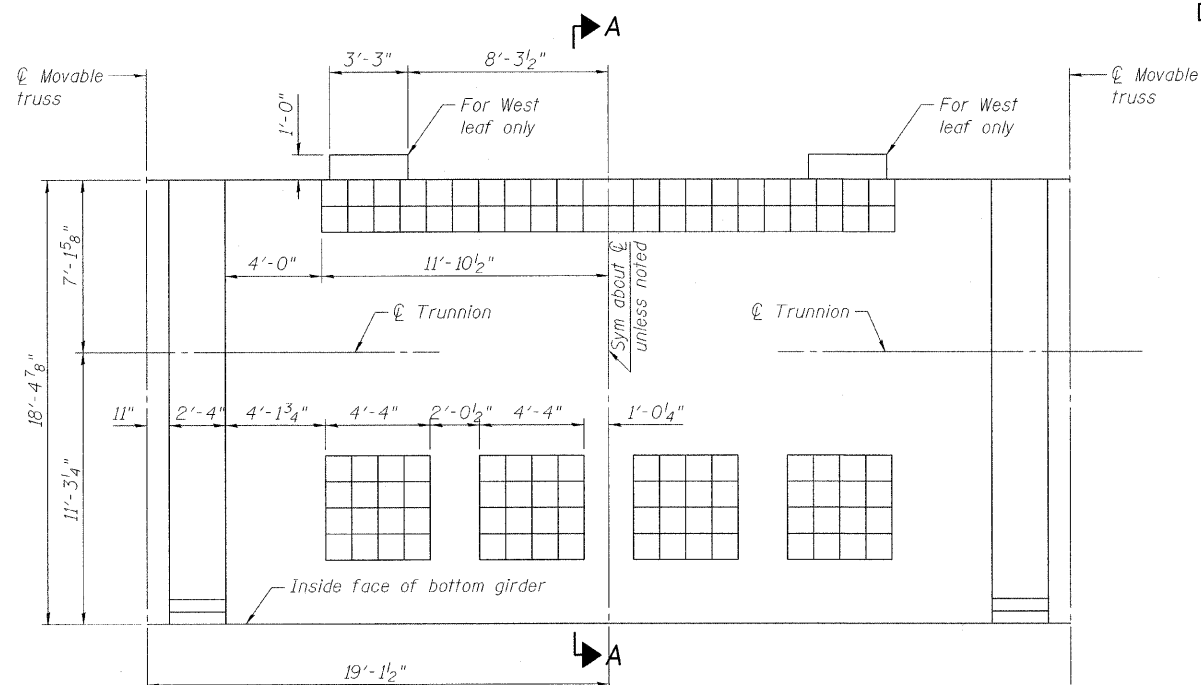
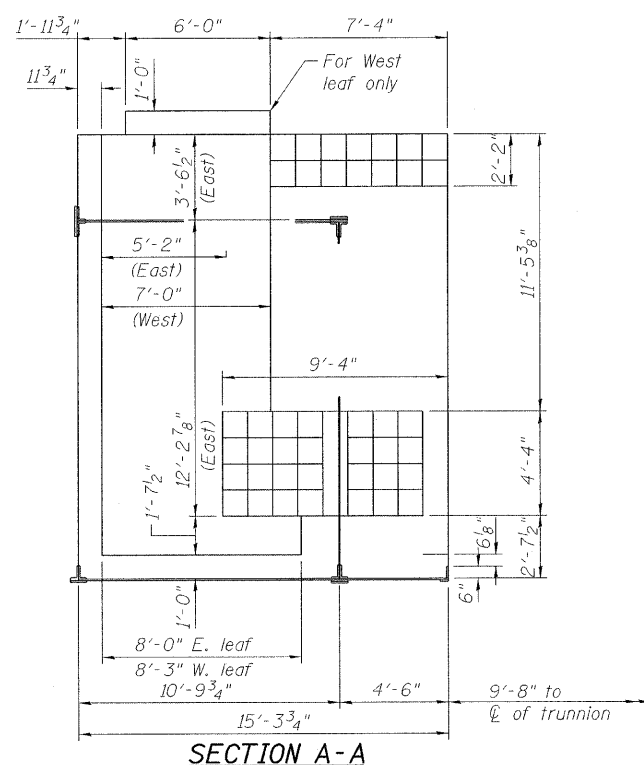


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION OF COUNTERWEIGHT



SECTION A-A

Notes:

- For preliminary counterweight adjustment, it has been assumed that the bridge is currently in a balanced condition. The Contractor shall perform independent balancing calculations based on actual shop weights and proposed rehabilitation configuration.
- Weight denotes the weight of member element replacement and not necessarily the total weight of members.
- The sum/product of the columns/rows may not be additive due to rounding error.
- The distances X and Y are measured from the center of trunnion.
- As far as practicable, exact measured weights and locations and moment of all material entering into the make-up of the movable leaf of the bridge shall be furnished to the Engineer by the Contractor.
- The final distribution for balancing the leaf will be determined as outlined in the special provisions. The Contractor shall make all adjustments and relocations necessary to attain that condition to the satisfaction of the Engineer. The Contractor shall furnish to the Engineer complete record of the final weights and distribution of the various counterweight materials as computed and as measured.
- All dimensions and elevations shown are based on existing drawings. Contractor shall verify.
- Existing and new center lock mechanical system are assumed to weigh the same. Contractor shall verify.

DESIGNED	A. HAMMAD
CHECKED	J. GRAINAWI
DRAWN	D. C. PATEL
CHECKED	A. HAMMAD

ITEM	NORTHEAST LEAF					SOUTHWEST LEAF				
	WEIGHT #	LOCATION		MOMENT		WEIGHT #	LOCATION		MOMENT	
		X (ft)	Y (ft)	Mx (#-ft)	My (#-ft)		X (ft)	Y (ft)	Mx (#-ft)	My (#-ft)
Existing Deck Removal (20.67 psf)	98,597	66.15	10.71	6,521,761	1,055,806	98,597	66.15	10.71	6,521,761	1,055,806
Existing Stringers Removal	82,090	63.57	9.72	5,218,321	797,873	82,090	63.57	9.72	5,218,321	797,873
Existing Sidewalk Removal	34,000	66.18	11.50	2,250,120	391,000	34,000	66.18	11.50	2,250,120	391,000
Existing Handrail Removal (38.4 plf)	4,335	64.99	13.13	281,732	56,926	4,335	64.99	13.13	281,732	56,926
Existing Steel Curb Removal	6,690	67.79	11.70	453,495	78,251	6,690	67.79	11.70	453,495	78,251
Lateral Bracing	37,840	44.12	-2.46	1,669,662	-93,073	37,840	44.12	-2.46	1,669,662	-93,073
Center Break	4,340	122.10	10.37	529,914	44,991	4,340	122.10	10.37	529,914	44,991
Rear Break	11,300	11.25	10.08	127,125	113,942	11,300	11.25	10.08	127,125	113,942
Floorbeams	69,920	75.29	5.16	5,264,405	360,846	71,214	66.03	4.80	4,702,394	341,806
Total Removed	349,112	63.92	8.04	22,316,535	2,806,562	350,406	62.08	7.96	21,754,524	2,787,522

ITEM	NORTHWEST LEAF					SOUTHWEST LEAF				
	WEIGHT #	LOCATION		MOMENT		WEIGHT #	LOCATION		MOMENT	
		X (ft)	Y (ft)	Mx (#-ft)	My (#-ft)		X (ft)	Y (ft)	Mx (#-ft)	My (#-ft)
Orthotropic Deck including WS (43.01 psf)	222,625	58.87	10.58	13,105,192	2,355,373	222,625	58.87	10.58	13,105,192	2,355,373
Orthotropic Sidewalk (30.64 psf)	25,512	65.92	12.10	1,681,666	308,695	25,512	65.92	12.10	1,681,666	308,695
Aluminum Handrail (31.7 plf)	3,575	64.99	13.13	232,368	46,952	3,575	64.99	13.13	232,368	46,952
Aluminum F Barrier (54 plf)	6,316	67.79	13.13	428,178	82,943	6,091	67.79	13.13	412,886	79,981
Lateral Bracing	34,128	44.54	-2.39	1,519,982	-81,698	34,021	44.32	-2.41	1,507,858	-82,031
Center Break	6,573	122.10	10.37	802,563	68,140	6,573	122.10	10.37	802,563	68,140
Rear Break	18,921	11.25	10.08	212,861	190,787	18,921	11.25	10.08	212,861	190,787
Truss Repairs	2,937	69.69	0.89	204,667	2,628	3,506	55.06	0.64	193,053	2,256
Floorbeams	65,336	73.75	5.21	4,818,494	340,117	71,080	62.84	5.01	4,466,382	356,382
Total Added	385,923	59.61	8.59	23,005,972	3,313,936	391,905	57.70	8.49	22,614,828	3,326,533

ITEM	NORTHWEST LEAF					SOUTHWEST LEAF				
	WEIGHT #	LOCATION		MOMENT		WEIGHT #	LOCATION		MOMENT	
		X (ft)	Y (ft)	Mx (#-ft)	My (#-ft)		X (ft)	Y (ft)	Mx (#-ft)	My (#-ft)
Existing Deck Removal (20.67 psf)	98,810	65.34	10.71	6,456,589	1,058,086	98,945	65.34	10.71	6,465,463	1,059,540
Existing Stringers Removal	82,090	63.57	9.72	5,218,321	797,873	82,090	63.57	9.72	5,218,321	797,873
Existing Sidewalk Removal	34,000	66.18	11.50	2,250,120	391,000	34,000	66.18	11.50	2,250,120	391,000
Existing Handrail Removal (38.4 plf)	4,335	64.99	13.13	281,732	56,926	4,335	64.99	13.13	281,732	56,926
Existing Steel Curb Removal	6,690	67.79	11.70	453,495	78,251	6,690	67.79	11.70	453,495	78,251
Lateral Bracing	37,840	44.12	-2.46	1,669,662	-93,073	37,840	44.12	-2.46	1,669,662	-93,073
Center Break	4,340	122.10	10.37	529,914	44,991	4,340	122.10	10.37	529,914	44,991
Rear Break	11,300	11.25	10.08	127,125	113,942	11,300	11.25	10.08	127,125	113,942
Floorbeams	69,920	75.29	5.16	5,264,405	360,846	24,902	52.59	3.65	1,309,660	90,818
Total Removed	349,325	63.70	8.04	22,251,363	2,808,842	304,443	60.13	8.34	18,305,492	2,540,268

ITEM	NORTHWEST LEAF					SOUTHWEST LEAF				
	WEIGHT #	LOCATION		MOMENT		WEIGHT #	LOCATION		MOMENT	
		X (ft)	Y (ft)	Mx (#-ft)	My (#-ft)		X (ft)	Y (ft)	Mx (#-ft)	My (#-ft)
Orthotropic Deck including WS (43.01 psf)	222,625	58.87	10.58	13,105,192	2,355,373	222,625	58.87	10.58	13,105,192	2,355,373
Orthotropic Sidewalk (30.64 psf)	25,512	65.92	12.10	1,681,666	308,695	25,512	65.92	12.10	1,681,666	308,695
Aluminum Handrail (31.7 plf)	3,575	64.99	13.13	232,368	46,952	3,575	64.99	13.13	232,368	46,952
Aluminum F Barrier (54 plf)	6,091	67.79	13.13	412,886	79,981	6,091	67.79	13.13	412,886	79,981
Lateral Bracing	34,051	44.38	-2.41	1,511,227	-81,939	34,136	44.55	-2.39	1,520,899	-81,673
Center Break	6,573	122.10	10.37	802,563	68,140	6,573	122.10	10.37	802,563	68,140
Rear Break	18,921	11.25	10.08	212,861	190,787	18,921	11.25	10.08	212,861	190,787
Truss Repairs	2,959	66.88	0.84	197,895	2,474	2,552	62.01	-0.11	158,232	-273
Floorbeams	65,595	73.76	5.20	4,838,448	341,024	26,733	55.14	3.96	1,474,025	105,855
Total Added	385,902	59.59	8.58	22,995,106	3,311,486	346,718	56.53	8.87	19,600,693	3,073,836

BRIDGE BALANCING
STRUCTURE NO. 016-2445

SHEET NO. 121	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	389	2424.2B-R	COOK	398	202
CONTRACT NO. 60D61			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		

PB Americas, Inc.
230 WEST MONROE STREET,
SUITE 900
CHICAGO, IL. 60606

163 SHEETS