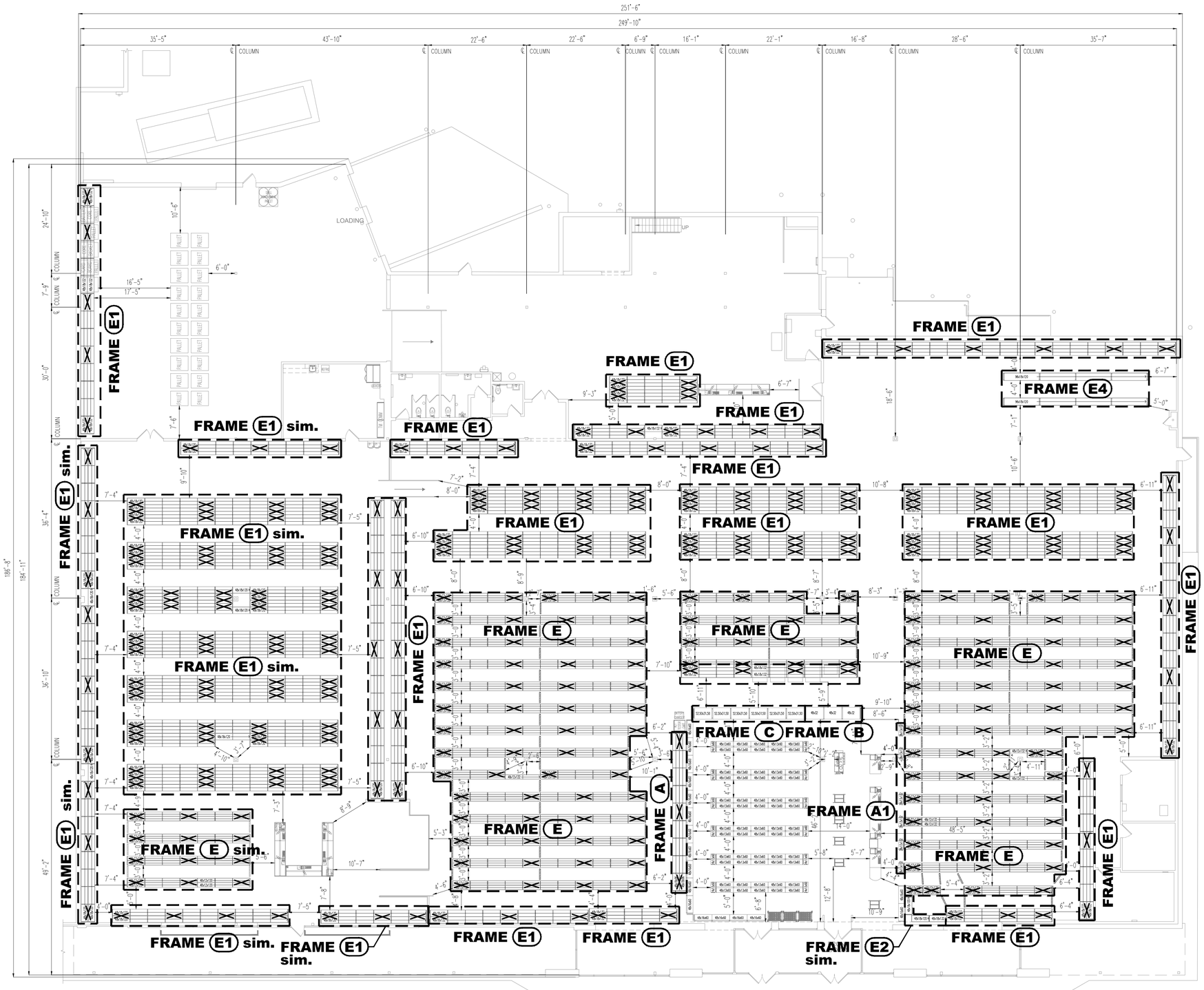


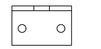
FIXTURE LAYOUT PLANS

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

- DENOTES CROSS BRACE, RE: 4 & 5/F2
- DENOTES TOP TIE, RE: 7 & 9/F2

MATERIAL SPECIFICATIONS

WIDESPAN & STORAGE SHELVING BASE PLATE:



12 GA.
Fy = 30,000 PSI

SHELVING BASE PLATES:



12 GA.
Fy = 38,000 PSI

I. EXISTING SLAB
- A) 4" THICK CONCRETE
  F'C = 2,500 PSI MIN.
  ALLOWABLE SOIL BEARING: 1,000 PSF

II. CONNECTION MATERIAL
- A) 1/4" & 3/8"Φ HILTI KWIK HUS EZ ANCHORS
  SAE J403 GRADE 10B21
  ESR#-3027
  1/4"Φ INSTALLATION TORQUE (TINST): 18 FT. LBS.
  3/8"Φ INSTALLATION TORQUE (TINST): 40 FT. LBS.
- B) 3/8"Φ SIMPSON TITEN HD SCREW ANCHORS
  FOR CMU AND CONCRETE WALL ATTACHMENT
  ESR#-1056 & ESR#-2713
  INSTALLATION TORQUE (TINST): 50 FT. LBS.

ALTERNATE ANCHOR OPTIONS:
- C) 3/8"Φ SIMPSON STRONG-TIE TITEN HD ANCHORS
  SAE J403 GRADE 10B21
  ESR#-2713
  INSTALLATION TORQUE (TINST): 50 FT. LBS.
- D) 3/8"Φ DEWALT SCREW-BOLT + ANCHORS
  ASTM B633 OR ASTM B695, CLASS 55
  ESR#-3889
  INSTALLATION TORQUE (TINST): 25 FT. LBS.
- E) SPECIAL INSPECTION IS REQUIRED.

PROJECT DATA :

BUILDING CODE: 2018 KENTUCKY BUILDING CODE
BASED ON THE 2015 INTERNATIONAL BUILDING CODE
ASCE 7-10 & RMI ANSI/MH 16.1-12

SEISMIC:

S_s	= 0.206
S_1	= 0.108
S_{DS}	= 0.22
S_{D1}	= 0.169
SEISMIC IMPORTANCE FACTOR	= 1.5
RISK CATEGORY	= II
SEISMIC SITE CLASS	= D
SEISMIC DESIGN CATEGORY	= C
RESPONSE MODIFICATION FACTOR (R)	= 4
SEISMIC RESPONSE COEFFICIENT (CS)	= 0.08

DESIGN LOADS:

FRAME A:	DL = 3.0 PSF/SHELF LL = 20.0 PSF/SHELF
FRAME A1:	DL = 3.0 PSF/SHELF LL = 20.0 PSF/SHELF
FRAME B:	DL = 5.0 PSF/SHELF LL = 500 LBS/SHELF
FRAME C:	DL = 5.0 PSF/SHELF LL = 680 LBS/SHELF
FRAME E:	DL = 3.0 PSF/SHELF LL = 10.0 PSF/SHELF
FRAME E1:	DL = 3.0 PSF/SHELF LL = 12.5 PSF/SHELF
FRAME E4:	DL = 3.0 PSF/SHELF LL = 37.5 PSF/SHELF

NOTE:
1. ALL STEEL STORAGE SHELVING SHALL BE INSTALLED PER THE 2015 INTERNATIONAL BUILDING CODE, THE 2018 KENTUCKY BUILDING CODE AND THE MANUFACTURERS RECOMMENDATIONS.

NOTE:
DESIGN, TESTING AND UTILIZATION OF INDUSTRIAL STEEL STORAGE RACKS ARE IN ACCORDANCE WITH THE RMI SPECIFICATION.

ICC ESR EVALUATION SERVICES REPORT ARE INCLUDED IN THE CALCULATIONS, APPENDIX 'C'.

** NOTE **: SECTION 105.2 WORK EXEMPT FROM PERMIT
- EXEMPTIONS FROM PERMIT REQUIREMENTS OF THIS CODE SHALL NOT BE DEEMED TO GRANT AUTHORIZATION FOR ANY WORK TO BE DONE IN ANY MANNER IN VIOLATION OF THE PROVISIONS OF THIS CODE OF ANY OTHER LAWS OR ORDINANCES OF THIS JURISDICTION. PERMITS SHALL NOT BE REQUIRED FOR THE FOLLOWING:
  SECTION 105.2.1.3 - NON-FIXED AND MOVABLE FIXTURES, CASES, RACKS, COUNTERS AND PARTITIONS NOT OVER 5 FEET 9 INCHES (69 INCHES) IN HEIGHT.

SCOPE OF WORK:
CONTRACTOR SHALL INSTALL NEW LOZIER FIXTURES PER THE FIXTURE PLAN, DRAWINGS AND DETAILS AS SHOWN IN THIS SET. FIXTURES SHALL BE ANCHORED IN ACCORDANCE WITH PLANS. STORAGE HEIGHTS FOR COMMODITIES ARE LESS THAN 12'-0". NO HIGH PILE STORAGE IS USED FOR THIS STORE.

JPH & CLARK, INC.
CONSULTING STRUCTURAL ENGINEERING
1801 N. Hampton Rd. Suite 440
DeSoto, TX 75115
(972) 230-3311

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DO NOT SCALE THESE DRAWINGS.

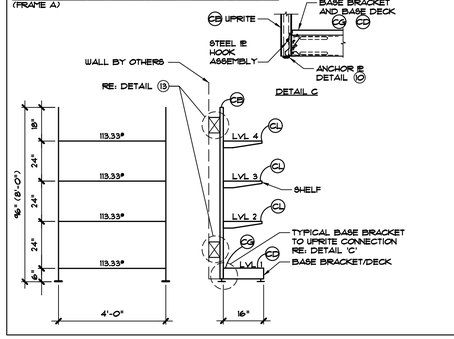
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3426 PRESTON HIGHWAY
LOUISVILLE, KY 40213

STATE OF KENTUCKY
KRISTINE R. CLARK
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9-2-26
LICENSED PROFESSIONAL ENGINEER

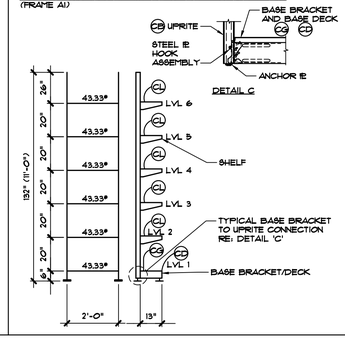
DATE ISSUED: SEPTEMBER 2, 2026
REVISIONS:
DRAWN BY: KRC/JED

SHEET NO: F1
OF: 2
JOB NUMBER 26460

LOZIER GONDOLA WALL SHELVING DETAILS: (FRAME A)



LOZIER GONDOLA WALL SHELVING DETAILS: (FRAME A1)



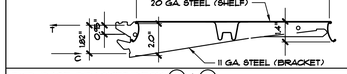
LOZIER GONDOLA WALL SHELVING DETAILS: (FRAME A2)

NOT USED

GONDOLA SHELVING DETAILS

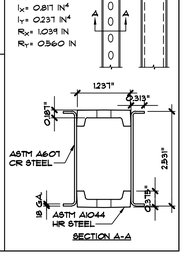
TYP. SHELF (2L):

MATERIAL PROPERTIES:
F_y(BRACKET)= 70,000 PSI MIN.
F_y(SHELF)= 45,000 PSI MIN.

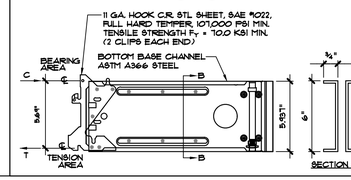


TYP. UPRITE (2E):

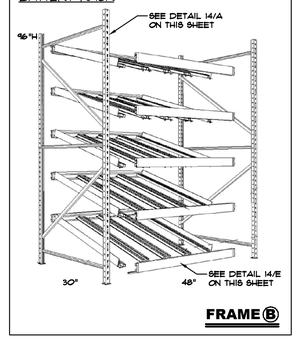
PROPERTIES:
F_y(STEEL)= 55,000 PSI
AREA= 0.757 IN^2
S_x= 0.630 IN^3
S_y= 0.250 IN^3
I_x= 0.811 IN^4
I_y= 0.237 IN^4
R_x= 1.039 IN
R_y= 0.560 IN



TYP. BASE BRACKET/DECK (2G & 2F):

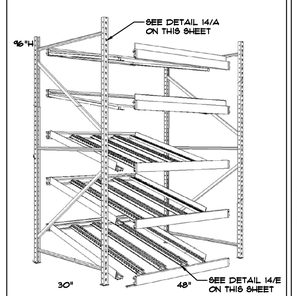


BATTERY RACK



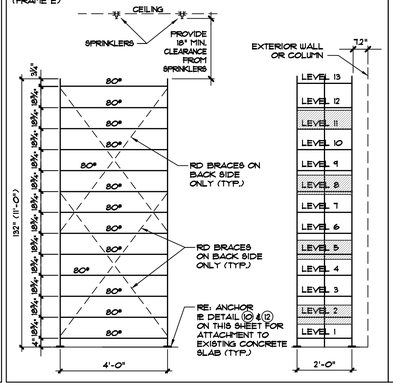
FRAME B

OIL RACK

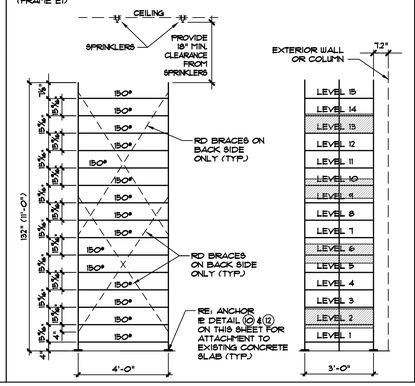


FRAME C

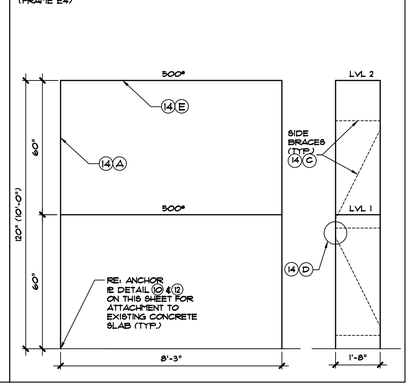
TYPICAL S-SERIES SHELVING DETAILS: (FRAME E)



TYPICAL S-SERIES SHELVING DETAILS: (FRAME E1)

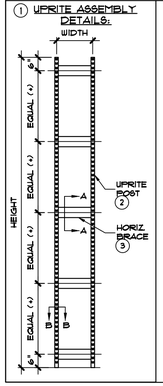


TYPICAL WIDESPAN DETAILS: (FRAME E4)

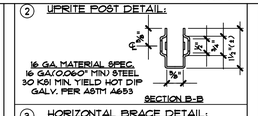


STORAGE SHELVING DETAILS

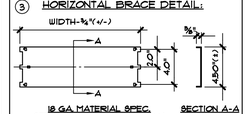
1 UPRITE ASSEMBLY DETAIL:



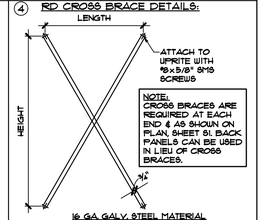
2 UPRITE POST DETAIL:



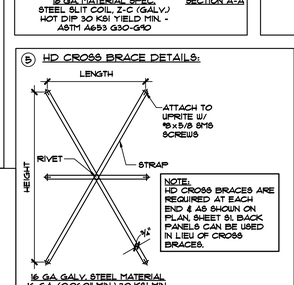
3 HORIZONTAL BRACE DETAIL:



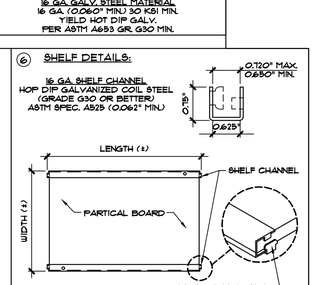
4 RD CROSS BRACE DETAILS:



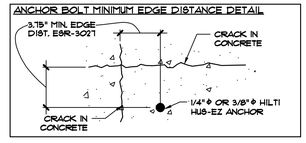
5 HD CROSS BRACE DETAILS:



6 SHELF DETAILS:



ANCHOR BOLT MINIMUM EDGE DISTANCE DETAIL



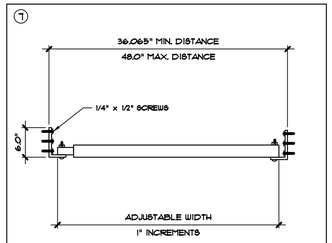
3/8" Φ HILTI HUS-EZ ANCHORS		
INSTALLATION TORQUE	Tinst	40 FT. LBS.

*REFERENCE ESR-3027

1/4" Φ HILTI HUS-EZ		
INSTALLATION TORQUE	Tinst	18 FT. LBS.

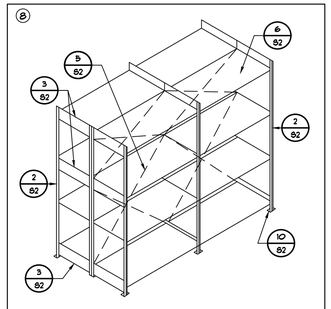
*REFERENCE ESR-3027

7



TOP TIE FOR STORAGE SHELVING

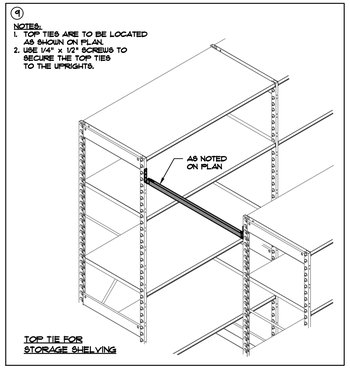
8



GENERAL CONFIGURATION (STORAGE SHELVING)

9

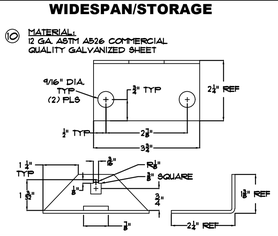
NOTES:
1. TOP TIES ARE TO BE LOCATED AS SHOWN ON PLAN.
2. USE 1/4" x 1/2" SCREWS TO SECURE THE TOP TIES TO THE UPRIGHTS.



TOP TIE FOR STORAGE SHELVING

WIDESPAN/STORAGE

10 MATERIAL:
12 GA. ASTM A526 COMMERCIAL QUALITY GALVANIZED SHEET

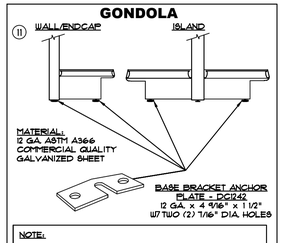


NOTE:
1. USE TWO (2) 3/8" DIA. HILTI HUS-EZ ANCHORS WITH AN ABSOLUTE MINIMUM OF 2 1/2" OF NOMINAL EMBEDMENT PER ANCHOR PLATE.
2. USE #10 x 5/8" SHEET METAL SCREW TO ATTACH TO FRAME E & E1.
3. USE 5/16"x2 1/2" CARRIAGE BOLT TO ATTACH TO FRAME B, C & E4.

BASE PLATE DETAIL FOR FRAMES B, C, E, E1 & E4
SCALE: N.T.S.

GONDOLA

11 WALL/ENDCAP



NOTE:
1. USE TWO (2) 1/4" DIA. HILTI HUS-EZ ANCHORS WITH AN ABSOLUTE MINIMUM OF 2 1/2" OF NOMINAL EMBEDMENT PER ANCHOR PLATE (MINIMUM OF ONE (1) ANCHOR PLATE PER BASE BRACKET, ONE (1) PER UPRIGHT, TYPICAL-SEE ABOVE).
2. REFER TO ANCHOR LAYOUT DETAIL 12/82 FOR ANCHOR LOCATIONS.
3. USE OVERSIZED WASHERS IF SMALLER ANCHORS ARE USED.

ANCHOR PLATE DETAIL AT FRAMES A & A1
SCALE: N.T.S.

12 ANCHOR LAYOUT

13 WALL ATTACHMENT DETAILS FOR GONDOLA SHELVING

EVALUATION NOTE:
THE EVALUATION OF THE EXISTING WALL STRUCTURE TO SAFELY SUPPORT THE FIXTURE SYSTEM IS OUTSIDE THE SCOPE OF WORK FOR JPH & CLARK INC. THE PROJECT ENGINEER OF RECORD SHALL EVALUATE THE LATERAL LOADS IMPOSED BY THE FIXTURE SYSTEM ONTO THE EXISTING WALL STRUCTURE PRIOR TO ANY FIXTURE INSTALLATION.

WALL ATTACHMENT (A) DETAIL

(B) TYPICAL BLOCKING ATTACHMENT TO WALL

WIDESPAN DETAILS

14 (A) WIDESPAN UPRITE

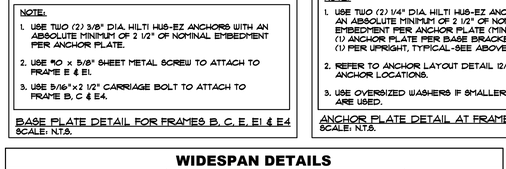
(B) TYPICAL BEAM TO COLUMN CONNECTION

(C) HORIZONTAL & DIAGONAL BRACE MATERIAL

SPECIFICATIONS: 3/4"x1 11/32"x20 GA. WALL STEEL TUBING

(D) JOINT WELDS

(E) WIDESPAN BEAM DETAIL



TYPICAL ADHESIVE LOADING PLACARDS

MAXIMUM PERMISSIBLE LOADS: (FRAME A)			
453.32	LBS.	113.33	LBS.
MAX SHELVING LOAD		MAX LOAD PER LEVEL	

MAXIMUM PERMISSIBLE LOADS: (FRAME A1)			
260	LBS.	43.33	LBS.
MAX SHELVING LOAD		MAX LOAD PER LEVEL	

MAXIMUM PERMISSIBLE LOADS: (FRAME B)			
2500	LBS.	500	LBS.
MAX SHELVING LOAD		MAX LOAD PER LEVEL	

MAXIMUM PERMISSIBLE LOADS: (FRAME C)			
3400	LBS.	680	LBS.
MAX SHELVING LOAD		MAX LOAD PER LEVEL	

MAXIMUM PERMISSIBLE LOADS: (FRAME E)			
1120	LBS.	80	LBS.
MAX SHELVING LOAD		MAX LOAD PER LEVEL	

MAXIMUM PERMISSIBLE LOADS: (FRAME E1)			
2550	LBS.	150	LBS.
MAX SHELVING LOAD		MAX LOAD PER LEVEL	

MAXIMUM PERMISSIBLE LOADS: (FRAME E4)			
1000	LBS.	500	LBS.
MAX SHELVING LOAD		MAX LOAD PER LEVEL	

WARNING:
THE ABOVE CAPACITIES ARE BASED ON NEW, UNDAMAGED COMPONENTS. DAMAGE REDUCES RACK CAPACITIES. REPAIR OR REPLACE DAMAGED COMPONENTS.

NOTE:
ALL RACK INSTALLATION SHOULD DISPLAY IN ONE OR MORE CONSPICUOUS LOCATIONS A PERMANENT PLAQUE AND EACH PLAQUE SHALL HAVE AN AREA OF NOT LESS THAN 50 SQUARE INCHES. SECTION 1.4.2 OF RMI

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1801 N. Hampton Rd. Suite 440
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STATE OF KENTUCKY
KRISTINE R. CLARK
37667
LICENSED PROFESSIONAL ENGINEER
9-2-26

DATE ISSUED: SEPTEMBER 2, 2026
REVISIONS:
DRAWN BY: KRC/JED
SHEET NO: F2
OF: 2
JOB NUMBER 26460