

APPENDIX J
QUALITY CONTROL CHECKLISTS &
OEM REFERENCE DRAWINGS

TRAVELING BRIDGE DRIVE AND WHEEL ALIGNMENT QC CHECKLIST

#	MEASUREMENT CRITERIA			MEASUREMENT RECORD				TOOL		
	Description	Range	Value	Source	Measurement	Units	Date & Time	Temp.	Make	Model

Flex-Rigid Coupling (Flex)

1	Combined angular and parallel misalignment of coupling/shaft centrelines	MAX	0.5° Angular	OEM							
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Cogwheel / Cog Track

2	Contact height of pinon teeth on the rack pitch line		± 1/32in	OEM							
3	Angular position of pinion teeth or "clocking" across the span of the clarifier (transverse)	Y/N	N/A	OEM							
4	Simultaneous contact of pinion teeth on both pinion gears with rack pitch line	Y/N	N/A	OEM							
5	Axle parallelism (plan view inclination of wheel) relative to opposite pinion gear	MAX	Slope = 0.005	ISO 12488-1							
6	Axle parallelism in elevation (wheel camber) relative to opposite pinion gear	MAX	Slope = 0.004	ISO 12488-1							

TRAVELING BRIDGE DRIVE AND WHEEL ALIGNMENT QC CHECKLIST

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	Description	Range	Value	Source	Measurement	Units	Date & Time	Temp.	Make	Model	Calibration
Running Wheels											
7	Transverse elevation of wheel contact points on the rail/track		± 2mm	ISO 12488-1							
8	Elevation of wheel contact points on the rail/track measured along the length of the end trucks (longitudinal)		± 2mm	ISO 12488-1							
9	Transverse distance of centrelines of wheel contact area		± 3mm	ISO 12488-1							
10	Longitudinal distance between centrelines of wheel contact area		± 3mm	ISO 12488-1							
11	Transverse parallel offset distance between centre of contact areas on opposite wheels on rail/track		± 2.5mm	ISO 12488-1							
12	Axle parallelism (plan view inclination of wheel) relative to rail	MAX	Slope = 0.005	ISO 12488-1							

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	Description	Range	Value	Source	Measurement	Units	Date & Time	Temp.	Make	Model	Calibration
13	Axle parallelism in elevation (wheel camber) relative to rail	MAX	Slope = 0.004	ISO 12488-1							

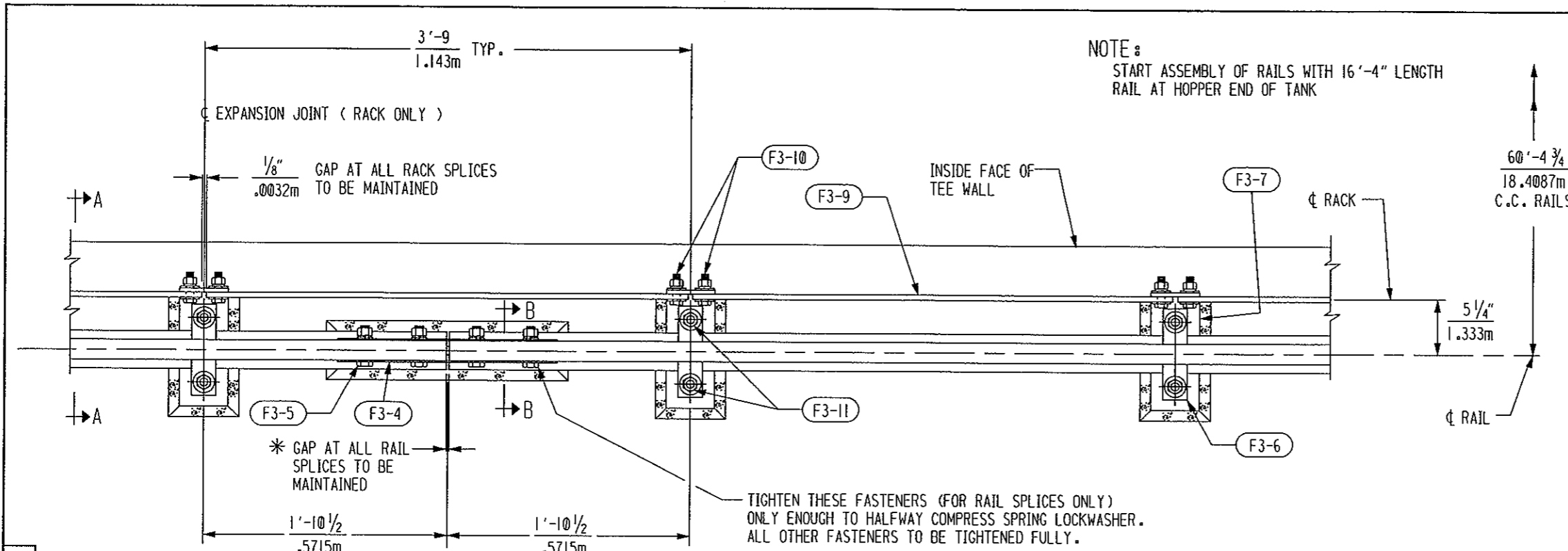
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	Description	Range	Value	Source	Measurement	Units	Date & Time	Temp.	Make	Model	Calibration
13	Axle parallelism in elevation (wheel camber) relative to rail	MAX	Slope = 0.004	ISO 12488-1							

TRAVELING BRIDGE RAIL AND COG TRACK ALIGNMENT QC CHECKLIST

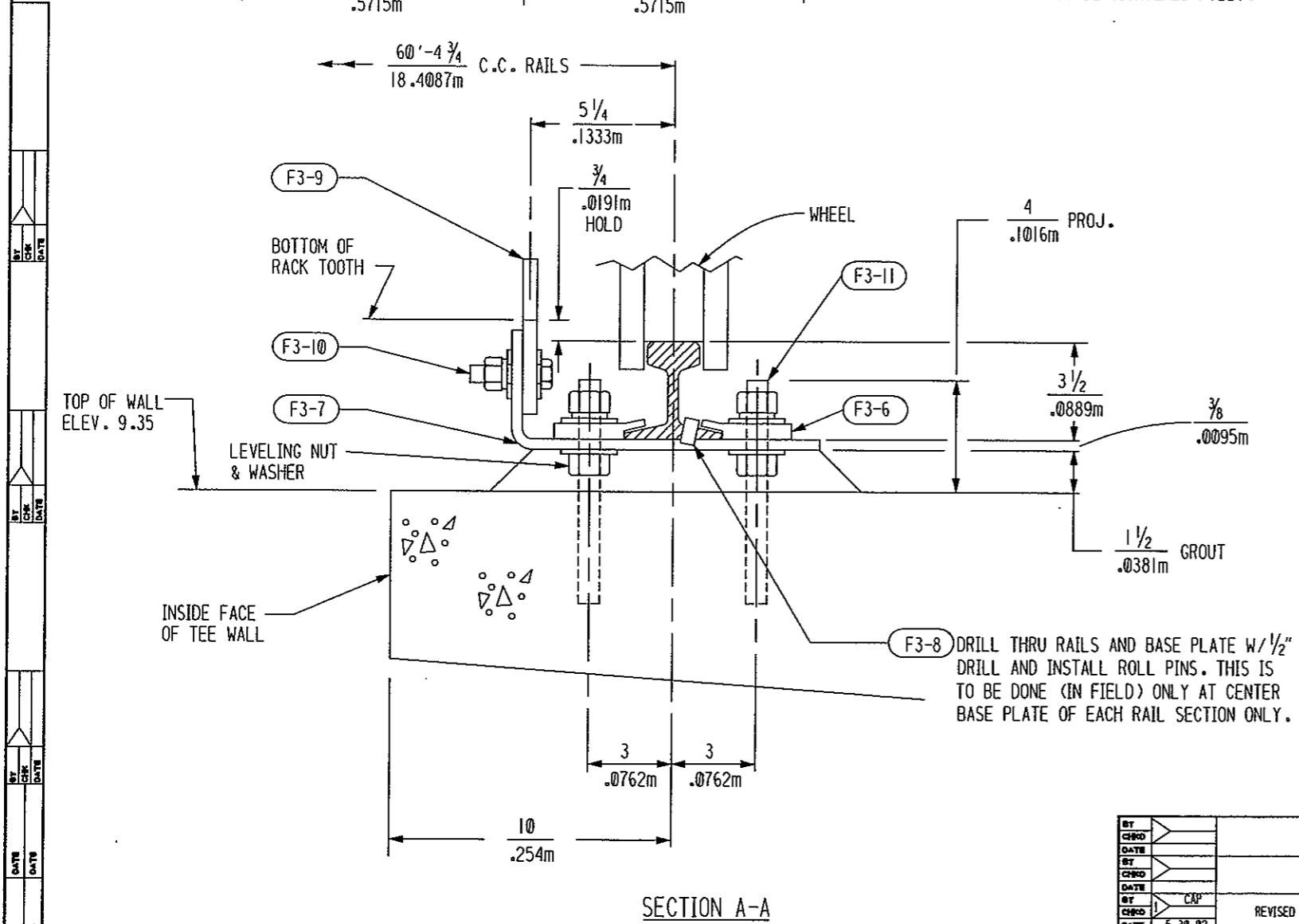
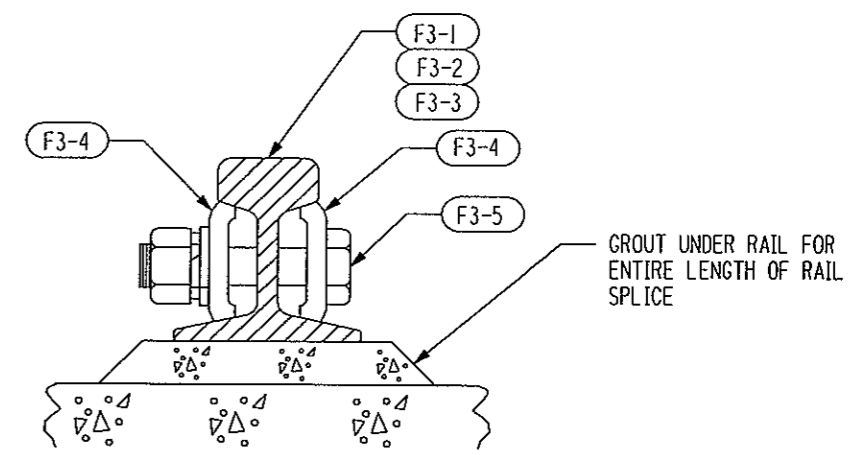
#	MEASUREMENT CRITERIA			MEASUREMENT RECORD				TOOL			
	Description	Range	Value	Source	Measurement	Units	Date & Time	Temp.	Make	Model	Calibration
5/8"x8-1/2" Hilti Anchor Bolts											
1	Overall parallelism (transverse) of anchor bolt centrelines on opposite sides of the clarifier	± 3mm		DWG 4S33416-1							
2	Rate of change of parallelism (transverse) of anchor bolt centrelines on opposite sides of the clarifier	MAX	Slope = 0.001	CISC Crane Steel							
3	Overall straightness (longitudinal) of individual anchor bolt centrelines	± 3mm		DWG 4S33416-1							
4	Rate of change of straightness (longitudinal) of individual anchor bolt centrelines	MAX	Slope = 0.001	CISC Crane Steel							
5	Transverse distance between centers of adjacent anchor bolts (same side of clarifier)	± 1.6mm		DWG 4S33416-1							

TRAVELING BRIDGE RAIL AND COG TRACK ALIGNMENT QC CHECKLIST

#	MEASUREMENT CRITERIA			MEASUREMENT RECORD				TOOL			
	Description	Range	Value	Source	Measurement	Units	Date & Time	Temp.	Make	Model	Calibration
3/4" MS Rack											
12	Overall longitudinal elevation change of top of individual rail/rack for	± 3mm		DWG 4S33416-1							
13	Rate of change of elevation change of top of individual rail/rack longitudinal	MAX	Slope = 0.001	CISC Crane Steel							
14	Overall transverse elevation change of top of rail/rack (rail to rail)	± 3mm		DWG 4S33416-1							
15	Rate of change of transverse elevation change of top of rail/rack (rail to rail)	MAX	Slope = 0.001	CISC Crane Steel							
16	Transverse distance between centroid of rail and rack cross sections (same side of clarifier)	± 1.6mm		DWG 4S33416-1							



MARK	ASS'Y PCS / UNIT	DESCRIPTION
F3-1	2	RAIL, 40# / YARD
F3-2	12	RAIL, 40# / YARD
F3-3	2	RAIL, 40# / YARD
F3-4	28	RAIL SPLICE
F3-5	56	CAPSCREW W/ NUT, S.A.E. WASHER & LOCKWASHER
F3-6	244	RAIL CLIP
F3-7	122	BASE PLATE
F3-8	16	ROLL PIN
F3-9	114	RACK
F3-10	232	CAPSCREW, W/ NUT (2) STD PLAIN WASHERS AND (1) LOCKWASHER
F3-11	244	EPOXY ANCHORS W/ THREADED ROD, (2) NUTS, (2) STD. PLAIN WASHERS AND (1) LOCKWASHER



- NOTE:
- 1) SEE DRAWINGS F4 AND F5 FOR INSTALLATION TOLERANCES OF ANCHOR BOLTS, RAILS & RACKS.
 - 2) RAIL SPLICES MUST BE SUPPORTED BY SHIMS. RAIL SPLICES MUST NOT BE LEFT UNSUPPORTED. SHIMS NOT BY W.P.
 - 3) PLACE GROUT AS SHOWN AROUND ALL ANCHOR LOCATIONS AND UNDER RAIL SPLICE LOCATIONS AFTER SHIMMING AND PROPER ALIGNMENT IS ACHIEVED. GROUT MUST BE NON-SHRINKING TYPE. GROUT NOT BY W.P.

* RAIL GAP AS SHOWN BELOW IS BASED ON AMBIENT TEMPERATURE AT TIME OF INSTALLATION

AMBIENT TEMPERATURE	GAP
OVER 100° F (38°C)	1/16" / .0016m
75° TO 100° F (24°C TO 38°C)	1/8" / .0032m
50° TO 75° F (10°C TO 24°C)	3/16" / .0048m
25° TO 50° F (-4°C TO 10°C)	1/4" / .0064m
0° TO 25° F (-18°C TO -4°C)	5/16" / .0079m

CAD FILE: F3

BY	DATE	REVISIONS	REMARKS
DKJ	3-12-02		
		REVISED PER DETAILS	

DATE	BY
3-12-02	DKJ



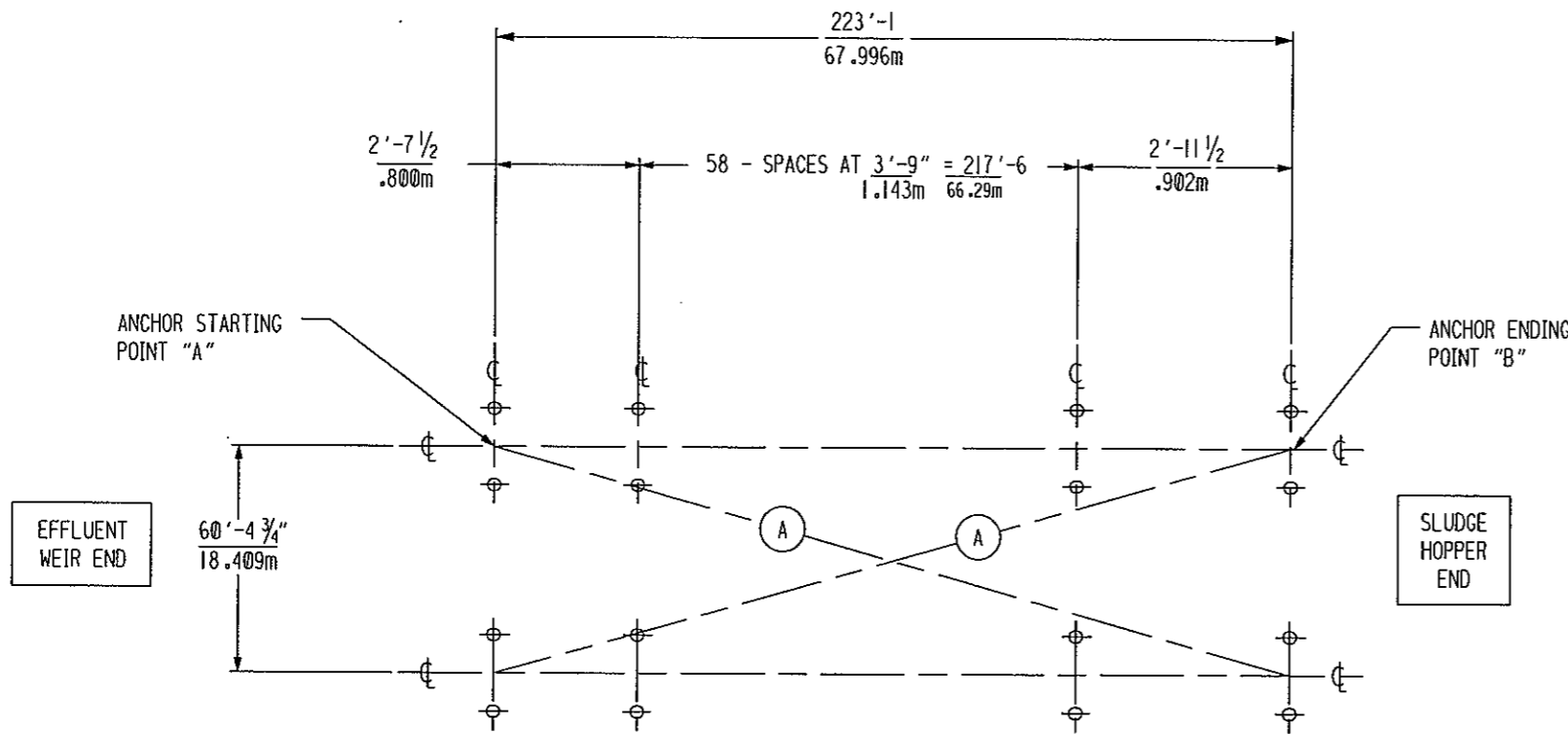
Walker Process Equipment
Division of McNish Corporation
AURORA, ILLINOIS U.S.A.

RACK AND RAIL ASSEMBLY
COBRIDGE

CONTRACT P20431 ORG F3

IMPORTANT NOTES:

- 1) ALL RAIL ANCHOR BOLTS MUST BE LOCATED FROM STARTING POINT "A" WITH A TOLERANCE OF $\frac{1}{8} \pm$ $.0032m$
- 2) ALL RAIL ANCHOR BOLT SETS MUST BE WITHIN $\frac{3}{8} \pm$ $.0095m$ OF THE ANCHOR BOLT CENTERLINE AS SHOWN IN DETAIL #2.
- 3) ESTABLISHMENT OF ANCHOR BOLT CENTERLINES:
 - A) ESTABLISH ANCHOR STARTING POINT "A" ON THE WALL AT THE EFFLUENT WEIR END.
 - B) SET THE ANCHOR BOLT CENTERLINE FROM POINT "A" TO POINT "B", PARALLEL TO THE TANK WALL.
 - C) USING THE METHOD SHOWN IN DETAIL #1, ESTABLISH THE ANCHOR BOLT CENTERLINE FOR THE OPPOSITE WALL.

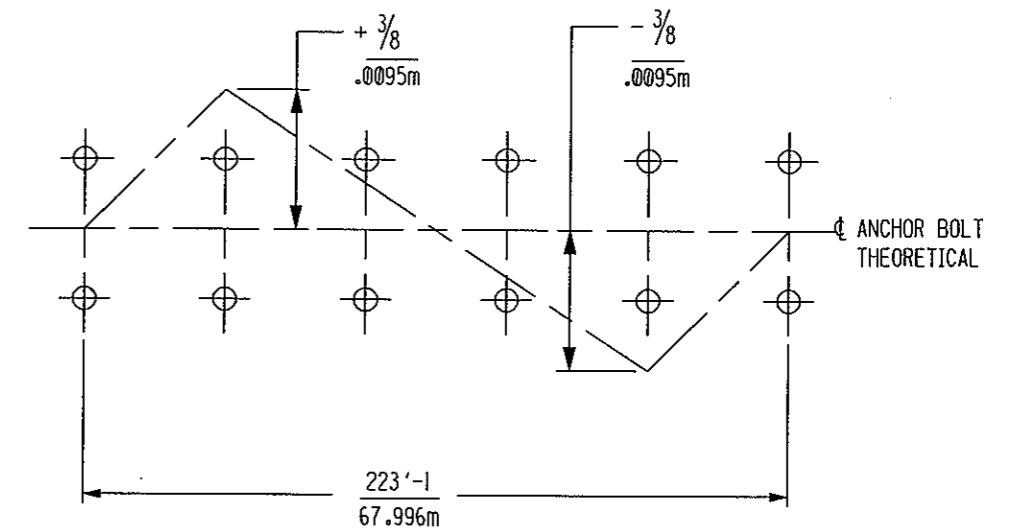


DIAGONAL MEASUREMENTS (A) MUST BE WITHIN $\frac{1}{8} \pm$ $.0032$

DIAGONAL MEASUREMENTS (A) = $231'-1 \frac{3}{8} \pm$ $70.44m$

DETAIL #1

TOLERANCE - DIAGONAL MEASUREMENTS

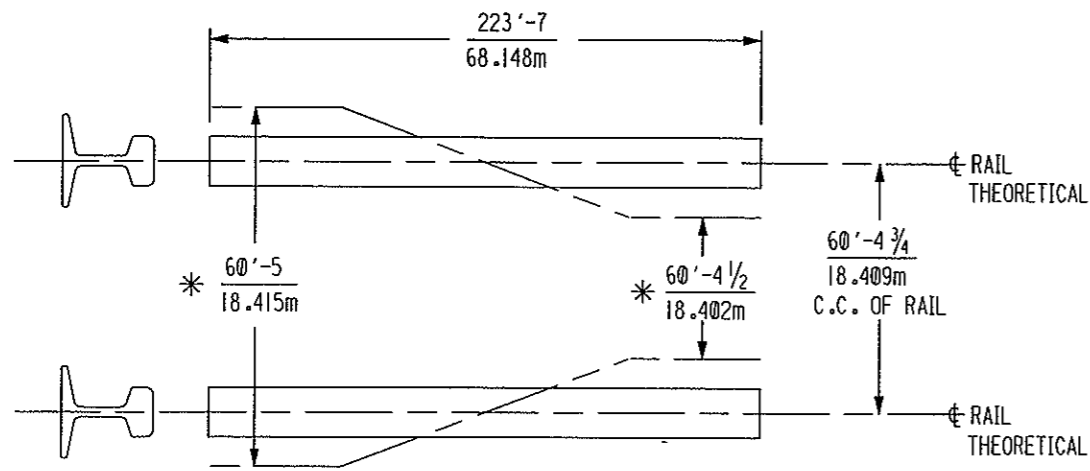


DETAIL #2

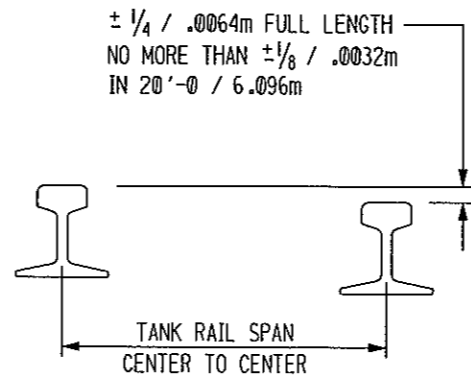
TOLERANCE - RAIL ANCHOR BOLT STRAIGHTNESS VARIATION

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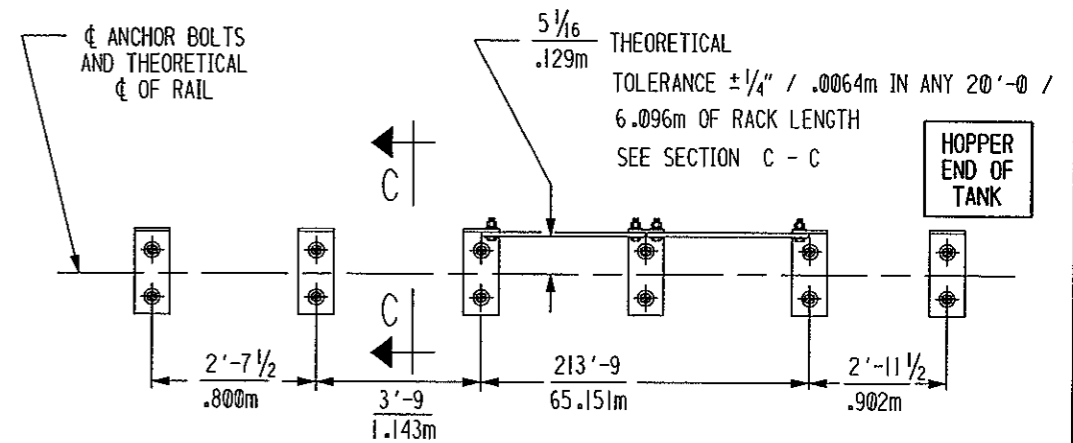
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TOLERANCE - RAIL TO RAIL SPAN VARIATION

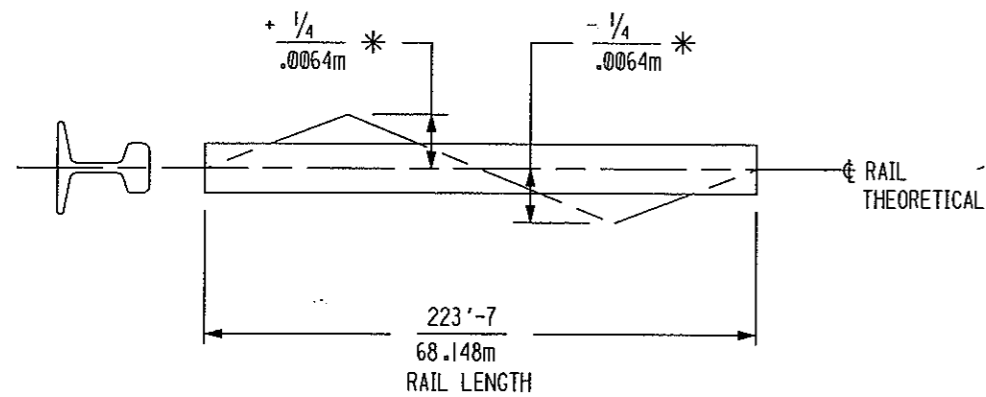


TOLERANCE - RAIL TO RAIL ELEVATION

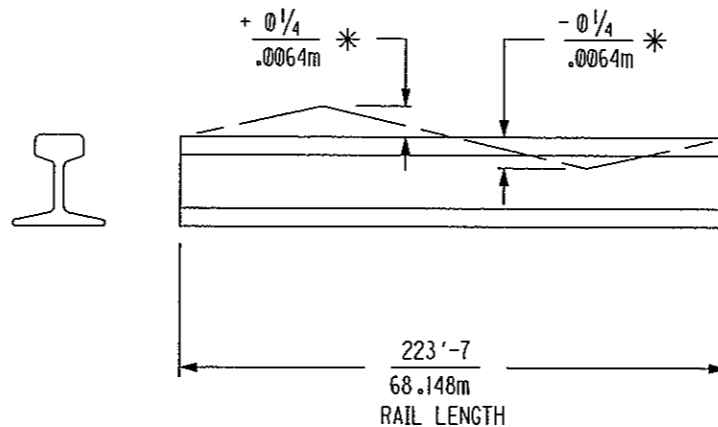


TOLERANCE - RACK STRAIGHTNESS VARIATION

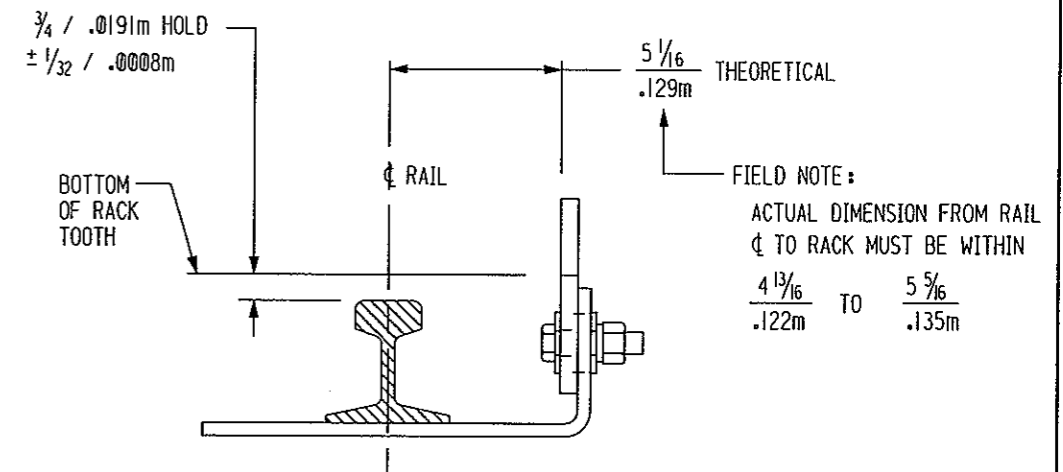
* TOLERANCE ± 1/8" / .0032m IN ANY 20'-0" / 6.096m OF RAIL LENGTH



TOLERANCE - RAIL STRAIGHTNESS VARIATION



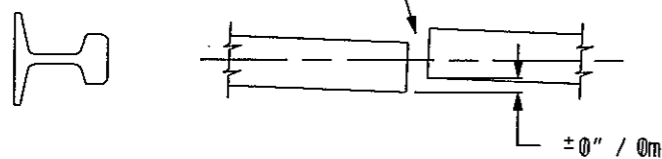
TOLERANCE - RAIL ELEVATION VARIATION



TOLERANCE - RACK STRAIGHTNESS VARIATION

FIELD NOTE:
ACTUAL DIMENSION FROM RAIL
CL TO RACK MUST BE WITHIN
4 13/16
.122m TO 5 5/16
.135m

SEE CHART ON DRAWING F3
FOR GAP BETWEEN RAILS



TOLERANCE - RAIL JOINT OFFSET

IMPORTANT FIELD NOTE:
BEFORE INSTALLATION OF BASE PLATES,
THEORETICAL ANCHOR BOLT CL, PER DETAIL
N° 1 ON DRAWING F4 MUST BE REESTABLISHED
AND CONFIRMED.

CAD FILE: F5

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