

OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT **FACILITIES DEVELOPMENT DIVISION**

APPLICATION FOR OSHPD PREAPPROVAL OF	OFFICE USE ONLY			
MANUFACTURER'S CERTIFICATION (OPM)	APPLICATION #: OPM-0634			
OSHPD Preapproval of Manufacturer's Certification (OPM)				
Type: X New Renewal/Update				
Manufacturer Information				
Manufacturer: Accuray, Inc.				
Manufacturer's Technical Representative: Kevin McMahon				
Mailing Address: 1240 Deming Way, Madison, OH 53717				
Telephone: (608) 830-3763 Email: kmcmahon@accuray.c	com			
FOR CODE COM				
Product Information OSHPD				
Product Name: Radixact Treatment Delivery System	· Z			
Product Type: Other Electrical & Mechanical Components	C			
Product Model Number: N/A BY: Mohammad Aliaari				
General Description: Radiation Treatment System Used in Oncology				
DATE: 12/02/2021	2018			
Applicant Information				
Applicant Company Name: Accuray, Inc.				

Contact Person: Frank Valentino

Mailing Address: 1240 Deming Way, Madison, WI 53717

Telephone: (608) 824-3404 Email: fvalentino@accuray.com

Title: VP R&D

"Access to Safe. Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

STATE OF CALIFORNIA - HEALTH AND HUMAN SERVICES AGENCY







OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

"Access to Safe. Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"









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HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION		OPM-0634-19 OPM NO:	DWG. NO: \$1
ACCURAY, INC. MANUFACTURER:	RADIXACT TREATMENT DELIVERY SYSTEM PRODUCT NAME:	2019 CBC CODE:	11.15.2021 DATE:
GENERAL NOTES SHEET TITLE:		ASK DESIGNER:	19171 PROJ. NO:

GENERAL NOTES:

- A. THIS HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION [OPM] IS BASED ON THE 2019 CBC. THE DEMANDS (DESIGN FORCES) USED WITH THIS OPM SHALL BE BASED ON THE 2019 CBC.
- B. THIS DOCUMENT MAY ONLY BE USED WITH THE EXPRESS WRITTEN CONSENT OF THE MANUFACTURER LISTED ABOVE FOR THE SPECIFIC PROJECT SITE AND INSTALLATION LOCATION. THIS DOCUMENT IS INVALID WITHOUT SUCH CONSENT.
- C. THIS PREAPPROVAL DOCUMENT MAY BE USED AT ANY LOCATION IN THE STATE OF CALIFORNIA WHERE THE S_{DS} IS LESS THAN THE MAXIMUM SHOWN ON THE DETAIL, z/h=0AND ALL THE REQUIREMENTS OF THIS PREAPPROVAL DOCUMENT ARE MET.
- D. THIS PREAPPROVAL ONLY COVERS THE SEISMIC ANCHORAGE OF THE MANUFACTURER'S COMPONENT TO THE FOUNDATION STRUCTURE. VERIFICATION OF THE FOUNDATION STRUCTURE TO SUPPORT THE COMPONENT LOADS, ALONG WITH ALL OTHER LOADS, IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING.
- E. ALL DESIGN LOADS SHOWN IN THIS PREAPPROVAL DOCUMENT ARE FACTORED LOADS FOR Mohammad AliaTHREADED ROD: USE WITH STRENGTH DESIGN PROCEDURES, UNLESS OTHERWISE NOTED.

RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING:

- A. REVIEW THIS OPM DOCUMENT AND MANUFACTURER'S COMPONENT INFORMATION TO VERIFY THAT COMPONENT WEIGHT, CENTER OF GRAVITY LOCATION, AND MANUFACTURER SUPPLIED ANCHORAGE HARDWARE MATERIALS, SIZES, AND THICKNESSES MEET THE SPECIFICATIONS SHOWN IN THIS PREAPPROVAL DOCUMENT.
- B. VERIFY THAT THE SITE SPECIFIC SEISMIC PARAMETERS DO NOT EXCEED THE VALUES PRESENTED IN THIS PREAPPROVAL DOCUMENT. VERIFY THAT THE PROPER ANCHORAGE DETAIL IS SELECTED BASED ON THE SITE S_{DS} , AND THAT z/h=0.
- C. VERIFY THAT THE CONCRETE SHEAR REINFORCING HAIRPINS NOTED IN THE DETAILS ARE PROVIDED IN THE FOUNDATION DESIGN AND PROPERLY DEVELOPED INTO THE CONCRETE FOUNDATION TO PREVENT CONCRETE BREAKOUT SHEAR FAILURE AT THE ANCHOR BOLTS.
- D. VERIFY THAT THE EXISTING FOUNDATION STRUCTURE IS CAPABLE OF SUPPORTING THE LOADS SHOWN IN THIS OPM PREAPPROVAL DOCUMENT. IN ADDITION TO ALL OTHER LOADS.
- E. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2019 CBC AND WITH THE DETAILS SHOWN IN THIS PREAPPROVAL DOCUMENT.
- F. VERIFY THAT THE CONCRETE VAULT FOUNDATION STRUCTURE TO WHICH THE COMPONENT ATTACHMENTS ARE ANCHORED MEETS THE MINIMUM CONCRETE COMPRESSIVE STRENGTH SPECIFIED IN THE GENERAL NOTES.

NONSTRUCTURAL COMPONENT ANCHORAGE FACTORS:

A. NONSTRUCTURAL COMPONENT ANCHORAGE FACTORS USED IN DESIGN ARE AS FOLLOWS:

VARIES BASED ON THREE DESIGN LEVEL OPTIONS

ASTM A36

2.5 3.5 2.5

STRUCTURAL STEEL:

A. PART NUMBERS REFERRED TO ON THE DRAWINGS FOR TUBE AND CHANNEL FRAMING MEMBERS AND CONNECTION HARDWARE THOSE OF "UNISTRUT" BY UNISTRUT CORPORATION.

DATE: 12/02/2021 THREADED ROD NUTS:

ASTM F1554 GRADE 36

ASTM F1554 GRADE 105, WHERE NOTED

ASTM A563 GRADE A (FOR GRADE 36 THREADED ROD) ASTM A194 GRADE 2H (FOR GRADE 105 THREADED ROD)

BASE ANGLE BOLTS: ISO 898-1 CLASS 10.9

B. HOLES TO BE $\frac{1}{16}$ INCH LARGER THAN BOLT HOLE DIAMETER.

ANCHOR BOLT LEVELING MOUNTS:

- A. LEVELING MOUNTS AT ANCHOR BOLTS TO BE ONE OF THE FOLLOWING PRODUCTS:
 - 1. UNISORB(R), LEV-L-INE(R) MACHINERY MOUNTS: MODEL LL-7
 - 2. KIPP LEVEL-COMPENSATING COMPONENTS: ITEM NO. K0694-10301 [FASTENAL PART NUMBER 10631-09940]

SHEET INDEX:

- S1 GENERAL NOTES
- S2 GENERAL NOTES
- S3 COMPONENT LAYOUT AND CENTER OF GRAVITY

- S4 RADIXACT TREATMENT DELIVERY SYSTEM ANCHORAGE, $S_{DS} \le 0.5g$ S5 RADIXACT TREATMENT DELIVERY SYSTEM ANCHORAGE, $S_{DS} \le 1.25g$ S6 RADIXACT TREATMENT DELIVERY SYSTEM ANCHORAGE, $S_{DS} \le 2.2g$
- S7 ANCHORAGE DETAILS
- S8 ANCHORAGE DETAILS



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HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION		OPM-0634-19 OPM NO:	DWG. NO: \$2
ACCURAY, INC. MANUFACTURER: RADIXACT TREATMENT DELIVERY SYSTEM PRODUCT NAME:		2019 CBC CODE:	11.15.2021 DATE:
GENERAL NOTES SHEET TITLE:		ASK DESIGNER:	19171 PROJ. NO:

ADHESIVE ANCHORS TO CONCRETE:

- A. ADHESIVE ANCHOR BOLT DESIGNATIONS SHOWN ON THE DRAWINGS REFER TO HILTI HIT-RE 500 V3 [ICC ESR-3814].
- B. MINIMUM CONCRETE COMPRESSIVE STRENGTH OF FOUNDATION STRUCTURE RECEIVING ADHESIVE ANCHOR BOLTS IS f'c=3,000 PSI.
- C. PER 2019 CBC, SECTION 1705A.3.8, ADHESIVE ANCHORS SHALL RECEIVE PERIODIC SPECIAL INSPECTION OF THE INSTALLATION IN ACCORDANCE WITH TABLE 1705A.3 AND THE MANUFACTURER'S ICC ESR REPORT.
- D. PRIOR TO DRILLING IN EXISTING CONCRETE MEMBERS, MAP OR LAYOUT LOCATION OF EXISTING REINFORCING. NOTIFY BUILDING ENGINEER OF RECORD OF ANY INTERFERENCES BETWEEN EXISTING REINFORCING AND ANCHOR BOLT LOCATIONS PRIOR TO DRILLING. DO NOT CUT OR DAMAGE EXISTING REINFORCING BARS. LOCATE ANCHOR BOLTS WITHIN HAIRPIN REINFORCING BARS, WHERE SHOWN. INSTALL ANCHORS ONLY AFTER CONCRETE HAS AGED A MINIMUM OF 21 DAYS.
- E. INSTALL ADHESIVE ANCHOR BOLTS PER MANUFACTURER RECOMMENDATIONS AND REQUIREMENTS IN THE LATEST ICC ESR REPORT.
- F. FILL ABANDONED HOLES IN CONCRETE WITH NON-SHRINK GROUT APPROVED BY THE ENGINEER OF RECORD FOR THE BUILDING.
- G. PER 2019 CBC, SECTION 1910A.5.3, ANCHORS SHALL BE TESTED IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY.
- H. PER 2019 CBC, SECTION 1910A.5.3, INITIAL TESTING FREQUENCY FOR POST—INSTALLED ANCHORS USED FOR NON—STRUCTURAL COMPONENTS SHALL INCLUDE 50 PERCENT OF THE ANCHORS, OR ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE—HALF THE ANCHORS IN EACH GROUP.
- I. TEST ANCHORS USING THE PULL TEST METHOD TEST ACCEPTANCE CRITERIA OF 1910A.5.5.1. ANCHORS SHALL MAINTAIN THE TEST LOAD FOR A MINIMUM OF 15 SECONDS AND SHALL EXHIBIT NO DISCERNIBLE MOVEMENT DURING THE TEST. THE TESTING APPARATUS SUPPORT SHALL BE LOCATED SO AS TO AVOID RESTRICTING THE CONCRETE SHEAR CONE TYPE FAILURE MECHANISM FROM OCCURRING.

ANCHOR DIAMETER (IN)	EMBEDMENT	PULL TEST LOAD (LBS)
·	12" FROM TOP OF SLAB	13,700
$1\frac{1}{4}$	16" FROM TOP OF SLAB	21,700
	18" FROM BOTTOM OF PIT	28,000

J. TESTING FREQUENCY FOR ANCHORS NOT MEETING ACCEPTANCE CRITERIA SHALL BE PER 2019 CBC SECTION 1910A.5.1: IF ANY ANCHOR FAILS TESTING, REPLACE THE ANCHOR AND TEST ALL ANCHORS OF THE SAME TYPE PREVIOUSLY INSTALLED BY THE SAME TRADE, UNTIL 20 CONSECUTIVE ANCHORS PASS, THEN RESUME THE INITIAL TESTING FREQUENCY. FOR THIS OPM INSTALLATION WITH A LIMITED NUMBER OF ANCHORS, IF AN ANCHOR FAILS A TEST, THEN TEST ALL ANCHORS.

SPECIAL INSPECTION AND TESTING:

A. COORDINATE WITH THE INDEPENDENT INSPECTION AGENCY RETAINED BY THE OWNER TO PERFORM THE FOLLOWING INSPECTIONS:

ADHESIVE ANCHORS: PERIODIC SPECIAL INSPECTION DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, ANCHOR SPACING, EDGE DISTANCES, CONCRETE MEMBER THICKNESS, TIGHTENING TORQUE, HOLE DIMENSIONS, ANCHOR EMBEDMENT, AND ADHERENCE TO THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. TEST ANCHORS AS NOTED IN "MECHANICAL ANCHORS TO CONCRETE" SECTION.

STRUCTURAL STEEL: PERIODIC SPECIAL INSPECTION FOR MATERIAL IDENTIFICATION MARKINGS TO COMPLY WITH AISC 360 AND MANUFACTURER'S CERTIFIED TEST REPORTS. WHERE THE STEEL GRADE IS NOT READILY IDENTIFIABLE FROM MARKING AND TEST RECORDS, THE STEEL SHALL BE TESTED TO VERIFY CONFORMITY TO APPROPRIATE STANDARDS.

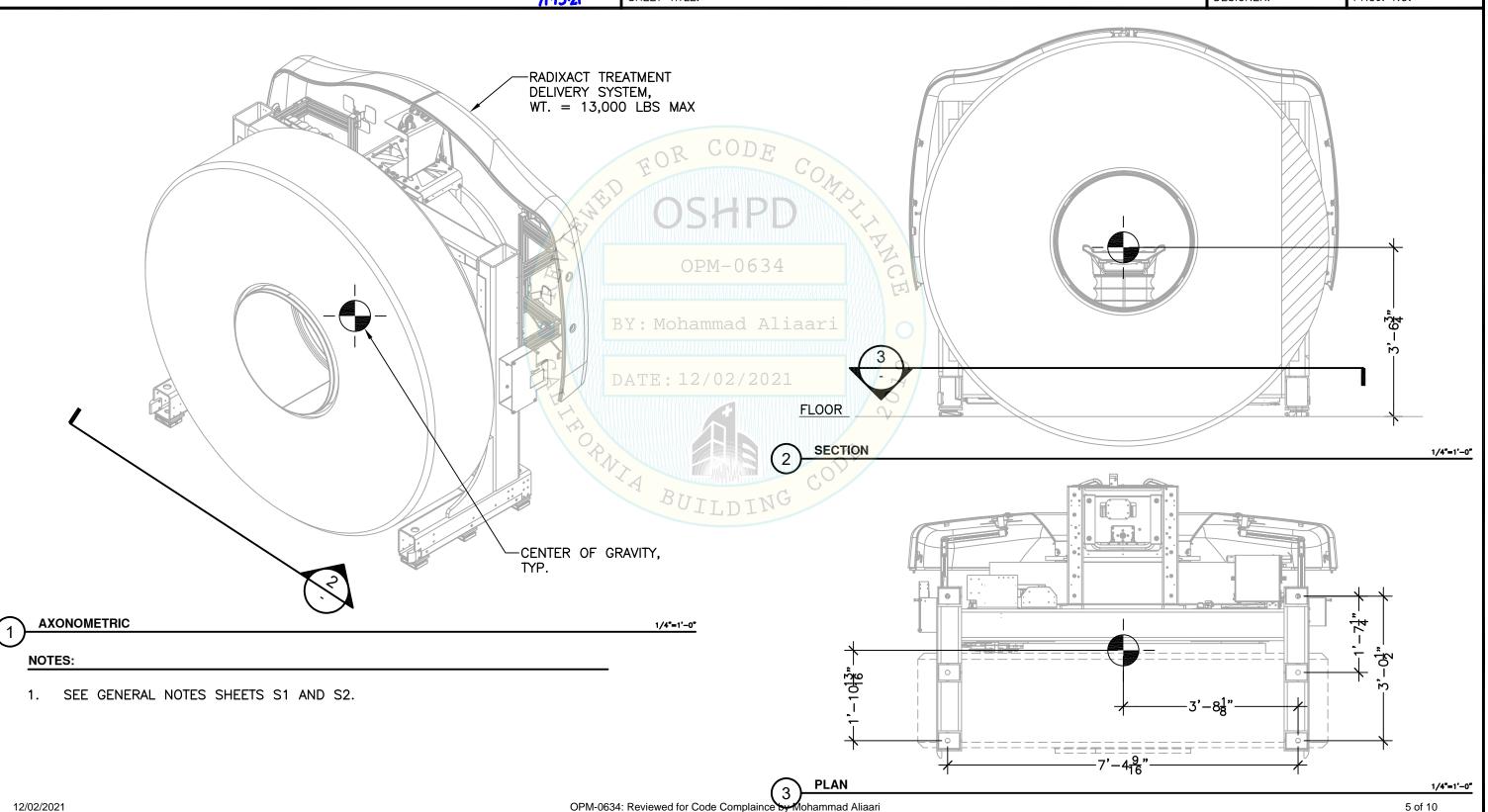
- B. THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR, NOTED IN THE INSPECTION REPORTS, AND IF NOT CORRECTED, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD FOR THE BUILDING AND THE BUILDING OFFICIAL.
- DATE: 12/02/20.2 THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS FOR EACH INSPECTION TO THE BUILDING OFFICIAL, ENGINEER OF RECORD FOR THE BUILDING, CONTRACTOR, AND OWNER. THE SPECIAL INSPECTION AGENCY SHALL SUBMIT A FINAL REPORT INDICATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS INSPECTED AND IS IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS, AND THAT ALL DISCREPANCIES NOTED IN THE INSPECTION REPORTS HAVE BEEN CORRECTED.

12/02/2021





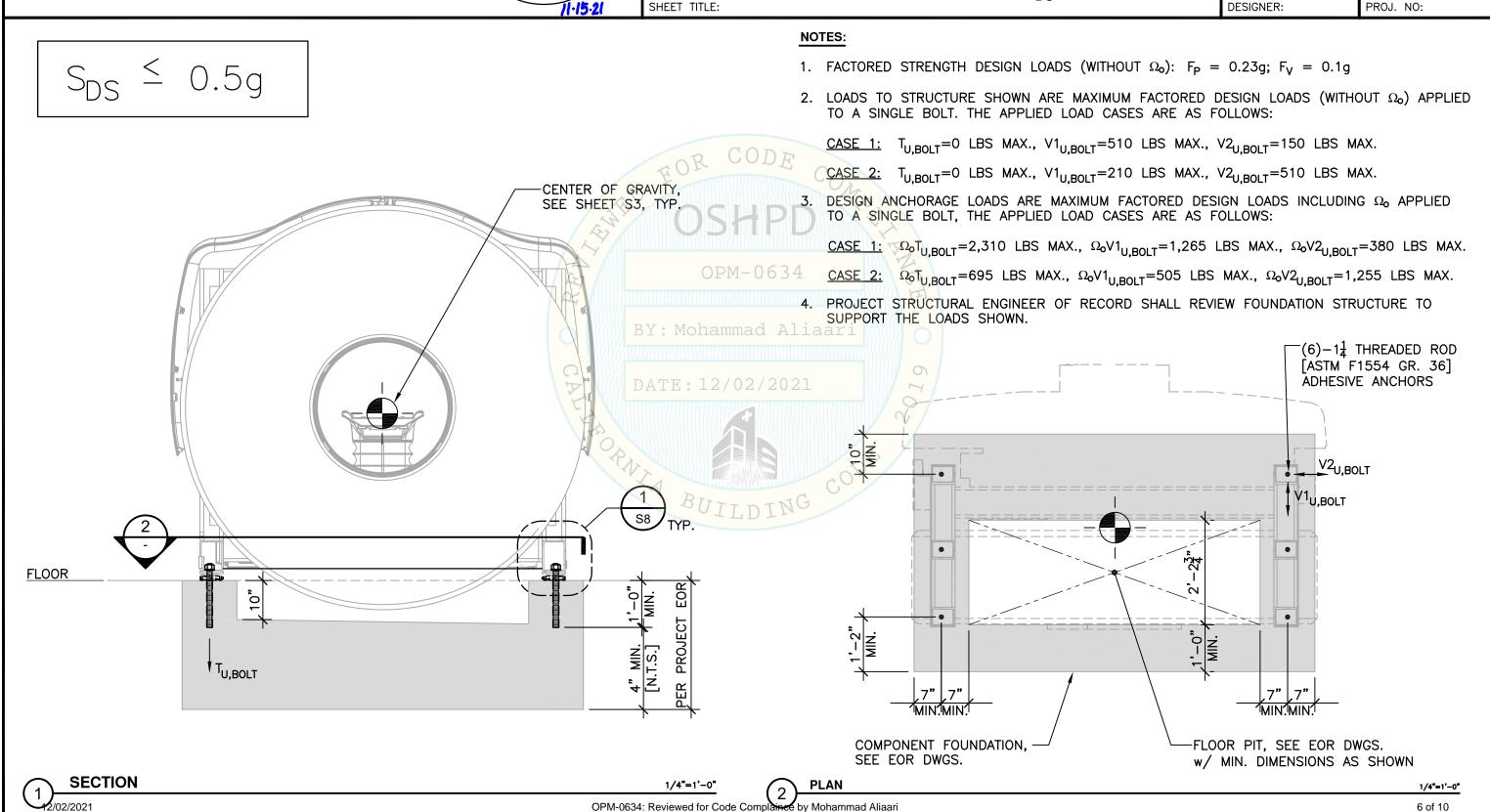
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ACCURAY, INC. MANUFACTURER:	RADIXACT TREATMENT DELIVERY SYSTEM PRODUCT NAME:	2019 CBC CODE:	11.15.2021 DATE:
COMPONENT LAYOU SHEET TITLE:	JT AND CENTER OF GRAVITY	ASK DESIGNER:	19171 PROJ. NO:







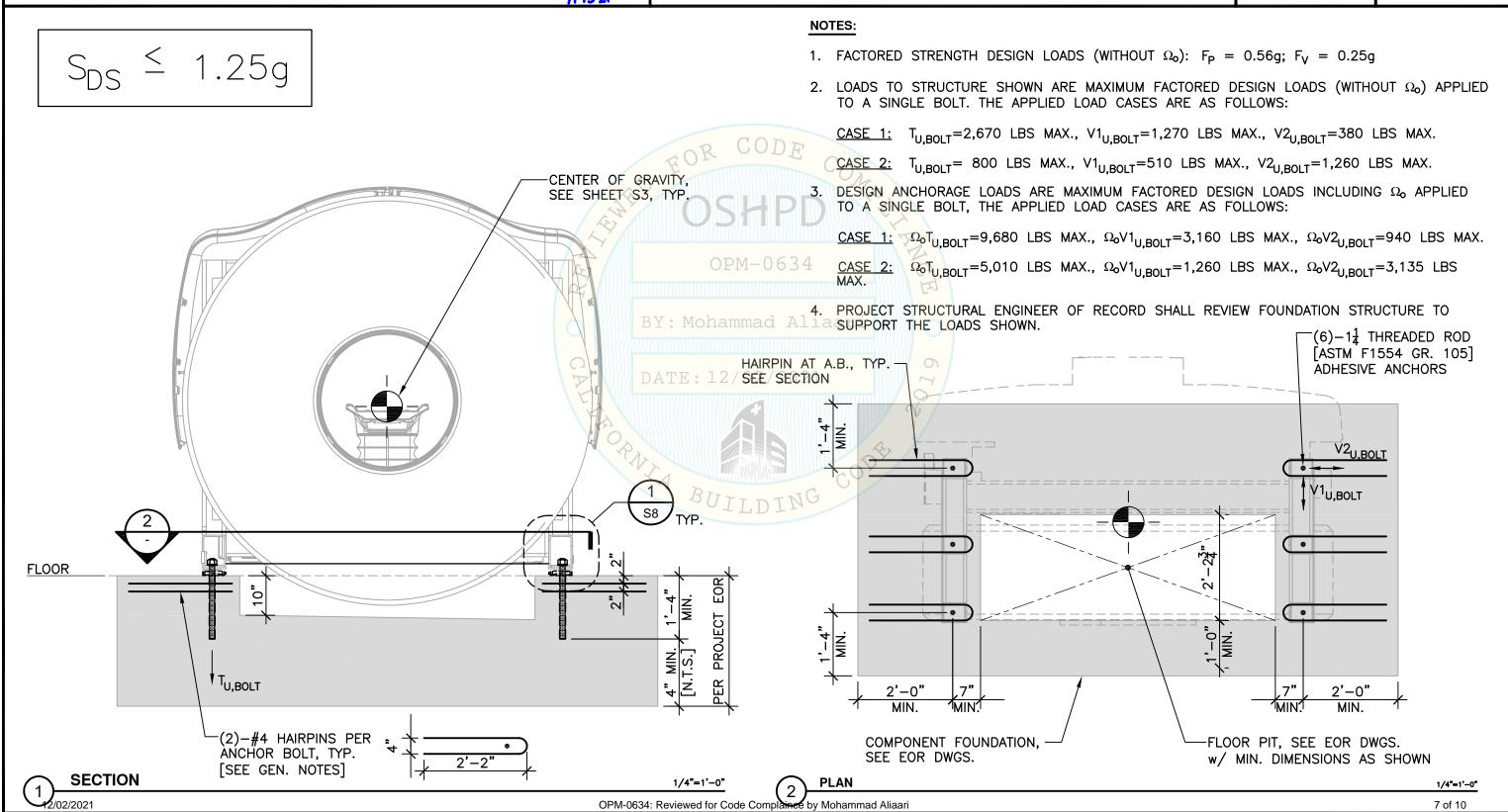
HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION		OPM-0634-19 OPM NO:	DWG. NO: \$4
ACCURAY, INC. MANUFACTURER:	RADIXACT TREATMENT DELIVERY SYSTEM PRODUCT NAME:	2019 CBC CODE:	11.15.2021 DATE:
RADIXACT TREATMENT DELIVERY SYSTEM, S _{DS} \(^<\) 0.5g		ASK DESIGNER:	19171 PROJ. NO:







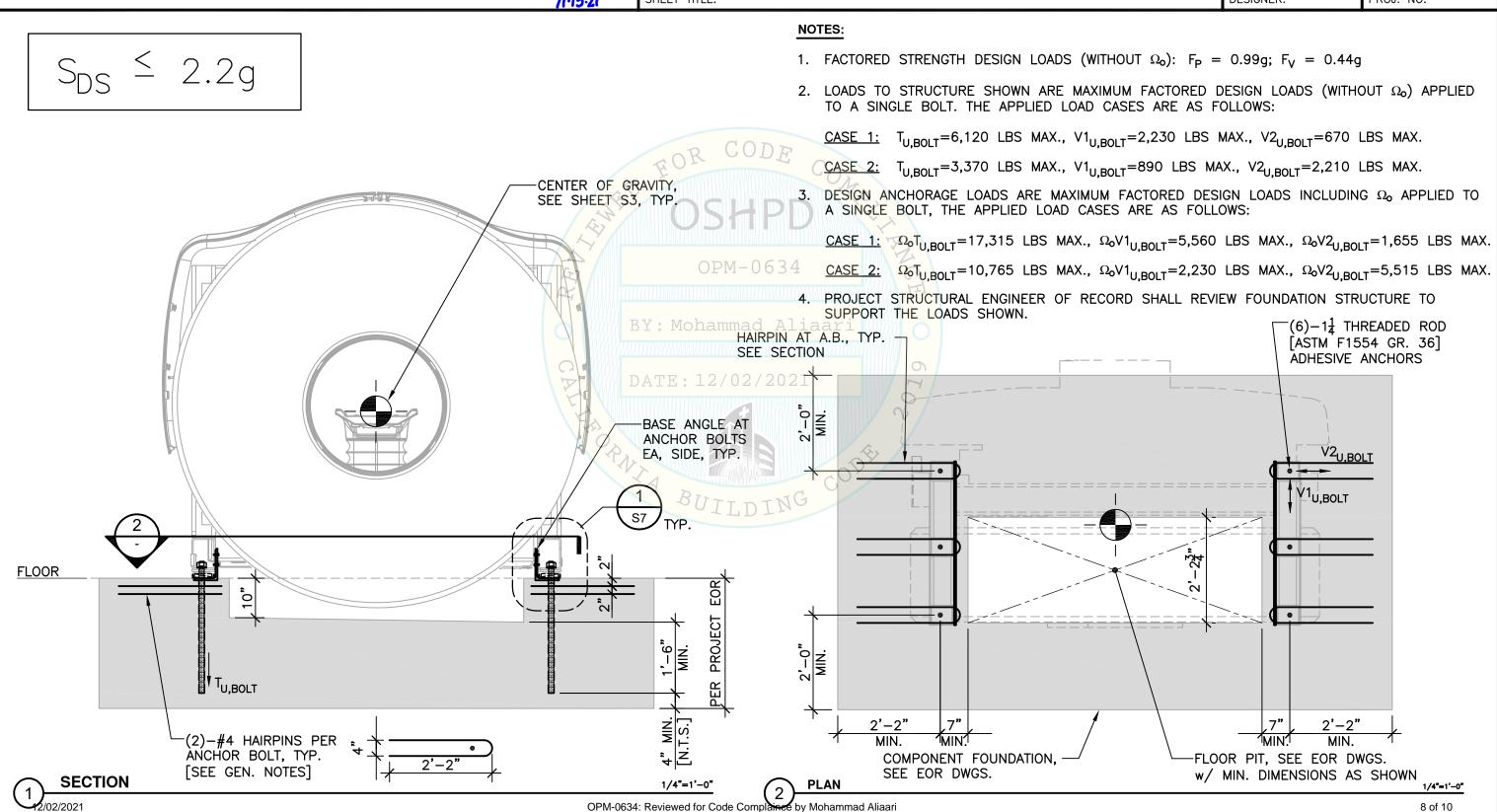
HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION		OPM-0634-19 OPM NO:	DWG. NO: \$5
ACCURAY, INC. MANUFACTURER:	RADIXACT TREATMENT DELIVERY SYSTEM PRODUCT NAME:	2019 CBC CODE:	11.15.2021 DATE:
RADIXACT TREATM	ENT DELIVERY SYSTEM, S _{DS} ^{<} 1.25g	ASK DESIGNER:	19171 PROJ. NO:







HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION		OPM-0634-19 OPM NO:	DWG. NO:
ACCURAY, INC. MANUFACTURER:	RADIXACT TREATMENT DELIVERY SYSTEM PRODUCT NAME:	2019 CBC CODE:	11.15.2021 DATE:
RADIXACT TREATMI	ENT DELIVERY SYSTEM, S _{DS} ^{<} 2.2g	ASK DESIGNER:	19171 PROJ. NO:





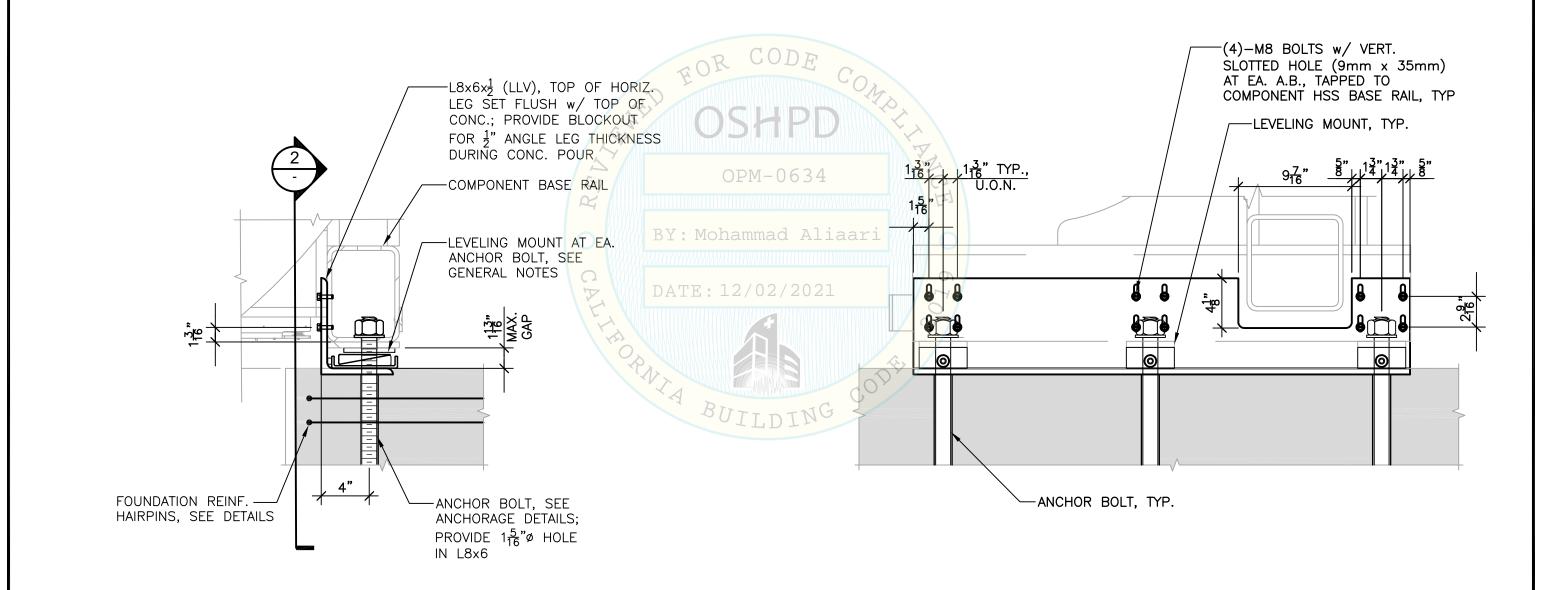
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HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION		OPM-0634-19 OPM NO:	DWG. NO: \$7
ACCURAY, INC. MANUFACTURER:	RADIXACT TREATMENT DELIVERY SYSTEM PRODUCT NAME:	2019 CBC CODE:	11.15.2021 DATE:
ANCHORAGE DETA SHEET TITLE:	ILS	ASK DESIGNER:	19171 PROJ. NO:

NOTES:

1. SEE GENERAL NOTES ON SHEETS S1 AND S2.





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HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION		OPM-0634-19 OPM NO:	DWG. NO: \$8
ACCURAY, INC. MANUFACTURER:	RADIXACT TREATMENT DELIVERY SYSTEM PRODUCT NAME:	2019 CBC CODE:	11.15.2021 DATE:
ANCHORAGE DETAILS SHEET TITLE:		ASK DESIGNER:	19171 PROJ. NO:

NOTES:

1. SEE GENERAL NOTES ON SHEETS S1 AND S2.

