



# City of Milpitas

Office of Building Safety

## DESIGN GUIDELINE FOR

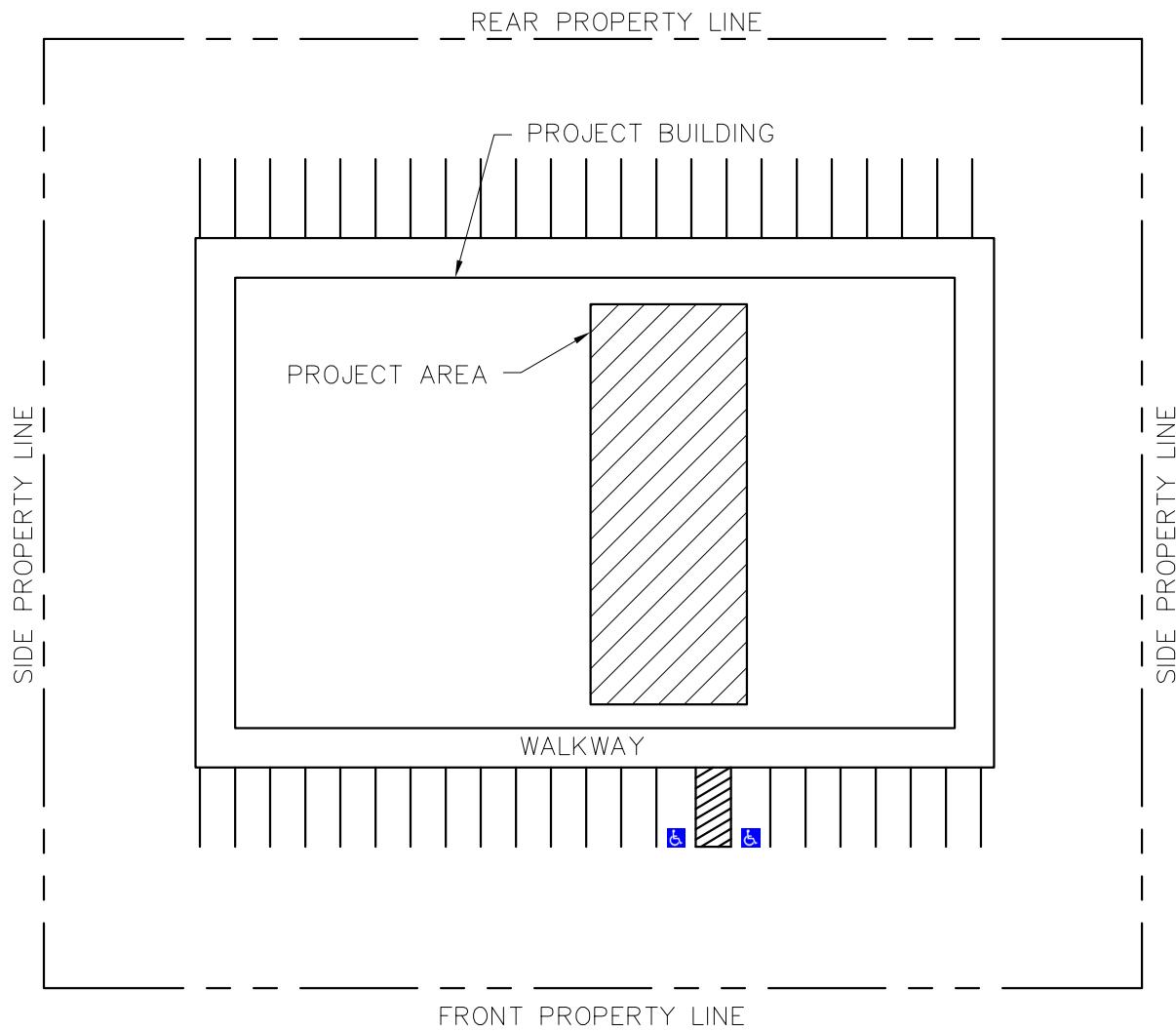
### STORAGE RACK ANCHORAGE



455 E. Calaveras Blvd.  
Milpitas, CA 95035  
408-586-3240  
[www.milpitas.gov](http://www.milpitas.gov)

FEBRUARY 2023

BASED ON  
2022 CALIFORNIA CODES



NOTE:

1. INDICATE PROPERTY LINES, STREET NAMES, LOCATION OF THE BUILDING, ALL PARKING, AND NORTH ARROW SIGN.
2. INDICATE SCOPE OF WORK AND PROJECT AREA.
3. INDICATE TENANT SPACE ADDRESS.
4. INDICATE THE NAME, ADDRESS & TELEPHONE NUMBER OF THE PERSON WHO PREPARED THE PLANS.
5. STORAGE RACKS SHALL NOT STORE HAZARDOUS MATERIALS.

VER	DATE	BY
1	FEB 2023	HLK
2		
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4		

**City of Milpitas**  
 Office of Building Safety  
**STORAGE RACK ANCHORAGE**  
**SAMPLE SITE PLAN**

**SHEET  
1**  
OF 4 SHEETS

NOTES:

1. INDICATE LAYOUT OF THE STORAGE RACKS ON THE FLOOR PLAN TO INDICATE THE LOCATIONS AND ARRANGEMENT OF RACKS.
2. INDICATE THE MAX. LOAD ON EACH SHELF AND ITS CONTENT. TOTAL WEIGHT SHALL NOT EXCEED THE QUANTITY SHOWN ON SHEET 4.
3. INDICATE WIDTH, DEPTH, HEIGHT AND DISTANCE BETWEEN EACH LEVEL FOR EACH TYPE OF RACK.
4. SPECIAL INSPECTION IS REQUIRED FOR POST-INSTALLED ANCHORS.
5. INDICATE DETAILS OF THE (E) FLOOR PLAN TO SHOW ROOMS AND THEIR USE, ROOM DIMENSIONS, LOCATION OF DOORS IN ROOMS, EQUIPMENT, EXIT DOORS, ETC.
6. INDICATE ILLUMINATED EXIT SIGNS, COMMON PATH OF EGRESS TRAVEL, MAX. EXIT ACCESS TRAVEL DISTANCE.
7. EMERGENCY LIGHTING WILL BE REVIEWED BY FIRE DURING INSPECTION.

DIMENSIONAL NOTES

\* 44" MIN. ON PUSH SIDE  
48" MIN. ON PUSH SIDE WITH 12" MIN. CLEARANCE AT THE LATCH SIDE OF DOOR WHEN THE DOOR HAS BOTH A CLOSER AND A LATCH  
60" MIN. ON PULL SIDE

\*\* 36" MIN. AISLE SERVING ONE SIDE

^ 44" MIN. AISLE SERVING BOTH SIDES

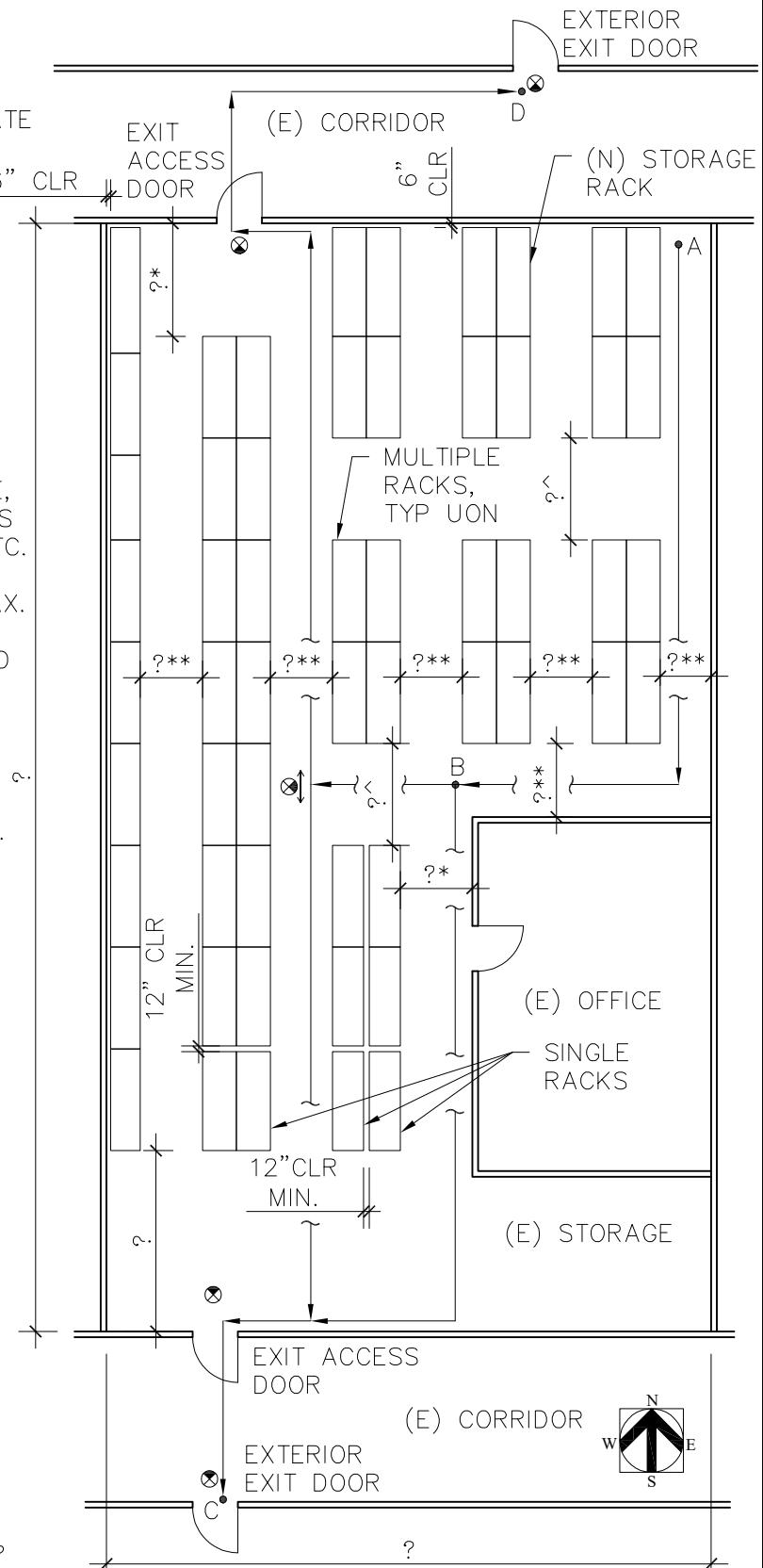
LEGEND

↔ ILLUMINATED EXIT SIGN (WITH DIRECTIONAL ARROW AS REQ.)

→ PATH OF TRAVEL

COMMON PATH OF EGRESS TRAVEL:  
(POINT A TO B) = ?

MAX. EXIT ACCESS TRAVEL DISTANCE:  
(POINT A TO C OR POINT A TO D) = ?

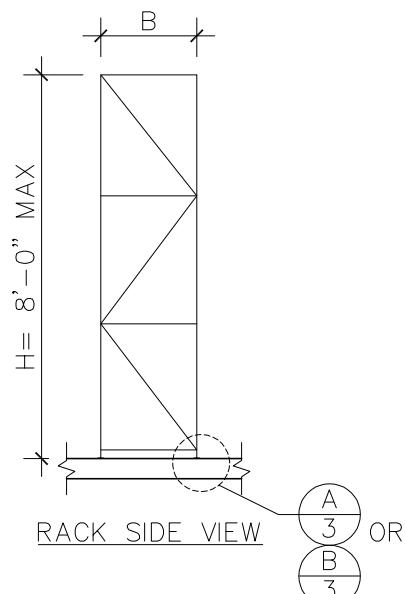


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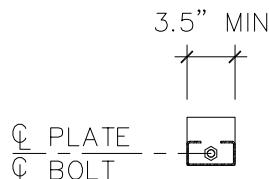
**City of Milpitas**  
Office of Building Safety  
**STORAGE RACK ANCHORAGE**  
**SAMPLE FLOOR PLAN**

**SHEET**  
**2**  
OF 4 SHEETS

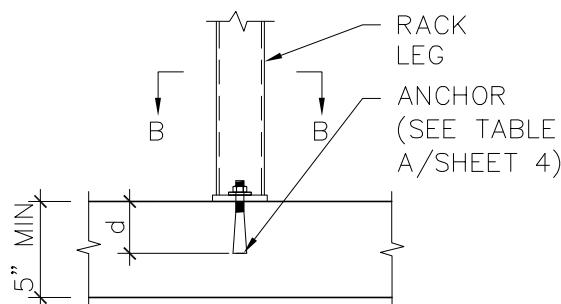
PRODUCT HEIGHT AT TOP SHELF  
SHALL NOT EXCEED 12"



CONCENTRIC BASE PLATE:



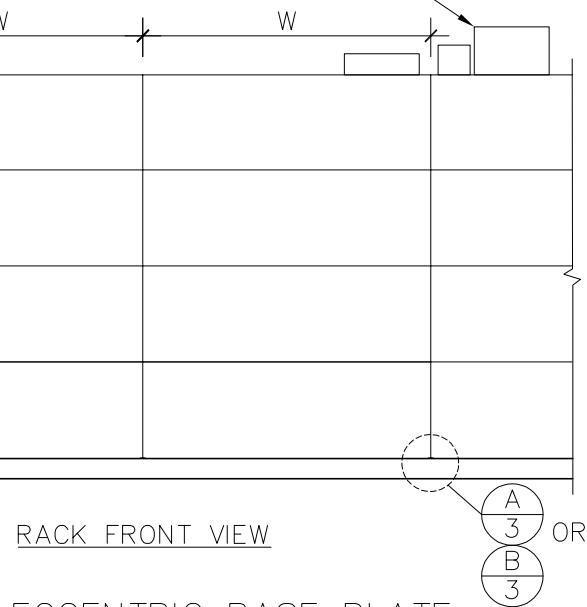
SECTION B-B



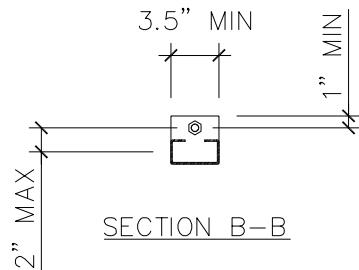
NOTE: SEE TABLE A FOR "d".

**A** ANCHORAGE DETAIL

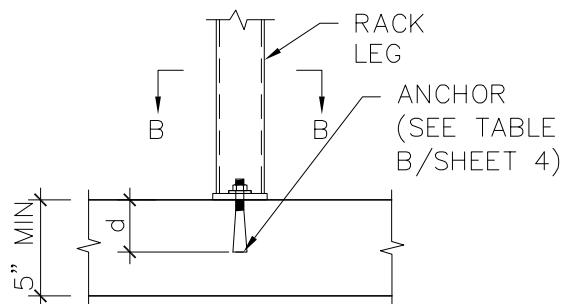
SCALE: 1"=1'-0"



ECCENTRIC BASE PLATE:



SECTION B-B



NOTE: SEE TABLE B FOR "d".

**B** ANCHORAGE DETAIL

SCALE: 1"=1'-0"

DISCLAIMER:

THE INFORMATION PROVIDED IN THIS DESIGN GUIDE CARRIES NO IMPLIED OR INFERRED GUARANTEE AGAINST FAILURE OR DEFECTS. BY USING THIS DESIGN GUIDE THE CONTRACTOR/OWNER ACCEPTS THE FULL RESPONSIBILITY OF RISK. ALTERNATE DESIGN MAY BE USED WHEN PROVIDED WITH WET STAMPED AND SIGNED STRUCTURAL CALCULATIONS & DETAILS BY A CALIFORNIA LICENSED ENGINEER OR ARCHITECT.

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**STORAGE RACK ANCHORAGE**  
**SAMPLE DETAILS**

**SHEET**  
**3**  
OF 4 SHEETS

TABLE A: CONCENTRIC BASE PLATE		EXPANSION ANCHORS	EPOXY ANCHORS
MIN. DEPTH (B)	MAX WEIGHT		
1'-6"	RACK SELF-WT	75 LBS	75 LBS
	TOTAL PRODUCT PER RACK	50 LBS	100 LBS
	PRODUCT PER SHELF	25 LBS	50 LBS
2'-0"	RACK SELF-WT	100 LBS	100 LBS
	TOTAL PRODUCT PER RACK	75 LBS	150 LBS
	PRODUCT PER SHELF	35 LBS	75 LBS
2'-6"	RACK SELF-WT	125 LBS	125 LBS
	TOTAL PRODUCT PER RACK	100 LBS	200 LBS
	PRODUCT PER SHELF	50 LBS	100 LBS
3'-0"	RACK SELF-WT	150 LBS	150 LBS
	TOTAL PRODUCT PER RACK	150 LBS	250 LBS
	PRODUCT PER SHELF	75 LBS	125 LBS

TABLE B: ECCENTRIC BASE PLATE		EXPANSION ANCHORS	EPOXY ANCHORS
MIN. DEPTH (B)	MAX WEIGHT		
1'-6"	RACK SELF-WT	75 LBS	75 LBS
	TOTAL PRODUCT PER RACK	50 LBS	100 LBS
	PRODUCT PER SHELF	25 LBS	50 LBS
2'-0"	RACK SELF-WT	100 LBS	100 LBS
	TOTAL PRODUCT PER RACK	75 LBS	150 LBS
	PRODUCT PER SHELF	35 LBS	75 LBS
2'-6"	RACK SELF-WT	125 LBS	125 LBS
	TOTAL PRODUCT PER RACK	100 LBS	200 LBS
	PRODUCT PER SHELF	50 LBS	100 LBS
3'-0"	RACK SELF-WT	150 LBS	150 LBS
	TOTAL PRODUCT PER RACK	150 LBS	250 LBS
	PRODUCT PER SHELF	75 LBS	125 LBS

## ANCHORAGE

### 1. EXPANSION ANCHOR OPTIONS

- 1.1. HILTI KB-TZ2 CS (ESR 4266) – 5/8" x 3.25"
- 1.2. SIMPSON STRONG-BOLT 2 (ESR 3037) – 1/2" x 3.25"
- 1.3. DEWALT POWER-STUD +SD4 (ESR 2502) – 5/8" x 3.25"

### 2. EPOXY ANCHOR OPTIONS

- 2.1. HILTI HIT-HY 200 V3 (ESR 4868) – 5/8" x 3.5"
- 2.2. SIMPSON SET-3G (ESR 4057) – 1/2" x 3.75"
- 2.3. DEWALT PURE 110+ (ESR 3298) – 1/2" x 3.75"

### 3. ANCHORAGE NOTES

- 3.1. ALTERNATIVE, CURRENT ICC APPROVED EXPANSION ANCHORS OR EPOXY, SHALL BE PROVIDED WITH ANCHORAGE DESIGN BY LICENSED PROFESSIONAL.
- 3.2. ANCHOR BOLT DIMENSIONS SHOWN ARE DIAMETER AND NOMINAL EMBEDMENT DEPTH "d".
- 3.3. EPOXY ANCHOR RODS SHALL BE ASTM A307 GR. A OR F1554 GR. 36 OR RODS AS SPECIFIED BY MANUFACTURER.

## RACK NOTES:

1. MAX WEIGHT IS THE WEIGHT OF A SINGLE RACK IN A MULTIPLE RACK CONFIGURATION. MAX WEIGHT MAY BE DOUBLED FROM THAT SHOWN IN THE TABLE WHERE A SINGLE RACK IS INSTALLED.
2. RACKS SHALL NOT CONTAIN HAZARDOUS MATERIALS.
3. SINGLE RACKS SHALL BE INSTALLED 12" CLEAR AWAY FROM ADJACENT RACKS.
4. RACKS SHALL BE INSTALLED 6" CLEAR AWAY FROM WALLS.

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1	FEB 2023	HLK		4
2				
3				
4				OF 4 SHEETS