## **SHEET INDEX:**

- CS COVER SHEET & INDEX TO DRAWINGS
- BCS BUILDING CODE SUMMARY
- LS BUILDING LIFE SAFETY EGRESS PLAN
- SP SITE PLAN (DEFERRED SUBMITTAL BY OTHER)
- S1 FOUNDATION PLAN
- S2 NOTES & FOOTING DETAILS
- S3 FRAMING PLAN AND DETAILS
- G1 BUILDING FLOOR PLAN
- G2 BUILDING SECTIONS
- G3 BUILDING ELEVATIONS
- G4 SCHEDULE & ROOF PLAN
- G5 ACCESSIBLE RESTROOM DETAILS
- G6 REFLECTED CEILING PLAN
- M1 MECHANICAL NOTES AND DETAILS
- M2 MECHANICAL HVAC PLAN
- E1 ELECTRICAL RISER, SCHEDULES & NOTES
- E2 ELECTRICAL POWER PLAN
- E3 ELECTRICAL LIGHTING PLAN
- P1 PLUMBING SCHEDULES AND NOTES
- P2 PLUMBING WASTE & VENT PLAN
- P3 PLUMBING WATER PLAN

## **PROJECT:**

# TIRADO TRUCK REPAIR GARAGE

US 421 SOUTH, HARNETT COUNTY, NC

## PROJECT TEAM:

## **BUILDING DEPARTMENT:**

HARNETT COUNTY
PLANNING & INSPECTIONS DEPARTMENT
420 MCKINNEY PARKWAY
LILLINGTON, NC 27546
910-893-7525

## **BUILDING OWNER**

LUIS TIRADO 3577 OLD US 421 LILLINGTON, NC 27546 919-648-3999

## PROJECT DESIGNER:

JENKINS CONSULTING ENGINEERS, P.A.
OFFICE in EUREKA SPRINGS, NC
KELLY J. DODSON
BUDDY JENKINS
1606 MCARTHUR ROAD
FAYETTEVILLE, NC 28311-1002
910-822-1724

## **CONSTRUCTION MANAGEMENT:**

TBI

## CODE REVIEW:

APPLICABLE CODES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

BUILDING 2018 NC BUILDING CODE
PLUMBING 2018 NC PLUMBING CODE

MECHANICAL 2018 NC MECHANICAL CODE

ELECTRICAL 2020 NATIONAL ELECTRICAL CODE (NFPA-70)

FIRE PREVENTION 2018 NC FIRE CODE

ENERGY 2018 NC ENERGY CONSERVATION CODE

ACCESSIBILITY ICC A117.1-2009 AND THE AMERICANS WITH DISABILITIES ACT (ADAAG)

2018 NC BUILDING CODE CHAPTER 11

## VICINITY PLAN

NOT TO SCALE

TIRADO TRUCK

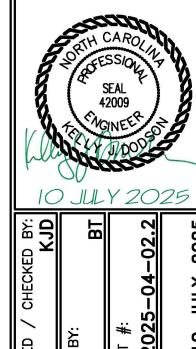
REPORTED TO TRUCK

## BUILDING DATA:

THE PROJECT SCOPE IS TO CONSTRUCT A NEW BUILDING TO BE USED AS A REPAIR GARAGE.

CONSULTING ENGINEERS, PA

CORPORATION NUMBER C.3070 kellyd@jenkinsce.pro
1506 McARTHUR RD. FAYETTEVILLE, NC 28311-1002
1910 822.1724



PRELIMINARY [] FOR DESIGN DEVELOPMENT ONLY FINAL DRAWING (TATOR CONSTRUCTION DRAWING (TATOR CONSTRUCTION DRAWING (TATOR CONTRACTOR BUILDER: DATE: DATE:

**NORTH** 

REVISIONS:

REV DATE DESCRIPTION

A 07/10/25 FINAL FOR CONS.

TRUCK SHOP
HARNETT COUNTY, NC

TIRADO TRUCK
US 421 SOUTH, HARNETT COL

SHEET:

### BUILDING CODE SUMMARY (continued)

### ALLOWABLE HEIGHT SHOWN ON PLANS REFERENCE Building Height in Feet (Table 504.3) Building Height in Stories (Table 504.4)

1. Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE	PROTECTION	REQUIREMENTS	

	FIRE	RATING **	(TABLE 601)					
BUILDING ELEMENT	SEPARATION DISTANCE (feet)	REQ'D V-B	PROVIDED (w/ * REDUCTION	Detail # And Sheet #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATEL JOINTS	
Structural Frame, including columns, girders, trusses		0	0	N/A	N/A	N/A	N/A	
Bearing Walls Exterior		0	0	N/A	N/A	N/A	N/A	
North		0	0	N/A	N/A	N/A	N/A	
East		0	0	N/A	N/A	N/A	N/A	
West		0	0	N/A	N/A	N/A	N/A	
South		0	0	N/A	N/A	N/A	N/A	
Interior		0	0	N/A	N/A	N/A	N/A	
Nonbearing walls and partitions  Exterior walls		o	0	N/A	N/A	N/A	N/A	
North		0	0	N/A	N/A	N/A	N/A	
East		0	0	N/A	N/A	N/A	N/A	
West		0	0	N/A	N/A	N/A	N/A	
South		0	0	N/A	N/A	N/A	N/A	
Interior Non-Bearing Walls		0	0	N/A	N/A	N/A	N/A	
Floor construction including supporting beams and jois	ts	0	0	N/A	N/A	N/A	N/A	
Floor Ceiling Assembly		0	0	N/A	N/A	N/A	N/A	
Columns Supporting Floors		0	0	N/A	N/A	N/A	N/A	
Roof construction including supporting beams and jois	ts	0	0	N/A	N/A	N/A	N/A	
Roof Ceiling Assembly		0	0	N/A	N/A	N/A	N/A	
Columns Supporting Roof		0	0	N/A	N/A	N/A	N/A	
Shaft Enclosures — Exit		0	0	N/A	N/A	N/A	N/A	
Shaft Enclosures — Other		0	0	N/A	N/A	N/A	N/A	
Corridor Separation		0	0	N/A	N/A	N/A	N/A	
Occupancy / Fire Barrier Separation		0	0	N/A	N/A	N/A	N/A	
Party/Fire Wall Separation		0	0	N/A	N/A	N/A	N/A	
Smoke Barrier Separation		0	0	N/A	N/A	N/A	N/A	
Smoke Partition		0	0	N/A	N/A	N/A	N/A	
OWNER/Dwelling Unit/ Sleeping Unit Separation		0	0	N/A	N/A	N/A	N/A	
Incidental Use Separation		0	0	N/A	N/A	N/A	N/A	

### PERCENTAGE OF WALL OPENING CALCULATIONS

EXTERIOR WALL	FIRE SEPARATION DISTANCE (feet) FROM PROPERTY LINE	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
North	-	-	-	-
South	_	-	-	-
East	-	-	-	-
West	-	-	_	-

### LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting:	Yes	□ No		
Exit Signs:	Yes	□ No		
Fire Alarm:	☐ Yes	Mo		
Smoke Detection Systems:	☐ Yes	⊠No	Partial	☐ Duct Detectors
Carbon Monoxide Detection:	☐ Yes	⊠No		
Life Safety Systems Generator:	☐ Yes	<b>⊠</b> No		

### LIFE SAFETY PLAN REQUIREMENTS

☐ Fire and/or smoke rated wall locations (Chapter 7)

☐ Assumed and real property line locations (if not on the site plan)

Exterior wall opening area with respect to distance to assumed property lines (705.8)

Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)

Occupant loads for each area Exit access travel distances (1017)

☐ Common path of travel distances [1006.2.1 & 1006.3.2(1)]

☐ Dead end lengths (1020.4) Clear exit widths for each exit door

TOTAL UNITS

NONE REQUIRED

SEE CIVIL DRAWING

Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3) Actual occupant load for each exit door

ACCESSIBLE DWELLING UNITS (SECTION 1107)

TYPE A UNITS REQUIRED

ACCESSIBLE PARKING (SECTION 1106)

TYPE A UNITS PROVIDED

ACCESS AISLE

TYPE B UNITS REQUIRED

VAN SPACES WITH

132" ACCESS | 96" ACCESS AISLE AISLE

Type B Units Provided

TOTAL # ACCESSIBLE

☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation

UNITS PROVIDED

TOTAL # OF PARKING SPACES

☐ Location of doors with panic hardware (1010.1.10)

□ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)

☐ Location of doors with electromagnetic egress locks (1010.1.9.9) ☐ Location of doors equipped with hold-open devices

☐ Location of emergency escape windows (1030) ☐ The square footage of each fire area (903)

☐ The square footage of each smoke compartment for Occupancy Classification I-II (407.5)

□ Note any code exceptions or table notes that may have been utilized regarding the items above

4 The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must

comply with Table 412.3.1

5 Frontage increase is based on the unsprinklered area value in Table 506.2.

### BUILDING CODE SUMMARY (continued)

### PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	W	ATER CLOS	SETS	URINALS		LAVATORIE	S	SHOWERS/	DRINKING I	FOUNTAINS	SERVICE
ÜĞL	MALE	FEMALE	UNISEX	OKIIOLS	MALE	FEMALE	UNISEX	TUBS	REGULAR	ACCESSIBLE	SINK
REPAIR GARAGE (S-1): REQUIRE			1	0			1		0	0	1
REPAIR GARAGE (S-1) : PROVIDED			2	0			2		0	0	1

SH	'ECIA	l ap	PROVA	LS:

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)

### **ENERGY SUMMARY**

### **ENERGY REQUIREMENTS:**

The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the

Existing building envelope complies with code:

Climate Zone: 

3A 

4A 

5A HARNETT COUNTY

Method of Compliance:

Energy Code: Performance Prescriptive ASHRAE 90.1: ☐ Performance ☐ Prescriptive

Value of total assembly: -Other: Performance (specify source)

THERMAL ENVELOPE: (Prescriptive method only)

Roof/ceiling Assembly #1 (each assembly) METAL BUILDING ROOF PANEL WITH SIMPLE SAVER ROOF INSULATION Description of assembly: 0.035 (0.037 MAXIMUM) U-Value of total assembly:

R—Value of insulation: R-11 + R-19 LS (R-28.6 WITH THERMAL BLOCK) Skylights in each assembly: U-Value of skylight:

Exterior Walls Assembly #1 (each assembly)

Total square footage of skylights in each assembly:

Description of assembly: METAL BUILDING WALL PANEL WITH SIMPLE SAVER WALL INSULATION 0.059 (0.06 MAXIMUM) U-Value of total assembly:

R-30 R- Value of insulation: Openings (windows or doors with glazing)

U-Value of assembly: Solar heat gain coefficient: 0.23 (0.25 MAX) Projection factor:

Description of assembly: U-Value of total assembly:

R-Value of insulation: Description of assembly: U-Value of total assembly:

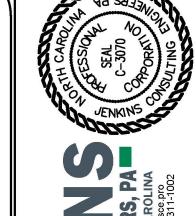
R-Value of insulation: Floors slab on grade Description of assembly:

R-Value of insulation: Horizontal/vertical requirement:

HARNETT COUNTY BUILDING CODE SUMMARY for:

TIRADO TRUCK REPAIR GARAGE

US 421 SOUTH, HARNETT COUNTY, NC



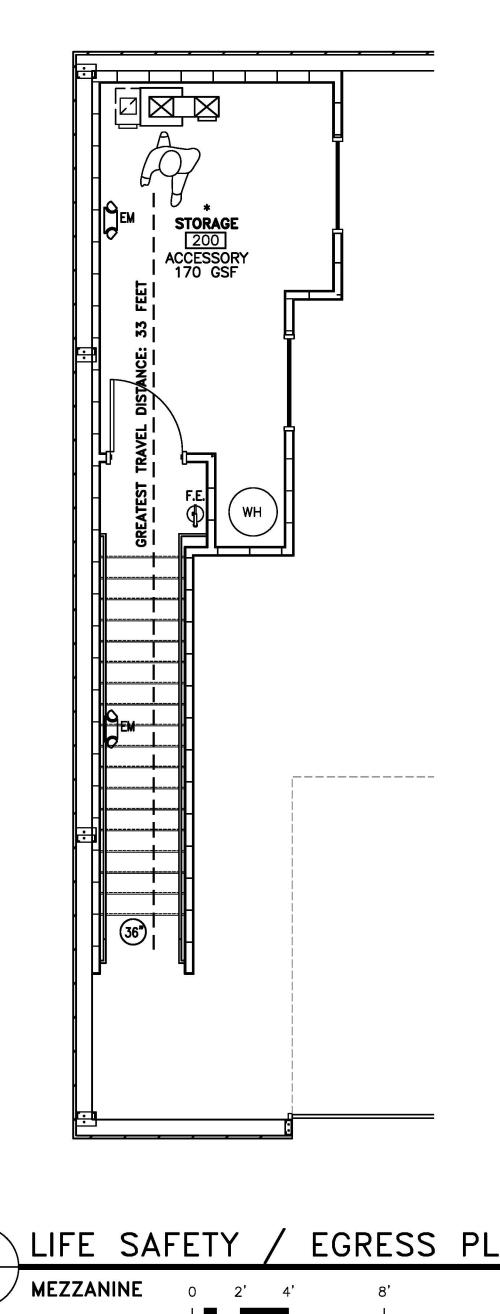


SHOP SUMMARY ODI

TRUCK, **TIRADO** 

BUILDIN

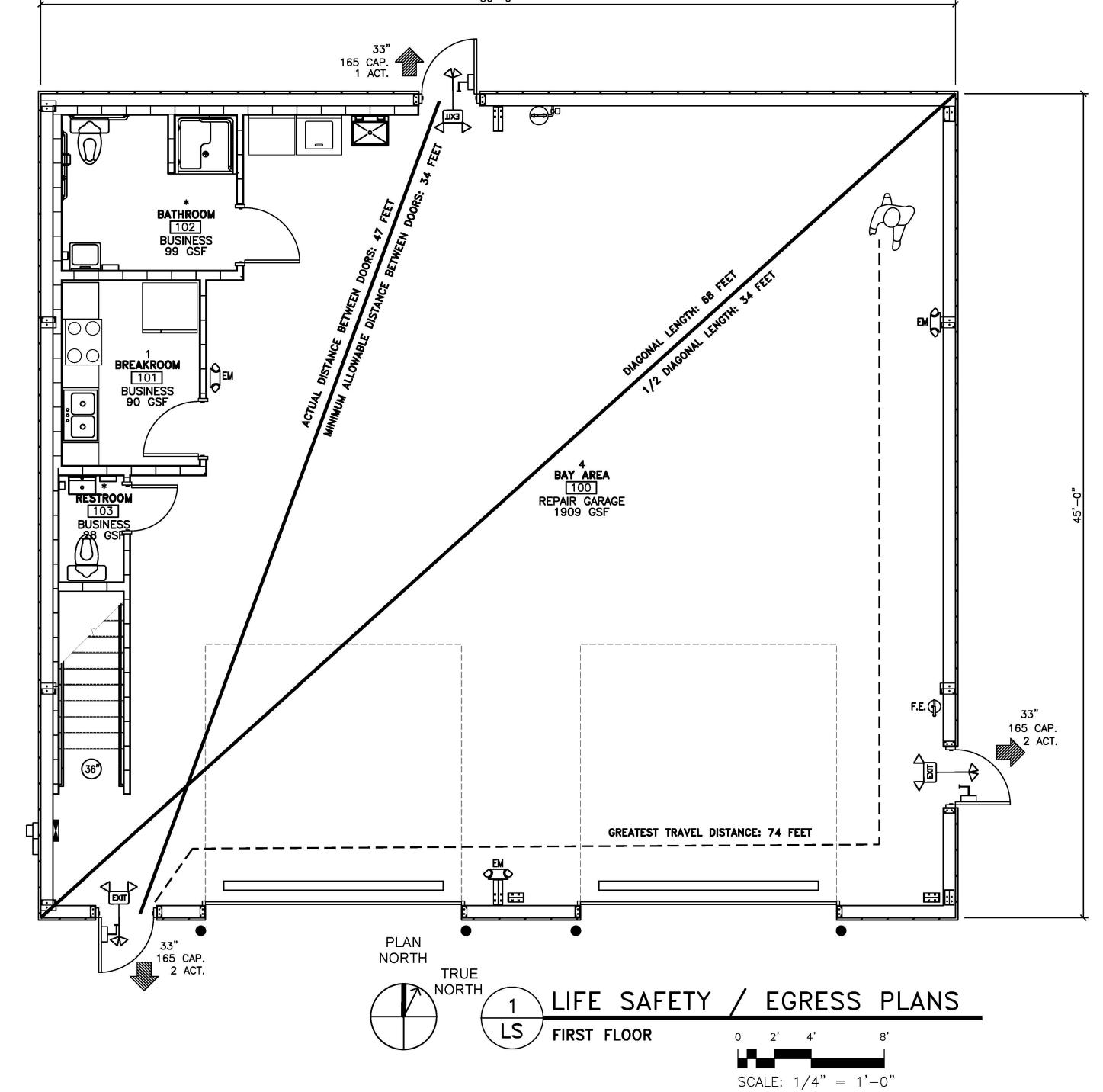
BCS





SCALE: 1/4" = 1'-0"

	OCCUPANCY	CLASSIFICA	ATION pe	er TAB	LE 1004.	5				
SPACE NUMBER	CURRENT SPACE USE	FUNCTION OF SPACE	OCCUPANT LOAD FACTOR	ROOM AREA (GROSS SF)	CALCULATED EGRESS OCCUPANCY TOTAL					
100	BAY AREA	REPAIR GARAGE	500 GROSS	1909	4	4				
101	BREAKROOM	BUSINESS	100 GROSS	90	1	1				
102	BATHROOM	BUSINESS	100 GROSS	99	*	*				
103	RESTROOM	BUSINESS	100 GROSS	28	*	*				
200	STORAGE	ACCESSORY	300 GROSS	170	*	*				
TOTAL OCCUPANT COUNT FOR BUILDING & EGRESS CAPACITY 5										
THE EGRESS CAPACITY SHALL BE BASED UPON OCCUPANT LOAD OF 5 PERSONS  (*) DENOTES OCCUPANT NUMBER ACCOUNTED FOR IN OCCUPANT TOTAL										



165 CAP. EXIT CAPACITY (NUMBER OF PERSONS)	<u>LEGEND</u>	
SUGGESTED LOCATION  GREATEST TRAVEL DISTANCE  EXIT WIDTH, 36" - 3 = 33" CLEAR WIDTH  165 CAP. 22 ACT.  EXIT CAPACITY (NUMBER OF PERSONS)  ACTUAL OCCUPANT LOAD FOR EXIT DOOR  EXIT SIGN  EMERGENCY LIGHT  AISLE WIDTH WHERE SHOWN  EXIT SIGN WITH EMERGENCY LIGHTING  CL- DOOR CLOSER  ROOM LABEL  DESCRIPTION  4  BAY AREA  100  CCUPANT TOTAL  ROOM NUMBER	SYMBOL	<u>DESCRIPTION</u>
EXIT WIDTH, 36" - 3 = 33" CLEAR WIDTH  165 CAP. 22 ACT.  EXIT CAPACITY (NUMBER OF PERSONS) ACTUAL OCCUPANT LOAD FOR EXIT DOOR  EXIT SIGN  EMERGENCY LIGHT  AISLE WIDTH WHERE SHOWN  EXIT SIGN WITH EMERGENCY LIGHTING  CL- DOOR CLOSER  ROOM LABEL  DESCRIPTION  4  BAY AREA  100  ROOM NUMBER	F.E. <b>(</b> )	
EXIT CAPACITY (NUMBER OF PERSONS) ACTUAL OCCUPANT LOAD FOR EXIT DOOR EXIT SIGN  EMERGENCY LIGHT  AISLE WIDTH WHERE SHOWN EXIT SIGN WITH EMERGENCY LIGHTING  CL DOOR CLOSER  ROOM LABEL  DESCRIPTION  4 BAY AREA 100  CCUPANT TOTAL ROOM NUMBER	<b>****</b>	GREATEST TRAVEL DISTANCE
22 ACT.  EXIT  EXIT SIGN  EMERGENCY LIGHT  AISLE WIDTH WHERE SHOWN  EXIT SIGN WITH EMERGENCY LIGHTING  CL— DOOR CLOSER  ROOM LABEL  DESCRIPTION  4  BAY AREA  100  ACTUAL OCCUPANT LOAD FOR EXIT DOOR  EXIT SIGN  DESCRIPTION  CL— DOOR CLOSER  ACTUAL OCCUPANT TOTAL  ROOM NAME  ROOM NUMBER	33"	EXIT WIDTH, $36" - 3 = 33"$ CLEAR WIDTH
EMERGENCY LIGHT  AISLE WIDTH WHERE SHOWN  EXIT SIGN WITH EMERGENCY LIGHTING  CL— DOOR CLOSER  ROOM LABEL  DESCRIPTION  4  BAY AREA  100  COUPANT TOTAL  ROOM NAME  ROOM NUMBER		EXIT CAPACITY (NUMBER OF PERSONS) ACTUAL OCCUPANT LOAD FOR EXIT DOOR
AISLE WIDTH WHERE SHOWN EXIT SIGN WITH EMERGENCY LIGHTING  CL— DOOR CLOSER  ROOM LABEL DESCRIPTION  4 BAY AREA 100 ROOM NAME ROOM NUMBER	EXIT	EXIT SIGN
EXIT SIGN WITH EMERGENCY LIGHTING  CL- DOOR CLOSER  ROOM LABEL  DESCRIPTION  4  BAY AREA ROOM NAME ROOM NUMBER		EMERGENCY LIGHT
CL- DOOR CLOSER  ROOM LABEL DESCRIPTION  4 OCCUPANT TOTAL  ROOM NAME ROOM NUMBER	36"	AISLE WIDTH WHERE SHOWN
ROOM LABEL  DESCRIPTION  4  OCCUPANT TOTAL  BAY AREA  ROOM NAME  ROOM NUMBER	♦ 🕎	EXIT SIGN WITH EMERGENCY LIGHTING
4 OCCUPANT TOTAL  BAY AREA ROOM NAME  100 ROOM NUMBER	J-1 Cr	CL- DOOR CLOSER
BAY AREA ROOM NAME ROOM NUMBER	ROOM LABEL	<u>DESCRIPTION</u>
100 ROOM NUMBER	4	OCCUPANT TOTAL
	BAY AREA	ROOM NAME
REPAIR GARAGE   FUNCTION TYPE	100	ROOM NUMBER
100 SF SPACE AREA		

TIRADO TRUCK SHOP STORAGE (S-1): REPAIR GARAGE

GROSS SQUARE FOOTAGE OF BUILDING 2,250 SQ. FT. TYPE OF CONSTRUCTION: V-B
BUILDING IS TO BE USED AS A REPAIR GARAGE WITH OFFICE SPACES.
THIS BUILDING IS NOT PROTECTED BY FIRE SPRINKLERS OCCUPANT LOAD FOR CALCULATING EGRESS CAPACITY: SPACE OCCUPANCY BY FUNCTION OF SPACE SEE TABLE ON THIS SHEET FOR INDIVIDUAL SPACE TOTALS TOTAL OCCUPANT LOAD BY AREAS = 5 PERSONS

GREATEST TRAVEL DISTANCE SHOWN: 74 FEET. (PER 1017) MAXIMUM ALLOWABLE TRAVEL DISTANCE: 200 FEET (PER TABLE 1017.2) THE COMMON PATH OF TRAVEL IS LESS THAN 75 FEET. (PER 1006.2.1) THERE ARE NO DEAD END CORRIDORS OVER 20 FEET. (PER 1020.4)

BUILDING EXIT WIDTH CALCULATIONS:

5 PERSON \* 0.2"/OCCUPANT = 1" REQUIRED, 99" TOTAL PROVIDED (PER 1005.1)

MIN. NO. OF EXIT REQUIRED: TWO (2) (PER TABLES 1006.2.1 AND 1006.3.2(2)) NUMBER OF EXITS PROVIDED: THREE (3) ACCESSIBLE EGRESS DOORS DO NOT REQUIRE PANIC HARDWARE. (PER 1010.1.10)

DOORS DO NOT HAVE DELAYED EGRESS LOCKS (PER 1010.1.9.7) DOORS DO NOT HAVE ELECTROMAGNETIC EGRESS LOCKS (PER 1010.1.9.9) DOORS DO NOT HAVE HOLD OPEN DEVICES. THERE ARE NO EMERGENCY ESCAPE WINDOWS (PER 1030) NO. OF FIRE EXTINGUISHERS PROVIDED: PROVIDE TWO (2) FIRE EXTINGUISHER AT THIS BUILDING FIRE EXTINGUISHER FOR CLASS A FIRE HAZARDS REQUIRE NO GREATER THAN 75 FT OF MAXIMUM TRAVEL DISTANCE IN LOW, ORDINARY AND EXTRA HAZARD OCCUPANCY.





REVISIONS:

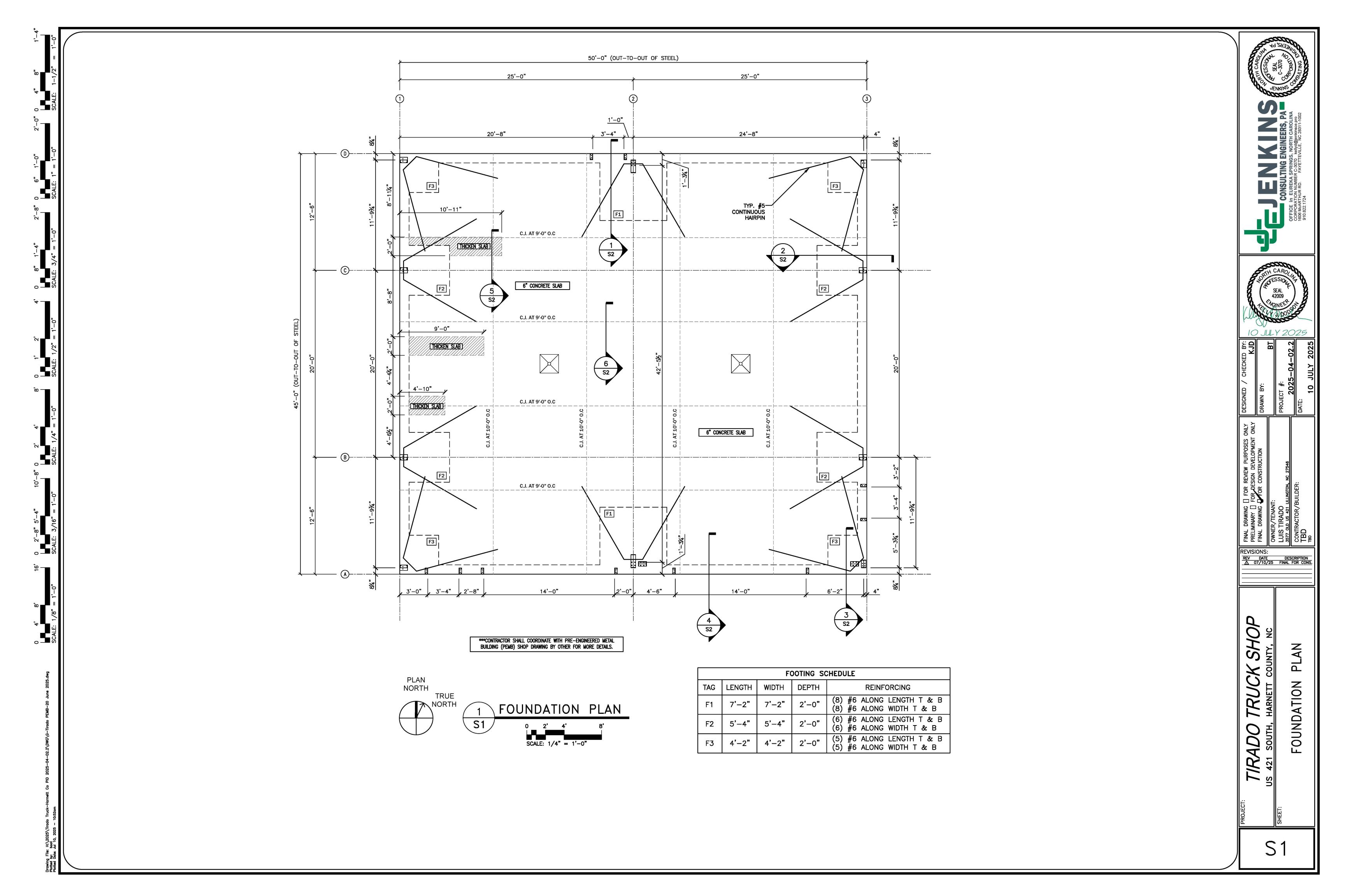
REV DATE DESCRIPTION

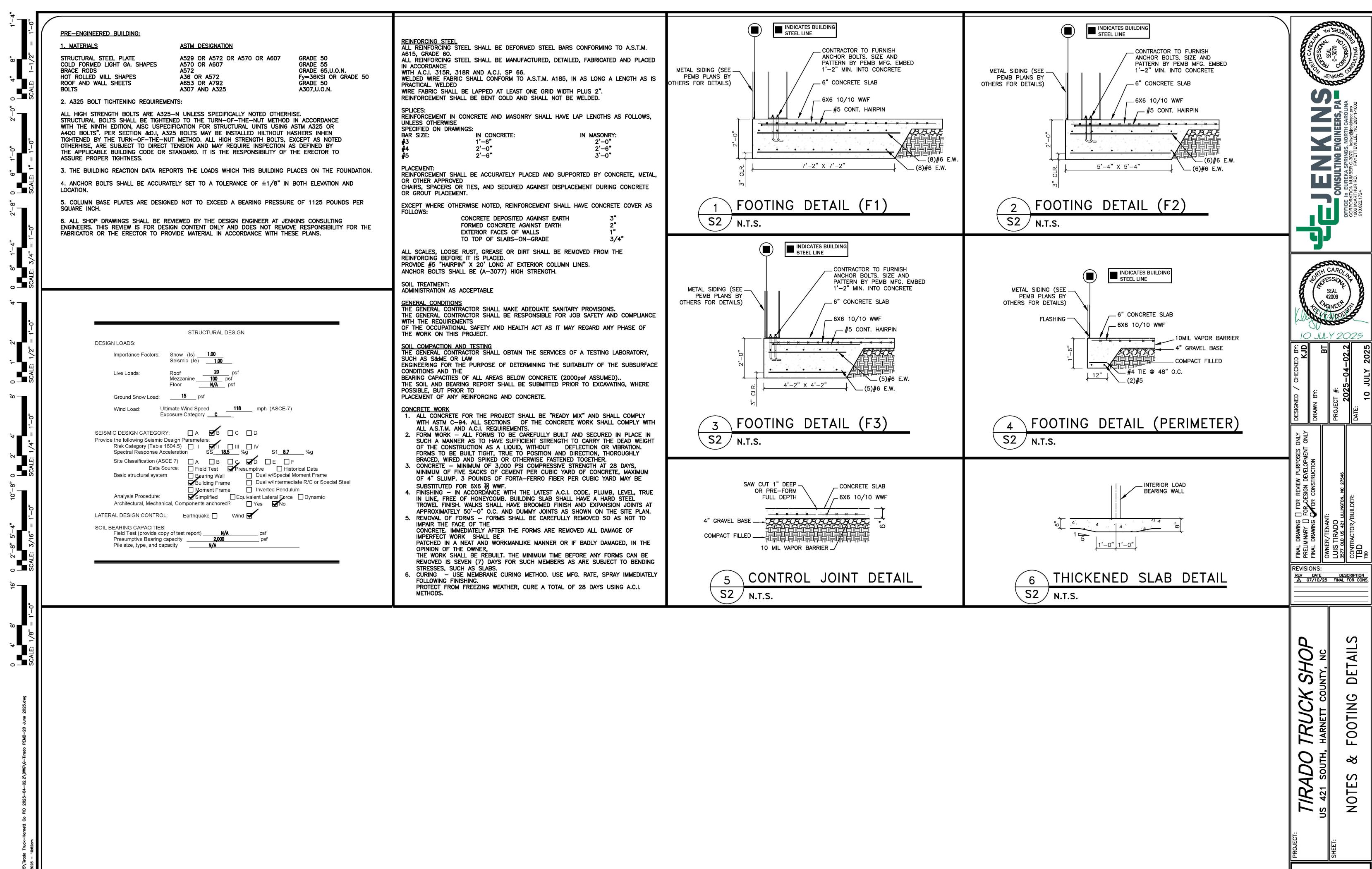
07/10/25 FINAL FOR CONS.

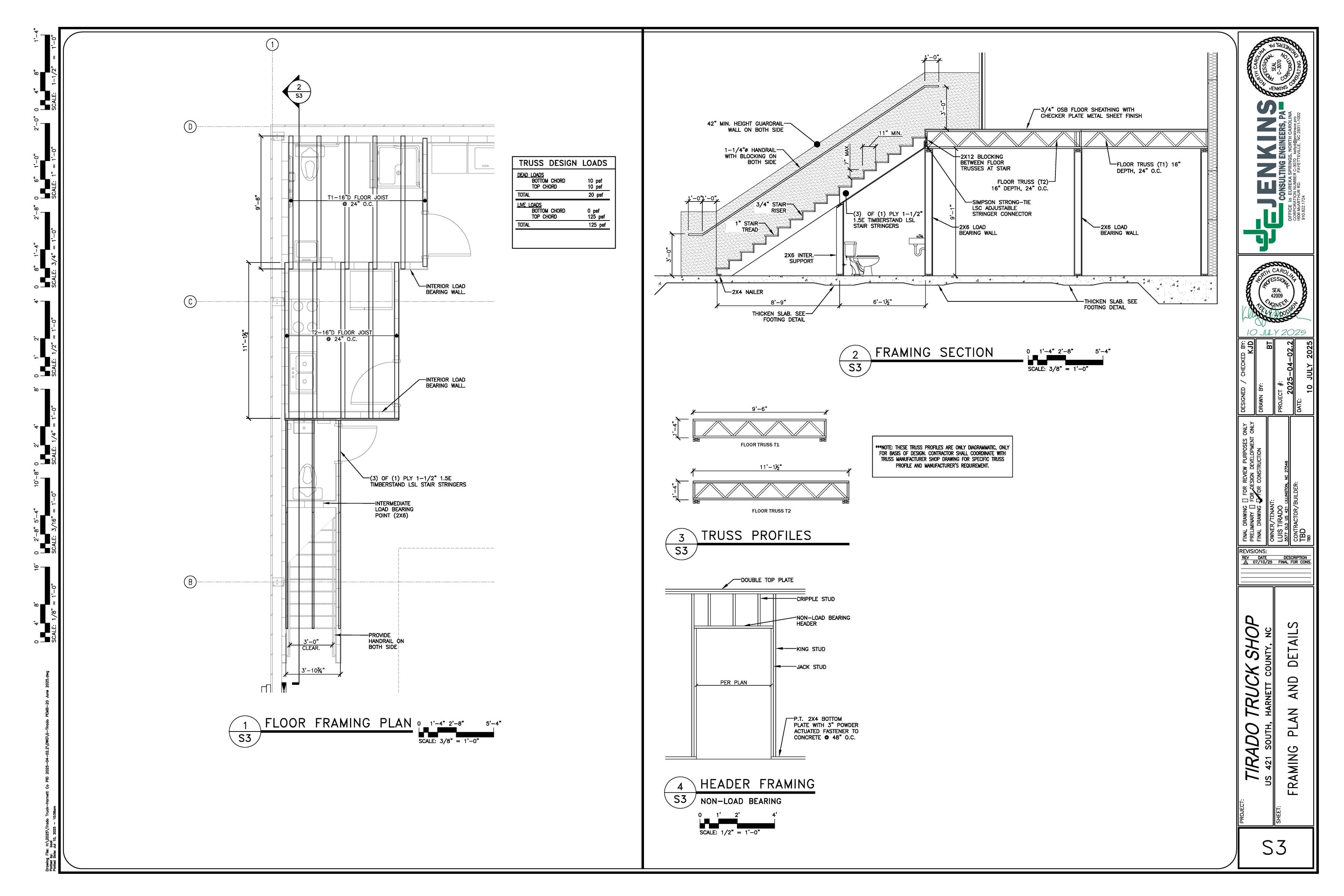
SHOP

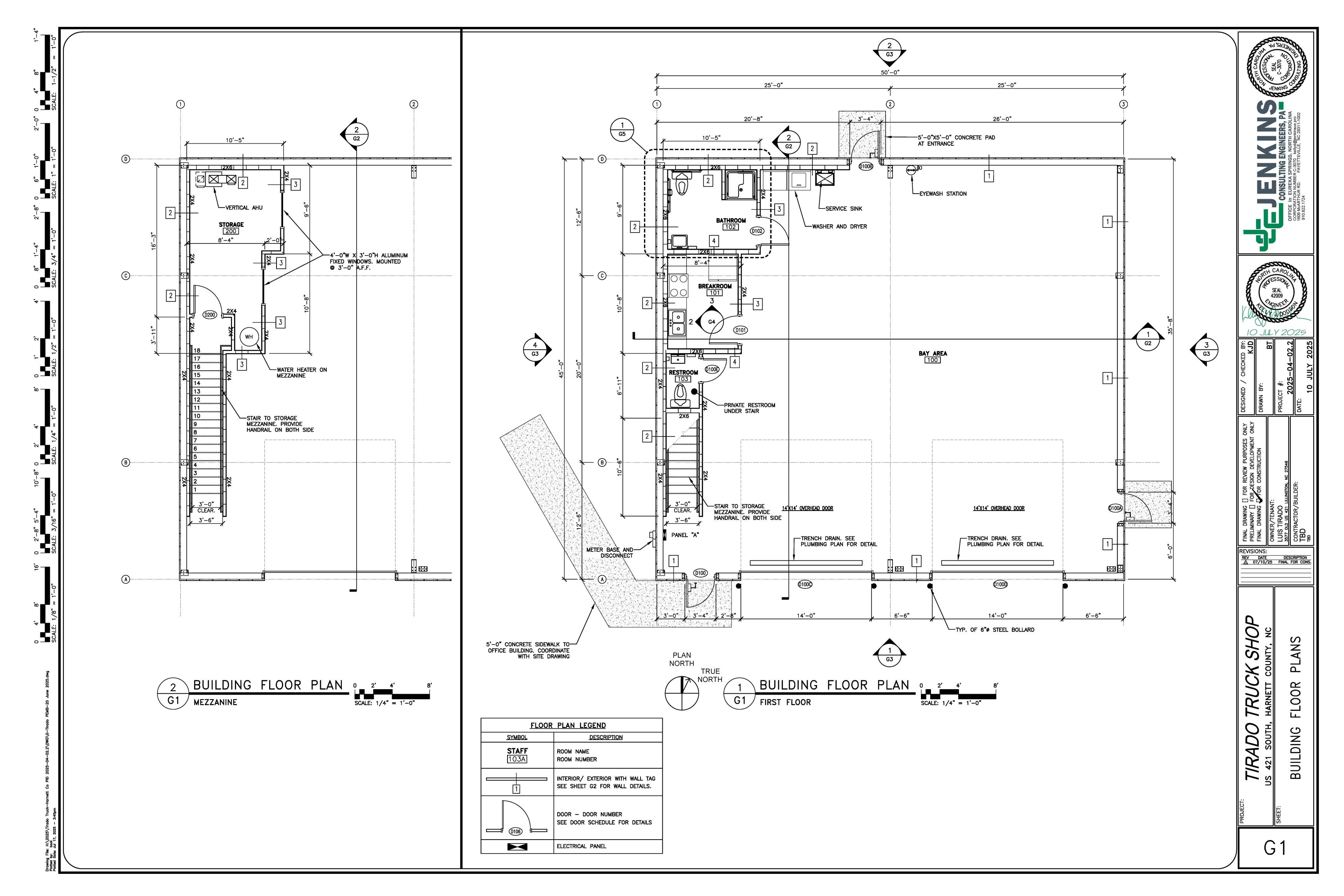
**TIRADO** 

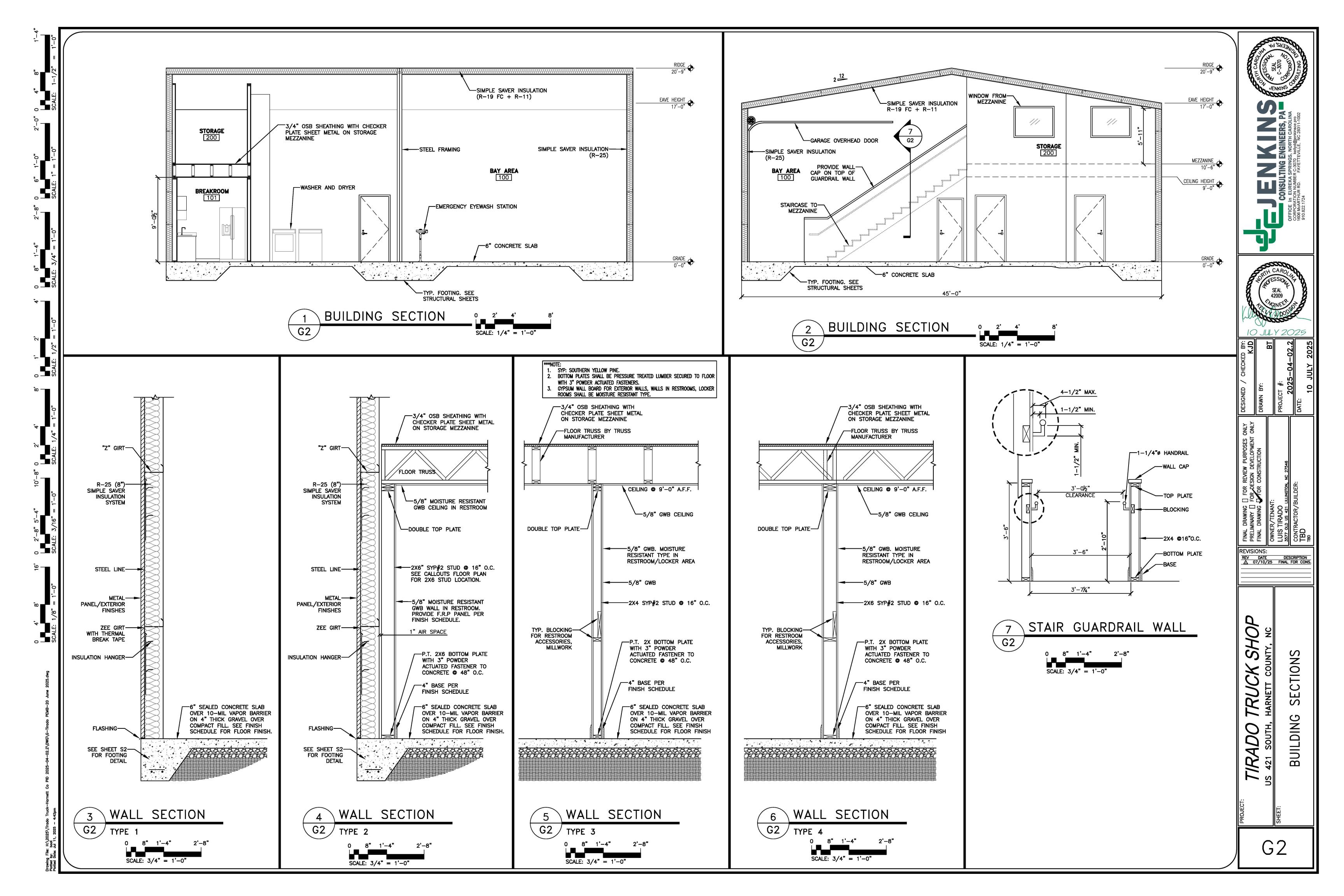
BUILDING L EGRES

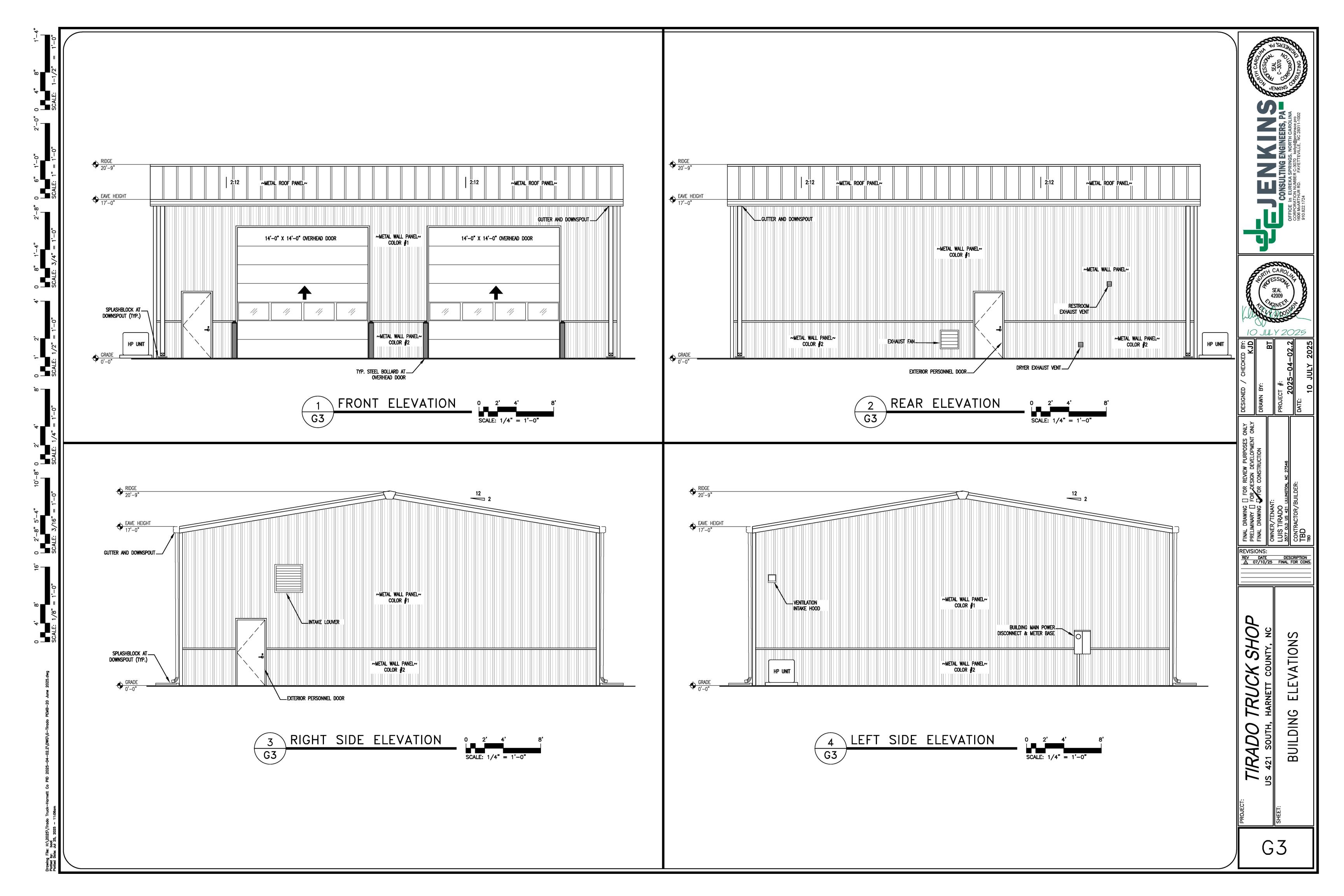












			RO	OM F	FINISH S	SCHEDU	LE		
ROOM NAME	ROOM NUMBER	NET SQ.FT.	FLOOR	BASE	WALLS	WALLS HEIGHT	CEILING MATERIAL	CEILING HEIGHT	REMARKS ***NOTE: ALL FINISHES SHALL MATCH WITH EXISTING BUILDING
BAY AREA	100	1862	SEALED CONCRETE	N/A	N/A	N/A	EXPOSED	VARIES	
BREAKROOM	101	76	VCT	WOOD	GYP.BD/PT	9'-0"	GYP.BD/PT	9'-0"	
BATHROOM	102	81	VCT	WOOD	GYP.BD/PT F.R.P. PANEL	9'-0"	GYP.BD/PT	9'-0"	4'-0" F.R.P. PANEL ON WALL
RESTROOM	103	23	vст	WOOD	GYP.BD/PT F.R.P. PANEL	9'-0"	GYP.BD/PT	9'-0"	4'-0" F.R.P. PANEL ON WALL
STORAGE	200	166	ALUMINUM CHECKER PLATE	WOOD	GYP.BD/PT	VARIES	EXPOSED	VARIES	
				FINIS	SH SCHED	ULE CODE	:S		
LVT LUXURY VINYL TIL	e pt	PA	INTED		<b>VW</b>	VINYL WALLC	OVERING MT	MOSAIC 7	TILE V.P. VINYL PLANK

			1 11 11 011 0	OHEDGE	L CODEC				
LVT	LUXURY VINYL TILE	PT	PAINTED	<b>W</b>	VINYL WALLCOVERING	MT	MOSAIC TILE	V.P.	VINYL PLANK
CONC.	CONCRETE	CMU	CONCRETE MASONRY UNIT	SC	SEALED CONCRETE	PNL	PANELING	PAVERS	BRICK PAVERS
COMP.	COMPOSITION	ACOUSTIC	ACOUSTICAL	RU	RUBBER	WD	WOOD	CPT	CARPET
GYP. BD.	GYPSUM BOARD	SV	SHEET VINYL	CER TILE	CERAMIC TILE	ST	STEEL	1-HOUR	U-305
AA	ANODIZED ALUMINUM	C.G	CORNER GUARD (ACROVYN)	WC	WAINSCOT	FRP	FIRE RESISTANT PANEL		

### FINISH GENERAL NOTES

- FINISH SCHEDULE DESCRIBES ONLY THE BASIC SURFACE FINISH.
- CASEWORK FINISHES ARE NOT SHOWN IN THE DRAWING. REFER TO SPECIFICATIONS FOR MATERIALS AND FINISHES.
- 3. PROVIDE CORNER GUARDS AS SHOWN ON FINISHES DRAWING.
- 4. F.R.P. WALL PANEL SHALL BE 51" TALL A.F.F.

												0	OF	?	S	CH	ΕC	)U	LE			
DOOR NO		DOOR SIZ	Έ		DOOR		F	RAME							HA	RDWA	RE					REMARKS
	МПТН	HEIGHT	THICKNESS	STME	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	FIRE RATING	ENTRANCE LOCK	STOREROOM LOCK	PASSAGE SET	PRIVACY SET	PUSH/PULL	PANIC SET	CLOSER	STOP	THRESHOLD	KICK PLATES	WEATHERSTRIPPING	NOTE:  G.C. TO REVIEW ALL HARDWARE SETS, MATERIAL AND FINISHES WITH OWNER BEFORE ORDER & INSTALLATION
D100	3'-0" X	7'-0" X	1-3/4"	A	НМ	Р	1	НМ	Р		X						X	X	X		X	EXTERIOR HINGED SINGLE DOOR — BAY AREA
D100A	3'-0" X	7'-0" X	1-3/4"	A	НМ	Р	1	НМ	Ρ		X						X	X	X		X	EXTERIOR HINGED SINGLE DOOR — BAY AREA
D100B	3'-0" X	7'-0" X	1-3/4"	Α	НМ	Р	1	HM	Ρ		X						X	X	X		×	EXTERIOR HINGED SINGLE DOOR — BAY AREA
D100C	14'-	-0" X 14	' <b>-0"</b>	В	НМ			НМ														SECTIONAL OVERHEAD DOOR — BAY AREA
D100D	14'-	-0" X 14	<b>'-0"</b>	В	НМ			НМ														Sectional overhead door — Bay Area
D100E	2'-6 X	6'-8" X	1-3/4"	С	WD	Р	2	WD	Р					X						X		INTERIOR HINGED SINGLE DOOR — RESTROOM
D101	3'-0" X	7'-0" X	1-3/4"	D	WD	Р	2	WD	Р				X							X		INTERIOR HINGED SINGLE DOOR WITH WINDOW — BREAKROOM
D102	3'-0" X	7'-0" X	1-3/4"	С	WD	Р	2	WD	Р					X						X		INTERIOR HINGED SINGLE DOOR — BATHROOM
D200	3'-0" X	7'-0" X	1-3/4"	С	НМ	Р	2	WD	Р		X											INTERIOR HINGED SINGLE DOOR — STORAGE

- 1. APPLY 2 COATS OF SEMI-GLOSS TO ALL WOOD DOORS.
- 2. ALL EXIT DOORS TO BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, TOOL, SPECIAL KNOWLEDGE OF EFFORT. ALL HARDWARE MUST
- 3. DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERABLE PARTS ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST TO OPERATE. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34" MINIMUM AND 48" MAXIMUM ABOVE THE FLOOR PER ICC/ANSI A117.1-2009 SECTIONS 404.2.6& 404.2.7
- 4. G.C. TO REVIEW ALL HARDWARE SETS WITH OWNER BEFORE INSTALLATION 5. PROVIDE TRANSITION STRIPS AT ALL FLOORING MATERIAL CHANGES

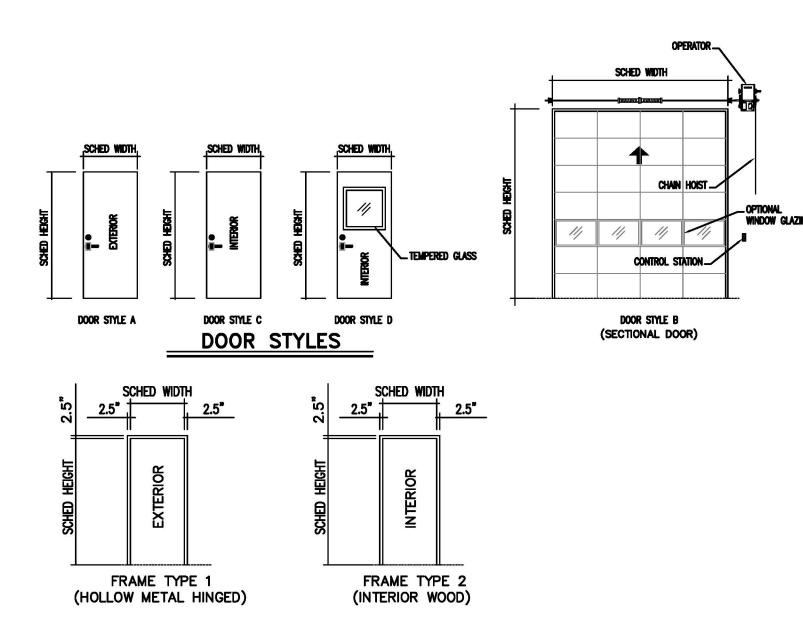
\*\*\*\*NOTE: ALL NEW HARDWARE TO BE LEVER ADA ACCEPTABLE ALL THRESHOLDS TO MEET ADA SPECIFICATIONS (CLOSET & HALL) PASSAGE LOCKSETS KEEP DOORS FIRMLY CLOSED, BUT DO NOT ACTUALLY LOCK. BOTH LEVERS ALWAYS TURN FREE WITH NO LOCK CYLINDER OR

PROVISION FOR A KEY. (RESTROOM) PRIVACY LOCKSETS ARE LOCKED WITH AN INSIDE PUSH-BUTTON.
TURNING THE INSIDE KNOB OR LEVER RELEASES THE LOCK. A SMALL SCREWDRIVER
CAN BE USED AS AN EMERGENCY KEY, FROM THE OUTSIDE, IF NECESSARY. (ENTRY) ENTRANCE LOCKED BY PUSHING AND TURNING A BUTTON AND UNLOCKED BY THE KEY UNTIL THE INSIDE BUTTON IS MANUALLY UNLOCKED. THEY ARE ALSO AVAILABLE WITH PUSHBUTTON LOCKING, IN WHICH PUSHING THE BUTTON LOCKS THE OUTSIDE KNOB OR LEVER UNTIL IT IS UNLOCKED BY KEY OR BY TURNING THE INSIDE KNOB OR LEVER. THE INSIDE KNOB OR LEVER IS ALWAYS FREE FOR

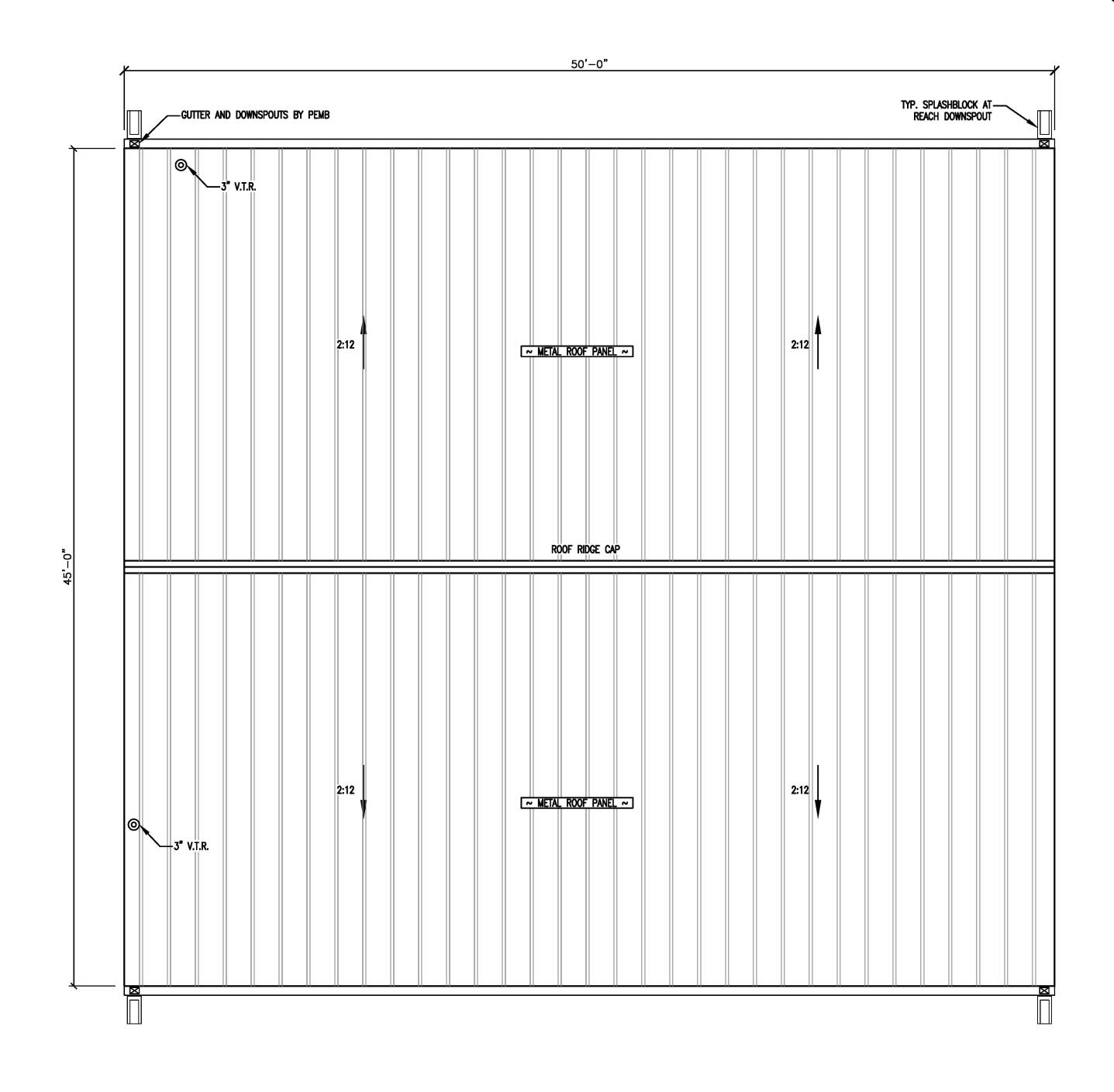
ENTRANCE LOCK:

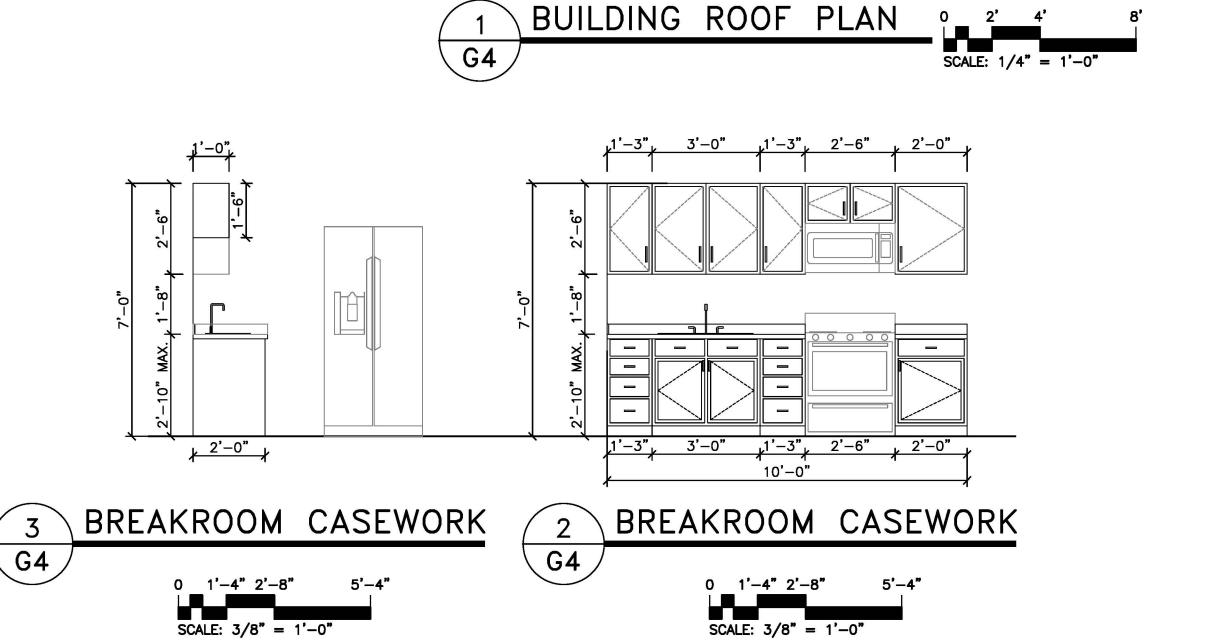
	DOOR SCHED	ULE I	LEGEND
Н	HEIGHT	НМ	HOLLOW METAL KNOCK-DOWN
W	WIDE	Р	PAINT
ALUM	ALUMINUM	S	STAIN
WD	WOOD-SOLID CORE	М	METAL
T	THICKNESS	WI	WROUGHT IRON

VA/B VERIFY ANODIZED OR BRONZE















REVISIONS:

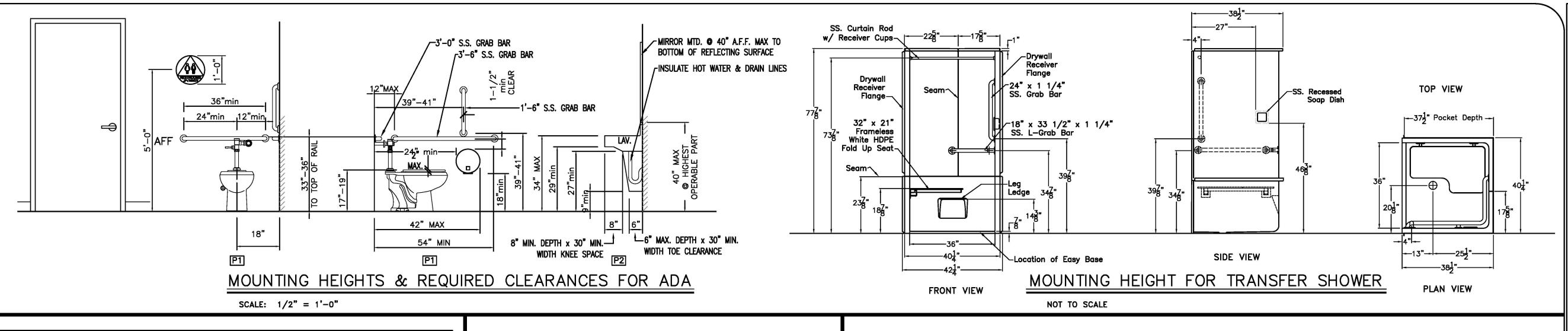
REV DATE DESCRIPTION

07/10/25 FINAL FOR CONS.

SHOP TRUCK

**TIRADO** 

SCHEDULE



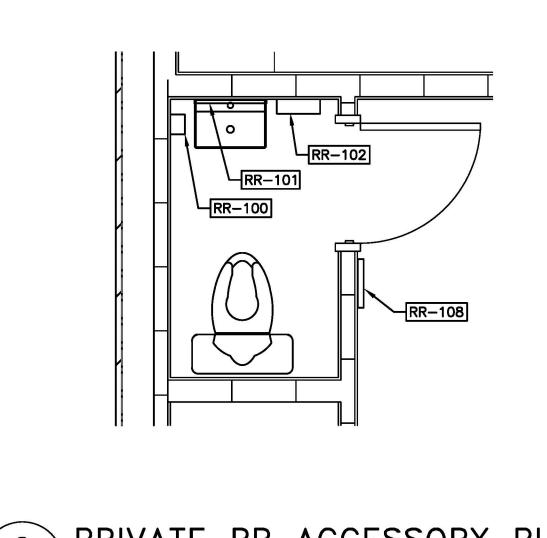
	ACCESSORY LEGEND								
NO.	QTY	G.C.INST.	ITEM DESCRIPTION	MODEL #	MANUFACTURER				
RR-100	2	Х	SOAP DISPENSER (WALL MOUNT)	B-2111	BOBRICK				
RR-101	2	X	MIRROR, 18" X 36"	B-165 1836	BOBRICK				
RR-102	2	X	PAPER TOWEL DISPENSER	B-2620	BOBRICK				
RR-103	2	X	TOILET PAPER DISPENSER	B-273	BOBRICK				
RR-104	1	X	GRAB BAR 1-1/2" DIA X 36" S.S. FIN.	B-5806 X 36	BOBRICK				
RR-105	1	X	GRAB BAR 1-1/2" DIA X 42" S.S. FIN.	B-5806 X 42	BOBRICK				
RR-106	1	X	GRAB BAR 1-1/2" DIA X 18" S.S. FIN.	B-5806 X 18	BOBRICK				
RR-107	2	Х	ADA UNDER LAV KNEE PROTECTION	TRAP & SUPPLIES	HANDY SHIELD MAXX				
RR-108	SEE PLAN	Х	RESTROOM SIGNAGE	RR-120-DCTS	COMPLIANCE SIGNS				

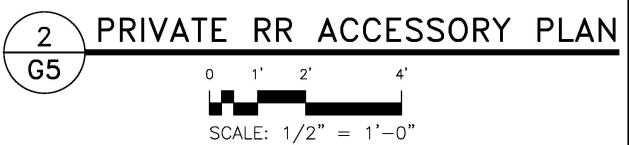
### **ACCESSORY NOTES:**

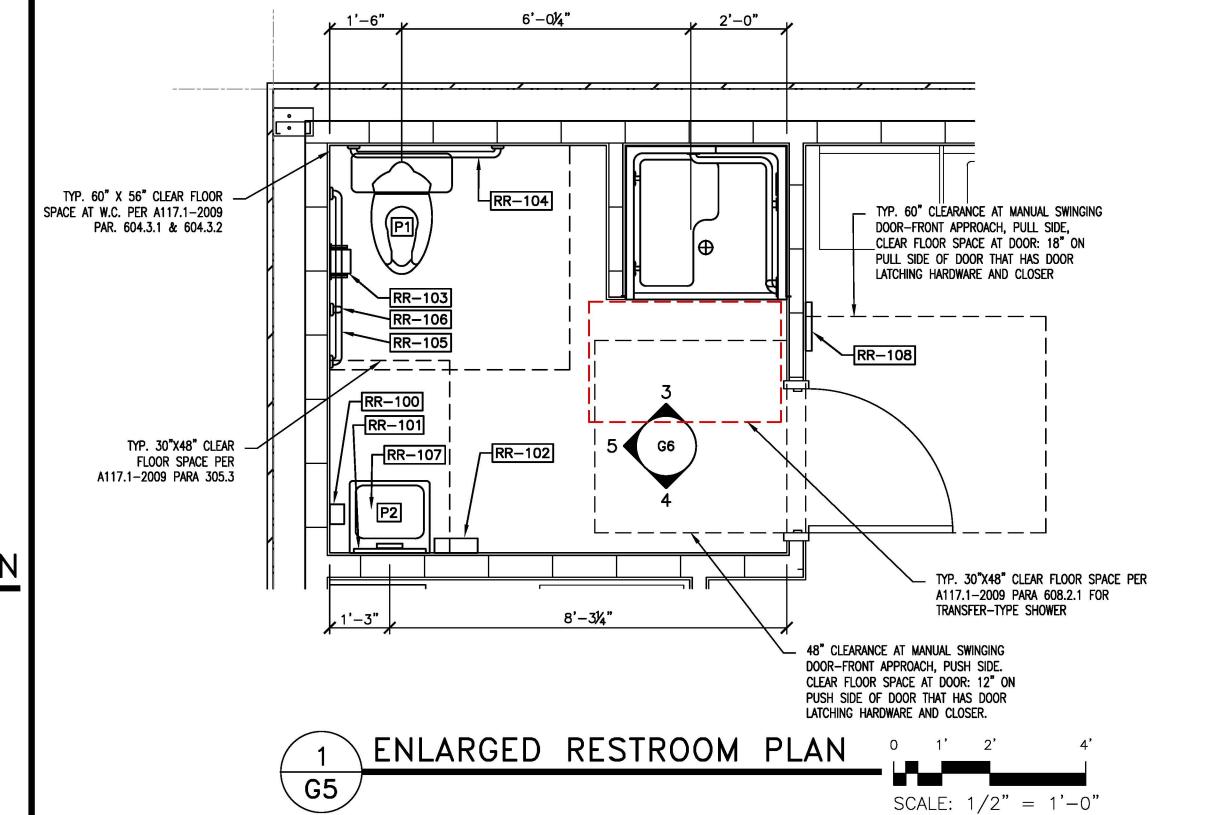
- 1. PROVIDE BLOCKING AT ALL WALL MOUNTED ACCESSORIES.
- 2. GRAB BARS, FASTENERS AND MOUNTING DEVICES SHALL BE INSTALLED PER ADA REQUIREMENTS.
- 3. INSTALL AT LOCATIONS REQUIRED AND AS SHOWN ON DRAWINGS.

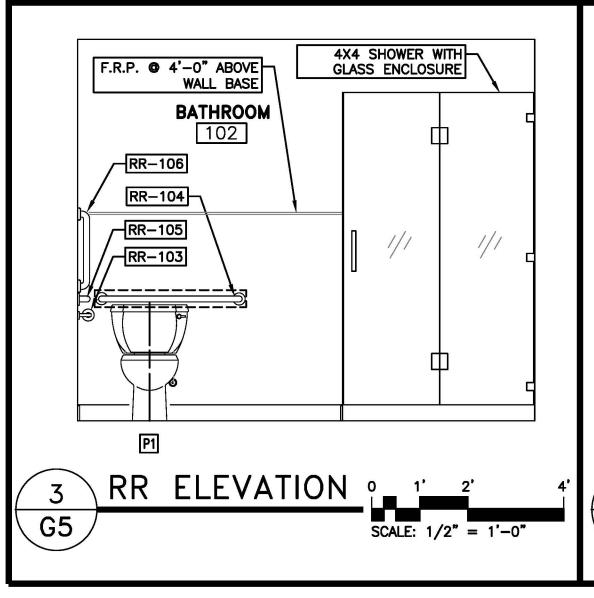
SEE SHEET P1 FOR PLUMBING FIXTURE SCHEDULE. GYPSUM WALL BOARD SHALL BE MOISTURE RESISTANT IN RESTROOM

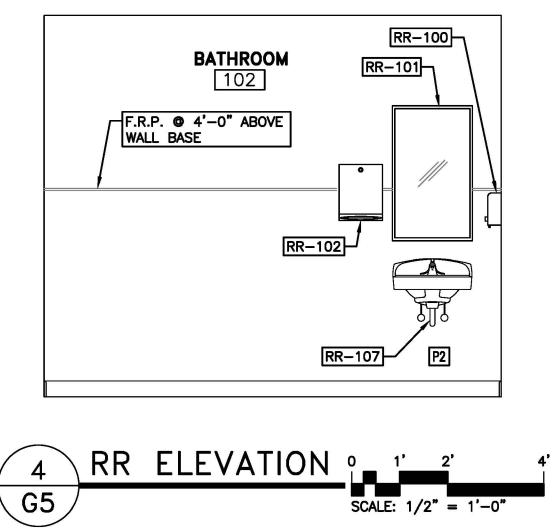
- | RR-120-DC15 | COMPLIANCE SIGNS
  - 4. ALL TOILET ACCESSORIES TO BE SELECTED BY OWNER
  - 5. ALL TOILET ACCESSORIES TO BE INSTALLED BY CONTRACTOR
  - 6. ALL LAVATORIES & SINKS SHALL HAVE PROTECTIVE COVERING ATTACHED TO THE SUPPLY & DRAIN LINES BELOW THE FIXTURES.

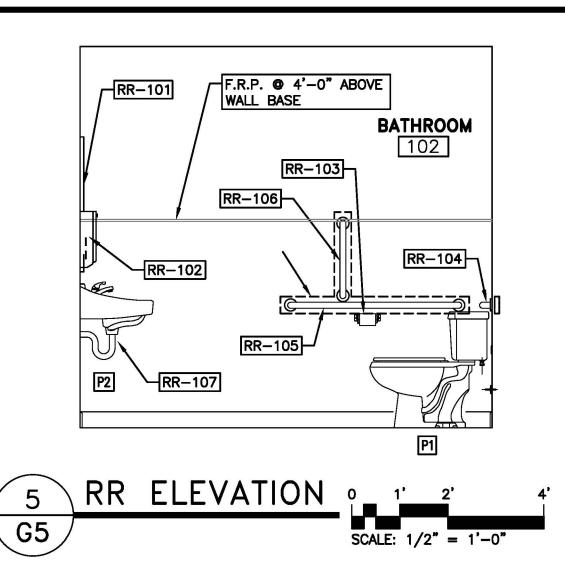












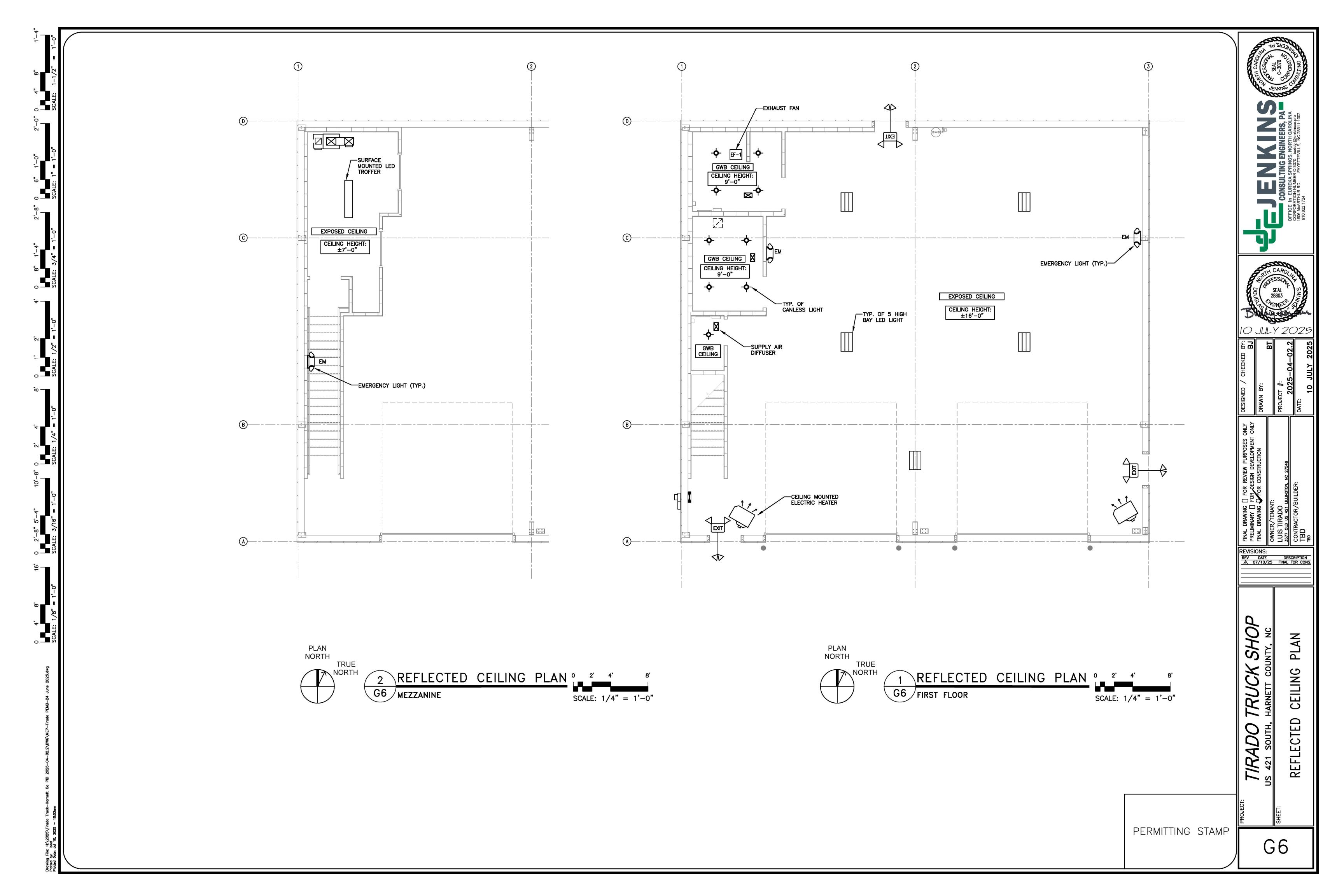
REVISIONS:

REV DATE DESCRIPTION

07/10/25 FINAL FOR CONS. **DETAILS** SHOP TRUCK RESTROOM **TIRADO** ACCESSIBLE

10 JULY 2025

G5



### **GENERAL NOTES:**

ALL WORK SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE 2018 EDITION, ASHRAE, SMACNA, AND NFPA.

STRUCTURAL MEMBERS OF THE BUILDING SHALL NOT BE CUT IN ANY MANNER FOR THE INSTALLATION OF ANY EQUIPMENT UNLESS PRIOR APPROVAL IS

THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE LOCATIONS AND ROUTING OF ALL DUCTWORK, PIPING, AND EQUIPMENT WITH OTHER TRADES TO AVOID CONFLICT.

THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE MECHANICAL PLANS, SCHEDULES, AND DETAILS PRIOR TO INSTALLATION OF THE MECHANICAL SYSTEMS AND REVIEW ANY CONFLICTS WITH THE GENERAL CONTRACTOR.

THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES INVOLVED IN THIS PROJECT PRIOR TO INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND ALLOW FOR OPTIMUM WORKING SPACE AND MAINTENANCE. THINK OF OTHER CONTRACTORS AND THEIR REQUIREMENTS IN VERTICAL CHASES AND WALL MOUNT SPACE.

ALL CONTRACTORS TO FOLLOW THIS ORDER OF PRIORITY:

- STORM AND SANITARY SEWER LINES
- DUCTWORK AND HVAC SYSTEMS HOT AND COLD WATER LINES

RIGID CONDUIT

THE MECHANICAL CONTRACTOR SHALL COORDINATE SIZE AND LOCATION OF ALL PENETRATIONS (PERTAINING TO HIS WORK) THROUGH THE ROOF, WALLS, FLOORS WITH THE GENERAL CONTRACTOR. ANY WATERPROOFING AROUND THE OPENINGS TO BE COMPLETED BY THE GENERAL CONTRACTOR.

THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL HIS OWN SUPPORT DEVICES. ALL LOCATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS PRIOR TO INSTALLATION. ALL PLATFORMS AND WALKWAYS IN ATTIC SPACES ARE PROVIDED BY THE GENERAL CONTRACTOR. THE MECHANICAL CONTRACTOR TO COORDINATE THE LOCATION AND DIMENSIONS OF ALL PLATFORMS IN THE ATTIC WITH THE GENERAL

ALL EQUIPMENT HAVING ROTATING OR MOVING PARTS SHALL HAVE VIBRATION ISOLATORS TO ELIMINATE TRANSMISSION OF OBJECTIONABLE NOISE TO OTHER MATERIAL OR EQUIPMENT.

WHERE OUTSIDE AIR INTAKE DUCTWORK CONNECTS TO OUTSIDE AIR LOUVER, THE INSIDE FACE OF THE DUCTWORK SHALL BE PRIMED AND PAINTED WITH (2) TWO COATS OF FLAT BLACK TO PREVENT DUCTWORK FROM BEING VISIBLE

THE MECHANICAL CONTRACTOR SHALL PROVIDE NAMEPLATES FOR IDENTIFICATION OF ALL EQUIPMENT. THE NAMEPLATES SHALL BE LAMINATED PHENOLIC PLASTIC, BLACK FRONT AND BACK WITH WHITE CORE, WHITE ENGRAVED LETTERS (1/4 INCH MINIMUM) ETCHED INTO THE WHITE CORE. NAME TAGS TO BE MOUNTED WITH SELF-TAPPING SHEET METAL SCREWS.

ALL EQUIPMENT MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK OR IN ACCORDANCE WITH THE PARTICULAR MANUFACTURER'S STANDARD GUARANTEE IF LONGER. ANY FAULTY MATERIAL OR WORKMANSHIP OR FAILURE OF ANY PART OF THE SYSTEM DURING NORMAL OPERATIONS UNDER THIS GUARANTEE SHALL BE CORRECTED WITHOUT COST TO THE OWNER.

THE MECHANICAL CONTRACTOR SHALL CLEAN ALL OF HIS EQUIPMENT PRIOR TO FINAL CLOSE OUT OF THIS PROJECT TO BE FREE OF ANY DIRT OR DEBRIS IN DRAIN PANS, CONDENSATE DRAINS, CONDENSING UNIT COILS, AND ETC.

ALL EQUIPMENT SHALL BE LOCATED AND INSTALLED TO PROVIDE MAXIMUM SPACE FOR MAINTENANCE AND SERVICE.

PROVIDE EQUIPMENT SUPPORT PAD FOR ALL BASE MOUNTED EQUIPMENT. PAD SHALL BE 4" HIGH OR PREFABRICATED CONCRETE PAD FOR ALL CONDENSING UNITS, AND PACKAGE UNITS, 4" MINIMUM FROM EQUIPMENT EDGE TO END OF PAD ON ALL SIDES.

THE MECHANICAL CONTRACTOR SHALL CONFIRM ALL BREAKER AND DISCONNECT SIZES OF HIS EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING ANY EQUIPMENT FOR THIS PROJECT.

CONDENSATE DRAINS SHALL BE A MINIMUM OF 3/4" Ø PVC PIPE. A P-TRAP SHALL BE INSTALLED IN PIPE AT THE UNIT. ALL CONDENSATE LINES SHALL BE ROUTED AS INDICATED ON PLANS.

INSTALL FLEXIBLE DUCT CONNECTION AT SUPPLY AND RETURN DUCTWORK CONNECTIONS TO ALL AIR HANDLING UNITS. FAN BOXES. ETC.

### **DESIGN CRITERIA NOTES:**

ALL SUPPLY, RETURN, EXHAUST AND OUTDOOR AIR DUCTWORK (WITH THE EXCEPTION OF COMMERCIAL KITCHEN DUCTWORK) SHALL BE SIZED AT 0.08" PER 100'-0" OF DUCT FOR EXTERNAL STATIC PRESSURE. ALL DUCTWORK SHALL BE 1"WG PRESSURE CLASS.

ECONOMIZERS ARE REQUIRED FOR ANY HVAC SYSTEM WITH A COOLING CAPACITY OF 65,000 BTU/HR OR GREATER (NCECC C403.1)

CORRIDORS SHALL NOT SERVE AS SUPPLY. RETURN. EXHAUST. RELIEF OR VENTILATION AIR DUCTS: CORRIDORS MAY BE USED FOR MAKEUP AIR PROVIDED TO TOILET AREAS FOR EXHAUST MAKEUP PROVIDING THE CORRIDOR IS PROVIDED WITH AN OUTSIDE AIR RATE GREATER THAN THE MAKEUP REQUIRED FOR EXHAUST. WHERE LOCATED IN TENANT SPACES OF LESS THAN 1000 SQ/FT THE USE OF CORRIDORS FOR RETURN AIR IS PERMITTED. (NCMC 601.2.1 & 601.2.3)

HVAC SYSTEM SHALL HAVE PROGRAMMABLE THERMOSTAT CAPABLE OF OFF HOUR CONTROLS (NIGHT SETBACK) TO MAINTAIN NO MORE THAN 85'F OR NO LESS THAN 55°F (NCECC C403.2.4.2.1, C403.2.4.2.3 & C403.2.4.2.3)

THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL A DUCT MOUNTED SMOKE DETECTOR IN THE RETURN AIR DUCT AT EACH UNIT IN ACCORDANCE WITH NORTH CAROLINA BUILDING CODE EDITION 2018. THE MECHANICAL CONTRACTOR TO WIRE FROM THE DETECTOR TO EACH UNIT.

### **DUCTWORK NOTES:**

ALL DUCTWORK, PIPING, EQUIPMENT, ETC. SHALL BE SUPPORTED FROM THE BUILDING SUPPORT STRUCTURE AND NOT THE ROOF.

ALL DUCT LAYOUT AND LOCATIONS ARE SHOWN DIAGRAMMATIC. THE MECHANICAL CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE BUILDING CONDITIONS AND COORDINATE THE DUCT LAYOUT WITH ALL CONTRACTORS PRIOR TO INSTALLATION.

ALL DUCTWORK SHALL BE CONSTRUCTED OF SHEET METAL IN ACCORDANCE WITH ASHRAE & SMACNA. DUCT SIZES SHOWN ARE NET FREE AREA REQUIRED.

VOLUME OR SPLITTER DAMPERS SHALL BE INSTALLED WHERE NECESSARY TO GUIDE AND CONTROL THE AIR FLOW, TURNING VANES ARE REQUIRED IN ALL ELBOWS AND AIR DEFLECTION DEVICES WILL BE INSTALLED WHERE REQUIRED FOR A BALANCED SYSTEM. PROVIDE SHEET METAL SLEEVES AND COLLARS WHERE DUCTS PASS THRU WALLS.

ALL DUCTS SHALL BE AIR TIGHT, RIGID AND FREE FROM VIBRATION AND NOISE. ALL LAP JOINTS SHALL BE IN THE DIRECTION OF FLOW AND SEALED WITH DUCT SEALER. ALL TAPES AND MASTICS USED SHALL LISTED WITH UL181A AND SHALL BE MARKED. (NCMC (603.9) & NCECC (C403.2.9)

FLEXIBLE DUCT SHALL BE SUPPORTED EVERY 5'-0". MAXIMUM SAG IS A 1/2 INCH PER FOOT OF SPACING BETWEEN SUPPORTS. SADDLE MATERIAL IN CONTACT WITH THE FLEXIBLE DUCT SHALL BE WIDE ENOUGH SO THAT IT DOES NOT REDUCE THE INTERNAL DIAMETER OF THE DUCT. THE SADDLE MUST COVER ONE-HALF THE CIRCUMFERENCE OF THE OUTSIDE DIAMETER OF THE FLEXIBLE DUCT AND FIT NEATLY AROUND THE LOWER HALF OF THE DUCT'S OUTER

PROVIDE PERMANENT MANUAL DAMPERS IN ALL SUPPLY AND RETURN AIR DUCTS AT THE MAIN TRUNK LINE FOR SYSTEM BALANCING. THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR BALANCING THE AIR DISTRIBUTION SYSTEM AFTER THE SYSTEM HAS BEEN INSTALLED AND EQUIPMENT IS OPERATING. MANUAL DAMPERS ARE REQUIRED TO BE INSTALLED IN THE RETURN AIR DUCT IF THE DUCT IS RETURNING AIR FROM INDIVIDUAL ROOMS. MANUAL DAMPERS ARE NOT REQUIRED IF THE DUCT IS RETURNING AIR FROM CENTRALLY LOCATED FILTER/RETURN GRILLES.

THE OUTSIDE AIR INTAKE DUCTWORK SHALL BE HARD ROUND DUCT, FLEXIBLE DUCT WILL NOT BE ACCEPTED. SEE PLAN FOR DUCT SIZE.

ALL OUTSIDE AIR INTAKE DUCTS SHALL HAVE A FILTER BOX TO HOUSE A MINIMUM OF 16 IN. X 20 IN. X 2 IN. THICK FILTER, U.N.O. AT EACH AIR HANDLING UNIT EITHER IN THE ATTIC OR CRAWL SPACE. THE FILTER BOX SHALL HAVE A HINGED DOOR THAT IS GASKETED TO MAINTAIN A AIRTIGHT SEAL WITH A THUMBSCREW TO ACCESS THE FILTER.

THE OUTSIDE AIR FILTER SHALL BE THE HI-E 40 AS MANUFACTURED BY PUROLATOR PRODUCTS AIR FILTRATION COMPANY, OR APPROVED EQUAL. AIR FILTER SHALL BE (2) TWO INCHES DEEP, MEDIUM EFFICIENCY, PLEATED MEDIA, DISPOSABLE PANEL TYPE. THE FILTER MEDIA SHALL BE SELF-EXTINGUISHING NON-WOVEN COTTON AND SYNTHETIC FIBERS. THE FILTER MEDIA SHALL BE BONDED TO A 28-GAUGE CORROSION RESISTANT, EXPANDED METAL SUPPORT GRID WITH A 95% OPEN FACE AREA.

### **DUCT/PIPING INSULATION NOTES:**

ALL SUPPLY AND RETURN AIR DUCTS SHALL BE INSULATED WITH MIN. R-6.0 INSULATION UNLESS NOTED OTHERWISE IN THE DRAWING. IECC (C403.2.9) ACCEPTABLE MANUFACTURERS ARE JOHNSON MANVILLE.

LIQUID AND SUCTION PIPING TO AND FROM AIR HANDLING UNITS SHALL BE INSULATED WITH 1-1/2" THICK PIPE INSULATION IN ACCORDANCE WITH NCECC TABLE (C403.2.10).

ALL FLEXIBLE DUCT REQUIRING INSULATION SHALL HAVE A VALUE OF AT LEAST R-5.0. THE FLEXIBLE DUCT SHALL BE ATCO RUBBER PRODUCTS, INC. UPC NO. 036 OR APPROVED EQUAL WITH A REINFORCED METALLIZED POLYESTER JACKET. THE INNER CORE IS AIRTIGHT AND IS DESIGNED FOR LOW TO MEDIUM OPERATING PRESSURES IN HVAC SYSTEMS. AIR DUCT CONNECTIONS AND JOINTS SHALL BE MADE PER INSTALLATION INSTRUCTIONS OUTLINED BY ATCO.

OUTSIDE AIR INTAKE DUCTWORK AND EXHAUST DUCTWORK IS TO BE UNINSULATED.

### OUTSIDE/EXHAUST AIR CALCULATION VOLUME (CF) SUPPLY AIR AIR CHANGES OCCUPANT ADJUSTED O.A. OCCUPANTS | O.A. CFM PER | O.A. CFM PER | (RpPz) | (RaAz) | HEIGHT DENSITY OCCUPANCY TYPE: REQUIRED (Vbz) EXHAUST CFM REQUIRED $Voz = \frac{Vbz}{\overline{z}}$ AIR FLOW (Ez) (CFM) SF (Ra) (Az\*ClgHT) PERSON (Rp) (ClgHt) (RpPz + RaAz)#/1000 (ACH75) 76 9'-0" 17.5 101-BREAKROOM 200 5 4.56 9.56 0.8 11.95 81 | 9'-0" N/A N/A 102-BATHROOM 729 100 8.2 N/A N/A N/A N/A 70 CFM / FIXTURE 70 N/A 22 9'-0" N/A N/A 103-RESTROOM 198 50 15.15 N/A N/A N/A N/A N/A N/A 70 CFM / FIXTURE 70 N/A 200-STORAGE 146 9'-0" 250 1314 11.4 N/A N/A N/A 0.06 N/A 8.76 8.76 10.95 0.8 OUTSIDE AIR SUB-TOTAL 140 (B) 22.90 (A) EXHAUST AIR SUB-TOTAL AHU-1 (OUTSIDE AIR) USE LARGEST (A OR B) VALUES 140 MIN. OUTSIDE AIR CFM REQUIRED 22.90 140 TOTAL EXHAUST CFM REQUIRED 170 TOTAL OUTSIDE AIR CFM PROVIDED TOTAL EXHAUST CFM PROVIDED

N/A

N/A N/A

N/A

170 CFM (SEE EQUIPMENT SCHEDULE) <del>\/\/\/\/\/</del> TYPICAL OFFICES MANUAL BALANCING DAMPER RETURN PLENUM BOX 430 CFM - 7 Day Programmable COOL TSTAT

1862 | 17'-0" | 63968

\*\*\* = 4300 CFM \* 60= 258000 CFM/HOUR; 258000/63968 = 4.03 AIR CHANGES PER HOUR

(SERVICE BAY REQUIRES MINIMUM 4.0 AIR CHANGES PER HOUR (NEC 511))

## TYPICAL AIR HANDLING UNIT DIAGRAM WITH VENTILATION

4.03

N/A

N/A

4300

## SEQUENCE OF OPERATION: (SPLIT SYSTEM- SINGLE STAGE)

100-BAY AREA

TYPICAL OPERATION (OCCUPIED MODE):

NOT TO SCALE

- MODULATE TO ALLOW 170 CFM OF O/A
- 430 CFM OF R/A WITH MANUAL BALANCING DAMPER

### **UNOCCUPIED MODE:**

- (1) IN CLOSED POSITION
- 2 N/A

## APPENDIX B MECHANICAL DESIGN

## 2018 BUILDING CODE SUMMARY

PROJECT NAME: TIRADO TRUCK REPAIR GARAGE

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

ENERGY COST BUDGET

METHOD OF COMPLIANCE PRESCRIPTIVE X MECHANICAL SUMMARY

SUMMER DRY BULB:

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

THERMAL ZONE: ZONE 4A NORTH CAROLINA WINTER DRY BULB:

SUMMER DRY BULB: INTERIOR DESIGN CONDITIONS WINTER DRY BULB:

RELATIVE HUMIDITY: 13,600 <u>BTU'S</u> SPACES HEATING LOAD:

14,300 SPACES COOLING LOAD:

UNITARY

MECHANICAL SPACING CONDITIONING SYSTEM

LIST EQUIPMENT EFFICIENCIES:

SPLIT SYSTEM HEAT PUMP (1) 1.5 TON DESCRIPTION OF UNIT: **HEATING EFFICIENCY:** 8.2 HSPF (8.2 HSPF MINIMUM STANDARD EFFICIENCY, TABLE C403.2.3 (2)) 14.0 SEER (14.0 SEER MINIMUM STANDARD EFFICIENCY, TABLE C403.2.3 (2)) COOLING EFFICIENCY:

SIZE CATEGORY OF UNIT: <u>(1) 1</u> (≤ 65,000 BTU/H)

SIZE CATEGORY. IF OVERSIZED, STATE REASON.:

SIZE CATEGORY. IF OVERSIZED, STATE REASON.:

DESIGNER STATEMENT: TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT REQUIREMENTS OF THE INTERNATIONAL ENERGY

CODE. THE HVAC UNIT QUALIFIES AS MORE EFFICIENT MECHANICAL EQUIPMENT DESCRIBED IN THE CODE.

Buddy Jon am TITLE: **ENGINEER** 

## DESCRIPTION AND SEQUENCE OF OPERATION OF HVAC SYSTEM

THE HVAC SYSTEM AT THIS BUILDING CONSISTS OF:

N/A

(OUTSIDE AIR) USE LARGEST (A OR B) VALUES

OUTSIDE AIR SUB-TOTAL

MIN. OUTSIDE AIR CFM REQUIRED

TOTAL OUTSIDE AIR CFM PROVIDED

(1) 1.5 TON SPLIT SYSTEM HEAT PUMP UNIT WHICH PROVIDE HEATING/COOLING/VENTILATION TO SPACES

N/A

OCCUPIED OPERATION

THE SUPPLY FANS SHALL RUN CONTINUOUS TO PROVIDE THE REQUIRED VENTILATION RATE. IN THE COOLING MODE, A RISE IN TEMPERATURE BEYOND SET POINT OF PROGRAMMABLE T-STAT WILL RESULT IN ACTIVATION OF DX COOLING CYCLE UNTIL DESIRED TEMPERATURE IS REACHED. IN HEATING MODE, A SIGNAL FROM T-STAT WILL ACTIVATE THE HEAT PUMP TO DELIVER HEATING TO SPACES. IF OUTSIDE TEMPERATURE FALLS BELOW SET POINT, HEAT STRIPS WILL ACTIVATE TO BRING TEMPERATURE TO DESIRED SET POINT AT WHICH TIME THE HEAT STRIPS WILL TURN OFF AND HEAT PUMP SHALL BE USED TO MAINTAIN DESIRED SPACE TEMPERATURE.

N/A

1397 (A)

4300

0.75 CFM / SQ.FT.

TOTAL EXHAUST CFM REQUIRED

TOTAL EXHAUST CFM PROVIDED

EXHAUST AIR SUB-TOTAL

PROVIDE HEAT STRIP LOCKOUT CONTROLS TO PREVENT HEAT STRIP OPERATION BETWEEN 35°F AND 40°F PER ENERGY CODE PARAGRAPH 503.2.4.1.1.

### **UNOCCUPIED OPERATION**

THE SUPPLY FAN SHALL BE INDEXED OFF AND MOTORIZED OUTSIDE AIR DAMPER SHALL BE CLOSED. PROGRAMMABLE THERMOSTATS SHALL PROVIDE CONTROL OF UNIT.

### EXHAUST FAN OPERATION

THE RESTROOM EXHAUST FAN IN STAFF RESTROOM SHALL BE SWITCHED WITH LIGHTING FOR TOILET AND SHOWER UNIT. REPAIR GARAGE BAY AREA EXHAUST FAN SHALL BE OPERATE AT ALL TIME WHEN THE BUILDING IS OCCUPIED.

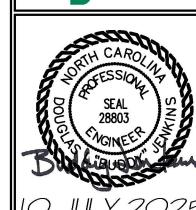
4300\*\*\*(B)

1397

4300

4300

4300



[] FOR FOR DE DRAWING AINARY [] DRAWING

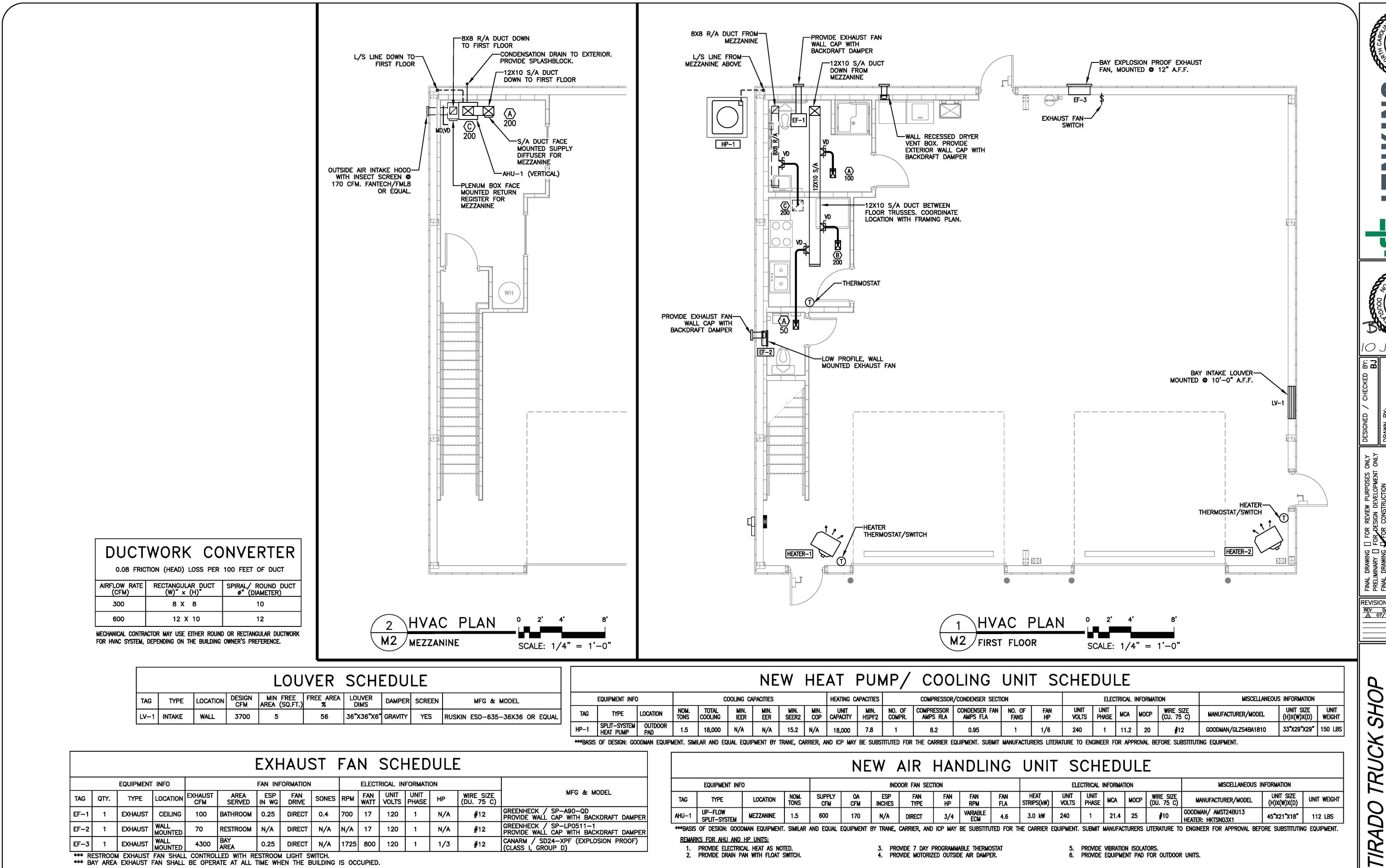
REV DATE DESCRIPTION

A 07/10/25 FINAL FOR CON

SHO  $\forall$ 

OT TR ADO IECHANIC/

PERMITTING STAMP



REMARKS FOR AHU AND HP UNITS:

PROVIDE ELECTRICAL HEAT AS NOTED.
 PROVIDE DRAIN PAN WITH FLOAT SWITCH.

	•	2/(1//001	OLILIIIO	1 .00	D/ (III III COIII	0.20	J201	0.1	, 00	• •	120		1.77.	#	PROVIDE WA	ALL CAP WIT	H BACKDR	AFT DAMP
EF-2	1	EXHAUST	WALL MOUNTED	70	RESTROOM	N/A	DIRECT	N/A	N/A	17	120	1	N/A	<b>#</b> 12	GREENHECK PROVIDE WA			AFT DAMP
EF-3	1	EXHAUST	WALL MOUNTED	4300	BAY AREA	0.25	DIRECT	N/A	1725	800	120	1	1/3	#12	CANARM / (CLASS I, G	SD24-XPF ROUP D)	(EXPLOSIOI	PROOF)
*** RESTROOM EXHAUST FAN SHALL CONTROLLED WITH RESTROOM LIGHT SWITCH.  *** BAY AREA EXHAUST FAN SHALL BE OPERATE AT ALL TIME WHEN THE BUILDING IS OCCUPIED.																		
					UN	IIT	HEA	TEF	? 5	SCH	HED	UL	E					
	EQI	UIPMENT TYPE	:	HEATING	CAPACITIES		ELE	CTRICAL IN	IFORMATI	ON				EQUIPMENT	INFORMATION			
TAC	E15	TYPE IN	CATION	BTU AI	RFLOW F	AN	MOTOR	UNIT	UNIT	FAN	MOCD	LW	UNIT SIZ	ZE UNIT	UNIT	MODEL	DEMADE	

0.07

34,000

1 FACTORY THERMOSTAT 2 FACTORY CEILING SUSPENSION KIT

41.6 55 9.9 49"x41"x34" 277 LBS REZNOR

41.6 55 9.9 49"x41"x34" 277 LBS REZNOR

GRILLE/RETURN SCHEDULE									
TAG	CFM	AIR PATTERN	FACE SIZE	NECK SIZE	SERVICE	MFG & MODEL	REMARKS		
(A)	50-100	3-WAY	14" X 6"	6 <b>"</b> ø	SUPPLY	TRUAIRE / 103M	SURFACE, ADJ. DAMPER, OFFWHITE, ALUM.		
B	110-250	3-WAY	16" X 8"	8 <b>"</b> ø	SUPPLY	TRUAIRE / 103M	SURFACE, ADJ. DAMPER, OFFWHITE, ALUM.		
(C)	100-200	LOUVERED	10" X 10"	8" X 8"	RETURN	TRUAIRE A290 OR EQUAL	SURFACE; OFF WHITE; ALUM.; FILTER		

5. PROVIDE VIBRATION ISOLATORS.6. PROVIDE EQUIPMENT PAD FOR OUTDOOR UNITS.

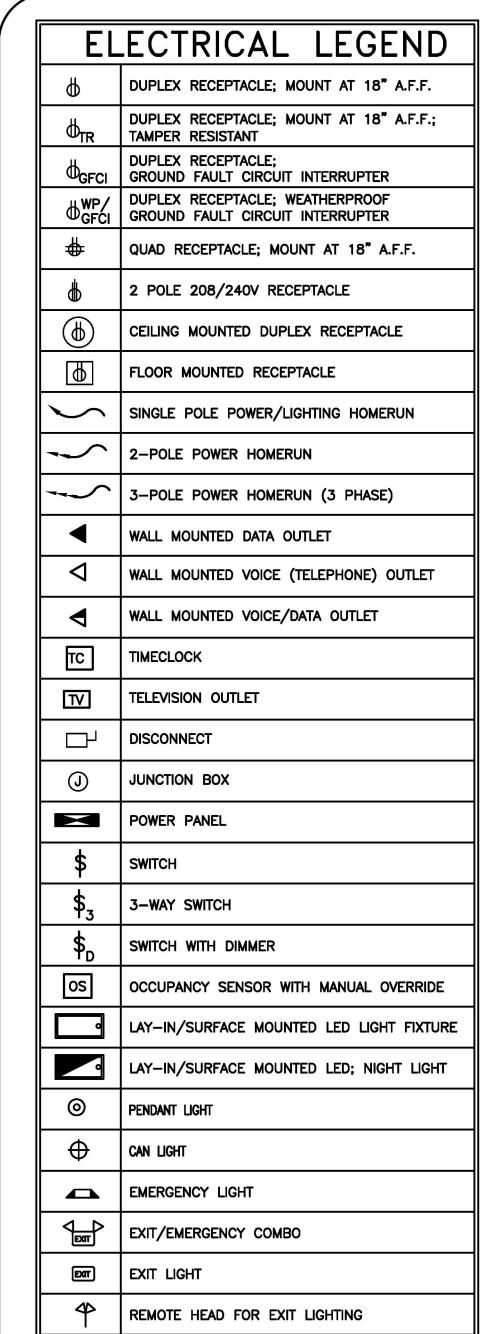
3. PROVIDE 7 DAY PROGRAMMABLE THERMOSTAT4. PROVIDE MOTORIZED OUTSIDE AIR DAMPER.

PERMITTING STAMP

PLAN

HVAC

MECHANICAL



EXTERIOR MOUNTED WALL PACK

ALL WORK SHALL BE IN ACCORDANCE WITH 2020 NEC.

WIRE AND CABLE SHALL BE INSULATED. TYPE THHN, 600 VOLTS, WITH COPPER CONDUCTORS, CONDUCTOR SIZES NO. 8 AWG AND LARGER MAY BE STRANDED. CONDUCTOR SIZES NO. 10 AWG AND SMALLER MAY BE SOLID OR STRANDED.

ROMEX CAN NOT BE USED IN THIS PROJECT. MC CAN BE USED.

EMT SHALL BE GALVANIZED STEEL TUBING 1/2—INCH MINIMUM SIZE, EQUAL TO ELECTRUNITE BRAND OR APPROVED AND USED ONLY WITH HEXAGONAL ALL STEEL COMPRESSION FITTINGS.

MC CABLE MAY BE SUBSTITUTED FOR CONDUIT RACEWAYS WHERE PERMITTED BY THE CODE. AND APPROVED BY OWNER

PLASTIC CONDUIT SHALL BE RIGID. 3/4—INCH MINIMUM. NONMETALLIC, HEAVY DUTY. POLYVINYLCHORIDE (PVC). TYPE I WILL BE USED FOR CONCRETE ENCASEMENT. FITTINGS SHALL BE THE SAME MATERIALS AND MANUFACTURER AS THE PLASTIC CONDUIT. FLEXIBLE METAL CONDUIT SHALL BE 1/2—INCH MINIMUM SINGLE STRIP, STEEL, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE, MAXIMUM LENGTH OF 72 INCHES FOR LIGHTING, AND 36 INCHES FOR MOTORS, FLEXIBLE METAL CONDUIT SHALL BE LIQUID TIGHT OR WATER TIGHT <u>with PVC Jacket where used in Damp. Wet. Or outside areas, and liquid tight o</u> WATER TIGHT CONNECTORS SHALL BE USED.

NO RECEPTACLES OR TELEPHONE OUTLETS ARE TO BE MOUNTED BACK TO BACK, KEEP AT LEAST 1 1/2 INCHES BETWEEN RECEPTACLES AND TELEPHONE OUTLETS. ALL CONDUCTORS SHALL BE COPPER WITH A MINIMUM SIZE OF #12 AWG EXCEPT FOR FIRE

ALARM. THESE CONDUCTORS SHOULD COMPLY WITH NFPA REQUIREMENTS. THE ELECTRICAL CONTRACTOR SHALL ALIGN ALL FIXTURES. SMOKE DETECTORS, CEILING DIFFUSERS, ETC. AS REQUIRED TO PROVIDE A UNIFORM PRESENTATION, FOLLOW THE REFLECTED CEILING PLAN IF PROVIDED

CIRCUIT BREAKERS AND WIRE ARE SIZED FOR SPECIFIC EQUIPMENT. BEFORE ORDERING WIRE. BREAKERS, FIXTURES, CONDUIT, AND ETC. FOR THIS PROJECT: THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OTHER CONTRACTORS ON THE JOB AND VERIFY THE ELECTRICAL DATA FOR THE EQUIPMENT THAT WILL BE ACTUALLY INSTALLED. RECOMPUTE WIRE AND BREAKER SIZES IF REQUIRED BY THE NEC.

THE MOUNTING HEIGHTS AND LOCATIONS OF ALL WALL MOUNTED OUTLETS AND JUNCTION BOXES SHALL BE REVIEWED AND COORDINATED WITH THE GENERAL CONTRACTOR AND OWNER PRIOR TO INSTALLATION FOR USE WITH ACTUAL EQUIPMENT.

ALL LIGHT SWITCHES, RECEPTACLES, WALL PLATES, TELEPHONE/COMPUTER OUTLET BOXES. AND. CABLE OUTLET BOXES SHALL BE WHITE.

EACH CONTRACTOR WILL PROVIDE HIS OWN SUPPORT OF ALL DEVICES AND EQUIPMENT PROVIDED IN HIS CONTRACT AND SHALL SUPPORT SUCH EQUIPMENT PER APPROVED <u>SOVERNING CODES. UNACCEPTABLE WORKMANSHIP OR MATERIALS SHALL BE REPLACED AT</u> THE ELECTRICAL CONTRACTORS EXPENSE.

THE ELECTRICAL CONTRACTOR SHALL REFER TO THE DRAWINGS FOR FLOOR PLAN AND BUILDING ELEVATION DIMENSIONS.

ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES INVOLVED IN THIS PROJECT PRIOR TO INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING <u>CONSTRUCTION AND ALLOW FOR OPTIMUM WORKING SPACE AND MAINTENANCE. THINK OF</u> <u>OTHER CONTRACTORS AND THEIR REQUIREMENTS IN VERTICAL CHASES AND WALL MOUNT</u> SPACE, ALL CONTRACTORS TO FOLLOW THIS ORDER OF PRIORITY:

STORM AND SANITARY SEWER LINES 2. DUCTWORK AND HVAC SYSTEMS

3. HOT AND COLD WATER LINES 4. RIGID CONDUIT

5. CABLE

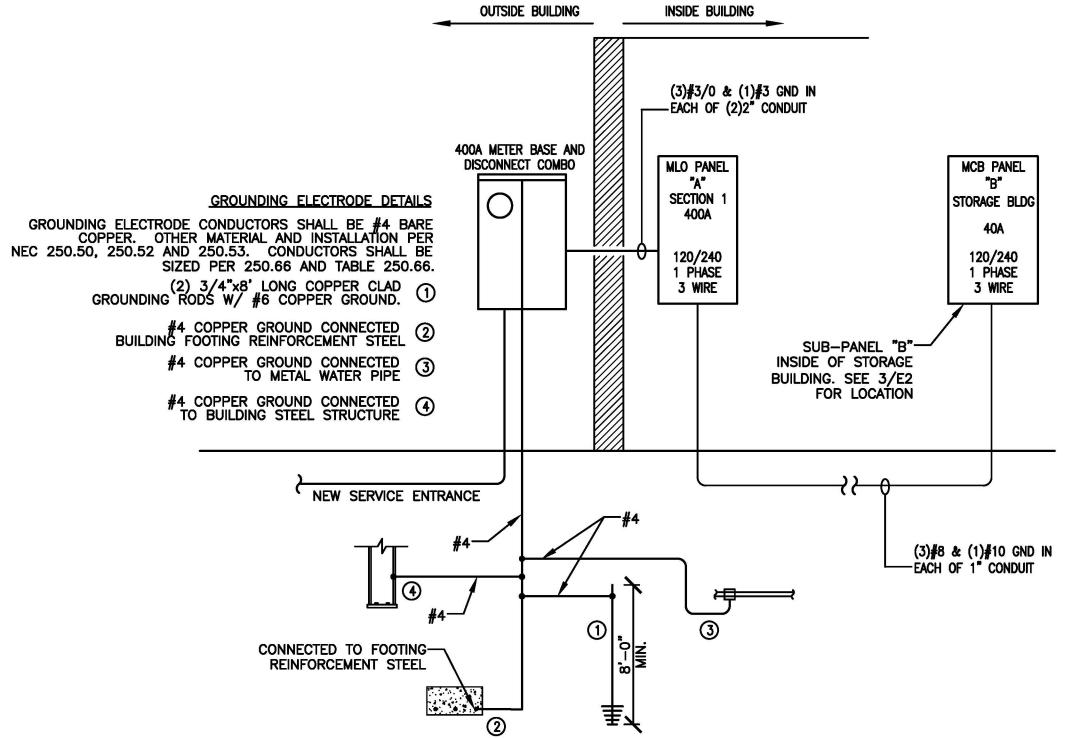
THE ELECTRICAL CONTRACTOR TO ORGANIZE HIS CONDUIT, WIRE, AND CABLE RUNS IN ATTIC SPACES AND ABOVE CEILINGS. MAKE RUNS PARALLEL. PERPENDICULAR. AND GROUPED TOGETHER WHERE POSSIBLE, LOCATE MAJOR GROUPINGS OVER HALLWAYS AND AREAS OF PUBLIC ACCESS. FREE RUNS OF PHONE, TELEVISION, SECURITY, ALARM, AND OTHER CABLES IS NOT ACCEPTABLE.

ALL DISCONNECT SWITCHES AND BREAKER SIZES SHOWN FOR MECHANICAL EQUIPMENT. KITCHEN EQUIPMENT, AND ETC. SHALL BE VERIFIED BEFORE PURCHASE AND INSTALLATION OF SAID EQUIPMENT WITH THE EQUIPMENT SUPPLIER AND MECHANICAL CONTRACTOR. <u>Where equipment penetrates exterior walls or roof, they shall be properly</u>

EXHAUST FANS ARE TO BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR. AND ELECTRICAL WIRING BY THE ELECTRICAL CONTRACTOR.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE NAMEPLATES FOR IDENTIFICATION OF ALL EQUIPMENT, SWITCHES, PANELS, ETC. THE NAMEPLATES SHALL BE LAMINATED PHENOLIC PLASTIC, BLACK FRONT AND BACK WITH WHITE CORE, WHITE ENGRAVED LETTERS (1/4 INCH <u>MINIMUM) ETCHED INTO THE WHITE CORE, NAME TAGS TO BE MOUNTED WITH SELF—TAPPING</u>

THE ELECTRICAL CONTRACTOR IS NOT TO SCALE THE DRAWINGS FOR RECEPTACLES AND LIGHT FIXTURES TO BE INSTALLED. THE DRAWINGS ARE FOR DIAGRAMMATIC PURPOSES ONLY TO SHOW GENERAL LOCATION. THE ELECTRICAL CONTRACTOR TO COORDINATE EXACT LOCATION OF RECEPTACLES AND LIGHT FIXTURES WITH THE GENERAL CONTRACTOR AND/OR <u>Casework Drawings.</u> ALL LIGHT SWITCHES AND RECEPTACLES SHALL BE RATED FOR 20 AMP UNLESS NOTED



NOT TO SCALE

### - 33 34 30/2 35 36 37 38 30/2 AIR COMPRESSOR 2.53 30/2 | 39 | | 40 | 30/2 | RECEPT- EQUIPMENT GFCI 41 42 GFCI 2.50 2.50 30/2 43 | 44 | 30/2 RECEPT- EQUIPMENT GFCI 45 2.50 46 GFCI 1 55/2 49 BAY HEATER 1 50 4.99 2.57 2.57 - SUB-TOTAL (kVA) SUB-TOTAL (kVA) -----TOTAL CONNECTED LOAD = 80.79 KVA

1.00

4.00

0.83

4.00

| 1.34 |

TOTAL OF: 54 SPACES

AVAILABLE FAULT CURRENT

UTILITY FAULT @ 240 VOLTS = 100 KVA XFMR 27,800 AMPS (2 RUNS) #250 KCMIL AL. • 200 FEET TO DISCONNECT AT SERVICE ENTRANCE  $\dot{L}-L$  FAULT CURRENT = 9,925 AMPS

L-N FAULT CURRENT = 6,512 AMPS 3/0 COPPER • 5 FEET TO PANEL (SHORTEST RUN) L-L FAULT CURRENT = 9,767 AMPS

L-N FAULT CURRENT = 6,377 AMPS

TOTAL CONNECTED LOAD SUMMARY ESTIMATED LOAD (KVA) **9** 100% = 27.78 HVAC LIGHTING 1.35 **9** 125% = 1.68 RECEPTACLES 2.57 (T-10.00\*.60+10.00) = 2.57**9** 60% = 29.45 MISC. EQUIPMENT 49.09 TOTAL CONNECTED 80.79 KVA 336.625 AMPS ESTIMATED DEMAND 61.48 KVA 255.16 AMPS

TOTAL AMPS = 336.625 AMP

WIRE: 3 VOLTS: 240/120 MAIN: 400A MLO

ENCLOSURE: TYPE 1

RECEPT-RESTROOMS GFCI

RECEPT- LEFT WALL

RECEPT - BACK WALL

RECEPT - RIGHT WALL

CLOTHES DRYER

EMERGENCY LIGHTS

EXTERIOR WALL PACK

\_

STORAGE BUILDING

SUB-PANEL "B"

WATER HEATER

RECEPT- EQUIPMENT

RECEPT- EQUIPMENT

BAY HEATER 2

0.85

0.55

0.10

0.80

-

0.50

2.25

2.50

2.50

4.99

1.34

1.34

17.79 18.88

28803

WING ...

SHO

TRUCK

ADO

NOT

ER

S  $\overline{\mathbf{z}}$ 

ELECTRICAL

2.25

X || NEUTRAL TERMINAL BAR

MOUNTING: RECESSED

SHORT CIRCUIT RATING: 22 kA RMS SYM.

|#12 | 20/1 | 5 | | | 6 | 20/1 |#12 |

| #12 | 20/1 | 17 | | | | | 18 | 20/1 | #12 |

| 29 | | | 30 | -

| #12 | 20/1 | 11 | | | | 12 | 30/2

#12 | 20/1 | 13 | | | 14 | GFCI |

B CKT. CKT.

(CF) 1 | 2 | 20/1 | #12 |

7 8 20/1 #12

| #12 | 20/1 | 19 | | 20 | 20/1 | #12 | BAY AREA EXHAUST FAN

9 | 10 | 20/1 | #12 |

X || IGROUND TERMINAL BAR

PHASE:

#12

0.18 LIGHTING - BREAK, RESTROOMS #12 | 20/1 | 15 | 16 | 20/1 | #12 |

| 0.55 | RECEPT | BREAKROOM COUNTER | #12 | 20/1 | 3 | 4 | 20/1

REFRIGERATOR

**MICROWAVE** 

**RANGE** 

GARAGE DOOR

GARAGE DOOR

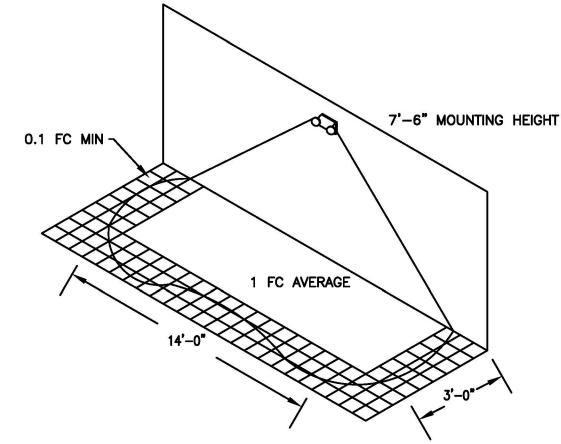
LIGHTING — BAY AREA

LIGHT - MEZZANINE

\_

\_

TYPE: NEMA 1



POWER RISER DIAGRAM

ASSUMES OPEN SPACE WITH NO OBSTRUCTIONS, MOUNTING HEIGHT; 7'-6": CEILING HEIGHT, AND REFLECTANCES 80/50/20

7 0, OLILINO TILIOTTI, AND REFELOTANOLO 00/00/20									
EMERGENCY LIGHT FIXTURE PERFORMANCE MODEL: LITHONIA EU2L									
OUNTING HEIGHT	ILLUMINATION	SINGLE LU COVE			MULTIPLE LUMINAIRE SPACING				
	LEVEL	3' PATH OF EGRESS	6' PATH OF EGRESS	3' PATH OF EGRESS	6' PATH OF EGRESS				
7'-6" 1FC AVG. 14' 10' 18' 14'									

## APPENDIX B ELECTRICAL DESIGN 2018 BUILDING CODE SUMMARY

PROJECT NAME: TIRADO TRUCK REPAIR GARAGE

**ELECTRICAL SUMMARY** 

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE: ENERGY CODE: X PRESCRIPTIVE ASHRAE 90.1: PRESCRIPTIVE

LIGHTING SCHEDULE (EACH FIXTURE TYPE)

LAMP TYPE REQUIRED IN FIXTURE LED

NUMBER OF LAMPS IN FIXTURE (SEE FIXTURE SCHEDULE)
BALLAST TYPE USED IN THE FIXTURE ELECTRONIC NUMBER OF BALLASTS IN FIXTURE 1

TOTAL WATTAGE PER FIXTURE <u>VARIES</u> PER FIXTURE TOTAL INTERIOR WATTAGE SPECIFIED VERSUS ALLOWED (WHOLE BUILDING) 1.507 ALLOWED - 1.350 SPECIFIED TOTAL EXTERIOR WATTAGE SPECIFIED VERSUS ALLOWED N/A

SECTION C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS

C406.1 BUILDINGS SHALL HAVE AT LEAST ONE OF THE FOLLOWING PRESCRIPTIVE COMPLIANCE (REQUIRED FOR NEW BUILDINGS, OPTIONAL FOR EXISTING BUILDINGS)

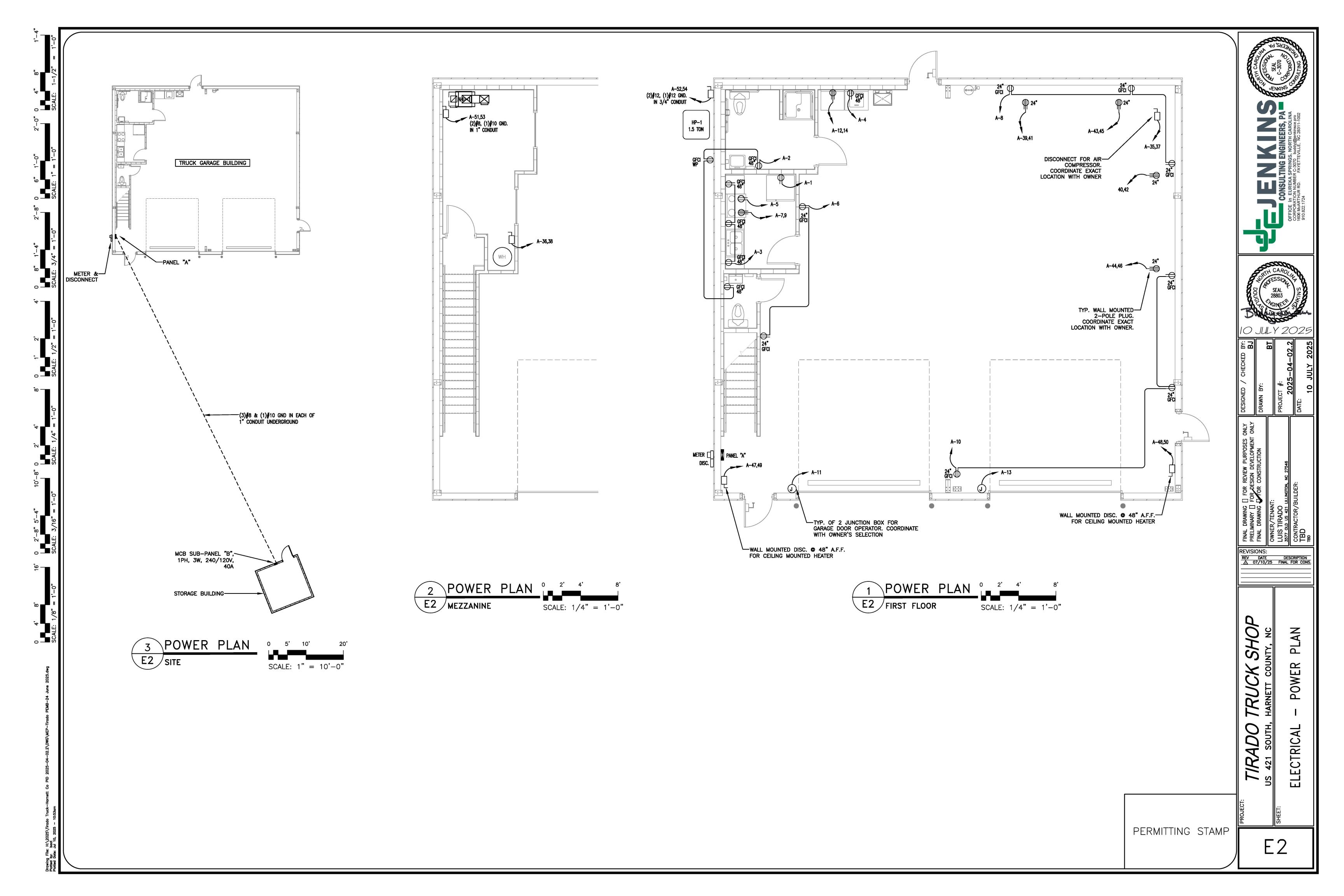
> 1. MORE EFFICIENT MECHANICAL EQUIPMENT PER C406.2 2. <u>REDUCED LIGHTING POWER DENSITY PER C406.3</u>
> 3. ENHANCED LIGHTING CONTROL SYSTEMS PER C406.4 4. ON-SITE SUPPLY OF RENEWABLE ENERGY PER C406.5 5. DEDICATED OUTDOOR AIR SYSTEM PER C406.6

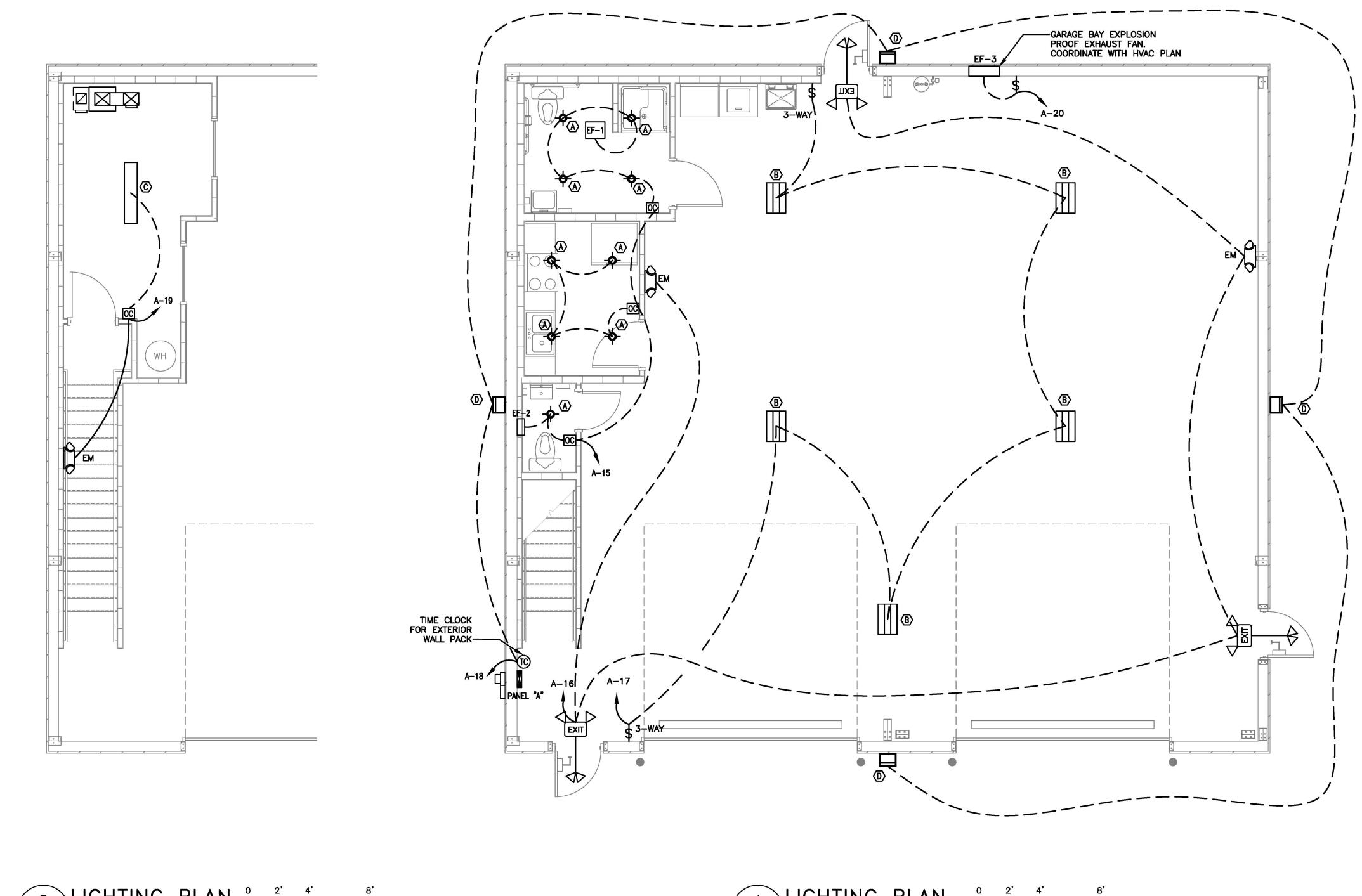
6. HIGHER EFFICIENCY SERVICE WATER HEATING PER C406.7

DESIGNER STATEMENT: TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF THE 2018 NC ENERGY CONSERVATION CODE.

NAME: BUDDY JENKINS
TITLE: PROFESSIONAL ENGINEER

PERMITTING STAMP





2 LIGHTING PLAN 0 2' 4' 8'
E3 MEZZANINE SCALE: 1/4" = 1'-0"



	LIGHT FIXTURE SCHEDULE												
TAG	DESCRIPTION	SIZE	MOUNTING	LENS	COLOR	LUMENS	BULB	BALLAST TYPE	HOUSING	VOLTAGE	WATTAGE	MANU/MODEL NUMBER	REMARKS
A	LED RECESSED DOWNLIGHT	6 <b>"ø</b>	RECESSED	N/A	5000 K	1210	LED	LED DRIVER	STEEL	120	14.3	LITHONIA NO. WF6 LED 50K MVOLT 90CRI OR EQUAL	
B	LED HIGH BAY LIGHT	24"X18"	SURFACE	N/A	5000 K	22000	LED	LED DRIVER	STEEL	120	165	LITHONIA NO. IBE L24 22000LM ATC MD 50K 80CRI OR EQUAL	
©	LED TROFFER	48"X12"	SURFACE	N/A	5000 K	4000	LED	LED DRIVER	STEEL	120	165	LITHONIA NO. SBL4 4000LM 80CRI 40K OR EQUAL	
<b>(D)</b>	EXTERIOR LED WALL PACK	13" X 9"	SURFACE	N/A	4000 K	5300	LED	LED DRIVER	STEEL	120	36	LITHONIA NO. TWR1 LED ALO SWW2 UVOLT PE DDBTXD OR EQUAL	
EM	EMERGENCY	N/A	WALL	N/A	N/A	N/A	(2) LAMPS	ELECTRONIC	POLYCARBONATE	120/240		LITHONIA NO. EU2L M12 OR EQUAL	6 VOLT NICAD BATTERY TEST SWITCH, POWER INDICATOR
EX	EXIT SIGN/EMERGENCY LIGHT COMBO	N/A	WALL	SINGLE	N/A	N/A	LED LIGHT	LED DRIVER	POLYCARBONATE	120/240		LITHONIA NO. LHQM LED R HO M6 OR EQUAL	6 VOLT NICAD BATTERY, (2) REMOTE HEADS

PERMITTING STAMP

E3

TIRADO TRUCK SHOP
US 421 SOUTH, HARNETT COUNTY, NC

REVISIONS:

REV DATE DESCRIPTION

A 07/10/25 FINAL FOR CONS.

PLAN

LIGHTING

ELECTRICAL

### PLUMBING GENERAL NOTES:

PLUMBING WORK SHALL BE IN ACCORDANCE WITH THE NORTH CAROLINA PLUMBING CODE 2018 EDITION AND LOCAL CODES.

ALL WORK SHALL BE COORDINATED AND PERFORMED WITH PRIOR APPROVAL FROM THE GENERAL CONTRACTOR AND OWNER TO SUIT THE OWNER'S OPERATING CONDITIONS.

PLUMBING CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE GENERAL CONTRACTOR OF ANY DEVIANCIES FROM THE CONTRACT DRAWINGS PRIOR TO STARTING ANY WORK.

THE PLUMBING CONTRACTOR SHALL COORDINATE WITH OTHER TRADES INVOLVED IN THIS PROJECT PRIOR TO INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND ALLOW FOR OPTIMUM WORKING SPACE AND MAINTENANCE. THINK OF OTHER CONTRACTORS AND THEIR REQUIREMENTS IN VERTICAL CHASES AND WALL MOUNT SPACE. ALL CONTRACTORS TO FOLLOW THIS

ORDER OF PRIORITY: 1. STORM AND SANITARY SEWER LINES

2. DUCTWORK AND HVAC SYSTEMS

3. HOT AND COLD WATER LINES 4. RIGID CONDUIT

THE PLUMBING CONTRACTOR TO ORGANIZE HIS PIPING IN ATTIC SPACES, CRAWL SPACES, AND ABOVE CEILINGS. MAKE RUNS PARALLEL, PERPENDICULAR, AND GROUPED TOGETHER WHERE POSSIBLE. LOCATE MAJOR GROUPINGS OVER HALLWAYS AND AREAS OF PUBLIC ACCESS IF POSSIBLE. FREE RUNS OF PIPING IS NOT ACCEPTABLE.

THE PLUMBING CONTRACTOR SHALL LAY OUT AND INSTALL HIS WORK IN ADVANCE OF POURING CONCRETE FLOORS OR WALLS. HE SHALL FURNISH ALL SLEEVES TO THE GENERAL CONTRACTOR FOR OPENINGS THROUGH POURED MASONRY FLOORS, OR WALLS, ABOVE GRADE REQUIRED FOR PASSAGE OF ALL PIPES TO SUPPORT HIS EQUIPMENT.

HORIZONTAL DRAINAGE AND WASTE PIPE SHALL HAVE A MINIMUM SLOPE OR FALL OF 1/8 INCH PER FOOT. ALL CHANGE OF HORIZONTAL DIRECTIONS IN SOIL WASTE PIPE SHALL BE MADE WITH LONG RADIUS FITTINGS WITH "Y" BRANCHES AND 1/8 OR 1/16 BENDS.

COLD AND HOT WATER PIPING ABOVE GRADE SHALL CAN BE CAN BE PEX PIPING (WITH OWNERS APPROVAL).

ALL HOT WATER PIPING SHALL BE INSULATED WITH 1 INCH THICK SECTIONAL INSULATION OR FIBROUS GLASS MATERIALS WITH FACTORY APPLIED COVER. COVER SHALL BE EMBOSSED VAPOR BARRIER, LAMINATED WITH PRESSURE SEALING CAP ADHESIVE.

ALL COLD WATER PIPING SHALL BE INSULATED WITH 1/2 INCH THICK SECTIONAL INSULATION OR FIBROUS GLASS MATERIALS WITH FACTORY APPLIED COVER. COVER SHALL BE EMBOSSED VAPOR BARRIER, LAMINATED WITH PRESSURE SEALING CAP ADHESIVE.

SANITARY HORIZONTAL WASTE, VENT PIPING, AND FITTINGS ABOVE GRADE SHALL BE SCHEDULE 40 PVC-DWV PIPE-CELLULAR CORE FROM CHARLOTTE PIPE AND FOUNDRY COMPANY OR APPROVED EQUAL, AND MUST MEET OR EXCEED THE REQUIREMENTS OF ASTM F-891, NSF STANDARD NO. 14, AND IAPMO UPC.

ALL WASTE STACK PIPING SHALL BE CAST IRON AND INSULATED FOR SOUND IN WALLS.

ALL WASTE AND STORM PIPING ABOVE CEILING, VERTICAL CHASES, WALLS SHALL BE INSULATED WITH 1/2 INCH THICK SECTIONAL INSULATION OR FIBROUS GLASS MATERIALS WITH FACTORY APPLIED COVER. COVER SHALL BE EMBOSSED VAPOR BARRIER, LAMINATED WITH PRESSURE SEALING CAP ADHESIVE. NO INSULATION REQUIRED IN CRAWL SPACE OR BELOW FLOOR SLAB OF ANY WASTE AND STORM

IN LIEU OF FIBERGLASS INSULATION, THE PLUMBING CONTRACTOR IS ALLOWED TO USE CLOSED CELL INSULATION, 1/2 INCH THICK ARMSTRONG/ARMAFLEX II ON ALL COLD WATER PIPES. RIGID URETHANE FOAM INSULATION, 1 INCH THICK ARMSTRONG/ARMALOK II ON ALL HOT WATER PIPING.

ALL PLUMBING EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

ALL FIXTURES, DRAINS, TRAPS, ETC. SHALL BE SET PLUMB AND LEVEL.

ALL HANDICAPPED FIXTURES AND TRIM SHALL BE INSTALLED IN ACCORDANCE WITH THE NORTH CAROLINA PLUMBING CODE 2018 EDITION. CHROME PLATED ESCUTCHEONS SHALL BE PROVIDED AT EACH WALL PENETRATION.

ESCUTCHEONS SHALL BE CHROME PLATED, SPRING TYPE, ON ALL PIPES PASSING THROUGH WALLS AND CEILINGS IN FINISHED AREAS. FLOOR ESCUTCHEONS SHALL BE CAST BRASS, CHROME PLATED, WITH SET SCREW.

ESCUTCHEONS SHALL BE OF SUFFICIENT SIZE TO COVER OUTSIDE DIAMETER OF THE PIPE OR THE INSULATION OF THE PIPE.

FLASHING FOR VENTS THROUGH THE ROOF SHALL BE TWO-PIECE TYPE, 16 OUNCE COPPER COUNTER FLASHING AND BASE FLASHING, OR A TWO-PIECE TYPE, 4 POUND LEAD COUNTER FLASHING AND BASE FLASHING. THE BASE FLASHING SHALL BE INSTALLED BY THE GENERAL CONTRACTOR WITH THE ROOF SYSTEM.

VENT FLASHING SHALL EXTEND DOWN AT LEAST 4 INCHES FROM THE TOP OF THE PIPE. FLASHING SHALL EXTEND AT LEAST 12 INCHES IN ALL DIRECTIONS FROM THE PIPE AND SHALL BE PARALLEL TO THE ROOF LINE.

ALL EQUIPMENT AND INSTALLED MATERIALS SHALL BE THOROUGHLY CLEAN AND FREE OF ALL DIRT, OIL, GRIT, GREASE, AND ETC.

ALL PLUMBING SYSTEMS AND EQUIPMENT SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE BUILDING FROM THE OWNER.

PLUMBING FIXTURE SCHEDULE	
---------------------------	--

					TIXTORE GOTTEDGEE					
SYMBOL	MANUFACTURER	MODEL #	FIXTURE DESCRIPTION	FIXTURE MOUNTING	ACCESSORIES	SUPPLY	WASTE	VENT	ELECTRICAL	REMARKS
P1	AMERICAN STANDARD	CADET ADA/ 215AA.104	ELONGATED BOWL; FLUSH TANK TOILET	FLOOR MOUNTED	SEAT: AMERICAN STANDARD / 5901.100	3/4" C.W.	4"	2"		SELECTED MODEL OR EQUAL
P2	AMERICAN STANDARD	LUCERNE/ 0355.012	LAVATORY	WALL MOUNTED	DELTA 501-WFHGMHDF FAUCET MIXING VALVE / APOLLO 34B	1/2" C.W. & H.W.	2"	1-1/2"		SELECTED MODEL OR EQUAL
P3	FREEDOM SHOWERS	APFQ3637BF3PR	40" X 38" ADA TRANSFER SHOWER RIGHT VALVE WALL	FLOOR MOUNTED	FOLD-UP SHOWER SEAT, GRAB BARS, SOAP DISH CURTAIN ROD, ADA COMPLIANT SHOWER HEAD	1/2" C.W. & H.W.	3"	2"		SELECTED MODEL OR EQUAL
P4	TBD	TBD	RESIDENTIAL GRADE WASHING MACHINE	FLOOR MOUNTED	PROVIDE GUY GRAY BOX AND SHUTOFF VALVE, DRAIN HOSE	1/2" C.W. & H.W.	2*	1-1/2"		
P5	MUSTEE	19CF	COMBO UTILITY SINK W/ FAUCET, FLOOR TYPE	FLOOR MOUNTED	COMBO WITH 6" SWING END FAUCET	1/2" C.W. & H.W.	2*	1-1/2"		SELECTED MODEL OR EQUAL
P6	TBD	TBD	2 COMPARTMENT KITCHEN SINK	DROP-IN	PROVIDE KITCHEN SINK FAUCET, DRAIN CONNECTION	1/2" C.W. & H.W.	2*	1-1/2"		SELECTED MODEL OR EQUAL
P7	HOROW	HR-WS4531W	RECTANGULAR WALL-MOUNT SINK	WALL MOUNTED	PROVIDE SINGLE HOLE FAUCET	1/2" C.W. & H.W.	2"	1-1/2"		SELECTED MODEL OR EQUAL
P8	TBD	TBD	6" X 144" PRE-SLOPED TRENCH DRAIN W/ TRAFFIC RATED GRATE	FLOOR MOUNTED	1	_	4"	2"		
WH	RHEEM	XE40M06ST45U1	40 US GAL. WATER HEATER, 4.5kW	FLOOR MOUNTED	3/4" T & P RELIEF VALVE; THERMAL EXPANSION TANK PROVIDE DRAIN PAN	3/4" C.W. & H.W.	ı	-	240V 4.5KW	SELECTED MODEL OR EQUAL
НВ	WATTS	TBD	FROST-PROOF WALL HYDRANT	WALL MOUTNED	_	3/4" C.W.	-	_	_	

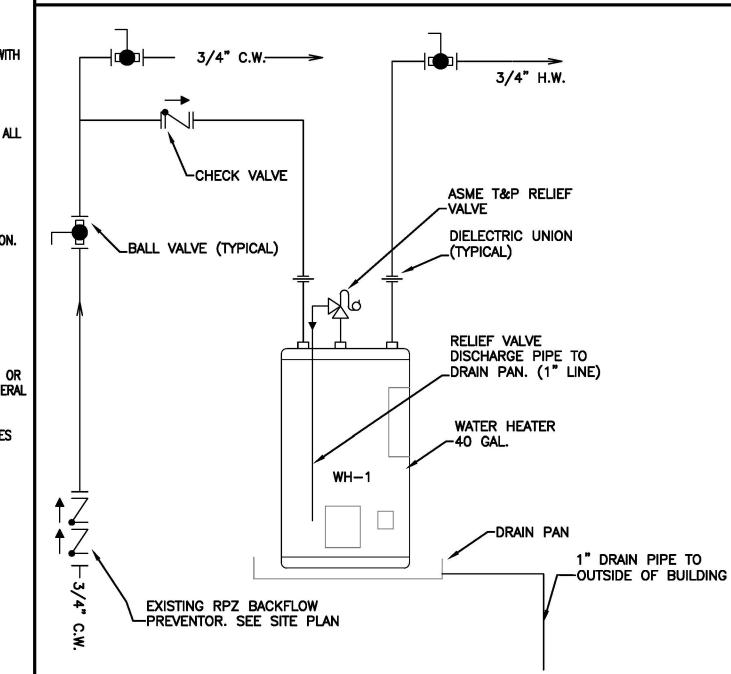
	WATER CAL	CULA	ATIONS				
QTY.	ITEM	C.W. FIXTURE UNITS	WATER SUPPLY FIXTURE UNITS EACH	WATER SUPPLY FIXTURE UNITS TOTAL			
2	WATER CLOSET	5.0	5.0	10.0			
2	LAVATORY	1.5	2.0	4.0			
1	SERVICE SINK	2.25	2.25	3.0			
1	KITCHEN SINK	1.5	2.0	2.0			
1	WASHER	1.0	1.0	1.4			
1	HOSE BIBB	2.25	2.25	3.0			
1	SHOWER	1.0	1.0	1.4			
	TOTAL WATER SUPPLY FIXTURE UNITS						

DRAINAGE CALCULATIONS									
QTY.	ITEM	DRAINAGE FIXTURE UNITS	DRAINAGE FIXTURE UNITS TOTAL						
2	WATER CLOSET	4.0	8.0						
2	LAVATORY	1.0	2.0						
2	FLOOR DRAIN	2.0	4.0						
1	SERVICE SINK	2.0	2.0						
1	KITCHEN SINK	2.0	2.0						
1	WASHER	2.0	2.0						
1	SHOWER	3.0	3.0						
TOTAL DRAINAGE FIXTURE UNITS 23.0									

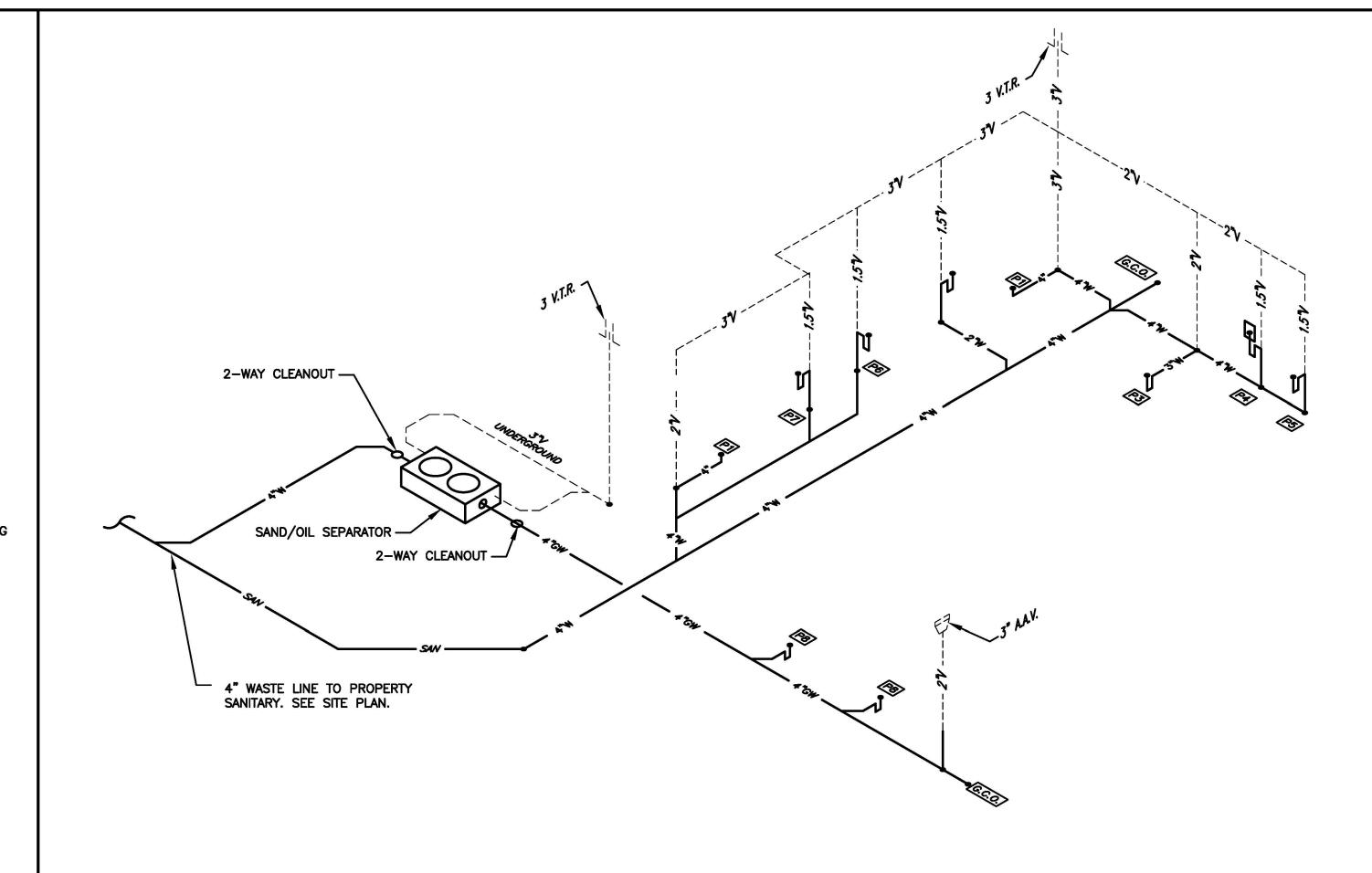
PLUMBING	SYMBOL LEGEND
	HOT WATER LINE
	COLD WATER LINE
ō	PIPE TURNS UP
CI	PIPE TURNS DOWN
M	SHUT OFF VALVE
	SANITARY WASTE
	VENT LINE

SEPARATOR CALCULATIONS	
RVICE AREA:	1,900 SQ.FT.
TICIPATED FLOW RATE:	25 GPM
. SEPARATOR SIZING	
CU.FT. FOR FIRST 100 SQ.FT. OF DRAINAGE AREA:	6 CU.FT.
CU.FT. FOR EACH ADDITIONAL 100 SQ.FT. OF DRAINAGE AREA:	18 CU.FT.
.FT. REQUIREMENT:	24 CU.FT.
L. REQUIREMENT:	180 GAL

SIZING METHODOLOGY COMPLIES WITH UPC SECTION 1017.2 AND IPC 1003.4.2.2.



WATER HEATER DIAGRAM NOT TO SCALE



WASTE/VENT - RISER DIAGRAM

NOT TO SCALE

PERMITTING STAMP

HEDULES, RISERS

LUMBIN

SHOP

**TIRADO** 

