

APPENDIX C – REFERENCES

APPENDIX C – REFERENCES

APPENDIX C – REFERENCES

*Note: References are by author alphabetically, accurate to the first letter

SELECTED REFERENCE LIST

1. Null
2. Null
3. Null
4. AASHTO, *Guide Specification and Commentary for Vessel Collision Design of Highway Bridges*, Washington, D.C.: American Association of State Highway and Transportation Officials, 2009.
5. AASHTO, *Guide Specifications for Bridges Vulnerable to Coastal Storms*, Washington, D.C.: American Association of State Highway and Transportation Officials, 2008.
6. Null, see 7
7. AASHTO, *LRFD Movable Highway Bridge Design Specifications*, Washington, D.C.: American Association of State Highway and Transportation Officials, 2014.
8. AASHTO, *Maintenance Manual for Roadways and Bridges*, Washington, D.C.: American Association of State Highway and Transportation Officials, 2007
 - a. AASHTO, *Guide for Bridge Maintenance Management*, Washington, D.C.: American Association of State Highway and Transportation Officials, 1980.
 - b. AASHTO, *LRFD Bridge Design Specifications*, Customary U.S. Units, Washington, D.C.: American Association of State Highway and Transportation Officials, 1994.
 - c. AASHTO, *LRFD Bridge Design Specifications*, SI Units, Washington, D.C.: American Association of State Highway and Transportation Officials, 1994.
 - d. AASHTO, *Standard Specifications for Movable Highway Bridges*, Washington, D.C.: American Association of State Highway and Transportation Officials, 1938.
 - e. AASHTO, *Standard Specifications for Movable Highway Bridges*, Washington, D.C.: American Association of State Highway and Transportation Officials, 1953.
 - f. AASHTO, *Standard Specifications for Movable Highway Bridges*, Washington, D.C.: American Association of State Highway and Transportation Officials, 1953.
 - g. 23 CFR 650.
9. AASHTO, *Manual for Bridge Evaluation (MBE)*, Washington, D.C.: American Association of State Highway and Transportation Officials, 2010, Revised 2014.
10. AASHTO, *Roadside Design Guide*, Washington, D.C.: American Association of State Highway and Transportation Officials, 2011.
11. AASHTO, *Standard Specifications for Highway Bridges*, Washington, D.C.: American Association of State Highway and Transportation Officials, 2002.

APPENDIX C – REFERENCES

12. AASHTO, *AASHTOWare Bridge Management Software (BrM)* <http://aashtowarebridge.com/>. Washington, D.C.: American Association of State Highway and Transportation Officials, 2013.
13. AASHTO, *Manual for Bridge Element Inspection (MBEI)*. Washington, D.C.: American Association of State Highway and Transportation Officials, 2015.
14. Abrahams, Snelling, VanDeRee, *Bridge Engineering Handbook, Second Edition*, Superstructure Design, Chapter 9 Movable Bridges, 2014 (publication pending).
15. Abrahams, *Seismic Performance of Movable Bridges*, HMS 7th Biennial Symposium, November 1998.
16. Null
17. Null, see 18
18. AGMA, *Geometry Factors for Determining the Pitting Resistance and Bending Strength of Spur and Helical Herringbone Gear Teeth*, Alexandria, VA: American Gear Manufacturers Association, 1989.
19. AGMA, *Appearance of Gear Teeth – Terminology of Wear and Failure ANSI/AGMA 1010-E95*. Alexandria, VA: American Gear Manufacturers Association, 2007.
20. Allen, J.M., “Ailing Hydraulic Systems Have Three Common Symptoms,” *Rock Products*, March, 1979.
21. American Red Cross, *American Red Cross Standard First Aid Workbook*, 1991.
22. ASME, *Risk-Based Inspection -Development of Guidelines*, American Society of Mechanical Engineers, 1991.
23. AWS, *Welding Inspection Handbook*, American Welding Society, 2000.
24. *ANSI/NFP/JIC – T2.24.1. Hydraulic Fluid Power – Systems Standard for Stationary Industrial Machinery – Supplement to ISA 4414:1998 – Hydraulic Fluid Power – General Rules Relating to Systems*, Milwaukee, WI: National Fluid Power Association. 2007
25. ANSI/ASME, *Dimensioning and Tolerancing*, ANSI Y14.5, American National Standards Institute/American Society of Mechanical Engineers, 2009.
26. ANSI/AGMA, *Appearance of Gear Teeth—Terminology of Wear and Failure*, American National Standards Institute/American Gear Manufacturers Association.1010-E95.
27. ANSI/AGMA, *Design and Selection of Components for Enclosed Gear Drives*, American National Standards Institute/American Gear Manufacturers Association 6001-E08.
28. ANSI/AGMA, *Fundamental Rating Factors and Calculation Methods for Involute Spur and Helical Gear Teeth*, American National Standards Institute/American Gear Manufacturers Association 2001-D04.
29. ANSI/AGMA, American National Standards Institute/American Gear Manufacturers Association
 - a. Inspection Practices – Part 1: Cylindrical Gears – Tangential Measurements 915-1-A02
 - b. Inspection Practices – Part 2: Cylindrical Gears – Radial Measurements 915-2-A05

APPENDIX C – REFERENCES

- c. Accuracy Classification System – Tangential Measurements for Cylindrical Gears 2015-1-A01
 - d. Accuracy Classification System – Radial Measurements for Cylindrical Gears 2015-2-A06
30. ANSI/AGMA, *Gear Nomenclature, Definitions of Terms with Symbols*, American National Standards Institute/American Gear Manufacturers Association 1012 -G05.
 31. ANSI/AGMA, *Industrial Gear Lubrication*, American National Standards Institute/American Gear Manufacturers Association 9005-E02.
 32. ANSI/AGMA, *Information Sheet -Geometry Factors for Determining the Pitting Resistance and Bending Strength of Spur, Helical, and Herringbone Gear Teeth*, American National Standards Institute/American Gear Manufacturers Association 908-B89.
 33. ANSI/AGMA, *Flexible Couplings—Lubrication*, American National Standards Institute/American Gear Manufacturers Association 9001-B97.
 34. ANSI/AGMA, *Flexible Couplings—Nomenclature for Flexible Coupling*, American National Standards Institute/American Gear Manufacturers Association 9009-D02.
 35. ANSI/AGMA, *Standard for Industrial Enclosed Gear Drives*, American National Standards Institute/American Gear Manufacturers Association 6013-A06.
 36. ANSI/NETA. *Maintenance Testing Specifications for Electrical Power Distribution Equipment and Systems*. Portage, MI: American National Standards Institute/InterNational Electrical Testing Association, 2011.
 37. ANSI/AGMA
 - a. ANSI/AGMA, *Cylindrical Wormgearing Tolerance and Inspection Methods*, American National Standards Institute/American Gear Manufacturers Association.
 - b. ANSI/AGMA, *Code of Inspection Practice – Part 6: Bevel Gear Measurement Methods*, American National Standards Institute/American Gear Manufacturers Association.
 - c. ANSI/AGMA, *Bevel Gears – ISO System of Accuracy*, American National Standards Institute/American Gear Manufacturers Association.
 38. AREMA, *Manual for Railway Engineering*, Lanham, MD: American Railway Engineering and Maintenance of Way Association, 2014.
 39. AREMA. *Bridge Inspection Handbook*. Lanham, MD: American Railway Engineering and Maintenance of Way Association, 2008.
 40. Null
 41. ASCE, *Quality in the Constructed Project: A Guide for Owners, Designers and Constructors*, Manuals and Reports on Engineering Practice No. 73, Reston, VA,: American Society of Civil Engineers, 2000.
 42. Baranowski, L.B., “Maintenance & Cleanliness of Hydraulic Fluids & Systems,” *ASTM Spec. Tech. Pub. 491*, 1972.

APPENDIX C – REFERENCES

43. Barsom, John M. and Rolfe, Stanley T., *Fracture and Fatigue Control in Structures*, Third Edition, Prentice-Hall, 1999.
44. Birnstiel, *A Proposed Scope for Movable Highway Bridge Machinery Inspection*, St. Petersburg, FL: Heavy Movable Structures, 3rd Biennial Symposium, 1990.
45. Birnstiel, *ICE Manual of Bridge Engineering, Chapter Movable Bridges*, London, England: Institution of Civil Engineers, 2008.
46. Bohle, F., “Functional Gear Checking,” *Machinery (NY)*, April, 1952.
47. Brown, Christensen, Heavner, Landy, Vasu, “Floating Bridge Drawspan Maintenance,” *ASCE Journal of Structural Division*, November, 1981.
48. CAN/CSA-S6-06. *Canadian Highway Bridge Design Code, including Supplement Nos. 1, 2 and 3*. Toronto, Ontario, Canada: Canadian Standards Association, 2013.
49. Cartlidge, C.H., “Design of Swing Bridges from a Maintenance Standpoint,” *Journal of Western Society of Engineers*, February, 1907.
50. Castellani, G. and Parenti-Castellani, V., “Rating Gear Strength,” *ASME Journal of Mechanical Design*, April, 1981.
51. Castellani, G., “Rating Gear Life,” *International Symposium on Gearing & Power Transmissions*, Tokyo, 1981.
52. Catbas, F.N., Gul, M., Gokce, H.B., Frangopol, D. and Grimmelsman, K.A. *Critical Issues, Condition Assessment and Monitoring of Heavy Movable Structures: Emphasis on Movable Bridges*. Structure and Infrastructure Engineering Journal, 2013.
53. Catbas, F.N., Malekzadeh, M. and Khuc, T. *Movable Bridge Maintenance Monitoring*. Orlando, FL: Florida Department of Transportation, 2013.
54. CCAA. *Overhead Crane Inspection and Preventative Maintenance Checklist*. Novi, MI: Crane Certification Association of America, 2013.
55. Chang, F. F. M., *A Statistical Summary of the Cause and Cost of Bridge Failures*, FHWA, U.S. Department of Transportation, 1973.
56. 29 CFR 1900–1910.
57. 33 CFR 1–118.
58. 46 CFR 1–599.
59. Committee on Ship-Bridge Collisions, *Ship Collisions with Bridges; The Nature of the Accidents, Their Prevention and Mitigation*, Marine Board of the Commission of Engineering and Technical Systems, National Research Council, National Academy Press, 1983.
60. De Ries, J., “Development of Electromechanical Equipment of Movable Bridges,” *Annales des Travaux Publics de Belgique*, No.6, 1958-59.
61. Department of Transport, U.K. *The Assessment of Highway Bridges and Structures, Design Manual for Roads and Bridges*, Volume 3, Section 3, Part 4. London, England, 2001.

APPENDIX C – REFERENCES

62. Ecale, H., Brown, G., Kocsis, P., “Chicago Type Bascule Balancing: A New Technique,” *ASCE Journal of Structural Division*, November, 1977.
63. EPA, *PCBs: Marking and Disposal*, Environmental Protection Agency, 1978.
64. EPA, *PCB Use in Electrical Equipment*, Environmental Protection Agency 1982.
65. Eurocode 3, Part 2-1 BS EN 1993-2, Design of Steel Bridges, 2008.
66. FDOT, *Bridge Inspector’s Field Guide of Structural Elements*. Tallahassee, FL.: Florida Department of Transportation, 2008.
67. Feuer, Norman J., “Abnormal Movement of Bascule Bridges,” ASME, Second Movable Bridge Symposium, November, 1987.
- 68.
69. FHWA, *Bridge Inspector’s Manual for Movable Bridges*, Federal Highway Administration, 1977.
70. FHWA, *Bridge Inspector’s Reference Manual (BIRM)*, Federal Highway Administration, 2002, Revised 2012.
71. FHWA, *Evaluating Scour at Bridges*, Fourth Edition, FHWA-NHI-01-001, Federal Highway Administration, May 2001.
72. FHWA, *Inspection of Fracture Critical Bridge Members*, FHWA-IP-86-26, Federal Highway Administration, September, 1986.
73. Inventory FHWA, *Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)*. Washington, D.C.: Federal Highway Administration, 2009, (R2012).
74. FHWA, *Seismic Retrofitting Manual for Highway Structures: Part 1 – Bridges*, FHWA-HRT-06-032, Federal Highway Administration, January, 2006.
75. Null, see 7.
76. Null, see 7.
77. Null, see 7.
78. Null, see 7.
79. FHWA. *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation’s Bridges*, Report No. FHWA-PD-96-001. Washington D.C.: Office of Engineering, Bridge Division, Bridge Management Branch. December 1995 (R2000).
80. Null, see 97b
81. Fisher, John W., *Fatigue and Fracture in Steel Bridges*, Wiley-Interscience, 1984.
82. Fisher, John W., *Inspecting Steel Bridges for Fatigue Damage*, Fritz Engineering Laboratory Report No. 386-1S(81), March, 1981.
83. FDOT, *Bridge Operations and Maintenance Manual*, Tallahassee, FL: Florida Department of Transportation, 1991.
84. FDOT, *Movable Bridge Inspection Training Course Student Workbook*, Tallahassee, FL.: Florida

APPENDIX C – REFERENCES

- Department of Transportation, 1990.
85. General Electric Co., *Electrical Equipment for Movable Bridges*, 1955.
86. Gokce, H.B., Gul, M., and Catbas, F.N. *Implementation of Structural Health Monitoring*, Washington, D.C.: Transportation Research Board, 2011.
87. Null, See 104b
88. Hamilton, C.P. & Hewmann, G.W., “Controls for Movable Bridges,” *ENR*, May 4, 1944.
89. Hamilton, C.P., “Operating Movable Bridges,” *ENR*, November 18, 1937.
90. Hardesty, Fischer & Christie, “Fifty-Year History of Movable Bridge Construction: Part I,” *ASCE Journal of Construction Division*, pp. 511–527, September, 1975.
91. Hardesty, Fischer & Christie, “Fifty-Year History of Movable Bridge Construction: Part II,” *ASCE Journal of Construction Division*, Vol. 101, No.3, pp. 529–543, September, 1975.
92. Henke, R.W., “Why Doesn’t Everyone Use Electronic Controls?” *Hydraulics & Pneumatics*, June, 1985.
93. Higgins, L.R., *Handbook of Construction Equipment Maintenance*, McGraw Hill Book Co., 1979.
94. Higgins, Lindley R., *Maintenance Engineering Handbook*, 5th ed., McGraw-Hill Book Co., 1994.
95. Hirano, F. & Veno, T., “Lubrication and Failure of Gears,” *JSME Journal*, Vol. 79, 1976.
96. HMI. *Hoist Inspection and Hoist Maintenance Personnel Manual*. Charlotte, NC: Hoist Manufacturers Institute, 2002.
- 97b. HMS. *Archive of Technical Papers*, Heavy Movable Structures, 2014.
97. Hollingsworth, *Standardizing Mechanical Inspections of Movable Bridges*. St. Petersburg, FL: Heavy Movable Structures, 3rd Biennial Symposium, 1990.
98. Hool, G.A. & Kinne, W.S., *Movable and Long Span Steel Bridges*, 2nd ed., McGraw-Hill Book Co., 1943.
99. Hovey, “Movable Bridges,” *Civil Engineering*, Vol. 1, No.7, April, 1931.
100. Hovey, *Movable Bridges, Vol. I: Superstructure*, John Wiley & Sons, 1926.
101. Hovey, *Movable Bridges. Vol. II: Machinery*, John Wiley & Sons, 1927.
102. Hunt, R.E., “Hydraulic Cylinder Maintenance,” *Hydraulic Pneumatic Mechanical Power*, October, 1978.
103. Hyman, W.A., Hom, A.D, Jennings, O., Hejl, F., Alexander, T., “Improvements in Data Acquisition Technology for Maintenance Management Systems,” NCHRP Report No. 334, Transportation Research Board, 1990.
- 104b. IEEE, *Guide for Field Testing Power Apparatus Insulation*, Standard 62, Institute of Electrical and Electronics Engineers, 1995.
- 104c. IEEE, *National Electrical Safety Code*, C2, Institute of Electrical and Electronics Engineers, 2012.

APPENDIX C – REFERENCES

- 104d. IEEE, *Recommended Practice for the Design of Reliable Industrial and Commercial Power Systems*, 493–1980, Institute of Electrical and Electronics Engineers, January 2013.
104. IFI, *Fastener Standards*, Ninth Edition, Industrial Fasteners Institute, 2014.
105. IDOT, *Investigation of Trunnion Failures Involving Movable Vertical Lift Bridges*, Physical Research Report No. 87, Springfield, IL: Illinois Department of Transportation, June, 1980.
106. INDOT. *Bridge Inspection Manual*. Indianapolis, IN.: Indiana Department of Transportation, 2010 (Rev 2013).
107. Jackson, Lowell B. and Barnow, Barbara A., *Quality Improvement Resource Guide: Engineering a Quality Future in Transportation*, Publication No. FHWA ·SA-94-002, October, 1993.
108. Johnson, R. Jr., Craine, S.D., “Causes and Prevention of Premature Gear Failures,” *Iron and Steel Engineer*, September, 1953.
109. Juran, J.M., Gryna, Frank M., eds. *Juran’s Quality Control Handbook*, McGraw-Hill Book Co., 1988.
110. Keep, P., “Condition Monitoring in Hydraulic Systems,” *Power International*, September, 1988.
111. Knott, I., Wood, D., and Bonyun, D., *Risk Analysis for Ship-Bridge Collisions*, ASCE Coastal Zone 1985, Fourth Symposium on Coastal and Ocean Management, Baltimore, July 30–August 2, 1985.
112. Koglin. *Movable Bridge Engineering*. New York: John Wiley & Sons, 2003.
113. LA-DOTD. *Pontis Inspection Manual*. Baton Rouge, LA: Louisiana Department of Transportation and Development, 2009.
114. Lamberger, E.H., and McCullough, W.W., “Maintaining Electric Motors and Generators,” *The Petroleum Engineer*, May, 1943.
115. Larsen, D.O., *Ship Collision Risk Assessment for Bridges*, IABSE Colloquium, Introductory Report, pp. 113-128., 1983.
116. Lawrie, R.J., “How to Maintain Motor Controls,” *Electrical Construction and Maintenance*, April, 1964.
117. Lawrie, Robert J., ed. *Electric Motor Manual: Application, Installation, Maintenance, Troubleshooting*. McGraw-Hill, Inc., 1987.
118. Lipanye, L.L., “Better Motor Maintenance and Field Testing,” *Coal Age*. March, 1960.
119. LA-DOT, *Movable Bridge Inspector’s Program Lesson Plan*, Baton Rouge, LA: Louisiana Department of Transportation, 1978.
120. Mazurek, David F. & DeWolf, John T., “Experimental Study of Bridge Monitoring Technique,” *ASCE Journal of Structural Engineering*, September, 1990.
121. McCullough, W.W., *Electric Motor Maintenance*, John Wiley & Sons, NY; Chapman & Hall, 1947.

APPENDIX C – REFERENCES

122. MD-SHA, *Pontis Element Data Collection Manual*. Andover, MD: Maryland State Highway Administration, 2003.
123. Miller, Robert W., *Lubricants and Their Applications*, McGraw-Hill, Inc., 1993.
124. Minervino, *Development of a Manual for Inspection, Evaluation and Maintenance of Movable Bridges*, St. Petersburg, FL: Heavy Movable Structures, 6th Biennial Symposium, 1996.
125. NEMA, *Motors and Generators*, National Electrical Manufacturers Association, 1987.
126. See 104c
127. NFPA, *National Electrical Code*, National Fire Protection Association, 2014.
128. National Research Council, *Minding the Helm*. National Academy Press, Washington, D.C., 1994.
129. NCHRP. *Bridge Inspection Practices*. Synthesis 375. Washington, D.C.: Transportation Research Board, 2007.
130. NYSDOT, *Collision Vulnerability Manual*. Albany, NY: New York State Department of Transportation, June 1995 (Rev. 1996).
131. NYSDOT, *Concrete Details Vulnerability Manual*, Albany, NY: New York State Department of Transportation, September 1995 (Rev. 1997).
132. NYSDOT, *Hydraulic Vulnerability Manual*, Albany, NY: New York State Department of Transportation, December 1991 (Rev. 1996).
133. NYSDOT, *Overload Vulnerability Manual*, Albany, NY: New York State Department of Transportation, August 1995.
134. NYSDOT, *Seismic Vulnerability Manual*, Albany, NY: New York State Department of Transportation, October 1995 (Rev. 204).
135. NYSDOT, *Steel Detail Vulnerability Manual*, Albany, NY: New York State Department of Transportation, May 2000.
136. NFPA, *Encyclopedia of Fluid Power Standards*, National Fire Protection Association.
137. NLGI, *Lubricating Grease Guide*, National Lubricating Grease Institute, 2006.
138. NYSDOT. *Crane Preventative Maintenance Checklist*. Albany, NY: New York State Department of Transportation, accessed 2013.
139. O'Connor, Patrick D.T., *Practical Reliability Engineering*, 3rd ed., John Wiley & Sons, 1991.
140. ODOT. *Bridge Inspection Program Manual*. Oregon Department of Transportation, 2013.
141. Null
142. Parsons Brinckerhoff, *Bridge Inspection and Rehabilitation – A Practical Guide*, New York, NY: John Wiley & Sons, Inc., 1993.
143. Pingree, C.H., “Comparing Electromechanical & Hydraulic Direct Drives,” *Plant Engineering*, April 16, 1981.
144. *Practical Strain Gauge Measurements*, Hewlett-Packard Co. Application Note 290-1.

APPENDIX C – REFERENCES

145. Null, see 104d
146. Rehm. *Bridge Inspection: Primary Element*, Arlington Heights, IL: Roads and Bridges. 2013.
147. Ressler, S. J., and Daniels, I. Hartley, *Vulnerability Assessment of Steel Highway Bridges: A Probabilistic Model*, Advanced Technology for Large Structural Systems (ATLSS) Report No. 90-01, Lehigh University, January, 1990.
148. Rich, B., “Keeping Hydraulic Cylinders Healthy,” *Machine Design*, December 7, 1978.
149. Rosaler, R.C. & Rice, James O., *Industrial Maintenance Reference Guide*, McGraw-Hill Co., 1987.
150. *Safety Standard for Construction and Guide for Selection, Installation and Use of Electric Motors and Generators*, NEMA MG2, 2014.
151. Sexsmith, R. G., *Bridge Risk Assessment and Protective Design for Ship Collision*, IABSE Colloquium, Preliminary Report, pp. 424–42S, 1983.
152. Shanafelt, G., *Bridge Designs to Reduce and Facilitate Maintenance and Repair*, NCHRP Report No. 123, 1985.
153. Shaw, E.T., “Inspecting & Testing Electrical Equipment: Part 2,” *Actual Specifying Engineer*, May, 1971.
154. SKF. *Bearing Failures and their Causes PI-401*. Goteborg, Sweden: SKF Group, 1999.
155. *Standard Test Procedure for Polyphase Induction Motors and Generators*, ANSI C50.21 IEEE 112, 1992.
156. *Stream Stability at Highway Structures*, FHWA, U.S. Department of Transportation, FHWA-HIF-12-004, 2012.
157. Teker, J.W., “Inspection and Tests -Gear and Pinions,” *Railway, Mechanical & Electrical Engineer*, May, 1952.
158. The Crosby Group, Inc., *Blocks and Fittings for Wire Ropes and Chains*. 1994.
159. Townsend, Dennis, P., *Dudley’s Gear Handbook*, 2nd ed., McGraw Hill Book Co., 1991.
- 160b. TRB, *Vulnerability Assessment and Ranking of Steel Bridges*, Transportation Research Record 1290, March, 1991.
160. U.S. Department of Commerce, *Analysis of Bridge Collision Incidents*, Vols. 1 and 2, Operations Research, Inc., May, 1976.
161. U.S. Government. *Moving Ahead for Progress in the 21st Century Act (MAP-21) law, Section 1111, National Bridge and Tunnel Inventory and Inspection Standards Program*. U.S. Government Printing Office, Washington, DC, January, 2012.
162. 23 CFR 650.
163. U.S. MIL-STD-785B *Reliability Programs for Systems and Equipment*, 1980.
164. U.S. MIL-HDBK-781A *Reliability Test Methods, Plans, and Environments for Engineering, Development Qualification, and Production*, 1996.

APPENDIX C – REFERENCES

165. U.S. MIL-HDBK-217F *Reliability Prediction of Electronic Equipment*, 1995.
166. United Kingdom Defense Standard, 00-40, *Reliability and Maintainability Part 1 Management Responsibilities and Requirements for Programmes and Plans*, 2012.
167. United States Steel, *Tiger Brand Wire Rope Engineering Handbook*, 1946.
168. USCG, *Bridge Permit Application Guide*, U.S. Coast Guard, U.S. Department of Transportation.
169. Vernon, H.H., “Control Equipment for Movable Highway Bridges,” *General Electric Review*, November, 1926.
170. Vernon, H.H., “Electrical Equipment for Bascule, Lift and Swing Bridges,” *General Electric Review*, October, 1933.
171. Null, see 160b
172. W. E. Rossnagel, Lindley R. Higgins, Joseph A. MacDonald, *Handbook of Rigging for Construction and Industrial Operations*, 4th ed., McGraw-Hill Book Co., 1988.
173. Waddell, W. A. L., *Bridge Engineering: Vol. I*, John Wiley and Sons, 1916.
174. Waddell, W. A. L., *Bridge Engineering: Vol. II*, John Wiley and Sons, 1916.
175. Wengenroth, Reese H. & Mix, Howard A., “Fifty-Year History of Movable Bridge Construction-Part III,” *ASCE Journal of Construction Division*, Vol. 101, No.3, pp. 545-557, September, 1975.
176. Westinghouse Electric Co., *Westinghouse Maintenance Hints*, 1974.
177. Whitmer, E.W., “Analysis of Failures Clue to Trouble Control,” *Electrical World*, September 18, 1943.
178. WI-DOT. *Structure Inspection Manual*. Madison, WI: Wisconsin Department of Transportation, 2011.
179. Wild, Philip, *Industrial Sensors & Applications for Condition Monitoring*, Mechanical Engineering Publication Limited, London, 1994.
180. Witherell, Charles E., *Mechanical Failure Avoidance: Strategies and Techniques*, McGraw-Hill, Inc., 1994.
181. Wright, H.A., “Don’t Forget Your Control Equipment,” *Mill and Factory*, March, 1951.
182. WRTB. *Wire Rope User’s Manual*. 4th Ed. Alexandria, VA: Wire Rope Technical Board, 2005.
183. WSDOT. *BridgeWorks Movable Elements*. Olympia, WA: Washington State DOT, 2006.