

BSDMS Summary Report

19 Wabash River at S.R. 163 at Clinton, IN

Site Location:

Site ID: 19

Site Name: Wabash River at S.R. 163 at Clinton, IN

County: Vermillion

Nearest City: Clinton

State: IN

Latitude: 393922

Longitude: 872343

USGS Station ID:

Route Number: 163

Route Class: State

Service Level: Mainline

Route Direction: NA

Highway Mile Point: 7.85

Stream Name: Wabash River

River Mile:

Contact:
Robert L. Miller or John T. Wilson
U.S.G.S.-W.R.D.
5957 Lakeside Boulevard
Indianapolis, IN 46112 (317)
290-3333

Publication:

Site Description:

This site is at the the State Route 163 bridge crossing the Wabash River on the east side of the town of Clinton. The Wabash River is the county line between Vermillion County on the west and Parke County on the east. The mile point is referenced to the Indiana-Illinois State line. The left bank is leveed both upstream and downstream from the bridge, while the right bank has a natural hillside that has been terraced by construction. The left overbank is wooded upstream and downstream from the bridge. The right bank has some trees and brush, and remains steep for several hundred feet downstream from the bridge. Upstream from the bridge, the right bank levels off where there is a community park and boat launch. Approximately 1000 ft upstream from the S.R. 163 bridge, there is a railroad bridge. Only piers 6, 7, and 8 are in the channel.

Elevation Reference

Datum: MSL

MSL (ft):

BSDMS Summary Report

19 Wabash River at S.R. 163 at Clinton, IN

Description of Reference Elevation:

INDOT bronze tablet #VERM C-29 at the northwest end of the bridge (upstream right end), elevation = 495.325 ft.
The bridge has a wire-weight gage on the upstream side. The elevation of the check bar is 499.24 ft at a reading of 46.822 ft.

Stream Data

Drainage Area (sq mi):	11720	Floodplain Width:	Wide
Slope in Vicinity(ft/ft):	0.00014	Natural Levees:	Little
Flow Impact:	Straight	Apparent Incision:	None
Channel Evolution	Premodified	Channel Boundary:	Alluvial
Armoring:	Unknown	Banks Tree Cover:	Medium
Debris Frequency:	Frequent	Sinuosity:	Straight
Debris Effect:	Unknown	Braiding:	None
Stream Size:	Wide	Anabranching:	None
Flow Habit:	Perennial	Bars:	Unknown
Bed Material:	Sand	Stream Width Variability:	Equiwidth
Valley Setting:	Low		

Roughness Data

Manning's n Values

	Left Overbank	Channel	Right Overbank
High:			
Typical	0.04	0.032	0.038
Low:			

Bed Material

Measurement Number	Yr	Mo	Dy	Sampler	D95 (mm)	D84 (mm)	D50 (mm)	D16 (mm)	SP	Shape	Cohesion
1	1993	12	15	BM-54	0.55	0.5	0.34	0.24	2.65		Unknown

BSDMS Summary Report

19 Wabash River at S.R. 163 at Clinton, IN

2	1993	12	15	BM-54	1.25	0.7	0.39	0.27	2.65	Unknown
3	1993	12	15	Clamshell	0.95	0.6	0.34	0.2	2.65	Unknown

Bed Material Comments

Measurement No: 1

Sample 1 was collected at station 870 with a BM-54.

Measurement No: 2

Sample 2 is a composite of samples collected with a BM-54 between stations 600-800.

Measurement No: 3

Sample 3 is a composite sample for the site collected with a clamshell.

Bridge Data

Structure No: 163-83-5325A
Length(ft): 1070
Width(ft): 36
Number of Spans: 9
Vertical Configuration: Curvilinear
Low Chord Elev (ft): 486.7
Upper Chord Elev (ft): 493
Overtopping Elev (ft): 492.4
Skew (degrees): 15
Guide Banks: None
Waterway Classification: Main
Year Built: 1963

BSDMS Summary Report

19 Wabash River at S.R. 163 at Clinton, IN

Avg Daily Traffic: 6500

Plans on File: Yes

Parallel Bridges No

Upstream/Downstream: N/A

Continuous Abutment: No

Distance Between Centerlines:

Distance Between Pier Faces:

Bridge Description:

The left end of the bridge has a sloping abutment with levees upstream and downstream. The right end of the bridge has a modified sloping bank. However, there are no real sloping embankments at either end of the bridge, even though the bridge type is coded as Type III. The piers are numbered 1 through 8, with pier 1 closest to the left abutment (looking downstream). The abutments and piers are skewed approximately 20 degrees right relative to the bridge deck.

Abutment Data

Left Station: 0

Right Station: 1034

Left Skew (deg): 0

Right Skew (deg) 0

Left Abutment Length (ft): 36

Right Abutment Length (ft) 36

Left Abutment to Channel Bank (ft): 450

Right Abutment to Channel Bank (ft):

Left Abutment Protection:

Right Abutment Protection

Contracted Opening Type: III

Embankment Skew (deg): 0

Embankment Slope (ft/ft):

Abutment Slope (ft/ft) 3

Wingwalls: No

BSDMS Summary Report

19 Wabash River at S.R. 163 at Clinton, IN

Wingwall Angle (deg): 0

Pier Data

Pier ID	Bridge			PierType	# Of Piles	Pile
	Station(ft)	Alignment	Highway Station			Spacing(ft)
1	71.5	20	6441	Single	0	
2	160	20	6350	Single	0	
3	250	20	6257	Single	0	
4	320.7	20	6184	Single	0	
5	445.3	20	6055	Single	0	
6	599.8	20	5895	Single	0	
7	754.4	20	5735	Single	0	
8	908.9	20	5575	Single	0	

Pier ID	Pier					
	Width(ft)	Pier Shape	Shape Factor	Length(ft)	Protection	Foundation
1	2.5	Round		35.5	None	Poured
2	2.5	Round		35.5	None	Poured
3	2.5	Round		35.5	None	Poured
4	3	Round		38	None	Poured
5	3	Round		34.5	None	Poured
6	3	Round		38.5	Unknown	Poured
7	3	Round		38.5	Unknown	Poured
8	3	Round		34.5	Unknown	Poured

Pier ID	Elevation(ft)		Foot or Pile Cap Width(ft)	Cap Shape	Pile Tip Elevation(ft)
	Top	Bottom			
1	457.35	454.85	6	Square	
2	457.58	455.08	6	Square	
3	447.38	444.88	9	Square	
4	442.89	440.14	12	Square	

BSDMS Summary Report

19 Wabash River at S.R. 163 at Clinton, IN

5	440	431	17	Square
6	439.88	430.88	20	Square
7	438.93	429.93	20	Square
8	437.75	428.75	17	Square

Pier Description

Pier ID 1

Pier 1 is on the left overbank.

Pier ID 2

Pier 2 is on the left overbank.

Pier ID 3

Pier 3 is on the left overbank.

Pier ID 4

Pier 4 is on the left overbank.

Pier ID 5

Pier 5 is located at approximately the top of the left bank of the main channel.

BSDMS Summary Report

19 Wabash River at S.R. 163 at Clinton, IN

Pier ID 6

Pier 6 is in the channel.

Pier ID 7

Pier 7 is in the channel near the thalweg. Debris frequently collects on this pier during high flows, making depth soundings difficult or impossible near the pier nose.

Pier ID 8

Pier 8 is in the channel near the thalweg. Debris frequently collects on this pier during high flows, making depth soundings difficult or impossible near the pier nose.

Pier Scour Data

Pier ID	Date	Time	USOrDS					
8	1/3/91	11:00	Upstream					
8	1/3/91	11:45	Downstream					
Pier ID	Scour Depth	Accuracy (ft)	Side Slope (ft/ft)	TopWidth (ft)	Apprch Vel (ft/s)	Apprch Depth(ft)	Effective Pier Width	Skew to Flow(deg)
8	2.3	0.5	15.7	24.5	5.2	30.9	3	5
8	1.5	0.5	7	22	5.2	30.9	3	5
PierID	Sediment Transport	Bed Material	BedForm	Trough (ft)	Crest (ft)	Sigma	Debris Effects	
8	Live-bed	Non-cohesive	Unknown			1.38	Unknown	
8	Live-bed	Non-cohesive	Unknown			1.38	Unknown	
PierID	D95 (mm)	D84 (mm)	D50 (mm)	D16 (mm)				
8	0.55	0.34	0.34	0.24				
8	0.55	0.34	0.34	0.24				

Pier Scour Comments

BSDMS Summary Report

19 Wabash River at S.R. 163 at Clinton, IN

Pier ID 8 Time: 11:00 US/DS: Upstream

The bed-material information reported is from bed-material sample no. 1, which was collected near pier 8.

Pier ID 8 Time: 11:45 US/DS: Downstream

The bed-material information reported is from bed-material sample no. 1, which was collected near pier 8.

Abutment Scour

Contraction Scour

Stage and Discharge Data

Peak Discharge					Flow (cfs)	Qacc	Peak Stage					Stage (ft)	Water Temp (C)	Return Period(yr)
year	mo	dy	hr	mi			year	mo	dy	hr	mi			
1991	1	3	11:00	0	98700	none	1991	1	3	11:00	11	481.4		10
				0		none	1991	1	3	11:45	11	481.2		
				0		none	1991	1	15	15:45	15	469.1		
				0		none	1991	1	15	14:15	14	469.1		

BSDMS Summary Report

19 Wabash River at S.R. 163 at Clinton, IN

0	none	1991	2	13	13:00	13	464.5
0	none	1991	2	13	11:15	11	464.5
0	none	1990	6	8	9:45	9	461.4
0	none	1990	6	7	14:45	14	461.3
0	none	1990	9	11	14:15	14	458.2
0	none	1990	9	11	13:00	13	458.2
0	none	1992	6	10	8:00	8	458.1
0	none	1992	6	10	9:00	9	458

Hydrograph

Hydrograph Number	Year	Month	Day	Hr	Min	Sec	Stage(ft)	Discharge (cfs)
----------------------	------	-------	-----	----	-----	-----	-----------	--------------------

Supporting Files
