



To: Cities, Counties, and Consultants

Date: February 16, 2007

From: Office of Local Systems

Revision No.: 2007-01

Subject: Packet and I.M. Revision Notice

The Project Development Information Packet (Packet) is in the process of being phased-out. The Packet will be replaced by the Federal-aid Project Development Guide (Guide). In addition, the existing Instructional Memorandums to County Engineers are being transitioned into the new Instructional Memorandums to Local Public Agencies (I.M.s). Refer to these web pages for additional information concerning the phase-out and transition process.

This revision notice identifies the Packet documents that have been most recently replaced and the corresponding new I.M.s that have taken their place. It also includes any updates to existing I.M.s. To view or print the new or revised documents, click on the links provided.

In all new I.M.s, references to existing Packet or I.M. documents have been replaced with references to the new I.M. that has taken or will take its place. If the referenced I.M. is not yet complete, the web page will redirect the user to the appropriate existing Packet or County I.M. document(s).

If you maintain a hardcopy of the Packet and / or I.M.s, and plan to continue doing so, we recommend you either: a) as individual Packet or I.M. documents are replaced or updated, remove the old document and place the corresponding new I.M. in numeric sequence in your binder; or b) wait until the Packet is completely replaced before printing a new hardcopy. Once complete, the Guide and / or the I.M.s will be available for download as a single PDF file for convenient printing.

If you have any questions concerning the phase-out of the Packet or the transition to the new I.M.s, please contact Charlie Purcell at Charlie.Purcell@dot.iowa.gov or 515-239-1532.

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

Document Title or Number and Revision Date	Summary of Significant Revision(s)
Packet Table of Contents February 16, 2007	The Packet Table of Contents has been modified to show which Packet documents have been replaced. It includes cross-references and links to the corresponding new I.M.s. where appropriate.
I.M. Table of Contents February 16, 2007	The I.M. Table of Contents has been revised to reflect an updated numbering system and revision dates, including the new I.M.s listed below. It also includes cross-references and links to existing County Engineers I.M.s where appropriate.
I.M. 3.002 Federal-aid Project Scheduling February 16, 2007	This I.M. is new. It provides guidelines and information for estimating the time to complete project development activities for a Federal-aid project. Several different estimated project schedules are shown, based upon different conditions and assumptions.
County I.M. 3.23 June 2002	These documents have been replaced with I.M. 3.505 , Check and Final Plans, dated February 16, 2007, and the attachments noted below. Besides transferring the content into the new I.M. format, other substantive changes include the following:
Flow Charts, Chart 10 – Check and Final Plan Process November 1, 2001	Attachment A – Check and Final Plan Guidelines, includes expanded guidance concerning the different types and proper use of Iowa DOT standard plans.
Index No. 8, Check and Final Plan Guidelines February 24, 2006	Attachment B – Check and Final Plan Checklist, includes several modified items:
Index No. 8, Check and Final Plan Checklist February 24, 2006	<ul style="list-style-type: none"> • Pages 1-3, Title Sheet items: To promote consistency, all of these items now include a recommended location for placement on the Title Sheet. • Page 3, 404 Permit item: The required note has been modified to clarify which 404 Permit numbers should be referenced. The note also informs bidders that a copy of the 404 permit is available upon request. • Page 3, Standard Specifications note item: The language of the required note was modified slightly. • Page 4, the Non-Participating Items or Quantities item was added.

Document Title or Number and Revision Date	Summary of Significant Revision(s)
	<ul style="list-style-type: none"> • Page 5, Bridge Removals item: An explanation of why the “Removal of Existing Bridge” item must be used for bridge demotion work was added. • Page 8, the Non-Participation Limits item was added. <p>Attachment C – Check and Final Plan Process Flowchart, was modified to show the process for plan revisions after turn-in to the Office of Contracts. Notes were added to clarify several of the decision blocks.</p>
County I.M. 3.24 September 2002	<p>These documents have been replaced with I.M. 3.510, Check and Final Bridge of Culvert Plans, dated February 16, 2007, and the attachment noted below. Besides transferring the content into the new I.M. format, other substantive changes include the following:</p>
Index No. 8, Bridge or Structural Plan Supplementary Checklist December 1, 2005	<ul style="list-style-type: none"> • Page 1, Preparation, Design Guidelines: Guidance concerning the FHWA requirement for design of structures using the Load and Resistance Factor Design (LRFD) method has been added. • Page 2, Structural Reviews: This information was formerly located in the <i>Check and Final Plans Guidelines</i> Packet document. This information was also revised to clarify that structural reviews are required of all projects on the National Highway System, regardless of funding type. <p>Attachment A – Bridge or Structural Plan Supplementary Checklist:</p> <ul style="list-style-type: none"> • Quantity and Estimate Reference Notes: The checklist item recommending a break-out of quantities by structural element (e.g., piers, abutments, superstructure, etc.) was removed.

PROJECT DEVELOPMENT INFORMATION PACKET

for Local Public Agency Federal-Aid Projects

Please Note: The Packet is in the process of being phased-out. Most of the detailed guidance currently contained in the Packet documents will be transferred to the new Instructional Memorandums for Local Public Agencies (I.M.s). Eventually, the Packet will be completely replaced with a new, more concise document called the “Federal-aid Project Development Guide.” The Guide will summarize the Federal-aid project development process and reference the new I.M.s where appropriate to provide additional details concerning specific parts of the process.

If a Packet document has been replaced it is shown below in light grey text along with a cross-reference to the corresponding new I.M. In all new I.M.s, references to existing Packet documents have been replaced with references to the new I.M. that has taken or will take its place. If the referenced new I.M. is not yet complete, the web page will redirect the user to the appropriate existing Packet document(s).

This Table of Contents will remain in place until the Packet is completely phased-out.

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Revision Date

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* These forms are not included in the Project Development Information Packet itself. However, for convenience, this self-extracting executable file is provided. It contains current versions of bid / quote documents and the construction forms used for local federal-aid contract procurement process.

Appendix A – Instructional Memorandums (I.M.)

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- I.M. 3.131 Design and Submittal of Preliminary Bridge and Culvert Plans ([PDF](#))May-03
- I.M. 3.15 Highway Improvements in the Vicinity of Airports or Heliports ([PDF](#)) Dec-02
- I.M. 3.210 Design Criteria – New Construction or Complete Reconstruction ([PDF](#)).....May-03
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Note: Some of the I.M.s listed below are not yet complete (shown in light grey text). Existing I.M.s that will be renumbered in the future are listed according to their proposed new number. However, a reference and link to existing I.M. is also provided.

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No.	Subject	Revision Date	Written To
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INSTRUCTIONAL MEMORANDUMS

To Local Public Agencies



To: Counties and Cities	Date: February 16, 2007
From: Office of Local Systems	I.M. No. 3.002
Subject: Federal-aid Project Scheduling	

Contents: This Instructional Memorandum (I.M.) includes guidelines and information to assist a Local Public Agency (LPA) in developing realistic, project-specific schedules for development of their Federal-aid projects let by the Iowa Department of Transportation (Iowa DOT).

Introduction

There are many factors that may affect the project development schedule, including: complexity of the project design, right-of-way needs, impacts to environmental or cultural resources, use of railroad property or facilities, relocation or adjustments to utilities, and various permits, approvals, or notifications required by other State or Federal agencies.

Each project is different, so it is not possible to develop a project schedule that is appropriate for all projects. Nevertheless, this I.M. gives some assistance to LPAs by providing an estimated project schedule for four different general types of projects, which are further described on pages 5-8 of this I.M.:

- Type 1: Programmatic Categorical Exclusion, No Right-of-Way Needs
- Type 2: Programmatic or Individual Categorical Exclusion, Minor Right-of-Way Needs
- Type 3: Environmental Assessment, Moderate Right-of-Way Needs
- Type 4: Environmental Impact Statement, Significant Right-of-Way Needs

The purpose of the estimated schedules is to provide a starting point for the LPA to develop their own, project-specific schedule, based on the unique circumstances of the project.

Description of Project Tasks and General Assumptions

For simplicity, the estimated project schedules have been broken down into several main project tasks. In reality, each of these tasks is composed of many subtasks. Each main task is identified and described below, including a discussion of the assumptions or conditions that apply to all of the general project types.

Consultant Selection and Negotiation

Description: This task begins with the decision to hire a consultant and ends with the execution of a consultant agreement. It may include, as applicable: formation of a selection committee, preparation of a Request for Proposal (RFP), solicitation of prospective consultants, evaluation of the consultants, selection of a consultant, contract negotiations, Iowa DOT reviews, and Federal Highway Administration (FHWA) Authorization. For more information, refer to [I.M. 3.305](#), Federal Participation in Consultant Costs.

Assumptions / Conditions:

- A consultant will be used and Federal funds will be requested for reimbursement of the consultant costs. If a consultant will be hired, but the consultant costs will not be reimbursed with Federal funds, this task may not require as much time.
- If the design will be performed in-house without Federal participation, this task can be eliminated. However, if Federal participation for in-house design work is desired, a similar amount of time should be included for the reviews required by [I.M. 3.310](#), Federal Participation in In-House Engineering Costs.
- If a complete scope of services and fees are not negotiated up-front, but instead will be accomplished using a phased approach, the project schedule should be adjusted to include additional time for negotiating supplemental agreement(s) and the necessary Iowa DOT reviews and FHWA authorizations.

Prepare Concept Statement

Description: This task begins when the LPA or consultant downloads and reviews the Concept Statement (Form 517001) and instructions and ends when the LPA or consultant submits the Concept Statement to the

Iowa DOT Administering Office. This task includes gathering all necessary information to complete the form. For more information, refer to [I.M. 3.105](#), Concept Statement Instructions.

Assumptions / Conditions:

- This task is dependant on the Consultant Selection task, because it is assumed the consultant will prepare the Concept Statement.
- If the LPA is preparing the Concept Statement themselves, this task may be adjusted accordingly, both in duration and dependency.

FHWA Environmental Concurrence

Description: This task includes all of the necessary environmental reviews, studies, and documentation to satisfy the requirements of the National Environmental Policy Act (NEPA) process. For more information, refer to [I.M. 3.112](#), FHWA Environmental Concurrence Process.

- For Type 1 and Type 2 projects, this task begins when the Concept Statement is forwarded by the Administering Office to the Office of Location and Environment and ends when the Office of Location and Environment sends a memo to the LPA stating that the project has received FHWA Environmental Concurrence.
- For Type 3 and Type 4 projects, the information required by the Concept Statement is usually not available until the necessary environmental studies have been completed. Therefore, for these types of projects, this task begins when the LPA or consultant contacts the Office of Location and Environment to discuss the probable levels of environmental documentation required and ends when the Iowa DOT and the FHWA have approved the final environmental document.

Assumptions / Conditions:

- For Type 1 and Type 2 projects, this task is dependant on the Prepare Concept Statement task.
- For Type 3 and Type 4 projects, this task is dependant on the Consultant Selection task, because it is assumed that a consultant will be hired to complete the necessary environmental studies and documentation.

Prepare Preliminary Plans

Description: This task begins with the preparation of the plans and ends with submittal of the plans to the Iowa DOT Administering Office. It includes all work required to produce a set of Preliminary Plans, including, as applicable: survey and mapping, preliminary design, plan and profile layouts, identification of preliminary right-of-way needs, internal reviews by the consultant, and reviews by the LPA. For guidance in preparing Preliminary Plans, refer to [I.M. 3.405](#), Preliminary Plans, and if applicable, [I.M. 3.410](#), Preliminary Bridge or Culvert Plans. Refer also to [I.M. 3.005](#), Project Development Submittal Dates and Information, for other documents and information that should be included with the Preliminary Plan submittal.

Assumptions / Conditions:

- This task is dependant on the Consultant Selection task, because it is assumed that a consultant will be hired to prepare the project plans.
- If the LPA is preparing the plans with their own staff, this task may be adjusted accordingly.
- Since this task includes the LPA's review of the plans, the LPA and consultant should discuss the amount of time that will be required and adjust the duration of this task if necessary.

DOT Preliminary Plan Review

Description: This task begins when the Preliminary Plans are received by the Administering Office and ends when plans are returned with comments to the LPA and / or consultant. It includes the necessary reviews by the Administering Office and other DOT offices if required, including a review of the Concept Statement. If required for a bridge or culvert project, this task also includes a hydraulic review by the Iowa DOT Office of Bridges and Structures.

Assumptions / Conditions:

- This task is dependant on the Prepare Concept Statement task, because the Iowa DOT's review of the plans is based on the design values shown on the Concept Statement.
- This task is also dependant on the Prepare Preliminary Plans task.
- If the project is on a Primary or Interstate Highway, an additional 1-2 weeks may be required for this task.

Right-of-Way (ROW) – Descriptions and Appraisals

Description: This task begins with an assessment of the project's right-of-way needs and concludes when the LPA is ready to notify the affected property owners and begin negotiations. This task includes activities such as: preparing of right-of-way plans, plats, legal descriptions, title reports, appraisals, and review appraisals. If Federal reimbursement for right-of-way costs will be requested, this task also includes the preparation and submittal of a request for FHWA Authorization by the LPA, as well as the review and approval required by the Iowa DOT and FHWA.

Assumptions / Conditions:

- This task is shown as being dependant on completion the Prepare Preliminary Plans task. However, some of these activities may begin prior to completion of the Preliminary Plans.
- This task may be conducted concurrently with the DOT Preliminary Plan Review task. However, changes to the Preliminary Plans in response to Iowa DOT comments may affect the project's right-of-way needs, which could lengthen the duration of this task. Therefore, the Iowa DOT recommends that this task not begin until after the DOT Preliminary Plan Review task is complete.
- This task may also be conducted concurrently with the FHWA Environmental Concurrence task. However, for projects that will require an Environmental Assessment or Environmental Impact Statement document, the final right-of-way needs cannot be completely determined until after the FHWA Environmental Concurrence task is complete. Therefore, the Iowa DOT strongly recommends that for such projects, descriptions and appraisals not begin until the FHWA Environmental Concurrence task is complete.

Right-of-Way (ROW) – Negotiate and Acquire

Description: This task begins when the LPA initiates negotiations with the affected property owners and ends when all of the necessary property rights have been obtained, as documented by the Project Development Certification (Form 730002) (see [I.M. 3.750](#), Project Development Certification Instructions). This task may include, as applicable: the required notifications, negotiations, execution of the easement or acquisition documents, relocations, and payments to the property owners. For more information about the required right-of-way procedures, refer to [I.M. 3.605](#), Right-of-Way Acquisition.

Assumptions / Conditions:

- This task is dependant on the FHWA Environmental Concurrence task, because right-of-way acquisition activities, including any type of discussion of property values with land owners, shall not begin until after the NEPA process is complete.
- This task is also dependant on the ROW – Descriptions and Appraisals task.
- If the project requires work on railroad right-of-way, this task should also include some time to negotiate and execute an agreement with the railroad. Coordination with the railroad may require only a few weeks, or it may require a year or more, depending on how the project affects the railroad's operations. For more information about the process, refer to [I.M. 3.670](#), Work on Railroad Right-of-Way, and [I.M. 3.680](#), Federal-aid Projects Involving Railroads. (Note: Coordination with the railroad can and should begin prior to the FHWA Environmental Concurrence; however, if railroad property must be acquired, such acquisitions shall not begin until after FHWA Environmental Concurrence has been received.)
- If the project requires utilities to relocate that are not required to move at their own expense (i.e., a relocation agreement will be required), this task should also include some time to negotiate and execute the necessary utility agreement(s). For more information, refer to [I.M. 3.640](#), Utility Accommodation and Coordination. (Note: Coordination with the utility can and should begin prior to the FHWA Environmental Concurrence; however, if utility property must be acquired, such acquisitions shall not begin until after FHWA Environmental Concurrence has been received.)

Prepare Check Plans

Description: This task begins with review of the Iowa DOT comments on the Preliminary Plans and ends with submittal of the Check Plans to the Administering Office. It includes all work required to address the Preliminary Plan comments and produce a complete set of Check Plans, including, as applicable: final design, establishment of final right-of-way needs, calculation of bid quantities, preparation of cost estimates, Special Provisions, internal reviews by the consultant, and reviews by the LPA. For guidance in preparing Check Plans, refer to [I.M. 3.505](#), Check and Final Plans, and if applicable, I.M. [3.510](#), Check and Final Bridge or

Culvert Plans. Refer also to [I.M. 3.005](#), Project Development Submittal Dates and Information, for other documents and information that should be included with the Check Plan submittal.

Assumptions / Conditions:

- This task is dependant on the DOT Preliminary Plan Review task.
- This task is also dependant on the FHWA Environmental Concurrence task, because final design activities (which include preparation of check plans) shall not begin until after the NEPA process is complete.
- Since this task includes the LPA's review of the plans, the LPA and consultant should discuss the amount of time that will be required and adjust the duration of this task if necessary.

DOT Check Plan Review

Description: This task begins when the Check Plans are received by the Administering Office and ends when plans are returned with comments to the LPA and / or consultant. It includes the necessary reviews by the Administering Office and other DOT offices if required. If required for a bridge or culvert project, this task also includes a structural review by the Iowa DOT Office of Bridges and Structures.

Assumptions / Conditions:

- This task is dependant on the Prepare Check Plans task.
- The duration of this task assumes that the Check Plans are complete. Incomplete plans may require re-submittal as Check Plans.
- If the project is on a Primary or Interstate Highway, an additional 1-2 weeks may be required for this task.

Prepare Final Plans

Description: This task begins with review of the Iowa DOT comments on the Check Plans and ends with submittal of the Final Plans to the Administering Office. It includes all work required to address the Check Plan comments and produce a complete set of Final Plans, including submittal of the Project Development Certification (Form 730002). Refer also to [I.M. 3.005](#), Project Development Submittal Dates and Information, for other documents and information that should be included with the Final Plan submittal.

Assumptions / Conditions:

- This task is dependant on the DOT Check Plan Review task.

DOT Final Plan Review

Description: This task begins when the Final Plans are received by the Administering Office and ends when plans are turned-in to the Iowa DOT Office of Contracts for letting. It includes verification by the Administering Office that the Check Plan comments have been addressed, a review of the Project Development Certification, and any final plan revisions and re-submittals that may be required.

Assumptions / Conditions:

- This task is dependant on the Prepare Final Plans task.
- The duration of this task assumes that the Final Plans are complete. Incomplete plans may require re-submittal as Final Plans.

Letting Process

Description: This task begins when Final Plans and associated information are submitted for letting to the Office of Contracts and ends when the bids are opened and the apparent low-bidder is announced. The Iowa DOT letting process includes the following activities, as applicable: preparation of cost estimates, establishment of contract periods, preparation of bid proposals, DBE goal setting, FHWA Authorization, distribution of addenda, advertisement, and opening of bids. This task also includes additional review of the project plans and specifications for conformance to the Iowa DOT Standard Specifications and letting process. Often, this review results in some additional minor revisions to the plans. For more information, refer to [I.M. 3.730](#), Iowa DOT Letting Process.

Assumptions / Conditions:

- This task is dependant on the DOT Final Plan Review and the Acquire Right-of-Way tasks.

- This task assumes that all of the required project clearances have been obtained, or a Public Interest Finding has been submitted by the LPA and approved by the Administering Office to allow the project to enter the letting process without all of the needed clearances. For more information, refer to [I.M. 3.760](#), Public Interest Findings.

A discussion of each general project type is included below. Each discussion includes a description of the general project type, an estimated schedule for project development, and a list of additional specific assumptions that have been made or conditions that apply, if any. For purposes of comparison, each of the estimated project schedules begins on January 1, 2007. Actual projects may begin the development process at any time.

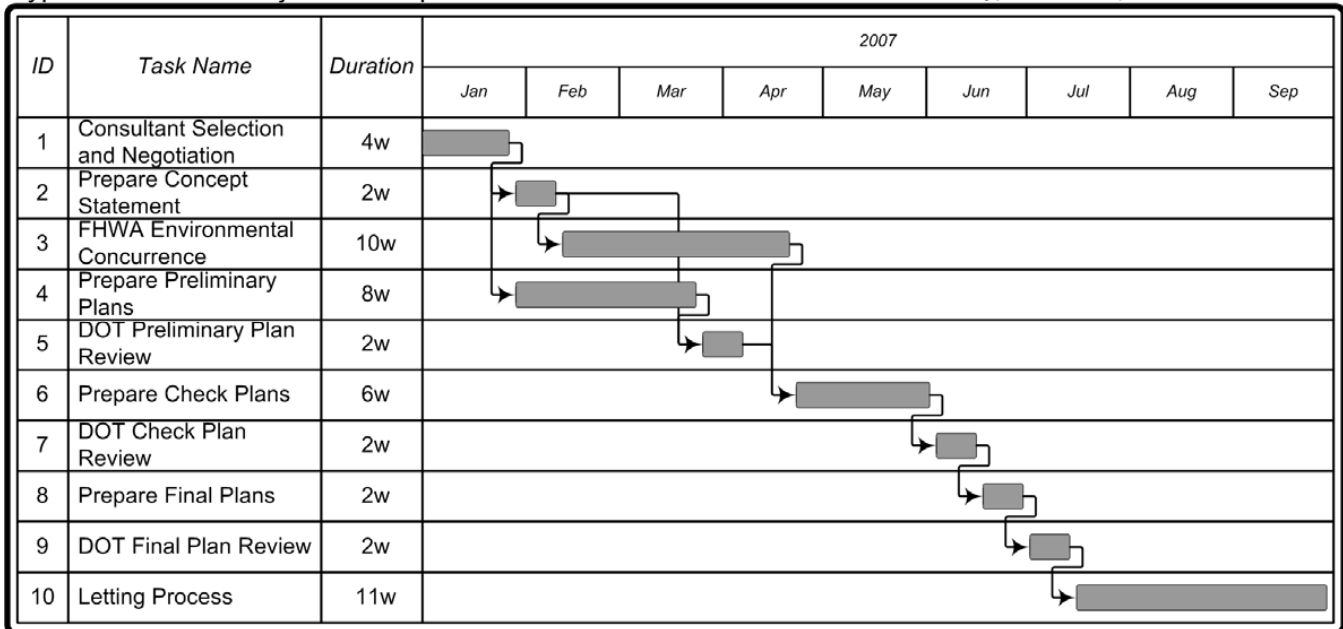
Type 1: Programmatic Categorical Exclusion, No Right-of-Way Needs

The work required for these projects is usually minor in scope and duration. These projects do not require any work outside of the existing right-of-way. Typical projects include any of the following:

- non-construction work, such as research or planning studies;
- routine maintenance work, such as crack sealing or patching;
- resurfacing, restoration, rehabilitation or reconstruction of roadways, structures, or trails;
- traffic signalization, signing or lighting projects;
- landscaping or seeding; and
- Emergency Relief (ER) funded projects.

Type 1 Estimated Project Development Schedule

Typical Development Time: 9 months



Target Letting Date ◆

Additional Assumptions / Conditions

1. No additional right-of-way or property rights of any kind are required.
2. No railroad crossings are present within or adjacent to the project work area.
3. Task 1: The abbreviated consultant selection process is used and pre-audit is not required.
4. Task 3: FHWA Environmental Concurrence is obtained as a Programmatic CE. To qualify, the project must be non-controversial and not have any impacts to environmental or cultural resources, including potentially historic properties, archeological sites, recreational areas, or wildlife refuges.
5. Tasks 5 and 7: If a bridge or culvert project, a hydraulic or structural review is not required.

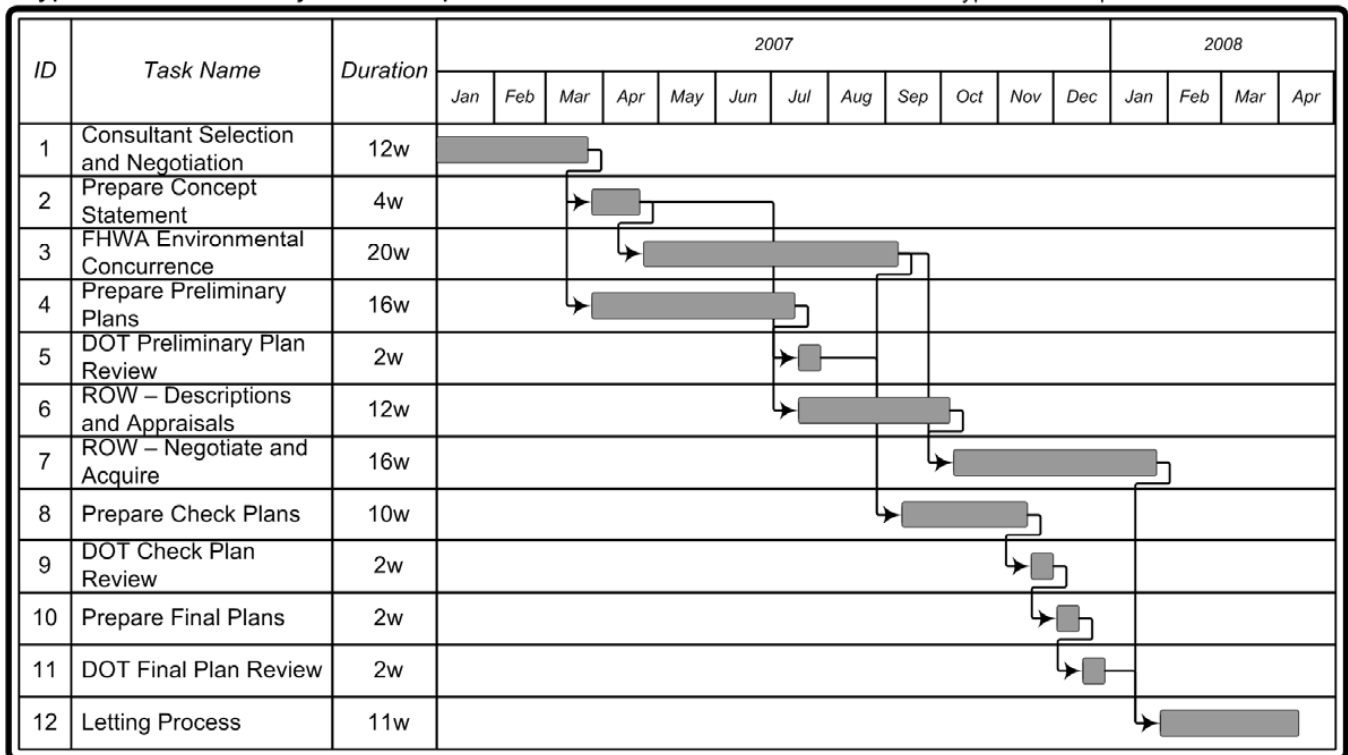
Type 2: Programmatic or Individual Categorical Exclusion, Minor Right-of-Way Needs

These projects are more complex than the Type 1 projects. They typically require several different design disciplines and / or types of construction. They usually involve new construction, complete reconstruction, or widening of roads, bridges, or trails. These projects may include a limited amount of right-of-way acquisition, but do not have substantial impacts on surrounding properties or the environment. Typical projects include any of the following:

- highway, street, or bridge construction or reconstruction;
- bridge construction on new alignment;
- rehabilitation or replacement of historical bridges;
- major urban street reconstruction; and
- construction of new recreational trails outside of the existing right-of-way.

Type 2 Estimated Project Development Schedule

Typical Development Time: 16 months



Target Letting Date ◆

Additional Assumptions / Conditions

1. Task 1: The full consultant selection process is used and / or a pre-audit is required.
2. Task 3: FHWA Environmental Concurrence is obtained either as Programmatic or Individual CE. To qualify, the project must be non-controversial and have no significant impacts to environmental or cultural resources, including potentially historic properties, archeological sites, recreational areas, or wildlife refuges.
3. Tasks 6 and 7:
 - Minor amounts additional right-of-way or property rights (about 1-5 parcels) may be required and all acquisitions are relatively simple. Most can be valued using the Appraisal Waiver process, as described in Chapter 3 of the Office of Right of Way's [LPA Manual](#).
 - No complete acquisitions or relocations of residential or business properties are required.
 - No condemnations are required.
 - Some utility relocations may be required, but most utilities are located within the existing right-of-way and are required to move at their own expense.
 - If a railroad crossing is present within or adjacent to the project work area, acquisitions of railroad property or adjustments to railroad facilities are not required.
4. Tasks 5 and 9: If a bridge or culvert project, a hydraulic or structural review is required.

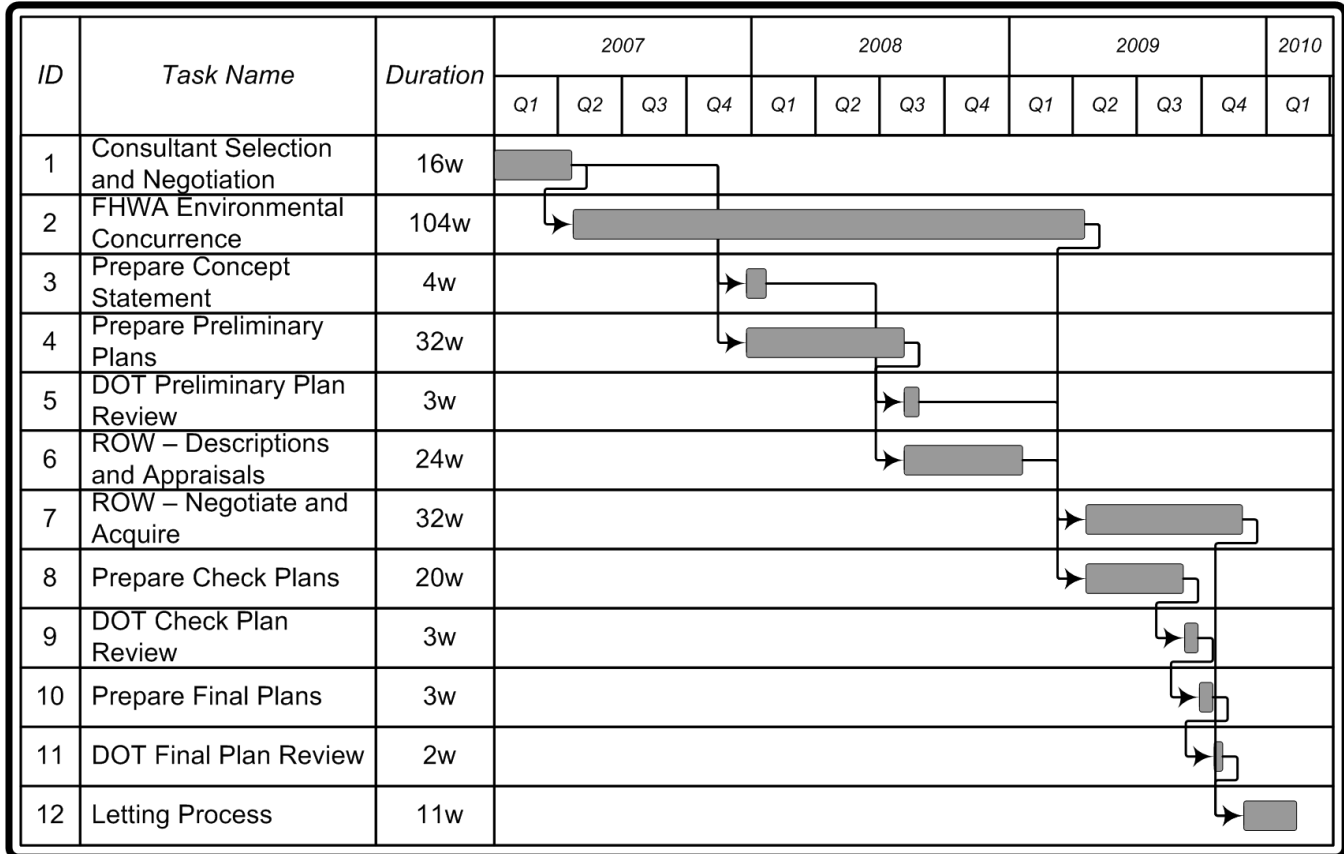
Type 3: Environmental Assessment, Moderate Right-of-Way Needs

These projects are similar to Type 2 projects, except that the level of environmental or social impacts may be more significant, requiring additional environmental review. Typical projects include any of the following:

- highway, street, or bridge construction or reconstruction;
- bridge construction on new alignment;
- rehabilitation or replacement of historical bridges; and
- major urban street construction or reconstruction.

Type 3 Estimated Project Development Schedule

Typical Development Time: 3 years



Target Letting Date

Additional Assumptions / Conditions

1. Task 1: The full consultant selection process is used and a pre-audit is required.
2. Task 2: FHWA Environmental Concurrence requires preparation of an Environmental Assessment (EA) document.
3. Tasks 6 and 7:
 - Moderate amounts of additional right-of-way or property rights (about 5-10 parcels) are required. Some property valuations may require the Value Finding Appraisal Report, as described in the Office of Right of Way's [Appraisal Operational Manual](#).
 - No complete acquisitions or relocations of residential or business properties are required.
 - A few parcels (about 1-5) must be condemned.
 - If a railroad crossing is present within the project work area, minor acquisitions of railroad property or adjustments to railroad facilities are required.
4. Tasks 5 and 9: If a bridge or culvert project, a hydraulic or structural review is required.

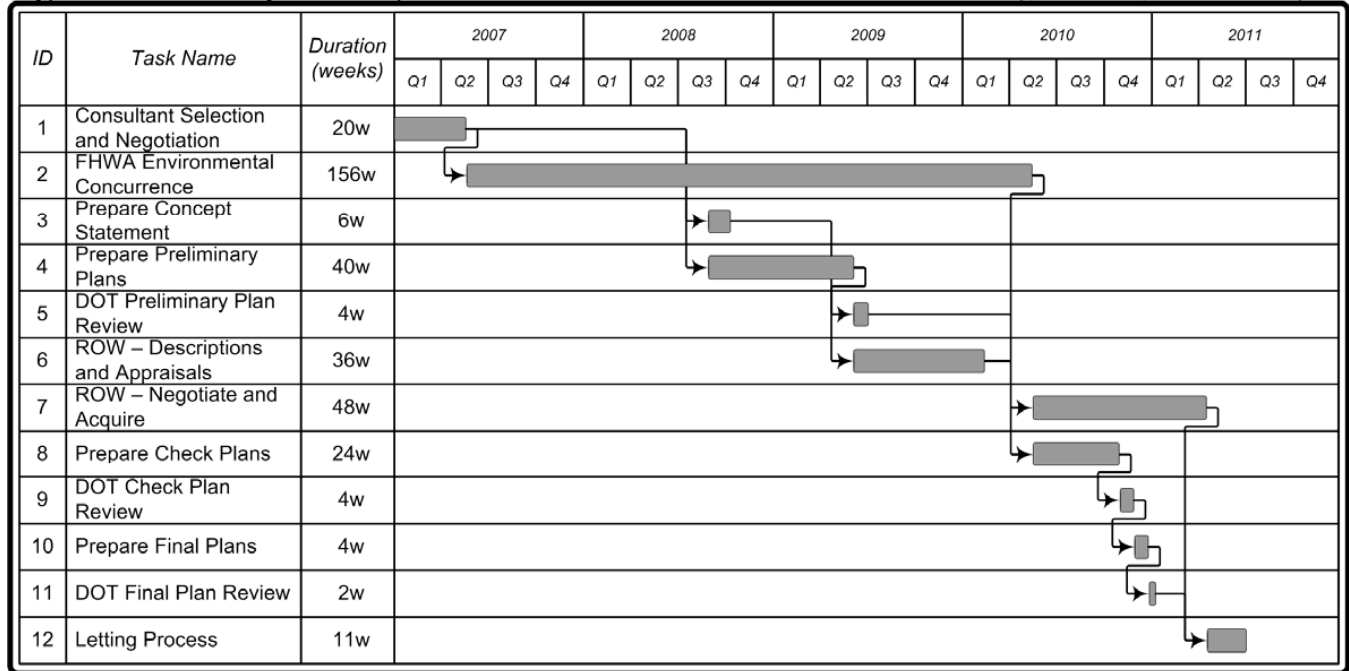
Type 4: Environmental Impact Statement, Significant Right-of-Way Needs

These projects often usually involve all new construction on new alignment or significant expansion of the roadway or structure footprint. Typical projects include:

- widening from 2 lanes to 4 lanes or other major capacity improvements;
- construction or replacement of major river bridges;
- construction of bypasses around urban areas; and
- major roadway realignment through urban areas.

Type 4 Estimated Project Development Schedule

Typical Development Time: 4.5 years



Target Letting Date ◆

Additional Assumptions / Conditions

1. Task 1: The full consultant selection process is used and a pre-audit is required.
2. Task 2: FHWA Environmental Concurrence requires preparation of an Environmental Impact Statement (EIS) document.
3. Tasks 6 and 7:
 - Significant amounts of additional right-of-way or property rights (more than 10 parcels) are required. Most property valuations will require use of the Detailed Appraisal Report, as described in the Office of Right of Way's [Appraisal Operational Manual](#).
 - A few complete acquisitions or relocations of residential or business properties (about 1-5) are required.
 - Several parcels (more than 5) must be condemned.
 - If a railroad crossing is present within the project work area, significant acquisitions of railroad property or adjustments to railroad facilities are required.
4. Tasks 5 and 9: If a bridge or culvert project, a hydraulic or structural review is required.

INSTRUCTIONAL MEMORANDUMS

To Local Public Agencies



To: Counties and Cities	Date: February 16, 2007
From: Office of Local Systems	I.M. No. 3.505
Subject: Check and Final Plans	

Contents: This Instructional Memorandum (I.M.) includes guidelines and procedures for preparation, submittal, and review of Local Public Agency (LPA) Check and Final plans for letting by the Iowa Department of Transportation (Iowa DOT). This I.M. also includes the following attachments:

- [Attachment A](#) – Check and Final Plan Guidelines
- [Attachment B](#) – Check and Final Plan Checklist
- [Attachment C](#) – Check and Final Plan Process Flowchart

Note: If the project involves a bridge or culvert, refer also to [I.M. 3.510](#), Check and Final Bridge or Culvert Plans.

Preparation

Content and Format

Check and Final Plans shall address all comments from the Preliminary Plan review. Plans shall be prepared in accordance with [Attachment A](#) - Check and Final Plan Guidelines. Attachment A provides general guidelines and instructions applicable for all types of projects. Check and Final Plans shall also be prepared in accordance with [Attachment B](#) - Check and Final Plan Checklist. Attachment B provides a checklist of specific items that will be reviewed by the Iowa DOT Administering Office. The Iowa DOT strongly recommends that the LPA or its consultant use both these attachments to perform an internal plan review prior to submitting the project plans to the Iowa DOT.

Design Guidelines

For the applicable design guidelines, refer to either [I.M. 3.205](#), Urban Design Guidelines for Federal-aid Projects, or [I.M. 3.210](#), Rural Design Guidelines for Federal-aid Projects. For more information on the design exception process for Federal-aid projects, refer to [I.M. 3.218](#), Design Exception Process.

For Federal-aid projects, any design exceptions for conditions not-conforming to the applicable American Association of State Highway and Transportation Officials (AASHTO) guidelines should have already been reviewed and approved by the Administering Office. However, if the need for a design exception has arisen after the Preliminary Plans were submitted for review, a design exception request shall be submitted with the Check Plans.

Even though the Iowa DOT does not review design criteria for projects funded with only Farm-to-Market or local funds, the Iowa DOT strongly recommends that LPAs properly document any design features that do not meet the current applicable AASHTO design guidelines.

Submittal

The timely submission of Check and Final Plans often becomes a critical point in the project development process. All submittals shall be made to the Administering Office in accordance with [I.M. 3.005](#), Project Development Submittal Dates and Information.

Electronic Plans

LPAs may submit plans electronically in Adobe Acrobat's Portable Document Format (PDF), provided the electronic file conforms to the [File Specifications for Electronic Plan Submittals to the Iowa DOT](#). Do not submit paper copies if plans are submitted electronically. If the electronic file submitted does not conform to these specifications, the LPA shall either revise the file to meet the specifications or submit paper copies of the plans instead.

The Iowa DOT recommends that electronic plans, and all other electronic submittals, be transmitted to the Iowa DOT using the submittal tools provided in the Transportation Project Management System ([TPMS](#)). To obtain access to TPMS, contact the Iowa County Engineer's Service Bureau at 515-244-0779. However, electronic plans may also be submitted via e-mail directly to the appropriate contact person in the Administering Office. In either case, the e-mail shall serve as the cover letter, and all other appropriate documentation shall be attached.

Review

Plans submitted in conformance with this I.M. should be returned by the Administering Office in a timely manner with relatively few comments. If the plans do not conform to these guidelines, the review process will require more time and effort by the LPA and the Iowa DOT, which could delay the project letting.

The process for submittal, distribution, and review of project plans is illustrated in [Attachment C](#) – Check and Final Plan Process Flowchart. As the flowchart shows, if the project involves bridge or culvert that requires a structural review, or the project requires work on an interstate or primary highway, the plans will need additional reviews by other Iowa DOT offices. Because these reviews may require additional time, early submittal of such plans is strongly encouraged.

Check and Final Plan Guidelines

For Local Public Agency (LPA) Projects Let by the Iowa Department of Transportation (Iowa DOT)

Plan Format

The standard plans and details used in the development of plans for Iowa DOT projects is not required for LPA projects. However, the Iowa DOT strongly recommends that LPAs use the Iowa DOT's format. Use of this format promotes uniformity and consistency of project plans. This results in lower bid prices because most contractors that bid on projects let by the Iowa DOT are familiar with the Iowa DOT format. It also reduces the amount of effort, and consequently, the cost required to create a set of plans suitable for letting by the Iowa DOT.

Iowa DOT Standard Plans

The Iowa DOT strongly encourages use of its standard plans. Standard plans should not be included in the plan set, but instead may be incorporated by reference. All standard plans referenced shall be listed in a tabulation on the cover sheet, including the standard plan number and current revision date.

All of the standard plans listed below may be used on any city or county project. These standard plans are available on-line in either MicroStation format or Adobe Acrobat's Portable Document Format (PDF). Where specific design problems require special solutions, the standard plans may be modified and included in the plans as a detail or detail sheet; however, all references to the standard plan title and number shall be removed. Each type of standard plan is further described below.

The [Standard Road Plans](#) have been developed by the Iowa DOT Office of Design to show standardized design features, construction methods, and approved materials to be used in highway construction in the State of Iowa. The Standard Road Plans manual is commonly referred to as the Red Book.

The [Standard Culvert Plans](#) have been developed by the Iowa DOT Office of Bridge and Structures. These standard plans include complete details for a variety sizes and configurations of Reinforced Concrete Box (RCB) culverts.

The [Standard Bridge Plans](#) are also provided by the Iowa DOT Office of Bridges and Structures. The Standard Bridge Plans most applicable to local agency projects have been grouped together on the [County Bridge Standards Plans](#) web page. These standard plans include complete details for continuous concrete slab bridges and pretensioned prestressed concrete beam bridges, in a variety of widths, lengths, and spans.

Iowa DOT Road Design Details

The [Road Design Details](#), also known as the Green Book, are available on-line in either MicroStation or PDF format. The Green Book contains standard design and tabulation forms, notations, details, and detail sheets. Similar to the standard plans described above, if a Road Design Detail is modified, the number and revision date shall be removed. The types of details included in the Green Book are further described below:

[Standard Tabulations](#) (100 series) include various tabulations for design data, bid items, and supplementary information. If used, these tabulations and forms should be inserted on the plan sheets.

[Standard Notations](#) (200 series) are standardized notes that may be inserted on the plans as part of the General Notes. Using the Standard Notations saves time in writing the General Notes and promotes uniformity. The General Notes should contain general project information only. Information specific to bid items should be shown in the Estimate Reference Notes.

[Design Detail Sheets](#) (500 series) are complete plan sheets. They provide details for common roadway items such as drainage appurtenances, fencing, certain pavement or shoulder construction details, traffic barriers and associated appurtenances, and more. If a Design Detail Sheet is used, it shall be included as a separate sheet in the plan set. It shall not be incorporated by reference.

[Typical Details](#) (1000 to 9000 series) are individual details. They include details for typical sections, curbs, shoulders, medians, etc. If a Typical Detail is used, it shall be placed on a plan sheet. It shall not be incorporated by reference.

Iowa DOT Specifications

All projects let at the Iowa DOT that involve highway related construction work shall utilize the current edition of the Iowa DOT Standard Specifications for Highway and Bridge Construction (Standard Specifications), including the most recent General Supplemental Specifications (GS) and any applicable Supplemental Specifications (SS), Developmental Specifications (DS), and Special Provisions (SP). The designer should become thoroughly familiar with these specifications.

For projects that do not involve highway related construction work (such as historical building restorations), alternative technical specifications may be included as an SP. However, in all cases, Division 11 of the Standard Specifications shall be used for projects let by the Iowa DOT.

Standard Specifications

The Standard Specifications are published periodically in book form. Plan notes that delete or modify parts of the Standard Specifications are strongly discouraged. If special conditions require this, written justification must be provided when the plans are submitted.

General Supplemental Specifications (GS)

The GS are revisions to the Standard Specifications that have not yet been incorporated into the printed book. The GS are published in hard copy twice each year, effective with the April and October lettings. However, the current GS are merged with the on-line Standard Specifications, which are provided as part of the [Electronic Reference Library](#) (ERL). The GS current at the time of project letting will always apply to the project, just as the Standard Specifications will.

Supplemental Specifications (SS)

The SS are for particular bid items not contained in the Standard Specifications or GS, or for bid items which modify those contained in the Standard Specifications or GS. When an LPA project uses a bid item that requires an SS, the Iowa DOT will automatically apply that SS to the bid proposal. In other words, the SS does not have to be specifically referenced on the plans to be effective for the project.

Like the GS, the SS are included as part of the ERL. New SS that have become available since the ERL was last published are also available on the Specification Section's [Newly Published Documents](#) web page.

Developmental Specifications (DS)

DS must be applied by the designer to a specific project by reference on the plans. However, after initial approval by the Iowa DOT, they can be re-used for multiple projects without being reviewed and approved each time. The Iowa DOT has developed many DS in response to commonly occurring SP and other special situations. If a DS is used on a LPA project, it should be identified in the Estimate Reference Notes for the applicable bid items. If a DS is not applicable to a specific bid item, it should be identified in the General Notes.

The Iowa DOT has developed four DS that incorporate the applicable sections of the Statewide Urban Design and Specifications (SUDAS) Manual for Water Main, Sanitary Sewer, Storm Sewers, and Traffic Signalization. These may be used on any LPA project let by the Iowa DOT. However, incorporation of other SUDAS specifications simply by reference is currently not allowed for projects let by the Iowa DOT.

The currently available DS are listed on the Specification Section's [Developmental Specifications](#) web page. Some DS have been developed for specific situations or experimental projects, and therefore may not be appropriate for use on any LPA project. These DS have a person identified as a "Controller," as listed on the DS web page. Before using any DS that has a Controller, contact the Administering Office for assistance. DS without a Controller are designed for general use and may be applied to any LPA project.

Special Provisions (SP)

SP are for bid items or areas of work that are not adequately addressed by the Standard Specifications, SS, DS, or on the project plans. SP are project-specific. They may be re-used on other projects, but a new SP number must be assigned each time. If required, the LPA's designer is responsible for preparing the necessary SP in the proper format. Each SP applicable to an LPA project must be included with the Check Plans submittal and reviewed and approved for use by the Administering Office. For guidance concerning the format and content of an SP, refer to the [Requirements for Preparing and Submitting Special Provisions for State and Local Projects](#), published by the Iowa DOT Specifications Section.

Proprietary Products

Specifications using patented or proprietary (i.e., brand name) products or processes are strongly discouraged, either on the project plans or as part of an SP. Generic, end-result specifications are preferred. However, if a proprietary specification must be used, at least three acceptable products must also be listed, along with the phrase, "or approved equal." If only one proprietary product is allowed, a Public Interest Finding must be submitted to and approved by the Administering Office. For more information, refer to [I.M. 3.760](#), Public Interest Findings.

Plan Divisions

Plan divisions provide a means of segregating certain bid items or quantities, based on the funding sources that will be used to pay for those bid items or quantities. In other words, a plan division is a group of bid items or quantities for which one or more types of funding may be used.

If all bid items and quantities shown on the plan can be paid for from the same funding source or sources, plan divisions should not be used*. If multiple funding sources are involved (not counting the local match, if any) specify the type and order in which those funding sources should be used in the cover letter that accompanies the plan submittal.

*Exception: If desired by the LPA, separate divisions may be used to separate roadway bid items from structure bid items, or items to be paid for by one jurisdiction vs. another. However, in such cases, the LPA shall indicate which funding source or sources are to be used for each division.

If all bid items or quantities shown on the plan cannot be paid for from the same funding source or sources, then plan divisions shall be used. A separate plan division shall be established for each group of bid items or quantities that may be paid for with the same funding source or sources. Use only the minimum number of plan divisions that are necessary.

If plan divisions are used, provide a separate column on the estimated quantities tabulation for each division and label it with a division number (e.g., "Division 1," "Division 2," etc.). For each division, include quantities for all bid items that apply to that division. Show the sum of all bid item quantities for all divisions in the "Total" column of the estimated quantities tabulation.

In addition, provide a description for each division on the quantities sheet. This description should identify the purpose of the division (e.g., participating vs. non-participating; city share vs. county share, fund type A vs. fund type B, etc.). If the bid items or quantities of bid items in one plan division will be paid for with more than one type of funds (not counting the local match, if any), specify the type and order in which those funding sources should be used in the cover letter that accompanies the plan submittal.

Bid Items

Use Iowa DOT standard bid items as listed in the Bid Item Description Book published by the Iowa DOT Office of Contracts. The [standard bid item list](#) is also available on-line and is updated regularly (for more information, refer also to [I.M. 3.520](#), Electronic Bid Item Information). Each bid item listed in the estimated quantities tabulation must have a valid bid item code, description, units, and estimated quantity.

Standard bid items should be used unless: 1) an item is not covered by the Standard Specifications (including the applicable GS, SS or DS), or 2) the LPA can justify that a non-standard item is necessary (i.e. to maintain system compatibility).

Non-standard items will have item code of 2599-9999XXX, where XXX is a number that is determined by the units used for that item. See the Bid Item Description Book for the appropriate 2599 item numbers to use for a variety of possible bid item units. The description for all 2599 items is entered by the designer. More than one 2599 item (even with the same units) may be listed on the plans, as long as the description for each 2599 item number is unique.

Note: Because 2599 items are not covered by the Standard Specifications, the designer must provide the necessary details and / or specifications to describe the materials and work covered by this item. In addition, the designer must supply the method of measurement and basis of payment information for all 2599 items. This information may be provided either on the project plans or in a SP, depending on the amount of information required.

Incidental Items

Keep incidental materials and work items to a minimum. Use of bid items for all measurable work and materials is recommended. As a general rule, if there is an item in the Bid Item Description Book that is applicable to any item of work shown on the plans, this bid item should be used. If an item of work is incidental, the bid item to which it is made incidental shall be identified. In addition, the nature of the incidental work shall be adequately described, including estimated quantities. Enough information shall be provided to allow the bidder to make a reasonable estimate of the cost of any work designated as incidental.

Method of Measurement and Basis of Payment

All bid items must have both method of measurement and basis of payment information specified. For items that use a Special Provision, this information should be shown in the Special Provision. For items that do not use a Special Provision, and the method of measurement and basis of payment information is not addressed by the Standard Specifications, GS, SS, or DS, this information should be shown in the estimate reference note on the plans.

For each bid item listed in the Bid Item Description Book, a code is listed under the MEAS/PAY column. This code directs the bidder to the appropriate location for the method of measurement and basis of payment information. If the code in the MEAS/PAY column is "PLAN, STD6, SP or SP2," the designer must supply the method of measurement and basis of payment information, either on the plans or in a Special Provision. See the instructions in the front of the Bid Item Description Book for more information.

If unfamiliar with writing method of measurement and basis of payment specification language, the designer should refer to the Standard Specifications for examples.

Estimate Reference Information

Estimate Reference Information should be clear, concise, and used to explain anything special about the item. The Estimate Reference Information should direct the bidder to the location of any additional information about that particular bid item, such as a plan sheet, detail, tabulation, SP, DS, or SS.

Do NOT make reference to the applicable section of the Standard Specifications or restate what is contained in them. Generally, the first 4 digits of a standard item code directs the bidder to the appropriate section in the Standard Specifications. Citing Standard Specification sections or restating what is contained in them is not necessary and only increases the potential for conflicts within the contract documents.

Use of the phrase, "As directed by the Engineer" should be avoided, both in the SP, Estimate Reference Information, and elsewhere on the plans. "As directed by the Engineer" shall not be used when the Engineer's direction may result in additional costs to the contractor. Any work to be bid a contractor should be adequately described in the contract documents. Use of this phrase makes it difficult, if not impossible, for the contractor to prepare an accurate bid. This adds risk to the contractor and may increase the project cost unnecessarily.

Check and Final Plan Checklist

For Local Public Agency (LPA) Projects Let by the Iowa Department of Transportation (Iowa DOT)

Project No.: _____ Date: _____ LPA or Consulting Firm: _____

Name of Designer: _____ Phone No.: _____ email: _____

Note: This checklist is not intended to cover all of the details, notes and information that may be necessary for acceptable Check and Final plans. However, this checklist addresses the items where most questions or problems generally arise. *This checklist is requested, but not required with the Check Plan submittal.* This checklist is not needed with the final plan submittal.

GENERAL

- Project Concept.** The proposed design criteria, improvements, and project limits are consistent with the scope and type of work shown in the approved Concept Statement for Local Systems Federal-aid Projects (Form 517001) and the approved Preliminary Plans. Any significant changes to the project concept (e.g., project limits, potential environmental impacts, type of work, etc.) shall be explained in the cover letter that accompanies the plans.
- Environmental Document Requirements.** If the approved environmental document (e.g., Section 4(f) statement, Environmental Assessment, or Environmental Impact Statement) specifies that certain conditions shall be met, or certain sensitive areas shall be avoided, the plans shall be consistent with these requirements.
- Format.** Plans may be submitted in either electronic or paper format. If plans are submitted in electronic format, they shall conform to the [File Specifications for Electronic Plan Submittals to the Iowa DOT](#). If plans are submitted in paper format, they shall be black or grayscale print on plain white paper.
- Dimensions and Legibility.** Plans shall be submitted as single-sided, 11"x17" sheets. To ensure that all of the plan is printed accurately, the border widths (i.e., clear space between the edge of paper and printing on the plan) shall meet the following minimum dimensions: top and bottom = 1/4 in.; left and right = 5/8 in. All lettering and details on the 11"x17" plan sheets shall be legible when printed.
- Check and Final Bridge or Culvert Plans.** Bridge or culvert plans shall also conform to the guidelines provided in [I.M. 3.510](#), Check and Final Bridge or Culvert Plans.

TITLE SHEET

- Check Plans Stamp.** Check Plan submittals should be identified by using a red stamp, red pen, or other means, to mark the words "Check Plans" on the designer's certification block. Note: Original Final Plans shall not be stamped as "Final Plans." Final plans shall be indicated by the designer's signature as noted in the "Designer's Certification Block" item below.
- System Classification.** The roadway system classification shall be shown. The Systems Classification should be shown in large font near the center or upper middle part of the sheet. For county projects, use "Farm-to-Market System" for a project on a Farm-to-Market route or "Secondary Road System" for a project on a local route. For city projects, use "Urban Road System." For projects located on the corporation line, use the system classification that is under the jurisdiction of the lead governmental agency.
- Location Map.** A location map with a north arrow and major street names shall be shown. The location map should be located near the left or bottom left part of the sheet. The location map should also include a scale (or be noted as "Not to Scale") and identify the project limits including the beginning and ending stations. If project divisions are used, their limits shall also be indicated, either on the location map or in a plan note.

- Designer's Certification Block.** The plans shall include a certification block and seal that complies with the appropriate sections or chapters of the Code of Iowa and the Iowa Administrative Code (IAC). The designers certification block should be shown near the bottom right part of the sheet. The Check Plans should not be signed or sealed, as noted in the "Check Plans Stamp" item above. The Final Plans shall be signed, dated, and sealed by the professional engineer, land surveyor, architect, or landscape architect responsible for the plans or portions of the plans. An original signature in contrasting ink is required. Blue ink is recommended. Note: For electronic plans, refer to the [File Specifications for Electronic Plan Submittals to the Iowa DOT](#) for the applicable plan signature requirements.
- LPA's Signature Block.** The plans shall include a signature block that includes the title of the appropriate LPA official(s) with a space for each official(s) signature and date. The LPA's signature block should be shown near the bottom right part of the sheet. Check Plans should not include signature(s). The Final Plans shall include the LPA official(s) signature(s), which do not have to be original.
- Index of Sheets.** An index listing all sheets included in the plans shall be shown. The index of sheets should be shown near the right or upper right part of the sheet. Sheets should generally be listed in the following order: Title sheet, typical sections, standard details, estimated quantities tabulation, estimate reference information, supplemental tabulations, plan and profile sheets, other detail sheets, and cross sections. Use of the Iowa DOT sheet numbering system as shown in the Iowa DOT [Road Design Manual, Section 1E-2](#), is recommended. If used, it shall be used consistently.
- Availability of Cross Sections.** If cross-sections will be included, they shall be submitted with the plans. Cross-sections will be available only through the Office of Contracts. They shall not be supplied directly to bidders by the LPA.
- Project Number.** The Iowa DOT project number shall be shown in at least one place on all plan sheets. Recommended placements for the title sheet and all other sheets include the middle left margin and the bottom right margin. For the title sheet, the project number should also be shown near the upper right corner or in the center (above or below the project title). Note: Usually, only one project number should be shown on the plans. However, if necessary to indicate multiple funding sources, additional project numbers may be included in a note on the cover sheet. If unsure about which project number to use, contact the Administering Office for assistance.
- LPA Name and Project Location.** The name of the city or county shall be shown in at least one location on all plan sheets. Recommended placement is on the bottom left margin. On the title sheet, the name of the city or county and a brief description of the project location shall also be shown, preferably in the center part of the sheet.
- Work Type Description.** A standard work type description, as listed in the Iowa DOT Bid Item Description book, shall be shown, preferably in the center part of the sheet. Use the work type description that best represents the largest portion of the estimated contract cost. More than one work type description may be used, but for advertising purposes, only one work type (that which represents the largest portion of the estimated contract cost) will be used.
- Mileage Summary Tabulation.** For roadway or trail projects, a mileage summary tabulation that includes the total project mileage shall be shown. This tabulation should be shown near the center or bottom center part of the sheet. The tabulation should also include the beginning and ending stations of the project and any plan divisions (if used). Any station equations that are present on the project should also be identified in the tabulation.
- Tabulation of Standard Plans.** A tabulation shall be included that lists all of the applicable [Standard Road Plans](#), [Standard Bridge Plans](#), or [Standard Culvert Plans](#), including revision dates which are current for the targeted letting. These tabulations should be shown near the right or upper right part of the sheet. For each standard plan listed, all of the standard plans referenced by that standard plan shall also be listed.
- Letting Date.** A space or a box for the project letting date shall be shown, preferably on upper left margin of sheet. If the letting date is known, the appropriate date may be shown in the box or space provided.

- U.S. Army Corps of Engineers 404 Permit.** If a permit is needed, the following note shall be included: *“This project shall be constructed in accordance with the requirements of U.S. Army Corps of Engineers (insert ‘Nationwide Permit XX’, * ‘Regional Permit 7’, or ‘Individual Permit’ as appropriate), Permit No. (insert Corps’ project-specific permit number, if applicable**). A copy of this permit is available from the Iowa DOT Office of Contracts upon request. The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice”* This note should be shown near the left or upper left part of the sheet. If a bridge, culvert, or grading project does not require this permit, this shall be noted in the cover letter with the Check Plans. If the Corps added any special conditions to their approval of the permit, these shall be indicated on the plans. Use of Standard Road Plan [RL-16](#) is strongly recommended if a temporary stream crossing will be required. For more information, refer to [I.M. 3.130](#), 404 Permit Process.

* XX is the Nationwide Permit number (14, 33, etc.)

**The Corps’ project-specific permit number is shown in the subject line of the Corps’ permit approval letter. This may be omitted for projects that can be proceed under a Corps Nationwide Permit without notification to the Corps, because no such number is assigned.

- Iowa DNR Floodplain Construction Permit.** If a permit is needed, the following note shall be included: *“This project is covered by Iowa DNR Floodplain Construction Permit No. (insert Iowa DNR permit number).”* This note should be shown on the left or upper left part of the sheet. If a bridge, culvert, or grading project does not require this permit, this shall be noted in the cover letter with the Check Plans. Refer to [I.M. 3.410](#), Preliminary Bridge or Culver Plans, for more information.
- Iowa DNR Storm Water Permit.** If the project disturbs one acre or more of land, the following note shall be included: *“This project is covered by the Iowa Department of Natural Resources NPDES General Permit No. 2. The Contractor shall carry out the terms and conditions of General Permit No. 2 and the storm water pollution prevention plan which is a part of these contract documents. Refer to Section 2602 of the Iowa DOT Standard Specifications for additional information.”* This note should be shown near the left or upper left part of the sheet. If an individual permit is required, the individual permit number shall be used instead of the general permit number. Any area where soil is exposed to erosive forces, such as wind or water, shall be considered disturbed. The LPA shall be responsible for obtaining the appropriate National Pollutant Discharge Elimination System (NPDES) permit. The contract documents shall not shift this responsibility to the Contractor. For more information, refer to [I.M. 3.140](#), Storm Water Permits.
- Standard Specification Note.** The following standard note shall be included near the center of the sheet: *“The Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, series 2001, plus General Supplemental Specifications; and applicable Supplemental Specifications, Developmental Specifications, and Special Provisions, shall apply to construction on this project.”*
- FHWA Structure Number.** If the project involves a bridge, the FHWA structure number shall be shown, preferably on or near the location map that shows the location of the bridge. Bridges are defined as any structure with a clear opening greater than 20 feet, as measured along the centerline of the roadway.
- Utility Contacts.** If any utility facilities are within or immediately adjacent to the proposed limits of construction, utility contact information (company name and a contact person’s name, address, and phone number) should be shown for each utility company. The Iowa One-Call symbol and phone number should also be displayed. These should be shown near the bottom center part of the sheet.

TYPICAL SECTION SHEETS

- Dimensions and Slopes.** Proposed cross section elements shall be detailed with adequate horizontal and vertical dimensions. Pavement slopes, cut slopes, and fill slopes shall also be specified.
- Materials Specified.** The type and thickness of surface, base and subbase materials for pavements, shoulders, sidewalks, or trails shall be shown. Materials should be identified using the appropriate bid item description for that material.
- Number of Typical Sections.** Separate typical sections for each significantly different type of cross section found on the project shall be shown. Use separate typical sections to show differences in the number of lanes, pavement types, pavement thicknesses, curb and gutter, sidewalk, or recreational trails.

- Station Ranges.** If more than one typical section is used, the applicable stationing ranges shall be labeled for each. If the project contains more than one plan division, the applicable division(s) for each typical section should be noted.
- Existing Features.** For projects that involve widening, milling, resurfacing, or other modifications to the existing pavement and / or shoulder; the type, thickness, and width of existing pavement and / or shoulder structure should be shown on the typical cross section.

QUANTITY, ESTIMATE REFERENCE, GENERAL NOTE, AND TABULATION SHEETS

- Estimated Quantities Tabulation.** All plans shall include an estimated quantities tabulation. Use of the Iowa DOT Standard Tabulations ([100-0A through 100-1C](#)) is recommended. If a non-standard tabulation is used instead, it shall include, as a minimum, the Iowa DOT bid item code, item description, unit, and total bid item quantity. If plan divisions are used, the estimated quantities tabulation shall also indicate the bid items or quantities of items that apply to each division. A label or description of each division shall also be included. For additional information, refer to the "Plan Divisions" section in [Attachment A](#) to I.M. 3.505.
- Supplementary Tabulations.** Supplementary tabulations should also be used to provide additional information or a breakdown of bid item quantities. When possible, include a total quantity for each bid item shown in a supplemental tabulation. The bid item quantity listed in a supplemental tabulation should match the total bid item quantity as listed in the estimated quantities tabulation. If the bid item quantity contains additional quantities that are not shown in the supplemental tabulation, note these additional quantities in the Estimate Reference Information. Use of the Iowa DOT [Standard Tabulations](#), is recommended. If included, the most current version shall be used. For additional information, refer to the "Iowa DOT Road Design Details" section in [Attachment A](#) to I.M. 3.505.
- Bid Item Codes, Description, and Units.** The bid item codes, descriptions, and units listed on the plans shall match the current list of standard bid items, as shown in the Bid Item Description Book, published annually by the Iowa DOT Office of Contracts. Only valid bid items shall be used. The [standard bid item list](#) is also available on-line and is updated regularly. For additional guidance, refer to the "Bid Items" section in [Attachment A](#) to I.M. 3.505.
- Method of Measurement and Basis of Payment.** Check the MEAS/PAY code given for each item in the Bid Item Description Book. If this code indicates that the method of measurement and basis of payment information must be supplied by the designer, it shall be included in the plans (preferably in the Estimate Reference Information) or the applicable Special Provision. For additional guidance, refer to the "Method of Measurement and Basis of Payment" section in [Attachment A](#) to I.M. 3.505.
- Estimate Reference Information.** Estimate Reference Information shall be provided. Estimate Reference Information should explain what is included in a bid item and where additional information about that item can be found in the plans. For additional guidance, refer to the "Estimate Reference Information" section in [Attachment A](#) to I.M. 3.505.
- Non-Participating Items or Quantities.** If any bid items or quantities are excluded from participation by one or more of the project funding sources, those bid items or quantities shall be separated by means of plan divisions. Some bid items or quantities may be non-participating based on the Federal or State eligibility rules or regulations for a particular funding program. For example, some utility relocations are not eligible for Federal participation, as described in [I.M. 3.650](#), Federal-aid Participation in Utility Costs. Other bid items or quantities may be non-participating if associated with work that extends beyond the approved project limits. If uncertain about whether any bid items or quantities should be designated as non-participating, contact the Administering Office for assistance.
- Earthwork Quantities.** A breakdown of earthwork quantities should be shown in a separate tabulation or in the Estimate Reference Note. Quantities should be shown for cut, fill, the assumed shrinkage percentage, and any waste or borrow requirements. **Notes:** (1) Topsoil shall not be included in the pay quantity for the various excavation bid items. Topsoil is a separate pay item. (2) Overhaul should be paid for if it is in excess of the free-haul limits specified by the contract documents. If the plans do not specify

a free-haul distance, the free-haul distance will be 1000 feet, as per Section 2108.02 of the [Standard Specifications](#).

- Roadway Pipe Culverts.** If roadway pipe culverts are part of the project work, the bid item, "2402-2720100, Excavation, Class 20, For Roadway Pipe Culvert," shall be included as per the [Standard Road Plans](#).
- Earth Shoulders / Fill.** If the work involves construction of earth shoulders or earth shoulder fill above the subgrade elevation adjacent to a paved surface or curb and gutter, one of the following bid items shall be included: if the volume of earth shoulder is included in the Class 10 Excavation quantity, use the bid item "2123-7450020, Shoulder Finishing, Earth"; if the volume of earth shoulder is not included in the Class 10 Excavation quantity, use the bid item "2123-7450000, Shoulder Construction, Earth." Each side of a trail or roadway is measured separately.
- Lump Sum Item Split.** For each lump sum item on a project with more than one plan division, a decimal fraction quantity shall be included for each plan division, if the lump sum item applies to that division. For each lump sum item, the sum of the quantities shown for all the applicable plan divisions shall equal 1.0.
- Guardrail Items.** If the construction includes guardrail, all of the bid items as listed on the applicable RE series of Standard Road Plans shall be included. [Standard Tabulations 108-8A, 108-8B, or 108-8D](#) shall be used.
- Trail Paving.** Portland Cement Concrete (PCC) or Hot Mix Asphalt (HMA) bicycle or pedestrian trails shall be paid for with the bid items specified by Section 2511 of the [Standard Specifications](#). HMA Commercial Mix is also acceptable for trails (see item below).
- HMA Commercial Mix for Trail Paving.** If HMA Commercial Mix (bid item 2303-0000100) is used for trail paving, the following note shall be included in the Estimate Reference Information, unless an alternative specification has been approved: *"All work shall be completed in accordance with Iowa DOT Standard Specifications, except that Article 2303.02 Materials, shall not apply. The Contractor shall furnish and place a commercial asphalt mix with a three-eighths (3/8) maximum aggregate size and a minimum asphalt content of 6.25 %. Class II compaction shall be required. Payment for asphalt cement shall not be made separately but shall be included in the unit price bid for this item."*
- Bridge Approach Paving.** If bridge approach paving is included in the work, all of the bid items as listed on the applicable RK series of Standard Road Plans shall be included. [Standard Tabulation 112-6](#) shall be used.
- Bridge Removals.** If the project involves removal of a bridge, the bid item, "2401-6745625, Removal of Existing Bridge," shall be used. Use of this bid item for bridge removals is required to automatically generate the "Notification of Demolition" form that the Office of Contracts will send to the Contractor. This form is required to comply with the State and Federal asbestos regulations. For more information, refer to [I.M. 3.160](#), Asbestos Inspection, Removal, and Notification Requirements.
- Adjustment of Fixtures (HMA Paving).** The bid item, "2303-3400000, Adjustment of Fixtures," shall be included for HMA surfacing or resurfacing projects if manholes, intakes, valve boxes, or other utility fixtures are within the area to be paved. Note: This item is not required for PCC paving projects, except when the fixture adjustment results in an elevation change greater than one foot.
- Construction Survey.** The bid item, "2526-8285000, Construction Survey," shall be included if the Contractor is providing the construction survey for the project.
- Flaggers.** The bid item, "2528-8445112, Flaggers," shall be included if reference is made to roadway flaggers in a Standard Road Plan, or if flaggers are called for by the traffic control details or notes. The bid quantity for Flaggers should be left blank on the plans. If desired, the designer may estimate a quantity and show it on the plans. However, the Office of Contracts will determine the actual bid quantity based on the number of working days assigned for the project. If the Office of Contracts does not agree with the estimated quantity provided by the designer, the plans will be changed to show the actual bid quantity as determined by the Office of Contracts.

- Safety Closures.** The bid item, “2518-6910000, Safety Closure,” shall be included if road closures or hazard closures are shown on a referenced Standard Road Plan or traffic control detail, or if they are required by a plan note. Use of [Standard Tabulation 108-13A](#) for Safety Closures is recommended.
- Pavement Smoothness.** If the Pavement Smoothness (Section 2316) specification is desired for HMA or PCC paving, this shall be indicated in the Estimate Reference Notes for the appropriate paving bid items. If called for, this specification shall be added in its entirety. Parts of the specification shall not be written out.
- Certified Plant Inspection.** If the Certified Plant Inspection (Section 2521) specifications are desired for a specific bid item (e.g., HMA or PCC paving, structural concrete, or flowable mortar), this shall be indicated in the Estimate Reference Notes of the bid item(s) for which Certified Plant Inspection will apply. If Certified Plant Inspection is called for, it may be appropriate to also include the bid item, “2520-3350010, Field Laboratory.”
- Subdrains.** If a drainable base is used, a subdrain system should be included. If subdrains are used, all the associated bid items shall be included, as indicated on the appropriate Standard Road Plan.
- Pavement Removal and Patching.** If pavement removal, driveway removal or patching is required for the project, the type and thickness of the existing pavement shall be shown on the plans. This information may be shown in the tabulations for the removal or patching items, in the Estimate Reference Notes, or in separate tabulation for existing pavement (use of [Standard Tabulation 102-5](#) is recommended).
- Mobilization.** The bid item, “2533-4980005, Mobilization” shall be included for all contracts, except maintenance aggregate, materials only, granular surfacing, or other minor contracts.
- Traffic Control.** The bid item, “2528-8445110, Traffic Control” shall be included, unless the plans indicate the LPA will provide all the necessary traffic control devices. If the LPA does provide the traffic control devices, the plans shall specify where they will be provided to the Contractor.
- Clearing and Grubbing.** When large areas densely covered by trees and other vegetation must be cleared, this item should be bid by the acre. If this item is bid by the acre, the plans should specifically indicate the extent of the area to be cleared and grubbed. When the area to be cleared is not densely covered by trees or other vegetation, this item shall be bid by the Unit. In either case, the Estimate Reference Note for these items should include a reference to plan sheet or tabulation where the quantities are shown.
- Scrape Test Note.** If the project involves either removal or painting of an existing painted steel bridge or railing, the following note shall be included: *“Scrape samples of this bridge were taken to get an indication of the existence of and level of total chromium and total lead. The analysis of total chromium in the sample was ___ppm. The analysis of total lead in the sample was ___ppm. The analysis shows the existence of these two toxic constituents. The levels indicated by these tests could create conditions above regulatory limits for health safety requirements. No other substances were analyzed. The bidder should not rely on the LPA’s testing and analysis for any purpose other than an indication of the existence of these two constituents.”*
- Pollution Prevention Plan (PPP).** If a National Pollutant Discharge Elimination System (NPDES) permit is required for the project, the PPP and the appropriate erosion control bid items associated with the PPP shall be included, as listed in Section 2602 of the Iowa DOT Standard Specifications, unless the LPA will be providing and maintaining all of the erosion control measures. If the LPA will provide these, this shall be clearly stated on the plans. For more information on the NPDES permit procedures, refer to [I.M. 3.140](#), Storm Water Permits.

PLAN AND/OR PROFILE SHEETS

- Existing Features.** The plans should show the location of existing topographical features (e.g., existing pavement, structures, buildings, etc.). The plans shall show all known utilities.
- North Arrow.** A North arrow shall be shown on all plan sheets.

- Scale.** All plan and profile sheets shall show a horizontal scale. Profile sheets shall also show a vertical scale.
- Proposed Right-of-Way (ROW).** If the project involves ROW acquisitions, permanent easements, or temporary easements, the proposed right-of-way lines, easement lines, property lines, parcel numbers, and property owners shall be shown. For projects involving several ROW acquisitions or easements, use of separate ROW sheets is recommended.
- Existing ROW.** Existing ROW lines shall be shown.
- Storm Sewers.** The station and offset information for all new intakes and utility accesses shall be shown on the plan sheets or in a tabulation. If needed, storm sewer profiles should be shown on separate sheets.
- Culverts.** The station, skew, length, and flow line elevations of all roadway and entrance culverts shall be identified.
- Profiles.** The vertical profile data shall be shown, including the percent grade, vertical curve length, K factor, stopping sight distance (SSD), and design speed. The point of vertical curvature (P.V.C.), point of vertical tangency (P.V.T.), and point of vertical intersection (P.V.I.) stations and elevations shall be labeled.
- Alignments.** The horizontal curve data shall be shown, including the point of intersection (P.I.) station, curve length, radius or degree of curvature, tangent length, and delta angle. The point of curvature (P.C.), and point of tangency (P.T.) stations should also be shown.
- Construction Survey Information.** If the Contractor will be responsible for the construction staking, the following information shall be shown:
 - **Benchmarks.** List the type, location, and elevation of each benchmark. This information may be listed on a separate sheet if necessary.
 - **Reference Point Information.** List the type, station, offset, and coordinates of each reference point (sometimes called control points). Reference points should also be tied to other existing fixed objects if they are likely to be disturbed by construction activities. Reference tie information should be included by using either a sketch showing the distances to the tie points, or a verbal description of the same. At least 3 reference ties should be given for each reference point. This information may be listed on a separate sheet if necessary.
 - **Horizontal Alignment Information.** List the horizontal coordinates of all P.I.s. The bearing of all tangent lines should also be shown.
- Railroad (RR) Crossings.** All RR crossings within or immediately adjacent to the project limits shall be shown, including the RR property lines and the name of railroad company. This information shall be included anytime the Contractor will be required to gain access or perform work on the RR right-of-way or within 25 feet of the centerline of the outermost RR track, even if the RR facilities are not directly impacted by the project. For more information, refer to [I.M. 3.670](#), Work on Railroad Right-of-Way.
- Intersection Details.** For new construction or reconstruction projects, intersection detail drawings shall be included. Dimensions of channelization islands, curve radii, taper ratios, and taper lengths shall be shown. Intersection details shall be at a scale sufficient to show the necessary geometric details. A 1"=20' scale is recommended.
- Jointing Details.** For PCC paving projects, the spacing and type of joints shall be shown. Use of the [Standard Road Plans](#) (RH-50, RH-51, or RH-52) and / or special jointing details is recommended. Joint types shall be specified using the standard types shown on the Standard Road Plans.
- Curb Ramps.** Curb ramps shall be included at all intersections of sidewalks and roadways within or immediately adjacent to the construction limits. This is required for all types of improvement projects, including resurfacing projects that do not directly affect existing sidewalks. Curb ramps shall comply with the latest edition of the [Americans with Disabilities Act Accessibility Guidelines](#) (ADAAG), including the use of detectable warning surfaces. To ensure compliance with these requirements, use of Standard Road Plan RB-6 is strongly recommended.

- Non-Participation Limits.** If any portion of the contract work is outside the approved or eligible project limits for one or more of the project's funding sources, the limits of the participating work shall be indicated on the plan sheets, including the beginning and ending stations.

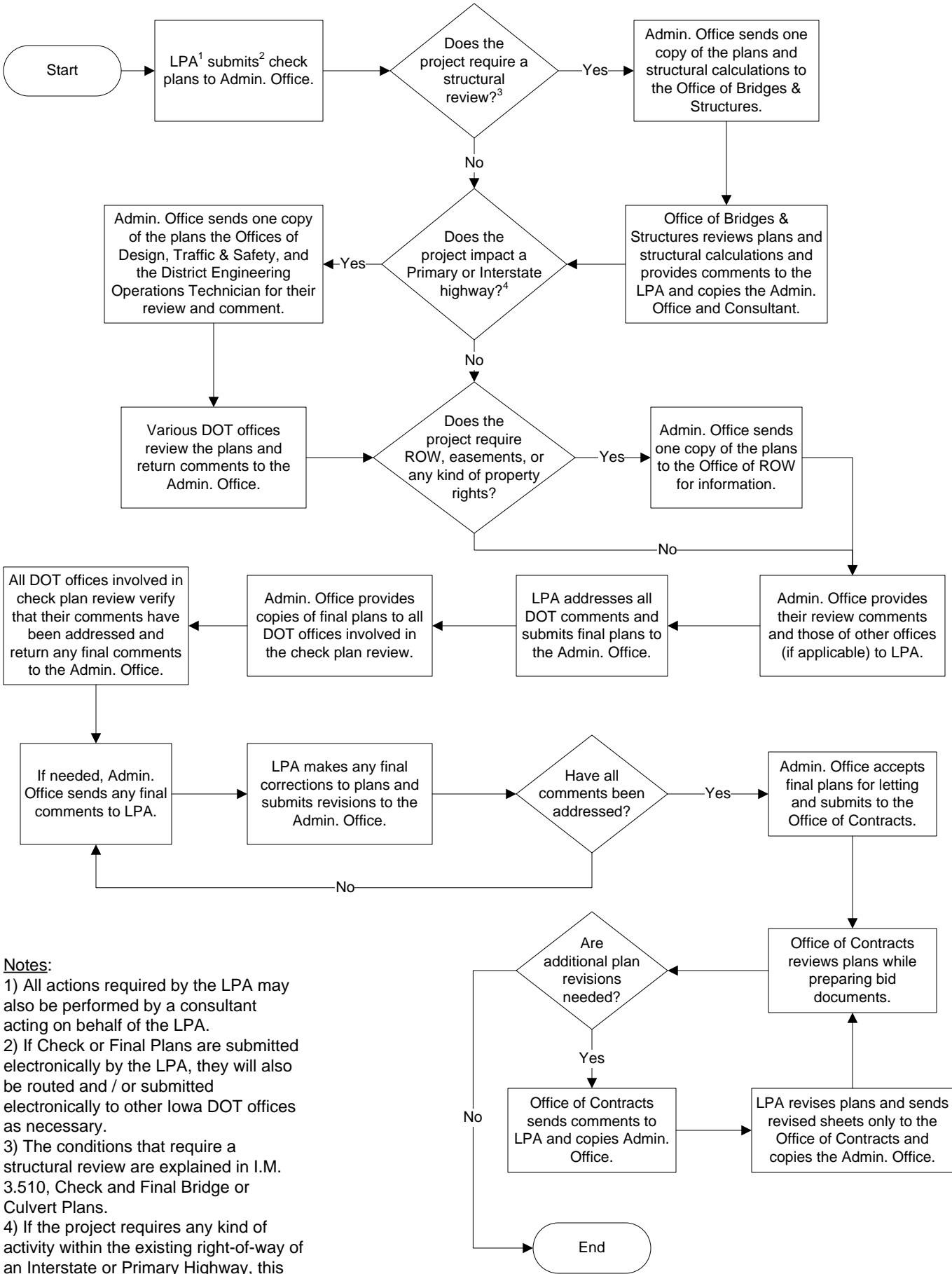
TRAFFIC CONTROL

- Notes.** Traffic control notes shall be included for all projects. The traffic control notes shall state whether traffic will be maintained or detoured during construction. If part or all of the traffic control devices will be provided, installed, and/or maintained by the LPA, this shall also be stated.
- Standard Traffic Control Plans.** Use of applicable [Standard Road Plans – TC Series](#), is strongly recommended. If used, the traffic control notes should explain under what conditions or which locations each Standard Road plan applies.
- Phased Traffic Control.** If the project involves phased construction, project-specific traffic control plans or details shall be included, unless the Standard Road Plans can adequately describe the necessary traffic control for each phase. The traffic control plans or details shall show the appropriate traffic control devices for each phase. Staging notes shall also be included that describe which items of work must be completed as part of each phase.
- Detour Routes.** If a detour will be required, the detour route and the appropriate temporary traffic control devices shall be specified, unless all of the traffic control devices will be provided, installed, and maintained by the LPA. Use of a schematic or "to-scale" detour plan sheet is recommended. Note: If the detour route and / or signing involves a Primary Highway in any way, contact the appropriate [Iowa DOT District Office](#) to obtain approval of the proposed detour route and / or signs.
- References to the MUTCD.** It is not necessary to reference the MUTCD with respect to temporary or permanent traffic control devices shown on the plans. The Standard Specifications require that all traffic control devices comply with the MUTCD, as adopted by the Iowa DOT. If reference is made to the MUTCD on the plans, it shall be referred to as the *"Manual on Uniform Traffic Control Devices for Streets and Highways, as adopted by the Department per 761 of the Iowa Administrative Code (IAC), Chapter 130."*

TRAFFIC SIGNAL SHEETS

- Scale.** Drawings shall be of sufficient scale to show the necessary details. A 1"=20' scale is recommended.
- Pavement Markings Details.** Pavement markings, including lane lines, stop bars, crosswalks, symbols, and legends should be shown.
- Signal Details.** Signal pole, signal head, mast arm, and detector loops locations should be shown.
- Roadway Details.** Edges of pavement, curbs, sidewalks, and pedestrian curb ramps should be shown.
- Tabulations.** Tabulation(s) shall be provided that list all of the items and quantities that are included in the lump sum Traffic Signalization bid item.

Check and Final Plan Process Flowchart



Notes:

- 1) All actions required by the LPA may also be performed by a consultant acting on behalf of the LPA.
- 2) If Check or Final Plans are submitted electronically by the LPA, they will also be routed and / or submitted electronically to other Iowa DOT offices as necessary.
- 3) The conditions that require a structural review are explained in I.M. 3.510, Check and Final Bridge or Culvert Plans.
- 4) If the project requires any kind of activity within the existing right-of-way of an Interstate or Primary Highway, this constitutes an "impact."

INSTRUCTIONAL MEMORANDUMS

To Local Public Agencies



To: Counties and Cities	Date: February 16, 2007
From: Office of Local Systems	I.M. No. 3.510
Subject: Check and Final Bridge or Culvert Plans	

Contents: This Instructional Memorandum (I.M.) includes guidelines and procedures for preparation and review of Local Public Agency (LPA) Check and Final bridge or culvert plans for letting by the Iowa Department of Transportation (Iowa DOT). This I.M. also includes the following attachments:

[Attachment A](#) – Bridge or Culvert Plan Supplementary Checklist

Note: This I.M. provides guidance specific to check and final bridge or culvert plans. The guidance provided in [I.M. 3.505](#), Check and Final Plans also applies. However, because of the differences between structural plans and roadway plans, the guidance provided in this I.M. shall govern in case of a conflict.

Definitions

Standard Designs – Those structures that use the Iowa DOT [Standard Culvert Plans](#) or Standard Bridge Plans, including those shown on the [County Bridge Standards Plans web page](#).

Non-standard Designs – Those structures that do not utilize the Iowa DOT Standard Bridge or Culvert Plans or use a modified version of these standards.

National Highway System (NHS) – A roadway system that includes all Interstate and certain other Principal Arterial highways, as shown on the [NHS map](#).

Preparation

Content and Format

The Iowa DOT recommends that LPA bridge or culvert projects follow the same format used for Iowa DOT bridge or culvert plans. [Attachment A](#) – Bridge or Culvert Plan Supplementary Checklist, provides basic guidance for preparing a satisfactory bridge or culvert plan for letting by the Iowa DOT. This checklist assumes the structure will use a standard design, and therefore it does not address many of the details and information that are already included on the standard bridge or culvert plans.

For structures with non-standard designs, designers may also wish to consult the Office of Bridges and Structures (OBS) [Culvert Plan Review Checklist](#), [Bridge Plan Review Checklist](#), and [Plan Review Checklist Notes](#). These checklists are much more detailed and may provide additional assistance to designers who are unfamiliar with the additional details required to prepare plans for a non-standard design.

Note: The LPA designer should be aware that some of the information and guidance contained in the OBS checklists and notes are specific to Iowa DOT bridge or culvert projects, and therefore may not be needed for LPA bridge or culvert projects.

Design Guidelines

All Federal-aid bridge and culvert structures shall be designed in accordance with the most current edition of the *American Association of State Highway Transportation Officials (AASHTO) Standard Specifications for Highway Bridges*. In addition, all bridges for which preliminary engineering is initiated after October 1, 2007, shall be designed in accordance with the most current edition of the *AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications*. Preliminary engineering includes studies or design activities related to the identification of the bridge type, size, and / or location. For Federally funded design work, these activities are considered initiated when FHWA authorization is received. When the design work is paid for with other funds, these activities are considered initiated when the LPA executes a consultant contract or begins work with their own design staff.

The Iowa DOT also recommends that LPA designers use the Iowa DOT [Office of Bridges and Structures Design Manual](#) as a guide for structural design of bridges and culverts.

Structural Reviews

Submittal Criteria

Bridge projects that meet either of the following criteria will require a structural review by the Iowa DOT Office of Bridges and Structures:

1. all structures on the National Highway System (NHS); or
2. all Federally funded structures that use non-standard designs and are not on the NHS.

For projects that meet either of the criteria listed above, submit 2 copies of the structural plans and calculations (if an in-depth review is required) to the Administering Office with the Check Plans. The submittal shall also include an email address or fax number for both the design engineer and the LPA contact person. Projects that require a structural review should be submitted in accordance with the submittal dates for major projects, as shown on [I.M. 3.005](#), Project Development Submittal Dates and Information.

The LPA may also request a structural review, even if not required by the criteria shown above. However, such reviews will be conducted at the discretion of the Office of Bridges and Structures, and only as time permits.

Content

The degree of structural review will be either "in-depth" or " cursory" depending on the roadway classification of the structure. If the structure is on the NHS, the structural review will be "in-depth." If the structure is not on the NHS, the structural review will be " cursory." These two types of review are further defined below.

In-depth Review

This review will include a detailed review of all plan notes, quantities, and structural details including possible review of structural calculations such as allowable pile bearings and design stresses. This review usually takes several days to complete. Upon completion of the review, the Office of Bridges and Structures will return one set of marked-up plans to the LPA with their comments and provide copies of the cover letter to the Administering Office and the consultant.

Cursory Review

This review will be general in nature. It will consist of a review of the design concepts and overall scope of the project. It will not include review of any structural calculations, details, quantities, or plan notes. This review will usually take less than one hour, and as a result, the scope of the review will usually be limited to general comments. The Office of Bridges and Structures will return written comments to the LPA via email or fax, and provide copies to the Administering Office and the consultant. No marked-up plans will be returned.

Bridge or Culvert Plan Supplementary Checklist

For Local Public Agency (LPA) Projects Let by the Iowa Department of Transportation (Iowa DOT)

Project No.: _____ Date: _____ LPA or Consulting Firm: _____

Name of Designer: _____ Phone No.: _____ email: _____

Note: This checklist shall be used in *addition* to the Check and Final Plans Checklist, which is included in I.M. 3.505 as [Attachment B](#). These checklists are not intended to cover all of the details, notes and information that may be necessary for acceptable Check and Final bridge or culvert plans. However, these checklists address the items where most questions or problems generally arise. *These checklists are requested, but not required with the Check Plan submittal.* These checklists are not needed with the final plan submittal.

TITLE SHEET

- Shop Drawings / False Work Drawings Note.** If the plans specify that shop drawings are required, this note shall state the name, mailing address, phone number, and fax number of the agency responsible for checking the fabricator's shop drawings and the contractor's false work drawings. The agency may be a consulting engineering firm, the LPA, or a combination of the two. Note: The Iowa DOT no longer provides this service for LPA projects. The Iowa DOT shall not be listed as the agency responsible for checking shop drawings or false work drawings.

QUANTITY AND ESTIMATE REFERENCE SHEET(S)

- Non-participating Quantities.** If there are non-participating items, such as work items beyond the limits of the Highway Bridge Program (HBP) participation, these quantities shall be shown in a separate column labeled "Non-Participating" on the estimated quantities tabulation. Note: Work outside the limits of the HBP participation, or otherwise ineligible for HBP funds, may be eligible for other types Federal funding. If other Federal funds are used, the quantities associated with these funds shall be shown in a separate column and labeled as appropriate.
- Epoxy Coated Steel.** All Federal-aid bridge projects shall use epoxy coated reinforcing steel in the following locations: deck slab (top and bottom mats), concrete diaphragms adjacent to deck expansion joints, barrier rail, median barriers, integral abutments, or any other area where exposure to de-icing salt is likely. However, this requirement may be waived if the LPA can show that either the extra cost of epoxy coated steel is not cost effective in extending the service life of the structure or the bridge is located on an unpaved road that will not be paved anytime in the foreseeable future. Any such waiver requests shall be submitted to the Iowa DOT Administering Office for review and approval.

SITUATION PLAN or PLAN AND PROFILE SHEET(S)

- Centerline Section.** The following information shall be shown:
1. Centerline stationing at piers and abutments.
 2. Elevations, including profile grade, bridge seat, bottom of footing or cap, bottom of backing plank, bottom of wing plank, bottom of deadman, and top of berm.
 3. Include "H" dimension of abutments if high abutments are used.
 4. Specify the type, size, and length of pile.
 5. Show channel excavation.
 6. Note the type of bearings and whether they are fixed or expansion.
- Sounding Data.** The sounding data or soil information shall be plotted or shown, including the depth of each layer and a description of the layer. Include the blow counts if they are available. If the soil borings use an elevation datum that is different than the plan elevation datum, the soil boring and plan elevations shall be related to one another by means of an elevation equation. If soils information is scanned and inserted on the plans, it shall be legible when printed on 11x17 size plan sheets.
- Guard Rail.** If guard rail is used, the layout and connections to the bridge shall be detailed. The appropriate [Standard Road Plans - RE Series](#) should be referenced for more information.

- Plan View.** The following information shall be shown:
 1. Out-to-out of slab or paving notch.
 2. Length between centerline abutment bearings.
 3. Length of individual spans between centerline of supports.
 4. Skew angle of the bridge, if any.
 5. Width of the berm.
 6. Limits of Class 10 Channel Excavation.
 7. Soils test holes.
 8. Grid of bridge deck elevations

- HBP Participation Limits.** If the project limits extend beyond the limits of HBP funding participation, the participation limits shall be shown on the plan sheets, including beginning and ending stations.

PLAN NOTES (can be on the situation plan, plan and profile, or general notes sheets)

- Existing Structure Notes.** The following shall be included in the notes:
 1. The dimensions of the structure.
 2. The type of superstructure, floor, and substructure.
 3. The location, including its centerline stationing.
 4. Specify the LPA, the bridge contractor, or other specifically identified party as responsible for removing the existing structure.
 5. Specify how the existing structure will be disposed of. Possibilities include: a) salvage (salvage value not needed on plans, but needed by Office of Contracts if federal funds are involved), b) scrapped, or c) to become the property of the contractor.

- Piling Information.** The following information shall be shown for the pilings:
 1. Driving instructions (if different than standard).
 2. Specify the bearing required for abutment piles.
 3. Specify the bearing required for pier piles.
 4. Note if oversize piles are required. If required, give the minimum diameter 3 feet from the butt end of the pile.

- Other Notes.** The following miscellaneous information shall be identified:
 1. If Class 24 Excavation is used, describe where it is to be obtained.
 2. Specify whether a monolithic or non-monolithic pier cap is to be used and if "cap steel" is required (see Standard Bridge Plan [P10A](#)).
 3. If berms are required, specify who is to build them.
 4. State who is to build the approaches.

MODIFIED STANDARD PLANS OR SPECIAL DETAIL SHEETS

- Drawings.** Modifications to existing standards should provide sufficient detail and notes to clarify the changes made to the standard plan. Any special details should provide the contractor enough information to accurately bid and construct the detailed item. Modified standard plans or special detail sheets shall be included in the plans.

- Bar Lists.** A reinforcing bar list shall be provided for any special details or modified standard plans.

- Concrete Placement Quantities.** For each detailed item, the quantity of concrete placement required for that item shall be shown.