



- DEMOLITION PLAN NOTES:**
1. EXISTING INTERIOR SEATING AND VESTIBULE AREAS TO REMAIN. NO WORK TO BE DONE IN THESE AREAS.
 2. EXISTING OUTDOOR PATIO CONCRETE SLAB TO REMAIN.
 3. EXISTING CONCRETE STAIRS, RAILING AND RAMP TO REMAIN.
 4. EXISTING LANDSCAPE AREAS TO REMAIN.
 5. EXISTING LIGHT POST TO REMAIN.
 6. EXISTING SIDE WALK TO REMAIN.
 7. EXISTING PLANTER BOX TO REMAIN.
 8. REMOVE PLANTER BOX & IRRIGATION SYSTEM AS REQUIRED. SALVAGE PER OWNER'S DISCRETION. COORDINATE PLUMBING CONNECTIONS DEMOLITION WITH OWNER (WATER SOURCE LOCATIONS, LAYOUT, ETC).
 9. EXISTING FLOOR METAL CRATE AROUND PALM TREE TO REMAIN.
 10. REMOVE AWNING CANVAS AND FRAME AS REQUIRED. REPAIR DAMAGED WALL AREAS. MATCH EXISTING FINISHES.
 11. EXISTING MAN HOLE TO REMAIN.
 12. REMOVE TRASH CAN. SALVAGE FOR RELOCATION. COORDINATE WITH OWNER.
 13. REMOVE PLANTER POT. SALVAGE FOR RELOCATION. FOR NEW LOCATION REFER TO SHEET A1.1.
 14. EXISTING ACCESSIBILITY PATH TO REMAIN.
 15. HATCH LINE REPRESENTS REMOVAL OF EXISTING CONCRETE SIDE WALK FOR NEW STAIRS (SAW CUT). FOR ADDITIONAL WORK IN THIS AREA REFER TO SHEET A1.1.
 16. EXISTING STEEL COLUMN TO REMAIN.
 17. EXISTING DETECTABLE WARNING PANEL TO REMAIN.
 18. EXISTING RAILING TO BE REPLACED.

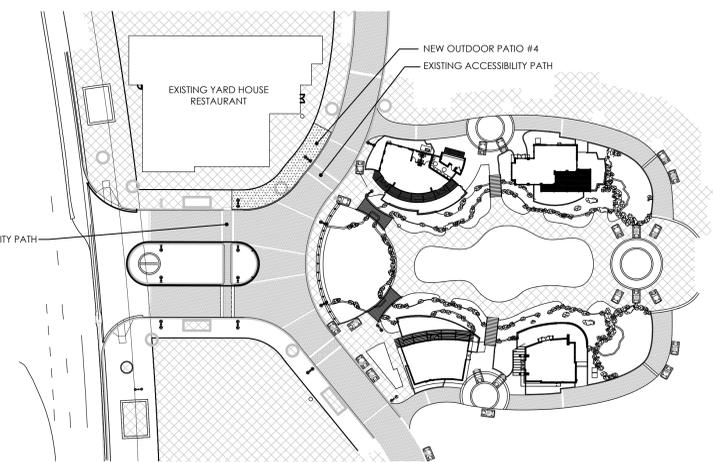
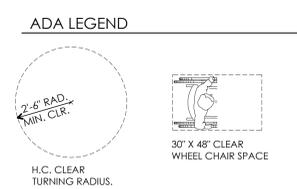
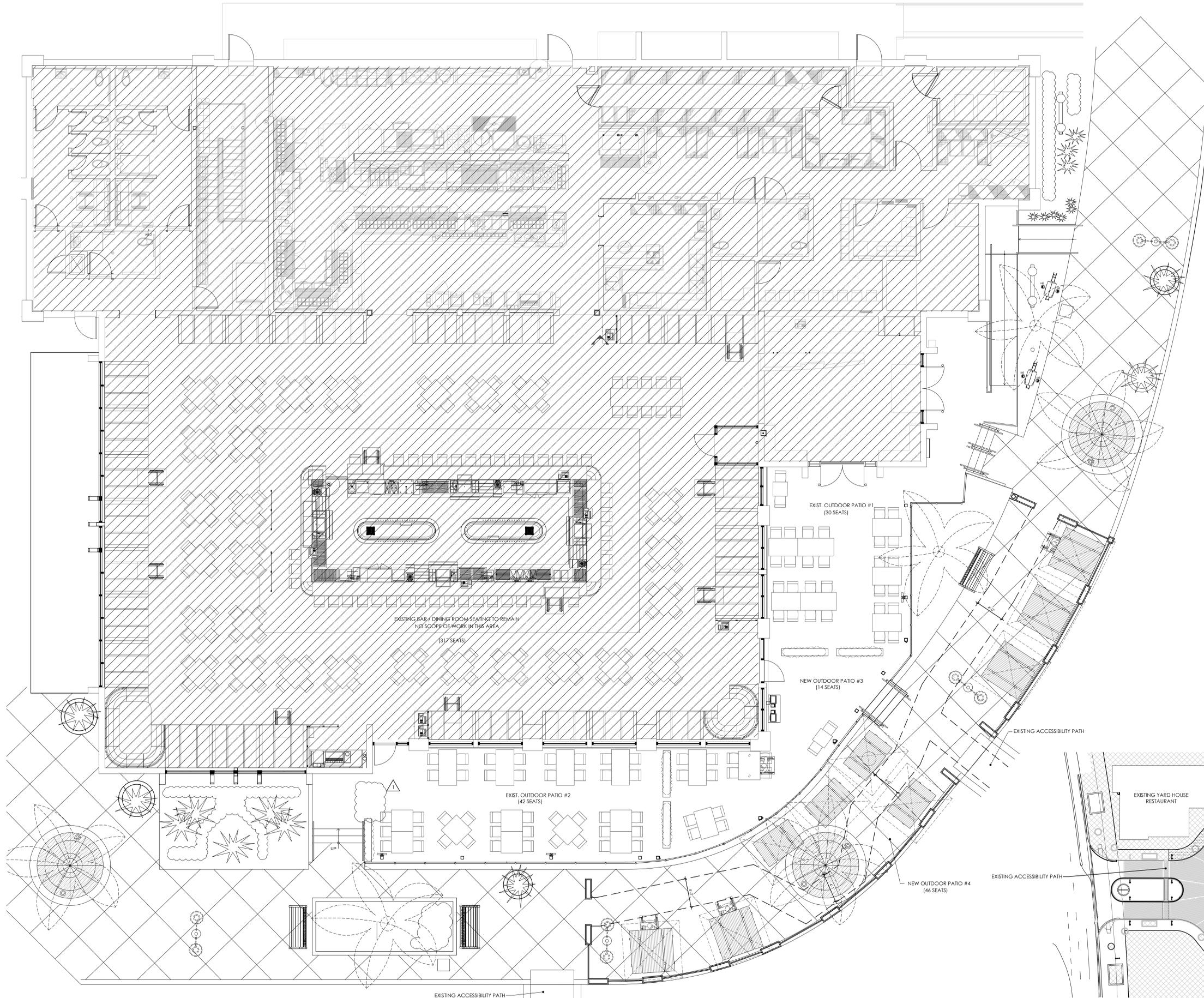
1 DEMOLITION FLOOR PLAN
SCALE: 1/4"=1'-0"

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hmd group pa architects
 10556 N.W. 26th Street, Suite 40101
 phone 305.594.2975 fax 305.594.2979 email hmdgroup@hmdgroup.com
 www.hmdgrouparchitect.com
 ARCHITECTURE
 INTERIOR DESIGN
 LICENSE # AA 100074

ARCHITECTS PROJECT #:
22-0094

Issue Date:	08-05-2022	
REVISION INFORMATION		
1	11-14-2023	BLDG. DEPT. COMMENTS
2		
3		
4		
5		
6		
7		
8		
Restaurant #:		8352
8367 International Drive		
Orlando, FL		
Drawing		
DEMOLITION PLAN		
D1.1		



1 LIFE SAFETY PLAN
SCALE: 3/16"=1'-0"

A LOCATION PLAN
SCALE: N.T.S.

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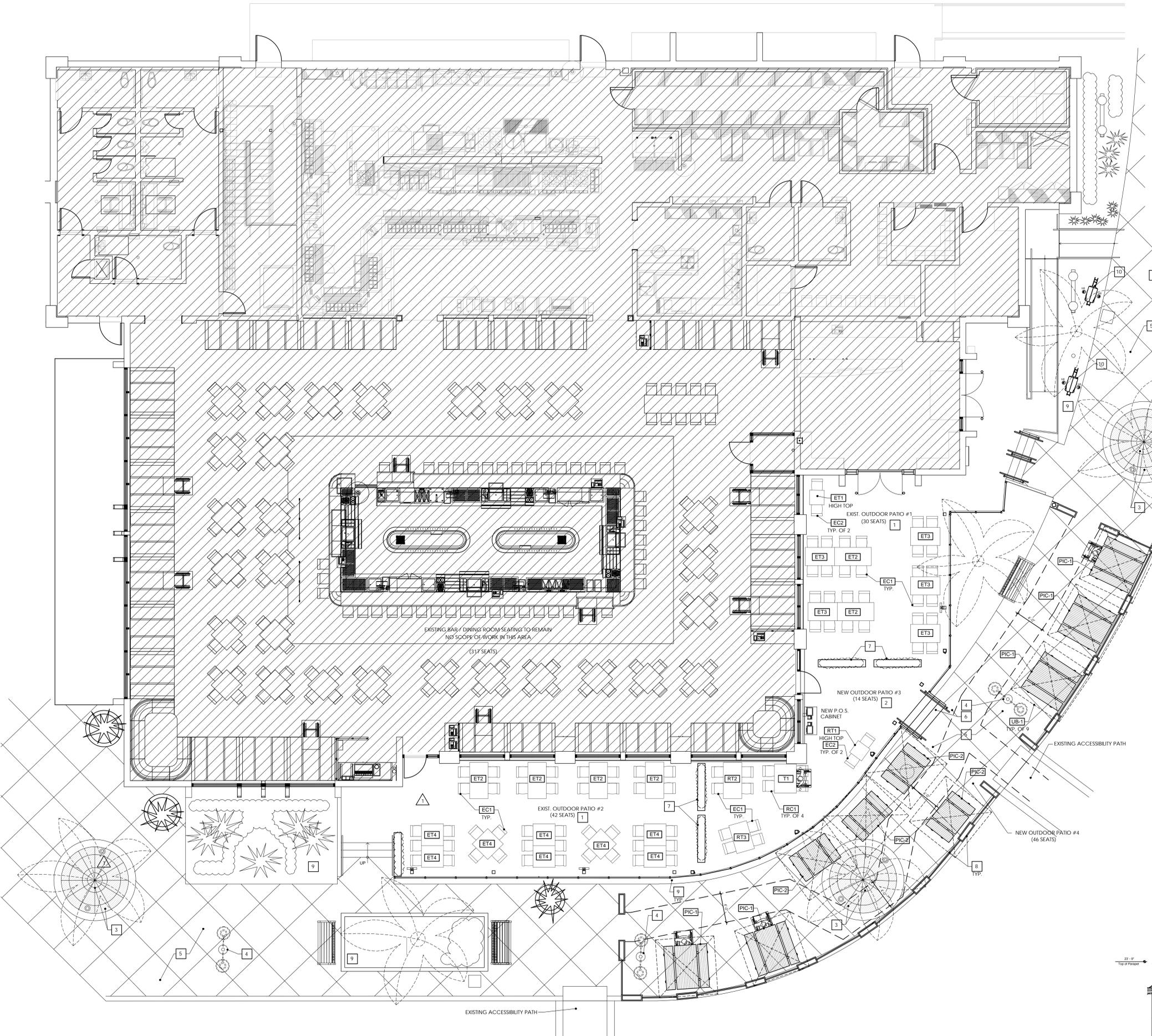
hmd group pa
architects

10556 N.W. 26th Street Suite 4110
Miami, FL 33177
phone 305.594.2975 fax 305.594.2979 email hmdgroup@earthlink.net
www.hmdgrouparchitect.com

ARCHITECTURE
INTERIOR DESIGN
CORPORATE PLANNING

ARCHITECTS PROJECT #:
22-0094

Issue Date:	08-05-2022
REVISION INFORMATION	
1	11-14-2023
OWNER'S CHANGES	
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Restaurant #:	8352
8367 International Drive	
Orlando, FL	
Drawing	
LIFE SAFETY PLAN	
LS.1	



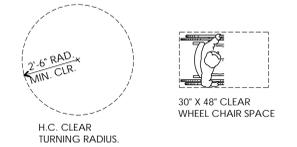
SEATING CAPACITY SUMMARY				
AREA	EXISTING	PROPOSED		
EXIST. INTERIOR	DINING SEATING	- 273	DINING SEATING	- 273
	BAR STOOLS	- 44	BAR STOOLS	- 44
	EXIST. INTERIOR TOTAL	- 317	INTERIOR TOTAL	- 317
EXIST. OUTDOOR COVER PATIO #1	24	30		
EXIST. OUTDOOR COVER PATIO #2	40	42		
NEW OUTDOOR PATIO #3	-	14		
NEW LOWER PATIO #4	-	46		
GRAND TOTAL SEATING	381	449		

PROPOSED PARTIES	
EXIST. OUTDOOR PATIO #1	= 8
EXIST. OUTDOOR PATIO #2	= 9
NEW OUTDOOR PATIO #3	= 4
NEW LOWER PATIO #4	= 9
GRAND TOTAL	= 30

- FURNISHING PLAN NOTES:**
- EXISTING OUTDOOR PATIO AREA TO REMAIN.
 - NEW COVERED OUTDOOR PATIO AREA, FOR ADDITIONAL WORK IN THIS AREA, REFER TO SHEET A1.1.
 - EXISTING FLOOR METAL CRATE AND PALM TREE TO REMAIN.
 - EXISTING LIGHT POST TO REMAIN.
 - EXISTING CONCRETE SIDEWALK TO REMAIN.
 - NEW STAIR AND RAILING, REFER TO SHEET A1.1.
 - INSTALL OWNER PROVIDED PLANTER BOX ON CASTERS, COORDINATE WITH OWNER.
 - INSTALL OWNER PROVIDED FENCING PANELS AND PLANTER BOXES, BY "SELECT SPACE PARTITIONS" COORDINATE WITH OWNER.
 - EXISTING LANDSCAPING AREA TO REMAIN.
 - NEW ALUMINUM KEG MAN ART WORK, REWORK LANDSCAPE AREAS AS REQUIRED.

- GENERAL NOTES:**
- PROVIDE SIGN AT LOBBY & PATIO AREA WITH TOTAL SEATING CAPACITY. LOCATION AS PER FIRE DEPARTMENT DISCRETION.
 - NO PATIO TABLES ARE TO BE PERMANENTLY FASTENED TO THE FLOOR. THEY MUST ALL BE MOVEABLE (NO EXCEPTIONS).
 - DIMENSIONS INDICATED AS "MINIMUM CLEAR" ARE CRITICAL AND MUST BE HELD. CONTRACTOR SHALL VERIFY THESE DIMENSIONS PRIOR TO ANY CONSTRUCTION AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCY.
 - ALL TABLE TOPS THAT ARE ASSIGNED AS ACCESSIBLE FOR THE HANDICAP SHALL HAVE A 27" MIN. TO BOTTOM OF TABLE TOP, 19" KNEE CLEARANCE AND 34" MAX. TO TOP OF TABLE (COORDINATE WITH OWNER).

ADA LEGEND



FURNITURE SCHEDULE - TABLES			
TYPE	DESCRIPTION	QUANTITY	REMARKS
T1	DINING TABLE (36" X 48")	1	(ADA ACCESSIBLE)
PIC-1	DINING TABLE (70" X 70")	5	NEW PICNIC TABLE
PIC-2	DINING TABLE (48" X 70")	4	NEW PICNIC TABLE
ET-1	DINING TABLE (24" X 24")	1	EXIST. TO REMAIN
ET-2	DINING TABLE (30" X 60")	6	EXIST. TO REMAIN
ET-3	DINING TABLE (30" X 48")	5	EXIST. TO REMAIN
ET-4	DINING TABLE (36" X 36")	8	EXIST. TO REMAIN
RT-1	DINING TABLE (24" X 24")	1	RELOCATED TABLE
RT-2	DINING TABLE (30" X 60")	1	RELOCATED TABLE
RT-3	DINING TABLE (30" X 48")	1	RELOCATED TABLE

FURNITURE SCHEDULE - CHAIRS		
TYPE	QUANTITY	REMARKS
EC1	78	EXISTING TO REMAIN (LOW CHAIRS)
EC2	4	EXISTING TO REMAIN (HIGH CHAIRS)
RC1	4	NEW RELOCATED CHAIRS (LOW CHAIRS)

UMBRELLA			
TYPE	DESCRIPTION	QUANTITY	REMARKS
UB-1	MODEL #RP1225 (8' X 8')	9	BY POGGESSI

1 PROPOSED OUTDOOR PATIO SEATING FLOOR PLAN
SCALE: 3/16"=1'-0"

hmd group pa architects
10556 N.W. 26th Street, Suite 41101, Coral Gables, FL 33172
phone 305.994.4975 fax 305.994.2979 email hmdgroup@hmdgroup.com
www.hmdgrouparchitects.com
WALTER O. BEREZ
ARCHITECTURE
INTERIOR DESIGN
FLORIDA LIC. NO. 13418
CORPORATE PLANNING
LICENSE # AA100074
ARCHITECTS PROJECT #: 22-0094



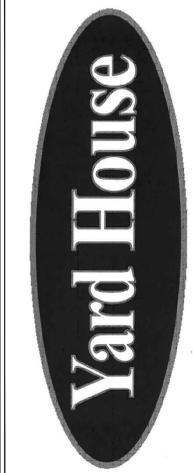
Issue Date:	08-05-2022
REVISION INFORMATION	
1	11-14-2023
BLDG. DEPT. COMMENTS	
2	11-27-2023
BLDG. DEPT. COMMENTS	
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Restaurant #:	8352

8367 International Drive
Orlando, FL

Drawing
OVERALL FURNITURE PLAN

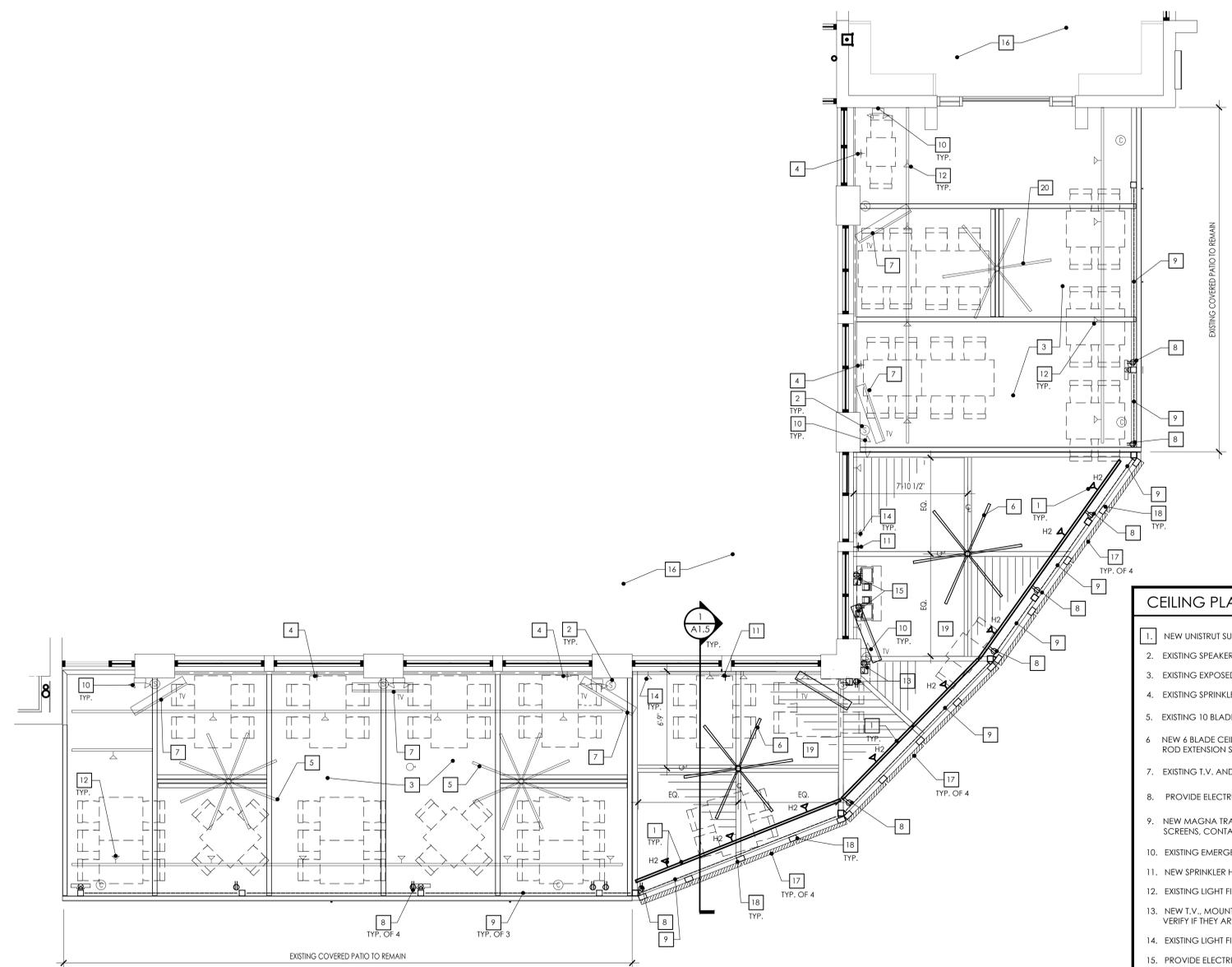
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LIGHTING FIXTURE SCHEDULE														07-19-2022	
TYPE	DESCRIPTION	FINISH	LAMP QTY	LAMP IMAGE	LAMP CODE	DIMMING	VOLTS	WATT.	MOUNTING	MANUFACT.	MODEL NUMBER	FIXTURE SUPPLIED BY	LAMPS SUPPLIED BY	ROOM LOCATION	NOTES
H2	3' SURFACE MOUNTED LED RISE, WET LOCATION, FLOOD LIGHT W/ NARROW SPOT OPTICS 15 DEG., FULL SNOOT ACCESSORY, 10' EXTERNAL CABLE BOTTOM EXIT, AND CANOPY PLATE	BLACK	8	NA	LED, 2700K	ELV	120/277	11.5	SEE PLANS	ECOSENSE	F080-15-HO-27-8-15-K-F-C / RISE-CANOPY-04-K	VL	NA	EXTERIOR PATIO	PATIO LIGHTS, MOUNTED ON UNISTRUTS
H48	EXTERIOR LANDSCAPE FLOOD	BLACK	4	NA	-	NA	120	11.5	SURFACE WITH GROUND STAKE	ECOSENSE	F080-15-HO-8L-8-40-K-H-C / F080-1S-1S-STK-12	-	NA	LANDSCAPE AREA	FOR EXACT LOCATION REFER TO SHEET A1.1



GENERAL NOTES

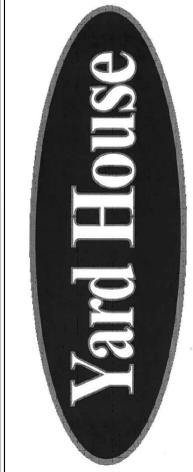
- DIMENSIONS AND CONDITIONS TO BE VERIFIED IN FIELD.
- ALL CEILING HEIGHTS ARE TAKEN FROM FINISH FLOOR.
- ALL LIGHT FIXTURES SHALL BE SUPPORTED FROM STRUCTURE ABOVE.
- FOR ELECTRICAL SCOPE OF WORK, REFER TO ENGINEERS DRAWINGS.
- FOR LIGHTING FIXTURE SPECIFICATIONS, REFER TO LIGHTING FIXTURE SCHEDULE, THIS SHEET.
- AUDIO AND SURVEILLANCE SYSTEM TO BE PROVIDED BY OWNER, (IF APPLICABLE)

CEILING PLAN NOTES

- NEW UNISTRUT SUPPORT SYSTEM WITH SPOT LIGHTS, REFER TO ELECTRICAL DRAWINGS.
- EXISTING SPEAKER TO REMAIN.
- EXISTING EXPOSED METAL DECK & STEEL BEAMS TO REMAIN. REPAIR ANY DAMAGED AREAS IF NECESSARY. COORDINATE WITH OWNER.
- EXISTING SPRINKLER HEAD TO REMAIN. FIELD VERIFY EXISTING LOCATIONS.
- EXISTING 10 BLADE CEILING FAN TO REMAIN.
- NEW 6 BLADE CEILING FAN BY BIG ASS 84" FAN, MODEL #1M - 161 - 07 - 18 - 06 - A727 - 124 CONTRACTOR TO VERIFY COLOR, ROD EXTENSION SIZE WITH EXISTING ADJACENT 6 BLADE FAN.
- EXISTING T.V. AND ELECTRICAL CONNECTIONS TO REMAIN.
- PROVIDE ELECTRICAL CONNECTION (DUPLX OUTLET) FOR OPERABLE ROLLER SHADE, REFER TO ELECTRICAL DRAWINGS.
- NEW MAGNA TRACK MOTORIZED SCREEN SYSTEM WITH VINYL WINDOWS, INSTALLED AND PROVIDED BY PROGRESSIVE SCREENS, CONTACT: JUSTIN SHOCK- PH. 941 468 3263
- EXISTING EMERGENCY LIGHT FIXTURE TO REMAIN.
- NEW SPRINKLER HEAD, CONNECT TO EXISTING SYSTEM AS REQUIRED.
- EXISTING LIGHT FIXTURE TO REMAIN.
- NEW T.V., MOUNTED TO MATCH ADJACENT EXISTING T.V.; HEIGHT, USE EXISTING ELECTRICAL AND CAT6 CONNECTIONS, VERIFY IF THEY ARE IN GOOD WORKING ORDER. REFER TO ELECTRICAL DRAWINGS.
- EXISTING LIGHT FIXTURE TO REMAIN, CONTRACTOR TO ASSURE THAT FIXTURE IS IN GOOD WORKING ORDER.
- PROVIDE ELECTRICAL AND DATA OUTLETS FOR NEW P.O.S., REFER TO ELECTRICAL DRAWINGS.
- EXISTING INTERIOR SEATING AND VESTIBULE AREAS TO REMAIN, NO WORK TO BE DONE IN THESE AREAS.
- NEW LOUVER PANEL SECURED TO WALL FACE, REFER TO 7/ A1.5.
- NEW 4" DEEP x 6" WIDE TUBULAR VERTICAL SUPPORT MEMBER BETWEEN HORIZONTAL BEAMS FOR LOUVER PANELS SUPPORT, REFER TO STRUCTURAL DRAWINGS
- NEW METAL DECK AND STEEL FRAMING, ALL SURFACES SHALL BE PAINTED BLACK TO MATCH ADJACENT COVERED PATIO SURFACES, COORDINATE WITH OWNER.
- EXISTING 6 BLADE CEILING FAN TO REMAIN.

1 REFLECTED CEILING PLAN
 SCALE: 1/4"=1'-0"

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Issue Date: 08-05-2022

REVISION INFORMATION

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Restaurant #: 8352

8367 International Drive

Orlando, FL

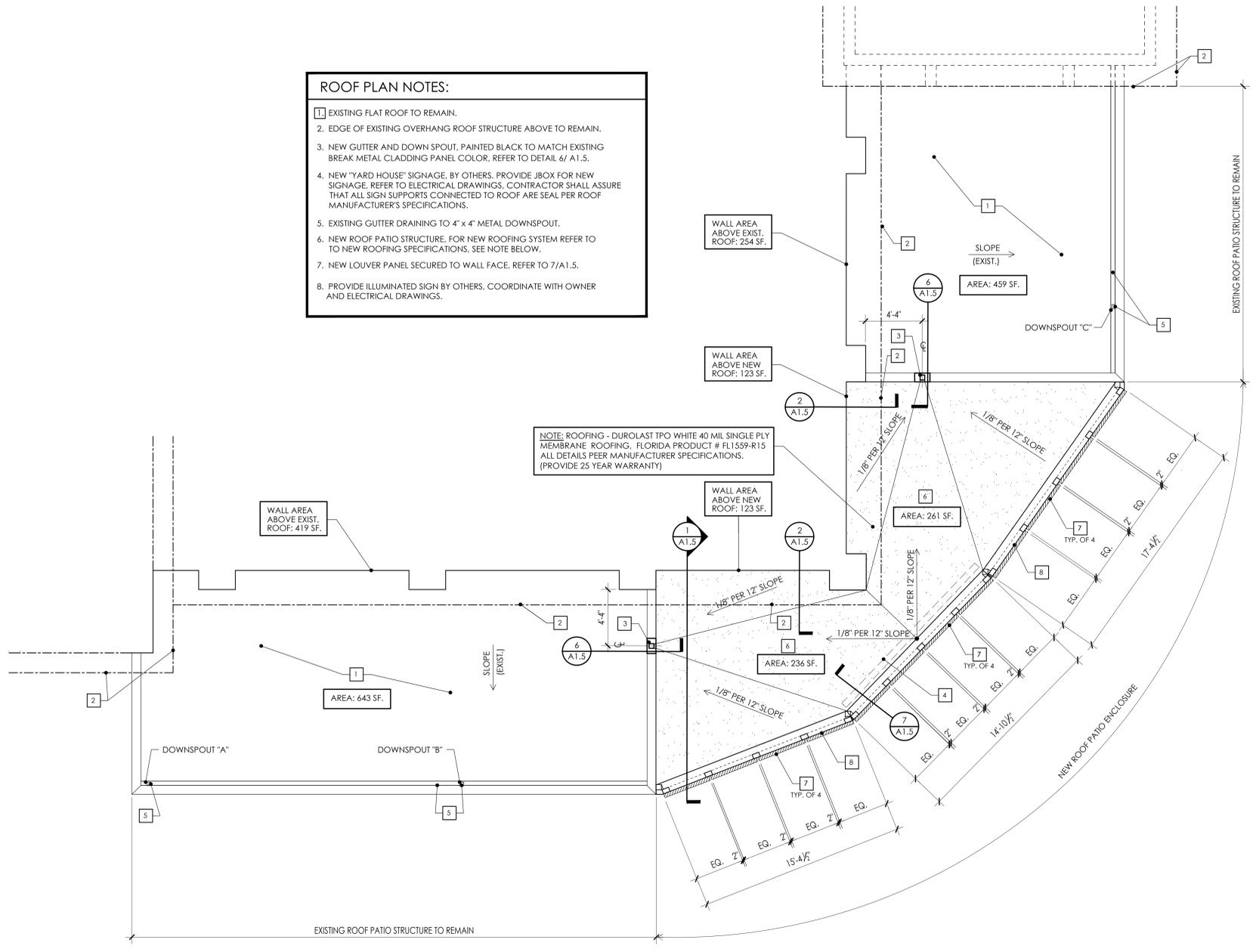
Drawing

ROOF PLAN

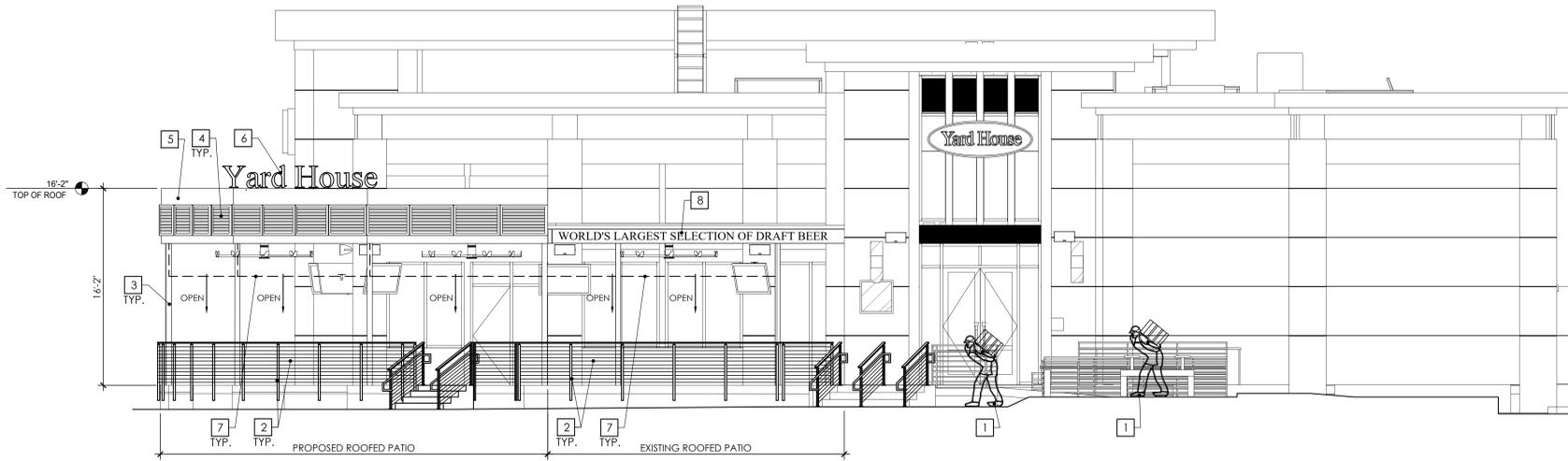
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- ROOF PLAN NOTES:**
- EXISTING FLAT ROOF TO REMAIN.
 - EDGE OF EXISTING OVERHANG ROOF STRUCTURE ABOVE TO REMAIN.
 - NEW GUTTER AND DOWN SPOUT, PAINTED BLACK TO MATCH EXISTING BREAK METAL CLADDING PANEL COLOR, REFER TO DETAIL 6/ A1.5.
 - NEW "YARD HOUSE" SIGNAGE, BY OTHERS, PROVIDE JBOX FOR NEW SIGNAGE, REFER TO ELECTRICAL DRAWINGS, CONTRACTOR SHALL ASSURE THAT ALL SIGN SUPPORTS CONNECTED TO ROOF ARE SEAL PER ROOF MANUFACTURER'S SPECIFICATIONS.
 - EXISTING GUTTER DRAINING TO 4" x 4" METAL DOWNSPOUT.
 - NEW ROOF PATIO STRUCTURE, FOR NEW ROOFING SYSTEM REFER TO NEW ROOFING SPECIFICATIONS, SEE NOTE BELOW.
 - NEW LOUVER PANEL SECURED TO WALL FACE, REFER TO 7/A1.5.
 - PROVIDE ILLUMINATED SIGN BY OTHERS, COORDINATE WITH OWNER AND ELECTRICAL DRAWINGS.

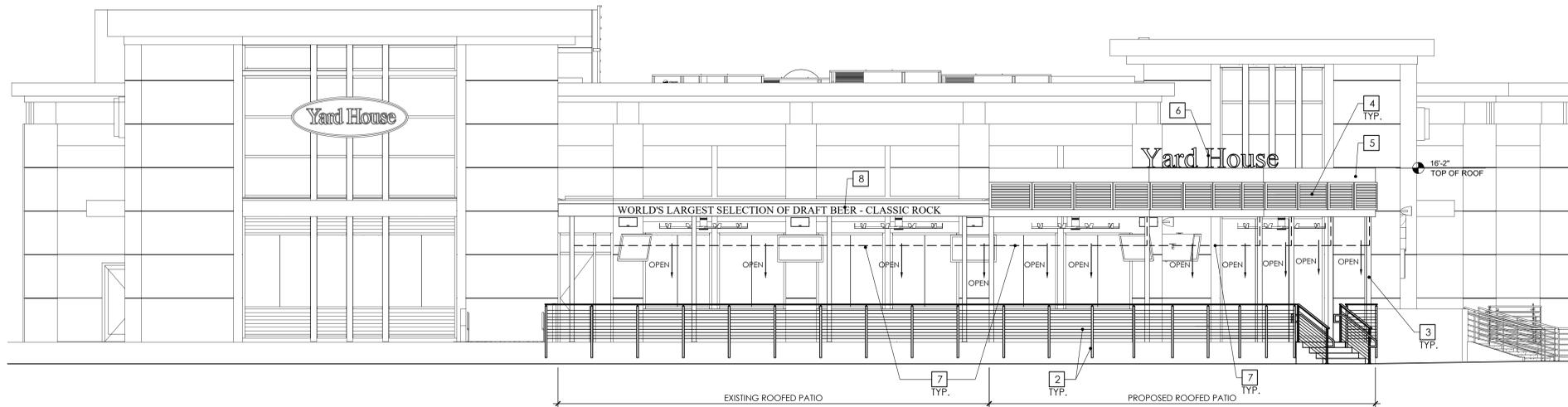


1 ROOF PLAN
SCALE: 1/4"=1'-0"

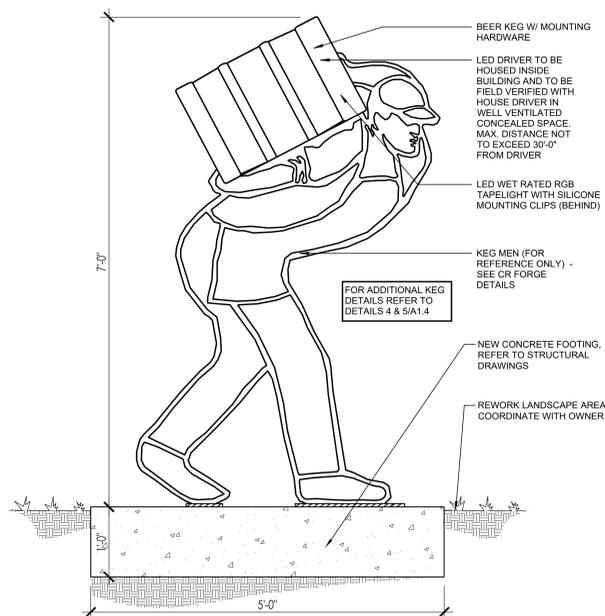


- EXTERIOR ELEVATION NOTES:**
1. KEG MEN FURNISHED AND INSTALLED BY Y.H. VENDOR, G.C. TO PROVIDE BLOCKING AS REQUIRED FOR INSTALLATION. REWORK LANDSCAPES AREAS AS REQUIRED. REPAIR DAMAGED AREAS. MATCH EXISTING. REFER TO DETAILS 3, 4 & 5/ A1.4.
 2. NEW RAILING, REFER TO SHEET A1.5.
 3. NEW STEEL COLUMN, REFER TO SECTION 1/ A1.5 & STRUCTURAL DRAWINGS.
 4. NEW LOUVERED PANELS, REFER TO DETAIL 7/ A1.5.
 5. NEW METAL CANOPY, REFER TO SECTION 1/ A1.5.
 6. NEW Y.H. ILLUMINATED SIGN BY OTHERS. COORDINATE WITH OWNER AND ELECTRICAL DRAWINGS.
 7. NEW ROLLER SHADE, PROVIDE ELECTRICAL CONNECTION, REFER TO DETAIL 7/A1.5 AND ELECTRICAL DRAWINGS. COORDINATE WITH OWNER.
 8. PROVIDE NEW ILLUMINATED SIGN, COORDINATE WITH OWNER AND ELECTRICAL DRAWINGS.

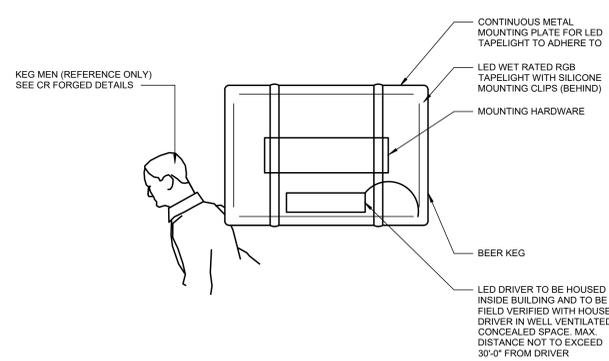
1 EXTERIOR ELEVATION
SCALE: 3/16"=1'-0"



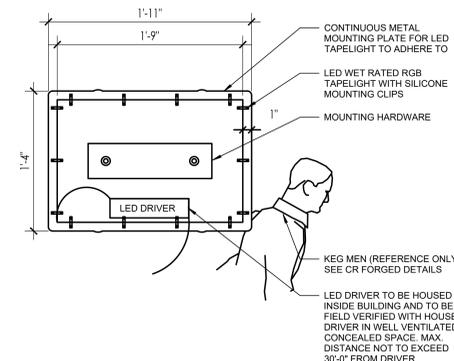
2 EXTERIOR ELEVATION
SCALE: 3/16"=1'-0"



3 KEG MEN - ELEVATION
SCALE: 1"=1'-0"



4 KEG MEN - SECTION
SCALE: 1 1/2"=1'-0"



5 KEG MEN - ELEVATION
SCALE: 1 1/2"=1'-0"



Issue Date: 08-05-2022

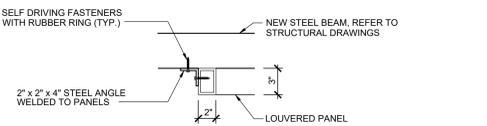
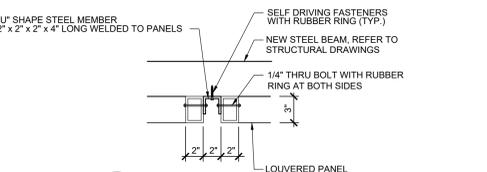
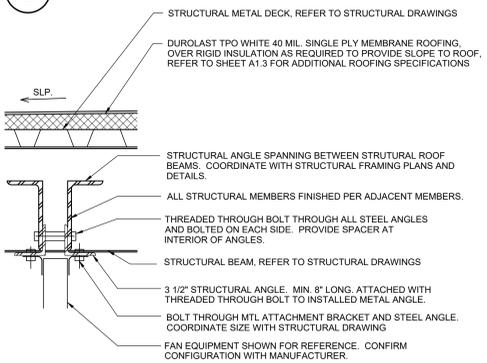
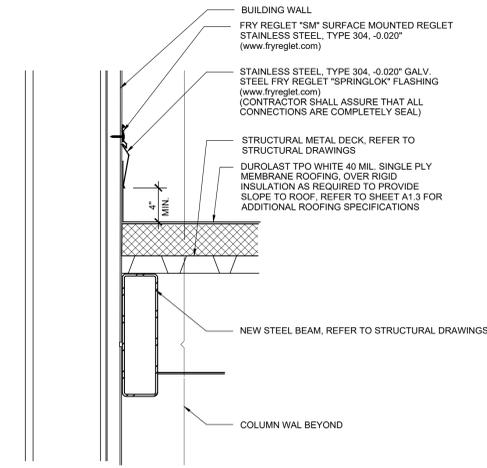
REVISION INFORMATION	
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Restaurant #: 8352

8367 International Drive
Orlando, FL

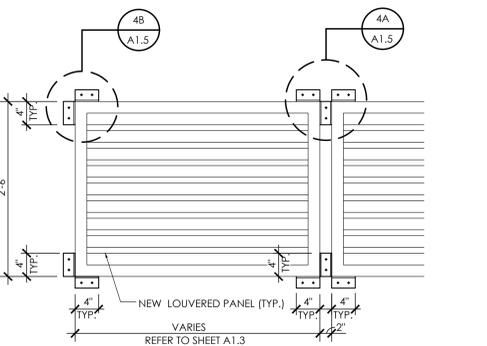
Drawing
Exterior Elevations

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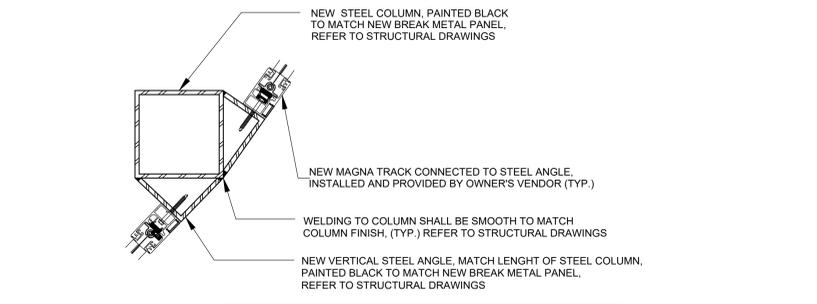
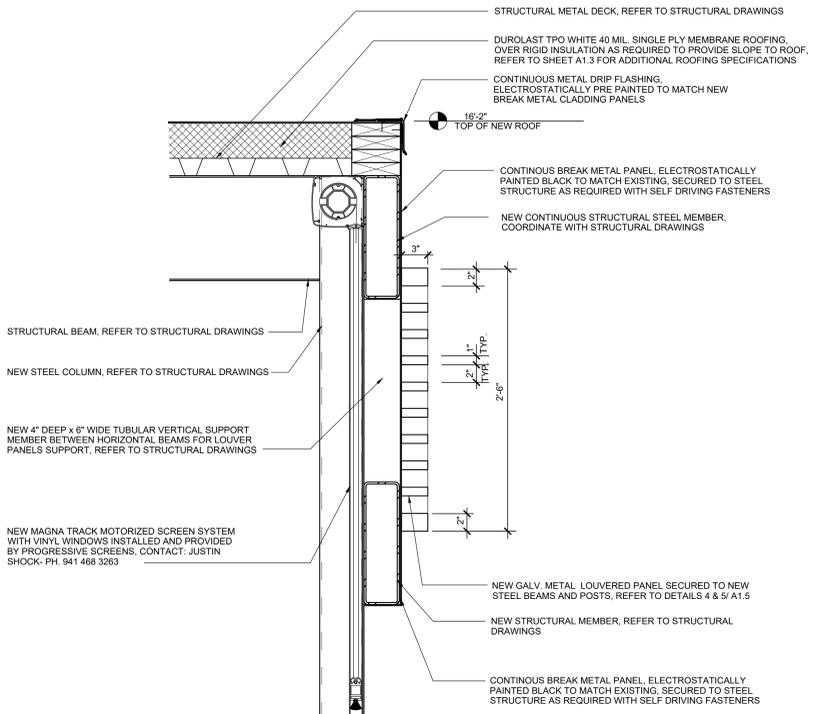
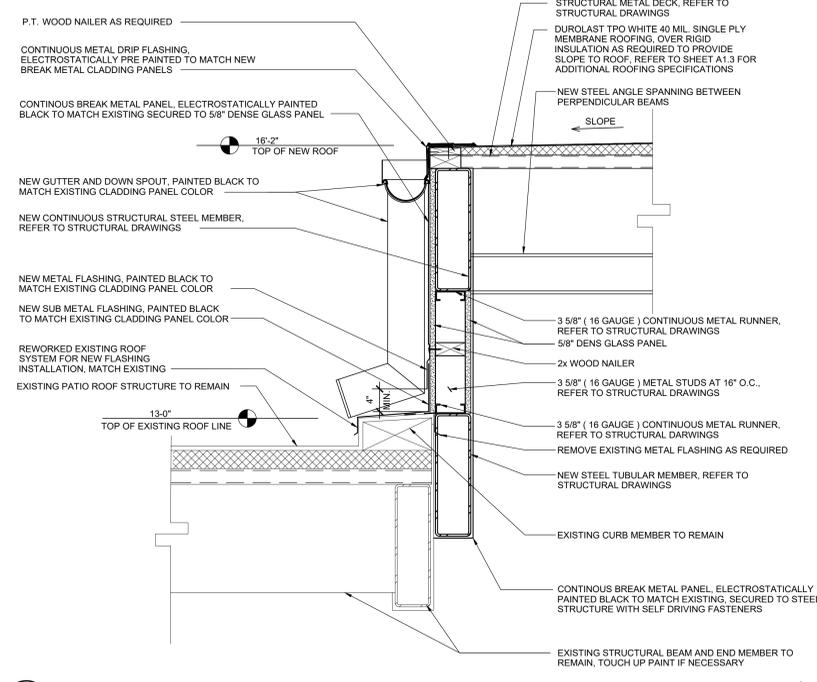


NOTE: ALL MEMBERS TO BE ELECTROSTATICALLY FACTORY PAINTED

4 LOUVERED PANEL DETAIL 1 1/2"

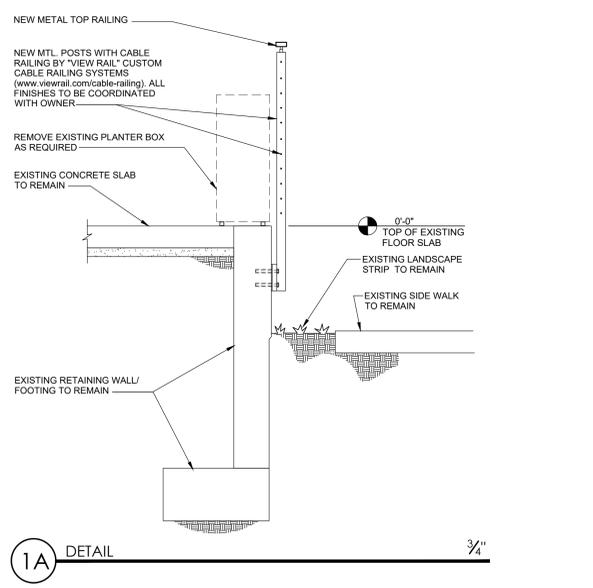
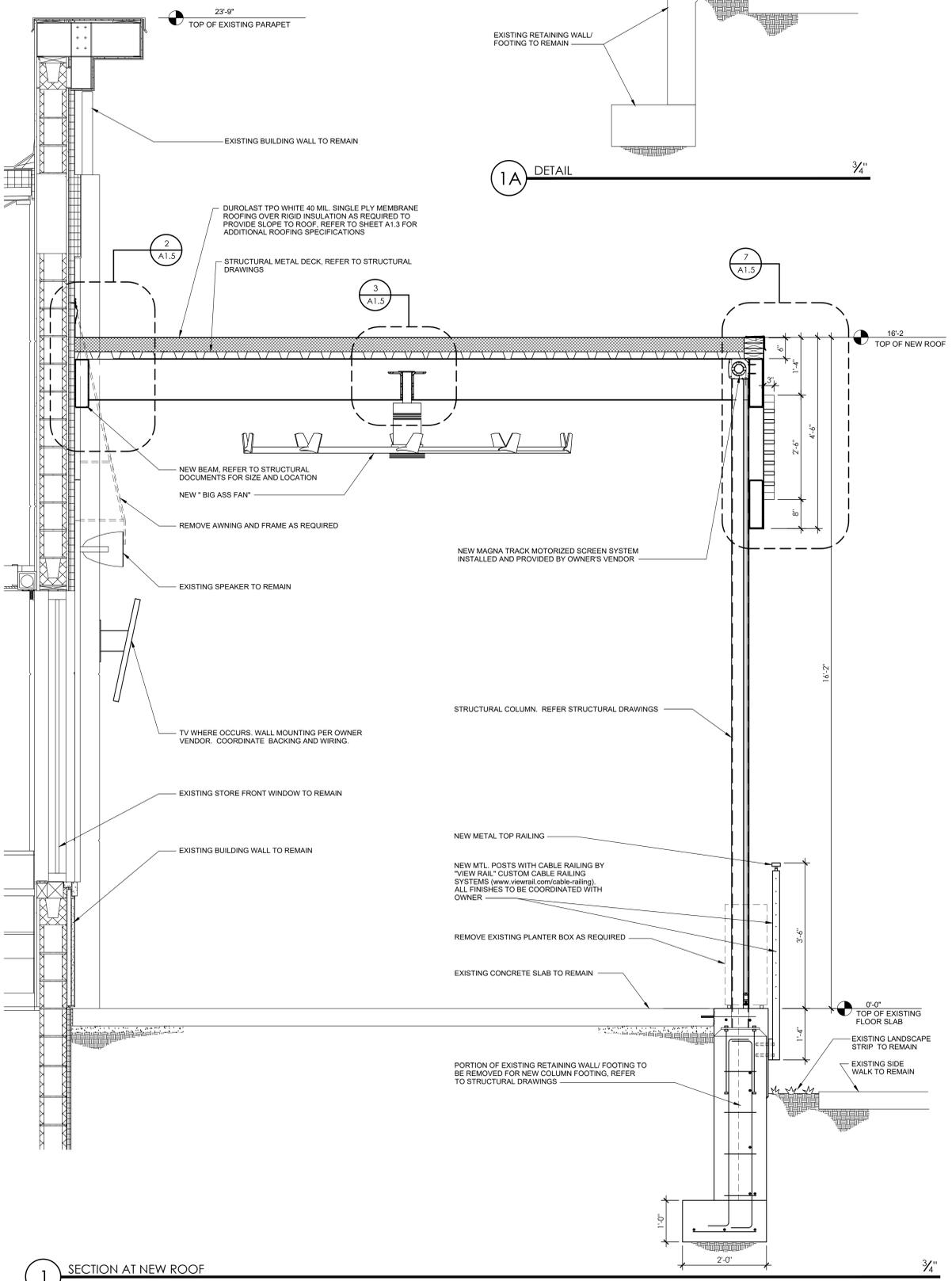


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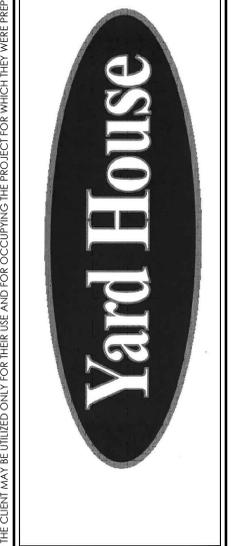
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8 COLUMN / ROLLER SHADE TRACK DETAIL
CONDITION VARIES, REFER TO SHEET A1.1 AND STRUCTURAL DRAWINGS



hmd GROUP PA architects
10556 N.W. 26th Street, Suite 4101, Boca Raton, FL 33433
phone 561.994.9275 fax 561.994.9279 email hmdgroup@earthlink.net
www.hmdgrouparchitects.com
ARCHITECTURE INTERIOR DESIGN CORPORATE PLANNING
WALTER D. EBERZ
FLORIDA LIC. NO. 13418
LICENSE # A A 100074

ARCHITECTS PROJECT #: 22-0094



Issue Date: 08-05-2022

REVISION INFORMATION	
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Restaurant #: 8352

8367 International Drive
Orlando, FL

SECTION & DETAILS
A1.5

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MATERIAL DATA

STRUCTURAL SPECIFICATIONS

GENERAL
ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT GOVERNING EDITION OF THE 2010 FLORIDA BUILDING CODE.

PLYWOOD
ALL PLYWOOD SHALL CONFORM TO U.S. PRODUCT STANDARD PS 1-95, AMERICAN PLYWOOD ASSOC. EACH SHEET SHALL BE STAMPED WITH THE PS AND/OR APA GRADE MARK.

ALL PLYWOOD PERMANENTLY EXPOSED TO WEATHER SHALL BE EXTERIOR TYPE PLYWOOD VS. INTERIOR TYPE PLYWOOD AS REFERENCED ABOVE.

CONCRETE
CONCRETE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF ACI 301 4.318. CONCRETE SHALL BE READY-MIXED CONCRETE IN ACCORDANCE WITH ASTM C94.

MAXIMUM WATER-CEMENT RATIO BY WEIGHT		
28 DAY COMPRESSIVE STRENGTH	NON-AIR ENTRAINED	AIR ENTRAINED
2500 PSI CONCRETE	50	50
3000 PSI CONCRETE	55	55

AT THE CONTRACTOR'S OPTION, AN AIR ENTRAINING AGENT CONFORMING TO THE LATEST REVISION OF ASTM SPECIFICATION C260 MAY BE ADDED TO THE CONCRETE TO PROVIDE SPECIFIED AMOUNTS OF ENTRAINED AIR. CEMENT SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PORTLAND CEMENT PER ASTM DESIGNATION C150, TYPE II.

CONCRETE ELEMENT	MIN 28 DAY COMPRESSIVE STRENGTH	MAX SIZE AGGREGATE (INCHES)	MAX SLUMP (INCHES)	TOTAL AIR CONTENT (%)
SLABS ON GRADE	3000	1	4	4±15%
FOOTINGS	3000	1	4	4±15%

SLUMP WILL BE MEASURED AT THE TRUCK DISCHARGE. PUMPING OF CONCRETE MAY REQUIRE ADJUSTMENTS TO INCREASE SLUMP BEYOND THE MAXIMUM SLUMP LISTED ABOVE. ADJUSTMENTS ARE SUBJECT TO THE ENGINEER'S REVIEW. THE SPECIAL INSPECTOR SHALL BE PROVIDED WITH A BATCH TICKET AND WEIGHT TAG UPON DELIVERY OF EACH LOAD OF CONCRETE.

ALL CONCRETE SHALL BE PLACED WITH MECHANICAL VIBRATION UNLESS NOTED OTHERWISE.

EPOXY
EPOXY RESIN ADHESIVE SHALL BE SET-XP AS MANUFACTURED BY SIMPSON STRONG-TIE OR EQUAL (ICC-ES REPORT ESR-2506). THE TYPE AND PROPORTIONS SHALL BE AS RECOMMENDED BY THE MANUFACTURER FOR THE CONDITION AND USE. PREPARATION OF CONCRETE INCLUDING DRILLING OF HOLES FOR ANCHORS AS WELL AS EPOXY AND ANCHOR INSTALLATION SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

REINFORCING STEEL
BARS FOR REINFORCING SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM A106 OR A618. LATHING SHALL BE IN ACCORDANCE WITH ACI 318 - CURRENT EDITION UNLESS NOTED OTHERWISE ON THE PLANS. BARS TO BE WELDED OR FIELD BENT SHALL CONFORM TO ASTM A106.

SLAB MEMBRANE - 6 MIL THICK PLASTIC OR VINYL MEMBRANE UNLESS NOTED OTHERWISE.

NON-SHRINK GROUT
NON-SHRINK GROUT SHALL BE FLOWABLE, WITH A MINIMUM 1 DAY COMPRESSIVE STRENGTH OF 5000 PSI. NON-SHRINK GROUT SHALL BE MASTERFLOW 528 GROUT AS MANUFACTURED BY CHEMREX OR APPROVED EQUIVALENT.

MASONRY
MASONRY UNITS SHALL BE LIGHT WEIGHT GRADE N UNITS CONFORMING TO ASTM DESIGNATION C-90. ALL CELLS SHALL BE GROUTED SOLID. Fm = 1500 PSI MIN.

MORTAR
MORTAR SHALL CONFORM TO TYPE M AND SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI AT 28 DAYS.

GROUT
GROUT SHALL BE COMPOSED OF 1 1/4 PARTS PORTLAND CEMENT, 3 PARTS SAND AND 2 PARTS 3/8" FEA GRAVEL. THE GROUT SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI AT 28 DAYS.

LIGHT GAGE METAL FRAMING
LIGHT GAGE METAL FRAMING SHALL BE DESIGNED AND FABRICATED BY A FRANCHISED LIGHT GAGE METAL FRAMING FABRICATOR. (ICC-ES ESR-4943).

- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE LIGHT GAGE METAL FRAMING TO BE INSTALLED AS SHOWN ON THE STRUCTURAL AND ARCHITECTURAL DRAWINGS, INCLUDING LAYOUT, SIZE OF MEMBERS, AND CONNECTION DETAILS IN ADDITION TO THE ABOVE. DESIGN CALCULATIONS SHOWING ALL STRESSES AND DEFLECTION CAUSED BY DEAD AND LIVE LOADS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. DRAWINGS AND CALCULATIONS SHALL BE SIGNED BY A REGISTERED CIVIL ENGINEER OF THE STATE OF CALIFORNIA.
- LIGHT GAGE METAL FRAMING DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE 2001 C.B.C.
- LIGHT GAGE METAL FRAMING FABRICATOR SHALL OBTAIN ALL NECESSARY APPROVALS FROM THE PUBLIC AGENCIES INVOLVED IN GOVERNING CONSTRUCTION.
- ARC WELDING ELECTRODES SHALL BE E60 SERIES FOR LIGHT GAGE METAL FRAMING.
- SECTIONS 10, 2026A, FY + 33 KSI.
- SECTIONS 16GA, FY + 50 KSI.

FASTENERS
ALL FASTENERS USED FOR LIGHT GAGE METAL ATTACHMENTS TO STRUCTURAL STEEL SHALL BE 1/4" SELF DRILLING SCREWS (S.D.S.) BY HILTI PRODUCT OR EQUAL. ALL FASTENERS USED FOR METAL STUDS AND METAL JOIST CONNECTIONS SHALL BE #10-16 SCREWS UNDO. (USE FLATHEADS WHERE SURFACE IS TO BE FINISHED WITH GYP BOARD OR PLYWOOD). ALL FASTENERS USED AT CONCRETE EMBEDMENTS SHALL BE POWDER DRIVEN FASTENERS BY HILTI PRODUCT OR EQUAL. (ICC-ES REPORT ESR-1663)

STRUCTURAL STEEL AND MISCELLANEOUS IRON
STRUCTURAL STEEL AND MISCELLANEOUS IRON SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC CODE OF STANDARD PRACTICE.

- WIDE FLANGE AND STRUCTURAL TEE SHAPES SHALL CONFORM TO ASTM A992.
- CHANNELS AND ANGLES SHALL CONFORM TO ASTM A36.
- STRUCTURAL PLATE SHALL CONFORM TO ASTM A36 OR ASTM A572 GR50.

ALL STRUCTURAL STEEL AND MISCELLANEOUS IRON SHALL RECEIVE SHOP PRIME COAT EXCEPT ON SURFACES RECEIVING WELDS. EMBEDDED IN CONCRETE OR AT SLIP CRITICAL HIGH STRENGTH BOLTS WHICH SHALL BE TOUCHED UP AFTER CONNECTION IS COMPLETE. STRUCTURAL STEEL AND MISCELLANEOUS IRON WHICH IS TO HAVE SPRAY ON FIREPROOFING SHALL NOT BE PAINTED. STRUCTURAL STEEL PERMANENTLY EXPOSED TO WEATHER SHALL RECEIVE TWO COATS OF SEMI-GLOSS ALKYL ENAMEL COMPATIBLE WITH PRIMER.

HOLLOW STRUCTURAL SECTIONS - ASTM A500 GRADE B
MACHINE BOLTS, ANCHOR BOLTS, STUDS AND THREADED RODS

- BOLTS AND RODS SHALL CONFORM TO ASTM A307 GRADE A OR B OR A36.
- NUTS SHALL BE AS SHOWN BELOW AND FINISH SHALL MATCH FASTENER.

FASTENER GRADE AND SIZE	NUT CLASS	NUT STYLE
ASTM A36 OR ASTM A307A, 1/2" TO 1 1/2"	ASTM A563-A	HEX
ASTM A36 OR ASTM A307A, OVER 1 1/2" TO 4"	ASTM A563-A	HEAVY HEX
ASTM A307B, 1/2" TO 4"	ASTM A563-A	HEAVY HEX

- HEADED STUDS AND WELDING SHALL CONFORM TO AWS D11-CURRENT EDITION, TYPE B STUDS.

HIGH STRENGTH BOLTS, NUTS, WASHERS & ANCHOR RODS
BOLTS, NUTS, WASHERS AND RODS PERMANENTLY EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED.

- BOLTS SHALL BE HEAVY HEX STRUCTURAL BOLTS PER ANSI B18.2.1 AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325. BOLTS SHALL BE TYPE 12 OR 3 AND SHALL BE USED IN A BEARING CONNECTION.
- TENSION CONTROL BOLT ASSEMBLIES SHALL CONFORM TO ASTM F1852.
- DIRECT TENSION INDICATORS SHALL CONFORM TO ASTM F859.
- RODS SHALL CONFORM TO ASTM F1554, GRADE A36.
- NUTS SHALL BE AS SHOWN BELOW AND FINISH SHALL MATCH FASTENER.

FASTENER GRADE AND SIZE	NUT CLASS	NUT STYLE
ASTM TYPE 1 AND 2, UNCOATED A575 A563-C	ASTM A563-C	HEAVY HEX
A575 A563-DH	A575 A563-DH	HEAVY HEX
TYPE 1 AND 2, ZINC COATED	ASTM A563-C3, D3	HEAVY HEX
ASTM TYPE 1 AND 2, UNCOATED A440	ASTM A563-DH, D3	HEAVY HEX
TYPE 3, UNCOATED	ASTM A563-DH3	HEAVY HEX

- WASHERS SHALL BE FLAT CIRCULAR, RECTANGULAR OR SQUARE BEVELED WASHERS AND SHALL CONFORM TO ASTM F436 TYPE 1. FINISH SHALL MATCH NUT. WASHERS SHALL BE INSTALLED UNDER THE ELEMENT BEING TURNED FOR A325 BOLTS AND UNDER BOTH THE HEAD AND THE NUT FOR A430 BOLTS. WASHERS OVER OVERSIZED OR SLOTTED HOLES SHALL ALSO COMPLY WITH RCSC SPECIFICATIONS.

METAL DECK
METAL DECK FLN, FLB OR B AND W2 FORMLOCK SHALL BE AS MANUFACTURED AND LABELED BY VERCO MANUFACTURING CO. DECK AND ACCESSORIES SHALL BE FORMED OF GALVANIZED STEEL CONFORMING TO CURRENT ASTM CRITERIA. ATTACHMENTS TO COMPLY WITH DIAPHRAGM SHEAR REQUIREMENTS SHOWN ON STRUCTURAL DRAWINGS AND IN ACCORDANCE WITH ICC ES REPORT ESR-1018P.

WELDING
ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS PER AWS STANDARD QUALIFICATION PROCEDURE TO PERFORM THE TYPE OR WORK REQUIRED. ALL WELDING SHALL BE IN ACCORDANCE WITH THE CURRENT AWS WELDING CODE. ARC WELDING ELECTRODES SHALL BE E10 SERIES FOR A36, A571 & A572 MATERIAL, AND E80 SERIES FOR A106 REINFORCING STEEL.

WELD METAL TOUGHNESS SHALL BE REPORTED ON THE ELECTRODE MANUFACTURER'S CERTIFICATE OF COMPLIANCE. ALL ELECTRODES SHALL BE LOW HYDROGEN WITH A MINIMUM CVN VALUE OF 20 FT-LBS AT -20° F. EXCEPTIONS: METAL DECK WELDING, STAIR AND HANDRAIL WELDING, LIGHT GAGE STEEL WELDING.

TACK WELDS, AIR-ARC GOUGING AND FLAME CUTTING SHALL NOT BE PERFORMED WITHOUT ADEQUATE PREHEAT OR INCORPORATION INTO THE FINAL WELD.

THE FILLER METAL MANUFACTURER'S PUBLISHED RECOMMENDATIONS SHALL BE THE BASIS FOR DETERMINING THE ALLOWABLE RANGE OF ESSENTIAL VARIABLES FOR THE FEE QUALIFIED WPS UNLESS NOTED OTHERWISE ON THE PLANS. BACK-UP BARS FOR CJP WELDS SHALL BE REMOVED FOLLOWED BY BACKGROUTING AND BACKWELDING.

SUBMITTALS
SUBMITTALS FOR THE ENGINEER'S REVIEW WILL BE REQUIRED AS FOLLOWS:
1. CONCRETE MIX DESIGNS.
2. REINFORCING STEEL SHOP DRAWINGS.
3. STRUCTURAL STEEL AND MISCELLANEOUS METALS SHOP DRAWINGS.
4. WELDING PROCEDURE SPECIFICATIONS (AND PQR IF APPLICABLE).
CONTRACTOR SHALL SUBMIT TWO SETS OF PRINTS FOR REVIEW. FABRICATOR SHALL NOT PROCEED NOR SUBMIT TO CITY OFFICIAL UNTIL SUBMITTALS HAVE BEEN REVIEWED AND STAMPED BY THE ENGINEER.

EARTHWORK FOUNDATION
ALL FOUNDATION DESIGN & WORK SHALL BE IN STRICT ACCORDANCE TO THE SOIL REPORT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO GET THE LATEST REPORT INCLUDING THE LATEST AMENDMENTS IF ANY. THE FOLLOWING SOILS REPORT SHALL BE REFERENCED FOR THIS PROJECT.

- COMPANY NAME: DEVO CONSULTING GEOTECHNICAL ENGINEERS.
- REQUIREMENTS SET FORTH BY SOILS REPORT SHALL TAKE PRECEDENCE OVER THE STRUCTURAL NOTES AND DETAILS.
- DRAWINGS PROVIDED TO GEOTECHNICAL ENGINEER FOR REVIEW PRIOR TO BEGINNING CONSTRUCTION. LETTER OF APPROVAL SHALL BE SUBMITTED TO BUILDING DEPARTMENT.
- GEOTECHNICAL ENGINEER SHALL BE RETAINED TO PROVIDE OBSERVATION & TESTING SERVICES DURING THE GRADING & FOUNDATION PHASE OF CONSTRUCTION PER THE SOILS REPORT RECOMMENDATIONS AND, INSPECTION AND TESTING REPORTS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENTS.

REQUIRED OBSERVATIONS BY STRUCTURAL ENGINEER OF RECORD:
1. FOUNDATION REINF
2. STEEL FRAMING

CONTRACTOR SHALL NOTIFY ENGINEER A MINIMUM OF 3 WORKING DAYS PRIOR TO THE TIME WHEN HIS PRESENCE IS REQUIRED. PLEASE NOTE THAT THESE OBSERVATIONS ARE INDEPENDENT OF INSPECTIONS REQUIRED BY THE CITY BUILDING DEPARTMENT.

TESTING AND SPECIAL INSPECTION

SPECIAL INSPECTIONS

- CONCRETE**
- CONTINUOUSLY INSPECT THE PLACEMENT OF ALL CONCRETE.
 - SAMPLE CONCRETE, ASTM C172, EXCEPT SLUMP SHALL COMPLY WITH ASTM C94.
 - TEST SLUMP, ASTM C143, ONE TEST AT POINT OF TRUCK DISCHARGE FOR 50 CY OR FRACTION THEREOF FOR EACH TYPE OF CONCRETE; ADDITIONAL TESTS REQUIRED WHEN CONCRETE CONSISTENCY SEEMS TO HAVE CHANGED.
 - TAKE COMPRESSION TEST SPECIMENS, ASTM C31, TAKE ONE SET OF 3 STANDARD CYLINDERS FOR EACH 50 CY OF CONCRETE OR FRACTION THEREOF FOR EACH TYPE OF CONCRETE TAKEN EACH DAY. MOLD AND STORE CYLINDERS FOR LABORATORY CURED TEST SPECIMENS EXCEPT WHEN FIELD-CURE TEST SPECIMENS ARE REQUIRED.
 - TEST COMPRESSIVE STRENGTH, ASTM C39, ONE SPECIMEN TESTED AT 1 DAYS, TWO SPECIMENS TESTED AT 28 DAYS.

REINFORCING STEEL

- VERIFY THAT MILL CERTIFICATES SHOW REINFORCING STEEL IS IN COMPLIANCE WITH PROJECT SPECIFICATIONS.
- TAKE A 5' LONG SAMPLE OF EACH BAR SIZE FROM EACH HEAT FOR EACH TYPE OF REINFORCING STEEL SHALL BE TESTED FOR ULTIMATE STRENGTH, YIELD STRESS, MODULUS OF ELASTICITY AND PERCENT ELONGATION AT RUPTURE.
- PERIODICALLY INSPECT THE PLACEMENT OF REINFORCING STEEL FOR CONCRETE WHICH IS REQUIRED TO HAVE CONTINUOUS INSPECTION.

NON-SHRINK/EXPANSIVE GROUT
TAKE TEST SPECIMENS AND CONTINUOUSLY INSPECT THE PLACEMENT OF NON-SHRINK/EXPANSIVE GROUT.

BOLTS INSTALLED IN CONCRETE
PERIODICALLY INSPECT INSTALLATION OF BOLTS AND CONTINUOUSLY INSPECT PLACEMENT OF CONCRETE AROUND SUCH BOLTS.

METAL DECKING

- VERIFY THAT MILL CERTIFICATES SHOW METAL DECKING TO BE IN COMPLIANCE WITH PROJECT SPECIFICATIONS.
- PERIODICALLY INSPECT THE PLACEMENT OF ALL METAL DECKING PRIOR TO METAL DECKING BEING COVERED.

STRUCTURAL STEEL AND MISCELLANEOUS IRON
VERIFY THAT MILL CERTIFICATES SHOW STRUCTURAL STEEL AND MISCELLANEOUS IRON IS IN COMPLIANCE WITH PROJECT SPECIFICATIONS.

HIGH STRENGTH BOLTING

- VERIFY THAT MILL CERTIFICATES SHOW THAT BOLTS, NUTS AND WASHERS COMPLY WITH THE PROJECT SPECIFICATIONS.
- VERIFY THAT THE METHODS OF TIGHTENING TO BE USED BY THE CONTRACTOR COMPLY WITH AISC SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS - CURRENT EDITION APPROVED BY THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS OF THE ENGINEERING FOUNDATION (RCSC) AND ENDORSED BY AISC.
- PERFORM TENSION CALIBRATION TESTS WITH THE CONTRACTOR'S TOOLS ON 3 BOLT ASSEMBLIES FOR EACH DIAMETER, LENGTH, GRADE, PRODUCTION LOT AND TIGHTENING METHOD TO BE USED ON THE PROJECT INCLUDING PRETENSIONED ANCHOR RODS. TESTS SHALL BE PER RCSC SPECIFICATIONS.
- INSPECT THE PAYING SURFACES OF EACH BOLTED CONNECTION FOR COMPLIANCE WITH RCSC SPECIFICATIONS.

DURING BOLTING OPERATIONS:

- VERIFY THAT ALL FILES OF CONNECTED MATERIAL HAVE BEEN DRAWN TOGETHER TO A SNUG CONDITION, AS DEFINED PER RCSC SPECIFICATIONS BEFORE FINAL TIGHTENING.
- VERIFY PLACEMENT OF MATCH-MARKS OR WRENCH CALIBRATION AS REQUIRED.
- CONTINUOUSLY INSPECT FINAL TIGHTENING OPERATIONS PER RCSC SPECIFICATIONS.

EXCEPTIONS:
THE SPECIAL INSPECTOR NEED NOT BE PRESENT DURING ALL FINAL TIGHTENING OPERATIONS PROVIDED IT CAN BE VERIFIED THAT PROPER PROCEDURES WERE FOLLOWED (I.E. THE USE OF DTI, 'TAKIST-OFF' TYPE BOLTS OR MATCH MARKING).

GENERAL NOTES

- CONSIDER GENERAL NOTES AS APPLYING ALL DRAWINGS.
- DO ALL WORK IN ACCORDANCE WITH ALL STATE AND LOCAL BUILDING CODES IN EFFECT AT PLACE AND TIME OF CONSTRUCTION.
- PROVIDE SPECIAL INSPECTION AS REQUIRED BY STRUCTURAL SPECIFICATIONS.
- CONSTRUCT THOSE FEATURES OF THE PROJECT WHICH MAY NOT BE FULLY SHOWN IN MANNER SIMILAR TO THAT USED FOR SIMILAR FEATURES.
- OMISSION OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWING, NOTES AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND RESOLVED PRIOR TO THE PROCEEDING WITH THE WORK.
- CONTRACTOR SHALL REVIEW THE NEED FOR TEMPORARY, SHORING, CHEMICAL GROUTING OR UNDERPINNING PRIOR TO EXCAVATION. CONTRACTOR SHALL DESIGN AND INSTALL ALL TEMPORARY BRACING, ETC. REQUIRED DURING ALL STAGES OF WORK.
- CONTRACTOR SHALL SUBMIT IN WRITING, ANY REQUEST FOR MODIFICATIONS TO THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS SUBMITTED FOR REVIEW DO NOT CONSTITUTE "IN WRITING" UNLESS IT IS CLEARLY NOTED THAT SPECIFIC CHANGES ARE BEING REQUESTED.
- ALL CONSTRUCTION WORK SHALL CONFORM TO 2010 FLORIDA BUILDING CODE.
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO ORDERING MATERIALS OR STARTING CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- REFER TO ARCH, MECH, AND ELECTRICAL DRAWINGS FOR LOCATION AND SIZE OF BLOCK OUT, INSERTS, OPENINGS, AND CURBS. DIMENSIONS ARE NOT SHOWN ON STRUCTURAL DRAWINGS.
- GENERAL CONTRACTORS SHALL VERIFY WITH STRUCTURAL ENGINEER ALL MECH. UNIT LOCATIONS PRIOR TO INSTALLATIONS.
- THE SHOP DRAWINGS AND FABRICATION OF THE CURTAIN WALL STOREFRONT SYSTEM TO BE BY THE CURTAIN WALL MANUFACTURER. THE INSTALLER IS NOT CONSIDERED ACCEPTABLE AS THE MANUFACTURER.
- CONSTRUCTION LIABILITY: CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS AGREE THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR AND HIS SUBCONTRACTORS WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS FURTHER AGREE TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

ABBREVIATIONS

STANDARD SIERRA ENGINEERING GROUP STRUCTURAL ABBREVIATIONS

ABBREVIATION	ABBR	HOLD/DOWN	HD
ABOVE FINISH FLOOR	AFB	HORIZONTAL	HORIZ
ADDITIONAL	ADD'L	HOT DIPPED	HDG
ALTERNATE	ALT	GALVANIZED	
ANCHOR BOLTS	AB	INSIDE DIAMETER	IDB
ARCHITECTURAL	ARCH	MANUFACTURER	MFR
ATTACHMENT	ATTACH	MATERIAL	MAT'L
BEAM	BM	MAXIMUM	MAX
BETWEEN	B/TWN	MECHANICAL	MECH
BLOCKING	BLK'G	METAL	MTL
BOTTOM	BOTT	MICROCLAM	ML
BOTTOM OF	BO	MINIMUM	MIN
CAMBER	CAMB	NEAR SIDE	NS
CEILING	CLG	NEAR/SIDE AND FAR SIDE	NSFS
CHANGE	CHG	ON CENTER	OC
CLEARANCE	CLR	OPEN WEB JOIST	O W J
COLLECTOR	COLL	OPENING	OPNG
COLUMN	COL	OUTSIDE DIAMETER	OD
CONCRETE	CONC	OVER	O
CONCRETE MASONRY UNIT	CMU	PARALLAM	PARA
CONDENSING UNIT	CU	FLATE	FL
CONNECTION	CONN	PLYWOOD	PLY'WD
CONTINUOUS	CONT	POLYETHYLENE	PE
DEEP	DEP	PRESSURE TREATED	PT
DIAGONAL	DIAG	DOUGLAS FIR	DFTR
DIAMETER	DIA	RAFTERS	RFTR
DIMENSION	DIM	REINFORCEMENT	REIN
DOUBLE	DBL	REQUIRED	REQ'D
DRAWING	DWG	ROOF TOP UNIT	RTU
DRAWINGS	DWGS	SEE ARCH DRAWING	SEAD
EACH	EA	SELF DRILLING SCREWS	SDS
EACH WAY	EA	SHIELDING	SHGT
ELECTRICAL	ELEC	SHEET	SHET
ELEVATION	ELEV	SIMILAR	SIM
EMBEDMENT	EMBED	SLAB ON GRADE	SOG
EQUAL	EQ	STANDARD	STD
EVERY OTHER	E/O	STEEL	STL
EXISTING	(E)	STIFFENER	STIF
FAR SIDE	FS	STRINGER	STRNGR
FINISH FLOOR	FF	STRUCTURAL	STRUCT
FLOOR	FLR	TAPERED STEEL	
FLOOR/JOIST	F/J	GIRDER	GRDR
FOOTING	FTG	THREADED ROD	TRDRD
FOUNDATION	FND	TONGUE AND GROOVE	T&G
FRAMING	FRMG	TOP AND BOTTOM	T&B
GALVANIZED	GALV	TOP OF	TOP
GAUGE	GA	TRUSS JOIST	TJ
GIRDER	GRDR	TUBE STEEL	TS
GLUE-LAM	GLB	TYPIFY	TYP
GYP/SUM WALL BOARD	GWB	UNLESS NOTED	
HEADER	HDR	OTHERWISE	UNO
HEADED WELDED STUD	HWS	VERIFY IN-FIELD	VF
HEADER	HDR	VERTICAL	VERT
HEIGHT	HGT	WELDED-WIRE-FABRIC	WWF
HIGH STRENGTH	HHS	WIDE FLANGE	WF
HIGH STRENGTH BOLT	HSB	WITH	W
HOLLOW STEEL SECTION	HSS	WITHOUT	W/O

PROJECT DATA

- PLANS AND CALCULATIONS FOR THE STRUCTURAL DESIGN WERE BASED UPON: THE 2010 FLORIDA BUILDING CODE.
- VERTICAL:
GROUND FLOOR LIVE LOAD = 100 PSF
ROOF LIVE LOAD = 30 PSF
RAIN LOAD 4-IN FLOOD = 21 PSF
ROOF DEAD LOAD = 21 PSF
- WIND:
DESIGN WIND SPEED = 135 MPH
EXPOSURE = C
A. CANOPY FOUNDATION 4 CLADDING DESIGN PRESSURE = SEE SHEETS 611

SHEET INDEX

502	STRUCTURAL SPECIFICATIONS & GENERAL NOTES
501	CONCRETE TYPICAL DETAILS
510	CANOPY FOUNDATION / FLOOR PLAN
510	CANOPY ROOF PLAN
530	DETAILS
540	MAIN ROOF DETAILS

hmd group pa architects
10556 N.W. 24th Street Suite 41103
dallas, TX 75244
phone 305.942.9275 fax 305.979.9779
www.hmdgrouparchitects.com
ARCHITECTURE
INTERIOR DESIGN
CORPORATE PLANNING
WALTER D. EBBET
FLORIDA LIC. NO. 13418
LICENSE # A 100074

SIERRA ENGINEERING GROUP
TEL: 305.665.5445
5825 SUNSET DRIVE, SUITE 200
SOUTH MIAMI, FLORIDA 33143
FAX: 305.665.5469
C.A.#. 9830
JESUS F. SIERRA
FLORIDA P.E.# 51132



Issue Date: 07-29-2022

REVISION INFORMATION

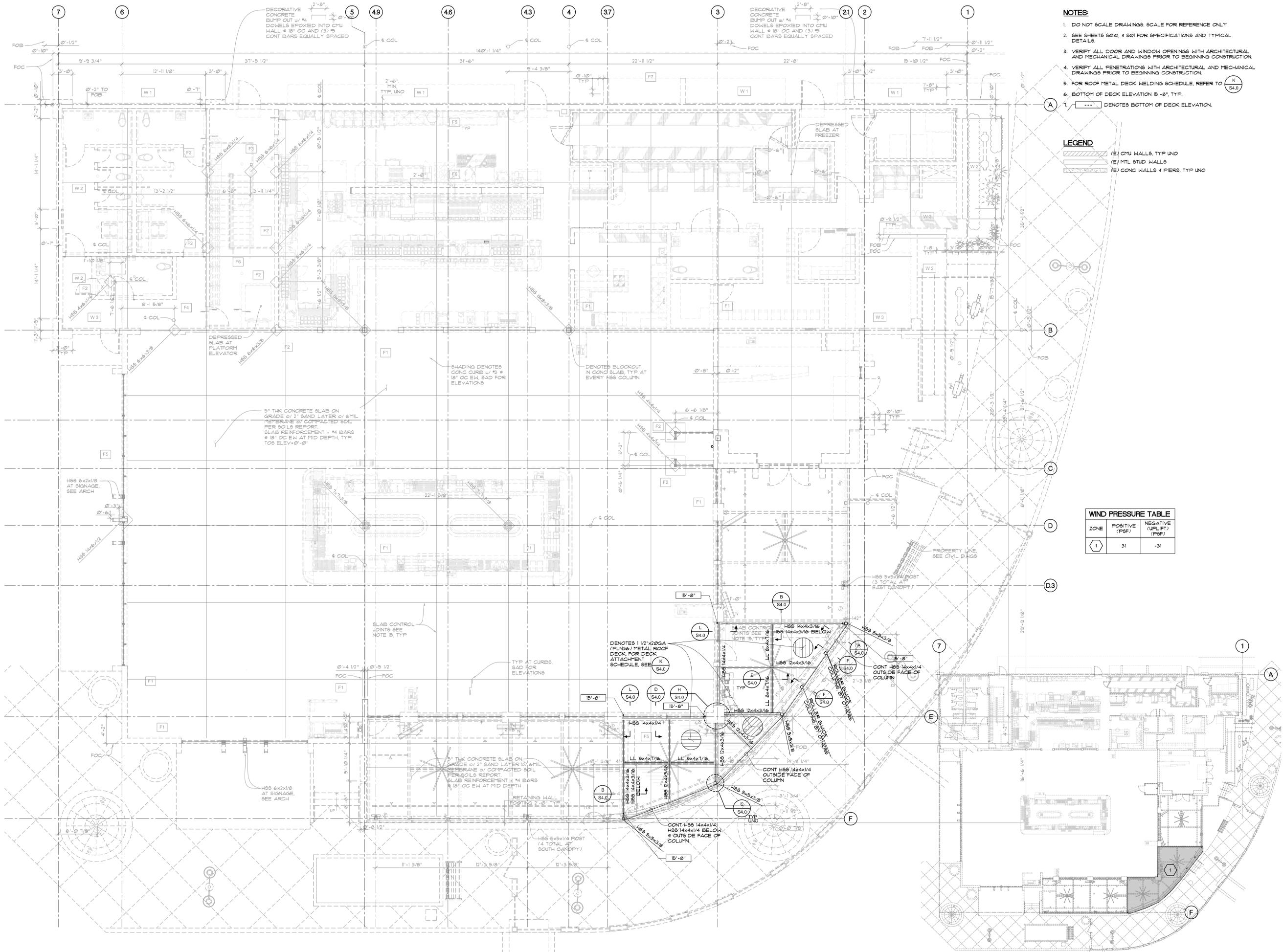
Restaurant #: 8352

8367 International Drive

Orlando, FL

STRUCTURAL SPECIFICATIONS & GENERAL NOTES

S0.0



- NOTES:**
- DO NOT SCALE DRAWINGS. SCALE FOR REFERENCE ONLY
 - SEE SHEETS 802, 4 801 FOR SPECIFICATIONS AND TYPICAL DETAILS.
 - VERIFY ALL DOOR AND WINDOW OPENINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
 - VERIFY ALL PENETRATIONS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
 - FOR ROOF METAL DECK WELDING SCHEDULE, REFER TO (K) S4.0
 - BOTTOM OF DECK ELEVATION 15'-8", TYP.
 - DENOTES BOTTOM OF DECK ELEVATION.

- LEGEND**
- (E) CMU WALLS, TYP UNO
 - (E) MTL STUD WALLS
 - (E) CONC WALLS & PIERS, TYP UNO

WIND PRESSURE TABLE

ZONE	POSITIVE (PSF)	NEGATIVE (UPLIFT) (PSF)
1	31	-31

MEZZANINE FRAMING PLAN

3/16" = 1'-0"



WIND PRESSURES

1/16" = 1'-0"

hmd GROUP PA architects
 10556 N.W. 26 Street, Suite 4101, Coral Gables, FL 33172
 phone 305.594.9275 fax 305.597.9779 email hmdgroup@earthlink.net
 www.hmdgrouparchitects.com
 ARCHITECTURE INTERIOR DESIGN CORPORATE PLANNING
 FLORIDA LIC. NO. 1348
 LICENSE # A A 10074

ARCHITECTS PROJECT #: 22-0052

SIERRA ENGINEERING GROUP
 5825 SUNSET DRIVE, SUITE 200
 SOUTH MIAMI, FLORIDA 33143
 P A X : 3 0 5 - 6 6 5 - 5 4 6 9
 C.A.#. 9830
 JESUS F. SIERRA
 FLORIDA P.E.# 51132



Issue Date: 07-29-2022

REVISION INFORMATION

Restaurant #: 8352

8367 International Drive

Orlando, FL

CANOPY ROOF PLAN

S2.0



Issue Date: 08-05-2022

REVISION INFORMATION

1
2
3
4
5
6
7
8

Restaurant #: 8352

8367 International Drive

Orlando, FL

PLUMBING ROOF DRAINAGE PLAN

P1.1

STORM DRAIN CALCULATION

THE PROJECT IS INSTALLATION OF A SEMICIRCULAR ROOF OVER A PATIO AT ONE CORNER OF THE BUILDING. THE NEW ROOF BRIDGES OVER TWO EXISTING COVERED PATIOS AND WILL DRAIN ON TO THE EXISTING ROOFS.

THE BUILDING ROOF DOES NOT DRAIN ONTO THE NEW ROOF, BUT WALL ABOVE THE NEW ROOF IS COUNTED IN THE STORM DRAIN CALCULATIONS.

RAINFALL VOLUME:

PER FLORIDA PLUMBING CODE (2020 ED.) FIGURE 1106.1:
 100-YEAR LOCAL RAINFALL = 4.5 IN./HR
 = 0.375 FT/HR

LEFT SIDE

THE NEW ROOF HAS A HIGH POINT AT THE CORNER OF THE BUILDING, AND EACH SIDE OF THE HIGH POINT WILL DRAIN ONTO DIFFERENT EXISTING PATIO ROOF. THE LEFT SIDE OF THE NEW ROOF IS 236 SQ FT AND IT DRAINS ONTO A EXISTING 643 SQ FT ROOF. THERE IS 123 SQ FT OF WALL ABOVE THE NEW ROOF AND 419 SQ FT OF WALL DRAINING ONTO THE EXISTING ROOF. HALF OF THE WALL AREA COUNTS TOWARDS ROOF DRAINAGE AREA.

TOTAL ROOF AREA OF DRAINAGE: 236 + 643 = 879 SQ FT
 WALL ABOVE ROOF: 123 + 419 = 542 SQ FT

TOTAL AREA: 879 SQ FT + (½ X 542 SQ FT) = 1150 SQ. FT

ROOF DRAIN VOLUME: 1150 SQ FT X 0.375 FT / HR = 431 CUBIC FEET / HOUR
 = 7.19 CUBIC FEET / MINUTE
 = 53.5 GALLON / MIN (GPM)

LEFT SIDE DOWNSPOUTS:

THE EXISTING ROOF HAS TWO 4X4 DOWNSPOUTS
 PER FLORIDA PLUMBING CODE (2020 ED.): TABLES 1106.3
 A 4" X 4" VERTICAL LEADER HAS A CAPACITY OF 192 GAL/MIN
 THE DOWNSPOUTS WILL HAVE ADEQUATE CAPACITY TO ADD THE NEW PATIO ROOF.

RIGHT SIDE

THE RIGHT SIDE OF THE NEW ROOF IS 261 SQ FT AND IT DRAINS ONTO AN EXISTING 459 SQ FT ROOF. THERE IS 123 SQ FT OF WALL ABOVE THE NEW ROOF AND 254 SQ FT OF WALL DRAINING ONTO THE EXISTING ROOF. HALF OF THE WALL AREA COUNTS TOWARDS ROOF DRAINAGE AREA.

TOTAL ROOF AREA OF DRAINAGE: 261 + 459 = 720 SQ FT
 WALL ABOVE ROOF: 123 + 254 = 377 SQ FT

TOTAL AREA: 720 SQ FT + (½ X 377 SQ FT) = 909 SQ. FT

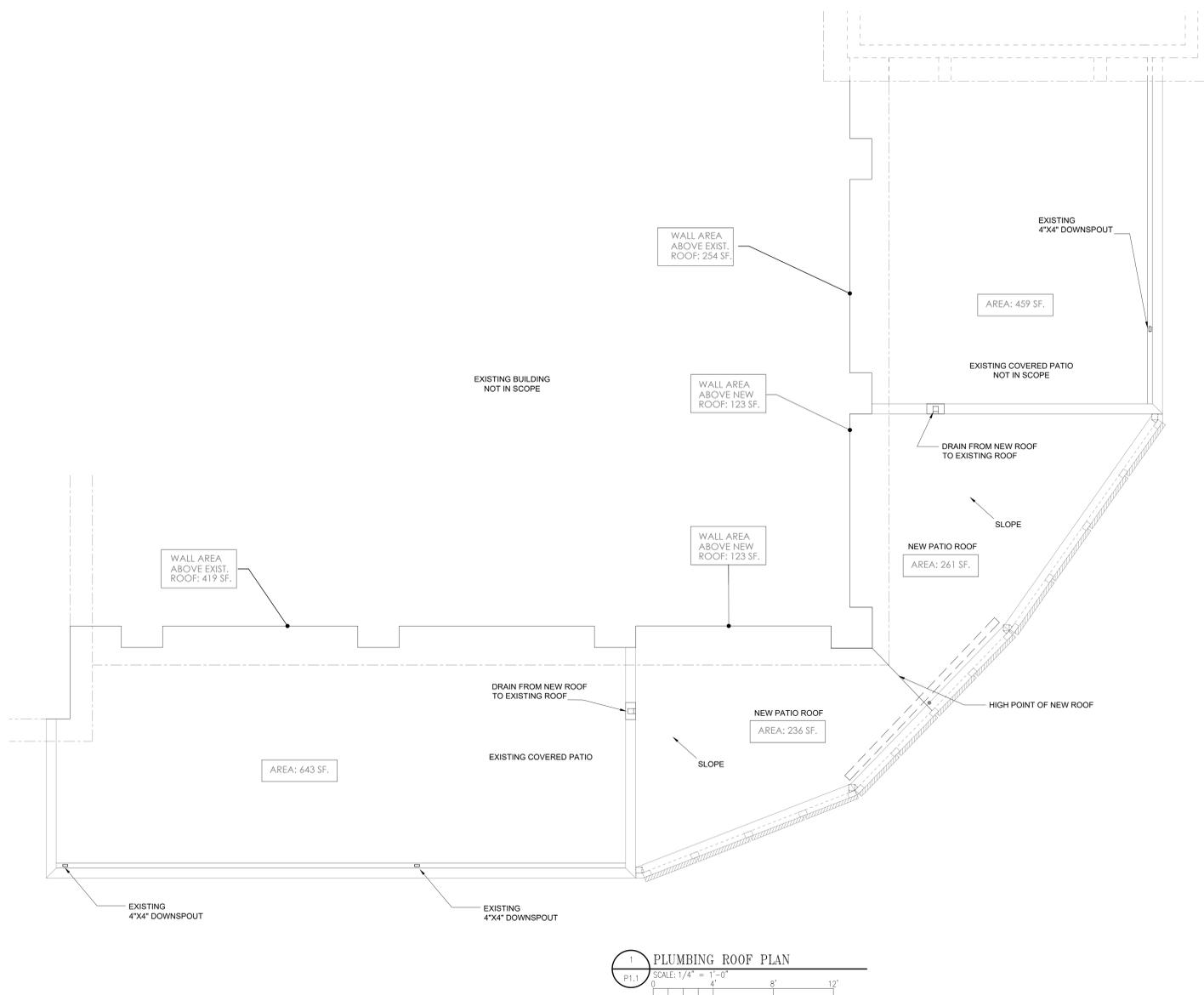
ROOF DRAIN VOLUME: 909 SQ FT X 0.375 FT / HR = 341 CUBIC FEET / HOUR
 = 5.68 CUBIC FEET / MINUTE
 = 42.2 GALLON / MIN (GPM)

RIGHT SIDE DOWNSPOUT:

THE EXISTING ROOF HAS ONE 4X4 DOWNSPOUT
 PER FLORIDA PLUMBING CODE (2020 ED.): TABLES 1106.3
 A 4" X 4" VERTICAL LEADER HAS A CAPACITY OF 192 GAL/MIN
 THE DOWNSPOUT WILL HAVE ADEQUATE CAPACITY TO ADD THE NEW PATIO ROOF.

EMERGENCY OVERFLOW

THE EXISTING PATIO ROOFS HAVE 4" HIGH PARAPETS AND IN AN EMERGENCY THE WATER CAN OVERFLOW THE PARAPET. NO EMERGENCY SCUPPERS ARE REQUIRED.



PLUMBING ROOF PLAN
 SCALE: 1/4" = 1'-0"
 0 4 8 12'

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Issue Date: 08-05-2022

REVISION INFORMATION

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Restaurant #: 8352

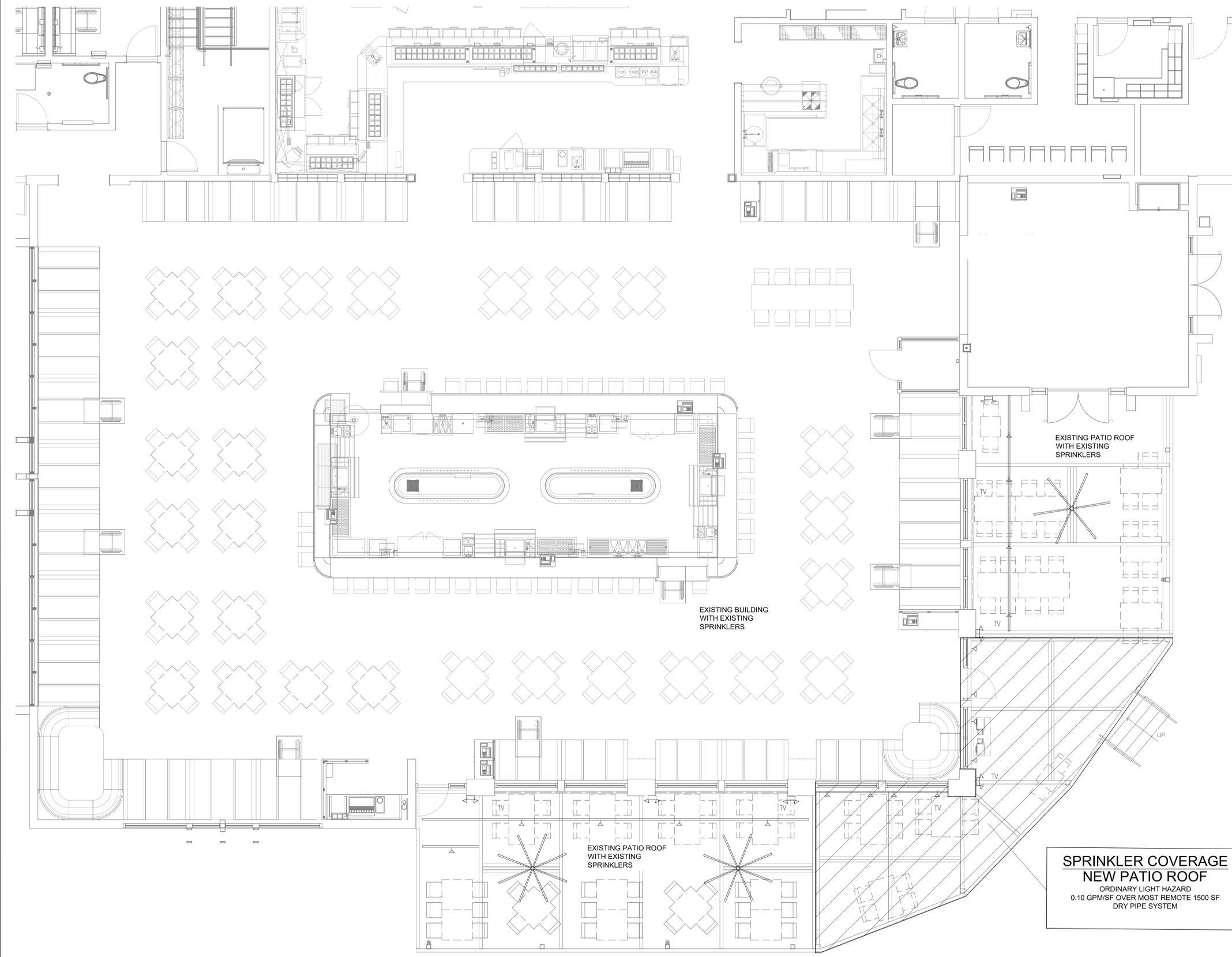
8367 International Drive

Orlando, FL

FIRE PROTECTION CRITERIA PLAN

FP1.1

THESE DRAWINGS AND SPECIFICATIONS REMAIN THE PROPERTY OF THE DESIGN PROFESSIONAL. AUTHORIZED COPIES OF THESE DRAWINGS AND SPECIFICATIONS RETAINED BY THE CLIENT MAY BE UTILIZED ONLY FOR THEIR USE AND FOR OCCUPYING THE PROJECT FOR WHICH THEY WERE PREPARED, AND NOT FOR THE CONSTRUCTION OF ANY OTHER PROJECT. UNAUTHORIZED USE OF THESE DRAWINGS IS STRICTLY PROHIBITED.



- NOTE:**
1. THIS IS AN EXISTING BUILDING WITH SPRINKLERS AND BUILDING HAS TWO EXISTING COVERED PATIOS. THIS PROJECT IS A NEW ROOF OVER AN UNCOVERED PART OF THE PATIO.
 2. THE FIRE PROTECTION SCOPE IS TO EXTEND THE EXISTING SPRINKLER SYSTEM TO COVER THE NEW PATIO ROOF.
 3. SPECIFICATION CALLS FOR DRY PIPE SYSTEM, BUT ALTERNATIVE APPROACH SUCH AS DRY PENDENT SPRINKLERS IS ALLOWED.

**SPRINKLER COVERAGE
 NEW PATIO ROOF**
 ORDINARY LIGHT HAZARD
 0.10 GPM/SF OVER MOST REMOTE 1500 SF
 DRY PIPE SYSTEM

1 PATIO FIRE PROTECTION CRITERIA
 FPI.1 NOT TO SCALE

GENERAL NOTES:

- A. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN AND ELEVATIONS FOR EXACT LIGHTING LAYOUT AND LIGHTING FIXTURE SCHEDULE.
- B. ALL WIRING SHALL BE NEW AND FIXTURES SHALL BE CIRCUITED AS INDICATED. EXISTING DEVICE BOXES AND CONDUIT SCHEDULED TO BE REMOVED MAY BE REUSED IF THEY COMPLY WITH ALL REQUIREMENTS OF THE NEC, IF NEW DEVICE LOCATION COINCIDES WITH EXISTING LOCATION, AND IF PRACTICAL.
- C. CONDUIT AND CIRCUIT ROUTINGS SHOWN ARE SCHEMATIC AND DIAGRAMMATIC ONLY. FIELD DETERMINE EXACT CIRCUIT ROUTING AND PROVIDE ALL NECESSARY CONDUCTORS, CONDUIT, FITTINGS, JUNCTION BOXES, AND OTHER ITEMS.
- D. ALL DIMMER CIRCUITS SHALL HAVE A SEPARATE NEUTRAL. SHARING OF NEUTRALS IS NOT ALLOWED.
- E. UNLESS NOTED OTHERWISE, ALL CIRCUITS SHALL BE 2#12, 1#12/6, 1/2". MAKE ADJUSTMENTS AS REQUIRED FOR VOLTAGE DROP PER NEC.
- F. FIELD DETERMINE EXACT LOCATIONS OF ALL PANELS AND CONTROLS.
- G. ALL ELECTRICAL CONSTRUCTION SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE, APPLICABLE NEC, ANSI AND IEEE PUBLICATIONS, U.L. STANDARDS AND OSHA REQUIREMENTS. WORK SHALL COMPLY WITH LOCAL, COUNTY, STATE AND NATIONAL CODES HAVING JURISDICTION.
- H. ELECTRICAL DEVICE INSTALLATION SHALL COMPLY WITH ACCESSIBILITY CODES ADOPTED FOR LOCAL AHJ. SPECIFICALLY: MOUNT APPLICABLE SWITCHES, RECEPTACLES, AND ENVIRONMENTAL CONTROLS SO THAT THEY ARE MOUNTED WITH THE TOP OF THE DEVICE NO HIGHER THAN FORTY-EIGHT INCHES (48") ABOVE THE FINISHED FLOOR AND THE BOTTOM OF THE DEVICE NO LOWER THAN FIFTEEN INCHES (15") ABOVE THE FINISHED FLOOR. ELECTRICAL DEVICES ABOVE A COUNTERTOP OR OTHER OBSTRUCTION SHOULD COMPLY WITH ALL APPLICABLE SECTIONS OF ICC, ANSI, AND ADA. VERSION OF CODE SHALL BE AS ADOPTED BY AHJ.
- I. ALL LIGHT FIXTURES ARE EXISTING UNLESS NOTED OTHERWISE. LOCATIONS ARE INDICATED ON THIS PLAN FOR REFERENCE ONLY. FIELD VERIFY ALL LIGHTING FIXTURE LOCATIONS.
- J. ABANDONED POWER WIRING WILL BE REMOVED BACK TO THE SOURCE. THE ACCESSIBLE PORTIONS OF ABANDONED CONDUIT/TUBING AND EQUIPMENT SHALL BE REMOVED. THE ACCESSIBLE PORTIONS OF ABANDONED CABLES (VOICE, DATA, VIDEO, ALARM, ETC.) SHALL BE REMOVED.
- K. CONTRACTOR SHALL INSPECT SITE PRIOR TO SUBMITTING BID.
- L. WIRING SHALL BE 600V, THHN/THWN COPPER BUILDING WIRE. WIRING SHALL BE INSTALLED IN CONDUIT. CONDUIT SHALL BE EMT FOR BRANCH CIRCUIT WIRING. FITTINGS SHALL BE HEX-NUT, COMPRESSION TYPE, ZINC PLATED, AND U.L. LISTED AS RANTIGHT. NO CRIMP, SPRING, OR SET-SCREW TYPE FITTINGS WILL BE ACCEPTED. EXPOSED CONDUITS SHALL BE RIGID GALVANIZED STEEL. CONNECTORS AND COUPLINGS SHALL BE STEEL, THREADED TYPE. PAINT EXPOSED CONDUIT, COUPLINGS AND CONNECTORS WITH ZINC PRIMER AND ONE FINISH COAT OF AIR DRIED ENAMEL. CONDUIT USED BELOW GRADE MAY BE SCHEDULE 40 PVC; TRANSITION TO RIGID AT ELBOW BEFORE TURNING UP ABOVE GRADE. FURNISH AND INSTALL SLEEVES (GALVANIZED STEEL) FOR ALL CONDUIT PENETRATIONS IN SLAB OR WALLS. MINIMUM CONDUIT SIZE SHALL BE 1/2".
- M. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES PRIOR TO INSTALLATION OF EQUIPMENT AND RACEWAYS.
- N. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS FOR ELECTRICAL INSTALLATION. ALL MATERIALS SHALL BE WITH U.L. LABELS. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE FASHION.
- O. TYPE MC CABLE MAY BE USED IN CONCEALED LOCATIONS WHERE ALLOWED BY LOCAL CODES AND SHALL BE REFLECTED AS A COST SAVINGS TO THE OWNER. MC CABLE SHALL NOT BE USED TO ENTER PANELBOARDS.
- P. PROVIDE GROUNDING FOR ALL EQUIPMENT IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
- Q. ALL WORK SHALL HAVE PROPER LABELING. ALL CIRCUITS SHALL BE LABELED AT PANELS AND BOXES AS INDICATED. ALL PANELS AND DISCONNECTS SHALL BE PERMANENTLY MARKED WITH NAME OR EQUIPMENT SERVED. ALL PANELS SHALL BE PROVIDED WITH TYPED/PENMANUAL PANEL SCHEDULES REFLECTING CHANGES FROM THIS REMODEL PROJECT.
- R. PROVIDE NEW CIRCUIT BREAKERS IN EXISTING PANELS AS REQUIRED, TYPE, AIC RATING, AND VOLTAGE RATING SHALL MATCH EXISTING. ALL BREAKERS SHALL BE TYPE HACR BREAKERS.

ELECTRICAL KEYED NOTES:

- 1 EXISTING EMERGENCY LIGHT FIXTURE OR EXIT SIGN SHALL REMAIN, SUBJECT TO REPAIR OR RE-CIRCUITING PER "EMERGENCY LIGHTING SCOPE OF WORK" NOTE ON THIS PAGE.
- 2 EXISTING LIGHT FIXTURE TO REMAIN ON EXISTING CIRCUIT AND CONTROLS.
- 3 NEW UNSTRUT SUPPORT SYSTEM WITH SPOT LIGHTS. TYPE PER ARCHITECTURAL DRAWINGS. CONNECT TO EXISTING LOCAL PATIO LIGHT CIRCUIT. EXISTING ELECTRICAL CONNECTION MAY BE REUSED WHERE PRACTICAL/APPLICABLE.
- 4 NEW CEILING FAN. TYPE PER ARCHITECTURAL DRAWINGS. CONNECT TO EXISTING FAN CIRCUIT. VERIFY EXACT REQUIREMENTS.
- 5 EXISTING CEILING FAN TO REMAIN ON EXISTING CIRCUIT AND CONTROLS.
- 6 GENERAL CONTRACTOR TO PROVIDE ELECTRICAL CONNECTION (DUPLEX OUTLET) FOR OPERABLE ROLLER SHADE. CONNECT TO SPARE CIRCUIT IN PANEL 'C1'. PROVIDE NEW 20/1 BREAKER, TYPE VOLTAGE AND AIC RATING TO MATCH EXISTING AS REQUIRED.
- 7 NEW EXTERIOR PLANTER LIGHT. CONNECT TO EXISTING LOCAL PLANTER LIGHT CIRCUIT. EXISTING ELECTRICAL CONNECTION MAY BE REUSED WHERE PRACTICAL/APPLICABLE. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER'S INSTRUCTIONS. COORDINATE EXACT LOCATIONS WITH OWNER.
- 8 EXISTING TV TO REMAIN.
- 9 NEW TV TO BE MOUNTED TO MATCH EXISTING ADJACENT TV HEIGHT. CONNECT TO NEW CIRCUIT INDICATED. EXISTING ELECTRICAL CONNECTION MAY BE REUSED WHERE PRACTICAL/APPLICABLE.
- 10 PROVIDE RECEPTACLES, J-BOX WITH CONDUIT TO ABOVE CEILING FOR DATA, AND J-BOX WITH CONDUIT TO ABOVE CEILING FOR PHONE AT POS STATION. CONNECT TO NEW CIRCUIT INDICATED. COORDINATE EXACT LOCATIONS, CIRCUIT, AND REQUIREMENTS PRIOR TO WORK. COORDINATE EXACT MOUNTING LOCATION AND HEIGHT WITH OWNER, ARCHITECTURAL ELEVATIONS, AND MILLWORK PRIOR TO ROUGH-IN.
- 11 PROVIDE ALL WORK REQUIRED FOR NEW SIGN ROUGH-IN. COORDINATE EXACT REQUIREMENTS AND LOCATION WITH ARCHITECTURAL ELEVATIONS. CONNECT TO CIRCUIT INDICATED. ROUTE THROUGH EXISTING CONTACTOR.

EMERGENCY LIGHTING SCOPE OF WORK

UNLESS NOTED OTHERWISE, ALL EMERGENCY EGRESS LIGHTS AND EXIT SIGNS ARE TO REMAIN IN EXISTING LOCATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING EMERGENCY EGRESS LIGHTS AND EXIT SIGNS ARE FUNCTIONAL AND SHALL REPAIR OR REPLACE EXISTING FIXTURES AS REQUIRED. RECONNECTION OF DINING AREA NORMAL LIGHTS TO NEW DIMMER PANEL SHALL NOT DISRUPT PROPER OPERATION OF EMERGENCY LIGHTS AND EXIT SIGNS. WHERE APPLICABLE, EMERGENCY LIGHTS AND EXIT SIGNS MAY BE CONNECTED TO LOCKED-ON BREAKER IN NEW DIMMER PANEL, AS ALLOWED BY EXCEPTION TO NEC ARTICLE 700.12(F). OTHERWISE, THESE FIXTURES SHALL BE CONNECTED TO UNSWITCHED CONTINUOUSLY HOT CONDUCTOR OF THE LIGHTING CIRCUIT THAT FEEDS THE INDIVIDUAL DIMMER MODULES. FIELD VERIFY EXACT REQUIREMENTS.

LIGHTING DEMOLITION NOTE:

PLANS REFLECT NEW EXISTING, RELOCATED LIGHTING ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR LIGHTING DEMOLITION LOCATIONS. WHERE APPLICABLE, REMOVE LIGHTS & CONDUIT & CONDUCTORS BACK TO PANEL.

GENERAL EXISTING LIGHTING NOTE:

ALL LIGHT FIXTURES ARE EXISTING UNLESS NOTED OTHERWISE. LOCATIONS ARE INDICATED ON THIS PLAN FOR REFERENCE ONLY. FIELD VERIFY ALL LIGHTING FIXTURE LOCATIONS. WHERE APPLICABLE, RECONNECT EXISTING FIXTURES TO NEW CIRCUITS INDICATED.

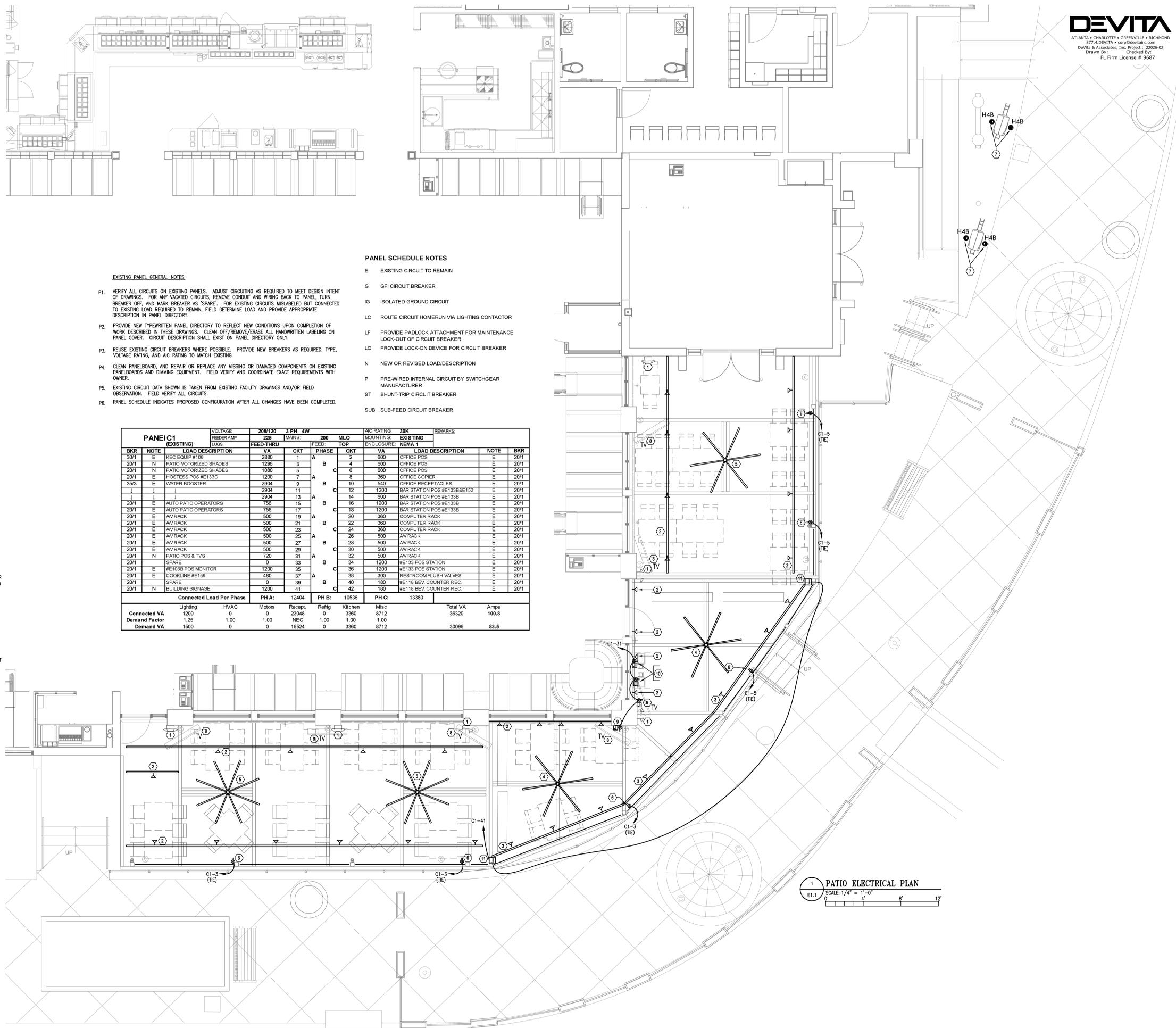
EXISTING PANEL GENERAL NOTES:

- P1. VERIFY ALL CIRCUITS ON EXISTING PANELS. ADJUST CIRCUITING AS REQUIRED TO MEET DESIGN INTENT OF DRAWINGS. FOR ANY VACATED CIRCUITS, REMOVE CONDUIT AND WIRING BACK TO PANEL, TURN BREAKER OFF, AND MARK BREAKER AS "SPARE". FOR EXISTING CIRCUITS MISLABELED BUT CONNECTED TO EXISTING LOAD REQUIRED TO REMAIN, FIELD DETERMINE LOAD AND PROVIDE APPROPRIATE DESCRIPTION IN PANEL DIRECTORY.
- P2. PROVIDE NEW TYPED/PENMANUAL PANEL DIRECTORY TO REFLECT NEW CONDITIONS UPON COMPLETION OF WORK DESCRIBED IN THESE DRAWINGS. CLEAN OFF/REMOVE/ERASE ALL HANDWRITTEN LABELING ON PANEL COVER. CIRCUIT DESCRIPTION SHALL EXIST ON PANEL DIRECTORY ONLY.
- P3. REUSE EXISTING CIRCUIT BREAKERS WHERE POSSIBLE. PROVIDE NEW BREAKERS AS REQUIRED, TYPE, VOLTAGE RATING, AND AIC RATING TO MATCH EXISTING.
- P4. CLEAN PANELBOARDS AND REPAIR OR REPLACE ANY MISSING OR DAMAGED COMPONENTS ON EXISTING PANELBOARDS AND DIMMING EQUIPMENT. FIELD VERIFY AND COORDINATE EXACT REQUIREMENTS WITH OWNER.
- P5. EXISTING CIRCUIT DATA SHOWN IS TAKEN FROM EXISTING FACILITY DRAWINGS AND/OR FIELD OBSERVATION. FIELD VERIFY ALL CIRCUITS.
- P6. PANEL SCHEDULE INDICATES PROPOSED CONFIGURATION AFTER ALL CHANGES HAVE BEEN COMPLETED.

PANEL SCHEDULE NOTES

- E EXISTING CIRCUIT TO REMAIN
- G GFI CIRCUIT BREAKER
- IG ISOLATED GROUND CIRCUIT
- LC ROUTE CIRCUIT HOMERUN VIA LIGHTING CONTACTOR
- LF PROVIDE PADLOCK ATTACHMENT FOR MAINTENANCE LOCK-OUT OF CIRCUIT BREAKER
- LO PROVIDE LOCK-ON DEVICE FOR CIRCUIT BREAKER
- N NEW OR REVISED LOAD/DESCRIPTION
- P PRE-WIRED INTERNAL CIRCUIT BY SWITCHGEAR MANUFACTURER
- ST SHUNT-TRIP CIRCUIT BREAKER
- SUB SUB-FEED CIRCUIT BREAKER

PANEIC1 (EXISTING)		VOLTAGE	208/120	3 PH	4W	AIC RATING		30K	REMARKS
		FEEDER AMP	225	MAINS		200	MOUNTING	EXISTING	
BKR	NOTE	LOAD DESCRIPTION	VA	CKT	PHASE	CT	ENCLOSURE	NEMA 1	LOAD DESCRIPTION
30/1	E	KEC EQUIP #108	2880	1	A	2	600		OFFICE POS
20/1	N	PATIO MOTORIZED SHADES	1296	3	B	4	600		OFFICE POS
20/1	N	PATIO MOTORIZED SHADES	1080	5	C	6	600		OFFICE POS
20/1	E	HGSTESS POS #E133C	1200	7	A	8	360		OFFICE COPIER
35/3	E	WATER BOOSTER	2904	9	B	10	540		OFFICE RECEPTACLES
			2904	11	C	12	1200		BAR STATION POS #E133B&E152
			2904	13	A	14	600		BAR STATION POS #E133B
20/1	E	AUTO PATIO OPERATORS	756	15	B	16	1200		BAR STATION POS #E133B
20/1	E	AUTO PATIO OPERATORS	756	17	C	18	1200		BAR STATION POS #E133B
20/1	E	AV RACK	500	19	A	20	360		COMPUTER RACK
20/1	E	AV RACK	500	21	B	22	360		COMPUTER RACK
20/1	E	AV RACK	500	23	C	24	360		COMPUTER RACK
20/1	E	AV RACK	500	25	A	26	500		AV RACK
20/1	E	AV RACK	500	27	B	28	500		AV RACK
20/1	E	AV RACK	500	29	C	30	500		AV RACK
20/1	N	PATIO POS & TVS	720	31	A	32	500		AV RACK
20/1	E	SPARE	0	33	B	34	1200		#E133 POS STATION
20/1	E	#E108B POS MONITOR	1200	35	C	36	1200		#E133 POS STATION
20/1	E	COOKLINE #E159	480	37	A	38	300		RESTROOM FLUSH VALVES
20/1	E	SPARE	0	39	B	40	180		#E118 BEV COUNTER REC
20/1	N	BUILDING SIGNAGE	1200	41	C	42	180		#E118 BEV COUNTER REC
Connected Load Per Phase			PH A:	12404	PH B:	10536	PH C:	13380	
Connected VA	Lighting	HVAC	Motors	Recept.	Refrig	Kitchen	Misc	Total VA	Amps
Demand Factor	1.25	1.00	1.00	1.00	1.00	1.00	1.00	36320	100.8
Demand VA	1500	0	0	19524	0	3360	8712	30096	83.5



1 PATIO ELECTRICAL PLAN
E1.1 SCALE: 1/4" = 1'-0"
0 4 8 12'

hmd group pa architects
10556 N.W. 24th Street, Suite 41101, Boca Raton, FL 33433
phone 305.942.9275 fax 305.974.9771 email hmdgroup@earthlink.net
www.hmdgrouparchitect.com
WALTER O. FRETZ ARCHITECTS
FLORIDA, L.C. NO. 13418
LICENSE # A A 100074

ARCHITECTS PROJECT #: 22-0052

Yard House

Issue Date: 08-05-2022

REVISION INFORMATION

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Restaurant #: 8352

8367 International Drive
Orlando, FL

PATIO ELECTRICAL PLAN

E1.1

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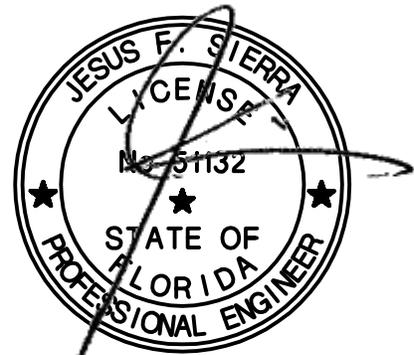


STRUCTURAL CALCULATIONS
for

YARDHOUSE

Orlando, Fl

August, 2022



Sealed 08-04-22

⚠️ This is a beta release of the new ATC Hazards by Location website. Please [contact us](#) with feedback.

ℹ️ The ATC Hazards by Location website will not be updated to support ASCE 7-22. [Find out why.](#)

ATC Hazards by Location

Search Information

Address: 8367 International Dr, Orlando, FL 32819, USA
Coordinates: 28.4436022, -81.46986530000001
Elevation: 125 ft
Timestamp: 2022-08-02T22:16:53.251Z
Hazard Type: Wind



ASCE 7-16

MRI 10-Year ----- 79 mph
 MRI 25-Year ----- 93 mph
 MRI 50-Year ----- 104 mph
 MRI 100-Year ----- 113 mph
 Risk Category I ----- 126 mph

Risk Category II ----- ⚠️ 135 mph

You are in a wind-borne debris region if you are also within 1 mile of the coastal mean high water line.

Risk Category III ----- ⚠️ 143 mph

If the structure under consideration is a healthcare facility and you are also within 1 mile of the coastal mean high water line, you are in a wind-borne debris region. If other occupancy, use the Risk Category II basic wind speed contours to determine if you are in a wind-borne debris region.

Risk Category IV ----- ⚠️ 147 mph

You are in a wind-borne debris region.

ASCE 7-10

MRI 10-Year ----- 79 mph
 MRI 25-Year ----- 93 mph
 MRI 50-Year ----- 103 mph
 MRI 100-Year ----- 113 mph
 Risk Category I ----- 126 mph

Risk Category II ----- ⚠️ 135 mph

You are in a wind-borne debris region if you are also within 1 mile of the coastal mean high water line.

Risk Category III-IV --- ⚠️ 143 mph

If the structure under consideration is a healthcare facility and you are also within 1 mile of the coastal mean high water line, you are in a wind-borne debris region. If other occupancy, use the Risk Category II basic wind speed contours to determine if you are in a wind-borne debris region.

ASCE 7-05

ASCE 7-05 Wind Speed ----- 103 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before

proceeding with design.

Please note that the ATC Hazards by Location website will not be updated to support ASCE 7-22. [Find out why.](#)

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions. While the information presented on this website is believed to be correct, ATC and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in the report should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. ATC does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the report provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the report.

WIND LOADS:

- ASCE 7-16
- SECTION 30.11 (CANOPIES ON BUILDINGS)

$$q_h = 0.00256 K_z K_{zt} K_d K_e V^2 \quad (26.10)$$
$$= 0.00256 (0.87)(1)(0.85)(1)(135)^2 = 34.5 \text{ PSF}$$

$$P = q_h (GC_p) \quad (30.11-1)$$

$$= (34.5)(-0.9) = \boxed{31 \text{ PSF}}$$

$$h_c/h_e = 16'/20' = 0.8 \quad (\text{FIG 30.11-1B})$$

$$GC_p = -0.9, +0.9$$

GRAVITY ANALYSIS:

DL = 27 PSF
RL = 30 PSF
WL = 31 PSF

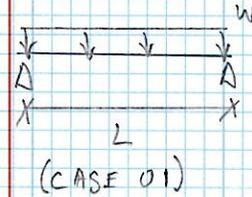
BM1: (CASE 01)

L = 19'-0"
TRIB = 7'-0"

D/C = 0.38

REACTIONS = 2K DL, 2K RL, 2K W

USE HSS 14x4x 3/16



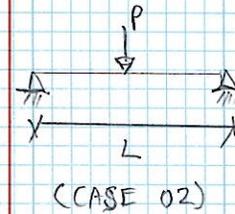
BM2: (CASE 01)

L = 15'
TRIB = 5'-0"

D/C = 0.314

REACTIONS = 1.6K DL, 1.6K RL, 1.6K W

USE HSS 12x4x 3/16



BM3: (CASE 2)

L = 18'-0"

P = BM 02 REACTIONS

D/C = 0.22

REACTIONS = 1.0K DL, 0.8K RL, 0.8K W

BM4: (CASE 2)

L = 7'-0"

P = 500 LBS

D/C = 0.03

REACTIONS = 0.27^K DL

USE LL 8x4x 7/16

GRAVITY & LATERAL:

CI:

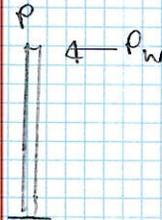
$$H = 16'-0"$$

$$P = 8M02, (2) 8M03$$

$$P_w = (31 \text{ PSF WIND}) (3' \times 18')$$
$$= 1.6 \text{ KIIPS}$$

$$D/C = 0.14$$

USE HSS 5x5x3/8



II:

P = CI LOADS

(E) 2'-0" WALL FTNG REMAINS ADEQUATE

$$D/C = 0.92$$



BY SC DATE 08/22 SUBJECT YARDHOUSE
CHKD. BY DATE

SHEET NO. OF
JOB. NO. 22046.0

CONNECTIONS:

$$P_1 = 8,000 \text{ LBS} \quad (\text{SHEAR})$$

$$P_2 = 2,000 \text{ LBS} \quad (\text{TENSION})$$

$$D/C = 0.26$$

(4) $3/4" \phi$ ANCHORS w/ 6" EMB ARE REQUIRED
AT CONC COLUMNS.

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Steel Beam

Project File: 22046.0.ec6

LIC#: KW-06015315, Build:20.22.2.2

SIERRA ENGINEERING GROUP

(c) ENERCALC INC 1983-2022

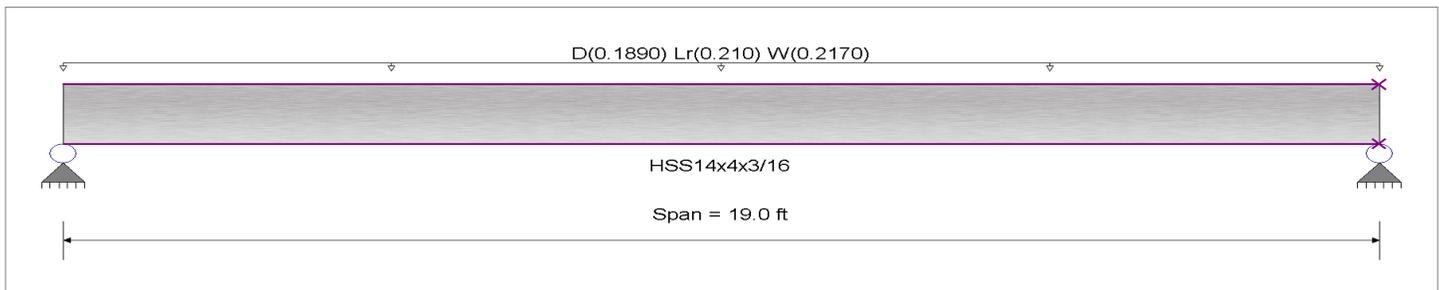
DESCRIPTION: BM1:

CODE REFERENCES

Calculations per AISC 360-16, IBC 2018, CBC 2019, ASCE 7-16
 Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Strength Design	Fy : Steel Yield :	46.0 ksi
Beam Bracing : Beam is Fully Braced against lateral-torsional buckling	E: Modulus :	29,000.0 ksi
Bending Axis : Major Axis Bending		



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading

Uniform Load : D = 0.0270, Lr = 0.030, W = 0.0310 ksf, Tributary Width = 7.0 ft

DESIGN SUMMARY

Design OK

<p>Maximum Bending Stress Ratio = 0.380 : 1</p> <p>Section used for this span: HSS14x4x3/16</p> <p>Ma : Applied: 21.043 k-ft</p> <p>Mn / Omega : Allowable: 55.372 k-ft</p> <p>Load Combination: +D+0.750Lr+0.450W</p> <p>Span # where maximum occurs: Span # 1</p> <p>Maximum Deflection</p> <p>Max Downward Transient Deflection: 0.161 in Ratio = 1,417 >=360</p> <p>Max Upward Transient Deflection: 0.000 in Ratio = 0 <360</p> <p>Max Downward Total Deflection: 0.346 in Ratio = 659 >=180</p> <p>Max Upward Total Deflection: 0.000 in Ratio = 0 <180</p>	<p>Maximum Shear Stress Ratio = 0.072 : 1</p> <p>Section used for this span: HSS14x4x3/16</p> <p>Va : Applied: 4.430 k</p> <p>Vn/Omega : Allowable: 61.494 k</p> <p>Load Combination: +D+0.750Lr+0.450W</p> <p>Location of maximum on span: 0.000 ft</p> <p>Span # where maximum occurs: Span # 1</p> <p>Span: 1 : W Only</p> <p>Span: 1 : +D+0.750Lr+0.450W</p>
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Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values						Summary of Shear Values				
			M	V	Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Va Max	Vnx	Vnx/Omega	
D Only															
Dsgn. L =	19.00 ft	1	0.172	0.033	9.53		9.53	92.47	55.37	1.00	1.00	2.01	102.69	61.49	
+D+Lr															
Dsgn. L =	19.00 ft	1	0.343	0.065	19.01		19.01	92.47	55.37	1.00	1.00	4.00	102.69	61.49	
+D+0.750Lr															
Dsgn. L =	19.00 ft	1	0.300	0.057	16.64		16.64	92.47	55.37	1.00	1.00	3.50	102.69	61.49	
+D+0.60W															
Dsgn. L =	19.00 ft	1	0.278	0.053	15.40		15.40	92.47	55.37	1.00	1.00	3.24	102.69	61.49	
+D+0.750Lr+0.450W															
Dsgn. L =	19.00 ft	1	0.380	0.072	21.04		21.04	92.47	55.37	1.00	1.00	4.43	102.69	61.49	
+D+0.450W															
Dsgn. L =	19.00 ft	1	0.252	0.048	13.94		13.94	92.47	55.37	1.00	1.00	2.93	102.69	61.49	
+0.60D+0.60W															
Dsgn. L =	19.00 ft	1	0.209	0.040	11.59		11.59	92.47	55.37	1.00	1.00	2.44	102.69	61.49	
+0.60D															
Dsgn. L =	19.00 ft	1	0.103	0.020	5.72		5.72	92.47	55.37	1.00	1.00	1.20	102.69	61.49	

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+0.750Lr+0.450W	1	0.3457	9.554		0.0000	0.000

Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: 22046.0.ec6

LIC# : KW-06015315, Build:20.22.2.2

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DESCRIPTION: BM1:

Vertical Reactions

Support notation : Far left is #

Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	4.430	4.430
Overall MINimum	1.204	1.204
D Only	2.006	2.006
+D+Lr	4.001	4.001
+D+0.750Lr	3.502	3.502
+D+0.60W	3.243	3.243
+D+0.750Lr+0.450W	4.430	4.430
+D+0.450W	2.934	2.934
+0.60D+0.60W	2.441	2.441
+0.60D	1.204	1.204
Lr Only	1.995	1.995
W Only	2.062	2.062

Steel Beam

Project File: 22046.0.ec6

LIC#: KW-06015315, Build:20.22.2.2

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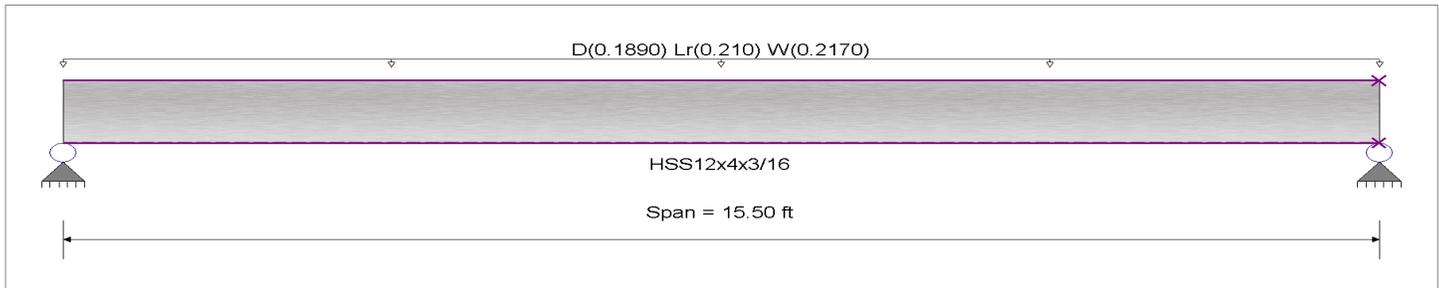
DESCRIPTION: BM2:

CODE REFERENCES

Calculations per AISC 360-16, IBC 2018, CBC 2019, ASCE 7-16
 Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Strength Design	Fy : Steel Yield :	46.0 ksi
Beam Bracing : Beam is Fully Braced against lateral-torsional buckling	E: Modulus :	29,000.0 ksi
Bending Axis : Major Axis Bending		



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading
 Uniform Load : D = 0.0270, Lr = 0.030, W = 0.0310 ksf, Tributary Width = 7.0 ft

DESIGN SUMMARY

Design OK

<p>Maximum Bending Stress Ratio = 0.314 : 1</p> <p>Section used for this span: HSS12x4x3/16</p> <p>Ma : Applied: 13.928 k-ft</p> <p>Mn / Omega : Allowable: 44.365 k-ft</p> <p>Load Combination: +D+0.750Lr+0.450W</p> <p>Span # where maximum occurs: Span # 1</p> <p>Maximum Deflection</p> <p>Max Downward Transient Deflection: 0.106 in Ratio = 1,749 >=360</p> <p>Max Upward Transient Deflection: 0.000 in Ratio = 0 <360</p> <p>Max Downward Total Deflection: 0.227 in Ratio = 818 >=180</p> <p>Max Upward Total Deflection: 0.000 in Ratio = 0 <180</p>	<p>Maximum Shear Stress Ratio = 0.058 : 1</p> <p>Section used for this span: HSS12x4x3/16</p> <p>Va : Applied: 3.594 k</p> <p>Vn/Omega : Allowable: 61.804 k</p> <p>Load Combination: +D+0.750Lr+0.450W</p> <p>Location of maximum on span: 0.000 ft</p> <p>Span # where maximum occurs: Span # 1</p> <p>Span: 1 : W Only</p> <p>Span: 1 : +D+0.750Lr+0.450W</p>
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Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values						Summary of Shear Values			
			M	V	Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Va Max	Vnx	Vnx/Omega
D Only														
Dsgn. L = 15.46 ft		1	0.141	0.026	6.27		6.27	74.09	44.37	1.00	1.00	1.62	103.21	61.80
Dsgn. L = 0.04 ft		1	0.002	0.026	0.07		0.07	74.09	44.37	1.00	1.00	1.62	103.21	61.80
+D+Lr														
Dsgn. L = 15.46 ft		1	0.283	0.052	12.57		12.57	74.09	44.37	1.00	1.00	3.24	103.21	61.80
Dsgn. L = 0.04 ft		1	0.003	0.052	0.14		0.14	74.09	44.37	1.00	1.00	3.24	103.21	61.80
+D+0.750Lr														
Dsgn. L = 15.46 ft		1	0.248	0.046	11.00		11.00	74.09	44.37	1.00	1.00	2.84	103.21	61.80
Dsgn. L = 0.04 ft		1	0.003	0.046	0.13		0.13	74.09	44.37	1.00	1.00	2.84	103.21	61.80
+D+0.60W														
Dsgn. L = 15.46 ft		1	0.229	0.042	10.18		10.18	74.09	44.37	1.00	1.00	2.63	103.21	61.80
Dsgn. L = 0.04 ft		1	0.003	0.042	0.12		0.12	74.09	44.37	1.00	1.00	2.63	103.21	61.80
+D+0.750Lr+0.450W														
Dsgn. L = 15.46 ft		1	0.314	0.058	13.93		13.93	74.09	44.37	1.00	1.00	3.59	103.21	61.80
Dsgn. L = 0.04 ft		1	0.004	0.058	0.16		0.16	74.09	44.37	1.00	1.00	3.59	103.21	61.80
+D+0.450W														
Dsgn. L = 15.46 ft		1	0.207	0.038	9.20		9.20	74.09	44.37	1.00	1.00	2.37	103.21	61.80
Dsgn. L = 0.04 ft		1	0.002	0.038	0.10		0.10	74.09	44.37	1.00	1.00	2.37	103.21	61.80
+0.60D+0.60W														
Dsgn. L = 15.46 ft		1	0.173	0.032	7.67		7.67	74.09	44.37	1.00	1.00	1.98	103.21	61.80
Dsgn. L = 0.04 ft		1	0.002	0.032	0.09		0.09	74.09	44.37	1.00	1.00	1.98	103.21	61.80
+0.60D														

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Steel Beam

Project File: 22046.0.ec6

LIC# : KW-06015315, Build:20.22.2.2

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DESCRIPTION: BM2:

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values					Summary of Shear Values				
			M	V	Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Va Max	Vnx/Vnx/Omega	
Dsgn. L =	15.46 ft	1	0.085	0.016	3.76		3.76	74.09	44.37	1.00	1.00	0.97	103.21	61.80
Dsgn. L =	0.04 ft	1	0.001	0.016	0.04		0.04	74.09	44.37	1.00	1.00	0.97	103.21	61.80

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+0.750Lr+0.450W	1	0.2273	7.794		0.0000	0.000

Vertical Reactions

Load Combination	Support 1	Support 2
Overall MAXimum	3.594	3.594
Overall MINimum	0.970	0.970
D Only	1.617	1.617
+D+Lr	3.244	3.244
+D+0.750Lr	2.838	2.838
+D+0.60W	2.626	2.626
+D+0.750Lr+0.450W	3.594	3.594
+D+0.450W	2.374	2.374
+0.60D+0.60W	1.979	1.979
+0.60D	0.970	0.970
Lr Only	1.628	1.628
W Only	1.682	1.682

Support notation : Far left is #

Values in KIPS

Steel Beam

Project File: 22046.0.ec6

LIC#: KW-06015315, Build:20.22.2.2

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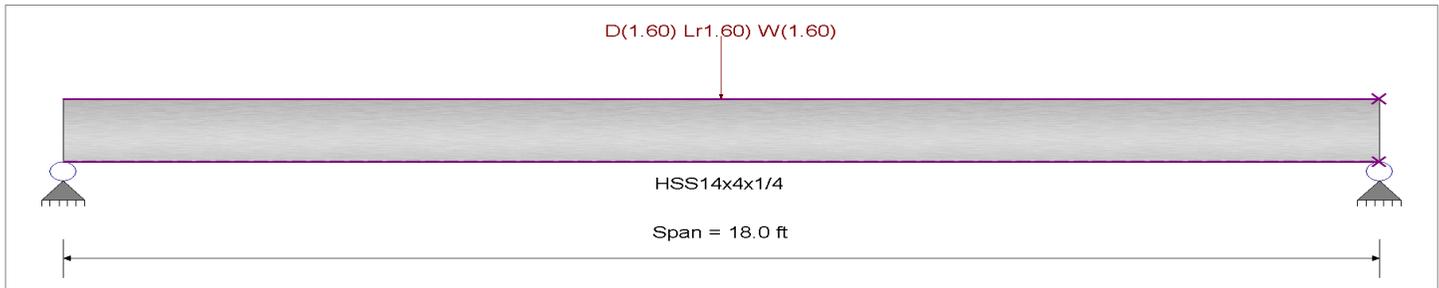
DESCRIPTION: BM3:

CODE REFERENCES

Calculations per AISC 360-16, IBC 2018, CBC 2019, ASCE 7-16
 Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Strength Design	Fy : Steel Yield :	46.0 ksi
Beam Bracing : Beam is Fully Braced against lateral-torsional buckling	E: Modulus :	29,000.0 ksi
Bending Axis : Major Axis Bending		



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading
 Load(s) for Span Number 1
 Point Load : D = 1.60, Lr = 1.60, W = 1.60 k @ 9.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.223 : 1	Maximum Shear Stress Ratio =	0.020 : 1
Section used for this span	HSS14x4x1/4	Section used for this span	HSS14x4x1/4
Ma : Applied	17.024 k-ft	Va : Applied	2.023 k
Mn / Omega : Allowable	76.208 k-ft	Vn/Omega : Allowable	102.438 k
Load Combination	+D+0.750Lr+0.450W	Load Combination	+D+0.750Lr+0.450W
Span # where maximum occurs	Span # 1	Location of maximum on span	0.000 ft
		Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward Transient Deflection	0.065 in Ratio = 3,305 >=360		
Max Upward Transient Deflection	0.000 in Ratio = 0 <360	Span: 1 : Lr Only	
Max Downward Total Deflection	0.157 in Ratio = 1374 >=180	Span: 1 : +D+0.750Lr+0.450W	
Max Upward Total Deflection	0.000 in Ratio = 0 <180		

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values					Summary of Shear Values				
			M	V	Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Va Max	Vnx/Vnx/Omega	
D Only														
Dsgn. L = 18.00 ft	18.00 ft	1	0.110	0.010	8.38		8.38	127.27	76.21	1.00	1.00	1.06	171.07	102.44
+D+Lr														
Dsgn. L = 18.00 ft	18.00 ft	1	0.204	0.018	15.58		15.58	127.27	76.21	1.00	1.00	1.86	171.07	102.44
+D+0.750Lr														
Dsgn. L = 18.00 ft	18.00 ft	1	0.181	0.016	13.78		13.78	127.27	76.21	1.00	1.00	1.66	171.07	102.44
+D+0.60W														
Dsgn. L = 18.00 ft	18.00 ft	1	0.167	0.015	12.70		12.70	127.27	76.21	1.00	1.00	1.54	171.07	102.44
+D+0.750Lr+0.450W														
Dsgn. L = 18.00 ft	18.00 ft	1	0.223	0.020	17.02		17.02	127.27	76.21	1.00	1.00	2.02	171.07	102.44
+D+0.450W														
Dsgn. L = 18.00 ft	18.00 ft	1	0.153	0.014	11.62		11.62	127.27	76.21	1.00	1.00	1.42	171.07	102.44
+0.60D+0.60W														
Dsgn. L = 18.00 ft	18.00 ft	1	0.123	0.011	9.35		9.35	127.27	76.21	1.00	1.00	1.12	171.07	102.44
+0.60D														
Dsgn. L = 18.00 ft	18.00 ft	1	0.066	0.006	5.03		5.03	127.27	76.21	1.00	1.00	0.64	171.07	102.44

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+0.750Lr+0.450W	1	0.1572	9.051		0.0000	0.000

Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: 22046.0.ec6

LIC# : KW-06015315, Build:20.22.2.2

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DESCRIPTION: BM3:

Vertical Reactions

Support notation : Far left is #

Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	2.023	2.023
Overall MINimum	0.638	0.638
D Only	1.063	1.063
+D+Lr	1.863	1.863
+D+0.750Lr	1.663	1.663
+D+0.60W	1.543	1.543
+D+0.750Lr+0.450W	2.023	2.023
+D+0.450W	1.423	1.423
+0.60D+0.60W	1.118	1.118
+0.60D	0.638	0.638
Lr Only	0.800	0.800
W Only	0.800	0.800

Steel Beam

Project File: 22046.0.ec6

LIC# : KW-06015315, Build:20.22.2.2

SIERRA ENGINEERING GROUP

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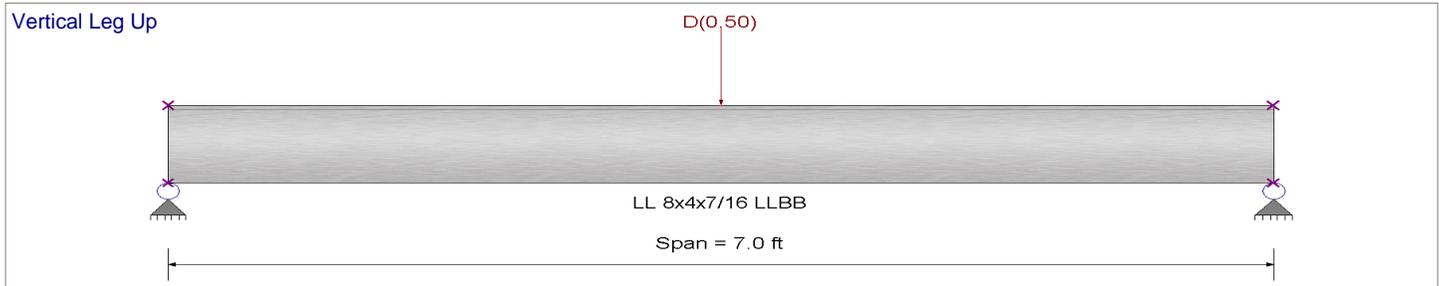
DESCRIPTION: BM4:

CODE REFERENCES

Calculations per AISC 360-16, IBC 2018, CBC 2019, ASCE 7-16
 Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Strength Design	Fy : Steel Yield :	46.0 ksi
Beam Bracing : Completely Unbraced	E: Modulus :	29,000.0 ksi
Bending Axis : Major Axis Bending		



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading
 Load(s) for Span Number 1
 Point Load : D = 0.50 k @ 3.50 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.032 : 1	Maximum Shear Stress Ratio =	0.003 : 1
Section used for this span	LL 8x4x7/16 LLBB	Section used for this span	LL 8x4x7/16 LLBB
Ma : Applied	1.086 k-ft	Va : Applied	0.3704 k
Mn / Omega : Allowable	34.331 k-ft	Vn/Omega : Allowable	115.821 k
Load Combination	D Only	Load Combination	D Only
Span # where maximum occurs	Span # 1	Location of maximum on span	0.000 ft
		Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward Transient Deflection	0.000 in	Ratio =	0 <360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.004 in	Ratio =	20654 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180
		Span: 1 : D Only	

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values						Summary of Shear Values			
			M	V	Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Va Max	Vnx/Vnx/Omega	
D Only	Dsgn. L = 7.00 ft	1	0.032	0.003	1.09		1.09	57.33	34.33	1.28	1.00	0.37	193.42	115.82
+0.60D	Dsgn. L = 7.00 ft	1	0.019	0.002	0.65		0.65	57.33	34.33	1.28	1.00	0.22	193.42	115.82

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
D Only	1	0.0041	3.520		0.0000	0.000

Vertical Reactions

Support notation : Far left is #'

Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	0.370	0.370
Overall MINimum	0.222	0.222
D Only	0.370	0.370
+0.60D	0.222	0.222

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Steel Column

Project File: 22046.0.ec6

LIC# : KW-06015315, Build:20.22.2.2

SIERRA ENGINEERING GROUP

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DESCRIPTION: C1:

Code References

Calculations per AISC 360-16, IBC 2018, CBC 2019, ASCE 7-16
 Load Combinations Used : ASCE 7-16

General Information

Steel Section Name :	HSS5x5x3/8	Overall Column Height	16 ft
Analysis Method :	Allowable Strength	Top & Bottom Fixity	Top & Bottom Pinned
Steel Stress Grade		Brace condition for deflection (buckling) along columns :	
Fy : Steel Yield	46 ksi	X-X (width) axis :	
E : Elastic Bending Modulus	29,000.0 ksi	Fully braced against buckling ABOUT Y-Y Axis	
		Y-Y (depth) axis :	
		Fully braced against buckling ABOUT X-X Axis	

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 357.920 lbs * Dead Load Factor

AXIAL LOADS . . .

BM2: Axial Load at 16.0 ft, Xecc = 5.0 in, D = 1.60, LR = 1.60, W = 1.60 k

BM3: Axial Load at 16.0 ft, Xecc = 4.50 in, D = 1.0, LR = 0.80, W = 0.80 k

BM3: Axial Load at 16.0 ft, Xecc = 4.50 in, D = 1.0, LR = 0.80, W = 0.80 k

BENDING LOADS . . .

Lat. Point Load at 0.0 ft creating Mx-x, W = 1.70 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.1436** : 1
 Load Combination +D+0.750Lr+0.450W
 Location of max.above base 16.0 ft
 At maximum location values are . . .

Pa : Axial	7.798 k
Pn / Omega : Allowabl	170.228 k
Ma-x : Applied	0.0 k-ft
Mn-x / Omega : Allowable	24.331 k-ft
Ma-y : Applied	-2.937 k-ft
Mn-y / Omega : Allowable	24.331 k-ft

Maximum Load Reactions . .

Top along X-X	0.1835 k
Bottom along X-X	0.1835 k
Top along Y-Y	0.0 k
Bottom along Y-Y	0.0 k

Maximum Load Deflections . . .

Along Y-Y	0.0 in at	0.0ft	above base
for load combination :			
Along X-X	-0.1336 in at	9.342ft	above base
for load combination : +D+0.750Lr+0.450W			

PASS Maximum Shear Stress Ratio = **0.004025** : 1
 Load Combination +D+0.750Lr+0.450W
 Location of max.above base 0.0 ft
 At maximum location values are . . .

Va : Applied	0.1835 k
Vn / Omega : Allowable	45.601 k

Load Combination Results

Load Combination	Maximum Axial + Bending Stress Ratios				Cb _x	Cb _y	K _x L _x /R _y	K _y L _y /R _x	Maximum Shear Ratios		
	Stress Ratio	Status	Location	Stress Ratio					Status	Location	
D Only	0.070	PASS	16.00 ft	1.00	1.00	0.00	0.00	0.002	PASS	0.00 ft	
+D+Lr	0.131	PASS	16.00 ft	1.00	1.00	0.00	0.00	0.004	PASS	0.00 ft	
+D+0.750Lr	0.116	PASS	16.00 ft	1.00	1.00	0.00	0.00	0.003	PASS	0.00 ft	
+D+0.60W	0.107	PASS	16.00 ft	1.00	1.00	0.00	0.00	0.003	PASS	0.00 ft	
+D+0.750Lr+0.450W	0.144	PASS	16.00 ft	1.00	1.00	0.00	0.00	0.004	PASS	0.00 ft	
+D+0.450W	0.098	PASS	16.00 ft	1.00	1.00	0.00	0.00	0.003	PASS	0.00 ft	
+0.60D+0.60W	0.079	PASS	16.00 ft	1.00	1.00	0.00	0.00	0.002	PASS	0.00 ft	
+0.60D	0.042	PASS	16.00 ft	1.00	1.00	0.00	0.00	0.001	PASS	0.00 ft	

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	Axial Reaction		X-X Axis Reaction		k	Y-Y Axis Reaction		Mx - End Moments		My - End Moments	
	@ Base		@ Base	@ Top		@ Base	@ Top	@ Base	@ Top	@ Base	@ Top
D Only	3.958		0.089	0.089							
+D+Lr	7.158		0.168	0.168							

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Steel Column

Project File: 22046.0.ec6

LIC# : KW-06015315, Build:20.22.2.2

SIERRA ENGINEERING GROUP

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DESCRIPTION: C1:

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	Axial Reaction	X-X Axis Reaction		k	Y-Y Axis Reaction		Mx - End Moments		My - End Moments	
	@ Base	@ Base	@ Top		@ Base	@ Top	@ Base	@ Top	@ Base	@ Top
+D+0.750Lr	6.358	0.148	0.148							
+D+0.60W	5.878	0.136	0.136							
+D+0.750Lr+0.450W	7.798	0.184	0.184							
+D+0.450W	5.398	0.124	0.124							
+0.60D+0.60W	4.295	0.101	0.101							
+0.60D	2.375	0.053	0.053							
Lr Only	3.200	0.079	0.079							
W Only	3.200	0.079	0.079							

Extreme Reactions

Item	Extreme Value	Axial Reaction	X-X Axis Reaction		k	Y-Y Axis Reaction		Mx - End Moments		My - End Moments	
		@ Base	@ Base	@ Top		@ Base	@ Top	@ Base	@ Top	@ Base	@ Top
Axial @ Base	Maximum	7.798	0.184	0.184							-2.937
"	Minimum	2.375	0.053	0.053							-0.850
Reaction, X-X Axis Base	Maximum	7.798	0.184	0.184							-2.937
"	Minimum	2.375	0.053	0.053							-0.850
Reaction, Y-Y Axis Base	Maximum	3.958	0.089	0.089							-1.417
"	Minimum	3.958	0.089	0.089							-1.417
Reaction, X-X Axis Top	Maximum	7.798	0.184	0.184							-2.937
"	Minimum	2.375	0.053	0.053							-0.850
Reaction, Y-Y Axis Top	Maximum	3.200	0.079	0.079							-1.267
"	Minimum	3.958	0.089	0.089							-1.417
Moment, X-X Axis Base	Maximum	3.958		0.089							-1.417
"	Minimum	3.958		0.089							-1.417
Moment, Y-Y Axis Base	Maximum	3.958	0.089	0.089				-1.417			
"	Minimum	3.958	0.089	0.089				-1.417			
Moment, X-X Axis Top	Maximum	3.958	0.089	0.089							-1.417
"	Minimum	3.958	0.089	0.089							-1.417
Moment, Y-Y Axis Top	Maximum	2.375	0.053	0.053							-0.850
"	Minimum	7.798	0.184	0.184							-2.937

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection	Distance	Max. Y-Y Deflection	Distance
D Only	-0.0644 in	9.342 ft	0.000 in	0.000 ft
+D+Lr	-0.1221 in	9.342 ft	0.000 in	0.000 ft
+D+0.750Lr	-0.1077 in	9.342 ft	0.000 in	0.000 ft
+D+0.60W	-0.0990 in	9.342 ft	0.000 in	0.000 ft
+D+0.750Lr+0.450W	-0.1336 in	9.342 ft	0.000 in	0.000 ft
+D+0.450W	-0.0904 in	9.342 ft	0.000 in	0.000 ft
+0.60D+0.60W	-0.0732 in	9.342 ft	0.000 in	0.000 ft
+0.60D	-0.0387 in	9.342 ft	0.000 in	0.000 ft
Lr Only	-0.0576 in	9.342 ft	0.000 in	0.000 ft
W Only	-0.0576 in	9.342 ft	0.000 in	0.000 ft

Steel Section Properties : HSS5x5x3/8

Steel Section Properties : HSS5x5x3/8

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Steel Column

Project File: 22046.0.ec6

LIC# : KW-06015315, Build:20.22.2.2

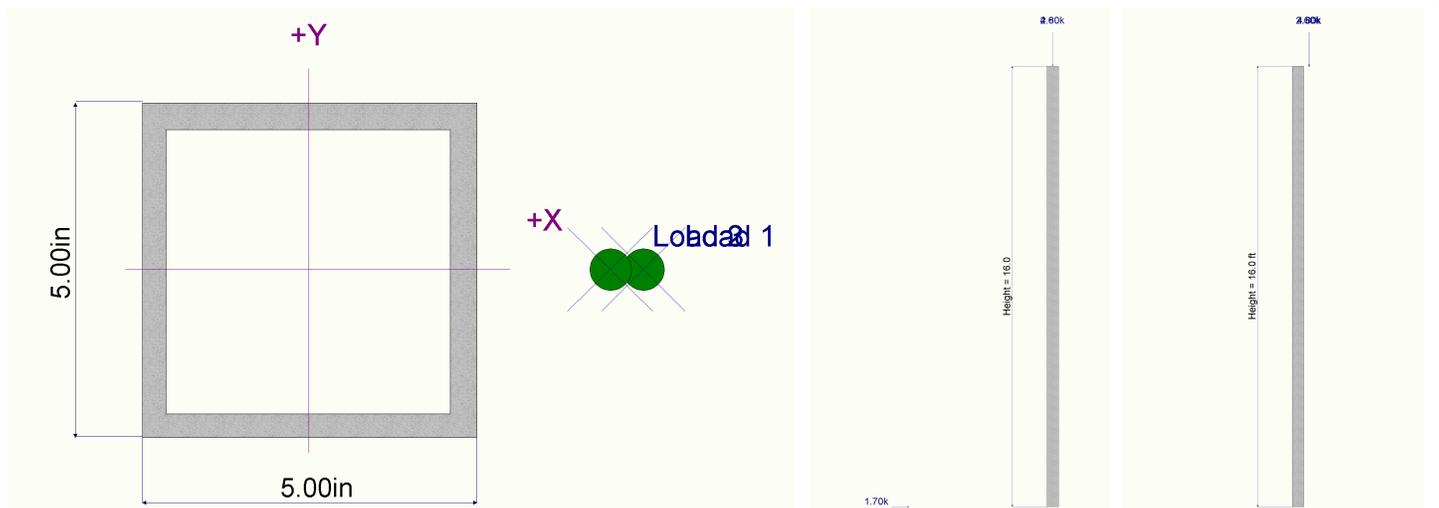
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DESCRIPTION: C1:

Depth	=	5.000 in	I xx	=	21.70 in ⁴	J	=	36.100 in ⁴
Design Thick	=	0.349 in	S xx	=	8.68 in ³			
Width	=	5.000 in	R xx	=	1.870 in			
Wall Thick	=	0.375 in	Zx	=	10.600 in ³			
Area	=	6.180 in ²	I yy	=	21.700 in ⁴	C	=	14.900 in ³
Weight	=	22.370 plf	S yy	=	8.680 in ³			
			R yy	=	1.870 in			
Ycg	=	0.000 in						

Sketches



General Footing

Project File: 22046.0.ec6

LIC#: KW-06015315, Build:20.22.2.2

SIERRA ENGINEERING GROUP

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DESCRIPTION: F1: Column support

Code References

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16

Load Combinations Used : ASCE 7-16

General Information

Material Properties

f'c : Concrete 28 day strength	=	3.0 ksi
fy : Rebar Yield	=	60.0 ksi
Ec : Concrete Elastic Modulus	=	3,122.0 ksi
Concrete Density	=	145.0 pcf
φ Values Flexure	=	0.90
Shear	=	0.750

Soil Design Values

Allowable Soil Bearing	=	2.0 ksf
Soil Density	=	110.0 pcf
Increase Bearing By Footing Weight	=	No
Soil Passive Resistance (for Sliding)	=	250.0 pcf
Soil/Concrete Friction Coeff.	=	0.30

Analysis Settings

Min Steel % Bending Reinf.	=	
Min Allow % Temp Reinf.	=	0.00180
Min. Overturning Safety Factor	=	1.0 : 1
Min. Sliding Safety Factor	=	1.0 : 1
Add Ftg Wt for Soil Pressure	:	Yes
Use ftg wt for stability, moments & shears	:	Yes
Add Pedestal Wt for Soil Pressure	:	No
Use Pedestal wt for stability, mom & shear	:	No

Increases based on footing depth

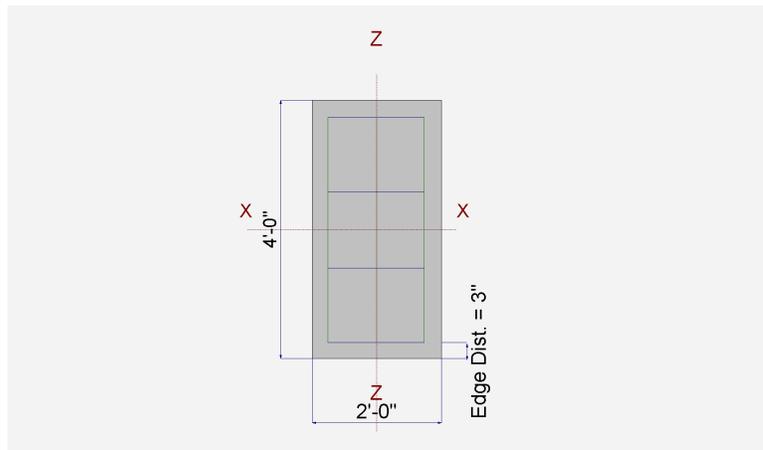
Footing base depth below soil surface	=	ft
Allow press. increase per foot of depth when footing base is below	=	ksf ft

Increases based on footing plan dimension

Allowable pressure increase per foot of depth when max. length or width is greater than	=	ksf ft
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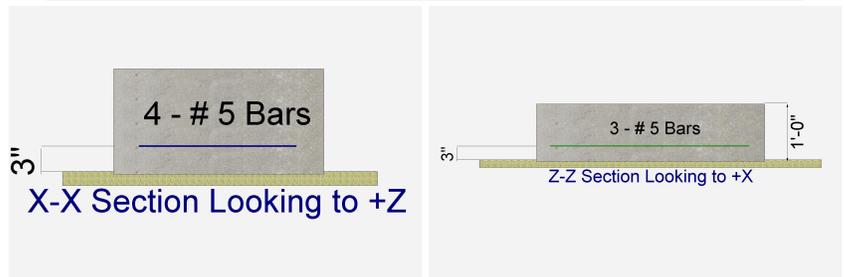
Dimensions

Width parallel to X-X Axis	=	2.0 ft
Length parallel to Z-Z Axis	=	4.0 ft
Footing Thickness	=	12.0 in
Load location offset from footing center...		
ex : Prll to X-X Axis	=	3 in
	=	in
Pedestal dimensions...		
px : parallel to X-X Axis	=	in
pz : parallel to Z-Z Axis	=	in
Height	=	in
Rebar Centerline to Edge of Concrete...		
at Bottom of footing	=	3.0 in



Reinforcing

Bars parallel to X-X Axis		
Number of Bars	=	4
Reinforcing Bar Size	=	# 5
Bars parallel to Z-Z Axis		
Number of Bars	=	3.0
Reinforcing Bar Size	=	# 5
Bandwidth Distribution Check (ACI 15.4.4.2)		
Direction Requiring Closer Separation		
	Bars along X-X Axis	
# Bars required within zone		66.7 %
# Bars required on each side of zone		33.3 %



Applied Loads

	D	Lr	L	S	W	E	H
P : Column Load	=	4.0	3.20		3.20		k
OB : Overburden	=						ksf
M-xx	=						k-ft
M-zz	=						k-ft
V-x	=						k
V-z	=						k

General Footing

DESCRIPTION: F1: Column support

DESIGN SUMMARY

Design OK

	Min. Ratio	Item	Applied	Capacity	Governing Load Combination
PASS	0.9265	Soil Bearing	1.853 ksf	2.0 ksf	+D+0.750Lr+0.450W about Z-Z axis
PASS	n/a	Overturing - X-X	0.0 k-ft	0.0 k-ft	No Overturing
PASS	n/a	Overturing - Z-Z	0.0 k-ft	0.0 k-ft	No Overturing
PASS	n/a	Sliding - X-X	0.0 k	0.0 k	No Sliding
PASS	n/a	Sliding - Z-Z	0.0 k	0.0 k	No Sliding
PASS	n/a	Uplift	0.0 k	0.0 k	No Uplift
PASS	0.05216	Z Flexure (+X)	0.6327 k-ft/ft	12.131 k-ft/ft	+1.20D+1.60Lr+0.50W
PASS	0.05216	Z Flexure (-X)	0.6328 k-ft/ft	12.131 k-ft/ft	+1.20D+1.60Lr+0.50W
PASS	0.1611	X Flexure (+Z)	2.880 k-ft/ft	17.879 k-ft/ft	+1.20D+1.60Lr+0.50W
PASS	0.1611	X Flexure (-Z)	2.880 k-ft/ft	17.879 k-ft/ft	+1.20D+1.60Lr+0.50W
PASS	n/a	1-way Shear (+X)	0.0 psi	82.158 psi	n/a
PASS	0.03550	1-way Shear (-X)	2.917 psi	82.158 psi	+1.20D+1.60Lr+0.50W
PASS	0.2012	1-way Shear (+Z)	16.533 psi	82.158 psi	+1.20D+1.60Lr+0.50W
PASS	0.2012	1-way Shear (-Z)	16.533 psi	82.158 psi	+1.20D+1.60Lr+0.50W
PASS	0.2020	2-way Punching	33.188 psi	164.317 psi	+1.20D+1.60Lr+0.50W

Detailed Results

Soil Bearing

Rotation Axis & Load Combination...	Gross Allowable	Xecc		Actual Soil Bearing Stress @ Location				Actual / Allow Ratio
		Zecc (in)		Bottom, -Z	Top, +Z	Left, -X	Right, +X	
X-X, D Only	2.0	n/a	0.0	0.6450	0.6450	n/a	n/a	0.323
X-X, +D+Lr	2.0	n/a	0.0	1.045	1.045	n/a	n/a	0.523
X-X, +D+0.750Lr	2.0	n/a	0.0	0.9450	0.9450	n/a	n/a	0.473
X-X, +D+0.60W	2.0	n/a	0.0	0.8850	0.8850	n/a	n/a	0.443
X-X, +D+0.750Lr+0.450W	2.0	n/a	0.0	1.125	1.125	n/a	n/a	0.563
X-X, +D+0.450W	2.0	n/a	0.0	0.8250	0.8250	n/a	n/a	0.413
X-X, +0.60D+0.60W	2.0	n/a	0.0	0.6270	0.6270	n/a	n/a	0.314
X-X, +0.60D	2.0	n/a	0.0	0.3870	0.3870	n/a	n/a	0.194
Z-Z, D Only	2.0	2.326	n/a	n/a	n/a	0.2738	1.016	0.508
Z-Z, +D+Lr	2.0	2.584	n/a	n/a	n/a	0.3768	1.713	0.857
Z-Z, +D+0.750Lr	2.0	2.540	n/a	n/a	n/a	0.3510	1.539	0.770
Z-Z, +D+0.60W	2.0	2.508	n/a	n/a	n/a	0.3356	1.434	0.717
Z-Z, +D+0.750Lr+0.450W	2.0	2.613	n/a	n/a	n/a	0.3974	1.853	0.927
Z-Z, +D+0.450W	2.0	2.473	n/a	n/a	n/a	0.3201	1.330	0.665
Z-Z, +0.60D+0.60W	2.0	2.584	n/a	n/a	n/a	0.2261	1.028	0.514
Z-Z, +0.60D	2.0	2.326	n/a	n/a	n/a	0.1643	0.6098	0.305

Overturing Stability

Rotation Axis & Load Combination...	Overturing Moment	Resisting Moment	Stability Ratio	Status
Footing Has NO Overturing				

All units k

Sliding Stability

Force Application Axis Load Combination...	Sliding Force	Resisting Force	Stability Ratio	Status
Footing Has NO Sliding				

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +1.40D	1.40	+Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.40D	1.40	-Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D+0.50Lr	1.60	+Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D+0.50Lr	1.60	-Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D	1.20	+Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D	1.20	-Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D+1.60Lr	2.480	+Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D+1.60Lr	2.480	-Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D+1.60Lr+0.50W	2.880	+Z	Bottom	0.2592	AsMin	0.4650	17.879	OK

Project Title:
 Engineer:
 Project ID:
 Project Descr:

General Footing

Project File: 22046.0.ec6

LIC# : KW-06015315, Build:20.22.2.2

SIERRA ENGINEERING GROUP

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DESCRIPTION: F1: Column support

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +1.20D+1.60Lr+0.50W	2.880	-Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D+0.50W	1.60	+Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D+0.50W	1.60	-Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D+0.50Lr+W	2.40	+Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D+0.50Lr+W	2.40	-Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D+W	2.0	+Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +1.20D+W	2.0	-Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +0.90D+W	1.70	+Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +0.90D+W	1.70	-Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +0.90D	0.90	+Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
X-X, +0.90D	0.90	-Z	Bottom	0.2592	AsMin	0.4650	17.879	OK
Z-Z, +1.40D	0.3076	-X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.40D	0.3076	+X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D+0.50Lr	0.3515	-X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D+0.50Lr	0.3515	+X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D	0.2637	-X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D	0.2636	+X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D+1.60Lr	0.5449	-X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D+1.60Lr	0.5448	+X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D+1.60Lr+0.50W	0.6328	-X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D+1.60Lr+0.50W	0.6327	+X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D+0.50W	0.3515	-X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D+0.50W	0.3515	+X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D+0.50Lr+W	0.5273	-X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D+0.50Lr+W	0.5273	+X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D+W	0.4394	-X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +1.20D+W	0.4394	+X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +0.90D+W	0.3735	-X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +0.90D+W	0.3735	+X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +0.90D	0.1977	-X	Bottom	0.2592	AsMin	0.310	12.131	OK
Z-Z, +0.90D	0.1977	+X	Bottom	0.2592	AsMin	0.310	12.131	OK

One Way Shear

Load Combination...	Vu @ -X	Vu @ +X	Vu @ -Z	Vu @ +Z	Vu:Max	Phi Vn	Vu / Phi*Vn	Status
+1.40D	1.42 psi	0.00 psi	8.04 psi	8.04 psi	8.04 psi	82.16 psi	0.10	OK
+1.20D+0.50Lr	1.62 psi	0.00 psi	9.19 psi	9.19 psi	9.19 psi	82.16 psi	0.11	OK
+1.20D	1.22 psi	0.00 psi	6.89 psi	6.89 psi	6.89 psi	82.16 psi	0.08	OK
+1.20D+1.60Lr	2.51 psi	0.00 psi	14.24 psi	14.24 psi	14.24 psi	82.16 psi	0.17	OK
+1.20D+1.60Lr+0.50W	2.92 psi	0.00 psi	16.53 psi	16.53 psi	16.53 psi	82.16 psi	0.20	OK
+1.20D+0.50W	1.62 psi	0.00 psi	9.19 psi	9.19 psi	9.19 psi	82.16 psi	0.11	OK
+1.20D+0.50Lr+W	2.43 psi	0.00 psi	13.78 psi	13.78 psi	13.78 psi	82.16 psi	0.17	OK
+1.20D+W	2.03 psi	0.00 psi	11.48 psi	11.48 psi	11.48 psi	82.16 psi	0.14	OK
+0.90D+W	1.72 psi	0.00 psi	9.76 psi	9.76 psi	9.76 psi	82.16 psi	0.12	OK
+0.90D	0.91 psi	0.00 psi	5.17 psi	5.17 psi	5.17 psi	82.16 psi	0.06	OK

Two-Way "Punching" Shear

All units k

Load Combination...	Vu	Phi*Vn	Vu / Phi*Vn	Status
+1.40D	16.13 psi	164.32psi	0.09818	OK
+1.20D+0.50Lr	18.44 psi	164.32psi	0.1122	OK
+1.20D	13.83 psi	164.32psi	0.08416	OK
+1.20D+1.60Lr	28.58 psi	164.32psi	0.1739	OK
+1.20D+1.60Lr+0.50W	33.19 psi	164.32psi	0.202	OK
+1.20D+0.50W	18.44 psi	164.32psi	0.1122	OK
+1.20D+0.50Lr+W	27.66 psi	164.32psi	0.1683	OK
+1.20D+W	23.05 psi	164.32psi	0.1403	OK
+0.90D+W	19.59 psi	164.32psi	0.1192	OK
+0.90D	10.37 psi	164.32psi	0.06312	OK



Company:		Date:	8/4/2022
Engineer:		Page:	1/6
Project:			
Address:			
Phone:			
E-mail:			

1. Project information

Customer company:
Customer contact name:
Customer e-mail:
Comment:

Project description:
Location:
Fastening description:

2. Input Data & Anchor Parameters

General

Design method: ACI 318-14
Units: Imperial units

Anchor Information:

Anchor type: Bonded anchor
Material: F1554 Grade 36
Diameter (inch): 0.750
Effective Embedment depth, h_{ef} (inch): 6.000
Code report: ICC-ES ESR-4057
Anchor category: -
Anchor ductility: Yes
 h_{min} (inch): 7.75
 c_{ac} (inch): 10.89
 C_{min} (inch): 1.75
 S_{min} (inch): 3.00

Base Material

Concrete: Normal-weight
Concrete thickness, h (inch): 12.00
State: Cracked
Compressive strength, f'_c (psi): 3000
 $\Psi_{c,v}$: 1.0
Reinforcement condition: B tension, B shear
Supplemental reinforcement: Not applicable
Reinforcement provided at corners: No
Ignore concrete breakout in tension: No
Ignore concrete breakout in shear: No
Hole condition: Dry concrete
Inspection: Continuous
Temperature range, Short/Long: 150/110°F
Ignore 6do requirement: Not applicable
Build-up grout pad: No

Base Plate

Length x Width x Thickness (inch): 7.00 x 20.00 x 0.50

Recommended Anchor

Anchor Name: SET-3G - SET-3G w/ 3/4"Ø F1554 Gr. 36
Code Report: ICC-ES ESR-4057





Company:		Date:	8/4/2022
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Project:			
Address:			
Phone:			
E-mail:			

Load and Geometry

Load factor source: ACI 318 Section 5.3

Load combination: not set

Seismic design: No

Anchors subjected to sustained tension: No

Apply entire shear load at front row: No

Anchors only resisting wind and/or seismic loads: No

Strength level loads:

N_{ua} [lb]: 2000

V_{uax} [lb]: 0

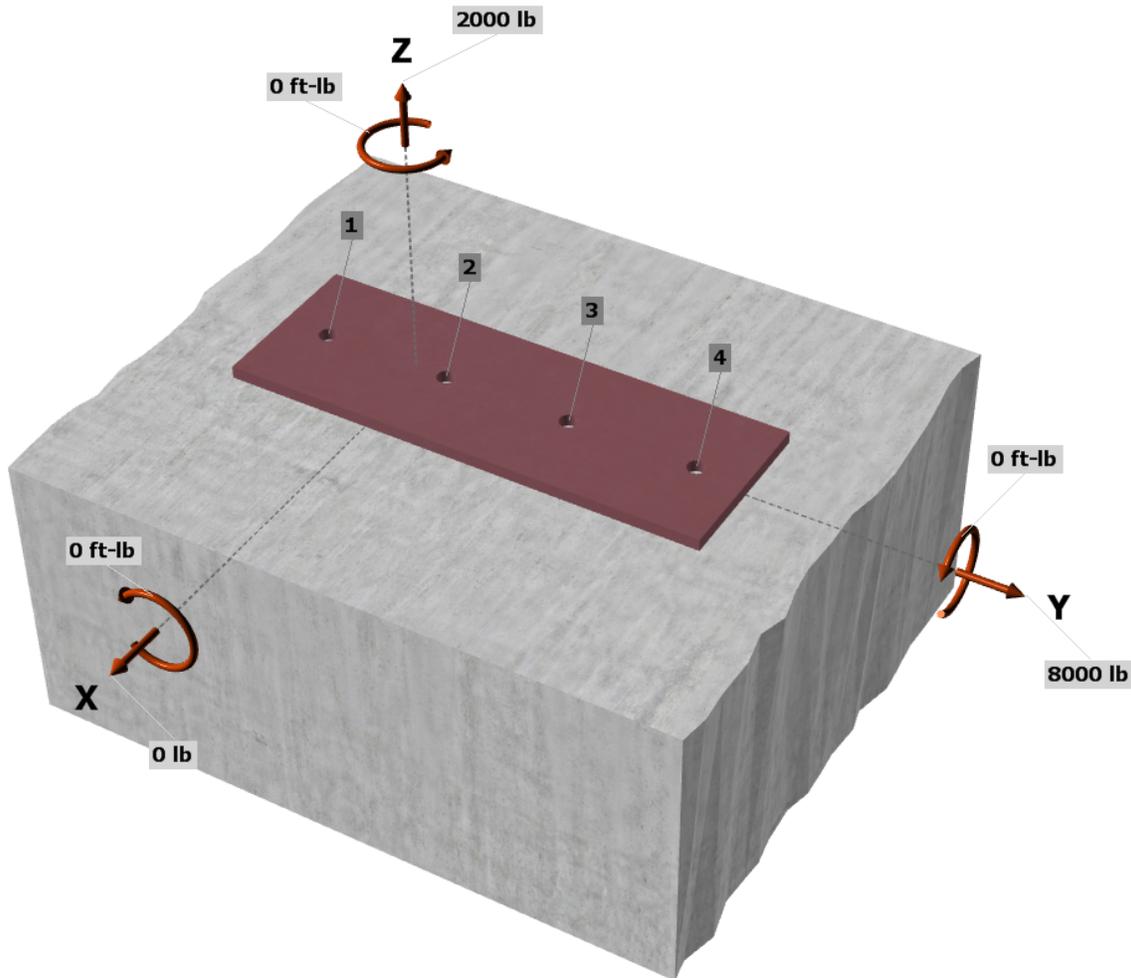
V_{uay} [lb]: 8000

M_{ux} [ft-lb]: 0

M_{uy} [ft-lb]: 0

M_{uz} [ft-lb]: 0

<Figure 1>

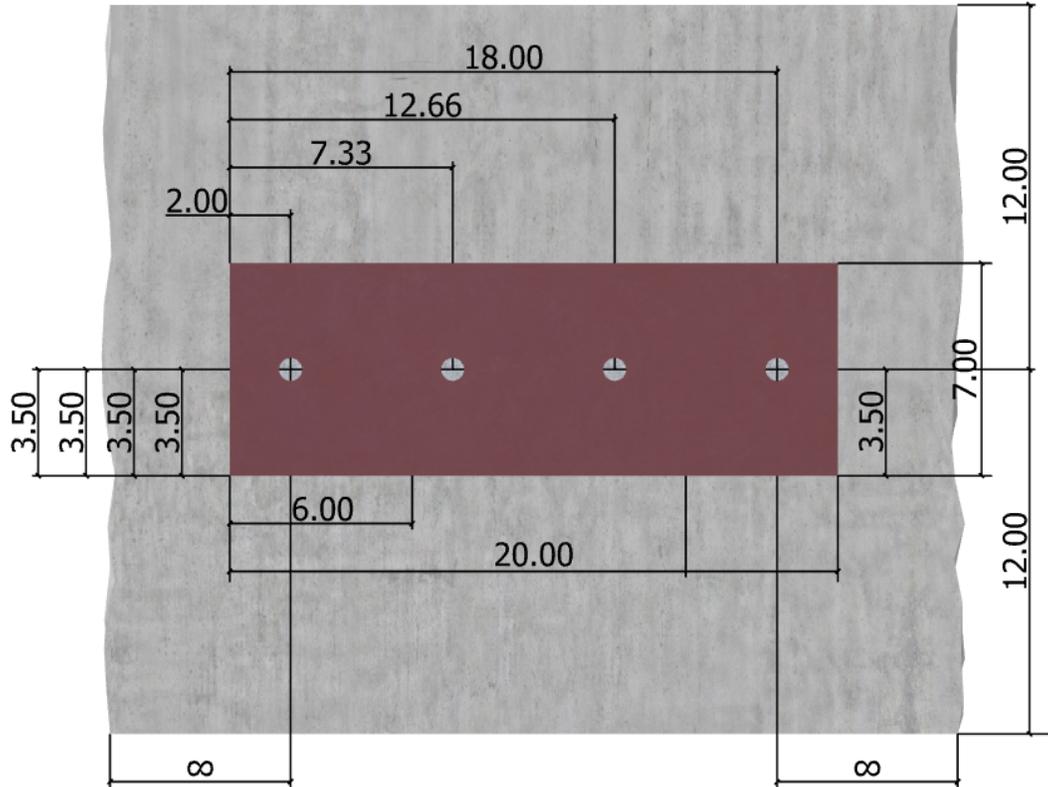


Input data and results must be checked for agreement with the existing circumstances, the standards and guidelines must be checked for plausibility.



Company:		Date:	8/4/2022
Engineer:		Page:	3/6
Project:			
Address:			
Phone:			
E-mail:			

<Figure 2>





Company:		Date:	8/4/2022
Engineer:		Page:	4/6
Project:			
Address:			
Phone:			
E-mail:			

3. Resulting Anchor Forces

Anchor	Tension load, N _{ua} (lb)	Shear load x, V _{uax} (lb)	Shear load y, V _{uay} (lb)	Shear load combined, $\sqrt{(V_{uax})^2 + (V_{uay})^2}$ (lb)
1	941.2	0.0	2000.0	2000.0
2	651.7	0.0	2000.0	2000.0
3	362.3	0.0	2000.0	2000.0
4	72.3	0.0	2000.0	2000.0
Sum	2027.5	0.0	8000.0	8000.0

Maximum concrete compression strain (%): 0.00

Maximum concrete compression stress (psi): 12

Resultant tension force (lb): 2027

Resultant compression force (lb): 27

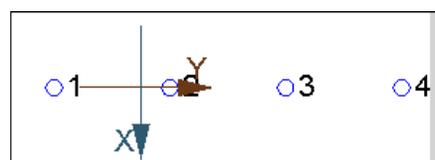
Eccentricity of resultant tension forces in x-axis, e'_{Nx} (inch): 3.81

Eccentricity of resultant tension forces in y-axis, e'_{Ny} (inch): 0.00

Eccentricity of resultant shear forces in x-axis, e'_{Vx} (inch): 0.00

Eccentricity of resultant shear forces in y-axis, e'_{Vy} (inch): 0.00

<Figure 3>



4. Steel Strength of Anchor in Tension (Sec. 17.4.1)

N _{sa} (lb)	φ	φN _{sa} (lb)
19370	0.75	14528

5. Concrete Breakout Strength of Anchor in Tension (Sec. 17.4.2)

$$N_b = K_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5} \text{ (Eq. 17.4.2.2a)}$$

K _c	λ _a	f' _c (psi)	h _{ef} (in)	N _b (lb)
17.0	1.00	3000	6.000	13685

$$\phi N_{cbg} = \phi (A_{Nc} / A_{Nco}) \psi_{ec,N} \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b \text{ (Sec. 17.3.1 \& Eq. 17.4.2.1b)}$$

A _{Nc} (in ²)	A _{Nco} (in ²)	C _{a,min} (in)	ψ _{ec,N}	ψ _{ed,N}	ψ _{c,N}	ψ _{cp,N}	N _b (lb)	φ	φN _{cbg} (lb)
612.00	324.00	12.00	0.703	1.000	1.00	1.000	13685	0.65	11805

6. Adhesive Strength of Anchor in Tension (Sec. 17.4.5)

$$\tau_{k,cr} = \tau_{k,cr,short-term} K_{sat} (f'_c / 2,500)^0$$

τ _{k,cr} (psi)	f _{short-term}	K _{sat}	f' _c (psi)	n	τ _{k,cr} (psi)
1310	1.00	1.00	3000	0.24	1369

$$N_{ba} = \lambda_a \tau_{cr} \pi d_a h_{ef} \text{ (Eq. 17.4.5.2)}$$

λ _a	τ _{cr} (psi)	d _a (in)	h _{ef} (in)	N _{ba} (lb)
1.00	1369	0.75	6.000	19348

$$\phi N_{ag} = \phi (A_{Na} / A_{Na0}) \psi_{ec,Na} \psi_{ed,Na} \psi_{cp,Na} N_{ba} \text{ (Sec. 17.3.1 \& Eq. 17.4.5.1b)}$$

A _{Na} (in ²)	A _{Na0} (in ²)	C _{Na} (in)	C _{a,min} (in)	ψ _{ec,Na}	ψ _{ed,Na}	ψ _{cp,Na}	N _{ba} (lb)	φ	φN _{ag} (lb)
750.93	422.18	10.27	12.00	0.730	1.000	1.000	19348	0.65	16319

Input data and results must be checked for agreement with the existing circumstances, the standards and guidelines must be checked for plausibility.



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8. Steel Strength of Anchor in Shear (Sec. 17.5.1)

V_{sa} (lb)	ϕ_{grout}	ϕ	$\phi_{grout}\phi V_{sa}$ (lb)
11625	1.0	0.65	7556

9. Concrete Breakout Strength of Anchor in Shear (Sec. 17.5.2)

Shear parallel to edge in x-direction:

$V_{by} = \min[7(l_e/d_a)^{0.2}\sqrt{d_a}\lambda_a\sqrt{f_c}c_{a1}^{1.5}; 9\lambda_a\sqrt{f_c}c_{a1}^{1.5}]$ (Eq. 17.5.2.2a & Eq. 17.5.2.2b)

l_e (in)	d_a (in)	λ_a	f_c (psi)	c_{a1} (in)	V_{by} (lb)
6.00	0.750	1.00	3000	12.00	20492

$\phi V_{cbgx} = \phi (2)(A_{Vc}/A_{Vco})\psi_{ec,v}\psi_{ed,v}\psi_{c,v}\psi_{h,v}V_{by}$ (Sec. 17.3.1, 17.5.2.1(c) & Eq. 17.5.2.1b)

A_{Vc} (in ²)	A_{Vco} (in ²)	$\psi_{ec,v}$	$\psi_{ed,v}$	$\psi_{c,v}$	$\psi_{h,v}$	V_{by} (lb)	ϕ	ϕV_{cbgx} (lb)
624.00	648.00	1.000	1.000	1.000	1.225	20492	0.70	33834

10. Concrete Pryout Strength of Anchor in Shear (Sec. 17.5.3)

$\phi V_{cpq} = \phi \min[k_{cp}N_{ag}; k_{cp}N_{cbg}] = \phi \min[k_{cp}(A_{Na}/A_{Na0})\psi_{ec,Na}\psi_{ed,Na}\psi_{cp,Na}N_{ba}; k_{cp}(A_{Nc}/A_{Nco})\psi_{ec,N}\psi_{ed,N}\psi_{c,N}\psi_{cp,N}N_b]$ (Sec. 17.3.1 & Eq. 17.5.3.1b)

k_{cp}	A_{Na} (in ²)	A_{Na0} (in ²)	$\psi_{ed,Na}$	$\psi_{ec,Na}$	$\psi_{cp,Na}$	N_{ba} (lb)	N_a (lb)
2.0	750.93	422.18	1.000	1.000	1.000	19348	34414

A_{Nc} (in ²)	A_{Nco} (in ²)	$\psi_{ec,N}$	$\psi_{ed,N}$	$\psi_{c,N}$	$\psi_{cp,N}$	N_b (lb)	N_{cb} (lb)	ϕ
612.00	324.00	1.000	1.000	1.000	1.000	13685	25849	0.70

ϕV_{cpq} (lb)
36189

11. Results

Interaction of Tensile and Shear Forces (Sec. 17.6.)

Tension	Factored Load, N_{ua} (lb)	Design Strength, ϕN_n (lb)	Ratio	Status	
Steel	941	14528	0.06	Pass	
Concrete breakout	2027	11805	0.17	Pass (Governs)	
Adhesive	2027	16319	0.12	Pass	
Shear	Factored Load, V_{ua} (lb)	Design Strength, ϕV_n (lb)	Ratio	Status	
Steel	2000	7556	0.26	Pass (Governs)	
Concrete breakout x-	8000	33834	0.24	Pass	
Pryout	8000	36189	0.22	Pass	
Interaction check	$N_{ua}/\phi N_n$	$V_{ua}/\phi V_n$	Combined Ratio	Permissible	Status
Sec. 17.6.2	0.00	0.26	26.5 %	1.0	Pass

SET-3G w/ 3/4"Ø F1554 Gr. 36 with hef = 6.000 inch meets the selected design criteria.



Anchor Designer™
Software
Version 3.0.7947.0

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12. Warnings

- Designer must exercise own judgement to determine if this design is suitable.
- Refer to manufacturer's product literature for hole cleaning and installation instructions.

Project Title:
 Engineer:
 Project ID:
 Project Descr:

General Footing

Project File: 22046.0.ec6

LIC# : KW-06015315, Build:20.22.2.2

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DESCRIPTION: F2: Kegmen Monument

Code References

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16
 Load Combinations Used : ASCE 7-16

General Information

Material Properties

f _c : Concrete 28 day strength	=	3.0 ksi
f _y : Rebar Yield	=	60.0 ksi
E _c : Concrete Elastic Modulus	=	3,122.0 ksi
Concrete Density	=	145.0 pcf
φ Values Flexure	=	0.90
Shear	=	0.750

Soil Design Values

Allowable Soil Bearing	=	2.0 ksf
Soil Density	=	110.0 pcf
Increase Bearing By Footing Weight	=	No
Soil Passive Resistance (for Sliding)	=	250.0 pcf
Soil/Concrete Friction Coeff.	=	0.30

Analysis Settings

Min Steel % Bending Reinf.	=	
Min Allow % Temp Reinf.	=	0.00180
Min. Overturning Safety Factor	=	1.0 : 1
Min. Sliding Safety Factor	=	1.0 : 1
Add Ftg Wt for Soil Pressure	:	Yes
Use ftg wt for stability, moments & shears	:	Yes
Add Pedestal Wt for Soil Pressure	:	No
Use Pedestal wt for stability, mom & shear	:	No

Increases based on footing depth

Footing base depth below soil surface	=	ft
Allow press. increase per foot of depth when footing base is below	=	ksf ft

Increases based on footing plan dimension

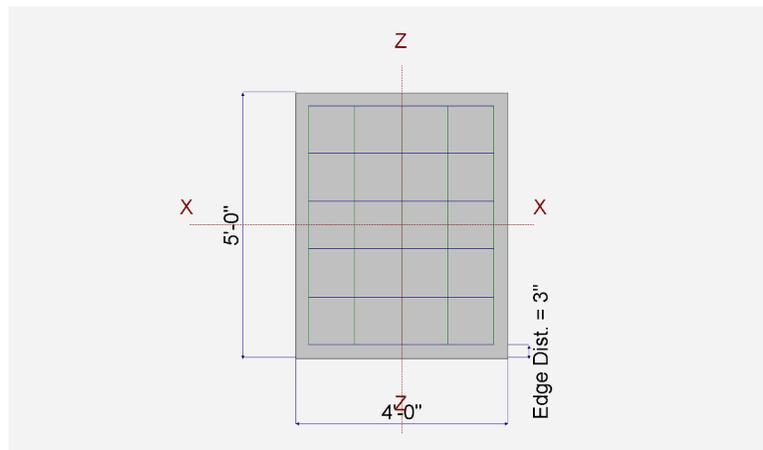
Allowable pressure increase per foot of depth when max. length or width is greater than	=	ksf ft
-----------------------------------------------------------------------------------------	---	-----------

Dimensions

Width parallel to X-X Axis	=	4.0 ft
Length parallel to Z-Z Axis	=	5.0 ft
Footing Thickness	=	12.0 in

Pedestal dimensions...

px : parallel to X-X Axis	=	in
pz : parallel to Z-Z Axis	=	in
Height	=	in
Rebar Centerline to Edge of Concrete... at Bottom of footing	=	3.0 in



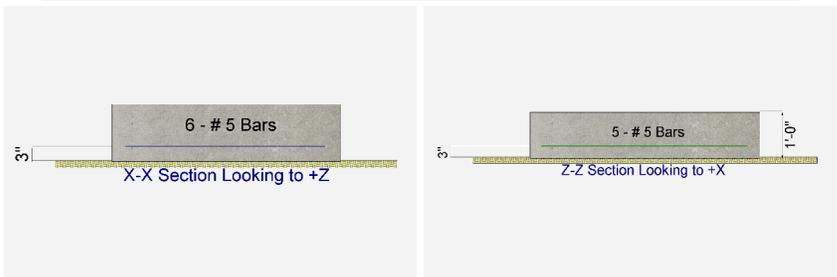
Reinforcing

Bars parallel to X-X Axis	=	
Number of Bars	=	6
Reinforcing Bar Size	=	# 5
Bars parallel to Z-Z Axis	=	
Number of Bars	=	5
Reinforcing Bar Size	=	# 5

Bandwidth Distribution Check (ACI 15.4.4.2)

Direction Requiring Closer Separation

	Bars along X-X Axis	
# Bars required within zone	88.9 %	
# Bars required on each side of zone	11.1 %	



Applied Loads

	D	L _r	L	S	W	E	H
P : Column Load	=	0.30					k
OB : Overburden	=						ksf
M-xx	=					2.80	k-ft
M-zz	=					0.930	k-ft
V-x	=					0.260	k
V-z	=					0.80	k

Project Title:
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General Footing

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LIC# : KW-06015315, Build:20.22.2.2

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DESCRIPTION: F2: Kegmen Monument

DESIGN SUMMARY

Design OK

	Min. Ratio	Item	Applied	Capacity	Governing Load Combination
PASS	0.1549	Soil Bearing	0.3097 ksf	2.0 ksf	+D+0.70E about X-X axis
PASS	1.905	Overturing - X-X	2.520 k-ft	4.80 k-ft	+0.60D+0.70E
PASS	4.610	Overturing - Z-Z	0.8330 k-ft	3.840 k-ft	+0.60D+0.70E
PASS	3.165	Sliding - X-X	0.1820 k	0.5760 k	+0.60D+0.70E
PASS	1.029	Sliding - Z-Z	0.560 k	0.5760 k	+0.60D+0.70E
PASS	n/a	Uplift	0.0 k	0.0 k	No Uplift
PASS	0.01072	Z Flexure (+X)	0.1550 k-ft/ft	14.455 k-ft/ft	+1.20D+E
PASS	0.006364	Z Flexure (-X)	0.09199 k-ft/ft	14.455 k-ft/ft	+0.90D+E
PASS	0.03496	X Flexure (+Z)	0.5255 k-ft/ft	15.031 k-ft/ft	+0.90D+E
PASS	0.02603	X Flexure (-Z)	0.3913 k-ft/ft	15.031 k-ft/ft	+1.20D+E
PASS	0.01112	1-way Shear (+X)	0.9137 psi	82.158 psi	+1.20D+E
PASS	0.006719	1-way Shear (-X)	0.5521 psi	82.158 psi	+0.90D+E
PASS	0.03233	1-way Shear (+Z)	2.656 psi	82.158 psi	+0.90D+E
PASS	0.02430	1-way Shear (-Z)	1.996 psi	82.158 psi	+0.90D+E
PASS	0.007676	2-way Punching	1.261 psi	164.317 psi	+1.40D

Detailed Results

Soil Bearing

Rotation Axis & Load Combination...	Gross Allowable	Xecc		Actual Soil Bearing Stress @ Location				Actual / Allow Ratio
		Zecc (in)		Bottom, -Z	Top, +Z	Left, -X	Right, +X	
X-X, D Only	2.0	n/a	0.0	0.160	0.160	n/a	n/a	0.080
X-X, +0.60D	2.0	n/a	0.0	0.0960	0.0960	n/a	n/a	0.048
X-X, +D+0.70E	2.0	n/a	9.450	0.01031	0.3097	n/a	n/a	0.155
X-X, +D+0.5250E	2.0	n/a	7.088	0.04773	0.2723	n/a	n/a	0.136
X-X, +0.60D+0.70E	2.0	n/a	15.750	0.0	0.2676	n/a	n/a	0.134
Z-Z, D Only	2.0	0.0	n/a	n/a	n/a	0.160	0.160	0.080
Z-Z, +0.60D	2.0	0.0	n/a	n/a	n/a	0.0960	0.0960	0.048
Z-Z, +D+0.70E	2.0	3.124	n/a	n/a	n/a	0.09815	0.2219	0.111
Z-Z, +D+0.5250E	2.0	2.343	n/a	n/a	n/a	0.1136	0.2064	0.103
Z-Z, +0.60D+0.70E	2.0	5.206	n/a	n/a	n/a	0.03415	0.1579	0.079

Overturing Stability

Rotation Axis & Load Combination...	Overturing Moment	Resisting Moment	Stability Ratio	Status
X-X, D Only	None	0.0 k-ft	Infinity	OK
X-X, +0.60D	None	0.0 k-ft	Infinity	OK
X-X, +D+0.70E	2.520 k-ft	8.0 k-ft	3.175	OK
X-X, +D+0.5250E	1.890 k-ft	8.0 k-ft	4.233	OK
X-X, +0.60D+0.70E	2.520 k-ft	4.80 k-ft	1.905	OK
Z-Z, D Only	None	0.0 k-ft	Infinity	OK
Z-Z, +0.60D	None	0.0 k-ft	Infinity	OK
Z-Z, +D+0.70E	0.8330 k-ft	6.40 k-ft	7.683	OK
Z-Z, +D+0.5250E	0.6248 k-ft	6.40 k-ft	10.244	OK
Z-Z, +0.60D+0.70E	0.8330 k-ft	3.840 k-ft	4.610	OK

All units k

Sliding Stability

Force Application Axis Load Combination...	Sliding Force	Resisting Force	Stability Ratio	Status
X-X, D Only	0.0 k	0.960 k	No Sliding	OK
X-X, +0.60D	0.0 k	0.5760 k	No Sliding	OK
X-X, +D+0.70E	0.1820 k	0.960 k	5.275	OK
X-X, +D+0.5250E	0.1365 k	0.960 k	7.033	OK
X-X, +0.60D+0.70E	0.1820 k	0.5760 k	3.165	OK
Z-Z, D Only	0.0 k	0.960 k	No Sliding	OK
Z-Z, +0.60D	0.0 k	0.5760 k	No Sliding	OK
Z-Z, +D+0.70E	0.560 k	0.960 k	1.714	OK
Z-Z, +D+0.5250E	0.420 k	0.960 k	2.286	OK
Z-Z, +0.60D+0.70E	0.560 k	0.5760 k	1.029	OK

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General Footing

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DESCRIPTION: F2: Kegmen Monument

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +1.40D	0.06563	+Z	Bottom	0.2592	AsMin	0.3875	15.031	OK
X-X, +1.40D	0.06563	-Z	Bottom	0.2592	AsMin	0.3875	15.031	OK
X-X, +1.20D	0.05625	+Z	Bottom	0.2592	AsMin	0.3875	15.031	OK
X-X, +1.20D	0.05625	-Z	Bottom	0.2592	AsMin	0.3875	15.031	OK
X-X, +0.90D	0.04219	+Z	Bottom	0.2592	AsMin	0.3875	15.031	OK
X-X, +0.90D	0.04219	-Z	Bottom	0.2592	AsMin	0.3875	15.031	OK
X-X, +1.20D+E	0.5086	+Z	Bottom	0.2592	AsMin	0.3875	15.031	OK
X-X, +1.20D+E	0.3913	-Z	Top	0.2592	AsMin	0.3875	15.031	OK
X-X, +0.90D+E	0.5255	+Z	Bottom	0.2592	AsMin	0.3875	15.031	OK
X-X, +0.90D+E	0.3745	-Z	Top	0.2592	AsMin	0.3875	15.031	OK
Z-Z, +1.40D	0.0420	-X	Bottom	0.2592	AsMin	0.3720	14.455	OK
Z-Z, +1.40D	0.0420	+X	Bottom	0.2592	AsMin	0.3720	14.455	OK
Z-Z, +1.20D	0.0360	-X	Bottom	0.2592	AsMin	0.3720	14.455	OK
Z-Z, +1.20D	0.0360	+X	Bottom	0.2592	AsMin	0.3720	14.455	OK
Z-Z, +0.90D	0.0270	-X	Bottom	0.2592	AsMin	0.3720	14.455	OK
Z-Z, +0.90D	0.0270	+X	Bottom	0.2592	AsMin	0.3720	14.455	OK
Z-Z, +1.20D+E	0.08299	-X	Top	0.2592	AsMin	0.3720	14.455	OK
Z-Z, +1.20D+E	0.1550	+X	Bottom	0.2592	AsMin	0.3720	14.455	OK
Z-Z, +0.90D+E	0.09199	-X	Top	0.2592	AsMin	0.3720	14.455	OK
Z-Z, +0.90D+E	0.1460	+X	Bottom	0.2592	AsMin	0.3720	14.455	OK

One Way Shear

Load Combination...	Vu @ -X	Vu @ +X	Vu @ -Z	Vu @ +Z	Vu:Max	Phi Vn	Vu / Phi*Vn	Status
+1.40D	0.24 psi	0.24 psi	0.34 psi	0.34 psi	0.34 psi	82.16 psi	0.00	OK
+1.20D	0.21 psi	0.21 psi	0.29 psi	0.29 psi	0.29 psi	82.16 psi	0.00	OK
+0.90D	0.16 psi	0.16 psi	0.22 psi	0.22 psi	0.22 psi	82.16 psi	0.00	OK
+1.20D+E	0.50 psi	0.91 psi	1.98 psi	2.58 psi	2.58 psi	82.16 psi	0.03	OK
+0.90D+E	0.55 psi	0.86 psi	2.00 psi	2.66 psi	2.66 psi	82.16 psi	0.03	OK

Two-Way "Punching" Shear

Load Combination...	Vu	Phi*Vn	Vu / Phi*Vn	Status
+1.40D	1.26 psi	164.32psi	0.007676	OK
+1.20D	1.08 psi	164.32psi	0.006579	OK
+0.90D	0.81 psi	164.32psi	0.004935	OK
+1.20D+E	1.09 psi	164.32psi	0.00661	OK
+0.90D+E	0.84 psi	164.32psi	0.005123	OK

All units k