



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OPM-0706

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: New Renewal/Update

Manufacturer Information

Manufacturer: LogiQuip, LLC

Manufacturer's Technical Representative: Kevin Langston

Mailing Address: 1456 S 35th Street, Galesburg, MI 49053

Telephone: (269) 876-9760

Email: Kevin.Langston@logiquip.net

Product Information

Product Name: LogiQuip Track Mounted Wire Shelving Units -0706

Product Type: Mobile Wire Shelving Unit

Product Model Number: LogiQuip Mobile Shelving

General Description: MOBILE WIRE SHELVING UNITS

Applicant Information

Applicant Company Name: LogiQuip, LLC

Contact Person: Kevin Langston

Mailing Address: 1456 S 35th Street, Galesburg, MI 49053

Telephone: (800) 665-3760

Email: Kevin.Langston@logiquip.net

Title: Project Manager

"A healthier California where all receive equitable, affordable, and quality health care"

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY





**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

Registered Design Professional Preparing Engineering Recommendations

Company Name: CYS STRUCTURAL ENGINEERS, INC.

Name: Dieter Siebald California License Number: S4346

Mailing Address: 2495 Natomas Park Drive, Suite 650, Sacramento, CA 95833

Telephone: (916) 920-2020 Email: dieters@cyseng.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

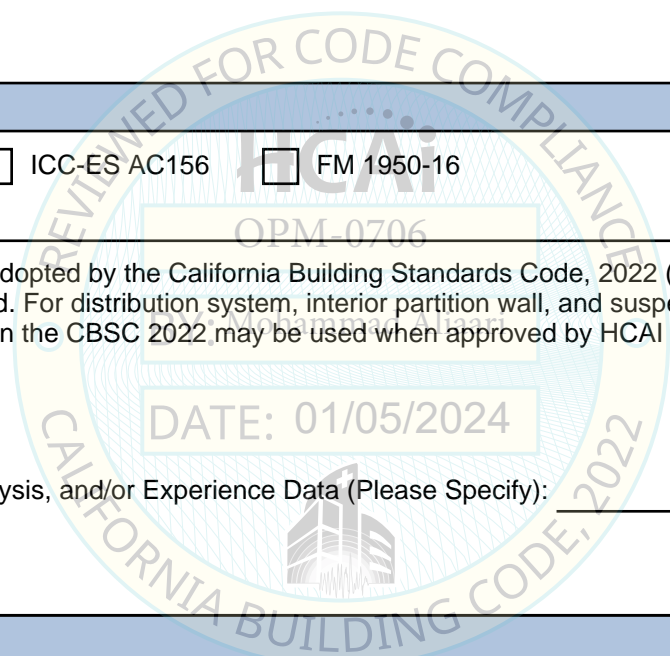
Other(s) (Please Specify): _____

*Use of criteria other than those adopted by the California Building Standards Code, 2022 (CBSC 2022) 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 2022 may be used when approved by HCAI prior to testing.

Analysis

Experience Data

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



HCAI Approval

Date: 1/5/2024

Name: Mohammad Aliaari Title: Senior Structural Engineer

Condition of Approval (if applicable): _____

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STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY



LOGICELL SINGLE TRACK MOUNTED WIRE SHELVING UNITS

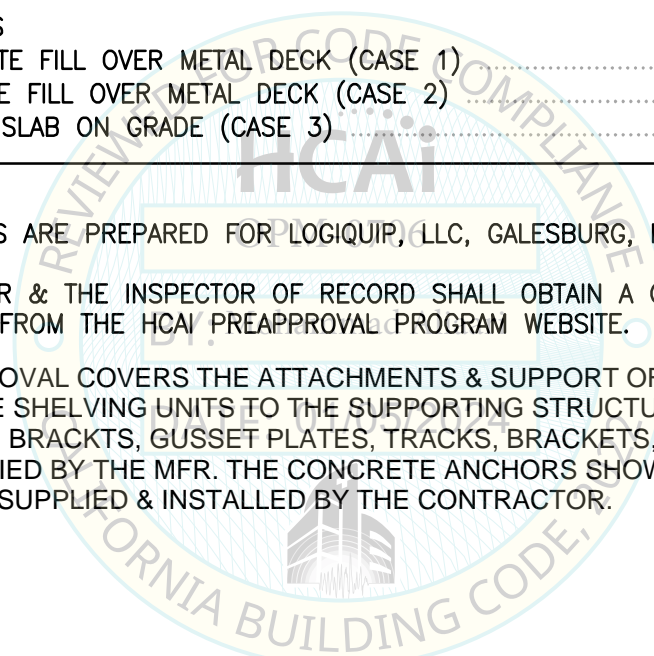


OPM-06XX

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NOTES:

1. THESE DRAWINGS ARE PREPARED FOR LOGIQUIP, LLC, GALESBURG, MICHIGAN.
2. THE CONTRACTOR & THE INSPECTOR OF RECORD SHALL OBTAIN A COPY OF THIS PRE-APPROVAL FROM THE HCAI PREAPPROVAL PROGRAM WEBSITE.
3. THIS PRE-APPROVAL COVERS THE ATTACHMENTS & SUPPORT OF THE TRACK MOUNTED WIRE SHELVING UNITS TO THE SUPPORTING STRUCTURE. THE WIRE SHELVES, WIRE BRACKTS, GUSSET PLATES, TRACKS, BRACKETS, & END STOPS ARE ALL SUPPLIED BY THE MFR. THE CONCRETE ANCHORS SHOWN IN THIS OPM SHALL BE SUPPLIED & INSTALLED BY THE CONTRACTOR.



SHEET TITLE: TABLE OF CONTENTS



CYS STRUCTURAL ENGINEERS, INC.

2710 GATEWAY OAKS DRIVE, SUITE 190N
SACRAMENTO, CA 95833

TEL (916) 920-2020
www.cyseng.com

Job No:	23052
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LOGICELL SINGLE TRACK MOUNTED WIRE SHELVING UNITS



GENERAL NOTES:

1. THIS HCAI PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2022. THE DEMAND (DESIGN FORCES) FOR USE W/ THIS OPM SHALL BE BASED ON THE CBC 2022.
2. IT IS THE RESPONSIBILITY OF THE SEOR FOR A SITE SPECIFIC PROJECT TO VERIFY:
 - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES & WT SPECIFIED FOR EA EQUIP IN ADDITION TO ALL OTHER LOADS. PROVIDE & DESIGN SUPPLEMENTARY MEMBERS AS REQ.
 - B. THAT THE FLR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPGS.
 - C. THAT THE FLR ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPCG SHOWN IN THE EXPANSION ANCHOR TABLE ON PG 3 IS THE REQ MIN SPCG OF THE GIVEN DIA ANCHORS. THE REQ SPCG FROM ANCHORS OF OTHER DIAMETERS & EMBEDMENTS MAY VARY & SHALL BE EVALUATED BY THE SEOR.
 - D. THAT THE INSTALLATION IS IN CONFORMANCE W/ THE CBC 2022 & W/ THE DETAILS SHOWN IN THIS PRE-APPROVAL.
 - E. THAT THE ACTUAL EQUIP'S WT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, & THE MATERIAL & GAUGE OF THE EQUIP WHERE ATTACHMENTS ARE MADE, AGREE W/ THE INFO 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.
3. EXPANSION ANCHORS INSTALLED IN NWC OR SLWC SHALL BE CARBON STEEL HILTI KB-TZ2 EXPANSION ANCHORS AS NOTED COMPLYING W/ ESR-4266 REISSUED DECEMBER 2021 AND REVISED MAY 2023.
 - A. INSTALLATION: INSTALL THE EXPANSION ANCHORS IN ACCORDANCE W/ THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR & THE PARAMETERS GIVEN IN THE EXPANSION ANCHOR TABLE ON PG 3.
 - B. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOBSITE TESTING IN ACCORDANCE W/ THE EXPANSION ANCHOR TABLE PROVIDED IN THIS DOCUMENT. TORQUE TEST 50% OF THE INSTALLED ANCHORS. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE SPECIAL INSPECTOR & REPORT OF TEST RESULTS SHALL BE SUBMITTED TO HCAI. 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, HOWEVER NUT SHALL BE RETORQUED TO INSTALLATION TORQUE AFTER EQUIPMENT INSTALL. ALSO REFER TO 2022 CBC 1910A.5 "TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE". REPORT OF TEST RESULTS SHALL BE SUBMITTED TO HCAI.
 - C. 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.
 - D. AVOID DAMAGING (E) STL REINF IN CONC SLAB WHEN INSTALLING CONC EXPANSION ANCHORS
 - E. PROVIDE FOR FULL THRD ENGAGEMENT OF NUT & WASHER.
4. BOLTS THRU CONC ON MTL DECK:
 - A. BOLTS SHALL BE TORQUED BY 3/4 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.



SHEET TITLE: GENERAL NOTES



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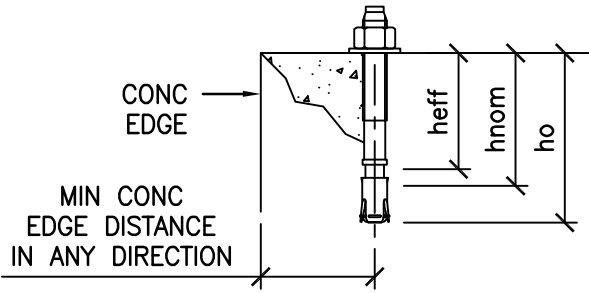
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LOGICELL SINGLE TRACK MOUNTED WIRE SHELVING UNITS



GENERAL NOTES CONTINUED:



EXPANSION ANCHOR TABLE

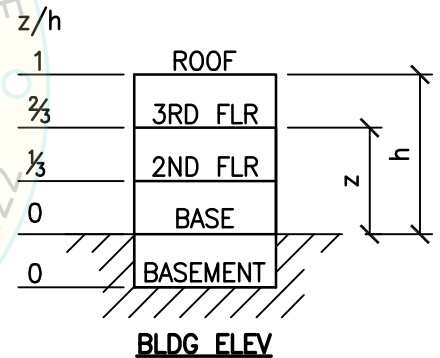
CONDITION OF ANCHORAGE	ANCHOR DIA & TYPE (INCH)	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) hef	HOLE DEPTH (INCH) ho	MIN CONC THK (INCH) h	MIN CONC EDGE DISTANCE (INCH)	MIN ANCHOR SPCG (INCH)	TEST TORQUE (FT-LBS)
CASE 1 STRUT P'S	3/8 KB-TZ2	1 7/8	1 1/2	2	3/4	6	SEE PG 13	30
CASE 2, 3	3/8 KB-TZ2	2 1/2	2	2 3/4	3/4	8	3	30

5. THREE (3) CASES OF ATTACHMENT ARE SPECIFIED & PRESENTED IN THIS PRE-APPROVAL:

CASE 1: ATTACHMENT DETAILS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3/4" SLWC TOPPING OVER 3" DEEP MIN 20 GA MTL DECK (f'c = 3000 PSI, MIN). ANCHORS SHALL BE CARBON STEEL THRD ROD THRU CONC FILL & MTL DECK.

CASE 2: ATTACHMENT DETAILS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 3/4" SLWC TOPPING OVER 3" DEEP MIN 20 GA MTL DECK (f'c = 3000 PSI, MIN). ANCHORS SHALL BE CARBON STEEL & INTO CONC FILL.

CASE 3: ATTACHMENT DETAILS LOCATED AT OR BLW THE BASE OF A BLDG. THE FLRS ARE ASSUMED TO BE BUILT OF A MIN 4" NWC SLAB (f'c = 3000 PSI, MIN). ANCHORS SHALL BE CARBON STEEL.



SHEET TITLE: SYSTEM OVERVIEW & DESIGN CRITERIA

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LOGICELL SINGLE TRACK MOUNTED WIRE SHELVING UNITS



DESIGN CRITERIA:

1. SUPPORT & ATTACHMENT DESIGN IS PER 2022 CBC AT LRFD LEVEL FORCES.

CABINETS – PERMANENT FLOOR SUPPORTED STORAGE CABINETS OVER 6 FEET TALL, INCLUDING CONTENTS PER TABLE 13.6-1 OF ASCE 7-16 INCL SUPPLEMENT #1 & ERRATA:

$a_p = 1.0$ $R_p = 2.5$ $I_p = 1.5$ $\Omega_0 = 2.0$ (FOR CONC ANCHORS ONLY)

W_p AS NOTED ON DRAWINGS

UPPER FLRS ABV THE BASE OF BLDG

CASE 1: $S_{DS} \leq 1.70$ $F_p = 0.816 W_p$ $z/h \leq 0.50$
 CASE 2: $S_{DS} \leq 0.60$ $F_p = 0.288 W_p$ $z/h \leq 0.50$

FLRS AT OR BLW THE BASE OF BLDG

CASE 3: $S_{DS} \leq 0.94$ $F_p = 0.423 W_p$ $z/h \leq 0.00$

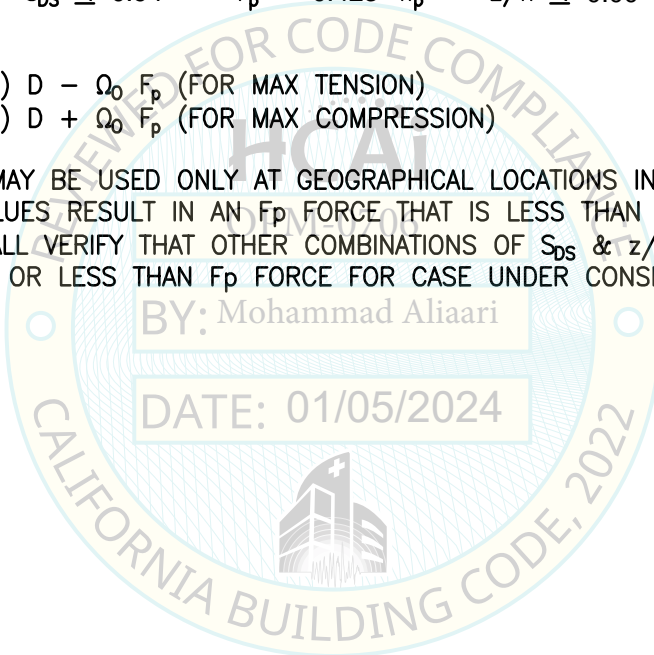
LOAD COMBINATIONS

$(0.9 - 0.2 S_{DS}) D - \Omega_0 F_p$ (FOR MAX TENSION)
 $(1.2 + 0.2 S_{DS}) D + \Omega_0 F_p$ (FOR MAX COMPRESSION)

2. THIS PRE-APPROVAL MAY BE USED ONLY AT GEOGRAPHICAL LOCATIONS IN THE STATE OF CALIFORNIA WHERE S_{DS} & z/h VALUES RESULT IN AN F_p FORCE THAT IS LESS THAN OR EQ TO THE VALUE NOTED ABV. SEOR SHALL VERIFY THAT OTHER COMBINATIONS OF S_{DS} & z/h MUST RESULT IN AN F_p VALUE THAT IS EQ TO OR LESS THAN F_p FORCE FOR CASE UNDER CONSIDERATION.

BY: Mohammad Aliaari

DATE: 01/05/2024



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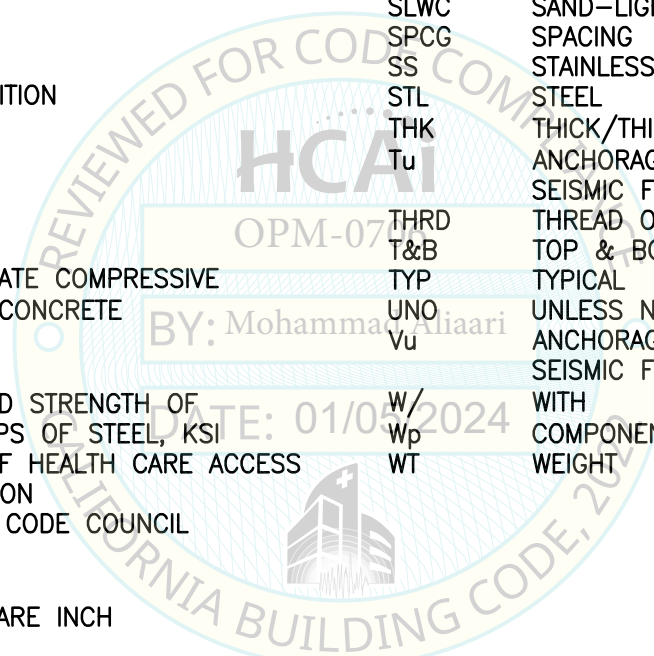
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LOGICELL SINGLE TRACK MOUNTED WIRE SHELVING UNITS



ABBREVIATIONS:

@	AT	NO. (#)	NUMBER OR POUNDS
AB	ANCHOR BOLT	NWC	NORMAL WEIGHT CONCRETE
ABV	ABOVE	OP	OPERATING
ADJ	ADJACENT	OPG	OPENING
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	OPM	HCAI PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION
BLDG	BUILDING	PERP	PERPENDICULAR
BLW	BELOW	PG	PAGE
BOTT	BOTTOM	P	PLATE
CBC	CALIFORNIA BUILDING CODE	PSI	POUNDS PER SQUARE INCH
CG	CENTER OF GRAVITY	REINF	REINFORCING/REINFORCEMENT
☉	CENTERLINE	REQ	REQUIRED
CONC	CONCRETE	SEOR	STRUCTURAL ENGINEER OF RECORD
CONN	CONNECTION	SIM	SIMILAR
COORD	COORDINATE	SLWC	SAND-LIGHTWEIGHT CONCRETE
DBL	DOUBLE	SPCG	SPACING
DTL(S)	DETAIL(S)	SS	STAINLESS STEEL
DIA (ϕ)	DIAMETER	STL	STEEL
(E)	EXISTING CONDITION	THK	THICK/THICKNESS
EA	EACH	Tu	ANCHORAGE TENSION REACTION DUE TO SEISMIC FORCE AT LRFD
EE	EACH END	THRD	THREAD OR THREADED
ELEV	ELEVATION	T&B	TOP & BOTTOM
EQ	EQUAL	TYP	TYPICAL
EQUIP	EQUIPMENT	UNO	UNLESS NOTED OTHERWISE
f'c	MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE	Vu	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE AT LRFD
FLR	FLOOR	W/	WITH
FT (')	FOOT/FEET	Wp	COMPONENT OPERATING WEIGHT
Fy	SPECIFIED YIELD STRENGTH OF REINFORCING, PS OF STEEL, KSI	WT	WEIGHT
HCAI	DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION		
ICC	INTERNATIONAL CODE COUNCIL		
IN (")	INCH		
INFO	INFORMATION		
KSI	KIPS PER SQUARE INCH		
LBS	POUNDS		
LRFD	LOAD & RESISTANCE FACTOR DESIGN		
MAX	MAXIMUM		
MIN	MINIMUM		
mm	MILLIMETER		
MTL	METAL		



SHEET TITLE: ABBREVIATIONS

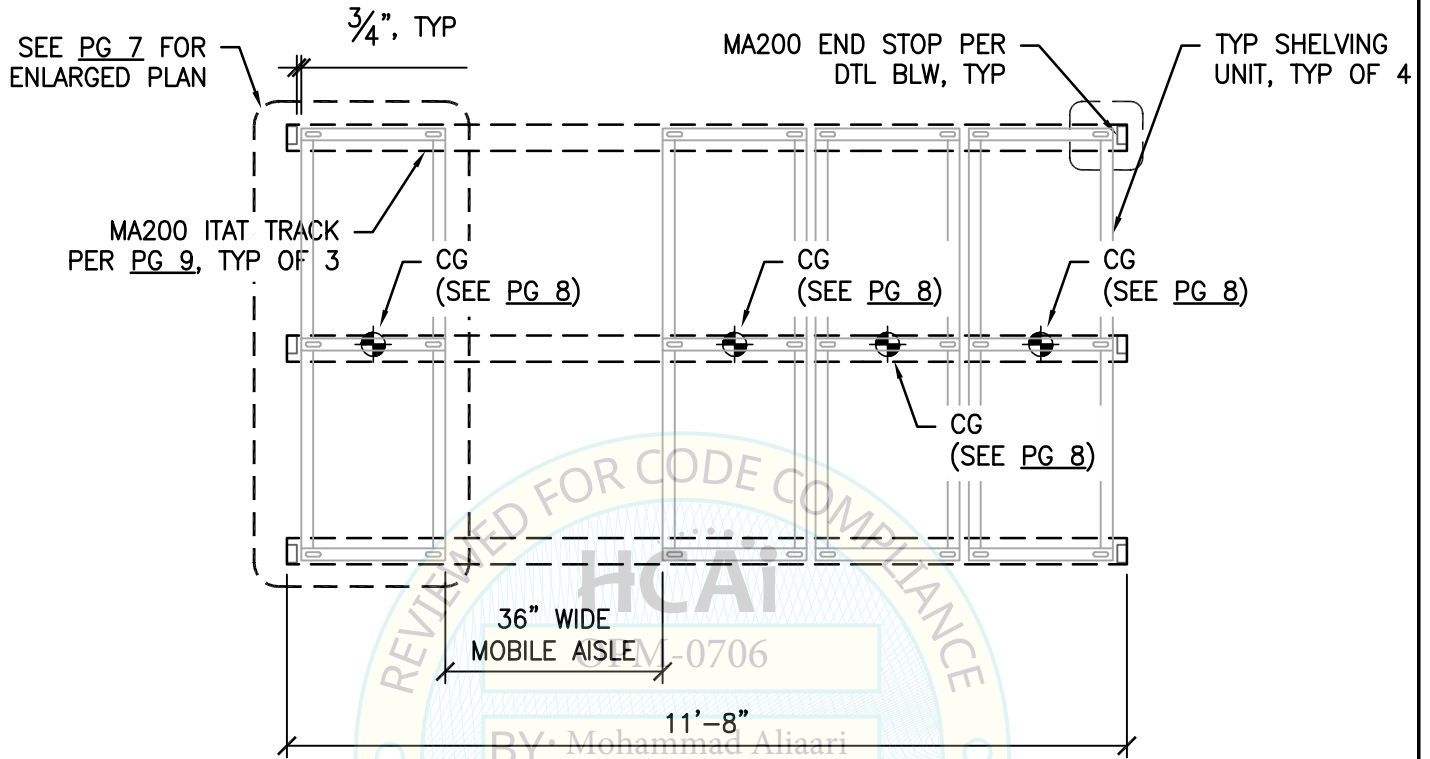
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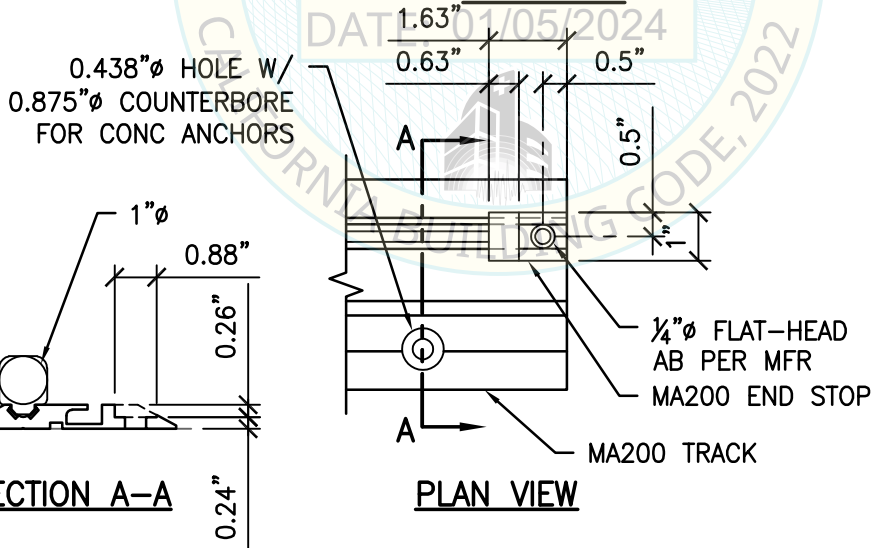
LOGICELL SINGLE TRACK MOUNTED WIRE SHELVING UNITS



MA200/ITAT SYSTEM



PLAN VIEW



SECTION A-A

PLAN VIEW

MA200 ITAT TRACK END STOP DETAIL



SHEET TITLE: MA200 ITAT SYSTEM
PLAN VIEW



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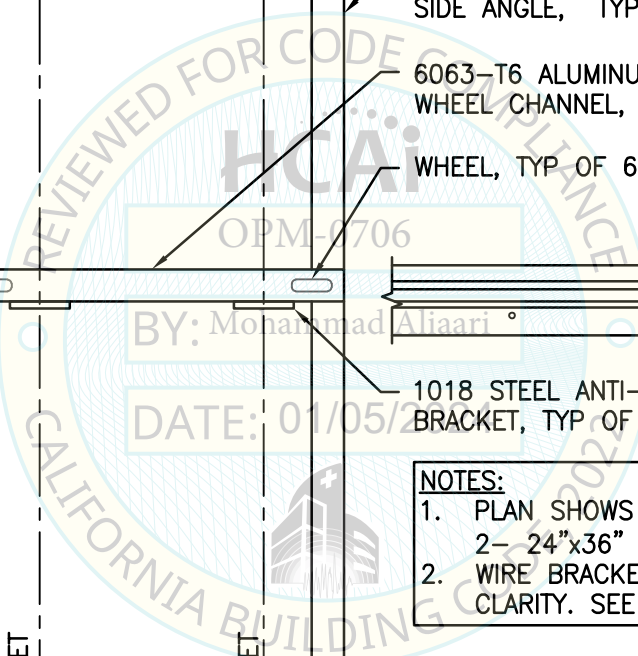
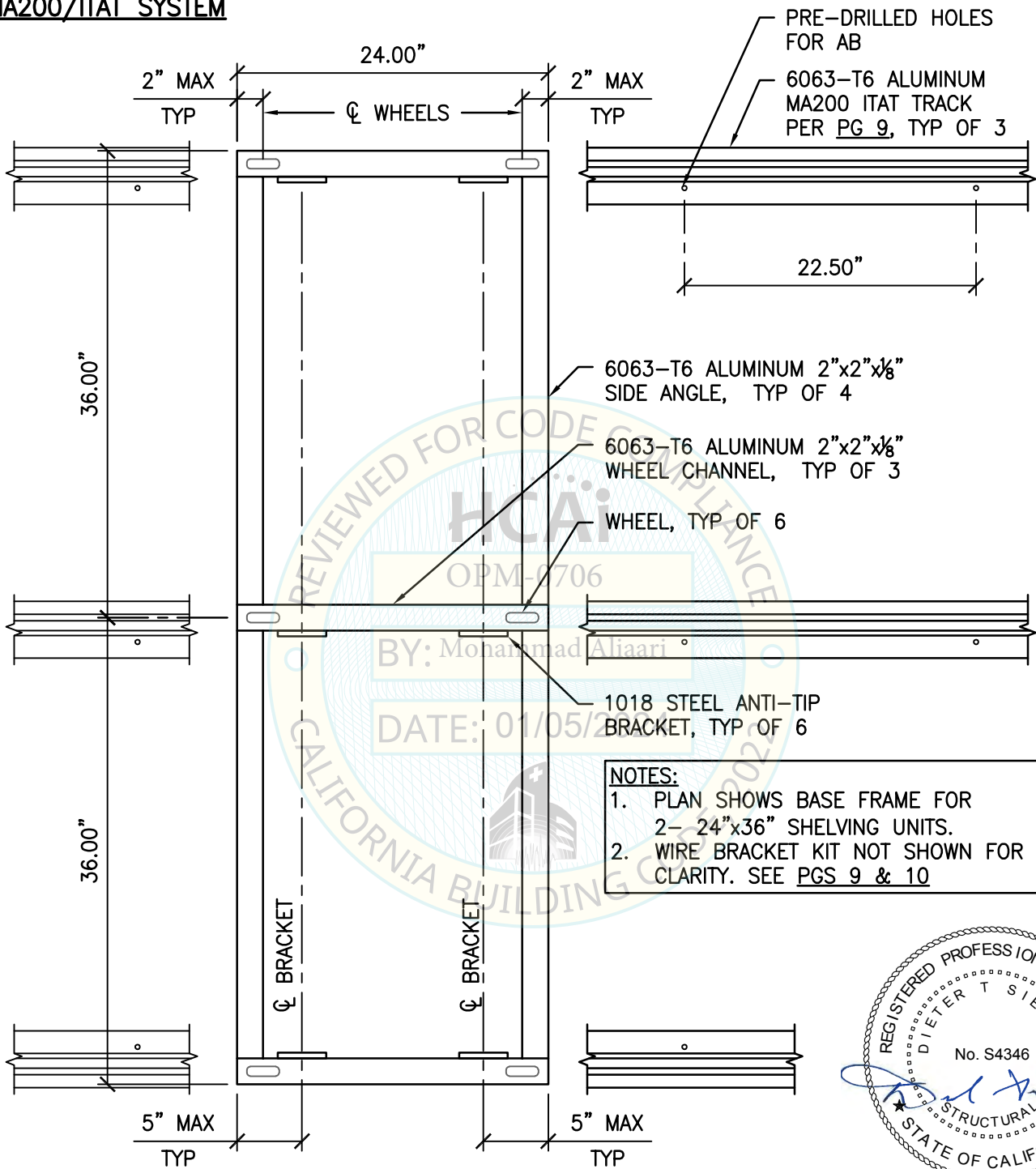
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MA200/ITAT SYSTEM



SHEET TITLE: MA200 ITAT SYSTEM
PLAN VIEW



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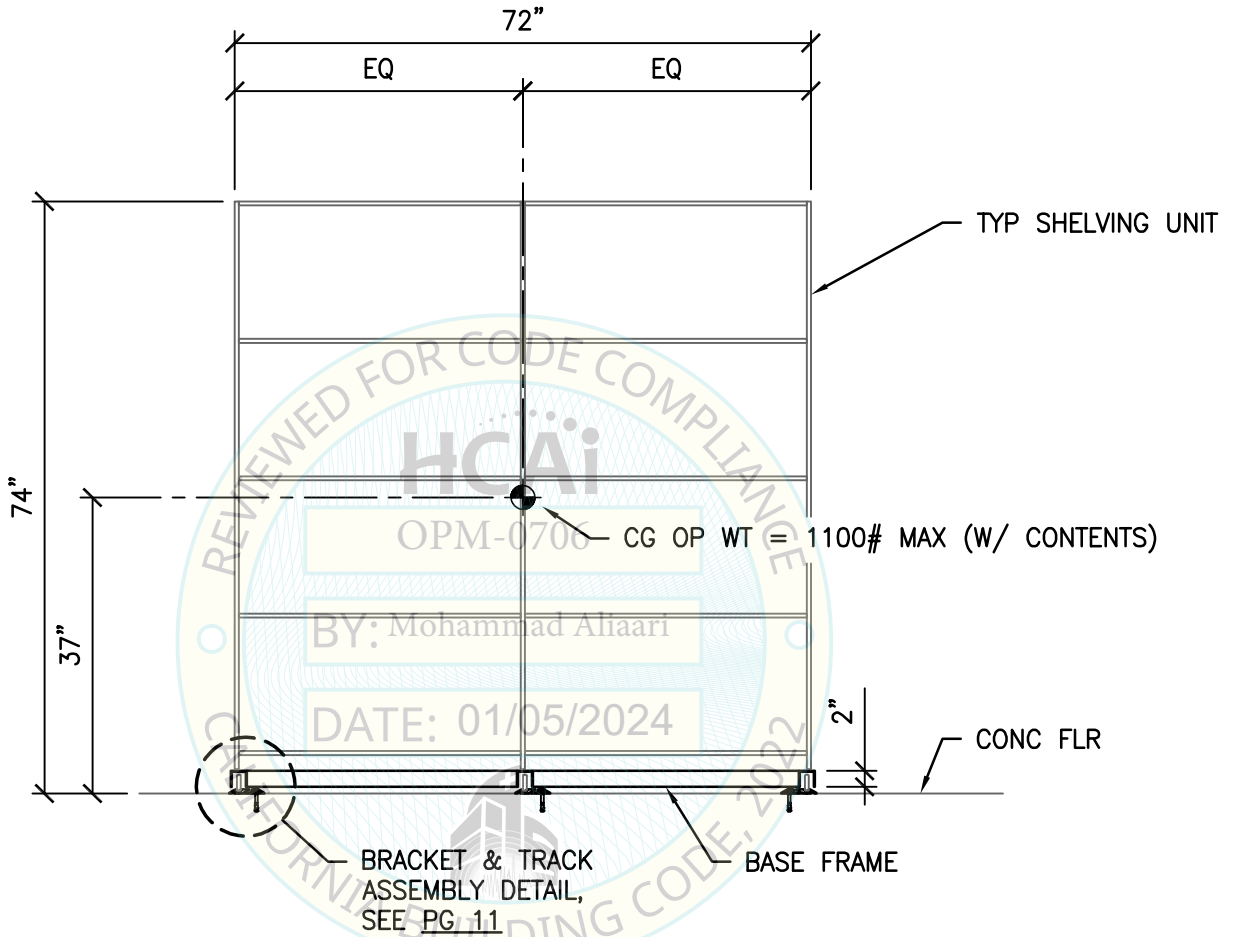
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LOGICELL SINGLE TRACK MOUNTED WIRE SHELVING UNITS



MA200/ITAT SYSTEM



FRONT ELEVATION



SHEET TITLE: MA200 ITAT SYSTEM
ELEVATION

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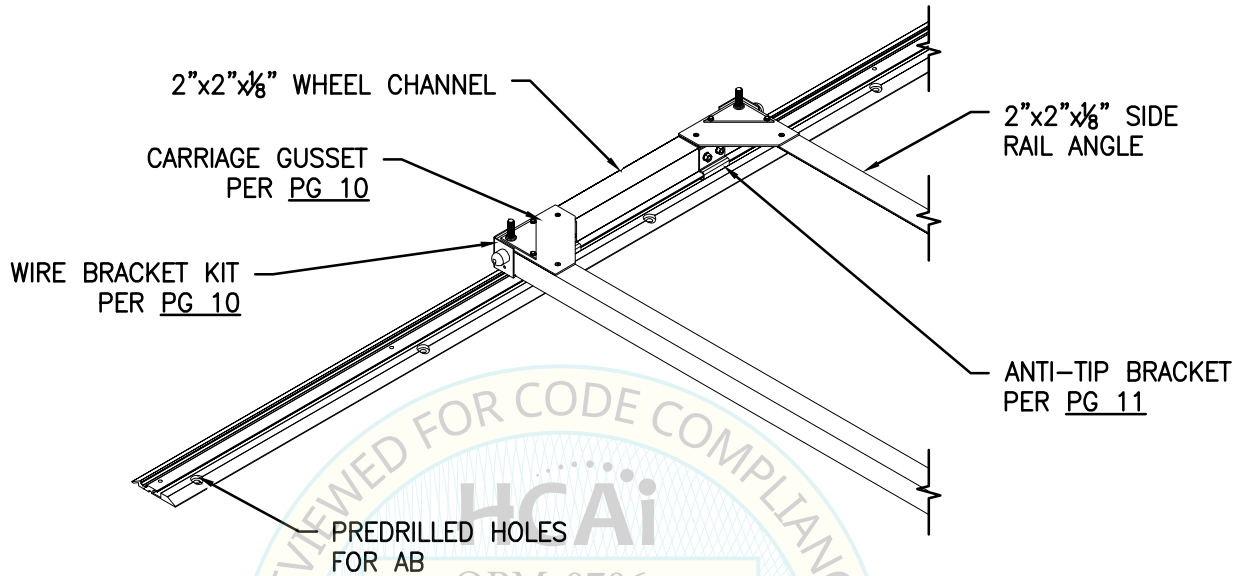
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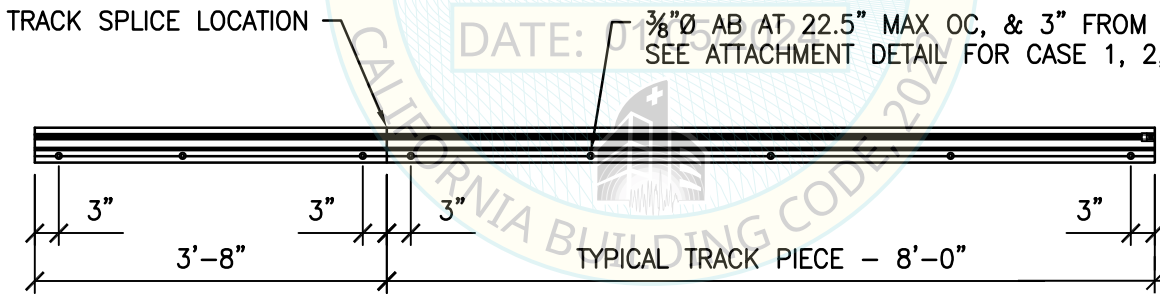
MA200/ITAT SYSTEM



MA200 ITAT TRACK – ISOMETRIC

BY: Mohammad Aliaari

DATE: 01/30/2023
 $\frac{3}{8}$ " \varnothing AB AT 22.5" MAX OC, & 3" FROM ENDS.
 SEE ATTACHMENT DETAIL FOR CASE 1, 2, OR 3.



MA200 ITAT TRACK – PLAN



SHEET TITLE: MA200/ITAT SYSTEM DETAILS



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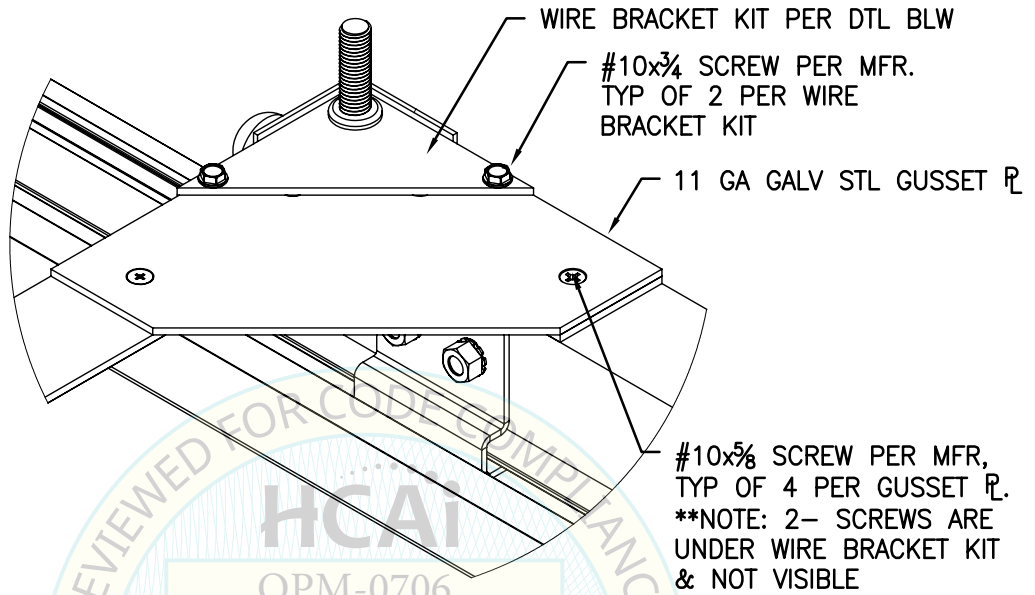
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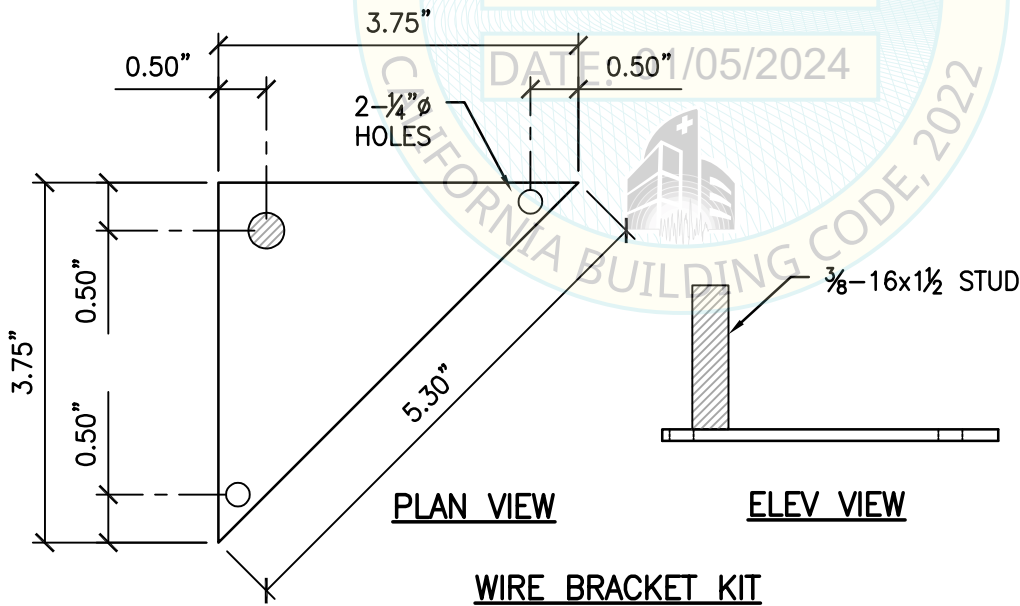
MA200/ITAT SYSTEM DETAILS



FRAME ASSEMBLY AT CORNER

BY: Mohammad Aliaari

DATE: 01/05/2024



SHEET TITLE: MA200/ITAT SYSTEM DETAILS



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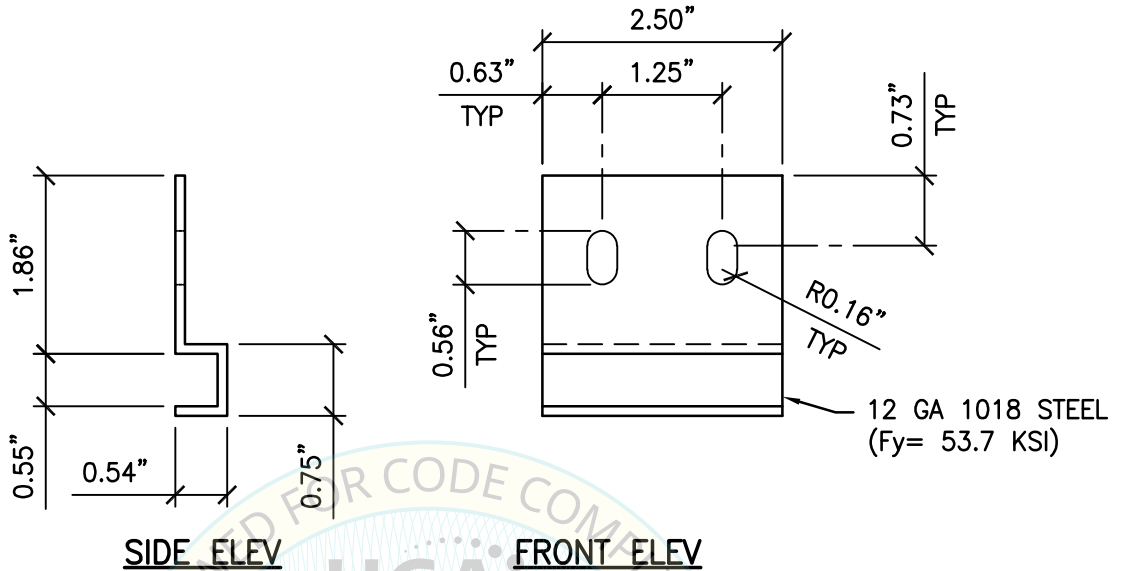
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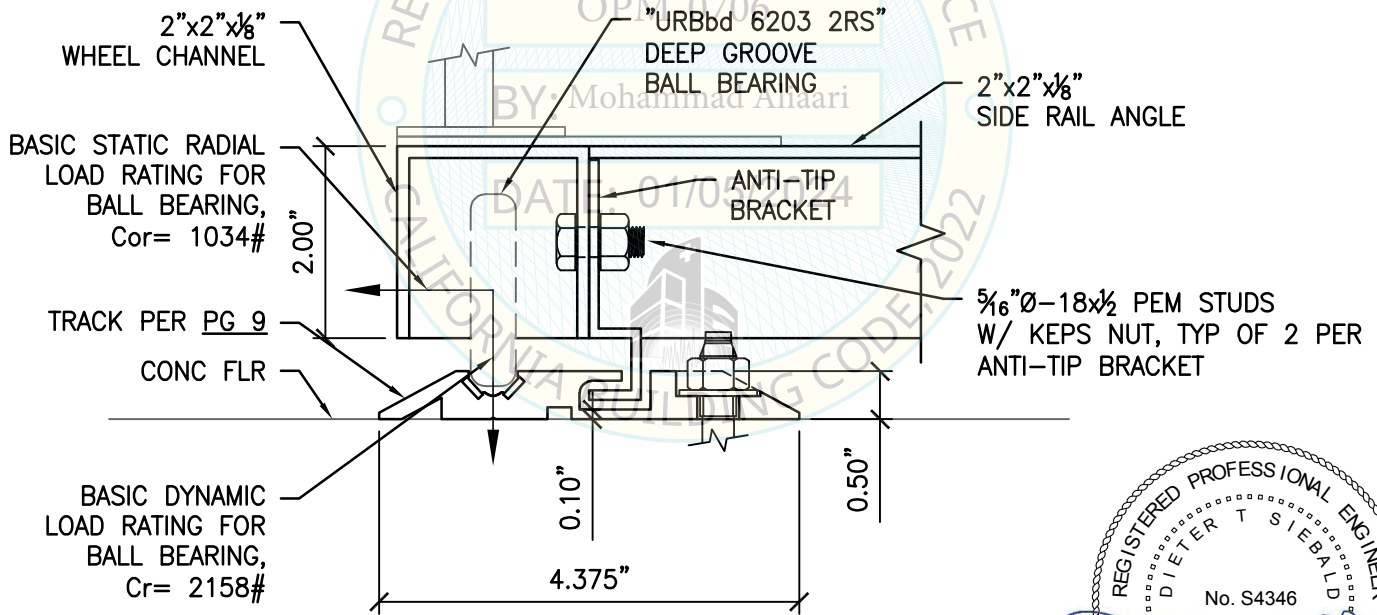
MA200/ITAT SYSTEM DETAILS



SIDE ELEV

FRONT ELEV

ANTI-TIP BRACKET



**BRACKET & TRACK
ASSEMBLY DETAIL**



SHEET TITLE: MA200/ITAT SYSTEM DETAILS



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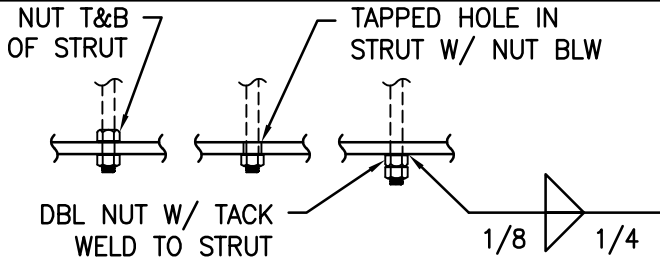
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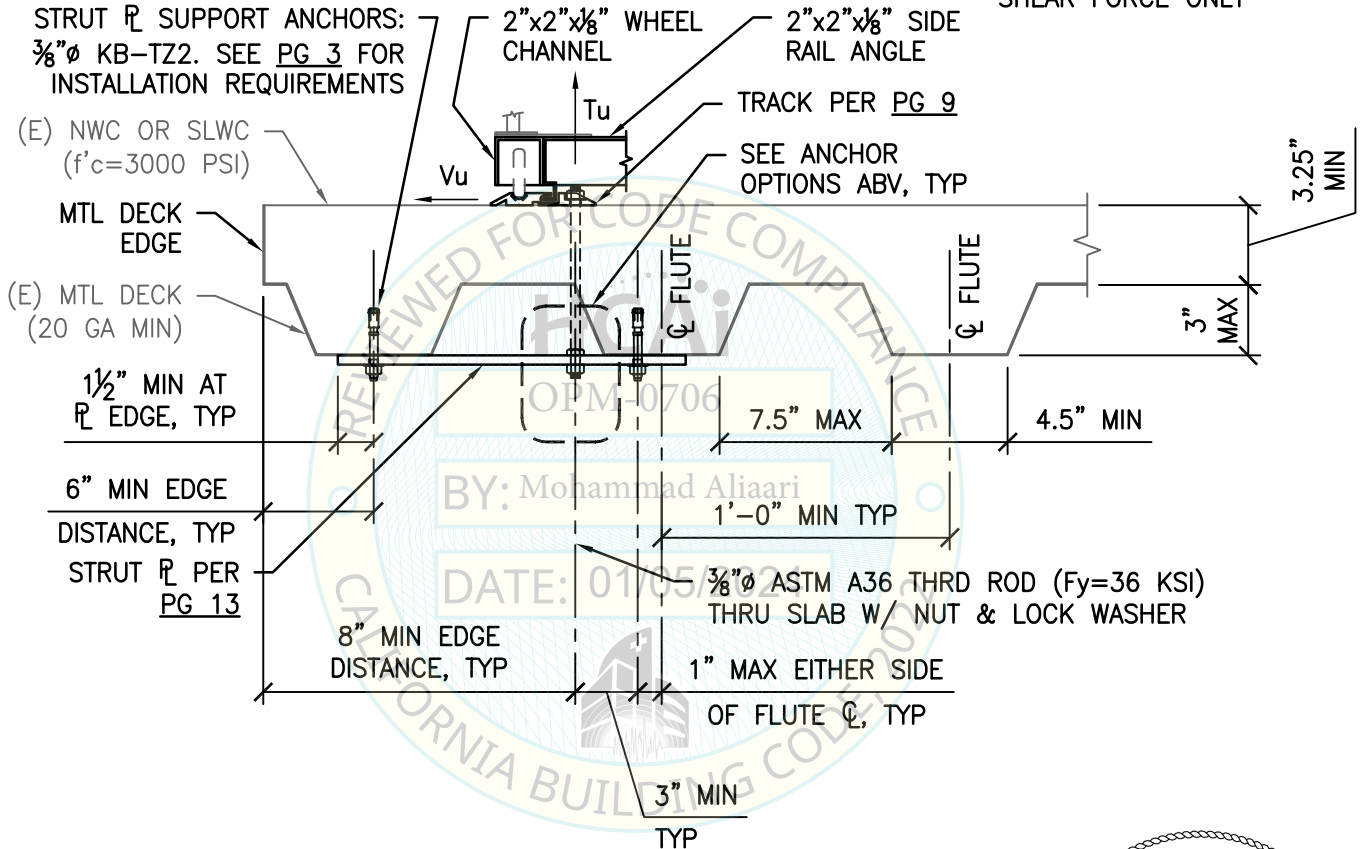
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CASE 1: Z/H = 0.50 Sds = 1.70	MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)	
	Tu	*Vu
	1591#	598#

*($\Omega_o = 2.0$) OVERSTRENGTH FACTOR IS APPLIED TO SHEAR FORCE ONLY

ANCHOR OPTIONS



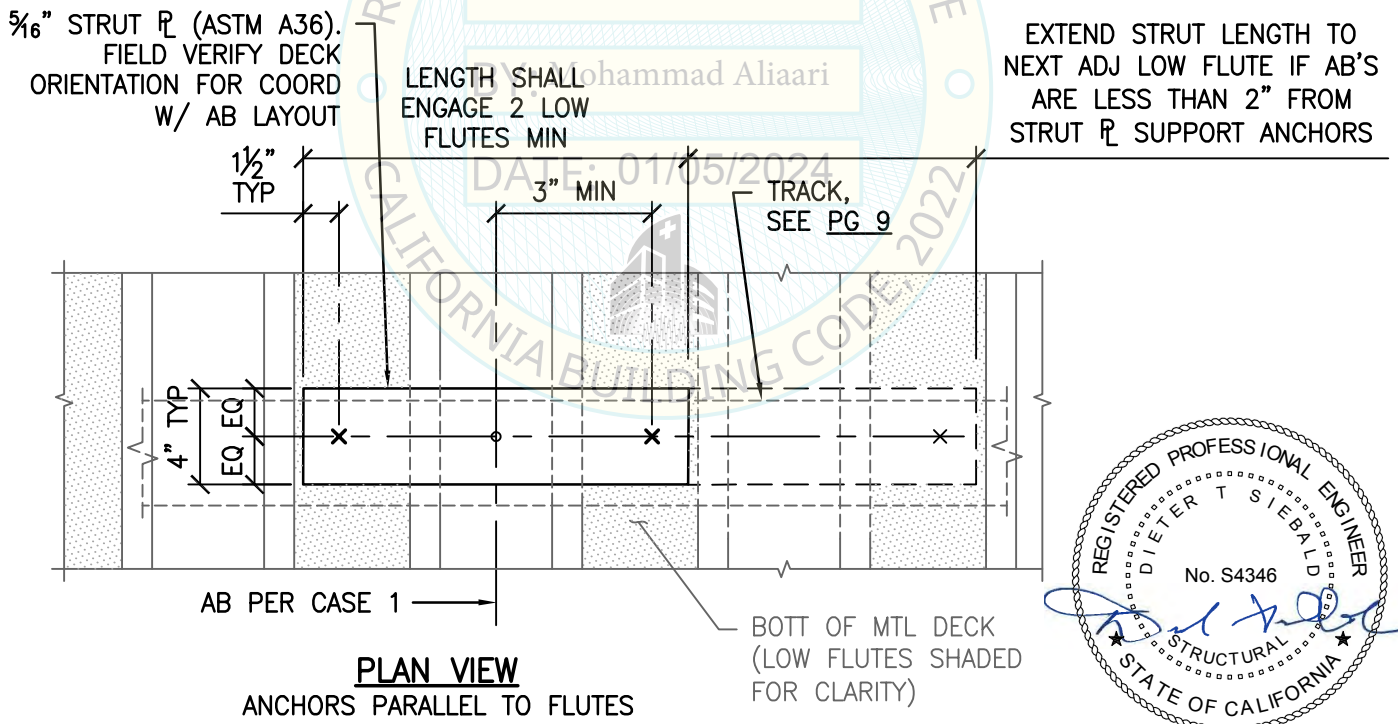
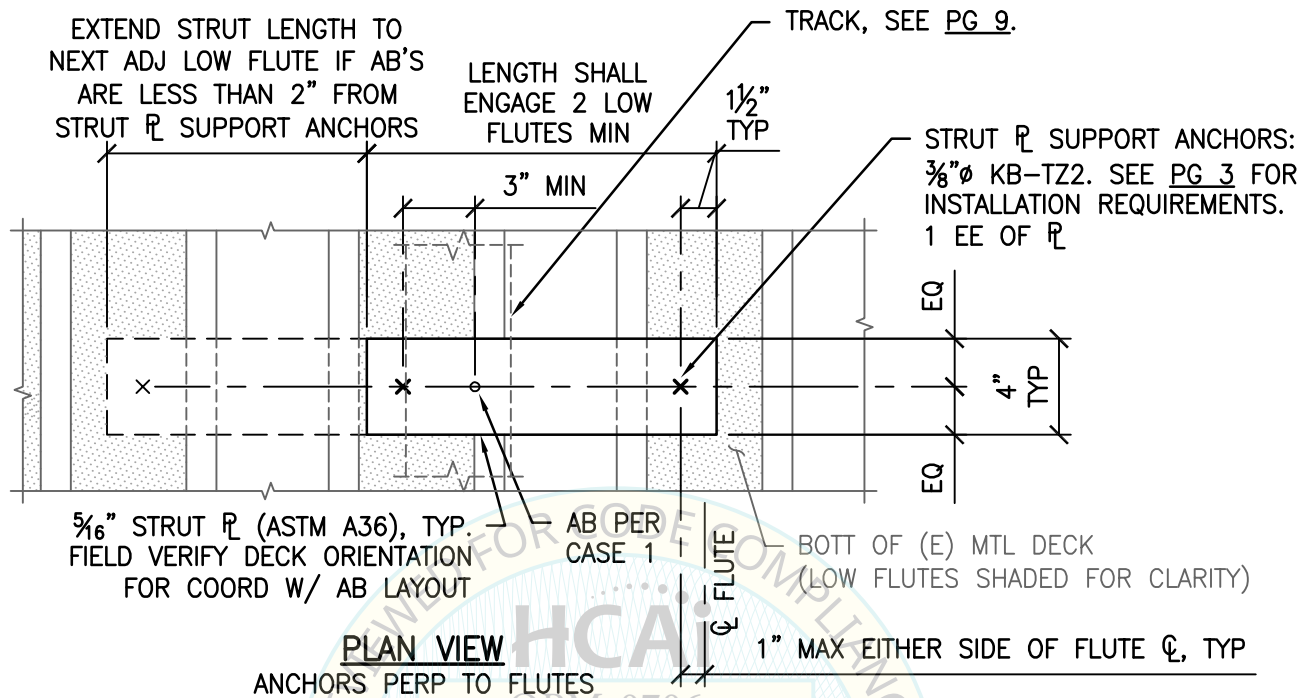
SHEET TITLE: ATTACHMENT DETAILS THRU
CONCRETE FILL OVER METAL DECK (CASE 1)

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LOGICELL SINGLE TRACK MOUNTED WIRE SHELVING UNITS



SHEET TITLE: ATTACHMENT DETAILS THRU
CONCRETE FILL OVER METAL DECK (CASE 1)

CYS STRUCTURAL ENGINEERS, INC.
2710 GATEWAY OAKS DRIVE, SUITE 190N
SACRAMENTO, CA 95833

Job No:	23052
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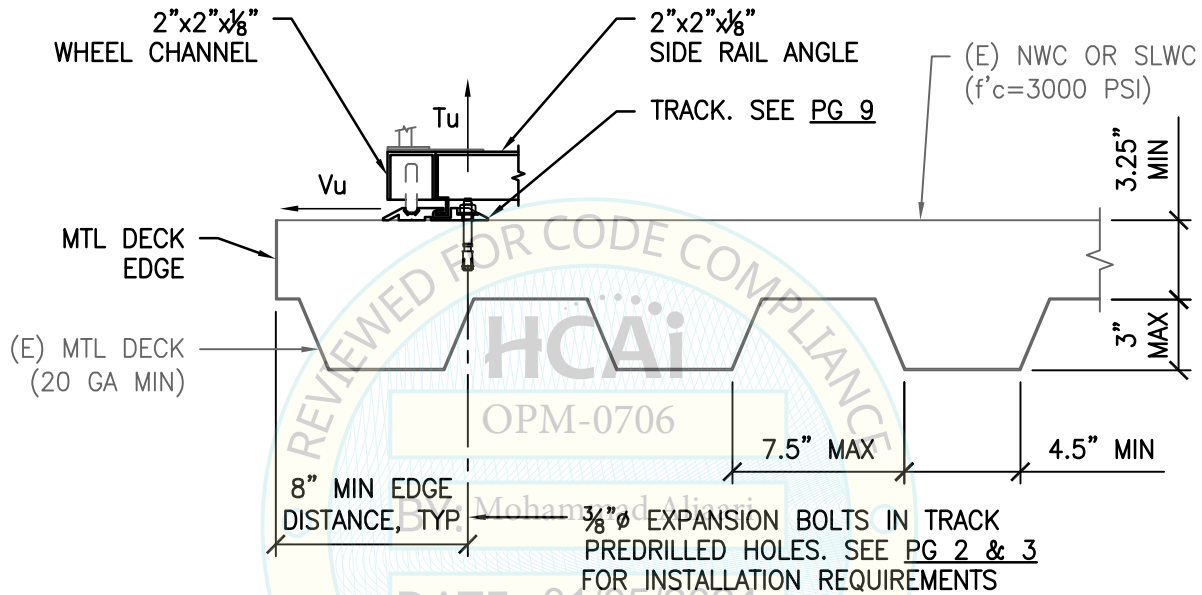
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LOGICELL SINGLE TRACK MOUNTED WIRE SHELVING UNITS



	MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)	
CASE 2: Z/H = 0.50 S _{DS} = 0.60	*Tu	*Vu
	874#	211#

*INCLUDES OVERSTRENGTH FACTOR ($\Omega_0=2.0$)



**SHEET TITLE: ATTACHMENT DETAILS INTO
CONCRETE FILL OVER METAL DECK (CASE 2)**



CYS STRUCTURAL ENGINEERS, INC.

2710 GATEWAY OAKS DRIVE, SUITE 190N
SACRAMENTO, CA 95833

TEL (916) 920-2020
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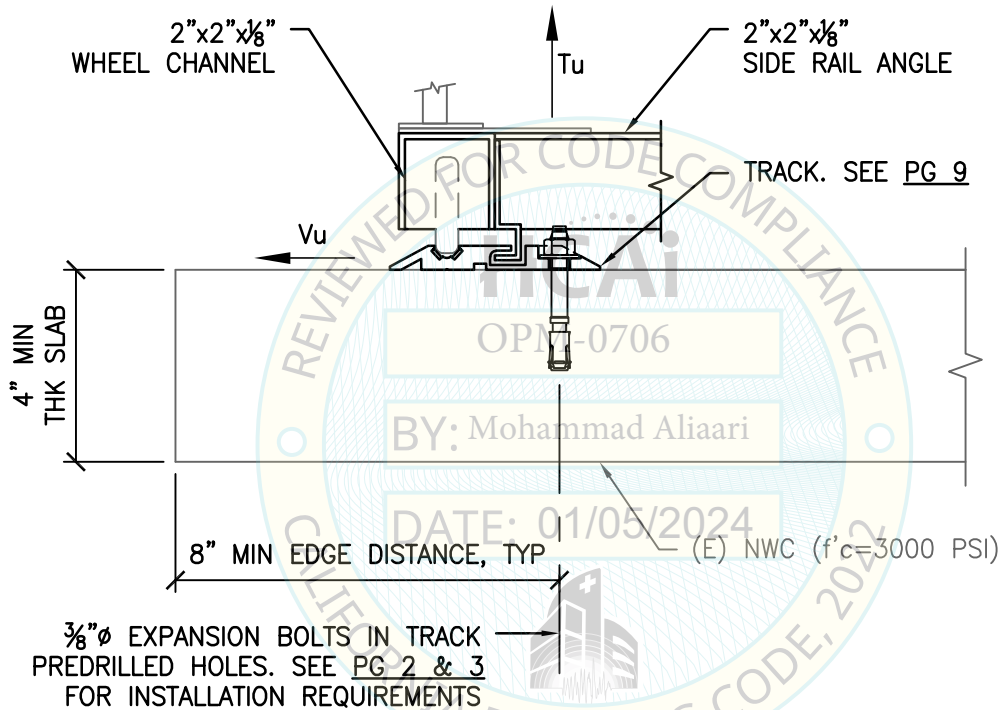
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LOGICELL SINGLE TRACK MOUNTED WIRE SHELVING UNITS



MAX ANCHOR FORCES AT LRFD AT EA AB (LBS)		
CASE 3: Z/H = 0.00 S _{DS} = 0.94	*Tu	*Vu
	1565#	310#

*INCLUDES OVERSTRENGTH FACTOR ($\Omega_0=2.0$)



SHEET TITLE: ATTACHMENT DETAILS TO
4" CONCRETE SLAB ON GRADE (CASE 3)



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