APPLICATION FOR HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM)

OFFICE USE ONLY

APPLICATION #: OPM-0619

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal/Update

Manufacturer Information

Manufacturer: Omnicell, Inc.

Manufacturer's Technical Representative: William Meyer

Mailing Address: 51 Pennwood Place, Suite #400, Warrendale, PA 15086

Telephone: (724) 741-7714 Email: Bill.Meyer@omnicell.com

REVIEWED FOR CODE COMPLIANCE
HCAi
OPM-0619
BY: William Staehlin
DATE: 03/23/2023
CALIFORNIA BUILDING CODE, 2019

Product Information

Product Name: Omnicell XR-2

Product Type: Automated Central Pharmacy System

Product Model Number: XR-2 AutoPackager, Cart Module, Center Rail, End Cap, Storage Module & User Module

General Description: Mulit-Module Automated Central Pharmacy System

Applicant Information

Applicant Company Name: LFZ Group

Contact Person: Kenneth Lord

Mailing Address: 2461 w 208th st, suite 200, Torrance, CA 90501

Telephone: (310) 640-7200 Email: klord@lfzgroup.com

Title: principal

Registered Design Professonal Preparing Engineering Recommendations

Company Name: THE LFZ GROUP

Name: Kenneth J. Lord California License Number: S4394

Mailing Address: 2461 West 208th Street, Suite #200, Torrance, CA 90501

Telephone: (310) 640-7200 Email: klord@lfzgroup.com

HCAI Special Seismic Certification Preapproval (OSP)

☐ Special Seismic Certification is preapproved under OSP OSP Number:

Certification Method

Testing in accordance with: ☐ ICC-ES AC156 ☐ FM 1950-16

☐ Other(s) (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2019 (CBSC 2019) for component supports and attachments are not permitted. For distribution system, interior partition wall, and suspended ceiling seismic bracings, test criteria other than those adopted in the CBSC 2019 may be used when approved by HCAI prior to testing.

☒ Analysis

☐ Experience Data

☐ Combination of Testing, Analysis, and/or Experience Data (Please Specify):

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HCAI Approval

Date: 3/23/2023

Name: William Staehlin Title: Senior Structural Engineer

Condition of Approval (if applicable):

GENERAL NOTES

1. INTENT OF DRAWINGS AND NOTES
   - A. THE INTENT OF THIS SET OF ANCHORAGE DRAWINGS AND SPECIFICATONS IS LIMITED ONLY TO THE SEISMIC ANCHORAGE OF THE AUTO PACKAGER MODULE OF THE OMNICELL XR-2 AUTOMATED CENTRAL PHARMACY SYSTEM, AS SHOWN ON SHEET AP_S-2, ANYWHERE WITHIN THE STATE OF CALIFORNIA, Sds < 1.94, & z/h <= 1.0 WITHIN THE HOSPITAL BUILDING IN ACCORDANCE WITH THE 2022 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY OSHPD-FDD BEFORE PROCEEDING WITH THE WORK.
   - B. TYPICAL DETAILS AND GENERAL NOTES APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE SPECIFICALLY DETAILED OR NOTED OTHERWISE ON OTHER SHEETS.
   - C. DIMENSIONS TAKE PRECEDENCE OVER SCALE OF DRAWINGS. HOWEVER, ANY SIGNIFICANT CONFLICTS SHOULD BE RESOLVED AS NOTED.
   - D. UNITS WILL NOT SUPPORT LIFE-SUSTAINING MACHINERY OR EQUIPMENT.
   - E. THIS SET OF DRAWINGS COVERS ONLY THE ANCHORAGE OF THE UNIT TO THE BUILDING'S STRUCTURE
2. CODE

   THIS DRAWING SET INCLUDING ALL NEW CONSTRUCTION, INSPECTION AND PHYSICAL TESTING PROCEDURES SHALL COMPLY WITH CHAPTERS 17 & 19 OF THE CBC,22 AND CHAPTER 13 OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS ASCE 7-16
3. CBC,22 DESIGN PARAMETERS

   A. GEOTECHNICAL DESIGN PARAMETERS

   ALLOWABLE SOIL BEARING PRESSURE: 1,000 psf

   B. SEISMIC DESIGN PARAMETERS

   $$F_p = \frac{0.4 a_p S_{Ds}}{R_p / I_p}\left(1 + 2\frac{z}{h}\right) W_p$$ ASCE 7-16 EQ. 13.3-1

   S_{Ds} = 1.94

   W_p = 1,732# INCL. CONTENTS, ENCLOSURE CLADDING & END CAP PANEL (WORST CASE)

   C.B.C. SEISMIC DESIGN CATEGORY "D"

   C.B.C. OCCUPANCY CATEGORY IV

   C.B.C. IMPORTANCE FACTOR, Ip: 1.5

   FOR STORAGE CABINETS & LAB EQUIPMENT PER ASCE 7-16 TABLE 13.5.1,

   C.B.C. COMPONENT AMPLIFICATION FACTOR, ap: 1.0

   C.B.C. COMPONENT RESPONSE MODIFICATION FACTOR, Rp: 2.5

   C.B.C. TOTAL MIN. LATERAL FORCE , Fp: 0.3 SDsIp Wp = 0.87 Wp ASCE 7-16 EQ. 13.3-3

   C.B.C. TOTAL MAX. LATERAL FORCE , Fp: 1.6 SDsIp Wp = 4.63 Wp ASCE 7-16 EQ. 13.3-2

   C.B.C. TOTAL LATERAL FORCE, Fp: 1.39 Wp @ TOP LEVEL z = h

   FOR z/h = 0.0 , E_h = 0.87 E_v = 0.39

   FOR z/h = 1.0 , E_h = 1.39 E_v = 0.39

   C. ALL SEISMIC ANCHORAGE LOADS AND FORCES INDICATED ON THESE DRAWINGS AND SPECIFICATIONS ARE BASED UPON A STRENGTH DESIGN ANALYSIS, UNLESS NOTED OTHERWISE.
4. STRUCTURAL STEEL
   - A. ALL STRUCTURAL STEEL PLATE MATERIAL SHALL CONFORM TO ASTM A-36, Fy = 36 KSI. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF AISC SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
   - B. ALL WELDING & FABRICATION SHALL BE PERFORMED BY A FABRICATOR LICENSED BY OSHPD-FDD . THE FABRICATOR SHALL PROVIDE A CERTIFICATE OF COMPLIANCE TO OSHPD-FDD.
   - C. WELDING SHALL CONFORM TO LATEST CBC AND AWS STANDARDS. ALL WELDERS SHALL BE CERTIFIED BY AWS.
   - D. WELDING SHALL BE BY MEANS OF THE SHIELDED ELECTRIC ARC METHOD USING E70XX ELECTRODES. E70T4 ELECTRODES SHALL NOT BE USED.
   - E. LENGTHS OF WELDS SHOWN ARE EFFECTIVE LENGTHS AS SPECIFIED IN THE CODE. WHERE LENGTH OF WELD IS NOT SHOWN, IT SHALL BE THE FULL LENGTH OF JOINT.
   - F. HOLES FOR BOLTS AND CONNECTORS IN STRUCTURAL STEEL SHALL BE DRILLED OR PUNCHED. BURNING OF HOLES SHALL NOT BE PERMITTED.
   - G. BOLTS @ BOLTED CONNECTIONS SHALL CONFORM TO ASTM SPECIFICATIONS:

     @ STRUCTURAL STEEL CONNECTION..... A307 U.N.O.

     @ SLAB THRU-BOLT CONNECTION..... F1554, GR. 36 MIN.
5. EXPANSION TYPE ANCHORS TO EXISTING CONSTRUCTION
   - A. ADD EXPANSION TYPE ANCHOR BOLTS AS DELINEATED BY REFERENCED DETAILS.
   - B. EXPANSION TYPE ANCHORS SHALL BE HILTI KWIK-BOLT TZ2 ANCHORS OF CARBON STEEL CONSTRUCTION PER ICC #ESR-4266 OR APPROVED EQUAL BY OSHPD-FDD AND THE STRUCTURAL ENGINEER-OF-RECORD. ALL EXPANSION TYPE ANCHORS SHALL HAVE A CURRENT ICC EVALUATION REPORT. FOLLOW MANUFACTURER'S SPECIFICATIONS AND APPROVED INSTALLATION PROCEDURES AT ALL TIMES.
   - C. EXPANSION TYPE ANCHORS SHALL BE INSTALLED IN COMPLIANCE WITH OSHPD-FDD REQUIREMENTS & IN ACCORDANCE WITH THE OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE AS INDICATED ON THIS SHEET AP_S-1.
6. TESTING AND INSPECTION
   - A. CONTINUOUS SPECIAL INSPECTION BY AN INSPECTOR REGISTERED WITH OSHPD-FDD FOR THE TYPE OF CONSTRUCTION PROVIDED SHALL BE PROVIDED.

     A.1 DURING STRUCTURAL STEEL BOLTING

     A.2 DURING EXPANSION ANCHOR INSTALLATION & TESTING IN ACCORDANCE WITH THE OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE AS INDICATED ON THIS SHEET AP_S-1
   - B. EXPANSION ANCHOR TENSION TESTING CRITERIA

     ANCHOR TESTING OF INSTALLED ANCHORS SHALL BE PER CBC,22 SECTION 1901.3 TITLE 24 PART 2 FOR EXPANSION TYPE ANCHORS USED FOR EQUIPMENT ANCHORAGE APPLICATIONS. 50% OR ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE-HALF THE ANCHORS IN EACH GROUP SHALL BE TENSION TESTED. TENSION TESTING OF THE EXPANSION ANCHORS SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD-FDD . A TESTING, INSPECTION AND OBSERVATION (TIO) PROGRAM MUST BE DEVELOPED (SPECIFYING TESTS AND SPECIAL INSPECTIONS ONLY), SUBMITTED AND APPROVED DURING THE PLAN REVIEW PROCESS. SEE SECTION 7-141, TITLE 24, PART 1 FOR REQUIREMENTS. AN ACCEPTABLE TIO FORM CAN BE DOWN LOADED FROM THE OSHPD-FDD WEB SITE. OSHPD-FDD MUST APPROVE THE TIO PROGRAM INCLUDING THE INDIVIDUALS AND / OR FIRMS WHO WILL PERFORM THE SPECIFIED TESTS AND / OR INSPECTIONS PRIOR TO ISSUANCE OF A BUILDING PERMIT.
7. CONSTRUCTION NOTES
   - A. THE ARCHITECT/ENGINEER WILL NOT BE RESPONSIBLE FOR AND WILL NOT HAVE CONTROL OR CHARGE OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
   - B. PRIOR TO STARTING NEW CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. DIMENSIONS, ELEVATIONS, AND OTHER DETAILS OF EXISTING CONSTRUCTION, IF ANY, ON THESE DRAWINGS ARE GIVEN FOR REFERENCE ONLY. EXISTING ARCHITECTURAL, MECHANICAL AND ELECTRICAL CONDITIONS ARE NOT GENERALLY SHOWN AND ANY ORIGINAL DRAWINGS FURNISHED MAY NOT REFLECT THE EXISTING CONSTRUCTION CONDITIONS AND ARE PROVIDED FOR REFERENCE ONLY. THE ARCHITECT/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
   - C. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCED BARS. WHEN INSTALLING THEM INTO EXISTING PRESTRESSED CONCRETE (PRE-TENSIONED OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT & THE DRILLED-IN ANCHOR.
   - D. CONTRACTOR SHALL OBTAIN SEPARATE BUILDING PERMIT FOR ALL ELECTRICAL, PLUMBING, AND HEATING AND VENTILATION WORK.
   - E. BUILDING SHALL NOT BE OCCUPIED DURING CONSTRUCTION WHEN BUILDING STRENGTH IS SUBSTANTIALLY WEAKENED AT ANY TIME OR REQUIRED EXITS ARE NOT AVAILABLE OR ARE OBSTRUCTED.
   - F. ALL UTILITY CONNECTIONS SHALL HAVE SUFFICIENT FLEXIBILITY TO PERMIT ADEQUATE MOTION IN ALL DIRECTIONS.
8. RESPONSIBILITIES OF THE PROJECT-SPECIFIC STRUCTURAL ENGINEER-OF-RECORD
   - A. VERIFY THAT THE CONCRETE SLAB TO WHICH THE UNIT IS ANCHORED IS NOT CRACKED AND MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR.
   - B. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB OPENINGS OR EDGES
   - C. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE ANCHORS SHOWN IN THIS PREAPPROVAL. SEOR SHALL VERIFY THAT THERE IS NO ADVERSE INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR 6 X h_{ef} FROM THIS UNIT'S ANCHORS
   - D. DESIGN ANY SUPPLEMENTARY MEMBERS AND THEIR ATTACHMENTS TO WHICH THE UNIT IS ANCHORED.
   - E. VERIFY THE ADEQUACY OF ANY EXISTING MEMBERS AND THEIR ATTACHMENTS TO WHICH THE UNIT IS TO BE ANCHORED FOR THE FORCES EXERTED ON THEM BY THE UNIT IN ADDITION TO ALL OTHER CBC,22 LOADS AND FORCES.
   - F. VERIFY THAT THE INSTALLATION IS IN COMFORMANCE WITH THE CBC,22 AND WITH THE DETAILS SHOWN IN THIS SET OF ANCHORAGE DRAWINGS.
   - G. VERIFY THAT THE EQUIPMENT'S ACTUAL WEIGHT, C.G. LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN IN THIS SET OF ANCHORAGE DRAWINGS.
   - H. VERIFY THAT THE COMBINATION OF Sds AND z/h RESULT IN SEISMIC FORCES (E_h AND E_v) THAT ARE NOT GREATER THAN THE VALUES SHOWN IN GENERAL NOTE 3.

OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE

REQUIRED TORQUE TEST VALUES
Hardrock or Lightweight Concrete

ANCHOR DIA. (in)	EXPANSION TYPE TORQUE (ft-lbs)
3/8	30
1/2	50
5/8	40

NOTES:

1. ANCHOR DIAMETER REFERS TO THE THREAD SIZE.
2. APPLY PROOF TEST LOADS TO POST-INSTALLED ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. IF NOT, REMOVE NUT & INSTALL A THREADED COUPLER TO THE SAME TIGHTNESS AS THE ORIGINAL NUT USING A TORQUE WRENCH & APPLY LOAD.
3. REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY THE FIXTURE(S).
4. TEST EQUIPMENT (INCLUDING TORQUE WRENCHES) IS TO BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.
5. THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF POST-INSTALLED ANCHORS:

   TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS; WEDGE OR SLEEVE TYPE: ONE HALF (1/2) TURN OF THE NUT.
6. TESTING SHOULD OCCUR A MINIMUM OF 24 HOURS AFTER INSTALLATION OF THE SUBJECT ANCHORS.
7. IF THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE IS LESS THAN THE TEST TORQUE NOTED IN THE TABLE, THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE SHOULD BE USED IN LIEU OF THE TABULATED VALUES.
8. ALL TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE INSPECTOR OF RECORD.

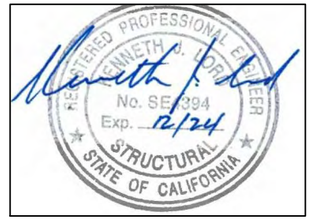
DRAWING INDEX

HOW TO USE THIS DRAWING SET

1. DETERMINE WHETHER THE UNIT WILL BE INSTALLED ON A SLAB-ON-GRADE OR AN ELEVATED SLAB CONDITION, THE CONCRETE SUBSTRATE THICKNESS, MIN. COMPRESSIVE STRENGTH (f'c) & TYPE OF CONCRETE USED FOR THE SUPPORTING CONCRETE SLAB

   FOR SLAB-ON-GRADE INSTALLATIONS WITH THICKNESS ≥ 6" USING NORMAL WEIGHT CONCRETE f'c min. = 3,000 psi & MIN. EDGE DIST. = 12", USE DRAWINGS AP_S-1 & AP_S-3.

   FOR ALL ELEVATED SLAB INSTALLATIONS, NORMAL WEIGHT, SAND LT. WT. FOR ALL LT. WT. CONC., f'c min. = 3,000 psi and MIN. EDGE = 12", USE DRAWINGS AP_S-1 & AP_S-4.
2. ANCHOR LOADS ARE GIVEN ON DETAIL 1 ON DRAWINGS AP_S-3 & AP_S-4 ARE STRENGTH DESIGN DERIVED PER ASCE 7-16 SECT. 13.4.2. WITHOUT THE APPLICATION OF OVERSTRENGTH COEFFICIENT OMEGA Ø = 2.0 UNLESS NOTED OTHERWISE. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO RESIST THE ANCHOR LOADS IN ADDITION TO ALL OTHER LOADS.



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BY: William Staehlin
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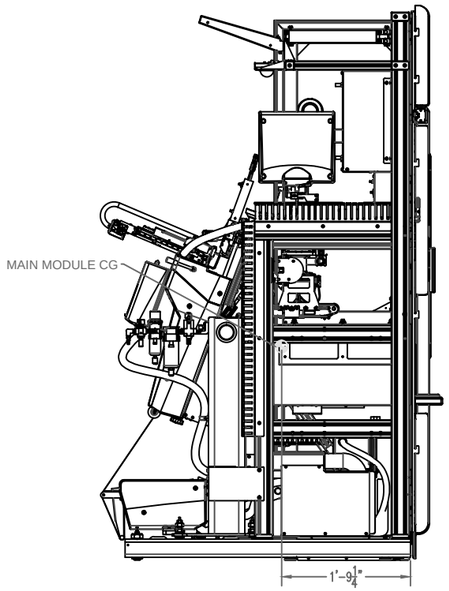
REVISIONS	BY
1 HCAI RE-SUBMIT 10/15/22	K.J.L.
2 P.C. COMMENTS 1/10/23	K.J.L.
3 FINAL REVISION 3/7/23	K.J.L.

SEISMIC ENGINEERING ASSOCIATES, LTD.
2461 West 208th Street. Suite 200
Torrance , California 90501
Telephone: (310) 640-7200

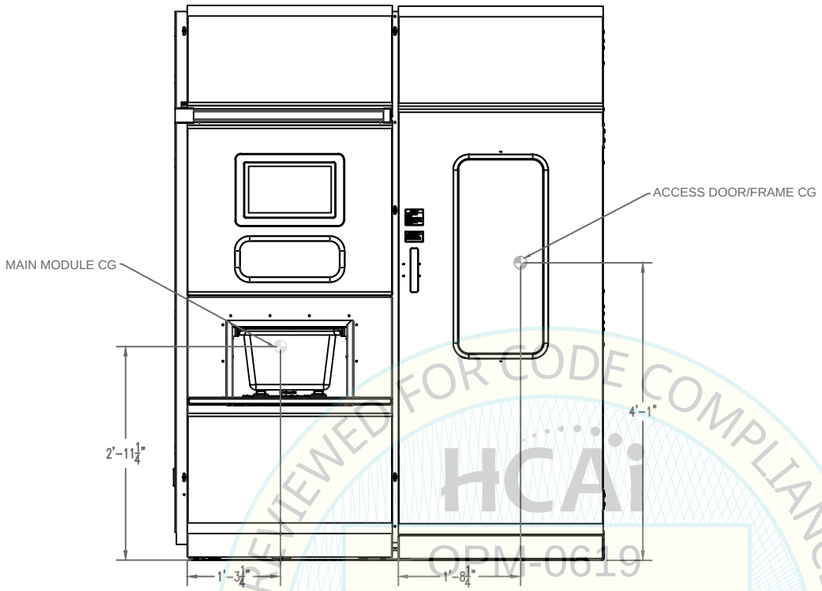
PROJECT:
OSHPD Pre-Approval (OPM) Program
XR-2 Automated Central Pharmacy System
Auto Packager Module Seismic Anchorage

CLIENT:
Omnicell, Inc.
51 Pennwood Place, Ste. 400
Warrendale, PA 15086

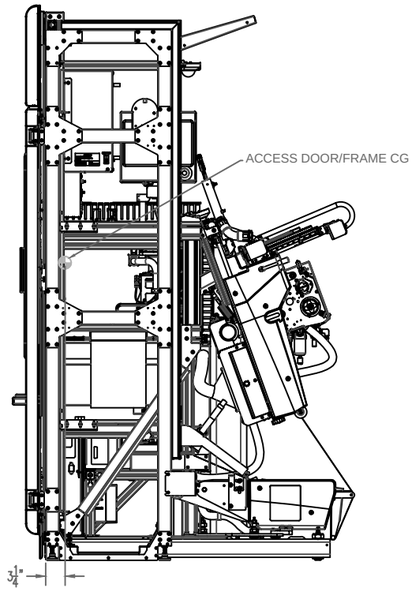
DRAWN K.J.L.
CHECKED K.J.L.
DATE 7/6/20
SCALE VARIES
JOB NO. 17015-04
SHEET
Auto Packager
AP_S-1
1 OF 4 SHEETS



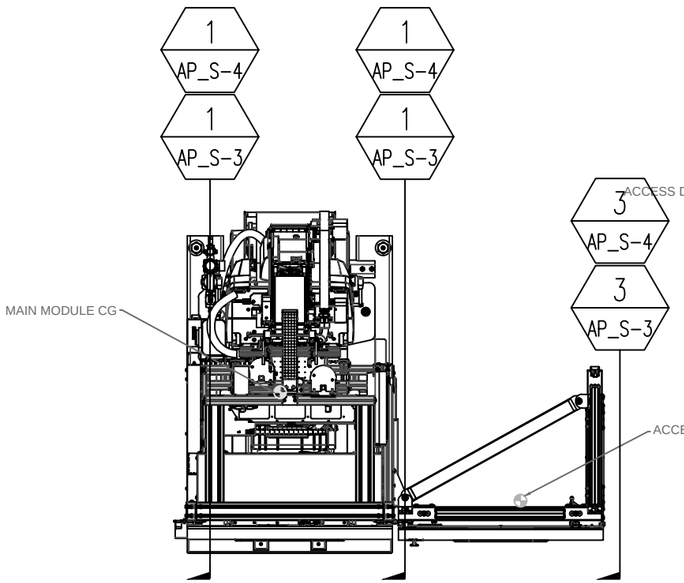
LH SIDE VIEW



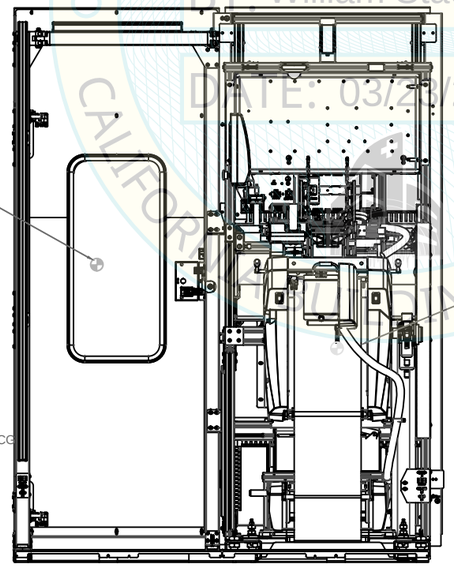
FRONT VIEW



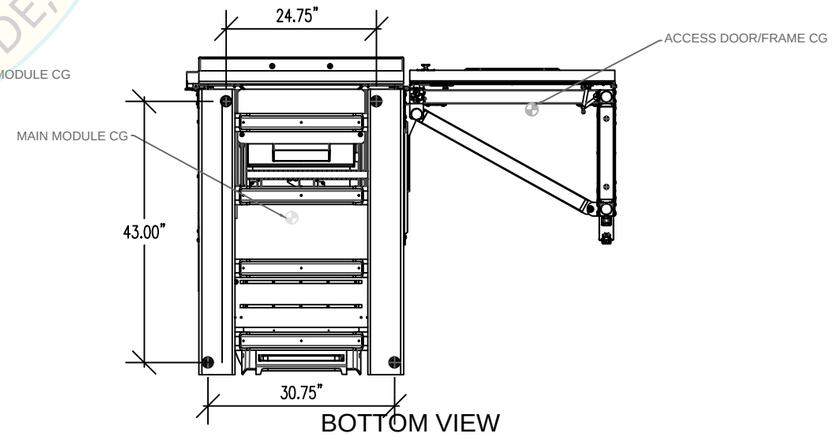
RH SIDE VIEW



PLAN VIEW



REAR VIEW



BOTTOM VIEW

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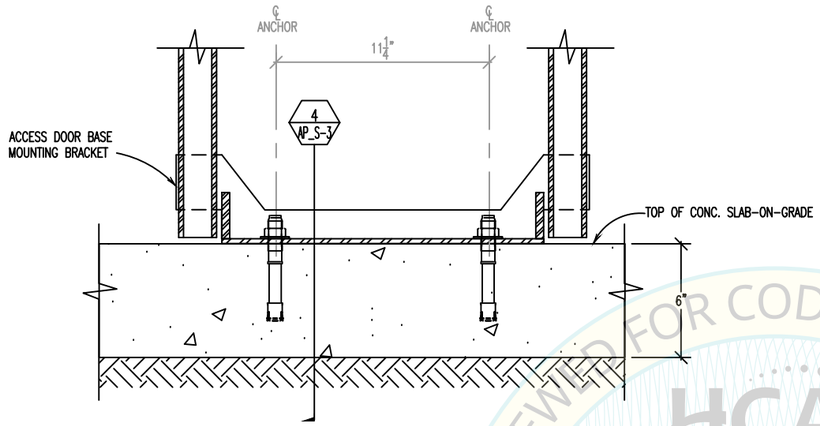
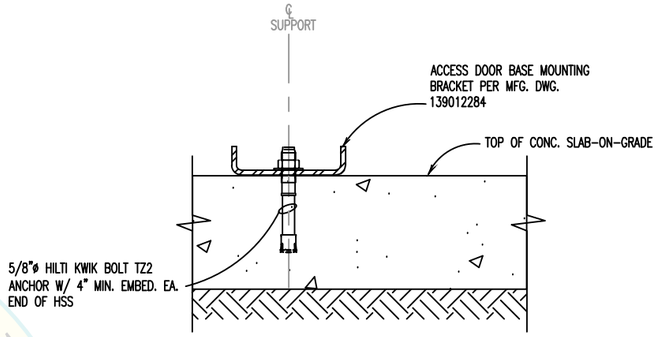
SHEET
Auto Packager
AP_S-2
2 OF 4 SHEETS



AUTO PACKAGER ACCESS DOOR ANCHORAGE ELEVATION — 3 AP_S-3

1 1/2" = 1'-0"



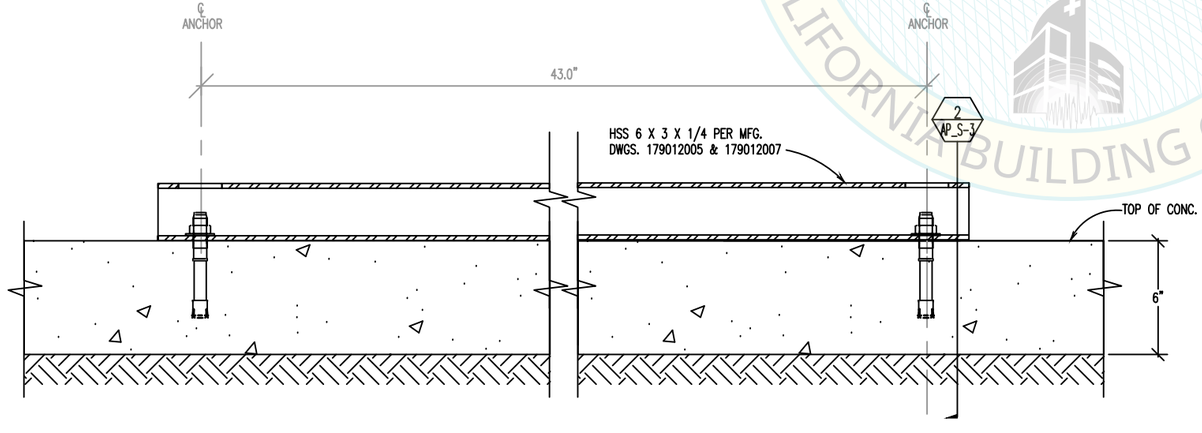
AUTO PACKAGER ACCESS DOOR ANCHORAGE SECTION — 4 AP_S-3

1 1/2" = 1'-0"

MAXIMUM ANCHORAGE ASSEMBLY LOADS - (SIDE-TO-SIDE DIR. GOVERNS)

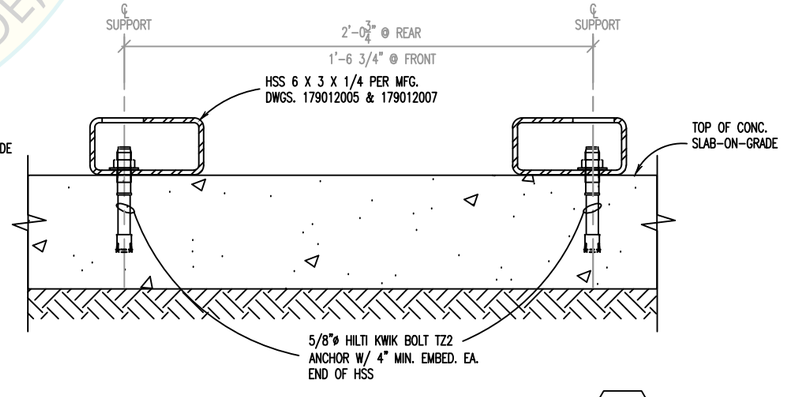
MAXIMUM ANCHOR BOLT LOADS
MAX. TENSION = 2,737#
MAX. SHEAR = 788# SRSS

EXPANSION ANCHOR BOLT DESIGN LOADS INCLUDE OVERSTRENGTH FACTOR, OMEGA Ø = 2.0



AUTO PACKAGER MODULE ANCHORAGE SIDE VIEW ELEVATION — 1 AP_S-3

1 1/2" = 1'-0"



AUTO PACKAGER MODULE ANCHORAGE SECTION — 2 AP_S-3

1 1/2" = 1'-0"

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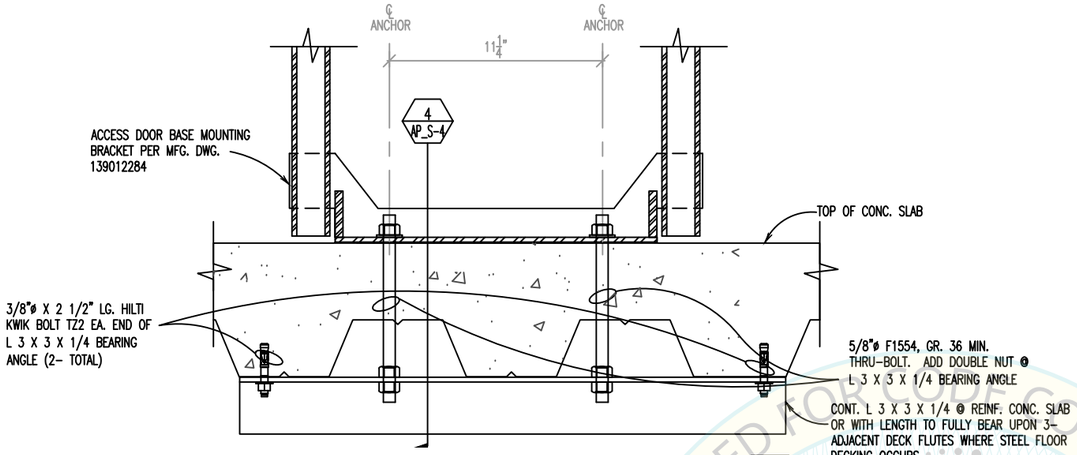
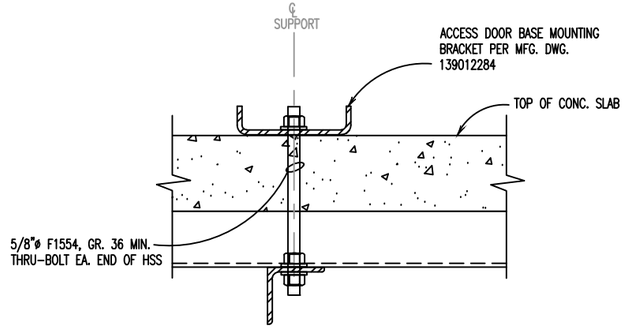
SHEET Auto Packager AP_S-3
35 of 427 SHEETS



AUTO PACKAGER ACCESS DOOR ANCHORAGE ELEVATION

1 1/2" = 1'-0"

3 AP_S-4

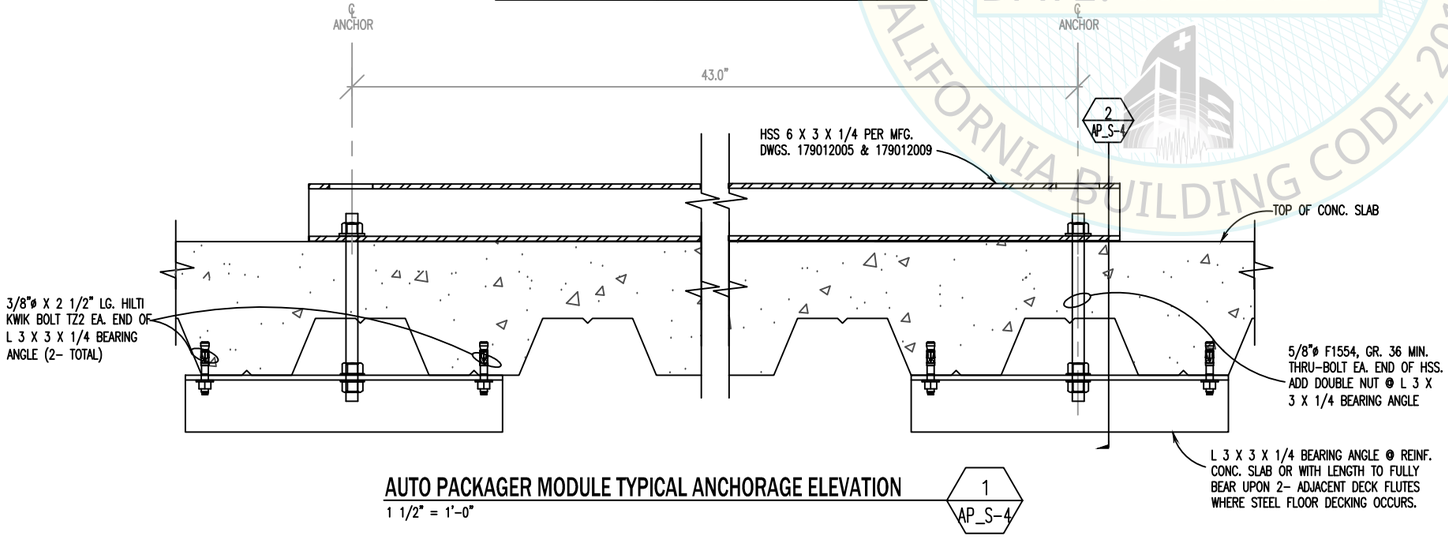


AUTO PACKAGER ACCESS DOOR ANCHORAGE SECTION

1 1/2" = 1'-0"

4 AP_S-4

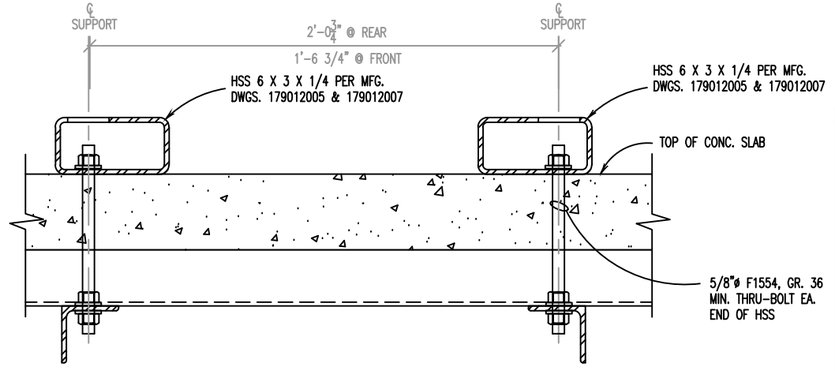
MAXIMUM ANCHORAGE ASSEMBLY LOADS – (SIDE-TO-SIDE DIR. GOVERNS)	
MAXIMUM ANCHOR BOLT LOADS MAX. TENSION = 2,011# MAX. SRSS SHEAR = 630#	THRU-BOLT ANCHOR DESIGN LOADS DO NOT INCLUDE OVERSTRENGTH FACTOR, OMEGA Ø



AUTO PACKAGER MODULE TYPICAL ANCHORAGE ELEVATION

1 1/2" = 1'-0"

1 AP_S-4



AUTO PACKAGER MODULE ANCHORAGE SECTION

1 1/2" = 1'-0"

2 AP_S-4

REVISIONS	BY
1 HCAI RE-SUBMIT 10/15/22	K.J.L.
2 P.C. COMMENTS 1/10/23	K.J.L.
3 FINAL REVISION 3/7/23	K.J.L.

SEISMIC ENGINEERING ASSOCIATES, LTD.
2461 West 208th Street, Suite 200
Torrance, California 90501
Telephone: (310) 640-7200

PROJECT:
OSHPD Pre-Approval (OPM) Program
XR-2 Automated Central Pharmacy System
Auto Packager Module Seismic Anchorage

CLIENT:
Omnicell, Inc.
51 Pennwood Place, Ste. 400
Warrendale, PA 15086

REGISTERED PROFESSIONAL ENGINEER
KENNETH J. LORD
No. SE 4394
Exp. 12/24
STRUCTURAL
STATE OF CALIFORNIA

DRAWN	K.J.L.
CHECKED	K.J.L.
DATE	7/6/20
SCALE	VARIES
JOB NO.	17015-04
SHEET	Auto Packager
	4 OF 4 SHEETS AP_S-4

REVIEWED FOR CODE COMPLIANCE
HCAi
OPM-0619
BY: William Staehlin
DATE: 03/23/2023
CALIFORNIA BUILDING CODE, 2019

GENERAL NOTES

1. INTENT OF DRAWINGS AND NOTES
   - A. THE INTENT OF THIS SET OF ANCHORAGE DRAWINGS AND SPECIFICATONS IS LIMITED ONLY TO THE SEISMIC ANCHORAGE OF THE CART MODULE & CART DOCK OF THE OMNICELL XR-2 AUTOMATED CENTRAL PHARMACY SYSTEM, AS SHOWN ON SHEET CM_S-2, ANYWHERE WITHIN THE STATE OF CALIFORNIA, Sds < 1.94, & z/h <= 1.0 WITHIN THE HOSPITAL BUILDING IN ACCORDANCE WITH THE 2022 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY OSHPD-FDD BEFORE PROCEEDING WITH THE WORK.
   - B. TYPICAL DETAILS AND GENERAL NOTES APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE SPECIFICALLY DETAILED OR NOTED OTHERWISE ON OTHER SHEETS.
   - C. DIMENSIONS TAKE PRECEDENCE OVER SCALE OF DRAWINGS. HOWEVER, ANY SIGNIFICANT CONFLICTS SHOULD BE RESOLVED AS NOTED.
   - D. UNITS WILL NOT SUPPORT LIFE-SUSTAINING MACHINERY OR EQUIPMENT.
   - E. THIS SET OF DRAWINGS COVERS ONLY THE ANCHORAGE OF THE UNIT TO THE BUILDING'S STRUCTURE
2. CODE

   THIS DRAWING SET INCLUDING ALL NEW CONSTRUCTION, INSPECTION AND PHYSICAL TESTING PROCEDURES SHALL COMPLY WITH CHAPTERS 17 & 19 OF THE CBC,22 AND CHAPTER 13 OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS ASCE 7-16
3. CBC,22 DESIGN PARAMETERS

   A. GEOTECHNICAL DESIGN PARAMETERS

   ALLOWABLE SOIL BEARING PRESSURE: 1,000 psf

   B. SEISMIC DESIGN PARAMETERS

   $$F_p = \frac{0.4 a_p S_{Ds}}{R_p / I_p}\left(1 + 2\frac{z}{h}\right) W_p \quad \text{ASCE 7-16 EQ. 13.3-1}$$

   $S_{Ds} = 1.94$

   CART MODULE W_p = 660# INCL. CONTENTS & ENCLOSURE CLADDING (WORST CASE)

   CART DOCK W_p = 355# INCL. CONTENTS (WORST CASE)

   C.B.C. SEISMIC DESIGN CATEGORY "D"

   C.B.C. OCCUPANCY CATEGORY IV

   C.B.C. IMPORTANCE FACTOR, Ip: 1.5

   FOR STORAGE CABINETS & LAB EQUIPMENT PER ASCE 7-16 TABLE 13.5.1,

   C.B.C. COMPONENT AMPLIFICATION FACTOR, ap: 1.0

   C.B.C. COMPONENT RESPONSE MODIFICATION FACTOR, Rp: 2.5

   C.B.C. TOTAL MIN. LATERAL FORCE , Fp: 0.3 SDsIp Wp = 0.87 Wp ASCE 7-16 EQ. 13.3-3

   C.B.C. TOTAL MAX. LATERAL FORCE , Fp: 1.6 SDsIp Wp = 4.63 Wp ASCE 7-16 EQ. 13.3-2

   C.B.C. TOTAL LATERAL FORCE, Fp: 1.39 Wp @ TOP LEVEL z = h

   FOR z/h = 0.0 , E_h = 0.87 E_v = 0.39

   FOR z/h = 1.0 , E_h = 1.39 E_v = 0.39

   C. ALL SEISMIC ANCHORAGE LOADS AND FORCES INDICATED ON THESE DRAWINGS AND SPECIFICATIONS ARE BASED UPON A STRENGTH DESIGN ANALYSIS, UNLESS NOTED OTHERWISE.
4. STRUCTURAL STEEL
   - A. ALL STRUCTURAL STEEL PLATE MATERIAL SHALL CONFORM TO ASTM A-36, Fy = 36 KSI. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF AISC SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
   - B. ALL WELDING & FABRICATION SHALL BE PERFORMED BY A FABRICATOR LICENSED BY OSHPD-FDD. THE FABRICATOR SHALL PROVIDE A CERTIFICATE OF COMPLIANCE TO OSHPD-FDD.
   - C. WELDING SHALL CONFORM TO LATEST CBC AND AWS STANDARDS. ALL WELDERS SHALL BE CERTIFIED BY AWS.
   - D. WELDING SHALL BE BY MEANS OF THE SHIELDED ELECTRIC ARC METHOD USING E70XX ELECTRODES. E70T4 ELECTRODES SHALL NOT BE USED.
   - E. LENGTHS OF WELDS SHOWN ARE EFFECTIVE LENGTHS AS SPECIFIED IN THE CODE. WHERE LENGTH OF WELD IS NOT SHOWN, IT SHALL BE THE FULL LENGTH OF JOINT.
   - F. HOLES FOR BOLTS AND CONNECTORS IN STRUCTURAL STEEL SHALL BE DRILLED OR PUNCHED. BURNING OF HOLES SHALL NOT BE PERMITTED.
   - G. BOLTS @ BOLTED CONNECTIONS SHALL CONFORM TO ASTM SPECIFICATIONS:

     @ STRUCTURAL STEEL CONNECTION..... A307 U.N.O.

     @ SLAB THRU-BOLT CONNECTION..... F1554, GR. 36 MIN.
5. EXPANSION TYPE ANCHORS TO EXISTING CONSTRUCTION
   - A. ADD EXPANSION TYPE ANCHOR BOLTS AS DELINEATED BY REFERENCED DETAILS.
   - B. EXPANSION TYPE ANCHORS SHALL BE HILTI KWIK-BOLT TZ2 ANCHORS OF CARBON STEEL CONSTRUCTION PER ICC #ESR-4266 OR APPROVED EQUAL BY OSHPD-FDD AND THE STRUCTURAL ENGINEER-OF-RECORD. ALL EXPANSION TYPE ANCHORS SHALL HAVE A CURRENT ICC EVALUATION REPORT. FOLLOW MANUFACTURER'S SPECIFICATIONS AND APPROVED INSTALLATION PROCEDURES AT ALL TIMES.
   - C. EXPANSION TYPE ANCHORS SHALL BE INSTALLED IN COMPLIANCE WITH OSHPD-FDD REQUIREMENTS & IN ACCORDANCE WITH THE OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE AS INDICATED ON THIS SHEET CM_S-1.
6. TESTING AND INSPECTION
   - A. CONTINUOUS SPECIAL INSPECTION BY AN INSPECTOR REGISTERED WITH OSHPD-FDD FOR THE TYPE OF CONSTRUCTION PROVIDED SHALL BE PROVIDED.

     A.1 DURING STRUCTURAL STEEL BOLTING

     A.2 DURING EXPANSION ANCHOR INSTALLATION & TESTING IN ACCORDANCE WITH THE OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE AS INDICATED ON THIS SHEET CM_S-1
   - B. EXPANSION ANCHOR TENSION TESTING CRITERIA

     ANCHOR TESTING OF INSTALLED ANCHORS SHALL BE PER CBC,22 SECTION 1901.3 TITLE 24 PART 2 FOR EXPANSION TYPE ANCHORS USED FOR EQUIPMENT ANCHORAGE APPLICATIONS. 50% OR ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE-HALF THE ANCHORS IN EACH GROUP SHALL BE TENSION TESTED. TENSION TESTING OF THE EXPANSION ANCHORS SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD-FDD. A TESTING, INSPECTION AND OBSERVATION (TIO) PROGRAM MUST BE DEVELOPED (SPECIFYING TESTS AND SPECIAL INSPECTIONS ONLY), SUBMITTED AND APPROVED DURING THE PLAN REVIEW PROCESS. SEE SECTION 7-141, TITLE 24, PART 1 FOR REQUIREMENTS. AN ACCEPTABLE TIO FORM CAN BE DOWN LOADED FROM THE OSHPD-FDD WEB SITE. OSHPD-FDD MUST APPROVE THE TIO PROGRAM INCLUDING THE INDIVIDUALS AND / OR FIRMS WHO WILL PERFORM THE SPECIFIED TESTS AND / OR INSPECTIONS PRIOR TO ISSUANCE OF A BUILDING PERMIT.
7. CONSTRUCTION NOTES
   - A. THE ARCHITECT/ENGINEER WILL NOT BE RESPONSIBLE FOR AND WILL NOT HAVE CONTROL OR CHARGE OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
   - B. PRIOR TO STARTING NEW CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. DIMENSIONS, ELEVATIONS, AND OTHER DETAILS OF EXISTING CONSTRUCTION, IF ANY, ON THESE DRAWINGS ARE GIVEN FOR REFERENCE ONLY. EXISTING ARCHITECTURAL, MECHANICAL AND ELECTRICAL CONDITIONS ARE NOT GENERALLY SHOWN AND ANY ORIGINAL DRAWINGS FURNISHED MAY NOT REFLECT THE EXISTING CONSTRUCTION CONDITIONS AND ARE PROVIDED FOR REFERENCE ONLY. THE ARCHITECT/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
   - C. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCED BARS. WHEN INSTALLING THEM INTO EXISTING PRESTRESSED CONCRETE (PRE-TENSIONED OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT & THE DRILLED-IN ANCHOR.
   - D. CONTRACTOR SHALL OBTAIN SEPARATE BUILDING PERMIT FOR ALL ELECTRICAL, PLUMBING, AND HEATING AND VENTILATION WORK.
   - E. BUILDING SHALL NOT BE OCCUPIED DURING CONSTRUCTION WHEN BUILDING STRENGTH IS SUBSTANTIALLY WEAKENED AT ANY TIME OR REQUIRED EXITS ARE NOT AVAILABLE OR ARE OBSTRUCTED.
   - F. ALL UTILITY CONNECTIONS SHALL HAVE SUFFICIENT FLEXIBILITY TO PERMIT ADEQUATE MOTION IN ALL DIRECTIONS.
8. RESPONSIBILITIES OF THE PROJECT-SPECIFIC STRUCTURAL ENGINEER-OF-RECORD
   - A. VERIFY THAT THE CONCRETE SLAB TO WHICH THE UNIT IS ANCHORED IS NOT CRACKED AND MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR.
   - B. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB OPENINGS OR EDGES
   - C. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE ANCHORS SHOWN IN THIS PREAPPROVAL. SEOR SHALL VERIFY THAT THERE IS NO ADVERSE INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR 6 X h_{ef} FROM THIS UNIT'S ANCHORS
   - D. DESIGN ANY SUPPLEMENTARY MEMBERS AND THEIR ATTACHMENTS TO WHICH THE UNIT IS ANCHORED.
   - E. VERIFY THE ADEQUACY OF ANY EXISTING MEMBERS AND THEIR ATTACHMENTS TO WHICH THE UNIT IS TO BE ANCHORED FOR THE FORCES EXERTED ON THEM BY THE UNIT IN ADDITION TO ALL OTHER CBC,22 LOADS AND FORCES.
   - F. VERIFY THAT THE INSTALLATION IS IN COMFORMANCE WITH THE CBC,22 AND WITH THE DETAILS SHOWN IN THIS SET OF ANCHORAGE DRAWINGS.
   - G. VERIFY THAT THE EQUIPMENT'S ACTUAL WEIGHT, C.G. LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN IN THIS SET OF ANCHORAGE DRAWINGS.
   - H. VERIFY THAT THE COMBINATION OF Sds AND z/h RESULT IN SEISMIC FORCES (E_h AND E_v) THAT ARE NOT GREATER THAN THE VALUES SHOWN IN GENERAL NOTE 3.

OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE

REQUIRED TORQUE TEST VALUES
Hardrock or Lightweight Concrete

ANCHOR DIA. (in)	EXPANSION TYPE TORQUE (ft-lbs)
3/8	30
1/2	50
5/8	40

NOTES:

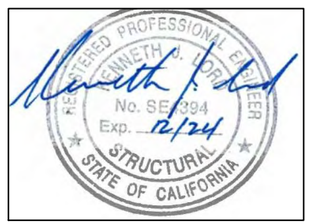
1. ANCHOR DIAMETER REFERS TO THE THREAD SIZE.
2. APPLY PROOF TEST LOADS TO POST-INSTALLED ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. IF NOT, REMOVE NUT & INSTALL A THREADED COUPLER TO THE SAME TIGHTNESS AS THE ORIGINAL NUT USING A TORQUE WRENCH & APPLY LOAD.
3. REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY THE FIXTURE(S).
4. TEST EQUIPMENT (INCLUDING TORQUE WRENCHES) IS TO BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.
5. THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF POST-INSTALLED ANCHORS:

   TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS; WEDGE OR SLEEVE TYPE: ONE HALF (1/2) TURN OF THE NUT.
6. TESTING SHOULD OCCUR A MINIMUM OF 24 HOURS AFTER INSTALLATION OF THE SUBJECT ANCHORS.
7. IF THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE IS LESS THAN THE TEST TORQUE NOTED IN THE TABLE, THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE SHOULD BE USED IN LIEU OF THE TABULATED VALUES.
8. ALL TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE INSPECTOR OF RECORD.

DRAWING INDEX

HOW TO USE THIS DRAWING SET

1. DETERMINE WHETHER THE UNIT WILL BE INSTALLED ON A SLAB-ON-GRADE OR AN ELEVATED SLAB CONDITION, THE CONCRETE SUBSTRATE THICKNESS, MIN. COMPRESSIVE STRENGTH (f'c) & TYPE OF CONCRETE USED FOR THE SUPPORTING CONCRETE SLAB
   - FOR SLAB-ON-GRADE INSTALLATIONS WITH THICKNESS ≥ 6" USING NORMAL WEIGHT CONCRETE f'c min. = 3,000 psi & MIN. EDGE DIST. = 12", USE DRAWINGS CM_S-1 & CM_S-3.
   - FOR ALL ELEVATED SLAB INSTALLATIONS, NORMAL WEIGHT, SAND LT. WT. FOR ALL LT. WT. CONC., f'c min. = 3,000 psi and MIN. EDGE = 12", USE DRAWINGS CM_S-1 & CM_S-4.
2. ANCHOR LOADS ARE GIVEN ON DETAIL 1 ON DRAWINGS CM_S-3 & CM_S-4 ARE STRENGTH DESIGN DERIVED PER ASCE 7-16 SECT. 13.4.2. WITHOUT THE APPLICATION OF OVERSTRENGTH COEFFICIENT OMEGA Ω = 2.0 UNLESS NOTED OTHERWISE. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO RESIST THE ANCHOR LOADS IN ADDITION TO ALL OTHER LOADS.



REVISIONS	BY
1 HCAI RE-SUBMIT 10/15/22	K.J.L.
2 P.C. COMMENTS 1/10/23	K.J.L.
3 FINAL REVISION 3/7/23	K.J.L.

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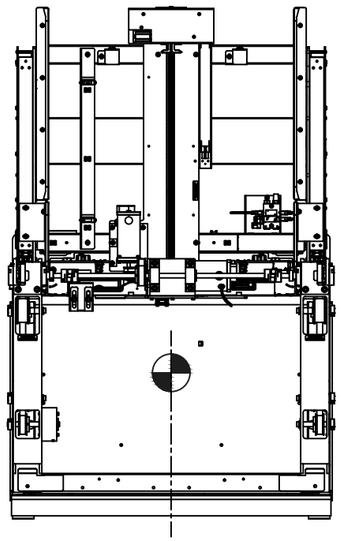
Torrance , California 90501
Telephone: (310) 640-7200

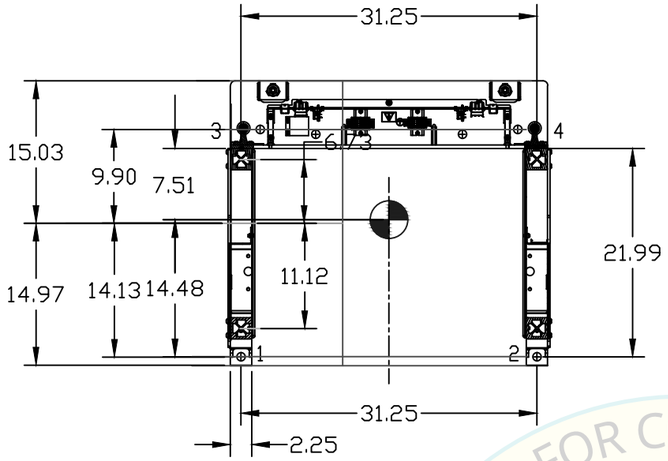
PROJECT:
OSHPD Pre-Approval (OPM) Program
XR-2 Automated Central Pharmacy System
Cart Module Seismic Anchorage

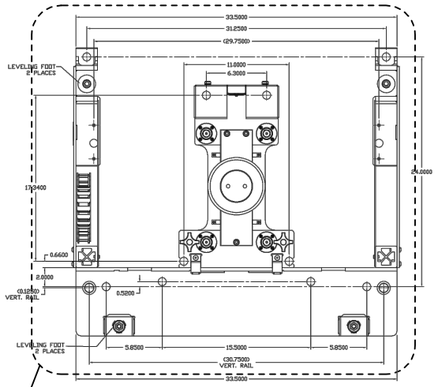
CLIENT:
Omnicell, Inc.
51 Pennwood Place, Ste. 400
Warrendale, PA 15086

DRAWN KJL
CHECKED KJL
DATE 6/12/18
SCALE VARIES
JOB NO. 17015-01
SHEET Cart Module CM_S-1
7 of 47 SHEETS

REVIEWED FOR CODE COMPLIANCE
HCAi
OPM-0619
BY: William Staehlin
03/23/2023
OSHPD FDD 2019 BUILDING CODE

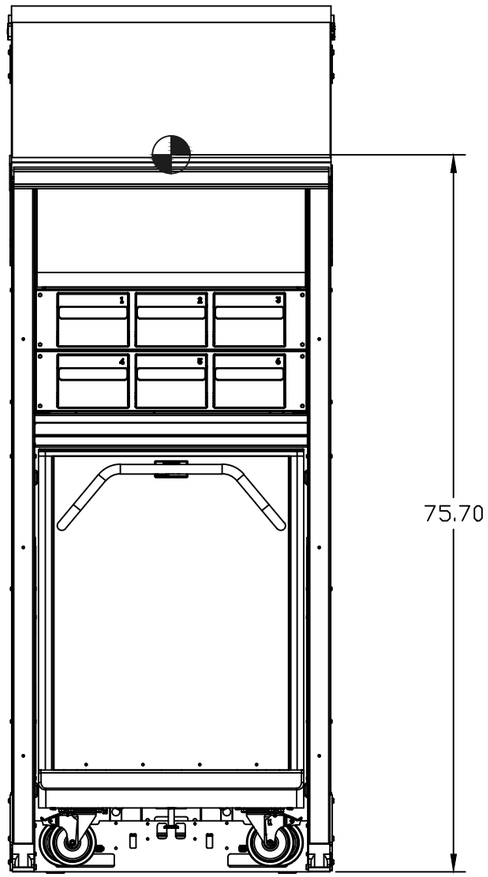


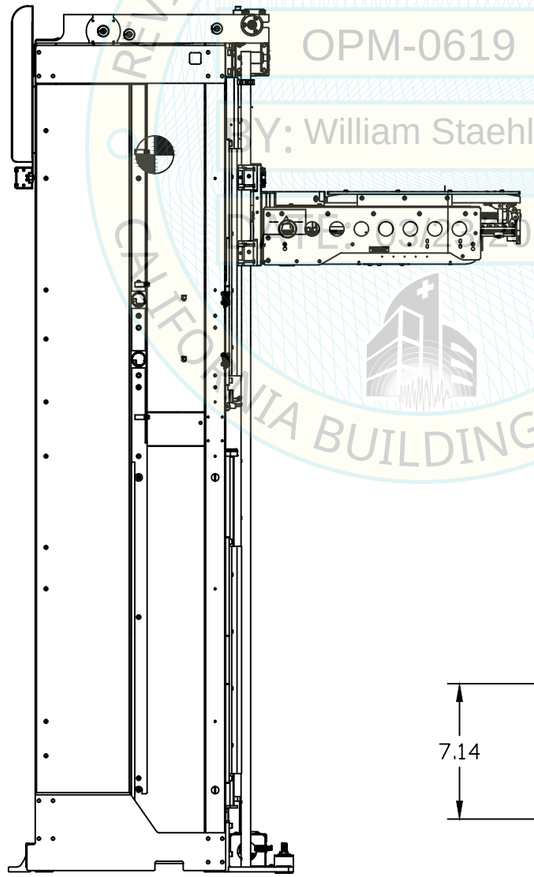


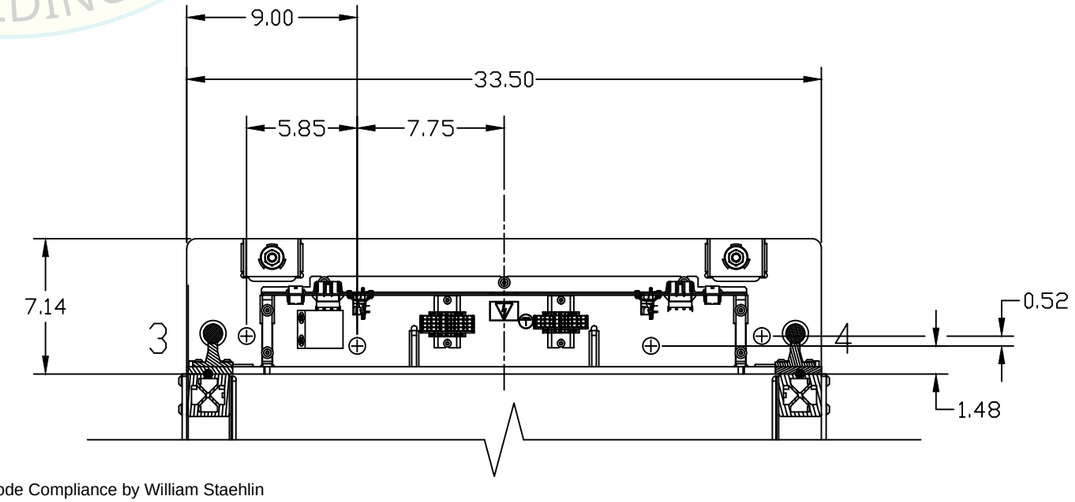


1 CM_S-3

1 CM_S-4







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OPM-0619
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DATE: 3/23/2023
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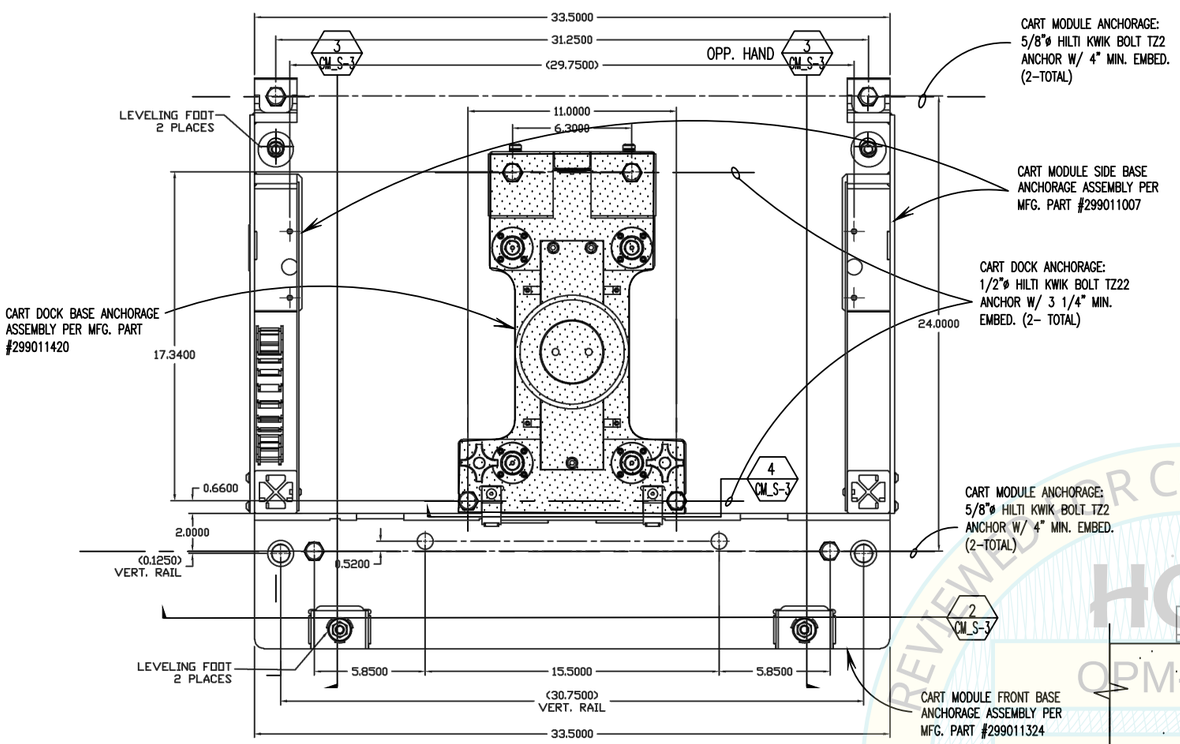
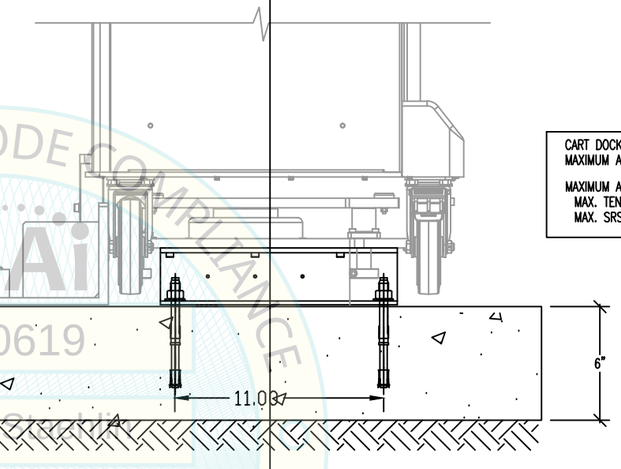
DRAWN: K.J.L.
CHECKED: K.J.L.
DATE: 6/12/18
SCALE: VARIES
JOB NO.: 17015-01
SHEET: Cart Module **CM_S-2**
2 OF 4 SHEETS



CART MODULE & CART DOCK TYPICAL ANCHORAGE PLAN

1 1/2" = 1'-0"

1 CM_S-3



CART DOCK FRONT ANCHORAGE ELEVATION

1 1/2" = 1'-0"

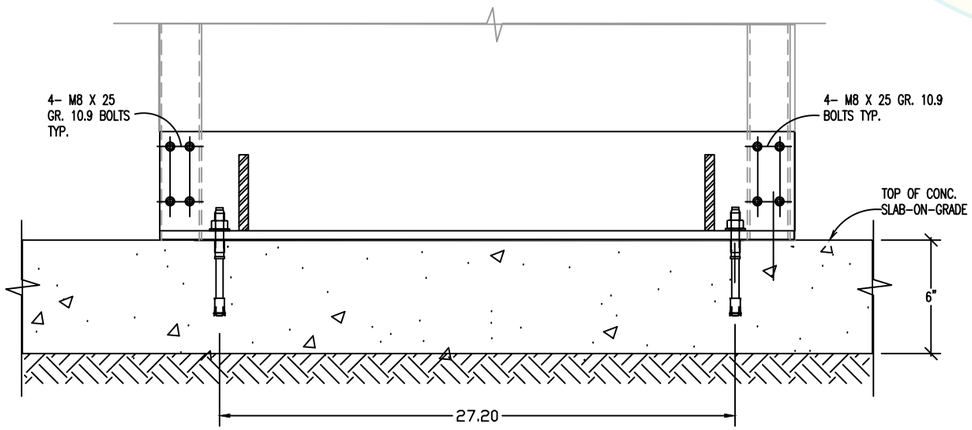
4 CM_S-3

CART DOCK INSTALLATION
MAXIMUM ANCHORAGE ASSEMBLY LOADS - (SIDE-TO-SIDE DIR. GOVERNS)

MAXIMUM ANCHOR BOLT LOADS	EXPANSION ANCHOR BOLT DESIGN LOADS
MAX. TENSION = 1,427#	INCLUDE OVERSTRENGTH FACTOR, OMEGA Ø
MAX. SRSS SHEAR = 162#	

CART MODULE ASSEMBLY
MAXIMUM ANCHORAGE ASSEMBLY LOADS - (FRONT-TO-BACK DIR. GOVERNS)

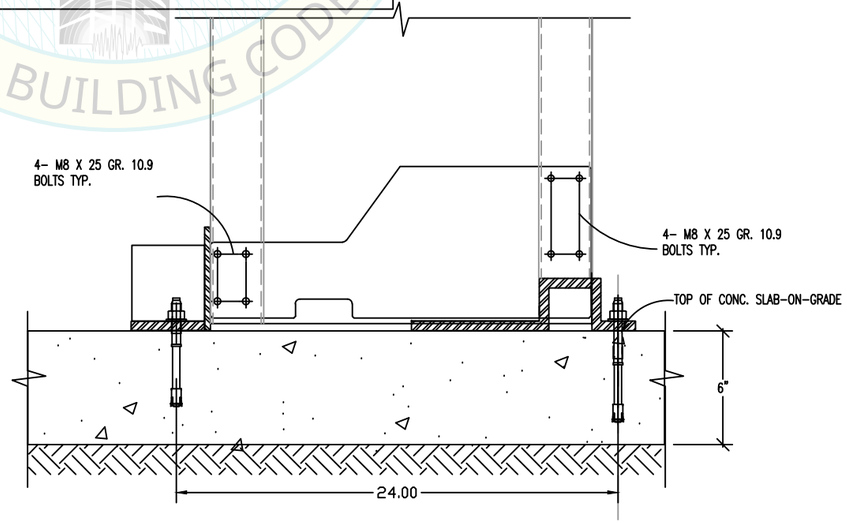
MAXIMUM ANCHOR BOLT LOADS	EXPANSION ANCHOR BOLT DESIGN LOADS
MAX. TENSION = 2,274#	INCLUDE OVERSTRENGTH FACTOR,
MAX. SRSS SHEAR = 301#	OMEGA Ø = 2.0



CART MODULE FRONT ANCHORAGE ELEVATION

1 1/2" = 1'-0"

2 CM_S-3



CART MODULE SIDE ANCHORAGE ELEVATION

1 1/2" = 1'-0"

3 CM_S-3

REVISIONS	BY
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3 FINAL REVISION 3/7/23	K.J.L.

REGISTERED PROFESSIONAL ENGINEER
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No. SE 7394
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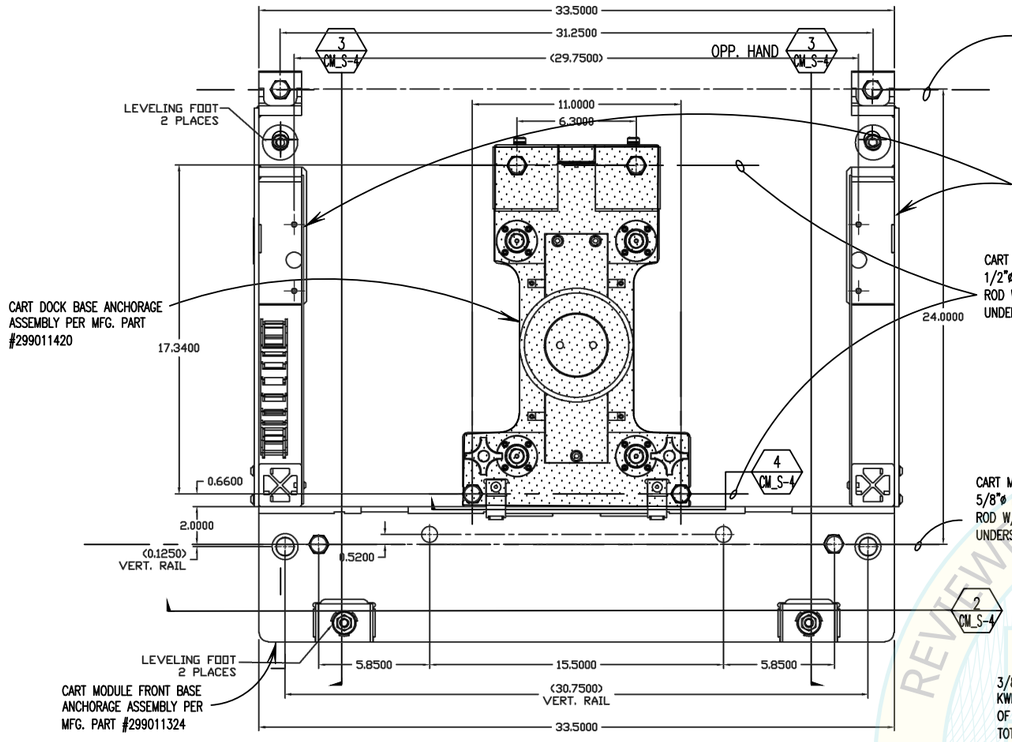
SCALE	VARIES
JOB NO.	17015-01
SHEET	Cart Module CM_S-3
	3 of 27 SHEETS

REVIEWED FOR CODE COMPLIANCE
HCAi
OPM-0619
BY: William Staehlin
DATE: 3/23/2023
CALIFORNIA BUILDING CODE 2019

3/23/2023

OPM-0619: Reviewed for Code Compliance by William Staehlin



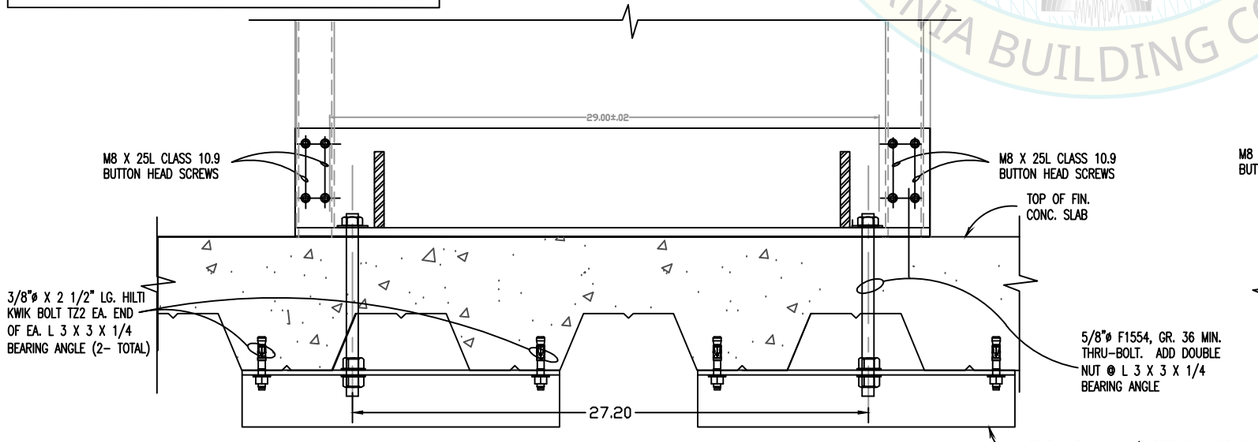
CART MODULE & CART DOCK TYPICAL ANCHORAGE PLAN

1 1/2" = 1'-0"

1 CM_S-4

CART MODULE ASSEMBLY
MAXIMUM ANCHORAGE ASSEMBLY LOADS - (FRONT-TO-BACK DIR. GOVERNS)

MAXIMUM ANCHOR BOLT LOADS	THRU-BOLT ULTIMATE STRENGTH DESIGN LOADS
MAX. TENSION = 1,751#	
MAX. SRSS SHEAR = 240#	

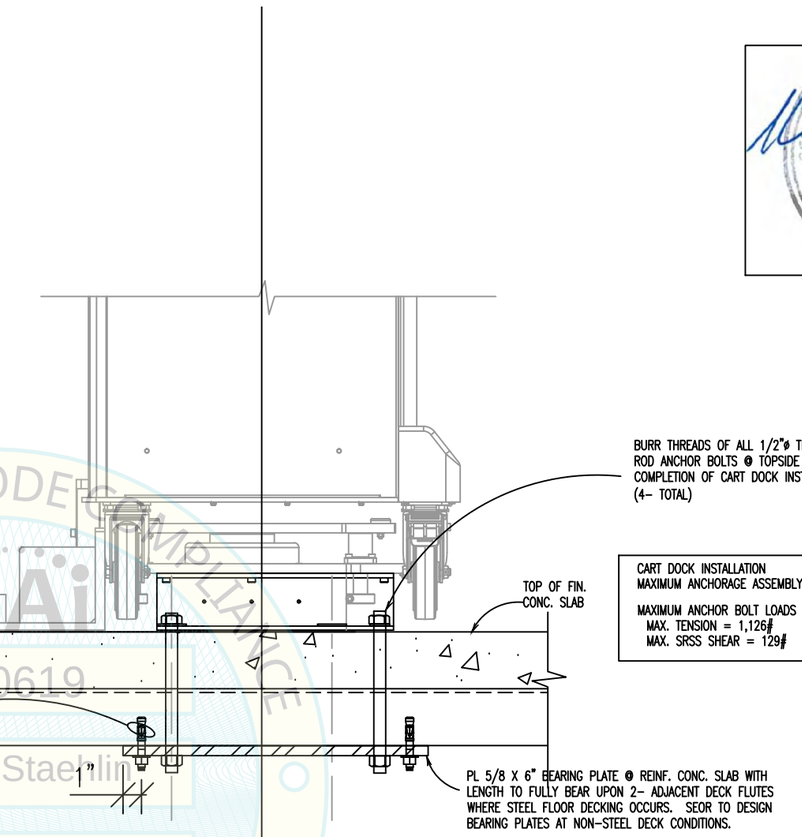


NOTE: FIELD VERIFY DIRECTION AND DIMENSIONS OF (E) STEEL DECK PRIOR TO BEARING PLATE FABRICATION

CART MODULE FRONT ANCHORAGE ELEVATION

1 1/2" = 1'-0"

2 CM_S-4



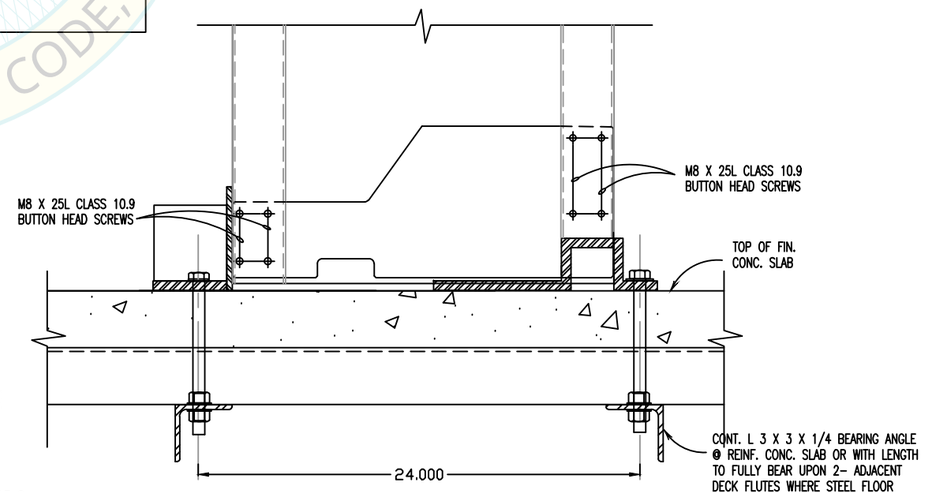
CART DOCK INSTALLATION
MAXIMUM ANCHORAGE ASSEMBLY LOADS - (SIDE-TO-SIDE DIR. GOVERNS)

MAXIMUM ANCHOR BOLT LOADS	THRU-BOLT ANCHOR BOLT DESIGN LOADS ULTIMATE STRENGTH DEMANDS
MAX. TENSION = 1,126#	
MAX. SRSS SHEAR = 129#	

CART DOCK TYPICAL ANCHORAGE ELEVATION

1 1/2" = 1'-0"

4 CM_S-4



NOTE: FIELD VERIFY DIRECTION AND DIMENSIONS OF (E) STEEL DECK PRIOR TO BEARING PLATE FABRICATION

CART MODULE REAR ANCHORAGE ELEVATION

1 1/2" = 1'-0"

3 CM_S-4

HCAi
OPM-0619
BY: William Staehlin
DATE: 03/23/2023
REVIEWED FOR CODE COMPLIANCE
CALIFORNIA BUILDING CODE, 2019

REVISIONS	BY
1 HCAI RE-SUBMIT 10/15/22	K.J.L.
2 P.C. COMMENTS 1/10/23	K.J.L.
3 FINAL REVISION 3/7/23	K.J.L.

REGISTERED PROFESSIONAL ENGINEER
KENNETH J. LOBO
No. SE 3394
Exp. 12/24
STRUCTURAL
STATE OF CALIFORNIA

SEISMIC ENGINEERING ASSOCIATES, LTD.
2461 West 208th Street, Suite 200
Torrance, California 90501
Telephone: (310) 640-7200

PROJECT:
OSHPD Pre-Approval (OPM) Program
XR-2 Automated Central Pharmacy System
Cart Module Seismic Anchorage

CLIENT:
Omnicell, Inc.
51 Pennwood Place, Ste. 400
Warrendale, PA 15086

DRAWN	K.J.L.
CHECKED	K.J.L.
DATE	6/12/18
SCALE	VARIES
JOB NO.	17015-01
SHEET	Cart Module CM_S-4
SHEETS	4 OF 27

OPM-0619: Reviewed for Code Compliance by William Staehlin

GENERAL NOTES

1. INTENT OF DRAWINGS AND NOTES
   - A. THE INTENT OF THIS SET OF ANCHORAGE DRAWINGS AND SPECIFICATONS IS LIMITED ONLY TO THE SEISMIC ANCHORAGE OF THE 2, 2.5, 3, 3.5, 4, 4.5 & 5 BAY CONFIGURATIONS OF THE CENTER RAIL SECTION OF THE OMNICELL XR-2 AUTOMATED CENTRAL PHARMACY SYSTEM, AS SHOWN ON SHEET CR_S-2, ANYWHERE WITHIN THE STATE OF CALIFORNIA, Sds $\leq$ 1.94, & z/h <= 1.0 WITHIN THE HOSPITAL BUILDING IN ACCORDANCE WITH THE 2022 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY OSHPD-FDD BEFORE PROCEEDING WITH THE WORK.
   - B. TYPICAL DETAILS AND GENERAL NOTES APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE SPECIFICALLY DETAILED OR NOTED OTHERWISE ON OTHER SHEETS.
   - C. DIMENSIONS TAKE PRECEDENCE OVER SCALE OF DRAWINGS. HOWEVER, ANY SIGNIFICANT CONFLICTS SHOULD BE RESOLVED AS NOTED.
   - D. UNITS WILL NOT SUPPORT LIFE-SUSTAINING MACHINERY OR EQUIPMENT.
   - E. THIS SET OF DRAWINGS COVERS ONLY THE ANCHORAGE OF THE UNIT TO THE BUILDING'S STRUCTURE
2. CODE

   THIS DRAWING SET INCLUDING ALL NEW CONSTRUCTION, INSPECTION AND PHYSICAL TESTING PROCEDURES SHALL COMPLY WITH CHAPTERS 17 & 19 OF THE CBC,22 AND CHAPTER 13 OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS ASCE 7-16
3. CBC,22 DESIGN PARAMETERS

   A. GEOTECHNICAL DESIGN PARAMETERS

   ALLOWABLE SOIL BEARING PRESSURE: 1,000 psf

   B. SEISMIC DESIGN PARAMETERS

   $$F_p = \frac{0.4 a_p S_{Ds}}{R_p / I_p}\left(1 + 2\frac{z}{h}\right) W_p \quad \text{ASCE 7-16 EQ. 13.3-1}$$

   S_{Ds} = 1.94

   W_p = 1,595# MAX. / BAY INCL. ROBOT, PEDESTAL & WORK PLATFORM (WORST CASE OCCURING AT 2 BAY CONFIGURATION w.r.t. WT. & C.G.)

   C.B.C. SEISMIC DESIGN CATEGORY "D"

   C.B.C. OCCUPANCY CATEGORY IV

   C.B.C. IMPORTANCE FACTOR, Ip: 1.5

   FOR STORAGE CABINETS & LAB EQUIPMENT PER ASCE 7-16 TABLE 13.5.1,

   C.B.C. COMPONENT AMPLIFICATION FACTOR, ap: 1.0

   C.B.C. COMPONENT RESPONSE MODIFICATION FACTOR, Rp: 2.5

   C.B.C. TOTAL MIN. LATERAL FORCE , Fp: 0.3 SDsIp Wp = 0.87 Wp ASCE 7-16 EQ. 13.3-3

   C.B.C. TOTAL MAX. LATERAL FORCE , Fp: 1.6 SDsIp Wp = 4.63 Wp ASCE 7-16 EQ. 13.3-2

   C.B.C. TOTAL LATERAL FORCE, Fp: 1.39 Wp @ TOP LEVEL z = h

   FOR z/h = 0.0 , E_h = 0.87 E_v = 0.39

   FOR z/h = 1.0 , E_h = 1.39 E_v = 0.39

   C. ALL SEISMIC ANCHORAGE LOADS AND FORCES INDICATED ON THESE DRAWINGS AND SPECIFICATIONS ARE BASED UPON A STRENGTH DESIGN ANALYSIS, UNLESS NOTED OTHERWISE.
4. STRUCTURAL STEEL
   - A. ALL STRUCTURAL STEEL PLATE MATERIAL SHALL CONFORM TO ASTM A-36, Fy = 36 KSI. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF AISC SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
   - B. ALL WELDING & FABRICATION SHALL BE PERFORMED BY A FABRICATOR LICENSED BY OSHPD-FDD. THE FABRICATOR SHALL PROVIDE A CERTIFICATE OF COMPLIANCE TO OSHPD-FDD.
   - C. WELDING SHALL CONFORM TO LATEST CBC AND AWS STANDARDS. ALL WELDERS SHALL BE CERTIFIED BY AWS.
   - D. WELDING SHALL BE BY MEANS OF THE SHIELDED ELECTRIC ARC METHOD USING E70XX ELECTRODES. E70T4 ELECTRODES SHALL NOT BE USED.
   - E. LENGTHS OF WELDS SHOWN ARE EFFECTIVE LENGTHS AS SPECIFIED IN THE CODE. WHERE LENGTH OF WELD IS NOT SHOWN, IT SHALL BE THE FULL LENGTH OF JOINT.
   - F. HOLES FOR BOLTS AND CONNECTORS IN STRUCTURAL STEEL SHALL BE DRILLED OR PUNCHED. BURNING OF HOLES SHALL NOT BE PERMITTED.
   - G. BOLTS @ BOLTED CONNECTIONS SHALL CONFORM TO ASTM SPECIFICATIONS:
     - @ STRUCTURAL STEEL CONNECTION..... A307 U.N.O.
     - @ SLAB THRU-BOLT CONNECTION..... F1554, GR. 36 MIN.
5. EXPANSION TYPE ANCHORS TO EXISTING CONSTRUCTION
   - A. ADD EXPANSION TYPE ANCHOR BOLTS AS DELINEATED BY REFERENCED DETAILS.
   - B. EXPANSION TYPE ANCHORS SHALL BE HILTI KWIK-BOLT TZ2 ANCHORS OF CARBON STEEL CONSTRUCTION PER ICC #ESR-4266 OR APPROVED EQUAL BY OSHPD-FDD AND THE STRUCTURAL ENGINEER-OF-RECORD. ALL EXPANSION TYPE ANCHORS SHALL HAVE A CURRENT ICC EVALUATION REPORT. FOLLOW MANUFACTURER'S SPECIFICATIONS AND APPROVED INSTALLATION PROCEDURES AT ALL TIMES.
   - C. EXPANSION TYPE ANCHORS SHALL BE INSTALLED IN COMPLIANCE WITH OSHPD-FDD REQUIREMENTS & IN ACCORDANCE WITH THE OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE AS INDICATED ON THIS SHEET CR_S-1.
6. TESTING AND INSPECTION
   - A. CONTINUOUS SPECIAL INSPECTION BY AN INSPECTOR REGISTERED WITH OSHPD-FDD FOR THE TYPE OF CONSTRUCTION PROVIDED SHALL BE PROVIDED.
     - A.1 DURING STRUCTURAL STEEL BOLTING
     - A.2 DURING EXPANSION ANCHOR INSTALLATION & TESTING IN ACCORDANCE WITH THE OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE AS INDICATED ON THIS SHEET CR_S-1
   - B. EXPANSION ANCHOR TENSION TESTING CRITERIA

     ANCHOR TESTING OF INSTALLED ANCHORS SHALL BE PER CBC,22 SECTION 1903.1 TITLE 24 PART 2 FOR EXPANSION TYPE ANCHORS USED FOR EQUIPMENT ANCHORAGE APPLICATIONS. 50% OR ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE-HALF THE ANCHORS IN EACH GROUP SHALL BE TENSION TESTED. TENSION TESTING OF THE EXPANSION ANCHORS SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD-FDD. A TESTING, INSPECTION AND OBSERVATION (TIO) PROGRAM MUST BE DEVELOPED (SPECIFYING TESTS AND SPECIAL INSPECTIONS ONLY), SUBMITTED AND APPROVED DURING THE PLAN REVIEW PROCESS. SEE SECTION 7-141, TITLE 24, PART 1 FOR REQUIREMENTS. AN ACCEPTABLE TIO FORM CAN BE DOWN LOADED FROM THE OSHPD-FDD WEB SITE. OSHPD-FDD MUST APPROVE THE TIO PROGRAM INCLUDING THE INDIVIDUALS AND / OR FIRMS WHO WILL PERFORM THE SPECIFIED TESTS AND / OR INSPECTIONS PRIOR TO ISSUANCE OF A BUILDING PERMIT.
7. CONSTRUCTION NOTES
   - A. THE ARCHITECT/ENGINEER WILL NOT BE RESPONSIBLE FOR AND WILL NOT HAVE CONTROL OR CHARGE OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
   - B. PRIOR TO STARTING NEW CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. DIMENSIONS, ELEVATIONS, AND OTHER DETAILS OF EXISTING CONSTRUCTION, IF ANY, ON THESE DRAWINGS ARE GIVEN FOR REFERENCE ONLY. EXISTING ARCHITECTURAL, MECHANICAL AND ELECTRICAL CONDITIONS ARE NOT GENERALLY SHOWN AND ANY ORIGINAL DRAWINGS FURNISHED MAY NOT REFLECT THE EXISTING CONSTRUCTION CONDITIONS AND ARE PROVIDED FOR REFERENCE ONLY. THE ARCHITECT/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
   - C. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCED BARS. WHEN INSTALLING THEM INTO EXISTING PRESTRESSED CONCRETE (PRE-TENSIONED OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT & THE DRILLED-IN ANCHOR.
   - D. CONTRACTOR SHALL OBTAIN SEPARATE BUILDING PERMIT FOR ALL ELECTRICAL, PLUMBING, AND HEATING AND VENTILATION WORK.
   - E. BUILDING SHALL NOT BE OCCUPIED DURING CONSTRUCTION WHEN BUILDING STRENGTH IS SUBSTANTIALLY WEAKENED AT ANY TIME OR REQUIRED EXITS ARE NOT AVAILABLE OR ARE OBSTRUCTED.
   - F. ALL UTILITY CONNECTIONS SHALL HAVE SUFFICIENT FLEXIBILITY TO PERMIT ADEQUATE MOTION IN ALL DIRECTIONS.
8. RESPONSIBILITIES OF THE PROJECT-SPECIFIC STRUCTURAL ENGINEER-OF-RECORD
   - A. VERIFY THAT THE CONCRETE SLAB TO WHICH THE UNIT IS ANCHORED IS NOT CRACKED AND MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR.
   - B. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB OPENINGS OR EDGES
   - C. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE ANCHORS SHOWN IN THIS PREAPPROVAL. SEOR SHALL VERIFY THAT THERE IS NO ADVERSE INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR 6 X h_{ef} FROM THIS UNIT'S ANCHORS
   - D. DESIGN ANY SUPPLEMENTARY MEMBERS AND THEIR ATTACHMENTS TO WHICH THE UNIT IS ANCHORED.
   - E. VERIFY THE ADEQUACY OF ANY EXISTING MEMBERS AND THEIR ATTACHMENTS TO WHICH THE UNIT IS TO BE ANCHORED FOR THE FORCES EXERTED ON THEM BY THE UNIT IN ADDITION TO ALL OTHER CBC,22 LOADS AND FORCES.
   - F. VERIFY THAT THE INSTALLATION IS IN COMFORMANCE WITH THE CBC,22 AND WITH THE DETAILS SHOWN IN THIS SET OF ANCHORAGE DRAWINGS.
   - G. VERIFY THAT THE EQUIPMENT'S ACTUAL WEIGHT, C.G. LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN IN THIS SET OF ANCHORAGE DRAWINGS.
   - H. VERIFY THAT THE COMBINATION OF Sds AND z/h RESULT IN SEISMIC FORCES (E_h AND E_v) THAT ARE NOT GREATER THAN THE VALUES SHOWN IN GENERAL NOTE 3.

OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE

REQUIRED TORQUE TEST VALUES
Hardrock or Lightweight Concrete

ANCHOR DIA. (in)	EXPANSION TYPE TORQUE (ft-lbs)
3/8	30
1/2	50
5/8	40

NOTES:

1. ANCHOR DIAMETER REFERS TO THE THREAD SIZE.
2. APPLY PROOF TEST LOADS TO POST-INSTALLED ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. IF NOT, REMOVE NUT & INSTALL A THREADED COUPLER TO THE SAME TIGHTNESS AS THE ORIGINAL NUT USING A TORQUE WRENCH & APPLY LOAD.
3. REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY THE FIXTURE(S).
4. TEST EQUIPMENT (INCLUDING TORQUE WRENCHES) IS TO BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.
5. THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF POST-INSTALLED ANCHORS:

   TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS; WEDGE OR SLEEVE TYPE: ONE HALF (1/2) TURN OF THE NUT.
6. TESTING SHOULD OCCUR A MINIMUM OF 24 HOURS AFTER INSTALLATION OF THE SUBJECT ANCHORS.
7. IF THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE IS LESS THAN THE TEST TORQUE NOTED IN THE TABLE, THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE SHOULD BE USED IN LIEU OF THE TABULATED VALUES.
8. ALL TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE INSPECTOR OF RECORD.

DRAWING INDEX

HOW TO USE THIS DRAWING SET

1. DETERMINE WHETHER THE UNIT WILL BE INSTALLED ON A SLAB-ON-GRADE OR AN ELEVATED SLAB CONDITION, THE CONCRETE SUBSTRATE THICKNESS, MIN. COMPRESSIVE STRENGTH (f'c) & TYPE OF CONCRETE USED FOR THE SUPPORTING CONCRETE SLAB
   - FOR SLAB-ON-GRADE INSTALLATIONS WITH THICKNESS > 3" USING NORMAL WEIGHT CONCRETE f'c min. = 3,000 psi & MIN. EDGE DIST. = 12", USE DRAWINGS CR_S-1 & CR_S-3.
   - FOR ALL ELEVATED SLAB INSTALLATIONS WITH THICKNESS > 3", NORMAL WEIGHT, SAND LT. WT. FOR ALL LT. WT. CONC., f'c min. = 3,000 psi and MIN. EDGE = 12", USE DRAWINGS CR_S-1 & CR_S-4.
2. ANCHOR LOADS ARE GIVEN ON DETAIL 1 ON DRAWINGS CR_S-3 & CR_S-4 ARE STRENGTH DESIGN DERIVED PER ASCE 7-16 SECT. 13.4.2. WITH THE APPLICATION OF OVERSTRENGTH COEFFICIENT OMEGA 0 = 2.0 UNLESS NOTED OTHERWISE. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO RESIST THE ANCHOR LOADS IN ADDITION TO ALL OTHER LOADS.

REGISTERED PROFESSIONAL ENGINEER — KENNETH J. LORD — No. SE 2394 — Exp. 12/24 — STRUCTURAL — STATE OF CALIFORNIA

REVISIONS	BY
1 HCAI RE-SUBMIT 10/15/22	K.J.L.
2 P.C. COMMENTS 1/10/23	K.J.L.
3 FINAL REVISION 3/7/23	K.J.L.

SEISMIC ENGINEERING ASSOCIATES, LTD.
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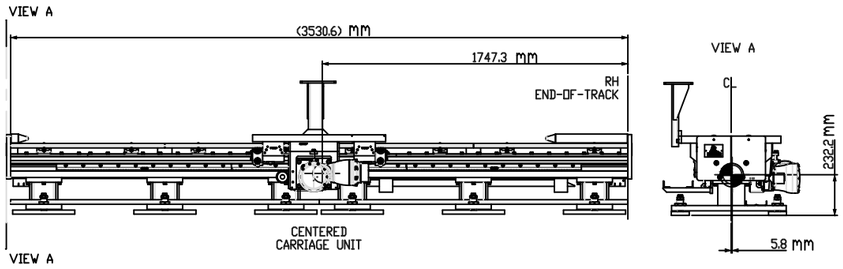
Torrance , California 90501
Telephone: (310) 640-7200

PROJECT:
OSHPD Pre-Approval (OPM) Program
XR-2 Automated Central Pharmacy System
Center Rail Section Seismic Anchorage

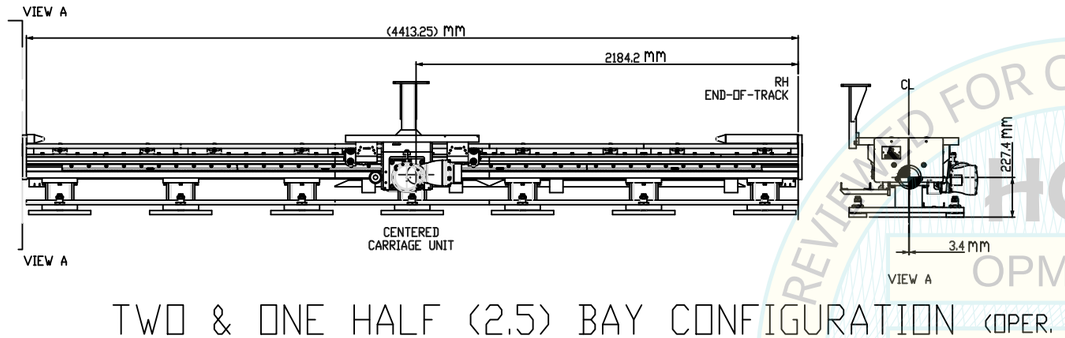
CLIENT:
Omnicell, Inc.
51 Pennwood Place, Ste. 400
Warrendale, PA 15086

DRAWN	K.J.L.
CHECKED	K.J.L.
DATE	6/12/18
SCALE	VARIES
JOB NO.	17015-01
SHEET	Center Rail Sect. CR_S-1
	1 OF 4 SHEETS

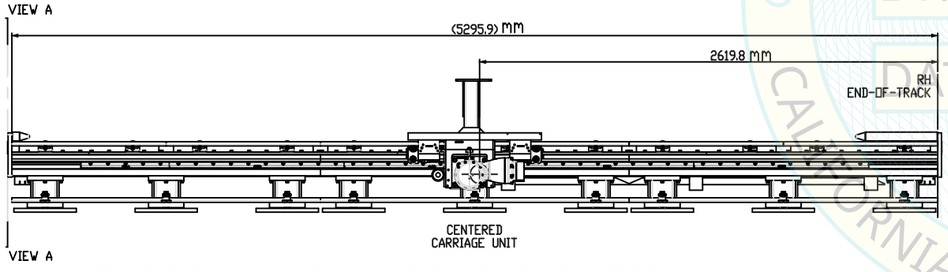
REVIEWED FOR CODE COMPLIANCE — HCAi — OPM-0619 — BY: William Staehlin — DATE: 03/23/2023 — CALIFORNIA BUILDING CODE, 2019



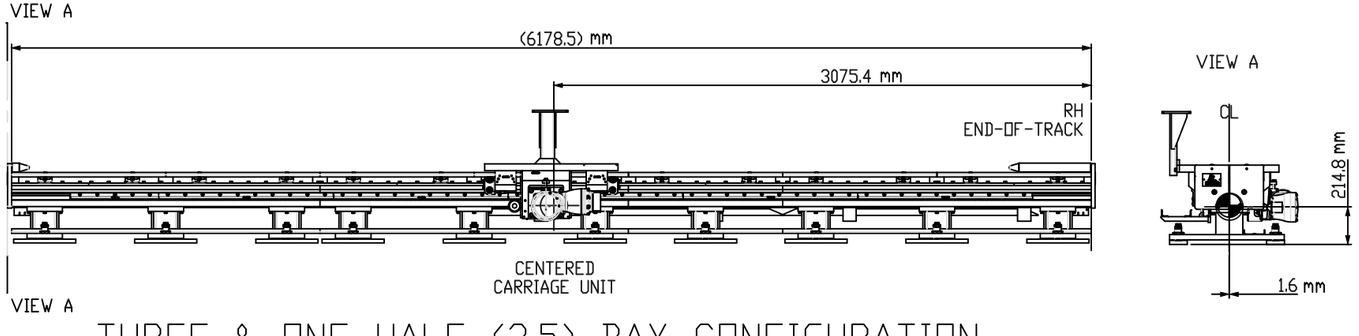
TWO (2) BAY CONFIGURATION (OPER. WT. = 2,200#)



TWO & ONE HALF (2.5) BAY CONFIGURATION (OPER. WT. = 2,550#)



THREE (3) BAY CONFIGURATION (OPER. WT. = 2,971#)



THREE & ONE HALF (3.5) BAY CONFIGURATION (OPER. WT. = 3,281#)

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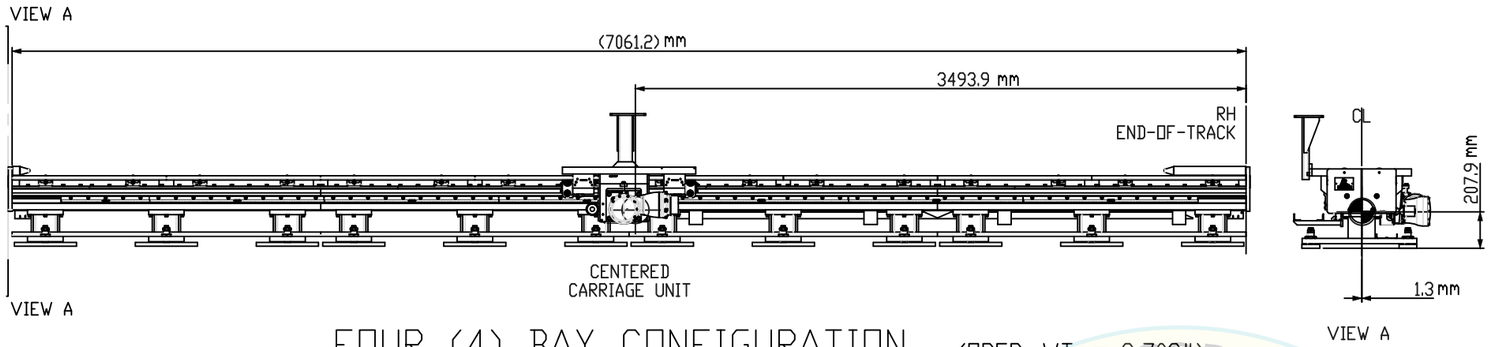
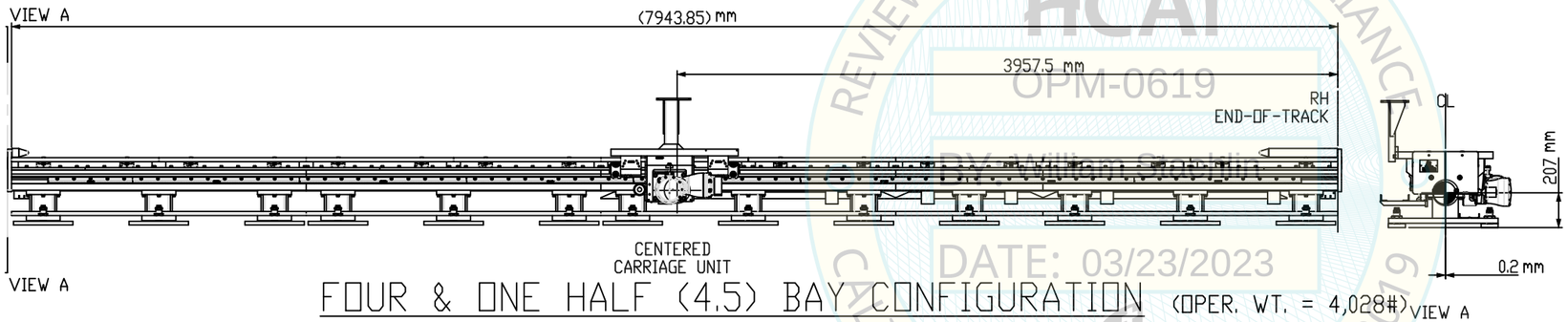
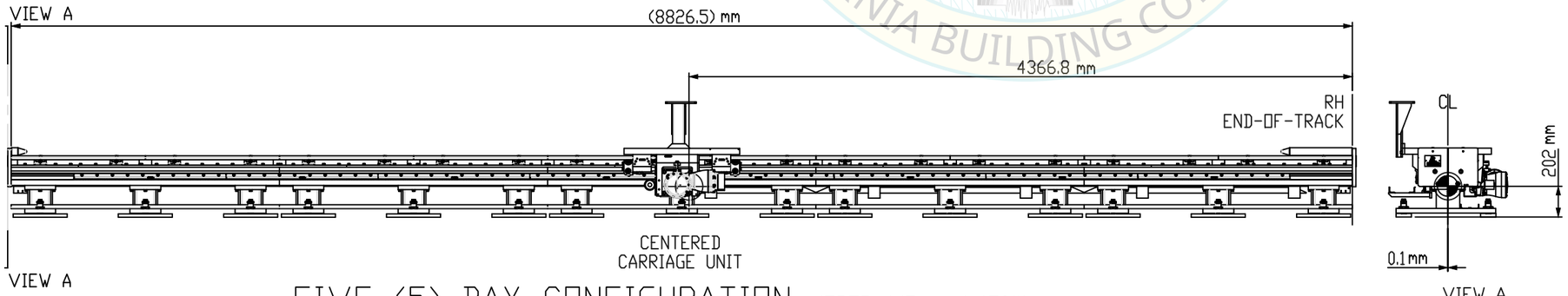
JOB NO.	17015-01
SHEET	Center Rail Sect.
	CR_S-2
	2 OF 4 SHEETS



FOUR (4) BAY CONFIGURATION (OPER. WT. = 3,708#)



FOUR & ONE HALF (4.5) BAY CONFIGURATION (OPER. WT. = 4,028#)



FIVE (5) BAY CONFIGURATION (OPER. WT. = 4,450#)

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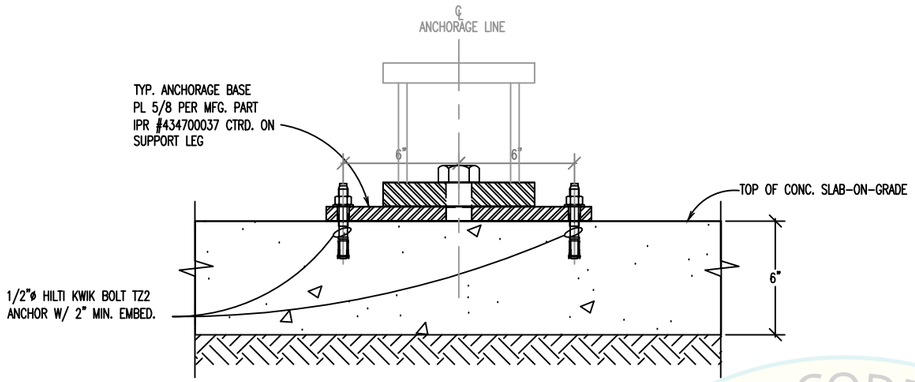
SHEET	Center Rail Sect. CR_S-2A
	3 OF 5 SHEETS



CENTER RAIL SECTION TYPICAL ANCHORAGE ELEVATION

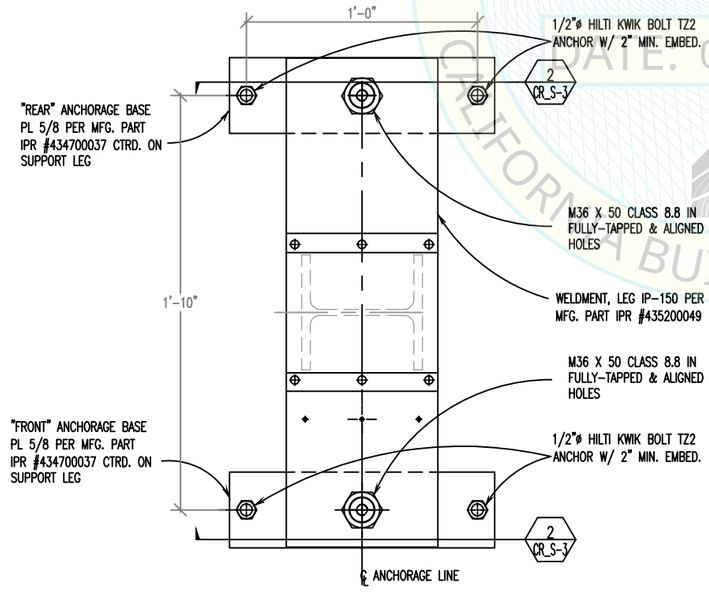
1 1/2" = 1'-0"

2 / CR_S-3

MAXIMUM ANCHORAGE LINE LOADS – (FRONT-TO-BACK DIR. GOVERNS)

MAX. NET UPLIFT, T = 136# CONNECTION ULTIMATE STRENGTH LOADS
MAX. SRSS SHEAR, V = 231#

MAXIMUM ANCHORAGE LINE LOADS EXPANSION ANCHOR BOLT DESIGN LOADS INCLUDE OVERSTRENGTH FACTOR, OMEGA Ø = 2.0
MAX. TENSION = 990#
MAX. SRSS SHEAR = 483#



CENTER RAIL SECTION TYPICAL ANCHORAGE LINE PLAN VIEW

1 1/2" = 1'-0"

1 / CR_S-3

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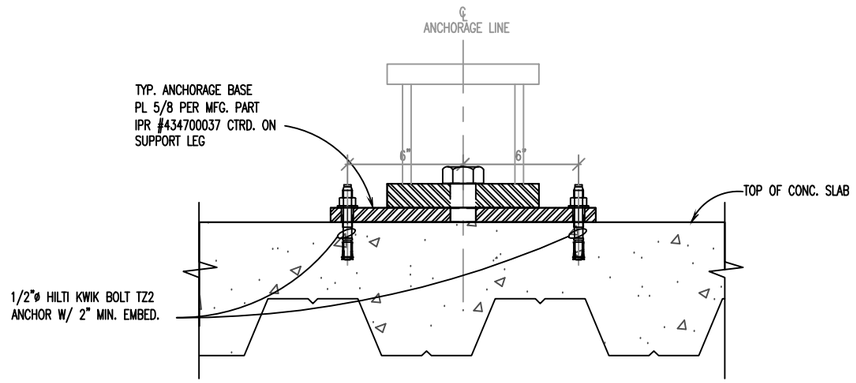
SHEETS	14 of 27

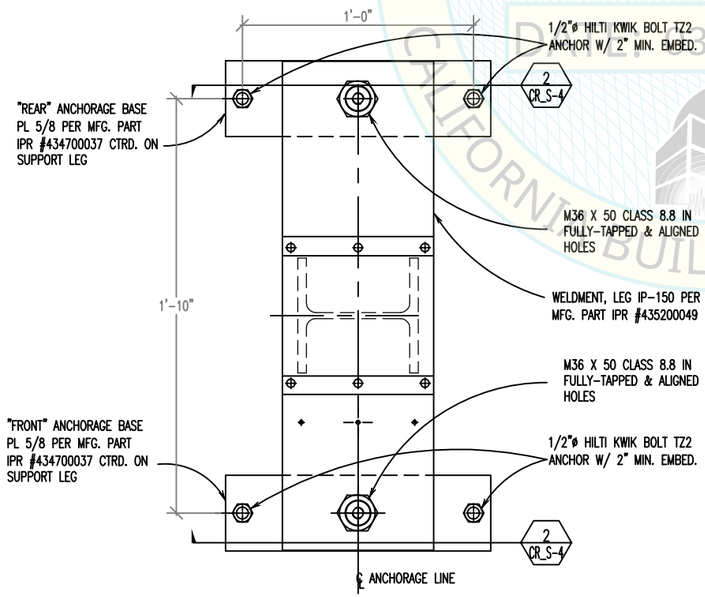


CENTER RAIL SECTION TYPICAL ANCHORAGE ELEVATION

2 / CR_S-4

1 1/2" = 1'-0"

MAXIMUM ANCHORAGE LINE LOADS – (FRONT-TO-BACK DIR. GOVERNS)	
MAX. NET UPLIFT, T = 0#	CONNECTION ULTIMATE STRENGTH LOADS
MAX. SRSS SHEAR, V = 374#	
MAXIMUM ANCHORAGE LINE LOADS	EXPANSION ANCHOR BOLT DESIGN LOADS
MAX. TENSION = 0#	INCLUDE OVERSTRENGTH FACTOR,
MAX. SHEAR = 483#	OMEGA Ø = 2.0



CENTER RAIL SECTION TYPICAL ANCHORAGE LINE PLAN VIEW

1 / CR_S-4

1 1/2" = 1'-0"

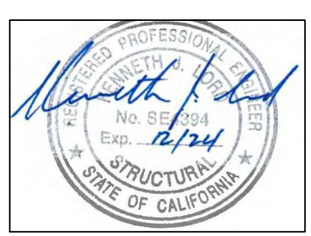
REVIEWED FOR CODE COMPLIANCE
HCAi
OPM-0619
BY: William Staehlin
DATE: 3/23/2023
CALIFORNIA BUILDING CODE, 2019

REVISIONS	BY
1 HCAI RE-SUBMIT 10/15/22	K.J.L.
2 P.C. COMMENTS 1/10/23	K.J.L.
3 FINAL REVISION 3/7/23	K.J.L.

SEISMIC ENGINEERING ASSOCIATES, LTD.
2461 West 208th Street, Suite 200
Torrance , California 90501
Telephone: (310) 640-7200

PROJECT:
OSHPD Pre-Approval (OPM) Program
XR-2 Automated Central Pharmacy System
Center Rail Section Seismic Anchorage

CLIENT:
Omnicell, Inc.
51 Pennwood Place, Ste. 400
Warrendale, PA 15086



DRAWN	K.J.L.
CHECKED	K.J.L.
DATE	6/12/18
SCALE	VARIES
JOB NO.	17015-01
SHEET	Center Rail Sect. CR_S-4
SHEETS	5 of 27

GENERAL NOTES

1. INTENT OF DRAWINGS AND NOTES
   - A. THE INTENT OF THIS SET OF ANCHORAGE DRAWINGS AND SPECIFICATONS IS LIMITED ONLY TO THE SEISMIC ANCHORAGE OF THE END CAP INSTALLATION OF THE OMNICELL XR-2 AUTOMATED CENTRAL PHARMACY SYSTEM COMPRISING TWO (2) INDEPENDENTLY SUPPORTED PANELS, AS SHOWN ON SHEET EC_S-2, ANYWHERE WITHIN THE STATE OF CALIFORNIA, Sds < 1.94, & z/h <= 1.0 WITHIN THE HOSPITAL BUILDING IN ACCORDANCE WITH THE 2022 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY OSHPD-FDD BEFORE PROCEEDING WITH THE WORK.
   - B. TYPICAL DETAILS AND GENERAL NOTES APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE SPECIFICALLY DETAILED OR NOTED OTHERWISE ON OTHER SHEETS.
   - C. DIMENSIONS TAKE PRECEDENCE OVER SCALE OF DRAWINGS. HOWEVER, ANY SIGNIFICANT CONFLICTS SHOULD BE RESOLVED AS NOTED.
   - D. UNITS WILL NOT SUPPORT LIFE-SUSTAINING MACHINERY OR EQUIPMENT.
   - E. THIS SET OF DRAWINGS COVERS ONLY THE ANCHORAGE OF THE UNIT TO THE BUILDING'S STRUCTURE
2. CODE

   THIS DRAWING SET INCLUDING ALL NEW CONSTRUCTION, INSPECTION AND PHYSICAL TESTING PROCEDURES SHALL COMPLY WITH CHAPTERS 17 & 19 OF THE CBC,22 AND CHAPTER 13 OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS ASCE 7-16
3. CBC,22 DESIGN PARAMETERS
   - A. GEOTECHNICAL DESIGN PARAMETERS

     ALLOWABLE SOIL BEARING PRESSURE: 1,000 psf
   - B. SEISMIC DESIGN PARAMETERS

     $$F_p = \frac{0.4 a_p S_{Ds}}{R_p / I_p} \left(1 + 2\frac{z}{h}\right) W_p$$ ASCE 7-16 EQ. 13.3-1

     S_{Ds} = 1.94

     W_p = 580# TOTAL INCL. ENCLOSURE CLADDING (WORST CASE) FOR 2- PANELS

     W_p = 290# INCL. ENCLOSURE CLADDING (WORST CASE) FOR SINGLE PANEL

     C.B.C. SEISMIC DESIGN CATEGORY "D"

     C.B.C. OCCUPANCY CATEGORY IV

     C.B.C. IMPORTANCE FACTOR, Ip: 1.5

     FOR STORAGE CABINETS & LAB EQUIPMENT PER ASCE 7-16 TABLE 13.5.1,

     C.B.C. COMPONENT AMPLIFICATION FACTOR, ap: 1.0

     C.B.C. COMPONENT RESPONSE MODIFICATION FACTOR, Rp: 2.5

     C.B.C. TOTAL MIN. LATERAL FORCE , Fp: 0.3 SDs Ip Wp = 0.87 Wp ASCE 7-16 EQ. 13.3-3

     C.B.C. TOTAL MAX. LATERAL FORCE , Fp: 1.6 SDs Ip Wp = 4.63 Wp ASCE 7-16 EQ. 13.3-2

     C.B.C. TOTAL LATERAL FORCE, Fp: 1.39 Wp @ TOP LEVEL z = h

     FOR z/h = 0.0 , E_h = 0.87 E_v = 0.39

     FOR z/h = 1.0 , E_h = 1.39 E_v = 0.39
   - C. ALL SEISMIC ANCHORAGE LOADS AND FORCES INDICATED ON THESE DRAWINGS AND SPECIFICATIONS ARE BASED UPON A STRENGTH DESIGN ANALYSIS, UNLESS NOTED OTHERWISE.
4. STRUCTURAL STEEL
   - A. ALL STRUCTURAL STEEL PLATE MATERIAL SHALL CONFORM TO ASTM A-36, Fy = 36 KSI. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF AISC SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
   - B. ALL WELDING & FABRICATION SHALL BE PERFORMED BY A FABRICATOR LICENSED BY OSHPD-FDD. THE FABRICATOR SHALL PROVIDE A CERTIFICATE OF COMPLIANCE TO OSHPD-FDD.
   - C. WELDING SHALL CONFORM TO LATEST CBC AND AWS STANDARDS. ALL WELDERS SHALL BE CERTIFIED BY AWS.
   - D. WELDING SHALL BE BY MEANS OF THE SHIELDED ELECTRIC ARC METHOD USING E70XX ELECTRODES. E70T4 ELECTRODES SHALL NOT BE USED.
   - E. LENGTHS OF WELDS SHOWN ARE EFFECTIVE LENGTHS AS SPECIFIED IN THE CODE. WHERE LENGTH OF WELD IS NOT SHOWN, IT SHALL BE THE FULL LENGTH OF JOINT.
   - F. HOLES FOR BOLTS AND CONNECTORS IN STRUCTURAL STEEL SHALL BE DRILLED OR PUNCHED. BURNING OF HOLES SHALL NOT BE PERMITTED.
   - G. BOLTS @ BOLTED CONNECTIONS SHALL CONFORM TO ASTM SPECIFICATIONS:
     - @ STRUCTURAL STEEL CONNECTION.................. A307 U.N.O.
     - @ SLAB THRU-BOLT CONNECTION..................... F1554, GR. 36 MIN.
5. EXPANSION TYPE ANCHORS TO EXISTING CONSTRUCTION
   - A. ADD EXPANSION TYPE ANCHOR BOLTS AS DELINEATED BY REFERENCED DETAILS.
   - B. EXPANSION TYPE ANCHORS SHALL BE HILTI KWIK-BOLT TZ2 ANCHORS OF CARBON STEEL CONSTRUCTION PER ICC #ESR-4266 OR APPROVED EQUAL BY OSHPD-FDD AND THE STRUCTURAL ENGINEER-OF-RECORD. ALL EXPANSION TYPE ANCHORS SHALL HAVE A CURRENT ICC EVALUATION REPORT. FOLLOW MANUFACTURER'S SPECIFICATIONS AND APPROVED INSTALLATION PROCEDURES AT ALL TIMES.
   - C. EXPANSION TYPE ANCHORS SHALL BE INSTALLED IN COMPLIANCE WITH OSHPD-FDD REQUIREMENTS & IN ACCORDANCE WITH THE OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE AS INDICATED ON THIS SHEET EC_S-1.
6. TESTING AND INSPECTION
   - A. CONTINUOUS SPECIAL INSPECTION BY AN INSPECTOR REGISTERED WITH OSHPD-FDD FOR THE TYPE OF CONSTRUCTION PROVIDED SHALL BE PROVIDED.
     - A.1 DURING STRUCTURAL STEEL BOLTING
     - A.2 DURING EXPANSION ANCHOR INSTALLATION & TESTING IN ACCORDANCE WITH THE OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE AS INDICATED ON THIS SHEET EC_S-1
   - B. EXPANSION ANCHOR TENSION TESTING CRITERIA

     ANCHOR TESTING OF INSTALLED ANCHORS SHALL BE PER CBC,22 SECTION 1901.3 TITLE 24 PART 2 FOR EXPANSION TYPE ANCHORS USED FOR EQUIPMENT ANCHORAGE APPLICATIONS. 50% OR ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE-HALF THE ANCHORS IN EACH GROUP SHALL BE TENSION TESTED. TENSION TESTING OF THE EXPANSION ANCHORS SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD-FDD. A TESTING, INSPECTION AND OBSERVATION (TIO) PROGRAM MUST BE DEVELOPED (SPECIFYING TESTS AND SPECIAL INSPECTIONS ONLY), SUBMITTED AND APPROVED DURING THE PLAN REVIEW PROCESS. SEE SECTION 7-141, TITLE 24, PART 1 FOR REQUIREMENTS. AN ACCEPTABLE TIO FORM CAN BE DOWN LOADED FROM THE OSHPD-FDD WEB SITE. OSHPD-FDD MUST APPROVE THE TIO PROGRAM INCLUDING THE INDIVIDUALS AND / OR FIRMS WHO WILL PERFORM THE SPECIFIED TESTS AND / OR INSPECTIONS PRIOR TO ISSUANCE OF A BUILDING PERMIT.
7. CONSTRUCTION NOTES
   - A. THE ARCHITECT/ENGINEER WILL NOT BE RESPONSIBLE FOR AND WILL NOT HAVE CONTROL OR CHARGE OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
   - B. PRIOR TO STARTING NEW CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. DIMENSIONS, ELEVATIONS, AND OTHER DETAILS OF EXISTING CONSTRUCTION, IF ANY, ON THESE DRAWINGS ARE GIVEN FOR REFERENCE ONLY. EXISTING ARCHITECTURAL, MECHANICAL AND ELECTRICAL CONDITIONS ARE NOT GENERALLY SHOWN AND ANY ORIGINAL DRAWINGS FURNISHED MAY NOT REFLECT THE EXISTING CONSTRUCTION CONDITIONS AND ARE PROVIDED FOR REFERENCE ONLY. THE ARCHITECT/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
   - C. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCED BARS. WHEN INSTALLING THEM INTO EXISTING PRESTRESSED CONCRETE (PRE-TENSIONED OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT & THE DRILLED-IN ANCHOR.
   - D. CONTRACTOR SHALL OBTAIN SEPARATE BUILDING PERMIT FOR ALL ELECTRICAL, PLUMBING, AND HEATING AND VENTILATION WORK.
   - E. BUILDING SHALL NOT BE OCCUPIED DURING CONSTRUCTION WHEN BUILDING STRENGTH IS SUBSTANTIALLY WEAKENED AT ANY TIME OR REQUIRED EXITS ARE NOT AVAILABLE OR ARE OBSTRUCTED.
   - F. ALL UTILITY CONNECTIONS SHALL HAVE SUFFICIENT FLEXIBILITY TO PERMIT ADEQUATE MOTION IN ALL DIRECTIONS.
8. RESPONSIBILITIES OF THE PROJECT-SPECIFIC STRUCTURAL ENGINEER-OF-RECORD
   - A. VERIFY THAT THE CONCRETE SLAB TO WHICH THE UNIT IS ANCHORED IS NOT CRACKED AND MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR.
   - B. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB OPENINGS OR EDGES
   - C. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE ANCHORS SHOWN IN THIS PREAPPROVAL. SEOR SHALL VERIFY THAT THERE IS NO ADVERSE INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR 6 X h_{ef} FROM THIS UNIT'S ANCHORS
   - D. DESIGN ANY SUPPLEMENTARY MEMBERS AND THEIR ATTACHMENTS TO WHICH THE UNIT IS ANCHORED.
   - E. VERIFY THE ADEQUACY OF ANY EXISTING MEMBERS AND THEIR ATTACHMENTS TO WHICH THE UNIT IS TO BE ANCHORED FOR THE FORCES EXERTED ON THEM BY THE UNIT IN ADDITION TO ALL OTHER CBC,22 LOADS AND FORCES.
   - F. VERIFY THAT THE INSTALLATION IS IN COMFORMANCE WITH THE CBC,22 AND WITH THE DETAILS SHOWN IN THIS SET OF ANCHORAGE DRAWINGS.
   - G. VERIFY THAT THE EQUIPMENT'S ACTUAL WEIGHT, C.G. LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN IN THIS SET OF ANCHORAGE DRAWINGS.
   - H. VERIFY THAT THE COMBINATION OF Sds AND z/h RESULT IN SEISMIC FORCES (E_h AND E_v) THAT ARE NOT GREATER THAN THE VALUES SHOWN IN GENERAL NOTE 3.

OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE

REQUIRED TORQUE TEST VALUES
Hardrock or Lightweight Concrete

ANCHOR DIA. (in)	EXPANSION TYPE TORQUE (ft-lbs)
3/8	30
1/2	50
5/8	40

NOTES:

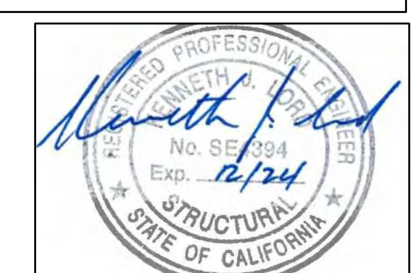
1. ANCHOR DIAMETER REFERS TO THE THREAD SIZE.
2. APPLY PROOF TEST LOADS TO POST-INSTALLED ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. IF NOT, REMOVE NUT & INSTALL A THREADED COUPLER TO THE SAME TIGHTNESS AS THE ORIGINAL NUT USING A TORQUE WRENCH & APPLY LOAD.
3. REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY THE FIXTURE(S).
4. TEST EQUIPMENT (INCLUDING TORQUE WRENCHES) IS TO BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.
5. THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF POST-INSTALLED ANCHORS:

   TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS; WEDGE OR SLEEVE TYPE: ONE HALF (1/2) TURN OF THE NUT.
6. TESTING SHOULD OCCUR A MINIMUM OF 24 HOURS AFTER INSTALLATION OF THE SUBJECT ANCHORS.
7. IF THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE IS LESS THAN THE TEST TORQUE NOTED IN THE TABLE, THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE SHOULD BE USED IN LIEU OF THE TABULATED VALUES.
8. ALL TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE INSPECTOR OF RECORD.

DRAWING INDEX

HOW TO USE THIS DRAWING SET

1. DETERMINE WHETHER THE UNIT WILL BE INSTALLED ON A SLAB-ON-GRADE OR AN ELEVATED SLAB CONDITION, THE CONCRETE SUBSTRATE THICKNESS, MIN. COMPRESSIVE STRENGTH (f'c) & TYPE OF CONCRETE USED FOR THE SUPPORTING CONCRETE SLAB
   - FOR SLAB-ON-GRADE INSTALLATIONS WITH THICKNESS > 6" USING NORMAL WEIGHT CONCRETE f'c min. = 3,000 psi & MIN. EDGE DIST. = 12", USE DRAWINGS EC_S-1 & EC_S-3.
   - FOR ALL ELEVATED SLAB INSTALLATIONS, NORMAL WEIGHT, SAND LT. WT. FOR ALL LT. WT. CONC., f'c min. = 3,000 psi and MIN. EDGE = 12", USE DRAWINGS EC_S-1 & EC_S-4.
2. ANCHOR LOADS ARE GIVEN ON DETAIL 1 ON DRAWINGS EC_S-3 & EC_S-4 ARE STRENGTH DESIGN DERIVED PER ASCE 7-16 SECT. 13.4.2. WITHOUT THE APPLICATION OF OVERSTRENGTH COEFFICIENT OMEGA 0 = 2.0 UNLESS NOTED OTHERWISE. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO RESIST THE ANCHOR LOADS IN ADDITION TO ALL OTHER LOADS.



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1 HCAI RE-SUBMIT 10/15/22	K.J.L.
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CHECKED K.J.L.
DATE 6/12/18
SCALE VARIES
JOB NO. 17015-01
SHEET End Cap EC_S-1 OF 4 SHEETS

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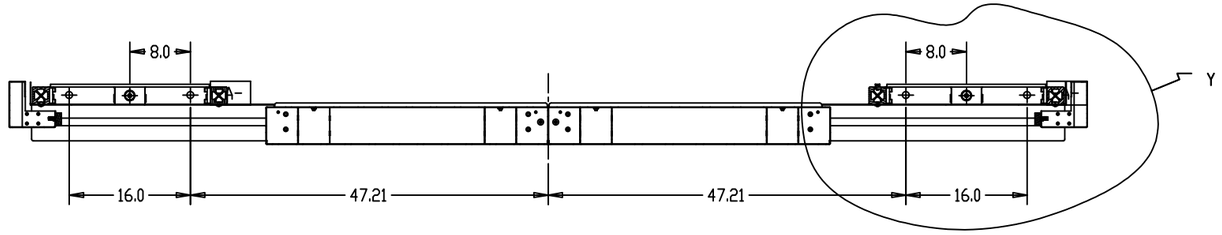

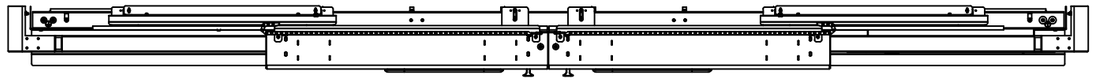

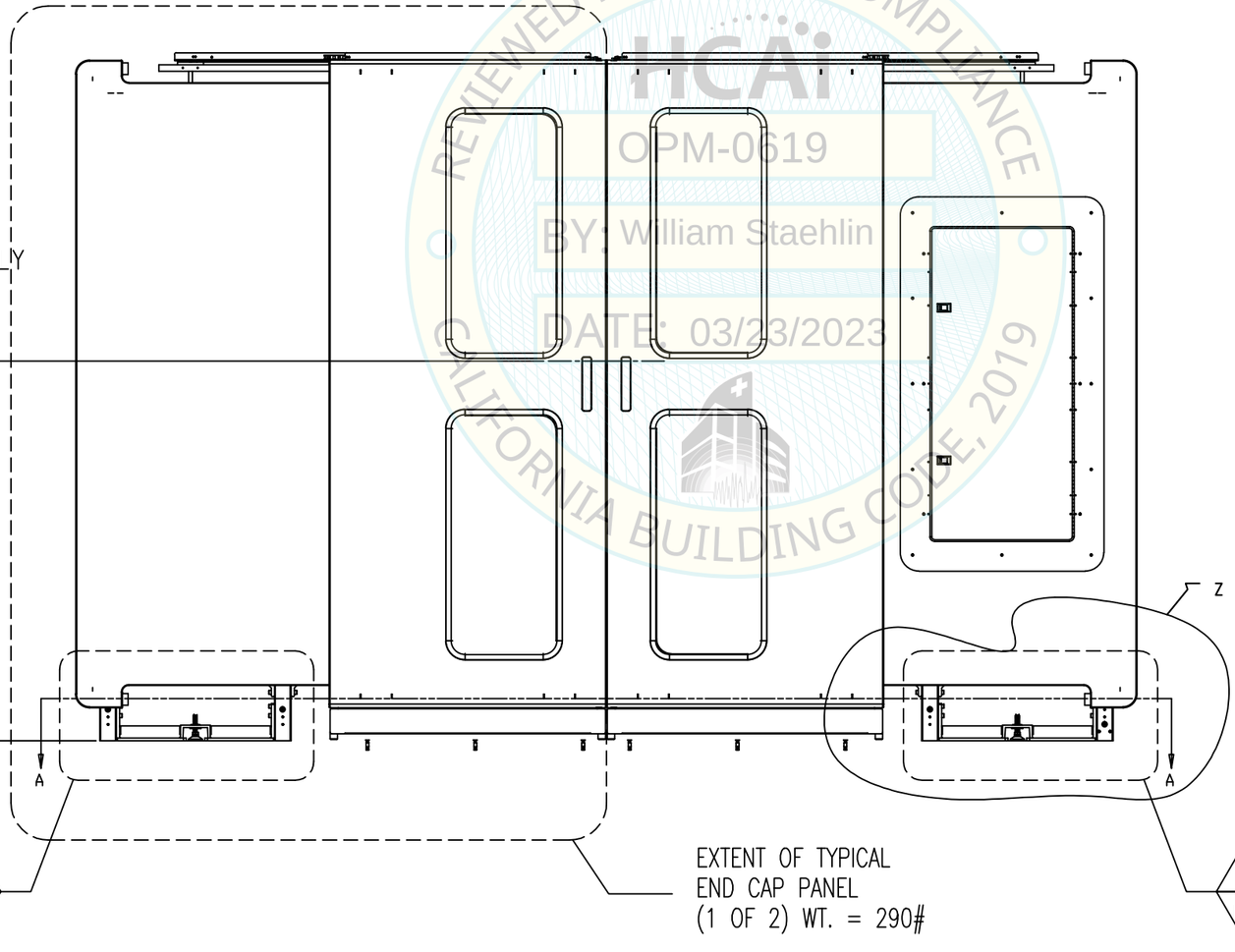

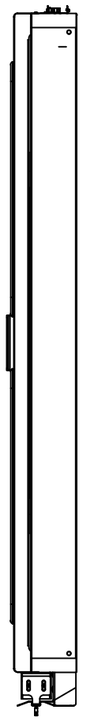

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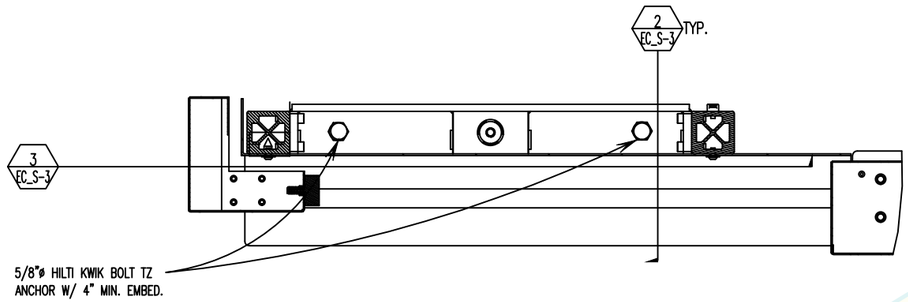
	27 OF 4 SHEETS

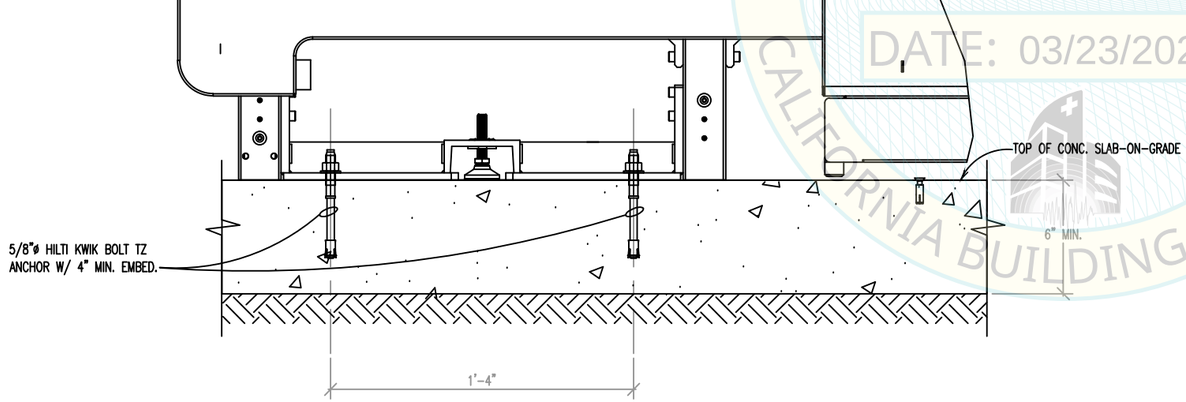


END CAP TYPICAL ANCHORAGE PLAN
1 1/2" = 1'-0"
1
EC_S-3

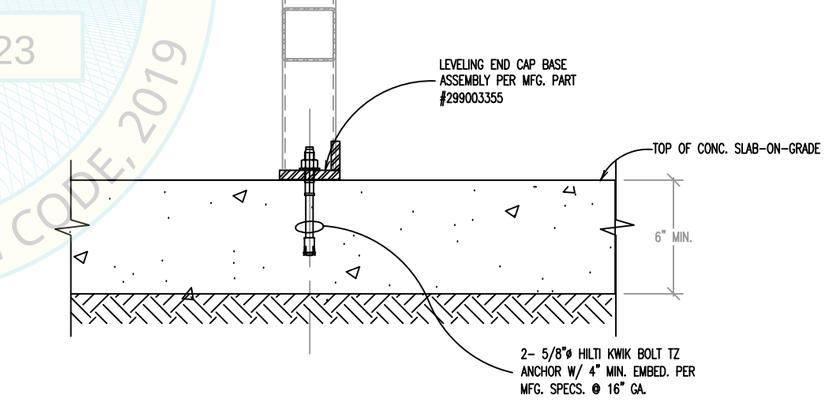
END CAP INSTALLATION – SLAB-ON-GRADE CONDITION
MAXIMUM ANCHORAGE ASSEMBLY LOADS – (SIDE-TO-SIDE DIR. GOVERNS)

MAX. NET UPLIFT, T = 731#
MAX. SRSS SHEAR, V = 264#
CONNECTION ULTIMATE STRENGTH LOADS

MAXIMUM ANCHOR BOLT LOADS
MAX. TENSION = 1,593#
MAX. SRSS SHEAR = 527#
EXPANSION ANCHOR BOLT DESIGN LOADS
INCLUDE OVERSTRENGTH FACTOR,
OMEGA Ø



END CAP TYPICAL ANCHORAGE ELEVATION
1 1/2" = 1'-0"
3
EC_S-3



END CAP TYPICAL ANCHORAGE SECTION
1 1/2" = 1'-0"
2
EC_S-3

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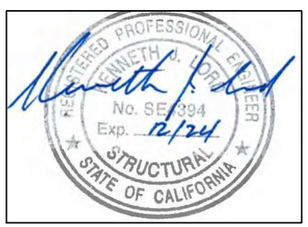

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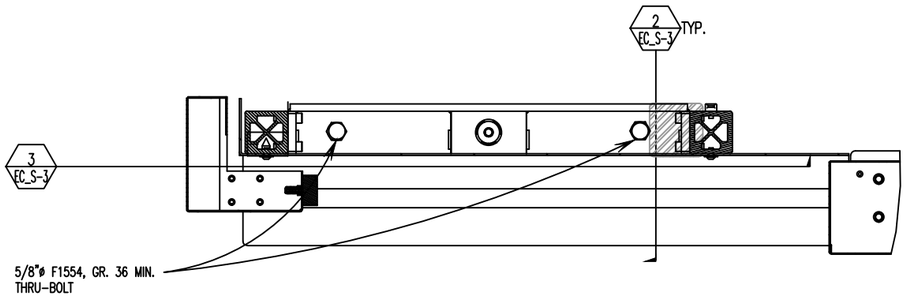
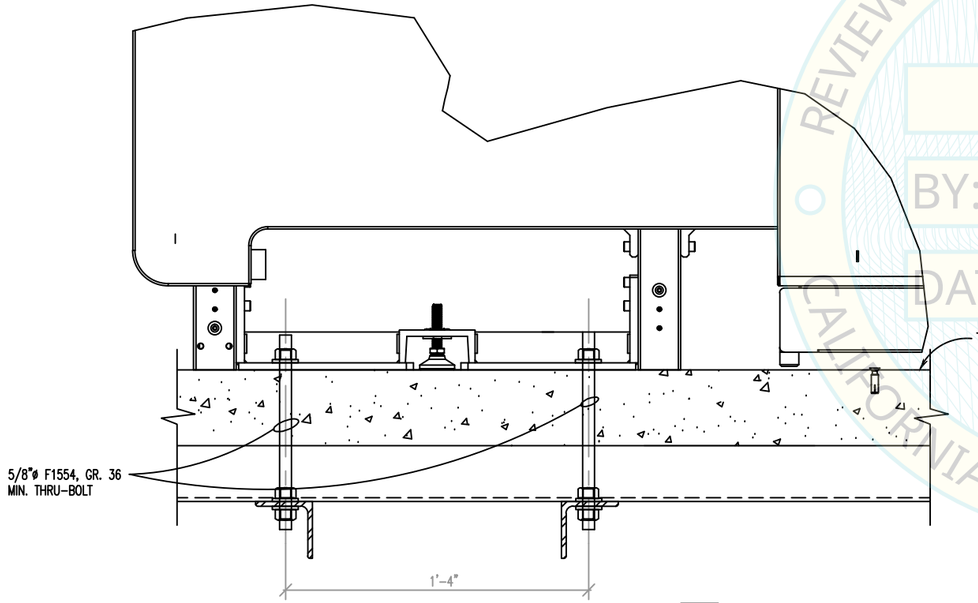


END CAP TYPICAL ANCHORAGE PLAN
1 1/2" = 1'-0"
1
EC_S-4

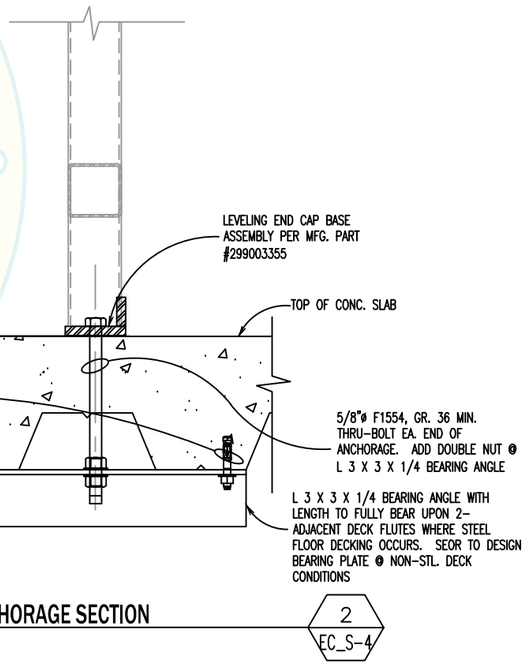
END CAP INSTALLATION – SUSPENDED SLAB CONDITION
MAXIMUM ANCHORAGE ASSEMBLY LOADS – (SIDE-TO-SIDE DIR. GOVERNS)

MAX. NET UPLIFT, T = 1,271#
MAX. SRSS SHEAR, V = 422#

CONNECTION ULTIMATE STRENGTH LOADS



END CAP TYPICAL ANCHORAGE ELEVATION
1 1/2" = 1'-0"
3
EC_S-4



END CAP TYPICAL ANCHORAGE SECTION
1 1/2" = 1'-0"
2
EC_S-4

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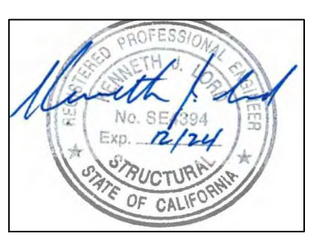


DRAWN K.J.L.
CHECKED K.J.L.
DATE 6/12/18
SCALE VARIES
JOB NO. 17015-01
SHEET End Cap
EC_S-4
SHEETS 49 of 27

GENERAL NOTES

1. INTENT OF DRAWINGS AND NOTES
   - A. THE INTENT OF THIS SET OF ANCHORAGE DRAWINGS AND SPECIFICATONS IS LIMITED ONLY TO THE SEISMIC ANCHORAGE OF THE STORAGE MODULE OF THE OMNICELL XR-2 AUTOMATED CENTRAL PHARMACY SYSTEM, AS SHOWN ON SHEET SM_S-2, ANYWHERE WITHIN THE STATE OF CALIFORNIA, Sds < 1.94, & z/h <= 1.0 WITHIN THE HOSPITAL BUILDING IN ACCORDANCE WITH THE 2022 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY OSHPD-FDD BEFORE PROCEEDING WITH THE WORK.
   - B. TYPICAL DETAILS AND GENERAL NOTES APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE SPECIFICALLY DETAILED OR NOTED OTHERWISE ON OTHER SHEETS.
   - C. DIMENSIONS TAKE PRECEDENCE OVER SCALE OF DRAWINGS. HOWEVER, ANY SIGNIFICANT CONFLICTS SHOULD BE RESOLVED AS NOTED.
   - D. UNITS WILL NOT SUPPORT LIFE-SUSTAINING MACHINERY OR EQUIPMENT.
   - E. THIS SET OF DRAWINGS COVERS ONLY THE ANCHORAGE OF THE UNIT TO THE BUILDING'S STRUCTURE
2. CODE

   THIS DRAWING SET INCLUDING ALL NEW CONSTRUCTION, INSPECTION AND PHYSICAL TESTING PROCEDURES SHALL COMPLY WITH CHAPTERS 17 & 19 OF THE CBC,22 AND CHAPTER 13 OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS ASCE 7-16
3. CBC,22 DESIGN PARAMETERS

   A. GEOTECHNICAL DESIGN PARAMETERS

   ALLOWABLE SOIL BEARING PRESSURE: 1,000 psf

   B. SEISMIC DESIGN PARAMETERS

   $$F_p = \frac{0.4 a_p S_{Ds}}{R_p / I_p} (1 + 2\frac{z}{h}) W_p$$ ASCE 7-16 EQ. 13.3-1

   $S_{Ds} = 1.94$

   W_p = 2,160# INCL. CONTENTS & ENCLOSURE CLADDING (WORST CASE)

   C.B.C. SEISMIC DESIGN CATEGORY "D"

   C.B.C. OCCUPANCY CATEGORY IV

   C.B.C. IMPORTANCE FACTOR, Ip: 1.5

   FOR STORAGE CABINETS & LAB EQUIPMENT PER ASCE 7-16 TABLE 13.5.1,

   C.B.C. COMPONENT AMPLIFICATION FACTOR, ap: 1.0

   C.B.C. COMPONENT RESPONSE MODIFICATION FACTOR, Rp: 2.5

   C.B.C. TOTAL MIN. LATERAL FORCE , Fp: 0.3 SDsIp Wp = 0.87 Wp ASCE 7-16 EQ. 13.3-3

   C.B.C. TOTAL MAX. LATERAL FORCE , Fp: 1.6 SDsIp Wp = 4.63 Wp ASCE 7-16 EQ. 13.3-2

   C.B.C. TOTAL LATERAL FORCE, Fp: 1.39 Wp @ TOP LEVEL z = h

   FOR z/h = 0.0 , E_h = 0.87 E_v = 0.39

   FOR z/h = 1.0 , E_h = 1.39 E_v = 0.39

   C. ALL SEISMIC ANCHORAGE LOADS AND FORCES INDICATED ON THESE DRAWINGS AND SPECIFICATIONS ARE BASED UPON A STRENGTH DESIGN ANALYSIS, UNLESS NOTED OTHERWISE.
4. STRUCTURAL STEEL
   - A. ALL STRUCTURAL STEEL PLATE MATERIAL SHALL CONFORM TO ASTM A-36, Fy = 36 KSI. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF AISC SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
   - B. ALL WELDING & FABRICATION SHALL BE PERFORMED BY A FABRICATOR LICENSED BY OSHPD-FDD. THE FABRICATOR SHALL PROVIDE A CERTIFICATE OF COMPLIANCE TO OSHPD-FDD.
   - C. WELDING SHALL CONFORM TO LATEST CBC AND AWS STANDARDS. ALL WELDERS SHALL BE CERTIFIED BY AWS.
   - D. WELDING SHALL BE BY MEANS OF THE SHIELDED ELECTRIC ARC METHOD USING E70XX ELECTRODES. E70T4 ELECTRODES SHALL NOT BE USED.
   - E. LENGTHS OF WELDS SHOWN ARE EFFECTIVE LENGTHS AS SPECIFIED IN THE CODE. WHERE LENGTH OF WELD IS NOT SHOWN, IT SHALL BE THE FULL LENGTH OF JOINT.
   - F. HOLES FOR BOLTS AND CONNECTORS IN STRUCTURAL STEEL SHALL BE DRILLED OR PUNCHED. BURNING OF HOLES SHALL NOT BE PERMITTED.
   - G. BOLTS @ BOLTED CONNECTIONS SHALL CONFORM TO ASTM SPECIFICATIONS:
     - @ STRUCTURAL STEEL CONNECTION..... A307 U.N.O.
     - @ SLAB THRU-BOLT CONNECTION..... F1554, GR. 36 MIN.
5. EXPANSION TYPE ANCHORS TO EXISTING CONSTRUCTION
   - A. ADD EXPANSION TYPE ANCHOR BOLTS AS DELINEATED BY REFERENCED DETAILS.
   - B. EXPANSION TYPE ANCHORS SHALL BE HILTI KWIK-BOLT TZ2 ANCHORS OF CARBON STEEL CONSTRUCTION PER ICC #ESR-4266 OR APPROVED EQUAL BY OSHPD-FDD AND THE STRUCTURAL ENGINEER-OF-RECORD. ALL EXPANSION TYPE ANCHORS SHALL HAVE A CURRENT ICC EVALUATION REPORT. FOLLOW MANUFACTURER'S SPECIFICATIONS AND APPROVED INSTALLATION PROCEDURES AT ALL TIMES.
   - C. EXPANSION TYPE ANCHORS SHALL BE INSTALLED IN COMPLIANCE WITH OSHPD-FDD REQUIREMENTS & IN ACCORDANCE WITH THE OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE AS INDICATED ON THIS SHEET SM_S-1.
6. TESTING AND INSPECTION
   - A. CONTINUOUS SPECIAL INSPECTION BY AN INSPECTOR REGISTERED WITH OSHPD-FDD FOR THE TYPE OF CONSTRUCTION PROVIDED SHALL BE PROVIDED.

     A.1 DURING STRUCTURAL STEEL BOLTING

     A.2 DURING EXPANSION ANCHOR INSTALLATION & TESTING IN ACCORDANCE WITH THE OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE AS INDICATED ON THIS SHEET SM_S-1
   - B. EXPANSION ANCHOR TENSION TESTING CRITERIA

     ANCHOR TESTING OF INSTALLED ANCHORS SHALL BE PER CBC,22 SECTION 1901.3 TITLE 24 PART 2 FOR EXPANSION TYPE ANCHORS USED FOR EQUIPMENT ANCHORAGE APPLICATIONS. 50% OR ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE-HALF THE ANCHORS IN EACH GROUP SHALL BE TENSION TESTED. TENSION TESTING OF THE EXPANSION ANCHORS SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD-FDD. A TESTING, INSPECTION AND OBSERVATION (TIO) PROGRAM MUST BE DEVELOPED (SPECIFYING TESTS AND SPECIAL INSPECTIONS ONLY), SUBMITTED AND APPROVED DURING THE PLAN REVIEW PROCESS. SEE SECTION 7-141, TITLE 24, PART 1 FOR REQUIREMENTS. AN ACCEPTABLE TIO FORM CAN BE DOWN LOADED FROM THE OSHPD-FDD WEB SITE. OSHPD-FDD MUST APPROVE THE TIO PROGRAM INCLUDING THE INDIVIDUALS AND / OR FIRMS WHO WILL PERFORM THE SPECIFIED TESTS AND / OR INSPECTIONS PRIOR TO ISSUANCE OF A BUILDING PERMIT.
7. CONSTRUCTION NOTES
   - A. THE ARCHITECT/ENGINEER WILL NOT BE RESPONSIBLE FOR AND WILL NOT HAVE CONTROL OR CHARGE OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
   - B. PRIOR TO STARTING NEW CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. DIMENSIONS, ELEVATIONS, AND OTHER DETAILS OF EXISTING CONSTRUCTION, IF ANY, ON THESE DRAWINGS ARE GIVEN FOR REFERENCE ONLY. EXISTING ARCHITECTURAL, MECHANICAL AND ELECTRICAL CONDITIONS ARE NOT GENERALLY SHOWN AND ANY ORIGINAL DRAWINGS FURNISHED MAY NOT REFLECT THE EXISTING CONSTRUCTION CONDITIONS AND ARE PROVIDED FOR REFERENCE ONLY. THE ARCHITECT/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
   - C. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCED BARS. WHEN INSTALLING THEM INTO EXISTING PRESTRESSED CONCRETE (PRE-TENSIONED OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT & THE DRILLED-IN ANCHOR.
   - D. CONTRACTOR SHALL OBTAIN SEPARATE BUILDING PERMIT FOR ALL ELECTRICAL, PLUMBING, AND HEATING AND VENTILATION WORK.
   - E. BUILDING SHALL NOT BE OCCUPIED DURING CONSTRUCTION WHEN BUILDING STRENGTH IS SUBSTANTIALLY WEAKENED AT ANY TIME OR REQUIRED EXITS ARE NOT AVAILABLE OR ARE OBSTRUCTED.
   - F. ALL UTILITY CONNECTIONS SHALL HAVE SUFFICIENT FLEXIBILITY TO PERMIT ADEQUATE MOTION IN ALL DIRECTIONS.
8. RESPONSIBILITIES OF THE PROJECT-SPECIFIC STRUCTURAL ENGINEER-OF-RECORD
   - A. VERIFY THAT THE CONCRETE SLAB TO WHICH THE UNIT IS ANCHORED IS NOT CRACKED AND MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR.
   - B. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB OPENINGS OR EDGES
   - C. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE ANCHORS SHOWN IN THIS PREAPPROVAL. SEOR SHALL VERIFY THAT THERE IS NO ADVERSE INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR 6 X h_{ef} FROM THIS UNIT'S ANCHORS
   - D. DESIGN ANY SUPPLEMENTARY MEMBERS AND THEIR ATTACHMENTS TO WHICH THE UNIT IS ANCHORED.
   - E. VERIFY THE ADEQUACY OF ANY EXISTING MEMBERS AND THEIR ATTACHMENTS TO WHICH THE UNIT IS TO BE ANCHORED FOR THE FORCES EXERTED ON THEM BY THE UNIT IN ADDITION TO ALL OTHER CBC,22 LOADS AND FORCES.
   - F. VERIFY THAT THE INSTALLATION IS IN COMFORMANCE WITH THE CBC,22 AND WITH THE DETAILS SHOWN IN THIS SET OF ANCHORAGE DRAWINGS.
   - G. VERIFY THAT THE EQUIPMENT'S ACTUAL WEIGHT, C.G. LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN IN THIS SET OF ANCHORAGE DRAWINGS.
   - H. VERIFY THAT THE COMBINATION OF Sds AND z/h RESULT IN SEISMIC FORCES (E_h AND E_v) THAT ARE NOT GREATER THAN THE VALUES SHOWN IN GENERAL NOTE 3.

OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE

REQUIRED TORQUE TEST VALUES
Hardrock or Lightweight Concrete

ANCHOR DIA. (in)	EXPANSION TYPE TORQUE (ft-lbs)
3/8	30
1/2	50
5/8	40

NOTES:

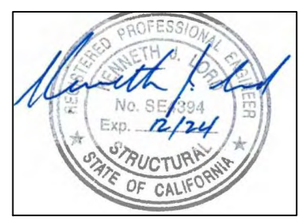
1. ANCHOR DIAMETER REFERS TO THE THREAD SIZE.
2. APPLY PROOF TEST LOADS TO POST-INSTALLED ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. IF NOT, REMOVE NUT & INSTALL A THREADED COUPLER TO THE SAME TIGHTNESS AS THE ORIGINAL NUT USING A TORQUE WRENCH & APPLY LOAD.
3. REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY THE FIXTURE(S).
4. TEST EQUIPMENT (INCLUDING TORQUE WRENCHES) IS TO BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.
5. THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF POST-INSTALLED ANCHORS:

   TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS; WEDGE OR SLEEVE TYPE: ONE HALF (1/2) TURN OF THE NUT.
6. TESTING SHOULD OCCUR A MINIMUM OF 24 HOURS AFTER INSTALLATION OF THE SUBJECT ANCHORS.
7. IF THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE IS LESS THAN THE TEST TORQUE NOTED IN THE TABLE, THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE SHOULD BE USED IN LIEU OF THE TABULATED VALUES.
8. ALL TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE INSPECTOR OF RECORD.

DRAWING INDEX

HOW TO USE THIS DRAWING SET

1. DETERMINE WHETHER THE UNIT WILL BE INSTALLED ON A SLAB-ON-GRADE OR AN ELEVATED SLAB CONDITION, THE CONCRETE SUBSTRATE THICKNESS, MIN. COMPRESSIVE STRENGTH (f'c) & TYPE OF CONCRETE USED FOR THE SUPPORTING CONCRETE SLAB
   - FOR SLAB-ON-GRADE INSTALLATIONS WITH THICKNESS > 6" USING NORMAL WEIGHT CONCRETE f'c min. = 3,000 psi & MIN. EDGE DIST. = 12", USE DRAWINGS SM_S-1 & SM_S-3.
   - FOR ALL ELEVATED SLAB INSTALLATIONS, NORMAL WEIGHT, SAND LT. WT. FOR ALL LT. WT. CONC., f'c min. = 3,000 psi and MIN. EDGE = 12", USE DRAWINGS SM_S-1 & SM_S-4.
2. ANCHOR LOADS ARE GIVEN ON DETAIL 1 ON DRAWINGS SM_S-3 & SM_S-4 ARE STRENGTH DESIGN DERIVED PER ASCE 7-16 SECT. 13.4.2. WITHOUT THE APPLICATION OF OVERSTRENGTH COEFFICIENT OMEGA 0 = 2.0 UNLESS NOTED OTHERWISE. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO RESIST THE ANCHOR LOADS IN ADDITION TO ALL OTHER LOADS.



REVISIONS	BY
1 HCAI RE-SUBMIT 10/15/22	K.J.L.
2 P.C. COMMENTS 1/10/23	K.J.L.
3 FINAL REVISION 3/7/23	K.J.L.

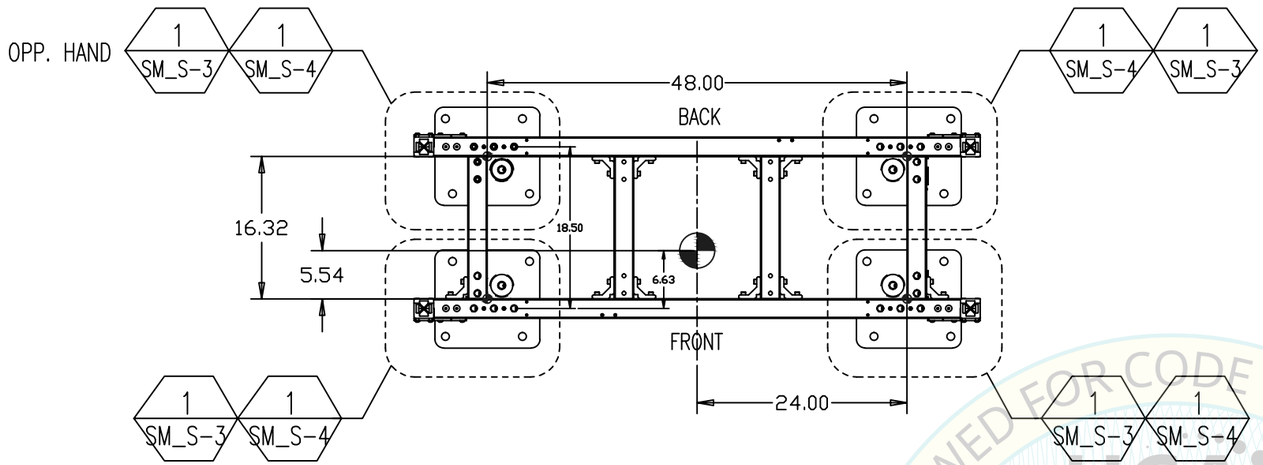
SEISMIC ENGINEERING ASSOCIATES, LTD.
2461 West 208th Street, Suite 200
Torrance , California 90501
Telephone: (310) 640-7200

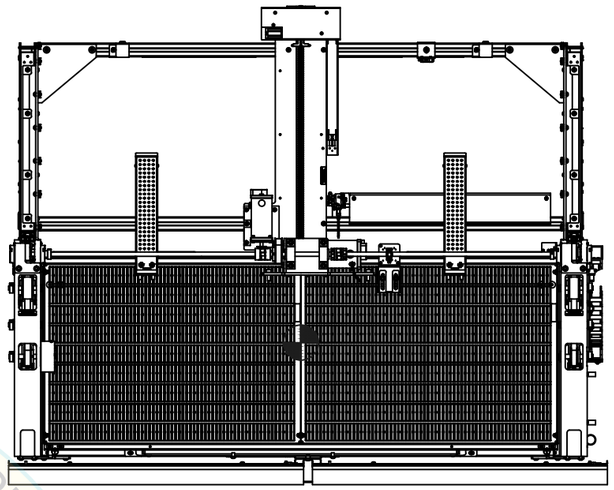
PROJECT:
OSHPD Pre-Approval (OPM) Program
XR-2 Automated Central Pharmacy System
Storage Module Seismic Anchorage

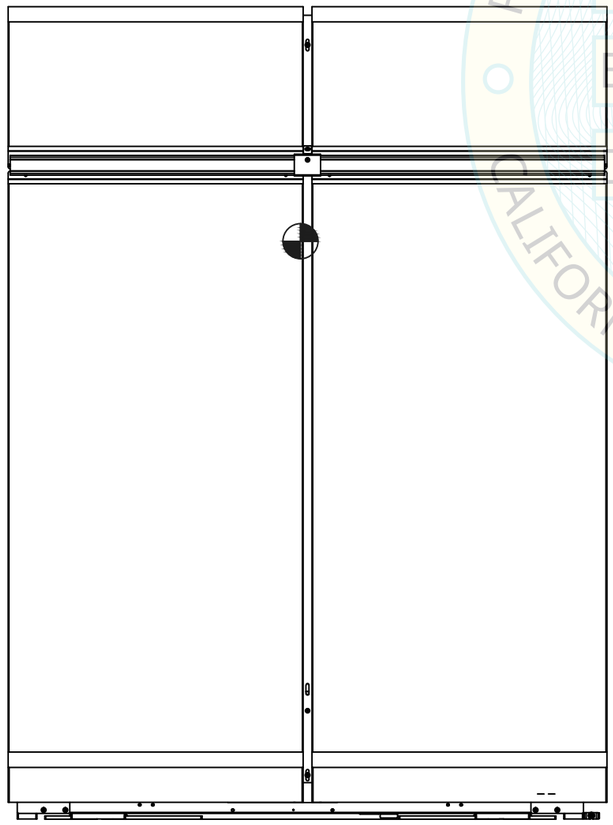
CLIENT:
Omnicell, Inc.
51 Pennwood Place, Ste. 400
Warrendale, PA 15086

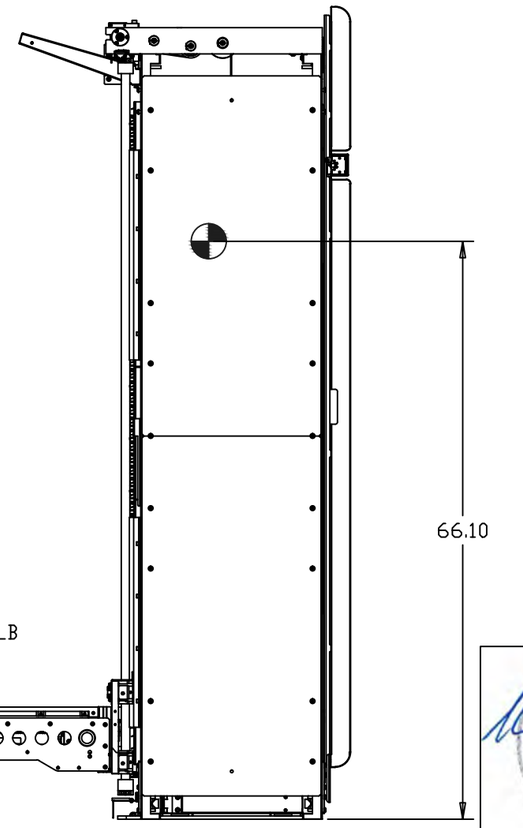
DRAWN	K.J.L.
CHECKED	K.J.L.
DATE	6/12/18
SCALE	VARIES
JOB NO.	17015-01
SHEET	Storage Module SM_S-1
	1 OF 4 SHEETS

OPM-0619: Reviewed for Code Compliance by William Staehlin
3/23/2023









EQUIPMENT WEIGHT = 2275 LB

REVIEWED FOR CODE COMPLIANCE
HCAi
OPM-0619
BY: William Staehlin
DATE: 03/23/2023
CALIFORNIA BUILDING CODE, 2019

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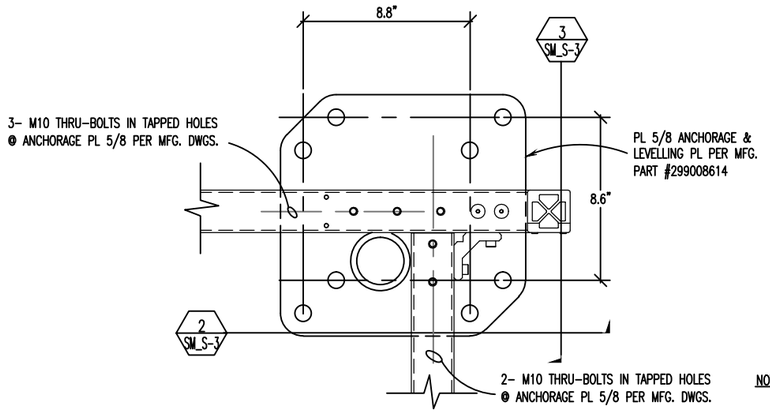
	2 OF 4 SHEETS

MAXIMUM ANCHORAGE ASSEMBLY LOADS – (FRONT–TO–BACK DIR. GOVERNS)

MAX. NET UPLIFT, T = 2,780#
MAX. SRSS SHEAR, V = 492#
ANCHORAGE ULTIMATE STRENGTH LOADS

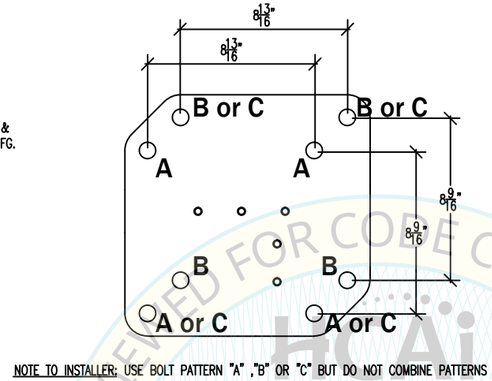
MAXIMUM ANCHOR BOLT LOADS
MAX. TENSION = 6,741#
MAX. SRSS SHEAR = 982#
EXPANSION ANCHORAGE DESIGN LOADS INCLUDE OVERSTRENGTH FACTOR, OMEGA Ø = 2.0



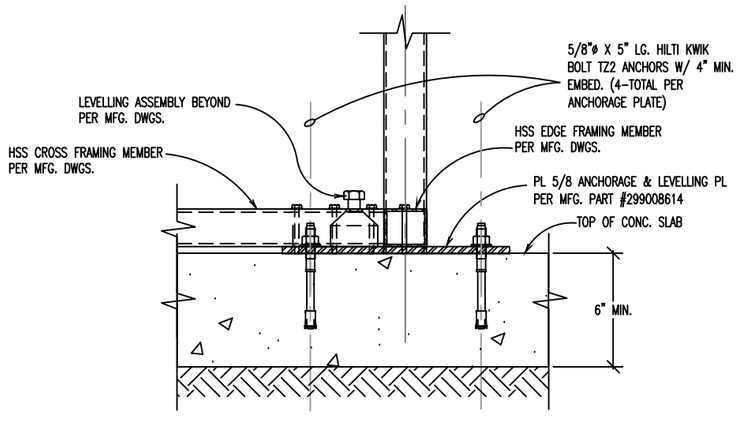
STORAGE MODULE TYPICAL ANCHORAGE PLAN

1 1/2" = 1'–0"

1 SM_S-3



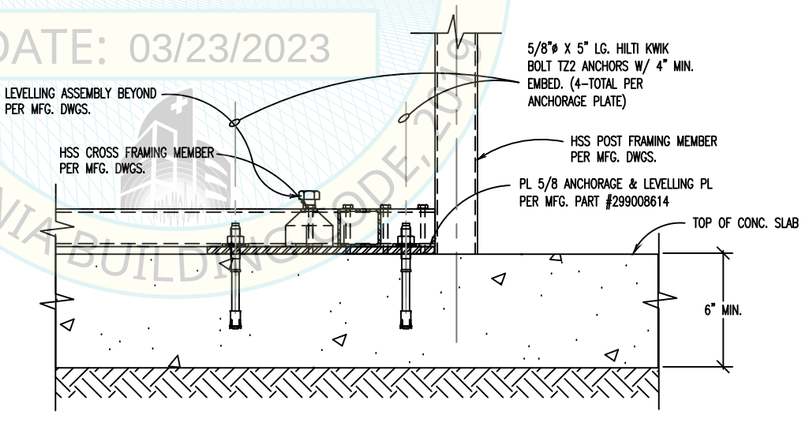
NOTE TO INSTALLER: USE BOLT PATTERN "A" ,"B" OR "C" BUT DO NOT COMBINE PATTERNS



STORAGE MODULE TYPICAL ANCHORAGE SIDE ELEVATION

1 1/2" = 1'–0"

2 SM_S-3



STORAGE MODULE TYPICAL ANCHORAGE FRONT ELEVATION

1 1/2" = 1'–0"

3 SM_S-3

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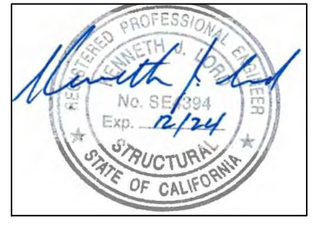

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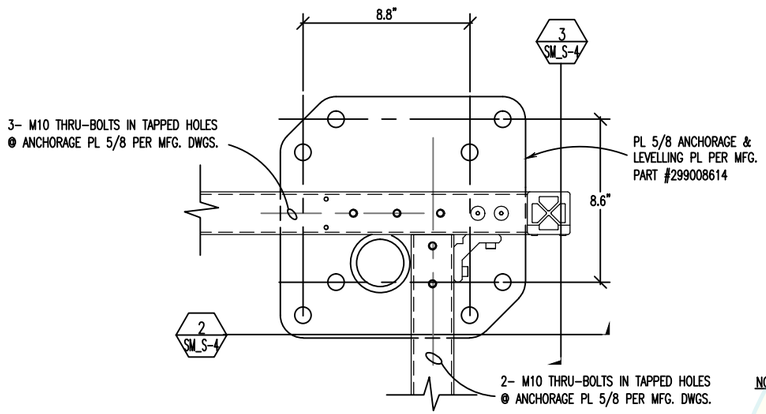
	32 of 427 SHEETS

MAXIMUM ANCHORAGE ASSEMBLY LOADS – (FRONT-TO-BACK DIR. GOVERNS)

MAX. NET UPLIFT, T = 4,684#
MAX. SRSS SHEAR, V = 786#

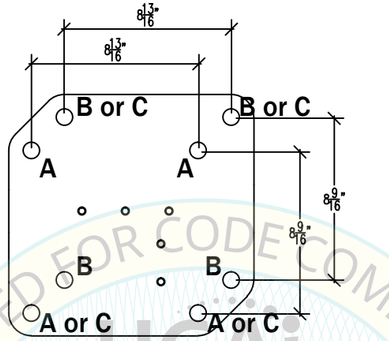
ANCHORAGE ULTIMATE STRENGTH LOADS THRU-BOLT ANCHOR DESIGN LOADS DO NOT INCLUDE OVERSTRENGTH FACTOR, OMEGA Ø



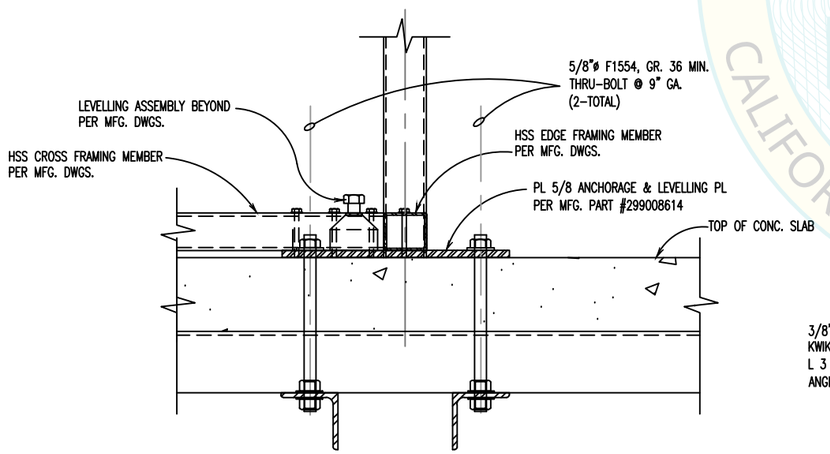
STORAGE MODULE TYPICAL ANCHORAGE PLAN

1 1/2" = 1'–0"

1 SM_S-4



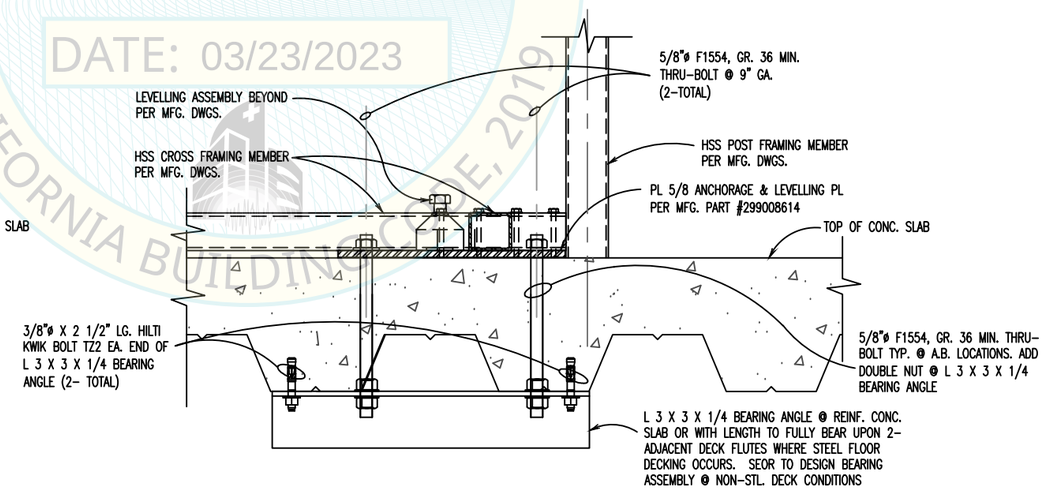
NOTE TO INSTALLER: USE EITHER BOLT PATTERN "A" OR "B" BUT DO NOT COMBINE PATTERNS



STORAGE MODULE TYPICAL ANCHORAGE SIDE ELEVATION

1 1/2" = 1'–0"

2 SM_S-4



STORAGE MODULE TYPICAL ANCHORAGE FRONT ELEVATION

1 1/2" = 1'–0"

3 SM_S-4

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OPM-0619
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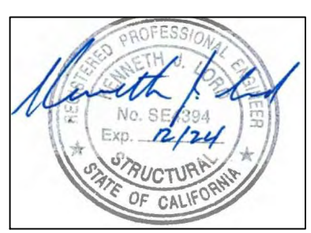

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SHEETS	23 of 27

GENERAL NOTES

1. INTENT OF DRAWINGS AND NOTES
   - A. THE INTENT OF THIS SET OF ANCHORAGE DRAWINGS AND SPECIFICATONS IS LIMITED ONLY TO THE SEISMIC ANCHORAGE OF THE USER MODULE OF THE OMNICELL XR-2 AUTOMATED CENTRAL PHARMACY SYSTEM, AS SHOWN ON SHEET UM_S-2, ANYWHERE WITHIN THE STATE OF CALIFORNIA, Sds ≤ 1.94, & z/h <= 1.0 WITHIN THE HOSPITAL BUILDING IN ACCORDANCE WITH THE 2022 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY OSHPD-FDD BEFORE PROCEEDING WITH THE WORK.
   - B. TYPICAL DETAILS AND GENERAL NOTES APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE SPECIFICALLY DETAILED OR NOTED OTHERWISE ON OTHER SHEETS.
   - C. DIMENSIONS TAKE PRECEDENCE OVER SCALE OF DRAWINGS. HOWEVER, ANY SIGNIFICANT CONFLICTS SHOULD BE RESOLVED AS NOTED.
   - D. UNITS WILL NOT SUPPORT LIFE-SUSTAINING MACHINERY OR EQUIPMENT.
   - E. THIS SET OF DRAWINGS COVERS ONLY THE ANCHORAGE OF THE UNIT TO THE BUILDING'S STRUCTURE
2. CODE

   THIS DRAWING SET INCLUDING ALL NEW CONSTRUCTION, INSPECTION AND PHYSICAL TESTING PROCEDURES SHALL COMPLY WITH CHAPTERS 17 & 19 OF THE CBC,22 AND CHAPTER 13 OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS ASCE 7-16
3. CBC,22 DESIGN PARAMETERS

   A. GEOTECHNICAL DESIGN PARAMETERS

   ALLOWABLE SOIL BEARING PRESSURE: 1,000 psf

   B. SEISMIC DESIGN PARAMETERS

   $$F_p = \frac{0.4 a_p S_{Ds}}{R_p / I_p}\left(1 + 2\frac{z}{h}\right) W_p \quad \text{ASCE 7-16 EQ. 13.3-1}$$

   S_{Ds} = 1.94
   W_p = 648# INCL. CONTENTS & ENCLOSURE CLADDING (WORST CASE)

   C.B.C. SEISMIC DESIGN CATEGORY "D"
   C.B.C. OCCUPANCY CATEGORY IV
   C.B.C. IMPORTANCE FACTOR, Ip: 1.5

   FOR STORAGE CABINETS & LAB EQUIPMENT PER ASCE 7-16 TABLE 13.5.1,
   C.B.C. COMPONENT AMPLIFICATION FACTOR, ap: 1.0
   C.B.C. COMPONENT RESPONSE MODIFICATION FACTOR, Rp: 2.5
   C.B.C. TOTAL MIN. LATERAL FORCE , Fp: 0.3 SDsIp Wp = 0.87 Wp ASCE 7-16 EQ. 13.3-3
   C.B.C. TOTAL MAX. LATERAL FORCE , Fp: 1.6 SDsIp Wp = 4.63 Wp ASCE 7-16 EQ. 13.3-2
   C.B.C. TOTAL LATERAL FORCE, Fp: 1.39 Wp @ TOP LEVEL z = h
   FOR z/h = 0.0 , E_h = 0.87 E_v = 0.39
   FOR z/h = 1.0 , E_h = 1.39 E_v = 0.39

   C. ALL SEISMIC ANCHORAGE LOADS AND FORCES INDICATED ON THESE DRAWINGS AND SPECIFICATIONS ARE BASED UPON A STRENGTH DESIGN ANALYSIS, UNLESS NOTED OTHERWISE.
4. STRUCTURAL STEEL
   - A. ALL STRUCTURAL STEEL PLATE MATERIAL SHALL CONFORM TO ASTM A-36, Fy = 36 KSI. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF AISC SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
   - B. ALL WELDING & FABRICATION SHALL BE PERFORMED BY A FABRICATOR LICENSED BY OSHPD. THE FABRICATOR SHALL PROVIDE A CERTIFICATE OF COMPLIANCE TO OSHPD-FDD.
   - C. WELDING SHALL CONFORM TO LATEST CBC AND AWS STANDARDS. ALL WELDERS SHALL BE CERTIFIED BY AWS.
   - D. WELDING SHALL BE BY MEANS OF THE SHIELDED ELECTRIC ARC METHOD USING E70XX ELECTRODES. E70T4 ELECTRODES SHALL NOT BE USED.
   - E. LENGTHS OF WELDS SHOWN ARE EFFECTIVE LENGTHS AS SPECIFIED IN THE CODE. WHERE LENGTH OF WELD IS NOT SHOWN, IT SHALL BE THE FULL LENGTH OF JOINT.
   - F. HOLES FOR BOLTS AND CONNECTORS IN STRUCTURAL STEEL SHALL BE DRILLED OR PUNCHED. BURNING OF HOLES SHALL NOT BE PERMITTED.
   - G. BOLTS @ BOLTED CONNECTIONS SHALL CONFORM TO ASTM SPECIFICATIONS:
     - @ STRUCTURAL STEEL CONNECTION..... A307 U.N.O.
     - @ SLAB THRU-BOLT CONNECTION..... F1554, GR. 36 MIN.
5. EXPANSION TYPE ANCHORS TO EXISTING CONSTRUCTION
   - A. ADD EXPANSION TYPE ANCHOR BOLTS AS DELINEATED BY REFERENCED DETAILS.
   - B. EXPANSION TYPE ANCHORS SHALL BE HILTI KWIK-BOLT TZ2 ANCHORS OF CARBON STEEL CONSTRUCTION PER ICC #ESR-4266 OR APPROVED EQUAL BY OSHPD-FDD AND THE STRUCTURAL ENGINEER-OF-RECORD. ALL EXPANSION TYPE ANCHORS SHALL HAVE A CURRENT ICC EVALUATION REPORT. FOLLOW MANUFACTURER'S SPECIFICATIONS AND APPROVED INSTALLATION PROCEDURES AT ALL TIMES.
   - C. EXPANSION TYPE ANCHORS SHALL BE INSTALLED IN COMPLIANCE WITH OSHPD REQUIREMENTS & IN ACCORDANCE WITH THE OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE AS INDICATED ON THIS SHEET UM_S-1.
6. TESTING AND INSPECTION
   - A. CONTINUOUS SPECIAL INSPECTION BY AN INSPECTOR REGISTERED WITH OSHPD-FDD FOR THE TYPE OF CONSTRUCTION PROVIDED SHALL BE PROVIDED.

     A.1 DURING STRUCTURAL STEEL BOLTING

     A.2 DURING EXPANSION ANCHOR INSTALLATION & TESTING IN ACCORDANCE WITH THE OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE AS INDICATED ON THIS SHEET UM_S-1
   - B. EXPANSION ANCHOR TENSION TESTING CRITERIA

     ANCHOR TESTING OF INSTALLED ANCHORS SHALL BE PER CBC,22 SECTION 1901.3 TITLE 24 PART 2 FOR EXPANSION TYPE ANCHORS USED FOR EQUIPMENT ANCHORAGE APPLICATIONS. 50% OR ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE-HALF THE ANCHORS IN EACH GROUP SHALL BE TENSION TESTED. TENSION TESTING OF THE EXPANSION ANCHORS SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO OSHPD-FDD. A TESTING, INSPECTION AND OBSERVATION (TIO) PROGRAM MUST BE DEVELOPED (SPECIFYING TESTS AND SPECIAL INSPECTIONS ONLY), SUBMITTED AND APPROVED DURING THE PLAN REVIEW PROCESS. SEE SECTION 7-141, TITLE 24, PART 1 FOR REQUIREMENTS. AN ACCEPTABLE TIO FORM CAN BE DOWN LOADED FROM THE OSHPD-FDD WEB SITE. OSHPD-FDD MUST APPROVE THE TIO PROGRAM INCLUDING THE INDIVIDUALS AND / OR FIRMS WHO WILL PERFORM THE SPECIFIED TESTS AND / OR INSPECTIONS PRIOR TO ISSUANCE OF A BUILDING PERMIT.
7. CONSTRUCTION NOTES
   - A. THE ARCHITECT/ENGINEER WILL NOT BE RESPONSIBLE FOR AND WILL NOT HAVE CONTROL OR CHARGE OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
   - B. PRIOR TO STARTING NEW CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. DIMENSIONS, ELEVATIONS, AND OTHER DETAILS OF EXISTING CONSTRUCTION, IF ANY, ON THESE DRAWINGS ARE GIVEN FOR REFERENCE ONLY. EXISTING ARCHITECTURAL, MECHANICAL AND ELECTRICAL CONDITIONS ARE NOT GENERALLY SHOWN AND ANY ORIGINAL DRAWINGS FURNISHED MAY NOT REFLECT THE EXISTING CONSTRUCTION CONDITIONS AND ARE PROVIDED FOR REFERENCE ONLY. THE ARCHITECT/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
   - C. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCED BARS. WHEN INSTALLING THEM INTO EXISTING PRESTRESSED CONCRETE (PRE-TENSIONED OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT & THE DRILLED-IN ANCHOR.
   - D. CONTRACTOR SHALL OBTAIN SEPARATE BUILDING PERMIT FOR ALL ELECTRICAL, PLUMBING, AND HEATING AND VENTILATION WORK.
   - E. BUILDING SHALL NOT BE OCCUPIED DURING CONSTRUCTION WHEN BUILDING STRENGTH IS SUBSTANTIALLY WEAKENED AT ANY TIME OR REQUIRED EXITS ARE NOT AVAILABLE OR ARE OBSTRUCTED.
   - F. ALL UTILITY CONNECTIONS SHALL HAVE SUFFICIENT FLEXIBILITY TO PERMIT ADEQUATE MOTION IN ALL DIRECTIONS.
8. RESPONSIBILITIES OF THE PROJECT-SPECIFIC STRUCTURAL ENGINEER-OF-RECORD
   - A. VERIFY THAT THE CONCRETE SLAB TO WHICH THE UNIT IS ANCHORED IS NOT CRACKED AND MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR.
   - B. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB OPENINGS OR EDGES
   - C. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE ANCHORS SHOWN IN THIS PREAPPROVAL. SEOR SHALL VERIFY THAT THERE IS NO ADVERSE INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR 6 X h_{ef} FROM THIS UNIT'S ANCHORS
   - D. DESIGN ANY SUPPLEMENTARY MEMBERS AND THEIR ATTACHMENTS TO WHICH THE UNIT IS ANCHORED.
   - E. VERIFY THE ADEQUACY OF ANY EXISTING MEMBERS AND THEIR ATTACHMENTS TO WHICH THE UNIT IS TO BE ANCHORED FOR THE FORCES EXERTED ON THEM BY THE UNIT IN ADDITION TO ALL OTHER CBC,22 LOADS AND FORCES.
   - F. VERIFY THAT THE INSTALLATION IS IN COMFORMANCE WITH THE CBC,22 AND WITH THE DETAILS SHOWN IN THIS SET OF ANCHORAGE DRAWINGS.
   - G. VERIFY THAT THE EQUIPMENT'S ACTUAL WEIGHT, C.G. LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN IN THIS SET OF ANCHORAGE DRAWINGS.
   - H. VERIFY THAT THE COMBINATION OF Sds AND z/h RESULT IN SEISMIC FORCES (E_h AND E_v) THAT ARE NOT GREATER THAN THE VALUES SHOWN IN GENERAL NOTE 3.

OSHPD-FDD SUPPLEMENTAL ANCHOR TESTING PROCEDURE

REQUIRED TORQUE TEST VALUES
Hardrock or Lightweight Concrete

ANCHOR DIA. (in)	EXPANSION TYPE TORQUE (ft-lbs)
3/8	30
1/2	50
5/8	40

NOTES:

1. ANCHOR DIAMETER REFERS TO THE THREAD SIZE.
2. APPLY PROOF TEST LOADS TO POST-INSTALLED ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. IF NOT, REMOVE NUT & INSTALL A THREADED COUPLER TO THE SAME TIGHTNESS AS THE ORIGINAL NUT USING A TORQUE WRENCH & APPLY LOAD.
3. REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY THE FIXTURE(S).
4. TEST EQUIPMENT (INCLUDING TORQUE WRENCHES) IS TO BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.
5. THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF POST-INSTALLED ANCHORS:

   TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS; WEDGE OR SLEEVE TYPE: ONE HALF (1/2) TURN OF THE NUT.
6. TESTING SHOULD OCCUR A MINIMUM OF 24 HOURS AFTER INSTALLATION OF THE SUBJECT ANCHORS.
7. IF THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE IS LESS THAN THE TEST TORQUE NOTED IN THE TABLE, THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE SHOULD BE USED IN LIEU OF THE TABULATED VALUES.
8. ALL TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE INSPECTOR OF RECORD.

DRAWING INDEX

HOW TO USE THIS DRAWING SET

1. DETERMINE WHETHER THE UNIT WILL BE INSTALLED ON A SLAB-ON-GRADE OR AN ELEVATED SLAB CONDITION, THE CONCRETE SUBSTRATE THICKNESS, MIN. COMPRESSIVE STRENGTH (f'c) & TYPE OF CONCRETE USED FOR THE SUPPORTING CONCRETE SLAB
   - FOR SLAB-ON-GRADE INSTALLATIONS WITH THICKNESS ≥ 6" USING NORMAL WEIGHT CONCRETE f'c min. = 3,000 psi & MIN. EDGE DIST. = 12", USE DRAWINGS UM_S-1 & UM_S-3.
   - FOR ALL ELEVATED SLAB INSTALLATIONS, NORMAL WEIGHT, SAND LT. WT. FOR ALL LT. WT. CONC., f'c min. = 3,000 psi and MIN. EDGE = 12", USE DRAWINGS UM_S-1 & UM_S-4.
2. ANCHOR LOADS ARE GIVEN ON DETAIL 1 ON DRAWINGS UM_S-3 & UM_S-4 ARE STRENGTH DESIGN DERIVED PER ASCE 7-16 SECT. 13.4.2. WITHOUT THE APPLICATION OF OVERSTRENGTH COEFFICIENT OMEGA 0 = 2.0 UNLESS NOTED OTHERWISE. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO RESIST THE ANCHOR LOADS IN ADDITION TO ALL OTHER LOADS.

REVISIONS	BY
1 HCAI RE-SUBMIT 10/15/22	K.J.L.
2 P.C. COMMENTS 1/10/23	K.J.L.
3 FINAL REVISION 3/7/23	K.J.L.

SEISMIC ENGINEERING ASSOCIATES, LTD.
2461 West 208th Street, Suite 200
Torrance , California 90501
Telephone: (310) 640-7200

PROJECT:
OSHPD Pre-Approval (OPM) Program
XR-2 Automated Central Pharmacy System
User Module Seismic Anchorage

CLIENT:
Omnicell, Inc.
51 Pennwood Place, Ste. 400
Warrendale, PA 15086

DRAWN	K.J.L.
CHECKED	K.J.L.
DATE	6/12/18
SCALE	VARIES
JOB NO.	17015-01
SHEET	User Module UM_S-1
	4 SHEETS

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OPM-0619
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William Staehlin
DATE: 03/23/2023
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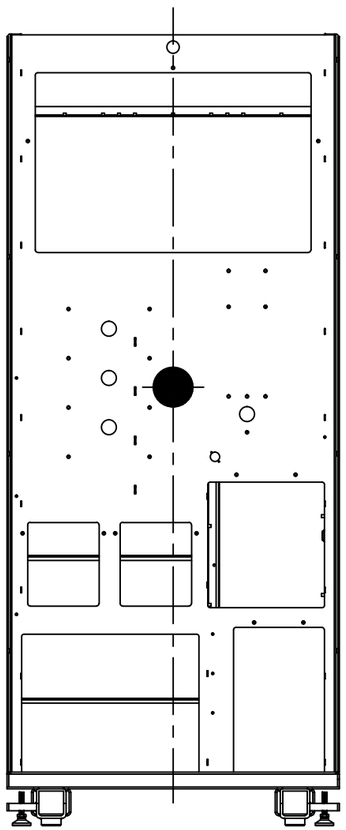

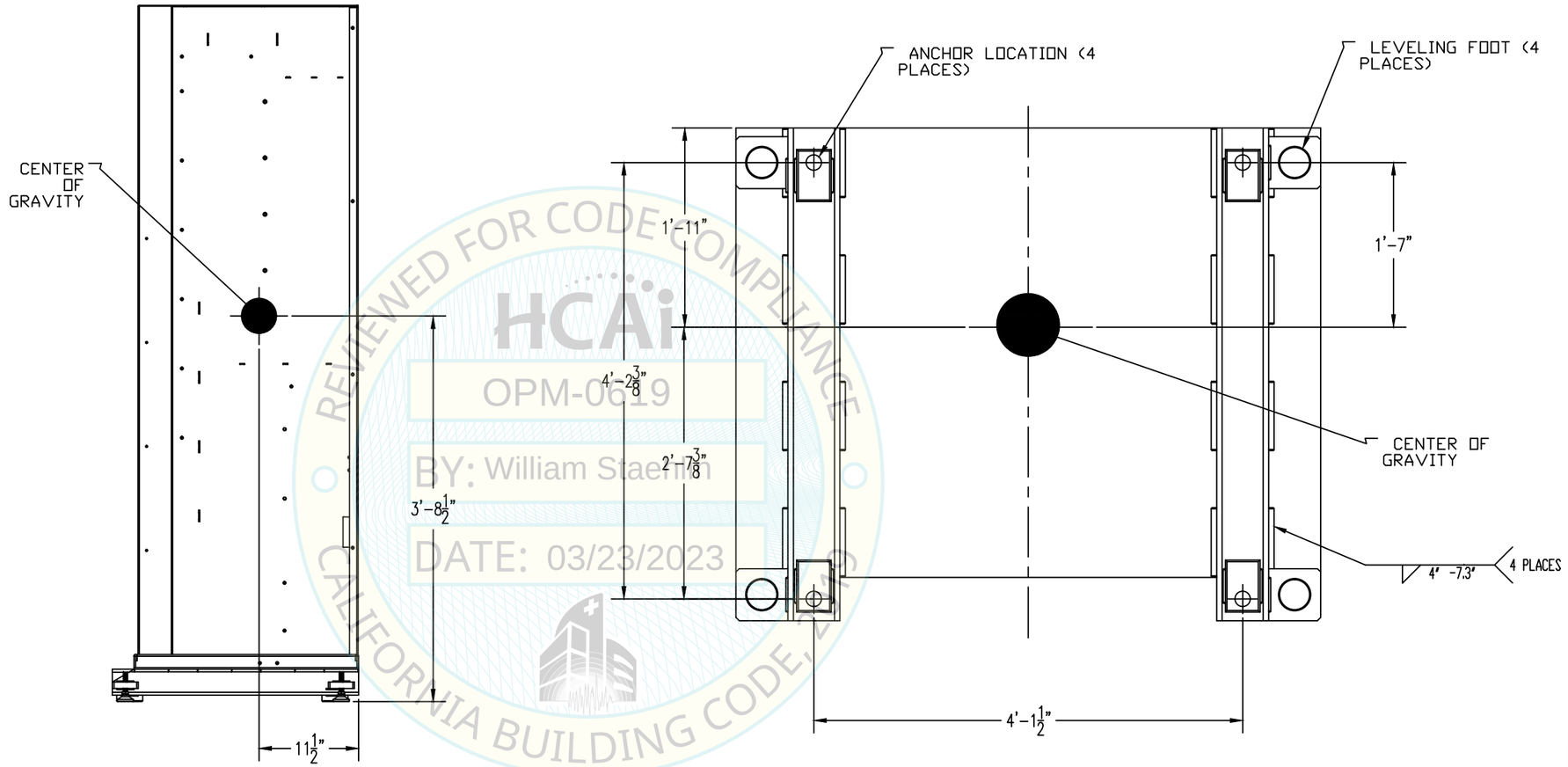

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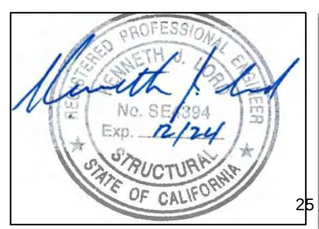

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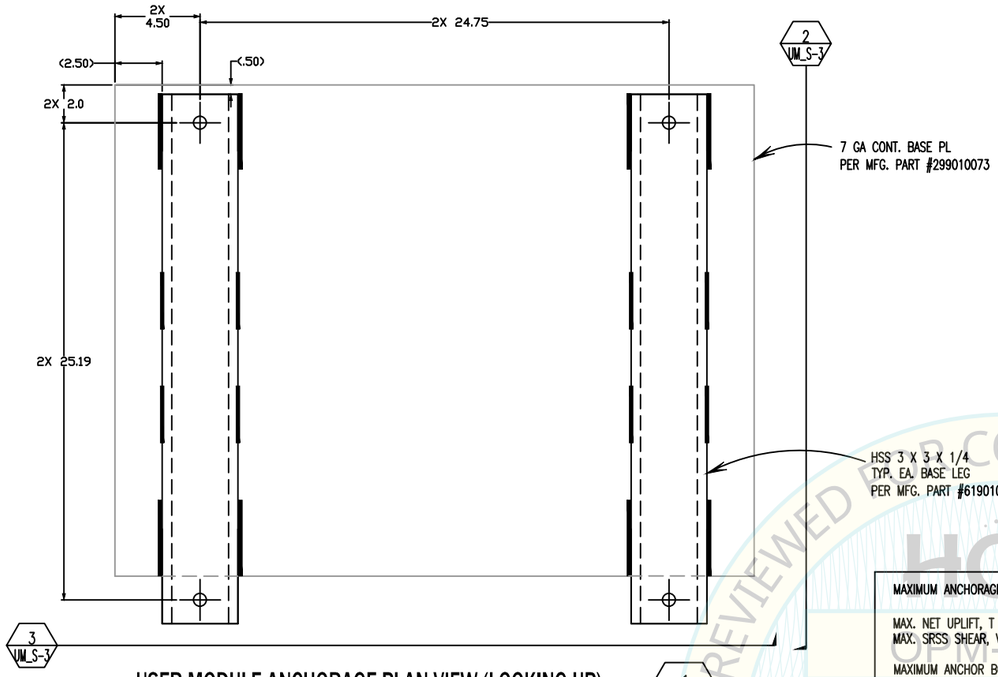
SCALE	VARIES
JOB NO.	17015-01
SHEET	User Module UM_S-2
	2 OF 4 SHEETS



USER MODULE ANCHORAGE PLAN VIEW (LOOKING UP)

1 1/2" = 1'-0"

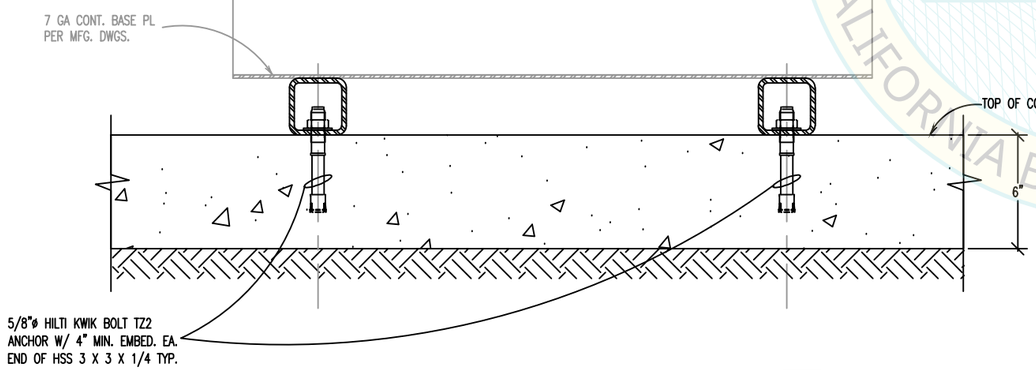
MAXIMUM ANCHORAGE ASSEMBLY LOADS – (SIDE-TO-SIDE DIR. GOVERNS)

MAX. NET UPLIFT, T = 573#
MAX. SRSS SHEAR, V = 147#

CONNECTION ULTIMATE STRENGTH LOADS

MAXIMUM ANCHOR BOLT LOADS
MAX. TENSION = 1,434#
MAX. SRSS SHEAR = 295#

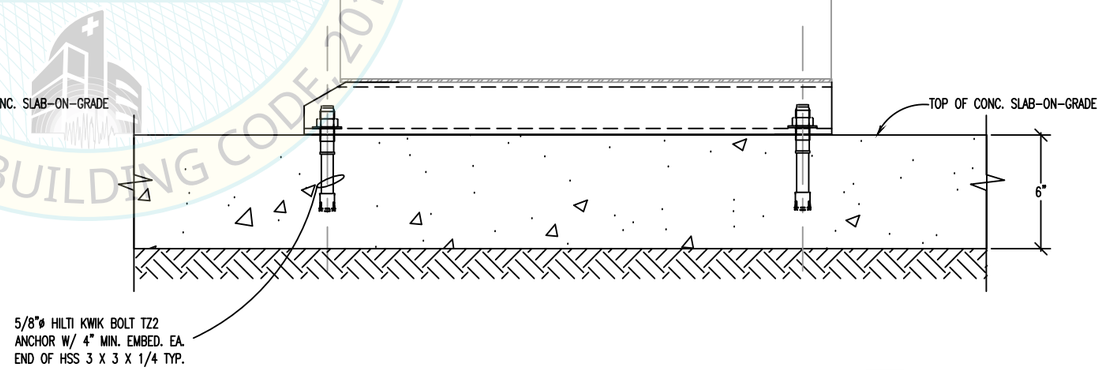
EXPANSION ANCHOR BOLT DESIGN LOADS
INCLUDE OVERSTRENGTH FACTOR,
OMEGA Ω = 2.0



USER MODULE ANCHORAGE FRONT ELEVATION

1 1/2" = 1'-0"

3 UM_S-3



USER MODULE ANCHORAGE SIDE ELEVATION

1 1/2" = 1'-0"

2 UM_S-3

REVIEWED FOR CODE COMPLIANCE
HCAi
OPM-0619
BY: William Staehlin
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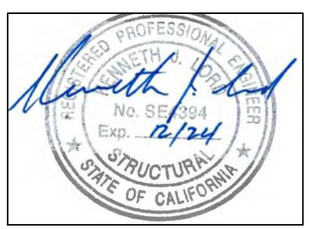

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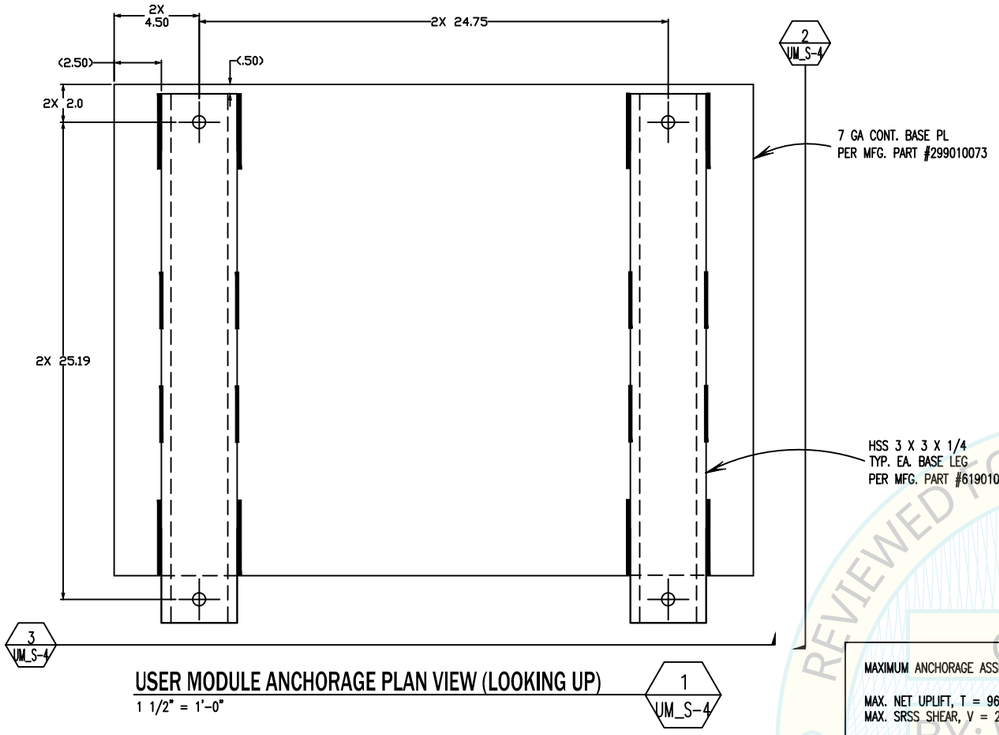
SHEET	User Module UM_S-3
	36 of 427 SHEETS

OPM-0619: Reviewed for Code Compliance by William Staehlin



USER MODULE ANCHORAGE PLAN VIEW (LOOKING UP)

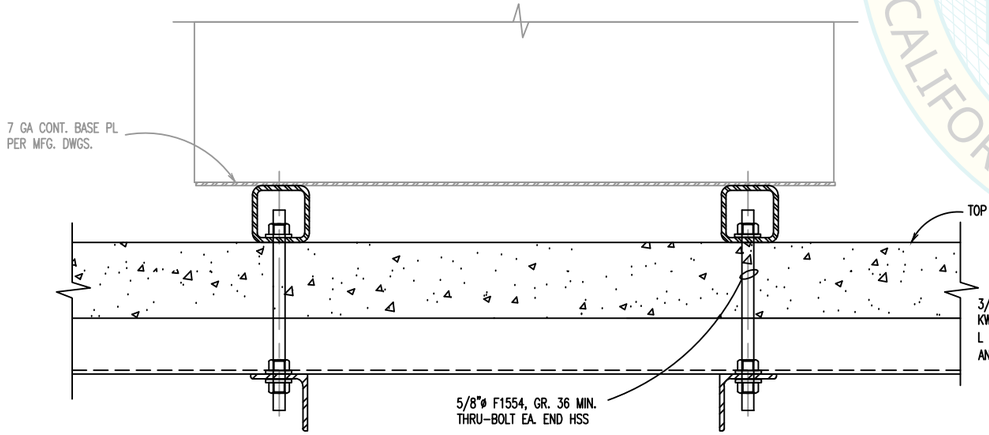
1 1/2" = 1'-0"

1 UM_S-4

MAXIMUM ANCHORAGE ASSEMBLY LOADS – (SIDE-TO-SIDE DIR. GOVERNS)

MAX. NET UPLIFT, T = 967#
MAX. SRSS SHEAR, V = 236#

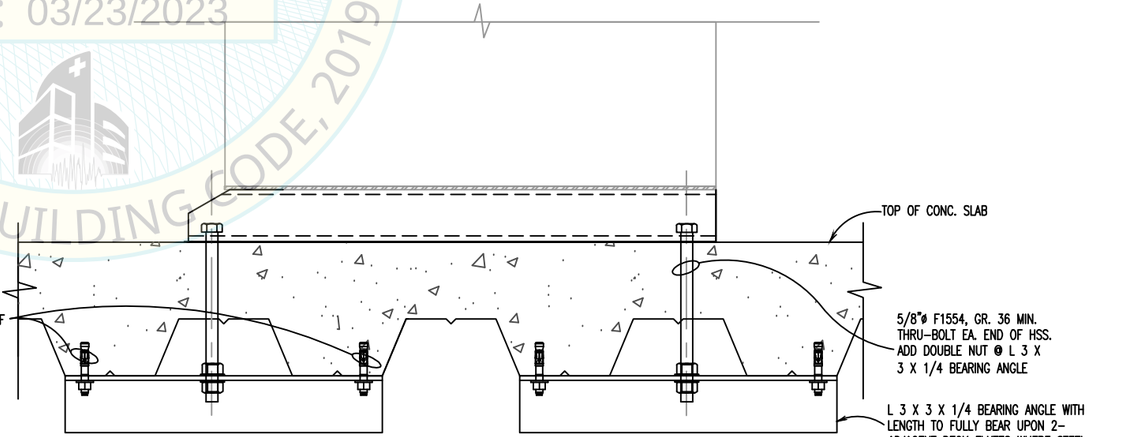
CONNECTION ULTIMATE STRENGTH LOADS THRU-BOLT ANCHOR DESIGN LOADS DO NOT INCLUDE OVERSTRENGTH FACTOR, OMEGA Ø



USER MODULE ANCHORAGE FRONT ELEVATION

1 1/2" = 1'-0"

3 UM_S-4



USER MODULE ANCHORAGE SIDE ELEVATION

1 1/2" = 1'-0"

2 UM_S-4

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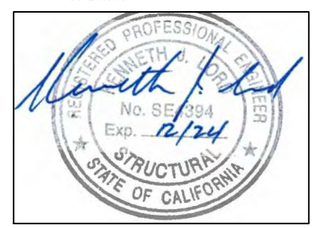

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