



City of Milpitas

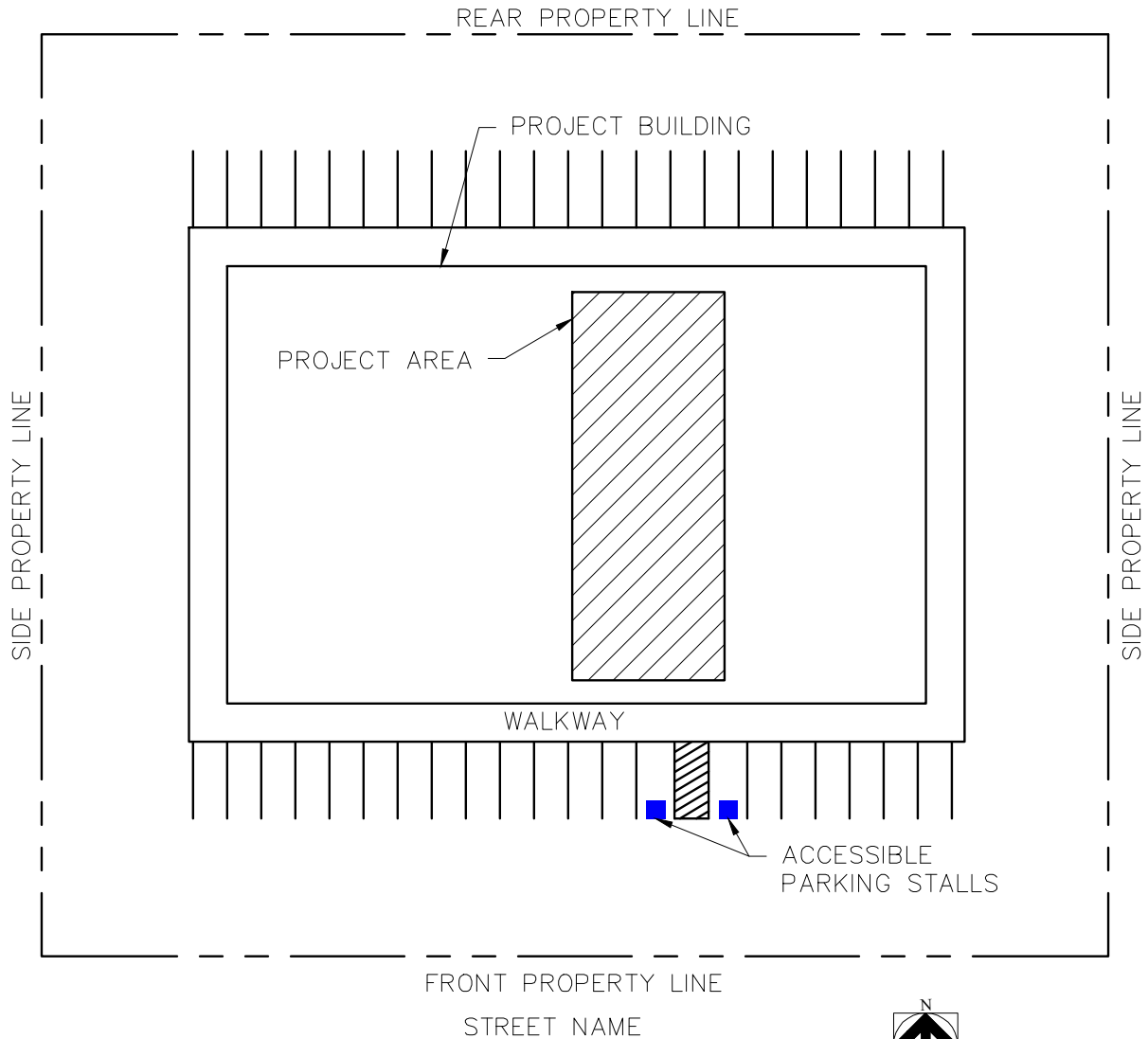
Building & Safety Department

DESIGN GUIDELINES FOR STORAGE RACK ANCHORAGE



455 E. Calaveras Blvd.
Milpitas, CA 95035
408-586-3240
www.ci.milpitas.ca.gov

MAY 2017



NOTE:

1. INDICATE PROPERTY LINES, STREET NAMES, LOCATION OF THE BUILDING, ALL PARKING INCLUDING ACCESSIBLE 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. INDICATE PROJECT INFORMATION:
 - TYPE OF CONSTRUCTION
 - TYPE OF OCCUPANCY
 - FIRE SPRINKLERS
 - SQUARE FOOTAGE OF BUILDING
 - SQUARE FOOTAGE OF PROJECT AREA
 - NUMBER OF STORIES

REV.	DATE	BY:	SCALE: N.T.S.
1	01/2011	OC/BK	DATE: JULY 2009
			DRAWN BY: BYC
			REVIEWED BY: KI/LS/OC/BK/GA

City of Milpitas
 Building & Safety Department
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 EPOXY OR EXPANSION ANCHORS.
5. INDICATE DETAILS OF THE (E) FLOOR PLAN TO SHOW ROOMS AND THEIR USE, ROOM DIMENSIONS, LOCATION OF DOORS IN ROOMS, CORRIDOR, EQUIPMENT, RESTROOM, EXIT DOORS, ETC.
6. INDICATE ILLUMINATED EXIT SIGNS, TACTILE EXIT SIGNS, COMMON PATH OF EGRESS TRAVEL, MAX. EXIT ACCESS TRAVEL DISTANCE.

* 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

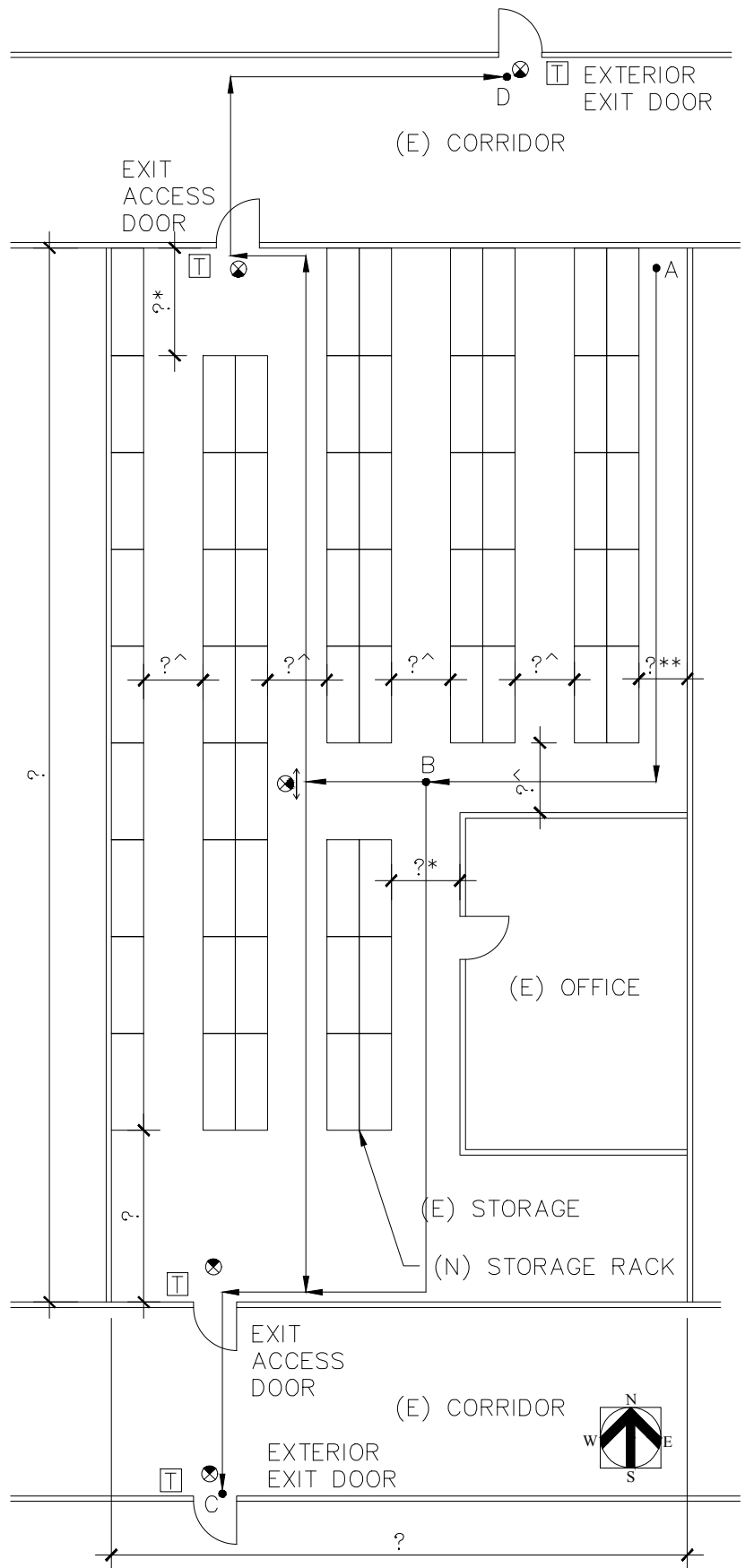
^ 44"MIN. AISLE SERVING BOTH SIDES

LEGEND

-  TACTILE EXIT SIGN:
 "EXIT ROUTE" AT EXIT ACCESS DOOR
 "EXIT" AT EXTERIOR EXIT DOOR
-  ILLUMINATED EXIT SIGN (WITH DIRECTIONAL ARROW AS REQ.)
-  PATH OF TRAVEL

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

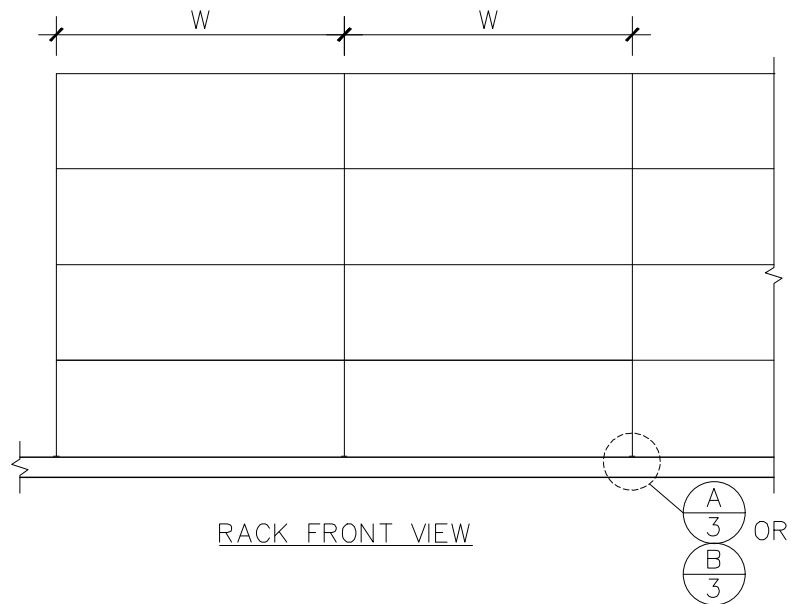
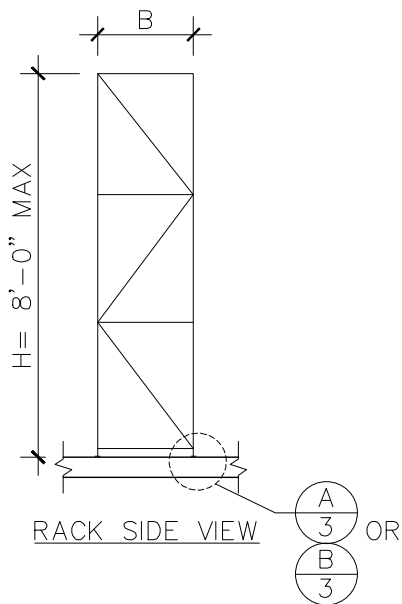
MAX. EXIT ACCESS TRAVEL DISTANCE:
 (POINT A TO C OR POINT A TO D) = ?



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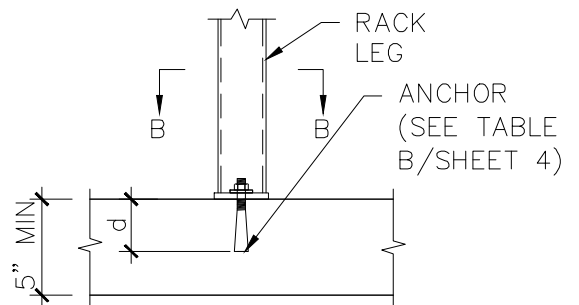
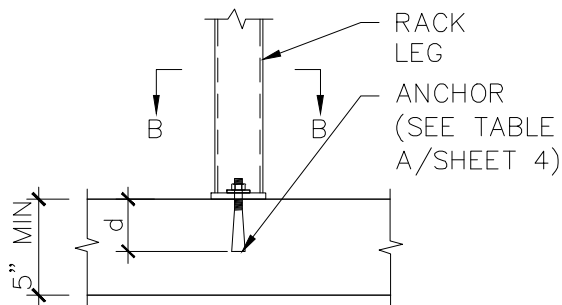
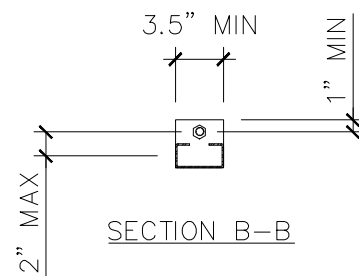
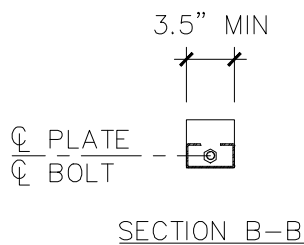
City of Milpitas
 Building & Safety Department
STORAGE RACK ANCHORAGE
SAMPLE FLOOR PLAN

SHEET
2
 OF 4 SHEETS



CONCENTRIC BASE PLATE:

ECCENTRIC BASE PLATE:



NOTE: SEE TABLE A FOR "d".

NOTE: SEE TABLE B FOR "d".

A ANCHORAGE DETAIL

SCALE: 1"=1'-0"

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.

REV.	DATE	BY:	SCALE: AS NOTED
1	2/25/10	BYC	DATE: MAY 2017
2	01/2011	OC/BK	DRAWN BY: JAC
3	04/2017	JC/BK	REVIEWED BY: KI/BYC/OC/BK

City of Milpitas
 Building & Safety Department
STORAGE RACK ANCHORAGE
 SAMPLE DETAILS

SHEET
3
 OF 4 SHEETS

TABLE A: CONCENTRIC BASE PLATE		EXPANSION ANCHORS (ϕ x "d")				EPOXY ANCHORS (ϕ x "d")		
MIN. DEPTH (B)	MAX WEIGHT (LBS)	HILTI	SIMPSON	POWERS	ITW REDHEAD	HILTI	SIMPSON	POWERS
1'-6"	1500	3/8 ϕ x2.75"	1/2 ϕ x3"	1/2 ϕ x2.5"	1/2 ϕ x2.5"	3/8 ϕ x2.375"	3/8 ϕ x3"	1/2 ϕ x3"
2'-0"	2000	3/8 ϕ x2.75"	1/2 ϕ x3"	1/2 ϕ x2.5"	1/2 ϕ x2.5"	3/8 ϕ x2.375"	3/8 ϕ x3"	1/2 ϕ x3"

TABLE B: ECCENTRIC BASE PLATE		EXPANSION ANCHORS (ϕ x "d")				EPOXY ANCHORS (ϕ x "d")		
MIN. DEPTH (B)	MAX WEIGHT (LBS)	HILTI	SIMPSON	POWERS	ITW REDHEAD	HILTI	SIMPSON	POWERS
1'-6"	475	3/8 ϕ x2.75"	1/2 ϕ x3"	1/2 ϕ x2.5"	1/2 ϕ x2.5"	3/8 ϕ x2.375"	3/8 ϕ x3"	1/2 ϕ x3"
2'-0"	700							
2'-6"	900							
3'-0"	1200							

EXPANSION ANCHORS:

HILTI= KB-TZ (ICC-ESR#1917)
 SIMPSON= STRONG-BOLT 2 (ICC-ESR#3037)
 POWERS=POWER-STUD+ SD1 (ICC-ESR#2818)
 ITW= ITW REDHEAD TRUBOLT+ (ICC-ESR#2427)

EPOXY ANCHORS:

HILTI= HIT-RE500 V3 (ICC-ESR#3814)
 SIMPSON= SET-XP (ICC-ESR#2508)
 POWERS= PE1000+ (ICC-ESR#2583)

NOTES:

1. ALTERNATIVE, CURRENT ICC APPROVED EXPANSION ANCHORS OR EPOXY, OF EQUIVALENT FUNCTION AND CAPACITY MAY BE USED IN LIEU OF THOSE SPECIFIED IN THE TABLES ABOVE.
2. EPOXY ANCHOR RODS SHALL BE ASTM A307 GR. A OR F1554 GR. 36 OR RODS AS SPECIFIED BY MANUFACTURER.
3. USER OF THIS DOCUMENT SHALL SPECIFY (BY CIRCLING) ALL DIMENSIONS, WEIGHTS, ANCHOR TYPE AND CONDITION.
4. MAX WEIGHT IS THE WEIGHT TO A SINGLE RACK. WHERE RACKS ARE CONTINUOUS/ SHARE A FRAME, MAX. WEIGHT SHALL BE HALF OF THAT SHOWN IN TABLES.
5. ANCHOR BOLT DIMENSIONS SHOWN ARE DIAMETER AND NOMINAL EMBEDMENT DEPTH "d".
6. NO LOADS/WEIGHT SHALL BE PLACED ON TOP SHELF.
7. SPECIFY THE RACK WIDTH, W= _____ FT. _____ IN.

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REV.	DATE	BY:	SCALE: AS NOTED	<h1>City of Milpitas</h1> <p>Building & Safety Department STORAGE RACK ANCHORAGE SAMPLE DETAILS</p>	<p>SHEET 4 OF 4 SHEETS</p>
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BUILDING AND SAFETY DEPARTMENT

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CITY OF MILPITAS DISCLAIMER

The City of Milpitas has provided design guidelines to the public for informational purposes. These guidelines are sufficient to meet the Building Code requirements and obtain a City permit. However, the guidelines were drafted to fit generic design and building conditions, not project specific conditions.

I, the undersign, expressly acknowledge and agree that any and all use of the City of Milpitas Building & Safety Department Design Guidelines is at my sole risk. Neither the City of Milpitas nor any of its respective employees, agents, or officials warrant that access to and use of the Guidelines will be free from failure or defects. Nor does the City of Milpitas offer any warranty for the results that may be obtained from using the Guidelines or for the accuracy, reliability or design of any information provided by the Guidelines.

Print Name

Company

Signature

Plan Check No.

Date