APPENDIX B - DEFINITIONS

The following terms in this Bridge Inspection Manual (BIM) are used as defined below:

AASHTOWare BrM – A software program developed to assist in managing highway bridges and other structures.

Ancillary Structures – These are non-bridge structures such as overhead sign structures, high mast light poles, and traffic signal mast arms.

Appurtenances – These are items which are not technically part of the bridge but are generally associated, inspected, and maintained with the bridge. Examples include approach guardrail, fender systems, traffic control devices, bridge mounted signs, and approach slabs.

Bridge – A structure including supports erected over a depression or an obstruction, such as water, highway, or railway, and having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet between under copings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes; it includes multiple pipes, where the clear distance between openings is less than half of the smaller contiguous opening.

Bridge Condition Index – This is a calculated value ranging from 0-100 for a specific bridge or culvert, where 100 is the best possible condition. It is very similar to FHWA's former formula for Sufficiency Rating, considering component condition ratings, load capacity, geometry, essentiality for public use and structure type factors.

Bridge Inspection Report Form – Iowa DOT programmed bridge inspection application, (currently the Bridge Management contains inspector completed forms to output a standardized report which contains NBI information the Bridge Inspection Report.

Bridge Inspector's Reference Manual (BIRM) – A comprehensive FHWA manual on procedures and techniques for inspecting and evaluating a variety of in-service highway bridges. This manual is available at the following URL: www.fhwa.dot.gov/bridge/nbis.cfm. This manual may be purchased from the Government Publishing Office, Washington, DC 20402 and from National Technical Information Service, Springfield, VA 22161.

Bridge Inspection Refresher Training – The National Highway Institute (NHI) "Bridge Inspection Refresher Training Course" or other State, federally, locally, or tribally developed instruction aimed to improve quality of inspections, introduce new techniques, and maintain consistency in the inspection program.

Complex Feature – Bridge component(s) or member(s) with advanced or unique structural members or operational characteristics, construction methods, and/or requiring specific inspection procedures. This includes mechanical and electrical elements of moveable spans and cable-related members of suspension and cable-stayed superstructures.

Controlling Component – The component of a structure which controls the live load carrying capacity.

Critical Finding – A structural or safety related deficiency that requires immediate action to ensure public safety.

Culvert – A type of structure which is designed hydraulically to take advantage of submergence to increase water carrying capacity. Culverts are usually covered with embankment and are composed of structural material around their entire perimeter. Culverts shall only carry water.

Erosion – Removal of material from an embankment from water run-off.

Fatigue – The tendency of a member to fail at a stress level below yield stress when subjected to cyclical loadings.

Fatigue-Prone Detail (FPD) – A steel bridge detail which falls into fatigue Categories D, E and E' per the AASHTO fatigue specifications classifications.

Glulam – Glue laminated timber, which is an engineered wood product consisting of individual laminations of wood, usually 2 inches or less in thickness, bonded together.

Gusset Plate – A rectangular, triangular, or custom designed shape steel plate connecting members of a truss together.

HEC-18 – Hydraulic Engineering Circular No. 18 (HEC-18), which presents the state of knowledge and practice for the design, evaluation, and inspection of bridges for scour.

Histoplasmosis – A disease contracted from contact with microscopic fungi borne from decomposing biological fluids such as bird droppings.

Load Rating – The process of determining the live load capacity of an existing bridge using bridge plans and supplemented by information gathered from inspections.

Nonredundant Steel Tension Member – NSTM (Formerly Fracture Critical Member - FCM) – A nonredundant steel member in tension or with a tension element, whose failure would be expected to cause a partial or full collapse of the bridge.

Plan of Action – See "Scour Plan of Action."

Primary Highway System – All Interstate and State routes.

Primary Inspector – The lead Team Leader.

Program Manager – The individual in charge of the bridge inspection program, who has been assigned or delegated the duties and responsibilities for bridge inspection, reporting, and inventory. The Program Manager provides overall leadership and is available to Bridge Inspectors and Team Leaders to provide guidance.

Quality Assurance – Planned and systematic activities implemented within a quality system and demonstrated as needed to provide adequate confidence that deliverables will satisfactorily fulfill quality requirements.

Quality Control – Efforts within a quality system encompassing operational techniques and activities used to verify an established level of quality has been achieved.

Redundant – Where multiple load paths exist so that if one element fails, alternate load paths will allow the load to be redistributed.

Scour – Removal of material from a streambed or embankment as a result of water flow.

Scour Critical Bridge – A bridge with a foundation element determined to be unstable for the observed or evaluated scour condition.

Scour Assessment – A risk-based process that considers stream stability and scour potential.

Scour Plan of Action – A written procedure developed by the bridge owner or the bridge owner's designee outlining the foundation scour monitoring plan to be followed for a specific bridge during flood events.

Team Leader – The on-site, nationally certified bridge inspector in charge of an inspection team and responsible for planning, preparing, performing, and reporting on bridge field inspections.

Temporary Bridge – A bridge which is constructed to carry vehicular traffic until the permanent bridge is built, repaired, rehabilitated, or replaced.

Thalweg – The line defining the lowest points or maximum depth along the length of a riverbed or valley.

Triaxial Constraint – A 3-dimensional stress state reducing the ductility of a material. Under triaxial constraint, steel is unable to deform, and brittle fracture can occur under service conditions where ductile behavior is normally expected.