



WEST ELEVATION PIER D44

WEST ELEVATION PIER D45

BEARING REACTION TABLE - PIER D44

Load*	Span D43		Span D44	
	D1	D2	D1	D2
R _Q (k)	155	183	185	185
R _± (k)	72	72	72	72
Impact (k)	18	18	17	17
Total (k)	245	273	274	274

*Gravity service loads.
Minimum jack size: 250 Tons

BEARING REACTION TABLE - PIER D45

Load*	Span D44		Span D45	
	D1	D2	D1	D2
R _Q (k)	185	185	112	112
R _± (k)	72	72	43	43
Impact (k)	17	17	12	12
Total (k)	274	274	167	167

*Gravity service loads.
Minimum jack size: 250 Tons

BILL OF MATERIAL - PIER D45

SUBSTRUCTURE					
BAR	NO.	SIZE	LENGTH	SHAPE	
s ₁ (E)	38	#6	5'-2"		
s ₂ (E)	36	#10	9'-5"		
ITEM				UNIT	QUANTITY
Reinforcing bars, epoxy coated				Pound	1,760
Concrete structures				Cu. Yd.	5
Seismic isolation bearing assembly, Type A				Each	4
Jack and remove existing bearings				Each	4
Mechanical Splice				Each	36

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Mechanical Splice				Each	36

ISOLATION BEARING NOTES,
PIERS D44 AND D45

- Each bearing shall be capable of sustaining service gravity load of 275 kips min.
- Each bearing shall have elastic lateral load capacity of at least 20 kips, but not greater than 25 kips.
- Each bearing shall have post yield stiffness of 10 kips/in ± 2 kips/in.
- Each bearing shall be centered on existing bearing stiffener.
- Each bearing shall be capable of sustaining a minimum of 3 inch lateral deformation between top and bottom plates.
- Contractor is responsible for designing, furnishing and installing bearings and all related connections, shims, pedestals and any other elements necessary to achieve performance specifications outlined above. All such elements shall be capable of sustaining the demands associated with specified bearing deformation.

PIER ELEVATIONS

REVISIONS	
NAME	DATE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
REHABILITATION AND RETROFIT REPAIRS
FAI ROUTE TO
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0142 (RAMP S)
SCALE:
DATE: 02/28/2006

DATE: 4/19/2006 FILENAME: P:\2001\1201-1300\20011210\drafting\roadway\rehab_ds\raprd\pier\d_pier44.dgn

DESIGNED	VARIOUS
CHECKED	HH
DRAWN	CLK
CHECKED	JEL