# NEW COMMERCIAL BUILDING FOR:

# GALPIN RV

# COTTONWOOD, ARIZONA

ARCHITECTURAL

# Mea Map Cottonwood Cinity Map



General Structural Notes

Typical Details T1-T10

Structural Elevations

**Foundation Details** 

Framing Details

(Continued)

Foundation Plan

Framing Plans

# Cottonwood - SITE

# Deferred Submittals

The following items are required and will be provided as a deferred submittal:

 Automatic Fire Sprinkler System. 2. Fire Alarm System

Automatic Fire Sprinkler System & Fire Alarm System submittal documents for deferred submittal shall be submitted to the local fire district, who shall review them and forward them to the building official, with a notation indicating that the deferred submittal documents have been reviewed and that they have been found to be in general conformance with the design of the building. The deferred submittal items shall "NOT" be installed until their design and submittal documents have been approved by the fire marshal having jurisdiction.

DATE 2.	ST.	MX 89A	12TH ST.	CAMINO REAL	TW 260
			FIR ST	Ŏ	

OWNER	Galpin RV PH: (928) 445-3673 CONTACT: Greg Galpin	
PREPARED BY:	W. Alan Kenson & Associates, P.C. P.O. Box 11593 Prescott, AZ 86304	PH: 928-443-5812 CONTACT: Alan Kenson WAKA@cableone.net
CONTRACTOR:	Kenson Construction Company Inc. 6135 Corsair Avenue Prescott, AZ 86301	PH: 928-445-5192 CONTACT: Alan Kenson WAKA@cableone.net
SCOPE OF WORK:	New Building	
PROJECT ADDRESS:	925 E. State Route 89A Cottonwood, AZ 86326	
PARCEL#	406-05-034B	
ZONE	C2 = Heavy Commercial	
OCCUPANCY:	B, M , F-1, and S-1	
<b>CONSTRUCTION TYPE:</b>	II-B (sprinklered)	
<b>ALLOWABLE AREA:</b>	23,000 +200% = 69,000 S.F.	
ACTUAL AREA 1st FLOOR:	7,056 S.F.	
<b>ACTUAL AREA 2nd FLOOR:</b>	2,162 S.F.	
TOTAL ACTUAL AREA:	9,218 S.F.	
TOTAL ACTUAL AREA: BUILDING HEIGHT:	9,218 S.F. 26'	
	·	
BUILDING HEIGHT:	26'	
BUILDING HEIGHT: STORIES:	26' 2	
BUILDING HEIGHT: STORIES: EMERGENCY LIGHTING:	26' 2 Yes	
BUILDING HEIGHT: STORIES: EMERGENCY LIGHTING: FIRE ALARMS:	26' 2 Yes Yes	
BUILDING HEIGHT: STORIES: EMERGENCY LIGHTING: FIRE ALARMS: FIRE SPRINKLERS:	26' 2 Yes Yes Yes	
BUILDING HEIGHT: STORIES: EMERGENCY LIGHTING: FIRE ALARMS: FIRE SPRINKLERS: FIRE EXTINGUISHERS:	26' 2 Yes Yes Yes Yes Yes 1 per 3,000 square feet 2009 International Building Code 2008 NEC	
BUILDING HEIGHT: STORIES: EMERGENCY LIGHTING: FIRE ALARMS: FIRE SPRINKLERS: FIRE EXTINGUISHERS: BUILDING CODE:	26' 2 Yes Yes Yes Yes Yes - 1 per 3,000 square feet 2009 International Building Code 2008 NEC 2009 International Fire code	

#### Mechanical Floor Plan Code Summary Mechanical Floor Plan Mechanical Schedules Landscape / Parking Plan Landscape Details Mechanical Details Architectural Site Plan Mechanical Specs and OSA Calc CMU Block Wall Plan, Elevation **PLUMBING** and Details CMU Block Wall Enlarged Plumbing Floor Plan Elevation and Detail Reference Floor Plans Enlarged Plumbing Plan and Plumbing 2nd Floor Plan Dimension and Wall Types Floor Plumbing Schedules, Details and Reflected Ceiling Plans Specifications Roof Plan Plumbing Schematics **Building Sections ELECTRICAL Building Sections** Stair Sections and Plan Electrical One-Line Diagram, Wall Sections Symbols, Specifications and Notes Wall Sections Site Lighting Plan & Fixture Exterior Elevations **Enlarged Plans and Interior** Lighting Floor Plan, Schedules & Elevations Door & Window Types Power Floor Plan, Schedules & Schedules and Room Finish Plan Details A10.1 Details STRUCTURAL General Structural Notes

**MECHANICAL** 





NORTH ARROW INDICATOR

Nørth

DETAIL DESIGNATOR BUILDING SECTION DESIGNATOR

GRID LINE DESIGNATOR

**REVISION DESIGNATOR** 

**ELEVATION DESIGNATOR** DESCRIPTIVE NOTE DESIGNATOR

ROOM NUMBER / FINISH DESIGNATOR

DOOR NUMBER DESIGNATOR DOOR TYPE DESIGNATOR

WINDOW TYPE DESIGNATOR

WALL TYPE DESIGNATOR

# Project Description

**PROJECT DESCRIPTION:** 

Galpin RV intends to construct a new RV dealership building. The new structure will be a pre-engineered metal building, with slab on grade foundation. Vehicle display areas will be included in the parking lot. The East portion of the building will consist of an office, parts storage room, restroom, 3 RV service bays and 1 RV wash bay. The West portion of the building will include a sales display area, 2 offices, lounge area and restrooms.

# **Architect:**

# W. Alan Kenson & Associates, P.C.

P 928-443-5812 F 928-443-5815 P.O. Box 11593 Prescott, AZ 86304

email: waka@cableone.net www.kenson-associates.com

ARCHITECTURE & PLANNING



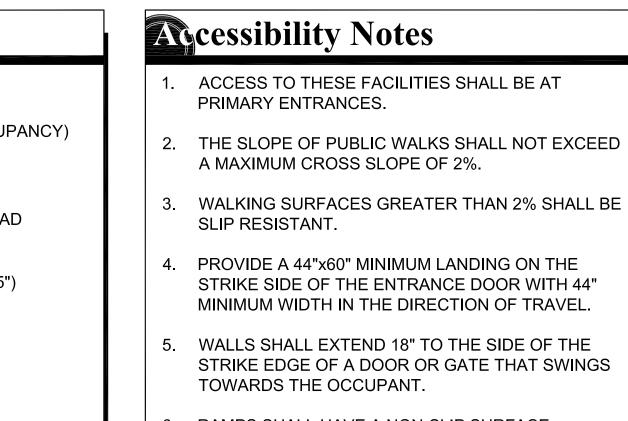
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L.O. CHECKED BY W.A.K. May 11th, 2016 SHEET

Pun	<b>P</b> umbing Calculations						
	Occupancy Classification	Occupancy Count	Toilets Required	Lavatories Required			
	В	8.2	0.33	0.2			
	M	21.5	0.06	0.04			
	F-1	42.1	0.42	0.42			
	S-1	5.1	0.05	0.05			
Total			0.86	0.71			
Required			1	1			
Provided			3	3			
<u>Toil</u>	ets provided : :	1 Men's single us all handicap	ser, 1 Women's sing p accessible	gle user, 1 unisex			

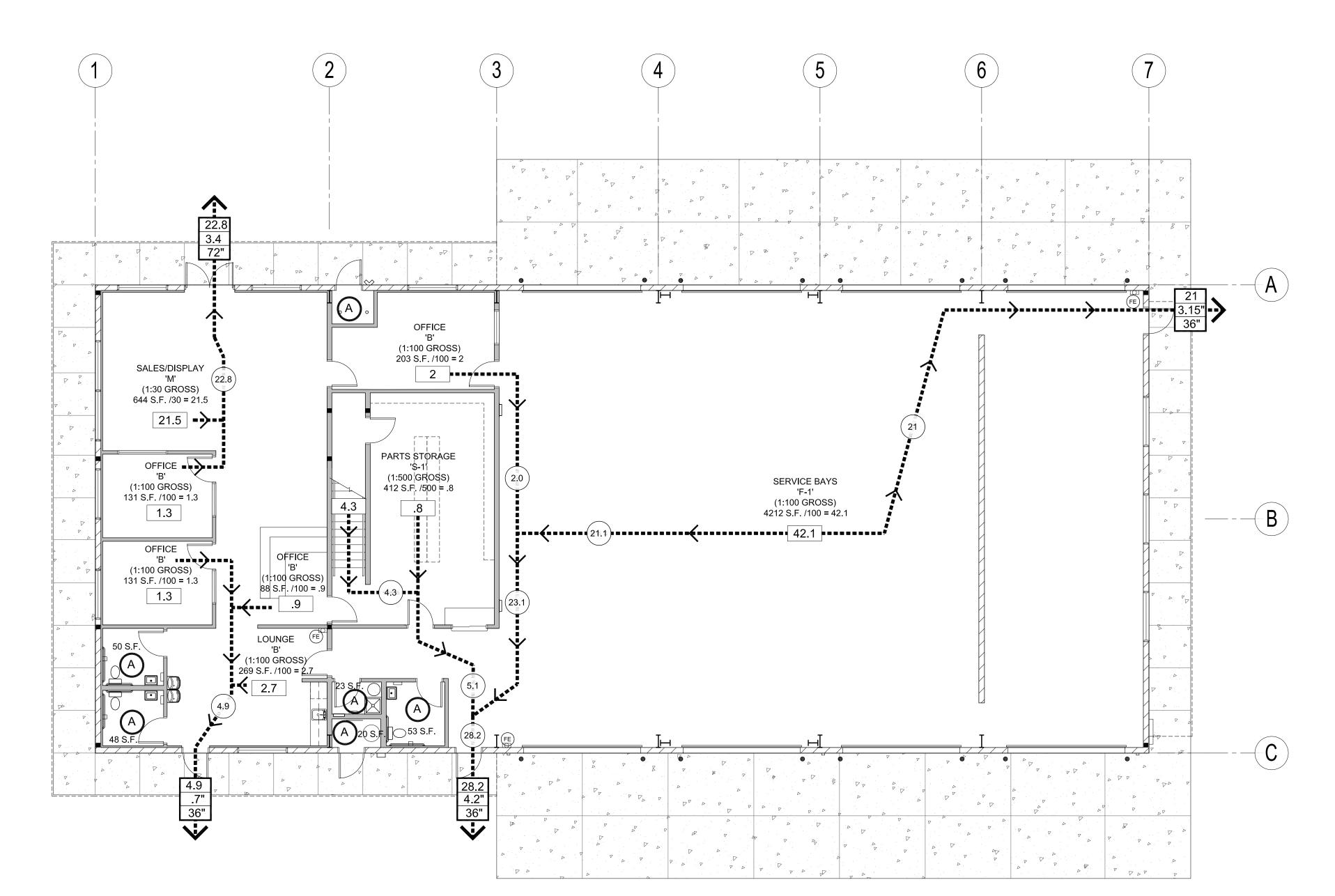
<b>O</b> cupant load		
NOTE: GROSS SQUARE FOOT DOES NOT INCLUDE AG		
OFFICE/LOUNGE AREA:	822 SQ. FT.	
SALES/DISPLAY AREA: SERVICE AREA:	644 SQ. FT. 4,212 SQ. FT	
STORAGE AREA:  2nd FLOOR STORAGE:  TOTAL:	412 SQ. FT. <u>2,156 SQ. FT.</u> 8,246 SQ. FT.	
TOTAL OCCUPANCY:	77 PEOPLE	

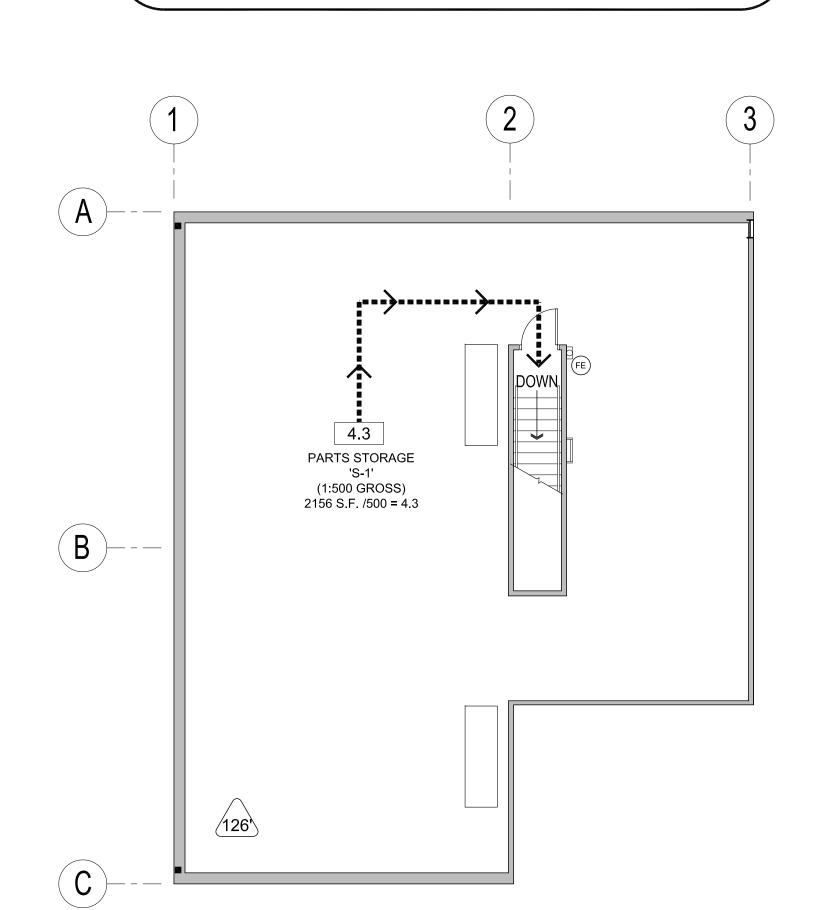
	Deress	Legend:
1	>	EXIT ACCESS
	A	ACCESSORY USE (NO OCCUPANC
	XX	ROOM OCCUPANCY LOAD
	XX	SUBTOTAL OCCUPANCY LOAD
	XX XX XX	OCCUPANCY TOTAL REQUIRED EXIT WIDTH (0.15") PROVIDED EXIT WIDTH
J	'S-1' 'B' 'M' 'F-1'	GROUP 'S-1' = 1:500 GROSS GROUP 'B' = 1:100 GROSS GROUP 'M' = 1:30 GROSS GROUP 'F-1' = 1:100 GROSS
	FE	FIRE EXTINGUISHER
	#	WORST CASE TRAVEL DISTANCE



- TOWARDS THE OCCUPANT. 6. RAMPS SHALL HAVE A NON-SLIP SURFACE. 7. RAMPS SHALL BE A MINIMUM OF 36" WIDE.
- 8. EVERY REQUIRED EXIT DOORWAY SHALL BE SIZED FOR A DOOR NOT LESS THAN 36" WIDE BY NOT LESS THAN 6'-8" HIGH CAPABLE OF OPENING 90 DEGREES AND MOUNTED SO THE CLEAR WIDTH OF THE EXIT WAY IS 32" MINIMUM.

- 9. THRESHOLDS TO BE A MAXIMUM OF 1/4" ABOVE ADJACENT FLOOR FINISH. ONE-HALF INCH THRESHOLD MAY BE USED IF BEVELED PER A.D.A. STANDARDS.
- 10. MAXIMUM EFFORT TO OPERATE A DOOR SHALL NOT EXCEED 5 POUNDS.
- 11. THE BOTTOM 10 INCHES OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING DOORS SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE.
- 12. PROVIDE LEVER TYPE HARDWARE, PANIC BARS, PUSH AND PULL ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE. (30" TO 44" A.F.F.)

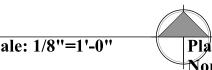




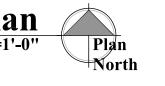
 PROVIDE A 6"x9" BLUE TACTILE 'EXIT' SIGN AS MANUFACTURED BY 'SIMPLY EXIT SIGNS (#SE-1980)' OR EQUAL COMPLYING WITH ICCA117.1 AND IBC 1011.3 ADJACENT TO EACH DOOR TO AN EXIT PASSAGEWAY AND THE EXIT DISCHARGE. SIGN SHALL BE MOUNTED

60" A.F.F. TO THE CENTER OF THE SIGN.





B Second Floor Occupancy / Egress Plan
Scale: 1/8"=1'-0"
Plan
North



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1. PROPERTY LINE.

Highway 89A

55.00'

PROPOSED

9,218 S.F. BUILDING

2 STORIES 126'-0"

FF 3423.00' HEIGHT: 26'-0'

- 2. LANDSCAPE AREA.
- 3. 6'-0" HIGH DUMPSTER ENCLOSURE
- 4. THE MAXIMUM SLOPE OF THE A.D.A. ACCESSIBLE PARKING AREA SHALL NOT EXCEED 2% AND THE SLOPE OF THE DOORWAY LANDING AND ACCESSIBLE ROUTE TO PUBLIC ACCESS SHALL NOT EXCEED 2%.
- 5. PROVIDE A.D.A. APPROVED SYMBOL OF
- ACCESSIBILITY PAVEMENT MARKING, TYPICAL. 6. PROVIDE PARKING SIGNAGE IN ACCORDANCE WITH A.D.A. REQUIREMENTS.
- 7. PROVIDE 4" WIDE WHITE PAINTED STRIPING AT UNLOADING AREA IN ACCORDANCE WITH A.D.A. REQUIREMENTS.
- 8. PROVIDE 4" WIDE, WHITE PAINTED PARKING STRIPE, TYPICAL
- 9. PROVIDE CAST IN PLACE CONCRETE CURB. 10. PROVIDE PRE-MANUFACTURED CONCRETE TYPE WHEEL STOP, TYPICAL.
- 11. BELOW GRADE, 500 GALLON PROPANE TANK, BY OWNER.

- 12. VERTICAL PROPANE TANK.
- 13. PROVIDE RV DUMP STATION.
- 14. PROVIDE LANDSCAPE TIMER.
- 15. DETENTION BASIN.
- 16. DISPLAY PARKING SPACES.
- 17. CUSTOMER PARKING SPACES.
- 18. PROVIDE 6' HIGH CMU FENCE. REFER TO SHEET
- 19. PROVIDE VERSALOCK RETAINING WALL. REFER TO
- CIVIL PLANS. 20. PROVIDE MONUMENT SIGNAGE UNDER SEPARATE
- 21. 24' MINIMUM EMERGENCY VEHICLE ACCESS.
- 22. PROVIDE BACKFLOW PREVENTOR FOR LANDSCAPE IRRIGATION SYSTEM. PROVIDE ASSE 1060 COMPLIANT FREEZE RESISTANT COVER BOLTED TO CONCRETE SLAB. REFER TO LANDSCAPE PLANS.
- 23. PROVIDE 3/4" VALVED SCHEDULE 40 PVC STUB -OUT IN BELOW GRADE YARD BOX FOR LANDSCAPE IRRIGATION SYSTEM.
- 24. ELECTRIC TRANSFORMER.

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# **Project Information**

PROJECT NAME: GALPIN RV, COTTONWOOD

ADDRESS: 626 SOUTH 10th STREET, COTTONWOOD, AZ

ASSESSOR'S PARCEL NUMBER: 406-05-034B

PROPERTY OWNER: MR. GREG GALPIN

ARCHITECT: W. ALAN KENSON AND ASSOCIATES ADDRESS: P.O. BOX 11593, PRESCOTT, AZ 86304 PHONE: 928-443-5812

# Pant Schedule

SIZE	QUANTITY	COMMON NAME / SCIENTIFIC NAME
1 GAL	88	AUTUMN SAGE / SALVIA GREGGII
5 GAL	112	SPANISH DAGGER / YUCCA GLORIOSA
5 GAL	116	TEXAS SAGE / LEUCOPHYLLUM FRUTESCENS
5 GAL	125	ROSEMARY / ROSEMARY OFFICINALIS
2' - 3'	16	BOULDER CLUSTER
15 GAL	22	SUNBURST HONEYLOCUST / GLEDITSIA TRIACANTHOS
15 GAL	33	ARIZONA ASH / FRAXINUS VELUTINA
	4	EXISTING TREE TO REMAIN
	1 GAL 5 GAL 5 GAL 2' - 3' 15 GAL	1 GAL 88 5 GAL 112 5 GAL 116 5 GAL 125 2' - 3' 16 15 GAL 22 15 GAL 33

TOTAL LANDSCAPE AREA PROVIDED: 48,456 S.F.

- 1. LANDSCAPE PLANTINGS SHALL BE WATERED VIA DRIP IRRIGATION SYSTEM ON LANDSCAPE TIME CLOCK.
- 2. PROVIDE BACKFLOW PREVENTOR FOR DRIP IRRIGATION
- 3. SPRAY ALL GROUND COVER AREAS W/ PRE-EMERGENT FOR WEED CONTROL.
- 4. PROVIDE WEED BARRIER IN ALL PLANTER AREAS.
- GROUND COVER IN ALL PLANTER AREAS SHALL BE 3/4" CIVIL PLANS FOR TOPOGRAPHY.

# Digend

LANDSCAPE AREA

CONCRETE

### **PARKING REQUIRED**

1 PER 800 S.F. FLOOR AREA (9,218 S.F.) = 11.5 TOTAL SPACES REQUIRED: 12 TOTAL SPACES PROVIDED: 27 PLUS 2 HANDICAP ACCESSIBLE SPACES

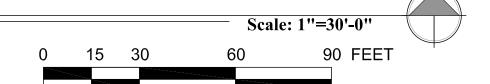
PROPOSED BUILDING

MOTOR VEHICLE SALES AND REPAIR SHOP

Landscape / Parking Plan

145'-11"

612.7'



REVISIONS

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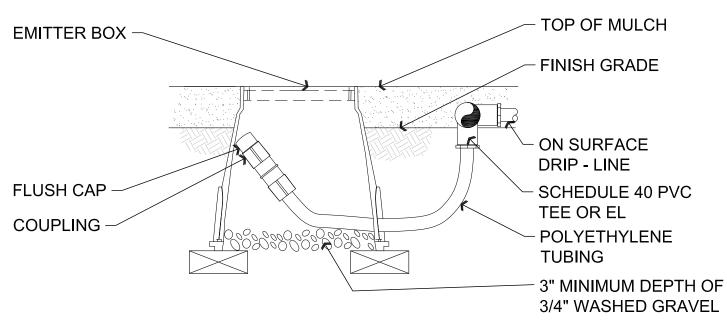
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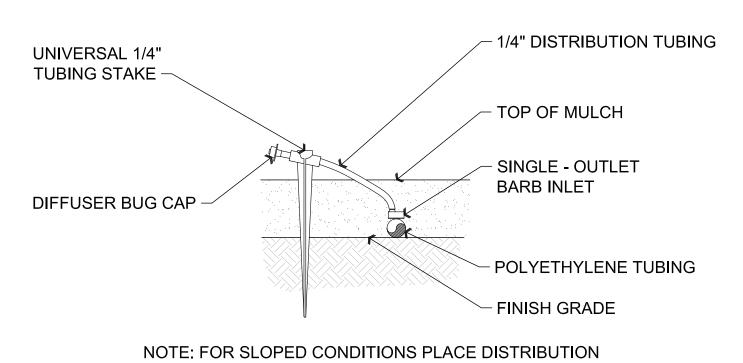
NOTE: SEAL ALL THREADED JOINTS / FITTINGS WITH APPROVED SEALANT PRIOR TO ASSEMBLY

# Typical Electric Remote Control Valve



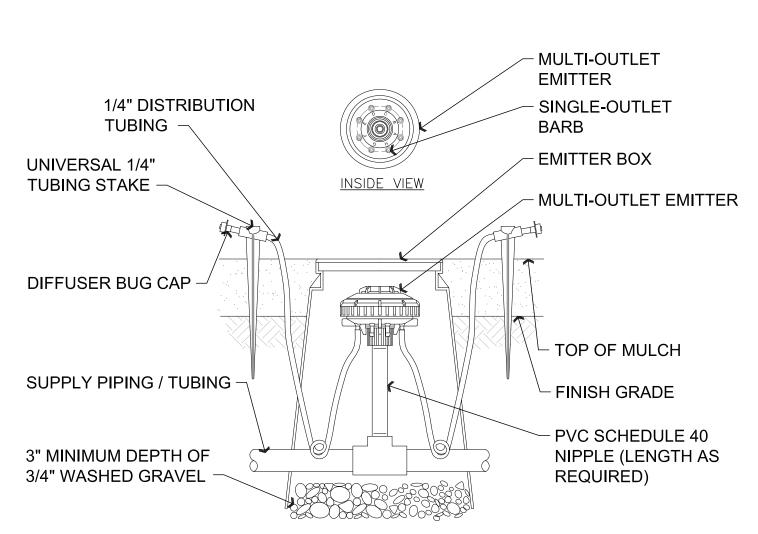
NOTE: ALLOW A MINIMUM 6" OF DRIP - LINE TUBING IN VALVE BOX IN ORDER TO DIRECT FLUSHED WATER OUTSIDE VALVE BOX.

# Typical Drip Line Flush Box



POINT AT THE HIGH POINT OF THE PLANTING WELL

# By Typical Single - Port Emitter

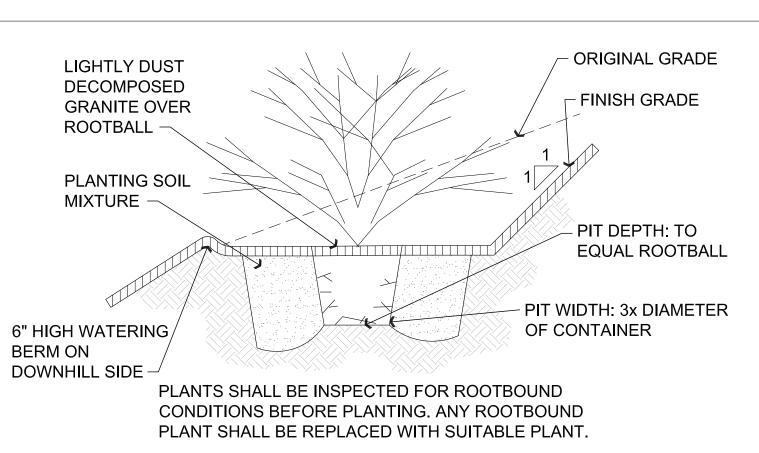


NOTE: COIL ADDITIONAL 9" OF TUBING IN EMITTER BOX TO FACILITATE MAINTENANCE.

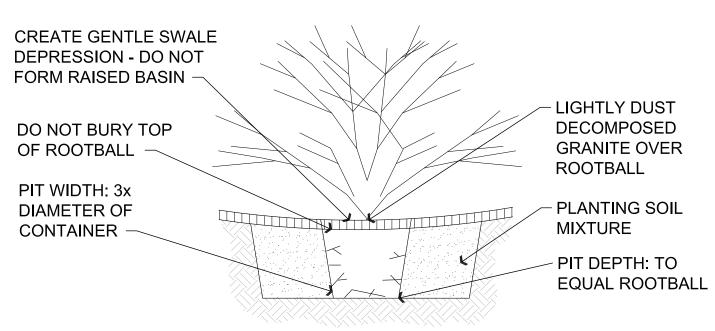
INSTALL A MINIMUM OF (1) MULTI-PORT EMITTER PER TREE - EQUALLY SPACED AROUND DRIP LINE OF TREE CANOPY TYPICAL. OPEN ADDITIONAL PORTS AND INSTALL SPAGHETTI DISTRIBUTION TUBING TO PROVIDE ADEQUATE WATER AS TREE MATURES, (TYP.)

FOR SLOPED CONDITIONS PLACE DISTRIBUTION POINT AT THE HIGH POINT OF PLANTING WELL.



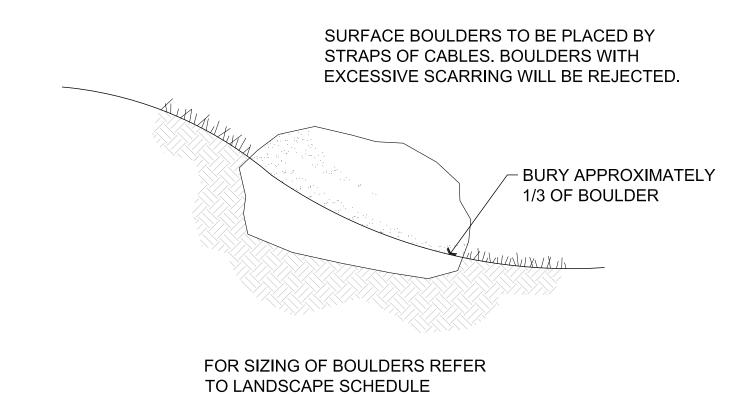


# Typical Shrub Planting on Slope

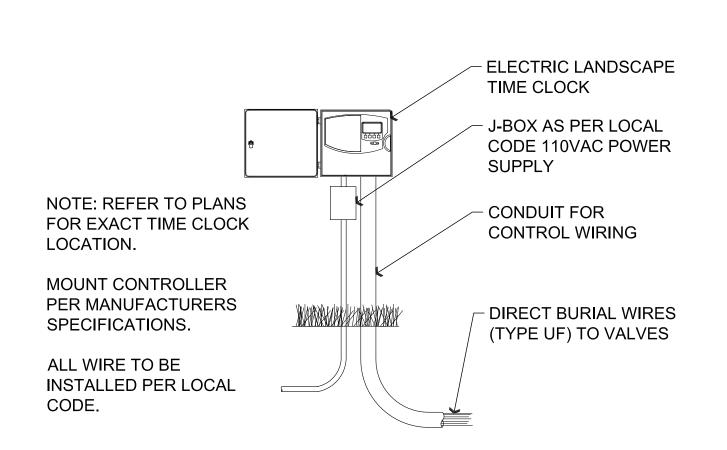


PLANTS SHALL BE INSPECTED FOR ROOTBOUND CONDITIONS BEFORE PLANTING. ANY ROOTBOUND PLANT SHALL BE REPLACED WITH SUITABLE PLANT.

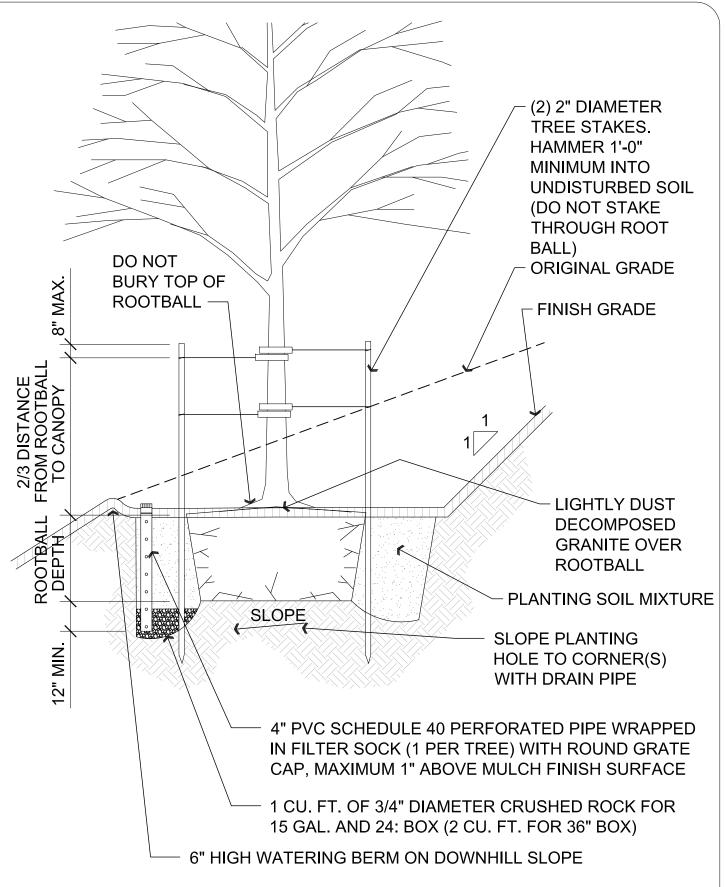
# Typical Shrub Planting



Typical Boulder Detail



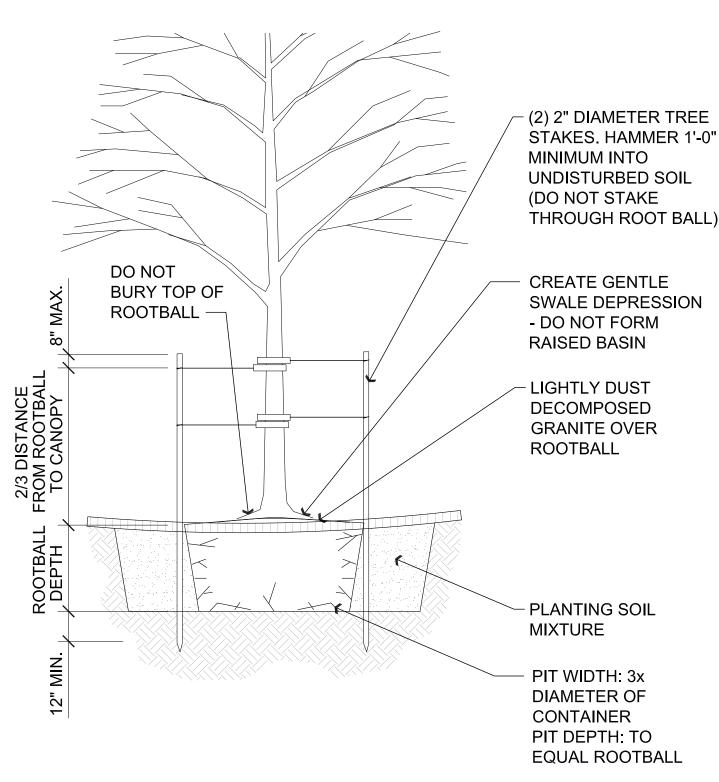
Typical Electric Landscape Time Clock



NOTE: STAKE TREE PERPENDICULAR TO DIRECTION OF PREVAILING WIND.

PLANTS SHALL BE INSPECTED FOR ROOTBOUND CONDITIONS BEFORE PLANTING.
ANY ROOTBOUND PLANT SHALL BE REPLACED WITH SUITABLE PLANT.

# Typical Tree Planting on Slope



NOTE: STAKE TREE PERPENDICULAR TO DIRECTION OF PREVAILING WIND.

PLANTS SHALL BE INSPECTED FOR ROOTBOUND CONDITIONS BEFORE PLANTING. ANY ROOTBOUND PLANT SHALL BE REPLACED WITH SUITABLE PLANT.



 W. Alan Kenson & Assoc

 P 928-443-5812
 P.O. Box 11593

 F 928-443-5815
 Prescott, AZ 86304

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alpin RV Cottonwood 5 E. State Rt 89A ottonwood, AZ 86326

PROJECT: Galpin F 925 E. S Cottonw

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L.O.

CHECKED BY
W.A.K.

May 11th, 2016

JOB NO.
666

SHEET

L1.1

Architectural Site / Partial Utilities / Partial Grading and Drainage Plan





# Discriptive Keynotes $\bigcirc$

PROPERTY LINE.

2. LANDSCAPE AREA, REFER TO LANDSCAPE PLAN.

3. 6'-0" HIGH DUMPSTER ENCLOSURE 4. ASPHALTIC PAVEMENT OVER COMPACTED A.B.C. REFER TO CIVIL PLANS.

5. THE MAXIMUM SLOPE OF THE A.D.A. ACCESSIBLE PARKING AREA SHALL NOT EXCEED 2% AND THE SLOPE OF THE DOORWAY LANDING AND ACCESSIBLE ROUTE TO PUBLIC ACCESS SHALL NOT EXCEED 2%.

6. PROVIDE A.D.A. APPROVED SYMBOL OF

ACCESSIBILITY PAVEMENT MARKING, TYPICAL. 7. PROVIDE PARKING SIGNAGE IN ACCORDANCE WITH A.D.A. REQUIREMENTS.

8. PROVIDE 4" WIDE WHITE PAINTED STRIPING AT UNLOADING AREA IN ACCORDANCE WITH A.D.A. REQUIREMENTS.

9. PROVIDE 4" WIDE, WHITE PAINTED PARKING STRIPE, TYPICAL.

10. PROVIDE CAST IN PLACE CONCRETE CURB, TYPICAL.

11. PROVIDE PRE-MANUFACTURED CONCRETE TYPE WHEEL STOP, TYPICAL.

12. PROVIDE 4" CONCRETE SIDEWALK W/ #3 @ 2'-0" O.C. OVER COMPACTED A.B.C. PROVIDE 1'-0" TURNDOWN.

13. TYPICALLY INDICATES TOOLED CONCRETE CONTROL JOINT.

14. PROVIDE 6'-0" LONG, 4" DIAMETER, CONCRETE FILLED, PROTECTIVE STEEL BOLLARDS, EMBEDDED 2'-0" BELOW GRADE INTO CONCRETE FOOTING, TYPICAL AT EACH ROLL-UP DOOR AND AS INDICATED ELSEWHERE.

15. PROVIDE 2-WAY SEWER CLEAN OUT AND BACKWATER VALVE, REFER TO PLUMBING PLANS.

16. NOT USED. 17. PROVIDE FIRE DEPARTMENT CONNECTION WITH LOCKING CAPS.

18. VERTICAL PROPANE TANK, BY OWNER.

19. PROVIDE RV DUMP STATION. REFER TO PLUMBING PLANS.

20. PROVIDE SAND AND OIL INTERCEPTOR. REFER TO

PLUMBING PLANS. 21. PROVIDE 4" DUCTILE IRON FIRE LINE. REFER TO

CIVIL PLANS FOR CONTINUATION. 22. PROVIDE 4", SDR 35 SEWER LINE. REFER TO CIVIL

PLANS. 23. PROVIDE 6", SDR 35 SEWER LINE. REFER TO CIVIL PLANS FOR CONTINUATION.

24. NOT USED.

25. NOT USED.

26. DETENTION BASIN. REFER TO CIVIL PLANS.

27. DISPLAY PARKING SPACES.

28. CUSTOMER PARKING SPACES. 29. PROVIDE 6' HIGH CMU FENCE, REFER TO

SHEET A1.1

30. PROVIDE VERSALOCK RETAINING WALL. REFER TO CIVIL PLANS.

31. MONUMENT SIGNAGE UNDER SEPARATE PERMIT BY OWNER.

32. 24' MINIMUM EMERGENCY VEHICLE ACCESS

33. PROVIDE BACKFLOW PREVENTOR FOR LANDSCAPE IRRIGATION SYSTEM. PROVIDE ASSE 1060 COMPLIANT FREEZE RESISTANT COVER BOLTED TO CONCRETE SLAB. REFER TO LANDSCAPE PLANS.

34. PROVIDE 3/4" VALVED SCHEDULE 40 PVC STUB -OUT IN BELOW GRADE YARD BOX FOR LANDSCAPE IRRIGATION SYSTEM. REFER TO CIVIL PLANS.

35. ELECTRIC TRANSFORMER. BY ARIZONA PUBLIC SERVICE. REFER TO ELECTRICAL PLANS.

36. EXISTING 3/4" WATER METER.

37. PROVIDE 1 1/4" REDUCED PRESSURE BACKFLOW PREVENTION DEVICE. PROVIDE ASSE 1060 COMPLIANT FREEZE RESISTANT COVER BOLTED TO CONCRETE SLAB.

38. CABLE TV TERMINAL BOX.

**PLANS** 

39. PROVIDE YARD HYDRANT. REFER TO PLUMBING

43. PROVIDE 4" INLINE CLEANOUT NOT TO EXCEED

44. 1 1/4" SCHEDULE 40 PVC WATER LINE. REFER TO PLUMBING PLANS. 45. 1" SCHEDULE 40 PVC WATER LINE. REFER TO

PLUMBING PLANS.

46. PROVIDE 3" DB 120 TELEPHONE CONDUIT. 47. PROVIDE 2" DB 120 CATV CONDUIT.

48. EXISTING FIRE HYDRANT. 49. 400 AMP, 120/208, 3 PHASE, ELECTRIC SERVICE ENTRANCE SECTION. REFER TO ELECTRICAL

50. NEW POWER POLE BY ARIZONA PUBLIC SERVICE 51. PROVIDE 1-4" DB 120 ELECTRICAL CONDUIT AS

REQUIRED BY ARIZONA PUBLIC SERVICE. 52. PROVIDE 3-2" DB 120 ELECTRICAL CONDUITS AS

REQUIRED BY ARIZONA PUBLIC SERVICE. 53. BELOW GRADE 500 GALLON PROPANE TANK BY

54. PROVIDE 6" CONCRETE SLAB W/ #4 @ 2'-0" O.C.

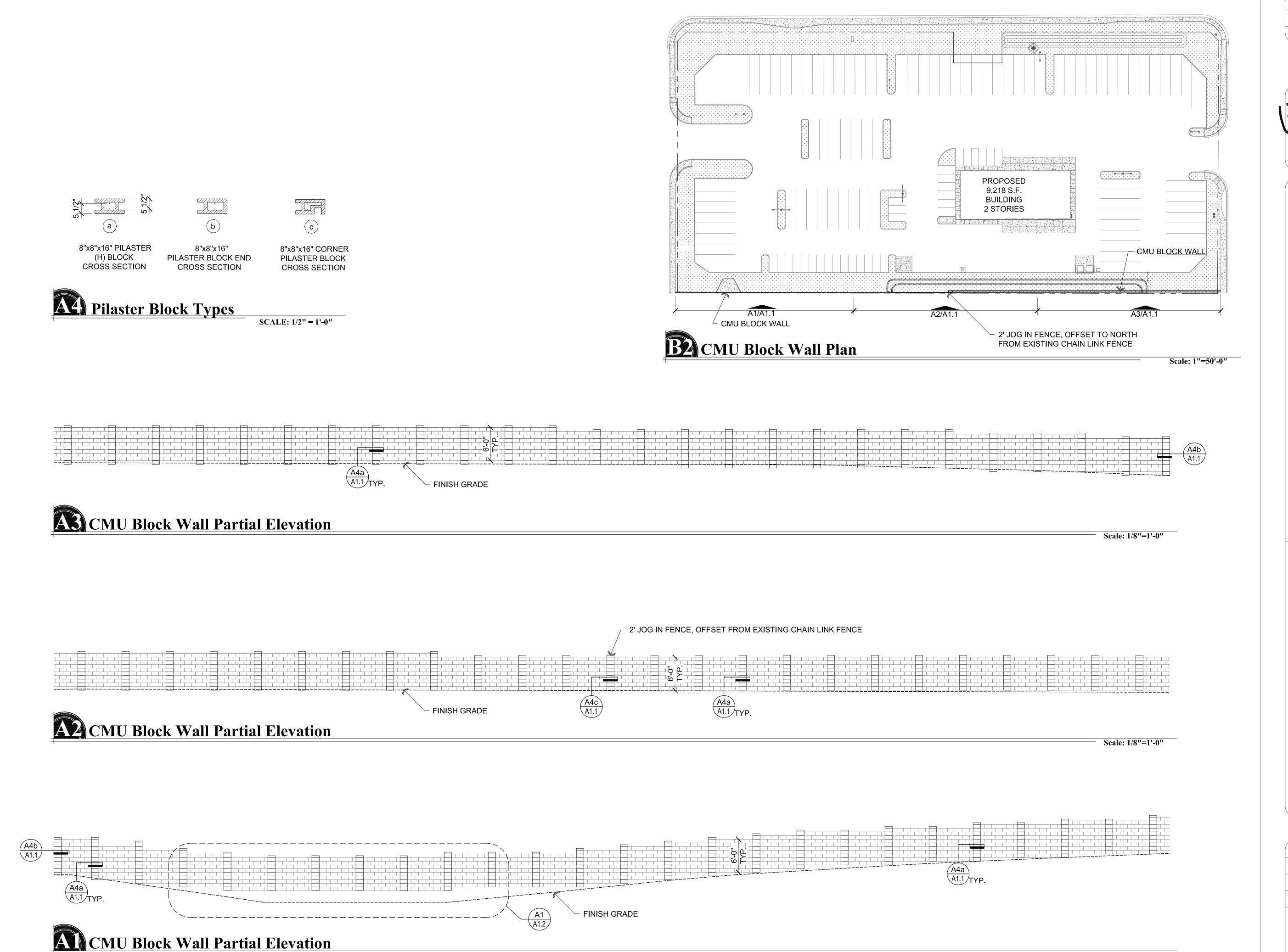
EACH WAY OVER COMPACTED A.B.C. 55. PROVIDE LIGHT STANDARD. REFER TO ELECTRICAL PLANS.

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P 928-443-5812 P.O. Box 11593 F. Salaka Prescott, AZ 86304 F. Salaka Presc

CMU BLOCK WALL PLAN, ELEVATION & DETAILS Galpin RV Cottonwood

ROJECT: Galpin RV Cott 925 E. State Rt

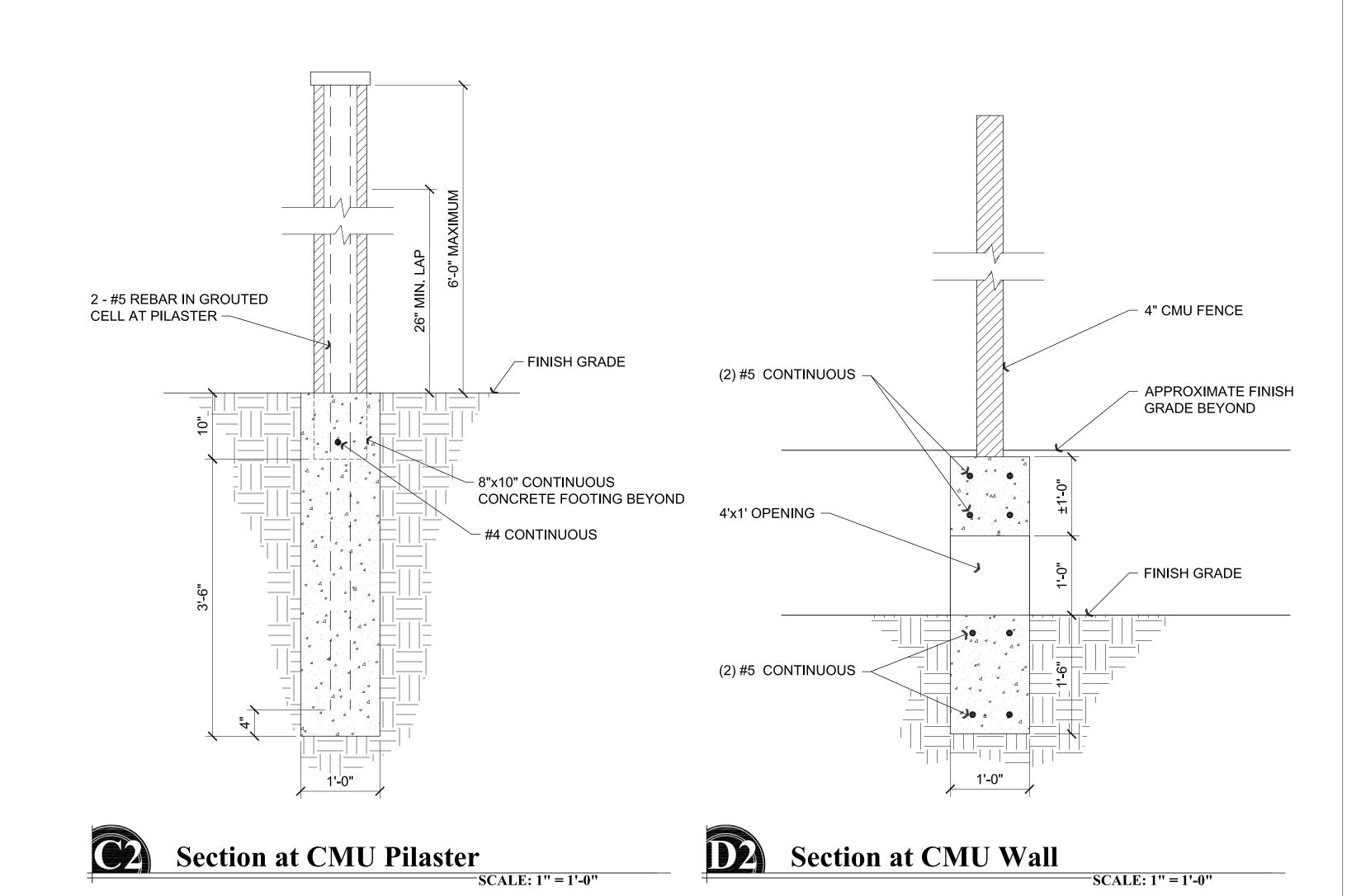
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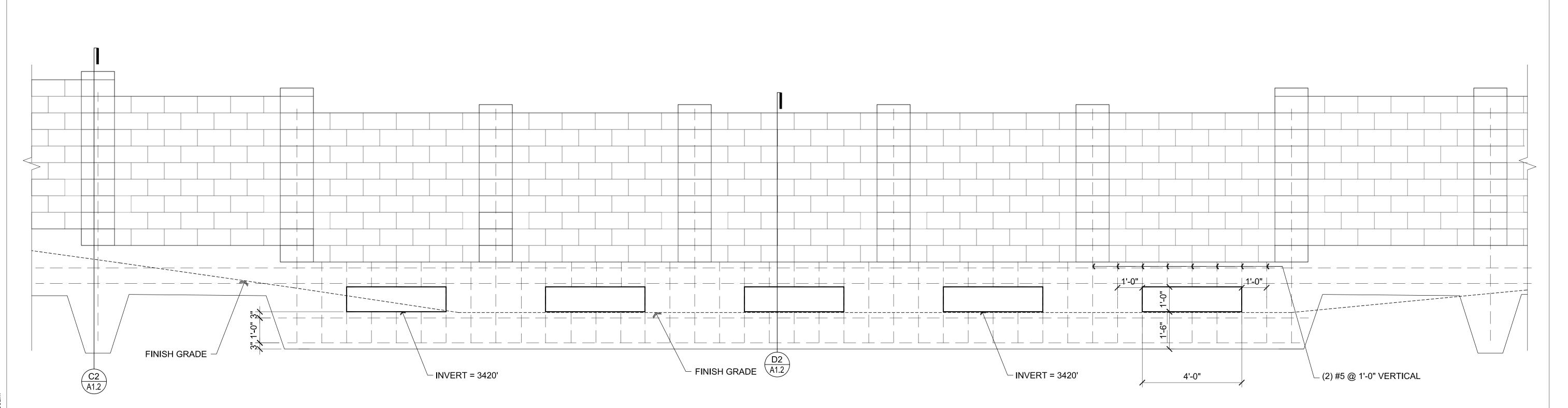
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W.A.K.

May 11th, 2016

JOB NO.
666

A1.1





Scale: 1/2"=1'-0"

W. Alan Kenson & Associates, P.C.

P. 928-443-5812 P.O. Box 11593
F. 928-443-5815 Prescott, AZ 86304

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T: Galpin RV Cottonwood 925 E. State Rt 89A

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May 11th, 2016

JOB NO.
666

A1.2

Enlarged Fence Elevation/Section

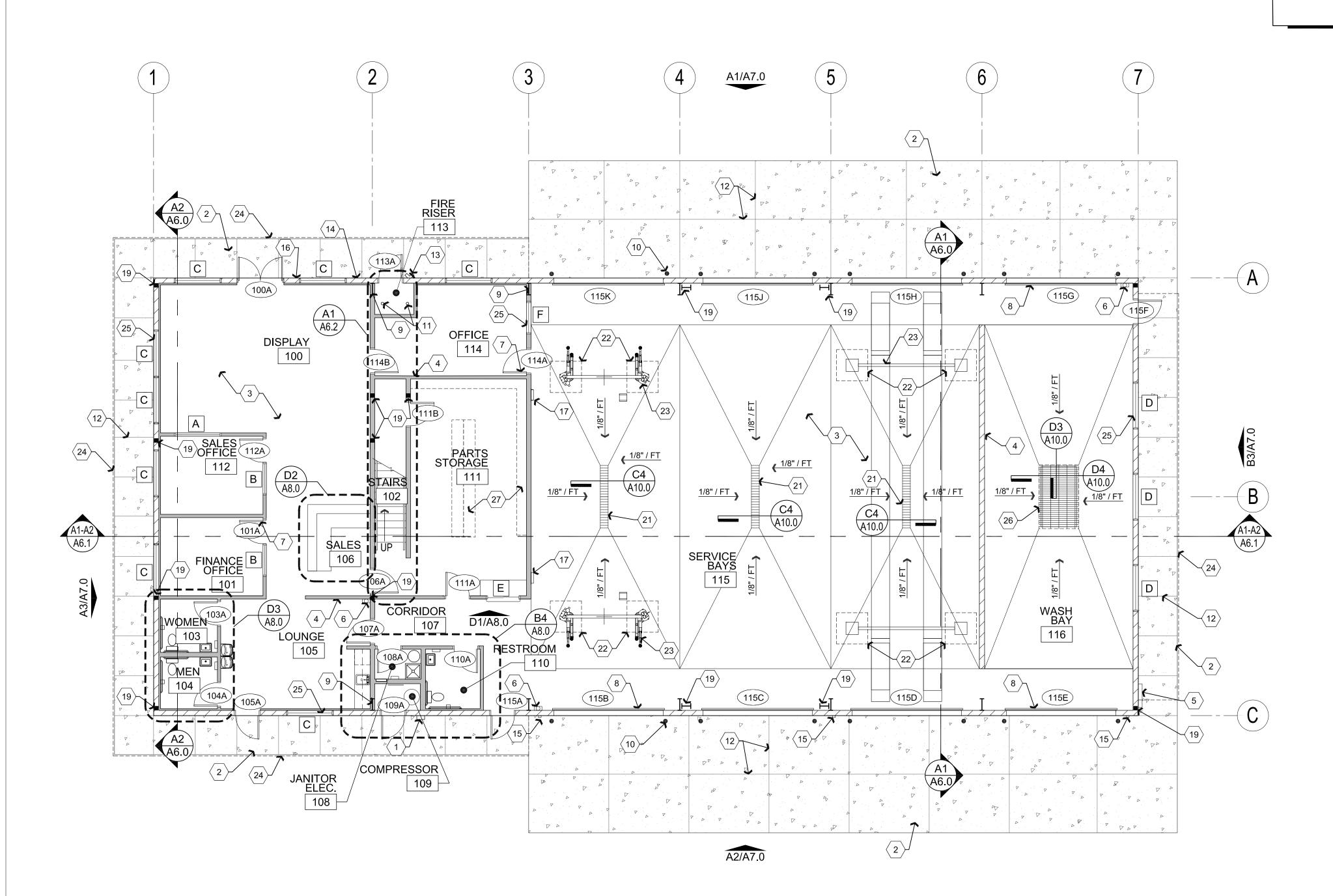


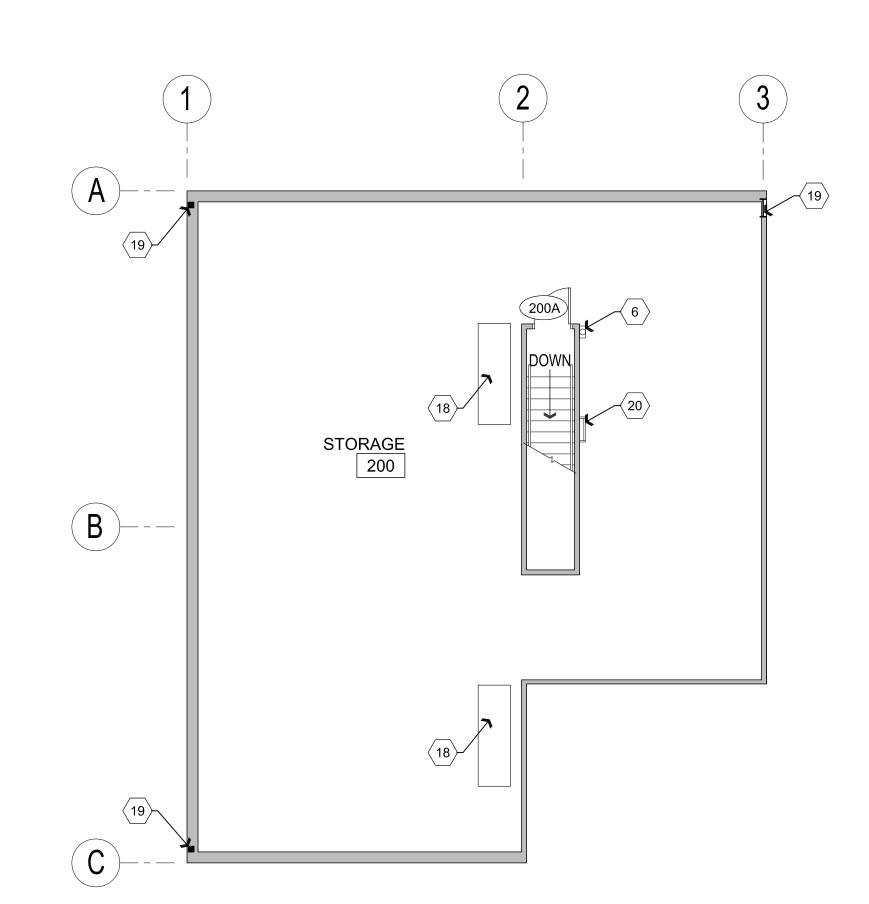
- CABLE TV TERMINAL BOX.
- PROVIDE CONCRETE SIDEWALK SLAB OVER COMPACTED A.B.C., REFER TO SITE PLAN AND CIVIL PLANS.
- PROVIDE CONCRETE SLAB OVER COMPACTED A.B.C. REFER TO STRUCTURAL PLANS.
- PROVIDE INTERIOR WALL, REFER TO WALL TYPES LEGEND FOR TYPE OF CONSTRUCTION.
- SECTION, REFER TO ELECTRICAL PLANS. PROVIDE TYPE 2A10BC FIRE EXTINGUISHER IN

PROVIDE ELECTRICAL SERVICE ENTRANCE

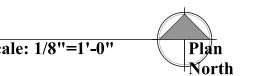
- SURFACE MOUNTED WALL CABINET. PROVIDE DOOR, REFER TO DOOR SCHEDULE,
- TYPICAL. PROVIDE SECTIONAL ROLL UP DOOR, REFER TO
- DOOR SCHEDULE, TYPICAL PROVIDE STEEL COLUMN WITHIN GPDW PARTITION.
- REFER TO STRUCTURAL PLANS, TYPICAL. PROVIDE 6'-0" LONG 4" DIAMETER, CONCRETE
- FILLED, PROTECTIVE STEEL BOLLARDS, EMBEDDED 2'-0" BELOW GRADE INTO CONCRETE FOOTING, TYPICAL AT EACH OVERHEAD DOOR.
- . PROVIDE AUTOMATIC FIRE SPRINKLER SYSTEM RISER, REFER TO FIRE SPRINKLER PLANS.
- 12. TYPICALLY INDICATES TOOLED CONCRETE CONTROL JOINT.

- 13. PROVIDE FIRE DEPARTMENT CONNECTION WITH
- LOCKING CAPS. REFER TO FIRE SPRINKLER PLANS. 14. PROVIDE FIRE ALARM GONG. REFER TO FIRE SPRINKLER PLANS.
- 15. PROVIDE SHEET METAL DOWNSPOUT. 16. PROVIDE FIRE DEPARTMENT LOCK BOX MOUNTED
- 6'-0" A.F.F.
- 17. PROVIDE ELECTRICAL PANEL. REFER TO ELECTRICAL PLANS.
- 18. HVAC UNIT WITH CONDENSER ON ROOF. REFER TO MECHANICAL PLANS.
- 19. PROVIDE STEEL COLUMN. REFER TO STRUCTURAL PLANS, TYPICAL.
- 20. ROOF ACCESS LADDER CONSTRUCTED IN ACCORDANCE WITH OSHA REQUIREMENTS.
- 21. PROVIDE STEEL 1-1/2" X 1/4" FLAT STRAP FLOOR GRATE, 8'-0" LONG BY 1'-0" WIDE, WITH STRAPS @ 1" O.C. REFER TO PLUMBING DRAWINGS FOR CONTINUATION TO SAND OIL SEPARATOR.
- 22. THICKENED SLAB FOR VEHICLE LIFT. VERIFY EXACT LOCATION.
- 23. VEHICLE LIFT PROVIDED BY OWNER.
- 24. LINE OF AWNING ABOVE.
- 25. PROVIDE WINDOW, REFER TO WINDOW TYPES. 26. PROVIDE STEEL GRATE OF 1/4" x 1 1/2" BARS AT 1" O.C. WITH INTERMEDIATE BARS AT 10" O.C. OVER
- CONCRETE DRAINAGE BASIN. 27. SHELVING BY OWNER.





Reference First Floor Plan



Reference Second Floor Plan
Scale: 1/8"=1'-0"



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**A2.0** 

EXTERIOR METAL BUILDING WALL: PROVIDE EXTERIOR METAL BUILDING 'A' SIDING PANELS OVER OVER 8" HORIZONTAL GIRTS BETWEEN STEEL COLUMNS ABOVE CMU WALL. PROVIDE R-11 VINYL BACKED, METAL BUILDING INSULATION ABOVE CMU WALL AT INTERIOR W/ METAL WALL LINER 'R' PANELS ABOVE CMU TO BASE OF EAVE PURLIN.

EXTERIOR METAL BUILDING WALL: PROVIDE EXTERIOR METAL BUILDING SIDING 'A'
PANELS ABOVE CMU WALL ON EXTERIOR
SIDE OVER 1/2" SUB GIRTS @ MAXIMUM 4'-0"
O.C. VERTICALLY WITH 5/8" GPDW ON
EXPOSED INTERIOR SIDE OF VERTICAL, 8",
18 GAUGE METAL STUDS AT 2'-0" O.C.
PROVIDE 2 1/2", 25 GAUGE METAL STUDS
@ 2' O.C. AT INTERIOR SIDE OF CMU WALL.
REFER TO STRUCTURAL PLANS. PROVIDE
R-19 AND R-11 UNFACED BATT INSULATION.

3-5/8" STUD WALL: PROVIDE 3-5/8" 25 GA.

STEEL STUDS AT 2'-0" O.C. WITH 5/8" GPDW
EACH SIDE. TOP OF PARTITION TO EXTEND 3"
ABOVE CEILING OR TO FLOOR STRUCTURE
ABOVE, ALLOWING FOR SPACE FOR
DUCTWORK TO PASS THROUGH ABOVE
WALL.

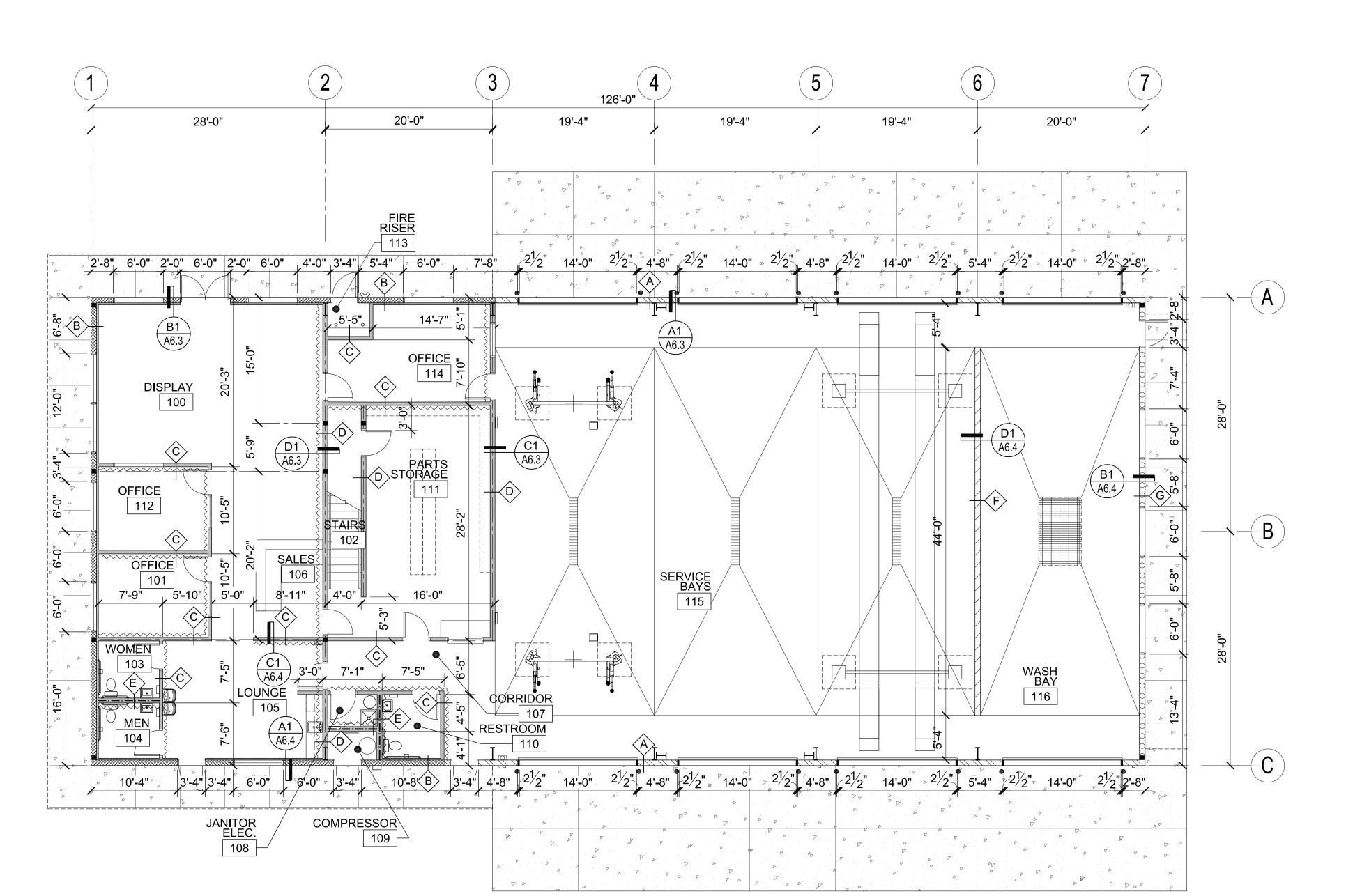
6" STUD WALL (LOAD-BEARING): PROVIDE 6"
18 GA. STEEL STUDS AT 2'-0" O.C. WITH 5/8"
GPDW ON EACH SIDE.

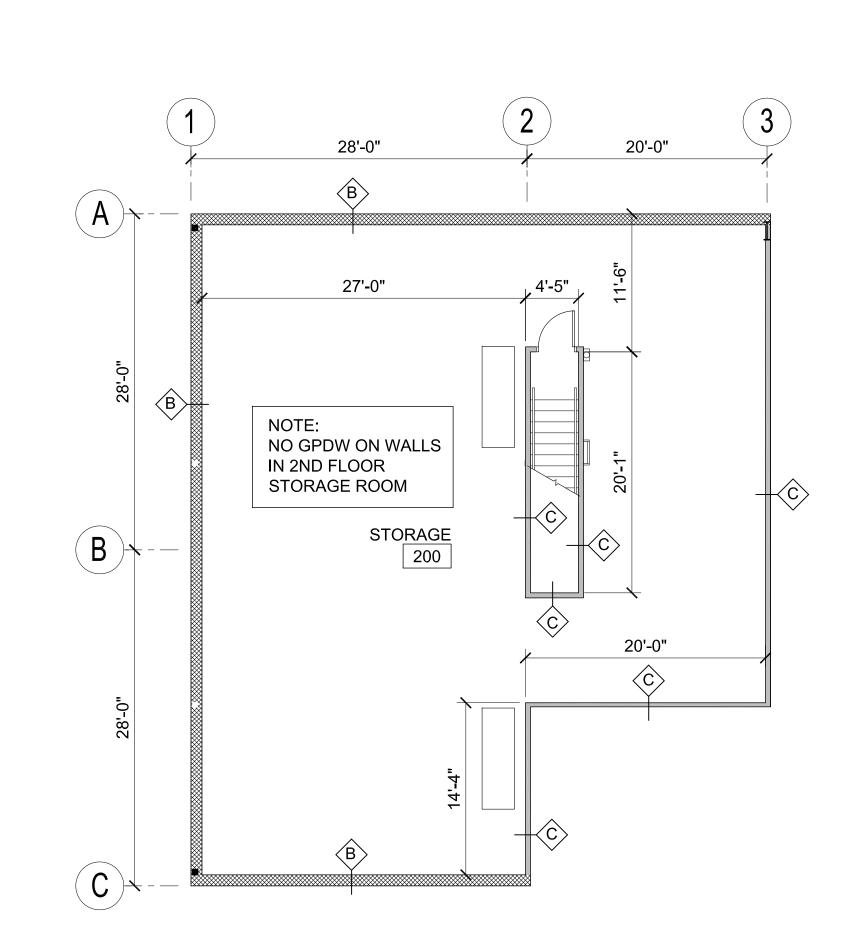
EXECUTE (PLUMBING WALL) 5/8" GPDW ON EACH SIDE OF 6" 25 GAUGE METAL STUDS AT 2'-0" O.C. PROVIDE 6" UNFACED BATT INSULATION. WALL SHALL EXTEND MINIMUM 6" ABOVE CEILING.

INTERIOR CMU WALL: 10'-4" TALL, 8"x8"x16"
CMU WALL. STRIKE JOINTS CONCAVE /
SMOOTH

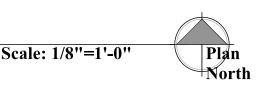
EXTERIOR METAL BUILDING WALL: PROVIDE EXTERIOR METAL BUILDING SIDING 'A'
PANELS ABOVE CMU WALL ON EXTERIOR
SIDE OVER 1/2" SUB GIRTS @ MAXIMUM 4'-0"
O.C. VERTICALLY WITH METAL WALL LINER
'R' PANELS ABOVE CMU TO BASE OF EAVE
PURLIN ON INTERIOR SIDE OF VERTICAL,
6",18 GAUGE METAL STUDS AT 2'-0" O.C.
REFER TO STRUCTURAL PLANS. PROVIDE
R-19 UNFACED BATT INSULATION.

INTERIOR WALL WITH R11 BATT INSULATION





Dimension First Floor Plan and Wall Types Plan



Dimension Second Floor Plan & Wall Type Plan
Scale: 1/8"=1'-0"



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SION FLOOR PLAN AND WALL TYPES PLAN

E: Galpin RV Cottonwood 925 E. State Rt 89A Cottonwood, AZ 8632

PROJECT: Gal

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W.A.K.

May 11th, 2016

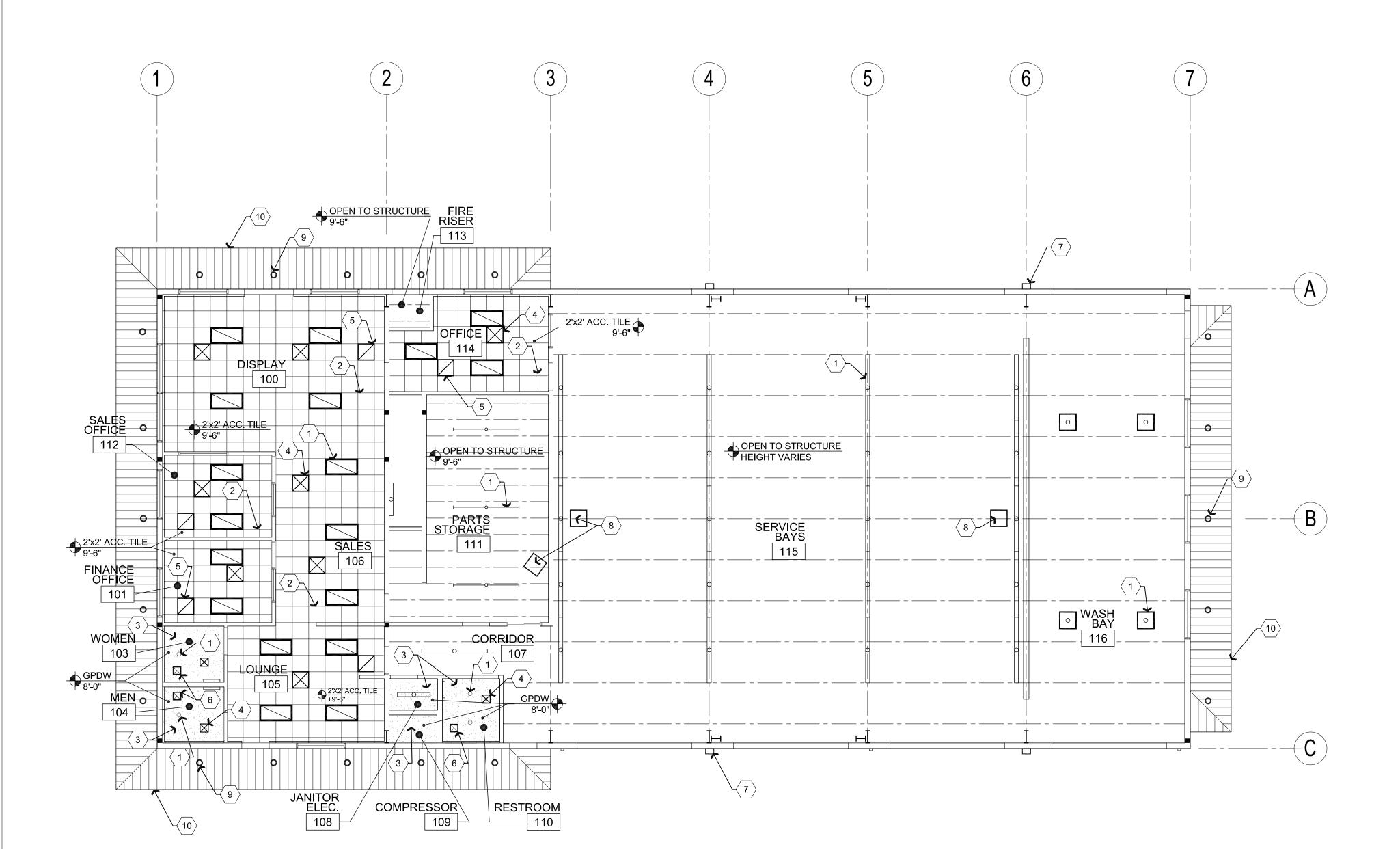
A3.0

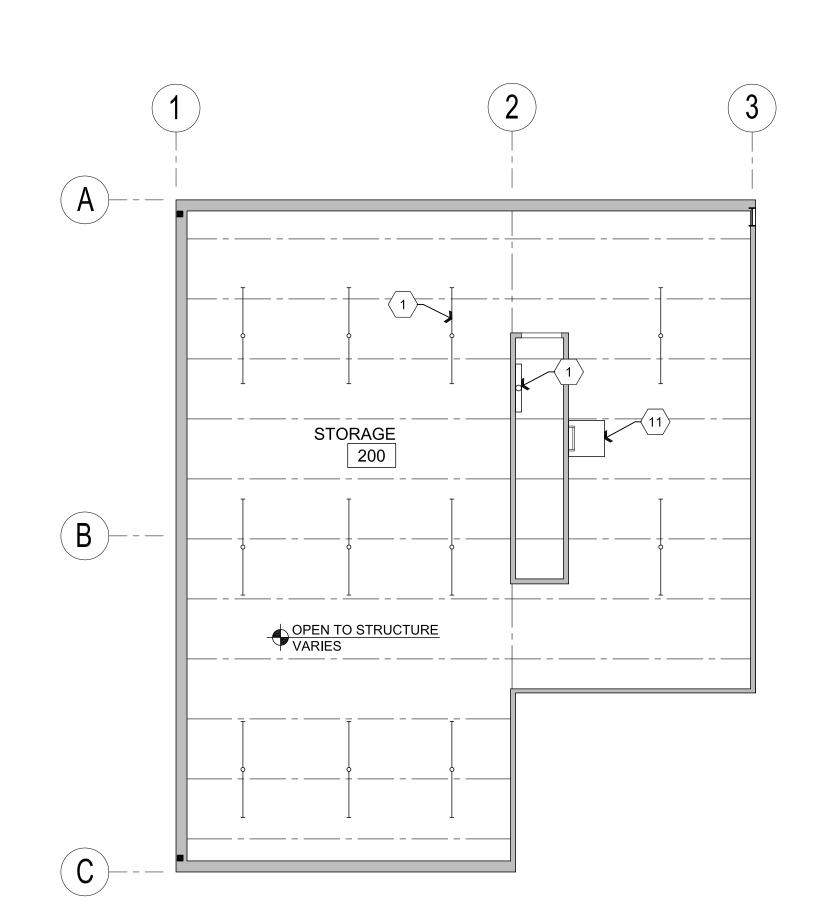


- LIGHT FIXTURE(S) SHOWN FOR QUANTITY AND LOCATION ONLY. REFER TO ELECTRICAL PLANS.
- 2. PROVIDE SUSPENDED ACOUSTIC PANEL CEILING. AC-1
- 3. PROVIDE 5/8" GPDW CEILING ATTACHED TO
- 35/8", 25 GAUGE, METAL JOISTS @ 2'-0" O.C.
  4. HVAC SUPPLY DIFFUSER, REFER TO MECHANICAL PLANS, TYPICAL.
  5. HVAC RETURN GRILLE, REFER TO MECHANICAL
- PLANS, TYPICAL.

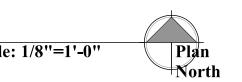
  6. EXHAUST FAN, REFER TO MECHANICAL PLANS,
- TYPICAL.
  7. EXTERIOR LIGHT FIXTURE. REFER TO
- ELECTRICAL PLANS.

  8. PROVIDE UNIT HEATER. REFER TO MECHANICAL PLANS.
- 9. SOFFIT LIGHT. REFER TO ELECTRICAL PLANS.10. METAL AWNING.
- 11. PROVIDE 3'-0"x3'-0" ROOF ACCESS HATCH TYPE E-20 AS MANUFACTURED BY BILCO.

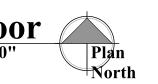




Reflected Ceiling Plan First Floor



Reflected Ceiling Plan Second Floor
Scale: 1/8"=1'-0"



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P 928-2 F 928-2

> alpin RV Cottonwood 25 E. State Rt 89A ottonwood, AZ 86326

PROJECT: Galp

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L.O.

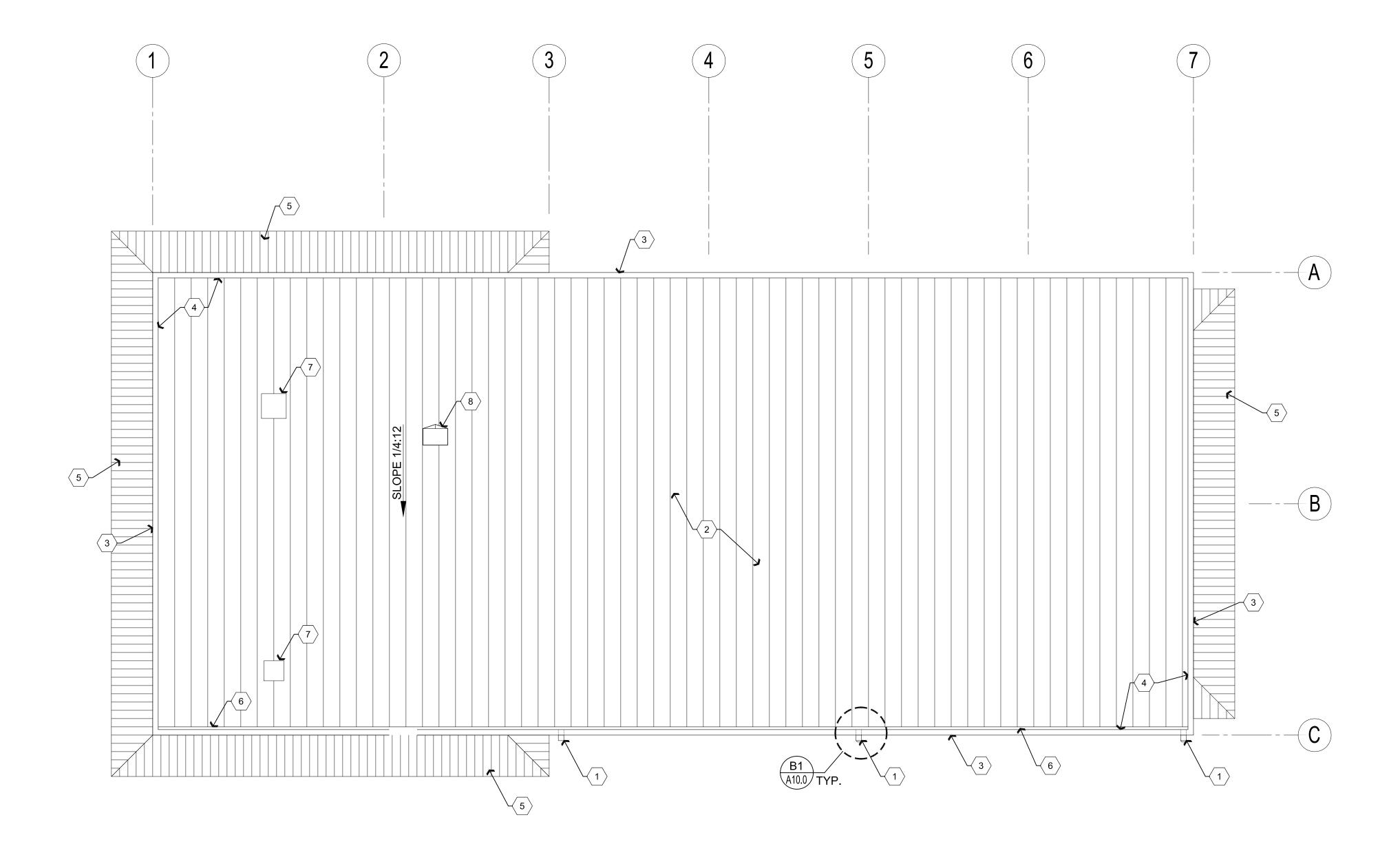
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W.A.K.

DATE
May 11th 2016

May 11th, 2016

JOB NO. 666

**A4.0** 





PROVIDE SHEET METAL DOWNSPOUT.
 PROVIDE STANDING SEAM METAL ROOF. M-1

3. PROVIDE SHEET METAL PARAPET CAP. M-7

4. PROVIDE SHEET METAL WALL / ROOF

FLASHING. 5. PROVIDE SHEET METAL AWNING. REFER TO

STRUCTURAL PLANS. M-8 6. PROVIDE FULLY WELDED 16 GAUGE SHEET

METAL GUTTER BEHIND WALL SYSTEM. 7. CONDENSING UNIT. REFER TO MECHANICAL PLANS.

8. PROVIDE 3'-0"x3'-0" ROOF ACCESS HATCH TYPE E-20 AS MANUFACTURED BY BILCO.

# Rof Drain Leader Sizes:

ROOF AREA: 6,815 S.F.

6,815 S.F. x 3" RAINFALL P.H. = (2) 3" x 4" LEADERS REQUIRED \* (3) 4" x 4" LEADERS PROVIDED

\*PER 2009 IPC SECTION 1106 (TABLE 1106.2)

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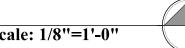
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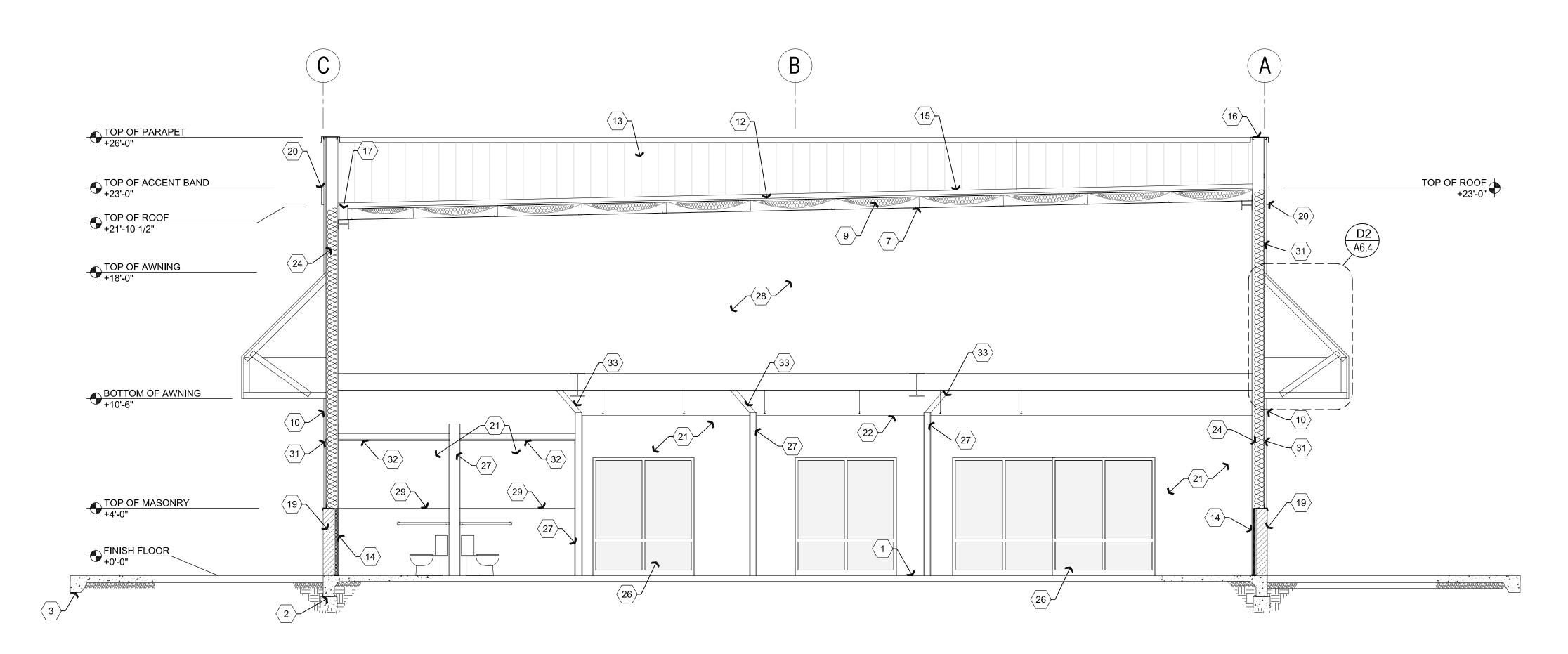
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May 11th, 2016

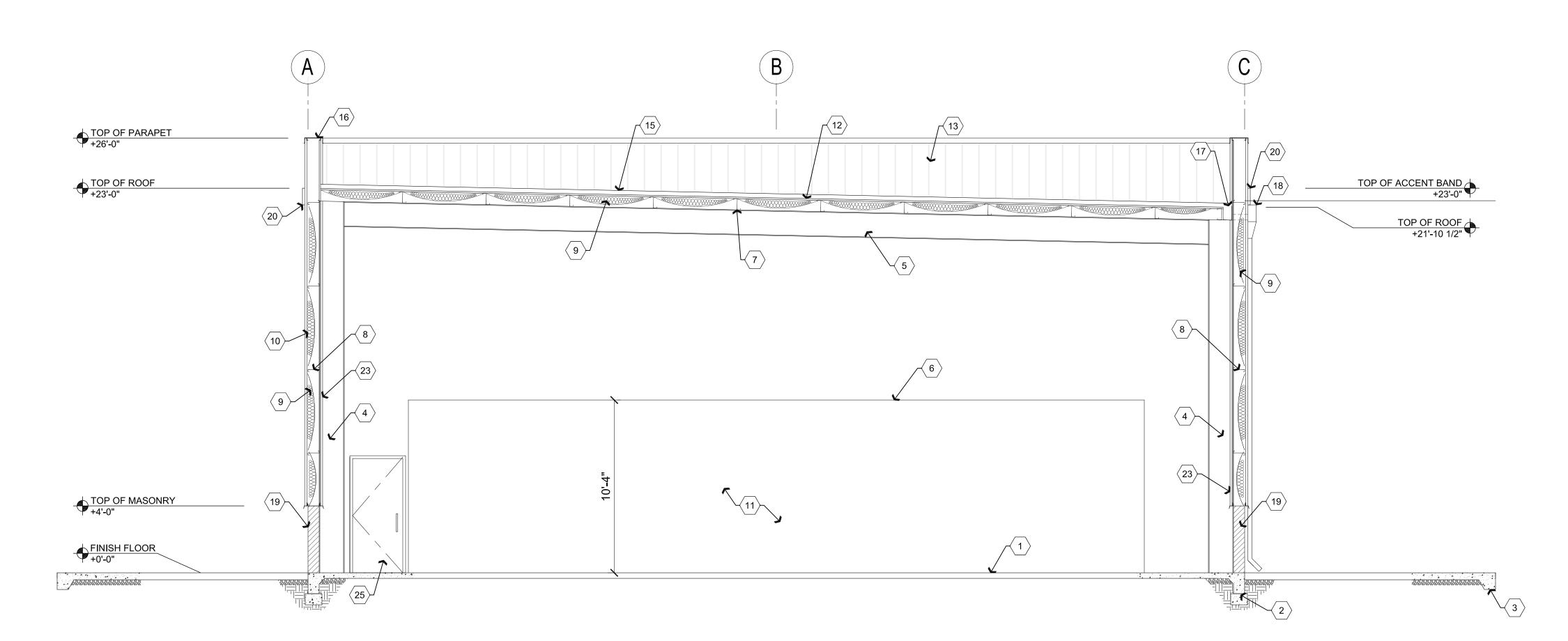
Roof Plan





# **Building Section**

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



**A** Building Section

STRUCTURAL PLANS.

3. PROVIDE 8" TURNDOWN AT CONCRETE SIDEWALK

4. PROVIDE STEEL COLUMN. REFER TO STRUCTURAL PLANS.

6. PROVIDE SOLID 8x4x16 CMU CAP.

STRUCTURAL PLANS.

STRUCTURAL PLANS.

9. PROVIDE R-11 VINYL FACED BLANKET INSULATION.

11. CMU PARTITION BEYOND. REFER TO REFERENCE

12. PROVIDE STANDING SEAM SHEET METAL ROOF

PARAPET. M-4

WITH R-11 UNFACED BATT INSULATION. 15. PROVIDE SHEET METAL WALL TO ROOF FLASHING.

16. PROVIDE SHEET METAL PARAPET CAP. M-7

GUTTER BEHIND WALL SYSTEM. 18. PROVIDE SHEET METAL CONDUCTOR HEAD AND

19. PROVIDE 4'-0" HIGH, 8"x8"x16" SINGLE-SCORE CONCRETE MASONRY UNIT WAINSCOT. REFER TO

21. PROVIDE \( \frac{5}{8} \)" GPDW.

22. SUSPENDED CEILING. REFER TO REFLECTED

23. PROVIDE SHEET METAL LINER PANEL. M-5

26. PROVIDE STOREFRONT WINDOW. REFER TO REFERENCE FLOOR PLAN AND WINDOW TYPES.

27. PARTITION WALL. REFER TO REFERENCE FLOOR

28. SECOND FLOOR STORAGE AREA.

29. PROVIDE FRP TO 4'-0" HIGH. FRP-1

Discriptive Keynotes  $\bigcirc$ 

PROVIDE CONCRETE SLAB OVER COMPACTED A.B.C., SAWCUT SLAB AT APPROXIMATELY 12'-0" O.C. IN BOTH DIRECTIONS. REFER TO STRUCTURAL PLANS.

2. PROVIDE CONCRETE FOOTING. REFER TO

SLAB. REFER TO ARCHITECTURAL SITE PLAN.

5. PROVIDE STEEL BEAM. REFER TO STRUCTURAL

PLANS.

7. PROVIDE ROOF PURLIN, TYPICAL. REFER TO

8. PROVIDE STEEL GIRT, TYPICAL. REFER TO

10. PROVIDE ARCHITECTURAL METAL SIDING. M-2

FLOOR PLAN AND WALL TYPES LEGEND.

PANELS. REFER TO MATERIAL SCHEDULE. M-1 13. PROVIDE SHEET METAL LINER PANEL ON INSIDE OF

14. PROVIDE  $2\frac{1}{2}$ , 25 GAUGE METAL STUDS @ 2'-0" O.C.

17. PROVIDE FULLY WELDED 16 GAUGE SHEET METAL

DOWNSPOUT. M-6

STRUCTURAL PLANS. CMU-1

20. ACCENT COLOR BAND. M-3

CEILING PLAN. AC-1

24. PROVIDE R-19 UNFACED BATT INSULATION. 25. PROVIDE DOOR. REFER TO REFERENCE FLOOR PLAN AND DOOR SCHEDULE.

PLAN AND WALL TYPES PLAN.

30. NOT USED.

31. PROVIDE ½" SUB-GIRTS @ 48" O.C. VERTICALLY.
32. PROVIDE 5/8" GPDW CEILING. REFER TO
REFLECTED CEILING PLAN.

33. PROVIDE 35/8", 25 GAUGE LATERAL STABILIZATION @ 6'-0" O.C. MAXIMUM.

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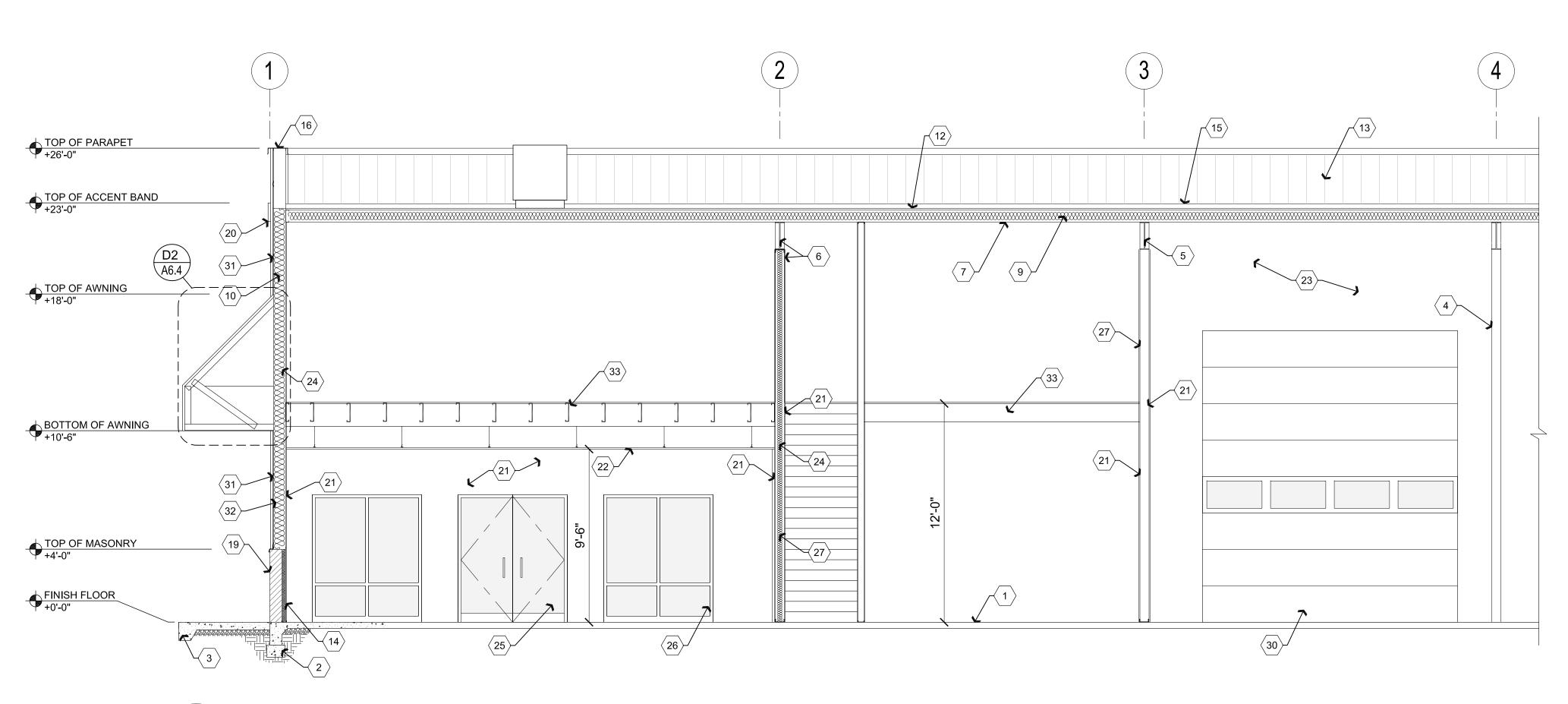
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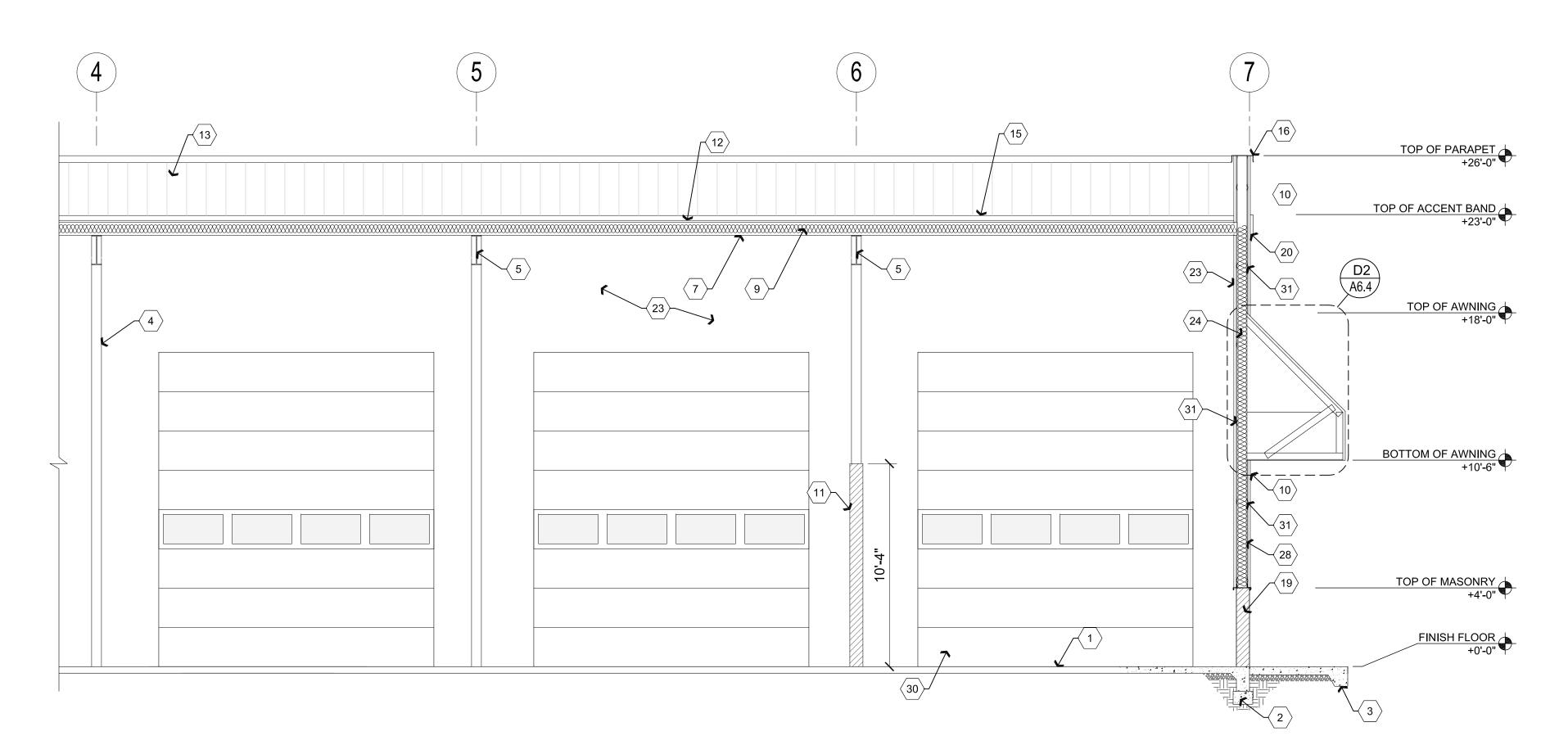
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May 11th, 2016 SHEET

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



**Building Section (East side)** 



**Building Section (West side)** 

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

Discriptive Keynotes  $\bigcirc$ 

PROVIDE CONCRETE SLAB OVER COMPACTED A.B.C., SAWCUT SLAB AT APPROXIMATELY 12'-0" O.C. IN BOTH DIRECTIONS. REFER TO STRUCTURAL

2. PROVIDE CONCRETE FOOTING. REFER TO

4. PROVIDE STEEL COLUMN. REFER TO STRUCTURAL

6. PROVIDE STEEL BEAM AND COLUMN WITHIN WALL.

7. PROVIDE ROOF PURLIN, TYPICAL. REFER TO

10. PROVIDE ARCHITECTURAL METAL SIDING. M-2

PLAN AND WALL TYPES LEGEND.

13. PROVIDE SHEET METAL LINER PANEL ON INSIDE OF PARAPET. M-4

WITH R-11 UNFACED BATT INSULATION.

17. NOT USED.

18. NOT USED.

CONCRETE MASONRY UNIT WAINSCOT. REFER TO STRUCTURAL PLANS. CMU-1

22. SUSPENDED CEILING. REFER TO REFLECTED

24. PROVIDE R-19 UNFACED BATT INSULATION.

PLAN AND DOOR SCHEDULE.

REFERENCE FLOOR PLAN AND WINDOW TYPES.

PLAN AND WALL TYPES PLAN.

AND STRUCTURAL PLANS.

31. PROVIDE  $\frac{1}{2}$ " SUB-GIRTS @ 48" O.C. 32. PROVIDE 8" METAL STUDS. REFER TO WALL TYPES

STRUCTURAL PLANS.

PROVIDE 8" TURNDOWN AT CONCRETE SIDEWALK. REFER TO ARCHITECTURAL SITE PLAN.

5. PROVIDE STEEL BEAM. REFER TO STRUCTURAL

REFER TO STRUCTURAL PLANS.

STRUCTURAL PLANS. 8. NOT USED.

9. PROVIDE R-11 VINYL FACED BLANKET INSULATION.

11. CMU PARTITION. REFER TO REFERENCE FLOOR

12. PROVIDE STANDING SEAM SHEET METAL ROOF PANELS. REFER TO MATERIAL SCHEDULE. M-1

14. PROVIDE 2 ½", 25 GAUGE METAL STUDS @ 2'-0" O.C.

15. PROVIDE SHEET METAL WALL TO ROOF FLASHING.

16. PROVIDE SHEET METAL PARAPET CAP. M-7

19. PROVIDE 4'-0" HIGH, 8"x8"x16" SINGLE-SCORE

20. ACCENT COLOR BAND. M-3 21. PROVIDE \( \frac{5}{8} \)" GPDW.

CEILING PLAN. AC-1 23. PROVIDE SHEET METAL LINER PANEL. M-5

25. PROVIDE DOOR. REFER TO REFERENCE FLOOR

26. PROVIDE STOREFRONT WINDOW. REFER TO 27. PARTITION WALL. REFER TO REFERENCE FLOOR

28. PROVIDE 6" METAL STUDS. REFER TO WALL TYPES

29. NOT USED. 30. PROVIDE SECTIONAL ROLL UP DOOR, REFER TO

DOOR SCHEDULE. (TYPICAL)

AND STRUCTURAL PLANS.

33. FLOOR STRUCTURE, REFER TO STRUCTURAL PLANS.

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1. 1-1/2" SCHEDULE 40 PAINTED PIPE STEEL HANDRAIL @ 36" ABOVE STAIR NOSING.

2. CONCRETE SLAB - REFER TO STRUCTURAL PLANS.

3. NOT USED. 4. ACOUSTICAL PANEL CEILING - REFER TO

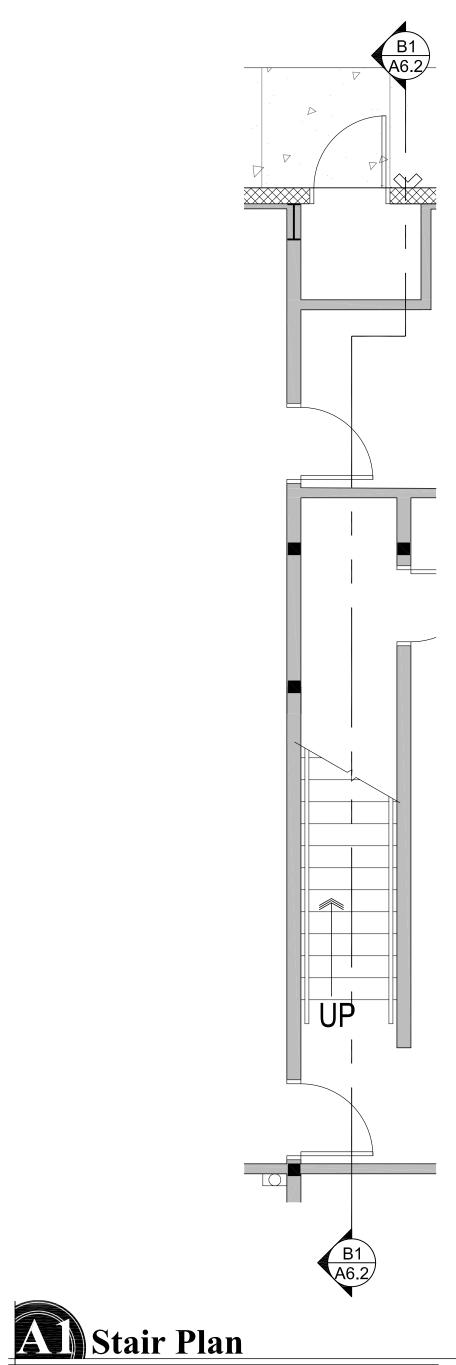
REFLECTED CEILING PLANS. AC-1 5. REFER TO STRUCTURAL PLANS FOR ATTACHMENT.

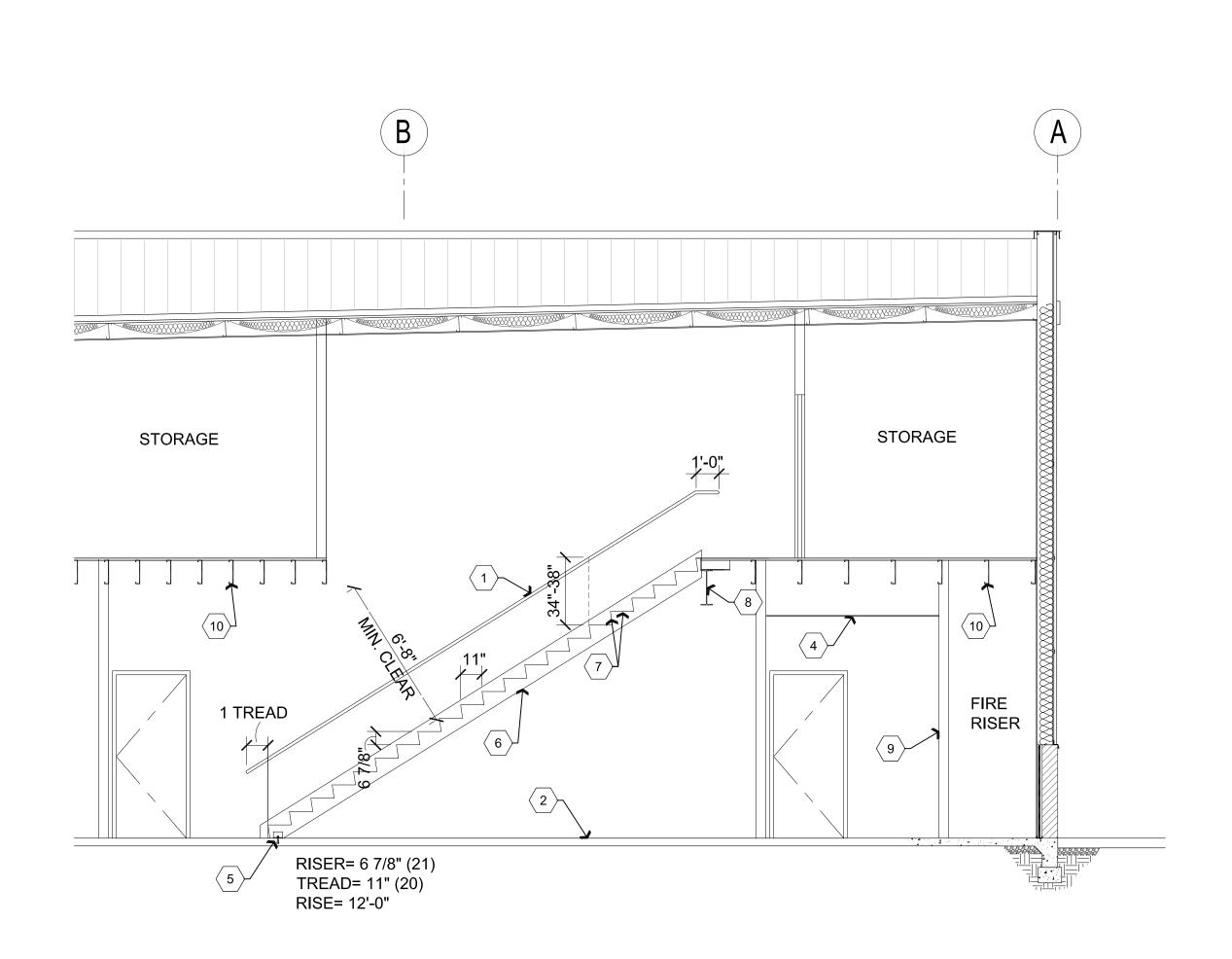
6. STEEL STRINGER - REFER TO STRUCTURAL PLANS. 7. PRE-BENT 12 GAUGE DIAMOND PLATE TREAD /

RISERS - REFER TO STRUCTURAL PLANS. 8. STEEL BEAM, REFER TO STRUCTURAL PLANS.

9. WALL - REFER TO WALL TYPES PLAN.

10. FLOOR JOIST, REFER TO STRUCTURAL PLANS.





B Stair Section

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

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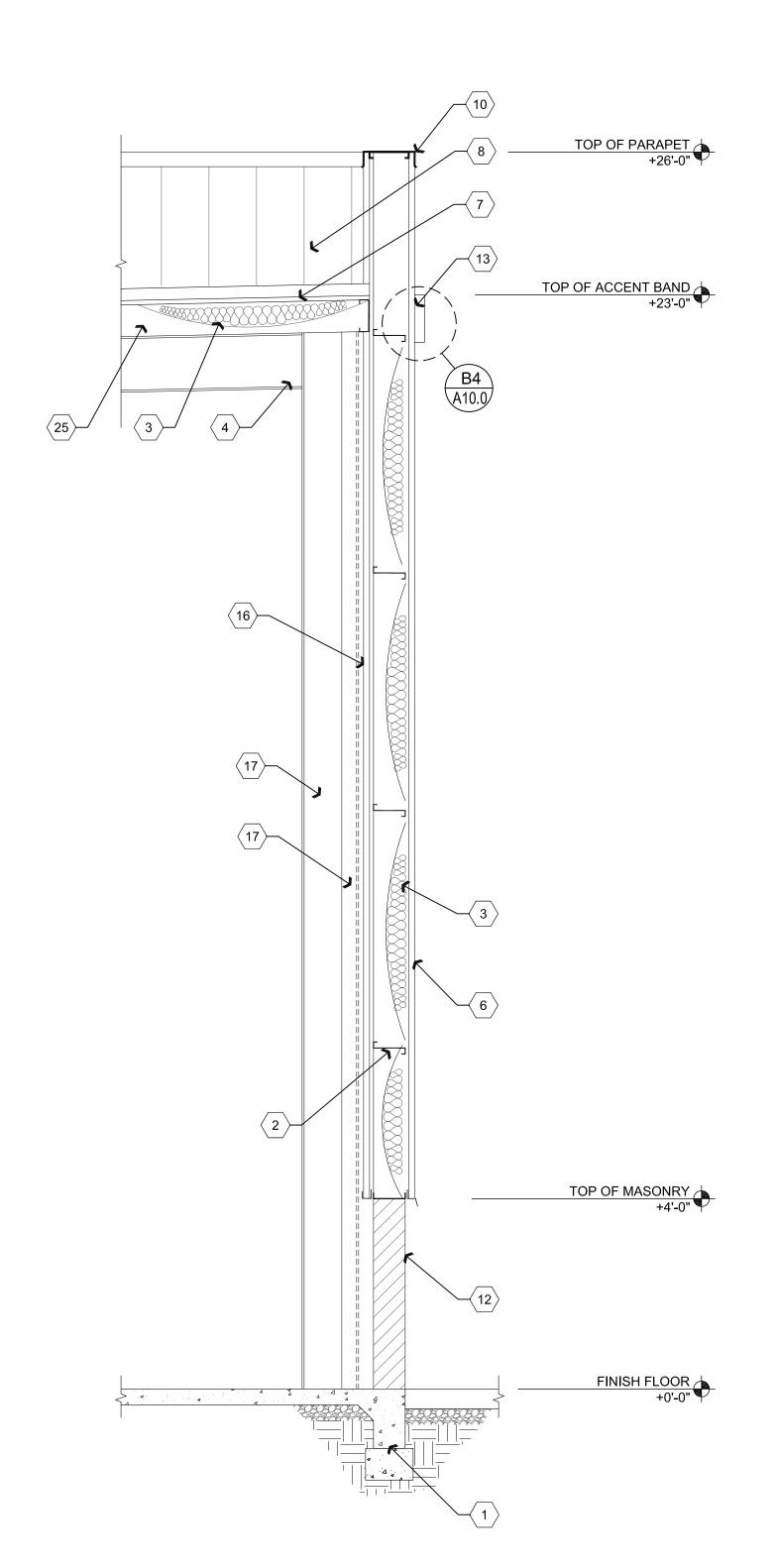
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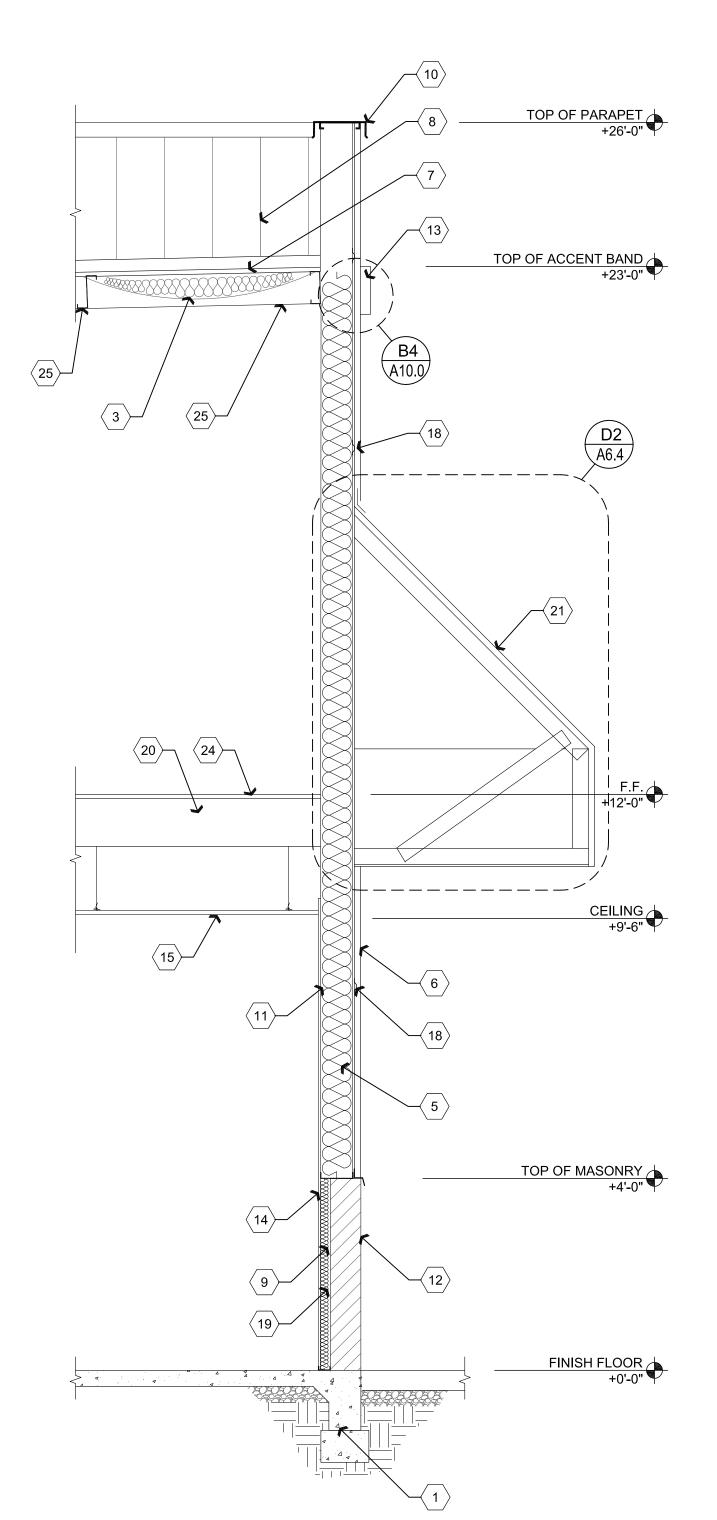
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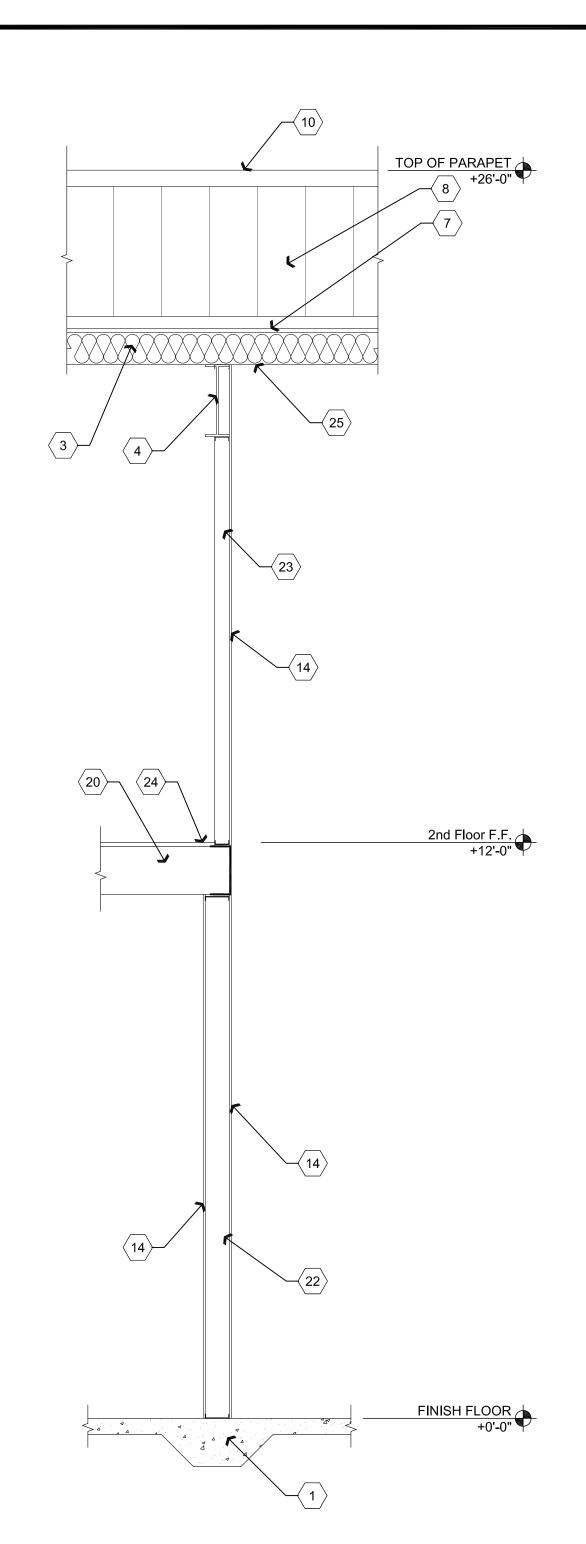
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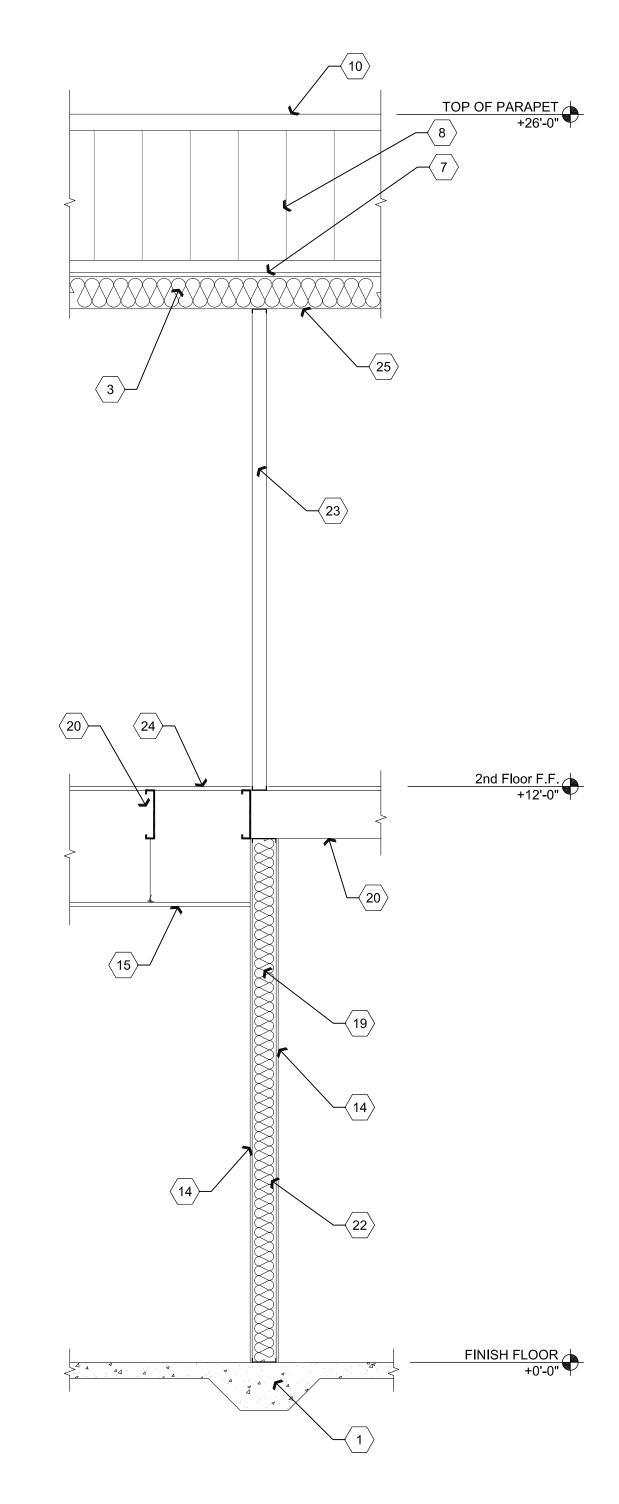
# **Discriptive Keynotes**

- PROVIDE CONCRETE FOOTING. REFER TO
- STRUCTURAL PLANS. 2. PROVIDE STEEL GIRT, TYPICAL. REFER TO STRUCTURAL PLANS.
- 3. PROVIDE R-11 VINYL FACED BLANKET INSULATION. 4. PROVIDE STEEL BEAM. REFER TO STRUCTURAL PLANS.
- 5. PROVIDE R-19 UNFACED BATT INSULATION.
- 6. PROVIDE ARCHITECTURAL METAL SIDING. M-2
- 7. PROVIDE STANDING SEAM SHEET METAL ROOF PANELS. REFER TO MATERIAL SCHEDULE. M-1
- 8. PROVIDE SHEET METAL LINER PANEL ON INSIDE OF PARAPET. REFER TO MATERIAL SCHEDULE. M-4
- 9. PROVIDE 2  $\frac{1}{2}$ ", 25 GAUGE METAL STUDS @ 2'-0" O.C. 10. PROVIDE SHEET METAL PARAPET CAP. M-7
- 11. PROVIDE 8" METAL STUDS @ 2'-0" O.C. REFER TO
- WALL TYPES PLAN. 12. PROVIDE 4'-0" HIGH, 8"x8"x16" SINGLE-SCORE CONCRETE MASONRY UNIT WAINSCOT. REFER TO
- STRUCTURAL PLANS. CMU-1 13. ACCENT COLOR BAND. M-3
- 14. PROVIDE \(^{5}\_{8}\)" GPDW.
- 15. SUSPENDED ACOUSTICAL CEILING. REFER TO
- REFLECTED CEILING PLAN. AC-1 16. PROVIDE SHEET METAL LINER PANEL. M-5
- 17. PROVIDE STEEL COLUMN. REFER TO STRUCTURAL
- PLANS.
- 18. PROVIDE  $\frac{1}{2}$ " SUB-GIRTS @ 48" O.C. VERTICALLY.
- 19. PROVIDE R-11 UNFACED BATT INSULATION. 20. FLOOR JOIST. REFER TO STRUCTURAL PLANS.
- 21. PROVIDE METAL AWNING SYSTEM. REFER TO STRUCTURAL PLANS. M-8
- 22. PROVIDE 6" METAL STUDS @ 2'-0" O.C. REFER TO WALL TYPES PLAN.
- 23. PROVIDE 3 5/8" METAL STUDS @ 2'-0" O.C. REFER
- TO WALL TYPES PLAN. 24. PROVIDE 3/4" OSB.
- 25. PROVIDE ROOF PURLIN, REFER TO STRUCTURAL
- PLANS.

















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**A6.3** 

Wall Section

- 1. PROVIDE CONCRETE FOOTING. REFER TO
- STRUCTURAL PLANS. 2. PROVIDE 8x4x16 SOLID CMU CAP.
- 3. PROVIDE R-11 VINYL FACED BLANKET INSULATION.
- 4. NOT USED. 5. PROVIDE R-19 UNFACED BATT INSULATION.
- 6. PROVIDE ARCHITECTURAL METAL SIDING. M-2
- 7. PROVIDE STANDING SEAM SHEET METAL ROOF PANELS. REFER TO MATERIAL SCHEDULE. M-1
- 8. PROVIDE SHEET METAL LINER PANEL ON INSIDE OF PARAPET. REFER TO MATERIAL SCHEDULE. M-4
- 9. PROVIDE 2  $\frac{1}{2}$ ", 25 GAUGE METAL STUDS @ 2'-0" O.C. 10. PROVIDE SHEET METAL PARAPET CAP. M-7
- 11. PROVIDE 8" METAL STUDS @ 2'-0" O.C. REFER TO WALL TYPES PLAN.
  - 12. PROVIDE 4'-0" HIGH, 8"x8"x16" SINGLE-SCORE CONCRETE MASONRY UNIT WAINSCOT. REFER TO STRUCTURAL PLANS. CMU-1
  - 13. ACCENT COLOR BAND. M-3
  - 14. PROVIDE \(^{5}\_{8}\)" GPDW.
  - 15. SUSPENDED ACOUSTICAL CEILING. REFER TO REFLECTED CEILING PLAN. AC-1
  - 16. PROVIDE SHEET METAL LINER PANEL. M-5
  - 17. NOT USED.
  - 18. PROVIDE ½" SUB-GIRTS @ 48" O.C. VERTICALLY.
  - 19. PROVIDE R-11 UNFACED BATT INSULATION.
- 20. FLOOR JOIST. REFER TO STRUCTURAL PLANS.
- 21. PROVIDE 8" CMU WALL. REFER TO STRUCTURAL PLANS.
- 22. PROVIDE  $3\frac{5}{8}$ ", 25 GAUGE LATERAL STABILIZATION @ 6'-0" O.C. MAXIMUM.
- 23. PROVIDE 3 5/8" METAL STUDS @ 2'-0" O.C. REFER TO WALL TYPES PLAN.
- 24. PROVIDE METAL AWNING SYSTEM. REFER TO STRUCTURAL PLANS.
- 25. PROVIDE 6" METAL STUDS @ 2'-0" O.C. REFER TO
- WALL TYPES PLAN.
- 26. PROVIDE STRUCTURAL FRAMING FOR AWNING SYSTEM. REFER TO STRUCTURAL PLANS.
- 27. PROVIDE ARTISAN SERIES, 12" WIDE, 26 GAUGE SIGNATURE 200 PANELS AT METAL SOFFIT SYSTEM. M-3
- 28. PROVIDE 24 GAUGE SIGNATURE 200 LOKSEAM 1'-6" METAL ROOF PANEL AT METAL AWNING
- SYSTEM. M-8 29. CUT FLANGES AND PLACE BEHIND VERTICAL.

REVISIONS

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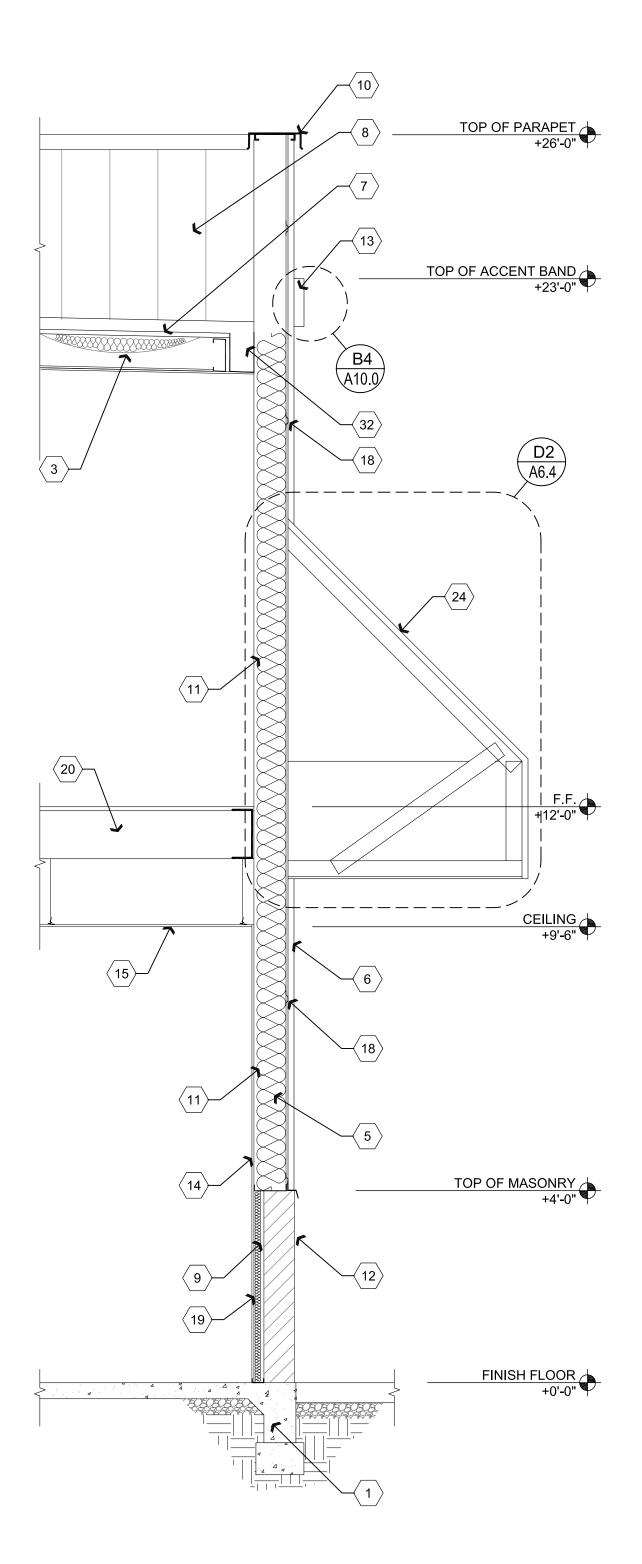
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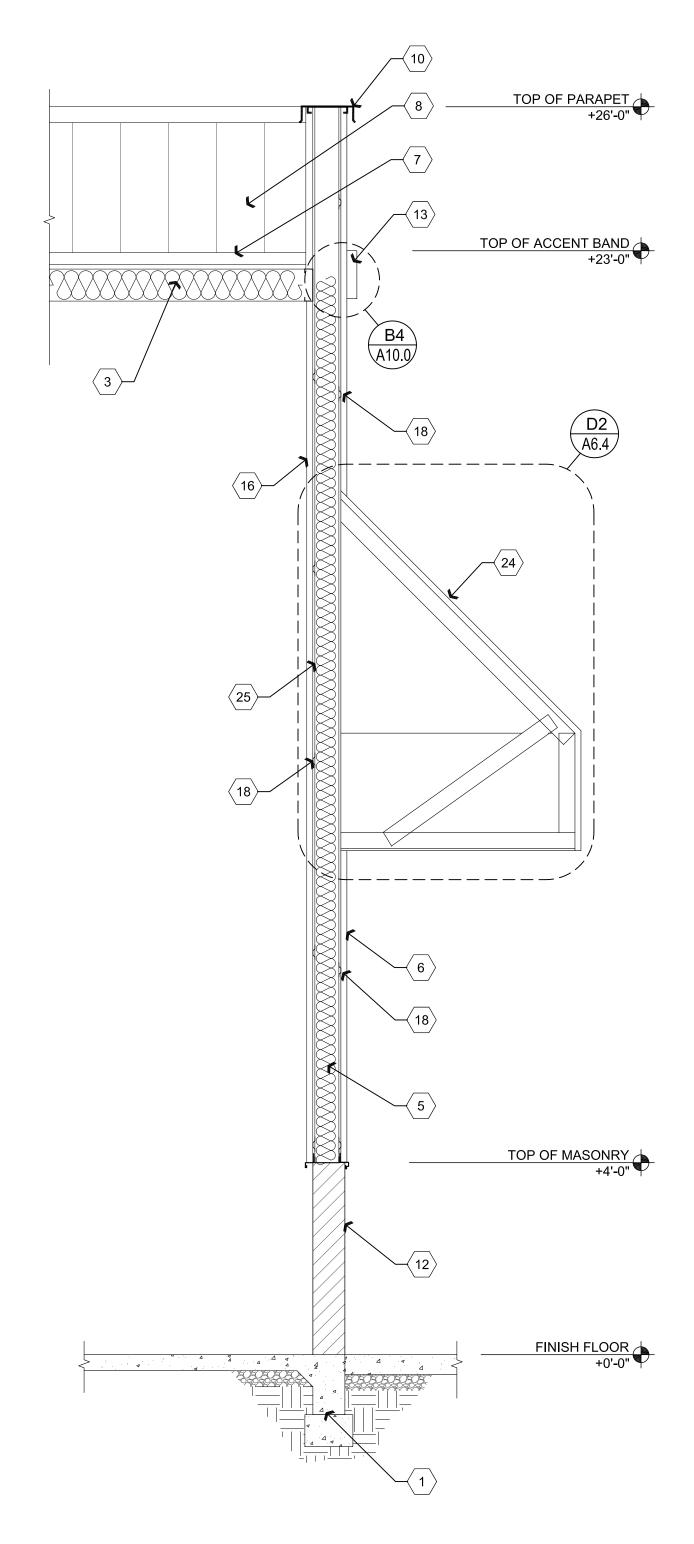
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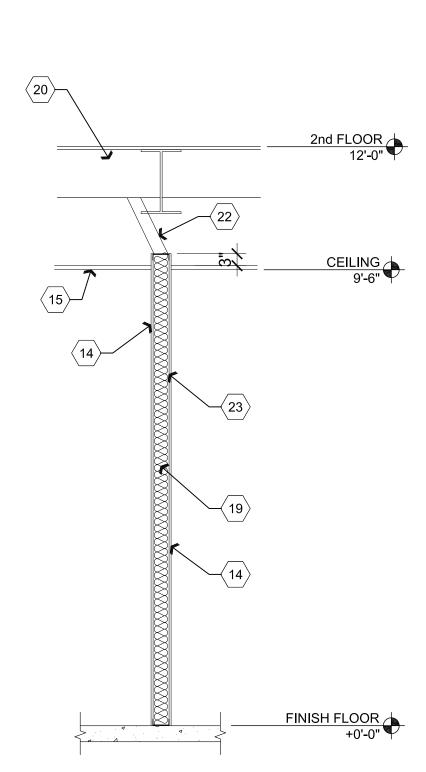
ates

- 30. CONTINUOUS LIGHT GAUGE STEEL TRACK, REFER TO STRUCTURAL PLANS.
- 31. STEEL STUD WALL. REFER TO WALL TYPES PLAN. 32. PROVIDE FULLY WELDED 16 GAUGE SHEET METAL
- GUTTER BEHIND FASCIA SYSTEM.

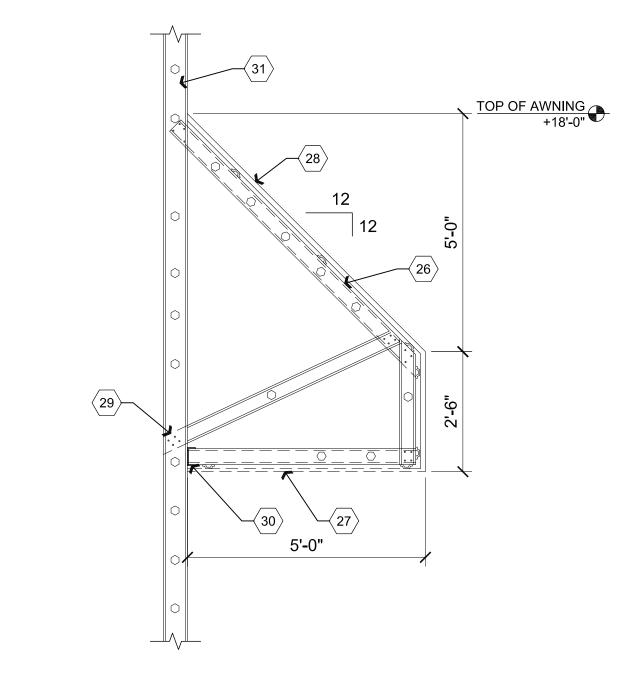


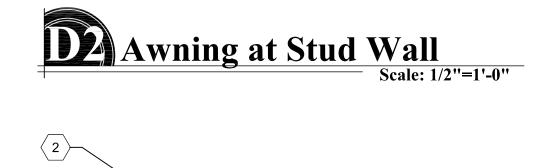


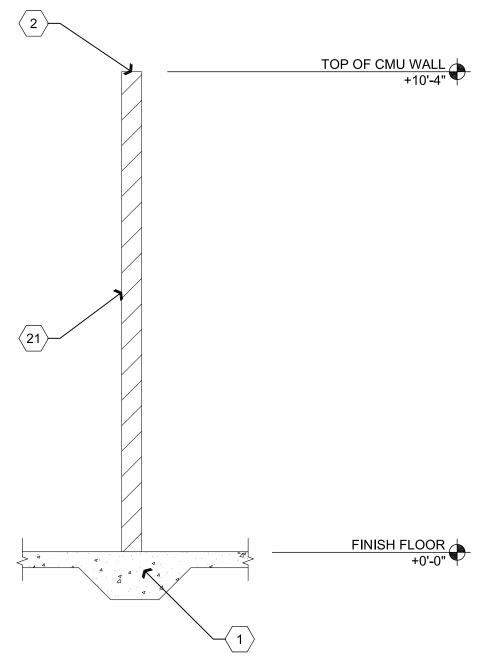
B Wall Section





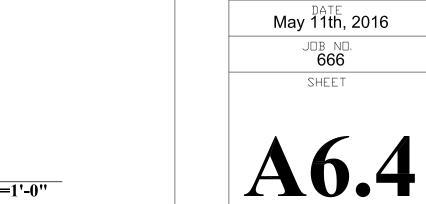








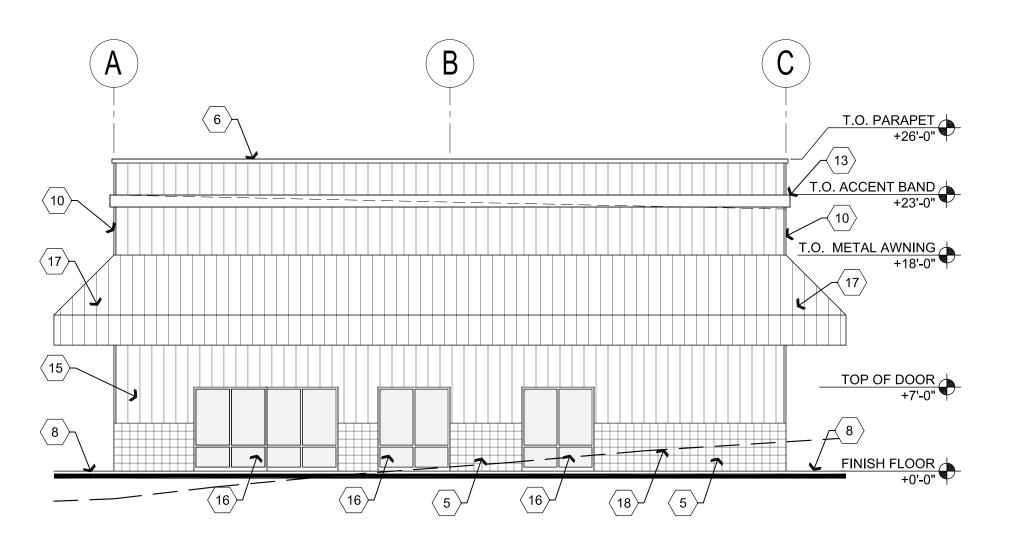


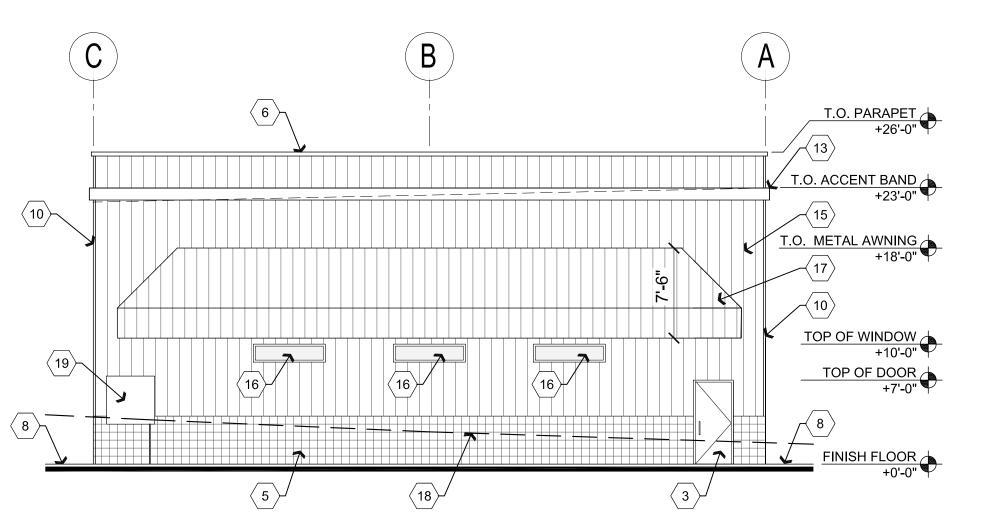


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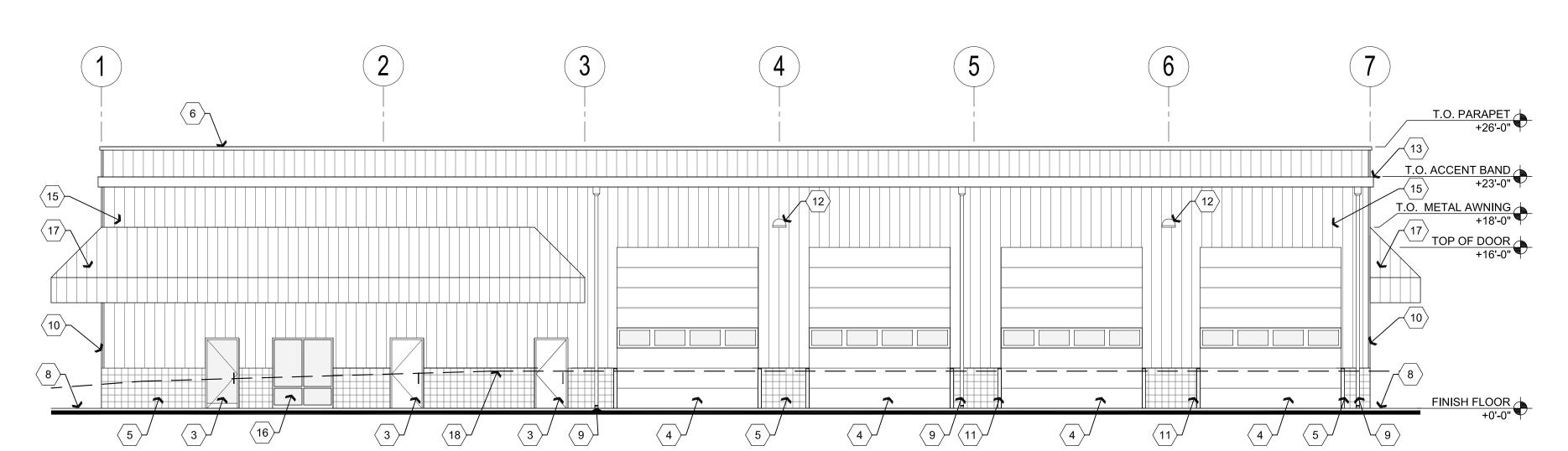
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Wall Section





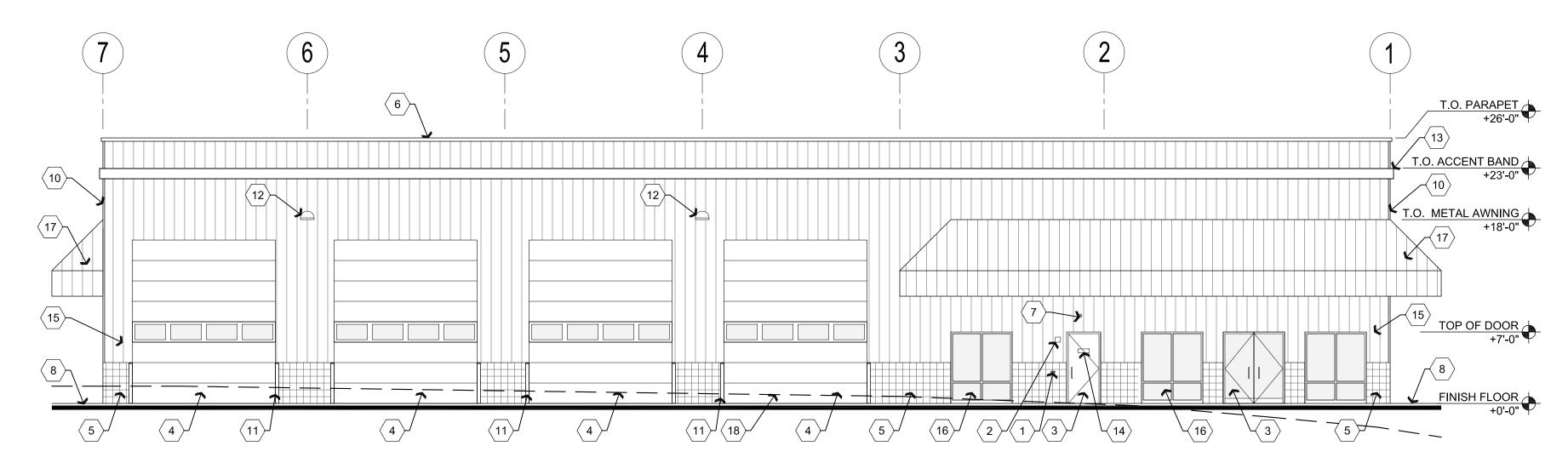
**B** East Elevation



Scale: 1/8"=1'-0"

South Elevation

**West Elevation** 



**North Elevation** 

Scale: 1/8"=1'-0"

Discriptive Keynotes  $\bigcirc$ 

PROVIDE FIRE DEPARTMENT CONNECTION WITH LOCKING CAPS, REFER TO FIRE SPRINKLER PLANS. PROVIDE FIRE DEPARTMENT LOCK BOX MOUNTED

6'-0" A.F.F. PROVIDE DOOR, REFER TO REFERENCE FLOOR

PLAN AND DOOR SCHEDULE.

SECTIONAL OVERHEAD DOOR, REFER TO REFERENCE FLOOR PLAN AND DOOR SCHEDULE.

4'-0" HIGH 8"x8"x16" SINGLE SCORE CMU WITH RAKED JOINTS, REFER TO STRUCTURAL PLANS. PT-1 CMU-1

PROVIDE SHEET METAL PARAPET CAP. M-7

PROVIDE CONCRETE SIDEWALK, REFER TO

ARCHITECTURAL SITE PLAN.

11. 4" STEEL CONCRETE FILLED BOLLARDS, 4'-0" ABOVE CONCRETE WITH 2'-0" EMBEDDED INTO CONCRETE FOOTING BELOW, TYPICAL.

13. PROVIDE ACCENT COLOR BAND. M-3

14. PROVIDE SIGN STATING "FIRE RISER INSIDE". LETTERS SHALL BE MINIMUM OF 1" TALL, RED IN

15. PROVIDE METAL WALL PANEL. REFER TO , WALL TYPES PLAN AND MATERIALS SCHEDULE. M-2

16. EXTERIOR WINDOW. REFER TO REFERENCE FLOOR PLAN AND WINDOW TYPES.

METAL ROOF PANEL AT METAL AWNING SYSTEM.

GRADING OF THE SITE.

19. ELECTRIC SERVICE ENTRANCE SECTION. REFER TO ELECTRICAL PLANS.

PROVIDE FIRE ALARM GONG. REFER TO AUTOMATIC FIRE SPRINKLER PLANS.

PROVIDE SHEET METAL DOWNSPOUT. M-6 10. PROVIDE SHEET METAL CORNER TRIM.

12. LIGHT FIXTURE, REFER TO ELECTRICAL PLANS.

COLOR ON WHITE BACKGROUND.

17. PROVIDE 24 GAUGE SIGNATURE 200 LOKSEAM

18. EXISTING GROUND ELEVATION PRIOR TO

REVISIONS

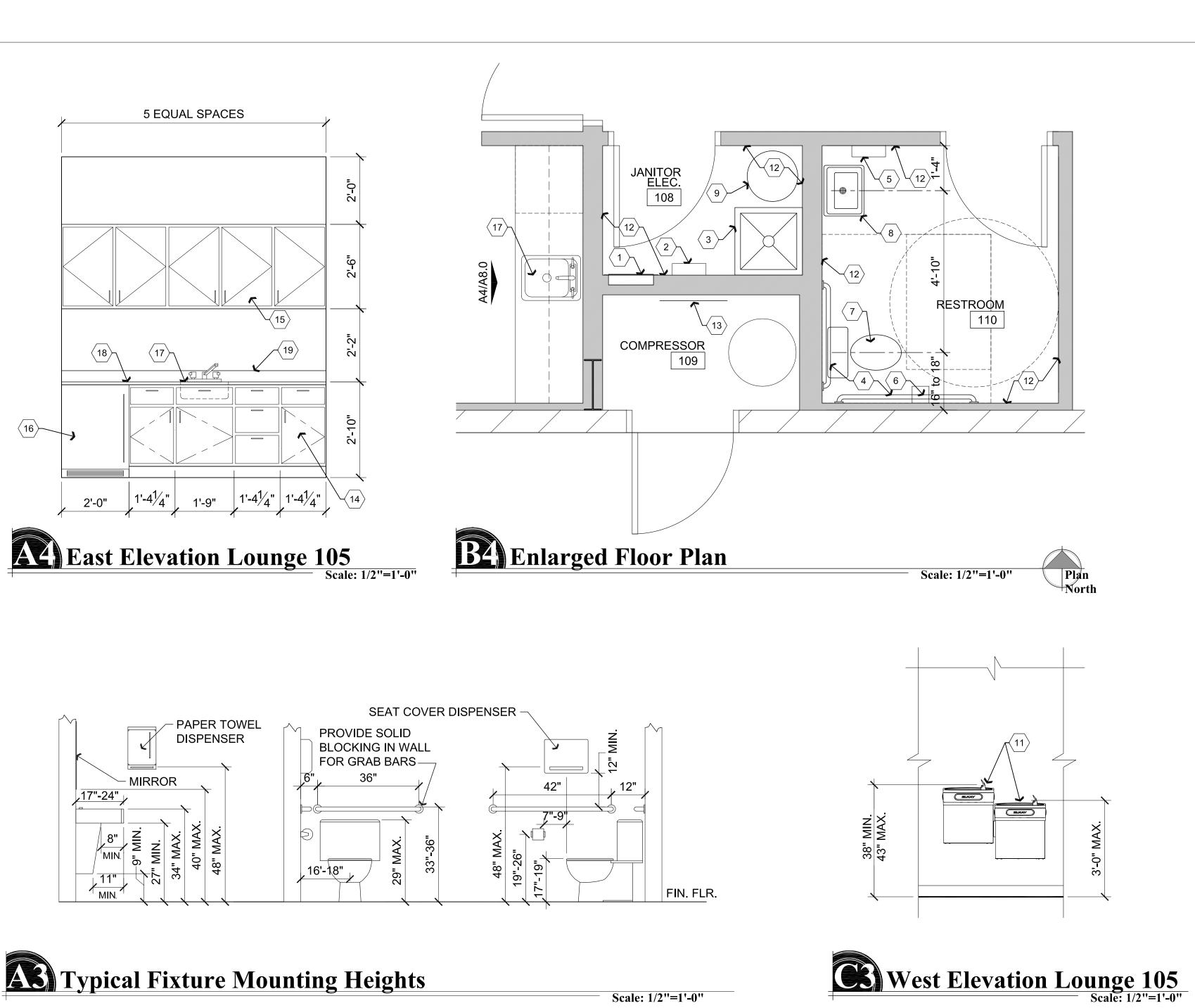
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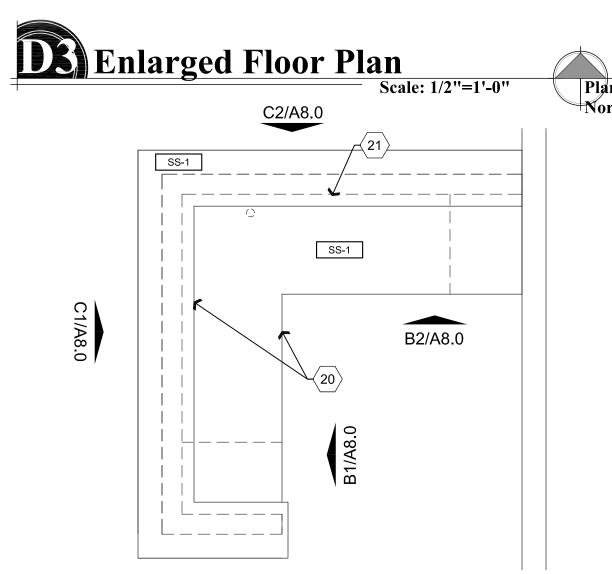
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LOUNGE



Descriptive Keynotes  $\bigcirc$ 

PROVIDE RECESSED ELECTRICAL PANEL. REFER

TO ELECTRICAL PLANS. PROVIDE SURFACE MOUNTED FIRE ALARM PANEL REFER TO ELECTRICAL PLAN AND FIRE ALARM

PROVIDE MOP SINK. REFER TO PLUMBING PLANS. REQUIREMENTS. 42" LONG AT SIDE OF WATER CLOSET / 36" LONG AT REAR OF WATER CLOSET REFER TO TYPICAL FIXTURE MOUNTING HEIGHTS

THIS SHEET. PROVIDE 'C' FOLD PAPER TOWEL DISPENSER REFER TO TYPICAL FIXTURE MOUNTING HEIGHTS THIS SHEET.

PROVIDE TOILET PAPER HOLDER. REFER TO TYPICAL FIXTURE MOUNTING HEIGHTS THIS

PROVIDE TANK TYPE, HANDICAP TYPE WATER CLOSET. REFER TO PLUMBING PLANS AND TYPICAL FIXTURE MOUNTING HEIGHTS THIS

PROVIDE LAVATORY. REFER TO PLUMBING PLANS AND TYPICAL FIXTURE MOUNTING HEIGHTS THIS

9. PROVIDE ELECTRIC WATER HEATER. REFER TO MECHANICAL PLANS.

10. NOT USED. 11. PROVIDE DUAL-LEVEL A.D.A ACCESSIBLE

ELECTRIC DRINKING FOUNTAIN. REFER TO PLUMBING PLANS. 12. PROVIDE FRP TO 4'-0" HIGH. FRP-1

13. PROVIDE TELEPHONE MOUNTING BOARD.

14. PROVIDE PLASTIC LAMINATE BASE CABINETRY. PL-3

15. PROVIDE PLASTIC LAMINATE UPPER CABINETRY. PL-3 16. UNDER COUNTER REFRIGERATOR/FREEZER BY OWNER.

17. PROVIDE SINK. REFER TO PLUMBING PLANS 18. PROVIDE PLASTIC LAMINATE COUNTERTOP WITH PVC

EDGE BANDING. PL-4 19. PROVIDE 4" PLASTIC LAMINATE BACKSPLASH.

20. PROVIDE SOLID SURFACE COUNTERTOP. SS-1

21. PROVIDE PONY WALL BY CABINETRY MANUFACTURER. 22. PROVIDE COUNTERTOP SUPPORT AS REQUIRED.

23. OPEN KNEE SPACE WITH PONY WALL BEYOND.

24. PROVIDE 3/4" PLASTIC LAMINATE DECO BAND. PL-2 25. PROVIDE 4'-0" x 4'-0" TRANSACTION WINDOW. REFER TO

26. PROVIDE PLASTIC LAMINATE TRANSACTION WINDOW COUNTER WITH PVC EDGE BANDING. PL-4

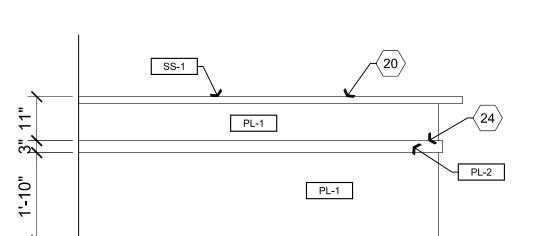
Typical Fixture Mounting Heights

Scale: 1/2"=1'-0"

**Cabinetry Section** 

**Cabinetry Section** 

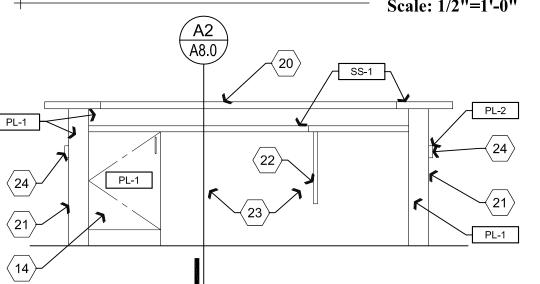
Scale: 1/2"=1'-0"



BLKAY

**Cabinetry Elevation** 

**B2** Cabinetry Elevation



Bar Cabinetry Elevation

Scale: 1/2"=1'-0"

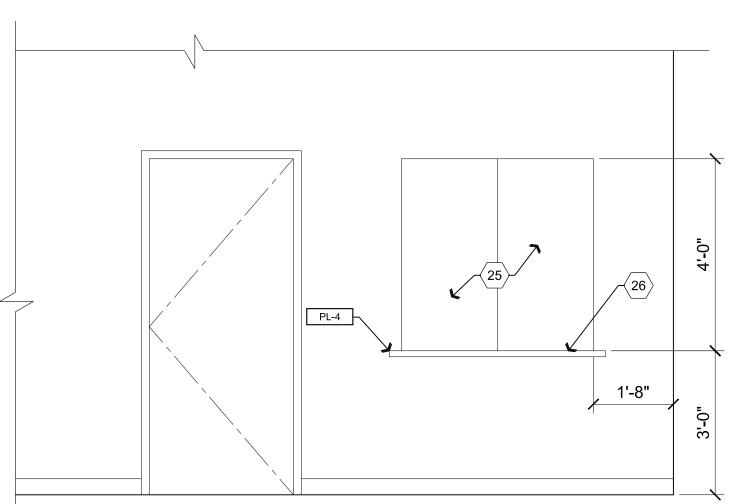
PL-1 PL-1

Cabinetry Elevation

Scale: 1/2"=1'-0"

Parts Storage Transaction Window Elevation
Scale: 1/2"=1'-0"

Millwork Plan



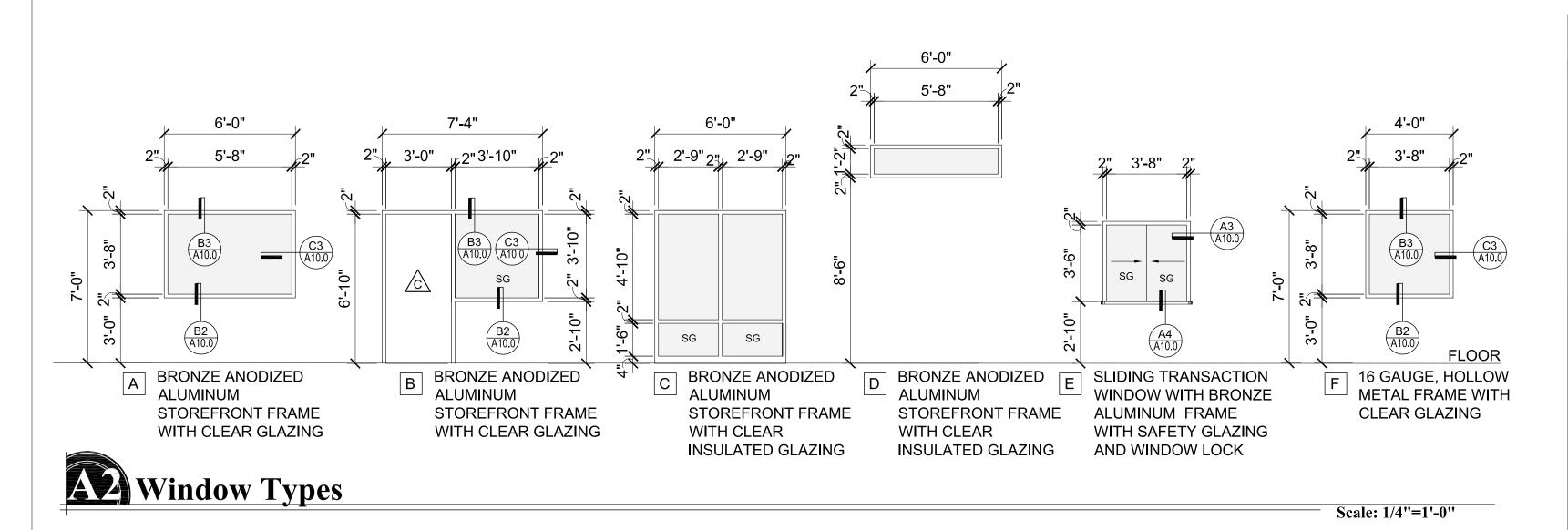
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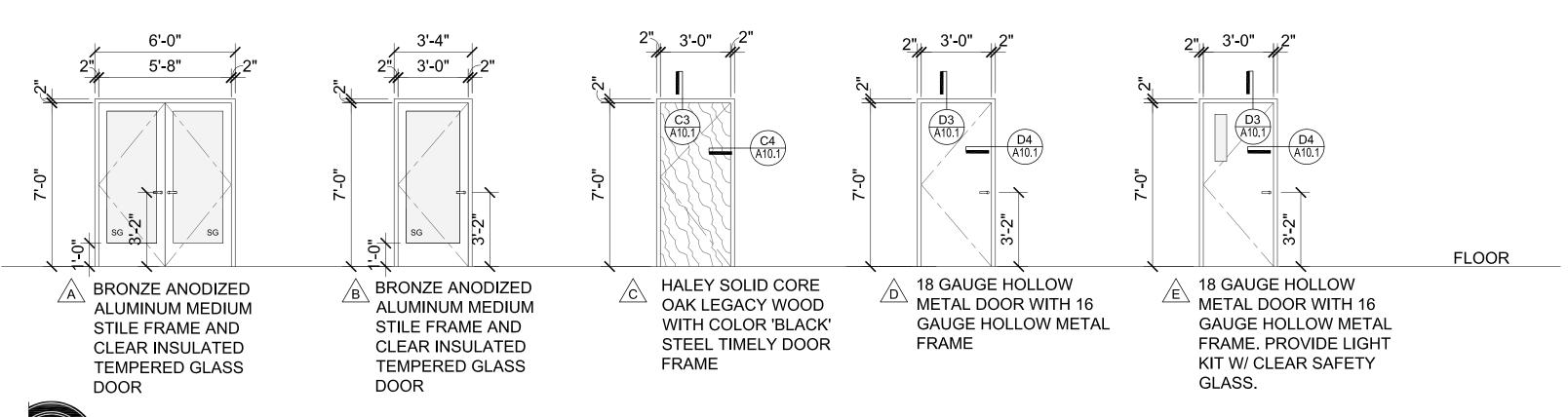
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**A8.0** 



SECTIONAL DOOR WITH
CLEAR INSULATED SAFETY GLAZING
AND MOTORIZED CHAIN HOIST,
COLOR TO MATCH MBCI, 'BURNISHED
SLATE'



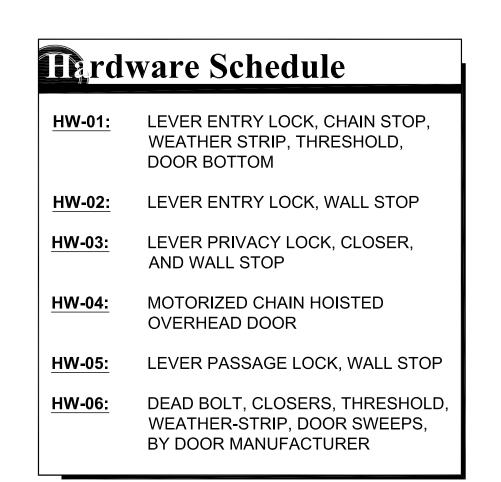
Door Types

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

NO.	ROOM NAME	SIZE	TYPE	DOOR	DOOR	FRAME	FRAME	HARDWARE	COMMENTS
				MATERIAL	FINISH	MATERIAL	FINISH	TYPE	
100A	DISPLAY	(2) 2'-10"x7'-0"	А	GLASS	ANODIZED BRONZE	ALUM.	ANODIZED BRONZE	HW-06	
101A	FINANCE OFFICE	3'-0"x7'-0"	С	S.C. WOOD	PRE-FINISHED STAIN	STEEL	PAINT	HW-02	
103A	WOMEN	3'-0"x7'-0"	С	S.C. WOOD	PRE-FINISHED STAIN	STEEL	PAINT	HW-03	
104A	MEN	3'-0"x7'-0"	С	S.C. WOOD	PRE-FINISHED STAIN	STEEL	PAINT	HW-03	
105A	LOUNGE	3'-0"x7'-0"	В	GLASS	ANODIZED BRONZE	ALUM.	ANODIZED BRONZE	HW-06	
106A	SALES	3'-0"x7'-0"	E	H.M.	PAINT	H.M.	PAINT	HW-02	
107A	CORRIDOR	3'-0"x7'-0"	E	H.M.	PAINT	H.M.	PAINT	HW-02	
108A	JANITOR/ELEC	3'-0"x7'-0"	D	H.M.	PAINT	H.M.	PAINT	HW-02	
109A	COMPRESSOR	3'-0"x7'-0"	D	H.M.	PAINT	H.M.	PAINT	HW-01	
110A	RESTROOM	3'-0"x7'-0"	D	H.M.	PAINT	H.M.	PAINT	HW-03	
111A	PARTS STORAGE	3'-0"x7'-0"	D	H.M.	PAINT	H.M.	PAINT	HW-02	
111B	PARTS STORAGE	3'-0"x7'-0"	D	H.M.	PAINT	H.M.	PAINT	HW-05	
112A	SALES OFFICE	3'-0"x7'-0"	С	S.C. WOOD	PRE-FINISHED STAIN	STEEL	PAINT	HW-02	
113A	FIRE RISER	3'-0"x7'-0"	D	H.M.	PAINT	H.M.	PAINT	HW-01	
114A	OFFICE	3'-0"x7'-0"	D	H.M.	PAINT	H.M.	PAINT	HW-02	
114B	OFFICE	3'-0"x7'-0"	С	S.C. WOOD	PRE-FINISHED STAIN	STEEL	PAINT	HW-02	
115A	SERVICE BAYS	3'-0"x7'-0"	D	H.M.	PAINT	H.M.	PAINT	HW-01	
115B	SERVICE BAYS	14'-0"x16'-0"	F	STEEL	PAINT	STEEL	PAINT	HW-04	
115C	SERVICE BAYS	14'-0"x16'-0"	F	STEEL	PAINT	STEEL	PAINT	HW-04	
115D	SERVICE BAYS	14'-0"x16'-0"	F	STEEL	PAINT	STEEL	PAINT	HW-04	
115E	SERVICE BAYS	14'-0"x16'-0"	F	STEEL	PAINT	STEEL	PAINT	HW-04	
115F	SERVICE BAYS	3'-0"x7'-0"	D	H.M.	PAINT	H.M.	PAINT	HW-01	
115G	SERVICE BAYS	14'-0"x16'-0"	F	STEEL	PAINT	STEEL	PAINT	HW-04	
115H	SERVICE BAYS	14'-0"x16'-0"	F	STEEL	PAINT	STEEL	PAINT	HW-04	
115J	SERVICE BAYS	14'-0"x16'-0"	F	STEEL	PAINT	STEEL	PAINT	HW-04	
115K	SERVICE BAYS	14'-0"x16'-0"	F	STEEL	PAINT	STEEL	PAINT	HW-04	
200A	PARTS STORAGE	3'-0"x7'-0"	D	H.M.	PAINT	H.M.	PAINT	HW-02	NO WALL ST

#### DOOR NOTES:

- 1. ALL EXIT DOORS & HARDWARE SHALL COMPLY WITH THE 2009 I.B.C.
- 2. DOOR THRESHOLDS SHALL HAVE A MAX HEIGHT OF 1/2" FOR H.C. ACCESSIBILITY. THRESHOLD SHALL HAVE A MAXIMUM RISE OF 1/4" AND 1/2" RISE WHEN BEVELED WITH MAXIMUM 1:2 SLOPE.
- 3. ALL GLAZING IN DOORS SHALL BE SAFETY GLAZING.
- 4. ALL INTERIOR DOORS SHALL BE OPERABLE FOR EMERGENCY EXITING PURPOSES WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE NOR EFFORT.
- 5. ALL GLAZING WITHIN 24" OF OPENINGS SHALL BE SAFETY GLASS.
- 6. IF A DOOR HAS A CLOSER, THEN THE SWEEP PERIOD OF THE CLOSER SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 70 DEGRE
- 7. DOOR HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERATING DEVICES ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST TO OPERATE. HARDWARE REQUIRED FOR DOOR PASSAGE SHALL BE MOUNTED NO HIGHER THAN 48" ABOVE FINISH FLOOR.
- 8. DOOR OPENING FORCE SHALL BE: 5lbf MAX INTERIOR HINGED, SLIDING OR FOLDING DOORS; FIRE DOORS SHALL HAVE THE MINIMUM OPENING FORCE ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY.



W. Alan Kenson & Associate
P. 928-443-5812 P.O. Box 11593

REQUIRED

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DOOR & HARDWARE SCHEDULES
DOOR & WINDOW TYPES
Galpin RV Cottonwood
925 E. State Rt 89A

ECT: Galpin RV Cc 925 E. State I Cottonwood,

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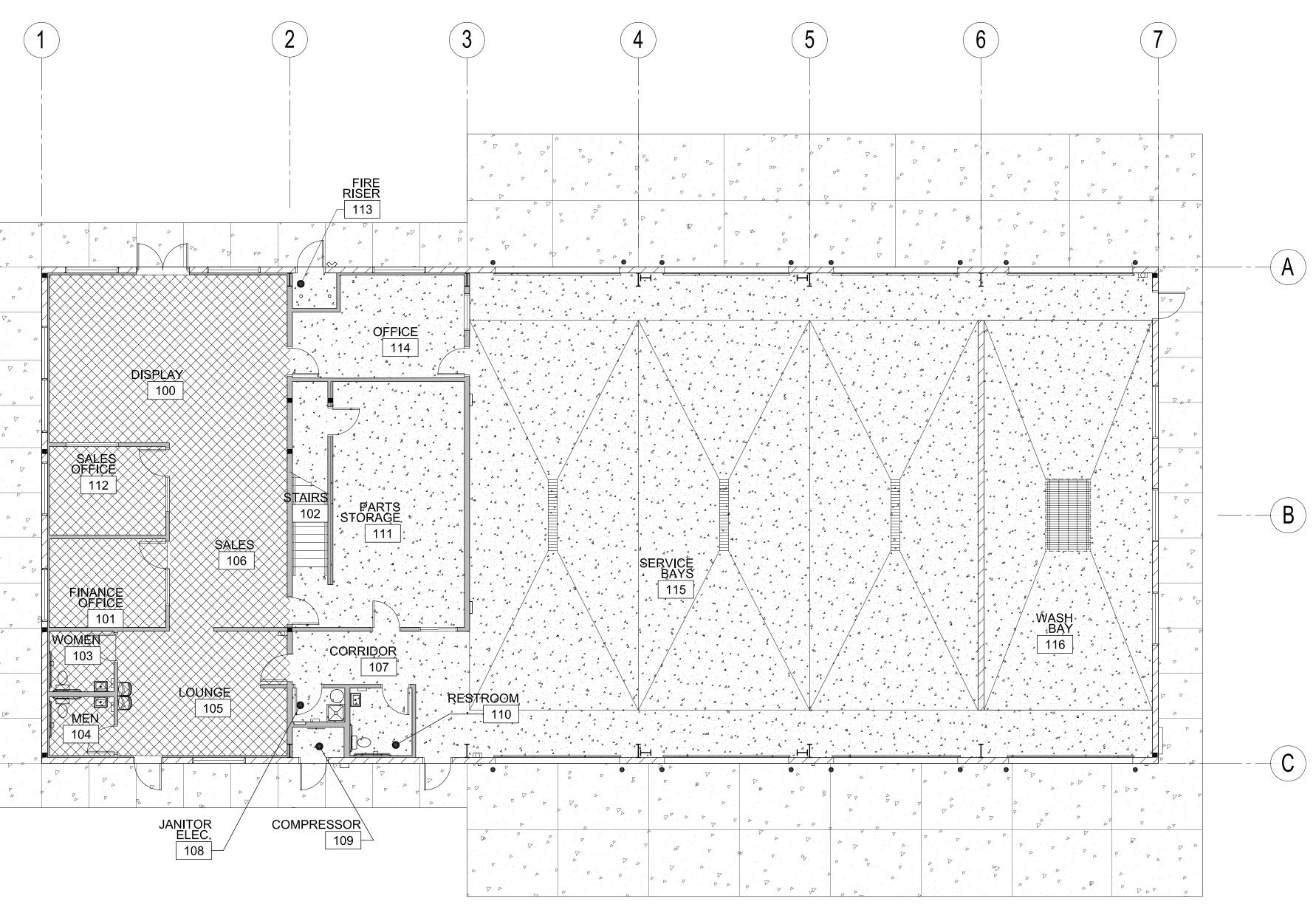
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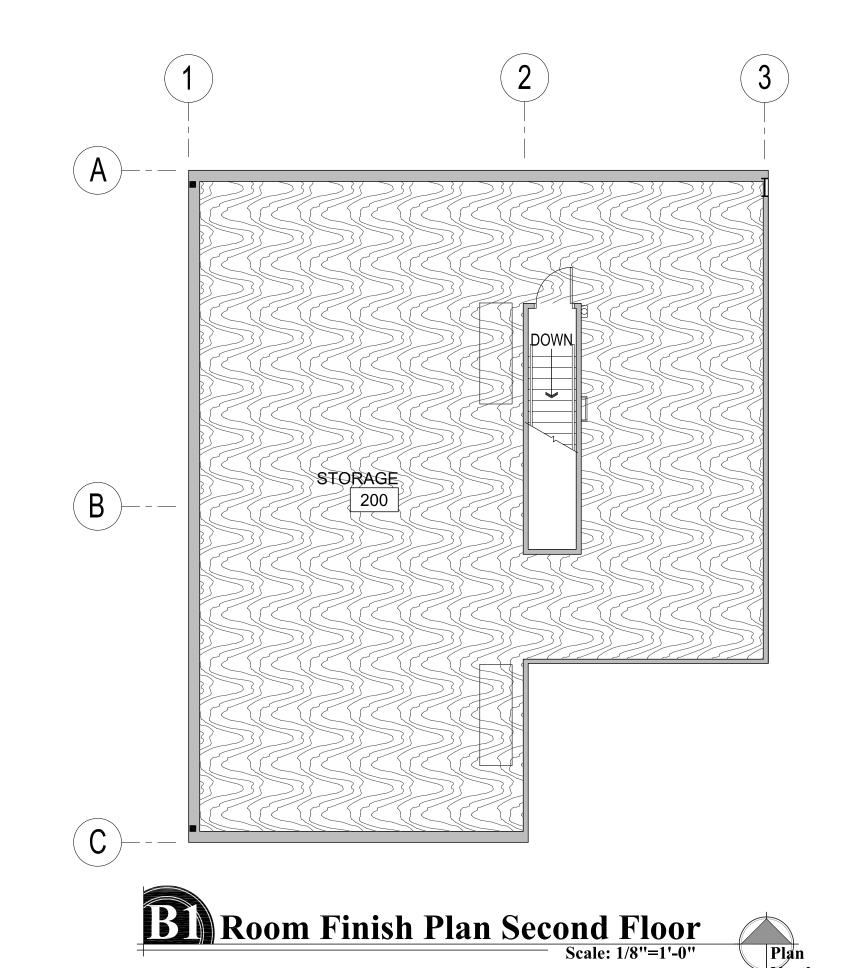
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# Room Finish Plan First Floor

CODE	MATERIAL	LOCATION	MANUFACTURER	SPECIFICATION
AC-1	ACOUSTICAL CEILING TILE	REFER TO REFLECTED CEILING PLAN	ROCKFON	ASTM E1264; 2'x2'x5/8" #600 NON DIRECTIONAL SQUARE LAY IN TILE 15/16" WHITE SUSPENDED METAL T-BAR GRID
CMU-1	CMU	EXTERIOR WAINSCOT - REFER TO EXTERIOR ELEVATIONS	YAVAPAI BLOCK	8"x8"x16" SINGLE SCORE
FRP-1	FIBERGLASS REINFORCED PLASTIC			GRAY
M-1	METAL ROOF PANEL	ROOF	MBCI	24" ULTRA DEK 24 GA., GALVALUME
M-2	EXTERIOR METAL WALL PANEL	EXTERIOR WALLS	MBCI	PBA PANEL 26 GA. PRE-PAINTED, DESERT SAND (SIGNATURE 200)
M-3	EXTERIOR METAL ACCENT COLOR BAND	EXTERIOR WALLS AS INDICATED ON EXTERIOR ELEVATIONS	MBCI	22 GA. CUSTOM BENT SHAPE PRE-PAINTED, BURNISHED SLATE (SIGNATURE 200).
M-4	EXTERIOR METAL LINER PANEL	INTERIOR OF PARAPETS	MBCI	PBR PANEL 26 GA. PRE-PAINTED, DESERT SAND (SIGNATURE 200)
M-5	METAL LINER PANEL	INTERIOR OF EXTERIOR WALLS IN SERVICE BAYS	MBCI	PBR PANEL 26 GA. PRE-PAINTED, POLAR WHITE (SIGNATURE 200)
M-6	DOWNSPOUTS	EXTERIOR SOUTH SIDE OF BUILDING	MBCI	PAINTED SADDLE TAN (SIGNATURE 200)
M-7	PARAPET CAP		MBCI	PAINTED BURNISHED SLATE (SIGNATURE 200)
M-8	METAL SOFFIT SYSTEM	AWNING SOFFIT	MBCI	ARTISAN SERIES 12" WIDE, 26 GAUGE, BURNISHED SLATE (SIGNATURE 200)
M-9	METAL CANOPY ROOF PANEL	EXTERIOR AWNING	MBCI	12" LOKSEAM 26 GAUGE, BURNISHED SLATE (SIGNATURE 200)
PL-1	PLASTIC LAMINATE	SALES VERTICAL SURFACES	WILSONART	WILSONART 1595-60 BLACK
PL-2	PLASTIC LAMINATE	SALES - DECO BAND	WILSONART	WILSONART CHEMETAL #413 LINEAR ALUMINUM
PL-3	PLASTIC LAMINATE	LOUNGE VERTICAL SURFACES	WILSONART	WILSONART 092-60 DOVE GRAY WITH EDGEBAND
PL-4	PLASTIC LAMINATE	LOUNGE AND PARTS STORAGE COUNTERTOPS	WILSONART	WILSONART 4557-60 DAKOTA RIDGE
PT-1	PAINT	EXTERIOR CMU	SHERWIN WILLIAMS	ROYCROFT COPPER RED
PT-2	PAINT	INTERIOR WALLS	SHERWIN WILLIAMS	SW7071 GRAY SCREEN, PRO MAR 200
PT-3	PAINT	GPDW CEILINGS	SHERWIN WILLIAMS	SW6098 PACER WHITE, PRO MAR 200
RB-1	RUBBER BASE	REFER TO ROOM FINISH SCHEDULE	ROPPE	BLACK / BROWN
SS-1	SOLID SURFACE	SALES, COUNTERTOPS	HI MACS	M204 BERGAMO
VCT-1	VINYL COMPOSITION TILE	DISPLAY, SALES OFFICE, SALES, LOUNGE & RESTROOMS	ARMSTRONG	IMPERIAL TEXTURE STANDARD EXCELON, #51903 BLUE/GRAY

FLOOR: F1 VCT VCT-1

F2 SEALED CONCRETE

F3 OSB

BASE:
B1 RUBBER BASE RB-1

B2 NONE

WALLS:
W1 PAINTED GPDW PT-2

W2 4'-0" F.R.P. WAINSCOT FRP-1
W3 PAINTED CMU / SHEET METAL
LINER PANEL PT-1 M-5

W4 SHEET METAL LINER PANEL M-5

W5 EXPOSED STRUCTURE

CEILING:
C1 2x2 SUSPENDED ACOUSTICAL
PANELS AC-1

C2 GPDW PT-3

C3 EXPOSED STRUCTURE

Degend	
	VCT VCT-1
	CONCRETE FLOOR SURFACE
	OSB

NO.	ROOM NAME	FLOOR	BASE	WALLS	CEILING	HEIGHT
100	DISPLAY	F1	B1	W1	C1	9'-6"
101	FINANCE OFFICE	F1	B1	W1	C1	9'-6"
102	STAIRS	F1	B1	W1	C3	VARIES
103	WOMEN	F1	B1	W1/W2	C2	8'-0"
104	MEN	F1	B1	W1/W2	C2	8'-0"
105	LOUNGE	F1	B1	W1	C1	9'-6"
106	SALES OFFICE	F1	B1	W1	C1	9'-6"
107	CORRIDOR	F2	B1	W1	C3	VARIES
108	JANITOR/ELEC	F2	B2	W1/W2	C2	8'-0"
109	COMPRESSOR	F2	B1	W1	C2	8'-0"
110	RESTROOM	F1	B1	W1/W2	C2	8'-0"
111	PARTS STORAGE	F2	B1	W1	C3	9'-6"
112	SALES OFFICE	F1	B1	W1	C1	9'-6"
113	FIRE RISER	F2	B1	W1	C3	VARIES
114	OFFICE	F1	B1	W1	C1	9'-6"
115	SERVICE BAYS	F2	B1/B2	W3	C3	VARIES
116	WASH BAY	F2	B2	W3	C3	VARIES
200	STORAGE	F3	B2	W5	C3	VARIES

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JECT: Galpin RV Cottonwood

PROJECT:

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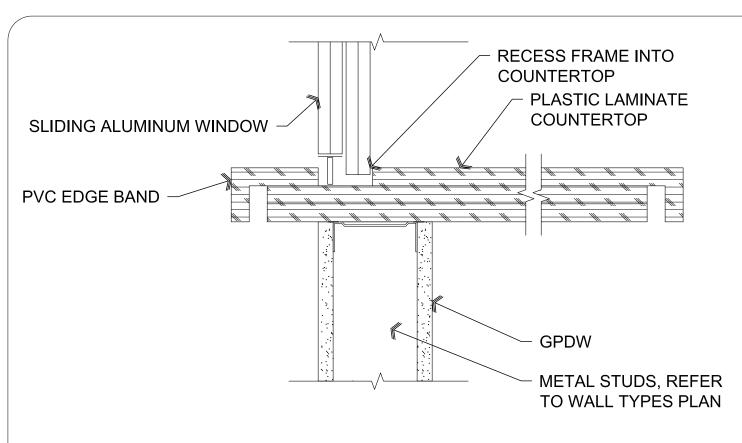
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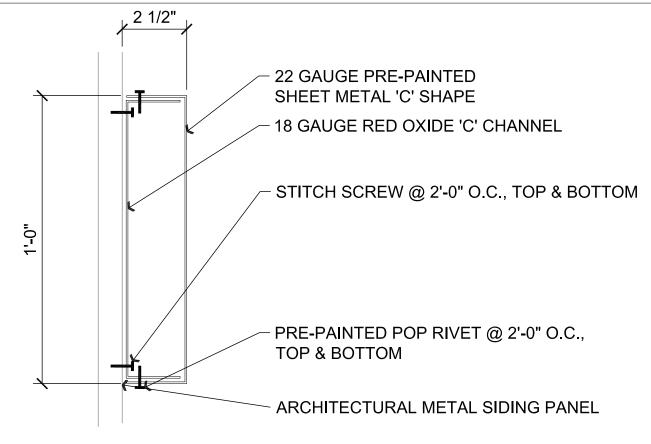
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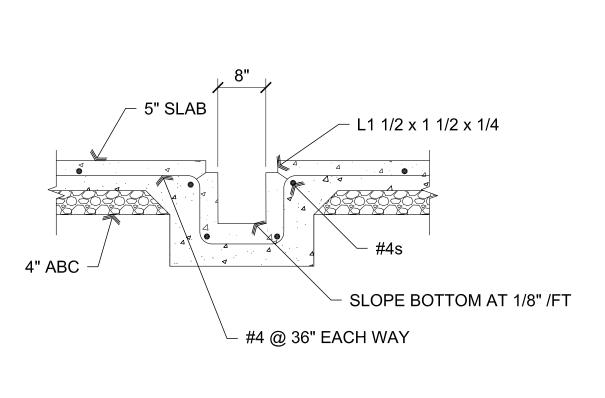
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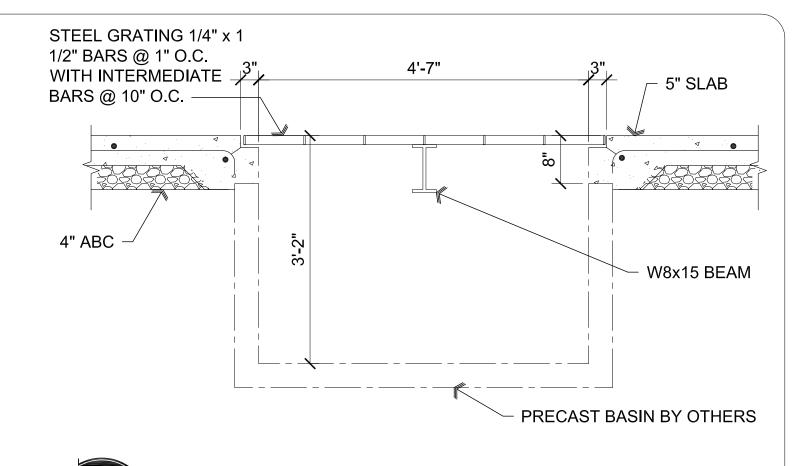
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**SCALE:** 3/4" = 1'-0"







METAL BOX HEADER

CAULKING

ALUMINUM STOREFRONT

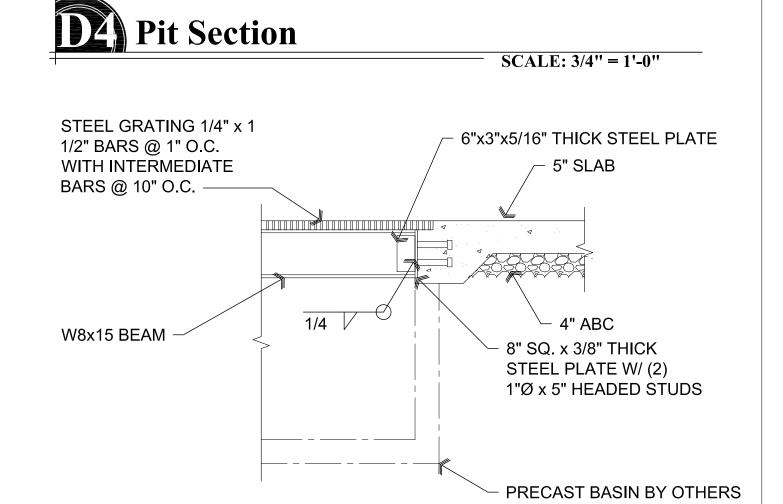


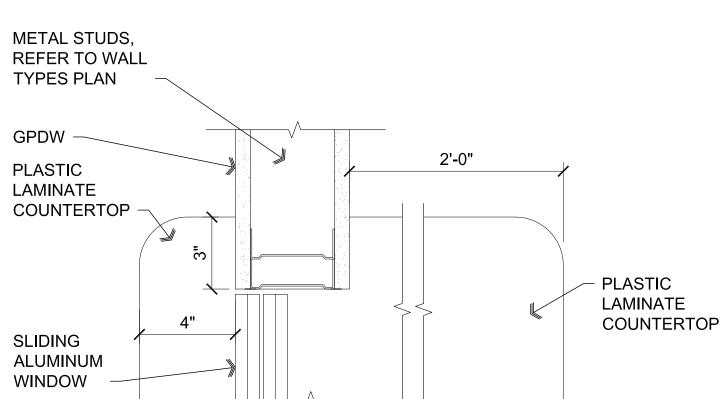
ALUMINUM

GLAZING-

CAULKING

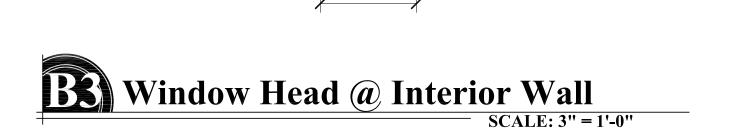
STOREFRONT-





Window Jamb at Transaction Counter

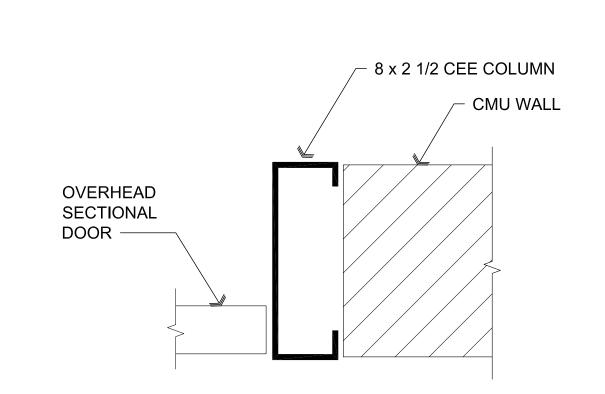
SCALE: 3" = 1'-0"

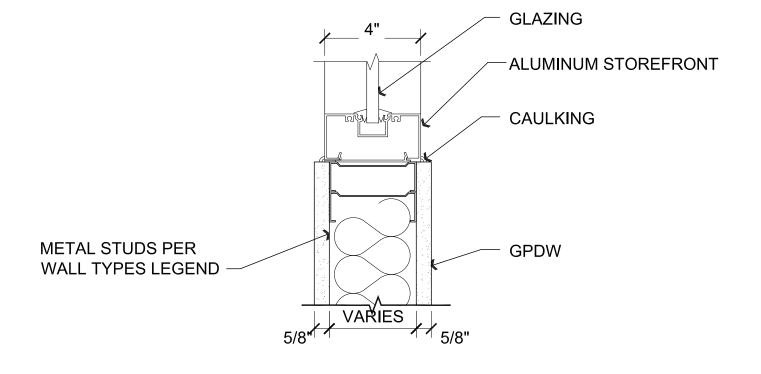


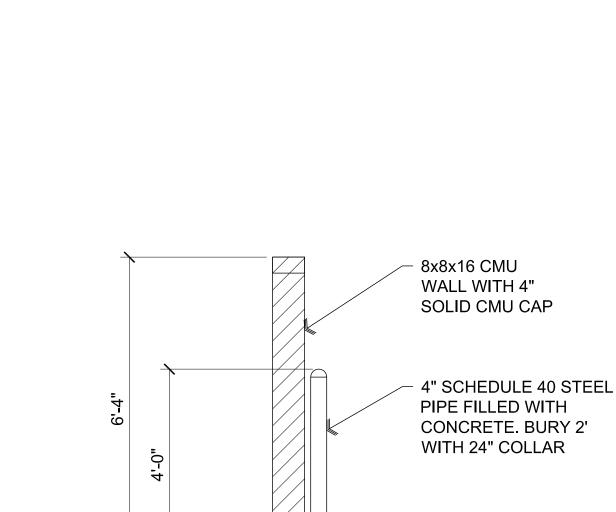


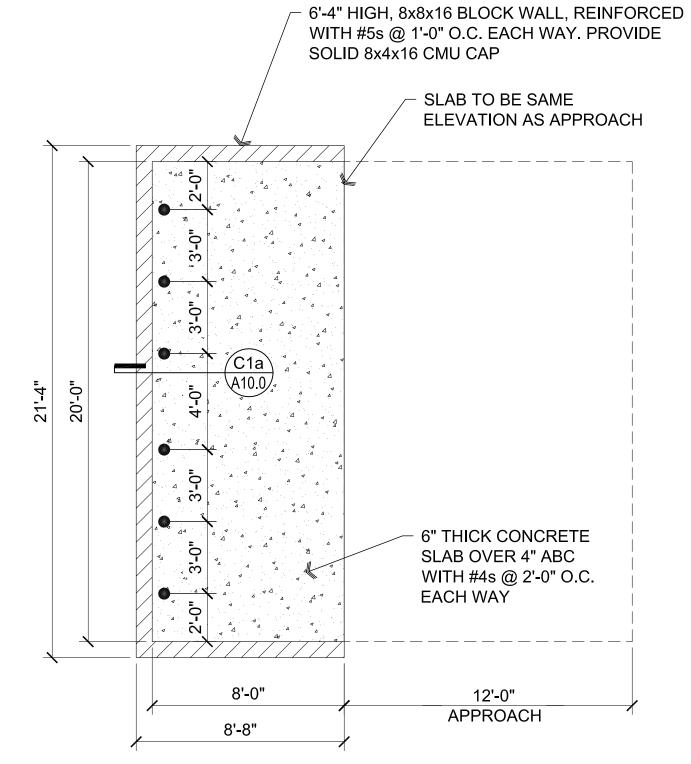
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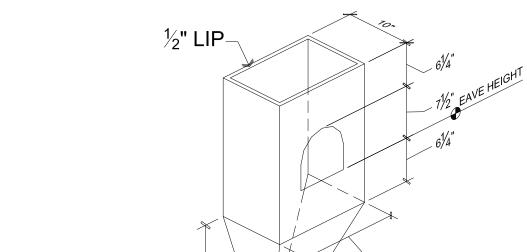




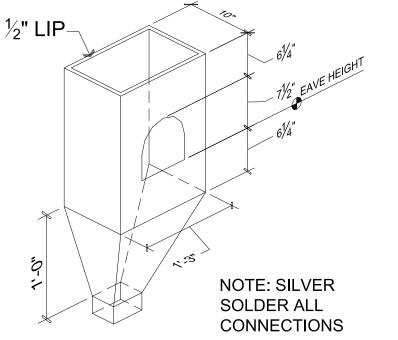








Window Sill @ Interior Wall SCALE: 3" = 1'-0"





2'-4"

SCALE: 1/2'' = 1'-0''







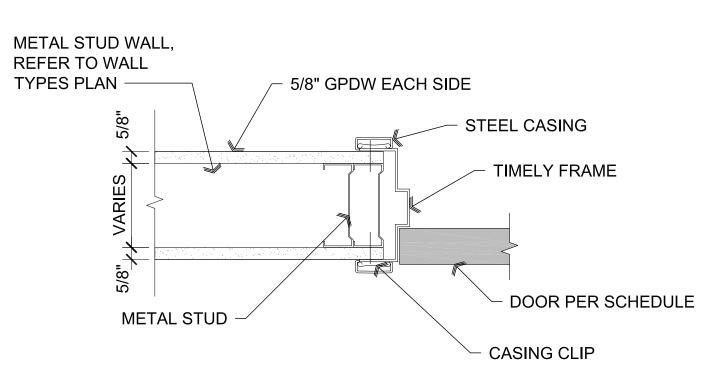
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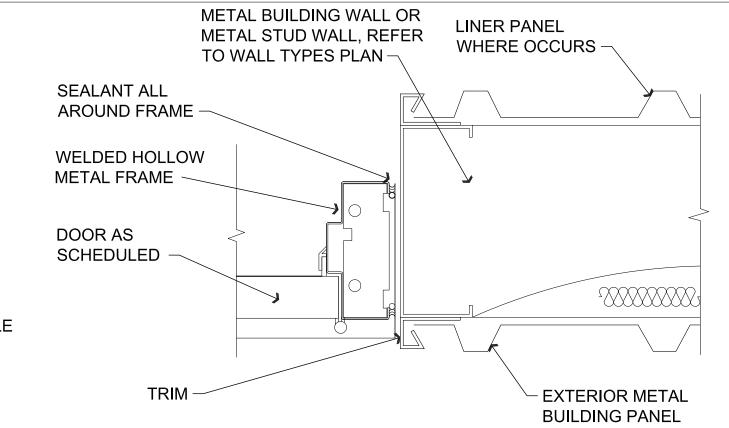
L.O. CHECKED BY W.A.K.

May 11th, 2016

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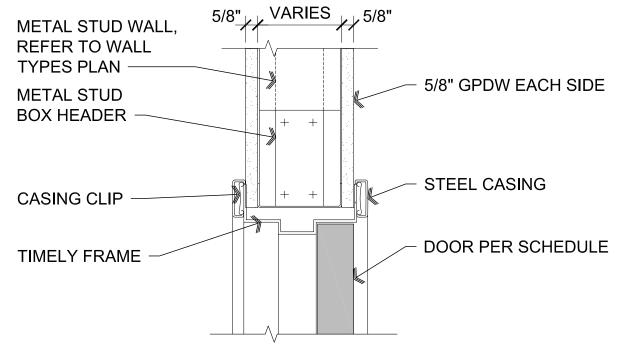
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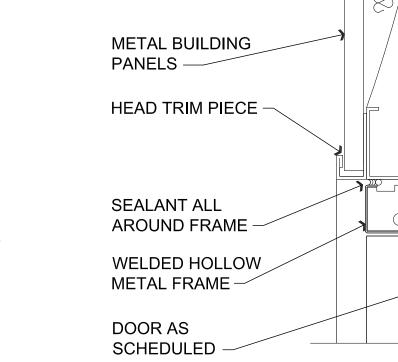






# Timely Frame Door Jamb SCALE: 3" = 1'-0"





**D**Oor Jamb

**Door Head** 

SCALE: 3" = 1'-0"

SCALE: 3" = 1'-0"

- METAL BUILDING WALL OR METAL STUD WALL, REFER

TO WALL TYPES

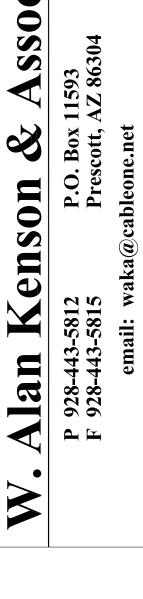
─ LINER PANEL,

WHERE OCCURS

- SEALANT ALL

AROUND





lates

REVISIONS

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DRAWN BY CHECKED BY W.A.K. May 11th, 2016

### GENERAL REQUIREMENTS:

- 1. THE STRUCTURAL SYSTEMS AND MEMBERS DEPICTED HEREIN HAVE BEEN DESIGNED PRIMARILY TO SAFEGUARD AGAINST MAJOR STRUCTURAL DAMAGE AND LOSS OF LIFE, NOT TO LIMIT DAMAGE OR MAINTAIN FUNCTION (IBC SECTION 101.3).
- 2. THESE DRAWINGS, AND THEIR ASSOCIATED STRUCTURAL CALCULATIONS, HAVE BEEN PERFORMED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE STRUCTURAL ENGINEER'S IN THIS OR SIMILAR LOCALITIES. THEY NECESSARILY ASSUME THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKMEN WHO HAVE A WORKING KNOWLEDGE OF THE INTERNATIONAL BUILDING CODE CONVENTIONAL FRAMING REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR FRAMING ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, IT IS UNDERSTOOD THAT THE CONTRACTOR WILL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR ALL MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
- 3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED CONSTRUCTION SUCH THAT DESIGN LIVE LOAD PER SQUARE FOOT AS STATED HEREIN IS NOT EXCEEDED. OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. IF AN OPTION IS USED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES, AND SHALL COORDINATE ALL DETAILS.
- 4. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN. TYPICAL DETAILS AND NOTES ARE NOT NECESSARILY INDICATED ON THE PLANS, BUT SHALL APPLY NONE-THE-LESS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT. DETAILS MAY SHOW ONLY ONE SIDE OF CONNECTION OR MAY OMIT INFORMATION FOR CLARITY.
- 5. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT AND STRUCTURAL
- 6. ANY INSPECTIONS, SPECIAL (IBC CHAPTER 17) OR OTHERWISE THAT ARE REQUIRED BY THE BUILDING CODES, LOCAL BUILDING DEPARTMENTS, OR BY THESE PLANS SHALL BE DONE BY AN INDEPENDENT INSPECTION COMPANY OR THE BUILDING DEPARTMENT, SITE VISITS BY THE STRUCTURAL ENGINEER DO NOT CONSTITUTE AN OFFICIAL INSPECTION, UNLESS SPECIFICALLY CONTRACTED FOR.
- 7. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS IN ADDITION TO ITEMS REQUIRED BY ARCHITECTURAL SPECIFICATIONS, THE CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTAL. ITEMS NOT IN ACCORDANCE WITH CONTRACT DRAWINGS SHALL BE FLAGGED UPON HIS REVIEW. VERIFY ALL DIMENSIONS WITH ARCHITECT. ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM ORIGINAL CONTRACT DRAWINGS SHALL BE CLOUDED. ANY OF THE AFOREMENTIONED WHICH ARE NOT CLOUDED OR FLAGGED BY SUBMITTING PARTIES, SHALL NOT BE CONSIDERED APPROVED AFTER THE STRUCTURAL ENGINEER'S REVIEW, UNLESS NOTED ACCORDINGLY. ANY ENGINEERING PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW, SHALL BEAR THE SEAL OF A STRUCTURAL ENGINEER REGISTERED IN THE APPROPRIATE STATE. THE SHOP DRAWINGS DO NOT REPLACE THE ORIGINAL CONTRACT DRAWINGS. ITEMS OMITTED OR SHOWN INCORRECTLY AND ARE NOT FLAGGED BY THE STRUCTURAL ENGINEER ARE NOT TO BE CONSIDERED CHANGES TO ORIGINAL DRAWINGS. THE ADEQUACY OF ENGINEERING DESIGNS AND LAYOUT PERFORMED BY THE OTHERS RESTS WITH THE DESIGNING OR SUBMITTING AUTHORITY. REVIEWING IS INTENDED ONLY AS AN AID TO THE CONTRACTOR IN OBTAINING CORRECT SHOP DRAWINGS. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR. ALLOW (5) WORKING DAYS FOR THE STRUCTURAL ENGINEER'S REVIEW. ONE COPY OF EACH SUBMITTAL WILL BE RETAINED FOR THE STRUCTURAL ENGINEER'S RECORDS.

#### BASIS FOR DESIGN:

- 1. BUILDING CODE: 2009 EDITION OF THE IBC WITH CITY/COUNTY AMENDMENTS.
- RISK CATEGORY = II
- 2. VERTICAL LOADS:

LIVE / SNOW LOAD	DEAD LOAD
20 PSF	5 PSF
125 PSF	XX PSF
100 PSF	25 PSF
	LOAD  20 PSF  125 PSF

#### 3 CEICMIC DECICNI DADAMETEDO

3. SEISMIC DESIGN PARAMETERS:				
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE PROCEDURE			
IMPORTANCE FACTOR	le = 1.00			
SITE CLASS	D			
SEISMIC DESIGN CATEGORY	В			
SPECTRAL RESPONSE ACCELERATIONS	Sms = 0.379, Sm1 = 0.173			
SPECTRAL RESPONSE COEFFICIENTS	Sds = 0.253, Sd1 = 0.115			
HORIZONTAL SHEAR TRANSFER ELEMENTS:				
STEEL DECK — FLEXIBLE DIAPHRAM(S)	R = 3.5			
VERTICAL SHEAR TRANSFER ELEMENTS:				
ORDINARY STEEL MOMENT FRAMES(S)	R = 3.5			

#### 4. WIND DESIGN PARAMETERS (STRENGTH):

WIND SPEED	90 MPH (3 SECOND GUST)
WIND EXPOSURE	С
IMPORTANCE FACTOR	Iw = 1.00
INTERNAL PRESSURE COEFFICIENT	-0.18
COMPONENT AND CLADDING PRESSURE	20 PSF
NET UPLIFT ON ROOF	5 PSF

# GENERAL STRUCTURAL NOTES

#### FOUNDATION NOTES:

1. FOUNDATIONS DESIGNED IN CONFORMANCE WITH RECOMMENDATIONS BY ENGINEERING TESTING CONSULTANTS, INC. REPORT NO. 8939 DATED SEPTEMBER 10,

2. SITE PREPARATION AND GRADING REQUIREMENTS OF THE SOIL REPORT AND ANY ADDENDUM'S SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF FOUNDATIONS. ANY TESTS OR INSPECTIONS REQUIRED BY THE SOIL REPORT SHALL BE PERFORMED PRIOR TO PLACEMENT OF FOUNDATION REINFORCING STEEL OR CONCRETE. ALTERATIONS TO SITE PREPARATION OR GRADING SHALL BE REPORTED TO THE GEOTECHNICAL ENGINEER PRIOR TO FOUNDATION CONSTRUCTION.

#### THE SOIL DESIGN VALUES FOR THE FOUNDATION ARE:

ALLOWABLE BEARING PRESSURE	2500 PSF
ALLOWABLE LATERAL BEARING PRESSURE	400 PSF/FT
ALLOWABLE LATERAL SLIDING COEFFICIENT	0.40
LATERAL BACKFILL PRESSURE (UNRESTRAINED)	35 PSF/FT
LATERAL BACKFILL PRESSURE (RESTRAINED)	54 PSF/FT
SITE CLASS	D

3. A ONE-THIRD INCREASE IN BEARING PRESSURES IS ALLOWED WITH SEISMIC OR WIND LOAD COMBINATIONS. LATERAL BEARING AND LATERAL SLIDING RESISTANCE MAY BE COMBINED.

FOUNDATION BEARING DEPTH	
18" BELOW FINISHED GRADE	

- 4. ALL FOUNDATIONS SHALL BEAR ON COMPACTED ENGINEERED FILL 18 INCHES MINIMUM BELOW FINISH GRADE. GRADE IS DEFINED AS TOP OF SLAB FOR INTERIOR FOOTINGS AND LOWEST ADJACENT GRADE WITHIN 5 FEET OF THE BUILDING FOR PERIMETER FOOTINGS. WHERE EXTERIOR PAVING OR CONCRFTE IS DIRECTLY ADJACENT TO BUILDING, GRADE IS DEFINED AS TOP OF EXTERIOR PAVING AT LEAST 5 FEET FROM BUILDING. CONCRETE FOOTING EXCAVATIONS SHALL BE CLEAN AND FREE OF LOOSE DEBRIS OR UN-COMPACTED MATERIAL AT TIME OF CONCRETE PLACEMENT.
- 5. INTERIOR CONCRETE SLABS ON GRADE SHALL BE SUPPORTED ON A 8 INCH LAYER OF SELECT FILL MATERIAL ACCORDING TO THE SPECIFICATIONS OF THE SOIL REPORT. EXTERIOR CONCRETE SLABS ON GRADE SHALL BE SUPPORTED ON A 4 INCH LAYER OF SELECT FILL MATERIAL ACCORDING TO THE SPECIFICATIONS OF THE SOIL REPORT. FILL MATERIAL SHOULD BE MOISTENED, BUT NOT SATURATED JUST PRIOR TO PLACING CONCRETE.
- 6. BACKFILL AGAINST RESTRAINED WALLS SHALL NOT BE PLACED UNTIL AFTER THE WALLS ARE SUPPORTED BY THE COMPLETION OF INTERIOR FLOOR SYSTEMS AND CONCRETE OR GROUT STRENGTH HAS REACHED THE 28 DAY STRENGTH LISTED BELOW.

#### **CONCRETE:**

1. MINIMUM 28 DAY CONCRETE STRENGTH SHALL BE AS FOLLOWS:

USE:	CONCRETE STRENGTH:	REMARKS:
FOUNDATIONS	2500 PSI	DESIGNED FOR 2500 PSI
CONCRETE SLABS ON GRADE	3000 PSI	W/O INSPECTION

- 2. ALL NORMAL WEIGHT CONCRETE SHALL BE REGULAR WEIGHT OF 150 POUNDS PER CUBIC FOOT USING HARD-ROCK AGGREGATES. AGGREGATE USED IN CONCRETE SHALL CONFORM TO ASTM C67 FOR 3/4", ASTM C57 FOR 1" AND ASTM C467 FOR 11/2" AGGREGATE.
- 3. TENSION LAP SPLICES OF REINFORCING STEEL IN CONCRETE SHALL BE AS FOLLOW:

REBAR SIZE	STANDARD LAP	RETAINING WALLS (AT FACE OF WALL)
#3	20"	20"
#4	32"	41"
#5	39"	51"
#6	47"	61"
#7	69"	89"

LAP SPLICES FOR BEAMS AND FLOOR SLABS SHALL BE ACCORDING TO CHAPTER 12 OF ACI 318 OR LAP SCHEDULE ON THESE DRAWINGS.

STAGGER SPLICES A MINIMUM OF ONE LAP LENGTH. NO TACK WELDING OF REINFORCING BARS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE WITH THE STRUCTURAL ENGINEER. LATEST ACI CODE AND DETAILING MANUAL APPLY, PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT ALL CORNERS AND INTERSECTIONS PER TYPICAL DETAILS. VERTICAL WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR

4. ALL DIMENSIONS SHOWING THE LOCATION OF REINFORCING STEEL NOT NOTED AS "CLEAR" OR "CLR" ARE TO CENTER OF STEEL. MINIMUM COVER FOR NON-PRESTRESSED CONCRETE REINFORCING SHALL BE AS FOLLOWS:

LOCATION:	MINIMUM COVER	TOLERANCE
CAST AGAINST EARTH (FOOTINGS)	3"	± 3/8"
SLABS ON GRADE	1½"	± 1/4"
EXPOSED TO EARTH OR WEATHER — #5 AND SMALLER	1½"	± 3/8"
EXPOSED TO EARTH OR WEATHER - #6 AND LARGER	2"	± 3/8"
NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND ROOF SLAB	1"	½"
STRUCTURAL SLABS AND WALLS	3/4"	½"
BEAMS AND COLUMNS (PRIMARY) REINFORCEMENT, TIES, STIRRUPS AND SPIRALS	1½"	3/8"

- 5. MAXIMUM SLUMP FOR ALL CONCRETE SHALL BE 4". SLUMP FOR EXTERIOR SLABS SHALL BE 6". PORTLAND CEMENT SHALL CONFORM TO ASTM C150. TYPE V CEMENT SHALL BE USED FOR CONCRETE IN CONTACT WITH ALKALINE SOIL, AND TYPE II ELSEWHERE
- 6. NO MORE THAN 90 MINUTES SHALL ELAPSE BETWEEN CONCRETE BATCHING AND CONCRETE PLACEMENT UNLESS APPROVED BY THE TESTING AGENCY.
- 7. CONCRETE PLACEMENT AND QUALITY SHALL BE PER RECOMMENDATIONS IN ACI 614, ACI 301 AND ACI 318. MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT THAT SLABS ON GRADE NEED BE VIBRATED ONLY AROUND AND UNDER FLOOR DUCTS, ETC. CAST CLOSURE POUR, WHERE SHOWN ON PLANS AROUND COLUMNS AFTER COLUMN DEAD LOAD IS APPLIED. REMOVE ALL DEBRIS FROM FORMS BEFORE PLACING CONCRETE.

ALL ITEMS TO BE CAST IN CONCRETE SUCH AS REINFORCING, DOWELS, BOLTS, ANCHORS, PIPES, SLEEVES, ETC., SHALL BE SECURELY POSITIONED IN THE FORMS BEFORE PLACING THE CONCRETE.

8. ALL CONCRETE SLABS ON GRADE SHALL BE DIVIDED INTO AREAS BY CONTROL JOINTS (KEYED OR SAW CUT) SUCH THAT ONE SLAB AREA DOES NOT EXCEED 250 SQUARE FEET, OR BE MORE THAN TWO TIMES LONGER THAN THE SLAB AREA WIDTH. THE FOUNDATION PLAN SHOWS A SUGGESTED METHOD OF CONTROL JOINT LAYOUT. IT IS RECOMMENDED THAT SAW CUTS BE MADE WITHIN 16 HOURS OF CONCRETE BATCHING.

KEYED CONTROL JOINTS NEED ONLY OCCUR AT EXPOSED EDGES DURING POURING, ALL OTHER JOINTS MAY BE SAW CUT.

- 9. HORIZONTAL PIPES AND ELECTRICAL CONDUITS SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE AND SLABS ON GRADE EXCEPT WHERE SPECIFICALLY APPROVED OR NOTED BY THE STRUCTURAL ENGINEER. PIPES AND CONDUITS SHALL NOT IMPAIR THE STRENGTH OF THE WORK.
- 10. FLY ASH MAY BE USED ONLY IF PERMITTED BY ARCHITECTURAL SPECIFICATIONS AND SHALL BE LIMITED TO 18 PERCENT OF CEMENTITIOUS MATERIALS AND SHALL HAVE A REPLACEMENT FACTOR OF 1.2 RELATIVE TO CEMENT REPLACED. NO FLY ASH ADDITIVES SHALL BE USED IN FLATWORK OR ARCHITECTURALLY EXPOSED CONCRETE.
- 11. COLD/HOT WEATHER CONCRETE CONSTRUCTION: PROTECT CONCRETE FROM DAMAGE OR REDUCED STRENGTH IN COMPLIANCE WITH ACI 305 AND 306.
- 12. CONCRETE MIXES SHALL BE DESIGNED BY A CERTIFIED LABORATORY AND APPROVED BY THE STRUCTURAL ENGINEER.

#### MASONRY (CONCRETE BLOCK):

- MINIMUM 28 DAY MASONRY STRENGTH SHALL BE 1500 PSI.
- 1. VERTICAL REINFORCING: #5 AT 16 INCHES ON CENTER FULL HEIGHT OF WALL, CENTERED IN GROUTED CELL AND AT ALL WALL INTERSECTIONS, CORNERS, WALL ENDS, JAMBS, OVER LINTELS, AND EACH SIDE OF CONTROL JOINTS (MINIMUM UNLESS NOTED OTHERWISE ON PLANS/DETAILS). TIE AT 8'-0" VERTICALLY, WITH SINGLE WIRE LOOP TIE OR EQUIVALENT. DOWEL ALL REINFORCING TO FOUNDATION WITH DOWELS TO MATCH AND LAP VERTICAL WALL OR COLUMN REINFORCING.
- 2. CONTROL JOINTS: UNLESS NOTED OTHERWISE ON THE PLANS, PLACE CONTROL JOINTS IN MASONRY WALLS SUCH THAT NO STRAIGHT RUN OF WALL EXCEEDS 24'-0". CONTROL JOINTS SHALL NOT OCCUR AT WALL CORNERS, INTERSECTIONS, ENDS, WITHIN 24" OF CONCENTRATED POINTS OF BEARING OR JAMBS, OR OVER OPENINGS UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS.
- 3. HORIZONTAL REINFORCING: (MINIMUM UNLESS NOTED OTHERWISE ON PLANS/DETAILS) (2) #4 BARS IN CENTER OF 16 INCH DEEP MINIMUM CONTINUOUS GROUTED BOND BEAM AT "ELEVATED FLOOR AND ROOF LINES. FOR 8 INCH THICK WALLS, ONE #4 BAR IN CENTER OF 8 INCH DEEP CONTINUOUS GROUTED BOND BEAM AT INTERVALS NOT TO EXCEED 48 INCHES ON CENTER AND AT TOP OF PARAPET OR FREE STANDING WALLS.

FOR 12 INCH THICK WALLS, TWO #5 BARS IN CENTER OF 8 INCH DEEP CONTINUOUS GROUTED BOND BEAM AT INTERVALS NOT TO EXCEED 48 INCHES ON CENTER AND AT TOP OF PARAPET OR FREE STANDING WALLS.

HORIZONTAL BARS AT TOP OF PARAPET OR FREE STANDING WALLS SHALL BE PLACED 8 INCHES DOWN FROM THE TOP IN AN UPSIDE DOWN BOND BEAM BLOCK. PLACE HORIZONTAL BARS CONTINUOUS THROUGH CONTROL JOINTS. PROVIDE BENT BARS

PFR TYPICAL DETAILS. TO MATCH HORIZONTAL BOND BEAM REINFORCING, AT CORNERS

4. TENSION LAP SPLICES OF REINFORCING STEEL IN MASONRY SHALL BE AS FOLLOWS:

AND WALL INTERSECTION TO MAINTAIN BOND BEAM CONTINUITY.

REBAR SIZE	STANDARD LAP	RETAINING WALLS (AT FACE OF WALL)
#4	24"	30"
#5	30"	46"
#6	43"	55"
#7	60"	64"
#8	72"	72"

- 5. REINFORCING PLACEMENT TOLERANCES: ALL DIMENSIONS SHOWING THE LOCATION OF REINFORCING STEEL NOT NOTED AS "CLEAR" OR "CLR" ARE TO CENTER OF STEEL. TOLERANCES FOR PLACEMENT OF VERTICAL REINFORCING SHALL BE (±) 1/2" PERPENDICULAR TO WALL AND  $(\pm)$  2" ALONG THE LENGTH OF THE WALL. PROVIDE %CLEARANCE BETWEEN MASONRY UNITS AND REINFORCING, AND REINFORCING RUNNING IN THE SAME DIRECTION. LAPS MAY BE BESIDE OR OVER THE REINFORCING BEING SPLICED.
- 6. BLOCK QUALITY: CONCRETE BLOCK SHALL BE HOLLOW LIGHTWEIGHT LOAD-BEARING CONCRETE MASONRY UNITS CONFORMING TO ASTM 90-75 WITH A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI. USE BOND BEAM UNITS AT HORIZONTAL REINFORCING.
- 7. MORTAR: MORTAR MIX SHALL CONFORM TO REQUIREMENTS OF THE IBC STANDARDS, TYPE M OR S. MORTAR SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1800 PSI
- 8. GROUT: GROUT SHALL CONFORM TO REQUIREMENTS OF CHAPTER 21 OF THE IBC FOR COARSE GROUT. USE SUFFICIENT WATER FOR GROUT TO FLOW INTO ALL JOINTS OF THE MASONRY WITHOUT SEGREGATION. GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS. ALL CELLS IN CONCRETE BLOCKS CONTAINING REINFORCING SHALL BE FILLED SOLID WITH GROUT. ALL MASONRY BELOW FINISHED FLOOR OR GRADE SHALL BE GROUTED SOLID. ALL GROUT SHALL BE MECHANICALLY VIBRATED.

GROUT LIFTS OF 5 FEET OR LESS IS RECOMMENDED. FOR HIGHER GROUT LIFTS CLEANOUTS (3"X3") AT THE BOTTOM OF ALL VERTICALLY REINFORCED CELLS SHALL BE PROVIDED. IN ADDITION, MECHANICAL DEVICES SHALL BE USED TO POSITION AND SECURE REINFORCING WHEN GROUT LIFTS EXCEED 5 FEET IN HEIGHT. IN SOLID GROUTED MASONRY, CLEANOUTS SHALL NOT BE SPACED MORE THAN 32" O.C.

- 9. BLOCK CONSTRUCTION: ALL BLOCKS SHALL BE PLACED IN RUNNING BOND CONSTRUCTION (UNLESS OTHERWISE NOTED) WITH ALL VERTICAL CELLS IN ALIGNMENT.
- 10. MISCELLANEOUS LINTELS: FOR MISCELLANEOUS OPENINGS (4'-8" OR LESS) NOT SHOWN ON PLANS OR IN A SCHEDULE, BUT REQUIRED BY OTHER DISCIPLINES (MECHANICAL, ELECTRICAL, PLUMBING, ETC.) THE FOLLOWING OPTIONS MAY BE USED IN 8" MASONRY

OPTION #1: GROUTED REINFORCED MASONRY LINTEL: REINFORCE WITH (2) #4 HORIZONTAL BARS IN BOTTOM OF BOND BEAM OR LINTEL BLOCK AND SHALL BE GROUTED SOLID TO A MINIMUM DEPTH OF 12 INCHES. ALL LINTEL REINFORCING AND GROUT SHALL EXTEND 16 INCHES PAST JAMBS.

OPTION #2: DOUBLE ANGLE LINTELS: USE (2) L31/2X31/2X1/4 BACK-TO-BACK. PROVIDE 12" MINIMUM OF GROUT OVER LINTELS. BEARING FOR STEEL ANGLE LINTELS SHALL BE 4"  $(\pm)$  1" AT EACH JAMB.

OPTION #3: POWERS STEEL LINTEL: PS8-8. GROUT LINTEL 8" DEEP. BEARING FOR POWERS STEEL LINTELS SHALL BE 4"  $(\pm)$  1" AT EACH JAMB.

THESE LINTELS, OR THE OPENING THEY SPAN, SHALL NOT BE PLACED SO AS TO INTERFERE WITH THE REQUIREMENTS OF OTHER STRUCTURAL ELEMENTS (I.E BOND BEAMS, LINTELS, CONTROL JOINTS, CONCENTRATED POINTS OF BEARING, ETC.) WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.

SOLID GROUT SHALL BE PROVIDED BETWEEN WEBS AND MASONRY FACE SHELLS FOR FULL LENGTH OF ALL STEEL LINTELS. MORTAR MAY BE USED FOR GROUT FOR THIS PURPOSE ONLY. FACE UNITS, SOAPS, ROMANS, ETC., SHALL BE LAID WITH FULL HEAD AND BED JOINTS.

FOR ADDITIONAL INFORMATION AT OPENINGS IN MASONRY WALLS, SEE TYPICAL DETAILS.

- 2. WELDING OF REINFORCING BARS SHALL BE MADE ONLY TO ASTM A706 GRADE 60 BARS AND ONLY USING E90 SERIES RODS. WELDING OF
- 3. REINFORCING BAR SPACING GIVEN ARE MAXIMUM ON CENTERS. ALL BARS PER CRSI SPECIFICATIONS AND HANDBOOK. DOWEL ALL VERTICAL REINFORCING TO FOUNDATION. SECURELY TIE ALL BARS IN LOCATION

- 1. MATERIALS: ROLLED W SHAPES, SHALL CONFORM TO ASTM A992 (FY=50 KSI). ALL OTHER STRUCTURAL STEEL SHAPES, ROLLED SECTIONS, BARS AND PLATES SHALL CONFORM TO ASTM A36 (FY = 36 KSI). ALL PIPE STEEL SHALL BE ASTM A501 (FY = 36 KSI) OR ASTM A53, TYPE E OR S, GRADE B (FY = 35 KSI). ALL TUBULAR STEEL SHALL BE ASTM A500 (FY = 46 KSI).
- 2. ALL BOLTS AND STUDS SHALL BE ASTM A307, UNLESS NOTED OTHERWISE. ALL EXPANSION BOLTS TO HAVE CURRENT ICBO RATING FOR MATERIAL INTO WHICH INSTALLATION TAKES PLACE. HEADED STUDS SHALL CONFORM TO ALL REQUIREMENTS OF THE LATEST EDITION OF THE "RECOMMENDED PRACTICES FOR STUD WELDING" AND THE "STRUCTURAL WELDING CODE" PUBLISHED BY AWS. ALL BOLTS, ANCHOR BOLTS, EXPANSION BOLTS, ETC. SHALL BE INSTALLED WITH STEEL WASHERS AT FACE OF WOOD OR AT SLOTTED HOLES IN STEEL SECTIONS.
- 3. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, LATEST EDITION.
- 4. WELDING SHALL BE BY WELDERS HOLDING VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES. ALL WELDING SHALL USE E70 SERIES LOW HYDROGEN RODS UNLESS NOTED OTHERWISE. ALL WELDING PER LATEST AMERICAN WELDING SOCIETY STANDARDS. ALL WELDS ON DRAWINGS ARE SHOWN AS SHOP WELDS. CONTRACTOR MAY SHOP WELD OR FIELD WELD AT HIS DISCRETION. ALL FULL PENETRATION WELDS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY.
- 5. STEEL TO STEEL BOLTED CONNECTIONS: HIGH STRENGTH BOLTS SHALL BE ASTM A325N AND SHALL BE INSTALLED AS BEARING-TYPE CONNECTIONS WITH THREADS INCLUDED IN SHEAR PLANE (TYPE "N" CONNECTION). BOLTS MAY BE TIGHTENED USING ANY AISC APPROVED METHOD.
- 6. DRYPACK SHALL BE 5,000 PSI FIVE STAR NON-SHRINK GROUT OR EQUIVALENT. INSTALL DRYPACK UNDER BEARING PLATES BEFORE FRAMING MEMBER IS INSTALLED. AT COLUMNS, INSTALL DRYPACK UNDER BASE PLATES AFTER COLUMN HAS BEEN PLUMBED BUT PRIOR TO FLOOR OR ROOF INSTALLATION.

#### **WOOD:**

1. PLYWOOD: ALL PLYWOOD SHALL BE C-D OR C-C SHEATHING CONFORMING TO STANDARD PS 1-95. LAY UP PLYWOOD WITH FACE GRAIN IN PERPENDICULAR TO SUPPORTS (ON ROOFS WHERE PLYWOOD IS LAID UP WITH FACE GRAIN PARALLEL TO SUPPORTS, USE A MINIMUM OF 5-PLY PLYWOOD, STAGGER JOINTS). ALL NAILING, COMMON NAILS. BLOCKING AT PANEL EDGES WHERE INDICATED ON PLANS. ALL PLYWOOD SHALL BE OF THE FOLLOWING NOMINAL THICKNESS, SPAN/INDEX RATING AND SHALL BE NAILED AS FOLLOWS UNLESS NOTED OTHERWISE ON THE PLANS:

LOCATION:	NOMINAL THICKNESS:	SPAN INDEX RATING:	EDGE ATTACHMENT:	FIELD ATTACHMENT:
FLOOR	3/4" T&G	<sup>48</sup> ⁄24	#8 SCREWS AT	#8 SCREWS AT

NER-108, EXPOSURE 1, AND SHALL HAVE A SPAN RATING EQUIVALENT TO THICKNESS (WITHIN 1/32") SHALL BE THE SAME AS THE PLYWOOD IT

#### REINFORCING STEEL:

- 1. ASTM A615 GRADE 60 (FY = 60 KSI) DEFORMED BARS FOR ALL BARS #5 AND LARGER. ASTM A615 GRADE 40 (FY = 40 KSI) DEFORMED BARS FOR ALL BARS #4 AND SMALLER. GRADE 60 DEFORMED BARS SHALL BE USED FOR CONCRETE WALLS, BEAMS, ELEVATED SLABS AND COLUMN REINFORCING.
- REINFORCING BARS SHALL BE MADE ONLY AT LOCATIONS SHOWN ON PLANS
- BEFORE PLACING CONCRETE.

LOCATION:	NOMINAL THICKNESS:	SPAN INDEX RATING:	EDGE ATTACHMENT:	FIELD ATTACHMENT:
FLOOR	34" T&G	48/24	#8 SCREWS AT 6" O.C.	#8 SCREWS AT 12" O.C.

PLYWOOD ALTERNATE: AMERICAN PLYWOOD ASSOCIATION PERFORMANCE RATED SHEATHING MAY BE USED AS AN ALTERNATE TO PLYWOOD WITH PRIOR APPROVAL OF OWNER, ARCHITECT AND ROOFER. IT MAY NOT BE USFD ON ROOFS WHERE BUILT-UP ROOF SYSTEM IS TO BE GUARANTEED BY ROOFER. RATED SHEATHING SHALL COMPLY WITH ICBO REPORT OR BETTER THAN THE PLYWOOD IT REPLACES ATTACHMENT AND REPLACES. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

DRAWING INDEX			
DETAILS	SHEET	DESCRIPTION	
	S1	GENERAL STRUCTURAL NOTES	
T1-T10	S1.2	TYPICAL DETAILS	
	<b>S2</b> FOUNDATION PLAN		
	<b>S</b> 3	FRAMING PLAN	
220-224 <b>S3.1</b> STRUCTURAL ELEVATIONS			
101-110	<b>S4</b>	FOUNDATION DETAILS	
201-219	<b>S</b> 5	FRAMING DETAILS	

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JOB NO.: 2016-0062 PROJECT MANAGER: CRM CAD OPERATOR: MJS

#### FROST STRUCTURAL ENGINEERING 1678 Oaklawn Drive, Suite C

phone: 928.776.4757 Prescott, Arizona 86305 fax: 928.776.4931 info@frost-structural.com

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MJS CHECKED BY CRM 4/13/16 AS NOTED

2016-0062 SHEET

# GENERAL STRUCTURAL NOTES

- CONTINUED - (APPLY UNLESS NOTED OTHERWISE ON PLANS/DETAILS)

#### STEEL DECKING (ICBO #2078):

- 1. PER ARCHITECTURAL DRAWINGS.
- 2. ROOF DECK ATTACHMENT: PER TYPICAL DETAILS.
- 3. WALL SHEETING (DURARIB PANEL): DECK SHALL BE 1.25" DEEP, 36" WIDE, 24 GAUGE PRE-FINISHED STEEL, WITH MINIMUM YIELD STRESS OF 80 KSI, WITH MINIMUM S = 0.055 IN^3 AND I = 0.046 IN^4 PER FOOT OF WIDTH.
- 4. SHEETING ATTACHMENT: PER TYPICAL DETAILS.

#### GYPSUM BOARD SHEATHING:

- 1. ALL GYPSUM BOARD SHEATHING MATERIALS SHALL CONFORM TO ASTM C79 AND SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C1280. FOUR-FOOT WIDE PIECES OF GYPSUM SHEATHING SHALL BE APPLIED PARALLEL OR PERPENDICULAR TO THE STUDS. TWO-FOOT WIDE PIECES OF GYPSUM SHEATHING SHALL BE APPLIED PERPENDICULAR TO THE STUDS. END JOINTS OF ADJACENT COURSES OF GYPSUM BOARD SHALL BE STAGGERED.
- 2. FOR FIRE RATED WALLS WITH GYPSUM SHEATHING EACH SIDE, GYPSUM SHEATHING SHALL BE INSTALLED SO THAT ALL EDGES ARE SUPPORTED EXCEPT %" TYPE-X GYPSUM SHEATHING SHALL BE PERMITTED TO BE INSTALLED HORIZONTALLY WITH THE HORIZONTAL JOINTS STAGGERED 24" FROM THE OPPOSITE SIDE, BUT JOINTS ARE UNSUPPORTED AND FINISHED.

#### COLD FORMED STEEL (ICBO ER 4943P):

- 1. MATERIALS: STANDARD COLD-FORMED STEEL STUDS, JOISTS, TRACK, BRIDGING AND STRAPS SHALL CONFORM TO AISI NAS-01 WITH 2004 SUPPLEMENT (FY = 33 KSI). STEEL FOR PURLINS AND GIRTS SHALL CONFORM TO (FY = 55 KSI). STEEL SHALL BE GALVANIZED AT EXTERIOR WALLS AND FRAMING.
- 2. FRAMING SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE LATEST EDITION OF "SPECIFICATIONS FOR THE DESIGN OF COLD—FORMED STEEL STRUCTURAL MEMBERS" BY THE AMERICAN IRON AND STEEL INSTITUTE(AISI).
- 3. ALL STUDS SHALL BE SECURELY SEATED FOR FULL END BEARING ON TOP AND BOTTOM TRACK. UNLESS NOTED OTHERWISE, PROVIDE DOUBLE STUDS AT ALL JAMBS, CORNERS, INTERSECTIONS, BEAM BEARINGS AND JOIST BEARINGS.
- 4. ALL WELDING SHALL BE PERFORMED BY WELDERS EXPERIENCED IN LIGHT GAGE STRUCTURAL STEEL FRAMING WORK. MEMBERS SHALL HAVE THE FOLLOWING MINIMUM EFFECTIVE PROPERTIES PER STEEL STUD MANUFACTURERS ASSOCIATION(SSMA):

TYPE/STYLE	MEMBER	MILS(GA)	FY
STUD	362S162-33	33(20)	33KSI
TRACK	362T162-33	33(20)	33KSI
STUD	362S162-43	43(18)	33KSI
TRACK	362T162-43	43(18)	33KSI
STUD	362S162-54	54(16)	33KSI
TRACK	362T162-54	54(16)	33KSI
STUD	600S162-33	33(20)	33KSI
TRACK	600T162-33	33(20)	33KSI
STUD	600S162-43	43(18)	33KSI
TRACK	600T162-43	43(18)	33KSI
STUD	600S162-54	54(16)	33KSI
TRACK	600T162-54	54(16)	33KSI
STUD	800S162-33	33(20)	33KSI
TRACK	800T162-33	33(20)	33KSI
STUD	800S162-43	43(18)	33KSI
TRACK	800T162-43	43(18)	33KSI
STUD	800S162-54	54(16)	33KSI
TRACK	800T162-54	54(16)	33KSI

#### DEFERRED SUBMITTAL ITEMS:

STEEL ERECTION SHOP DRAWINGS

#### SPECIAL INSPECTION ITEMS:

 THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR DURING CONSTRUCTION OF CERTAIN TYPES OF WORK. PER IBC SECTION 1704 AND THE STRUCTURAL ENGINEER OF RECORD, SPECIAL INSPECTION IS (IS NOT) REQUIRED AS FOLLOWS:

TYPE OF WORK:	REQUIRED:	REMARKS:
SOIL BEARING SUBGRADE	YES	PER GEOTECHNICAL REPORT
CONCRETE SLAB ON GRADE	NO	DESIGN BASED ON f'c=2500 PSI
CONCRETE FOUNDATIONS	NO	DESIGN BASED ON f'c=2500 PSI
WELDING	YES	AFTER WORK IS COMPLETE
FIELD WELDING	YES	AFTER WORK IS COMPLETE
STEEL TO STEEL BOLTED	YES	AFTER WORK IS COMPLETE

#### SPECIAL INSPECTIONS NOT LISTED ABOVE ARE NOT REQUIRED.

2. DESIGNATION OF SPECIAL INSPECTOR:

- A. FOR STRUCTURAL ITEMS LISTED ABOVE, THE SPECIAL INSPECTOR SHALL BE, OR WORK UNDER THE DIRECT SUPERVISION OF THE STRUCTURAL ENGINEER OF RECORD FROST STRUCTURAL ENGINEERING (928)776—4757.
- B. FOR GEOTECHNICAL ITEMS LISTED ABOVE, THE SPECIAL INSPECTOR SHALL BE, OR WORK UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER OF RECORD. SEE GEOTECHNICAL REPORT FOR CONTACT INFORMATION.
- C. THE OWNER, AT HIS OPTION, MAY DESIGNATE AN ALTERNATE SPECIAL INSPECTOR,
  OBTAIN THE REQUIRED CERTIFICATE(S), AND MAKE THE NECESSARY NOTIFICATIONS
  TO ALL PARTIES INVOLVED. THE ALTERNATE SPECIAL INSPECTOR SHALL BE A
  LICENSED STRUCTURAL ENGINEER (OR GEOTECHNICAL ENGINEER FOR
  GEOTECHNICAL ITEMS) OR AN ICBO CERTIFIED SPECIAL INSPECTOR.
- D. TO SCHEDULE ANY SPECIAL INSPECTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE SPECIAL INSPECTOR AT LEAST ONE DAY IN ADVANCE.
- 3. QUALITY ASSURANCE PROGRAM:
- A. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.
- B. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE STRUCTURAL ENGINEER OF RECORD. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE DESIGN AUTHORITY AND THE BUILDING OFFICIAL.
- C. UPON COMPLETION OF THE ASSIGNED WORK THE STRUCTURAL ENGINEER SHALL COMPLETE AND SIGN THE APPROPRIATE FORMS CERTIFYING THAT TO THE BEST OF HIS KNOWLEDGE THE WORK IS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE INTERNATIONAL BUILDING CODE.

DRAWING INDEX					
DETAILS	SHEET	DESCRIPTION			
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T1-T10	S1.2	TYPICAL DETAILS			
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220-224	S3.1	STRUCTURAL ELEVATIONS			
101-110	S4	FOUNDATION DETAILS			
201-219	S5	FRAMING DETAILS			

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JOB NO.: 2016-0062 PROJECT MANAGER: CRM CAD OPERATOR: MJS

# FROST STRUCTURAL ENGINEERING

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Date of the last o

STEEL STEEL

O. Box 11593
escott, AZ 86304
one.net
ates.com

8-443-5815 P email: waka@cable www.kenson-assoc

F 928-443-5 F 928-443-5 emai

alpin RV Cottonwood 26 South 10th Street ottonwood, AZ 86326

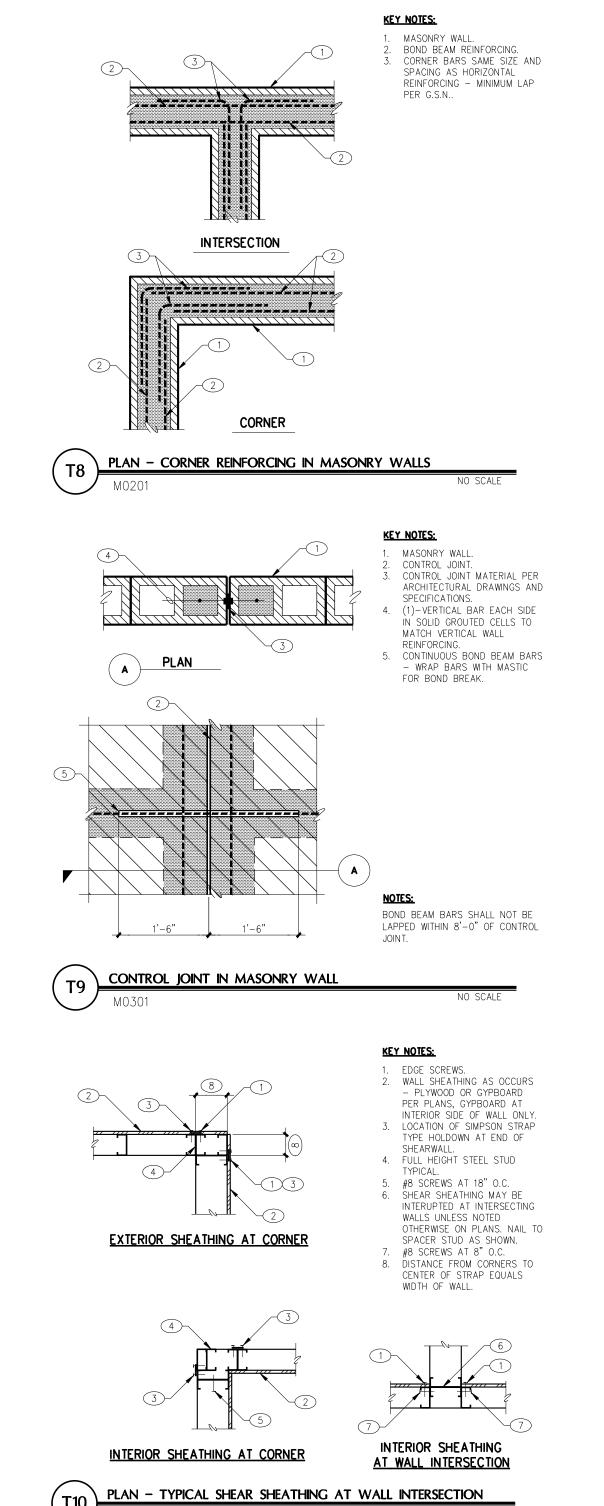
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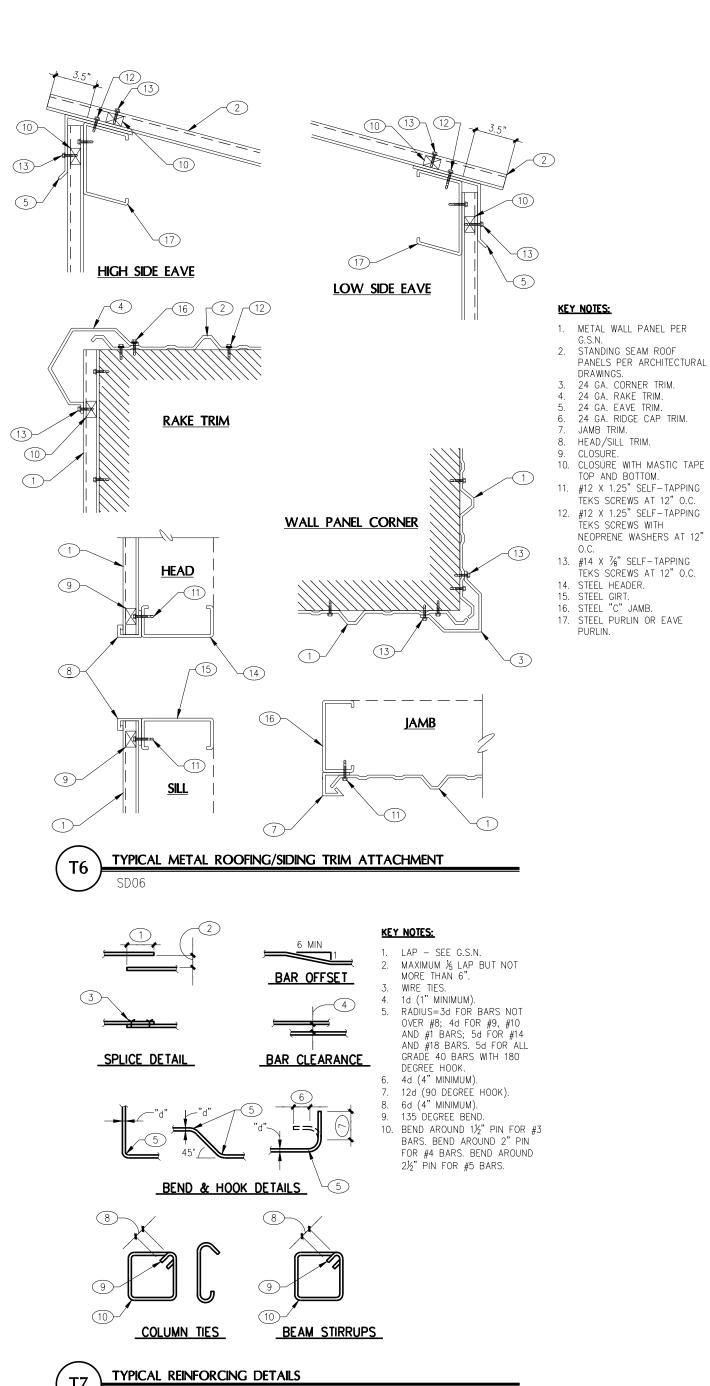
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4/13/16
SCALE
AS NOTED

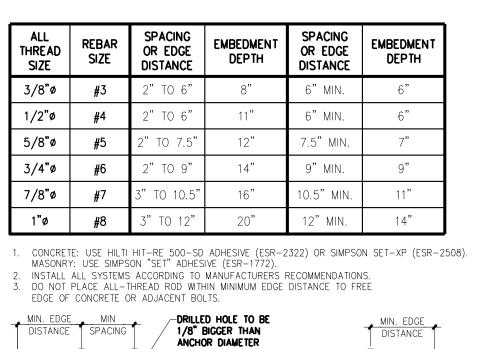
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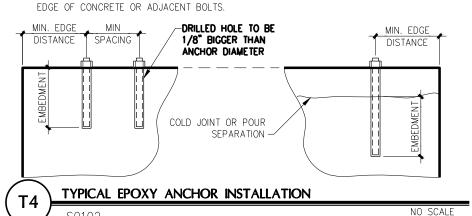
S1.1



S-W08







RIVET SS AS REQ'D.

SD W/WASHER AT 1'-0" O.C.

SELF-DRILLER W/ WASHER

[FASTENER #1E] (8) PER

W/ WASHER [FASTENER #1]

SELF-DRILLER W/ WASHER

[FASTENER #1E] (8) PER

SELF-DRILLER W/ WASHER [FASTENER #1E] (8) PER 24" PANEL (7) PER 18" PANEL (6)

[HW-504]. CONTINUOUS ACROSS PANEL OVER PRE-PUNCHED

NOTE: APPLY TRI-BEAD TAPE

SEALER OVER THE NOTCHED PORTION OF THE MALE LEGS.

[HW-7760] 24" PANEL [HW-7769] 18" PANEL

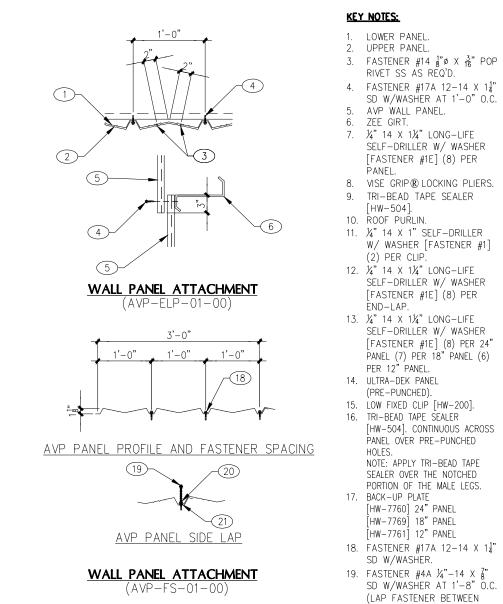
SD W/WASHER.

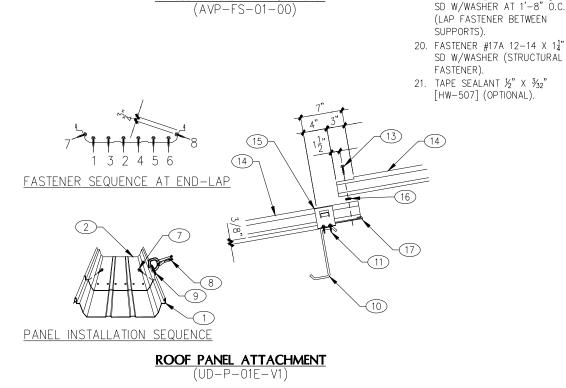
[HW-504].

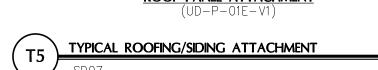
(2) PER CLIP.

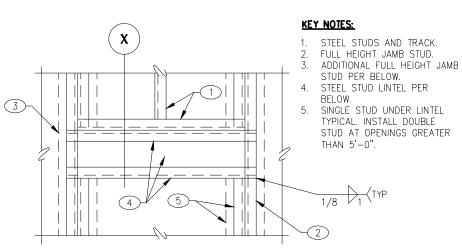
PER 12" PANEL.

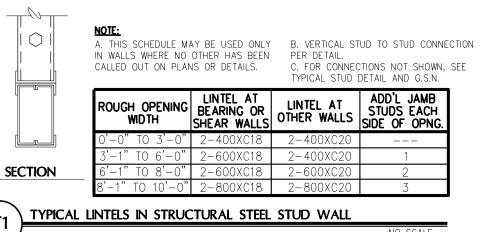
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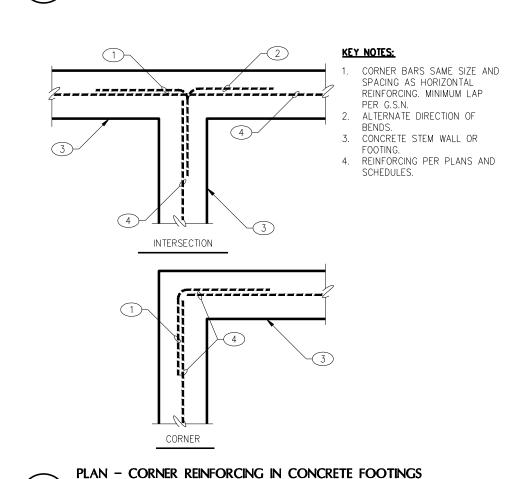












BOLT	CAST II EMBEDMEN	N PLACE IT(MINIMUM)	EXPANSION ANCHOR EMBEDMENT(MINIMUM)		
SIZE	VERTICAL	HORIZONTAL VERTICAL		HORIZONTAL	
1/4 <b>"</b> ø	4"	4"	2"	1.125"	
3/8"ø	5"	4"	3"	1.5"	
1/2 <b>"</b> ø	7"	4"	4"	2"	
5/8 <b>"</b> ø	8"	5"	5"	2.5"	
3/4"ø	9"	6"	6"	3"	
7/8 <b>"</b> ø	10"	7"	7"	3.5"	
				,	

10"	7"	7"
11"	8"	9"
MIN. ANDARD DOK OR DLT HEAD	EMBEDMENT	KE An In Th Em Th Af
	11"	MIN. ANDARD OOK OR OLT HEAD

AND/OR CONCRETE STEM WALLS

ANCHOR OR BOLT DIAMETERS SPECIFIED DETAILS OR ON PLANS SHALL MEET THESE MINIMUM REQUIREMENTS FOR EMBEDMENT. THICKNESS OF DRYPACK DOES NOT APPLY TOWARDS EMBEDMENT. EXPANSION ANCHOR APPROVALS: SIMPSON WEDGE-ALL (ESR-1396) HILTI ANCHORS KWIK-BOLT (ESR-1917). ANCHOR BOLT POWERS POWER-STUD (ESR-2818)

TYPICAL ANCHOR BOLT, AND EXPANSION BOLT SCHEDULE

### TYPICAL DETAILS T1-T10

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### FROST STRUCTURAL ENGINEERING

1678 Oaklawn Drive, Suite C phone: 928.776.4757 Prescott, Arizona 86305 fax: 928.776.4931 info@frost-structural.com

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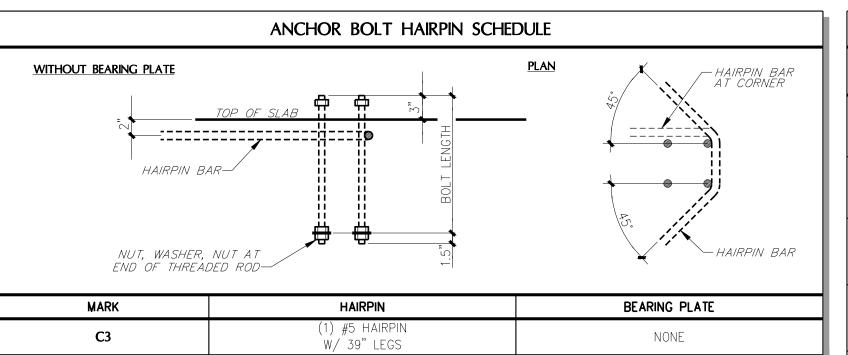
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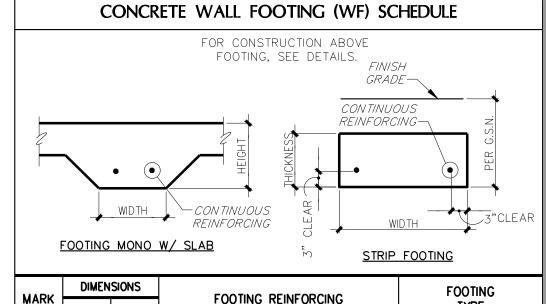
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SHEET

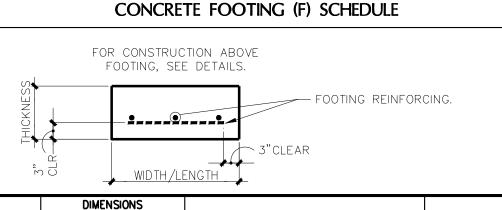
2016-0062



MARK	SIZE	BASE CONNECTION	BASE CONNECTION TYPE	REMARKS			
C1	HSS6X6X1/4	12" X 7" X ½" THICK STEEL PLATE W/ (2) ½"ø X 10" J-BOLTS	TYPE B				
C2	HSS6X6X <b>½</b>	12" X 7" X ½" THICK STEEL PLATE W/ (2) ½"ø X 10" J-BOLTS	TYPE A				
C3	W18X35	19½" X 7½" X ½" THICK STEEL PLATE W/ (4) 1" ANCHOR BOLTS W/ 16" EMBEDMENT	TYPE C	SEE ANCHOR BOLT HAIRPIN SCHEDULE			
C4	W14X43	15" X 9" X ½" THICK STEEL PLATE W/ (4) 1" ANCHOR BOLTS W/ 16" EMBEDMENT	TYPE C				
<b>C</b> 5	8"X2.5"X16 GA. STEEL "C" COLUMN	6" LONG X 1/8" THICK CLIP ANGLE W/ (2) 1/2" ØX7" J-BOLTS OR (2) 1/2" ØX6" SIMPSON WEDGE-ALL TYPE ANCHORS					
C6	W18X40	19½" X 7½" X ½" THICK STEEL PLATE W/ (4) 1" ANCHOR BOLTS W/ 16" EMBEDMENT	TYPE C	SEE ANCHOR BOLT HAIRPIN SCHEDULE			
1½" 1½"  3"1½"  1½"  1½"  1½"  1½"  1½"  1½"							



MARK DIMENSIONS WIDTH THICKNESS FOOTING REINFORCING TYPE  WF1 16" 10" (2) #4 CONTINUOUS [MONO W/SLAB]  WF2 10" 10" (2) #4 CONTINUOUS		10011110	III III III III	™ STRIP	FOOTING
WIDTH THICKNESS         TIPE           WF1         16"         10"         (2) #4 CONTINUOUS         [MONO_W/SLAB]	MADK	DIMEN	MENSIONS	FOOTING PEINFOPCING	FOOTING
	WARK	WIDTH	THICKNESS	FOOTING REINFORCING	TYPE
ME2 40" 40" (2) HA CONTINUOUS	WF1	16"	" 10"	(2) #4 CONTINUOUS	[ MONO W/ SLAB ]
WF2   12   10   (2) #4 CONTINUOUS   <b>L</b> SIRIP <b>J</b>	WF2	12"	" 10"	(2) #4 CONTINUOUS	STRIP ]



		*	WID IN/LE	LINGTH	
MADIC	D	IMENSION	S	FOOTING PENICOPOING	DEMARKS
MARK	LENGTH	WIDTH	THICKNESS	FOOTING REINFORCING	REMARKS
F1	48"	48	10"	(3) #4 EACH WAY TOP AND BOTTOM	MONO W/ SLAB
F2	48"	48	10"	(3) #4 EACH WAY TOP AND BOTTOM	MONO W/ SLAB
F3	96"	96"	24"	(4) #4 EACH WAY TOP AND BOTTOM	

$\Box$		WALL SCHEDULE
	THE NEXT LEV —SEE PLAN SCH	ICATES STRUCTURAL ELEMENT CONTINUES TO EL (VERIFY WITH ARCHITECTURAL DRAWINGS). HEDULES, DETAILS, AND GENERAL STRUCTURAL DDITIONAL INFORMATION.
	TYPICAL STEM WALL	8" CMU STEM WALL UP TO 4'-0" ABOVE GRADE #4 AT 32" O.C. VERTICAL #4 AT 48" O.C. HORIZONTAL CENTERED IN WALL
	AS SEEN ON PLANS	INDICATES-
	W1	6" STEEL STUD WALL. STUDS: 600S162-33 MILS AT 24" O.C. 1 TRIMMER/1 KING STUD EACH JAMB U.N.O.
LEAR	W2	8"X2.5"X16GA. HORIZONTAL 'C' PURLIN AT 7'-0" O.C. MAX. SEE WIND GIRT SCHEDULE.
$\dashv$	W3	8" STEEL STUD WALL. STUDS: 800S250-43 MILS AT 24" O.C. 1 TRIMMER/1 KING STUD EACH JAMB U.N.O.
<u> </u>	W4	6" STEEL STUD WALL. STUDS: 600S250-43 MILS AT 24" O.C. 1 TRIMMER/1 KING STUD EACH JAMB U.N.O.
כ	W5	8" MASONRY (CMU) PARTITION WALL. MINIMUM REINFORCING UNLESS NOTED OTHERWISE: VERTICAL: #4 AT 48" O.C. HORIZONTAL: #4 AT 48" O.C.

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#### FOUNDATION PLAN NOTES

VERIFY ALL DIMENSIONS WITH ALL ARCHITECTURAL

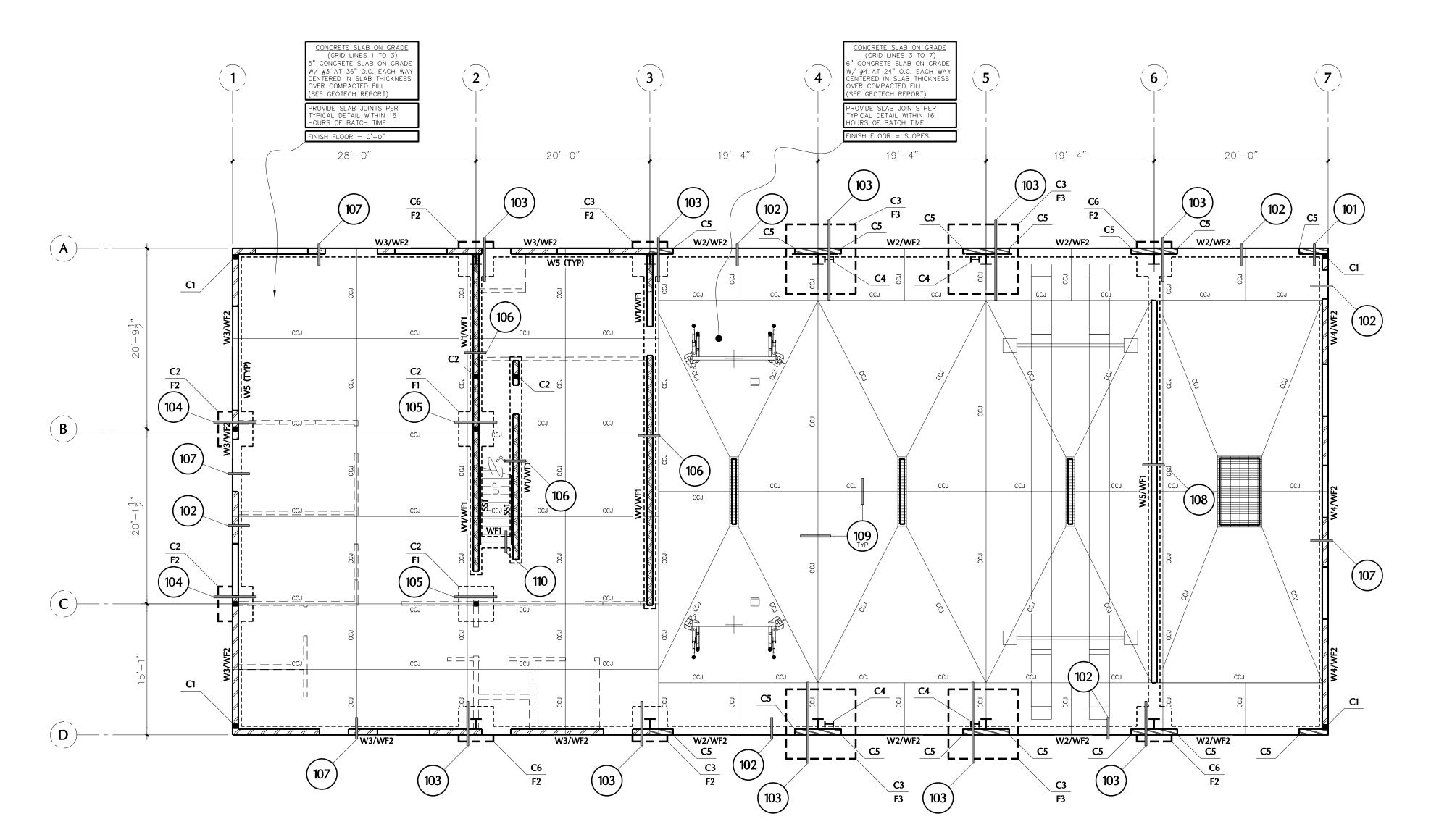
- THE DEPTH OF FOOTING DIMENSION INDICATED IN THE G.S.N. IS A MINIMUM. FOUNDATION CONTRACTOR SHALL COORDINATE WITH THE SOILS REPORT AND OTHER TRADES TO INSURE THAT THESE MINIMUMS ARE SUFFICIENT FOR THE WORK. SEE TYPICAL DETAILS FOR ADDITIONAL REQUIREMENTS.
- . WF1, WF2, ETC. AS SHOWN ON PLAN INDICATES A CONTINUOUS WALL FOOTING. SEE WALL FOOTING

SCHEDULE FOR ADDITIONAL INFORMATION.

- F1, F2, ETC. AS SHOWN ON PLAN INDICATES A CONCRETE FOOTING. SEE FOOTING SCHEDULE FOR ADDITIONAL INFORMATION.
- 5. W1, W2, ETC. AS SHOWN ON PLAN INDICATES WALL REINFORCING. SEE WALL REINFORCING SCHEDULE FOR ADDITIONAL INFORMATION. 6. C1, C2, ETC. - AS SHOWN ON PLAN INDICATES A

COLUMN. SEE COLUMN SCHEDULE FOR ADDITIONAL INFORMATION. COLUMNS START AT THE LEVEL THEY ARE

- CALLED OUT ON. 7. CCJ — AS SHOWN ON PLAN INDICATES LOCATION OF EITHER A KEYED OR A SAW CUT CONTROL JOINT IN THE SLAB ON GRADE AT CONTRACTOR'S OPTION. SEE GENERAL STRUCTURAL NOTES AND DETAIL (109)
- 8. VERIFY EXACT SIZE AND LOCATION OF DEPRESSED
- AND/OR RAISED SLABS WITH ARCHITECTURAL DRAWINGS.
- 9. FOR SIDEWALK AND LANDING LOCATIONS, SEE ARCHITECTURAL DRAWINGS.



FOUNDATION PLAN

1/8" = 1'-0"

11 110	361	I THICAL DETAILS
220-224	S3.1	STRUCTURAL ELEVATIONS
101-110	<b>S4</b>	FOUNDATION DETAILS
201-219	S5	FRAMING DETAILS
drawing can NC project and site project. Contrac report at once	OT be copied in e specifically ide ctor shall carefi any error, inco	f FROST Structural Engineering, Inc. Le whole or in pieces. It is only to be u entified hereon and is not to be used ully review all dimensions, details, and nsistency or omission discovered befor ability for deviations from the intent of

LOCATION OF DETAILS

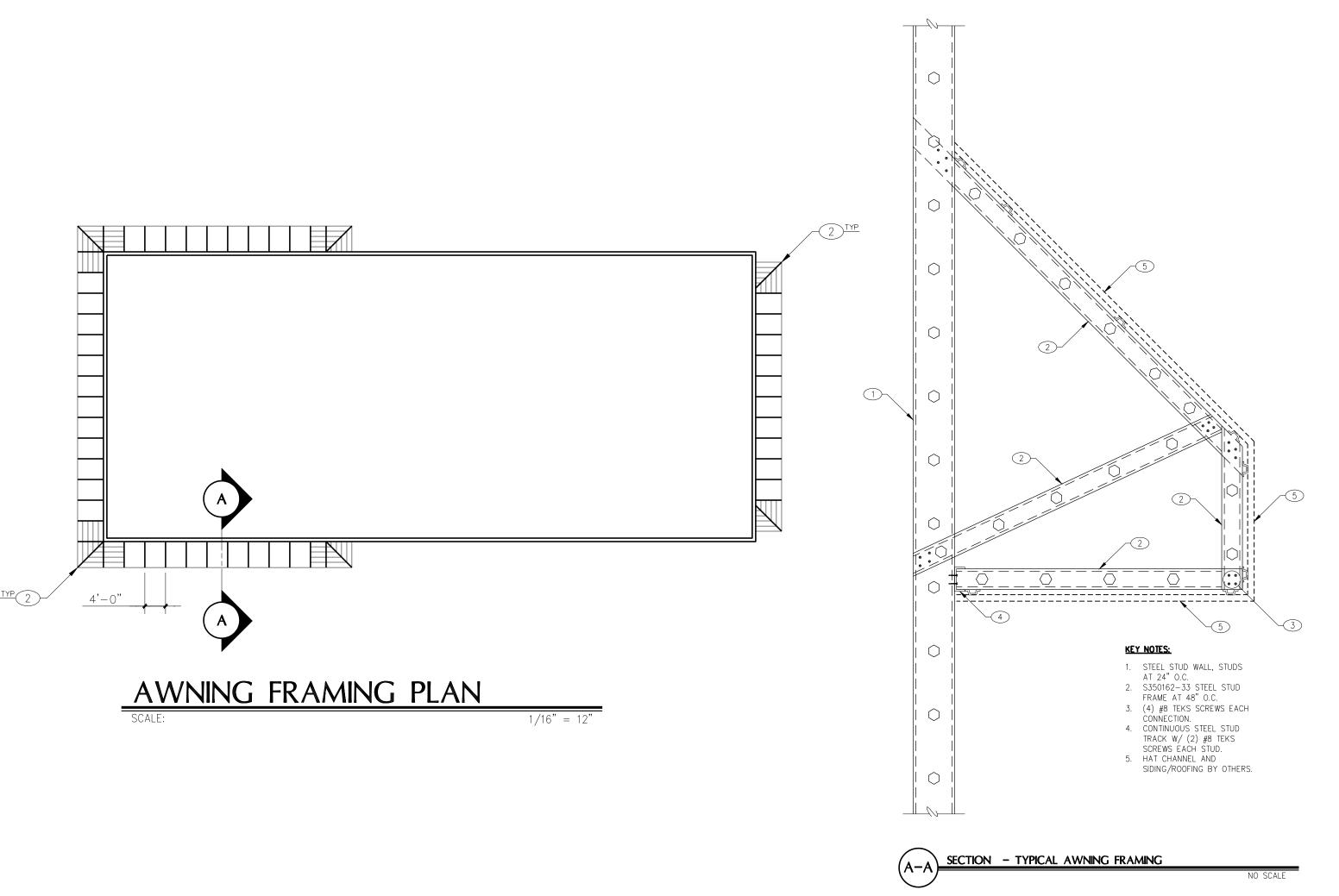
DESCRIPTION

GENERAL STRUCTURAL NOTES

PROJECT MANAGER: CRM CAD OPERATOR: MJS

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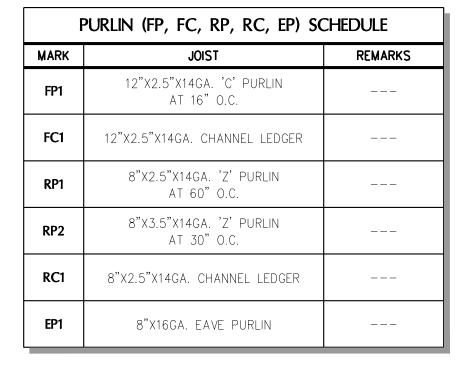
MJS DATE 4/13/16 SCALE AS NOTED JOB NO. 2016-0062



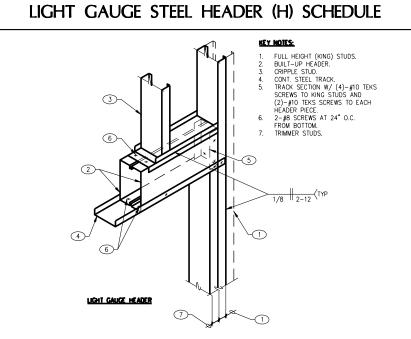
*TYPICAL FLOOR SHEATHING* ¼" T&G PLYWOOD SHEATHING. ATTACH PER G.S.N.

1/8" = 1'-0"

FLOOR FRAMING PLAN



	STEEL BEAM (FB, RB, SS) SCHEDULE						
MARK	SIZE	REMARKS					
FB1	W16X67						
FB2	C12X30						
SS1	C12X30						
RB1	W18X35						
RB2	W14X30						
RB3	W8X24	FLAT					
RB4	W18X40						



MARK	HEADER SIZE	FULL HEIGHT STUDS	TRIMMER STUDS/POST
H1	(2) 600 S137-43	1	(2) 600 S200-33
H2	(2) 600 S250-118	1	(2) 600 S200-33
Н3	(2) 800 S250-43	2	(2) 800 S250-43
H4	(2) 800 S250-118	2	(2) 800 250-43
H5	(2) 800 S250-118	3	(2) 800 250-43
H6	(2) 600 S137-43	2	(2) 600 250-43

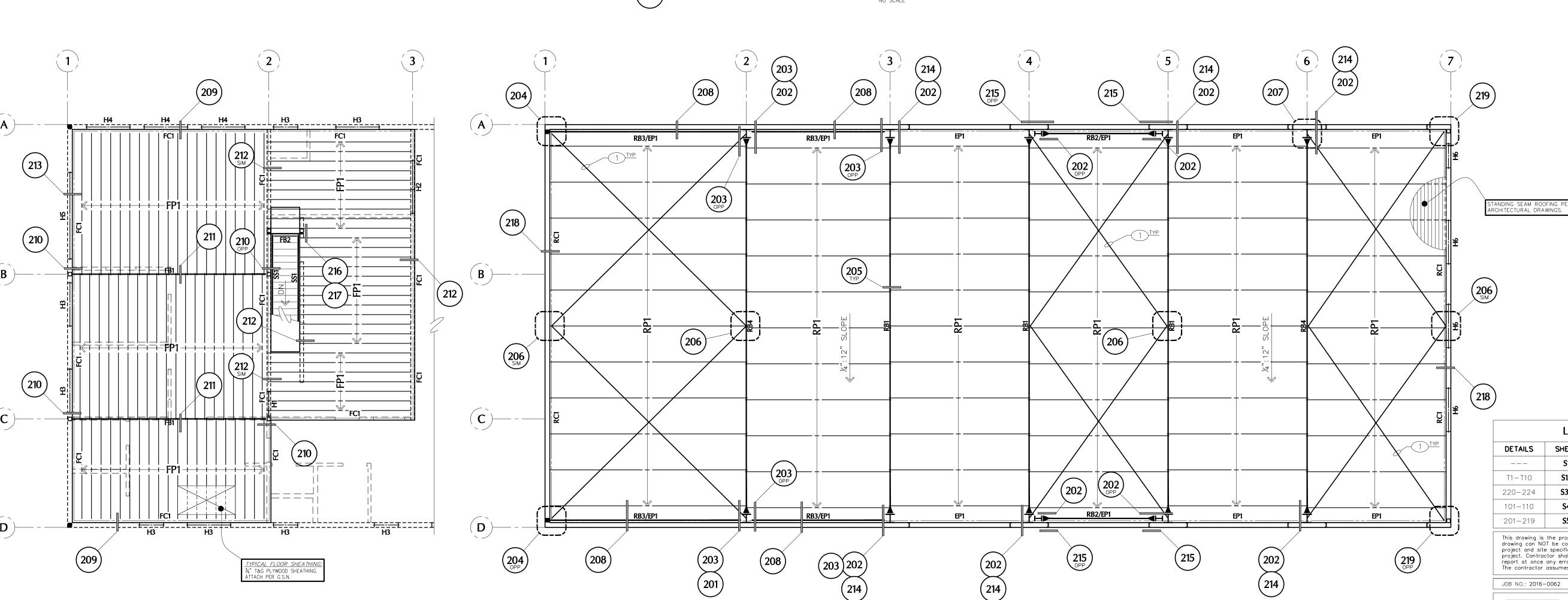
		WALL SCHEDULE
		HEDULES, DETAILS AND GENERAL STRUCTURAL DDITIONAL INFORMATION.
	AS SEEN ON PLANS	INDICATES-
	[[[]]	STRUCTURAL WALL BELOW (BEARING WALL, SHEARWALL, OR EXTERIOR WALL)
		NON-STRUCTURAL WALL BELOW.
L		PARAPFT WALL

#### ROOF FRAMING PLAN NOTES

- VERIFY ALL DIMENSIONS WITH ALL ARCHITECTURAL
- ALL SCHEDULED MARK DESIGNATIONS MAY NOT NECESSARILY BE FOUND ON THIS PLAN. SCHEDULES ARE TYPICAL TO THIS PROJECT.
- RB1, RB2, ETC. AS SHOWN ON PLAN INDICATES A ROOF BEAM. SEE ROOF BEAM SCHEDULE FOR ADDITIONAL INFORMATION.
- 4. RP1, RP2, ETC. AS SHOWN ON PLAN INDICATES ROOF PURLIN. SEE ROOF PURLIN SCHEDULE FOR ADDITIONAL
- 5. H1, H2, ETC. AS SHOWN ON PLAN INDICATES A HEADER.
- SEE HEADER SCHEDULE FOR ADDITIONAL INFORMATION.
- 6. L1, L2, ETC. AS SHOWN ON PLAN INDICATES A LEDGER. SEE LEDGER SCHEDULE FOR ADDITIONAL INFORMATION. 7. FOR CLARITY, DETAILS MAY SHOW ONLY ONE SIDE OF
- 10. INDICATES HVAC EQUIPMENT ON ROOF OR
  IN ATTIC SPACE. SEE TYPICAL DETAILS FOR
  FRAMING INFORMATION.
- VERIFY EXACT SIZE AND WEIGHT OF EQUIPMENT ON ROOF WITH MECHANICAL CONTRACTOR.

PLAN KEYNOTES

½"ø STEEL ROD BRACE. . TYPICAL AT HIPS: L4X4X16GA PLACED UNDER SUB-GIRTS. ALSO - SUBGIRTS AT 12" O.C. FIRST (2)



ROOF FRAMING PLAN

1/8" = 1'-0"

LOCATION OF DETAILS DESCRIPTION GENERAL STRUCTURAL NOTES TYPICAL DETAILS STRUCTURAL ELEVATIONS FOUNDATION DETAILS FRAMING DETAILS

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JOB NO.: 2016-0062 PROJECT MANAGER: CRM CAD OPERATOR: MJS

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1678 Oaklawn Drive, Suite C Prescott, Arizona 86305 phone: 928.776.4757 fax: 928.776.4931 info@frost-structural.com

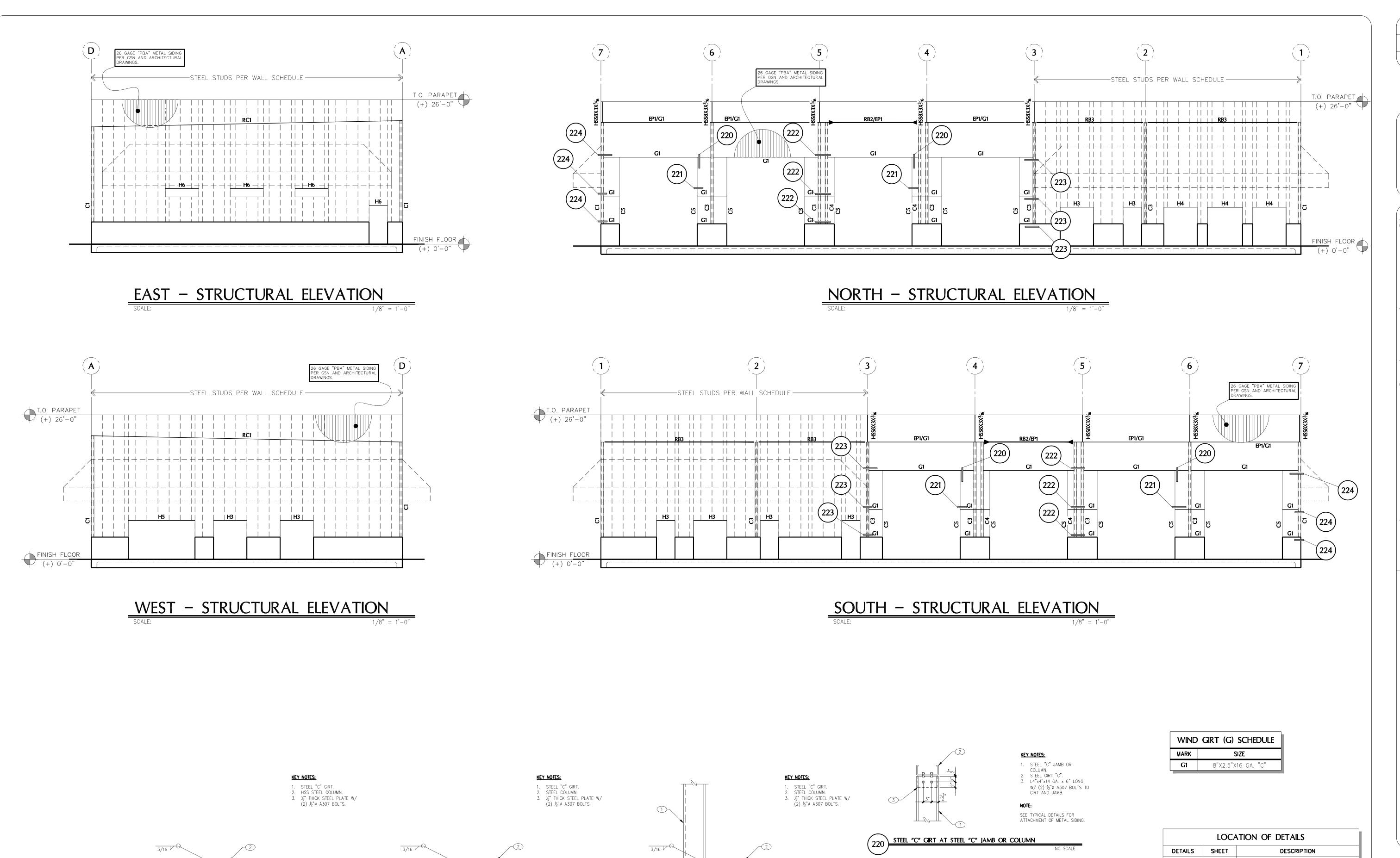
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STEEL "C" GIRT AT STEEL COLUMN

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CRM
DATE
4/13/16
SCALE
AS NOTED
JOB NO.
2016-0062
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GENERAL STRUCTURAL NOTES

STRUCTURAL ELEVATIONS

FOUNDATION DETAILS

S1.1 TYPICAL DETAILS

S5 FRAMING DETAILS

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FROST STRUCTURAL ENGINEERING

info@frost-structural.com

phone: 928.776.4757

fax: 928.776.4931

1678 Oaklawn Drive, Suite C

Prescott, Arizona 86305

T1-T10

220-224

101 - 110

201-219

KEY NOTES:

PLAN - STEEL "C" GIRT AT STEEL "C" COLUMN OR JAMB

1. STEEL "C" COLUMN PER PLAN.

2. (2) ½"ø BOLTS. 3. STEEL BENT PLATE (6" LONG

L6X6X%")W/ (2) ½"ø BOLTS.

4. STEEL "C" GIRTS PER PLAN.

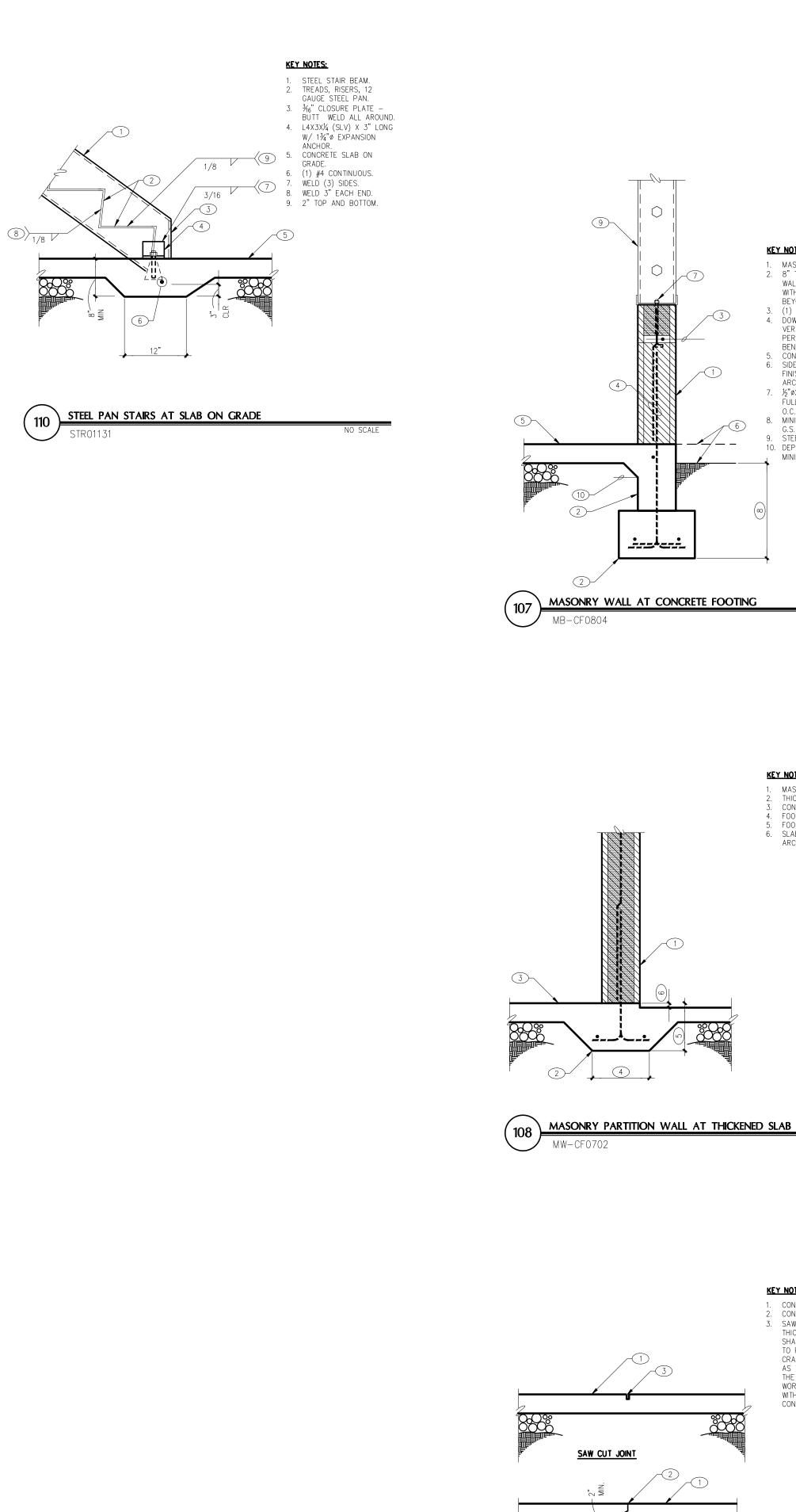
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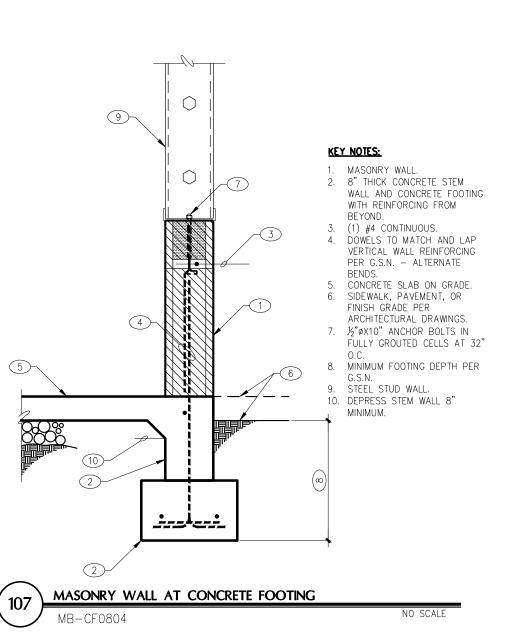
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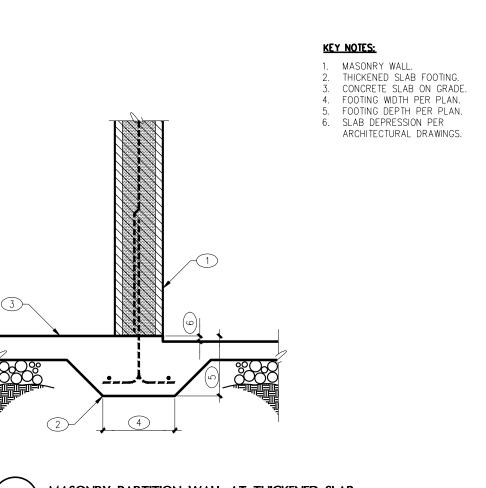
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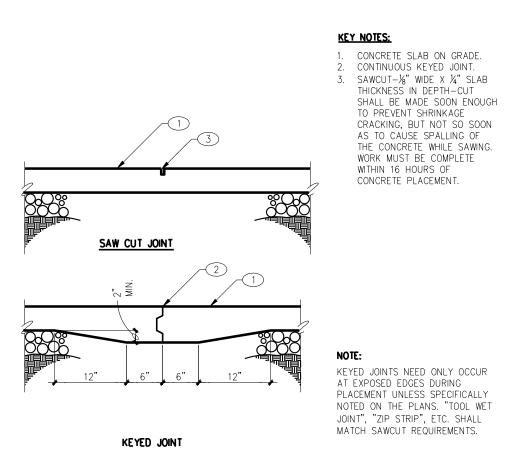
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**S3.1** 

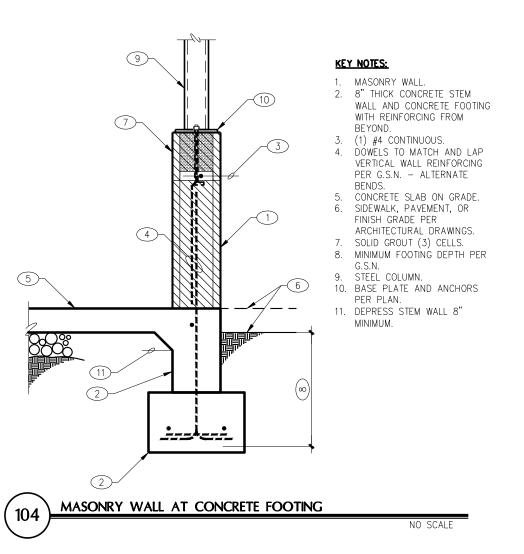


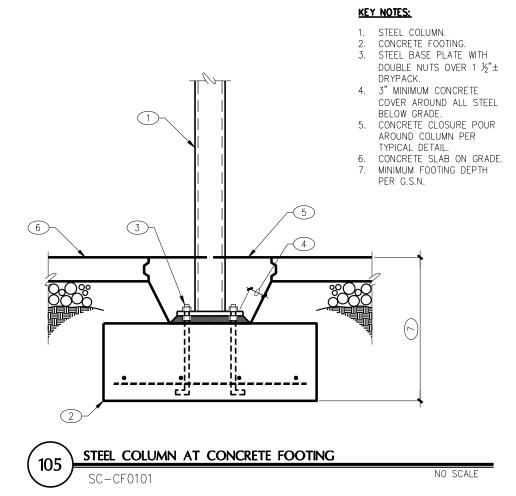


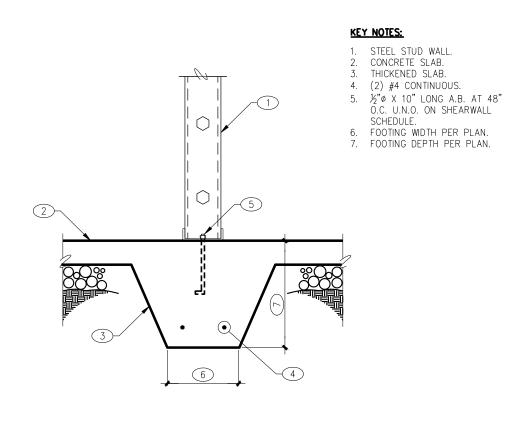




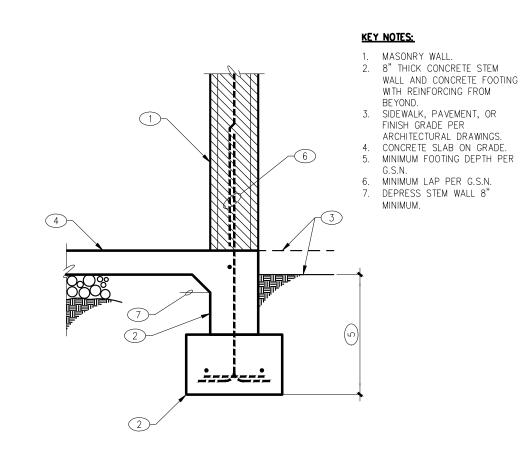
CONTROL JOINTS IN CONCRETE SLAB ON GRADE



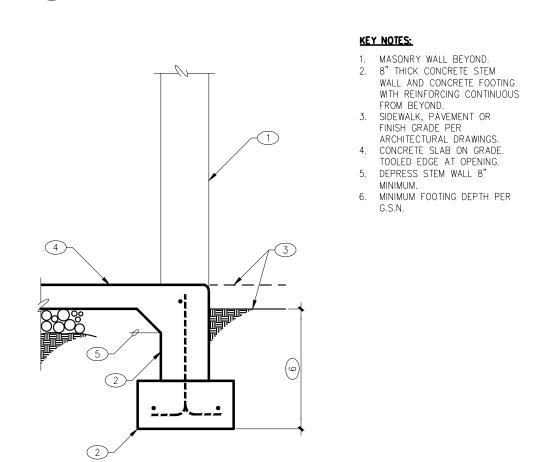


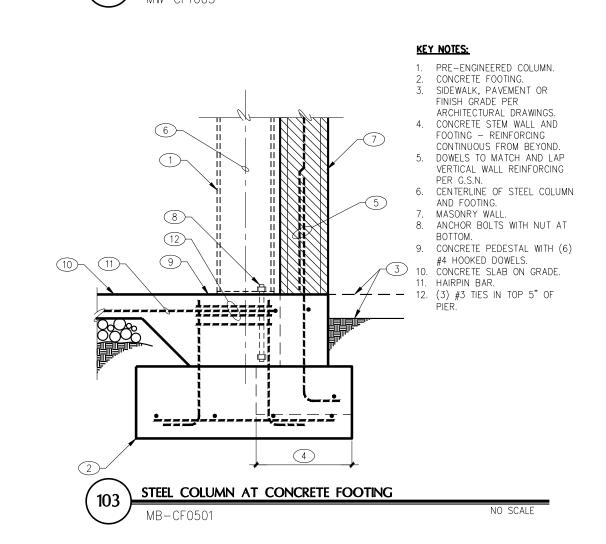






MASONRY WALL AT CONCRETE FOOTING





DOOR OPENING AT CONCRETE FOOTING

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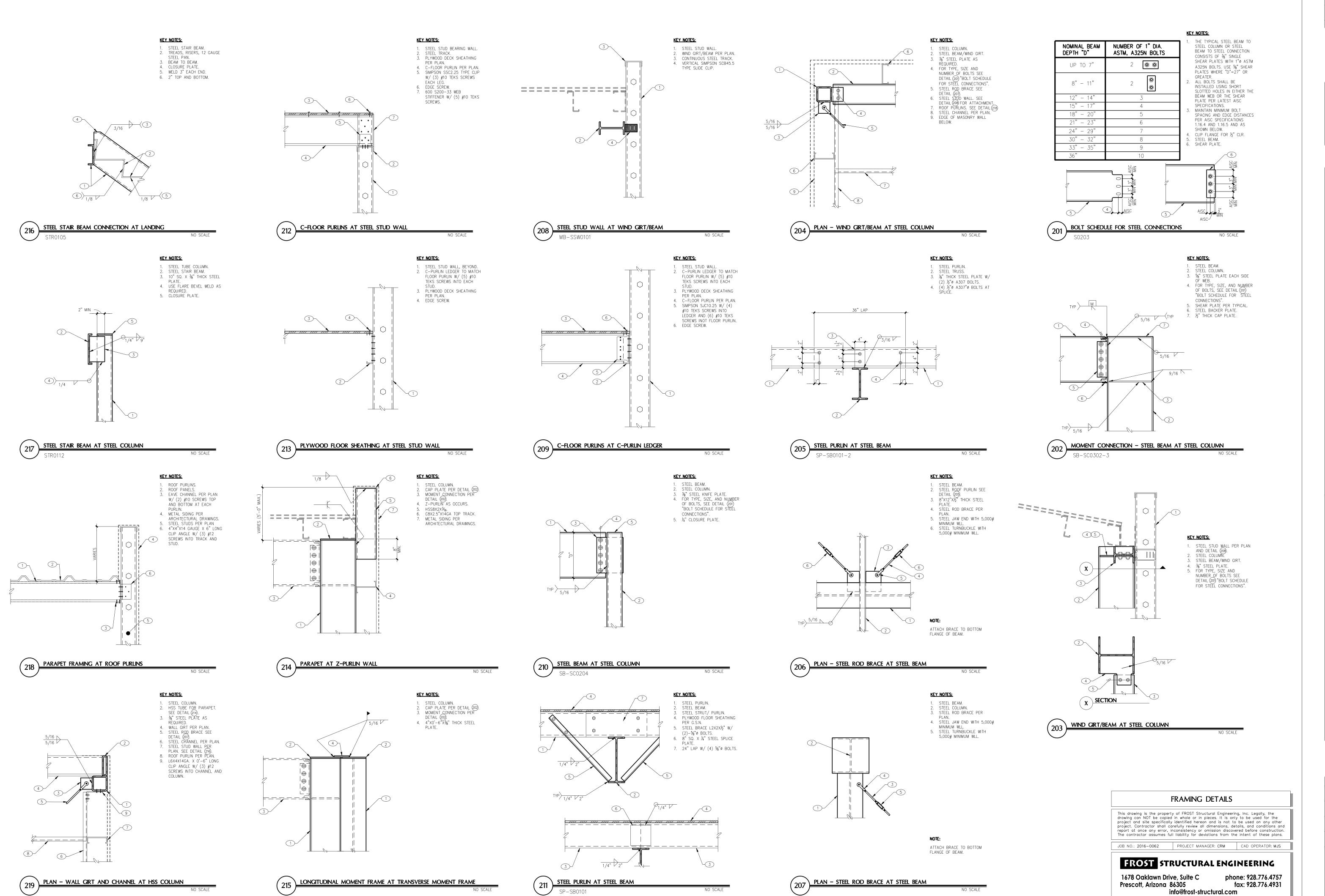
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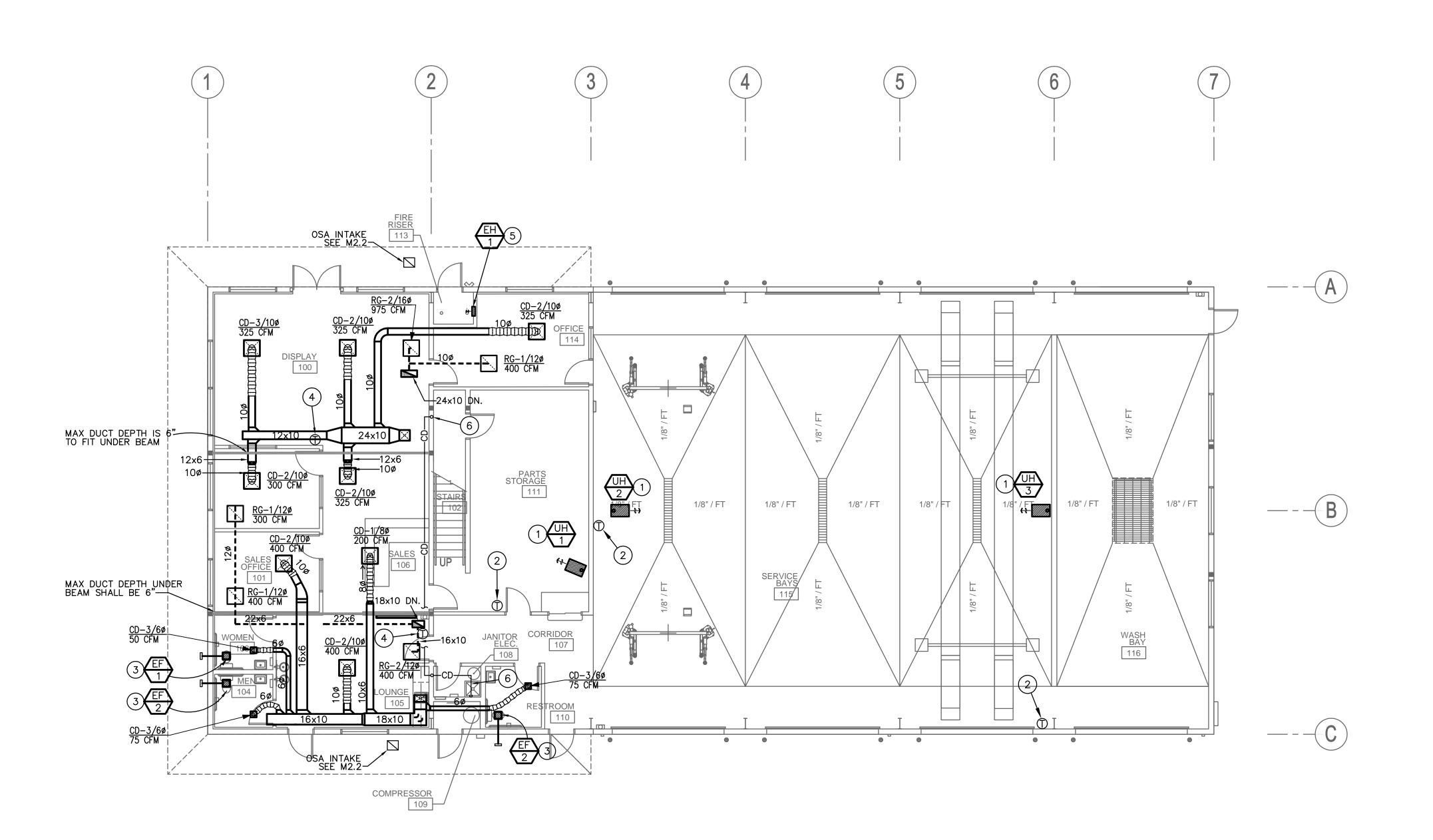
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**Mechanical Floor Plan** 

Scale: 1/8''=1'-0''



- GAS-FIRED UNIT HEATER SUPPORTED FROM STRUCTURE, WITH TYPE "B" FLUE UP THROUGH ROOF. COORDINATE UNIT HEATER MOUNTING HEIGHT.
- 2 PROVIDE UNIT HEATER WITH LOW VOLTAGE THERMOSTAT WITH INSULATED SUB-BASE.
- 3 CEILING MOUNTED EXHAUST FAN WITH BACKDRAFT DAMPER. TRANSITION EXHAUST DUCT FROM UNIT DISCHARGE AND ROUTE TO MANUFACTURER'S DOWN DISCHARGE SOFFIT GRILLE. MAINTAIN A MINIMUM 10' CLEARANCE FROM ALL OUTSIDE AIR INTAKES. FAN SHALL OPERATE VIA WALL SWITCH.
- PROVIDE HEATING/COOLING PROGRAMMABLE
  THERMOSTAT ON WALL AT 48" ABOVE FINISHED
  FLOOR. VERIFY EXACT LOCATION AND MOUNTING HEIGHT WITH ARCHITECT/OWNER.
- 5 ELECTRIC WALL HEATER, WITH INTEGRAL THERMOSTAT.
- 6 EXTEND 3/4" CONDENSATE DRAIN ABOVE CEILING TO JANITORS SINK.

Galpin RV Cottonwood 626 South 10th Street Cottonwood, AZ

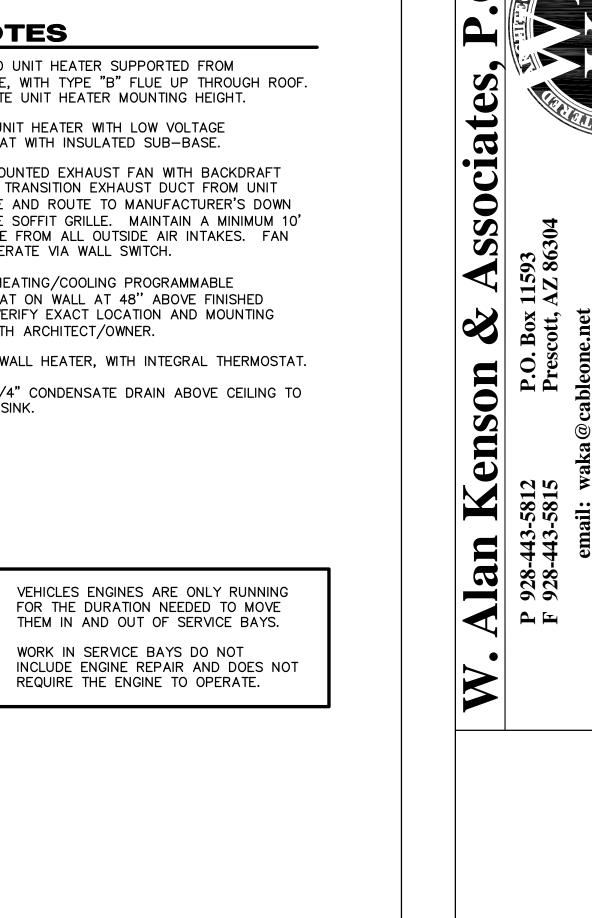
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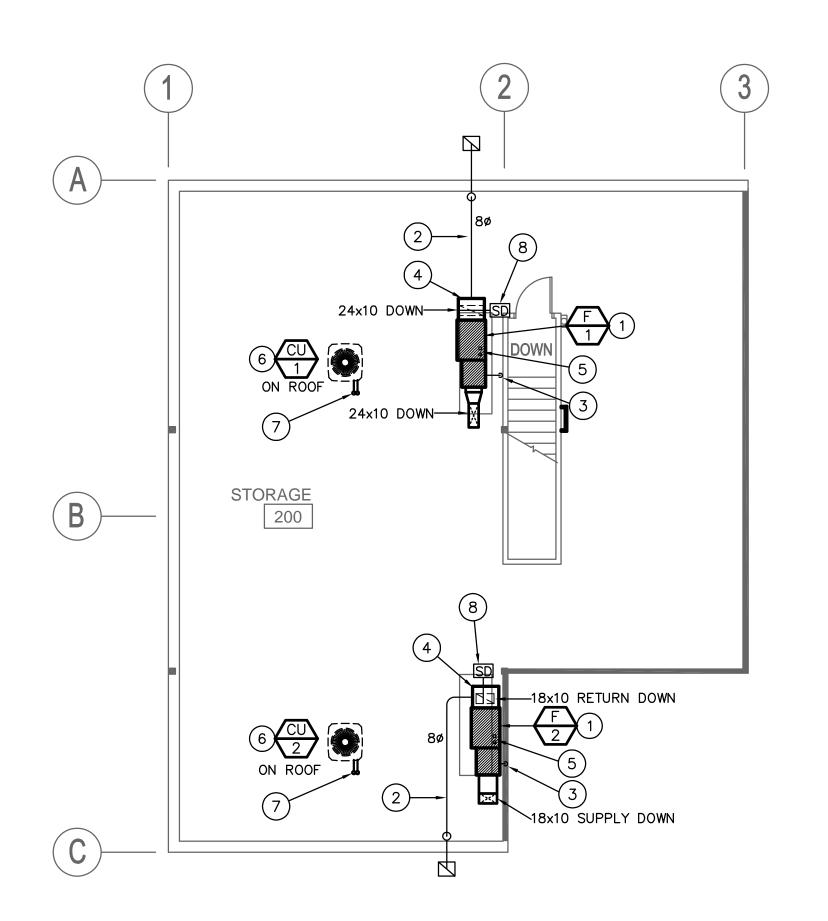
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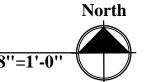
SCALE AS NOTED

Design Group, LLC consulting Engineers





**Mechanical Second Floor Plan** 



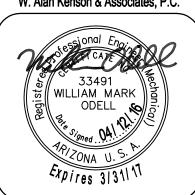
#### **KEYNOTES**

- 1 NEW HORIZONTAL PROPANE FURNACE SUPPORTED FROM FLOOR. MAINTAIN ALL NECESSARY OF FARME FROM FLOOR. MAINTAIN ALL NECESSARY CLEARANCES AND MAINTENANCE ACCESS REQUIREMENTS. ROUTE AND CONNECT REFRIGERANT LINES FROM CONDENSING UNIT. UNIT IS EXPOSED. ALL PIPING AND WIRING SHALL BE NEAT AND ORDERLY AND INSTALLED TO BE PERPENDICULAR TO BUILDING STRUCTURE.
- 2 EXTEND OUTSIDE AIR DUCT FROM UNIT RETURN PLENUM UP TO BELOW ROOF AND DOWN TO SOFFIT INTAKE IN MANSARD ROOF. BALANCE OUTSIDE AIR AS SHOWN ON FURNACE SCHEDULE. INTAKE TO BE 12x12 TITUS 350RL, OR SIMILAR.
- 3 EXTEND NEW 3/4" TYPE 'M' COPPER CONDENSATE DRAIN PIPING FROM UNIT CONNECTION AND ROUTE TO MOP SINK. SLOPE ALL DRAIN PIPING AT A MINIMUM 1/8" PER FOOT TOWARD DISCHARGE LOCATION.
- 4 LINED RETURN PLENUM WITH RETURN AND OUTSIDE AIR CONNECTIONS. PROVIDE BALANCING DAMPERS ON
- 5 PVC COMBUSTION AIR INTAKE AND VENT PIPING UP THROUGH ROOF TO CONCENTRIC TERMINATION PER MANUFACTURER. SHALL BE IN ACCORDANCE TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR THE INSTALLED LENGTH AND FITTINGS.
- 6 NEW CONDENSING UNIT ON UNISTRUT STAND, REFER TO DETAIL 4/M4. PROVIDE CLEARANCES AS PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE FINAL LOCATION WITH ARCHITECT PRIOR TO COMMENCING WORK.
- 7 SLEEVE REFRIGERANT PIPING THROUGH ROOF IN DEKTITE FLASHING AND ROUTE TO COIL.
- 8 INSTALL SMOKE DETECTOR IN RETURN AIR DUCT FOR AUTO SHUT-OFF UPON DETECTION OF SMOKE AS PER SECTION 606, 2012 IMC. SMOKE DETECTOR SHALL BE DOWN STREAM OF ANY FILTER OR OSA. THE DUCT SMOKE DETECTOR(S) SHALL BE CONNECTED TO THE FIRE ALARM SYSTEM (IMC 606.4.1). DETECTOR PROVIDED AND WIRED BY FIRE ALARM CONTRACTOR.

Design Group, LLC consulting Engineers

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E E	EXHAUST FAN SCHEDULE										
MARK	SERVES	MANUF.	MODEL	CFM	E.S.P.	MOTOR		DDIVE	SONES	WEIGHT	REMARKS
MIANK	SERVES	MANOF.	MODEL	CFM	(in. wg)	HP OR WATTS	V/PH	DHIVE	SONES	LBS	NEWARKS
1	WOMEN	GREENHECK	SP-B90	75	.25	54 WATTS	120/1	DIRECT	2.0	10	12
2	MEN	GREENHECK	SP-B90	75	.25	54 WATTS	120/1	DIRECT	2.0	10	12
3	RESTROOM	GREENHECK	SP-B90	75	.25	54 WATTS	120/1	DIRECT	2.0	10	12

2 PROVIDE WITH #EL-10x3 ELBOW DISCHARGE AND GRILLE, FOR SOFFIT DISCHARGE.

EA -	ELECTRIC HEATER SCHEDULE										
EQUIP. NO.	MANUFACTURER	MODEL NO.	TYPE	SERVICE/ LOCATION	BLOWER CFM	HEATER KW	VOLTS/ PHASE	AMPS	REMARKS		
1	1 QMARK QFG15122M RECESSED RISER ROOM 150 1.5 120/1 12.5 1 2										
1 PF	1) PROVIDE REMOTE 24V SINGLE STAGE THERMOSTAT. (2) INTEGRAL THERMOSTAT.										

1) UNIT TO OPERATE VIA WALL SWITCH.

F F	FURNACE SCHEDULE																	
MARK	NOMINAL TONS	MFG'R	MODEL #	ORIENTATION	CFM	OSA	E.S.P. ("W.G.)	CAPA	TING ACITY OUTPUT	VENT SIZE	VENTING TYPE	FUEL	Min. A.F.U.E.	ELECTRIC	CAL DATA  V/Ø/Hz	FILTER TYPE	WEIGHT W/O COIL	NOTES
F-1	4	GOODMAN	GCSS92080	HORIZONTAL	1600	173	0.60	80,000	73,680	2"	2-PIPE SEALED	PROPANE	92%	1/2	120/1/60	DISPOSABLE		1234
F-2	3	GOODMAN	GCSS92060	HORIZONTAL	1200	118	0.60	60,000	55,260	2"	2-PIPE SEALED	PROPANE	92%	1/3	120/1/60	DISPOSABLE	112	1234

1) INSTALL WITH CLEARANCES PER MANUFACTURER'S RECOMMENDATIONS.

2 SIZE AND INSTALL 2 PIPE VENT PIPING PER MANUFACTURER'S INSTRUCTIONS FOR ACTUAL INSTALLED LENGTHS. PROVIDE CONCENTRIC ROOF OR WALL TERMINATION AS REQUIRED.

3 PROVIDE LEFT OR RIGHT CONNECTIONS AS REQUIRED FOR ACCESS.

4 HORIZONTAL UNIT.

(CU)	-/ CONDENSING UNIT SCHEDULE													
MARK	NOMINAL MEG'P MC		MFG'R MODEL #	COOLING	CAPACITY	DESIGN COND.	INDOOR	COIL ENT. AIR	Е	LECTRICAL	. DATA	MINIMUM	REFRIGERANT	NOTES
WARK	TONS	IVIF G K	WODEL #	TOTAL	SENS.	DB/WB COIL MODEL # DB/WB		DB/WB	MCA	FUSE	V/Ø	SEER	REFRIGERAINT	NOTES
CU-1	4	GOODMAN	GSX16048	42.6	39.6	95/63	SELECTED BY MFG.	80°/63°	23.9	40	208/230 1ø	16	R-410A	1234567
CU-2	3	GOODMAN	GSX16036	32.6	31.0	95/63	SELECTED BY MFG.	80°/63°	18.7	30	208/230 1ø	16	R-410A	1234567

1) INSTALL UNIT PER MANUFACTURER'S WRITTEN DIRECTIONS. SLEEVE PIPING PENETRATIONS THROUGH ROOF, SEAL WATERTIGHT AND PROVIDE ESCUTCHEONS.

(2) UNIT SHALL BE PROVIDED WITH TRANE XL800 PROGRAMMABLE THERMOSTAT.

(3) PROVIDE 10-YEAR COMPRESSOR WARRANTY AND 5-YEAR FOR OTHER COMPONENTS.

5 RUN ALL REFRIGERANT PIPING FULL SIZE PER MFG'RS. INSTRUCTIONS. 6 PROVIDE INDOOR FAN COIL UNIT COMPLETE WITH MOTOR STARTER.

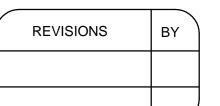
7 PROVIDE LOW AMBIENT CONTROL KIT FOR OPERATION DOWN TO 30°F.

PROVIDE CONTROL TRANSFORMER IN UNIT CONTROL PANEL. PROVIDE UNIT COMPLETE WITH WEATHERPROOF CONTROL PANEL WITH ALL NECESSARY OVERLOADS AND CONTROL COMPONENTS.

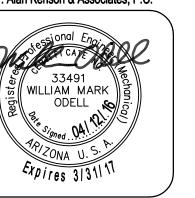
				E	BLOWER		МО	TOR	HEATER		HEATER		HEATER			
EQUIP. NO.	MANUFACTURER	MODEL NO.	SERVICE/ LOCATION	CFM	ESP	MIN. THROW	HP	VOLTS/ PHASE	FUEL	MAX. INPUT MBH	MIN. OUTPUT MBH	FLUE (DIA.)	WT. (LBS)	REMARKS		
1	REZNOR	F-25	PARTS	380	0	35'	1/50	120/1	PROPANE	25	20	4" RD.	72	1 2 3		
2	REZNOR	F-100	SERVICE BAY	1250	0	50'	1/30	120/1	PROPANE	100	80	5" OVAL	97	1 2 3		
3	REZNOR	F-100	SERVICE BAY	1250	0	50'	1/30	120/1	PROPANE	100	80	5" OVAL	97	1 2 3		

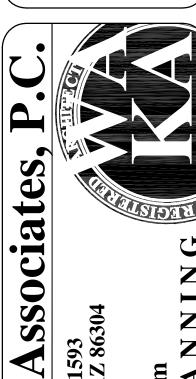
GRILLES/REGISTERS/DIFFUSERS SCHEDULE										
MARK	DESCRIPTION	MODULE SIZE	TYPE	OBD	FRAME	MATERIAL	FINISH	MANUF.	MODEL	REMARKS
CD-1	SUPPLY DIFFUSER	24×24	ROUND	NO	SURFACE	STEEL	WHITE	TITUS	TMS	8ø NECK
CD-2	SUPPLY DIFFUSER	24x24	ROUND	NO	SURFACE	STEEL	WHITE	TITUS	TMS	10ø NECK
CD-3	SUPPLY DIFFUSER	9" x 9"	SQUARE LOUVERED	NO	SURFACE	STEEL	WHITE	TITUS	TDC	6ø NECK
RG-1	RETURN GRILLE	24" x 24"	SINGLE DFL	NO	SURFACE	STEEL	WHITE	TITUS	350RL	12ø NECK
RG-2	RETURN GRILLE	24" x 24"	SINGLE DFL	NO	SURFACE	STEEL	WHITE	TITUS	350RL	16ø NECK



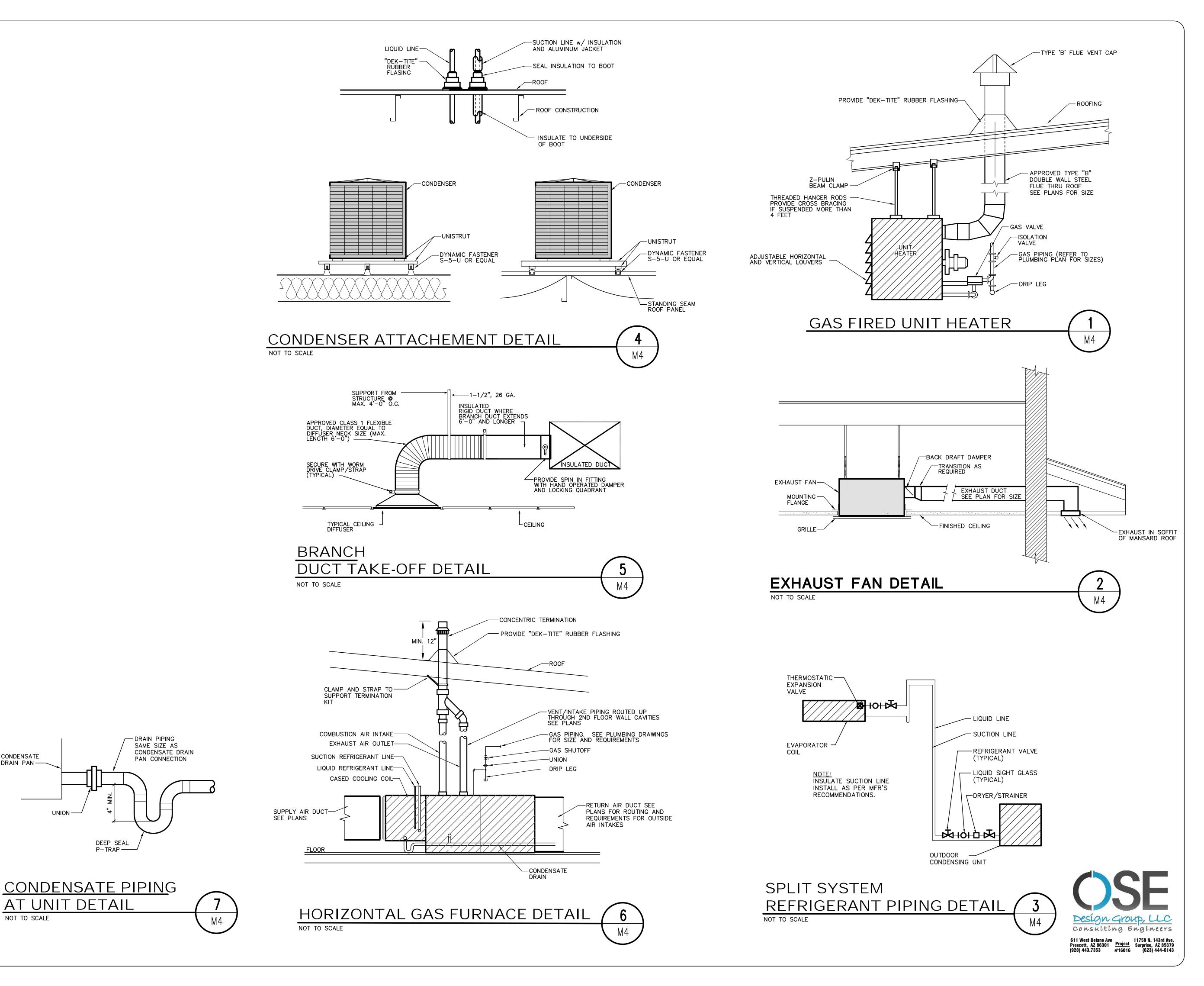


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CONDENSATE

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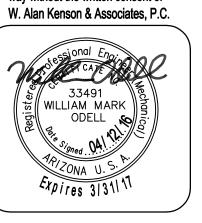
UNION ---

AT UNIT DETAIL

DEEP SEAL P-TRAP ———

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### MECHANICAL SPECIFICATIONS

#### GENERAL REQUIREMENTS

GENERAL PROVISIONS WHICH MAKE SPECIFIC REFERENCE TO ELECTRICAL DIVISION ONLY ARE INCLUDED HEREIN FOR CLARITY AND SIMPLIFICATION OF SPECIFICATIONS WRITING AND ARE NOT PART OF THE MECHANICAL WORK. THE WORK OF DIVISION 15, MECHANICAL, IS SUBJECT TO THE CONDITIONS OF THE CONDITIONS OF THE CONTRACT, DIVISION 1, GENERAL REQUIREMENTS, AND APPLICABLE REQUIREMENTS OF OTHER PORTIONS OF THE CONTRACT DOCUMENTS. EXAMINE AND BECOME FAMILIAR WITH ALL CONTRACT DOCUMENTS AND COORDINATE THE MECHANICAL WORK ACCORDINGLY.

#### INTENT

IT IS THE INTENTION OF THE SPECIFICATIONS AND DRAWINGS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION. ANY APPARATUS. APPLIANCE, MATERIAL OR WORK NOT SHOWN ON THE DRAWINGS, BUT MENTIONED IN THE SPECIFICATIONS OR VICE VERSA, OR ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED, SHALL BE PROVIDED WITHOUT ADDITIONAL EXPENSE TO THE OWNER. SHALL THERE APPEAR TO BE DISCREPANCIES OR QUESTIONS OF INTENT IN THE CONTRACT. DOCUMENTS. REFER THE MATTER TO THE ARCHITECT FOR HIS DECISION BEFORE ORDERING ANY MATERIALS OR EQUIPMENT OR BEFORE THE START OF ANY RELATED WORK. THE DECISION OF THE ARCHITECT SHALL BE FINAL. CONCLUSIVE AND

#### DRAWINGS AND DATA

DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE OF WORK AND TO INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, DUCTS, CONDUITS, PIPING AND FIXTURES. THEY ARE NOT INTENDED TO SHOW EVERY OFFSET OR FITTINGS OR EVERY STRUCTURAL DIFFICULTY THAT MAY BE ENCOUNTERED DURING INSTALLATION OF THE WORK. LOCATION OF ALL ITEMS NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. EXACT LOCATIONS NECESSARY TO SECURE BEST CONDITIONS AND RESULTS MUST BE DETERMINED AT PROJECT AND SHALL HAVE APPROVAL OF ARCHITECT BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS. IF SO DIRECTED BY ARCHITECT, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OR FOR PROPER EXECUTION OF WORK. INCLUDE MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER INSTALLATION AND OPERATION OF A SYSTEM OR PIECE OF EQUIPMENT IN BID PRICE.

#### CODES

INCLUDE IN WORK, WITHOUT EXTRA COST TO OWNER, LABOR, MATERIALS, SERVICES, APPARATUS, DRAWINGS (IN ADDITION TO CONTRACT DRAWINGS AND DOCUMENTS) REQUIRED TO COMPLY WITH APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS. DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE WHEN THEY ARE MORE STRINGENT THAN CODES, ORDINANCES, STANDARDS AND STATUTES. CODES, ORDINANCES, STANDARDS AND STATUES TAKE PRECEDENCE WHEN THEY ARE MORE STRINGENT OR CONFLICT WITH DRAWINGS OR SPECIFICATIONS. FOLLOWING INDUSTRY STANDARDS, SPECIFICATIONS AND CODES ARE MINIMUM REQUIREMENTS:

A. APPLICABLE CITY, COUNTY, AND STATE MECHANICAL, ELECTRICAL, GAS. PLUMBING, HEALTH AND SANITARY CODES, LAWS AND ORDINANCES. B. 2012 INTERNATIONAL MECHANICAL CODE WITH LOCAL AMENDMENTS.

MATERIALS AND EQUIPMENT STANDARD PRODUCTS OF A REPUTABLE MANUFACTURER REGULARLY ENGAGED IN MANUFACTURE OF THE SPECIFIED ITEMS. WHERE MORE THAN ONE UNIT IS REQUIRED OF ANY ITEM. FURNISHED BY THE SAME MANUFACTURER, EXCEPT WHERE SPECIFIED OTHERWISE. INSTALL MATERIAL AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. SHOULD VARIANCE BETWEEN PLANS AND SPECIFICATIONS OCCUR WITH THESE, CONTACT ARCHITECT IMMEDIATELY SO THAT VARIATIONS IN INSTALLATION CAN BE KNOWN BY ALL PARTIES CONCERNED. PROVIDE EQUIPMENT FROM MANUFACTURER WHOSE PRODUCTS HAVE LOCAL REPRESENTATION.

#### EXECUTION

PROTECT EXISTING ACTIVE SERVICES (WATER, GAS, SEWER, ELECTRIC) WHEN ENCOUNTERED, AGAINST DAMAGE FROM CONSTRUCTION WORK. DO NOT PREVENT OR DISTURB OPERATION OF ACTIVE SERVICES WHICH ARE TO REMAIN. IF WORK MAKES TEMPORARY SHUTDOWNS OF SERVICES UNAVOIDABLE. CONSULT WITH OWNER AS TO DATES, PROCEDURES, AND ESTIMATED DURATION OF AT LEAST 10 WORKING DAYS IN ADVANCE OF DATE WHEN WORK IS TO BE PERFORMED. ARRANGE WORK FOR CONTINUOUS PERFORMANCE TO ASSURE THAT EXISTING OPERATING SERVICES WILL BE SHUT DOWN ONLY DURING THE TIME REQUIRED TO MAKE NECESSARY CONNECTIONS. IF A SYSTEM CANNOT SHUT DOWN. INSTALL TEMPORARY BYPASSES OR JUMPERS UNTIL CONNECTIONS ARE COMPLETE. CONTRACTOR RESPONSIBLE FOR ALL COSTS INCURRED BY ABOVE SHUTDOWNS, INCLUDING BYPASS OR JUMPER INSTALLATIONS, FOR WORK PERFORMED UNDER THIS SECTION. IF EXISTING ACTIVE UTILITY SERVICES ARE ENCOUNTERED WHICH REQUIRE RELOCATION, MAKE REQUEST TO PROPER AUTHORITIES FOR DETERMINATION OF PROCEDURES. PROPERLY TERMINATE EXISTING SERVICES TO BE ABANDONED IN CONFORMANCE WITH REQUIREMENTS OF AUTHORITIES. WHERE CONNECTIONS OR DISRUPTIONS ARE MADE TO EXISTING SYSTEMS, REACTIVATE, REFILL, AND RECHARGE ALL COMPONENTS AND RESTORE SYSTEMS TO OPERATING CONDITIONS AT TIME OF DISRUPTION.

#### GUARANTEE

EACH COMPLETE SYSTEM GUARANTEED BY CONTRACTOR FOR A PERIOD OF ONE YEAR, FROM DATE OF ACCEPTANCE OF WORK BY OWNER IN WRITING, TO BE FREE OF DEFECTS OF MATERIALS AND WORKMANSHIP, AND TO PERFORM SATISFACTORILY UNDER ALL CONDITIONS OF LOAD OR SERVICE. THE GUARANTEES PROVIDE THAT ANY ADDITIONAL CONTROLS, PROTECTIVE DEVICES, OR EQUIPMENT BE PROVIDED AS NECESSARY TO MAKE THE SYSTEM OF EQUIPMENT OPERATE SATISFACTORILY, AND THAT ANY FAULTY MATERIALS OR WORKMANSHIP BE REPLACED OR REPAIRED. ON FAILURE OF GUARANTOR TO DO THE ABOVE AFTER WRITTEN NOTICE FROM OWNER, THE OWNER MAY HAVE THE WORK DOWN AT THE COST OF GUARANTOR. LOSS OF REFRIGERANT IS CONSIDERED A DEFECT IN WORKMANSHIP AND/OR EQUIPMENT, TO BE CORRECTED AS REQUIRED AT NO EXTRA COST TO THE OWNER.

PROVIDE EXTENDED FIVE (5) YEAR FACTORY PARTS & LABOR WARRANTY ON ALL AIR CONDITIONING COMPRESSORS.

AIR CONDITIONING, HEATING AND VENTILATING

WORK UNDER THIS SECTION INCLUDES FURNISHING ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE REMODELING, INSTALLATION AND PLACING INTO OPERATION THE HEATING, VENTILATING AND AIR CONDITIONING WORK AS SPECIFIED HEREIN AND INDICATED ON THE DRAWINGS.

#### VERIFICATION OF DIMENSIONS:

SCALED AND FIGURED DIMENSIONS ARE APPROXIMATE ONLY. BEFORE PROCEEDING WITH WORK, CAREFULLY CHECK AND VERIFY AT THE SITE, AND RESPONSIBLE FOR PROPERLY FITTING EQUIPMENT AND MATERIALS TOGETHER AND TO THE STRUCTURE IN SPACES PROVIDED. DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND MANY OFFSETS, BENDS, SPECIAL FITTINGS AND EXACT LOCATIONS ARE NOT INDICATED. CAREFULLY STUDY DRAWINGS AND PREMISES I ORDER TO DETERMINE BEST METHODS, EXACT LOCATIONS, ROUTES AND BUILDING OBSTRUCTIONS, PRESERVE HEADROOM, AND KEEP OPENINGS AND PASSAGEWAYS CLEAR.

#### CUTTING AND PATCHING:

CUT EXISTING WORK AND PATCH AS NECESSARY TO PROPERLY INSTALL THE NEW WORK. AS THE WORK PROGRESSES, LEAVE NECESSARY OPENINGS, HOLES AND CHASES, ETC., IN THEIR CORRECT LOCATIONS. IF THE REQUIRED OPENINGS, HOLES AND CHASES ETC., ARE NOT IN THEIR CORRECT LOCATIONS, MAKE THE NECESSARY CORRECTIONS AT NO COST TO THE OWNER. AVOID EXCESSIVE CUTTING AND DO NOT CUT STRUCTURAL MEMBERS WITHOUT CONSENT OF ARCHITECT.

#### REGULATIONS, PERMITS & INSPECTIONS

COMPLY WITH ALL APPLICABLE CODES, RULES AND REGULATIONS. ALL MATERIALS, EQUIPMENT AND WORK MUST CONFORM TO THE INTERNATIONAL MECHANICAL CODE. OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND LICENSES. WHEN REQUIRED BY CODE, ALL WORK MUST BE INSPECTED AND APPROVED BY LOCAL AUTHORITIES.

#### DUCTWORK

ALL DUCTWORK FABRICATED AS PER LATEST INTERNATIONAL MECHANICAL CODE REQUIREMENTS AND SMACNA MANUAL. EXTENSION OF EXISTING DUCTWORK SHALL BE MADE WITH SOME MATERIAL. DUCTWORK SHALL BE CONSTRUCTED OF NEW HOT-DIPPED GALVANIZED SHEET METAL ASTM A-120 FOR EACH SIDE, WITH 1", 1 1/2 LB. DENSITY DUCT LINER. TAPE ALL CROSS-JOINTS IN SHEET METAL DUCT WITH HARDCAST. TAKE-OFF FITTINGS SHALL BE CONICAL SPIN-IN WITH QUADRANT DAMPER. TURNING VANES SHALL BE INSTALLED IN ALL MITERED ELBOWS. DUCT INSULATION: ACCEPTABLE MANUFACTURERS: CSG, JOHNS-MANSVILLE.

# FLEXIBLE DUCT MAY BE USED FOR FINAL CONNECTION TO AIR DISTRIBUTION

DEVICES, BUT SHALL NOT EXCEED 6 FEET IN LENGTH. FLEXIBLE DUCT SHALL HAVE A MINIMUM R-5 INSULATION VALUE.

#### DUCT INSULATION

DUCT SIZES ON DRAWINGS ARE "CLEAR INSIDE." INCREASE SHEET METAL SIZES ACCORDINGLY FOR LINED DUCTWORK. ADHESIVE AND INSULATING MATERIALS SHALL HAVE COMPOSITE FIRE AND SMOKE HAZARD RATINGS MAXIMUM 25 FOR FLAME SPREAD AND 50 FOR SMOKE DEVELOPED. ADHESIVES SHALL BE WATERPROOF.

LINED DUCTWORK - SEMI-RIGID GLASS FIBER INSULATION, 1 1/2 PCF, 1 1/2" THICK, THERMAL CONDUCTIVITY AT 75". MAXIMUM 0.17 BTU/IN./SQ. FT./DEG./HR. MINIMUM "R-VALUE" SHALL BE 6.0.

WRAPPED DUCTWORK - FIBER GLASS BLANKET WITH FRK VAPOR RETARDING FACING. 1 1/2 PCF, 2" THICK, WITH A MINIMUM INSTALLED "R-VALUE" OF 6.0. (ASSUMES 25% COMPRESSION)

#### ACCEPTABLE MANUFACTURERS

THE FOLLOWING IS A LIST OF MANUFACTURERS WHOSE EQUIPMENT AND HVAC MATERIALS ARE ACCEPTABLE. SUBJECT TO CONFORMANCE WITH CONTRACT DOCUMENTS. VERIFY THAT THE EQUIPMENT WILL MEET ALL CAPACITIES SPACE ALLOCATIONS, AND THAT THE WEIGHTS WILL NOT EXCEED STRUCTURAL DESIGN.

FURNACE AND CONDENSERS: CARRIER, TRANE, YORK. UNIT HEATERS: STERLING, MODINE, REZNOR, GRILLES, REGISTERS, DIFFUSERS: KRUEGER, METAL-AIRE. TITUS. FLEXIBLE DUCT: GENFLEX, THERMAFLEX, OR EQUIVALENT. EXHAUST FANS: GREENHECK, LOREN COOK AND PENN VENTILATOR. DUCT AND PIPE INSULATION: KNAUF, OWENS-CORNING, MANVILLE, CERTAIN-TEED, PPG.

#### EXHAUST FANS

SIZE, CAPACITIES, AND TYPE AS INDICATED ON THE DRAWINGS. FURNISH COMPLETE WITH FACTORY CURBS/ROOF CAPS. BAROMETRIC DAMPER. SPEED CONTROL, DISCONNECT, STARTER (IF REQUIRED), AND BIRDSCREEN. FURNISH ROOF MOUNTED FANS WITH INSULATED ROOF CURB; PROVIDE CEILING MOUNTED FANS WITH WALL/ROOF CAP.

#### AIR SYSTEM BALANCING

AIR SYSTEMS AND AIR DISTRIBUTION TEST AND BALANCE: THE CONTRACTOR SHALL INCLUDE IN HIS BID TESTING AND AIR BALANCE OF AIR MOVING EQUIPMENT AND AIR DISTRIBUTING OR EXHAUSTING SYSTEMS AS HEREIN SPECIFIED. PROVIDE CERTIFIED REPORT TO ARCHITECT.

#### **GENERAL REQUIREMENTS**

1 - PROVIDE VIBRATION ISOLATORS FOR ALL MECHANICAL EQUIPMENT SUPPORTED FROM STRUCTURE.

2 - PROVIDE CLEARANCES AS PER MANUFACTURER'S RECOMMENDATIONS.

3 - PITCH CONDENSATE DRAIN LINE 1/8" PER 12" RUN TOWARDS TERMINATION. INSULATE IN CONDENSATE DRAIN LINE WITH 3/8" CLOSED CELL "ARMIFLEX" TUBE INSULATION, TO PREVENT CONDENSATE DRIP.

#### 4 - PROVIDE EQUIPMENT IDENTIFICATION PER IMC 2012.

5 - THE CONTRACTOR SHALL DO ALL NECESSARY CUTTING OF WALLS AND CEILING. NO STRUCTURAL MEMBER SHALL BE CUT WITHOUT PERMISSION FROM THE ARCHITECT. PATCH AROUND ALL OPENINGS TO MATCH EXISTING CONSTRUCTION.

6 - PRIOR TO THE CONTRACTOR ORDERING OR SETTING ANY AIR CONDITIONING EQUIPMENT, DUCTWORK, OR AIR DEVICE, HE SHALL VERIFY LOCATION OF PLACEMENT WITH STRUCTURAL DRAWINGS AND CONFIRM WEIGHTS, DISCHARGE CONFIGURATION. SIZES. ELECTRICAL CHARACTERISTICS AND ANY OTHER DIMENSIONAL DATA WHICH MIGHT AFFECT THE SUCCESSFUL INSTALLATION OF THE EQUIPMENT.

7 - KEEP ALL VENTS THROUGH ROOF AND EXHAUST DISCHARGE DUCTS A MINIMUM OF 10'-0" FROM OUTSIDE AIR INTAKES OR WINDOWS AND FROM ALL VERTICAL PORTIONS OF THE BUILDING.

8 - UPON COMPLETION AND TESTING OF AIR CONDITIONING EQUIPMENT, THE CONTRACTOR SHALL REPLACE ALL CONSTRUCTION AIR FILTERS WITH NEW FILTERS OF THE SIZED SPECIFIED BY THE MANUFACTURER.

#### **DUCT CONSTRUCTION NOTES**

1 - ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH "ASHRAE GUIDE" AND "SMACNA STANDARDS" AND IN CONFORMANCE WITH REQUIREMENTS OF LOCAL BUILDING, MECHANICAL AND ENERGY CONSERVATION CODES. WHERE MORE THAN ONE REGULATION OR CODE APPLIES, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

2 - FLEXIBLE DUCTWORK SHALL COMPLY WITH THE CLASS I REQUIREMENTS OF THE NFPA BULLETIN NO. 90A AND SHALL BE INSULATED WITH 1" FIBERGLASS, SUPPORTED BY HELICALLY WOUND STEEL WIRE WITH REINFORCED METALIZED OUTER JACKET RATED FOR USE IN PLENUMS. ATTACHMENT SHALL BE WITH WORM DRIVE CLAMPS. LENGTH SHALL NOT EXCEED 6'-0"

3 - PROVIDE MANUAL BALANCING DAMPER AT EACH BRANCH DUCT

4 - ALL DUCTWORK JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTION ON DUCTWORK SHALL BE LISTED AND LABELED BY UL 181A OR 181B TAPES AND MASTICS.

5 - PROVIDE RADIUS ELBOWS, TURNING VANES, AND SPLITTER DAMPERS IN BRANCHES AND EXTRACTORS WHERE APPLICABLE.

6 - TURNING VANES SHALL BE INSTALLED IN ALL MITERED ELBOWS. 7 - TAKE-OFF FITTINGS SHALL BE CONICAL OR BELL MOUTH TYPE

8 - BRANCH DUCT SERVING DIFFUSERS SHALL BE SAME SIZE AS

WITH BALANCING DAMPER.

NECK DIAMETER.

9 - ALL DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS. IF DUCT LINER IS USED FOR INSULATION, CONTRACTOR SHALL INCREASE DUCT SIZE ACCORDINGLY.

10 - HANGERS FOR SHEET METAL DUCTWORK SHALL BE INSTALLED AS REQUIRED BY 2012 IMC.

### **COORDINATION NOTES**

DIFFUSERS WITH ARCHITECTURAL PLANS.

1 - COORDINATE OPENING'S FOR GRILLES, REGISTERS, DIFFUSERS AND DUCTWORK WITH FRAMING CONTRACTOR PRIOR TO ROUGH-IN.

2 - COORDINATE EXACT LOCATION OF ALL GRILLES, REGISTERS AND

3 - LIGHTING & SPRINKLER HEADS TAKE PRECEDENCE OVER DIFFUSER LOCATION. CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS TO DIFFUSERS TO AVOID ANY CONFLICT WITH LIGHTING LAYOUT & SPRINKLER HEADS.

4 - CONTRACTOR TO COORDINATE ALL FINAL THERMOSTAT LOCATIONS WITH OWNER & ARCHITECT PRIOR TO MOUNTING.

5 - ALL THERMOSTATS ARE TO BE MOUNTED AT A HEIGHT OF 48" ABOVE THE FLOOR LEVEL FOR DISABLED ACCESS.

#### **OUTSIDE AIR CALCULATION**

#### **Outside Air for Unit F-1**

Space	Area	Occ Density	Rp	Pz	Ra	Az	Vbz
Retail	619	15	7.5	9.285	0.12	619	143.
Office	338	5	5	1.69	0.06	338	28.
-				Total N	let OSA Re	equired	17

#### Balance F-1 for 173 CFM

#### **Outside Air for Unit F-2**

Space	Area	Occ Density	Rp	Pz	Ra	Az	Vbz
Office	131	5	5	0.655	0.06	131	11
Sales	169	15	7.5	2.535	0.12	169	39
Break Room	268	25	5	6.7	0.06	268	49
Storage	150	0	0	0	0.12	150	18
•				Total N	let OSA Re	eauired	1

Balance F-2 for 118 CFM

6.2.2.1 Breathing Zone Outdoor Airflow. The design outdoor airflow required in the breathing zone of the occupiable space or spaces in a zone, i.e., the breathing zone outdoor airflow  $(V_{ba})$ , shall be determined in accordance with Equa-

$$V_{bz} = R_p \cdot P_z + R_a \cdot A_z \tag{6-1}$$

 $A_z = zone floor area:$  the net occupiable floor area of the

 $P_z = zone population$ : the largest number of people expected to occupy the zone during typical usage. If the number of people expected to occupy the zone fluctuates,  $P_{\tau}$  may be estimated based on averaging approaches described in Section 6.2.6.2

> Note: If P, cannot be accurately predicted during design, it shall be an estimated value based on the zone floor area and the default occupant density listed in Table 6-1.

 $R_n$  = outdoor airflow rate required per person as determined from Table 6-1

Note: These values are based on adapted occupants.

 $R_a$  = outdoor airflow rate required per unit area as determined from Table 6-1

Space	Area	Occ Density	Rp	Pz	Ra	Az	Vbz
Retail	619	15	7.5	9.285	0.12	619	143
Office	338	5	5	1.69	0.06	338	28
				Total N	let OSA Re	equired	1

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Design Group, LLC Consulting Engineers 611 West Delano Ave Prescott, AZ 86301 Project 11759 N. 143rd Ave. Surprise, AZ 85379

(928) 443.7353 #16016 (623) 444-6143

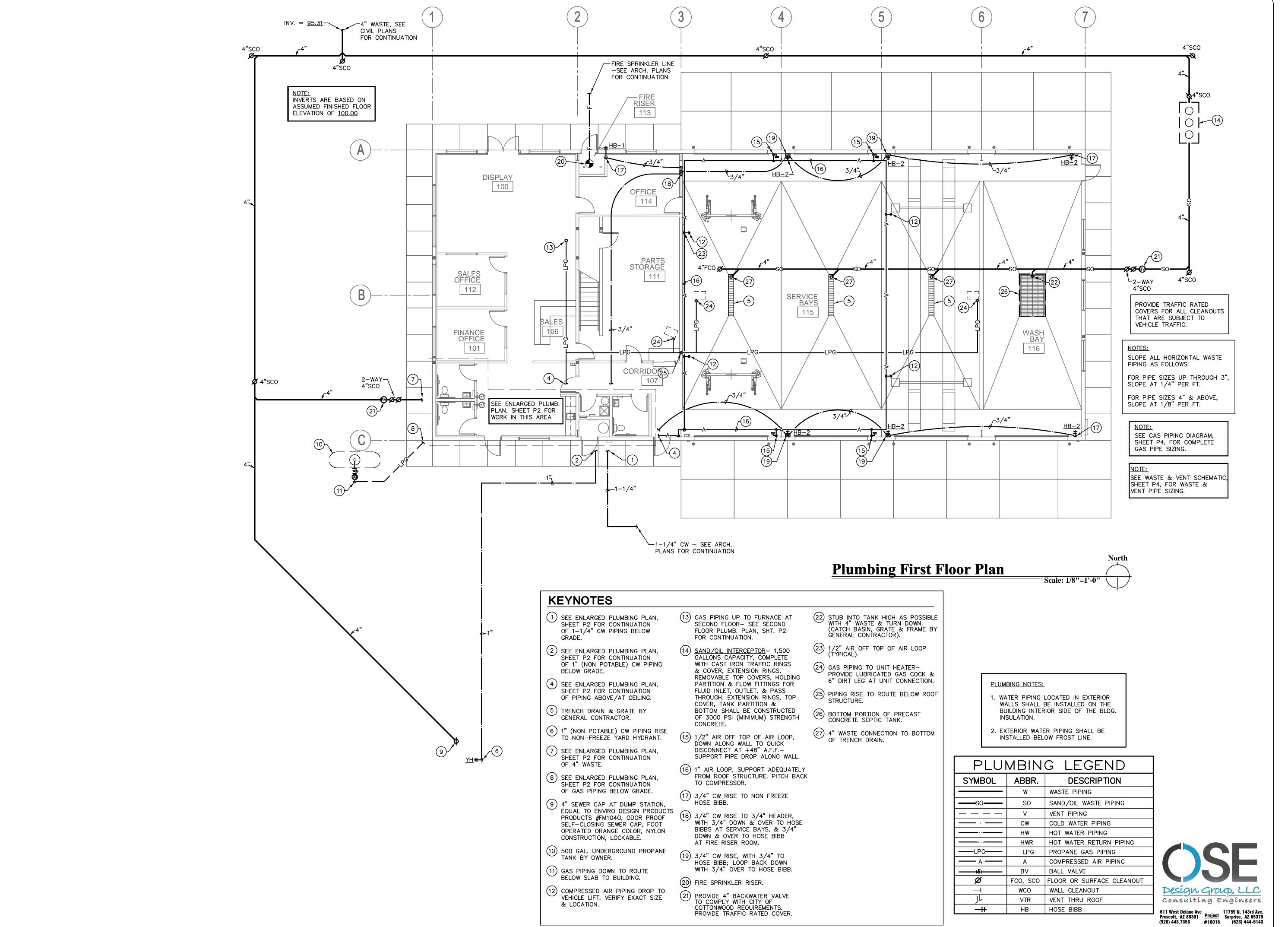
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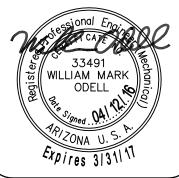
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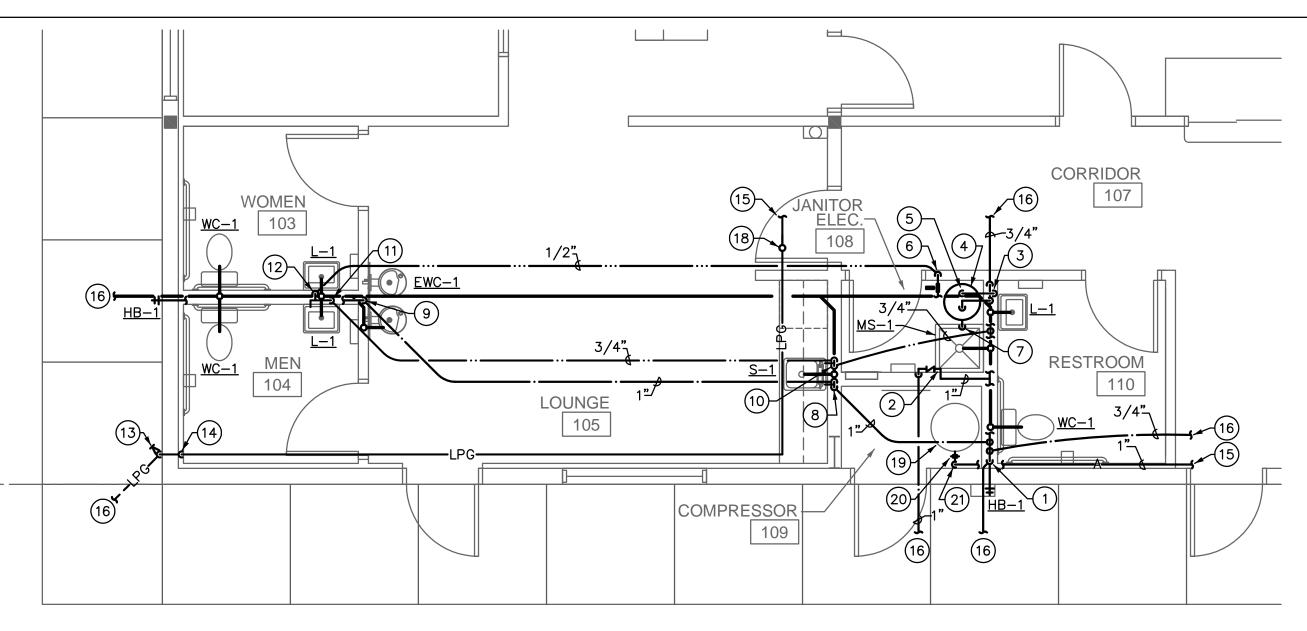


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**Enlarged Plumbing Plan** Scale: 1/4''=1'-0'

PLUMBING GENERAL NOTES:

1. ALL PLUMBING WORK SHALL COMPLY WITH THE MOST STRINGENT OF APPLICABLE CODES, ORDINANCES, OR THE SPECIFICATIONS.

2. ALL FIXTURES SHALL BE PROPERLY VENTED TO THE ATMOSPHERE. 3. COORDINATE LOCATION OF ALL PLUMBING LINES WITH DUCTWORK AND ELECTRICAL SERVICES.

4. WATER PIPING INSTALLED UNDER CONCRETE SLAB SHALL BE LOOPED IN PARTITION WALLS WITH NO JOINTS UNDER SLAB & WITH PLASTIC SLEEVE FOR EACH PENETRATION THROUGH SLAB.

5. ALL WATER PIPING TO BE CONTROLLED BY FULL FLOW BALL VALVE. 6. LOCATE ALL VENTS THROUGH ROOF 10'-0" FROM ALL AIR INTAKES, EVAPORATIVE COOLERS, ETC.

7. VERIFY INVERT ELEVATIONS (WASTE LINES), SIZES, & LOCATIONS OF ALL EXISTING GAS, WATER & WASTE LINES TO WHICH NEW PIPING CONNECTS PRIOR TO MAKING-UP OR INSTALLATION OF PIPING.

8. NOT USED.

9. LOCATE ALL VALVES, UNIONS, THERMOMETERS, GAUGES, OR OTHER EQUIPMENT REQUIRING FREQUENT READING. REPAIRS, ADJUSTMENTS, INSPECTION, REMOVAL OR REPLACEMENT SO AS TO BE ACCESSIBLE WITH REFERENCE TO THE FINISHED BUILDING.

10. FULL WAY VALVE IS REQUIRED ON THE DISCHARGE SIDE OF EACH METER AND AT THE COLD WATER SUPPLY TO EACH WATER HEATER.

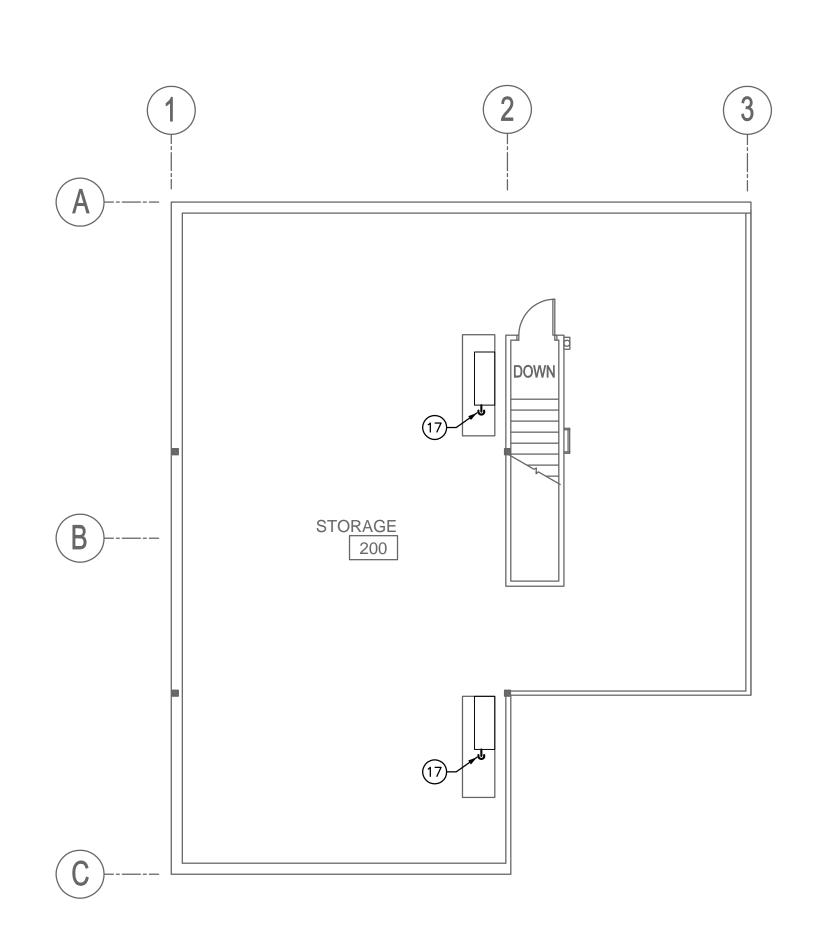
11. INSTALL APPROVED DIELECTRIC ISOLATORS AT ALL CONNECTIONS OF DISSIMILAR METALS.

12. REFER TO PLUMBING FIXTURE SCHEDULE FOR INDIVIDUAL LINE SIZES. 13. WHERE POSSIBLE, TIE VENTS TOGETHER SO THAT A MINIMUM NUMBER TERMINATE THROUGH ROOF.

14. PRIOR TO SUBMITTING BID, CONTRACTOR SHALL REVIEW THE ARCHITECTURAL DRAWINGS & INCLUDE IN HIS BID AN AMOUNT TO FURNISH & INSTALL ANY FIXTURES SHOWN IN ADDITION TO PLUMBING DRAWINGS.

15. SOLDERS AND FLUX HAVING A LEAD CONTENT IN EXCESS OF TWO-TENTHS OF ONE PERCENT SHALL NOT BE USED IN THE INSTALLATION OR REPAIR OF PLUMBING PROVIDING WATER FOR HUMAN CONSUMPTION.

16. CONTRACTOR SHALL NOT CUT HOLES IN STRUCTURAL MEMBERS WITHOUT FIRST SECURING WRITTEN APPROVAL FROM THE ARCHITECT.



**Plumbing Second Floor Plan** 

#### **KEYNOTES**

- 1 1-1/4" CW RISE IN WALL TO 1-1/4" HEADER, WITH 3/4" TO NONFREEZE HOSE BIBB, 1/2" TO WC, 1" DOWN & OVER TO LOUNGE, 1" TO BACKFLOW PREVENTER, 1/2" TO MOP SINK, 1/2" TO MOP SINK, 1" TO WATER HEATER, & 3/4" DOWN TO BELOW SLAB & OVER TO HOSE BIBBS.
- 2) 1" CW TO DOUBLE CHECK TYPE BACKFLOW PREVENTER ("WATTS" MODEL LF007 OR EQUAL). TAKE 1" (NON POTABLE WATER) OUT OF BACKFLOW PREVENTER, DOWN TO BELOW SLAB TO YARD HYDRANT.
- 3 1" HW DOWN TO 1" HEADER, WITH 1/2" TO MOP SINK, 1/2" TO LAV, & 3/4" DOWN & OVER TO LOUNGE.
- 4 ELECTRIC WATER HEATER WH-1, SEE DETAIL, SHEET P3.
- (5) 1" H & CW DOWN TO WATER HEATER.
- 6 1/2" HWR RISE TO RECIRC. PUMP-SEE WATER HEATER DETAIL FOR PUMP SPEC. & FOR CONTINUATION OF 1/2" HWR LINE.
- 7 FULL SIZE WATER P & T RELIEF DRAIN LINE TO TERMINATE +2" ABOVE MOP SINK RIM WITH 90° ELBOW DOWN.
- 8 1" CW RISE WITH 1/2" TO SINK & LOOP BACK DOWN WITH 1" OVER TO TOILET ROOMS.
- 9 1" CW RISE TO 1" HEADER, WITH 1/2" TO ELECT. WATER COOLER, 1/2" TO EACH LAV, 1/2" TO EACH WC, & 3/4" TO NON FREEZE HOSE BIBB.
- (10) 3/4" HW RISE WITH 1/2" TO SINK & LOOP BACK DOWN WITH 3/4" OVER TO TOILET ROOMS.
- (11) 3/4" HW RISE TO 3/4" HEADER, WITH 1/2" TO EACH LAV.
- 1/2" HWR OFF TOP OF HW LINE-LOOP DOWN TO BELOW SLAB & ROUTE TO RECIRC. PUMP AT WATER HEATER.
- (13) GAS PIPING RISE FROM BELOW GRADE & ENTER BUILDING. PROVIDE SHUTOFF VALVE ON RISER.
- (14) GAS PIPING RISE IN WALL TO ROUTE ABOVE CEILING.
- 15) SEE SHEET P1 FOR CONTINATION OF PIPING ABOVE CEILING.
- 16) SEE SHEET P1 FOR CONTINATION OF PIPING BELOW GRADE/SLAB.
- GAS PIPING FROM BELOW, UP TO CONNECTION TO FURNACE. PROVIDE LUBRICATED GAS COCK & 6" DIRT
- (18) GAS PIPING UP TO FURNACE, SEE PLUMBING SECOND FLOOR PLAN, THIS SHEET, FOR CONTINUATION.

LEG AT UNIT CONNECTION.

- (19) OWNER FURNISHED AIR COMPRESSOR.
- 20 1" AIR CONNECTION TO AIR COMPRESSOR. PROVIDE FLEXIBLE CONNECTION.
- (21) 1" COMPRESSED AIR RISE TO ROUTE ABOVE CEILING, WITH DRAIN VALVE ON RISER.

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DRAWN BY CHECKED BY

> DATE SCALE AS NOTED

JOB NO. 666

SHEET

Design Group, LLC Consulting Engineers 

#### PLUMBING SPECIFICATIONS:

GENERAL

1..1 Scope: Work under this section includes coordinating and furnishing all labor and material necessary to install a complete plumbing system as shown and specified and in accordance with the codes. Contractor shall pay for all permits, meters, fees, city inspections, legal notices, etc., as required.

1..2 Submittals: Within 15 days after award of contract, submit 8 copies of all items.

1..3 Record Drawings: Provide a set to the Architect at completion of project.

1..4 Instructions: Provide maintenance manual and instruct Owner in the proper operation and maintenance of the equipment.

1..5 Guarantee: One year on labor, material and equipment.

2. PRODUCTS

2..1 Piping:

2..1.1 Water Lines:

2..1.1.1 Copper: Type "L" hard drawn, conforming to ASTM B88, for all water pipe not set under concrete or in the ground.

2..1.1.2 Copper: Type "K" soft drawn, conforming to ASTM B88, for water pipe set in or under concrete or in the ground. Wrap lines below concrete floors with 20 mils of polykon tape.

2..1.1.3 Fittings: Wrought copper conforming to ANSI B16.22.

2..1.1.4 Plastic: If permitted by Administrative Authority, IAPMO approved, NSF-61 listed, crosslinked polyethylene (PEX) tubing, equal to Wirsbo "AQUAPEX" system is acceptable for potable water piping.

2..1.2 Sanitary Waste and Vent, Rainwater Piping:

and fittings installed above and below grade.

2..1.2.1 Cast Iron conforming to CISPI Standard 301-95 and ASTM A-888 for all no-hub pipe

2..1.2.2 Galvanized Iron: Standard weight, Schedule 40 galvanized iron conforming to ASTM A-120 for all vent lines 2-1/2" or smaller.

2..1.2.3 Fittings (Waste and Vent System, no-hub cast iron): No-hub cast iron drainage pattern

fittings conforming to CISPI #301-95.

2..1.2.4 Fittings (Waste and Vent, galvanized steel): Threaded cast iron fittings conforming to ANSI B16.4.

2..1.2.5 Couplings (Waste and Vent, above and below grade): Double band, stainless steel couplings conforming to CISPI 310-95, with neoprene gasket conforming to ASTM Standard C564 (NOTE: Screened stainless shield is not approved).

2..1.2.6 Plastic: Subject to Architect approval, PVC piping conforming to ASTM D-2665-88 is acceptable for sanitary waste piping installed below grade or slab. Fittings: Drainage fittings to match pipe.

2..1.3 LP Gas (Propane) Piping:

2..1.3.1 (Underground): All pipe, tubing, and fittings shall be polyethylene 2306/2406 conforming to ASTM D-1248 and D-3350 for P.E. 2306/2406.

2..1.3.2 (Above grade, exterior): All pipe sizes, black steel pipe, Schedule 40, wrought steel buttwelded fittings.

2..1.3.3 (Above grade, inside building): Schedule 40 black steel. Pipe fittings shall conform to the following:

Pipe 2" and Smaller: Malleable iron threaded fittings.

Pipe 2-1/2" and Larger: Wrought steel buttwelded fittings.

2..1.3.4 Risers: All risers in the system from below grade shall be pre-manufactured anodeless type as manufactured by Central Maufacturing Co., Shawnee, OK, or approved equal.

2..1.4 Tracer Wire: Provide approved 14 gage copper (orange covered) tracer wire along all non metallic underground piping.

2..1.5. Compressed Air Piping:

2..1.5.1 Copper: Type K, hard temper seamless tubing, conforming to ASTM B-88, for all compressed

2..1.5.2 Fittings: Cast bronze fittings designed expressly for brazing. Use Aircosil 45 (or other silver brazing alloy of equivalent melting point and physical properties) for assembling braze joint fittings. Use Aircosil flux, borax and alcohol mixtures or resin and similar past flux sahll not be used.

2..2 Pipe Hangers and Supports: Fee & Mason Figure 103 clevis hanger for insulated pipe and Figure 104 clevis hanger for cast iron pipe. Install #500 Trisolators on uninsulated copper lines at all hangers and wall penetrations.

2..3 Pipe Insulation: Use fiberglass premolded insulation with all—service jacket, minimum density of 3.5 pcf. Provide an additional 8—ounce canvas jacket with Arabol finish around all exposed pipe insulation. Cover fittings and valves (except unions) with insulation cement worked on in two applications to a smooth, hard surface, flush with pipe covering. Provide 8" long, 20 gauge, advanized iron metal insulation awards at locations of hanger rods and supports. Provide 12" long rigid insulation blocks on bottom half of pipe 1" and larger at hangers. Insulation wall thickness shall conform to the following schedule:

Domestic Hot Water, Hot Water Recirculating Lines:

Mains and horizontal branches — 1" thickness. Drops in walls and partitions -1/2" thickness.

2..4.1 Gate Valves: Milwaukee 115, 125#, bronze body, solder type gate valve with nonrising stem for all lines up through 3" size.

2..4.2 Check Valves: Milwaukee #1509, 125#, bronze body, solder joint check valve with horizontal bronze disc for all valves up to 2" size. Milwaukee #F2974, 125#, iron body, bronze trimmed, flanged horizontal check valve for all valves larger than 2" size.

2..4.3 Shutoff Valve: Milwaukee BB1-350 bronze body, solder joint valve for all lines up through

2..4.4 Compressed Air Valves: Milwaukee BB-1-100.

2..5 Cleanouts:

2..5.1 Concrete and Tile Floors: J.R. Smith 4023, with scoriated nickel-bronze top.

2..5.2 Cleanouts (exposed vertical piping): J.R. Smith 4512 cast iron branch cleanout tee with bronze plug.

2..5.3 Interior Finished Walls: J.R. Smith 4532.

2..5.4 Exterior Surface Cleanouts: J.R. Smith 4253. Provide 18" x 18" x 6" concrete pad at landscape areas; provide concrete ring below grade at asphalt areas.

2..5.5 Provide all cleanouts with heavy threaded bronze plugs.

2..6 Plumbing Fixtures: Use polished chrome-plated, adjustable brass P-traps with wall escutcheons at all exposed locations. Use polished chrome—plated faucets with removable trim, brass body and brass handles. Fixtures and supply fitting shall be of one manufacturer. Provide diaphragm type, polished chromeplated flush valves with integral vacuum breakers and screwdriver stops. Provide fixture stops or valves ahead of all equipment or fixtures. After fixtures are set in place and secured to walls, caulk all around between fixtures and wall with either Dow Corning #780 or G.E. Construction Sealant white silicone caulking compound.

2..7 Acceptable Manufacturers: The following is a list of manufacturers whose equipment is acceptable as to manufacturer, subject to conformance with all drawings, specifications and addenda items:

Fixtures: American Standard, Eljer, Kohler.

Electric Water Heaters: Ruud, A. O. Smith, American.

Stainless Steel Sinks: Just, Elkay, Moen.

Electric Water Coolers: Oasis, Elkay, Halsey Taylor.

Mop Sinks: Fiat, Mustee, Swan.

Valves: Crane, Kennedy, Stockham, Grinnell, Milwaukee, Wolverine.

Supplies, Stops: Eastman, Kohler, Eljer, Brasscraft, McGuire.

P-Traps: Crane. Kohler, Eljer, Frost, McGuire.

Drains and Cleanouts: J. R. Smith, Zurn, Josam, Wade, Western.

Hangers: Grinnell, Fee & Mason, Elcen, Kin-Line, F & S, B-Line, Michigan. EXECUTION

3..1 Tests and Inspections:

3..1.1 All work to be tested and approved before covering as directed by Architect. Remake all leaking joints.

3..1.2 Water System: 125 psi hydrostatic pressure held for four hours.

3..1.3 Sanitary Waste and Vent, Rainwater System: Fill with water to highest point in the system and stand without loss for two hours.

3..1.4 Gas System: Hold at 50 psi pneumatic for four hours with no pressure loss.

3..1.5 Compressed Air System: Pressure test system at 2-1/2 times working pressure and hold for four hours. If any leaks are detected, repair and retest.

3..1.6 Sterilization (Domestic Water System): After tests have been completed, the entire domestic water distribution system shall be thoroughly flushed with water until all entrained dirt and mud have been removed, and shall be sterilized with solutions of either liquid chlorine conforming to Federal Specification BB-B-120 or hypochlorite conforming to Fed. Spec. O-C-114, Type II, Grade G, or Fed. Spec. 0-S-602, Grade A or B. The chlorinating material shall privide a dosage of less than 50 parts per million and shall be introduced into the system in an approved manner, and retained in the system for 8 hours before flushing.

3..2 Flashing, Sleeves and Escutcheon Plates:

3..2.1 Flashing: Supply flashing for all vent pipe and other types of piping through roof to be installed with roofing. Flash vents with Stoneman S1300-4 or with sheet lead weighing not less than 4 pounds per square foot or equal. Extend flashing into roofing at least 10" from vent and turn flashing over and down into vent opening.

3..2.2 Sleeves: Use 20 gauge galvanized steel sleeves around pipes passing through masonry

3..2.3 Escutcheon Plates: Install cast brass split ring with setscrew at all locations where exposed pipes pass through walls, floors and/or ceilings. Provide polished chrome-plated escutcheons in finished rooms, all others polished brass.

3..3 Underground Water Piping: Bury all underground water piping a minimum of 24" below finished grade.Install copper lines below concrete floors so that no joints occur below floor and wrap with 20 mils of polyethylene tape with a minimum of 50% overlap.

3..4 Electrical: Wiring by Electrical Contractor.

BREAKER, WHEEL HANDLE OPERATOR.

SYMBOL DESCRIPTION

# PLUMBING FIXTURE SPECIFICATIONS

SYMB <i>O</i> L	DESCRIPTION
<u>WC-1</u>	WATER CLOSET (ADA COMPLIANT): FIXTURE: AMERICAN STANDARD "CADET PRO" 215AA.104, 1.28 GALLONS PER FLUSH, 16-1/2" HIGH RIM, FLOOR MOUNTED, VITREOUS CHINA, ELONGATED BOWL. SEAT: CHURCH 9500 WHITE OPEN FRONT SEAT WITH CONCEALED CHECK HINGE AND WITHOUT COVER. SUPPLIES: EASTMAN C5CR-20-LK, 1/2" x 3/8" ANGLE STOP WITH FLEXIBLE TUBE RISER.
<u>L=1</u>	LAVATORY (WALL HUNG— ADA COMPLIANT): FIXTURE: AMERICAN STANDARD, MODEL No. 0355.012, WALL HUNG 20" x 18" VITREOUS CHINA, FRONT OVERFLOW. FAUCET: AMERICAN STANDARD "RELIANT 3" MODEL 7385.050, 4" CENTERSET FAUCET WITH CERAMIC DISC CARTRIDGE, METAL SINGLE LEVER ADA HANDLE, ADJUSTABLE HOT LIMIT SAFETY STOP, CAST BRASS WATERWAY, 0.5 GPM MAXIMUM FLOW RATE AERATOR. WATTS DRAINAGE #CA—411 FLOOR MOUNTED CONCEALED ARM LAVATORY CARRIER. SUPPLIES: EASTMAN C5RC—15—LK, ANGLE STOPS WITH FLEXIBLE TUBE RISERS. WASTE: McGUIRE 155WC, OFFSET WHEELCHAIR LAVATORY STRAINER WITH GRID DRAIN, CAST BRASS ELBOW AND OFFSET TAILPIECE. TRAP: McGUIRE 8902, 1—1/4" x 1—1/2" CAST BRASS P TRAP. INSULATE EXPOSED WATER AND WASTE PIPING WITH TRUEBRO LAV—GUARD INSULATION KIT, MODEL 102, WITH ACCESSORY #105.
<u>S–1</u>	SINK: FIXTURE: JUST MODEL No. SL-2125-A-GR, 21" x 25" x 8" DEEP, 18 GAUGE TYPE 304 STAINLESS STEEL, SELF RIMMING SINGLE COMPARTMENT SINK WITH THREE-HOLE PUNCHING. FAUCET: JUST J-900 SINGLE LEVER FAUCET. SUPPLIES: EASTMAN C5RC-20-LK, 1/2" x 3/8" ANGLE STOPS WITH FLEXIBLE TUBE RISERS. STRAINER: JUST J-35 BASKET STRAINER WITH 1-1/2" TAILPIECE. TRAP: McGUIRE 8912, 1-1/2" x 1-1/2" CAST BRASS P-TRAP WITH CLEANOUT PLUG AND ESCUTCHEON.
<u>MS−1</u>	MOP SINK: FIXTURE: FIAT MODEL MSB-2424, 24" x 24" x 10", FLOOR MOUNTED, MOLDED STONE WITH INTEGRAL STAINLESS STEEL STRAINER EXTENSION. FAUCET: CHICAGO FAUCET 897 CHROME-PLATED SUPPLY FITTING WITH INTEGRAL STOPS, VACUUM BREAKER, 3/4" HOSE THREAD, FLEXIBLE 3/4" RUBBER HOSE AND HOSE BRACKET; MOP HANGER; SILICONE SEALANT INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. TRAP: PROVIDE 2" P TRAP.
<u>EWC-1</u>	ELECTRIC DRINKING FOUNTAIN (HIGH-LOW TYPE): FIXTURE: ELKAY MODEL No. EZSTL8LC, WALL MOUNTED BARRIER FREE SPLIT-LEVEL ELECTRIC WATER COOLER WITH CAPACITY OF 7.8 GPH AT 90° F AMBIENT AT 80° F INLET AND 50° F OUTLET. COMPRESSOR: 1/5 HP, 120 VOLT, HERMETICALLY SEALED WITH CAPACITOR AND OVERLOAD PROTECTION. COOLER MANUFACTURER SHALL PROVIDE A 5-YEAR, 100% REPLACEMENT WARRANTY ON THE COMPRESSOR, CONTROLS, TANK AND INTEGRAL PIPING. SUPPLY: EASTMAN C5RC-15-LK, 1/2" x 3/8" ANGLE STOP WITH FLEXIBLE TUBE RISER. TRAP: McGUIRE 8902 1-1/4" x 1-1/2" CAST BRASS P TRAP. REFER TO ARCHITECTURAL DRAWINGS FOR UNIT MOUNTING HEIGHTS.
<u>WH-1</u>	ELECTRIC WATER HEATER: PPROVIDE UL LISTED ELECTRIC WATER HEATER OF SIZE, CAPACITY AND MAKE AS SCHEDULED. HEATER SHALL BE WARRANTED FOR A MINIMUM OF 5 FULL YEARS AFTER FINAL ACCEPTANCE OF THE BUILDING. FURNISH HEATER WITH THE FOLLOWING ACCESSORIES: 1. ASME COMBINATION TEMPERATURE AND PRESSURE RELIEF VALVE RATED IN EXCESS OF HEATER INPUT. RUN FULL SIZE DRAIN TO TERMINATE AS SHOWN ON DRAWINGS. 2. AUTOMATIC THERMOSTAT ACTUATED CONTROLS WITH 100% SHUTOFF. 3. HIGH—LIMIT CONTROLS. 4. TANK DRAIN. 5. BRASS NIPPLES FOR PIPE CONNECTIONS. 6. HEATER SHALL BE FACTORY INSULATED AND SHEET METAL JACKETED.
扟	YARD HYDRANT: WOODFORD MODEL No. Y2, FREEZELESS YARD HYDRANT, 3/4" HOSE CONNECTION WITH INTEGRAL VACUUM BREAKER, AUTOMATIC DRAINING, WITH ADJUSTABLE LINK, ROD GUIDE, LOCKABLE FLOW FINDER, ONE PIECE VARIABLE FLOW PLUNGER, FLOW DIVERTER, 1" N.P.T. INLET, 1-1/4" GALVANIZED STEEL PIPE CASING, 3/8" GALV. STEEL OPERATING ROD WITH TAPPED DRAIN HOLE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. OPERATING ROD AND PIPE CASING LENGTHS TO MATCH DEPTH OF FROST LINE.
<u>HB-1</u>	HOSE BIBB (FREEZE PROOF): WOODFORD MODEL No. B65, CHROME PLATED FINISH, 3/4" HOSE CONNECTION WITH INTEGRAL VACUUM BREAKER, SELF-DRAINING, LOOSE TEE OPERATOR, ENCLOSED IN A FLUSH MOUNTED 14 GAUGE STAINLESS STEEL WALL BOX WITH LOCKABLE COVER.
<u>HB-2</u>	HOSE BIBB WOODFORD MODEL No.Y24, ROUGH BRASS FINISH, 3/4" HOSE CONNECTION WITH INTEGRAL VACUUM

FIXTURE UNIT CALCULATIONS										
DESCRIPTION	QTY	F.U. E	EACH	TOT	AL F.U.					
DESCRIPTION	QII	WASTE	WATER	WASTE	WATER					
WATER CLOSET (F.T.)	3	4	5	12	15					
LAVATORY	3	1	2	3	6					
MOP SINK	1	2	3	2	3					
SINK	1	2	4	2	4					
ELECTRIC WATER COOLER	1	1	1	1	1					
HOSE BIBB — YARD HYDRANT	2	_	5	_	10					
	•	•	•	•						

TOTAL FIXTURE UNI	ITS 3
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	FIXTURE	CON	INE	CTI	ON	SC	HEDULE
MARK	DESCRIPTION	TRAP SIZE	WASTE	VENT	COLD WATER	HOT WATER	REMARKS
WC-1	WATER CLOSET	INT.	4"	2"	1/2"	_	TANK TYPE, ADA
L-1	LAVATORY	1-1/4" x 1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	WALL MOUNTED, ADA
S-1	SINK	1-1/2"	2"	1-1/2"	1/2"	1/2"	STAINLESS STEEL, 1 COMP.
MS-1	MOP SINK	2"	2"	1-1/2"	1/2"	1/2"	FLOOR TYPE
EWC-1	ELECT. WATER COOLER	1-1/4" x 1-1/2"	1-1/2"	1-1/2"	1/2"	_	ADA COMPLIANT SPLIT LEVEL
HB-1	HOSE BIBB	_	_	_	3/4"	_	NON-FREEZE W/ INT. VAC. BREAKER
HB-2	HOSE BIBB	_	_	1	3/4"	_	WITH INTEGRAL VACUUM BREAKER
YH	YARD HYDRANT	_	_	_	1"	_	NON-FREEZE W/ INT. VAC. BREAKER

WATER CALCULATION:	
FIXTURE UNITS = 39 FU / 24 GPM	
(FLUSH TANK SYSTEM)	

<u>391 FT.</u>

10.00 PSI 2.15 PSI

20.00 PSI

22.85 PSI

WATER PIPE SIZING CRITERIA

TOTAL DEVELOPED LENGTH

STREET PRESSURE
WATER METER LOSS (3/4") BACKFLOW PREVENTER LOSS (1-1/4") STATIC LOSS (5' x 0.43) FIXTURE LOSS`

PRESSURE AVAILABLE FOR PIPING

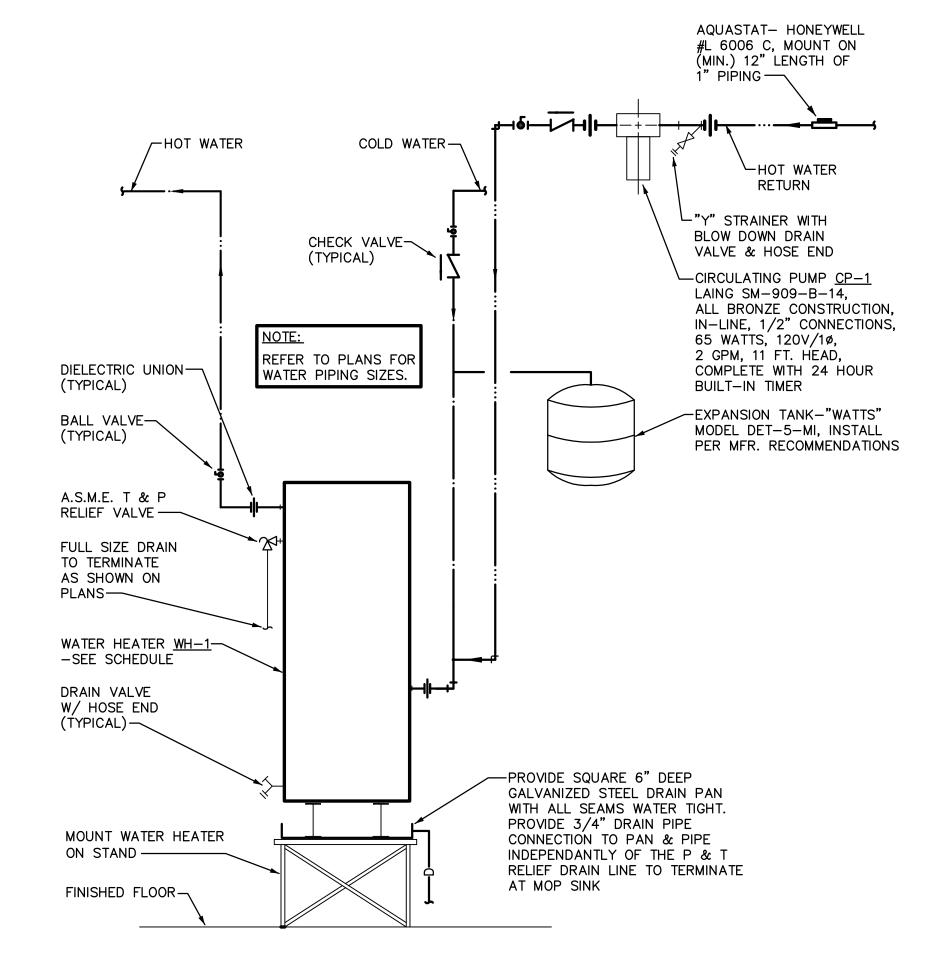
22.85 PSI / 391 FEET x 100 = 5.8 PSI MAXIMUM ALLOWABLE DROPPER 100 FEET PIPE LENGTH

\*ASSUMED WATER PRESSURE-

CONTRACTOR SHALL VERIFY ACTUAL WATER PRESSURE PRIOR TO CONSTRUCTION. IF PRESSURE IS LESS THAN 60 PSI, CONTRACTOR SHALL CONTACT ENGINEER FOR PIPE SIZING EVALUATION. IF PRESSURE EXCEEDS 80 PSI, A PRESSURE REDUCING VALVE SHALL BE PROVIDED. PIPING VELOCITY NOT TO EXCEED 8 FEET PER SECOND.

BRANCH PIPE	SIZING CHART	FOR 5.8 PSI LOSS
PIPE SIZE	G.P.M.	F.U.(TANK)
1/2" 3/4"	3 7	2 8
1" 1-1/4"	15 26	21 43

#### ELECTRIC WATER HEATER SCHEDULE GALLON PER HR. REC. AT 100° F T.R. REMARKS MARK MANUFAC. INPUT PHASE WH-1RHEEM EGSP20 20 2.0 120/1 140



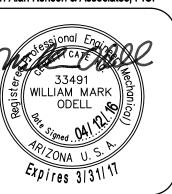
WATER HEATER DETAIL

Design Group, LLC Consulting Engineers 611 West Delano Ave Prescott, AZ 86301 Project 11759 N. 143rd Ave. Surprise, AZ 85379

(928) 443.7353 #16016 (623) 444-6143

REVISIONS

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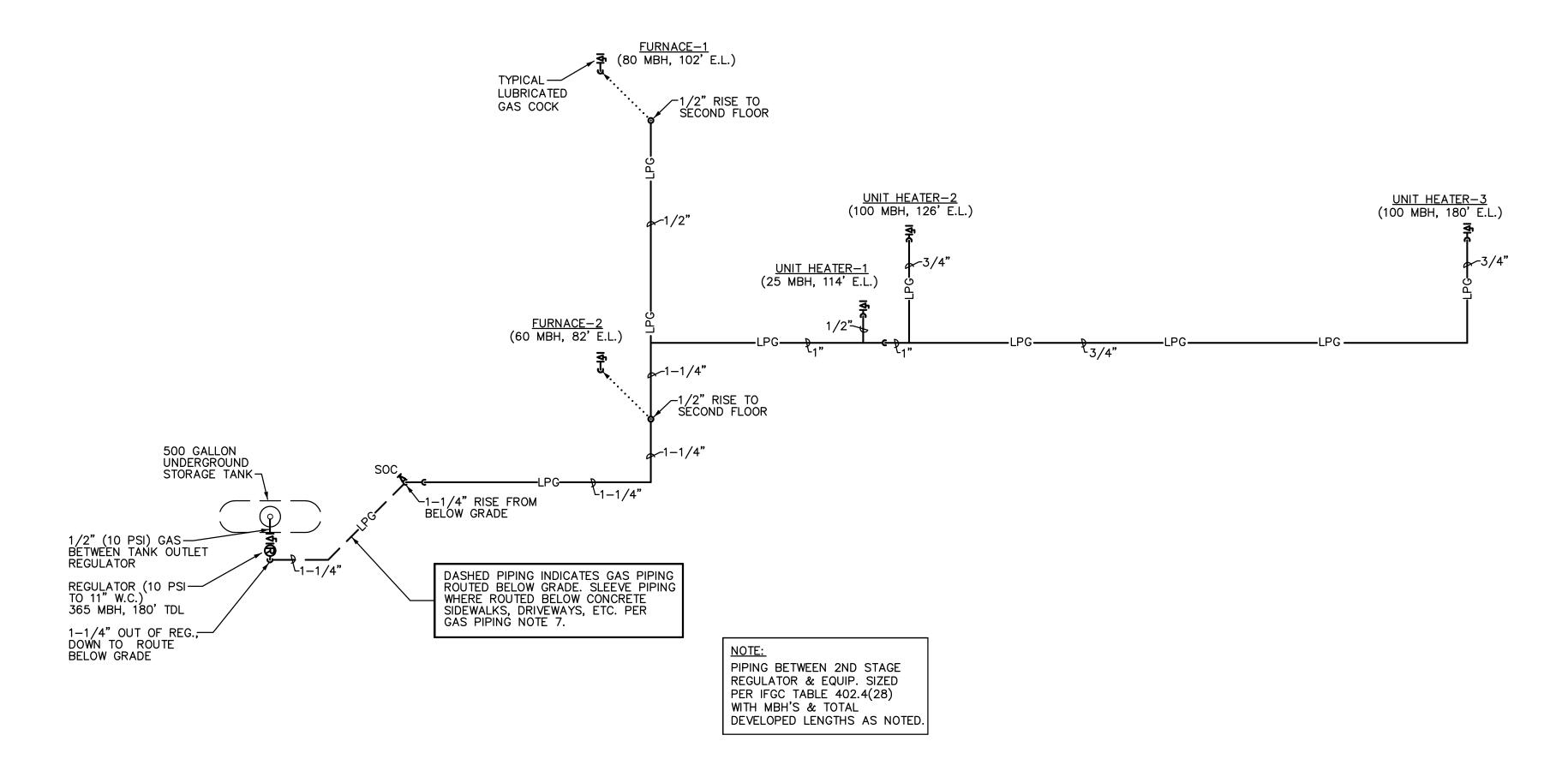
DRAWN BY CHECKED BY DATE SCALE AS NOTED JOB NO. 666 SHEET

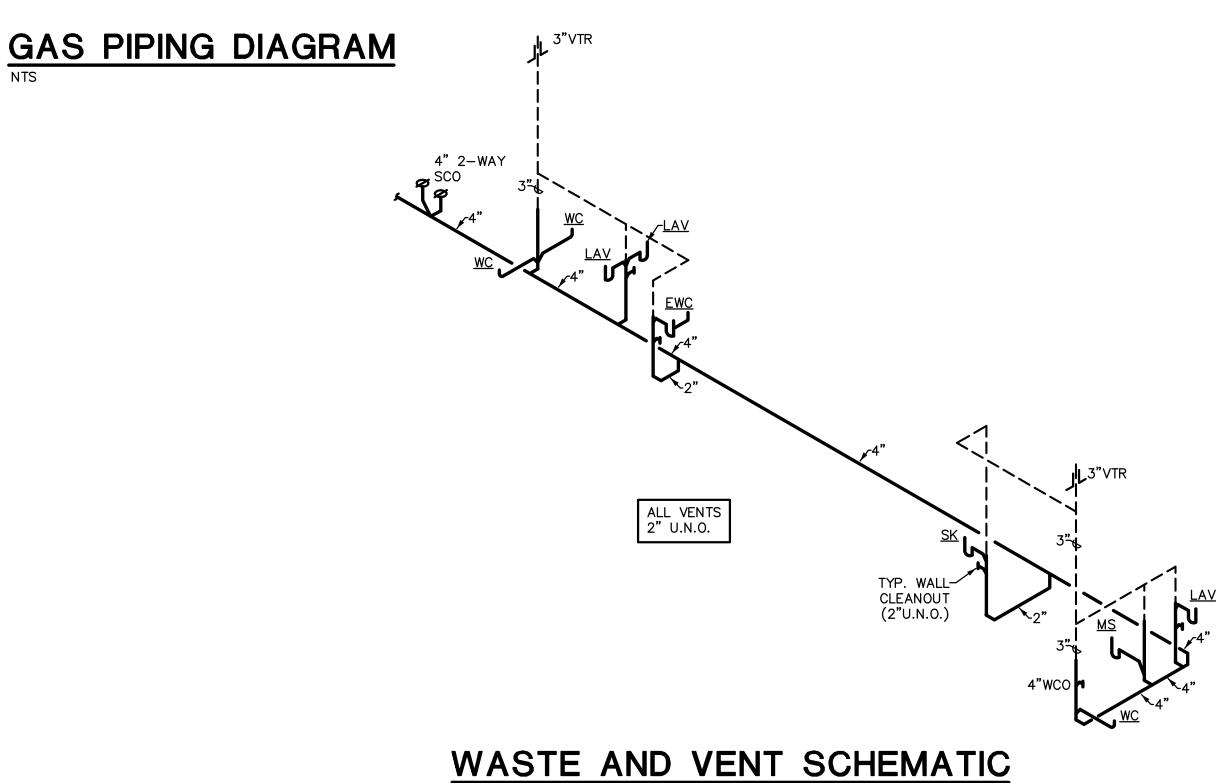
### **GAS PIPING NOTES:**

- 1. MINIMUM DEPTH OF GAS PIPING TO BE 18" BELOW
- 2. GAS PIPING SHALL NOT BE INSTALLED IN OR ON THE GROUND UNDER ANY BUILDING.
- 3. GAS PIPING SHALL NOT RUN IN HOLLOW CORE OF BLOCK.
- 4. PROVIDE SHUT-OFF COCK, UNION AND 6" LONG DIRT LEG WITH CAP AT EACH GAS LINE DROP TO APPLIANCE.
- 5. ALL GAS USING EQUIPMENT TO BE LIQUID PROPANE FUEL.

6. DO NOT USE FLEXIBLE PIPE CONNECTIONS TO

- EQUIPMENT. 7. ALL GAS PIPING UNDER ASPHALT OR CONCRETE PAVING ADJOINING BUILDING MUST BE SLEEVED IN GAS TIGHT PIPE (SCHEDULE 40 PVC PIPE), SLEEVE SIZE SHALL (MINIMUM) 2 PIPE SIZES LARGER THAN THE GAS PIPE.
- 8. ALL GAS PIPING, MATERIALS, VALVES, FITTINGS, INSTALLATION AND TESTING SHALL COMPLY WITH CHAP. 4, INTERNATIONAL FUEL GAS CODE.
- 9. VERIFY ALL GAS BTU/H INPUTS WITH ACTUAL BTU/H INPUT OF APPLIANCE SUPPLIED.
- 10. ALL GAS LINES INSTALLED THROUGH CMU WALLS, ETC., SHALL BE SLEEVED WITH STEEL PIPE A MINIMUM OF (2) (TWO) PIPE SIZES LARGER THAN THE GAS PIPE.





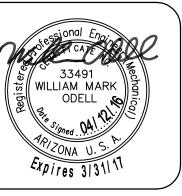


- 1. ALL PLUMBING WORK SHALL COMPLY WITH THE MOST STRINGENT OF APPLICABLE CODES, ORDINANCES, OR THE SPECIFICATIONS.
- 2. ALL FIXTURES SHALL BE PROPERLY VENTED TO THE ATMOSPHERE. 3. COORDINATE LOCATION OF ALL PLUMBING LINES WITH DUCTWORK AND
- 4. WATER PIPING INSTALLED UNDER CONCRETE SLAB SHALL BE LOOPED IN PARTITION WALLS WITH NO JOINTS UNDER SLAB & WITH PLASTIC SLEEVE FOR EACH PENETRATION THROUGH SLAB.
- 5. ALL WATER PIPING TO BE CONTROLLED BY FULL FLOW BALL VALVE. 6. LOCATE ALL VENTS THROUGH ROOF 10'-0" FROM ALL AIR INTAKES,
- EVAPORATIVE COOLERS, ETC. 7. VERIFY INVERT ELEVATIONS (WASTE LINES), SIZES, & LOCATIONS OF ALL EXISTING GAS, WATER & WASTE LINES TO WHICH NEW PIPING CONNECTS PRIOR
- TO MAKING-UP OR INSTALLATION OF PIPING.
- 8. NOT USED.
- 9. LOCATE ALL VALVES, UNIONS, THERMOMETERS, GAUGES, OR OTHER EQUIPMENT REQUIRING FREQUENT READING. REPAIRS, ADJUSTMENTS, INSPECTION, REMOVAL OR REPLACEMENT SO AS TO BE ACCESSIBLE WITH REFERENCE TO THE FINISHED BUILDING.

- 10. FULL WAY VALVE IS REQUIRED ON THE DISCHARGE SIDE OF EACH METER AND AT THE COLD WATER SUPPLY TO EACH WATER HEATER.
- 11. INSTALL APPROVED DIELECTRIC ISOLATORS AT ALL CONNECTIONS OF DISSIMILAR METALS.
- 12. REFER TO PLUMBING FIXTURE SCHEDULE FOR INDIVIDUAL LINE SIZES. 13. WHERE POSSIBLE, TIE VENTS TOGETHER SO THAT A MINIMUM NUMBER TERMINATE THROUGH ROOF.
- 14. PRIOR TO SUBMITTING BID, CONTRACTOR SHALL REVIEW THE ARCHITECTURAL DRAWINGS & INCLUDE IN HIS BID AN AMOUNT TO FURNISH & INSTALL ANY FIXTURES SHOWN IN ADDITION TO PLUMBING DRAWINGS.
- 15. SOLDERS AND FLUX HAVING A LEAD CONTENT IN EXCESS OF TWO-TENTHS OF ONE PERCENT SHALL NOT BE USED IN THE INSTALLATION OR REPAIR OF PLUMBING PROVIDING WATER FOR HUMAN CONSUMPTION.
- 16. CONTRACTOR SHALL NOT CUT HOLES IN STRUCTURAL MEMBERS WITHOUT FIRST SECURING WRITTEN APPROVAL FROM THE ARCHITECT.
- 17. ROUGH-IN ALL WATER & WASTE PIPING TO SPECIAL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS' SHOP DRAWINGS. VALVE ALL SUPPLIES AND MAKE FINAL CONNECTIONS.

Design Group, LLC Consulting Engineers  REVISIONS

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SSO

DRAWN BY CHECKED BY DATE SCALE AS NOTED JOB NO. 666

SHEET

#### ELECTRICAL SYMBOLS

NOTE: NOT ALL SYMBOLS ARE USED ON THIS PROJECT

FLUORESCENT FIXTURE, WITH FIXTURE DESIGNATED BY LETTER. SMALL LETTER INDICATES SWITCH LEG

NIGHT LIGHT- NOT SWITCHED FLUORESCENT STRIP FIXTURE.

CEILING OR WALLMOUNTED FIXTURE.

PORCELAIN PULL CHAIN FIXTURE

JUNCTION BOX

JUNCTION BOX WITH FLEX CONNECTION.

SINGLE FACE EXIT SIGN- NOT SWITCHED

DOUBLE FACED EXIT SIGN— NOT SWITCHED. TWO HEAD EMERGENCY LIGHT WITH BATTERY.

POLE-MOUNTED FIXTURE - No. OF LUMINAIRES AS SHOWN & SCHEDULED

SINGLE POLE SWITCH, + 48" A.F.F. (20A-120/277V)

THREE WAY SWITCH, + 48" A.F.F. (20A-120/277V)

4-WAY SWITCH +48" AFF (20A-120/277V)

SWITCH AND PILOT LIGHT (20A-120-/277V)

SINGLE POLE SWITCH, KEY OPERATED (20A)

DIMMER CONTROL, + 48" A.F.F. EQUAL TO LUTRON "NOVA" SERIES, SIZED TO MATCH LOAD SERVED

VARIABLE SPEED FAN CONTROL, +48" A.F.F.

DUPLEX RECEPTACLE, + 18" A.F.F. (20A)

DUPLEX RECEPTACLE ABOVE COUNTER, VERIFY HEIGHT. (20A)

FOURPLEX RECEPTACLE, + 18" A.F.F. (20A)

SPECIAL RECEPTACLE - SIZE & TYPE AS NOTED

POWER FLUSH FLOOR OUTLET

TELEPHONE OUTLET PLASTER RING AT + 18" A.F.F. HUBBELL #P12 COVERPLATE. 3/4"C TO CEILING SPACE UNLESS SHOWN WITH HOMERUNS.

DATA SYSTEM OUTLET. 4" SQUARE BOX AND COVERPLATE, 3/4" C. TO CEILING SPACE UNLESS SHOWN WITH HOMERUN, + 18" A.F.F.

TELE/DATA COMBO OUTLET, 4" SQUARE BOX AND COVERPLATE, 3/4" C. TO CEILING SPACE UNLESS SHOWN WITH HOMERUN, + 18" A.F.F.

CABLE TELEVISION (CATV) OUTLET PLASTER RING AT + 18" A.F.F. U.N.O. HUBBELL COVERPLATE. 3/4"C TO CEILING SPACE UNLESS SHOWN WITH HOMERUNS.

TELPHONE SYSTEM CONDUIT HOMERUN WITH NYLON PULLWIRE (1"C MIN UNO)

CLOSED CIRCUIT TV (CCTV) OUTLET SAME AS CATV OUTLET

DOOR CHIME

■ REMOTE CONTROL STATION @ +48" AFF

DISCONNECT SWITCH, FUSE PER EQUIPMENT MANUFACTURERS RECOMMENDATION. OUTSIDE NEMA 3R - N.F. = NON-FUSED.

COMBINATION STARTER AND FUSIBLE DISCONNECT SWITCH SIZE AS NOTED

**EQUIPMENT TERMINATION CONNECTION** POINT VERIFY EXACT LOCATION LOAD AND VOLTAGE AS NOTED

THERMAL PROTECTED SWITCH

MOTOR STARTER - SHADING INDICATES F.B.O.

DISTRIBUTION PANELBOARD.

BRANCH CIRCUIT PANELBOARD.

CONDUIT BELOW FLOOR OR UNDERGROUND

CONDUIT IN WALL OR ABOVE CEILING HOMERUN TO PANEL, NEUTRAL AND PHASE WIRING DESIGNATION (SEE GROUNDING NOTE)

CONDUIT TURNING UP

------ONDUIT TURNING DOWN

CONDUIT STUB-OUT, MARK AND CAP AS DIRECTED GROUND WIRE (SIZE AS NOTED) EXTENDED AND CONNECTED TO APP'D GROUND

ALL WIRING #6 AWG AND LARGER SHALL BE XHHW COPPER." #8 AWG AND SMALLER SHALL BE THHN/THWN COPPER

## **SPECIFICATIONS**

- 1. PRIOR TO SUBMITTING BID, SUBCONTRACTORS SHALL EXAMINE ALL GENERAL CONSTRUCTION DRAWINGS AND VISIT THE CONSTRUCTION SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS UNDER WHICH HE WILL HAVE TO OPERATE AND WHICH IN ANY WAY AFFECTS THE WORK UNDER HIS CONTRACT. NO SUBSEQUENT ALLOWANCE WILL BE MADE IN BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS PART.
- 2. THE SUBCONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR THE PROPER RESTORATION OF ALL EXISTING SURFACES REQUIRING PATCHING, PLASTERING, PAINTING AND /OR OTHER REPAIR DUE TO THE INSTALLATION OF ELECTRICAL WORK UNDER THE TERMS OF THE CONTRACT. CLOSE ALL OPENINGS, REPAIR ALL SURFACES, ETC., AS REQUIRED.
- 3. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, ELEVATIONS AND BUILDING DETAILS. VERIFY LOCATION OF ALL OUTLETS, SWITCHES, AND WALL MOUNTED LIGHTING FIXTURES WITH ARCHITECTURAL DRAWINGS AND ACTUAL CONDITIONS. VERIFY ALL CEILING TYPES WITH ARCHITECTURAL DRAWINGS BEFORE ORDERING FIXTURES.
- 4. PRIOR TO ROUGH-IN AND FINAL CONNECTION, VERIFY ELECTRICAL CHARACTERISTICS AND EXACT LOCATION OF EQUIPMENT.
- 5. GROUT AND SEAL ALL CONDUIT PENETRATIONS OF WALLS AND FLOOR SLABS TO PRESERVE FIRE RATING AND WATERTIGHT INTEGRITY.
- 6. BRANCH CIRCUIT WIRING SHALL BE THHN/THWN INSULATION. PANEL FEEDERS SHALL BE TYPE XHHW. ALL WIRE SHALL BE COPPER. MINIMUM WIRE SIZE SHALL
- 7. ALL WIRING TO BE INSTALLED IN RACEWAYS. TYPE OF RACEWAY SHALL BE AS REQUIRED BY CODE. MINIMUM CONDUIT SIZE SHALL BE 1/2".
- 8. PROVIDE CODE SIZED BOND WIRE IN ALL EMT, OR MC FLEXIBLE CONDUIT
- 9. ALL ELECTRICAL EQUIPMENT SHALL BE NEW, U.L. APPROVED AND COMMERCIAL
- 10. WIRE RATED FOR 150° CENTIGRADE SHALL BE USED FOR ALL INCANDESCENT LIGHTING FIXTURES.
- 11. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NATIONAL CODE, (N.E.C.), AND ALL APPLICABLE FEDERAL, STATE AND LOCAL
- 12. PROVIDE TYPEWRITTEN DESCRIPTIVE PANEL DIRECTORIES

#### **ABBREVIATIONS**

ABOVE FINISHED FLOOR ( ¢ OF OUTLET ) ABOVE FINISHED GRADE ( ¢ OF OUTLET )

**EMPTY CONDUIT** 

GROUND FAULT INTERRUPTER

WEATHERPROOF UNLESS OTHERWISE NOTED

NIGHT LIGHT

**TYPICAL** 

**ELECTRIC DRINKING FOUNTAIN** TELEPHONE MOUNTING BOARD

#### FIRE WALL/FLOOR PENETRATION

ALL PENETRATIONS OF FIRE RESISTIVE FLOORS OR SHAFT WALLS SHALL BE PROTECTED BY MATERIALS AND INSTALL-ATION DETAIL THAT CONFORM TO UNDERWRITERS LABOR-ATORY'S LISTINGS FOR THROUGH PENETRATION FIRESTOP SYSTEMS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING DETAILS WHICH SHOW COMPLETE CONFORMANCE WITH THE LISTING TO THE ARCHITECT AND SUCH DRAWINGS SHALL BE AVAILABLE TO THE LOCAL GOVERNING INSPECTORS. THE DRAWINGS SHALL BE SPECIFIC FOR EACH PENETRATION WITH ALL VARIABLES DEFINED.

# DUTLETS INSTALLED

DUTLETS, (SVITCHES, RECEPTACLES, ETC.), MOUNTED IN FIRE RATED VALLS SHALL NOT DCCUPY THE SAME VALL CAVITY VITH OTHER DUTLES VHETHER ON SAME SIDE OR BACK-TO-BACK. RECOMMENDED SPACING IS 24 INCHES HORIZONTAL (MIN).

### DUTLET MOUNTING HEIGHTS PER AMERICAN DISABILITY ACT

SWITCHES +48" (MAX) RECEPTACLES +18" (MAX) TELEPHONE +18" (MAX) +54" (MAX) SIDE REACH

TIME CLOCK SHALL BE SEVEN DAY, PROGRAMMABLE, 8-CIRCUIT MIN. W/BATTERY BACK-UP, SET EACH INDIVIDUAL CIRCUIT AS DIRECTED BY ARCHITECT/OWNER.

### ONE LINE KEYNOTES.

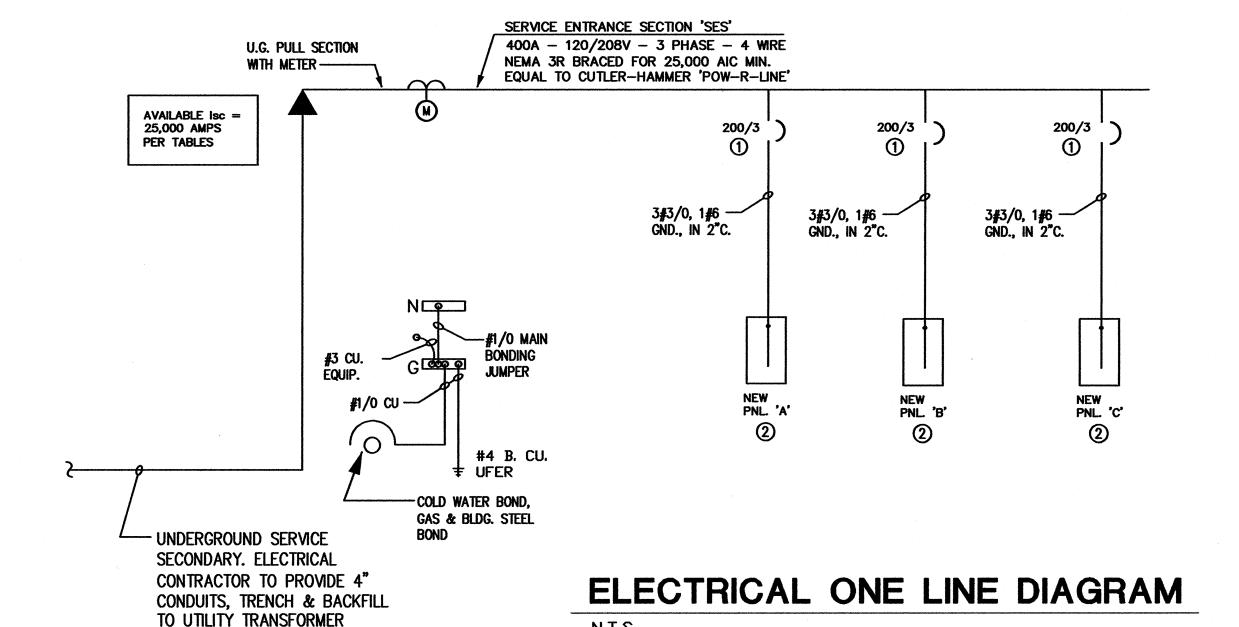
- (1) A PERMANENT LABEL HAS BEEN PROVIDED READING "THIS CIRCUIT BREAKER IS PART OF A SERIES RATED SYSTEM WITH DOWNSTREAM PANELS 25/10K. 25,000 AMPS AVAILABLE. IDENTIFIED REPLACEMENT COMPONENT REQUIRED\*
- (2) A PERMANENT LABEL HAS BEEN PROVIDED READING "CAUTION-SERIES RATED SYSTEM 25/10 IDENTIFIED REPLACEMENT COMPONENT'S REQUIRED"

### ONE LINE GENERAL NOTES.

- 1. SYSTEM SHOWN IS A TWO TIER SERIES RATED SYSTEM 25/10K. MANUFACTURER HAS PROVIDED A UL LISTED SYSTEM TO MATCH THIS RATING.
- 2. MOTOR SHORT CIRCUIT CONTRIBUTION IS LESS THAN 1% OF SYSTEM SHORT CIRCUIT AMPS.
- 3. NO DESIGN CHANGES MAY BE MADE TO THE SYSTEM WITHOUT THE PRIOR APPROVAL OF THE DESIGN ELECTRICAL ENGINEER AND THE ELECTRICAL INSPECTOR

# LOAD SUMMARY

		_ØA_	_øB_	øC_
PANEL 'A'	***	103.9 A	113.7 A	113.8 A
PANEL 'B'	=	97.4 A	79.8 A	87.1 A
PANEL 'C'	=	115.3 A	93.4 A	99.5 A
SERVICE TOTAL	=	316.6 A	286.9 A	300.4 A



N.T.S.

### SITE RELATED WORK

AS DIRECTED BY APS.

PRIOR TO COMMENSING WORK AND/OR SUBMITTING BASE BID, THE CONTRACTOR SHALL VISIT THE SITE AND SATISFY HIMSELF TO EXISTING WORK RELATED CONDITIONS WITH REGARDS TO THE FOLLOWING:

- TRENCH AND BACKFILL FOR CONDUITS PER UTILITY CO. REQUIREMENTS. (FIELD VERIFY)
- 2 TRANSFORMER MOUNTING PAD PER UTILITY CO. REQUIREMENTS.
- 3 PROVIDE SECONDARY AND/OR PRIMARY CONDUITS. (SEE ONE LINE DIAGRAM).
- 4 SERVICE ENTRANCE SECTION (S.E.S.). VERIFY PROPOSED EQUIPMENT WILL FIT THE SPACE ALLOTED PRIOR TO ORDERING AND/OR CONSTRUCTION.
- 5 P.V.C. TELEPHONE CONDUIT WITH PULL WIRE AND RIGID FACTORY STEEL BENDS PER TELEPHONE CO. REQUIREMENTS. (SIZE AS NOTED OR REQUIRED BY UTILITY VERIFY PRIOR TO INSTALLATION).
- 6 THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION AND COMPLIANCE WITH ALL UTILITY COMPANIES REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO ANY AND ALL ADDITIONAL COSTS FOR MATERIAL AND LABOR FOR WORK WHETHER SHOWN ON THE PLANS OR NOT. ACTUAL ROUTING. CONDUIT, TRENCH AND PAD REQUIREMENTS SHALL BE AS SPECIFIED BY UTILITY COMPANIES. VERIFY REQUIRMENTS WITH UTILITIES PRIOR TO INSTALLATION.
- WHERE APPLICABLE, PROVIDE EQUIPMENT GROUNDING (BOND) CONDUCTOR FOR METALLIC PROCESSING AND FIRE SPRINKLER PIPING PER 2002 NEC 250-90 AND SIZED PER 2002 NEC 250-122 TABLE.

#### FIRE ALARM SYSTEM SPECIFICATION

A COMPLETE OPERATIONAL MANUAL/AUTOMATIC FIRE

ALARM SYSTEM TO BE MONITORED AS DIRECTED BY OWNER SHALL BE FURNISHED AND INSTALLED, AS REQUIRED FOR THIS TYPE OF BUILDING IN ACCORDANCE WITH STATE AND/OR LOCAL CODE AND AS APPROVED BY THE CODE ENFORCING AUTHORITY HAVING JURISDICTION. THE FIRE ALARM CONTROL PANEL SHALL BE LOCATED AS DIRECTED BY THE ENFORCING AUTHORITY. (CONNECT TO CIRCUIT A-17). FIRE ALARM' CONTRACTOR SHALL PROVIDE SPEC'S., DRAWINGS OF DEVICE LOCATIONS AND CUT SHEETS OF DEVICES TO FIRE MARSHALL FOR APPROVAL PRIOR TO INSTALLATION.

> ELECTRICAL DESIGN & CADD SERVICES INC. 1600 LAMB LANE PRESCOTT, AZ. 86305 🚫 PH. (928) 776-4900 FAX (928) 776-7800 E-MAIL: EES@CABLEONE.NET

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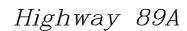
ELECTRICAL ONE-LINE DIAGRAM, SYMBOLS, SPECIFICATIONS & NO

DRAWN BY R.A. CHECKED BY A.O. DATE 4-10-2016

SCALE AS NOTED JUB NU. **666** 

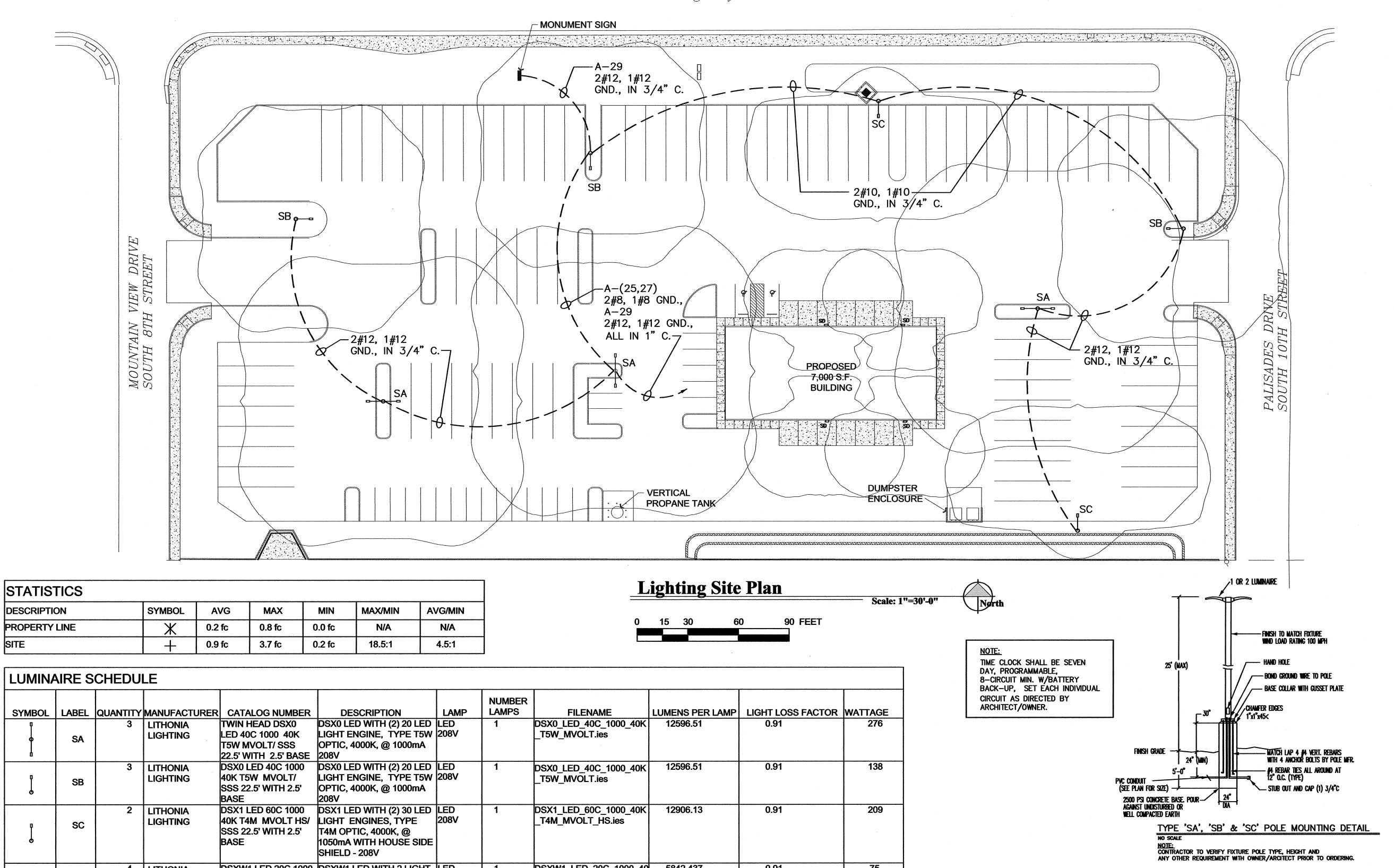
SHEET E-1





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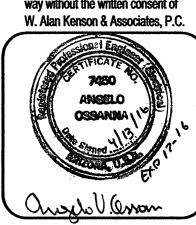
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DSXW1\_LED\_20C\_1000\_40 5842.437

K\_T4M\_MVOLT.ies

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DR

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SHEET

NOTE: POLE BASE DEPTH, REBAR QUANTITIES AND SIZES ARE SHOWN FOR ESTIMATION

FOR THIS PROJECT.

PURPOSES ONLY. THE CONTRACTOR SHALL PROVIDE A POLE BASE INSTALLATION DETAIL PREPARED & SEALED BY A STRUCTURAL ENGINEER WITH EXACT POLE BASE DIMENSIONS,

MATERIALS, ETC. POLES AND POLE BASES SHALL BE DESIGNED FOR PROPER STRUCTURAL

AND WIND LOADING SUPPORT SPECIFIC FOR THE FIXTURES AND POLES BEING PROVIDED

SITE

SHIELD - 208V

OPTIC - 208V

ENGINES, 20 LED's,

1000mA DRIVER, 4000K

LED, TYPE 4 MEDIUM

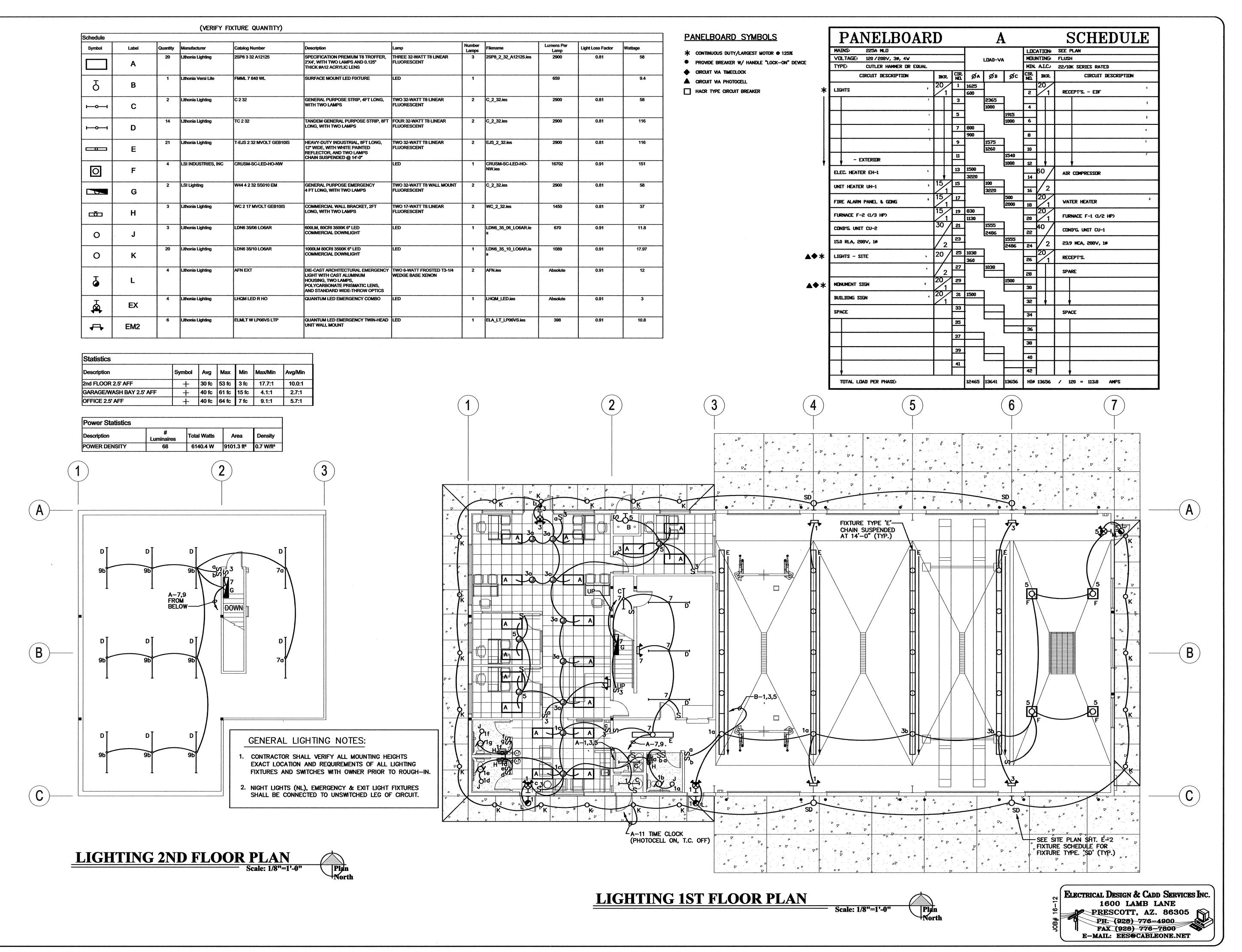
DSXW1 LED 20C 1000 DSXW1 LED WITH 2 LIGHT LED

40K T4M MVOLT

4 LITHONIA

LIGHTING

SD



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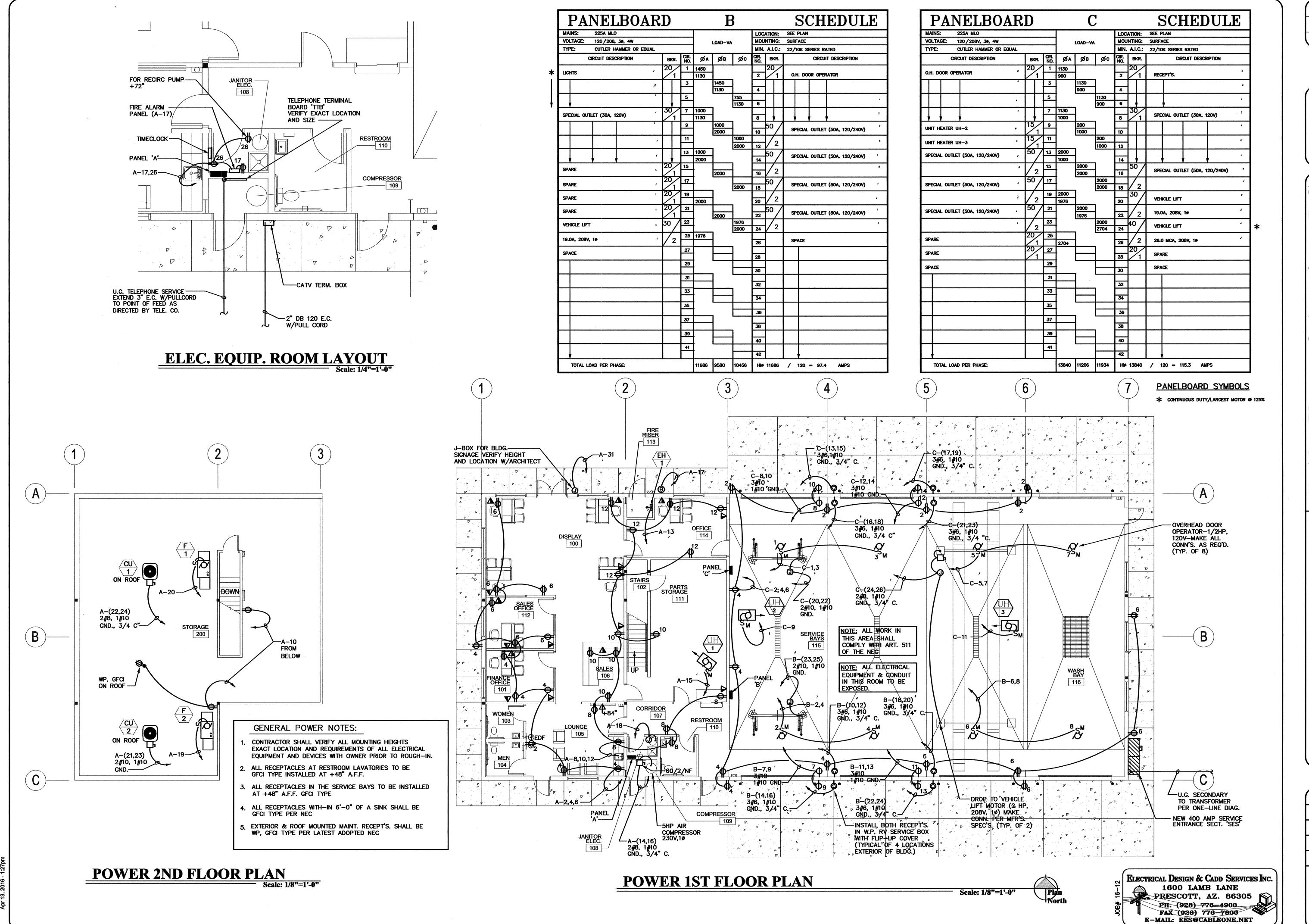
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Ken

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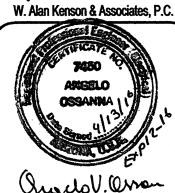
DR DRAWN BY R.A. CHECKED BY A.O. DATE 4-10-2016 AS NOTED

JOB NO. **666** 



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Charles V. Orron

Associates RECIENTING

Son

Ken

Alan 5

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SCALE AS NOTED JDB ND. **666**