# Application for OSHPD Preapproval of Manufacturer’s Certification (OPM)

## Manufacturer Information
- **Manufacturer:** Siemens Healthcare Diagnostics Inc.
- **Manufacturer’s Technical Representative:** Robert Wiedenmann
- **Mailing Address:** 600 GBC Drive, Newark, DE 19702
- **Telephone:** 302-631-7539
- **Email:** Robert.k.wiedenmann@siemens-healthineers.com

## Product Information
- **Product Name:** Dimension EXL
- **Product Type:** Integrated Chemistry System
- **Product Model Number:** Dimension EXL
- **General Description:** Assay of Body Fluids

## Applicant Information
- **Applicant Company Name:** Siemens Healthcare Diagnostics Inc.
- **Contact Person:** Robert Wiedenmann
- **Mailing Address:** 600 GBC Drive, Newark, DE 19702
- **Telephone:** 302-631-7539
- **Email:** Robert.k.wiedenmann@siemens-healthineers.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

**Signature of Applicant:**
- **Title:** [Signature]
- **Company Name:** Siemens Healthineers
- **Date:** 8/1/2019

---

"Access to Safe, Quality Healthcare Environments that Meet California’s Diverse and Dynamic Needs"

**State of California – Health and Human Services Agency**

OSH-FD-700 (REV 12/16/15)
Registered Design Professional Preparing Engineering Recommendations

<table>
<thead>
<tr>
<th>Company Name:</th>
<th>CYS Structural Engineers, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Dieter T. Siebald</td>
</tr>
<tr>
<td>California License Number:</td>
<td>SE 4346</td>
</tr>
<tr>
<td>Mailing Address:</td>
<td>2495 Natomas Park Drive, Sacramento, CA 95833</td>
</tr>
<tr>
<td>Telephone:</td>
<td>916-920-2020</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:dieters@cyseng.com">dieters@cyseng.com</a></td>
</tr>
</tbody>
</table>

OSHPD Special Seismic Certification Preapproval (OSP)

- Special Seismic Certification is preapproved under OSP-
  (Separate application for OSP is required)
- Special Seismic Certification is not preapproved

Certification Method(s)

<table>
<thead>
<tr>
<th>Method(s)</th>
<th>Testing in accordance with:</th>
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<tbody>
<tr>
<td></td>
<td>ICC-ES AC156</td>
</tr>
<tr>
<td></td>
<td>FM 1950-16</td>
</tr>
</tbody>
</table>

*Use of criteria other than those adopted by the California Building Standards Code, 2016 (CBSC 2016) 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 2016 may be used when approved by OSHPD prior to testing.

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

List of Attachments Supporting the Manufacturer's Certification

<table>
<thead>
<tr>
<th>Attachments</th>
<th>Test Report</th>
<th>Drawings</th>
<th>Calculations</th>
<th>Manufacturer's Catalog</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>☒</td>
<td>☒</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other(s)</th>
<th>(Please Specify):</th>
</tr>
</thead>
</table>

OFFICE USE ONLY – OSHPD APPROVAL VALID FOR CBC 2016 & ALL PRE-2016 CODE BASED PROJECTS

<table>
<thead>
<tr>
<th>Signature:</th>
<th>Print Name: Haeseong Lim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: 3/5/2020</td>
<td>Title: Structural Engineer</td>
</tr>
</tbody>
</table>

Condition of Approval (if applicable): 

“Access to Safe, Quality Healthcare Environments that Meet California’s Diverse and Dynamic Needs”
# TABLE OF CONTENTS

OPM-0545-19

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## NOTES:

1. THESE DRAWINGS ARE PREPARED FOR SIEMENS HEALTHCARE DIAGNOSTICS, NEWARK, DELAWARE.

2. THE CONTRACTOR & INSPECTOR OF RECORD SHALL OBTAIN A COPY OF THIS PRE-APPROVAL FROM THE OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT (OSHPD) PRE-APPROVAL PROGRAMS WEBSITE.

3. THIS PRE-APPROVAL COVERS THE SUPPORTS & ATTACHMENTS OF THE EQUIPMENT TO THE SUPPORTING STRUCTURE. THE EQUIPMENT & ATTACHMENT HARDWARE ARE SUPPLIED BY THE MANUFACTURER. EXPANSION ANCHORS, THRU-BOLTS & STRUT PLATES SHOWN IN THIS OPM SHALL BE SUPPLIED & INSTALLED BY THE CONTRACTOR.
GENERAL NOTES:


2. EQUIP ANCHORAGES SUCH AS EXPANSION ANCHORS, BOLTS, SCREWS & FITTINGS SHALL BE DESIGNED IN COMPLIANCE W/ THE FORCE LEVEL REQUIREMENTS OF THE 2019 CBC, TITLE 24, PART 2, VOL. 2. LOAD COMBINATION FOR LOAD & RESISTANCE FACTOR DESIGN (LRFD) SHALL BE USED.

3. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD (SEOR) FOR A SITE SPECIFIC PROJECT TO VERIFY:

A. THE ADEQUACY OF THE NEW OR (E) STRUCTURE TO RESIST THE FORCES & WEIGHT SPECIFIED FOR EA EQUIP IN ADDITION TO ALL OTHER LOADS, PROVIDE & DESIGN SUPPLEMENTARY MEMBERS AS REQ.

B. THE NEW ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPGS. SEE TABLE 1 ON PG. 3.

C. THE NEW ANCHORS ARE LOCATED AT LEAST 18” AWAY FROM ADJ (E) ANCHORS OR THE SEOR SHALL EVALUATE THE ANCHORAGES FOR THE EQUIP IN THIS OPM FOR ADVERSE AFFECTS OF ADJ ANCHORAGES. THE SPACING SHOWN IN TABLE 1 ON PG. 3, IS THE REQ MIN SPACING OF THE 3/8” & 5/8” AB’S.

D. THAT THE INSTALLATION IS IN CONFORMANCE W/ THE 2019 CBC & W/ THE DTL’S SHOWN IN THIS PRE-APPROVAL.

E. THAT THE ACTUAL EQUIP’S WT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DTL’S, & THE MATERIAL & GA OF THE EQUIP WHERE ATTACHMENTS ARE MADE, AGREE W/ THE INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.

F. THAT THE CONC SLAB TO WHICH THE EQUIP IS ANCHORED SHALL MEET THE REQUIREMENTS OF THE APPLICABLE ICC REPORT & THIS OPM.
GENERAL NOTES (CONTINUED):

4. A. Expansion anchors installed in normal WT or sand lightweight conc shall be carbon STL 
    Hilti KB-TZ expansion anchors complying w/ ESR-1917 Issued May 2019.

B. Installation: Install the expansion anchors in accordance w/ the requirements given in the 
    ICC Evaluation Report for the specific anchor.

C. Job Testing: For verifying satisfactory installation workmanship, perform job site testing in 
    accordance w/ the tension load table provided in this document. Test 50% of the installed 
    anchors. The test load shall be by the calibrated torque wrench method. Report of test 
    results shall be submitted to OSHPD. All tests shall be conducted in the presence of the 
    inspector of record. If any anchor fails the test, test all anchors. The test shall be 
    performed 24 hours or more after installation. Testing may be done prior to equip 
    installation. Also refer to 2019 CBC 1910A.5 "Tests for post-installed anchors in 
    concrete".

D. Failure/Acceptance Criteria: The following criteria apply for the 
    acceptance of installed anchors:
    - Torque Wrench Method: The applicable test torque must be 
      reached within the following limits: Wedge Type: One-Half (1/2) Turn 
      of the nut.

5. Bolts thru conc on mtl deck:
   A. Bolts shall be torqued by 1/4 turn of the nut after snug tight condition is achieved, uno. 
      The snug tight condition is defined as the tightness req to bring the connected plies into 
      firm contact.
   B. Thru-bolt holes shall be 1/16" larger than bolt size (hole size = bolt size + 1/16").
   C. Thru-bolts in conc shall receive special inspection & testing in accordance w/ 
      requirements for post-installed anchors. Thru-bolts w/ STL to STL conn in tension 
      do not require testing.

BY: Haeseong Lim
DATE: 03/05/2019

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

job No: 19073
Date: 01-17-2020
Page: 3 of 15
GENERAL NOTES (CONTINUED):

6. ANCHOR REQUIREMENTS:

![Diagram of anchor dimensions]

<table>
<thead>
<tr>
<th>CONDITION OF ANCHORAGE</th>
<th>ANCHOR DIA (INCH)</th>
<th>INSTALLATION EMBED (INCH) hnom</th>
<th>EFFECTIVE EMBED (INCH) heff</th>
<th>HOLE DEPTH (INCH) ho</th>
<th>MIN CONC THICKNESS (INCH)</th>
<th>MIN CONC EDGE DISTANCE (INCH)</th>
<th>MIN AB SPACING (INCH)</th>
<th>TEST TORQUE (FT-LBS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASE 1</td>
<td>⅜</td>
<td>2⅜</td>
<td>2</td>
<td>⅜</td>
<td>12</td>
<td>6</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>CASE 2</td>
<td>⅝</td>
<td>2⅜</td>
<td>2</td>
<td>⅝</td>
<td>12</td>
<td>6</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>CASE 3</td>
<td>⅝</td>
<td>2⅜</td>
<td>2</td>
<td>⅝</td>
<td>12</td>
<td>6</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

7. THREE (3) CONDITIONS OF ANCHORAGE ARE SPECIFIED AND PRESENTED IN THIS PRE-APPROVAL:

A. **CASE 1:** THRÚ–BOLTS– ANCHORAGE DTLS LOCATED AT UPPER SUSPENDED FLR OF A BLDG. AT THIS LEVEL THE FLR IS CONSTRUCTED OF 3.5" MIN LWC TOPPING OVER MTL DECK (f’c=3000 PSI, MIN.) FOR THIS CASE, z/h RATIO IS LIMITED TO <=0.50.

B. **CASE 2:** HILTI KB–TZ– ANCHORAGE DTLS LOCATED AT UPPER SUSPENDED FLR OF A BLDG. AT THIS LEVEL THE FLR IS CONSTRUCTED OF 3.25" MIN LWC TOPPING OVER MTL DECK (f’c=3000 PSI, MIN.). SEE PG 13. FOR THIS CASE, z/h RATIO IS LIMITED TO <=0.50.

C. **CASE 3:** HILTI KB–TZ– ANCHORAGE DTLS LOCATED AT SOG OR BLW THE BASE OF A BLDG (z/h=0). AT THIS LEVEL, THE FLR IS CONSTRUCTED OF 4" MIN NWC THK REQ (f’c=3000 PSI MIN.).

8. THIS PRE-APPROVAL MAY BE USED ONLY AT GEOGRAPHICAL LOCATIONS IN THE STATE OF CALIFORNIA WHERE S0S & z/h IS LESS THAN OR EQ TO THE VALUES NOTED ON PG 6.

SHEET TITLE: ABBREVIATIONS
DESIGN CRITERIA & SEISMIC DESIGN FORCES (LRFD)

\[ F_p = \frac{0.4a_p S_{DS} W_p}{(R_p/\gamma)} \]  

(1+2 \ z/h)  

ASCE 7-16 (13.3-1)

\[ F_p \text{ (MAX)} = 1.6 \ S_{DS} I_p W_p \]  

ASCE 7-16 (13.3-2)

\[ F_p \text{ (MIN)} = 0.3 \ S_{DS} I_p W_p \]  

ASCE 7-16 (13.3-3)

\[ E_v = F_v = \pm 0.2 \ S_{DS} W_p \]  

ASCE 7-16 (12.4-4)

SUPPORT & ATTACHMENT DESIGN IS PER 2019 CBC AT LRFD LEVEL FORCES PER TABLE 13.6-1 OF ASCE 7-16 SUPPLEMENT #1. "OTHER MECHANICAL OR ELECTRICAL COMPONENTS"

\[ a_p = 1.0 \]

\[ R_p = 1.5 \]

\[ I_p = 1.5 \]

\[ \gamma_o = 1.5 \]

\[ W_p = 950\# \]

**TABLE 2**

<table>
<thead>
<tr>
<th></th>
<th>S_{DS}</th>
<th>z/h</th>
<th>F_p COEFFICIENT</th>
<th>F_p (LBS)</th>
<th>F_v COEFFICIENT</th>
<th>F_v (LBS)</th>
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<tbody>
<tr>
<td>CASE 1</td>
<td>1.80</td>
<td>0.5</td>
<td>1.440 Wp</td>
<td>1368</td>
<td>0.360 Wp</td>
<td>342</td>
</tr>
<tr>
<td>CASE 2</td>
<td>1.10</td>
<td>0.5</td>
<td>0.880 Wp</td>
<td>836</td>
<td>0.220 Wp</td>
<td>295</td>
</tr>
<tr>
<td>CASE 3</td>
<td>2.50</td>
<td>0</td>
<td>1.125 Wp</td>
<td>1069</td>
<td>0.500 Wp</td>
<td>475</td>
</tr>
</tbody>
</table>

LOAD COMBINATIONS

1. (1.2 + 0.2 S_{DS}) D+1.0E

2. (0.9–0.2 S_{DS}) D+1.0E

**SHEET TITLE:** DIMENSION EXL

**PLAN & ELEVATIONS**

CYS STRUCTURAL ENGINEERS, INC.

2495 NATOMAS PARK DRIVE, SUITE 650  
SACRAMENTO, CA 95833

Tel: (916) 920-2020  
www.cyseng.com

Job No: 19073  
Date: 01-17-2020  
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\( \frac{3}{8}'' 20 \text{ UNFx}1'' \text{ SS 304 SCREW W/ } \frac{3}{4}'' \text{ SS FLAT WASHER & } \frac{3}{4}'' \text{ LOCK WASHER (HELCIAL SPRING)} \) (TYP OF 4)

17 GA ASTM A1008
EQUIP CHANNEL PER MFR

TOP SEISMIC BRACKET
PER PG 10

SCREW BACKUP \( P \) PER PG 11

\( \frac{3}{8}'' \text{ ASTM A354 BC BOLT W/} \)
\( \frac{3}{8}'' \text{ FLAT WASHER & } \frac{3}{8}'' \text{ LOCK WASHER (HELCIAL SPRING)} \)
TORQUE TO 19 FT-LBS (TYP OF 2)

BOTTOM SEISMIC BRACKET PER PG 9

SPACER \( P \) PER PG 11
### PLAN VIEW

- **3/16" BENT R A36**
- **0.56" Ø HOLE (TYP OF 2)**
- **3/16" GUSSET R (TYP OF 2)**

### SIDE ELEV

- **TYP 4 PLACES**
- **0.21"**
- **0.5"**
- **1/8 GUSSETS**

### FRONT ELEV

- **0.44" TYP**
- **3.1" TYP**
- **1.8" TYP**

**NOTE:**

ALL STL IS ASTM A36

---

**SHEET TITLE:** SEISMIC BRACKET DETAILS

**BOTTOM BRACKET**

CYS STRUCTURAL ENGINEERS, INC.

2495 NATOMAS PARK DRIVE, SUITE 650

SACRAMENTO, CA 95833

**Job No:** 19073

**Date:** 01-17-2020

**Page:** 9 of 15
SPACER PLATE DETAIL:

- 0.37" THK
- 0.56" Ø HOLE (TYP OF 2)
- 3.7" x 1.9"
- 6"
- 8.1"

NOTE:
ALL STL IS ASTM A36

SCREW BACK PLATE DETAIL:

- 0.406" Ø HOLE (TYP OF 2)
- 3.3" x 1.81" x 0.5"
- 0.8" x 0.25"

NOTE:
ALL STL IS ASTM A36
SIEMENS HEALTHCARE DIAGNOSTICS
DIMENSION EXL

NUT TOP & BOTTOM OF STRUT
TAPPED HOLE IN STRUT W/ NUT BLW
DOUBLE NUT W/ TACK WELD TO STRUT

1/8
1/4

ANCHOR OPTIONS

STRUT R SUPPORT ANCHORS:
3/8" KB-TZ. SEE PG 3 FOR INSTALLATION REQUIREMENTS
(E) NWC OR SLWC
(f’c=3000 PSI)

MTL DECK EDGE OR OPG WHERE OCCURS
1 1/2" MIN AT R EDGE, TYP
(E) MTL DECK
(20 GA MIN)

18" MIN EDGE DISTANCE, TYP

BRACKET ASSEMBLY PER PG 8

2- 3/8" ASTM A36 THRD ROD
(F_y=36 KSI) THRU SLAB W/ NUT & LOCK WASHER

MTL DECK EDGE
(E) MTL DECK
(20 GA MIN)

12" MIN EDGE DISTANCE
18" MIN EDGE DISTANCE, TYP

BRACKET ASSEMBLY PER PG 8

MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)

<table>
<thead>
<tr>
<th>CASE 1</th>
<th>( z/h \leq 0.50 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tu</td>
<td>( \Omega_{Vu} )</td>
</tr>
<tr>
<td>836#</td>
<td>347#</td>
</tr>
</tbody>
</table>

(\( \Omega_{c} = 1.5 \)) OVERSTRENGTH FACTOR IS APPLIED TO SHEAR FORCE ONLY

SIEMENS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

03/05/2020

OPM-0545-19: Reviewed for Code Compliance by Haeseong Lim

03/05/2020
SIEMENS HEALTHCARE DIAGNOSTICS
DIMENSION EXL

EXTEND STRUT LENGTH TO NEXT ADJ LOW FLUTE IF AB'S ARE LESS THAN 2" FROM STRUT P SUPPORT ANCHORS

LENGTH SHALL ENGAGE 2 LOW FLUTES MIN

1½" TYP

BRACKET, SEE PG 8

3" MIN

STRUT P SUPPORT ANCHORS:
3½" Ø KB-TZ: SEE PG 3 FOR INSTALLATION REQUIREMENTS. ONE EA END OF P

BOTTOM OF (E) MTL DECK
LOW FLUTES SHADED FOR CLARITY

1" MAX EITHER SIDE OF FLUTE Ø, TYP

PLAN VIEW
ANCHORS PERPENDICULAR TO FLUTES

5/8" STRUT P (ASTM A36), TYP.
FIELD VERIFY DECK ORIENTATION FOR COORDINATE W/ AB LAYOUT

AB PER CASE 1

PLAN VIEW
ANCHORS PARALLEL TO FLUTES

5/8" STRUT P (ASTM A36), TYP.
FIELD VERIFY DECK ORIENTATION FOR COORDINATE W/ AB LAYOUT

LENGTH SHALL ENGAGE 2 LOW FLUTES MIN

1½" TYP

2" MIN

BRACKET, SEE PG 8

3" TYP

3"

BOTTOM OF MTL DECK
LOW FLUTES SHADED FOR CLARITY

EXTEND STRUT LENGTH TO NEXT ADJ LOW FLUTE IF AB'S ARE LESS THAN 2" FROM STRUT P SUPPORT ANCHORS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833

03/05/2020

OPM-0545-19: Reviewed for Code Compliance by Haeseong Lim

03/05/2020
**Sheet Title:** ATTACHMENT DETAIL  
**Concrete Fill Over Metal Deck (Case 2)**

**CYS Structural Engineers, Inc.**

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**Sheet Details:**
- **Job No:** 19073
- **Date:** 01-17-2020
- **Page:** 14 of 15

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**Diagram Notes:**
- **Base Frame Per MFR:**
- **EQUIP OUTLINE**
- **Bracket Assembly:**
  - **Case 2**
  - $z/h \leq 0.50$
  - Max Anchor Forces LRFD at EA AB (LBS):
    - $\Omega_{Tu}$
    - $\Omega_{Vu}$
    - 751#
    - 212#
- Includes Overstrength Factor ($\Omega_0 = 1.5$)

---

**Concrete Deck Requirements:**
- **(E) NWC or SLWC**
  - $f'c = 3000$ PSI
- **(E) MTL Deck**
  - (20 GA Min)
- **MTL Deck Edge**
- **12" Min Edge Distance, Typ**
- **7.5" Max**
- **4.5" Min**

---

**Expansion Bolts (Typ of 2):**

---

**Registered Professional Engineer:**

---

**Sheet 16 of 17**

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**Reviewed for Code Compliance by Haeseong Lim:**

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**Sheet Information:**
- **OPM-0545-19**
- **SIEMENS HEALTHCARE DIAGNOSTICS**
- **DIMENSION EXL**

---

**Dateの情報:**
- **03/05/2020**

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**Image Information:**
- **Image 38**: Siemen OPM-0545-19: Reviewed for Code Compliance by Haeseong Lim
- **Image 42**: Siemen OPM-0545-19: Reviewed for Code Compliance by Haeseong Lim
- **Image 21**: Siemen OPM-0545-19: Reviewed for Code Compliance by Haeseong Lim

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**Image Dimensions:**
- **Width**: 612.0
- **Height**: 792.0
SIEMENS HEALTHCARE DIAGNOSTICS
DIMENSION EXL

MAX ANCHOR FORCES AT
LRFD AT EA AB (LBS)

<table>
<thead>
<tr>
<th>( \Omega_{Tu} )</th>
<th>( \Omega_{Vu} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>981#</td>
<td>270#</td>
</tr>
</tbody>
</table>

CASE 3
\( z/h \leq 0 \)

INCLUDES OVERSTRENGTH FACTOR (\( \Omega_0 = 1.5 \))

EQUIP OUTLINE
BASE FRAME PER MFR
BRACKET ASSEMBLY
PER PG 8

4" MIN THK SLAB

12" MIN EDGE DISTANCE

\( \frac{1}{2}" \) EXPANSION BOLTS (TYP OF 2).
SEE PGS 3 & 4 FOR INSTALLATION
REQUIREMENTS

19073
01-17-2020
CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
Job No: Date:
TEL (916) 920-2020
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