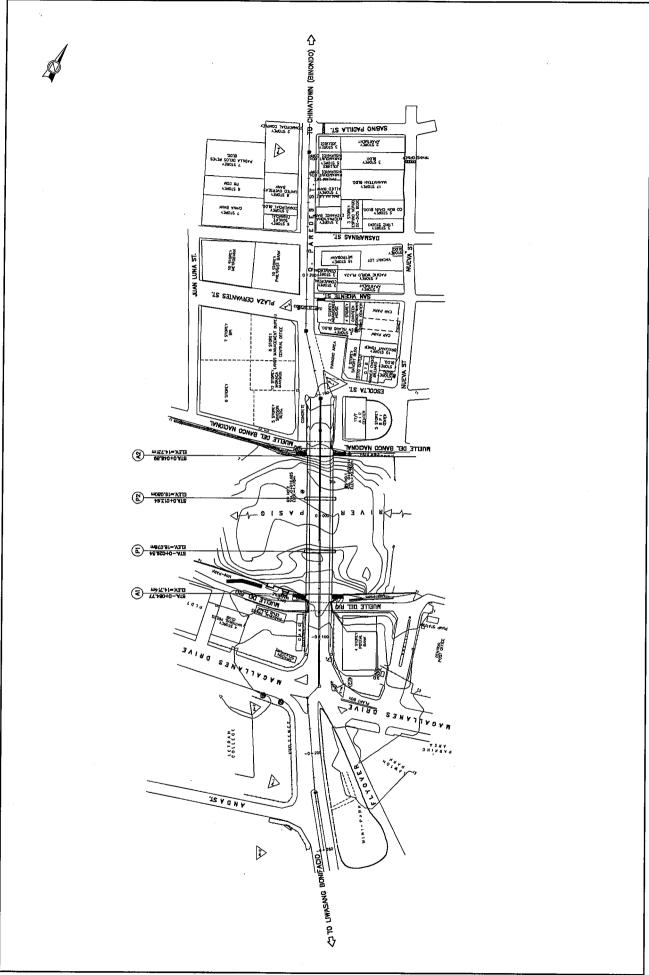
CHAPTER 20

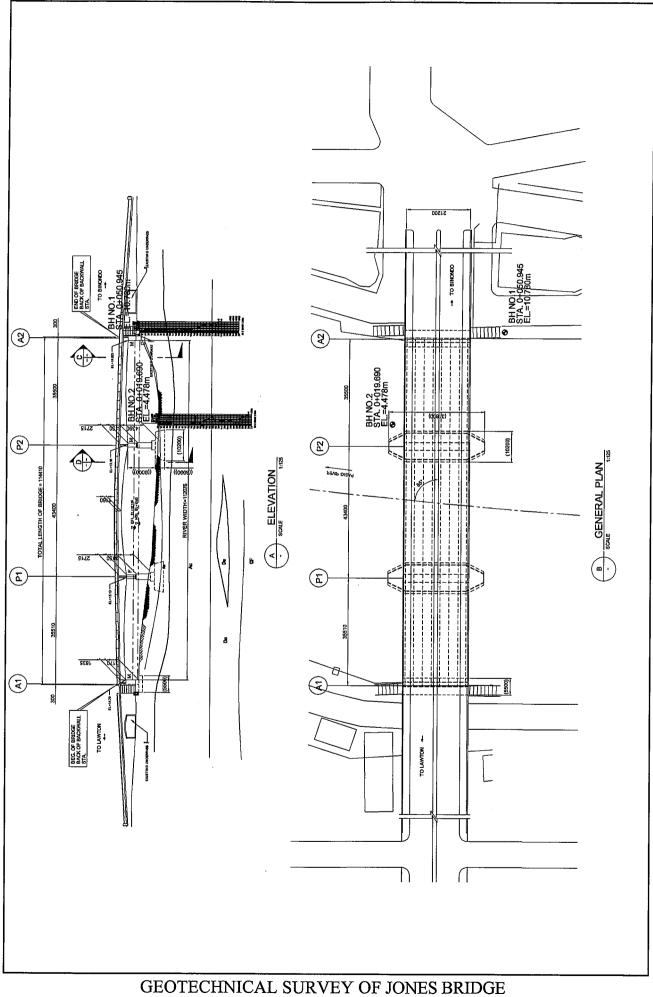
FEASIBILITY STUDY OF JONES BRIDGE REHABILITATION PLAN

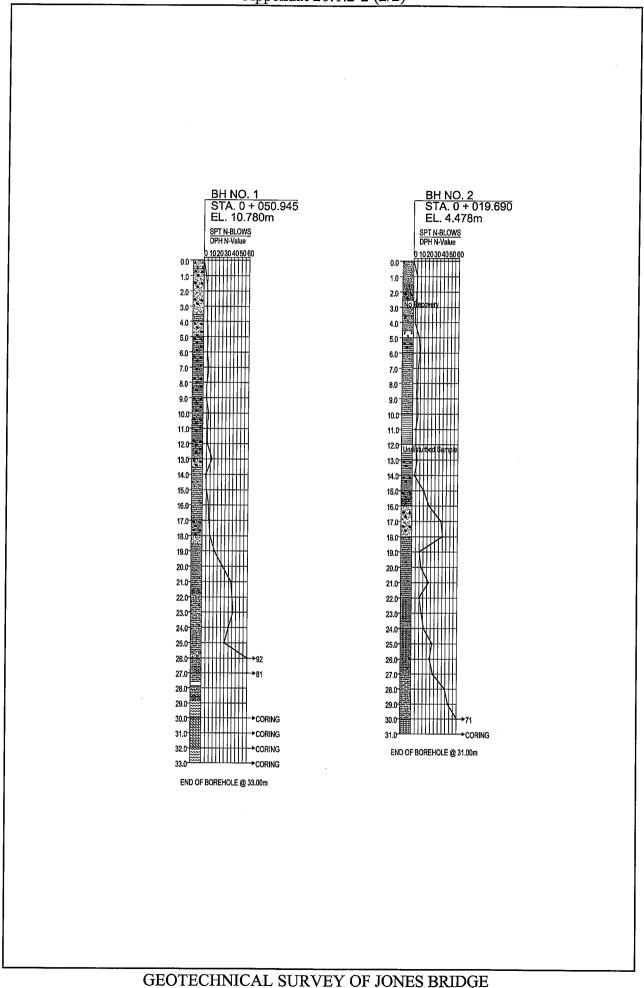


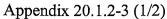
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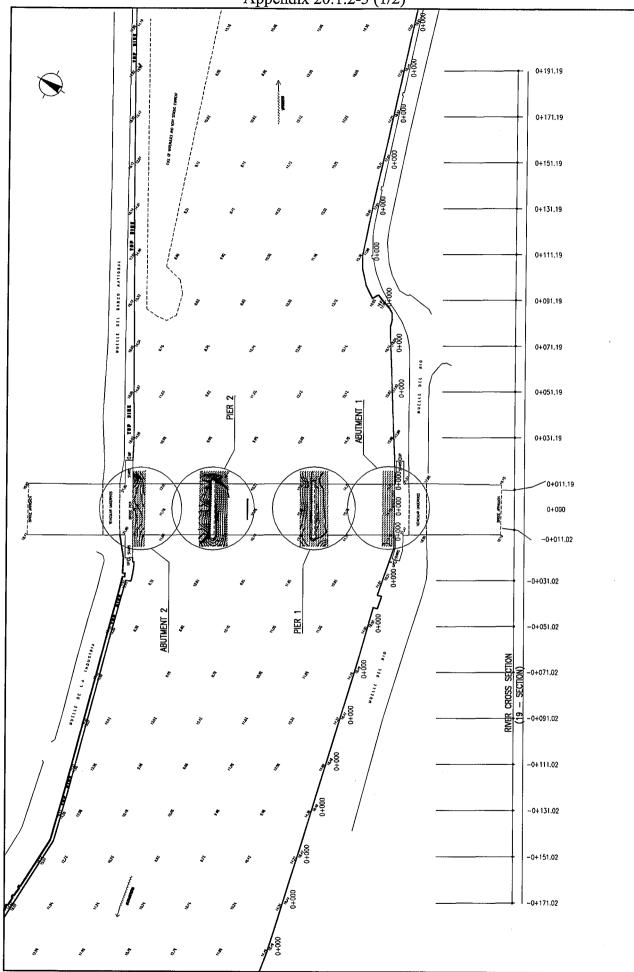
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TOPOGRAPHIC SURVEY OF JONES BRIDGE

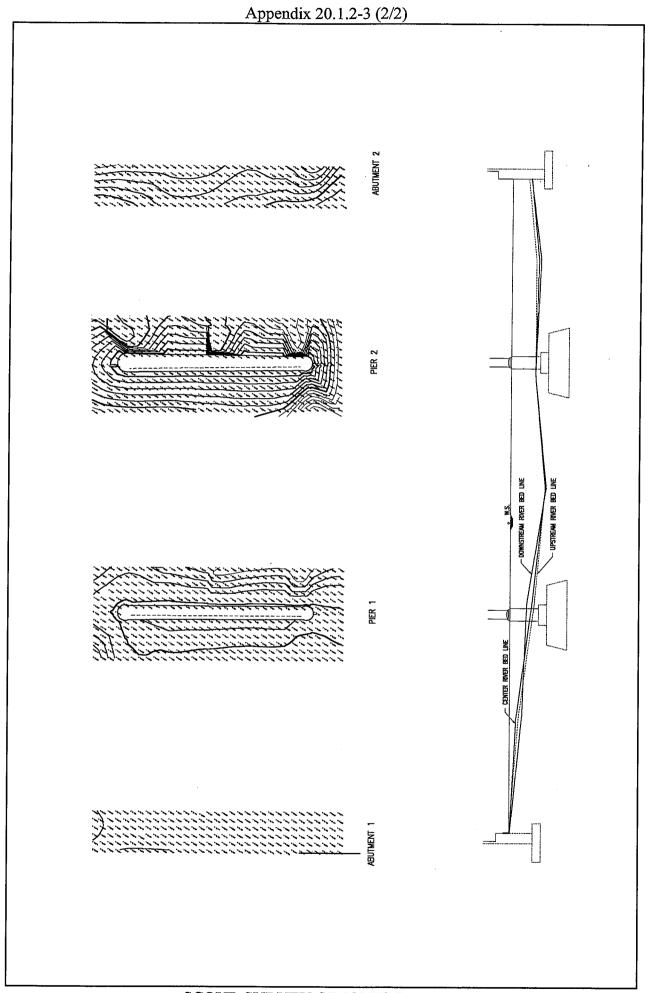




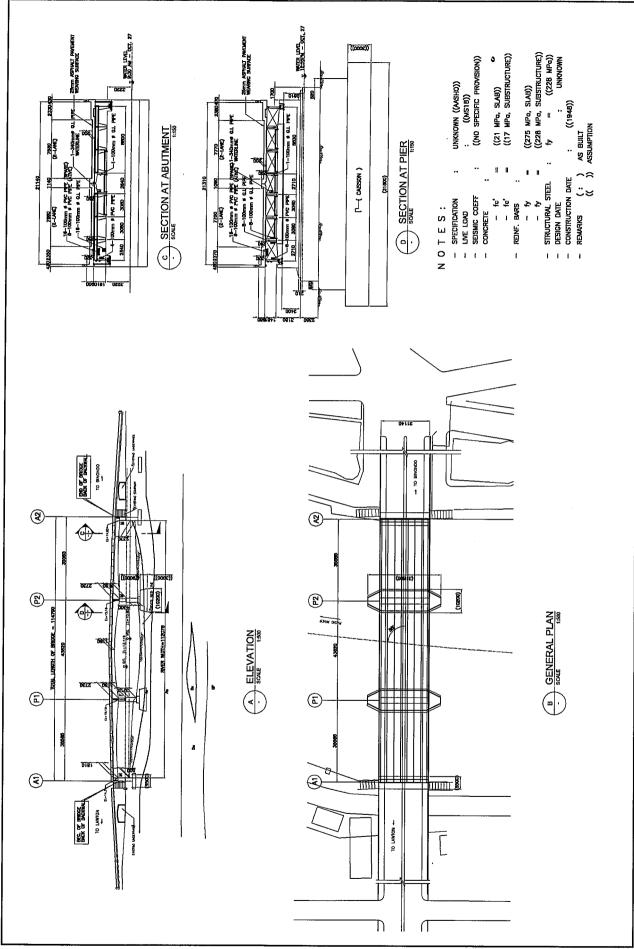




SCOUR SURVEY OF JONES BRIDGE



SCOUR SURVEY OF JONES BRIDGE

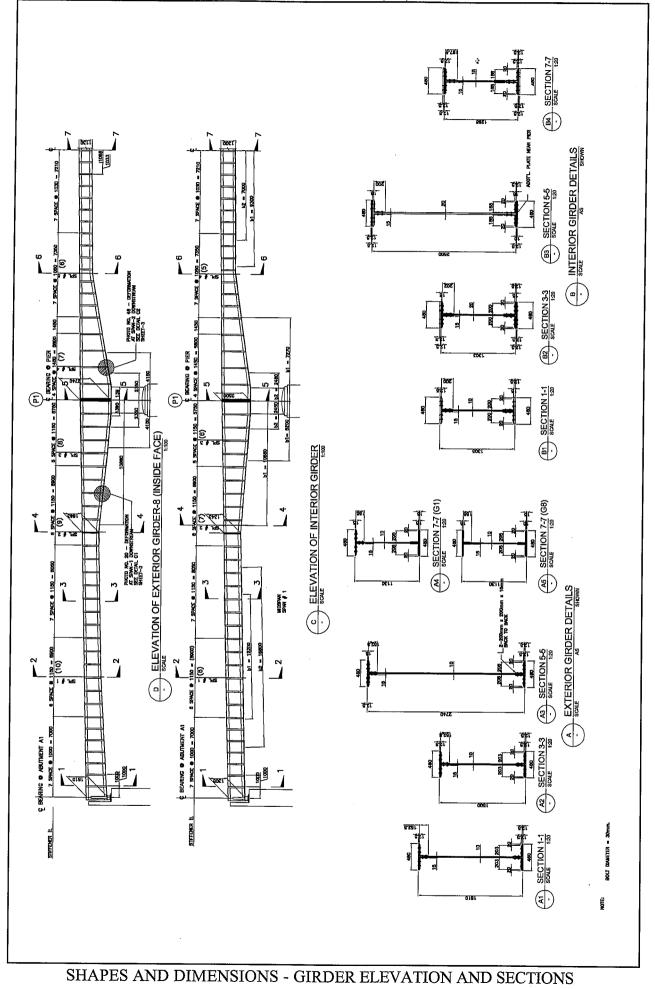


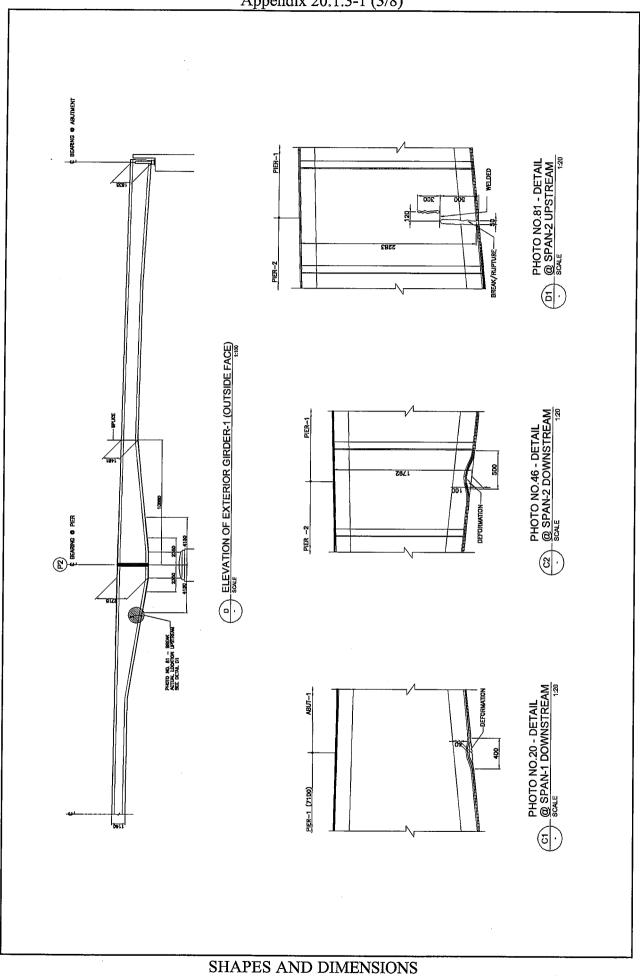
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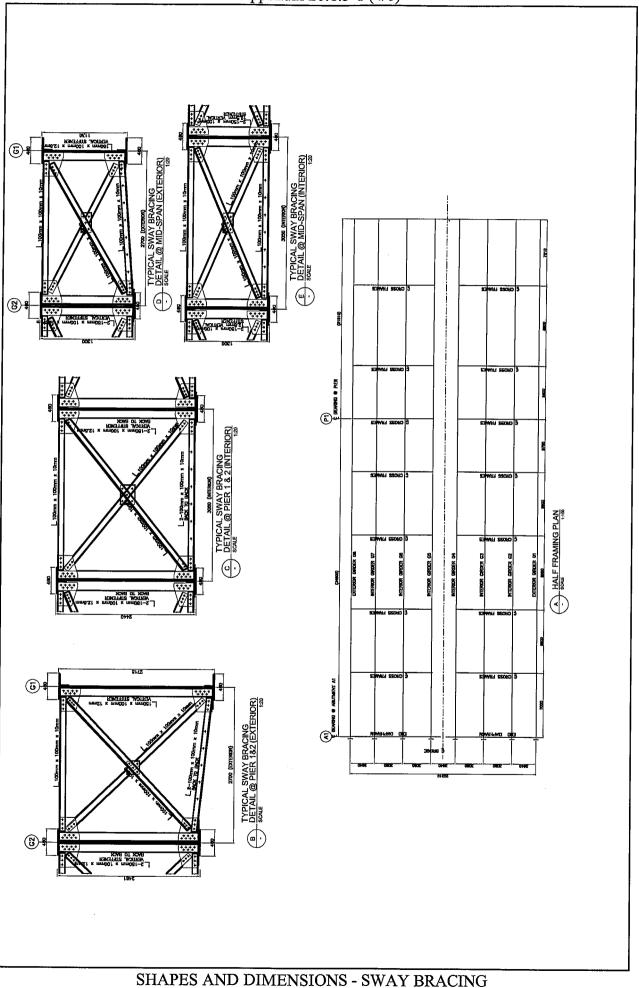
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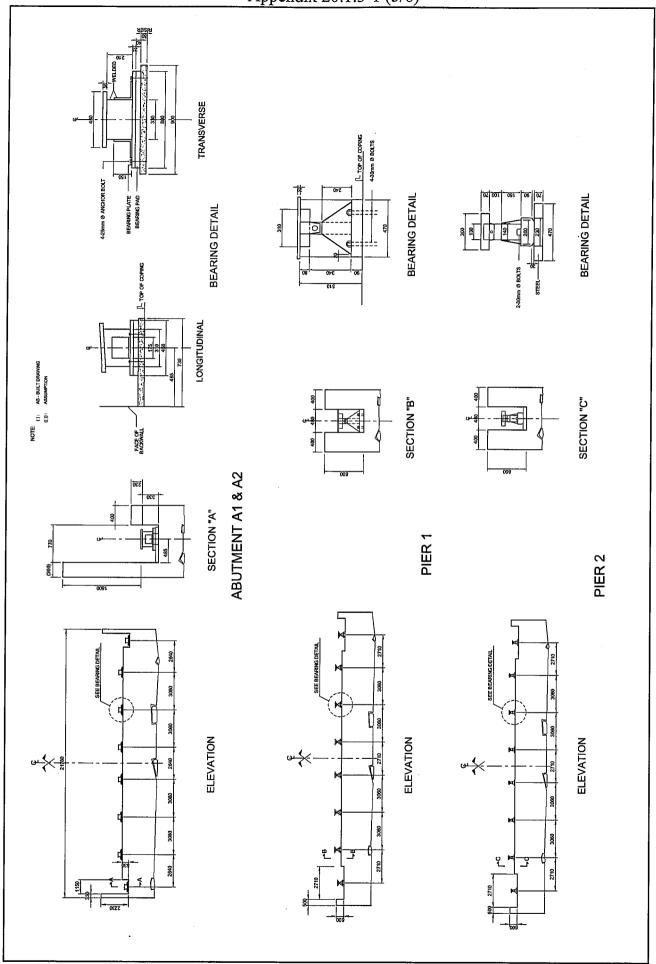
GIRDER ELEVATION AND DAMAGE DETAILS



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Appendix 20.1.3-1 (4/8)

A.20 - 9

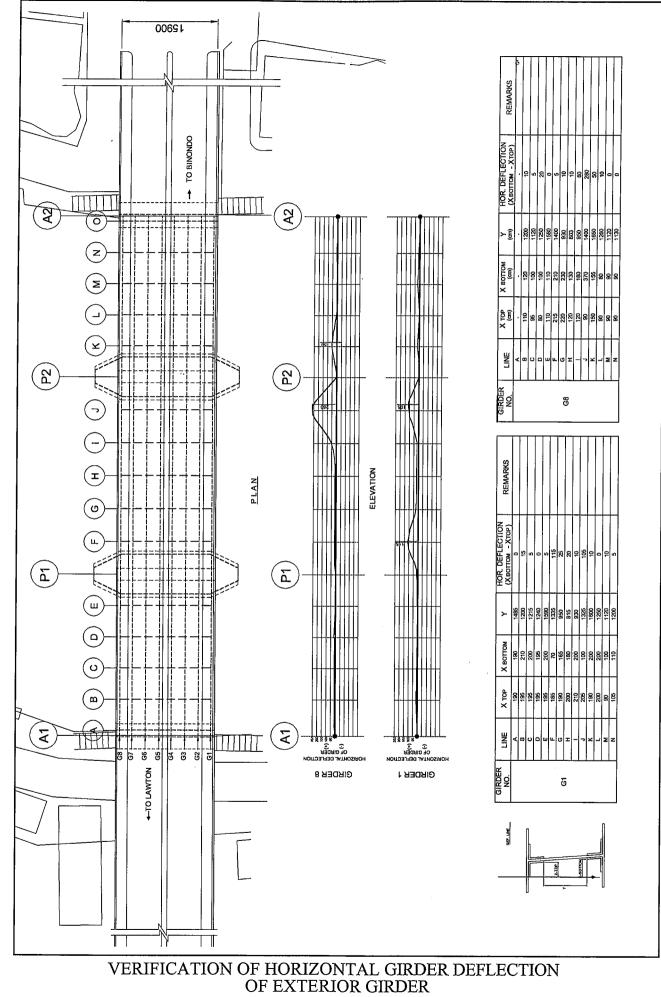


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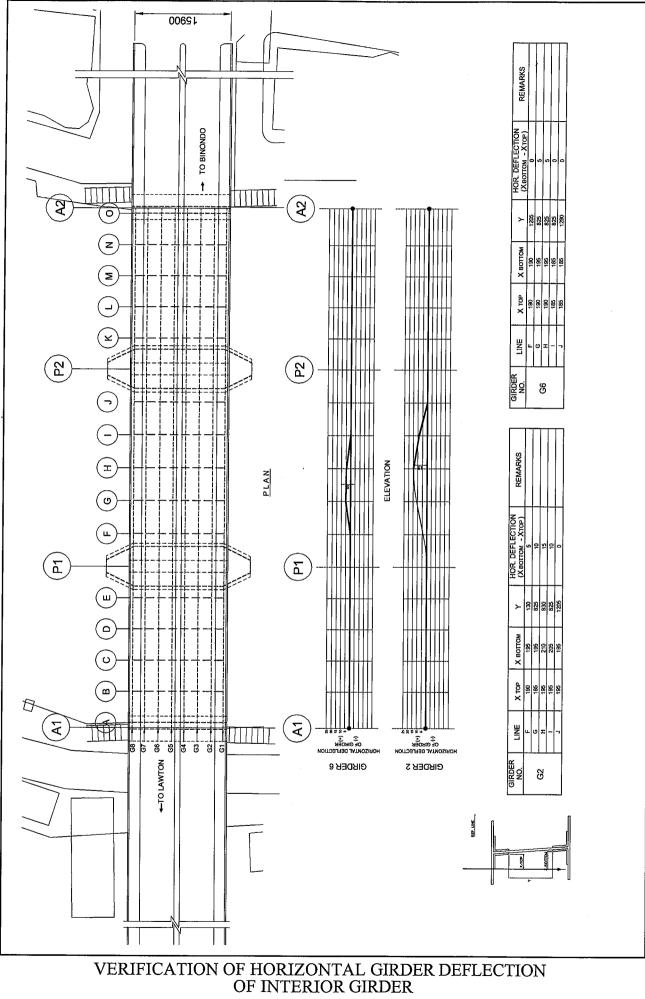
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SHAPES AND DIMENSIONS SUBSTRUCTURE WITH BEARINGS

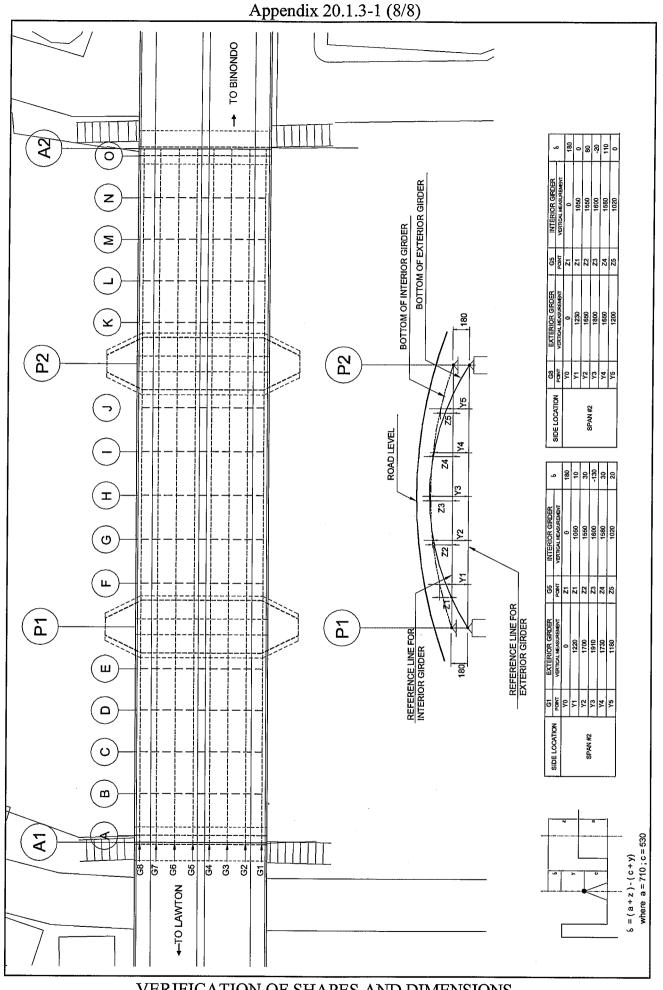
A.20 - 10



A.20 - 11



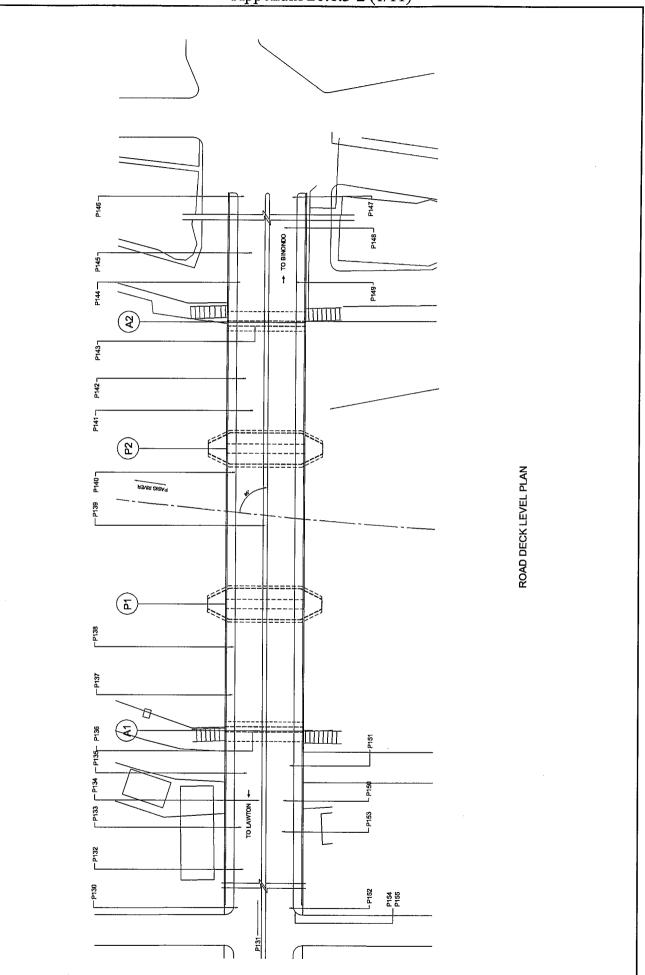
A.20 - 12



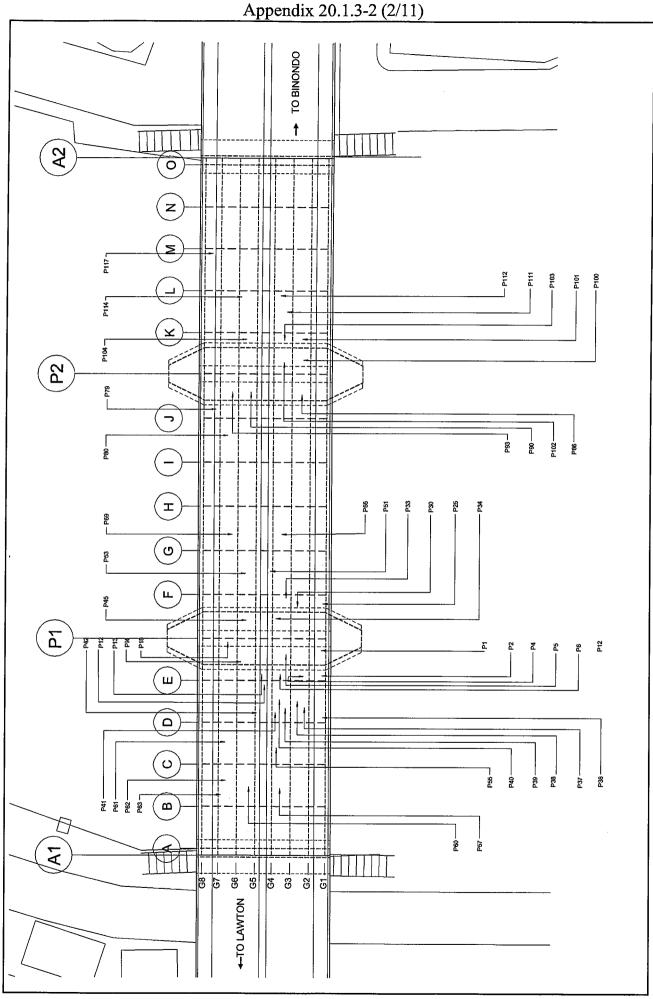
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VERIFICATION OF SHAPES AND DIMENSIONS MAIN GIRDER VERTICAL OFFSETS OF CENTER SPAN (G2 & G6)

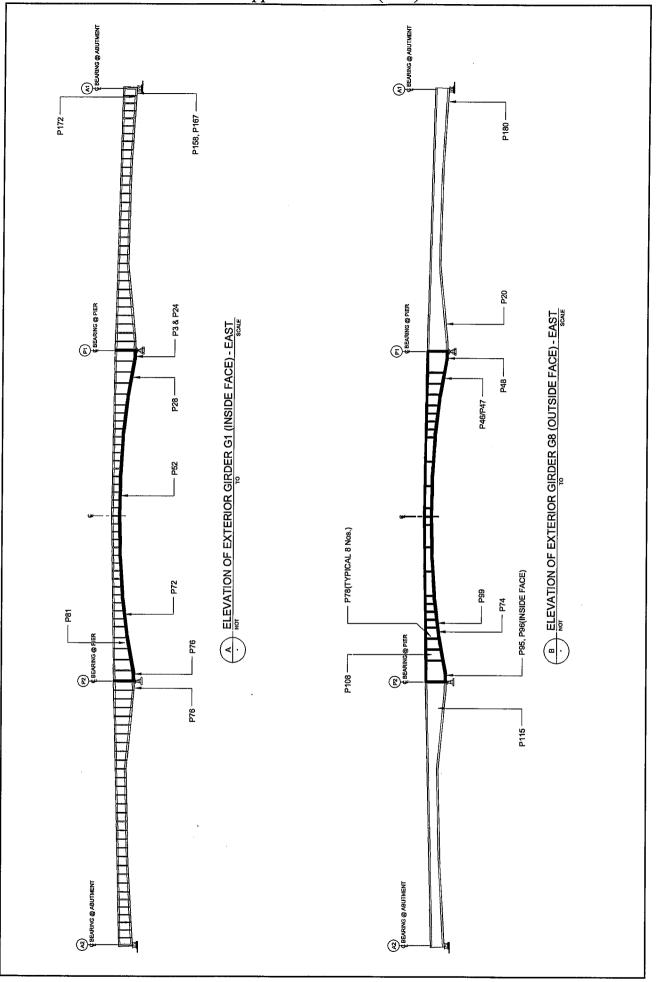


MAPPING OF DAMAGE - ROAD DECK LEVEL



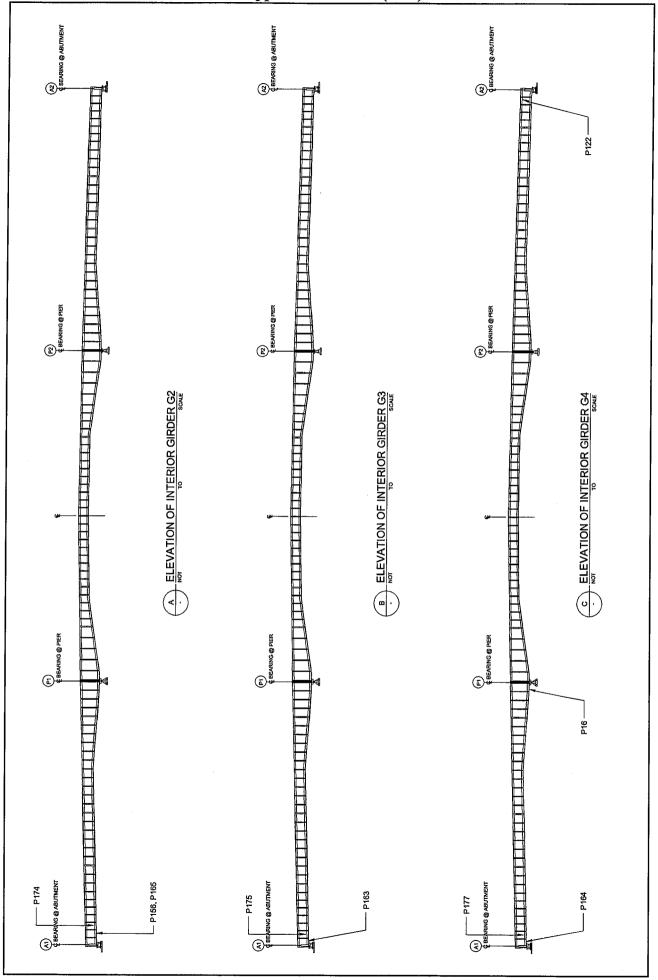
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MAPPING OF DAMAGE - BELOW DECK LEVEL



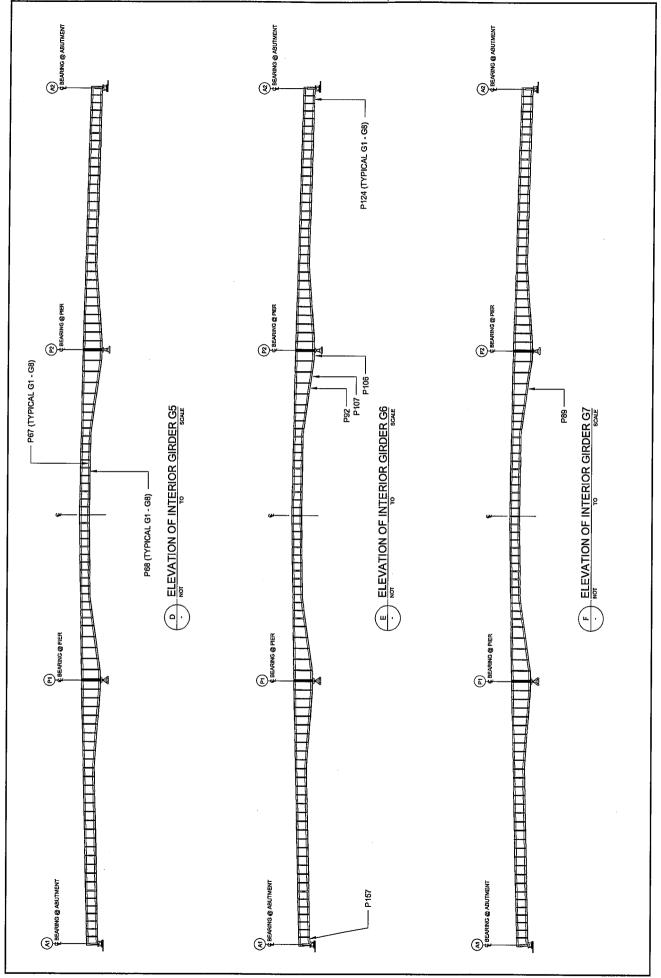
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MAPPING OF DAMAGE - EXTERIOR MAIN GIRDER

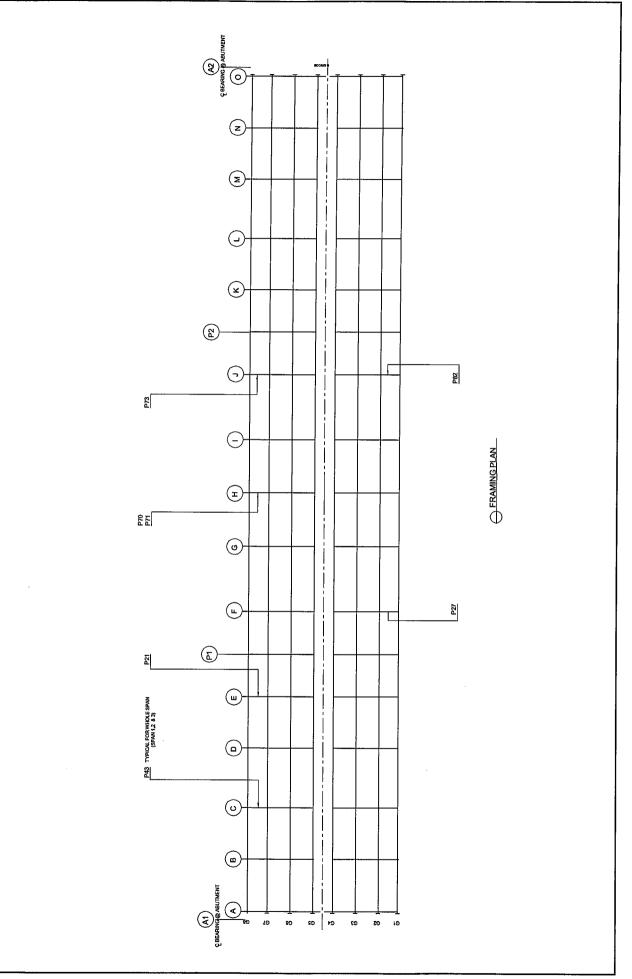


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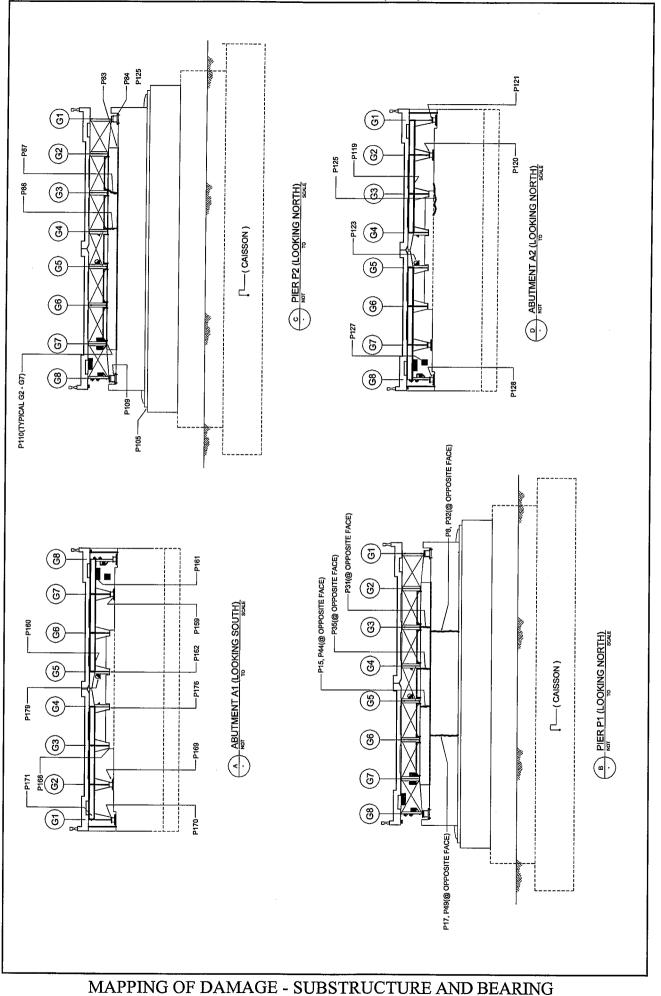
MAPPING OF DAMAGE - INTERIOR MAIN GIRDER



MAPPING OF DAMAGE - INTERIOR MAIN GIRDER



MAPPING OF DAMAGE - SWAY BRACING



Appendix 20.1.3-2 (8/11)

	0.1.3-2 (8/11)				
		TYPE	CRACK		
			X -		
CPACK O VELE CONTLOTION OF	Duvior	EVALUATION	Y HIGH		
	DAMAGE	RATING	Z		
		DAMAGE CONDITION	(FOR TESTING)		
	BOTTOM FLANGE WELDED CONNECTION	VIEW	PHOTO FILENAME		
- Ri	GIRDER G1 @ BEARING SUPPORT P2	NORTH	P76		
		TYPE	FRACTURE		
			X -		
	DAMAGE	EVALUATION	Y HIGH Z -		
		RATING	11		
		DAMAGE CONDITION	DAMAGE DUE TO VESSEL COLLISION		
	BOTTOM FLANGE & WEB	VIEW	PHOTO FILENAME		
	GIRDER G1, SPAN 2 GRID J-P2	EAST	P81		
		TYPE	DEDODUATION		
_		1176	DEPORMATION		
Q	DAMAGE	EVALUATION	Y LOW Z -		
		RATING	 		
•		DAMAGE CONDITION	△ = 30mm DUE TO VESSEL COLLISION		
DEFORMED WEB OF GB & SEAN 3	GIRDER WEB	VIEW	PHOTO FILENAME		
SPIDULL #115	G8 @ SPAN 3 GRID KL	EAST P115			
		TYPE			
			CRACK		
		EVALUATION	Y HIGH		
	DAMAGE	RATING	z		
		DAMAGE CONDITION	DAMAGE DUE TO VESSEL COLLISION		
	BOTTOM FLANGE				
	G8 @ SUPPORT	NORTH	P95		
		TYPE	CORROSION X -		
		EVALUATION	Y LOW		
	DAMAGE	RATING	Z HIGH II		
		DAMAGE			
			PHOTO FILENAME		
CORRCIZED BEARING SUPPORT BODY OF T	SUPPORT BEARING BODY VIEW				
C* A)	G1 @ ABUTMENT A1	EAST	P170		
		TYPE	CORROSION		
	. [х -		
	DAMAGE	EVALUATION	Y LOW		
		RATING	Z HIGH		
		DAMAGE CONDITION			
COMPUTED DO	END DIAPHRAGM	VIEW	PHOTO FILENAME		
#177	BETWEEN G1, G2, A1	NORTHWEST	· · · · · · · · · · · · · · · · · · ·		

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Appendix 20.1.3-2 (9/11)

		TYPE	CORROSION
		EVALUATION	Y LOW
	DAMAGE		Z LOW
		RATING	
		DAMAGE CONDITION	
CORRODED BEARING	SUPPORT BEARING BODY	VIEW	PHOTO FILENAME
29 Al #FIGE	G3 @ ABUTMENT A1	EAST	P168
		TYPE	CORROSION
j de la companya de			X -
		EVALUATION	Y LOW
	DAMAGE	DATING	Z HIGH
		RATING DAMAGE	
		CONDITION	
CONTRACTOR BUSINESS	SUPPROT BEARING BODY	VIEW	PHOTO FILENAME
CORRECTED BUILT CORRECT	G4 @ ABUTMENT A1	WEST	P176
		TYPE	CORROSION
		EVALUATION	X - Y LOW
	DAMAGE		Z HIGH
		RATING	
		DAMAGE · CONDITION	RUST SPREAD OVER WHOLE MEMBER
	TELECOM UTILITIES	VIEW	PHOTO FILENAME
	BETWEEN G4, G5 @ A1	SOUTH	P179
		TYPE	CORROSION
		EVALUATION	X - Y LOW
	DAMAGE		
	DAMAGE		Z HIGH
T C	DAMAGE	RATING	Z HIGH II
J E	DAMAGE	DAMAGE	
	BOTTOM FLANGE & WEB		
	BOTTOM FLANGE & WEB CONNECTION	DAMAGE CONDITION VIEW	II PHOTO FILENAME
	BOTTOM FLANGE & WEB	DAMAGE CONDITION	11
	BOTTOM FLANGE & WEB CONNECTION	DAMAGE CONDITION VIEW	II PHOTO FILENAME P162 HONEYCOMB
	BOTTOM FLANGE & WEB CONNECTION	DAMAGE CONDITION VIEW TOP TYPE	II PHOTO FILENAME P162 HONEYCOMB
	BOTTOM FLANGE & WEB CONNECTION	DAMAGE CONDITION VIEW TOP	II PHOTO FILENAME P162 HONEYCOMB
	BOTTOM FLANGE & WEB CONNECTION G5 @ SUPPORT BEARING A1	DAMAGE CONDITION VIEW TOP TYPE	II PHOTO FILENAME P162 HONEYCOMB X - Y LOW
	BOTTOM FLANGE & WEB CONNECTION G5 @ SUPPORT BEARING A1	DAMAGE CONDITION VIEW TOP TYPE EVALUATION	II PHOTO FILENAME P162 HONEYCOMB X Y LOW Z HIGH
CRECCHE C	BOTTOM FLANGE & WEB CONNECTION G5 @ SUPPORT BEARING A1	DAMAGE CONDITION VIEW TOP TYPE EVALUATION RATING DAMAGE	II PHOTO FILENAME P162 HONEYCOMB X Y LOW Z HIGH II
	BOTTOM FLANGE & WEB CONNECTION G5 @ SUPPORT BEARING A1 DAMAGE	DAMAGE CONDITION VIEW TOP EVALUATION RATING DAMAGE CONDITION	II PHOTO FILENAME P162 HONEYCOMB X - Y LOW Z HIGH II A=6.00 sq.m.
ERE CONE C	BOTTOM FLANGE & WEB CONNECTION G5 @ SUPPORT BEARING A1 DAMAGE BACKWALL	DAMAGE CONDITION VIEW TOP EVALUATION RATING DAMAGE CONDITION VIEW	II PHOTO FILENAME P162 HONEYCOMB X - Y LOW Z HIGH II A=6.00 sq.m. PHOTO FILENAME
ERECCHE C	BOTTOM FLANGE & WEB CONNECTION G5 @ SUPPORT BEARING A1 DAMAGE BACKWALL	DAMAGE CONDITION VIEW TOP EVALUATION RATING DAMAGE CONDITION VIEW SOUTHEAST	II PHOTO FILENAME P162 HONEYCOMB X - Y LOW Z HIGH II A=6.00 sq.m. PHOTO FILENAME P160 CORRISION
ERECCHE C	BOTTOM FLANGE & WEB CONNECTION G5 @ SUPPORT BEARING A1 DAMAGE BACKWALL	DAMAGE CONDITION VIEW TOP EVALUATION RATING DAMAGE CONDITION VIEW SOUTHEAST	II PHOTO FILENAME P162 HONEYCOMB X - Y LOW Z HIGH II A=6.00 sq.m. PHOTO FILENAME P160 CORRISION
ERE CONE C	BOTTOM FLANGE & WEB CONNECTION G5 @ SUPPORT BEARING A1 DAMAGE BACKWALL	DAMAGE CONDITION VIEW TOP EVALUATION RATING DAMAGE CONDITION VIEW SOUTHEAST TYPE	II PHOTO FILENAME P162 HONEYCOMB X - Y LOW Z HIGH II A=6.00 sq.m. PHOTO FILENAME P160 CORRISION X -
ERECCHE C	BOTTOM FLANGE & WEB CONNECTION G5 @ SUPPORT BEARING A1 DAMAGE BACKWALL ABUTMENT A1	DAMAGE CONDITION VIEW TOP EVALUATION RATING DAMAGE CONDITION VIEW SOUTHEAST TYPE	II PHOTO FILENAME P162 HONEYCOMB X - Y LOW Z HIGH II A=6.00 sq.m. PHOTO FILENAME P160 CORRISION X - Y LOW
ERECE AL HEREFCOMBICE HEREFC	BOTTOM FLANGE & WEB CONNECTION G5 @ SUPPORT BEARING A1 DAMAGE BACKWALL ABUTMENT A1	DAMAGE CONDITION VIEW TOP EVALUATION RATING DAMAGE CONDITION VIEW SOUTHEAST TYPE EVALUATION	II PHOTO FILENAME P162 HONEYCOMB X Y LOW Z HIGH II A=6.00 sq.m. PHOTO FILENAME P160 CORRISION X Y LOW Z
CONS CE AL	BOTTOM FLANGE & WEB CONNECTION G5 @ SUPPORT BEARING A1 DAMAGE BACKWALL ABUTMENT A1	DAMAGE CONDITION VIEW TOP EVALUATION RATING DAMAGE CONDITION VIEW SOUTHEAST TYPE EVALUATION RATING DAMAGE	II PHOTO FILENAME P162 HONEYCOMB X - Y LOW Z HIGH II A=6.00 sq.m. PHOTO FILENAME P160 CORRISION X - Y LOW Z HIGH II RUST SPREAD OVER

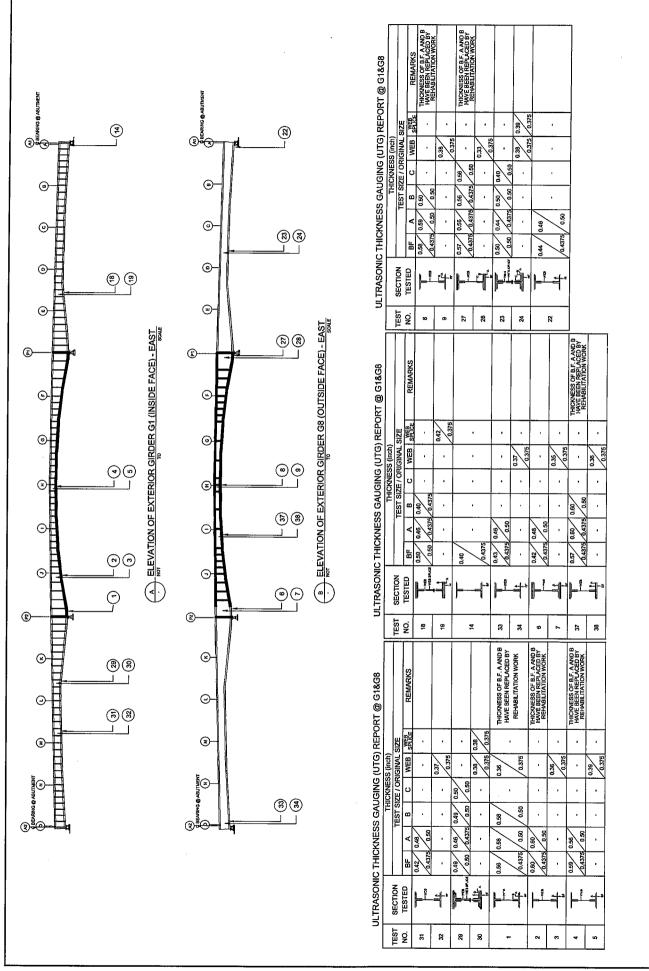
			· ···· ·	
		TYPE	FRACTURE/MISSING	
			x -	
		EVALUATION	Y HIGH	
	DAMAGE	RATING	z .	
		DAMAGE	II TYPICAL TO NOS.	
		CONDITION	LOCATION	
	SWAY BRACING V			
	BETWEEN G7, G8, J	NORTH	P73	
	· · · · · ·	TYPE	FRACTURE	
			x -	
	DAMAGE	EVALUATION	Y HIGH	
	DAMAGE	RATING	z -	
<i>A</i> *1		DAMAGE	DAMAGE DUE TO	
	SWAY BRACING	CONDITION	VESSEL COLLISION PHOTO FILENAME	
	G1, G2, J	SOUTH	P82	
and the second se		TYPE	CORROSION	
			Х -	
	DAMAGE	EVALUATION	Y LOW	
	Drink IOL	RATING	Z HIGH	
		DAMAGE CONDITION	RUST OVER WHOLE BODY	
	ROCKING BEARING SUPPORT VIEW		PHOTO FILENAME	
	G8 PIER P2	SOUTHWEST	P109	
	(
		TYPE	CORROSION X	
	DAMAGE	EVALUATION	Y LOW	
			Z HIGH	
		RATING DAMAGE	II RUST SPREAD OVER	
CORROSION OF TAXA		CONDITION	WHOLE MEMBER	
CORROSION OF BOT FLNG I WEB CONN C SUPP (M) OF 01	BOTTOM FLANGE & WEB CONNECTION	VIEW	PHOTO FILENAME	
#158	G1 NEAR SUPPORT BEARING A1	ТОР	P158	
		TYPE	CORROSION	
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	X -	
		EVALUATION	Y LOW	
	DAMAGE	RATING	Z HIGH	
		DAMAGE		
		CONDITION		
Concercies and	BOTTOM FLANGE	VIEW	PHOTO FILENAME	
	G1 NEAR SUPPORT BEARING A1	UP	P167	
		TYPE	CRACK	
			x	
			Y HIGH	
	DAMAGE		z -	
		RATING		
		DAMAGE CONDITION	DUE TO VESSEL COLLISION	
	WELDED CONNECTION BOTTOM FLANGE	VIEW	PHOTO FILENAME	
	G1, GRID, J SPAN 2	UP	P72	

Appendix 20.1.3-2 (10/11)

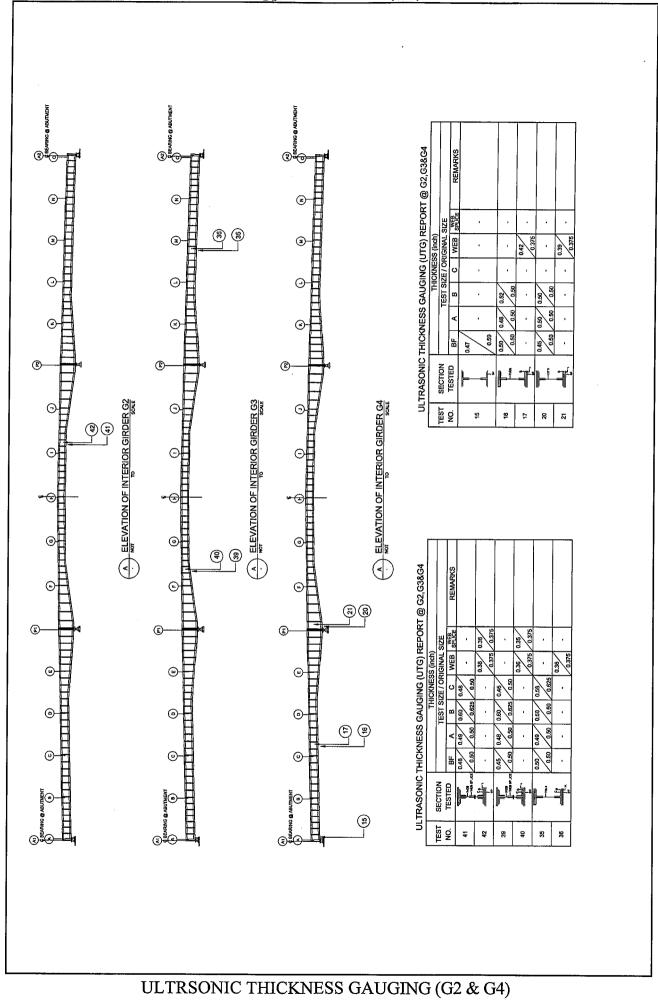
Appendix 20.1.3-2 (11/11)

	····	TYPE	CRACK FISSURE	
A CARL OF COMPANY			X -	
GREAR 1 COROS SOTIEM TOMAR MORE	DAMAGE	EVALUATION	Y HIGH	
	Di Minice	RATING	<u> </u>	
		DAMAGE CONDITION	TYPICAL TO 3 NOS. (FOR TESTING)	
	BOTTOM FLANGE	VIEW	PHOTO FILENAME	
	G1-G, SPAN 2	UP	P52	
	·····			
	DAMAGE	TYPE	DEFORMATION X -	
		EVALUATION	Y HIGH	
		RATING	Z - 	
		DAMAGE	DAMAGE DUE TO	
	BOTTOM FLANGE	VIEW	VESSEL COLLISION PHOTO FILENAME	
	G8 @ SUPPORT P2	NORTH	P96	
		TYPE	MIS-ALIGNMENT	
		EVALUATION	X - Y HIGH	
	DAMAGE	DATING	Z -	
		RATING DAMAGE	II DUE TO VESSEL	
		CONDITION	COLLISION	
	GIDER ALIGNMENT	VIEW	PHOTO FILENAME	
	G8 PIER P2	SOUTH	P108	
		TYPE	DEFORMATION	
		EVALUATION	X - Y HIGH	
	DAMAGE		Z -	
		RATING		
		DAMAGE CONDITION	DAMAGED DUE TO VESSEL COLLISION	
	BOTTOM FLANGE	VIEW	PHOTO FILENAME	
	G8 @ SPAN 2	SOUTH	P99	
		TYPE	DEFORMATION	
			X -	
	DAMAGE	EVALUATION	Y HIGH	
		RATING	11	
		DAMAGE CONDITION	Δ = 100mm DAMAGE DUE TO VESSEL	
State 2	BOTTOM FLANGE	VIEW	COLUSION PHOTO FILENAME	
	G8 SPAN 2, 2.9m FROM P1	LOOKING EAST	P46	
· · ·				
		TYPE	VERTICAL CRACKS	
		EVALUATION	Y LOW	
	DAMAGE		Z LOW	
77777777777777777777777777777777777777		RATING		
		DAMAGE CONDITION	DAMAGE DUE TO CONSTRUCTION FAULTS	
	PIER WALL BODY	VIEW	PHOTO FILENAME	
		LUUKING	P17	
	PIER P1 BETWEEN G5-G6 @ A1 SIDE	TOWARDS ABUT A2	P17	

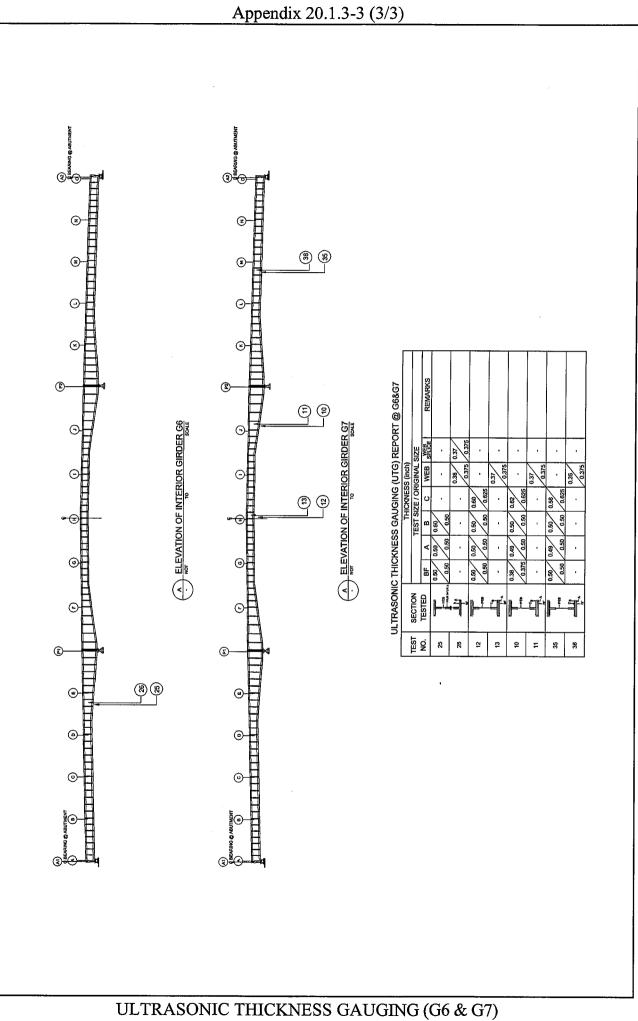
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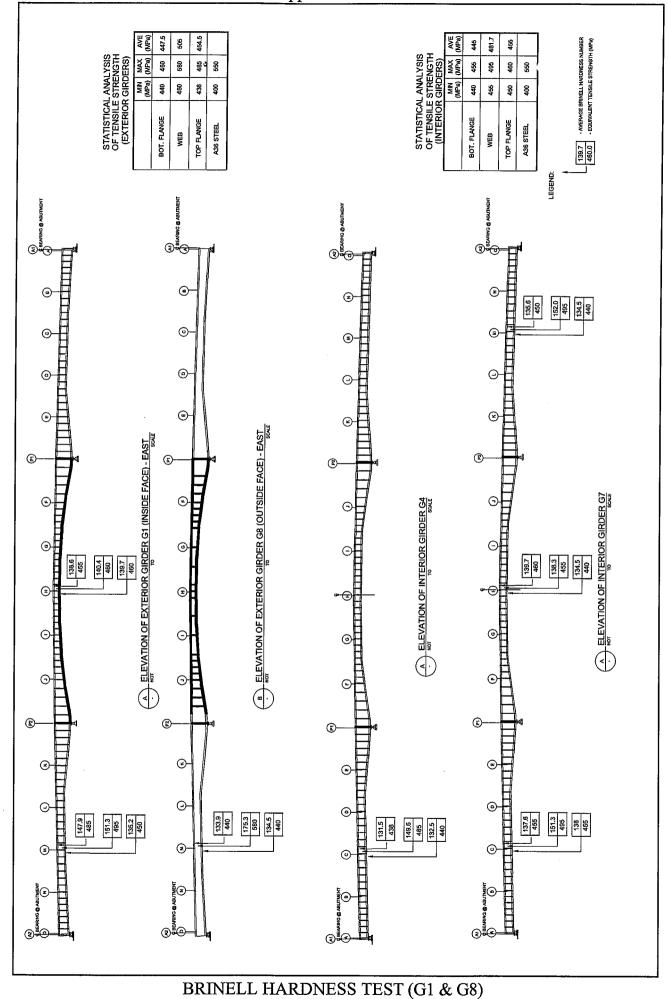


ULTRASONIC THICKNESS GAUGING (G1 & G8)

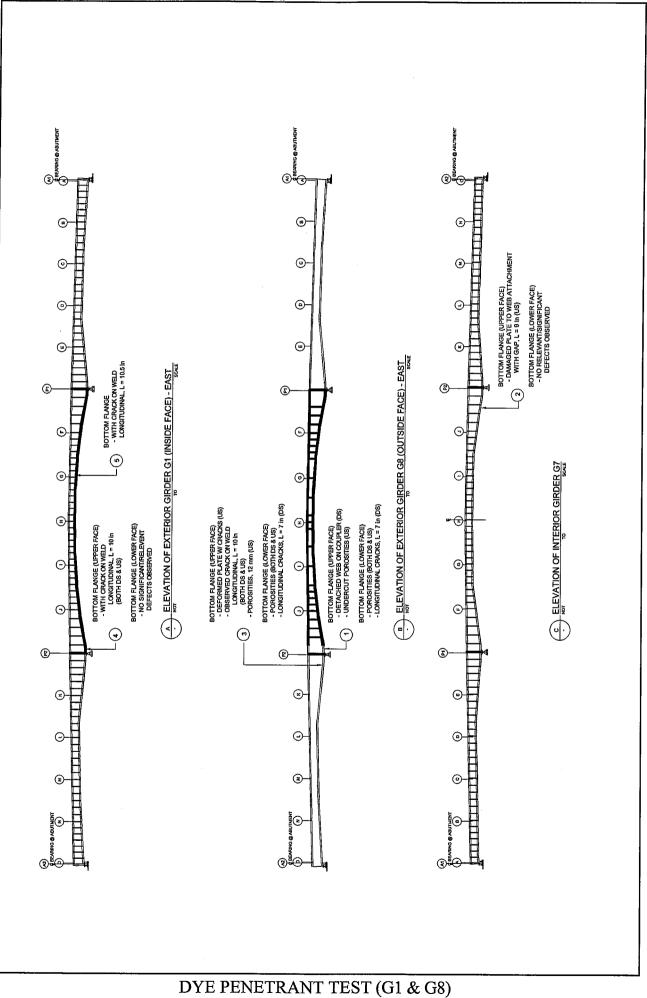


A.20 - 26



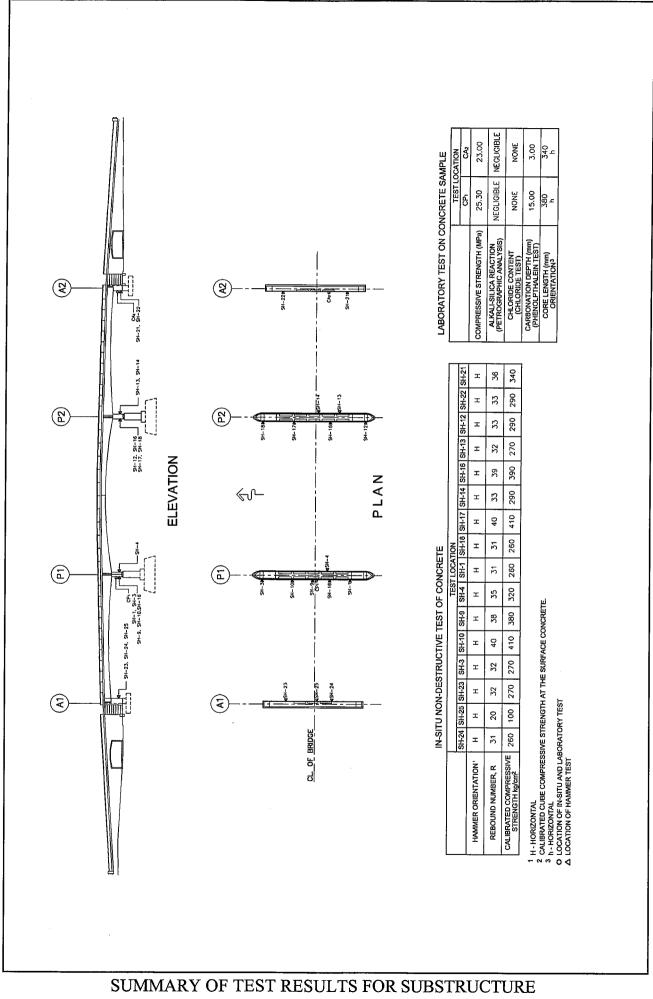


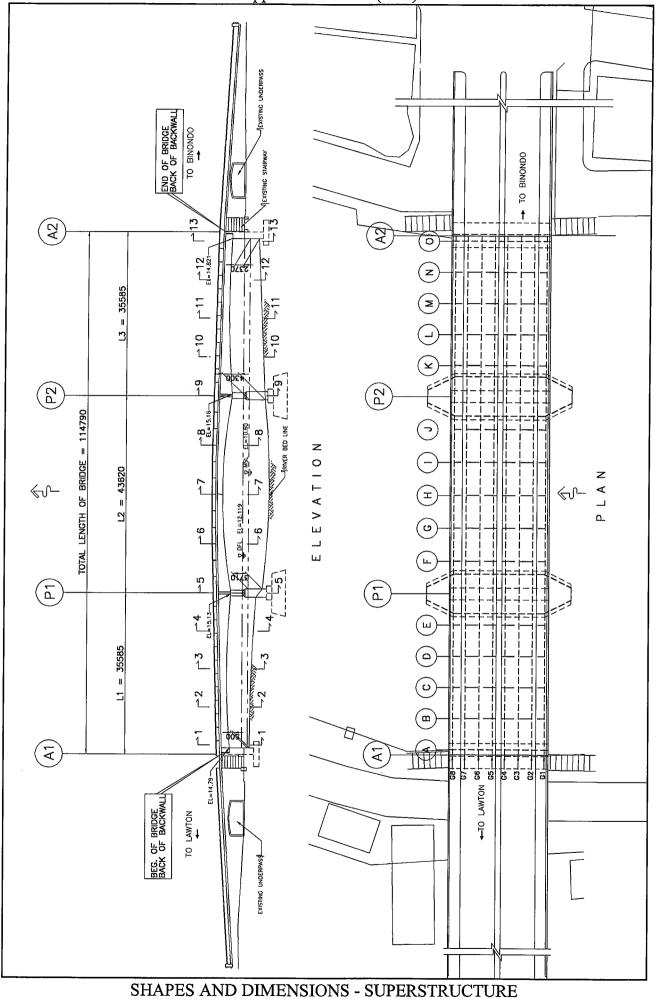
A.20 - 28



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A.20 - 29

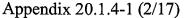


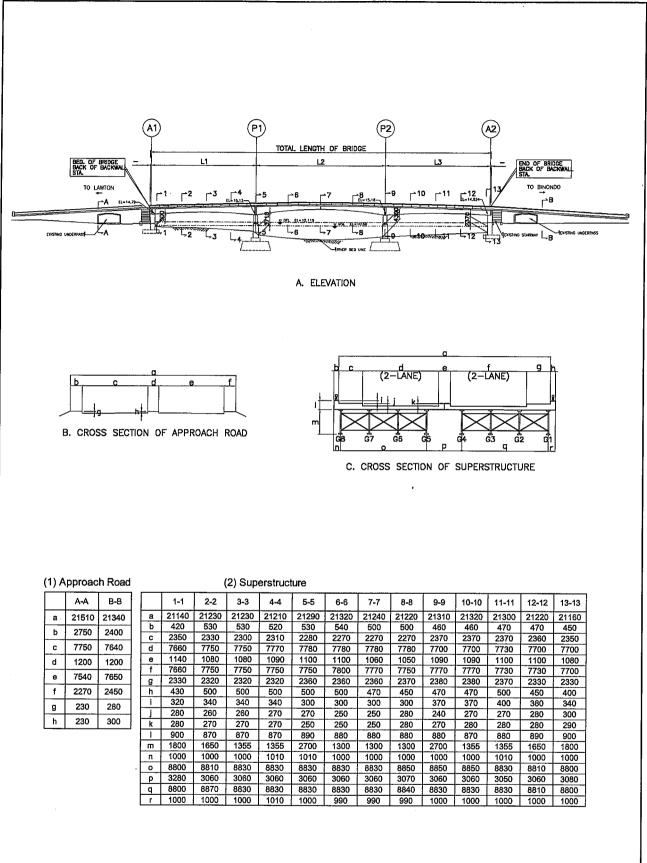


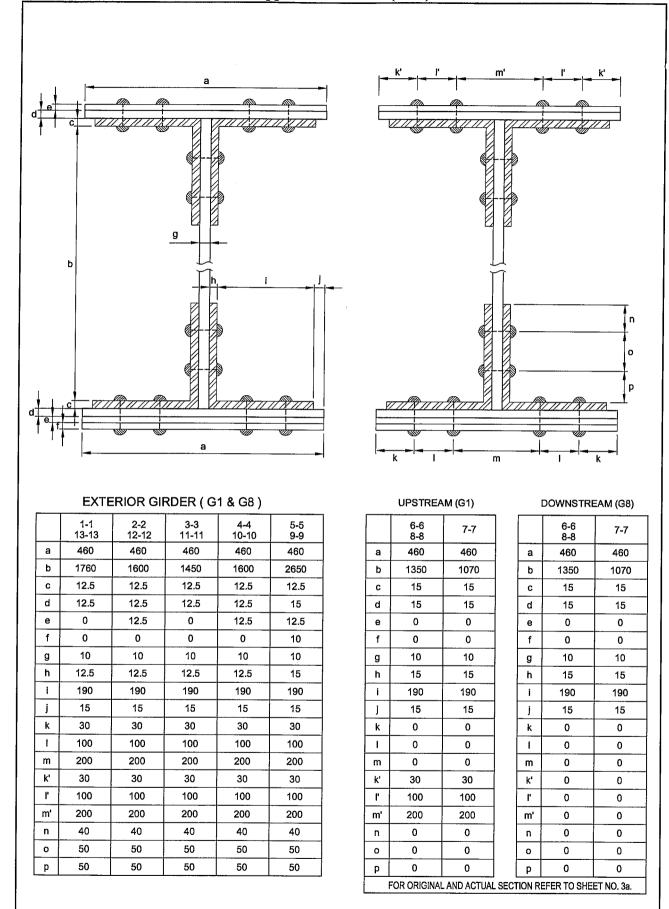
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A.20 - 31

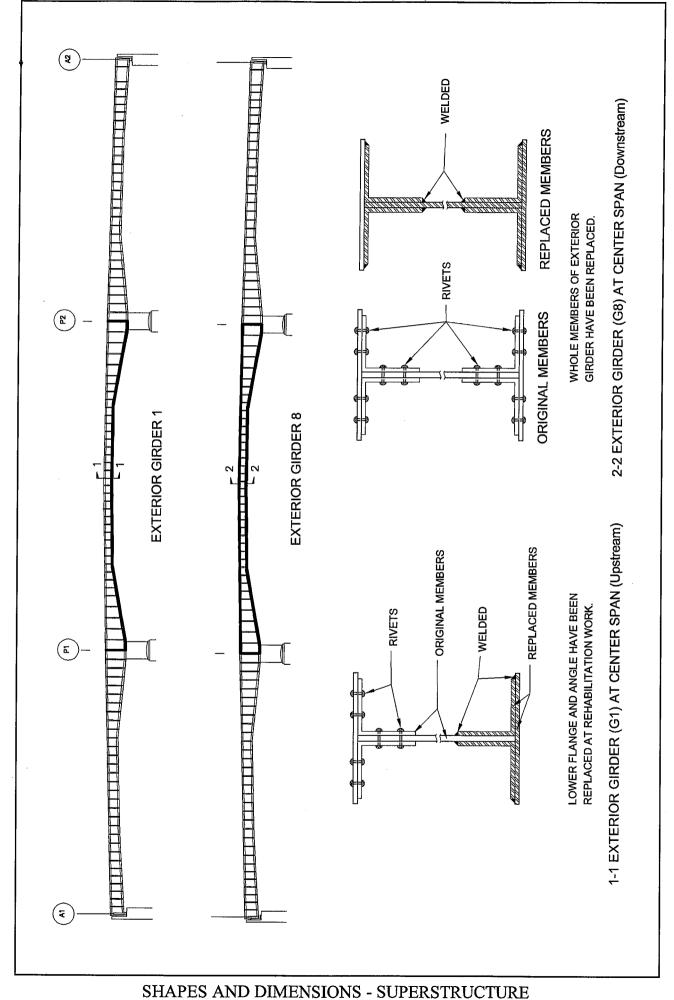
Appendix 20.1.4-1 (1/17)

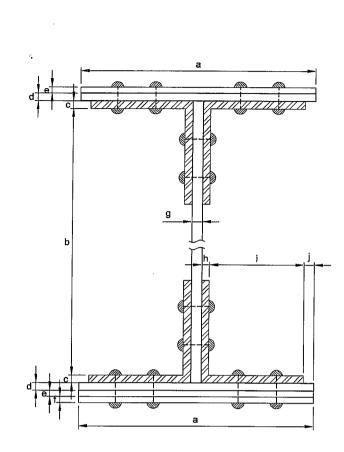


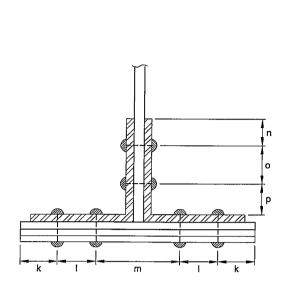




SHAPES AND DIMENSIONS - SUPERSTRUCTURE

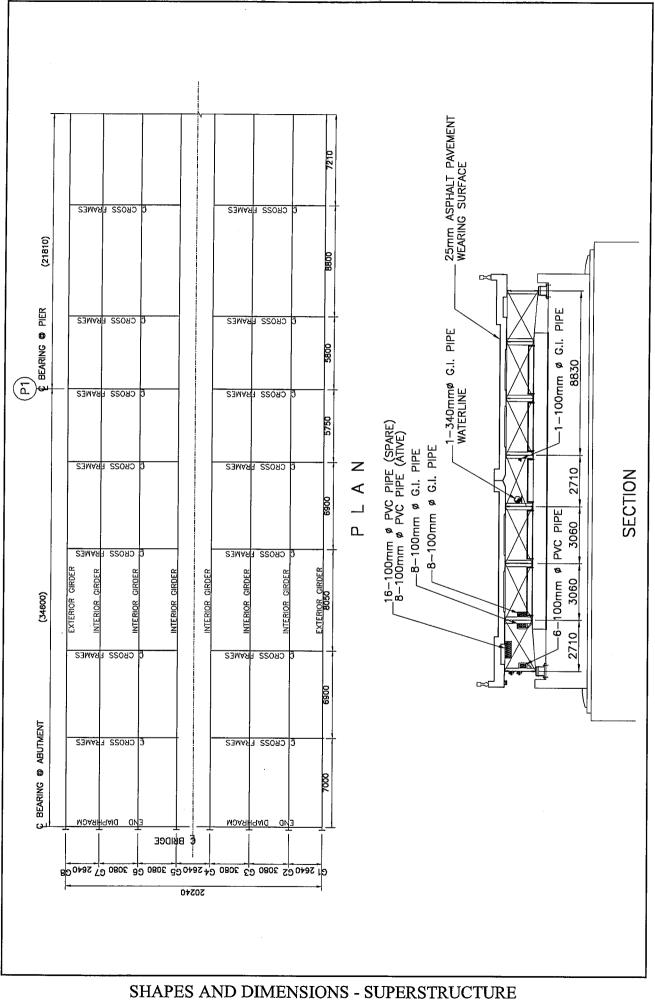




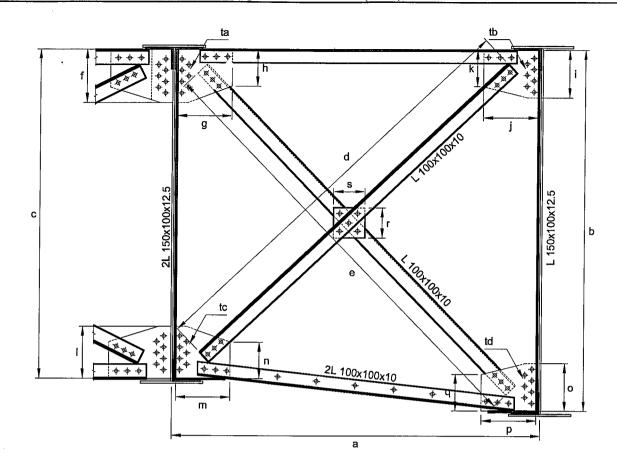


INTERIOR GIRDER (G2 TO G7)

		1-1 13-13	2-2 12-12	3-3 11-11	4-4 10-10	5-5 9-9	6-6 8-8	7-7
NOTE:	a	460	460	460	460	460	460	460
SECT. 6-6 LOCATED @ SPL # 4 (G4)	b	1250	1250	1250	1250/1210	2410	1170	1200
SECT. 8-8 LOCATED @ SPL # 5	с	15	15	15	15	15	12.5	12.5
ADDT'L. CLIP ANGLE	d	12.5	12.5	12.5	12.5	12.5	12.5	12.5
THICK = 15 4-4/10-10/6-6/8-8	е	0	12.5	12.5	12.5	12.5	12.5	12.5
ABUT. A BF THK 10mm DUE TO CORROSION	f	0	12.5	12.5	12.5	10	0	12.5
DUE TO CORROSION	g	10	20	20	20	20	20	20
	h	15	15	15	15	15	15	15
	i	185	185	185	185	185	185	185
	j	20	20	20	20	20	20	20
	k	50	50	50	50	50	50	50
	I	80	80	80	80	80	80	80
	m	200	200	200	200	200	200	200
	n	40	40	40	40	40	40	40
	ο	80	80	80	80	80	80	80
	р	65	65	65	65	65	65	65



Appendix 20.1.4-1 (7/17)



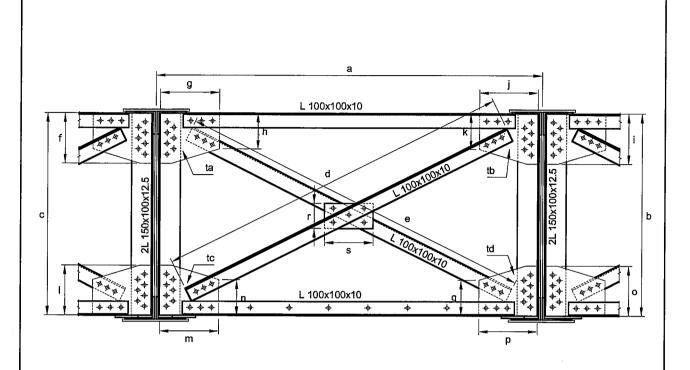
TYPICAL SWAY BRACING AT PIER 1 & 2 (EXTERIOR)

	5-5	9-9
a	2700	2700
Ь	2715	2715
с	2481	2481
d	3100	3100
е	3260	3260
f	360	360
g	400	400
h	310	310
i	360	360
j	400	400
k	310	310
I	360	360

	5-5	9-9
m	400	400
n	310	310
o	360	360
р	400	400
q	310	310
r	230	230
s	230	230
ta	12.5	12.5
tb	12.5	12.5
tc	12.5	12.5
td	12.5	12.5
te	12.5	12.5

SHAPES AND DIMENSIONS - SUPERSTRUCTURE

Appendix 20.1.4-1 (8/17)



TYPICAL SWAY BRACING AT PIER 1 & 2 (INTERIOR)

	5-5	9-9
a	3050	3050
b	2440	2440
с	2440	2440
d	3350	3350
е	3350	3350
f	340	340
g	400	400
h	290	290
i	340	340
j	400	400
k	290	290
1	340	340

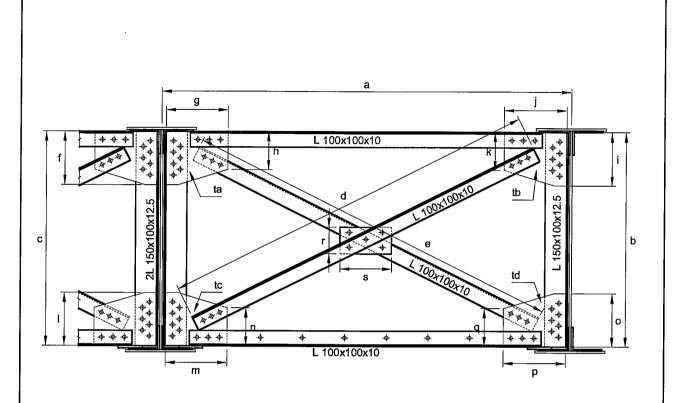
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SHAPES AND DIMENSIONS - SUPERSTRUCTURE	

m	400	400
n	290	290
o	340	340
р	400	400
q	290	290
r	200	200
s	240	240
ta	12.5	12.5
tb	12.5	12.5
tc	12.5	12.5
td	12.5	12.5
te	12.5	12.5
	n o p q r s ta tb tc td	n 290 o 340 p 400 q 290 r 200 s 240 ta 12.5 tb 12.5 tc 12.5 td 12.5

5-5

9-9

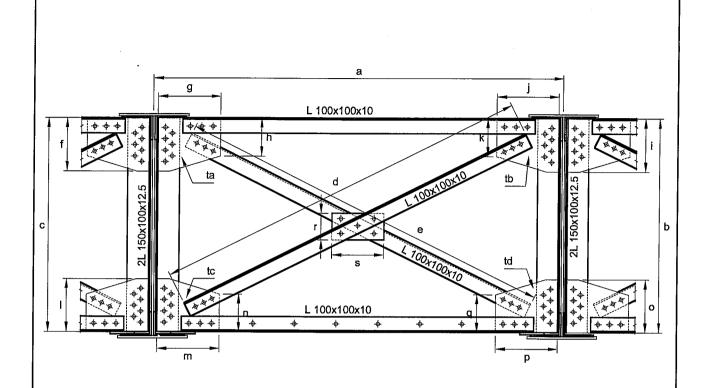


TYPICAL SWAY BRACING AT MIDSPAN (EXTERIOR)

7-7
2700
1130
1300
2450
2500
360
400
310
360
400
310
360

	7-7
m	400
n	310
0	360
p	400
q	310
г	230
s	230
ta	12.5
tb	12.5
tc	12.5
td	12.5
te	12.5

SHAPES AND DIMENSIONS - SUPERSTRUCTURE



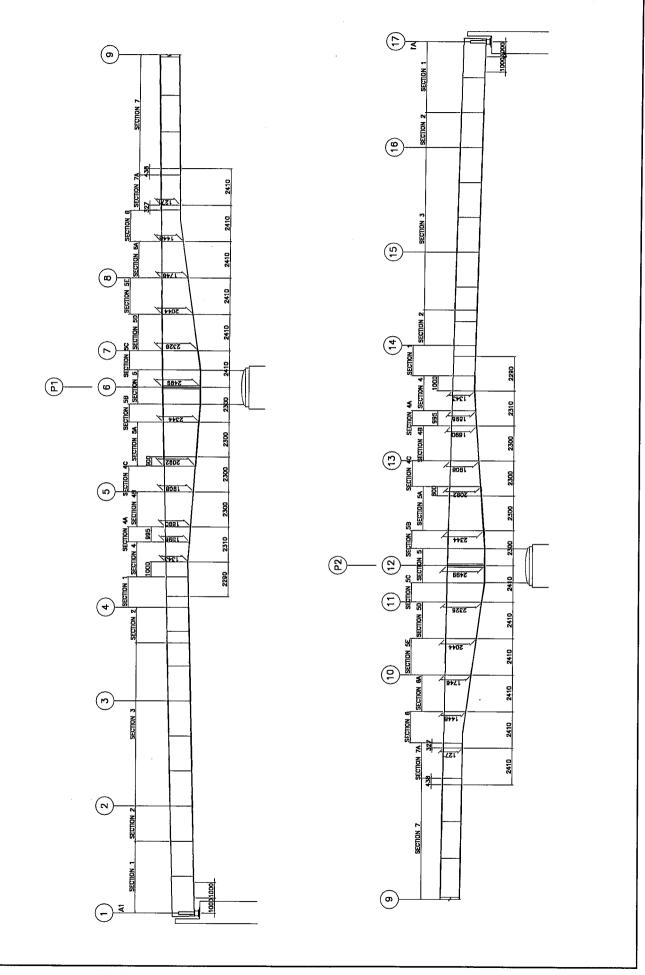
TYPICAL SWAY BRACING AT MIDSPAN (INTERIOR),

	7-7
а	3050
Ь	1300
с	1300
d	2850
e	2850
f	340
g	400
h	290
i	340
j	400
k	290
I	340

(

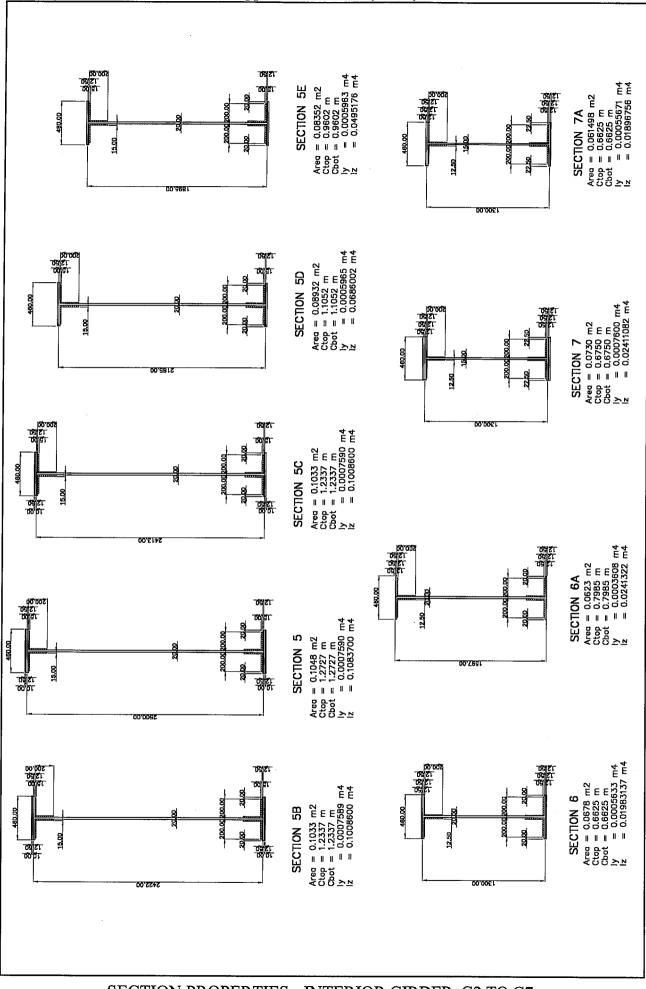
	7-7
m	400
n	290
ο	340
р	400
q	290
г	200
s	240
ta	12.5
tb	12.5
tc	12.5
td	12.5
te	12.5

SHAPES AND DIMENSIONS - SUPERSTRUCTURE

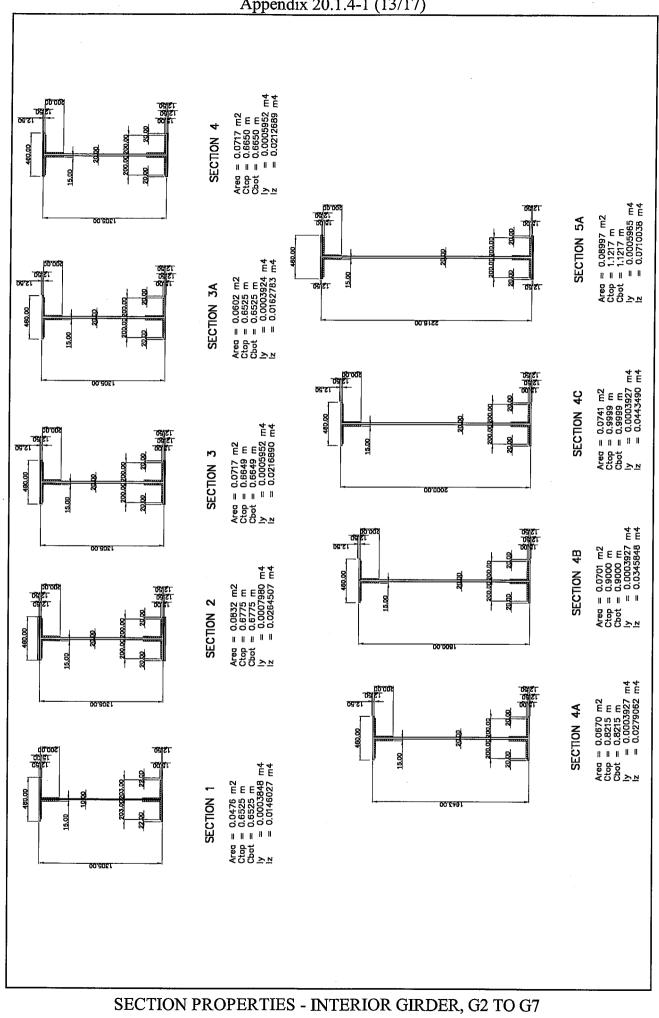


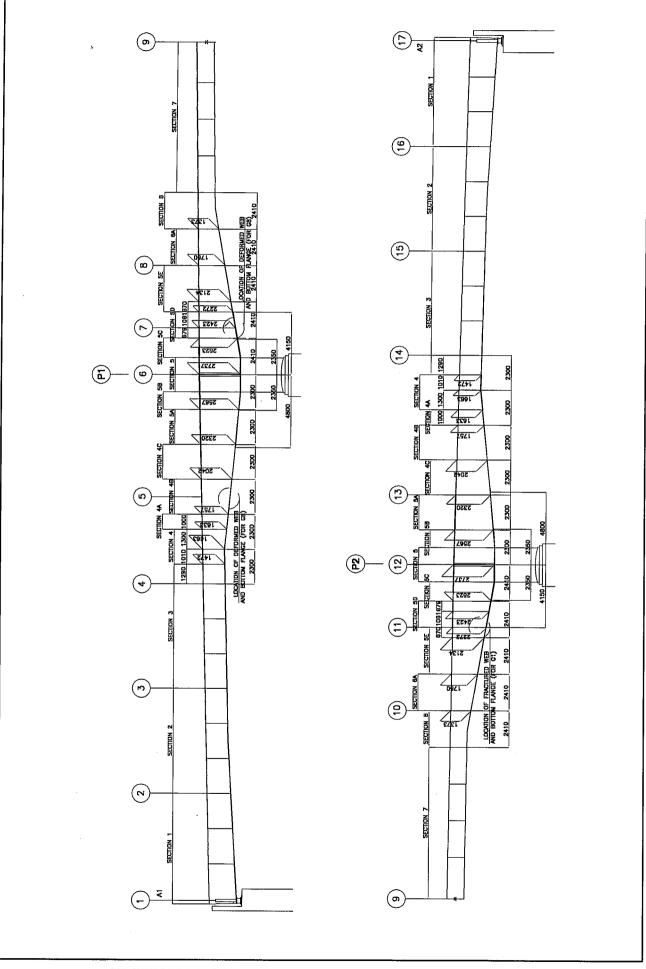
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SECTION PROPERTIES - INTERIOR GIRDER (G2 TO G7)



SECTION PROPERTIES - INTERIOR GIRDER, G2 TO G7

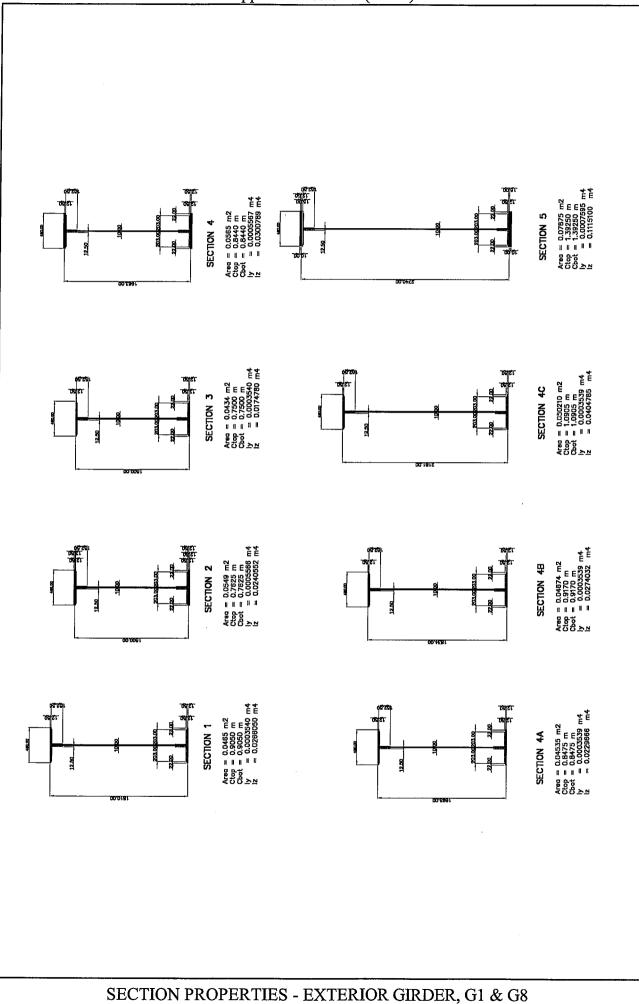




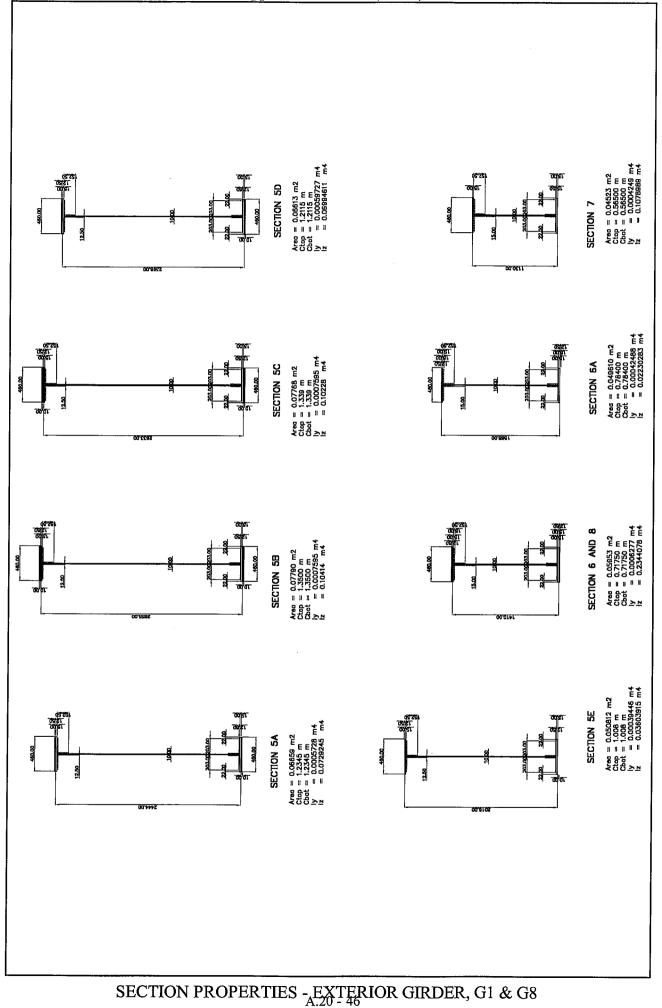
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SECTION PROPERTIES - EXTERIOR GIRDER, G1 & G8

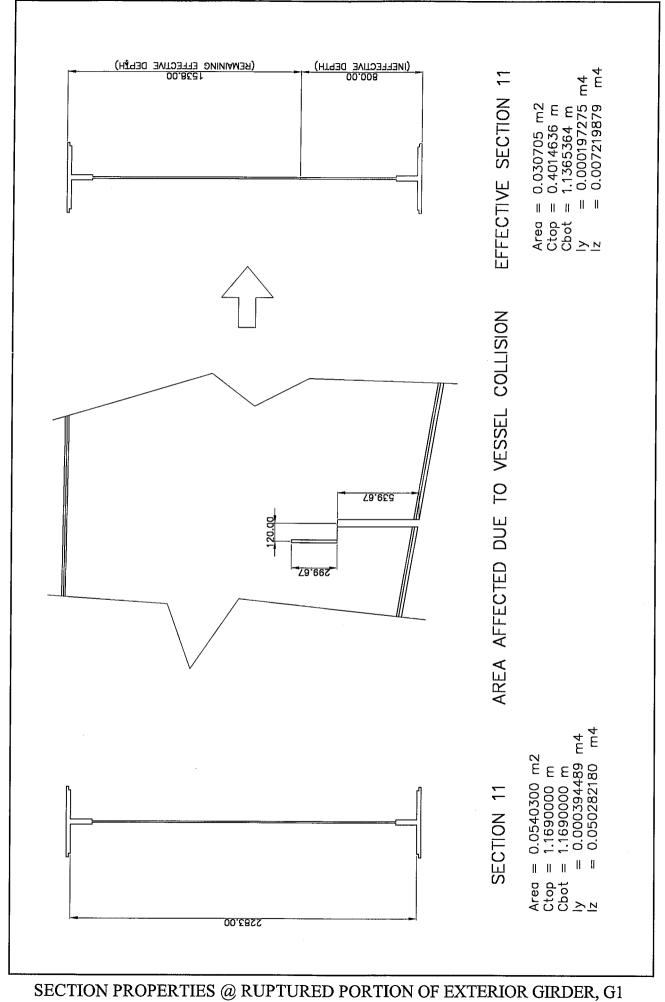
Appendix 20.1.4-1 (15/17)



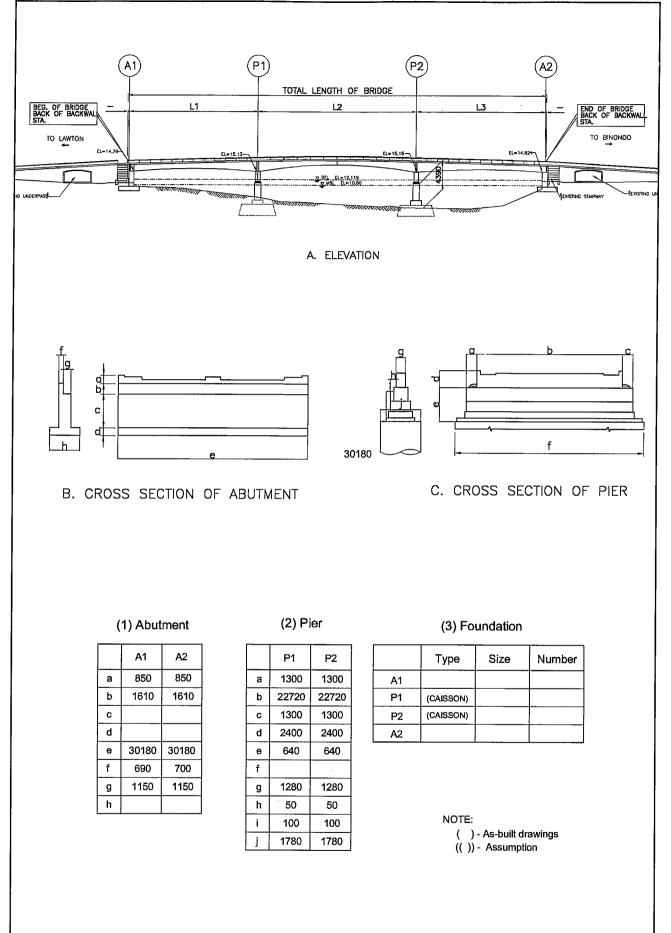
Appendix 20.1.4-1 (16/17)



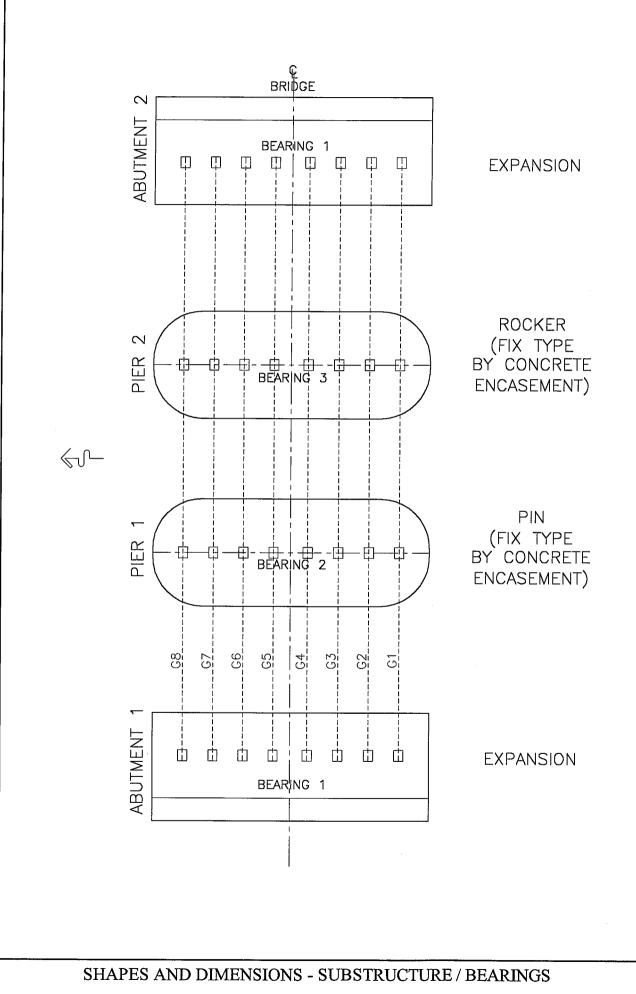
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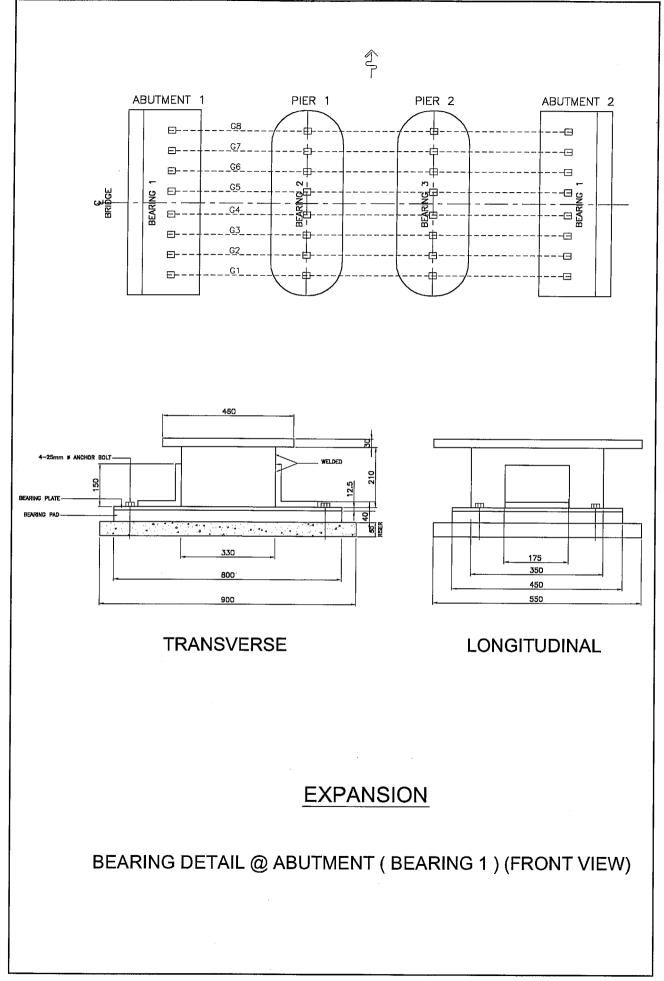


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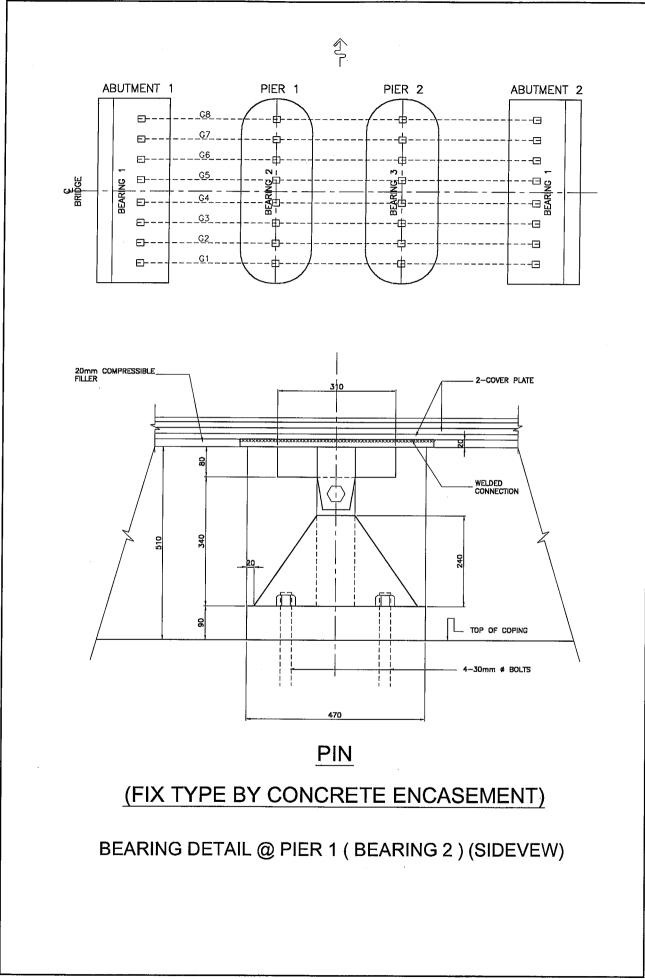


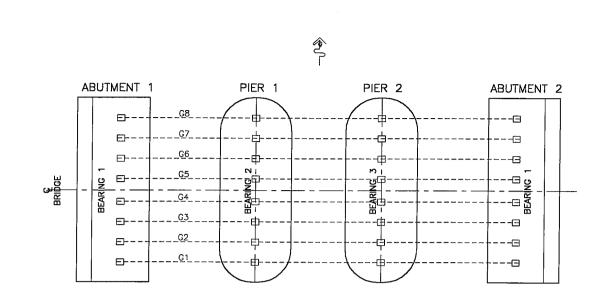
SHAPES AND DIMENSIONS - SUBSTRUCTURE

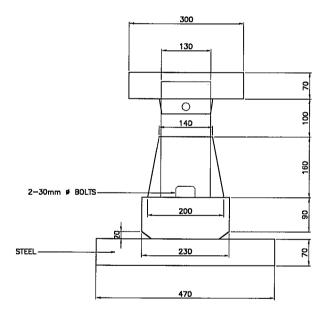




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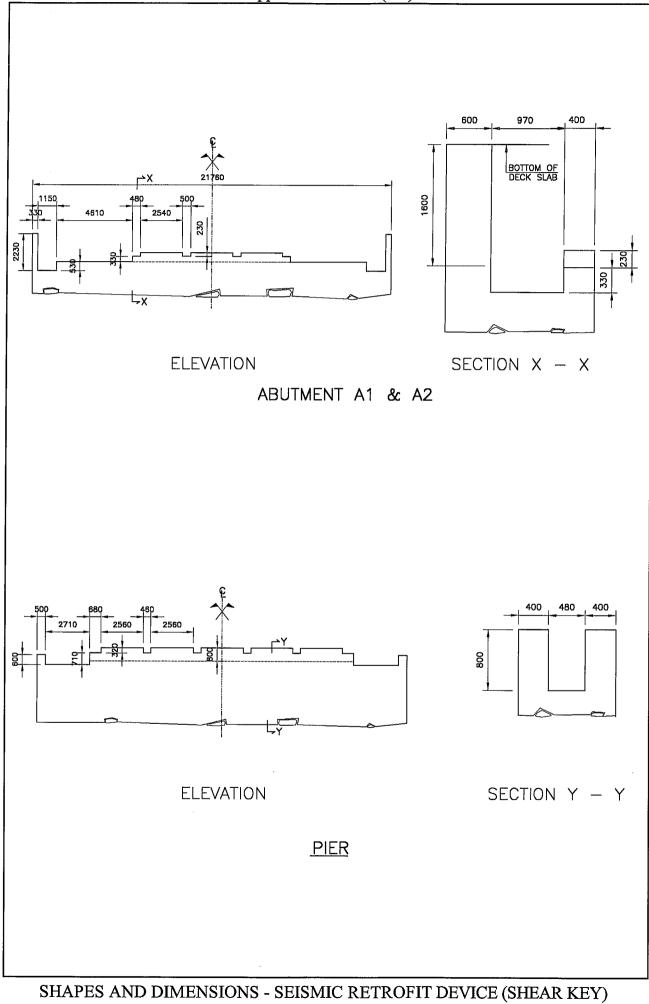




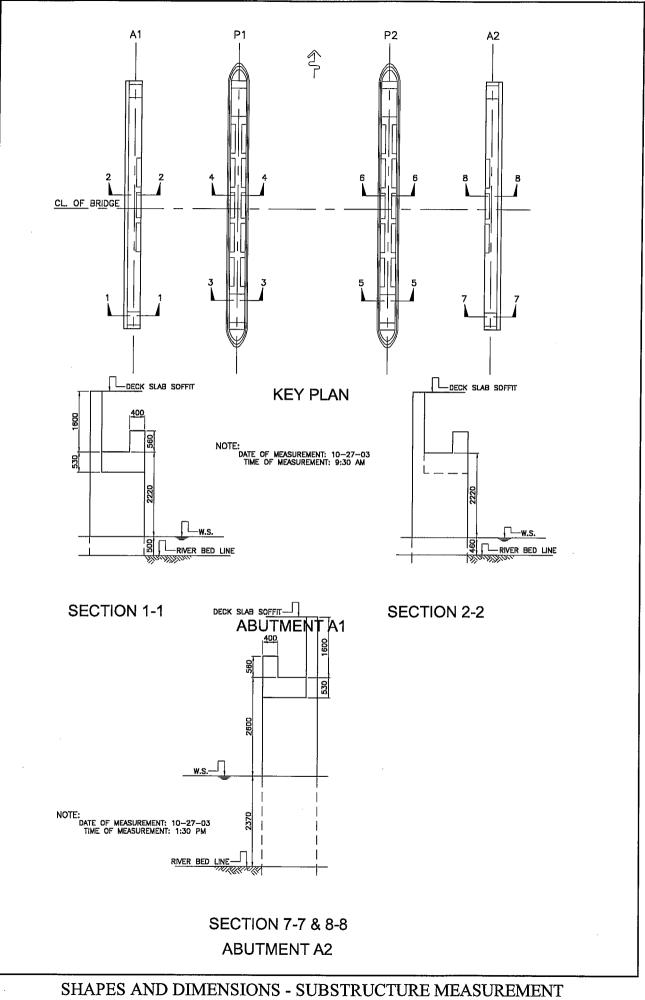
ROCKER

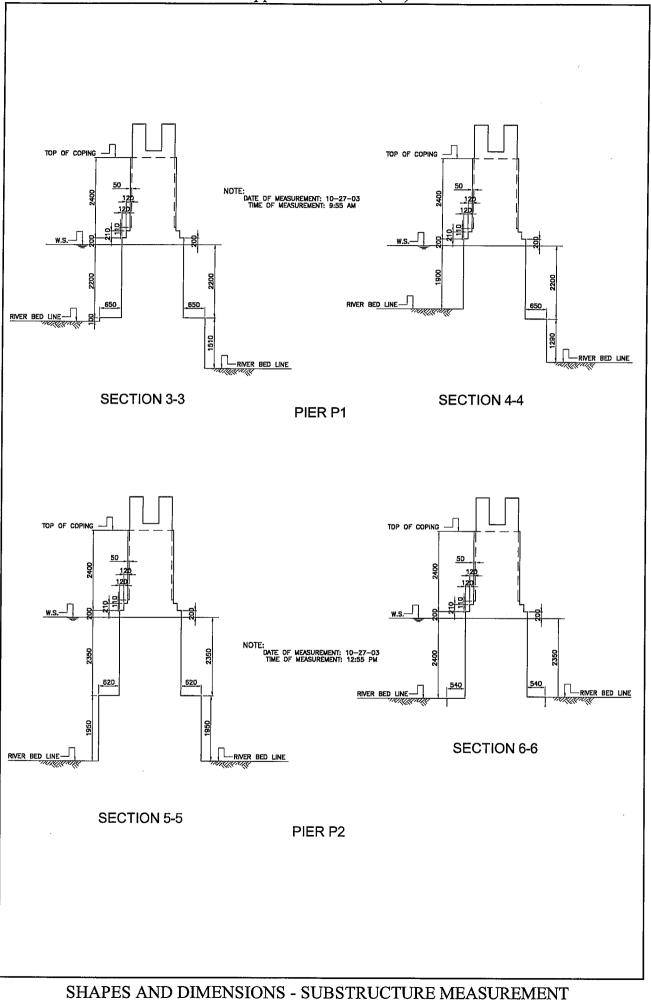
(FIX TYPE BY CONCRETE ENCASEMENT)

BEARING DETAIL @ PIER 2 (BEARING 3) (SIDEVIEW)



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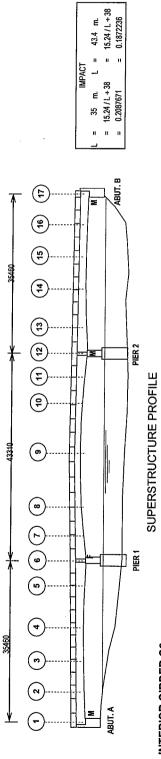






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1.0 ALLOWABLE STRESS RATING

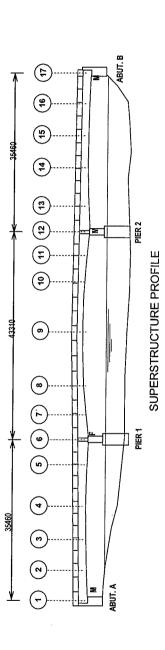


A. INTERIOR GIRDER G2

Description		·							Section								
-		2	m	4	5	6	7	8	6	10	1	12	13	14	15	16	17
Dead Load Moments in kN-m	0.0	1536.00	2079.00	841.00	-2543.00	-5452.00	-4094.00	-1839.00	1799.36	-2132.00	-4780.00	-6249.00	-2572.00	1025.00	2210.00	1583.00	0.00
Dead Load Shear in kN	273.00	166.00	11.10	-305.00	-487.00	-611.00	515.00	431.00	81.10	-515.00	-593.00	765.00	623.00	302.00	98.40	-173.00	-280.00
LIVE LOAD LANE LOADING																	
Max Lane Ldng Moment in kN-m	0.00	-143.00	-322.00	-434.00	-700.00	-1380.00	-1046.00	-498.00	-404.00	-528.00	-1186.00	-1562.00	-721.00	-419.00	-312.00	-156.00	0.00
Max. + Lane Ldng Moment in kN-m	0.00	425.00	820.00	660.00	136.00	0.00	0.00	47.90	805.00	69.80	0.00	0.00	142.00	670.00	836.00	426.00	0.00
Max Lane Ldng Shear in kN	0.00	-26.90	-60.30	-112.00	-144.00	-199.00	0.00	0.00	-52.10	-145.00	-189.00	-207.00	0.00	-8.70	-47.70	-96.80	-137.00
Max. + Lane Ldng Shear in kN	132.00	97.20	48.40	10.00	0.00	194.00	171.00	114.00	52.00	0.00	0.00	220.00	159.00	113.00	60.60	28.20	000
LIVE LOAD TRUCK LOADING											1						
Max Truck Loading Moment in kN-m	0.00	-163.00	-380.00	-504.00	-760.00	-918.00	-659.00	-528.00	-272.00	-608.00	-776.00	-1117.00	-784.00	-478.00	-363.00	-157.00	0.00
Max.+ Truck Loading Moment in kN-m	0.00	703.00	1045.00	816.00	311.00	289.00	219.00	361.00	1078.00	455.00	273.00	336.00	308.00	815.00	1064.00	695.00	0.00
Max Shear in kN	-22.70	-81.50	-105.00	-158.00	-155.00	-223.00	-20.80	-46.30	-101.00	-179.00	-196.00	-243.00	-20.40	-72.90	-00.66	-161.00	-188.00
Max. + Shear in kN	204.00	175.00	113.00	90.30	31.80	236.00	208.00	209.00	120.00	34.20	27.68	242.00	186.00	172.00	109.00	76.70	05.70
MAXIMUM LIVE LOAD MOMENTS AND SHEAR (WITH IMI	r (with im	PACT AND DF	(H														
Max. Live Load (-) Moment in kN-m	0.00	-197.03	-459.33	-609.22	-918.66	-1668.10	-1264.37	-638.23	-488.34	-734.93	-1433.60	-1888.09	-947.67	-577.79	-438.78	-189.78	0.00
Max. Live Load (+) Moment in kN-m	0.00	849.76	1263.16	986.35	375.93	349.33	264.72	436.36	1303.05	549.99	329.99	406.15	372.30	985.15	1286.13	840.09	000
Max. Live Load (-) Shear in kN	-27.44	-98.51	-126.92	-190.99	-187.36	-269.56	-25.14	-55.97	-122.09	-216.37	-236.92	-293.73	-24.66	-88.12	-119.67	-194.61	-227.25
Max. Live Load (+) Shear in kN	246.59	211.53	136.59	109.15	38.44	285.27	251.42	252.63	145.05	41.34	33.46	292.52	224.83	207.91	131.76	92.71	33.72
Max. Shear in kN	246.59	211.53	136.59	190.99	187.36	285.27	251.42	252.63	145.05	216.37	236.92	293.73	224.83	207.91	131.76	194.61	227.25
FRACTION OF SIDEWALK LIVE LOAD FROM EXTERIOR	EXTERIOR (SIRDER G1													1		
Sidewalk Live Load Moments in kN-m	0.00	206.00	298.00	115.00	-369.00	-717.00	-566.00	-268.00	303.00	-358.00	-708.00	-866.00	-369.00	155.00	327.00	216.00	0.00
Sidewalk Live Load Shear in kN-m	29.10	-30.40	-24.90	-52.60	-66.00	-67.00	62.60	52.30	33.90	-75.50	-70.70	96.00	92.90	51.89	23.10	-32.00	-30.60
TOTAL LIVE LOAD MOMENT AND SHEAR (SIDEWALK LL	DEWALK LL	+ TRUCK LL	- -														
FOR OPERATING LEVEL																	
Max. Live Load (-) Moment in kN-m	0.00	-197.03	-459.33	-609.22	-1364.70	-2534.78	-1948.53	-962.18	-488.34	-1167.67	-2289.40	-2934.89	-1393.71	-577.79	-438.78	-189.78	0.00
Max. Live Load (+) Moment in kN-m	0.00	1098.77	1623.37	1125.36	375.93	349.33	264.72	436.36	1669.31	549.99	329.99	406.15	372.30	1172.50	1681.40	1101.19	0.00
Max. Live Load (-) Shear in kN	-27.44	-135.26	-157.02	-254.57	-267.14	-350.54	-25.14	-55.97	-122.09	-307.63	-322.38	-293.73	-24.66	-88.12	-119.67	-233.29	-264.24
Max. Live Load (+) Shear in kN	281.76	211.53	136.59	109.15	38.44	285.27	327.09	315.85	186.03	41.34	33.46	408.56	337.13	270.63	159.68	92.71	33.72
Max. Shear in kN	281.76	211.53	157.02	254.57	267.14	350.54	327.09	315.85	186.03	307.63	322.38	408.56	337.13	270.63	159.68	233.29	264.24

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A.1 INVENTORY LEVEL

A.20 - 57

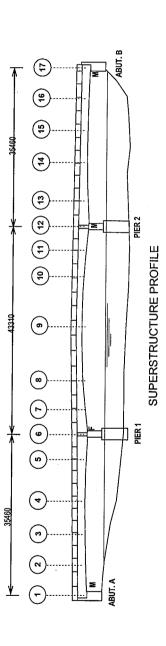
τ_{main} μ_{main} μ_{ma	Main Table Main Main <t< th=""><th></th><th>SECTIO</th><th>SECTION PROPERTIES</th><th>ES</th><th>ALLO</th><th>ALLOWABLE STRESSES</th><th>TRESSES</th><th></th><th></th><th>DEAD LOAD</th><th></th><th></th><th></th><th></th><th>LIVE LOAD plus IMPACT</th><th>us IMPACT</th><th></th><th></th><th>A01</th><th>I OAD RATING</th><th></th><th>V LICHA</th><th>tedulitika onazo et i tetulini</th></t<>		SECTIO	SECTION PROPERTIES	ES	ALLO	ALLOWABLE STRESSES	TRESSES			DEAD LOAD					LIVE LOAD plus IMPACT	us IMPACT			A01	I OAD RATING		V LICHA	tedulitika onazo et i tetulini
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	matrix value V_1 Quant V_1 Quant V_1 Quant Quan						10 P	A fallow		BENDING		SHE	AR		BEND	ING		SHEA		ating Facto	r. RF=(R-D)/	-	V. HOZU Tons)	
	(m) (m ⁺) (M ⁺) <th></th> <th></th> <th>_</th> <th>Buipueq.</th> <th></th> <th></th> <th></th> <th></th> <th>α^{p.DL} (</th> <th>(MPa)</th> <th></th> <th></th> <th>ML+1 (K</th> <th>(M-M)</th> <th>Ghilt (</th> <th>ſ</th> <th></th> <th></th> <th>Bendin</th> <th></th> <th></th> <th>-</th> <th>REMAF</th>			_	Buipueq.					α ^{p.DL} ((MPa)			ML+1 (K	(M-M)	Ghilt (ſ			Bendin			-	REMAF
0.65220 0.01460 258.0 15.24 15.36 47.00 0.00 0.00 0.00 0.065 211.35 7.896 2.87 - 2.87 1.35 2.83 1.10 2.83 2.83.3 1.86.0 2.86.0 2.86.0 2.87.6 2.11 2.33 2.86.1 2.33 2.86.1 2.317 2.99 2.90 2.37 2.36 3.11.3 3.11.3 3.11.0 3.23.3 1.36.3 3.33 2.86.1 2.31 4.80.2 2.33 3.31.3 3.31 4.17.3 3.31.3 3.31.3 3.31.3 3.31.3 3.31.3 3.31.	0.65290 0.01460 236.00 15.4 7.34 0.00 0.00 246.56 1.00 266.50 1.13 7.95 2.87 - 2.87 - 2.87 - 2.87 - 2.87 - 2.87 - 2.87 - 2.87 - 2.87 - 2.87 - 2.87 - 2.87 - 2.87 2.87 1.35 1				(m ⁴)	(MPa)	(MPa)	-		Fiber	Bot. Fiber		σ _{v:bL} (MPa)–	MaxM	¥		<u>b</u> er	ر ۲۲ (KN) م		·	Fiber			ar
0.058490 0.02749 228.00 15.4 15.34 15.36 3.01 3.66 9.60 15.66 3.71.60 3.77.60 3.77.60 3.77.60 3.77.60 3.77.60 3.77.60 3.77.60 3.77.60 3.77.60 3.77.60 3.75.8 3.75.0 1.17 3.23.5 1.17 3.23.5 1.36.5 5.0.00 1.51.6 2.73.7 4.86.7 1.36.6 4.75.00 3.75.6 3.75.6 3.75.0 1.75.7 3.23.5 1.17 3.23.5 1.36.7 5.30.6 1.37.7 5.30 1.36.7 5.30.7 1.70.7 3.33.7 4.61.7 1.72.9 1.00.96 5.37.7 4.07 1.00.96 5.37.7 3.33.6 3.13.6 3.75.6 3.33.7 3.17.60 3.33.7 3.17.60 3.75.7 3.26.9 3.05.9 3.07.6 1.77.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 1.72.9 <td>0.06440 0.02645 28.00 17.54 15.50 47.00 66.00 6.24 197.16 64.01 66.01 26.05 21.53 7.54 23.55 7.30 67.50 77.50 0.067750 0.01640 25.4 75.24 279.00 -53.25 53.25 11.10 0.41 -49.33 126.31 23.25 13.65 61.00 15.46 2.73 14.66 71.36 77.50 0.66270 0.01460 25.4 75.47 0.61.0 61.1 61.16 0.41.5 35.83 17.16 0.41.7 23.54 4.910 23.9 18.66 63.75 53.93 53.93 17.17 53.9 14.01 10.20 23.9 16.10 12.73 59.9 10.73 53.61 17.36 63.61 63.75 53.93 51.13 61.00 53.61 12.73 59.09 13.73 53.13 53.13 53.14 53.16 17.13 53.16 17.13 53.16 17.13 53.16 17.13 <t< td=""><td>ا ب</td><td>-</td><td>_</td><td></td><td></td><td>125.4</td><td>75.24</td><td>0.00</td><td>0.00</td><td>0.00</td><td>273.00</td><td>20.92</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.0</td><td>246.59</td><td>+</td><td></td><td>╀</td><td>78.0</td><td>5</td><td>╋</td></t<></td>	0.06440 0.02645 28.00 17.54 15.50 47.00 66.00 6.24 197.16 64.01 66.01 26.05 21.53 7.54 23.55 7.30 67.50 77.50 0.067750 0.01640 25.4 75.24 279.00 -53.25 53.25 11.10 0.41 -49.33 126.31 23.25 13.65 61.00 15.46 2.73 14.66 71.36 77.50 0.66270 0.01460 25.4 75.47 0.61.0 61.1 61.16 0.41.5 35.83 17.16 0.41.7 23.54 4.910 23.9 18.66 63.75 53.93 53.93 17.17 53.9 14.01 10.20 23.9 16.10 12.73 59.9 10.73 53.61 17.36 63.61 63.75 53.93 51.13 61.00 53.61 12.73 59.09 13.73 53.13 53.13 53.14 53.16 17.13 53.16 17.13 53.16 17.13 53.16 17.13 <t< td=""><td>ا ب</td><td>-</td><td>_</td><td></td><td></td><td>125.4</td><td>75.24</td><td>0.00</td><td>0.00</td><td>0.00</td><td>273.00</td><td>20.92</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.0</td><td>246.59</td><td>+</td><td></td><td>╀</td><td>78.0</td><td>5</td><td>╋</td></t<>	ا ب	-	_			125.4	75.24	0.00	0.00	0.00	273.00	20.92	0.00	0.00	0.00	0.0	246.59	+		╀	78.0	5	╋
0.67750 0.02645 228.00 12.4 75.24 53.25 11.10 0.453.35 1265.16 11.77 32.35 136.59 5.00 15.16 2.73 14.36 71.36 475.09 0.66750 0.01460 228.00 12.54 75.24 841.00 37.58 37.59 36.00 15.16 2.773 93.09 46.75 71.35 45.76 77.39 530.0 475.09 77.35 133.7 46.17 11.29 90.0 475.09 477.00 475.09 477.05	0.07750 0.02750 228.00 12.54 75.24 207300 53.25 53.55 11.10 0.477 23.55 136.59 16.16 2.37 14.36 71.36 77.36 0.05750 0.01460 226.00 15.4 75.24 84.100 -37.58 37.50 96.02 96.55 27.22 44.07 90.99 151 5.99 19.9 86.9 67.6 277.35 0.056200 0.01460 226.0 155.4 75.24 -459.00 61.14 467.10 12.95 14.05 17.23 33.09 46.77 17.35 33.09 477.00 0.07920 228.00 125.4 75.24 -459.00 51.60 12.65 34.55 13.65 13.67 34.5 33.2 14.02 17.39 100.25 35.11 17.29 100.25 35.13 34.5 15.6 100.25 35.13 34.5 16.7 16.7 36.9 17.35 17.36 17.36 17.36 17.36 17.36	5					125.4		1536.00	47.09	47.09	166.00	6.24	-197.03	849.76	6.04	26.05	211.53	7.954	28.56	╀	+	+	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	06526 00146 228.00 1254 754 841.00 37.58 37.58 37.50 1169 60922 965.35 27.22 44.07 190.39 7.317 5.99 1.99 8.99 6.376 277.33 047.20 177.30 01396 228.00 1254 75.24 545.00 61.14 61.14 47.00 12.06 1863.10 34.33 19.39 14.10 251.7 5.04 313 46.17 11.29 100.25 361.3 177.30 01397 228.00 1254 75.24 5409.400 01 12.0 1686.10 349.33 19.39 14.10 255.7 5.04 313 46.17 11.29 100.25 361.3 173.3 173.3 173.3 173.3 174.3 174.3 174.3 174.3 174.3 174.3 174.4 175.24 139.00 53.99 53.99 345 174.0 12.5 155.0 12.6 1685.10 34.33 19.35 14.10 255.2 55.0 254.9 3.45 47.40 12.02 110.36 34.53 173.3 14.3 14.10 12.4 12.5 14.3 14.3 14.3 14.3 14.3 14.3 14.3 14.3	2	-				125.4		2079.00	-53.25	53.25	11.10	0.41	-459.33	1263.16	11.77	32.35	136.59	5.040	15.18	+-	+		+
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$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	1.27270 0.10837 228.00 15.4 54.82 64.03 64.10 120 10.03 34.5 46.17 11.29 00.25 361.13 1.17500 0.07322 228.00 125.4 55.4 5482.00 64.03 64.03 64.03 64.03 64.03 64.03 64.03 64.03 64.03 64.03 64.04 10.05 53.93 55.42 53.93 55.142 53.94 34.6 11.03 384.53 0.87300 0.02379 228.00 125.4 75.24 1789.30 53.39 53.100 12.74 53.72 12.86 2.06 13.67 36.45 14.02 86.9 17.23 278.01 0.87300 0.02379 228.00 125.4 75.4 75.94 75.90 53.39 50.39 51.30 51.7 56.1 430.27 58.17 216.4 20.6 13.47 5.32 21.66 74.0 72.03 51.7 212.4 53.92 51.4 53.12 58.17 <	3					125.4	-	-2543.00	61.14	-61.14	487.00	12.76	-918.66	375.93	22.09	9.04	187.36	4.910		+-	╀	╀	+
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$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0.87300 0.02379 228.00 125.4 75.24 1783.90 53.89 5.319 431.00 12.34 5.382 436.36 18.70 12.79 22.63 7.235 3.82 14.02 8.69 122.37 278.21 28.21 1.758 0.02411 228.00 125.4 75.24 75.24 75.24 75.24 515.00 4.8.75 515.00 4.8.75 155.00 4.8.75 155.00 14.75 73.05 15.7 86.1 45.05 5.372 12.86 5.372 12.86 2.96 13.45 65.81 430.27 11.758 0.02979 228.00 125.4 75.24 75.24 75.24 75.24 75.24 75.24 75.24 75.24 75.24 75.24 75.24 75.24 75.24 75.24 75.24 75.24 75.24 75.24 75.24 273 515.00 14.75 73.05 15.50 14.75 26.37 61.96 2.97 11.66 9.76 93.51 312.41 11.759 0.07922 228.00 125.4 75.24 75.24 75.24 75.39 755.00 15.03 165.03 126.6 14.75 73.95 50.91 21.26 74.0 26.6 40.11 12.42 82.0 397.54 11.7730 0.07920 0.07920 125.4 75.24 75.24 75.24 75.24 75.39 755.00 15.03 165.00 15.03 125.6 77 35.0 125.6 71 25.6 70.11 12.42 82.03 397.54 11.7730 0.07950 0.07960 0.03968 228.00 125.4 75.24 75.24 2730 15.03 165.00 15.03 165.01 15.03 188.09 405.15 22.17 4.77 23.73 5.170 2.36 41.68 10.44 75.06 333.95 0.0550 0.01460 228.00 125.4 75.24 75.24 25.13 73.00 15.03 165.01 15.77 30.6510 15.03 1450 228.00 1000 0.0296 228.00 125.4 75.24 130.00 165.30 15.61 34.73 0.6510 15.77 19 95.15 2.777 17 29.373 5.170 2.36 71 7.29 279 16.70 80.27 130 0.6500 0.6500 16.53 173.00 15.01 15.77 2.47 30.6 15.01 15.77 2.47 30.6 15.01 15.77 2.47 30.6 15.01 15.77 2.47 30.6 15.01 15.72 10.01 15.74 15.72 10.01 15.72 10.01 15.72 10.01 15.72 10.01 15.72 10.01 10.01 12.44 10.1 12.42 10.01 10.01 15.42 10.01 10.01 15.42 10.01 10.	3	- 1				125.4	75.24	-4094.00	60.72	-60.72	515.00		-1264.37	264.72	18.75	3.93	251.42	5.349	╀╌	+	+	+-	+
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	0.67500 0.02411 228.00 125.4 75.24 779.36 -50.38 50.38 81.10 3.00 488.34 130.36 13.67 36.48 145.05 5.372 72.86 2.06 13.45 65.81 430.27 177 0.0722 228.00 125.4 75.24 75.24 273.00 62.247 55.50 44.75 -734.33 549.39 21.53 16.12 216.37 6.196 2.92 11.66 9.76 93.51 312.41 312.41 312.42 347.54 33.54 11.7780 0.07922 228.00 125.4 75.24 75.24 75.24 2730 53.30 12.62 1433.56 239.9 21.53 16.12 216.37 6.196 2.92 11.66 9.76 33.59 33.51 312.41 12.727 0.07922 228.00 125.4 75.24 75.24 27800 70.90 -70.30 553.00 15.03 128.64 0.6615 22.17 4.77 23.73 5.770 2.36 40.11 12.42 82.02 397.54 75.06 133.95 0.95400 0.07922 228.00 125.4 75.24 27800 73.39 -73.39 755.00 15.03 -88809 406.15 22.17 4.77 23.73 5.770 2.35 41.68 10.44 75.06 333.95 0.95400 0.03968 228.00 125.4 75.24 2572.00 61.84 61.84 61.34 75.06 333.95 0.95400 0.03968 228.00 125.4 75.24 2572.00 61.84 61.84 61.33 73 32.01 11.57 23.73 5.770 2.35 41.68 10.44 75.06 333.95 0.95400 0.03968 228.00 125.4 75.24 2572 0.6184 63.3 11.51 2.913 73.9 75.7 17 29.3 73 5.770 2.35 710 2.55 71 75 73 75 75 73 75 74.18 7.00 72.00 70.00 80.27 73198 0.05670 0.070140 228.00 125.4 75.24 138.30 46.51 98.40 15.77 9951 12.41 7.96 6.63 1.81 7.99 57.85 26.77 0.05750 0.07679 0.0706 2.26 0.0169 228.00 125.4 75.24 138.30 48.53 173.00 6.50 18.97 3367 11.24 32.94 131.76 4.867 74.03 2719 74 75.06 55.7 7199 95.7 230.95 0.0706 0.00 0.00 0.00 2.00 2.00 2.00 2.00 2.	3					125.4	-	-1839.00		-53.89	431.00	12.34	-638.23	436.36	18.70	12.79	252.63	7.235	┢			╋	+
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0.65250 0.01460 228.00 15.4 162.60 45.81 302.00 11.57 -57.77 985.15 25.82 44.03 207.91 7.966 6.63 1.81 7.99 57.85 265.77 0.67750 0.02746 125.4 75.24 1025.00 -56.61 56.61 36.3 -38.78 128.61.3 11.24 32.94 131.76 4.862 16.19 7.09 57.85 27.13 0.67750 0.02769 125.4 75.24 158.30 -48.53 173.00 5.63 48.03 5.82 24.13 7.16 4.862 16.19 2.09 14.73 66.83 471.32 0.68490 0.027169 125.4 75.4 158.30 48.53 173.00 5.82 25.75 194.61 7.31 2.99 2.39 35.22 300.59 0.665250 0.01460 226.00 125.4 0.00 2.00 2.00 2.99 2.39 35.22 300.59 0.65526 0.01460	0.65250 0.01460 228.00 15.4 162.50 45.81 302.00 11.57 -57.179 985.15 25.82 44.03 207.91 7.966 6.63 1.81 7.99 57.85 255.77 0.67750 0.02845 228.00 125.4 75.24 221000 -56.61 56.61 56.61 36.83 438.78 1286.13 11.24 3294 131.76 4.862 16.19 2.09 14.73 66.83 471.32 0.66490 0.02169 228.00 125.4 75.24 156.30 -48.53 473.30 6.50 -189.78 840.09 5.82 257.55 16.46 7.317 29.90 2.93 36.52 300.59 0.65520 0.01460 228.00 125.4 7.52 48.55 17.317 29.90 2.99 9.39 95.52 300.59 0.65520 0.01460 228.00 125.4 7.52 48.57 7.317 29.90 2.99 9.39 95.62 30.56 1.65526 0.01460 228.00 125.4 7.54 10.60 0.00	8				_	125.4		-2572.00		-61.84	623.00	16.33	-947.67	372.30	22.79	8.95	224.83	5.892	╞	╞	+	┼	+-
0.67750 0.02845 228.00 15.4 75.24 2210.00 -56.61 56.61 98.40 3.53 -438.78 11.24 32.94 131.76 4.862 16.19 2.09 14.73 66.83 41.32 0.668490 0.02169 228.00 12.54 75.7 194.61 7.317 23.99 54.73 66.83 41.32 0.668250 0.01460 228.00 12.54 7.00 5.00 14.61 7.317 23.99 53.93 55.52 300.59 0.652550 0.01460 228.00 12.54 0.00 0.00 20.00 21.46 0.00 0.00 237.25 17.414 309 95.62 30.84	0.67750 0.02645 228.00 125.4 75.24 2210.00 -56.61 56.61 98.40 3.63 4.38.78 1286.13 11.24 32.94 131.76 4.862 16.19 2.09 14.73 66.83 471.32 0.6683 0.06490 0.02769 228.00 125.4 75.24 158.30 48.53 173.00 6.50 -189.78 840.09 5.82 25.75 194.61 7.317 29.90 2.99 9.39 95.52 300.59 0.65250 0.65250 0.01460 228.00 125.4 75.24 15.24 0.00 0.00 2.00 20.00 21.45 0.00 0.00 0.00 0.00 27.25 17.414 - 3.39 3.39 9.55 300.59 78.4 75.54 75.24 10.00 0.00 0.00 26.00 21.45 0.00 0.00 0.00 0.00 27.25 17.414 - 3.39 3.09 - 38.84 71.22 78.54 75.54 75.24 10.00 0.00 0.00 280.00 21.45 0.00 0.00 0.00 0.00 27.25 17.414 - 3.309 - 3.09 98.44 75 75 15.54 75.24 10.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.0				_	125.4	-	1025.00	45.81	45.81	302.00	11.57	-577.79	985.15	25.82	44.03	207.91	7.966	╀	╀	+	+	+-
0.66430 0.02169 228.00 125.4 75.24 1583.00 -48.53 48.53 173.00 6.50 -189.78 840.09 5.82 25.75 194.61 7.317 29.90 2.99 9.39 95.52 300.59 0.65250 0.01460 228.00 125.4 75.24 0.00 0.00 0.00 200 200 0.00 0.00 0.0	0.68490 0.02169 228.00 125.4 75.24 1583.00 -48.53 143.53 173.00 6.50 -189.78 840.09 5.82 25.75 194.61 7.317 29.90 2.99 9.39 95.52 300.59 0.65250 0.01460 228.00 125.4 75.24 0.00 0.00 0.00 280.00 21.46 0.00 0.00 0.00 20.0 27.25 17.414 - 330 2.99 3.39 5.52 300.59 * Raling Factor Formula RF = [Member Capacity (DL])/((L + I)	히		_	-		125.4		2210.00	-56.61	56.61	98.40	3.63	-438.78	1286.13	11.24	32.94	131.76	4.862	16.19	┢	┿	+	+
0.65250 0.01460 228.00 125.4 75.24 0.00 0.00 0.00 280.00 21.46 0.00 0.00 0.00 0.00 227.25 17.414 - 3.09 - 98.84	0.65250 0.01460 228.00 125.4 75.24 0.00 0.00 0.00 280.00 21.46 0.00 0.00 0.00 7.00 7.00 227.25 17.444 - 3.09 - 3.09 - 98.84 * Rating Factor Formula RF = [Member Capacity - (DL]) / (LL + I)	3	_			_	125.4		1583.00	-48.53	48.53	173.00		-189.78	840.09	5.82	25.75	194.61	-	06.60	┢	+	╀	-
	* Rating Factor Formula RF = [Member Capacity - (DL)] / (LL + I)	3	4760 0.0130	05 0.65250			125.4		0.00	0.00	0.00	280.00	21.46	0.00	0.00	0.00	0.00	-	-	,	-	┼	╀	
		52	Y (Axial)		RF= {	^r Member Cat	pacity - (DL	(1+1)/[[

 $\sigma_a = 0.55 \text{ fy} \quad (Axial)$ $\sigma_b = 0.55 \text{ fy} \quad (Bending)$ $\sigma_v = 0.33 \text{ fy} \quad (Shear)$

Appendix 20.1.4-3 (2/24)

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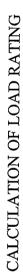
A.2 OPERATING LEVEL

NAMES OF A DESCRIPTION	.	REMARKS	Shear	121 06 Shear Controle	+	+	┿	┿	421.03 Bending Controls	421.38 Bending Controls	319.32 Bending Controls	462.57 Bending Controls	319.11 Bending Controls	┿		+	╈	+	+	+	-
ADPHILITATOR ~ WRITEN	JUIV. HS20 Tons)	•	Bending St	•	117 72 38	+	84.91 29	107.14 41	114.99 42	122.10 42	132.93 31	82.59 46	101.50 31	+	+	╈	╋	+-	+	+-	
			Shear E	3.78	12.12	17.64	9.32	12.83	13.16	13.17	9.98	14.46	9.97	13.12	10.91	77.6	8 78	16.80	╋	+	
ONTAG OA	Rating Factor, RF=(R-DVL(1+1)	ina	Bot Fiber		3.68	2.83	2.65	25.68	57.29	59.02	17.59	2.58	14.49	49.42	51.24	26.01	2.39	2.66	3.63		
-	Rating Fac	Bending	Top Fiber	+-	36.11	19.06	7.66	3.35	3.59	3.82	4.15	16.19	3.17	2.95	2.83	3.26	8.40	20.25	37.74	,	
	SHEAR		ALLH (KN) مسليه (MPa)	21.591	7.954	5.794	9.754	7.000	6.886	6.959	9.045	6.890	8.810	6.859	8.026	8.835	10.369	5.892	8.772	20.248	
Ŀ			T .	281.76	211.53	157.02	254.57	267.14	350.54	327.09	315.85	186.03	307.63	322.38	408.56	337.13	270.63	159.68	233.29	264.24	
Dubre IMDA		σ _{btt+t} (MPa)	r Bot. Fiber	0.0	33.68	41.58	50.29	9.04	4.10	3.93	12.79	46.74	16.12	4.89	4.77	8.95	52.40	43.07	33.76	0.00	
I IVE LOAT	BENDING	σ _{b11}	1 <mark>6</mark>	0.00	7 6.04	7 11.77	3 27.22	32.81	29.77	28.90	28.19	13.67	34.21	33.96	34.47	33.51) 25.82	11.24	5.82	0.00	
	86	MLL+1 (KN-m)	M Max. +M	0.00	3 1098.77	3 1623.37	2 1125.36	70 375.93	18 349.33	53 264.72	8 436.36	4 1669.31	549.99	0 329.99	9 406.15	1 372.30	9 1172.50	8 1681.40	8 1101.19	0.00	
_			MaxM	0.00	-197.03	-459.33	9 -609.22	3 -1364.70	0 -2534.78	5 -1948.53	4 -962.18	-488.34	5 -1167.67	2 -2289.40	3 -2934.89	3 -1393.71	-577.79	-438.78	-189.78	00.00	
	SHEAR	- 14	vivi σ _{v-DL} (MIFa)	00 20.92	00 6.24	0 0.41	00 11.69	00 12.76	00 12.00	10.96	00 12.34	0 3.00	00 14.75	0 12.62	00 15.03	16.33	00 11.57	0 3.63	0 6.50	0 21.46	
OAD			ber ver (NN)	273.00	9 166.00	5 11.10	8 305.00	487.00	3 611.00	2 515.00	9 431.00	8 81.10	17 515.00	0 593.00	102200	4 623.00	1 302.00	1 98.40	3 173.00	280.00	
DEAD	ADING	σ _{b-DL} (MPa)	Fiber Bot. Fiber	00.0	7.09 47.09	.25 53.25	7.58 37.58	14 -61.14	.03 -64.03	72 -60.72	.89 -53.89	.38 50.38	.47 -62.47	-70.90	.39 -73.39	.84 -61.84	5.81 45.81	6.61 56.61	53 48.53	00.0 0.00	
	BEN			0.00 0.0	1536.00 47.	2079.00 -53.25	841.00 -37	<u>6</u>	2	4094.00 60.72	_	1799.36 -50.38	8	-4780.00 70.	-6249.00 73.	-2572.00 61.	1025.00 45.	2210.00 -56.	1583.00 -48.53	0.00 0.0	
			(MPa)	102.6 0	102.6 153		-		-		-	_	_	102.6 -478	102.6 -62/	102.6 -25	102.6 102	102.6 221		102.6 0.	
OPERATING: LEVEL (Allowable Stress Method) DEAD LOAD LIVE LOAD LIVE LOAD DEAD LOAD			(MPa) (M	171 10	171 10		-	-				_	_		171 10	171 10	171 10	171 10		171 10	
ALLOWABL	1		(MPa) (N	228.00 1	228.00 1	_	_								228.00 1	228.00	228.00 1	228.00 1			and a
	-	Buipueo.	(m ⁴) (N	0.01460 22	0.02169 22	_		+	-	-+		-+	-		_	0.03968 22	0.01460 22	0.02645 22		0.01460 22	Doline Conter Leanule
PERTIES				0.65250 0.	0.66490 0.	-	-		+	-	-	_	+			0.95400 0.	0.65250 0.		-	0.65250 0.1	ů *
ECTION PRO	V.V	inaliy.		0.01305 0	_	-	-	+	-					-	-	0.03816 0	0.02610 0		_	0.01305 0	fine Dalina
5				_	_	-				_				_	-		0.04760			0.04760 (coc for Oners
					2	e	4	2			~	6	e :	Ŧ	12	33	14	15	16	17	Allowship Stracede for Onersting Dating

 $\sigma_a = 0.75 \text{ fy} \quad (Axial)$ $\sigma_b = 0.75 \text{ fy} \quad (Bending)$ $\sigma_v = 0.45 \text{ iy} \quad (Shear)$

Appendix 20.1.4-3 (3/24)

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	A	ABUT. A									=[
						Pier 1					PIER 2						
B. INTERIOR GIRDER G3							SUPEF	STRUC	SUPERSTRUCTURE PROFILE	ROFILI	111						
Descrintion								ß	Section							[
	-	2	ę	_		9	7	8	9 10	11	12	13	14	15	16 17	<u> </u>	
Dead Load Moments in kN-m	0.00	1555.00 40E 00	1842.00	839.00	-2226.00	-4993.00	-+						┼─┼	\vdash			
I IVE I DAD I ANE I DADING	710,014	00.001	-01.10	_	-+03.00	-0/9.00	421.00 4	412.00 4	42.70 -412.00	.00 -534.00	00 584.00	472.00	201.00	76.40	-171.00 -268.00	8	
Max Lane Ldng Moment in kN-m	0.00	-188.00	-374.00	-562.00	-919.00	-1889.00		-632.00 -47	-470.00 -645	-642 00 -1399 00	00 -1895 00	-925.00	560.00	373.00	108 00 1 0 00		
Max. + Lane Ldng Moment in kN-m	0.00	586.00	883.00	1086.00			0.00	+	+	_			+	_	_		
Max Lane Ldng Shear in kN	0.00	-46.80	-98.30		-190.00	+		+	+-	1.4		_	-23.90	-	-130.00 -191.00		
Max. + Lane Ldng Shear in kN	184.00	133.00	79.70	29.50	0.00	278.00	201.00 1	199.00 87	87.40 0.00	0.00	┢	187.00	156.00	-	+		
LIVE LOAD TRUCK LOADING																7	
Max Truck Loading Moment in kN-m	0.00	-199.00	-400.00	-602.00	\vdash		<u>├</u>	H					⊢	<u> </u>	-198.00 0.00		IMPACT
Max.+ Truck Loading Moment in kN-m	0.00	902.00		992.00	324.00					-	-		+			۳ ۳	
Max Shear in kN	-28.50	-82.60		-156.00	-186.00	-234.00	-28.60			.00 -208.00		-14.50	+		<u>'</u>	ب ال	
Max. + Shear in kN	227.00	171.00	124.00	92.50	32.90			212.00 13	133.00 55.60			195.00	174.00	122.00		"	4
MAXIMUM LIVE LOAD MOMENTS AND SHEAR (WITH IMPACT AND DF)	R (WITH IMF	ACT AND D	<u> </u>			I]	
Max. Live Load (-) Moment in KN-m	0.0	-240.54	-483.51	-727.68		_	_			-	-	-1118.11	-726.47	-482.30	-239.34 0.00		
Max. Live Load (+) Moment in kN-m	0.0	1090.31	1445.69		391.64	_	326.37 5.	523.40 13	1327.23 517.35					-		1	
Max. Live Load (-) Shear in kN Max. Live Load (+) Shear in kN	24.45- 274.30	-99.84 206.70	-151.10 149.80	-188.57 111 81	-229.67	-342.08 336.04				-	_			-+		2	
Max. Shear in kN	274.39	206.70	151.10	188.57	229.67	+		256.26 16	160.77 239.34	34 293 73	344.50	235.71	210.33	141.41	93.92 34.45 188.67 261.42		
FRACTION OF SIDEWALK LIVE LOAD FROM EXTERIOR GIRDER G1	EXTERIOR G	IRDER G1	1				┦	-	-	-	-		-	4	-	.]	
Sidewalk Live Load Moments in kN-m	0.00	60.80	74.80	32.30	-93.10	-174.00	-139.00 -6	-69.20 79	79.80 -75.30	30 -154.00	00 -193.00	-107.00	49.30	84.80	65.60 0.00	[
Sidewalk Live Load Shear in kN-m	9.08	8.69	4.76	-14.30	-		<u> </u>			-	-	┢──	18.30	╞	-	Ţ	
TOTAL LIVE LOAD MOMENT AND SHEAR (SIDEWALK LL + TRUCK LL) FOR OPERATING LEVEL	DEWALK LL -	+ TRUCK LL	~										-		-	1	
Max. Live Load (-) Moment in kN-m	0.00	-240.54	-483.51	-727.68	-1223.39	-2493.69	-1847.00 -9	-929.78 -56	-568.12 -933.53	53 -1877.22	22 -2523.91	-1247.45	-726.47	-482.30	-239 34 0.00		
Max. Live Load (+) Moment in kN-m	0.00	1163.80	-	1351.76	-	-			_	1	-]_	
Max. Live Load (-) Shear in kN	-34.45	-99.84			-248.52		-		-		_	+	_		1	6	
Max. Live Load (+) Shear in kN	285.37	217.20	155.64	_	39.77	336.04		273.79 16	168.64 67.21	21 34.45	5 344.50	257.71	232.45	153.19		10	
Max. Shear in kN	285.37	217.20	155.64	205.85	248.52	360.70		_	i							6	
Max. Shear in kN	285.37	217.20	155.64	205.85	248.52	360.70	289.38 21		3.64 258.68	 					8	\vdash	



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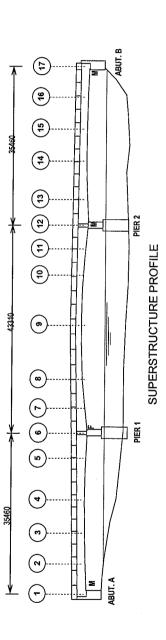
Appendix 20.1.4-3 (4/24)

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IMPACT

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B.1 INVENTORY LEVEL

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X	00	18)		Shear	82.09	293.54	414.53	287.43	335.54	304.14	358.30	276.64	+-	+-	+	+	375.74	100 000	+-	╈	90.86	
	EQUIV. HS20	Tons)		Bending		74.42	67.60	47.96	86.12	79.67	90.71	103.69	75.20	101.85	88.80	78.01	83.47	15.70	47.17 66.38	00.00		
	g	(1+1)(0-1)		Shear	2.57	9.17	12.95	8.98	10.49	9.50	11.20	8.65	12.37	9.26	10.22	9.42	10 18	8 38	13.34	9.71	2.84	
	LOAD RATING	Rating Factor, RF=(R-D)/L(1+I)	Bending	Bot Fiber		2.33	2.11	1.50	19.00	38.24	37.23	11.12	2.35	11.36	37.57	38.60	19.80	1.12	2.0.6	2.34	-	
		Rating Fa		Top F		23.47	13.94	5.01	2.69	2.49	2.83	3.24	10.28	3.18	2.77	2.44	261	5 14	14.07	23.69		
WIR STATE		SHEAR			21.026	7.772	5.575	7.225	6.018	6.720	5.787	7.338	5.954	6.854	6.250	6.767	6.177	8 058	5 442	06012	19.266	
	11 L	R	100 1		274.39	206.70	151.10	188.57	229.67	342.08	271.97	256.26	160.77	239.34	293.73	344.50	235.71	210.33	147.47	188.57	251.42	
	LIVE LOAD plus IMPACT		σ _{b-LL+I} (MPa)	Bot. Fiber	0.00	33.42	37.03	58.66	9.42	4.81	4.84	15.34	37.16	15.16	4.82	4.80	9.13	58.78	37.09	32.94	0.00	
(p)對於時間(p	LIVE LOAD	BENDING	QbLL+	Top Fiber	0.00	7.37	12.38	32.52	26.71	26.82	24.90	24.79	15.91	24.69	25.08	26.90	26.86	32.47	12.35	7.34	0.00	
INVENTORY LEVEL (Allowable Stress Method)		BEN	MLLH (KN-m)	Max. +M	0.00	1090.31	1445.69	1312.72	391.64	409.77	326.37	523.40	1327.23	517.35	325.16	408.56	379.55	1315.14	1448.10	1074.59	0.00	
vable Stre				MaxM	0.00	-240.54	-483.51	-727.68	-1110.86	-2283.36	-1678.98	-846.14	-568.12	-842.51	-1691.07	-2290.61	-1118.11	-726.47	-482.30	-239.34	0.00	
/EL (Allov		SHEAR	r (MD	04-DL (INIF d)	21.30	3.95	3.01	10.34	12.13	11.37	10.45	11.80	1.58	11.80	11.36	11.47	12.37	7.70	2.82	6.43	20.54	
ORY LEV		нs	V. (KND		278.00	105.00	81.70	270.00	463.00	579.00	491.00	412.00	42.70	412.00	534.00	584.00	472.00	201.00	76.40	171.00	268.00	
INVEN.	DEAD LOAD		σ _{b-DL} (MPa)	Bot. Fiber	0.00	47.67	47.18	37.49	-53.52	-58.64	-54.81	-45.07	38.08	-46.82	-55.80	-59.82	-55.28	41.43	48.46	48.43	0.00	
		BENDING		Top Fiber	0.00	-47.67	-47.18	-37.49		58.64	54.81	45.07	-38.08	46.82	55.80	59.82	55.28	41.43	-48.46	-48.43	00.00	
			/ W. (KN-m)	III. ANN TOm	0.00	1555.00	1842.00	839.00	-2226.00	4993.00	-3695.41	-1538.00	1360.00	-1598.00	-3762.00	-5094.00	-2299.00	927.00	1892.00	1580.00	0.00	
	RESSES	ת. (allow) ת. (allow)		(MPa)	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	
	ALLOWABLE STRESSES	G. (allow		(MPa)	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	
	ALLO	Ę,	,	(MPa)	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	Rating Factor Formula
	s	hending	R	(m)	0.01460	0.02169	0.02645	0.01460	0.03968	0.10837	0.07922	0.02979	0.02411	0.02979	0.07922	0.10837	0.03968	0.01460	0.02645	0.02169	0.01460	* Ratino Fa
	SECTION PROPERTIES	5	1	Ē	0.65250	0.66490	0.67750		-	+	-+		-		1.17500		0.95400	0.65250	0.67750	0.66490	0.65250	0
	SECTION	Action		(m				-	-	+		+				0.05091	0.03816	0.02610	0.02710	0.02660	0.01305	entory Ratin,
		Aareas		(m ²)	0.04760	0.07170	0.08320	0.04760	0.07226	0.10480	0.09214	0.06529	0.07300	0.06529	0.09214	0.10480	0.07226	0.04760	0.08320	0.07170	0.04760	esses for Inv
		SECTION /	LUCATION		-	2		4		٥	7	∞	6	₽	4	12	13	14	15	16	11	* Allowable Stresses for Inventory Rating

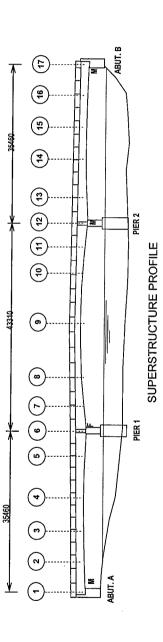
 $\sigma_{a} = 0.55 \text{ fy} \quad (\text{Axial})$ $\sigma_{b} = 0.55 \text{ fy} \quad (\text{Bending})$ $\sigma_{v} = 0.33 \text{ fy} \quad (\text{Shear})$

Appendix 20.1.4-3 (5/24)

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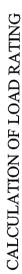


B.2 OPERATING LEVEL

			REMARKS		Chear Controle	Banding Controle	Bending Controls	Banding Controls	Donding Controls	Bending Controls	Bending Controls	Randing Controls	Banding Controls	Pending Controls	Chose Controls										
	0	s)		Shear	118 07	386.55	554.87	374.30	444.51	412.02	478.95	370.60	517.57	302.25	436.62	416.80	497.65	340.08	564.86	400.74	130.26	77.001			
20112000000000000000000000000000000000	EQUIV. HS20	Tons		Bending		110.62	100.70	70.73	127.81	122.78	135.72	147.92	106.72	145.97	132 40	120.02	123.47	67.49	98.73	110.88	-				
				Shear	372	12.08	17.34	11.70	13.89	12.88	14.97	11.58	16.17	12.26	13.61	13.03	13.36	10.66	17.65	12.80	4 07				
	LUAD RATING	Rating Factor, RF=(R-D)/L(1+I	Buj	Bot Fiber		3.46	3.15	2.21	23.84	47.72	46.65	14.09	3.33	14.37	47.03	48.11	24.80	2.11	3.09	347					
	2	Rating Fa	Bending	Top Fiber		29.65	17.62	6.41	3.99	3.84	4.24	4.62	13.14	4.54	414	3.75	3.86	6.54	17.77	29.91		1			
		AR		σ _{v-} ιL+I(MPa) -	21.867	8.167	5.743	7.887	6.513	7.085	6.157	7.840	6.246	7.408	6.702	6.995	6.753	8.906	5.653	7.511	20,160				
		SHEAR		ر الله (KN) 5∿لل+۱(MPa)	285.37	217.20	155.64	205.85	248.52	360.70	289.38	273.79	168.64	258.68	315.00	356.10	257.71	232.45	153.19	199.77	263.09				
TOP UNIT OF	INFAUI			١ġ	0.0	35.68	39.35	60.40	9.42	4.81	4.84	15.34	39.86	15.16	4.82	4.80	9.13	61.44	39.72	35.37	0.00		(net	(
		ING	σ _{b-LL+I} (MPa)	Top Fiber	0.00	7.37	12.38	32.52	29.41	29.29	27.39	27.24	15.91	27.35	27.84	29.64	29.99	32.47	12.35	7.34	0.00		/ Inner St		
	-	BENDING	(m-n)	Max. +M	0.00	1163.80	1536.10	1351.76	391.64	409.77	326.37	523.40	1423.69	517.35	325.16	408.56	379.55	1374.73	1550.61	1153.89	0.00		15 24 / I + 38 / Inner Snan	0.187	
	ĺ		MLLHH (KN-m)	MaxM	0.00	-240.54	-483.51	-727.68	-1223.39	-2493.69	-1847.00	-929.78	-568.12	-933.53	-1877.22	-2523.91	-1247.45	-726.47	-482.30	-239.34	0.00		-		
		AR	110-1	24-DL (IVIF-d)	21.30	3.95	3.01	10.34	12.13	11.37	10.45	11.80	1.58	11.80	11.36	11.47	12.37	7.70	2.82	6.43	20.54		(uan)	Ì	
		SHEAR	V AVAN		278.00	105.00	81.70	270.00	463.00	579.00	491.00	412.00	42.70	412.00	534.00	584.00	472.00	201.00	76.40	171.00	268.00		15.24 / L + 38 (Outer Snan)	Controls	
DEAD LOAD			MPa)	Bot. Fiber	0.00	47.67	47.18	37.49	-53.52	-58.64	-54.81	-45.07	38.08	-46.82	-55.80	-59.82	-55.28	41.43	48.46	48.43	0.0		15.24/L+3	0.209 (
	'n	BENDING	σ _{b-0L} (MPa)	Top Fiber	0.00	-47.67	-47.18	-37.49	53.52	58.64	54.81	45.07	-38.08	46.82	55.80	59.82	55.28	-41.43	-48.46	-48.43	0.00	* Impact Load	") 1	
X			M. KNIM		0.00	1555.00	1842.00	839.00	-2226.00	-4993.00	-3695.41	-1538.00	1360.00	-1598.00	-3762.00	-5094.00	-2299.00	927.00	1892.00	1580.00	0.00	ľ			
SSES		(allow)		(MPa)	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.6		(1+71)		
ALLOWABLE STRESSES		ת. (allow) ת. (allow)		(MPa)	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171		city - (DL))/		
ALLOW		Ą		(MPa)	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	Rating Factor Formula	RF = [Member Capacity - (DL)] / (LL + ()		
		handing	R	(m ^{\$})	0.01460	0.02169	0.02645	0.01460	0.03968	0.10837	0.07922	0.02979	0.02411	0.02979	0.07922	0.10837	0.03968	0.01460	0.02645	0.02169	0.01460	Rating Fact	RF = [M]		
OPERTIES		5	1	Ē	0.65250	0.66490	0.67750	0.65250	0.95400	1.27270	1.17500	0.87300	0.67500	0.87300	1.17500	1.27270	0.95400	0.65250	0.67750	0.66490	0.65250				
SECTION PROPERTIES		Actor		(m²)	0.01305	0.02660	0.02710	0.02610	0.03816	0.05091	0.04700	0.03492	0.02700	0.03492	0.04700	0.05091	0.03816	0.02610	0.02710		0.01305	ating Rating	al)	nding)	
		Aaroes		(m_2)	0.04760	0.07170	0.08320	0.04760	0.07226	0.10480	0.09214	0.06529	0.07300	0.06529	0.09214	0.10480	0.07226	0.04760	0.08320	0.07170	0.04760	ses for Oper	$\sigma_a = 0.75 \text{ fy}$ (Axial	$\sigma_b = 0.75 \text{ fy}$ (Bending	
	-1	SECTION	1		1	2	~	4	2	9	-	~	6	ę	1	12	13	14	5	16	17	* Allowable Stresses for Operating Rating	$\sigma_a = 0$	$\sigma_b = 0$	

Appendix 20.1.4-3 (6/24)

		_				_										, -		
	\checkmark	······	(m)	•	(u) 		(x)(x) (x)(x)		•	(e)	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	(1 3)	(1	(3 5)	(9)	(±)		
		- z														· [] =		
	R	ABUT. A				\square						1				ABUT.B		
						Pier 1					E	PIER 2						
C. INTERIOR GIRDER G4							SUPE	ERSTRI	SUPERSTRUCTURE PROFILE	E PROI	FILE							
Description									Section								Γ	
nooduboon	-	2		4	5	i	1 1	8	6	10	11	12	13	14	15	16	11	
Dead Load Moments in kN-m	0.0	1478.00	1693.00	800.00	-2207.00			-1366.00			-3160.00	-4350.00	-1900.00	720.00	1653.00 1	1468.00	0.0	
Dead Load Shear in kN	298.00	126.00	-63.20	-223.00	-460.00	-584.00	493.00	353.00	27.40	-	-470.00		1		+	+	-291.00	
LIVE LOAD LANE LOADING												1			۰ ا	-		
Max Lane Ldng Moment in kN-m	0.00	-248.00	<u> </u>		-1211.00	0	-1803.00	-840.00	-613.00	-832.00	-1788.00	-2287.00	-1205.00	-762.00	-496.00	-248.00	0.00	
Max. + Lane Ldng Moment in kN-m	0.00	846.00		1215.00	204.00	0.00	0.00	118.00	1236.00	118.00	0.00	0.00		+		_	0.00	
Max Lane Ldng Shear in kN	0.00	0.00		-148.00	-223.00	-243.00	0.00	0.00	-		-223.00	-233.00	0.00		+	+	-161.00	
Max. + Lane Ldng Shear in kN	161.00	120.00	37.90	0.00	0.00	235.00	209.00	195.00	54.00	0.00	0.00		212.00	107.00	╋		0.00	
LIVE LOAD TRUCK LOADING																-].	
Max Truck Loading Moment in kN-m	0.0	-282.0	-588.0	-898.0	-1331.0	-1613.0	⊢	-1065.0	\vdash		-1304.00	-1611.00 -	-1326.00	-895.00	-588.00	-297.00	0.00	JVDMI
Max.+ Truck Loading Moment in kN-m	0.0	1403.0	1752.0	1510.0	443.0	507.0	407.0	646.0		644.0				+	+		0.00	1 - 35 m -
Max Shear in kN	-44.30	-44.30	-117.00	-181.00	-264.00	-292.00	ļ	-43.40		-	-283.00	+	-	+-	+	-	-251.00	÷
Max. + Shear in kN	278.00	204.00	126.00	69.30	17.20	298.00	293.00	267.00		-	43.20		+	+	+	+	44.10	
MAXIMUM LIVE LOAD MOMENTS AND SHEAR (WITH IMPACT AND DF	(WITH IMP	ACT AND D	Ē)			1						4	-	-	-	-		
Max. Live Load (-) Moment in kN-m	0.00	-340.87	-710.76		-	-2794.67		-1287.34	- 740.97	-1290.96	-2161.28	-2764.45 -	-1602.83	-1081.85	-710.76	-359.00	0.00	
Max. Live Load (+) Moment in kN-m	0.00	1695.90		1825.24	535.48	612.84	491.97		2040.40	_	_	-	_		-	-	0.00	
Max. Live Load (-) Shear in kN	-53.55	-53.55			-319.11	-352.96	-52.46					-352.96		<u> </u>	_	-	-303.40	
Max. Live Load (+) Shear in kN	336.04	246.59	152.30	83.77	20.79	360.21	354.17	322.74	┝╍┥	$ \rightarrow$		\downarrow			1		53.31	
FRACTION OF SIDEWALK INFLOAD FDOM EXTEDIOR CIDDED CA			06.261	210.13	313.11	17.000	12.400	322.14	la.cat	297.36	342.08	369.88	360.45	246.59	154.72	221.20 3	303.40	
Sidewalk Live Load Momonts in IM m		DUDEN OI	101 00	00.01	100.00	00 170	010 00	- H	H	ŀ	ŀ	ł	+	H	-			
Sidewalk Live Load Multiellis III KIN-III	13 00	-00.00	- 121.00	-49.30	103.UU	31/.00	248.00	113.00	+	_	236.00	┯		-			0.00	
		TPIICKI		21.12	00.62	- nr. nr	00.02-	-	- nc:11-	32.30	-33.10	- 38.50	-39.20	-26.30	-9.75	14.90	14.70	
FOR OPERATING LEVEL			_															
Max. Live Load (-) Moment in kN-m	0.00	-445.55	-857.02	-1145.07	-1608.87	-2794.67	-2179.41	-1287.34	- 87.706-	-1290.96	-2161.28	-2764.45	-1602.83	-1166.82	-871.52 -	471.30 (0.00	
Max. Live Load (+) Moment in kN-m	0.00	1695.90		1825.24	732.51	996.02	791.74		2040.40		771.19			+			0.00	
Max. Live Load (-) Shear in kN	-70.35	-70.59		-218.79	-319.11	-352.96	-86.67	 —	_		-	-	+	_	+		-303.40	
Max. Live Load (+) Shear in kN	336.04	246.59	_	112.90	56.45	396.60	354.17	322.74			52.22	 	⊢		154.72	+	71.08	
Max. Shear in kN	336.04	246.59	152.30	218.79	319.11	396.60	354.17	322.74	165.60	297.36		400.71	360.45		154.72 2		303.40	
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Appendix 20.1.4-3 (7/24)

43.4 m. 15.24 / L + 38 0.1872236

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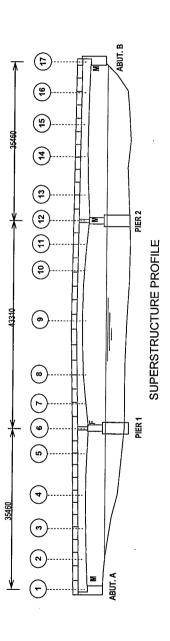
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A.20 - 62

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C.1 INVENTORY LEVEL

A.20 - 63

SECTION /	SEC	SECTION PROPERTIES	ERTIES	_	ALLOWAL	ALLOWABLE STRESSES	ş		DEAD LOAD				5	LIVE LOAD plus IMPACT	us IMPACT			2	LOAD RATING	ſ	FOLIN HCON		Stadlard - State State State of the State
	A A	A			2 2	G. (allow) G. (allow)	Aurolle	BENDING	5	SHEAR	AR		BENDING	ING		SHEAR	R	Rating Fac	Rating Factor, RF=(R-D)/L(1+I)		Tons]	. (8	
	-		_	Bunnua					σ _{b-DL} (MPa)			MLL+1 (KN-m)	(m-n)	σ _{b-L1+I} (MPa)				Bending	ina i	: -			REMARKS
				-	(MPa) ((MPa) (M	(MPa) MoL (NN-III)	₽	r Bot. Fiber	Apr (NN)	σ _{v.DL} (MPa)–	MaxM	₹	Top Fiber	<u>la</u>		α^-רד+i(MPa)	Top Fiber	Bot Fiber	Shear	Bending	Shear	
-		0.01305 0.65	0.65250 0.0	0.01460 2	228.00	125.4 75	75.24 0.00	0.00	0.00	298.00	22.84	0.00	0.00		0.00	336.04	25.750			2.04		65 12	Shear Controle
7		0.02660 0.66	0.66490 0.0	0.02169 2	228.00	125.4 75	75.24 1478.00	.00 45.31	45.31	126.00	4.74	-340.87	1695.90	10.45	51.99	246.59	9.272	16.34	1.54	7.60	49.30	243.33	Rending Controle
3	0.08320 0.0	0.02710 0.67	0.67750 0.0	0.02645 2	228.00	125.4 75	75.24 1693.00	.00 43.36	43.36	63.20	2.33	-710.76	2117.76	18.21	54.24	152.30	5.620	10.0	151	19 97	48.40	415.13	Banding Controls
4	0.04760 0.0	0.02610 0.65	0.65250 0.0	0.01460 2	228.00	125.4 75	75.24 800.00	00 -35.75	35.75	223.00	8.54	-1085.47	1825.24	48.50	81.56	218.79	8.383	332	19	90-Z	35.18	254 61	Banding Controls
5	0.07226 0.0	0.03816 0.95	0.95400 0.0	0.03968 2	228.00	125.4 75	75.24 -2207.00	.00 53.06	-53.06	460.00	12.05	-1608.87	535.48	38.68	12.87	319.11	8 363	1 87	12.00	7.66	10.00	10,702	
9	0.10480 0.0	0.05091 1.27	1.27270 0.1	0.10837 2	228.00	125.4 75	75.24 4608.00	00 54.12	-54.12	584.00	11.47	-2794.67	612.84	32.82	06 2	360.24	7 076	3 47	00.51	00.7	10.50	241.70	
7	0.09214 0.0	0.04700 1.17	1.17500 0.0	0.07922 2	228.00	125.4 75	75.24 -3346.00	00 49.63	-49.63	493.00	10.49	-2179.41	401.07	20 23	7 30	364.17	7 526	100	10.12	0.50	19.30	EC.002	pending controls
8	0.06529 0.0	0.03492 0.87	0.87300 0.0	0.02979 2	228.00	┝	╋	5	40.03	353.00	10 11	1027 DA	10.101 20.007	07.70	00 40	11.000	000.1	5, 5,	R: 07	R:0	10.61	2/4.9/	Bending Controls
8	0.07300 0.0	0.02700 0.67	+	╀	╇	+	+		00.00	01.000	1.0	10.10.21	00'00'	21.12	00'77	922.14	3.242	077	57.	9;	/2.43	225.51	Bending Controls
	╋	+	-+-	+	+	╉	-+	ې 	97.92 70	21.40	1.01	-740.97	2040.40	20.74	57.12	165.60	6.133	7.31	1.74	12.10	55.54	387.26	Bending Controls
	+	+	+	_		-	-	8	-36.86	331.00	9.48	-1290.96	778.45	37.83	22.81	297.36	8.515	2.34	7.11	7.72	74.90	247.12	Bending Controls
	_	-+	+	+	-	_	75.24 -3160.00	.00 46.87	-46.87	470.00	10.00	-2161.28	485.92	32.06	7.21	342.08	7.278	2.45	23.90	8.96	78.39	286.84	Bending Controls
-+	-		-	-		_	75.24 4350.00	1.00 51.09	-51.09	542.00	10.65	-2764.45	609.22	32.47	7.15	369.88	7.266	2.29	24.67	8.89	73.25	284.49	Bending Controls
	-		-+		4	_	75.24 -1900.00	.00 45.68	-45.68	419.00	10.98	-1602.83	513.73	38.54	12.35	360.45	9.446	2.07	13.85	6.80	66.19	217.69	Bending Controls
	-				_	125.4 75	75.24 720.00	00 -32.18	32.18	231.00	8.85	-1081.85	1786.56	48.35	79.84	246.59	9.448	3.26	1.17	7.03	37.36	224.86	Bending Controls
		_			_	125.4 75	75.24 1653.00	00 42.34	42.34	68.10	2.51	-710.76	2206.00	18.21	56.50	154.72	5.709	9.21	1.47	12.74	47.04	407.63	Bending Controls
				0.02169 2		125.4 75	75.24 1468.00	00 45.00	45.00	122.00	4.59	-359.00	1657.22	11.01	50.80	221.20	8.317	15.48	1.58	8.49	50.64	27183	Bending Controle
17 (0.04760 0.0	0.01305 0.65	0.65250 0.0	0.01460 2	228.00	125.4 75	75.24 0.00	0.00	0.00	291.00	22.30	0:00	0.00	0.00	0.00	303.40	23.249			2.28		72.87	Shear Controls
* Allowable Stresses for Inventory Rating	s for inventor	v Rating	* Rai	* Rating Factor Formula	Formula												1						
$\sigma_a = 0.5$	$\sigma_a = 0.55 \text{ fy} (Axial)$		-	RF = [Mem	nber Capacit	RF = { Member Capacity - (DL)] / (LL + 1)	(/+																

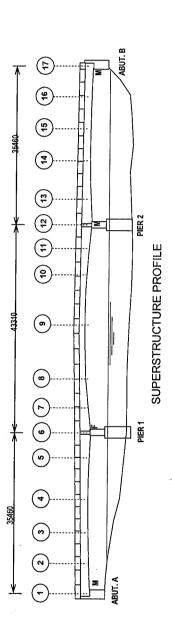
 $\sigma_b = 0.55 \text{ fy}$ (Bending) $\sigma_v = 0.33 \text{ fy}$ (Shear)

Appendix 20.1.4-3 (8/24)

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C.2 OPERATING LEVEL

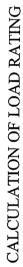
A.20 - 64

υ_a = υ.τοτγ (Αχιατ) σ_b = 0.75 fγ (Bending) σ_v = 0.45 fγ (Shear)

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Appendix 20.1.4-3 (9/24)

	٩	ABUT. A								-						ABUT.B		
						Pier [] =	PIER 2						
D. INTERIOR GIRDER G5							SUPI	ERSTRI	SUPERSTRUCTURE PROFILE	E PROI	ШШ							
Description									Section								ſ	
lindinos	+	2	3	4	5	9	2	8	6	10	11	12	13	14	15	16	17	
Dead Load Moments in kN-m	0.00	1470.00	1696.00	200.00	-1979.00	-4658.00	-3384.00	-1365.00	1011.00	-1380.00	-3410.00	-4678.00	-1984.00	806.00		1794.00	0.00	
Dead Load Shear in kN	297.00	128.00	-62.00	-225.00	-433.00	-586.00	496.00	356.00	18.70	-357.00		-	437.00	-	-	+	-298.00	
LIVE LOAD LANE LOADING									-	-					1	-		
Max Lane Ldng Moment in kN-m	0.00	-248.00	-496.00	-759.00		-2308.00	-1793.00	-836.00	-611.00	-837.00	-1796.00	-2302.00	-1215.00	-759.00	495.00	-244 00	000	
Max. + Lane Ldng Moment in kN-m	0.00	846.00	1318.00	1196.00		0.00	0.00	116.00		-			_	+	-	856.00	0.00	
Max Lane Ldng Shear in kN	-37.10	-37.10	-49.50	-141.00	-204.00	-223.00	0.00	0.00		-181.00	-212.00	-221.00	+-	_	_	+	144.00	
Max. + Lane Ldng Shear in kN	144.00	107.00	51.60	0.00	0.00	222.00	199.00	182.00	75.30	0.00	0.00	223.00	204.00	141.00	┢	-	37.30	
LIVE LOAD TRUCK LOADING																		
Max Truck Loading Moment in kN-m	0.00	-289.00	-570.00	-871.00	-1288.00	-1557.00	-1260.00	-1036.00	-392.00	-1033.00	-1260.00	-1562.00	-1291.00	-873.00	-572.00	-286.00	000	JVDNI
Max.+ Truck Loading Moment in kN-m	0.00	1336.00	1757.00	1428.00		490.00	389.00	613.00	1646.00	1	-	_	+		_	1372.00	0.00	= 35 m -1
Max Shear in kN	-42.90	-42.90	-128.00	-202.00		-287.00	-42.00	-42.00	-127.00	-262.00	-286.00	-15.00	+				-261.00	15 24 /1 + 35
Max. + Shear in kN	244.00	184.00	105.00	45.50	15.00	281.00	269.00	242.00	127.00	42.00	42.00	279.00	252.00	180.00	109.00	+	43.00	
MAXIMUM LIVE LOAD MOMENTS AND SHEAR (WITH IMPACT AND DF)	R (WITH IM.	PACT AND L	JF)															
Max. Live Load (-) Moment in kN-m	0.00	-349.33	-689.00	-1052.84	-1556.89	-2789.83	-2167.32	-1252.28	-738.56	-1248.66 -2170.95 -2782.58	2170.95	-2782.58	-1560.52	-1055.25	-691.41	-345.71	0.00	
Max. Live Load (+) Moment in kN-m	0.00	1614.91	2123.80	1726.12	535.48	592.30	470.21	740.97	1989.63		471.42	591.09				1658.43	0.0	
Max. Live Load (-) Shear in kN	-51.86	-51.86	-154.72	-244.17	-325.16	-346.92	-50.77	-50.77	-153.51	-316.70	-345.71	-267.14	-18.13		-152.30		-315.49	
Max. Live Load (+) Shear in kN	294.94	222.41	126.92	55.00	18.13	339.66	325.16	292.52	153.51	50.77	50.77	337.25	304.61	217.58	131.76	51.98	51.98	
EDAMTON OF ONE WALLY IN IT O AD FOOL FUNCTION OF THE OFFICE	5/4/24	222.41	154.72	244.17	325.16	346.92	325.16	292.52	153.51	316.70	345.71	337.25	304.61	217.58	152.30	245.38	315.49	
Sitewalk I incload Memory in the			110.00	00.01	110.00	000.00		H	┢	ŀ				ł				
Sidewalk Live Load Molificities III MIN-III	0.00	00.20	-119.00	-48.50	00.2¢L	238.00	232.00		_		231.00	295.00	150.00		-119.00	-86.20	0.00	
TOTAL LANE LOAD SILEAR IN KIN-III	-13.80	-13.90	90.¢	23.20	28.50	30.00	-27.00	-26.60	-9.54	26.00	28.00	-28.20	-23.40	-23.20	5.18	14.10	14.80	
I O I AL LEVE LUAU MOMENT AND SHEAK (SIDEWALK LL + I RUCK LL) FOR OPERATING LEVEL	JEWALK LL	+ IRUCK LI	~															
Max. Live Load (-) Moment in kN-m	0.00	-453.53	-832.84	-1111.94	-1556.89	-2789.83	-2167.32	-1252.28	-882.40	-1248.66	-2170.95	-2782.58	-1560.52	-1113.52	-835.26	06 677	000	
Max. Live Load (+) Moment in kN-m	0.00	1614.91	2123.80	1726.12	719.22	952.51	750.64	869.10	-	-				-	+	1658.43	000	
Max. Live Load (-) Shear in kN	-68.54	-68.66	-160.84	-244.17		-346.92	-83.40	-	<u> </u>	_	-345.71	┢	_	-	+	_	-315.49	
Max. Live Load (+) Shear in kN	294.94	222.41	126.92	83.04	52.58	375.93	325.16		· · ·		84.61	337.25				_	69.87	
Max. Shear in kN	294.94	222.41	160.84	244.17	325.16	375.93	325.16	292.52	165.05	316.70	345.71	337.25	304.61	-	-	+	315.49	
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Appendix 20.1.4-3 (10/24)

43.4 m. 15.24 /L + 38 0.1872236

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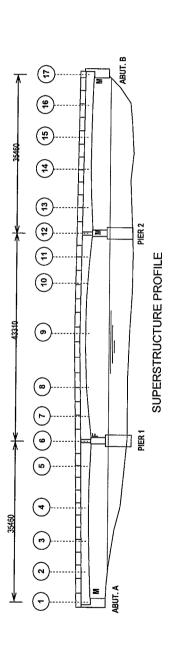
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D.1 INVENTORY LEVEL

A.20 - 66

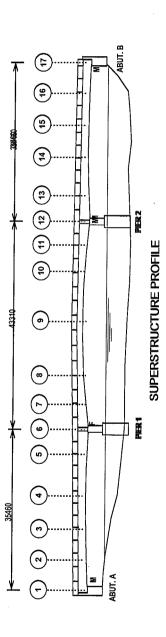
		SECTION PROPERTIES	OPERTIES		ALLO	ALLOWABLE STRESSES	TRESSES			DEAD LOAD		EAD LOAD II III			IVE LOAD	LIVE LOAD plus IMPACT				LOAD RATING		FOUN HC20		Server of the Later Country
SECTION /	Annee	Arrest		handles	ţ.	G. (allow	رد. (allow) م (allow)	1	BENDING		HS	SHEAR		BEN	BENDING		SHEAR	AR	Rating Fac	Rating Factor, RF=(R-D)/L(1+I)		Tons]	s)	
LOCATION			1	Runna						σ _{b-bt} (MPa)				M _{LL+1} (KN-m)	0butt+	σ _{btt+i} (MPa)			Bending		•			REMARKS
	(m²)		(L)	(m ⁴)	(MPa)	(MPa)	(MPa)	(m-m) /mm	Ър	Bot. Fiber	V _{DL} (KN)	σ _{v-DL} (MPa)	Mau	Max. +M	Top Fiber	Bot. Fiber	VLL+I (KN) 0, LL+I (MPa)	σ _{v-LL+t} (MPa)	Top Fiber	Bot Fiber	Shear	Bending	Shear	
-	0.04760	0.01305	0.65250	0.01460	228.00	125.4	75.24	0.00	0.00	0.00	297.00	22.76	0.00	0.00	0.00	0.00	294.94	22.601	_		2.2		74 34	Chose Controlo
2	0.07170	0.02660	0.66490	0.02169	228.00	125.4	75.24	1470.00	-45.06	45.06	128.00	4.81	-349.33	1614.91	10,71	49.51	222.41	8.363	15.02	169	849	£1 02	00 000	Bandian Control-
3	0.08320	0.02710	0.67750	0.02645	228.00	125.4	75.24	1696.00	43.44	43.44	62.00	2.29	-689.00	2123.80	17.65	54 40	154.72	5 700	0.67	1 1 1	43.70	10.94	400.43	
4	0.04760	0.02610	0.65250	0.01460	228.00	125.4	75.24	790.00	-35.30	35.30	225.00	8.62	-1052.84	1726.12	47.04	77.13	244 17	0.755	3.47	5	7 49	10.21	400.03	Bending Controls
5	0.07226	0.03816	0.95400	0.03968	228.00	125.4	75.24	-1979.00	47.58	-47.58	433.00	11.35	-1556.89	535.48	37.43	12.87	325.16	8.521	3 N8	13 44	7 50	01.10	10.122	Bending Controls
9	0.10480	0.05091	1.27270	0.10837	228.00	125.4	75.24	4658.00	2	-54.70	586.00	11.51	-2789.83	592.30	32.76	6.96	346.92	6.815	2.46 2.16	25,89	0.35	40 JE	200.90	Bending Controls
7	0.09214	0.04700	1.17500	0.07922	228.00	125.4	75.24	-3384.00	50.19	-50.19	496.00	10.55	-2167.32	470.21	32.15	6.97	325.16	6.918	234	25.18	9.35	74.87	200.20	Bending Controls
•	0.06529	0.03492	0.87300	0.02979	228.00	125.4	75.24	-1365.00	40.00	-40.00	356.00	10.19	-1252.28	740.97	36.69	21.71	292.52	8.377	233	7.62	776	74.48	248.47	Bonding Controls
6	0.07300	0.02700	0.67500	0.02411	228.00	125.4	75.24	1011.00	-28.30	28.30	18.70	0.69	-738.56	1989.63	20.68	55.70	153.51	5.686	743	174	13 14	55.78	110.57	Bending Controls
10	0.06529	0.03492	0.87300	0.02979	228.00	125.4	75.24	-1380.00	40.44	-40.44	357.00	10.22	-1248 66	728.80	36.50	21 26	246.70	0.060	000	24.6	112	01.00	10.514	
11	0.09214	0.04700	1 17500	0 07922	228.00	125.4	+	╋	2	ED EO	407.00		7470.01	114.10	00.00	21.40	210.07	2.003	707	9.1	1	14.51	223.41	Bending Controls
19	0 10480	+	1 27270	0 10837	228.00	105.1	+	+	3 3	00.00-	431.00	10.01	CR.U/12-	4/1.42	32.20	0.99	345.71	7.355	2.32	25.17	8.79	74.36	281.33	Bending Controls
: 4	0.07296	+	D DEADO	0.02020	00 000	1021		+	f i	5.5.	00'0AC	AC 11	86.28/2-	591.09	32.68	6.94	337.25	6.625	2.16	25.98	9.61	69.00	307.46	Bending Controls
2	07710.0	+	0.920-0	0.03900	720.00	4.021	+	·	₹	-47.70	437.00	11.45	-1560.52	825.59	37.52	19.85	304.61	7.982	2.07	8.72	7.99	66.27	255.71	Bending Controls
4	0.04760	-+	0,62,63.0	0.01460		125.4	75.24	806.00	-36.02	36.02	227.00	8.70	-1055.25	1745.46	47.16	78.01	217.58	8.336	3.42	1.15	7.98	36.66	255.43	Bending Controls
5	0.08320	_	0.67750	0.02645	228.00	125.4	75.24	1710.00	-43.80	43.80	60.90	2.25	-691.41	2106.88	17.71	53.96	152.30	5.620	9.55	1.51	12.99	48.39	415.61	Rending Controle
ę	0.07170	_		0.02169		125.4	75.24	1794.00	-54.99	54.99	124.00	4.66	-345.71	1658.43	10.60	50.84	245.38	9.226	17.02	1,38	7,65	44.32	244 79	Bending Controls
=	0.04760	0.01305	0.65250	0.01460	228.00	125.4	75.24	0.00	0.00	0.00	298.00	22.84	0.00	0.00	0.00	0.00	315.49	24.175			2.17		69.37	Shear Controls
* Allowable Stresses for Inventory Rating	sses for Inve.	vntory Rating		* Rating Fat	* Rating Factor Formula	.05											1			1				
σ, ≃t	$\sigma_s = 0.55$ fy (Axial	ial)		$RF = / \Lambda$	RF = [Member Capacity - (DL)] / (LL + /)	acity - (DL	/+T)//("																	
1	0.55 6. / 0	1		•	•																			

σ_a = 0.55 fy (Axial) σ_b = 0.55 fy (Bending) σ_v = 0.33 fy (Shear)

Appendix 20.1.4-3 (11/24)

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D.2 OPERATING LEVEL

A.20 - 67

SHEAR Rating VL ₁₁ (KN) $\sigma_{wL14} (km_a)$ Be VL ₁₁ (KN) $\sigma_{wL14} (km_a)$ Be 2294.34 22.601 - 222.41 8.363 15.54 160.84 5.935 10.05 225.16 8.363 15.54 375.93 7.384 3.55 375.66 6.118 3.56 375.66 6.148 3.57 325.16 6.918 3.57 325.16 6.171 3.55 325.16 6.171 3.57 325.16 6.173 3.57 345.71 7.355 3.77 355 3.625 3.77 364.61 7.982 3.29 152.30 5.620 10.04 152.30 5.620 10.04 315.49 24.175 -			SECTION PROPERTIES	ROPERTIES	5	ALLON	ALLOWABLE STRESSES	RESSES			DEAD LOAD				EAD LOAD	IVE LOAD -	LIVE LOAD nins IMPACT	L			I OAD DATING	AN DUNGTON OF			AND REAL OF A DESCRIPTION
Tark Name Y Doc and target Description Descripion Description Descripion	RECTION	V	V	[,		4				BENDING	ſ	HS SE	AR		BENC	DNIC			AR	Ratino Fa	otor RF=(B.		EQUIV. HSZ Ton	2	
(m) (m ¹) (M ²⁰) (M		2gross	Shear	i.	bending	2	G _b (allow	r) σ _v (allow	_	L	(MPa)						(MDA)			Rinnavi		11.11.1		10	REMARKS
0.65251 0.01460 27.00 11 102.6 0.00 0.00 29.44 22.601 3.33 113.05 0.667530 0.01460 27.00 11 102.6 16.00 26.00 27.13 16.44 16.35 16.44 16.35 16.44 16.36 16.46 16.00 27.13 24.11 27.13 24.11 27.13 24.11 27.13 24.11 27.33 16.36 55.30 15.44 16.36 55.30 55.31		(m ²)	(m²)	(u)	(m ⁴)	(MPa)	(MPa)	(MPa)		la B	Bot. Fiber		σ _{v.bt} (MPa)	MaxM	Max. +M	Ton Fiber	(Mraj Bot Fiber	VLL+I (KN)	σ _{v-tL+i} (MPa)	Ton Fiber	ding Rof Eiher	Shear	Bending	Shear	
0.06490 0.02160 238.00 11 102.6 470.00 45.06 5.00 2.83 16.43 13.93 45.41 8.33 15.44 2.54 11.00 0.00 0.05770 0.02966 238.00 171 102.6 470.00 45.44 8.200 229 382.00 177.13 244.17 9.356 16.60 75.04 56.30 37.16 0.65770 0.02966 238.00 171 102.6 493.00 113.7 174.12 244.17 9.356 16.67 16.76 17.66 16.76 17.7 17.33 244.17 9.356 16.37 17.73 244.11 9.356 16.36 75.34 16.36 75.04 26.70 <	1	0.04760	0.01305	0.65250	0.01460	228.00	171	102.6	0.00	0.00	0.00	297.00	22.76		0.00	0.00	000	294.94	22 601			3 53		112 DE	Chan Carteria
0.67750 0.0784 228.00 171 1026 1530 1733 54.40 160.44 53.35 17.10 <th< td=""><td>2</td><td>0.07170</td><td>0.02660</td><td>0.66490</td><td>0.02169</td><td>228.00</td><td>171</td><td>102.6</td><td>-</td><td>-45.06</td><td>45.06</td><td>128.00</td><td>4.81</td><td>-453.53</td><td>1614.91</td><td>13.90</td><td>49.51</td><td>222.41</td><td>R 363</td><td>15 54</td><td>2 5.4</td><td>11 60</td><td>04 40</td><td>01.611</td><td>Shear Controls</td></th<>	2	0.07170	0.02660	0.66490	0.02169	228.00	171	102.6	-	-45.06	45.06	128.00	4.81	-453.53	1614.91	13.90	49.51	222.41	R 363	15 54	2 5.4	11 60	04 40	01.611	Shear Controls
0.065250 0.01460 228.00 171 1026 790.00 35.30 35.30 25.50 85.70 115.13 117.20 0.00 10.00	3	0.08320	0.02710	0.67750	0.02645	228.00	171	102.6	\vdash	43.44	43.44	62.00	2.29	-832.84	2123.80	21.33	54.40	160.84	5.025	10.01	5.0	15.00	01.40	3/4.13	
0.03968 228.00 171 102.6 1979.00 47.58 47.58 43.00 11.51 2786.89 719.22 37.43 17.29 35.76 8.57 3.0 12.64 10.71 105.70 20 425.70 11.750 0.0399 228.0 171 102.6 458.00 54.70 54.70 56.00 11.51 2788.83 95.251 32.76 11.19 355.9 7.34 355 20.18 12.34 113.58 34.73 37.7 11.750 0.0399 228.0 171 102.6 458.00 54.70 56.00 11.51 2788.83 95.251 32.76 11.19 355.9 7.34 355 20.18 12.34 113.58 33.73 32.7 123 23.75 113.5 23.55 16 5.91 2.73 113.58 34.73 20.0 1257 11.0 125 133.0 120.0 125 133.0 120.0 125.1 11.3 25.16 5.91 3.75 20.18 13.7 12.34 113.58 32.97 13.0 120.0 125.1 11.750 0.0399 228.0 171 102.6 138.0 10.4 0.00 36.0 0 10.59 18.70 0.69 82.2 35.76 11.13 35.7 35.7 35.7 13.57 13.57 13.57 13.5 14.13 35.2 14.7 35.9 11.10 11.0 12.6 138.0 10.4 0.00 30.4 40.0 356.0 10.57 1282.2 89.1 36.9 11.13 35.7 13.57 13.57 13.5 11.13 11.1 12.5 13.40 11.0 12.6 13.8 19.7 13.0 12.6 13.9 13.7 13.5 13.9 120.2 124.6 13.9 13.7 13.5 14.1 3.5.9 13.0 11.10 12.5 13.0 10.9 12.4 11.13 33.7 15 13.0 12.6 13.0 13.6 13.0 13.6 13.0 13.7 11.13 33.7 11.13 33.7 11.13 33.7 11.13 33.7 11.13 33.7 11.13 33.7 11.13 33.7 11.13 33.7 11.13 33.7 11.13 33.7 11.13 11.1 12.5 13.4 13.0 12.6 13.0 13.7 11.13 33.7 11.13 33.7 11.13 33.7 11.13 33.7 11.13 33.7 11.1 12.5 13.0 13.0 13.0 13.9 13.1 11.13 33.7 11.13 33.7 11.13 33.7 11.13 13.1 11.2 13.0 13.0 13.1 11.2 11.2 11.2 11.2 11.2 11.13 11.1 12.5 13.0 13.0 13.1 11.13 13.7 11.13 13.7 11.2 13.0 13.1 11.2 13.1 11.2 13.1 11.2 11.2 11.2	4	0.04760	0.02610	0.65250	0.01460	228.00	171	102.6	\vdash	-35.30	35.30	225.00	8.62	-1111.94	1726.12	49.69	77.13	244 17	9.355	4 15	1 75	10.05	10.04	00.04C	Dealing Control
1.12720 0.10837 228.00 171 100.26 -64.70 54.70 54.70 56.00 11.11 0.0037 0.0036 0.0136	5	0.07226			0.03968	228.00	171	102.6	-1979.00	47.58	-47.58	433.00	11.35	-1556.89	719.22	37.43	17.29	325.16	8 521	3.30	12 64	10.71	105.E4	04-170	Bending Control
1.17500 0.07322 228.00 11 10.26 -3364.00 50.19 496.00 10.55 780.64 32.15 11.13 32.56 6.918 37.6 19.87 13.70 10.723 120.26 45.77 32.75 13.75	6	0.10480	0.05091	1.27270	0.10837	228.00	171	102.6	-4658.00	54.70	-54.70	586.00	11.51	-2789.83	952.51	32.76	11.19	375.93	7 384	3.55	20.18	12.1	113.59	304.79	Bending Control
0.07300 0.02979 228.00 171 1026 -1365.00 40.00 -40.00 366.00 10.19 -125.28 89.10 36.69 25.47 292.52 8.377 3.57 8.29 11.03 14.24 7.53349 0.05750 0.02411 228.00 171 1026 -1380.00 40.44 40.44 357.00 162 -1248.66 86.822 36.59 25.15 316.70 9069 3.57 8.47 10.19 114.19 235.94 11750 0.07927 228.00 171 1026 -1380.00 40.44 40.44 357.00 10.27 -1248.66 86.822 36.59 25.15 316.70 9069 3.57 8.41 10.19 114.19 235.94 11.1570 0.07927 228.00 171 1026 -3410.00 50.58 -50.56 477.00 57.69 11.13 345.71 7.355 3.77 7.35 3.74 19.90 12.51 11968 400.36 11.7270 0.09968 228.00 171 102.6 -4678.00 54.94 -54.94 550.00 11.59 750.64 32.20 11.13 345.71 7.355 3.57 8.20 11.47 102.6 4678.00 54.34 -54.94 550.00 11.59 750.64 32.20 11.13 345.71 7.355 3.55 2.0.30 13.74 113.55 4396 10.05620 0.07460 228.00 171 102.6 -4678.00 54.34 540.0 11.54 51.00 11.52 7170.9 11.52 6.625 3.55 20.30 13.74 113.55 4396 10.05620 0.07460 228.00 171 102.6 497.00 11.59 -7170 9.75 750.64 32.70 11.13 345.71 7.355 6.52 2.0.30 13.74 113.55 4396 10.05620 0.07460 228.00 171 102.6 1984.0 47.70 47.70 47.70 113.52 1745.46 4.9.77 7801 217.58 8.336 4.16 17.3 11.26 55.37 360.46 0.05620 0.07460 228.00 171 102.6 106.90 3.752 24.21 304.61 7.82 3.29 9.03 11.42 105.16 365.40 0.05620 0.07460 228.00 171 102.6 1700 0.350 228.00 11.35 7145.46 4.9.77 7801 217.58 8.336 4.16 7.73 11.26 55.37 360.46 0.05670 0.05649 0.07460 228.00 171 102.6 1700 0.00 2.98.00 2.25 -853.56 2166.80 37.52 24.21 304.61 7.78 2.30 11.42 105.16 365.40 0.0564 0.07460 228.00 171 102.6 1700 0.00 2.98.00 2.25 -853.52 1745.46 4.9.77 7801 277.58 2.30 11.04 2.36 17.26 75.3 371.36 10.54 12.56 10.55 10.54 12.56 15.50 10.04 10.04 11.22 17.58 8.336 41.6 11.23 11.26 75.3 351.6 105.54 12.52 12.52 13.52 13.54 12.56 15.55 11.42 12.56 15.55 11.42 105.16 355.4 10.54 12.56 15.56 11.52 12.52 15.56 15.50 15.50 11.42 12.56 15.52 13.55 15.56 15.52 13.52 13.54 13.55 15.56 15.56 11.52 11.55 15.56 15.55 15.56 15.55 15.56 15.55 15.56 15.55 15.56 15.55 15.56 15.55 15.56 15.55 15.56 15.55 15.56 15.55 15.56 15.55 15.56 15.55 15.56 15.55 15.56 15.55 15.56 1	7				0.07922	228.00	171	102.6	-3384.00	50.19	-50.19	496.00	10.55	-2167.32	750.64	32.15	11.13	325.16	6.918	3.76	19.87	13.30	120.26	475.76	Bending Control
0.67500 0.02411 228.00 171 10.26 1011.00 -28.30 18.70 0.65 6.113 8.07 2.66 16.70 17.73 0.0730 0.87300 0.02979 228.00 171 10.26 -1380.00 40.44 357.00 10.27 -1248.66 86.822 36.59 25.15 316.77 256 166.76 6113 80.7 256 161.9 114.9 255.94 1.17500 0.07922 228.00 171 10.26 -491.00 56.34 -59.56 497.00 10.57 -1248.66 86.822 36.59 25.15 316.77 7365 31.74 19.90 12.74 11.95 355.94 1.17500 0.07932 228.00 171 102.6 -47.70 477.00 11.55 17.64 37.75 6.62.5 35.76 13.74 13.56 43.67 35.64 35.76 13.74 13.56 43.66 35.7 86.47 105.16 55.75 14.65 15.76 55.7	8	0.06529	0.03492		0.02979	228.00	171	102.6	-1365.00	40.00	40.00	356.00	10.19	-1252.28	869.10	36.69	25.47	292.52	8.377	3.57	8 20	11 03	141 24	353.00	Dending Control
0.07300 0.02978 228.00 171 1026 -1380.00 40.44 -40.44 357.00 10.27 -1248.06 858.22 36.59 25.15 316.70 9059 3.57 8.41 10.19 14.19 235.94 11550 0.07922 228.00 171 1026 -3710.00 56.58 -50.58 497.00 10.57 -2170.95 750.64 32.20 11.13 345.71 7.355 3.74 19.90 72.51 11368 400.36 1.2270 0.07922 28.00 171 102.6 -4678.00 54.94 -54.39 580.00 11.55 750.64 32.20 11.13 345.71 7.355 3.74 19.90 72.51 11365 439.62 0.056 0.05650 0.07968 28.00 171 102.6 -4678.00 54.94 -54.39 580.00 11.55 750.64 32.20 11.13 345.71 7.355 3.74 19.90 72.51 113.65 439.62 0.05650 0.05650 0.07966 28.00 171 102.6 -4678.00 77.70 47.70 47.70 47.70 113.52 170.56 10.5 0 37.52 6.625 3.55 20.30 11.42 105.16 365.40 0.05650 0.07460 228.00 171 102.6 0.060 77.70 47.70 47.70 113.52 1756 8 37.6 11.13 37.75 6.625 3.55 20.30 11.42 105.16 365.40 0.05650 0.05660 0.07460 228.00 171 102.6 106.50 37.52 24.21 30.461 7.78 3.25 6.625 3.55 20.30 11.42 105.16 365.40 0.05650 0.05660 0.07460 228.00 171 102.6 106.50 37.52 24.21 30.461 7.78 13.6 15.2 13.6 13.73 11.26 55.37 360.46 0.05770 0.05640 0.00460 228.00 171 102.6 100.0 43.80 61.69 2.25 -835.25 176.58 2139 35.36 15.20 5.60 10.04 2.36 17.86 55.7 360.46 0.05640 0.01460 228.00 171 102.6 10.00 0.00 2.98.00 2.24 0.00 2.00 2.24 0.00 0.00 0.00 2.98.0 15.20 5.60 10.04 2.36 17.86 75.3 7.30 137.8 137.8 137.9 5.60 10.04 2.36 17.86 75.3 7.30 15.14 12.6 16.50 2.51 13.52 175.6 15.20 5.60 10.04 2.36 17.86 75.3 7.30 15.14 13.55 17.86 75.1 350.46 1.057 13.74 13.56 1.50 10.04 2.36 17.86 75.3 7.30 15.14 13.55 17.86 75.1 350.46 1.058 113.77 18.01 10.16 10.26 0.00 0.00 2.98.00 2.28.0 0.00 0.00 2.98.0 0.00 2.98.0 2.99 124.00 2.80 0.00 2.98.0 2.284 0.00 2.29 15.30 2.41 15.6 15.30 2.21 13.2 2.21 13.6 15.30 2.21 13.56 1.50 10.24 2.36 11.26 75.3 7.30 10.54 13.56 1.50 10.04 2.36 11.56 1.50 10.04 2.36 11.26 1.50 10.04 2.36 11.26 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50	5	0.07300	0.02700		0.02411	228.00	171	102.6	1011.00	-28.30	28.30	18.70	0.69	-882.40	1989.63	24.70	55.70	165.05	6.113	8.07	2.56	16.67	81 07	533.48	Banding Control
1.17500 0.07922 228.00 171 100.5 -3410.00 50.58 -50.58 497.00 10.57 -2170.95 750.44 32.20 11.13 37.25 6.65 3.74 19.90 12.74 11.86 400.36 1.27270 0.10837 228.00 171 102.6 -4678.00 54.94 590.00 11.45 -170.95 750.64 32.20 11.13 337.25 6.65 3.55 20.30 12.74 113.66 439.60 750.46 497.77 780.6 37.55 56.57 3.55 20.30 13.74 113.66 365.40 <t< td=""><td>\$</td><td>0.06529</td><td>0.03492</td><td></td><td>0.02979</td><td>228.00</td><td>171</td><td>102.6</td><td>-</td><td>40.44</td><td>40.44</td><td>357.00</td><td>10.22</td><td>-1248.66</td><td>858.22</td><td>36.59</td><td>25.15</td><td>316 70</td><td>0 ARD</td><td>2.67</td><td>0.44</td><td>40.40</td><td>444.40</td><td>10-100</td><td></td></t<>	\$	0.06529	0.03492		0.02979	228.00	171	102.6	-	40.44	40.44	357.00	10.22	-1248.66	858.22	36.59	25.15	316 70	0 ARD	2.67	0.44	40.40	444.40	10-100	
1.27270 0.10837 228.00 171 102.6 -4678.00 54.94 -54.00 1.55 94.01 37.25 6.625 3.55 1.374 113.66 400.36 0.95400 0.03966 228.00 171 102.6 -4678.00 47.70 47.80 49.77 78.01 <td>1</td> <td>0.09214</td> <td>_</td> <td>1.17500</td> <td>0.07922</td> <td>228.00</td> <td>14</td> <td>102.6</td> <td>ŀ</td> <td>50.58</td> <td>-50 58</td> <td>497.00</td> <td>10 57</td> <td>-2170 DE</td> <td>750.64</td> <td>00.00</td> <td>14 45</td> <td>210.00</td> <td>3.003</td> <td>10.0</td> <td>0.41</td> <td></td> <td>114.13</td> <td>5.025</td> <td>Bending Control</td>	1	0.09214	_	1.17500	0.07922	228.00	14	102.6	ŀ	50.58	-50 58	497.00	10 57	-2170 DE	750.64	00.00	14 45	210.00	3.003	10.0	0.41		114.13	5.025	Bending Control
035400 0.03966 228.00 111 102.6 -1984.00 77.70 47.70 47.70 1145 -1560.52 1006.90 77.52 24.21 304.61 7.982 3.35 20.30 13.74 113.65 439.62 05526 0.01460 228.00 111 102.6 1364.00 -36.02 277.00 8.70 113.52 1560.52 1066.90 77.52 24.21 304.61 7.982 3.29 9.03 11.42 105.16 35.37 364.6 057759 0.07845 228.00 111 102.6 1710.00 -36.03 0.36.02 227.00 8.70 -1113.52 1763.46 49.77 78.01 217.58 8.336 4.16 17.73 11.26 55.37 364.6 057759 0.07845 228.00 111 102.6 1710.00 -36.09 54.99 124.00 8.70 -1113.52 1763.46 49.77 78.01 217.58 8.336 4.16 17.73 11.26 55.37 364.6 0.056499 0.02166 228.00 171 102.6 1710.00 -36.09 54.99 124.00 4.66 449.90 153.6 2139 53.39 53.56 152.20 5.620 10.04 2.36 17.76 75.43 571.39 0.65499 0.021469 228.00 171 102.6 1794.00 -54.99 54.99 124.00 4.66 449.90 166.84.3 13.79 50.04 152.30 5.620 10.04 2.36 17.76 75.43 771.39 0.65499 0.65259 0.04469 228.00 171 102.6 1794.00 -54.99 54.99 124.00 4.66 449.90 166.84.3 13.79 50.04 122.30 5.620 10.04 2.36 17.76 75.43 771.39 0.65499 0.65259 0.04469 228.00 171 102.6 1794.00 0.00 200 20.02 22.84 0.00 0.00 0.00 315.49 24.53 9.226 16.39 2.28 10.66 75.3 739 55.96 145.74 75.88 75.38 9.226 16.39 2.28 10.66 75.43 771.39 75.54 771.39 75.54 75.54 771.39 75.54 75.54 75.54 75.54 75.54 75.54 75.54 75.54 75.54 75.54 75.54 75.54 75.55 75	12	0.10480	0.05091	_	0.10837	228.00	171	102.6	+	24 04	54 04	201.00	11 50	1207 50	10.001	72.20	2 4	740.11	1.300	3.74	19.90	12.51	119.68	400.36	Bending Control
065260 0.01460 28:00 111 102.6 806.00 -36.02 35.02 227.00 8.70 -113.52 1763.46 49.77 78.01 217.58 8.336 4.16 173 105.16 365.40 057760 0.07465 226.00 111 102.6 806.00 -36.02 227.00 8.70 -113.52 1763.46 49.77 78.01 217.58 8.336 4.16 173 11.26 55.37 360.46 05776 0.07645 226.0 111 102.6 173 0.12.6 54.39 124.00 -2.55 835.56 2106.88 21.39 53.39 53.56 152.20 5.620 10.04 2.36 17.86 75.43 571.39 0.66490 0.07169 228.00 171 102.6 174.00 -3.89 54.99 124.00 4.66 449.90 165.84.3 13.79 50.04 15.20 5.620 10.04 2.36 17.86 75.43 571.39 0.65260 0.04460 228.00 171 102.6 174.00 -54.39 54.39 124.00 4.66 449.90 165.84.3 13.79 50.04 2.36 15.20 5.620 10.04 2.36 17.86 75.43 571.39 0.65260 0.07460 228.00 171 102.6 174.00 -0.00 208.00 228.4 0.00 0.00 0.00 315.49 245.38 9.226 16.39 2.28 10.06 7.30 106.2 73.02 339.69 0.65260 0.04460 228.00 171 102.6 174.00 0.00 200 200 228.4 0.00 0.00 0.00 315.49 245.38 9.226 16.39 2.28 10.62 73.02 339.69 0.65561 0.6560 228.4 0.00 0.00 0.00 315.49 245.38 9.226 16.39 2.28 10.66 73.0 73.60 75.00 70.00 70.00 10.00 200 0.00 10.00 10.00 315.49 24.75 - 3 3.30 10.62 73.02 339.69 0.65561 77.66 7560 7500 2466 750.00 0.00 0.00 0.00 0.00 0.00 10.00 315.49 24.75 - 3 3.30 10.62 73.02 73.02 73.05 73.05 73.96 7560 750.00 70.00 70.00 756 756 756 7560 750.00 70.00 756 756 756 756 756 756 756 756 756 756	13	0.07226	0.03816			228.00	171	102 6	+	17 70	17.70	427.00	11.00	100.00	10.145	00.25	2.12	33/.43	070.0	3.33	20.30	13.74	113.65	439.62	Bending Control
Norman Convolution Norman Convolution Norman Convolution Norman Convolution Norman Convolution Norman Norm	14	0.04760	0.02610			728 AD	124	103 6	+	00.90	2.1	00.104	C+11	70.0001-	1000.00	31.32	24.21	304.61	1.982	3.29	9.03	11.42	105.16	365.40	Bending Controls
UG0/739 UUX045 ZZUU 1/1 102.6 1710.00 43.80 43.80 60.90 2.25 -835.56 2106.88 21.39 53.96 15.20 5.620 10.04 2.36 17.86 75.43 571.39 0.66490 0.02169 228.00 171 102.6 1794.00 -54.99 124.00 4.66 44.990 1658.43 13.79 50.84 245.38 9.256 16.39 2.28 10.62 73.02 73.02 73.05 0.556 0.056490 0.0104 0.04 0.25 10.62 73.02 73.05 10.55 10.62 73.05 10.55 10.65 10.56 10	: 4		0.0740	0.777.0		00.022			+	-30.02	30.02	22/.00	8.0	-1113.52	1745.46	49.77	78.01	217.58	8.336	4.16	1.73	11.26	55.37	360.46	Bending Control
U-0049U UUXT09 226.00 171 102.6 1794.00 -54.99 54.99 124.00 4.66 -449.90 1658.43 13.79 50.84 245.38 9.226 16.39 2.28 10.62 73.02 339.69 0.65250 0.01460 228.00 171 102.6 0.00 0.00 298.00 22.84 0.00 0.00 0.00 315.49 24.175 - 3.30 - 3.30 - 105.58 705	2	0.00020	01/70.0	00//010		228.UU	5	102.6	1710.00	-43.80	43.80	60.90	2.25	-835.26	2106.88	21.39	53.96	152.30	5.620	10.04	2.36	17.86	75.43	571.39	Bending Control
U-05229U 0-U17460 2225.00 171 102.6 0.00 0.00 0.00 2284 0.00 0.00 0.00 7.00 2364 0.00 0.00 0.00 7.175 - 3.30 - 105.58 * Rating Factor Formula RF = / Mamber Capacity - (2L 1)//(LL + 1)	e !	0/1/0/0	0.02000			- 1	14	102.6	1794.00	-54.99	54.99	124.00	4.66	-449.90	1658.43	13.79	50.84	245.38	9.226	16.39	2.28	10.62	73.02	339.69	Bending Control
* Rating Factor Formula RF = [Member Capacity - (DL)]/ (LL +))	-	0.04760	CU210.0	U.6525U	_	228.00		102.6	0.00	0.00	0.00	298.00	22.84	0.00	0.00	0.00	0.00	315.49	24.175		 	3.30		105.58	Shear Controls
_	lowable Stre.	sses for Ope	srating Rating	£	* Rating Fau	ctor Formula	~																		
	σ _a = (9.75 fy (Ax	tial)		RF = fh	Member Cap.	acity - (DL)	(1+1)/1																	

 $\sigma_a = 0.75 \text{ fy} \quad (\text{Axial})$ $\sigma_b = 0.75 \text{ fy} \quad (\text{Bending})$ $\sigma_v = 0.45 \text{ fy} \quad (\text{Shear})$

Appendix 20.1.4-3 (12/24)

		4											- NGPCS		1		
	~	·······	(m)	•	(n)	() () () () () () () () () () () () () ((x) (x) (x) (x) (x) (x) (x) (x) (x) (x)	\sim	6	(2)	(F)	(t) (t)	(1)	(12) (15)	÷ (\$)		
			 			┝┥╵ ╵┝═╍╡╩═╸ ┍┥╵╿				- - -	┤┲═╡ <u>═</u> ┥╷╷ ╷┥┄╎	 		- =	-]=		
	A	ABUT. A	$\ $								1				ABUT.B	-	
											PIER 2	2					
E. INTERIOR GIRDER G6							SUPE	RSTRU	ICTURE	SUPERSTRUCTURE PROFILE	Щ						
									Section								
Cescipitor	-	2		4	5	9	7	8	6	10	11	12 1 13	14	15	46	17	
Dead Load Moments in kN-m	0.00	1557.00	1856.00	848.00	-2206.00	4958.00	-3669.00	-1528.00 1	1311.00 -1	8	8	-2	80	1864.00	1569.00	000	
Dead Load Shear in kN	278.00	168.00	-84.70	-270.00	-461.00	-576.00	520.00	409.00	-	-	+	-		+-	-168.00	-278.00	
LIVE LOAD LANE LOADING											-	-	-	4			
Max Lane Ldng Moment in kN-m	0.00	-188.00	-375.00	-562.00	-922.00	-1888.00	6	-638.00	-470.00 -6	-642.00 -139	-1399.00 -18	-1895.00 -925.00	00 -569.00	-373.00	-188.00	0.00	
Max. + Lane Ldng Moment in kN-m	0.00	586.00	883.00	1086.00			<u> </u>	_	.	+	+		-	_	588.00	0.00	
Max Lane Ldng Shear in kN	-26.90	-27.20	-27.60	-138.00	-152.00	-215.00	0.00	0.00		-149.00 -19	-193.00 -21	-216.00 0.00	0.00	74.60	-83.50	-121.00	
Max. + Lane Ldng Shear in kN	121.00	83.50	74.60	0.00	0.00	216.00	194.00	149.00		-	_	_	+		26.90	26.90	
LIVE LOAD TRUCK LOADING																	
Max Truck Loading Moment in kN-m	0	-197	-395	-593	-867	-1036	-849	-698	-274	-690 -83	-839.00 -10	-1038.00 -869.00	00 -596.00	-396.00	-197.00	0.00	
Max.+ Truck Loading Moment in kN-m	0	880	1194	946	331	334	268	395			-		+		929.00	0.00	а 92 —
Max Shear in kN	-28.10	-88.60	-133.00	-180.00	-218.00	-260.00	-28.00	-58.40	-	-216.00 -23	-	-256.00 -21.10	+		-178.00	-215.00	= 15.24 (1 + 2
Max. + Shear in kN	218.00	164.00	120.00	85.70	39.90	237.00	213.00	198.00	113.00 4		28.00 24	1	┝	-	75.50	28.20	
MAXIMUM LIVE LOAD MOMENTS AND SHEAR (WITH IMPACT AND DF)	R (WITH IMF	ACT AND D	F) .						-	1	-	-	-				
Max. Live Load (-) Moment in kN-m	0.00	-238.13	-477.46	<u> </u>	-1114.48	-2282.15	-	-843.72		-834.05 -165	-1691.07 -22	-2290.61 -1118.11	11 -720.43	-478.67	-238.13	0.00	
Max. Live Load (+) Moment in kN-m	0.00	1063.72	1443.27	1312.72	400.10		-	477.46 1	1336.90 4	499.22 32	-	_	-	_	1122.94	0.00	
Max. Live Load (-) Shear in kN	-33.97	-107.10	-160.77	-217.58	-263.51	-	-					-	0 -123.29	-161.97	-215.16	-259.88	
Max. Live Load (+) Shear in kN	263.51	198.24	145.05	103.59	48.23	_			136.59 5					145.05	91.26	34.09	
	203.01	198.24	1//.191	217.58	263.51	314.28	257.47	239.34	4	261.09 28(280.43 30	309.44 263.51	1 198.24	161.97	215.16	259.88	
FRACTION OF SIDEWALK LIVE LOAD FROM EXTERIOR GIRDER G8	-XTERIOR C	JIRDER G8															•
Sidewalk Live Load Moments in kN-m	0.00	60.80	77.80	38.30	-95.60			_	67.80 -(-133.00 -16	-167.00 -95.80	0 38.10	17.60	60.30	0.00	
Sidewalk Live Load Shear in kN-m	8.94	9.01	2.98	-5.68	-15.51	-15.00	0.00	0.00	-6.45 -	-14.70 -14	-14.00 15	15.00 15.80	5.60	6.94	-900	-6.94	
TOTAL LIVE LOAD MOMENT AND SHEAR (SIDEWALK LL + TRUCK LL) FOR OPERATING I FVEI	DEWALK LL	+ TRUCK LL	~]	
Max. Live Load (-) Moment in kN-m	0.00	-238.13	477.46	-716.80	-1230.04	-2481.60	-1832.49	- 322 05 1 -	-568.12 -9	-909 60 1 -185	-1851 83240	-2402 AR -1223 01	01 720.42	170 67	120.42	000	
Max. Live Load (+) Moment in kN-m	0.00	1137.21	1537.31	+	_	-	_		-		+	_	+-	_	1195.83		
Max. Live Load (-) Shear in kN	-33.97	-107.10	-160.77	-224.44	-282.26	-332.41	-33.85		_	+		╀		- <u>-</u>	-226.04	-268.27	
Max. Live Load (+) Shear in kN	274.32	209.13	148.65	103.59	48.23		╞		-			 		+	91.26	34.09	
Max. Shear in kN	274.32	209.13	160.77	224.44	282.26	332.41	257.47	Н	H	Н	+	309.44 282.61	1 205.01	161.97	226.04	268.27	
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A.20 - 68

Appendix 20.1.4-3 (13/24)

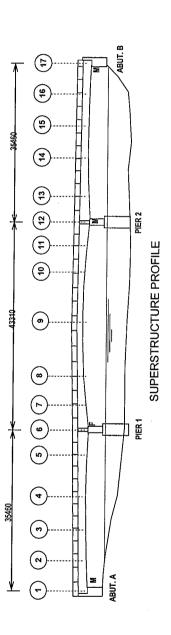
= 43.4 m. = 15.24 / L + 38 = 0.1872236

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E.1 INVENTORY LEVEL

A.20 - 69

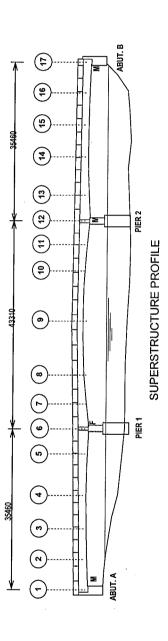
			REMARKS		Shear Controls	Bending Controls	Bending Controls	Bending Controls	Rending Controls	Banding Controls	Bonding Controls			bending Controls	Shear Controle									
	0	13)		Shear	85.48	295.90	389.00	249.11	292.68	321 36	374 80	00.710	230.00	4 10. 19	271.89	344.18	336.22	292.56	273.25	386.08	279.63	86.67		
o tagan ang ang	EQUIV. HS20	Tons		Bending		76.22	67.40	47.74	86.41	80.20	01 54	104 26	20.00	13.03	105.15	106.28	79.75	86.02	47.42	67 00	71.86	-		
CONTRACTOR	9	(I+I)/((I+I)		Shear	2.67	9.25	12.16	7.78	9.15	10.35	11 79	0 27	17.0	12:31	8.50	10.76	10.51	9.14	8.54	12.06	8.62	2.71		
No. C. D. C. Starten (M. 1994)	LOAD RATING	Rating Factor, RF=(R-D)/L(1+I)	Bending	Bot Fiber		2.38	2.11	1.49	18.55	38.73	37.42	10 1E	0.27	107	11.66	35.12	38.76	18.34	1.48	2.09	2.25			
\$488-0418-04 \$4	-	Rating F		Top F		23.72	14.14	5.10	2.70	2.51	2.86	3.26	10 10	21.72	9.7A	3.32	2.49	2.69	5.08	14.12	23.77			
1.105-page 18-18-18-18-18-18-18-18-18-18-18-18-18-1		SHEAR		ν.μ.+ (KN) σν.μ.+ (MPa)	20.192	7.454	5.932	8.336	6.905	6.173	5.478	6.854	5,686	2000	1.4/1	5.967	6.079	6.905	7.595	5.977	8.090	19.915		
5.000000000000000000000000000000000000	H.	Ъ			263.51	198.24	160.77	217.58	263.51	314.28	257.47	739.34	153 51	00100	60'LQZ	280.43	309.44	263.51	198.24	161.97	215.16	259.88		
	LIVE LOAD plus IMPACI		obuturi (MPa)	Bot. Fiber	0.00	32.61	36.97	58.66	9.62	4.74	4.80	13.99	37.43		14.03	4.77	4.74	9.74	58.78	37.09	34.42	0.00		
n - Ch	-IVE LOAD	BENDING	0 PLL+	Top Fiber	0.00	7.30	12.23	32.03	26.80	26.80	24.81	24.72	15.91	TY PL	74.44	25.08	26.90	26.88	32.20	12.26	7.30	0.00		
O INCLIO	-	BEN	MLL++ (KN-m)	Max. +M	0.00	1063.72	1443.27	1312.72	400.10	403.73	323.95	477.46	1336.90	400.00	433.22	321.53	403.73	404.94	1315.14	1448.10	1122.94	0.00		
				MaxM	0.00	-238.13	-477.46	-716.80	-1114.48	-2282.15	-1672.93	-843.72	-568.12	DO NCO	D1-1-0-	-1691.07	-2290.61	-1118.11	-720.43	-478.67	-238.13	0.00		
		SHEAR	- (MDA)	Ov-DL (INIF d)	21.30	6.32	3.13	10.34	12.08	11.31	11.06	11.71	1.47	44 74	11.11	11.06	11.37	12.11	10.38	3.13	6.32	21.30		
INTERIOUS LEVEL VAIIOWAUIC OUCOS MICHIOU		SHI	V ///W		278.00	168.00	84.70	270.00	461.00	576.00	520.00	409.00	39.70	400.00	00.001	520.00	579.00	462.00	271.00	84.80	168.00	278.00		
	DEAD LOAD		σ _{hoL} (MPa)	Bot. Fiber	0.00	47.73	47.54	37.89	-53.04	-58.23	-54.42	44.77	36.70	45.10	0.00	42.09	-58.36	-53.14	38.30	47.74	48.10	0.00		
10-10-11-11-10-10-11-10-11-10-11-10-11-10-11-10-11-10-11-10-11-10-11-10-11-10-11-10-11-10-11-10-11-10-11-10-11		BENDING		Top Fiber	0.0	-47.73	47.54	-37.89	53.04	58.23	54.42	44.77	-36.70	45.10	00.01	47.US	58.36	53.14	-38.30	47.74	-48.10	0.00		
			M., (KN.m)	100-1 NVN 70-11	0.00	1557.00	1856.00	848.00	-2206.00	-4958.00	-3669.00	-1528.00	1311.00	-1539.00		-2030.00	-4969.00	-2210.00	857.00	1864.00	1569.00	0.00		
01001	LESSES	G. (allow) G. (allow)		(MPa)	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75 24	75 14	13.24	15.24	75.24	75.24	75.24	75.24	75.24		
110 1 011	ALLOWABLE SIRESSES	G. (allow)		(MPa)	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	105	120.4	4.621	125.4	125.4	125.4	125.4	125.4		
	ALLO	, Z		(MPa)	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	00.000	220.00	728.00	228.00	228.00	228.00	228.00	228.00	' Rating Factor Formula	
		Ihandhar	R	(m	0.01460	0.02169	0.02645	0.01460	0.03968	0.10837	0.07922	0.02979	0.02411	0.02979	0.070.0	7721010	U. 1003/	0.03968	0.01460	0.02645	0.02169	0.01460	* Rating Fa	,
SECTION DEOREDITES		°""	-	œ	0.65250	0.66490	0.67750	0.65250	0.95400	1.27270	1.17500	0.87300	0.67500	0.87300	1 17500	1000111	017171	0.95400	0.65250	0.67750	0.66490	0.65250	~	
CECTION D	SECTION P	Asheer		(m²)	0.01305	0.02660	0.02710	0.02610	0.03816	0.05091	0.04700	0.03492	0.02700	0.03492	0.04700	0.05004	160000	0.03816	0.02610	0.02710		0.01305	entory Rating	
		Arrow		(m²)	0.04760	0.07170	0.08320	0.04760	0.07226	0.10480	0.09214	0.06529	0.07300	0.06529	0.00214	1 40400	0.10400	0.07270	0.04760	0.08320	0.07170	0.04760	sses for Inve	
		SECTION /			-	2	~	4	ŝ	9	7	8	6	10	÷	: ;	1	2	14	15	1 6	17	* Allowable Stresses for Inventory Rating	

 $\sigma_{a} = 0.55 \text{ fy} \quad (Axial)$ $\sigma_{b} = 0.55 \text{ fy} \quad (Bending)$ $\sigma_{v} = 0.33 \text{ fy} \quad (Shear)$

Appendix 20.1.4-3 (14/24)

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E.2 OPERATING LEVEL

A.20 - 70

		SECTION PROPERTIES	ROPERTIES		ALLON	ALLOWABLE STRESSES	RESSES			DEAD LOAD				Ξ	LIVE LOAD plus IMPACT	us IMPACT			3	LOAD RATING		FOIIV HS20		
SECTION	Ą	A	5		^ł	inallari Marina	(molle) T (allow)		BENDING		SE	SHEAR		BENDING	ING		SHEAR	AR	Rating Fac	Rating Factor, RF=(R-D)/L(1+i		Tons	s)	
	asolf.	leave.	-97	Buipued.	•			/ W. /// m/	σ _{b-DL} (MPa)	(MPa)	V /IVII	- (000	MLLtH (KN-m)	(m-n)	o _{bLLH} (MPa)	╞			Bending	, bui				REMARKS
	(m²)	(m²)	æ	(m [*])	(MPa)	(MPa)	(MPa)		Top Fiber	Bot Fiber	ADL (NIN)		MaxM	Max. +M	Top Fiber	iber	VLL+I (KN) م۰.LL+I (MPa)		Top Fiber	Bot Fiber	Shear	Bending	Shear	
-	0.04760	0.01305	0.65250	0.01460	228.00	171	102.6	0.00	0.00	0.00	278.00	21.30	0.00	0.00	0.00	0.00	274.32	21.021	-		3.87		123.76	Shear Controls
2	0.07170	0.02660	0.66490	0.02169	228.00	171	102.6	1557.00	-47.73	47.73	168.00	6.32	-238.13	1137.21	7.30	34.86	209.13	7.863	29.96	3.54	12.24	113.15	391.84	Bending Controls
~	0.08320		0.67750	0.02645	228.00	171	102.6	1856.00	-47.54	47.54	84.70	3.13	-477.46	1537.31	12.23	39.38	160.77	5.932	17.87	3.14	16.77	100.33	536.58	Bending Controls
4	0.04760		0.65250	0.01460	228.00	121	102.6	848.00	-37.89	37.89	270.00	10.34	-716.80	1359.02	32.03	60.73	224.44	8.599	6.52	2.19	10.73	70.14	343.30	Bendinn Controls
5	0.07226	0.03816	0.95400	0.03968	228.00	171	102.6	-2206.00	53.04	-53.04	461.00	12.08	-1230.04	400.10	29.57	9.62	282.26	7.397	3.99	23.29	12.24	127.64	391.61	Bending Controls
9	0.10480		1.27270	0.10837	228.00	171	102.6	-4958.00	58.23	-58.23	576.00	11.31	-2481.60	403.73	29.14	4.74	332.41	6.530	3.87	48.35	13.98	123.82	447.37	Bending Controle
7	0.09214		1.17500	0.07922	228.00	171	102.6	-3669.00	54.42	-54.42	520.00	11.06	-1832.49	323.95	27.18	4.80	257.47	5.478	4.29	46.91	16.71	137.26	534 71	Bending Controls
8	0.06529	0.03492	0.87300	0.02979	228.00	171	102.6	-1528.00	44.77	-44.77	409.00	11.71	-922.05	477.46	27.02	13.99	239.34	6.854	4.67	15.42	13.26	149.51	424.35	Bending Controls
6	0.07300	0.02700	0.67500	0.02411	228.00	171	102.6	1311.00	-36.70	36.70	39.70	1.47	-568.12	1418.85	15.91	39.72	161.31	5.974	13.06	338	16.93	108.19	541.67	Banding Controls
10	0.06529	0.03492	0.87300	0.02979	228.00	121	102.6	-1539.00	45.10	-45.10	409.00	11.71	-909.60	499.22	26.65	14.63	278.86	7 986	4.72	14 77	1 38	151 15	364 20	Dending Controls
11	0.09214	0.04700	1.17500	0.07922	228.00	171	102.6	-2838.00	42.09	-42.09	520.00	11.06	-1851.83	321.53	27.47	4.77	367.36	6 327	4 69	44.68	14.47	150.18	00 034	Dending Controls
12	0.10480	0.05091	1.27270	0.10837	228.00	171	102.6	-4969.00	58.36	-58.36	579.00	11.37	-2492.48	403.73	29.27	4.74	309.44	6/09	3.85	48.37	15.01	123.18	02.201 ABN 36	Bending Controls
13	0.07226	0.03816	0.95400	0.03968	228.00	171	102.6	-2210.00	53.14	-53.14	462.00	12.11	-1233.91	404.94	29.67	9.74	282.61	7.406	397	23.02	12.20	127.13	301 01	Bending Controls
14	0.04760	0.02610	0.65250	0.01460	228.00	171	102.6	857.00	-38.30	38.30	271.00	10.38	-720.43	1361.19	32.20	60.83	205.01	7.855	6.50	2 18	11 74	60 80	375.60	Bonding Controls
15	0.08320	0.02710	0.67750	0.02645	228.00	171	102.6	1864.00	-47.74	47.74	84.80	3.13	-478.67	1541.90	12.26	39.49	161.97	5.977	17.84	3.12	16.64	90.00	532 56	Bending Controls
16	0.07170	0.02660	0.66490	0.02169		171	102.6	1569.00	-48.10	48.10	168.00	6.32	-238.13	1195.83	7.30	36.66	226.04	8.499	30.01	3.35	11.33	107.29	362.52	Bending Controls
11	0.04760	0.01305 0.65250	0.65250	0.01460	228.00	171	102.6	0.00	0.00	0.00	278.00	21.30	0.00	0.00	0.00	0.00	268.27	20.557			3.95		126.55	Shear Controls
* Allowable Stresses for Operating Rating	sses for Ope	srating Rating	-	* Rating Fax	Rating Factor Formula																1		1	
0° = 1	$\sigma_a = 0.75 \text{ fy} (Axial)$	tial)		RF = [A	RF = [Member Capacity - (DL)] / (LL + I)	acity - (DL)	(1+71)/(
i	x = 0.76 fr (Deallac	1 anilan																						

 $\sigma_a = 0.75 fy (Axial)$ $\sigma_b = 0.75 fy (Bending)$ $\sigma_v = 0.45 fy (Shear)$

Appendix 20.1.4-3 (15/24)

			17	0.00	-278.00		0.00	0.00	-88.20	20.40]	0.00	80	-186.00	20 EU	74.34	000	0.00	-224.83	27.20	224.83		0.00	-29.80]	0.00	0.00	-260.85	27.20	260.85
			16	1667.00	-171.00		-146.00	445.00	-67.30	29.20		-162.00	751.00	-160.00	54.10	2.15	-195.82	907.78	-193.40	65.39	193.40		208.00	-29.70		-195.82	1159.21	-229.30	65.39	229.30
(e)			15	2054.00	93.30		-311.00	758.00	-38.20	21.70		-353.00	1026.00	-109.00	80.10	2.20	426.69	1240.20	-131.76	107.70	131.76		289.00	20.70		-426.69	1589.53	-131.76	132.72	132.72
			14	869.00	290.00		-428.00	668.00	-8.70	93.20		-487,00	804.00	-82.30	147 00	10111	-588.67	971.85	-99.48	177.69	177.69		137.00	49.20		-588.67	1137.45	-99.48	237.16	237.16
			13	-2475.00	467.00		-725.00	137.00	0.00	137.00		-764.00	330.00	-27.30	156.00	20.00	-923.50	398.89	-33.00	188.57	188.57		-342.00	53.60		-1336.90	398.89	-33.00	253.36	253.36
			12	-4692.00	612.00		-1452.00	0.00	-162.00	161.00		-1018,00	281.00	-246.00	218.00		-1755.13	339.66	-297.36	263.51	297.36		-661.00	61.60		-2554.12	339.66	-297.36	337.97	337.97
			11		-561.00		-1088.00	0.00	-144.00	0.00		-680.00	226.00	-230.00	23.00		-1315.14	273.18	-278.02	27.80	278.02		-528.00	-54.50		-1953.37	273.18	-343.89	27.80	343.89
(11) (1)) (1))			10	-1751.00	-432.00		-476.00	69.20	-108.00	0.00		-548.00	440.00	-191.00	23.00		-662.40	531.86	-230.87	27.80	230.87		-262.00	-54.50		-979.10	531.86	-296.75	27.80	296.75
		Section	თ	1639.00	56.50		-492.00	794.00	-81.50	60.90		-255.00	1053.00	-103.00	85.30		-594.71	1272.83	-124.50	103.11	124.50		264.00	-16.90		-594.71	1591.95	-144.93	103.11	144.93
DERSTR			8	-1769.00	429.00	_ I	<u> </u>	51.80	0.00	98.70		-539.00	353.00	40.10	175.00		-651.53	426.69	-48.47	211.53	211.53		-252.00	51.80		-956.13	426.69	48.47	274.15	274.15
			7		543.00		`•	0.00	0.00	139.00		-668.00	224.00	-22.00	196.00		-1300.63		-26.59	236.92	236.92		-538.00	58.40		-1950.95	270.76	-26.59	307.51	307.51
			9		-610.00		-1423.00	0.00	-156.00	155.00		-926.00	276.00	-237.00	217.00		-1720.08	333.62	-286.48	262.30	286.48		-675.00	-62.80		-2535.99	333.62	-362.39	262.30	362.39
			5	-2471.00	-523.00		-717.00	130.00	-124.00	0.00		-740.00	312.00	-182.00	8.50		-894.49	377.14	-220.00	10.27	220.00		-346.00	-62.86		-1312.72	377.14	-295.98	10.27	295.98
35460 (4)			4	867.00	-246.00		-428.00	711.00	-90.20	0.00		-487.00	793.00	-161.00	65.40		-588.67	958.55	-194.61	79.05	194.61		138.00	-49.40		-588.67	1125.36	-254.32	CU.8/	254.32
	i				-93.40		-312.00	758.00	07.12-	36.80		-352.00		-103.00	73.50	Н		1225.69	-124.50	88.84	124.50			-20.70	î	-425.49	15/5.02	-149.52	88.84	149.52
₩ BBUT.A			5	1566.00	171.00		-146.00	445.00	06.12-	67.40		-162.00	733.00	-67.60	145.00	PACT AND	-195.82	886.03	-81.71	175.27	175.27	GIRDER C8	206.00	29.80	+ TRUCK L	-195.82	1135.03	-81.71	67.112	211.29
			-	0.0	278.00		8.0	0.00	-20.40	88.20		0.00	0.00	-22.50	192.00	R (WITH IM	0.00	0.00	-27.20	232.08	232.08	EXTERIOR	0.00	29.80	DEWALK LL	0.00	0.00	-27.20	200.10	208.10
E INTERIOR GIRDER G7		Description		Dead Load Moments in kN-m	Lead Load Shear in KN	LIVE LOAD LANE LOADING	Max Lane Ldng Moment in kN-m	Max. + Lane Ldng Moment in kN-m	Iwax Laile Lorig Snear In KN	Max. + Lane Ldng Shear in KN	LIVE LOAD TRUCK LOADING	Max Truck Loading Moment in kN-m	Max.+ Truck Loading Moment in kN-m	Max Shear in kN	Max. + Shear in kN	MAXIMUM LIVE LOAD MOMENTS AND SHEAR (WITH IMPACT AND DF)	Max. Live Load (-) Moment in kN-m	Max. Live Load (+) Moment in kN-m	Max. Live Load (-) Shear in kN	Max. Live Load (+) Shear in kN	Max. Shear in KN	FRACTION OF SIDEWALK LIVE LOAD FROM EXTERIOR GIRD	Sidewalk Live Load Moments in kN-m	Sidewalk Live Load Shear in kN-m	TOTAL LIVE LOAD MOMENT AND SHEAR (SIDEWALK LL + TRUCK LL)	Max. Live Load (-) Moment in KN-m	Max. Live Load (+) Moment In KN-m	Max. Live Load (-) Shear in KN	WIAK. LIVE LOAU (T) SITEAT III KIN	Wax. Shear In KN

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A.20 - 71

Appendix 20.1.4-3 (16/24)

= 43.4 m. = 15.24 / L + 38 = 0.1872236

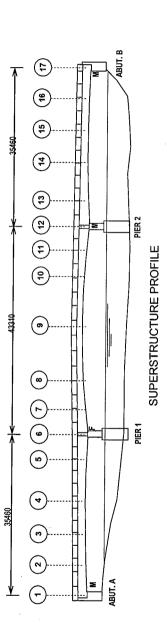
35 m. 15.24 / L + 38 0.2087671

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IMPACT L =

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F.1 INVENTORY LEVEL

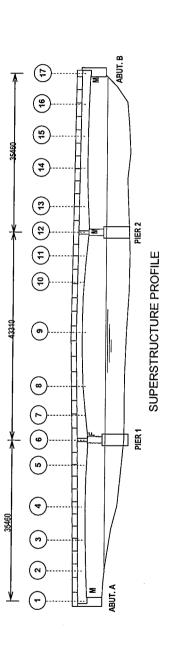
A.20 - 72

$ \begin{array}{ $	L	CECTION D	PODEDTIE	0	IN IN	TO L CT	210010	1000 100 100 100					1000	a meniou	AUPPLICE BRANNING ST	S - 286 P 180 D 101	and a second second	State of the second second		and a second		100000000000000000000000000000000000000	NERGERE	
$\sigma_{\rm m}$ $b_{\rm m}$ <					ALLO	ABLE SI	KESSES			EAD LOAD	Í			5	VE LOAD pi	lus IMPACT			2	AD RATING		EQUIV. HS2		
$ \begin{array}{ $	4	hear	5	[heading	Ą	G. (allow)) G. (allow)		BENDING		SHEA	¥		BENDI	ING		뽌	AR	Rating Fac	tor, RF=(R-I		Ton		
	-			Runner	,			Mar (KN-m)	α ^{p-DF} (γ		V (KN) G	MDa	MLLen (Ki	(m-N	Oblitel (VI ANN		Bend	Buj	+			REMARKS
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	+	(m²)	Ē	(m	(MPa)	(MPa)	(MPa)		-iber				-	₹	-		ALLEH (NIN) I	σ _{v-LL+I} (MPa)		Bot Fiber	-	Bending	Shear	
0.06440 0.007165 228.00 125.4 156.00 48.01 171.10 6.43 -195.82 0.007 23.15 5.590 28.65 0.44 91.6 34.75 60.06 0.077165 0.007645 228.00 125.4 75.24 52.56 53.66 93.43 58.67 95.65 25.30 42.84 16.33 2.32 15.63 74.25 50.06 0.056750 0.036465 228.00 12.54 75.24 53.01 53.14 38.14 28.610 34.14 28.15 60.16 74.46 66.17 20.36 93.61 96.61 74.66 6.24 120.6 83.61 96.65 3.07 23.06 66.74 28.16 96.61 74.66 74.66 74.36 56.71 28.54 95.61 74.61 74.66 6.24 129.61 124.71 124.56 124.50 124.50 124.50 124.50 124.50 124.50 124.50 124.50 124.50 124.50 124.50 124.51 <		0.01305		0.01460	228.00	125.4	75.24	0.00	0.00	0.00	278.00	21.30	0.00	0.00	0.00	0.00	232.08	17.784			3.03		97.05	Shear Controls
0.057/30 0.00545 228.00 15.24 75.25 75.25 75.25 75.25 75.25 75.25	1	0.02660		0.02169	228.00	125.4	75.24	1566.00	-48.01	48.01	171.00		-195.82	886.03	6.00	27.16	175.27	6.590	28.89	2.85	10.44	91.18	334,13	Bending Controls
$ \begin{array}{ $		+		0.02645	228.00	125.4	75.24	2052.00	-52.56	52.56	93.40		-425.49	1225.69	10.96	31.39	124.50	4.594	16.33	2.32	15.63	74.25	500.06	Bending Controls
$\begin{array}{{ccccccccccccccccccccccccccccccccccc$	~ !			0.01460	228.00	125.4	75.24	867.00	-38.74	38.74	246.00		-588.67	958.55	26.30	42.83	194.61	7.456	6.24	2.02	8.83	64.74	282.45	Bending Controls
$ \begin{array}{[c]{cccccccccccccccccccccccccccccccccc$	0.07226	-		0.03968	228.00	125.4	75.24	-2471.00	59.41	-59.41	523.00		-894.49	377.14	21.51	9.07	220.00	5.765	3.07	20.38	10.67	98 19	34156	Bending Controle
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	0.10480	_	1.27270	0.10837	228.00	125.4	75.24	-5373.00	63.10	-63.10	610.00	\vdash	-1720.08	333.62	20.20	3.92	286.48	5.627	3.08	48.11	11.24	98.69	350.71	Banding Controls
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	0.09214		1.17500	0.07922	228.00	125.4	75.24	-4022.00	59.65	-59.65	543.00	┢	-1300.63	270.76	19.29	4.02	236.92	5.041	3.41	46.08	12.63	109.06	404.30	Banding Controls
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0.06529		0.87300	0.02979	228.00	125.4	75.24	-1769.00	51.83	-51.83	429.00	⊢	-651.53	426.69	19.09	12.50	211.53	6.058	3.85	14.18	10.39	123.31	332.56	Banding Controls
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	0.07300		0.67500	0.02411	228.00	125.4	75.24	1639.00	-45.89	45.89	56.50	┢	-594.71	1272.83	16.65	35.64	124.50	4.611	10.29	223	15.86	71.40	507.61	Bending Controls
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	0.06529		0.87300	0.02979	228.00	125.4	75.24	-1751.00	51.31	-51.31	432.00		⊢	531.86	19.41	15.58	230.87	6.612	3.82	11.34	9.51	122 15	304.29	Bending Controls
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	0.09214		1.17500	0.07922	228.00	125.4	75.24	-4038.00	59.89	-59.89	561.00		<u> </u>	273.18	19.51	4.05	278.02	5.915	3.36	45.73	10.70	107.47	342 46	Bending Controls
0.95400 0.03968 228.00 12.54 -59.51 467.00 12.24 -92.350 398.89 22.20 9.59 188.57 19.28 19.28 12.75 94.96 407.39 0.65250 0.01460 228.00 12.54 590.00 11.11 -588.67 971.65 26.31 43.43 177.69 6.808 6.24 19.29 9.42 63.78 31.43 0.65750 0.02645 228.00 12.54 293.00 11.11 -588.67 971.65 26.31 43.43 177.69 6.808 6.24 19.39 9.42 63.78 31.43 0.65750 0.026450 175.4 75.54 205.00 11.11 -588.67 971.62 26.31 43.43 177.69 6.808 6.24 13.33 472.66 0.66490 0.02169 228.00 155.4 75.11 71.10 6.43 -196.82 907.76 6.00 2772 29.40 267 9.45 85.44 302.80 0.	0.10480			0.10837	228.00	125.4	75.24	-4692.00	55.10	-55.10	612.00	┝		339.66	20.61	3.99	297.36	5.841	3.41	45.25	10.82	109.13	346.34	Bending Controls
0.65250 0.01460 228.00 125.4 75.24 869.00 -38.84 39.00 11.11 -58.867 971.65 26.31 43.4 177.69 6.808 6.24 199 9.42 63.78 301.43 0.67750 0.02845 228.00 125.4 75.54 205.400 -32.61 93.30 3.44 -426.69 1240.20 1093 31.77 131.76 4.862 16.79 2.42 14.77 73.33 472.66 0.66430 0.02169 228.00 125.4 75.10 51.10 51.10 51.10 51.10 51.10 51.10 51.10 51.10 51.11 130.76 1093 31.77 131.76 4.862 14.77 73.33 472.66 0.66430 0.02169 228.00 125.4 50.30 51.10 171.00 6.43 -195.82 907.76 6.00 27.83 177.72 29.40 2.67 9.46 85.44 302.80 0.655250 0.01460 225.4 7	0.07226			_	228.00	125.4	75.24	-2475.00	59.51	-59.51	467.00	-	-923.50	398.89	22.20	9.59	188.57	4.942	2.97	19.28	12.75	94.96	407.99	Bending Controls
0.67750 0.02845 228.00 175.4 75.24 2054.00 -52.61 53.30 3.44 -426.69 1240.20 10.93 31.77 131.76 4.862 16.29 2.29 14.77 73.33 472.66 0.066490 0.02169 228.00 125.4 75.10 51.10 51.10 51.10 51.10 51.10 6.43 -195.82 907.78 6.00 27.83 193.40 7.272 29.40 2.67 9.46 85.44 302.80 0.665250 0.01460 228.00 125.4 7.0 0.00 0.00 0.00 20.00 21.30 21.30 0.00 20.483 17.228 - 313 - 100.18	0.04760	_			228.00	125.4	75.24	869.00	-38.84	38.84	290.00	-	-	971.85	26.31	43.43	177.69	6.808	6.24	1.99	9.42	63.78	301 43	Bending Controls
0.66430 0.02169 228.00 125.4 7.5.24 1657.00 -51.10 51.10 51.10 6.43 -195.82 907.78 6.00 27.83 193.40 7.272 29.40 2.67 9.45 85.44 302.80 0.652550 0.01460 228.00 125.4 7.00 0.00 2.00 0.00 0.00 20.00 17.32 29.40 2.67 8.44 302.80 0.652550 0.01460 228.00 125.4 7.00 0.00 2.00 0.00 2.130 2.130	0.08320	_			228.00	125.4	75.24	2054.00	-52.61	52.61	93.30		-	1240.20	10.93	31.77	131.76	4.862	16.29	2.29	14.77	73.33	472.56	Bending Controls
0.65250 0.01460 228.00 125.4 75.24 0.00 0.00 278.00 278.00 278.00 278.00 2.00 0.00 0.00 224.83 17.228 - 313 - 100.18	0	0.02660				125.4	75.24	1667.00	-51.10	51.10	171.00			907.78	6.00	27.83	193.40	7.272	29.40	2.67	9.46	85.44	302.80	Bending Controls
	o I	17 0.04760 0.01305	0.65250			125.4	75.24	0.00	0.00	0.00	278.00	21.30	0.00	0.00	0.00	0.00	224.83	17.228			3.13		100.18	Shear Controls
		txial)		RF = [A	Vember Capi	acity - (DL)	(1+T1)/h																	
$\sigma_s = 0.55 f_y$ (Axial) RF = [Member Capacity - (DL])/((LL+I))																								

 $\sigma_a = 0.55 \text{ fy} \quad (Axial)$ $\sigma_b = 0.55 \text{ fy} \quad (Bending)$ $\sigma_v = 0.33 \text{ fy} \quad (Shear)$

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F.2 OPERATING LEVEL

A.20 - 73

			REMARKS		Shear Controle	Randinn Controls	Bending Controls	Donding Controls	Bonding Controls	Dending Controls		Bending Controls	Rending Controls	Ponting Cantons	Pending Controls	Bending Controls		Chorr Controls							
	\$20	Tons)		Shear	126.63	387.37	575 DG	305.00	36 22	2000 D	00.104	0C.CP#	368.13	599.17	339.76	396.51	436.60	126.63	30-004	00 2720	CO. 140	120.04	100.10		
	EQUIV. HS20	Ĕ		Bending		113.11	03.05	84 17	112.14	115.02	102 12	1.02	136.11	89.83	133.50	122.72	123.64	110 00	82.20	03.05	107.07	12:101			
2012 Control 12 Contro	NG	R-D)/L(1+I)		Shear	3.96	12.11	17 97	0 29	11 46	19 72	12 00	10.52	11.50	18.72	10.62	12.39	13.64	13.61	10.07	20.05	41 1F	7 02			
	LOAD RATING	Rating Factor, RF=(R-D)/L(1+I)	Bending	Eot Fiber	.	3.53	294	263	25.41	50.75	57 A3	01.10	78.1	2.81	14.26	56.98	56.68	24 03	2 60	3 61	3 27	, ,			
		Rating I		TopF		36.48	20.51	7.97	354	369	3.85	3	4.53	13.03	4.17	3.83	3.86	347	7 98	20.46	37.00				
		SHEAR		ALLEH (KN) محدلية (MPa)	20.544	7.945	5.518	9.744	7 756	7 118	6 543	100	100.1	5.368	8.498	7.317	6.639	6.639	9.087	4 898	8 622	19.989			
	cı	ŝ		1.	268.10	211.29	149.52	254.32	295.98	362.39	307.51	074 4E	21412	144.93	296.75	343.89	337.97	253.36	237.16	132.72	02.920	260.85			
	LIVE LOAD plus IMPACT	5	σ _{b-LL+I} (MPa)	r Bot. Fiber	0.00	34.80	40.34	50.29	607	392	4 02	10 50	NC-71	44.57	15.58	4.05	3.99	9.59	50.83	40.71	35.54	0.00			
	LIVE LOAE	BENDING	QPTT QPTT	Top Fiber	0.0	6.00	10.90	26.30		29.78	28.94	20.02	\downarrow		28.69	28.97	30.00	32.14	26.31	1		0.0			
		BE	MLL+I (KN-m)	Max. +M	0.00	1135.03	1575.02	1125.36	┢	+	+	+		1591.95	531.86	273.18	339.66	398.89	1137.45	+	1	+			
				MaxM	0.00	-195.82	-425.49	-588.67	-1312.72	-2535.99	-1950.95	-056 13	2.000	-284.71	-979.10	-1953.37	-2554.12	-1336.90	-588.67	-426.69	-195.82	0.00			
		SHEAR		UV-DL (INIT d)	21.30	6.43	3.45	9.43	13.71	11.98	11.55	12 29		5.09	12.37	11.94	12.02	12.24	11.11	344	6.43	21.30			
	9	ŝ	V (KNI)	r.	278.00	171.00	93.40	246.00	523.00	610.00	543.00	429.00	2.42	00.00	432.00	561.00	612.00	467.00	290.00	93.30	171.00	278.00			
	DEAD LOAD		σ _{bot} (MPa)	Bot. Fiber	0.00	48.01	52.56	38.74	-59.41	-63.10	-59.65	-51.83	15 00	40.09	-51.31	-59.89	-55.10	-59.51	38.84	52.61	51.10	0.00			
		BENDING		' Top Fiber	0.00	48.01	-52.56	-38.74	59.41	63.10	59.65	51.83		Ť		59.89	55.10	59.51	-38.84	-52.61	-51.10	0.00			
			/ M., (KN.m)		0.00	1566.00	2052.00	867.00	-2471.00	-5373.00	-4022.00	-1769.00	100.00	00.8001	-1751.00	-4038.00	-4692.00	-2475.00	869.00	2054.00	1667.00	0.00			
010010	RESSES	ດ. (allow) ຕ. (allow)		(MPa)	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.6	100 6	1020	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.6			11+11/1
20 1 10 111	ALLUWABLE STRESSES	G. (allow	0	(MPa)	171	171	171	171	171	171	171	14	121		5	171	17	171	171	171	171	171	.a	; ;	H = Member ("anactiv - //) // / / + / +
	ALL	2					228.00	228.00	228.00	228.00	228.00	228.00	╇	_	-		228.00	228.00	228.00	228.00	228.00	228.00	Rating Factor Formula	0	Member La
ç		banding	Binning		_		0.02645	0.01460	0.03968	0.10837	0.07922	0.02979		_	_	-	_	0.03968	0.01460	0.02645	0.02169	0.01460	* Rating Fa		
		ene B		-	-	-	0.67750	0.65250	0.95400	1.27270	1.17500	0.87300	0.67500	000200	+			0.95400	0.65250	0.67750	0.66490	0.65250	DL		
ACITCHO C	SECTION	Ashear		+	-	-+		0.02610	0.03816	0.05091	0.04700	0.03492	0.02700	+			-	0.03816	0.02610	0.02710	0.02660	0.01305	rerating Rati	The second s	Xidi J
		Agross		(m²)	0.04760	0.07170	0.08320	0.04760	0.07226	0.10480	0.09214	0.06529	0.07300	0.000.00	67C0N'N	0.09214	0.10480	0.07226	0.04760	0.08320	0.07170	0.04760	esses for Op	-076 64 / Autor	C Airrin.
		SECTION			-	2	e	4	2	9	7	~	σ		=	=	12	13	14	15	16	17	* Allowable Stresses for Operating Rating	י נ	י כ

 $\sigma_s = 0.75$ if (Axiar) $\sigma_b = 0.75$ if (Bending) $\sigma_v = 0.45$ if (Shear)

Appendix 20.1.4-3 (18/24)

	~ 4		(m)					0 10 10	OCTUR CTUR				(‡)		۲		
G. EXTERIOR GIRDER G1																	
Description									Section								[
	-	2	3	4	5		2	8	6	9	#	12	13	14	15	16	17
Dead Load Moments in kN-m	0.00	1677.00	1877.00	686.00	-1231.50		-3740.50	-167.00	941.00	126.00	-2261.00	4506.00	-1320.00	905.00	2019.00	8	0.00
Dead Load Shear in KN	354.00	133.00	-102.00	-260.00	-435.00	-701.00	571.00	258.00	56.10	-180.00	-477.00	-602.00	434.00	248.00	93.00	-145.00	-367.00
Sidewalk Live Load Moments in KN-m	0.00	350.00	403.00	136.00	-272.50	-1306.00	-828.00	-27.40	203.00	38.60	-499.00	-1047.00	-297.00	186.00	425.00	368.00	0.00
Sidewalk Live Load Shear in KN-m	85.40	33.80	-30.70	-64.80	-98.30	-167.00	131.00	52.80	18.80	-32.60	-113.00	.151.00	77.10	38.20	28.60	35.90	88.30
FRACTION FROM LANE LOADING]
Max - Lane Ldng Moments in kN-m	0.00	-125.00	-223.00	-360.00	438.50	-810.00	-601.50	-196.00	-158.00	-177.00	-388.00	-587.00	-420.00	-354.00	-213.00	-117.00	0.00
Max + Lane Ldng Moments in kN-m	0.00	358.00	515.00	510.00	282.00	0.00	0.00	158.00	371.00	158.00	0.00	0.00	261.00	523.00	523.00	368.00	0.00
Max Lane Ldng Shear in kN	0.00	0.00	-28.60	-56.70	-56.60	-68.30	0.00	0.00	-17.10	-43.10	-47.80	-45.80	0.00	0.00	╉━	-15.50	-50.60
Max. + Lane Ldng Shear in kN	49.10	47.90	13.20	0.00	0.00	65.25	66.30	48.90	18.70	0.00	0.00	50.00	52.60	53.20	27.30	1.05	0.00
FRACTION FROM LIVE LOAD TRUCK LOADING																	
Max Truck Loading Moment in kN-m	0.00	-178.00	-323.00	-526.00	-692.00	-852.00	-615.00	_	-130.00	-297.00	-388.00	-640.00	-640.00	-500.00	-305.00	-166.00	0.00
Max.+ I ruck Loading Moment in kN-m	0.00	243.00	838.00	750.00	450.00	255.00	208.00	373.00	543.00	305.00	131.00	203.00	488.00	772.00	854.00	688.00	0.00
	07.02-	-25.70	-45.40	-82.00	-116.00	-116.00	-19.70	-17.70	-36.90	-70.80	-88.00	-88.00	-17.70	-16.00	-42.10		-103.00
MAX. + SHEAT IT KN 102.00 MAYMI'M IVELOAD MOMENTS AND SHEAD (WITH IN	00.201	97.60	30.30	29.00	8.05	117.00	117.00	76.30	42.80	15.40	15.50	102.00	102.00	83.30	49.60	24.10	24.60
		- 1 1 74						ŀ									
Max. Live Load (-) Montent II KIN-III	0.0	01.012-	-390.43	-635.81	-836.47	-1029.87	-743.39	+	-190.99	-359.00	-469.00	-773.61		-604.38		-200.66	0.00
Max Live Load (+) Multielli III KIV-III	0.UU	432.14	CE.21UI	200.08	243.55	308.24	251.42	-	656.36	368.67	158.35	245.38	589.88	933.17	_	831.63	0.00
Mov Fine Load (+) Share in MY	10.10-	10.10-	00.40	21.88-	-140.22	-140.22	-53.81	-21.40	-44.60	-85.58	-106.37	-106.37	-21.40	-19.34	-		-124.50
	R7.62	96./11	30.03	35.05	9.73	141.43	141.43	92.23	51.74	18.62	18.74	123.29	123.29	100.69	59.95		29.74
Max. Shear in KN	123.29	117.98	54.88	99.12	140.22	141.43	141.43	92.23	51.74	85.58	106.37	123.29	123.29	100.69	59.95	114.47	124.50
TOTAL LIVE LOAD MOMENT AND SHEAR (SIDEWALK LL	DEWALK LL	+ TRUCK LL)	•													-]
	0.00	041.40	01 000	10200	1 1 1 1 1	- H	-	ŀ	- 4	- 1						i	
INIAX. LIVE LUAU (-) INUTIBILI III KIN-III	0.0	01.CL2-	-390.43	-035.81	-1165.86	-		_		-	-1072.18			-604.38		-200.66	0.0
Max. Live Load (+) Moment in KN-m	0.00	855.81	1500.08	1070.97	543.95	308.24	251.42	450.87	901.74	415.33	158.35	245.38		1158.00	1546.01	1276.46	0.00
Max. Live Load (-) Shear in kN	-31.67	-31.07	-91.99	-177.45	-259.04	-342.08	-23.81	-21.40	-44.60	-124.99	-242.96	-288.90	-21.40	-19.34		-114.47	-124.50
Max. Live Load (+) Shear in kN	226.52	158.83	36.63	35.05	9.73	141.43	299.77	156.05	74.46	18.62	18.74	123.29	216.49	146.87	94.53		136.47
Max. Shear in kN	226.52	158.83	91.99	177.45	259.04	342.08	299.77	156.05	74.46	124.99	242.96	288.90	216.49	146.87	94.53	-	136.47

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Appendix 20.1.4-3 (19/24)

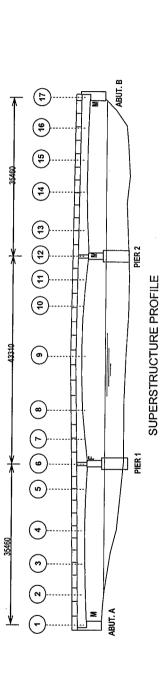
= 43.4 m. = 15.247L+38 = 0.1872236

= 35 m. l = 15.24 / L + 38 = 0.2087671

IMPACT

RATING
UF LUAD
ALCULATION

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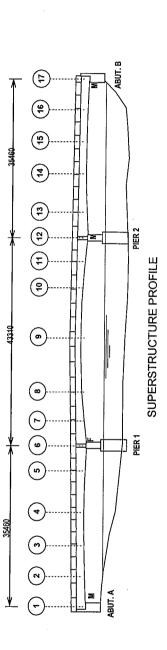
G.1 - INVENTORY LEVEL

				KEMARKS		Charl Controle	Bending Controls	Shear Controls		Bending Controls	Shear Controls															
		0	s)		Shear	261 58	275.15	598.62	280	221.82	315.51	287.56	369.94	754.13	326.00	251.97	387.61	340.41	279.86	+-	╈	-				
		EQUIV. HS20	Tons)		Bending		168.53	33.02	78.94	99.75	132.58	154.56	303.38	70.86	333.71	NO CAP	228.99	153.56	69.19	28.00	84.19					
		4G	R-D)/L(1+1)	;	- Shear	8 17	8.60	18.71	8.76	6.93	9.86	8.99	11.56	23.57	10.19	7.87	12.11	10.64	8.75	17.27	8.76	7.99				
		LOAD RATING	Rating Factor, RF=(R-D)/L(1+I)	Bending	r Bot Fiber		5.27	1.03	2.47	9.32	51.31	44.04	9.48	2.21	10.43	19.31	59.29	10.77	2.16	0.88	2.63					
and the second			Rating		TopF	+	26.18	12.29	5.68	3.12	4.14	4.83	9.53	17.46	11.41	-0.02	7.16	4.80	6.33	13.40	28.53					
20 000 00 00 00 00 00 00 00 00 00 00 00			SHEAR	11	N) 04-11-4(MP8)	9 6.812	+	3.659	6.608	2 7.498	3 5.078	3 5.777	5.240	3.052	6.122	7 6.088	9 4.427	9 5.314	9 6.713	3.997	7.506	6.879				
		PACT		N N	ber VLL+I (NN)	123.29		7 54.88	0 99.12	7 140.22	141.43	141.43	6 92.23	8 51.74	4 85.58	2 106.37	123.29	0 123.29	4 100.69	0 59.95	6 114.47	124.50				
		LIVE LOAD plus IMPACT		σ _{b-LL+I} (MPa)	iber Bot. Fiber	0.00		75 43.47	28 38.90	32 17.77	36 3.85	72 4.30	32 13.76	0 34.38	34 11.64	11 24.92	6 3.06	28 14.70	33 40.04	32 44.30	6 26.36	0.00				
and the second	(pou		BENDING	-	. +M Top Fiber	0.00 0.00	432.74 6.82	1012.95 16.75	906.58 27.28	543.95 27.32	308.24 12.86	251.42 12.72	450.87 12.62	656.36 10.00	368.67 11.34	158.35 26.11	245.38 9.66	589.88 19.28	933.17 25.93	1032.29 15.82	831.63 6.36	0.00 0.00				
	INVENIORT LEVEL (Allowable Stress Method			MLL+I (KN-m)	MaxM Max. +M	0.00	-215.16 432	-390.43 101	-635.81 906	-836.47 54	-1029.87 308	-743.39 25	413.40 45(-190.99 656	-359.00 368	-469.00 158	-773.61 245	-773.61 585	-604.38 933	-368.67 103	-200.66 831	0.00				
AII STREET	Allowable			(MD-4)	MI INN M	19.56 (8.72 -2	-6.80 -3	-17.33 -6	-23.26 -8	-25.17 -10	23.33 -7	14.66 4	3.31 -1	-12.88 -3	-27.30 -4	-21.62 -7	18.71 -7	16.53 -6	6.20 -3	-9.51 -21	-20.28 (
		Í	SHEAR	V (KN)		354.00	133.00	-102.00	-260.00	-435.00 -	-701.00 -	571.00	258.00	56.10	-180.00	-477.00	-602.00 -	434.00	248.00	93.00		-367.00				
AIVICALTOD'	NVENI UK	DEAD LOAD			Bot. Fiber	0.00	53.16	80.54	29.44	-40.23	-72.12	-63.98	-5.10	49.28	3.98	-355.75		-32.89	38.83	86.64	56.04	0.00				
			BENDING	σ _{b-DL} (MPa)	Top Fiber	0.00	-53.16	-80.54	-29.44	40.23	72.12	63.98	5.10	-49.28	-3.98	125.89	56.27	32.89	-38.83	-86.64	-56.04	0.00				
	8.748/93/246/93			M. (KNum)		0.00	1677.00	1877.00	686.00	-1231.50	-5775.00	-3740.50	-167.00	941.00	126.00	-2261.00	-4506.00	-1320.00	905.00	2019.00	1768.00	0.00				
	0.0010	KESSES	Gs. (allow) ຜູ້ Gs. (allow)		(MPa)	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24		(i+1)/(l		
		ALLOWABLE SIRESSES	σ, (allow	-	_	125.4	125.4	_	_	-	_	_				_			+	_	_	125.4	la 	apacity - (וער		
		F	fy I	+		31 228.00		_	-	-	_		-+	-		-	_	-+			-	1 228.00	Rating Factor Formula	Kr = {		
	PUTP	2	L bending	+		00 0.02661					-+	-+	-+	+		-	-+	-		_	-	00 0.02661	* Rating	, F		
	CECTION DOODEDTIES		Cn.e.		-1	810 0.90500		-+	_	-	-				-		_	_		_		810 0.90500	Rating		_	
	ULC JO	SEC.	Agross Ashear	+	_	0.04650 0.01810					\rightarrow	-	-	_	\rightarrow	_	-	_		_		0.04650 0.01810	or Inventory I	/ (HXIAI)	/ (Bending,	(Shear)
			SECTION A		5	1 0.0-	2 0.05	3 0.04		╡	6 0.07						-				1	17 0.04	* Allowable Stresses for Inventory Rating	$\sigma_a = 0.55 \text{ m/s}$ (Axial)	$\sigma_b = 0.55 \text{ IV} (Bending)$	$\sigma_v = u.u.u.y$ (Shear)

Appendix 20.1.4-3 (20/24)

RATING	
OF LOAD	
CALCULATION	

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G.2 OPERATING LEVEL

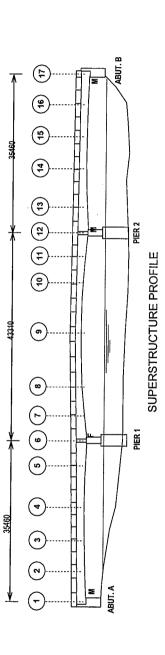
ALLOWABLE STRESS DEAD LOAD Ibualia P Cb (allow) EBNDING SH Ibualia Fy Cb (allow) C $_{e,ci}$ (MPa) Ma. (W1) SH SH (m ¹) (MPa) (MPa) (MPa) Ma. (W1) Sec. (MPa) Ma. (W1) (m ¹) (MPa) (MPa) Ma. (W1) Top Fiber BL Fiber SA (0) 0.02661 228.00 171 102.6 636.00 -39.44 260.00 0.01748 228.00 171 102.6 -123.16 40.23 -435.00 0.01748 228.00 171 102.6 -123.16 40.23 -435.00 0.01748 228.00 171 102.6 -374.05 53.16 57.10 0.01748 228.00 171 102.6 -374.05 53.36 57.10 0.01748 228.00 171 102.6 -374.05 53.36 57.10 0.01748 228.00 171 102.6 -374.05 53.36
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$
4 4 1 (<u>(MPa)</u> 228.00 2228.00 2222.2000 2222.2000 2222.2000 2222.2000 2222.2000 2222.2000 2222.2000 2222.2000 2222.2000 2222.2000 2222.0000 2222.0000 2222.0000 2222.00000000

 $\sigma_a = 0.75 fy (Axial)$ $\sigma_b = 0.75 fy (Bending)$ $\sigma_v = 0.45 fy (Shear)$

Appendix 20.1.4-3 (21/24)

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H. EXTERIOR GIRDER G8

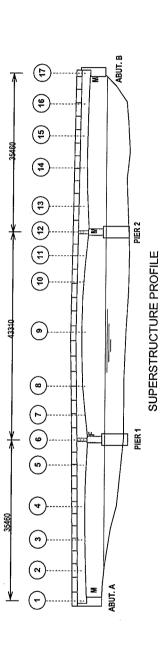
Description									Section										
resciption	-	2	3	4	2	9	7	8	6	10	7	12	13	14	15	16	17		
Dead Load Moments in kN-m	0.00	1677.00	1877.00	744.00	-1175.00	-5672.00	-3678.00	-179.00	884.00	-172.00	-3665.00	-5659.00	-1176.00	745.00	1799.00	1686.00	0.0		
Dead Load Shear in kN	354.00	133.00	-102.00	-260.00	-435.00	-701.00	571.00	258.00	56.10	-	-477.00	+-	434.00	248.00	93.00	-145.00	367.00		
Sidewalk Live Load Moments in kN-m	0.00	350.00	403.00	150.00	-258.50	-1308.00	-828.00	-20.70	187.00	-29.80	-828.00	-1312.00	-260.00	272.00	416.00	368.00	000		
Sidewalk Live Load Shear in kN-m	85.40	33.80	-30.70	-64.80	-98.30	-167.00	131.00	52.80	18.80	-32.60	-113.00	-151.00	77.10	38.20	28.60	35 90	88 30		
LANE LOADING															22.22	20.22	0000		
Max - Lane Ldng Moments in kN-m	0	-121	-226	-358	-427.5	-769	-575.5	-198	-165	-177	-574	-750	-424.5	-358	-227	-120	-		
Max + Lane Ldng Moments in kN-m	0	358	517	505	279.5	-	0	145	308	148	0	0	280	498	523	358	, _	" 	32 32
Max Lane Ldng Shear in kN	0	0	-28.6	-56.7	-56.6	-68.3	0	0	-17.1	-43.1	-47.8	-45.8	0	0	-14.3	-15.5	-50.6	1 II	15 24 /1 + 38
Max. + Lane Ldng Shear in kN	49.1	47.9	13.2	0	•	65.25	66.3	48.9	18.7	0	0	50	52.6	53.2	27.3	1.05	-	. 11	0 2087671
LIVE LOAD TRUCK LOADING																	,		1010070
Max Truck Loading Moment in kN-m	0	-160	-303	-480	-604	-747	-511.5	-320	-122	410	-511.5	-722.00	-606.5	-484.00	-305.00	.160.00	000		
Max.+ Truck Loading Moment in kN-m	0	598	762	665	346.5	251	187.5	338	488	332	187	249.00	344	667.00	769.00	608.00	0.00		
Max Shear in kN	-39.10	-38.30	-55.90	-110.00	-134.50	-116.00	-27.00	-24.30	-33.60	-96.50	-130.00	-166.00	-14.20	-11.90	-40.60	-120.00	-133.00		
Max. + Shear in kN	132	115	38.3	11.8	10.3	10.3	171	106	44.3	21.2	24.20	136.00	136.00	106.00	50.80	26.40	27.10		
MAXIMUM LIVE LOAD MOMENTS AND SHEAR (WITH IMPACT	R (WITH IM.	PACT)											ĺ	1	1				
Max. Live Load (-) Moment in kN-m	0.00	-193.40	-366.26	-580.21	-730.10	-929.54	-695.65	-386.81	-199.45	-495.59	-693.83	-906.58	-733.12	-585.04	-368.67	-193.40	000		
Max. Live Load (+) Moment in kN-m	0.00	722.84	921.08	803.83	418.84	303.40	226.64	408.56	589.88	401.31	226.04	300.98	415.82	806.25	929.54	734.93	000		
Max. Live Load (-) Shear in kN	-47.26	-46.30	-67.57	-132.96	-162.58	-140.22	-32.64	-29.37	-40.61	-116.65	-157.14	-200.66	-17.16	-14.38	-49.08	-145.05	-160.77		
Max. Live Load (+) Shear in kN	159.56	139.01	46.30	14.26	12.45	78.87	206.70	128.13	53.55	25.63	29.25	164.39	164.39	128.13	61.41	31.91	32.76		
Max. Shear in kN	159.56	139.01	67.57	132.96	162.58	140.22	206.70	128.13	53.55	116.65	157.14	200.66	164.39	128.13	61.41	145.05	160.77		
TOTAL LIVE LOAD MOMENT AND SHEAR (SIDEWALK LL + TRUCK LL)	DEWALK LL	+ TRUCK LI	0											1					
FOR OPERATING LEVEL	i																		
Max. Live Load (-) Moment in kN-m	0.00	-193.40	-366.26	-580.21	-1042.56 -2510.61	-	-1696.50	-411.83	-199.45	-531.62	-1694.69	-2492.48	-1047.40	-585.04	-368.67	-193.40	000		
Max. Live Load (+) Moment in kN-m	0.00	1145.91	1408.21	985.15	418.84	303.40	226.64	408.56	815.92	401.31	226.04	300.98	415.82	1135.03	1432.39	1179.76	00		
Max. Live Load (-) Shear in kN	-47.26	-46.30	-104.68	-211.29	-281.40	-342.08	-32.64	-29.37	-40.61	-156.05	-293.73	-383.18	-17.16	-14.38	49.08	-145.05	-160.77		
Max. Live Load (+) Shear in kN	262.79	179.86	46.30	14.26	12.45	78.87	365.05	191.95	76.27	25.63	29.25	164.39	257.59	174.30	95.98	75.31	139.49		
Max. Shear in kN	262.79	179.86	104.68	211.29	281.40	342.08	365.05	191.95	76.27	156.05	293.73	383.18	257.59	174.30	95.98	145.05	160.77		
														1	-	-			

= 43.4 m. = 15.24 / L + 38 = 0.1872236

IMPACT _ æ

RATING	
OF LOAD	
CALCULATION (

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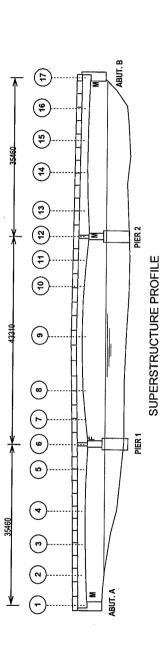
H.1 - INVENTORY LEVEL

			REMARKS		Shear Controle	Bending Controle	Bending Controls	Bending Controls	Bending Controls	Bending Controls	Rending Controls	Shear Controls	Bending Controls	Shear Controls		Pending Controlo	Bending Controls	Bonding Controlo	Denting Controls	Bending Controls	Shear Controle		
14-11-12-28 890	0	IS)		Shear	202 13	233.52	486.18	209	191.31	318.23	196.75	198.26	728.59	239.48	277 04	238.17	255 20	210.02	520.52	201.14	108.07	10.001	
	EQUIV. HS20	Tons (Bending		100.80	36.32	86.72	116.76	150.44	168.04	313.69	81.93	245.28	127 F.G	154 71	168.33	86.42	28.67	08.80			
		D)/L((1+1)		Shear	6.32	7.30	15.19	6.53	5.98	9.94	6.15	6.20	22.77	7.47	8 69	7 44	7 98	6 87	16.86	6.91	6.19		
	LOAD RATING	Rating Factor, RF=(R-D)/L(1+I)	ina	Bot Fiber		3.15	113	2.71	11.97	51.79	48.57	10.16	2.56	10.32	48.65	52 17	14 93	01.0	1 24	309			
24.000 (Sec 2004)	P	Rating Fac	Bending	Top Fiber		29.13	13.10	6.32	3.65	4.70	5.25	9.80	16.44	7.67	3.99	4 83	5.26	6 27	12.81	29.17			
		4R		5v-LL+(MPa)	8.815	9.115	4.505	8.864	8.694	5.035	8.444	9.165	3.159	8.344	6.419	7,205	7.086	8.542	4 094	9.512	8.882		
10441072814000		SHEAR		ALL+! (KN) م۰:LL+! (MPa)	159.56	139.01	67.57	132.96	162.58	140.22	206.70	128.13	53.55	116.65	157.14	200.66	164.39	128.13	6141	145.05	160.77	1	
and a second second second	us IMPACT			ber	0.0	22.91	39.52	34.49	13.68	3.79	3.88	12.90	30.89	12.67	3.87	3.76	10.36	34.59	39.89	23.30	0.0	1	
	LIVE LOAD plus IMPACT	NG	σ _{b-LL+I} (MPa)	Top Fiber	0.00	6.13	15.72	24.90	23.85	11.61	11.90	12.22	10.45	15.65	13.52	11.32	18.27	25.10	15.82	6.13	0.00	1	
	5	BENDING	(m-7	Max. +M	0.00	722.84	921.08	803.83	418.84	303.40	226.64	408.56	589.88	401.31	226.04	300.98	415.82	806.25	929.54	734.93	0.00		
			MLL++ (KN-m)	MaxM	0.00	-193.40	-366.26	-580.21	-730.10	-929.54	-695.65	-386.81	-199.45	-495.59	-693.83	-906.58	-733.12	-585.04	-368.67	-193.40	0.00		
-		R		V-DL (MP-3)	19.56	8.72	6.80	17.33	23.26	25.17	23.33	18.45	3.31	12.88	19.49	21.62	18.71	16.53	6.20	9.51	20.28		
		SHEAR	1 10 N	ADL (NIV) 04-DL (MIP3)	354.00	133.00	102.00	260.00	435.00	701.00	571.00	258.00	56.10	180.00	477.00	602.00	434.00	248.00	93.00	145.00	367.00		
40104				Bot. Fiber	0.00	53.16	80.54	31.93	-38.38	-70.83	-62.91	-5.65	46.30	-5.43	-62.69	-70.67	-29.30	31.97	77.20	53.44	0.00		
	5	BENDING	σ _{h-DL} (MPa)	Top Fiber 1	0.00	-53.16	-80.54	-31.93	38.38	70.83	62.91	5.65	-46.30	5.43	71.47	70.67	29.30	-31.97	-77.20	-53.44	0.00		
	ľ		M /// M		0.00	1677.00	1877.00	744.00	-1175.00	-5672.00	-3678.00	-179.00	884.00	-172.00	-3665.00	-5659.00	-1176.00	745.00	1799.00	1686.00	0.00		
0000	096.0	5 (allow)		(MPa)	75.24	75.24	75.24	75.24			75.24	75.24	-	75.24	75.24	75.24	75.24	75.24	75.24	75.24	75.24	(1+11)	
ALLOWADI E CTDECCEC		G. (allow) ຕ. (allow)		(MPa)	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4	ļt/ (DC)] / (
VINO I IV	ALLOW	fy o		(MPa)	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	228.00	aling Factor Formula RF = [Member Capacity - (DL)] / (LL + I)	
╞		bending		(m ⁴)	0.02661	0.02406	0.01748		_	+	-		-	-		0.11151	0.04655	0.01748	0.01748	0.02406	0.02661	Rating Factor Formula RF = [Member Cap	
) DEDTIES		л. С		-	0.90500	0.76250						-				1.39250 (1.16000 (0.75000 (0.75000 (0.76250 (0.90500 (*	
SECTION PROPERTIES		Ashear				0.01525		-	-	_	-+	-	_	_		0.02785		0.01500	0.01500		0.01810 (tory Rating 1)	
1	5	Agross	-		-	0.05490					-	_	0.04523		_	0.07875	_	0.04340 (0.04340 (0.54900 (0.04650 (ble Stresses for Invento $\sigma_a = 0.55 \text{ fy} \text{ (Axial)}$	
		SECTION	_1		-	7	3			9			-	1	-	12	13	14 (15 (17 (Allowable Stresses for Inventory Rating $\sigma_a = 0.55 \text{ fy} \text{ (Axial)}$	101

Appendix 20.1.4-3 (23/24)

RATING
OF LOAD
CULATION
CALC

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H.2 OPERATING LEVEL

	OTOTO	Tanadada	21					Se Churcharder		AL FIGULING FEALE (MIGHANIC OR COS MICHIOU)	SIGNATIC	DINI CED DO	Inoit	10 million and an and a state	16.00.00 and 16.00		E.S.S.S.S.MILL	III					
				₹	ALLOWABLE STRESSES	STRESSES		-	DEAD LOAD				5	LIVE LOAD plus IMPACT	us IMPACT			۲07	LOAD RATING				
	Amore Amore		Inancino	\$.	C. (allo	r. (allow) r. (allow)		BENDING		SHEAR	AR		BENDING	ING		SHEAR	R	Rating Fact	Rating Factor, RF=(R-D)/L(1+I)	Τ.	EQUIV. LL (Tons)	(Lons)	
. 1	-+	_	-	_			M (KN.m)		თ _{ხის} (MPa)	V CKND		MLL+H (KN-m)	(m-m)	σ _{b-LL+I} (MPa)		1017		Bending		+			REMARKS
<u>₩</u>]		-+	+	-	Ξ	_		Top Fiber	Bot. Fiber			MaxM	Max. +M	Top Fiber	Bot. Fiber	۸ רד+ו (WN) α۰- רד+ו (MPa)	4	Top Fiber E	Fiber	Shear B	Bending	Shear	
зI	_		_	_	_	_	0.0	0.00	0.00	354.00	19.56	0.00	0.00	0.00	0.00	262.79	14.519		.	5.72		183.03	Shear Controls
81	-	_	_	+		-	1677.00	-53.16	53.16	133.00	8.72	-193.40	1145.91	6.13	36.32	179.86	11.794	36.56	3.24	7.96	103.82	+	Bending Controls
S	-		_		_		1877.00	-80.54	80.54	102.00	6.80	-366.26	1408.21	15.72	60.43	104.68	6.979	16.01	1.50	13.73	47.90	1.	Bending Controls
<u>s</u>	+		_	3 228.00	171	102.6	744.00	-31.93	31.93	260.00	17.33	-580.21	985.15	24.90	42.27	211.29	14.086	8.15	3.29	+	105.28		Rending Controls
8	-	- 1	0 0.02862	228.00	171	102.6	-1175.00	38.38	-38.38	435.00	23.26	-1042.56	418.84	34.06	13.68	281.40	15.048	3.89	15.30		124.61	╈	Bending Controle
0.07		- 1	_	228.00	171	102.6	-5672.00	70.83	-70.83	701.00	25.17	-2510.61	303.40	31.35	3.79	342.08	12.283	3.20	63.83	+-	102.24		Bending Controls
0.06638						102.6	-3678.00	62.91	-62.91	571.00	23.33	-1696.50	226.64	29.02	3.88	365.05	14.912	3.72	60.34	┿	119.19	-	Bending Controls
0.05916	-	-	-	_		_	-179.00	5.65	-5.65	258.00	18.45	-411.83	408.56	13.01	12.90	191.95	13.730	12.71	13.69	┢	406.82	-	Shear Controls
0.04523			-			-	_	-46.30	46.30	56.10	3.31	-199.45	815.92	10.45	42.73	76.27	4.500	20.80	2.92		93.38	╈	Bending Controls
0.05916	-		+	_	_	-	+	5.43	-5.43	180.00	12.88	-531.62	401.31	16.79	12.67	156.05	11.163	9.86	13.92	8.04	315.57	+	Shear Controls
0.06638	-	-			_	_			-62.69	477.00	19.49	-1694.69	226.04	28.99	3.87	293.73	11.999	3.74	60.44	6.93	┢	221.66	
0.07875	-	-	-	+		_	-5659.00	.0 Z	-70.67	602.00	21.62	-2492.48	300.98	31.13	3.76	383.18	13.759	3.22	64.30	┼╴	_	+-	Bending Controls
0.05160	+	-		228.00	4	102.6	-1176.00	29.30	-29.30	434.00	18.71	-1047.40	415.82	26.10	10.36	257.59	11.103	5.43	19.33		173.73	┿	Bending Controls
0.04340	_		0 0.01748	228.00	171	102.6	745.00	-31.97	31.97	248.00	16.53	-585.04	1135.03	25.10	48.70	174.30	11.620	8.09	2.85	+-	91.36	+-	Bending Controls
0.04340			-	228.00	171	102.6	1799.00	-77.20	77.20	93.00	6.20	-368.67	1432.39	15.82	61.47	95.98	6.398	15.69	1.53	+	48.84	+	Bending Controls
0.54900	900 0.01525		-	- 1		-	1686.00	-53.44	53.44	145.00	9.51	-193.40	1179.76	6.13	37.40	145.05	9.512	36.61	3.14	+	+		Bending Controls
5	0.04650 0.01810	10 0.90500	0 0.02661	228.00	171	102.6	0.00	0.00	0.00	367.00	20.28	0.00	0.00	0.00	0:00	160.77	8.882	.		┢	┿	-	Shear Controls
st	* Allowable Stresses for Operating Rating	lating	* Rating F	* Rating Factor Formula	ula																	1	
5 fy	$\sigma_a = 0.75 \text{ fy} (Axial)$		RF = I	Member C.	apacity - (D	RF = [Member Capacity - (DL)] / (LL + 1)																	
25 6.																							

 $\sigma_a = 0.75 \text{ fy} \quad (Axial)$ $\sigma_b = 0.75 \text{ fy} \quad (Bending)$ $\sigma_v = 0.45 \text{ fy} \quad (Shear)$

Appendix 20.1.4-3 (24/24)