

## Guide and / or I.M. Revision Notice

**To:** Cities, Counties, and Consultants

**Date:** July 20, 2012

**From:** Office of Local Systems

**Revision Notice Number:** 2012-01

The Federal-aid Project Development Guide (Guide) and / or Instructional Memorandums to Local Public Agencies (I.M.s) have been revised as indicated below. This revision notice identifies all new or revised documents and includes a summary of the significant changes. Where appropriate, it also references the existing Project Development Information Packet (Packet) or County Engineers I.M. documents that have been replaced or superseded.

The Iowa DOT does not provide paper copies of the Guide or I.M.s. Since these documents are updated frequently, we recommend using the on-line version of the [Guide and I.M.s](#) for reference. However, if you prefer using paper copies, all new or revised documents have been included in this file for convenient printing. If you maintain a paper copy of these documents, please remove the old documents and replace them with the new documents. Note: This file is designed for double-sided printing; therefore, all documents with an odd number of pages will be followed by a blank page.

For more information and additional download options, refer to the [Guide and I.M.s](#) web page. If you have any questions concerning these revisions, please contact Donna Buchwald [Donna.Buchwald@dot.iowa.gov](mailto:Donna.Buchwald@dot.iowa.gov) or 515-239-1051.

**\*\*\* PLEASE NOTIFY ALL AFFECTED PERSONNEL OF THIS CHANGE \*\*\***

<b>Document Title or I.M. Number</b>	<b>Summary of Significant Revision(s)</b>
<b>I.M. Table of Contents</b> July 20, 2012	The I.M. Table of Contents has been revised to reflect new or revised I.M.s, as indicated below.
<b>I.M. 1.070</b> Title VI and Nondiscrimination Requirements July 20, 2012	This I.M. has been updated. Substantive changes from the previous version include the following: <ul style="list-style-type: none"> <li>• Title VI Plans and Agreements (page 7) - Added guidance for subrecipients to develop their Title VI Plan if their population is over 250,000 or Title VI Agreement if their population is under 250,000.</li> <li>• Title VI Assurances (page 7 and 8) - Added guidance for subrecipients in developing their Title VI Assurances to meet the Federal requirements.</li> <li>• Execution and Updates to Title VI Documents (page 9) - Added guidance for subrecipients for executing their Title VI Plan or Agreement, and Assurances.</li> <li>• Subrecipient Monitoring for Title VI Compliance (page 9 and 10) - Added guidance to insure the subrecipients comply with the Title VI requirements. This includes directions on what to have in place for the pre- and post- grant reviews.</li> </ul>
<b>I.M. 2.030</b> Transfer of Farm-to- Market Funds to the Local Secondary Road Fund July 20, 2012	This I.M. has been updated. Substantive changes from the previous version include the following: <ul style="list-style-type: none"> <li>• Procedures, Item 3 – Added that the Department’s approval of the Budget shall be considered notification.</li> </ul>
<b>I.M. 2.120</b> Bridge Inspection July 20, 2012	This I.M. has been updated. Substantive changes from the previous version include the following: <ul style="list-style-type: none"> <li>• Attachment B - Removed the ability to code Item 113 with an 8 on High Abutments.</li> <li>• Bridge Inspection Organization (page 3) - rewrote the third paragraph explaining the recommendations for privately owned bridges.</li> <li>• Qualifications of Personnel (page 4) - added new paragraphs 4 and 5 concerning the requirements for Program Managers and Team Leaders who’s qualifications have expired. Explained the new requirements for the two week Safety Inspection of In-Service Bridges Course (FHWA-NHI-130055).</li> </ul>

Document Title or I.M Number	Summary of Significant Revision(s)
	<ul style="list-style-type: none"> <li>• Overload or Superload Permitting, Item 3 (page 9) - Added guidance on charges for issuing permits.</li> <li>• Load Rating Calculations (page 10) - Added guidance for culverts.</li> <li>• QC Office Review Form (page 11) - Deleted.</li> <li>• Quality Control (QC) Program, Item 2 (page 13) - Deleted the QC Form requirement.</li> <li>• Team Leader Reviews, Item 1a (page 13) - Deleted the requirement that the Professional Engineer performing the independent party review be licensed in the State of Iowa.</li> <li>• Team Leader Reviews, Item 2b (page 14) - Rewritten.</li> <li>• Load Rating Reviews (page 14) - The reviews will now be performed by the Office of Bridges and Structures.</li> <li>• Inventory (page 15) - Added guidance for new bridges, and modifications to an existing bridge or when changing load restrictions. Removed the allowance of 30 days to enter data into SIIMS. The data must now be entered in the month the inspection is due.</li> </ul>

# Instructional Memorandums to Local Public Agencies

## Table of Contents



Some I.M.s are written either to counties or cities; others are written to both counties and cities. The intended audience is indicated in the "To:" field of the I.M. as well as the Table of Contents below. Many of the I.M.s are referenced by the Federal-aid Project Development Guide (Guide). These I.M.s are marked with an asterisk (\*). For more information about the relationship between the Guide and I.M.s, refer to the [Guide and I.M.s web page](#).

**Note:** The I.M.s are currently in the process of being transitioned into a new format and numbering system. New or updated I.M.s will use the new format. Existing I.M.s will remain in the old format until they are revised or updated. Some of the I.M.s are not yet complete, as shown in light grey text. Some incomplete I.M.s will be based on an existing Project Development Information Packet document, some will be based on an existing County Engineers I.M. that will be renumbered, and some will include entirely new content. Where applicable, a reference and link to the existing Packet document or County Engineers I.M. is provided.

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	<a href="#">Attachment D</a> - Scour Safe Foundations for Spread Footings or Steel Piles	May 11, 2011	Both
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	<a href="#">Attachment G</a> - Guidance for Developing and Implementing Plans of Action (POA) for Bridges with Unknown Foundations, Flowcharts, and Worksheets	May 11, 2011	Both
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	<a href="#">Attachment J</a> - Intentionally left blank	December 1, 2011	Both
	<a href="#">Attachment K</a> - Iowa Legal Trucks Diagram	May 11, 2011	Both
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3.110*	Environmental Data Sheet Instructions (see Packet, Index No. 6, <a href="#">Environmental Datasheet Instructions</a> )	(future)	Both
	Attachment A – Example Environmental Data Sheet	(future)	Both
3.112*	FHWA Environmental Concurrence Process (see Packet, Index No. 6, <a href="#">NEPA Project Classification Process</a> )	(future)	Both
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3.114*	Cultural Resource Regulations (see Packet, Index No. 6, <a href="#">Cultural Resource Regulations</a> )	(future)	Both
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<a href="#">3.160*</a>	Asbestos Inspection, Removal, and Notification Requirements	April 12, 2007	Both
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<a href="#">3.214*</a>	3R Guidelines	March 26, 2008	Both
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<a href="#">3.218*</a>	Design Exception Process	December 2002	Counties
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3.220*	Design Exception Information for Bridges Narrower than Approach Pavement (see <a href="#">I.M. 3.132</a> , dated February 2002)	(future)	Both
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No.	Subject	Revision Date	Written To
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	<a href="#">Attachment D</a> – Sample Consultant Contract ( <a href="#">Word</a> )	August 29, 2006	Both
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<a href="#">3.670*</a>	Work on Railroad Right-of-Way	May 1, 2007	Both
	<a href="#">Attachment A</a> – Notification and Agreement of Maintenance Work in Railroad Right-of-Way ( <a href="#">Word</a> )	May 1, 2007	Both
	<a href="#">Attachment B</a> – Notification of Construction Work in Railroad Right-of-Way ( <a href="#">Word</a> )	May 1, 2007	Both
	<a href="#">Attachment C</a> – Work on Railroad Right-of-Way Flowchart	May 1, 2007	Both
<a href="#">3.680*</a>	Federal-aid Projects Involving Railroads	May 1, 2007	Both
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<a href="#">3.720*</a>	Local Letting Process – Federal-aid	April 12, 2007	Both
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<a href="#">4.030</a>	County Road Vacations	September 2002	Counties
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<a href="#">4.220</a>	Farm-to-Market Review Board Advisory Opinions on Proposed Jurisdictional Transfers	April 2002	Counties

# INSTRUCTIONAL MEMORANDUMS

## To Local Public Agencies



To: Counties and Cities	Date: July 20, 2012
From: Office of Local Systems	I.M. No. 1.070
Subject: Title VI and Nondiscrimination Requirements	

**Contents:** This Instructional Memorandum (I.M.) provides guidance for a Local Public Agency (LPA) to understand and comply with the requirements of Title VI and related nondiscrimination laws and regulations that are applicable to Federal funding assistance that is passed through the Iowa Department of Transportation (Iowa DOT).

### Title VI of the Civil Rights Act of 1964

“No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” (42 U.S.C. 2000d)

The Civil Rights Act of 1964 (the Act) is a fundamental piece of legislation that forms the basis for a wide array of subsequent laws, executive orders and regulations, all designed to prohibit discrimination. Technically, Title VI covers race, color and national origin. However the term “Title VI” is also used more generically to refer to non-discrimination on any basis.

There are eleven titles in the Act covering a variety of activities, for example: Title I – Voting Rights, Title II – Public Accommodations, and Title VII – Equal Employment Opportunity. Title VI of the Act deals specifically with Nondiscrimination in Federally Assisted Programs and Activities.

The Act has broad application. It prohibits discrimination in impacts, services, benefits of, access to, participation in, and treatment under a Federal-aid recipient’s programs or activities. Title VI of the Act is not limited to a particular program or issue. Title VI can surface at any phase of a transportation project with potentially significant impacts. Because of this, preventing discrimination is everyone’s responsibility. It is not a duty that can be delegated or assigned entirely to an individual or a team. It is important for all staff to have some awareness of non-discrimination concepts so they can be observant for prohibited actions as they conduct their daily routine.

There are some important points to take note of. The Act does not mention a specific race (e.g. Hispanic), color (e.g. Black) or national origin (e.g. Chinese). It prohibits discrimination against *any* race, color or national origin. There is no “reverse discrimination”, only discrimination. For example, denying services to a white male because of race is also discrimination. Also, the Act uses the language...“No person in the United States....” it does not mention citizenship. It applies to all people in the U.S, citizen or not, with regard to any program or activity to which they are otherwise eligible for.

### Discrimination

To help understand Title VI impacts and application it is useful to define discrimination and identify how it may surface.

The Federal Highway Administration (FHWA) regulations which implement Title VI and the related statutes define discrimination as “That act (or action) whether intentional or unintentional, through which a person in the United States, solely because of race, color, religion, sex, or national origin has been otherwise subjected to unequal treatment under any program or activity receiving financial assistance from the Federal Highway Administration under title 23 U.S.C.” (23 CFR 200.5 (f)).

Discrimination is evidenced primarily in two fashions, disparate treatment and disparate impact.

Disparate treatment occurs when a person is treated differently (discriminated against) because of their race, color, national origin, etc. This is a more obvious form of intentional discrimination that occurs when the person’s race or protected class status are known, and when a decision is made (at least in part) on a prohibited basis. For example, a contractor or supplier is not used, or is held to a different standard, because

of their race. Disparate treatment involves the inconsistent application of rules or policies to one group of people or another.

Disparate impact is more unintentional discrimination. This occurs when a policy or program, while neutral on its face, has the unintended consequence of being discriminatory. For example, a public transit system ends service at 10:00 P.M., yet late night customers are primarily Hispanic because many people in the Hispanic community depend on public transportation for late shift employment. On the surface the policy is neutral; service ends for all riders at a designated time. Yet, unintentionally, the Hispanic community bears a disproportionately large negative impact. This type of discrimination is more subtle and difficult to identify. However, to comply with Title VI regulations it must be avoided.

## **Related Non-discrimination Authorities**

### Right-of-way and Property Impacts

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. 4601)

“For the fair and equitable treatment of persons displaced as a direct result of programs or projects undertaken by a Federal agency or with Federal Financial assistance.”

This prohibits unfair or inequitable treatment of persons displaced or whose property will be acquired as a result of Federal and Federal-aid programs and policies. Note that this applies regardless of the source of funds used to purchase the property, Federal-aid or not.

### Disability

Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794)  
The Americans with Disabilities Act (P.L. 101-336)

“No qualified handicapped person shall, solely by reason of his handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity that receives or benefits from Federal financial assistance.”

Discrimination because of a mental or physical disability is prohibited. At the time the legislation was initially developed, the term “handicap” was used; however, this has negative connotations. This term originates from the phrase, “cap in hand”, which was used to describe a beggar. As a result, the terms “disabled” or “disability” are preferred.

### Sex (Gender)

Federal-aid Highway Act of 1973 (23 U.S.C. 324)

“No person shall on the ground of sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal assistance under this title or carried on under this title.”

Discrimination because of sex (gender) is prohibited.

### Age

The Age Discrimination Act of 1975 (42 U.S.C. 6101)

“No person shall on the basis of age, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.”

Discrimination on the basis of age is prohibited.

## The Civil Rights Restoration Act of 1987 (P.L. 100-259)

Non-discrimination requirements have been developed over time as evidenced by the dates listed previously. This I.M. only highlights the major actions that have significance to the transportation community. Non-discrimination efforts of the Federal government have been going on since the time of the Civil War.

Over the course of time the intent of this work became diffused, misinterpreted or misconstrued. The Restoration Act of 1987 clarifies the original intent of Congress in Title VI of the 1964 Civil Rights Act, Title IX of the Education Amendments of 1972, the Age Discrimination Act of 1975, and Section 504 of Rehabilitation Act of 1973. This act restores the broad, institution-wide scope and coverage of the non-discrimination statutes to include all programs and activities of Federal-aid recipients, subrecipients and contractors, whether such programs and activities are Federally assisted or not.

What this means is that if an LPA receives even one dollar of Federal financial assistance, then all of the programs and activities of that LPA are covered by Title VI, whether all those programs and activities are Federally funded or not. For example, if a County Secondary Road Department receives Federal Highway Bridge Program funds to reconstruct a bridge, all of the activities and programs of the county government are covered by Title VI.

## Limited English Proficiency LEP (Executive Order 13166)

Executive order 13166 is titled, "Improving Access to Services for Persons with Limited English Proficiency," and was signed by President Clinton on August 11, 2000.

A person is considered to have limited English proficiency (LEP) if they do not speak English as their primary language and if they have a limited ability to read, speak, write or understand English. Programs and services normally provided in English must be accessible to persons with LEP in order to avoid national origin discrimination that is prohibited by Title VI.

Meaningful access is the key concept. The central goal of this presidential order is to provide meaningful access for LEP persons to programs and services offered by recipients of Federal financial assistance. Recipients continue to be subject to Federal non-discrimination requirements even though they may be in a jurisdiction where English has been declared as the official language. Federal requirements supersede State and local ones.

## Environmental Justice (Executive Order 12898)

Executive order 12898 is titled, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations." It was signed by President Clinton on February 11, 1994.

Environmental Justice (EJ) relates to the human environment and to human health in minority and low income populations. It says in part, "...each Federal agency shall make achieving Environmental Justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations..."

There are three fundamental principles of Environmental Justice:

1. To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
2. To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
3. To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

The minority groups that Environmental Justice addresses are Blacks, Hispanics, Asian Americans, American Indians and Alaskan Natives. Low income is defined as a person whose household income is at or below the U.S. Department of Health and Human Services poverty guidelines.

A key component is to identify the populations impacted by transportation projects or services and to ensure they have full opportunity to participate in the decision making process.

An example of Environmental Justice concerns would be locating a highway through a low income neighborhood to avoid a more affluent area.

## **Program Applications and Impacts**

### **Federal Financial Assistance**

Application of many of the non-discrimination requirements is dependent upon the receipt of Federal financial assistance. Federal financial assistance is defined at 49 CFR 21.23 (c). In addition to grants or loans of Federal funds, it also includes Federal property and the detail of Federal personnel (e.g., a Federal employee providing training). Because of the Civil Rights Restoration Act of 1987, if a governmental department receives even one dollar of Federal assistance, then all of the programs and activities of that governmental department are covered by Title VI. Programs and activities are defined at 49 CFR 21.23 (e) and, in the case of assistance to a department of State or local government, it includes all of the operations of the department to which assistance is extended. Therefore, any local government that receives any Federal financial assistance, whether directly from a Federal agency or indirectly through a State agency, is considered a recipient, and as a result, must comply with Title VI and the related nondiscrimination requirements.

In contrast, the ultimate beneficiaries of Federal assistance are not defined as recipients of Federal assistance. For example, people that drive on the roads and bridges built with Federal funding are the ultimate beneficiaries, but those persons are not prohibited from discriminating simply because they use a Federally funded project or service. In a related fashion, contractors building a Federal-aid highway project do not receive Federal assistance. They are simply being paid for work completed. Nevertheless, while such contractors are not a recipient or subrecipient, they are prohibited from discriminating because of the standard Title VI assurances included in the contract.

### **What Title VI Does**

- Prohibits entities from denying an individual any service, financial aid, or other benefit.
- Prohibits entities from providing services or benefits that are different or inferior (either in quantity or quality) to those provided to others.
- Prohibits segregation or separate treatment in any manner related to receiving program services or benefits.
- Prohibits entities from requiring different standards or conditions as prerequisites for serving individuals.
- Encourages the participation of minorities as members of planning or advisory bodies for programs receiving Federal funds.
- Prohibits discriminatory activity in a facility built in whole or in part with Federal funds.
- Requires information and services to be provided in languages other than English when significant numbers of beneficiaries are of limited English speaking ability.
- Requires entities to notify the eligible population about applicable programs.
- Prohibits locating facilities in any way that would limit or impede access to a Federally funded service or benefit.
- Requires assurance of nondiscrimination in purchasing of services.

### **Planning and Programming**

The planning and programming of projects is a critical step in the delivery of transportation services to the public. Funding distribution and allocation can have a significant impact on opportunities for all persons. Those involved in these processes must have knowledge of non-discrimination requirements and how they impact their work.

#### Typical Assurance Activities:

- Take positive steps to identify impacted groups and to ensure full and fair participation by those groups in the development of the Transportation Improvement Program (TIP).
- Ensure that the planning and programming process results in a program which distributes benefits and mitigates disparate impacts equitably.
- Address complaints and concerns promptly.

#### Design and Project Development

The final design of individual projects is what ultimately impacts the public in a positive or negative fashion. Designers must recognize how non-discrimination affects the conceptual and technical components of a project.

#### Typical Assurance Activities:

- Identify minority and low income populations and ensure they have the opportunity for meaningful participation in the design process.
- Thoroughly examine design alternatives to ensure that environmental justice considerations are recognized and addressed during route location selection and final design.
- Consistently apply design standards to eliminate, minimize or mitigate adverse impacts among affected groups and to provide equitable levels of service.
- Provide opportunities for Disadvantaged Business Enterprise (DBE) firms on consultant contracts.
- Ensure that facilities are designed in accordance with current ADA accessibility requirements (for more information, refer to [I.M. 1.080](#), ADA Requirements).

#### Right-of-Way

No single element of the transportation system may have a greater impact on people than right-of-way activities. The taking or use of one's property can make a major change in their lives. Therefore, people involved in the right-of-way process must understand and practice non-discrimination in their work.

#### Typical Assurance Activities:

- Make every effort to ensure clear communications with persons who have limited English proficiency or who are hearing impaired. This includes the use of interpreters and translators when necessary.
- Appraisal, acquisition, condemnation and relocation procedures must be fair and impartial.
- Provide opportunities for DBE firms on consultant contracts.

#### Construction

Construction, including the letting and contract award process, provides opportunities for contractors and impacts property owners. Contract award and administration procedures must be fair and impartial.

#### Typical Assurance Activities:

- The following activities must be conducted equitably, without regard to race, color, national origin, or other protected basis: Prequalification of contractors; award of contract, subcontract, or extra work; level of inspection; enforcement of specifications; and treatment of adjacent property owners and tenants.

#### Consultants and Research

Local governments use consultants and other service providers to perform a variety of services. Because of the Restoration Act, non-discrimination applies to the selection and administration in all of the contracts.

#### Typical Assurance Activities:

- Provide opportunities and encourage the participation of DBE vendors in all categories of service.
- Fairly and equitably award and administer contracts.

#### Female/Minority Participation and DBE Goals

Title VI and related statutes require that females and minorities be afforded full opportunity to participate in covered contracts. Because of the Restoration Act of 1987, all programs and activities of a Federal-aid

recipient are covered by Title VI, whether those programs and activities are Federally funded or not. Female and minority contractors must have every opportunity to submit bids and may not be discriminated against in consideration for award in all contracts, Federal-aid or not. This does not mean that all contracts should have goals for female/minority participation.

Contract goals are often established as part of the DBE program in order for the Iowa DOT to achieve its Annual DBE Goal. It is important to note that the DBE program applies only to Federal-aid contracts. DBE contract goals must not be established on non-Federal-aid contracts, unless a disparity study has been conducted to ensure they are warranted.

The Iowa DOT sets goals for construction contracts let through the Iowa DOT. However, for Federal-aid consultant contracts and locally-let Federal-aid construction contracts, the LPA is responsible for setting goals for DBE participation, subject to Iowa DOT review and approval. For more information, refer to [I.M. 3.710](#), DBE Guidelines.

## Compliance Actions

The goal of the U.S. Department of Transportation, the FHWA, and the Iowa DOT is voluntary compliance with non-discrimination requirements. This is achieved through an ongoing process of education, analysis, implementation, and evaluation. The guidance provided in this I.M. is a first step in the education process. It can be used to raise awareness among staff of local governments.

However, compliance requires more than simply recognizing these issues exist. Some action must be taken. The following actions represent the minimum level of effort to achieve compliance; additional actions may be required depending on the situation:

- Recognize that preventing discrimination is everyone's responsibility. Share this I.M. and other non-discrimination information with all staff so they can be aware of the various requirements and work to achieve compliance.
- Develop and execute a Title VI Agreement or Title VI Plan and the associated Title VI Assurances. Provide a copy of these documents to the Iowa DOT and include the appropriate Appendices of the Title VI Assurances in all contracts, agreements, deeds, and permits associated with transportation projects or programs. See the following sections for additional details on these requirements.
- Include the following standard non-discrimination notification, modified as appropriate, in all solicitations for bids and in all requests for negotiated agreements associated with transportation projects and programs, whether they are Federally funded or not:

*"The (insert name of LPA), in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all (insert "bidders" or "consultants", as appropriate) that it will affirmatively insure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit (insert "bids" or "proposals" as appropriate) in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award."*

- Recognize and respond to LEP issues. Current guidance from U.S. DOT is available on the Federal Register (FR) at 70 FR 74087 (12/14/05). This includes a four factor analysis to determine the appropriate response, and defines a "safe harbor" for measuring compliance with written translations. LPAs may use the Iowa DOT's [LEP Plan](#) as a guide in determining how to comply with the LEP requirements. In addition, LPAs may utilize the same translation service the Iowa DOT uses for a nominal fee. For additional information, contact the Civil Rights Section in the Iowa DOT Office of Employee Services (see information in the "Resources and References" section below).
- Address any complaints. Informal reports of discrimination should be investigated and resolved promptly. Formal written complaints against a local government must be forwarded to the Civil Rights Administrator, as shown in the "Resources and References" section below.

## **Title VI Plans and Agreements**

In accordance with [49 CFR 21.7\(b\)](#), all recipients of Federal financial assistance, including both prime recipients and subrecipients, shall have documented methods of administration. This documentation may take the form of either a Title VI Plan or a Title VI Agreement. The basic purpose of both is to document the LPA's policy of non-discrimination and set forth the procedures it will use to assure compliance with Title VI and the related non-discrimination requirements in its transportation programs and projects. Sample documents for both are available on the Iowa DOT [Title VI subrecipients information web page](#). Each type of document is further described below.

### **Title VI Plan**

This is required for all LPAs and other subrecipients with a population of 250,000 or greater. This document comprehensively addresses how an LPA will achieve compliance with Title VI and the associated non-discrimination requirements. It includes the following components:

- a signed policy statement by an appropriate LPA official,
- a description of its staffing and organization, including the name and contact information of its Title VI Coordinator,
- a detailed description of how it implements its Title VI program,
- its discrimination complaint procedures,
- its procedures for review of its second-tier subrecipients, if any,
- a description of implementation activities in specific program areas,
- a copy of its notice to the public concerning its responsibilities to comply with Title VI, and
- a signed Title VI Assurance, including the referenced Appendices, and
- detailed reporting requirements.

### **Title VI Agreement**

This is required for all LPAs and other subrecipients with a population of less than 250,000. This is similar to a Title VI Plan, but includes less detail. It includes the following components:

- a signed policy statement by an appropriate LPA official,
- a description of its staffing and organization, including the name and contact information of its Title VI Coordinator,
- a general description of how it implements its Title VI program,
- its discrimination complaint procedures,
- a list of sanctions that may be imposed by the Iowa DOT for non-compliance, and
- a signed Title VI Assurance, including the referenced Appendices.

## **Title VI Assurances**

A signed Standard DOT Title VI Assurances, including the appendices, is required to receive Federal financial assistance. The assurances should be included as an attachment to the Title VI Plan or Title VI Agreement. LPAs shall use the Standard DOT Title VI Assurances provided on the Iowa DOT [Title VI subrecipients information web page](#). These documents shall not be modified except in the Appendices where indicated. Each is further described below:

### **Standard DOT Title VI Assurances**

This document recites the legal basis for the Title VI and associated non-discrimination requirements, including citations to the applicable laws, regulations, and executive orders. It also lists some specific actions the LPA agrees to take as a condition of receiving Federal funds.

This document also references several appendices which contain specific clauses that are to be included in all of its contracts, agreements, deeds, licenses, permits, or similar instruments, regardless of what funds are used to pay for them, that are related to transportation programs and projects. The language in the referenced appendices shall be included verbatim and may be changed only as needed to insert the LPA's name, or as otherwise indicated. The application of each appendix is explained below:

### **Appendix A**

The contract provisions shall be included in all contracts or agreements entered into by the LPA with another entity for the purpose of carrying out LPA transportation projects and programs. For construction contracts let through the Iowa DOT, this language is already included in the Iowa DOT Standard Specifications, therefore no action by the LPA is required. However, for other types of contracts or agreements, the LPA is responsible to ensure these contract provisions are included. Examples of such contracts or agreements include:

- Construction contracts, including prime contracts, subcontracts, and vendor or supplier agreements.
- Consultant agreements for performance of work in connection with transportation projects, such as environmental studies, design, or construction inspection.
- Transportation research agreements with colleges, universities, or other institutions.
- Fee appraiser and fee attorney contracts in connection with the acquisition of property rights for transportation projects.
- Contracts between the LPA and a contractor for relocation of utilities.

Note: If the relocations will be performed by the utility company or a contractor it hires, Appendix A does not need to be included in the agreement between the LPA and the utility, or in the contract between the utility and its contractor.

#### Appendix B

This includes certain clauses that must be included in any deed that effects or records the transfer of real property, structures or improvements located on such property, or interests in such property from the United States to the LPA. In other words, these clauses must be included only when acquiring property or property rights owned by the Federal government.

#### Appendix C

This includes certain clauses that must be included, as a covenant running with the land, in all deeds, licenses, leases, permits, or similar instruments entered into by the LPA with other parties for either of the following purposes:

- (a) for the subsequent transfer of real property acquired or improved by a project or program that received Federal funds from the Iowa DOT; or
- (b) for the construction, use of, or access to real property that is acquired or improved by a project or program that received Federal funds from the Iowa DOT.

An example of situation (a) above would be where an LPA sells some excess right-of-way that was originally acquired as part of a Federally funded highway project to an adjacent land owner. In this case, the appropriate clauses of Appendix C would need to be included in the deed effecting this transfer. Other examples of this situation include:

- Transfer of jurisdiction agreements between the LPA and another jurisdiction where the property will continue to be used for transportation purposes.
- Transfer of ownership for an historic railroad depot to another entity for renovation, use, and continued maintenance as an historic transportation facility.

An example of situation (b) above would be where an LPA acquires some property rights (either by fee title, permanent, or temporary easement) from a private property owner as part of a Federally funded highway project. Other examples of this situation include:

- Leases and property management agreements to allow others to use or manage property that has been acquired by the LPA for transportation purposes, but is not yet being used for a transportation purpose (for example, advance right-of-way acquisitions).
- Air space agreements
- Railroad agreements
- Utility agreements (when acquiring property interests held by a utility)

Examples of when the assurances of Appendix C would not extend beyond the duration of the deed, license, permit, or agreement include:

- Pit agreements
- Stockpiling agreements
- Encroachment agreements
- Relocation agreements
- Determination of vacation and abandonment
- Quit claim deeds

- Borrow agreements or royalty contracts with property for obtaining materials
- Warranty deeds

### Reversionary Clauses

Both Appendix B and C contain reversionary clauses which are marked with an asterisk (\*). As indicated in these appendices, the reversionary clauses only need to be included when necessary to carry out the Title VI requirements. However, removal of the reversionary clauses can only be made with approval of the United States Department of Transportation General Counsel. Therefore, the Iowa DOT recommends LPAs always include these clauses.

### Duration of Title VI Assurances

The Title VI assurances remain effective for as long as Federal financial assistance is extended to the LPA, except when the Federal financial assistance is to provide, or is in the form, of, personal property, or real property or interest therein or structures or improvements thereon, the assurances remain effective for whichever of the following periods is longer:

- a) as long as the property is used for the purpose for which the Federal financial assistance was extended, or
- b) as long as the LPA retains ownership of the property.

For transportation facilities constructed or improved with Federal funds, this means the assurances continue to apply, even after the Federal funding assistance provided for the particular facility or improvement terminates. As long as that transportation facility is owned and operated by the LPA, the assurances remain applicable.

### Execution and Updates to Title VI Documents

The Title VI Assurance and Title VI Plan or Agreement documents should be signed by the head of the local agency. For cities, this is the mayor; for counties, this is the chair of the board of supervisors. However, an LPA may, by resolution of the city council or board of supervisors, delegate this authority to the head of the LPA's department or division which is responsible for its transportation programs and projects. This may be the public works director, city engineer, or county engineer.

The Title VI Assurances shall be updated each time the head of the agency changes, or every 5 years, whichever is less.

The Title VI Agreement or Plan shall be updated whenever there are substantive organizational or policy changes that affect how the LPA complies with the Title VI requirements.

New or updated Title VI documents shall be sent to the Title VI Specialist in the Iowa DOT Office of Employee Services, Civil Rights Section, at the address shown in the "Resources and References" section below. Electronic submittals in Adobe Acrobat's Portable Document Format (PDF) format are encouraged and may be sent to [Nikita.Rainey@dot.iowa.gov](mailto:Nikita.Rainey@dot.iowa.gov).

### Subrecipient Monitoring for Title VI Compliance

To assure LPAs are in compliance with Title VI with respect to their transportation programs and projects, the Iowa DOT conducts reviews of LPAs before and after the award of a grant for Federal financial assistance. Each process is further described below:

#### Pre-grant Reviews

All LPAs and other entities that are subrecipients of Federal funding provided through the Iowa DOT must prepare and execute the Standard DOT Title VI Assurances and either a Title VI Plan or Title VI Agreement, as applicable. The Iowa DOT will not provide an agreement for Federal funding assistance to an LPA until after it has received copies of these documents. The pre-grant review process involves the following steps:

1. Before sending a Federal funding agreement to an LPA, the Iowa DOT Administering Office will verify that a signed Title VI Plan or Title VI Agreement, including the Standard DOT Title VI Assurances, is on file with the Iowa DOT.

2. If the required Title VI documents are not on file, or if the Standard DOT Title VI Assurances have not been updated within the last 5 years, the Administering Office will notify the LPA that a Title VI Plan or Agreement, as applicable, and the Standard DOT Title VI Assurances must be received by the Iowa DOT before the Federal funding will be executed by the Iowa DOT. The notice will also provide the web site where the template documents for the Title VI Plan, Agreement, and Standard DOT Assurances may be accessed. The Administering Office will also provide a copy of this notice to the Title VI Specialist in the Iowa DOT Office Employee Services, Civil Rights Section.
3. The LPA shall develop or update the Title VI Plan or Agreement, as applicable, including the Standard DOT Title VI Assurances, and provide a copy of the signed documents to the Iowa DOT Title VI Specialist.
4. Upon receipt of the Title VI documents, the Iowa DOT Title VI Specialist will provide written confirmation to the LPA that the required documents have been received. The Iowa DOT Title VI Specialist will also provide a copy of this confirmation to the Iowa DOT Administering Office.
5. After receipt of this confirmation, the Administering Office will send the Federal funding agreement with the LPA.

### Post-grant Reviews

The Iowa DOT Title VI Specialist conducts regular reviews of LPAs and other subrecipients of Federal assistance provided by the Iowa DOT.

These reviews may be conducted either on site or by means of a desk review. A desk review will consist of a review of the LPA's Title VI documentation to determine compliance. An on-site review will consist of a review of the required Title VI documentation and an interview with the LPA's Title VI Specialist and other associated staff.

To assist LPAs with these reviews, the Iowa DOT has developed several tools, checklists, and sample documents for use by the LPA and other subrecipients. To access these documents, refer to the Title VI Subrecipients web page.

### Resources and References

[Iowa DOT Civil Rights Web Site](#) – Information about the Iowa DOT's Civil Rights Program, including resources and publications for Title VI, ADA, Affirmative Action / Equal Employment Opportunities, LEP, and more. Questions about the Iowa DOT's Civil Rights Program and associated resources should be directed as indicated below:

Civil Rights Administrator  
Office of Employee Services, Civil Rights Section  
Iowa Department of Transportation  
800 Lincoln Way, Ames, IA  
515-233-7970

[28 CFR 35](#) – Department of Justice's regulations governing nondiscrimination on the basis of disability in state and local government services

[49 CFR 21](#) – United States Department of Transportation's regulation on implementing Title VI of the Civil Rights Act of 1964

[23 CFR 200](#) – Federal Highway Administration's regulation on implementing Title VI of the Civil Rights Act of 1964

[Federal Highway Administration Office of Civil Rights webpage](#) – This webpage also provides links to several resources related to some specific areas of Title VI compliance, including:

[Executive Order 12898, Environmental Justice](#)  
[Executive Order 13166, Limited English Proficiency](#)  
[Americans with Disabilities Act \(ADA\) Questions and Answers](#)

[United States Access Board](#) – A Federal Agency Committed to Accessible Design

# INSTRUCTIONAL MEMORANDUMS

## To Local Public Agencies



To: Counties	Date: July 20, 2012
From: Office of Local Systems	I.M. No. 2.030
Subject: Transfer of Farm-to-Market Funds to the Local Secondary Road Fund	

**Contents:** This Instructional Memorandum (I.M.) outlines the restrictions and procedures for a county to transfer Farm-to-Market (FM) funds to its Local Secondary Road Fund, as per Iowa Code Section 309.10.

### Restrictions

1. A proposed transfer amount cannot exceed the unobligated balance, or 50% of the county's estimated FM annual allocation, whichever is less.
2. The county cannot have a temporary allocation (be "borrowed ahead") of FM funds under Iowa Code Section 310.27.
3. The county's Secondary Road Program cannot propose total expenditures from its local fund for construction on the FM System in excess of the competitive bid threshold for Horizontal Infrastructure, as shown on the [Bid and Quote Thresholds for Iowa Cities and Counties web page](#).
4. The county must have met the minimum transfer under the local effort provisions of the Iowa Code Section 312.2 (8) for the period covered by the last Annual Report.
5. The transfer funds must be used for contract work involving the construction and reconstruction of local secondary roads estimated over the competitive bid threshold for Horizontal Infrastructure. Transfer funds shall not be used for day labor, engineering, right-of-way, and other non-construction costs on local secondary roads. Only the 20% local match on listed BROS projects is eligible for the FM transfer.
6. The proposed transfer request may only be made annually in the originally approved Secondary Road Budget.
7. The balance of the statewide FM Account must be sufficient to match Federal funds.

### Procedures

If the restrictions have been satisfied, the procedure to request an FM transfer is described below:

1. List the proposed transfer amount on line 6, sheet 2 of your proposed Secondary Road Budget. Note that omissions and/or errors of this amount cannot be corrected by an amended budget and there are no carryovers for this item. If a transfer project did not get started or completed in the same fiscal year, you will need to re-list the budgeted amount again the following year and have the same restrictions.
2. List the proposed transfer projects in the construction program and designate them according to the instructions for completing the construction program.
3. Prior to July 1 each year, the Iowa Department of Transportation's (Iowa DOT) Office of Local Systems will notify you of approval, revision, or disapproval of the proposed transfer amount. Department approval of the Budget shall be considered notification.
4. Transfer payments for eligible individual project costs can be requested through the Iowa DOT's District Local Systems Engineer by either of the following ways:
  - a) After the project letting, the contract amount can be requested for a transfer payment; or
  - b) Upon project completion, all eligible costs can be sent to the appropriate District Office for a transfer payment.
5. The total for all transfer requests cannot exceed the original budgeted amount.
6. After the Iowa DOT's District Local Systems Engineer reviews and approves the request, the voucher will be sent to the Iowa DOT's Office of Finance for the transfer payment.



# INSTRUCTIONAL MEMORANDUMS

## To Local Public Agencies



To: Counties and Cities	Date: July 20, 2012
From: Office of Local Systems	I.M. No. 2.120
Subject: Bridge Inspections	

**Contents:** This Instructional Memorandum (I.M.) includes guidelines and procedures for a Local Public Agency (LPA) to assist them in complying with the National Bridge Inspection Standards (NBIS). This I.M. also includes the following attachments:

- [Attachment A](#) - Bridge Scour Stability Worksheet – Level A Evaluation
- [Attachment B](#) - Intermediate Scour Assessment Procedures Flowchart – Level B Evaluation
- [Attachment C](#) - Scour Plan of Action (POA)
- [Attachment D](#) - Scour Safe Foundations for Spread Footings or Steel Piles
- [Attachment E](#) - Highly Erodible Soils
- [Attachment F](#) - Berm Stability Criteria
- [Attachment G](#) - Guidance for Developing and Implementing Plans of Actions (POA) for Bridges with Unknown Foundations, Flowcharts, and Worksheet
- [Attachment H](#) - USGS Hydrologic Region Map with Region Descriptions
- Attachment I - *Intentionally left blank*
- Attachment J - *Intentionally left blank*
- [Attachment K](#) - Iowa Legal Trucks Diagrams
- [Attachment L](#) - Quality Assurance Field Review Worksheet
- [Attachment M](#) - Routine Permit Trucks Diagrams

### Introduction

According to Iowa Code [Chapter 314.18](#), the counties, cities, and other public agencies are responsible for the safety inspection and evaluation of all highway bridges under their jurisdiction which are located on public roads, in accordance with the NBIS. These responsibilities include inspection policies and procedures, inspections, reports, load ratings, quality control (QC), quality assurance (QA), maintaining a bridge inventory, and other requirements of the NBIS.

The NBIS may be found in [23 CFR 650](#). The following are additions or clarifications to the indicated subsections of [23 CFR 650](#).

### Definitions ([23 CFR 650.305](#))

*Armored Countermeasure (Armoring)* - Material such as Class E Revetment, according to Section 4130 of the Standard Specifications, placed under and around a bridge structure for the purpose of protecting the embankment or berm from scour and/or erosion. Armoring is not a permanent countermeasure since the material is subject to displacement during a major flood event which is considered to be the lesser of the 500 year or roadway overtopping event.

*Bridge Inspector Refresher Training Course* – (FHWA-NHI-130053) – The major goals of this course are to refresh the skills of practicing bridge inspectors in fundamental visual inspection techniques, review the background knowledge necessary to understand how bridges function, communication issues of national significance relative to the nations' bridge infrastructures, re-establish proper condition and appraisal rating practices, and review the professional obligations of bridge inspectors.

*Fracture Critical Inspection Techniques for Steel Bridges Training Course* – (FHWA-NHI-130078) – The course curriculum for this training reflects current practices, while addressing new and emerging technologies available to bridge inspectors. In addition, the course features exemplary training, hands-on workshops for popular types of nondestructive evaluation (NDE) equipment, and a case study of an inspection plan for a fracture critical bridge.

*Fracture Critical Member (FCM)* - A steel member in tension, or with a tension element, whose failure would probably cause a portion of or the entire bridge to collapse. Floor beams are considered to be fracture critical members when the floor beam spacing is greater than 14 feet.

*Extended Inspection Cycle* - A period of time to allow for unforeseen circumstances such as severe weather, concern for bridge inspector safety, concern for inspection quality, the need to optimize scheduling with other bridges, or other unique situations may be cause to adjust the scheduled inspection date. The adjusted date should not extend more than 30 days beyond the scheduled inspection date.

*Independent Party* - An entity not influenced by or affiliated with the LPA or the LPA's Program Manager. An LPA or consulting firm with more than one Program Manager can utilize an alternate Program Manager from the same consulting firm or LPA to conduct the QA review.

*Low Water* - Water depth of less than 6 feet.

*Monthly Notifications* – automated notifications sent by e-mail to the LPA's by the Iowa DOT's Office of Bridges and Structures regarding inspections past due or bridges not in compliance with posting requirements on a monthly basis.

*Permanent Countermeasure* - Designed to account for all three major types of scour (i.e. long term degradation, general or contraction scour, and local pier or abutment scour). Properly designed and installed systems satisfy the requirements of a "Permanent" classification. Examples of permanent systems include:

- Fabric Formed Articulated Block Mattress (ABM)
- Stone Revetment
- Proprietary Articulated Concrete Block (ACB)
- Gabion Mattress

Stone revetment is subject to displacement during a major flood event which is considered to be the lesser of the 500 year or roadway overtopping event. Therefore, unless the revetment is designed in accordance with Hydraulic Engineering Circular (HEC) [HEC 23](#) and contained, it cannot be considered to provide adequate protection to attain a "Permanent" classification. The following are some examples of permanent stone revetment:

- Burial below the contraction scour elevation.
- Installation of cut-off walls.
- Placing the revetment as launchable stone.

*Safety Inspection of In-service Bridges Course* – (FHWA-NHI-130055) – This course is based on the "Bridge Inspector's Reference Manual" and provides training on the safety inspection of in-service highway bridges. Satisfactory completion of this course will fulfill the training requirements of the National Bridge Inspection Standards (NBIS) for a comprehensive training course. This course does not address fracture critical, underwater, or complex structures.

*Scour Plan of Action (POA)* (see [Attachment C](#) to this IM) - A POA is a written procedure developed by the bridge owner or delegated Program Manager that outlines the monitoring plan for a specific bridge. The plan provides guidelines and practical information pertaining to each bridge for the purpose of monitoring foundation scour during flood events.

*Standard bridge* – a bridge constructed using the "Bridge Standards" developed by the Iowa DOT. See the [Procedures for Rating Standard Bridges](#) section below in this IM.

[Structural Inventory and Inspection Management System \(SIIMS\)](#)<sup>(R)</sup> - Bridge inspection data collection software.

*Scour Evaluation* - Scour evaluation is the process of determining the susceptibility of each bridge for scour. The depth, or level, of this process varies for each bridge. Some bridges may be determined scour safe after the first level of evaluation, Level A. Other bridges cannot be determined scour safe after Level A so they shall go to Level B using assessment procedures. Still others may need to go to the highest level of evaluation, Level C.

*Level A* - Bridge Scour Stability Worksheets (see [Attachment A](#) to this IM). Bridges that meet the required Stability Total of less than 35 points, do not need any further evaluation, and may be considered scour safe.

Bridges with a Stability Total of 35 points or greater need further evaluation using the Level B Intermediate Scour Assessment Procedures Flowchart (see [Attachment B](#) to this IM).

*Level B* - Intermediate Scour Assessment Procedures Flowchart (see [Attachment B](#) to this IM). From this assessment, bridges are determined to be either stable, limited risk needing monitoring, scour susceptible needing monitoring, or scour susceptible needing a Level C Evaluation.

*Level C* - This is the most in-depth level of the evaluation process needed for those bridges that do not satisfy guidelines in the Level B Evaluation. A full computational analysis is completed using the Federal Highway Administration's [HEC 18](#) procedures and a determination is made concerning the stability of the bridge. Bridge owners may decide to develop a Plan of Action (POA) for these structures in lieu of the Level C Evaluation.

*Thalweg* - The lowest point in the stream channel along the cross section.

### **Bridge Inspection Organization** ([23 CFR 650.307](#), d)

According to Iowa Code 314.18, the counties, cities, and other public agencies are responsible for the safety inspection and evaluation of all highway bridges under their jurisdiction, which are located on public roads, in accordance with the NBIS. These responsibilities include inspection policies and procedures, inspection reports, load ratings, QC, QA, maintaining a bridge inventory, and other requirements of the NBIS.

The NBIS regulations apply to all publicly owned highway bridges longer than 20 feet located on public roads. Railroad and pedestrian structures that do not carry vehicular traffic are not covered by the NBIS regulations. Similarly, the NBIS does not apply to inspection of sign support structures, high mast lighting, retaining walls, noise barrier structures, and overhead traffic signs. Tunnels, since they are not bridges, are not covered by the NBIS.

A bridge on a public highway where the bridge is privately owned is not subject to the NBIS and therefore, the FHWA has no legal authority to require private bridge owners to inspect or maintain their bridges. However, the FHWA strongly encourages private bridge owners to follow the NBIS as a standard for inspecting their structures or reroute the public road when a privately owned bridge carries a public road,

The Bridge Owner shall have a Program Manager who is assigned the above responsibilities. The Bridge Owner may retain a consultant to perform the duties of Program Manager.

### **Qualifications of Personnel** ([23 CFR 650.309](#), b)

The Iowa DOT has developed the following procedure to determine if an individual with experience performing NBIS bridge inspections can qualify as a Team Leader in accordance with the [23 CFR 650.309\(b\)](#) and guidance provided by [FHWA Questions and Answers on NBIS](#).

Bridge inspection experience is defined as active participation in bridge inspections in accordance with NBIS, in either a field inspection, supervisory, or management role. A combination of bridge design, bridge maintenance, bridge construction, and bridge inspection experience is acceptable. At least 50% or more of the individual's experience must come from bridge inspection.

To determine an individual's bridge inspection experience, the number of years performing or supervising bridge inspections and the number of annual bridge inspections performed shall be provided. Office work associated with field inspection; such as, completing Structure Inventory & Appraisal (SI&A) forms, maintaining files of inspection data, performing load rating calculations, and other miscellaneous work, may be considered bridge inspection experience. One day a week is allotted for office work related to field inspection; therefore, the number of days calculated for field inspection time is divided by 4 to approximate average office time and then added to the field inspection time.

### Example calculation of bridge inspection experience for a technician Team Leader:

Number of years performing or supervising bridge inspections: 25  
Annual bridge inspections performed: 150  
150 bridges/6 bridges per day = 25 days  
25 days/4 = 6.25 days of office related work  
Total days per year = 25+6.25= 31.25 days  
Months per year: 31.25 days/22 working days per month = 1.42 months  
Bridge inspection experience: (1.42 months) (25 years) = **35.5 months**

**35.5 months is greater than the required 30 month minimum, therefore this person would be approved.**

Bridge inspectors not qualified as Team Leaders may assist the Team Leader but may not inspect bridges independently. Education and experience requirements for bridge inspectors who are not Team Leaders should be determined by the Program Manager or Bridge Owner.

Program Managers and Team Leaders who perform field inspections on FCM's shall complete the Fracture Critical (FC) Inspection Techniques for Steel Bridges Training Course, by December 31, 2012. Any individual that meets the qualifications of Program Manager or Team Leader after December 31, 2012, that will be performing field inspections on FCM's shall complete the Fracture Critical (FC) Inspection Techniques for Steel Bridges Training Course.

The NBIS requires periodic bridge inspection refresher training for Program Managers and Team Leaders as part of QC and QA. The Iowa DOT has defined periodic as being every 5 years. Therefore, all bridge inspection personnel are required to complete the Bridge Inspection Refresher Training Course every 5 years following the completion of the Safety Inspection of In-Service Bridges Training Course.

Program Managers and Team Leaders whose qualifications have expired have 12 months from the expiration date to successfully complete the Bridge Inspection Refresher Training Course before they are disqualified. The Program Managers and Team Leaders can perform inspection duties during the 12 month "Grace Period"; however, if they have not completed the Bridge Inspection Refresher Training Course within the 12 months they will be disqualified as a Program Manager or Team Leader until they complete this required course.

The two week Safety Inspection of In-Service Bridges Course has been updated. As a result of the significant improvements made to this course, there are new requirements of the participants. All participants taking the two week course must have successfully completed **one** of the following prerequisite courses with a score of 70% or better:

- Prerequisite Assessment for Safety Inspection of In-Service Bridges Course (FHWA-NHI-130101A): a 1 hour web-based course at no cost. This is a test out course for those individuals with significant experience and/or a comprehensive background in bridge inspection or engineering.
- Introduction to Safety Inspection of In-Service Bridges Course (FHWA-NHI-130101): a 14 hour web-based course at no cost. This course is for individuals with limited experience with in-service bridge inspection.
- Engineering Concepts for Bridge Inspectors Course (FHWA-NHI-130054): a 5-day instructor led course for which there is an associated cost per person. This is an in-person course for those individuals with limited experience with in-service bridge inspection.

Upon successful completion of one of the prerequisite requirements, participants may enroll in the two week Safety Inspection of In-Service Bridges Course, for up to 2 years. After 2 years, participants will need to retake one of the prerequisites prior to enrolling. Participants must bring a certificate of completion from one of the prerequisite options to the first day of the Safety Inspection of In-Service Bridges Course.

Professional Engineers that have successfully completed the Safety Inspection of In-Service Bridges have met the qualifications to be bridge inspection Program Managers as per the NBIS. The Iowa DOT provides access to bridge records authorized by the bridge owners in [SIIMS](#) bridge inspection software to these individuals once they have submitted the Bridge Inspector form provided on the [SIIMS](#) website to the Iowa DOT for review and approval.

Approved Program Managers are provided access to all forms and records for each bridge in [SIIMS](#) authorized by the bridge owner. Individuals approving the Load Rating form are required to be Professional Engineers licensed in the state of Iowa. Therefore, each person that is required to approve the load rating information must submit the Bridge Load Rating form provided in [SIIMS](#). The Bridge Load Rating form must be reviewed and approved by the DOT, or by an approved Program Manager who has submitted the Bridge Inspector form including Professional License information. Editing of the Bridge Load Rating form by other users with authorized access to the bridge forms is permitted but approval can only be completed by a qualified Load Rater.

### **Inspection Frequency ([23CFR 650.311](#))**

#### **Routine Inspections ([23CFR 650.311](#), a)**

The required inspection frequency for routine inspections may be extended by the extended inspection cycle to account for unforeseen circumstances as described in the definition of extended inspection cycle.

Subsequent inspections should adhere to the previously established interval; that is the use of the extended inspection cycle should be an exception. The inspection date recorded for Item 90, Inspection Date, shall be the actual date the new inspection is initiated. The details of why the bridge inspection was late shall be documented and placed in the bridge file folder.

Bridges that have Item 58, Deck; Item 59, Superstructure; or Item 60, Substructure, with a condition rating of 3 or less, should have an inspection frequency less than 24 months, which may be a routine inspection on a more frequent basis or a special inspection in between routine inspections. Other factors that may impact frequency of inspections are Item 29, ADT; Item 70, Posting; Item 64, Operating Rating; and all items under Structure Type and Materials on the SI&A form.

#### **Underwater Inspections ([23CFR 650.311](#), b)**

Underwater inspection requirements covered in this article pertain to the inspection of the structural elements such as abutments or piers to determine the structural integrity. If at any time during the 60 month underwater inspection interval there is low water, inspections may be performed with a method appropriate for the element and without the use of divers.

Bridges that have Item 60, Substructure, with a condition rating of 3 or less due to deficiencies below the waterline should have an underwater inspection frequency less than 60 months. Other factors that may impact frequency of inspections are Item 29, ADT; Item 70, Posting; Item 64, Operating Rating; all items under Structure Type and Materials; environment; age; and scour characteristics.

#### **Fracture Critical Members (FCMs) ([23CFR 650.311](#), c)**

An Item 59, Superstructure, coding of 4 or less should have an inspection frequency less than 24 months. FCM inspection may be on a more frequent basis or a special inspection in between FCM inspections. Other factors that may impact frequency of inspections are Item 29, ADT; Item 70, Posting; Item 64, Operating Rating; and all items under Structure Type and Materials.

### **Inspection Procedures – Load Rating ([23 CFR 650.313](#), c)**

Bridges are to be load rated in accordance with the [FHWA Policy Memorandum on Bridge Load Ratings for the National Bridge Inventory, dated November 5, 1993](#) and [FHWA Policy Memorandum on Bridge Load Ratings for the National Bridge Inventory, dated October 30, 2006](#). Item 64, Operating Rating; and Item 66, Inventory Rating; will need to be updated accordingly upon completion of the new load rating capacity calculations. Computations shall be performed based on items found during the most recent field inspection. See the Load Rating Evaluation Form in [SIIMS](#).

At the discretion of the Program Manager, Team Leader, or Load Rater, the bridge may be re-rated to reflect changes in condition, method of analysis used, or changes in acceptable load rating methodologies. The re-rating may be justified without changes in the condition codes of Item 58, Deck; Item 59, Superstructure; or Item 60, Substructure. A new Bridge Load Rating Report form will need to be generated in [SIIMS](#) and the form certified by a Professional Engineer, licensed in the State of Iowa, when the controlling member changes or the controlling capacity is reduced.

## Procedures for Rating Standard Bridges

The following procedure should be utilized for determining the load ratings of standard bridges that have been rated by the Iowa Highway Research Board Project, HR-239. There are currently 4 phases of the report available for different standard bridge designs ([Load Rating for Standard Bridges \(1982\)](#), [Load Rating for Secondary Bridges \(1991\)](#), [Load Rating for Standard Bridges, Phase III \(1998\)](#), and [Load Rating for Standard Bridges, Phase IV \(2008\)](#)).

1. Identify the standard bridge used. Refer to project plans, if available, in the bridge file to determine the version of the standard utilized. Some standards have multiple versions due to minor revisions.
2. Item 27, Year Built, is a good indicator of which standard version was used, if you are unable to locate the original plans. Some verification may be necessary in the field to determine exactly which version was utilized.
3. Review the applied dead load to determine if it matches the standard rating assumptions.
4. The operating and inventory ratings in the summary for each standard bridge are coded as an HS rating. This is **NOT** what should be coded on Items 64, Operating Rating, and Item 66, Inventory Rating, on the SI&A form. These numbers shall be converted to a tonnage based on a 36 ton truck.

The HS number shall be multiplied by the ratio of 36 tons/20 tons = 1.8 and this number recorded on the SI&A in Items 64, Operating Rating, and Item 66, Inventory Rating. For example, if the operating and inventory ratings are listed as HS 32.0 and HS 23.3 respectively; then Item 64, Operating Rating, should be coded 57.6 (32.0 tons x 1.8 = 57.6 tons) and Item 66, Inventory Rating, should be coded 41.9 (23.3 tons x 1.8 = 41.9 tons).

5. Some of the HR-239 reports include detailed computations for review of the critical and non-critical elements. These computations can be adjusted when changes to the dead load conditions are encountered or section loss in structural elements are noted.
6. Some of the standard bridges have restrictions to the number of vehicles that may be on the bridge at one time even if the roadway will accommodate more than one vehicle. If bridges are rated using one lane loading these bridges shall be posted accordingly and Item 41, Posting Status, on the SI&A coded based on the restriction.
7. When standard ratings are used from any of the HR-239 reports, the Bridge Load Rating Report does not require a signature by a Licensed Professional Engineer in the State of Iowa. In the Comment section of the Bridge Load Rating Report identify which of the Iowa DOT Office of Bridges and Structures Bridge Standard was used.

The Federal Government instituted a policy to use only metric units for all measurement. Therefore, FHWA requires all National Bridge Inventory data to be in metric units. The Iowa DOT has chosen to use English units instead of metric. [SIIMS](#) was developed using English units for all measurements; including, but not exclusive to, vertical and horizontal clearances, deck widths, bridge length, and Inventory and Operating ratings. These English values will be converted to metric units by [SIIMS](#) for the annual National Bridge Inventory submittal.

The Inventory, Operating, and Posting ratings are typically governed by superstructure elements; and in some cases, deck elements. Further analysis may be necessary to determine the capacity if significant changes in condition or applied dead load are noted based on the current conditions. Substructures should be reviewed for deterioration and rated, if necessary. Section loss should be reviewed and losses considered in adjustments to the original ratings.

## Load Factor Rating (LFR) Requirements

Bridges are to be load rated in accordance with the [FHWA Policy Memorandum on Bridge Load Ratings for the National Bridge Inventory, dated November 5, 1993](#), for all bridges constructed, replaced, or rehabilitated since January 1, 1994. Bridges in this category shall be rated by load factor methods.

These ratings are required for the HS ratings Items 64, Operating Rating, and Item 66, Inventory Rating, on the SI&A. The bridge owner may elect to use Load Factor Rating (LFR), Allowable Stress Rating (ASR), or Load Resistance Factor Rating (LRFR) to establish load limits for purposes of load posting.

Bridges built or rehabilitated since January 1, 1994, falling into the following categories shall be rated by load factor methods:

1. Bridges constructed or replaced with the following materials:
  - a. Steel produced in 1936 (33 ksi or better) or after.
  - b. Prestressed concrete.
  - c. Reinforced concrete.
2. Bridges that undergo major rehabilitation or repairs.
3. Bridges designed with the Load Resistance Factor Design (LRFD) method prior to October 1, 2010, shall be rated with LRFR or LFR method. Bridges designed after October 1, 2010, shall be rated LRFR.

The following material types do not require LFR analysis and may be analyzed using ASR:

1. Masonry including stone, concrete block, or clay brick.
2. Bridges constructed with timber and designed prior to October 1, 2010.
3. Rolled steel produced prior to 1936 (30 ksi or less).

#### Bridge Load Rating Report

A Bridge Load Rating Report has been developed to be included in each bridge file to help identify the critical elements for the capacity rating of the structure and for certification of the ratings by a Professional Engineer, licensed in the State of Iowa.

1. All rating calculations shall be certified by a Professional Engineer, licensed in the State of Iowa, and summarized on the Bridge Load Rating Report in [SIIMS](#).
2. The Bridge Load Rating Report shall be reviewed by the Program Manager or Team Leader to ensure that it indicates the critical element, the operating and inventory ratings and the method of analysis used to determine the rating capacity of the bridge.
3. Rating calculations for standard bridges shall be reviewed using the Load Rating Evaluation Form in [SIIMS](#) by a Professional Engineer, licensed in the State of Iowa, to verify the ratings are still applicable under the current condition ratings and applied loads of the bridge, and be summarized on the Bridge Load Rating Report. For standard bridges the Controlling Element and Location fields are not required to be completed.
4. If a Bridge Load Rating Report has been previously completed, existing ratings shall be reviewed with the critical elements being determined from available file information and accepted by a Professional Engineer, licensed in the State of Iowa. Recertification is not required for existing computations included in the file that are deemed reasonable based on the present condition of the structure.
5. Re-ratings needed due to reasons listed in the Load Rating Evaluation Form in [SIIMS](#) will need to be certified if the element re-rated becomes the critical element and controls the capacity of the structure.
6. Completing the Posting Table on the Bridge Load Rating Report is not required if posting is not required.

## Culverts

*This section is under construction and will be added at a later date.*

## Posting

All bridges shall be rated for the following vehicles:

1. Type 4
2. 3S3
3. 3-3

Note: if SU7 vehicles are using a bridge, the bridge should also be rated for the SU7 vehicle.

All bridges with continuous spans or simple span lengths of 100 feet or greater should also be rated for:

1. 3S3B
2. 4S3

Diagrams of the Iowa Legal Trucks are in [Attachment K](#) to this IM. The SU7 vehicle configuration can be found in the First Edition of the 2008 AASHTO Manual for Bridge Evaluation with the 2010 versions.

Posting signs should limit all vehicles as efficiently as possible. Posting for a single gross weight limit, maximum axle weight limit, or both are the most enforceable means of restricting vehicles. Any method described in the Manual for Uniform Traffic Control Devices (MUTCD) is appropriate. Using the signs in the MUTCD with pictorial images of vehicles is allowed as long as it is clearly understood that the number of axles shown on any one vehicle could be literally interpreted if/when a violation is taken to court.

Bridges that have adequate capacity of legal vehicles up to 40 tons, but do not have adequate capacity for legal vehicles over 40 tons should be posted for a maximum gross limit of 40 tons regardless of the allowable limit calculated. This eliminates confusion about any permit vehicles that are within the 40 to 48 ton range.

Bridges do not need to be posted for loads that are annual permit loads. Bridges that commonly carry vehicles that fall under the annual permit types should be documented in [SIIMS](#) so when a permit request is made these bridges can be included on the permit as embargoed for that vehicle.

Item 70, Posting, should be calculated using the most restrictive legal truck. The most restrictive truck will be the one with the lowest Rating Factor (RF).  $1.0 - RF = \% \text{ below legal load}$ . Use this % to determine which coding, between 0 and 5, should be entered into Item 70, Posting. When Item 70, Posting, is equal to 4 or less, posting the bridge for the appropriate restriction is required. Item 41, Posting Status, shall be coded for the required restriction. The rating method for Item 70, Posting, does not have to be the same method used for Item 64, Operating Ratings, and Item 66, Inventory Rating. If a bridge is re-rated for Item 64, Operating Rating, and Item 66, Inventory Rating using the LFR or LRFR methods, the posting limits do not have to be re-calculated by these methods.

## Advanced Posting

Bridges shall have advance load postings at the last available location to avoid crossing an embargoed structure by using an alternative route or turning around. The signs shall be readily visible and installed in accordance with the MUTCD.

When bridges are clearly visible and signs legible from the advance intersection, both advanced warning signs and signing at the bridge site are not required. The signing located at the bridge site will be sufficient to warn oncoming traffic.

Advance warning signs that restrict the bridge to one lane or limits the number of vehicles on the structure at one time shall also be located far enough in advance of the structure to allow the traffic to slow down prior to crossing the bridge along with oncoming traffic.

## Overload or Superload Permitting

The bridge owner shall review requests for overload crossings of their bridges to minimize damage, ensure public safety, and protect the integrity of the local infrastructure.

1. The bridge files shall be reviewed and computations completed as required to determine if the specific overload will cause overstress to the structure.
2. Permit requests and approvals shall be kept on record for documentation. Special requirements such as reduction of speed, centering on the roadway, elimination of braking, and other restrictions should be noted on the permit.
3. The bridge owner has the right to be compensated for costs associated with the review for the overload permit by the individual/company requesting the permit as per [Iowa Code 321E.14](#), Fees for Permits, [761 Iowa Administrative Code \(IAC\) 511.5\(8\)](#), Fair and Reasonable Costs, states that the permit-issuing authority may charge any permit applicant a fair and reasonable cost for measures necessary to avoid damage to public property including structures and bridges.
4. Any request can be denied if it is determined the overload will be detrimental to the public facility.
5. Bridges may be evaluated for Routine Permit Trucks (see [Attachment M](#) to this IM). If the bridge does not have the capacity to carry one or more of these trucks, when center-lined at 5 mph, the inadequacy can be recorded on the Load Rating Bridge Report form in [SIIMS](#).

## Inspection Procedures - Records ([23 CFR 650.313](#), d)

Bridge owners are required to maintain a complete, accurate, and current record of each bridge under their jurisdiction, either electronically or hard copy, as per the American Association of State Highway and Transportation Officials Manual for Bridge Evaluation (AASHTO Manual). The components of a complete bridge record are listed in the AASHTO Manual. Many of the items listed will be included in [SIIMS](#) for each bridge. Bridge owners are encouraged to include electronic copies of these items in [SIIMS](#) as soon as possible.

The following list of items shall not to be considered in lieu of the requirements in the AASHTO Manual. All of the items in the AASHTO Manual will not be available for every bridge structure; therefore, the items listed below should be included in each bridge file as a minimum. However, any and all items addressed in the AASHTO Manual should be included in the bridge files when available.

### Bridge Plans

Plans for bridges are not required to be in the file folder; however, they are required to be readily available to the bridge owner, Program Manager, or Team Leader at all times. Plans for bridges let after January 1, 2011, shall be included in [SIIMS](#). Bridge owners are encouraged to scan relevant plan sheets for bridges let prior to January 1, 2011, and include them in [SIIMS](#).

### Repair Plans

Plans for bridge repair are not required to be in the file folder; however, they are required to be readily available to the bridge owner, Program Manager, or Team Leader at all times. Plans for bridges let after January 1, 2011, shall be included in [SIIMS](#). Bridge owners are encouraged to scan relevant plan sheets for bridges let prior to January 1, 2011, and include them in [SIIMS](#).

### Photographs

A road view and a side view of the bridge structure are the minimum requirement. Structures with Item 58, Deck; Item 59, Superstructure; Item 60, Substructure; Item 61, Channel / Channel Protection; and Item 62, Culvert, coding of 4 or less are required to have photographs of the deficiency. Structures that have had no changes from the previous inspection do not require updated photographs. All relevant photographs taken after January 1, 2012, will be required in [SIIMS](#).

## Scour Evaluation Data

All scour evaluation documentation is required to be in [SIIMS](#), including the Bridge Scour Stability Worksheet, Level A Evaluation (see [Attachment A](#) to this IM); Intermediate Scour Assessment Procedures Flowchart, Level B Evaluation (see [Attachment B](#) to this IM); and/or Level C [HEC 18](#) calculations. Bridge owners or Program Managers are required to indicate the level of scour analysis completed using the check boxes on the Channel/Channel Protection tab in [SIIMS](#). POAs (see [Attachment C](#) to this IM) are required to be in [SIIMS](#) and indicated on the Channel & Channel Protection form. Scour analysis worksheets and POAs will be required in [SIIMS](#) by January 1, 2013.

## Channel Cross Section

A channel cross section on the upstream side of the bridge is required to be a part of the bridge record. A standard Channel Cross Section form has been incorporated into [SIIMS](#). Each bridge structure is required to have a data point at the top of bank, toe of bank, thalweg, and each substructure unit. The Channel Cross Sections are to be updated every 4 years for natural waterways and 10 years for drainage ditches controlled by a drainage district in [SIIMS](#) unless conditions at the bridge warrant more frequent monitoring. The Channel Cross Section will be required in [SIIMS](#) after January 1, 2013.

## Local Agency Field Data Collection Form

The Local Agency Field Data Collection form will be completed and stored in [SIIMS](#).

## Structure Inventory and Appraisal Forms (SI&A)

The SI&A forms will be completed and stored in [SIIMS](#).

## Load Rating Calculations

The bridge record is required to include a complete record of the calculations of the bridges load carrying capacity. A standard Bridge Load Rating Report has been incorporated into [SIIMS](#) and is required to be completed for each bridge structure by January 1, 2013. The load rating calculations are required to be signed by a Professional Engineer, licensed in the State of Iowa. Electronic signatures for the forms in [SIIMS](#) are not required, but a signed copy of the load rating calculations is required to be in the bridge file folder. Bridge owners are encouraged to have an electronic scanned copy of the signed Bridge Load Rating form included in [SIIMS](#).

FHWA requires all bridge structures be rated for its safe load carrying capacity as per 23 CFR 650.313(c). Therefore, the Iowa DOT is reviewing all bridge structures that have Item 63 or Item 65, Rating Method, coded as 5. A percentage of the structures Item 63 or Item 65, Rating Method, coded as 5 are culverts, for which there are no standardized method for rating.

Recognizing this, the Iowa DOT submitted a request to FHWA to provide the state with guidance in regards to acceptable method of rating culverts. In the interim, the Iowa DOT developed a Plan of Corrective Action (PCA) that utilizes a three phase process in completing the load ratings for culverts as follows:

1. Culverts that have Item 62, Culverts, with a condition rating of 4 or less, will be rated by January 1, 2013.
2. Culverts that have Item 62, Culverts, with a condition rating of 5 will be load rated by January 1, 2015.
3. Culverts that have Item 62, Culverts, with a condition rating >5 will be load rated by January 1, 2017.

## Load Rating Evaluation Form

The Load Rating Evaluation Form, in [SIIMS](#), is required to be completed for each in-depth or routine inspection. The Program Manager or Team Leader completing this form in [SIIMS](#) is not confirming that the load rating calculations are correct, only that the condition of the bridge has or has not changed. If

any of the items on the form indicate that the condition of the bridge has changed since the most recent load rating calculations, then re-rating the structure for load carrying capacity is required.

#### Critical Findings

A standard Critical Finding report form has been incorporated into [SIIMS](#). The completed report is to be filed in [SIIMS](#).

#### Critical Features

FC and scour critical elements are addressed in [SIIMS](#).

#### Special Inspection Equipment

The list of specialized equipment and any additional requirements to complete the bridge inspection is included in [SIIMS](#).

### **Inspection Procedures – Master Lists ([23 CFR 650.313](#), e)**

A master list shall be kept which identifies an agency's FC bridges, the bridges requiring underwater inspection, scour critical bridges, unknown foundations, and bridges that are load posted. Additionally, it is recommended that a map be prepared showing each of these bridges for easy reference.

The master list can be generated by selecting the Manager side of [SIIMS](#) and running the report for FC bridges, underwater inspections, scour critical bridges, unknown foundations, and bridges that are load posted.

#### Fracture Critical (FC) Bridges

The following information shall be kept as part of the inspection records for each FC bridge.

1. A drawing of the bridge showing the location of all FCMs.
2. The inspection frequency and procedures that are necessary to inspect each FCM within arm's reach. The procedure may include equipment required (i.e. climbing equipment, ladder, snooper truck) or access methods (i.e. ground access, walk on lower chord) used to inspect the member.

#### Underwater Inspections

The following information shall be kept as part of the inspection records for each bridge requiring underwater inspection.

1. The location of all elements requiring an underwater inspection.
2. The inspection frequency and procedures necessary to inspect each element. The procedure may include equipment required or access methods used to inspect the member.

#### Scour Critical Bridges

The following information shall be kept as part of the inspection records for each bridge determined to be scour critical or with unknown foundations. Item 113, Scour Critical, shall be coded as 2 or 3.

1. POA

The POA includes a specific plan for monitoring, inspecting, or closure of scour critical bridges during and after a significant flood event. The level of flooding that triggers the POA is determined and listed within the POA document. A Team Leader or a Professional Engineer, licensed in the State of Iowa, shall inspect a bridge before it may be reopened. (See [Attachment C](#) to this IM for an example)

## 2. Scour Analysis Procedures

The analysis used to determine the Item 113, Scour Critical, coding shall be included in the inspection file for each bridge as applicable. This may include a Level A, B, or C scour evaluation (see [Attachment A](#) and [Attachment B](#) to this IM).

If a bridge has been designed for scour, a computed scour depth notation shall be shown on the plans or included in the inspection file.

## 3. Scour Inspection Frequency

All bridges should be monitored for changes that may affect the scour rating at the routine inspection interval.

Review Level A Bridge Scour Stability Worksheets (see [Attachment A](#) to this IM) and upstream channel cross section to determine scour rating.

New and reconstructed bridges shall be designed to resist scour in accordance with HEC 18, as required by AASHTO Bridge Design Specifications and [FHWA Technical Advisory, Evaluating Bridges for Scour, dated October 28, 1991](#).

## Unknown Foundations

The following information shall be kept as part of the inspection records for each bridge with unknown foundations.

1. A POA for monitoring bridges with unknown foundations should be developed and implemented to reduce the risk to users from a bridge failure during and immediately after a flood event (see [HEC 23](#)). Also, the use of risk assessment, standard design practices, and engineering judgment can be used to reduce the risk of scour induced failures.
2. Use [Attachment G](#) and [Attachment H](#) to this IM to evaluate the bridge according to the following procedures:
  - a. Use the Procedural Flowchart (see [Attachment G](#) to this IM) to determine if the foundation type and depth can be determined. If not, then go to Step B.
  - b. Complete the Risk Assessment Worksheet (see [Attachment G](#) to this IM) utilizing the USGS Hydrologic Region (see [Attachment H](#) to this IM) information provided and the SI&A form. Determine the risk category based on the point totals and go to Step C.
  - c. Utilize the appropriate Risk Category Flowchart to determine if the structure requires a plan of action. If so, refer to [Attachment G](#) to this IM for additional guidance on developing the appropriate plan of action.

The risk-based POAs developed for the unknown foundations are required to be in [SIIMS](#) by January 1, 2013.

Bridge owners are cautioned that simply developing a POA for each bridge with an unknown foundation without first making every effort to determine the foundation (by discovery or inference) may not be advisable. The personnel required to implement POA's for a large number of bridges during a widespread rainfall event may overwhelm staff.

## Load Posting

Maintain a list of posted bridges with weight limits for each bridge. Additionally it is recommended that a map be prepared showing the locations of these bridges.

## Inspection Procedures – Quality Control (QC) and Quality Assurance (QA) ([23 CFR 650.313](#), g)

### Quality Control (QC) Program

It is the Program Manager's responsibility to ensure the following:

1. The "Monthly Notifications" are reviewed to identify any bridges that have not been inspected within the specified frequency or are not in compliance with load posting requirements.
2. [SIIMS](#) is used to document each inspection, including but not limited to the following:
  - a. Local Agency Field Data Collection Forms in [SIIMS](#) are completed.
  - b. The Supplemental Inspection Information tab is completed in [SIIMS](#) for each bridge.
3. Master lists are maintained as required in the Inspection Procedures-Master List section of this IM.
4. Team Leaders maintain the education/experience/training requirements contained in the Qualifications of Personnel section of this IM.
5. The individual charged with the overall responsibility for load rating bridges is a Professional Engineer, licensed in the State of Iowa.

### Quality Assurance (QA) Program

#### Bridge Record Reviews

A review of the bridge records for LPA's to determine if they contain the minimum items listed in Inspection Procedures – Records section of this IM, will be conducted by the Office of Bridges and Structures utilizing [SIIMS](#) on an annual basis for randomly selected LPAs. Additional reviews of the bridge records will be conducted during on site reviews in conjunction with the DOT's annual oversight of the LPAs.

#### Team Leader Reviews

It is the Program Manager's responsibility to ensure the following:

1. Team Leader Reviews are conducted every 4 years, beginning January 1, 2012.
  - a. Independent party review by a Professional Engineer qualified as a Team Leader.
  - b. Field review of inspection data for 10 bridges inspected during the past 12 months. The bridges selected shall include, but not limited to, predominant bridge types inspected and bridges with lower sufficiency ratings. The bridges selected shall include some bridges with Item 58, Deck; Item 59, Superstructure; Item 60, Substructure; Item 62, Culvert; or Item 70, Posting; rated 4 or less (if available for the bridges inspected by the Team Leader).
  - c. Reviewer accompanies the Team Leader during the inspection of 2 of the 10 selected bridges.
  - d. Quality Assurance Field Review Worksheet ([Attachment L](#) of this IM) completed for each bridge inspected.
  - e. Verification of the validity of information provided by an individual to obtain approval to utilize [SIIMS](#) as a Team Leader.
  - f. Documentation that the Team Leader has completed the Bridge Inspector Refresher Training Course and, if needed, Fracture Critical Inspection Techniques for Steel Bridges Training Course.

The findings of the Team Leader Reviews shall be attached to an e-mail to [eric.souhrada@dot.iowa.gov](mailto:eric.souhrada@dot.iowa.gov). The report shall be stamped and signed by the reviewer. If there

are negative findings regarding the Team Leader, the report shall include corrective recommendations, or actions taken, to resolve those findings.

## 2. Disqualification and re-instatement of Team Leaders

The Program Manager shall disqualify a Team Leader if they have provided invalid information to obtain approval to utilize [SIIMS](#) as a Team Leader or have not completed the required training required by the Qualification of Personnel section of this IM. The disqualification shall be as follows:

- a. Invalid information willfully provided to obtain approval to utilize [SIIMS](#) as a Team Leader: Permanent disqualification as a Team Leader.
- b. Non Compliance with the Qualification of Personnel section of this IM: Disqualification as a Team Leader until they meet the requirements of Qualification of Personnel section of this IM.

## Load Rating Engineer Reviews

Load Rating Engineer reviews will be conducted by the Office of Bridges and Structures utilizing SIIMS in conjunction with on-site field reviews as part of the Iowa DOT's annual oversight of the LPA's program.

## Inspection Procedures – Critical Findings ([23 CFR 650.313](#), h)

### Purpose

The purpose of the Critical Finding Bridge Report in [SIIMS](#) is to ensure that serious bridge damages or defects are reported, the necessary notifications are made to the bridge owner by the Program Manager or Team Leader, and that proper and timely action is taken to ensure the safety of the traveling public. This process alerts the bridge owner so damage or deterioration can be repaired in a proper and timely manner and that the damage and repairs are documented.

FHWA will query the Critical Finding Reports in SIIMS every quarter; therefore, it is imperative that the LPA's complete the Critical Finding Report in [SIIMS](#) as per this I.M.

### Criteria

Conditions that require the filing of a critical finding report shall include, but are not limited to one of the following:

1. a partial or complete bridge collapse,
2. structural or other defects posing a definite and immediate public safety hazard,
3. a condition rating of 2 or less for any of the following bridge items:
  - a. Item 58, Deck,
  - b. Item 59, Superstructure,
  - c. Item 60, Substructure,
  - d. Item 61, Channel/Channel Protection,
  - e. Item 62, Culverts, or
  - f. Item 113, Scour Critical.

In cases where it is determined that the bridge could be used safely at a lower posted load limit, the bridge may remain open if it is immediately posted at the reduced limit.

## Procedure for County/City Bridges

1. The individual discovering the critical finding shall:
  - a. Immediately report the finding to the responsible local official, who may notify law enforcement or maintenance personnel to close the bridge.
  - b. Complete Part I of the critical finding report and submit a copy to the responsible local official within 48 hours of the finding.
2. The responsible local official shall
  - a. Take action to ensure the safety of the traveling public.
  - b. Complete Part II of the critical finding report within 5 days of the finding.
3. When final action is taken to resolve the critical finding issue, the responsible local official shall complete Parts III & IV of the critical finding report as necessary.
4. Before a closed bridge may be reopened to traffic, a Professional Engineer, licensed in State of Iowa, shall approve any structural repairs, the bridge shall be load rated, and the bridge shall be inspected by a Team Leader.
5. If final action is not taken within 6 months of the initial report of the critical finding, the responsible official shall complete Part III, indicating the current status of the bridge.

## Inventory ([23 CFR 650.315](#))

Iowa DOT maintains an inventory of all bridges subject to NBIS. This inventory is available for viewing and updating by local agencies in [SIIMS](#). All local agencies shall enter their inventory data updates into the database using this access system. User names and passwords are available by request from the [State of Iowa Enterprise A & A System](#). Access to [SIIMS](#) will be approved and granted by the Iowa DOT Office of Bridges and Structures, Bridge Maintenance and Inspection (BM&I) Unit.

### New Bridge Data

Within 30 days of receiving the new FHWA number for a new bridge or bridge replacement, all of the required NBI data must be populated in SIIMS. If the bridge has not been built or is not open to traffic, Item 41, Posting Status, must be coded as G.

### Modifications to a Bridge or Change in Load Restriction

Modification to a bridge that alters the geometry or changes to a bridge load restriction must be updated in the NBI within 180 days of the change.

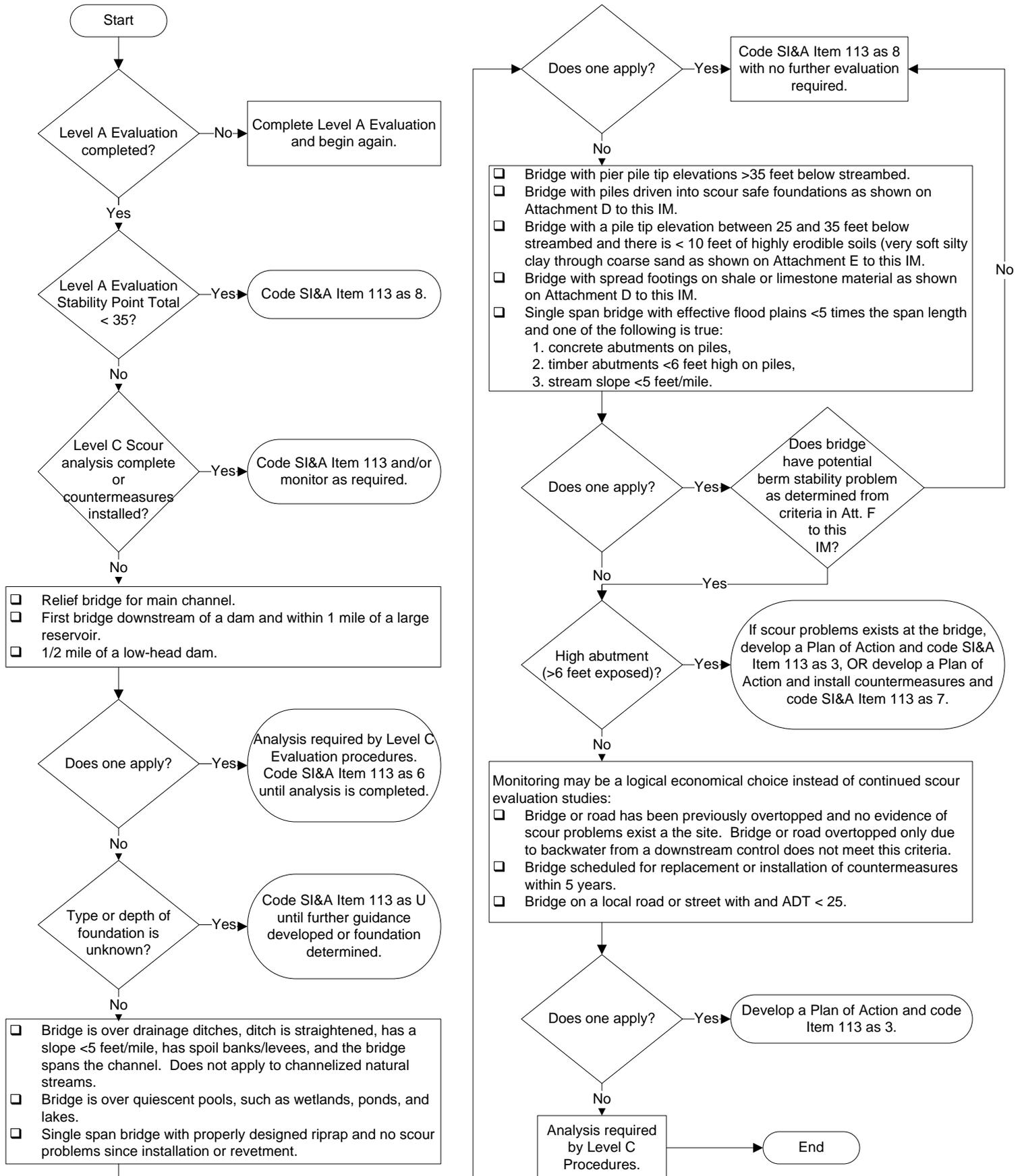
For all types of bridge inspections, the inspection dates and condition codes shall be entered into [SIIMS](#) within the required month of the field inspection.

Final approval of inspection reports, including load ratings if necessary, shall be completed in [SIIMS](#) within 90 days of the field inspection.



## INTERMEDIATE SCOUR ASSESSMENT PROCEDURES FLOWCHART

### Level B Evaluation



**Abbreviations / Acronyms:**

SI&A = Structural Inventory and Appraisal

