2017 Ohio Bridge conference

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DEADLINES

SHV LOAD RATINGS AND POSTING (using LFR or LRFR method)

- GROUP B
 - 1.00 ≤ Controlling Op RF < 1.35......Dec 31, 2022
- GROUP C
 - Posted bridges, controlling Op RF < 1.00......Dec 31, 2017

NOTE: Allowable Stress not allowed

Deadline includes posting of sign

All new Bridge Load Ratings include SHV

DEADLINES

- EV LOAD RATINGS AND POSTING (NBI bridges within 1 mile of on-off ramp)
 - GROUP 1..... next re-rating, no later than Dec 31, 2022
 - HS-20 Inv RF ≥ 1.00 using LFR or ASR method
 - HL-93 Inv RF ≥ 0.90 using LRFR method
 - GROUP 2.....next re-rating, no later than Dec 31, 2019
 - All bridges not included above

NOTE: Allowable Stress not allowed

Deadline includes posting of sign

All new Bridge Load Ratings include EV when within a mile

DEADLINES

SCOUR EVALUATIONS

- Channel Cross Sections......October 31, 2018
 - UW Inspections
 - Scour Critical Bridges (Item 113 = 3,2,1,0)
 - Baseline Photos inadequate
 - Cannot agree to Global Statement
- Baseline Photos......October 31, 2018
 - All bridges not requiring Channel Cross Sections
 - 2 minimum (upstream & downstream)
 - Using Photos = Agreeing to Global Statement

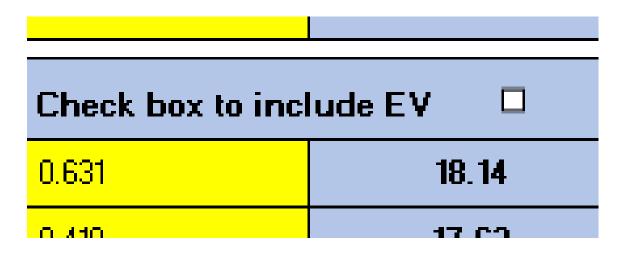
NOTE: Repeat every 5 years, or more often if changes appear

QAR Results

- Bridge Inspection Frequency: 8 Some bridges in 25th month
- Bridge Condition Ratings: 8 Some bridges use +/- 1 allowance
- Bridge Inventory: 7 GR Survey, Appr Rdwy alignment, Appr widths
- Bridge Files: <u>6</u> FC Insp procedure
- Bridge Load Ratings: 9
- Bridge SMS Input: <u>6</u> RF, Method of Rating, missing items, etc..
- Bridge Load Limit signs: 5 Some signs don't match load rating
- Lunch: 8 No Pie

- Use BR-100
 - Use LATEST ONE dated 6/2/17
 - Look At EV box (default is checked)

GN VEHICLE	DESIG		OHIO LEGAL VEHICLES						
D Operatin	Loading Type		Legal Weight (Tons)	Operating Rating RF	GVW (Tons)	Loading Type			
1.250	HS20 Loading		15.00	1.065	15	2F1			
	ading	11320 200	23.00	1.000	23	3F1			
	Overall Legal Posting Rating (Does not include EV's)		21.60	0.800	27	4F1			
			29.32	0.733	40	5C1			
BRIDGE POSTING RECOMMENDED				AULING VEHICLES (SH)					
	BY RATING		17.12	0.634	27	SU4			
V			31.00	.8.	31	SU5			
			27.80	0.800	34.75	SU6			
2			30.75	1.000	38.75	SU7			
3		Cias Danies Des	lude EV 🗆	EMERGENCY VEHICLES (EV) - Check box to include EV					
4	Sign Posting Recommendation:		18.14	0.631	28.75	EV2			
5			17.63	0.410	43	EA3			
6+									
-									
DATE:	REPORT DATE:				AGENCY/FIRM/OFFICE				
ЕМ		NUMBER	PHONE	PE NUMBER	RATED BY				



• SMS coding input Bottom 2nd Tab



Except for engineering judgment and testing

LOAD RATING							
		_					
(31) Design Load:	6 - HS20-44 & Alternate Military Loading		(703) Inventory Rating Load GVW:	36.00			
(63) Operation Rating Method:	6 - Load Factor (LF) rating reported by rating factor (RF)		(704) Load Rating Date:	5/26/2017			
(64) Operating Rating Factor:	1.250		(705) Load Rater First Name:				
(700) Operating Rating Load:	HS20 Loading		(706) Load Rater Last Name:				
(701) Operating Rating Load GVW:	36.00		(707) Load Rater Ohio PE Number:				
(65) Inventory Rating Method:	6 - Load Factor (LF) rating reported by rating factor (RF)		(708) Load Rating Software:	3 - AASHTO BrR (VIRTIS)			
(66) Inventory Rating Factor:	1.000		(709) Rating Source:	1 - Plan information available t			
(702) Inventory Rating Load: HS20 Loading			(711) Live Load Response:	E-Excessive			
(41) **Open, Posted or Closed: P - Posted for Load-Carrying Restriction							
**User can select from dropdown list to modify							
OHIO LEGAL LOADS							
		_					
(715) Ohio Legal Load 1:	2F1		(724) Ohio Legal Load 4:	5C1			
(716) Ohio Legal Load 1, GVW: 15		tons	(725) Ohio Legal Load 4, GVW:	40			
(717) Ohio Legal Load 1, Rating Factor: 1.065			(726) Ohio Legal Load 4, Rating Factor:	0.733			

- Ohio Legal Loads (lower half of SMS Load Rating screen)
- Legal Load 1: 2F1 truck
- Legal Load 2: 3F1 truck
- Legal Load 3: Select Controlling RF and truck 4F1 vs. SU4
- Legal Load 4: 5C1 Truck
- Legal Load 5: SU5 Truck
- Legal Load 6: Select Controlling RF and truck SU6 vs. SU7

Use SMS Coding Guide Appendix L

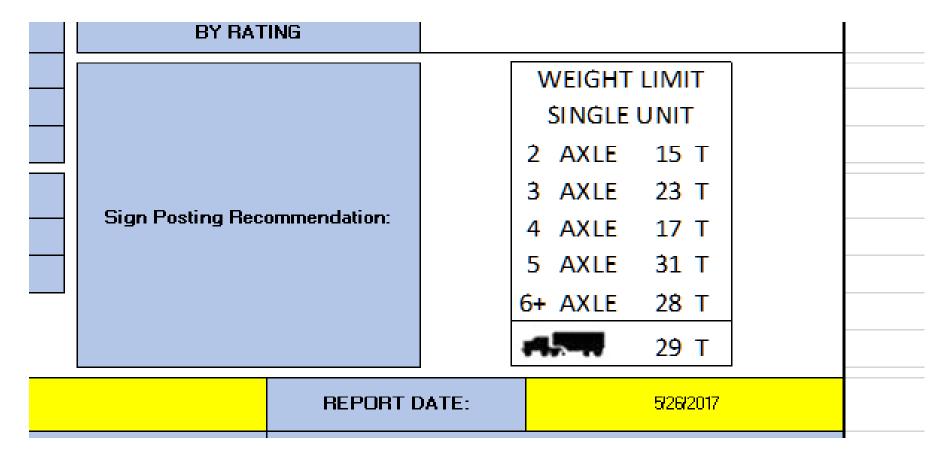
How to Code Load Rating of a Bridge with Assigned Load Rating {For Culverts Designed Using ASTM C1577 (LRFD), C1433 (LFD), C789 (LFD) & C850 (LFD)}

Rating Load: HL93

Item#	Description	Code	Notes		
63	Operating Method of Rating	F	Assigned ratings based on LRFR		
64	Operating Rating	1.250	RF=1.250		
65	Inventory Method of Rating	F	Assigned ratings based on LRFR; same as #63		
66	Inventory Rating	1.000	RF=1.000		
700	Operating Rating Load	3	HL93 Loading; same as #702		
702	Inventory Rating Load	3	HL93 Loading; same as #700		
704	Load Rating Date	9/9/2013	Do not put future date or prior to date-built		
708	Software of Rating Analysis	7	Combination		
709	Rating Source	1	Plans & Information available for load rating		
733	Posting Required by Rating	N	No posting based on load rating		
734	Ohio Percent of Legal Loads	150	Assuming 150% for a new structure		

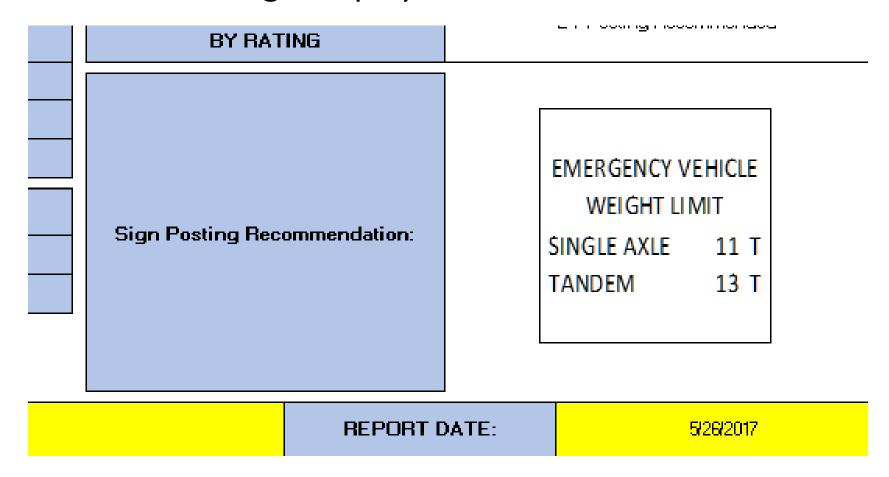
Load Limit Signs

Use BR-100 – sign display SHV



Load Limit Signs

Use BR-100 – sign Display EV



Load Limit Signs

Use MATH

• RF = Gross Vehicle Weight

or (rework equation)

• Calculated Safe Load = RF * Gross Vehicle Weight

Also read as:

 Load Limit = RF * Legal Vehicle Weight (cannot exceed legal vehicle weight)



R12-H5

LINKS

• BR-100

- ftp://ftp.dot.state.oh.us/pub/Structures/BMS/Web_download_files/Micsellaneous/
- Select file: BR100_Rating_Summary_SHV_EV_2017_06_02.xlsx, or latest version

SHV Policy

http://www.dot.state.oh.us/Divisions/Engineering/Structures/BridgeManagementSection/StructureRatingSuperload/Documents/SHV Implementation Plan ODOT FHWA-V2.2.pdf

SHV Load Diagrams

• ftp://ftp.dot.state.oh.us/pub/Structures/BMS/Web download files/Micsellaneous/S HV Loads REV 2-13-2017.pdf

LINKS

EV Policy

 http://www.dot.state.oh.us/Divisions/Engineering/Structures/BridgeManage mentSection/StructureRatingSuperload/Documents/ODOT%20POA%20Imple ment%20Rating%20for%20EV%20InterstateBridges%201%200.pdf

Scour Evaluation/Channel X Section Policy

• http://www.dot.state.oh.us/Divisions/Engineering/Structures/bridge%20operations%20and%20maintenance/Snooper%20Operations/Channel%20Cross%2 OSection%20Procedure 01262017.pdf

LINKS

SHV & EV Sign Details

- http://www.dot.state.oh.us/Divisions/Engineering/Roadway/DesignStandards /traffic/SDMM/Documents/SDMM 072117RevisionSet 070517.pdf
- Beginning at page 25

