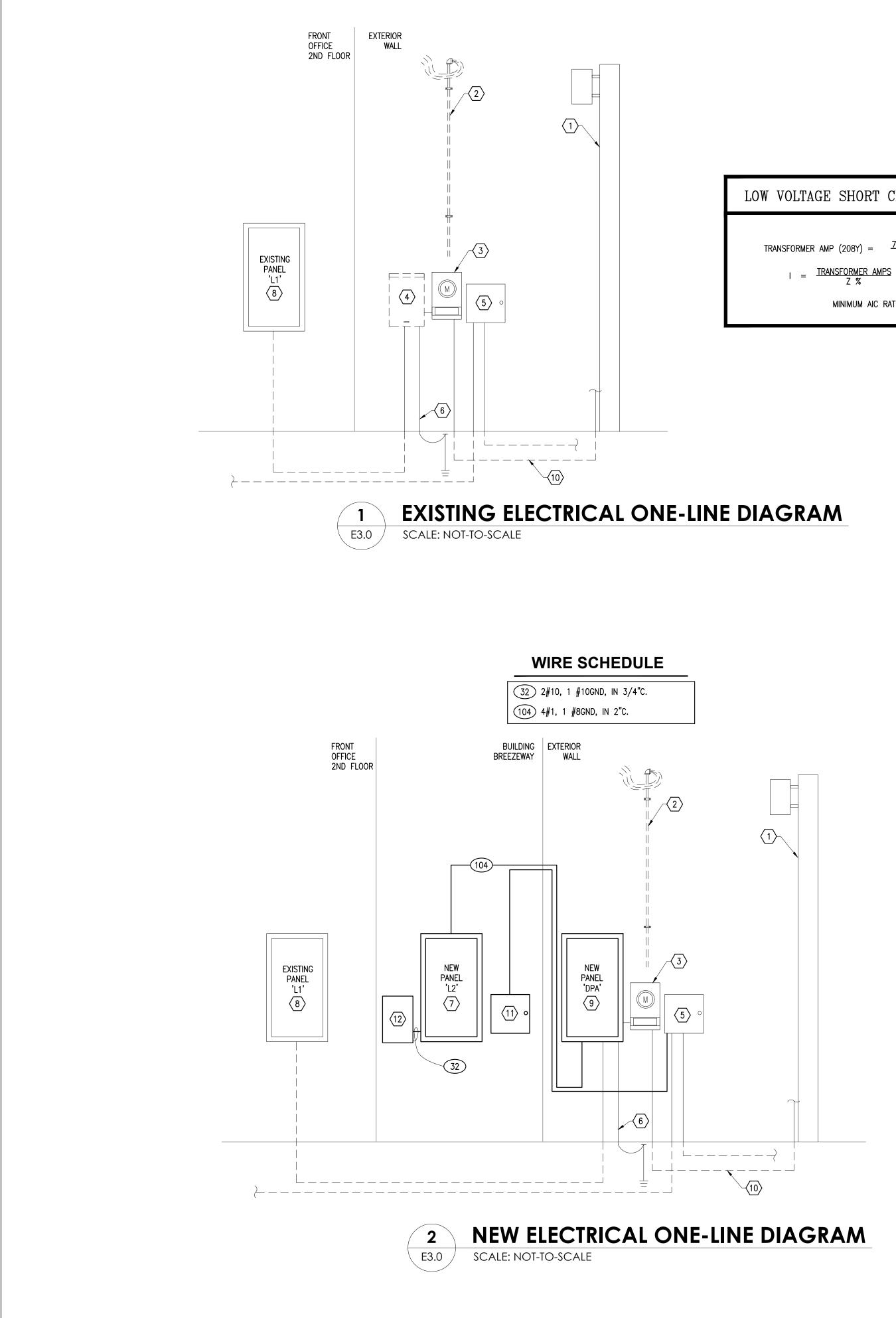
HEX INDUSTRIES 278 W. SAN ANTONIO ST. NEW BRAUNFELS, TX. 78130

PROJECT NU	MBER:
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8-8-23	PERMIT SET
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SHEET TITLE	•

ELECTRICAL POWER PLAN

SHEET NUMBER:





LOW VOLTAGE SHORT CIRCUIT CALCULATIONS

208 AMPS I = IRANSFORMER AMPS = <u>208</u> 5% = 4160 AMPS MINIMUM AIC RATING = 10000

ANAL 1313		lex B&					
8/8/2023							
BUILDING AREA: - SERVICE VOLTAGE: 208/120V,	SF 3Ph., 4W						
	,D DESCRIPTIC	DN					CONNECTE LOAD, VA
EXISTING LOADS (FROM UTILITY DEMAND):						NOTES	
PRIOR 12 MONTH PEAK DEMAND (DEC 2022)	16.54	kW @	0.9	PF		1	18,37
LOAD DESCRIPT	ION				DEMAND FACTOR	NOTES	CONNECTE LOAD, kVA
GENERAL PURPOSE RECEPTACLES					1.00	2	7
INTERIOR LIGHTING	QUANTITY	UNIT LOAD	UNITS	DEMAND kVA	1.25	3	0
INTERIOR LIGHTING	-	3.5	VA/ SF	-	1.20	3	0
EXTERIOR LIGHTING					1.25		0
EQUIPMENT					1.00		1
FANS					1.25		-
SPACE HEATING					1.00	4	-
SPACE COOLING					1.00	4	5
KITCHEN, QUANTITY OF COMMERCIAL EQUIPMENT =	3				0.90	5	
ELEVATORS DIVERSIFIED PER NEC T620.14, QTY =	4				0.85		-
DOMESTIC WATER HEATER SYSTEMS					1.00	6	4
25% OF LARGEST MOTOR					0.25		3
			CON	INECTED NE	W LOADS S	SUBTOTAL	
	1	NET SUBTO		(ISTING, DEM		EW LOADS	
			LOAD	GROWTH ALI	OWANCE	15%	
						TOTAL	
	SERVI	CE ENTRAN	ICE DESIG	GN (TRANSFC	DRMER/ MA	IN PANEL)	
2 3 4 5	DIVERSIFIE UNIT LOADS THE GREAT TEMPERAT	D PER NEC S ARE PER N ER OF TOT, URE CONTR	220.14 NEC TABLI AL HEATIN ROLLED AN	IG AND COO ND INTERMIT	LING IS US	ED EQPT, DIVI	ERSIFIED PE
6	INCLUDES	DOMESTIC \	NATER HE	EATING EQPT	AND ASSO	DCIATED P	UMPS, ETC

KEYED NOTES: (THIS SHEET ONLY)

- 1. EXISTING UTILITY SERVICE RISER POLE WITH TRANSFORMERS TO REMAIN. POSSIBLE SERVICE TRANSFORMER UPGRADE. COORDINATE UPGRADE WITH LOCAL UTILITY PROVIDER.
- 2. EXISTING ABANDONED OVERHEAD SECONDARY FEED CONDUIT TO BE REMOVED.
- 3. EXISTING UTILITY ENERGY METER TO BE REMAIN.
- 4. EXISTING MAIN DISCONNECTING MEANS ENCLOSED CIRCUIT BREAKER TO BE REPLACED. SALVAGE FEED TO EXISTING PANEL 'L1' FOR RECONNECTION TO NEW MAIN EXTERIOR PANEL 'DPA'.
- 5. EXISTING COMMUNICATIONS EQUIPMENT TO REMAIN. PROVIDE NEW FEED INTO RENOVATED SPACE FOR INTERNET AND CABLE TO TV LOCATION. REFERENCE POWER PLANS, SHEET E2.0, FOR LOCATIONS AND ADDITIONAL INFORMATION.
- 6. EXISTING GEC AND GROUND ROD TO BE SALVAGED FOR RECONNECTION TO NEW EXTERIOR MAIN PANEL 'DPA'. CONTRACTOR TO VERIFY SIZE OF EXISTING GEC IS AT LEAST A #6 COPPER CONDUCTOR OR PROVIDE APPROPRIATE SIZE PER NEC TABLE 250.66.
- 7. NEW LOAD CENTER PANEL 'L2'. REFERENCE PANEL SCHEDULE, SHEET E3.1, FOR ADDITIONAL INFORMATION.
- 8. EXISTING 2ND FLOOR PANEL 'L1' TO REMAIN.
- 9. NEW MAIN PANEL 'DPA'. REFERENCE PANEL SCHEDULE, SHEET E3.1, FOR ADDITIONAL INFORMATION. PROVIDE NEUTRAL AND GROUND BOND AT THIS LOCATION ONLY.
- 10. EXISTING UNDERGROUND SECONDARY FEED FROM POLE MOUNTED TRANSFORMERS TO REMAIN.
- 11. NEW COMMUNICATIONS CABINET FOR INTERNET/CABLE TV PROVIDER. COORDINATE INSTALLATION WITH SERVICE PROVIDER. ROUTE CABLE FROM EXISTING EXTERIOR COMMUNICATIONS DEVICE AS REQUIRED BY SERVICE PROVIDER.
- 12. NEW TWO CHANNEL ASTRONOMIC DIGITAL TIME CLOCK FOR CONTROL OF EXTERIOR LIGHTING. ONE CHANNEL TO CONTROL BUILDING MOUNTED FIXTURES AND THE OTHER CHANNEL TO CONTROL ALL OTHER EXTERIOR FIXTURES. PROVIDE TOGGLE SWITCH FOR MANUAL OVERRIDE CONTROL. TIMECLOCK TO PROVIDE POWER TO TOGGLE SWITCHES PER SCHEDULE PROVIDED BY OWNER. HOURS OF OPERATION FOR EXTERIOR FIXTURES WILL BE MINIMUM FROM DUSK TO DAWN. CONNECT POWER FOR TIME CLOCK TO CIRCUIT AS NOTED ON PANEL SCHEDULE 'L2.' TORK MODEL #DGLC200A-NC OR APPROVED EQUAL.

ANALYSIS OF PROJECTED ELECTRICAL LOAD

-		

			CONNECTED	NEC LOAD			
			LOAD, VA	kVA	AMPERES		
		NOTES					
F		1	18,378	18.4	51		
	DEMAND	NOTES	CONNECTED	NEC	LOAD		
	FACTOR	NOTES	LOAD, kVA	kVA	AMPERES		
	1.00	2	7.6	7.6	21		
EMAND kVA	1.25	3	0.9	1.1	3		
-	1.25	3	0.9	1.1	-		
	1.25		0.3	0.3	1		
	1.00		1.5	1.5	4		
	1.25		-	-	-		
	1.00	4	-	-	-		
	1.00	4	5.7	5.7	16		
	0.90	5	-	_	-		
	0.85		-	-	-		
	1.00	6	4.5	4.5	12		
	0.25		3.2	0.8	2		
ECTED NE	W LOADS S	SUBTOTAL	24	22	60		
TING, DEM	IO, AND NE	W LOADS		40	111		
ROWTH ALI	LOWANCE	15%		6	17		
		TOTAL		46	127		
(TRANSFC	DRMER/ MA	IN PANEL)		75	200		

AND COOLING IS USED D INTERMITTENT USE EQPT, DIVERSIFIED PER NEC 220.56

GENERAL NOTES: (THIS SHEET ONLY)

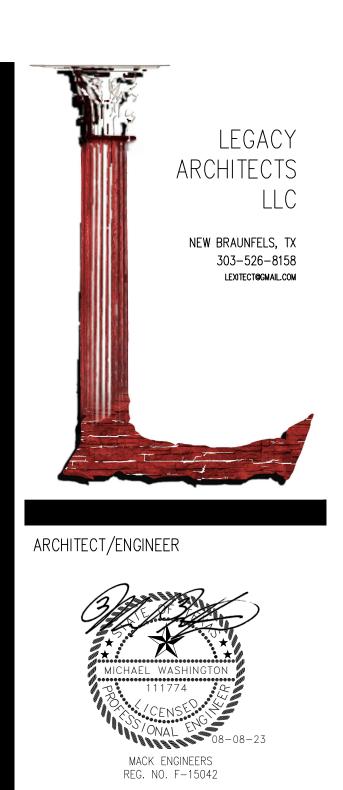
A. LOCATIONS OF DEVICES ARE DIAGRAMMATICAL. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS PRIOR TO ROUGH-IN.

B. INSTALLATION OF NEW SERVICE ENTRANCE EQUIPMENT TO BE COORDINATED WITH THE LOCAL UTILITY PROVIDER AND COMPLY WITH THE LATEST VERSION OF THEIR ELECTRICAL SERVICE INSTALLATION STANDARDS. C. COORDINATE DISCONNECT SWITCHES, VFDS AND STARTER LOCATIONS WITH EQUIPMENT INSTALLERS TO MAINTAIN PROPER MAINTENANCE AND CODE CLEARANCES.

D. REFERENCE ELECTRICAL PANEL SCHEDULES, SHEET E3.1, FOR PANELS NOTED ON SHEET.

E. ALL WIRING SHOWN ON WIRE SCHEDULE IS COPPER CONDUCTORS. IF ALUMINUM IS USED CONTRACTOR WILL NEED TO UPSIZE ACCORDINGLY.





B & B RENOVATION

HEX INDUSTRIES 278 W. SAN ANTONIO ST. NEW BRAUNFELS, TX. 78130

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PERMIT SET 8-8-23

SHEET TITLE:

ELECTRICAL **ONE-LINE** DIAGRAM SHEET NUMBER:

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E3.0

					EQ	JIPMENT CC	ONNEC	TION SCHEDULE				
EQUIPMENT	VOLTAGE /	KW	VOLTAGE /	MOTOR	EQUIPMENT	EQUIPMENT		DISCONNECTING	ENCLOSURE	WIRE &	CIRCUIT	
TAG	PHASE	HEAT	PHASE	(HP)	(FLA)	(MCA)	OCP	MEANS	NEMA RATING	CONDUIT	NUMBER	NOTES
DX SPLIT SYSTEM	HEATER	R DATA	FAN C	DATA								
'ACCU-1'			208/1		10.2	12.8	15.0	240V, 30A, NF, HD	N3R	2#10, 1#10GND, IN 1"C.		3,5,6,8
'FCU-1'			208/1						N1			3,5,6,8
'ACCU-2'			208/1		13.5	16.9	20.0	240V, 30A, NF, HD	N3R	2#10, 1#10GND, IN 1"C.		3,5,6,8
'FCU-2'			208/1						N1			3,5,6,8
EXHAUST FAN			FAN C	ΑΤΑ								
'EF-1'			120/1	FRAC	0.19	0.23	15.0	20A MOTOR RATED SWITCH	N3R	2#10, 1#10GND, IN 3/4"C.		7
'EF-2'			120/1	FRAC	0.19	0.23	15.0	20A MOTOR RATED SWITCH	N3R	2#10, 1#10GND, IN 3/4"C.		7
ELECTRIC WATER HEATER	HEATER	RDATA										
'EWH-1'	208/3	4.5			12.5	15.6	30	240V, 60A, NF. HD	N1	3#4, 1#10GND, IN 1-1/2"C.		7
												8-4110

NOTES:

1. STARTER PROVIDED BY DIVISION 23. INSTALL AND WIRE THROUGH DIVISION 26.

2. VFD PROVIDED BY DIVISION 23. INSTALL AND WIRE THROUGH DIVISION 26. 3. DISCONNECT SWITCH PROVIDED , INSTALLED, AND WIRED THROUGH DIVISION 26.

DISCONNECT SWITCH PROVIDED, INSTALLED, AND WIRED THROUGH DIVISION 20.
 DUAL PUMP CONTROLLER PROVIDED BY DIVISION 23. INSTALL AND WIRE THROUGH DIVISION 26.
 CONTROL PANEL PROVIDED BY DIVISION 23. INSTALL AND WIRE THROUGH DIVISION 26.
 POWER CONNECTION BETWEEN INDOOR AND OUTDOOR UNITS BY DIVISION 23
 CONTROLS PROVIDED BY DIVISION 23. INSTALL AND WIRE THROUGH DIVISION 26.
 DONTROLS PROVIDED BY DIVISION 23. INSTALL AND WIRE THROUGH DIVISION 26.

8. PROVIDE POWER CONNECTION BETWEEN INDOOR AND OUTDOOR UNIT PER MECHANICAL DRAWINGS/EQUIPMENT CONNECTION SCHEDULE 9. INSTALL SMOKE DETECTORS AS REQUIRED BY MECHANICAL. COORDINATE CONTROLS WITH FIRE ALARM FOR FUNCTIONALITY.

GENERAL NOTES:

1. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL / PLUMBING EQUIPMENT SUBMITTALS PRIOR TO ELECTRICAL ROUGH-IN.

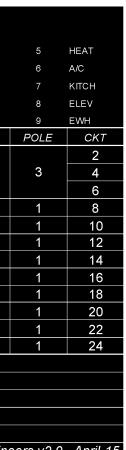
	LIGHTING FIXTURE SCHEDULE								
TYPE	LAMPS	MOUNTING	MOUNT HEIGHT	VOLTS	WATTS	DESCRIPTION	MANUFACTURER AND CATALOG NO.		
A	3500K LED 1500 LUMENS	RECESSED	CEILING	UNV	13.6	6" WET LOCATION RATED LED DOWNLIGHT	LIGHTOLIER # 6RN-P6RDL15835CCPZ10U		
B	3500K LED 534 LUMENS	WALL	10' A.F.F.	UNV	50	DECORATIVE PAWLING 17" TALL WALL SCONCE WITH 3 LIGHTS.	HUDSON VALLEY LIGHTING # 7213		
С	3000K LED 1100 LUMENS	PENDANT	CEILING	120	10	PENDANT FIXTURE	ARKANSAS LIGHTING # 4084P (LED BULB NOT INCLUDED)		
D	3500K LED 1989 LUMENS	WALL	ABOVE MIRROR	UNV	21	LINEAR VANITY FIXTURE	BROWNLEE # 5172-25-XX-H21-35K		
F	3500K LED 1250 LUMENS	WALL		UNV	17.5	GOOSENECK TYPE FIXTURE	BARN LIGHT # BLE-G-WHS12-NA-G26-NA-NA-NA-NA-LED16-3500K-DL		
G	3000K LED 1734 LUMENS	RECESSED	GRADE	120	19	IN-GRADE UPLIGHT WALL GRAZING FIXTURE	HADCO # SL43-XX-W-LS-X-X-SP1		
Н	3500K LED 3967 LUMENS	SURFACE	CEILING	UNV	30	4' LED STRIP LIGHT	DAYBRITE # FSS440L835-UNV-DIM		
J	3000K LED 2379 LUMENS	SURFACE	TOP OF COLUMN	UNV	35	DECORATIVE BRONZE LIGHT FIXTURE WITH FLAME EFFECT LIGHT BULB.	HADCO # 6134-XX-B-G-35L740-X-N		
К	3000K LED	WALL	9' A.F.F.	120	5	DECORATIVE VERTICLE LINEAR LIGHT FIXTURE	ARKANSAS LIGHTING # 4179C-BK		
X1	LED INCLUDED	UNIVERSAL		120/277	0.92	SINGLE FACE EXIT LIGHT FIXTURE, UNIVERSAL MOUNTING, WHITE HOUSING FINISH. RED LETTER COLOR, NICKEL-CADMIUM BATTERY. STENCIL FACE TYPE WITH UNIVERSAL CHEVRON INSERTS WITH 2 HEAD LED EMERGENCY LIGHTS. DUAL VOLTAGE.	EELP # XCS2RW		

1. COORDINATE FINAL FIXTURE FINISH WITH ARCHITECT/OWNER PRIOR TO PURCHASE.

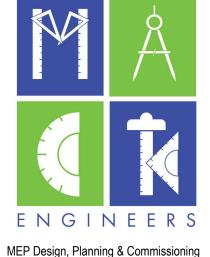
							NE\	N P/	NE	EL 'D	PA'			
PROJEC	Т:	Hex B&B	Reno	MAIN	CIRCUIT E	BREAKER :	200A			ENC	CLOSURE :	NEMA 1	0	RCPT
PROJEC	Τ#:	0007-23	MAIN LUGS ONLY			GS ONLY :		MOUNTING : SURFACE					1	INT LTG
LOCATIC	DN :	ELECTR	ICAL RM			BUSSING :	225A				CB TYPE :	BOLT-ON	2	EXT LTG
NOTES :					١	/OLTAGE :	208/120V,	3PH. 4W	1		PROVIDE :	NEUTRAL BUS	3	EQPT
				INTERRUPTING								GROUND BUS	4	FANS
СКТ	AMPS	POLE	CIRCUIT DESCRIPTION			LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION		AMPS	
1							_	_	A	_	7,190			
3	200	3		EXISTING	PANEL 'L1	•	_	_	В	_	6,598	NEW PANEL 'L2'		100
5						_	_	С	_	6,645	-			
7	20	1	SPARE						A			SPARE		20
9	20	1	SPARE						В			SPARE		20
11	20	1			ARE				C			SPARE		20
13	20	1		BUSSED) SPACE				A			BUSSED SPACE		20
15	20	1		BUSSED) SPACE				В			BUSSED SPACE		20
17	20	1			SPACE				C			BUSSED SPACE		20
19	20	1		BUSSED) SPACE				A			BUSSED SPACE		20
21	20	1		BUSSED) SPACE				В			BUSSED SPACE		20
23	20	1) SPACE				С			BUSSED SPACE		20
			PANEL				TOTAL D	EMAND	NOT	ES :				
			VA	FEED	THRU	CONN	VA	AMPS						
	PHASE /	۹	- 7,190 - 7,190			7,689	64							
	PHASE B	3	- 6,598 - 6,598			7,055	59							
	PHASE (C	-	0.015			7,106	59						
	TOTAL		-	20,433	-	20,433	21,851	61	REV	ISIONS:			٨	/IaCK Engi

							EXIS	TING	P	ANE	L 'L <u>1</u>	•				
PROJEC	CT :	Hex B&B	Reno	eno MAIN CIRCUIT BREAKER			ENCLOSURE : NEMA 1						0	RCPT	5	HEAT
PROJEC	CT # :	0007-23		MAIN LUGS ONLY			225A			M	OUNTING	RECESSED	1	INT LTG	6	A/C
OCATIO	ON :	ELECTR	ICAL RM			BUSSING :	225A				CB TYPE	: BOLT-ON	2	EXT LTG	7	КІТСН
OTES	:				\backslash	/OLTAGE :	208/120V,	208/120V, 3PH, 4W PROVIDE : NEUTRAL BUS			3	EQPT	8	ELEV		
					INTER	RUPTING :	10kAIC					GROUND BUS	4	FANS	9	EWH
СКТ	AMPS	POLE		CIRCUIT DE	SCRIPTION		LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION		AMPS	POLE	СКТ
1	20	1		BATH	l GFI				А							2
3	20	1		BATH LIGHTING B AIR HANDLER					50	3	4					
5	20	1		BUSSED SPACE					C							6
7	20	1		KITCHEN LIGHTS					А			RR LIGHTS		20	1	8
9	20	1		PLUG	MOLD				В			WASHER		20	1	10
11	20	1		PLUG	MOLD				C			RR GFCI		20	1	12
13	- 30	2		DRYEF	₹ 220\/			A				WATER HEATER 220V		30	2	14
15									В							16
17	20	1		BUSSED					C			BUSSED SPACE		20	1	18
19	20	1	_	BUSSED					А			BUSSED SPACE		20	1	20
			PANEL	SUB	FEED	TOTAL	TOTAL D		NOT	ES :						
			VA	FEED	THRU	CONN	VA	AMPS								
	PHASE A		-	-	-	-	#DIV/0!	#DIV/0!								
	PHASE E		-	-	-	-	#DIV/0!	#DIV/0!								
	PHASE (-	-	-	-	#DIV/0!	#DIV/0!								
	TOTAL		-	-	-	-	#DIV/0!	#DIV/0!	REV	ISIONS:			M	aCK Engin	eers v2.0) - April-1

							NE	W P	AN	EL '	∟2'				
PROJEC	Т:	Hex B&B	Reno	MAIN	CIRCUIT E	BREAKER :	100A			ENC	LOSURE : I	NEMA 1 0	RCPT	5	HEAT
PROJEC		0007-23			MAIN LU	GS ONLY :		MOUNTING : SURFACE 1						6	A/C
LOCATIC		ELECTR	ICAL RM			BUSSING :	225A				CB TYPE : I		EXT LTG	7	КІТСН
NOTES :							208/120V,	3PH, 4W		F	PROVIDE : I	NEUTRAL BUS 3	EQPT	8	ELEV
					INTER	RUPTING :	10kAIC				(GROUND BUS 4	FANS	9	EWH
CKT	AMPS	POLE		CIRCUIT DE	ESCRIPTION		LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	СКТ
1	15	3		'^^	CU-1'		1,229	6	А	0	720	1ST FLR - EAST WALL RECPT	20	1	2
3	15	S		ACC	50-1		1,229	6	В	0	720	1ST FLR - WEST WALL RECPT	20	1	4
5	20	3		'AC(CU-2'		1,622	6	С	0	360	1ST FLR - CNTR GFCI RECPT	20	1	6
7	20	5			50-2		1,622	6	А	0	900	1ST FLR - DISHWASHER	20	1	8
9	20	1	1	IST FLOOP	R LIGHTING	G	530	1	В	0	1,080	1ST FLR - GARBAGE DISPOSAL	20	1	10
11	20	1	2	ND FLOO	R LIGHTIN	G	375	1	C	0	1,440	1ST FLR - FRIDGE	20	1	12
13							1,499	9	А	0	180	1ST FLR - CNTR GFCI RECPT	20	1	14
15	30	3	'EWH-1'		1,499	9	В	0	180	1ST FLR - EXTERIOR GFCI RECPT	20	1	16		
17						1,499	9	C	0	720	2ND FLR - WINDOW RECPT	20	1	18	
19	20	1	TIME CLOCK POWER			500	3	А	0	540	2ND FLR - CNTR RECPT	20	1	20	
21	20	1	EWH	I-1 HEAT 1	TRACE PO	NER	1,000	3	В	0	360	2ND FLR - SOUTH BED RECPT	20	1	22
23	20	1		EXTERIOF	R LIGHTING	}	269	2	C	0	360	2ND FLR - NORTH BED RECPT	20	1	24
25	20	1			ARE				А			SPARE	20	1	26
27	20	1			ARE				В			SPARE	20	1	28
29	20	1			ARE				С			SPARE	20	1	30
31	20	1			D SPACE				А			BUSSED SPACE	20	1	32
33	20	1			D SPACE				В			BUSSED SPACE	20	1	34
35	20	1			D SPACE				С			BUSSED SPACE	20	1	36
37	20	1			D SPACE				А			BUSSED SPACE	20	1	38
39	20	1			D SPACE				В			BUSSED SPACE	20	1	40
41	20	1			D SPACE				C			BUSSED SPACE	20	1	42
			PANEL	SUB	FEED	TOTAL	TOTAL D		NOTE	ES :					
			VA	FEED	THRU	CONN	VA	AMPS							
	PHASE A		7,190	-	-	7,190	7,689	64							
	PHASE E		6,598 6,598		7,055	59									
	PHASE C				7,106	59							<u> </u>		
	TOTAL		20,433	-	-	20,433	21,851	61	REV	ISIONS:			MaCK Engin	eers v2.0	- April-15



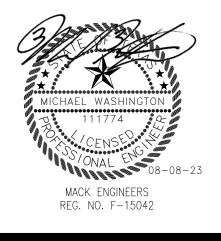
eers v2.0 - April-1



MEP Design, Planning & Commissioning 123 Vargas Aly, San Antonio, TX. 78203 (210) 899-9908 | TBPE# F-15042 www.mackengineers.com



ARCHITECT/ENGINEER



B & B RENOVATION

HEX INDUSTRIES 278 W. SAN ANTONIO ST. NEW BRAUNFELS, TX. 78130

PROJECT NUMBER:

DRAWN BY: CSW

0007-23

CHECKED BY: MLW

DATE: **REVISION:**

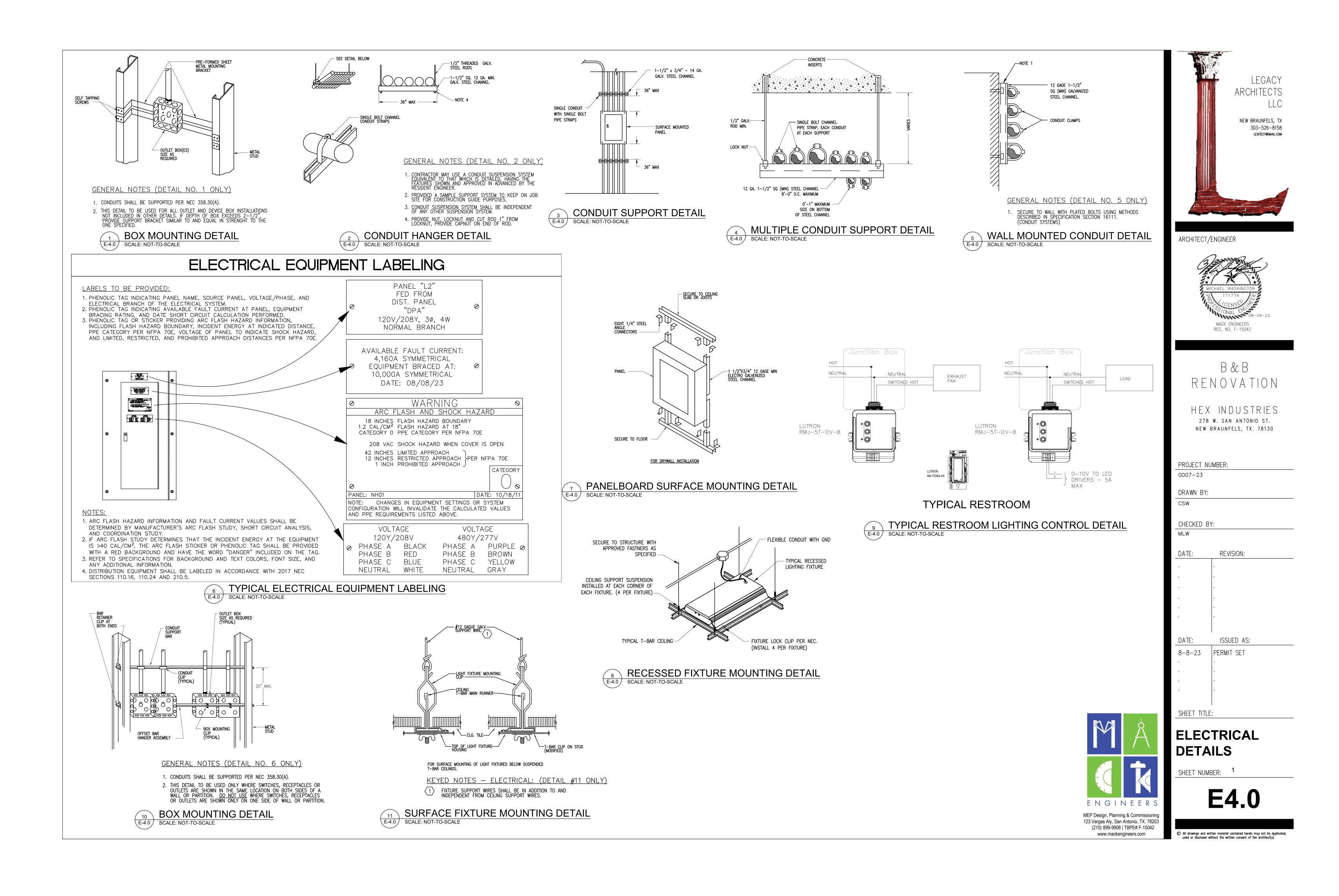
ISSUED AS: DATE: 8-8-23 PERMIT SET

SHEET TITLE:

ELECTRICAL PANEL SCHEDULES SHEET NUMBER:

All drawings and written material contained herein may not be duplicated, used or disclosed without the written consent of the architect(s).

E3.1



(NUT ALL ITEMS INDICATED APPLY TO THIS PROJECT)

PIPIN	IG FITTINGS
	CAP ON END OF PIPE
+0	ELBOW UP
+Ð	ELBOW DOWN
+ //	VALVE IN DROP
+0 >+	VALVE IN RISE
	TEE OUTLET UP TEE OUTLET DOWN
	UNION
	FLANGE
— X ——	PIPE ANCHOR
	EXPANSION JOINT
	STRAINER WITH BLOWDOWN VALVE
—————————————————————————————————————	GATE VALVE, HVAC BALANCING/STOP VALVE
	GLOBE VALVE
	BALL VALVE
	BALANCING VALVE WITH DIFFERENTIAL PRESSURE TAPS
	OS&Y VALVE
K	CHECK VALVE
	BUTTERFLY VALVE
	TWO-WAY MODULATING CONTROL VALVE
	THREE-WAY MODULATING CONTROL VALVE
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
,Ť,	GAS REGULATOR
+₩	GAS COCK
	SPRINKLER FLOOR CONTROL STATION
, ↑ ,	MANUAL AIR VENT
,±,	AUTOMATIC AIR VENT
f*	T&P RELIEF VALVE
	LINE CLEANOUT/ WALL CLEANOUT
Q	FLOOR CLEANOUT
	GRADE CLEANOUT
 , <u>г</u> ,	PRESSURE GAUGE WITH GAUGE COCK
<u> </u>	THERMOMETER
	WATER METER
_~	FLEXIBLE CONNECTION
	PRESSURE AND TEMPERATURE TAP
	FLOW VENTURI
f 	VACUUM BREAKER
Ľ5 , [†] ,	VACUUM RELIEF VALVE
	BACKFLOW PREVENTOR
	CIRCULATING PUMP
(M)	WATER SUB-METER

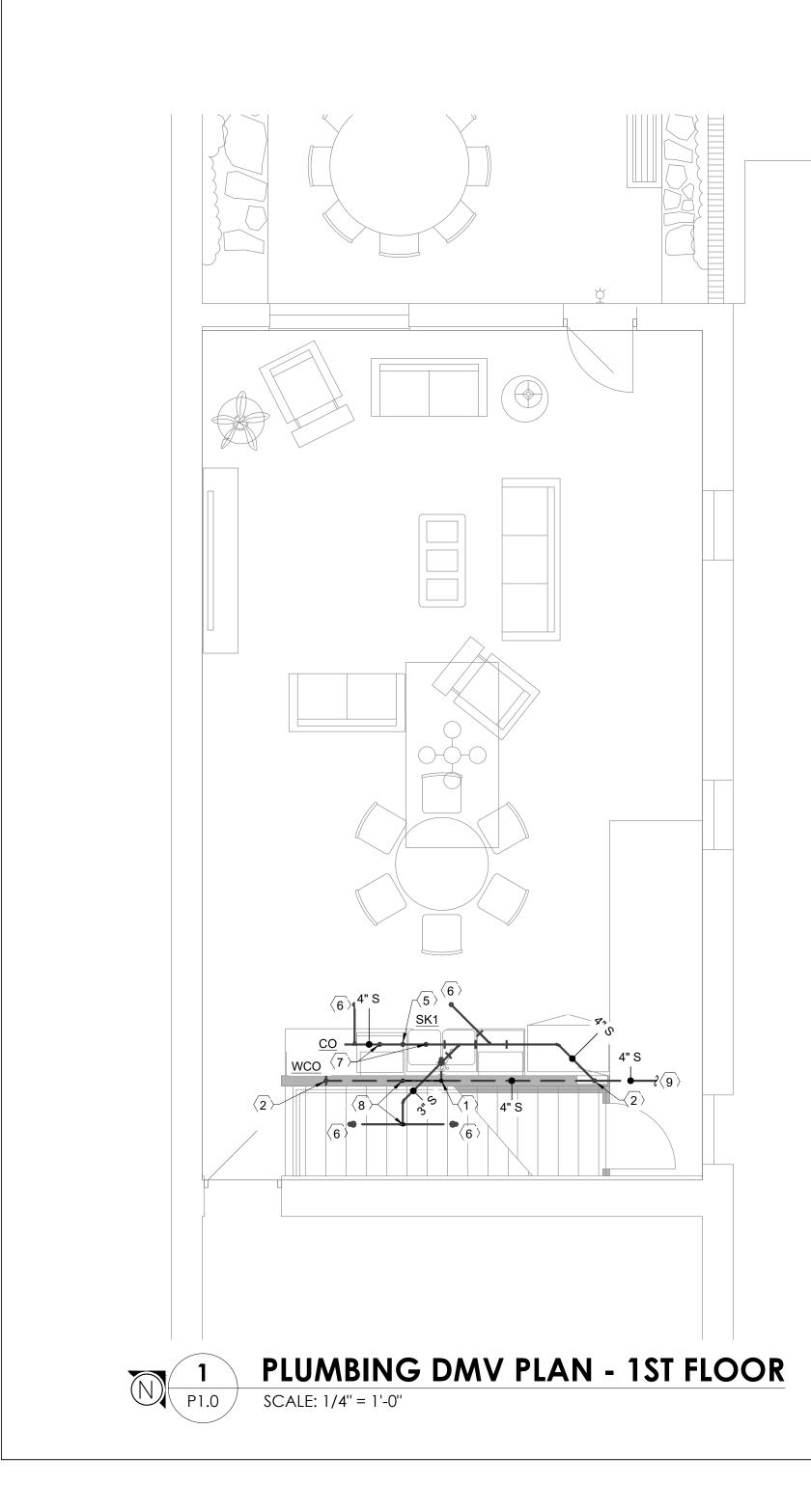
PLUMBING SYMBOLS AND ABBREVIATIONS

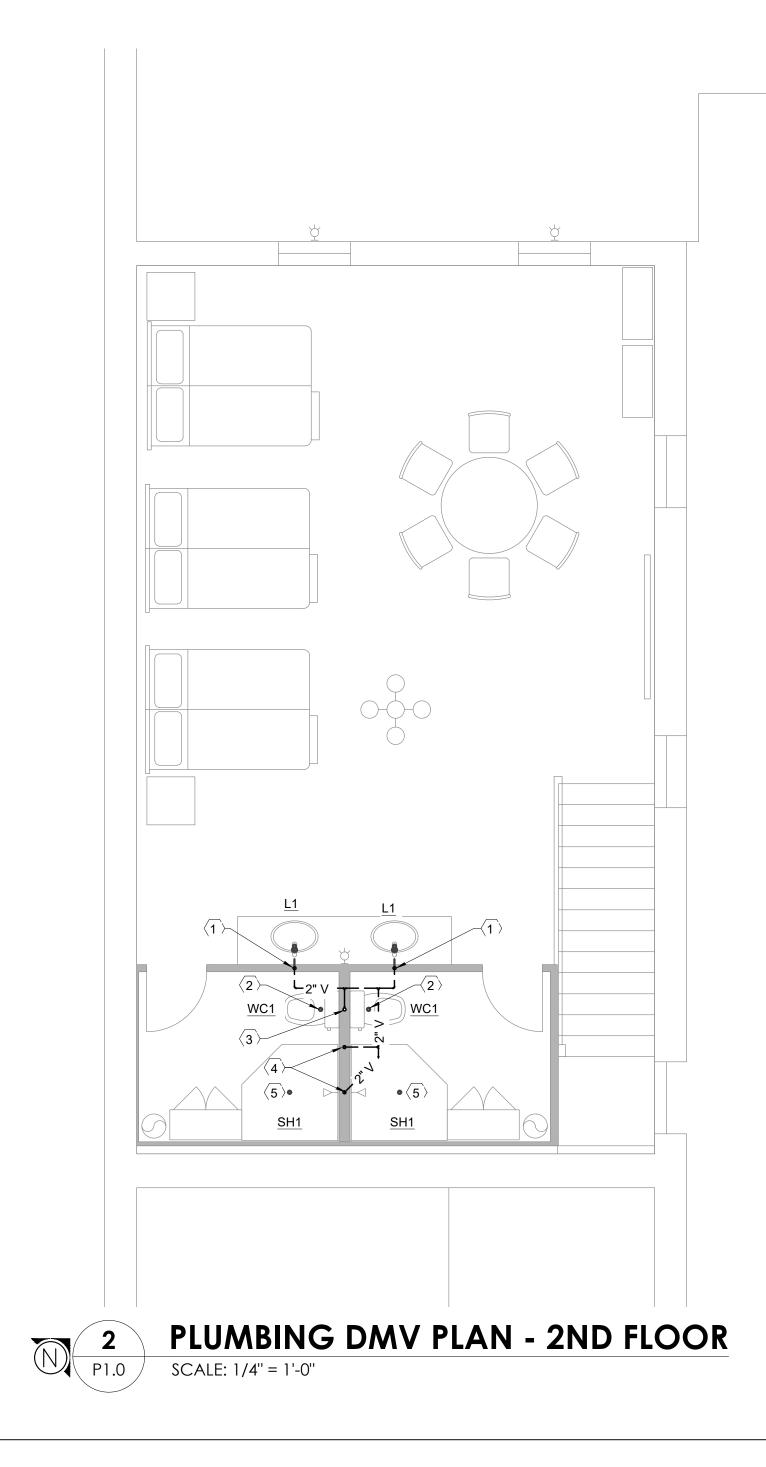
	SYMBOLS			MISCELLANEOUS
	PLUMBING SYSTEMS			
	SANITARY DRAIN BELOW FLOOR			DRAIN(TYPE AND SIZE AS NOTED ON PLANS)
	EXISTING SOIL OR WASTE PIPING B.G.		©	ROOF DRAIN OR OVERFLOW DRAIN
	SANITARY DRAIN ABOVE FLOOR			ROOF DRAIN OR OVERFLOW DRAIN(FROM ABOVE)
	EXISTING SOIL OR WASTE PIPING A.G.			
	X X X X X PIPE DEMO ————————————————————————————————————		HT	HOSE BIBB
	EXISTING VENT PIPING			WALL HYDRANT
	GREASE WASTE(ABOVE CEILING)			
	GREASE WASTE(BELOW FLOOR)			PLUMBING FIXTURES
			\bigcirc	EXISTING PLUMBING FIXTURES
	STORM DRAIN(BELOW FLOOR)			
	OVERFLOW DRAIN(ABOVE CEILING)		•	POINT OF NEW CONNECTION TO EXISTING PIPING
	OVERFLOW DRAIN(BELOW FLOOR)		\square	
	AW ACID WASTE(ABOVE CEILING)			POINT OF DEMOLITION
	AW AW EXISTING ACID WASTE PIPING A.G.			
	AW ACID WASTE(BELOW FLOOR)		$\langle 1 \rangle$	PLUMBING DRAWING NOTE REFERENCE
	AW EXISTING ACID WASTE PIPING B.G.		2	DETAIL NUMBER OR PLAN
	ACID VENT(ABOVE CEILING OR BELOW FLOO	OR)	P2.1	SHEET WHERE DETAIL OR PLAN IS SHOWN
	AV EXISTING ACID VENT PIPING AV		FS	FLOW SWITCH
SSURE TAPS	COLD WATER CW		TS	TAMPER SWITCH
	EXISTING DOMESTIC COLD WATER			ACCESS PANEL (AP)
	HOT WATER HW			
	EXISTING DOMESTIC HOT WATER			FIRE DEPARTMENT SIAMESE CONNECTION(WALL MOUNTED)
	HOT WATER RECIRCULATION		\rightarrow	
	EXISTING DOMESTIC HOT WATER RETURN	HWR	Q	FIRE DEPARTMENT SIAMESE CONNECTION(FREE STANDING)
	——————————————————————————————————————			
	T TEMPERED WATER		P7.1	PLUMBING RISER DIAGRAM NUMBER SHEET WHERE PLUMBING RISER DIAGRAM IS SHOWN
	CA COMPRESSED AIR			SHEET WHERE FLOWIDING RISER DIAGRAM IS SHOWN
	MEDICAL AIR			
	O MEDICAL OXYGEN			
	F F FIRE STANDPIPE, FIRE LINE			
	FS FS WET AUTOMATIC FIRE SPRINKLER			
	DDDD			
	LT LINT WASTE			



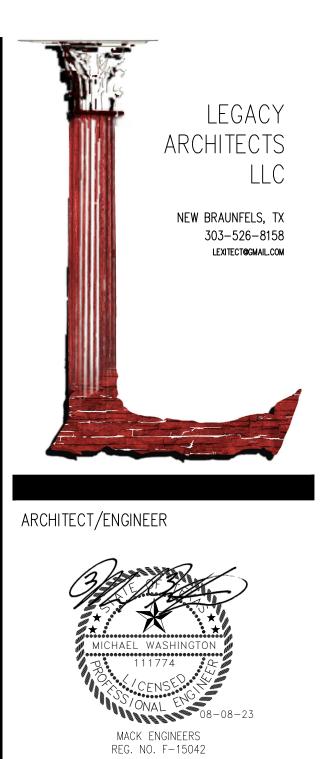
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#	PLUMBING KEYED NOTES
1	2" WASTE UP FROM BELOW. 2" VENT DOWN.
2	4" WASTE UP FROM BELOW.
3	3" VENT UP FROM BELOW AND UP THRU ROOF.
4	2" VENT UP FROM BELOW.
5	3" VENT UP.
6	2" WASTE UP.
7	4" WASTE UP.
8	2" VENT UP.
9	CONNECT TO EXISTING 4" SANITARY SEWER IN THIS VICINITY. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND SAW CUT AS REQUIRED TO ACCOMMODATE THE NEW PIPING ROUTING BELOW SLAB.



B&B RENOVATION

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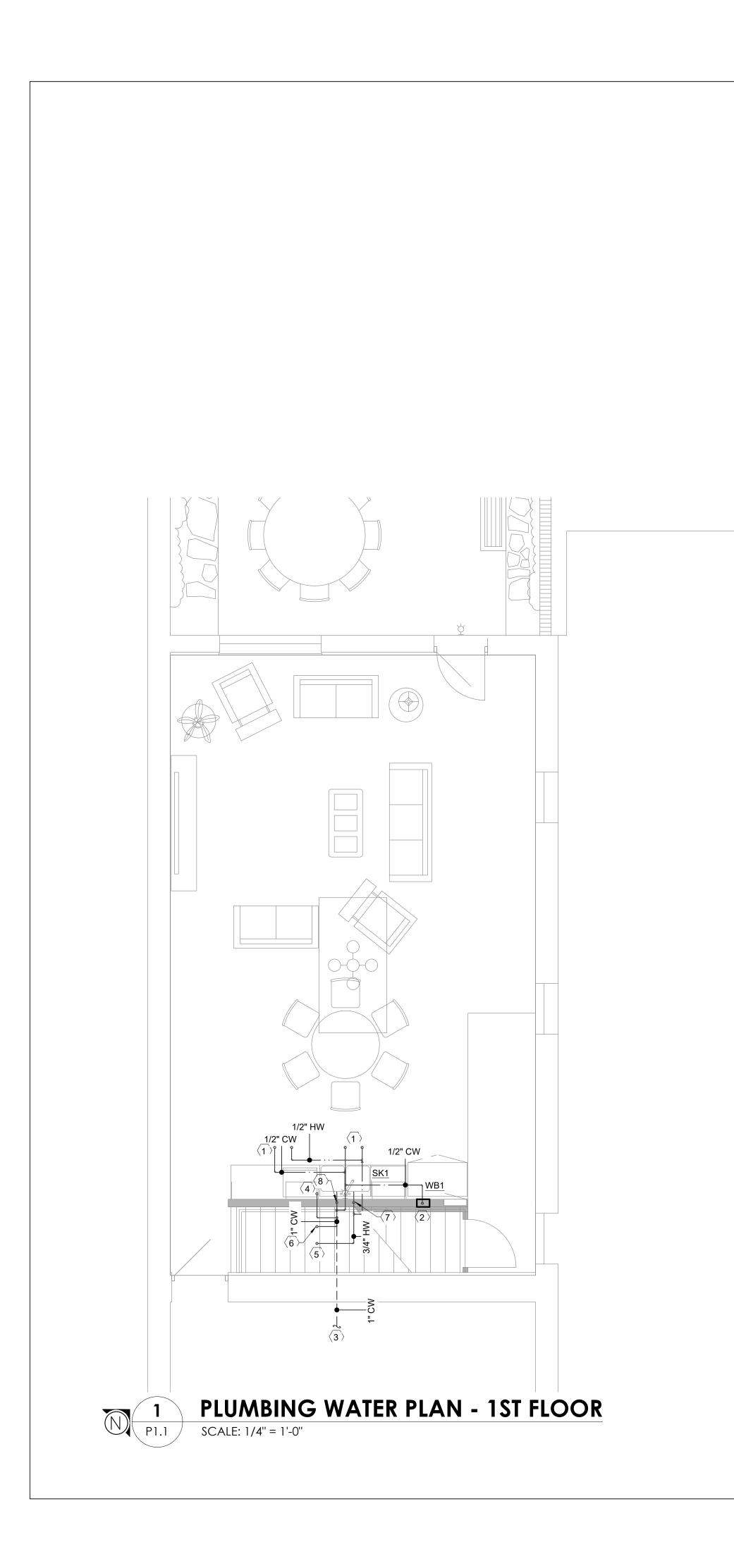
SHEET TITLE:

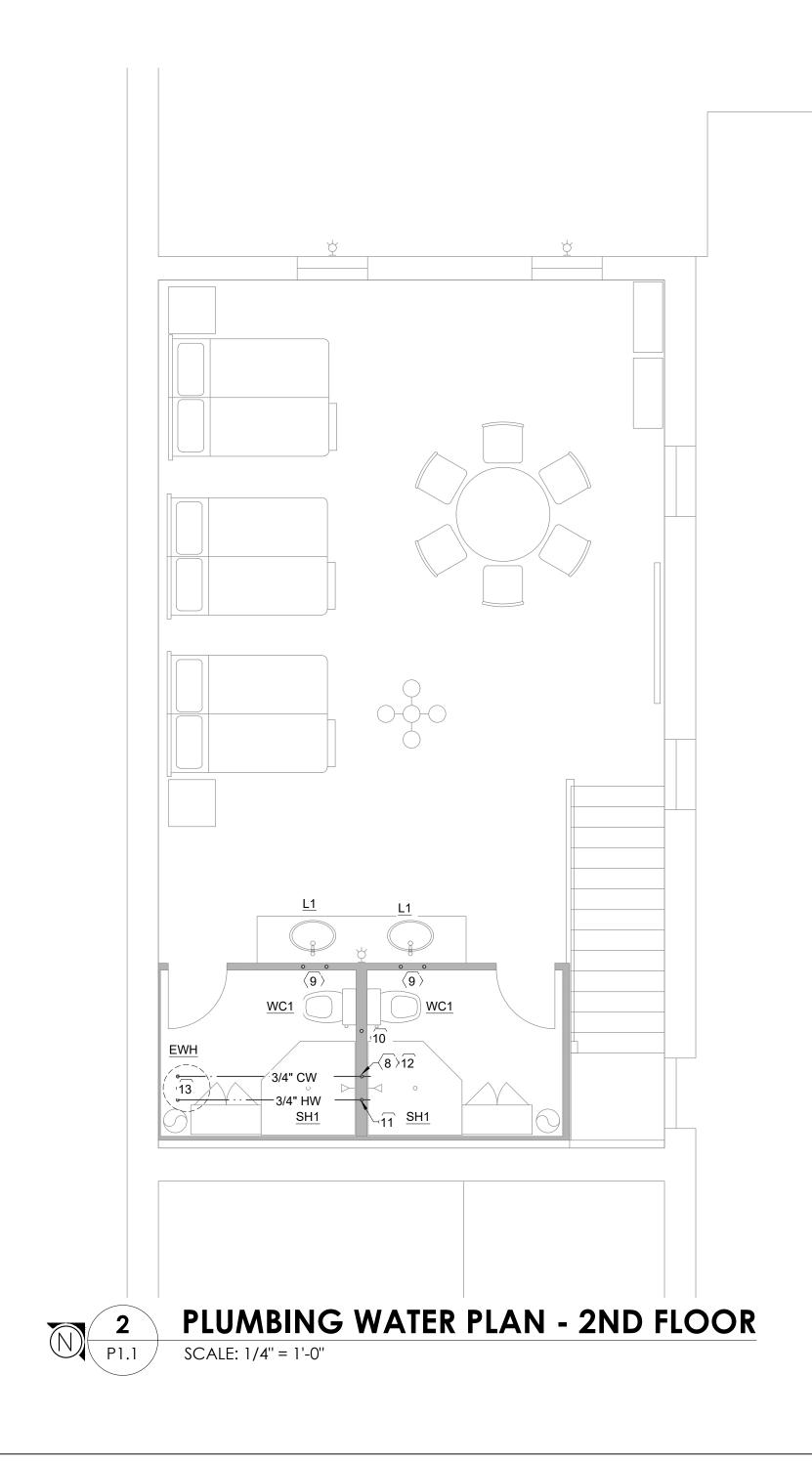
PLUMBING DWV PLANS

SHEET NUMBER:



P120 O All drawings and written material contained herein may not be duplicated, used or disclosed without the written consent of the architect(s).





#	PLUMBING KEYED NOTES
1	1/2" CW/HW UP.
2	1/2" CW DOWN.
3	CONNECT TO EXISTING 1" CW IN THIS VICINITY. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND SAW CUT AS REQUIRED TO ACCOMMODATE THE NEW PIPING ROUTING BELOW SLAB
4	3/4" CW UP.
5	3/4" HW DOWN FROM ABOVE.
6	1" CW UP.
7	1/2" CW/HW DOWN.
8	1" CW UP FROM BELOW.
9	1/2" CW/HW UP FROM BELOW.
10	3/4" CW UP FROM BELOW.
11	3/4" HW DOWN.
12	1" CW REDUCES TO 3/4" CW AFTER SERVING THE SHOWERS AND CONTINUES UP TO SERVE WATER HEATER.
13	3/4" CW/HW DOWN TO WATER HEATER. WATER HEATER IS LOCATED ON PLATFORM ABOVE THE RESTROOMS. ROUTE DRAIN TO TAILPIECE OF LAVATORY.



ARCHITECT/ENGINEER



B&B RENOVATION

HEX INDUSTRIES 278 w. san antonio st. new braunfels, tx. 78130

PROJECT NUMBER:

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0007-23

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DATE:	ISSUED AS:
8-8-23	PERMIT SET
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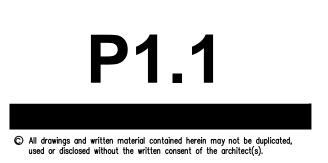
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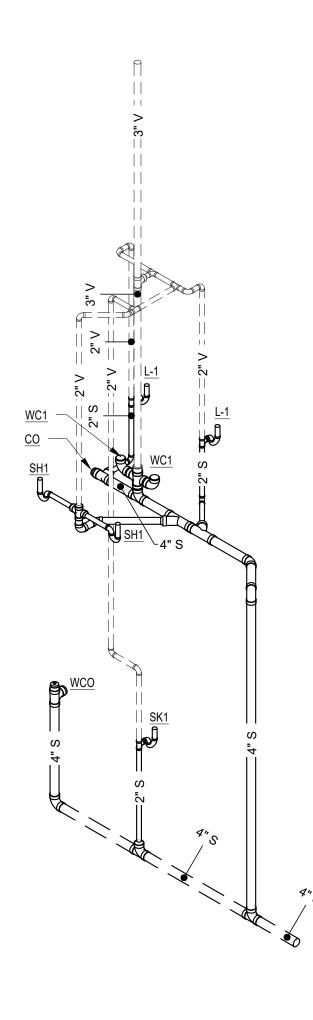
SHEET TITLE:





SHEET NUMBER:







DMV RISER DIAGRAM SCALE: 1/4" = 1'-0"

N EWH NK 1/2" <u>SK1</u> <u>WB1</u>



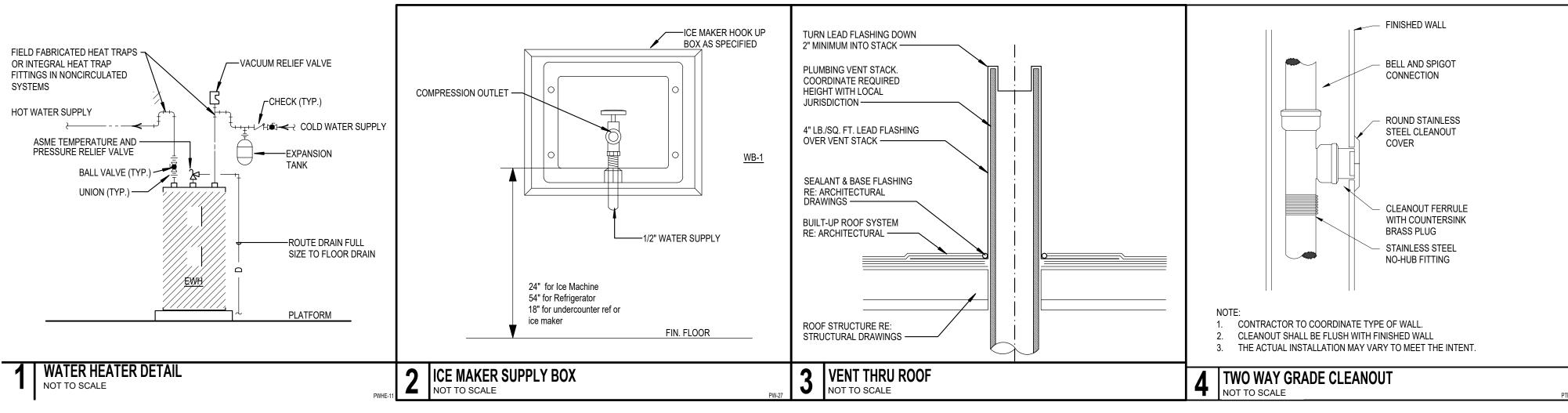
WATER RISER DIAGRAM P2.0 SCALE: 1/4" = 1'-0"



P2.0

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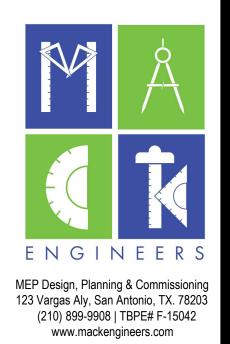




_____ EQU -----TYPE ELECTRI HEATER EWH-1

UIPMENT SCHEDULE										
Ξ	MANUFACTURER	DESCRIPTION	NOTES							
RIC WATER R	AO SMITH ENS-40	4.5 KW, 40 GALLON. ALL HOT WATER PIPING SHALL BE HEAT TRACED AND INSULATED. COORDINATE HEAT TRACE REQUIREMENT WITH ELECTRICAL CONTRACTOR.								

PLUMBING FIXTURE SCHEDULE									
PLAN MARK	MINIMUM ROUGH-IN SIZES				S	DESCRIPTION			
	WST &	VENT	DRAIN	CW	НW				
WATER CLOSET WC1	4"	2"	4"	1"		TOTO DRAKE, TWO PIECE, COMFORT HEIGHT, ELONGATED BOWL, 1.6 GPF, WHITE, SOFT CLOSE SEAT, WITH ALL NECESSARY ACCESSORIES INCLUDING (BUT NOT LIMITED TO) BRAIDED SUPPLY AND WASTE FLANGE.			
LAVATORY <u>L1</u>	2"	2"	2"	1/2"	1/2"	TOTO ATHERTON UNDERCOUNTER MOUNTED, WHITE PORCELAIN LAVATORY WITH FRONT OVERFLOW, AND ALL NECESSARY ACCESSORIES INCLUDING (BUT NOT LIMITED TO) BRAIDED SUPPLY LINES, DRAIN, TRAP, ETC PROVIDE WITH OBERON R SINGLE HANDLE FAUCET			
SHOWER <u>SH1</u>	2"	2"	2"	1/2"	1/2"	TOTO CLASSIC SERIES 4.5" MULIT-SPRAY HEAD (2.0 GPM) IN POLISHED CHROME WITH MATCHING SILAS THERMOSTATIC MIXING SHOWER VALVE. PROVIDE POLISHED CHROME CENTER DRAIN WITH STRAINER.			
SINK <u>SK1</u>	2"	2"	2"	1/2"	1/2"	ELKAY LWFDB332292 WITH ALL NECESSARY ACCESSORIES INCLUDING (BUT NOT LIMITED TO) BRAIDED SUPPLIES, WASTE, TRAP, ETC PROVIDE 1/3 HP INSINKERATOR DISPOSER WITH DISHWASHER CONNECTED. PROVIDE WITH AMERICAN STANDARD SYCAMORE PULL OUT SPRAY FAUCET DECK MOUNTED FAUCET.			
WALL BOX (ICE) WB1				1/2"		GUY GRAY M1B1HA WITH 1/2x1/4" O.D. TUBE, CHROME PLATED SUPPLY STOP, AND INTEGRAL ARRESTOR. LEAVE 48" COIL OF 1/4" TYPE "K SOFT COPPER TUBING FOR EQUIPMENT CONNECTION.			
WALL CLEANOUT WCO						ZURN No. ZN-1440 DURO-COATED CAST IRON CLEANOUT TEE WITH COUNTER-SUNK GASKET, WATERTIGHT THREADED PLUG AND ZURN No. ZANB-1460 SQUARE SMOOTH ACCESS COVER.			





HAFL WASHING 11774 -08-23 1195500.00 MACK ENGINEERS REG. NO. F-15042

B & B RENOVATION

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CSW

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	•
DATE:	' :

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SHEET TITLE:

PLUMBING SCHEDULES AND DETAILS SHEET NUMBER:

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P3.0



10/10/2023

Agenda Item No. A)

PRESENTER:

Katie Totman, HPO

SUBJECT:

Presentation, discussion, and possible direction to staff about the ongoing historic design guidelines updates.

DEPARTMENT: Planning & Development Services

COUNCIL DISTRICTS IMPACTED: All

BACKGROUND INFORMATION:

Staff hosted a public workshop on September 26 to begin planning and laying out new historic design guidelines that would be utilized when evaluating projects happening on historically designated properties inside the city limits. This presentation is meant to share what transpired at the workshop and a rough draft outlining suggestions pertaining to new construction.

Guidelines for New Construction – DRAFT

Building and Entrance Orientation

 Orientation and Entrances – New buildings should feature a setback from the front property line that is consistent with the historic structures along the street frontage. Where a variety of setbacks exist, use the median setback of buildings along the street frontage. Orient the primary entrance and porches of new buildings to be consistent with the predominant orientation of historic buildings along the street frontage.

Building Massing and Form

- 1. Similar height and scale— The overall height and scale of new buildings shall be visually compatible with nearby historic buildings.
- 2. **Similar roof forms** —Incorporate roof forms that are consistent with those predominantly found on the block. Roof forms on residential building types are typically sloped (i.e., gable, hip), while common roof forms on non-residential building types are typically flat and screened by an ornamental parapet wall.
- 3. **Relation of solids to voids in front facades** Incorporate window and door openings with a similar proportion of wall to window space as typical with nearby historic facades.
- 4. Lot Coverage New construction should be consistent with adjacent historic buildings in terms of the building to lot ratio. Limit the building footprint for new construction to no more than 50 percent of the total lot area, unless adjacent historic buildings establish a precedent with a greater building to lot ratio.

Building Materials

- 1. Use of complementary materials—Use materials that complement the existing materials traditionally found in the historic district. Materials should not be so dissimilar as to distract from the historic appearance of the district. For example, corrugated metal siding would not be appropriate for a new structure in a district comprised of homes with wood siding.
- 2. **Roof materials**—Select roof materials that are similar in terms of form, color, and texture to traditionally used in the district.
- 3. **Synthetic materials** Synthetic material such as fiberboard siding or brick and stone veneer may be appropriate for new construction if the new materials are visually similar to traditional material found in the district in terms of dimension, finish, and texture. For example, Hardie Board siding may be appropriate if the reveal is similar to those found historically in the district.

Architectural Details

- 1. **Historic context**—Design new buildings to reflect their time while respecting the historic context of the district. While new construction should not attempt to replicate historic features, new structures should not be so dissimilar as to distract from or diminish the historic interpretation of the district.
- 2. Architectural details—Incorporate architectural details that are in keeping with the predominant architectural style along the block face or within the district when one exists. Details should be simple in design and should complement, but not visually compete with, the character of the adjacent historic structures or other historic structures within the district.

Garages and Outbuildings

- 1. **Height**—The height of new garages and outbuildings shall not exceed that of the primary structure on the site.
- 2. **Building size** New garages and outbuildings shall not feature a footprint larger than that of the primary structure on the site.
- 3. **Character**—Relate new garages and outbuildings to the period of construction of the principal building on the site using complementary materials and simplified architectural details.
- 4. **Garage doors**—Incorporate garage doors with similar proportions and materials as those traditionally found in the district.
- 5. **Orientation/Setbacks**—Match the predominant garage orientation found along the block. For example, if most garages along the block are detached and located at the rear of the property then any new garages should match this pattern. In some instances, historic setbacks are not consistent with current zoning requirements and a variance may be required.



10/10/2023

Agenda Item No. B)



10/10/2023

Agenda Item No. C)

PRESENTER:

Teresa Johnson

SUBJECT:

Update from the Comal County Historical Commission.