INDIANA DEPARTMENT OF TRANSPORTATION

STANDARDS COMMITTEE MEETING

Driving Indiana's Economic Growth

APPROVED MINUTES

September 17, 2009 Standards Committee Meeting

MEMORANDUM

October 19, 2009

TO: Standards Committee

FROM: Jeff James, Acting Secretary

RE: Minutes for the September 17, 2009 Standards Committee Meeting

The Standards Committee meeting was called to order by the Chairman at 9:02 a.m. on September 17, 2009 in the N755 Bay Window Conference Room. The meeting was adjourned at 10:42 a.m.

The following committee members were in attendance:

Mark Miller, Chairman	Dave Andrewski, Pvmt. Engineering
Greg Pankow, Constr. Mgmt.	Bob Cales, Contract Admin.
Ron Heustis, Constr. Mgmt.	John Wright, Roadway Services
Todd Shields, Highway Operations	Anne Rearick, Structural Services
Ron Walker, Materials Mgmt.	Jim Keefer, Fort Wayne Dist.
Tom Caplinger, Crawfordsville Dist.	

Also in attendance were the following:

Jeff James, Acting Secretary	Steve Fisher, BITS
Tony Uremovich, Str. Services	Paul Berebitsky, ICA
Dan McQueen, Structural Services	Bren George, FHWA

The following items were considered:

DISCUSSION: Mr. Heustis reported that there are a couple of editorial issues on the Standard Drawing for the flashing beacon. He noted that he would discuss with Mr. Bruno regarding the appropriate revisions. Mr. Keefer indicated that he thought that a passage P.42 should read "opening to traffic" based on discussions at the last meeting.

Approved as Revised.

Motion: Mr. Andrewski
Second: Mr. Keefer
Ayes: 10
Nays: 0

B. CONCEPTUAL PROPOSAL ITEMS

OLD BUSINESS

(No items considered)

NEW BUSINESS

1. Standard Drawing process — Mr. Heustis

DISCUSSION: Mr. Heustis distributed a handout regarding a proposed draft new process. He noted some problems with the current process that have been experienced in the past. The proposed new process should correct flaws in the current process. He indicated that he proposes that committee approval would be for the completed drawing rather than a markup as currently done. He also is proposing that there should be flexibility in the effective date for standard drawings rather than once a year. Mr. Cales indicated that he will have to check the CIB Proposal Page template to see if there would be any complications with adopting such a policy. Mr. Keefer noted that he is unsure how implementing differing effective dates for standard drawings would impact District Construction personnel. Mr. Berebitsky indicated that industry would request that notification of newly effective standard drawings would be clear and made known industry wide. Mr. McQueen distributed a draft new standard drawing template to the committee for consideration.

A handout distributed by Mr. Heustis regarding a proposed draft new process is included in these minutes. *(See page No. 4).*

ACTION: The committee advised Mr. Heustis to proceed with developing a draft revised process.

C. STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS PROPOSED ITEMS

OLD BUSINESS

Item No. 03 04/16/09 (2010 SS)	Ms. Rearick	6
Standard Drawings:		
714-CCSP-01, 02, 03, 04 and 05	THREE SIDED CONCRETE CULVERT SCOUR PROTECTION	
715-PCSP-01	PIPE CULVERT SUMPING PROTECTION	
ACTION:	Withdrawn	

NEW BUSINESS

Item No. 01 09/17/09 (2010 SS)	Mr. Heustis	18
623-M-039	MOWING CYCLES, STARTING DATES, AND FAILURE TO COMPLETE MOWING ON TIME	
ACTION:	Withdrawn	

cc: Committee Members (11)
FHWA (2)
ICA (1)

CONCEPTUAL PROPOSAL ITEMS

1. STANDARD DRAWING PROCESS (HANDOUT)

Draft Standard Drawing Process

Current Process and Problems:

- New or revised Standard Drawings (SD) are only issued effective once per year. The effective date is Sept 1; however, since the SD affect design of projects letting in Sept, they must be completed and ready for distribution as PDFs by March 15. This leads to a rush to get drawings created and approved by the Standards Committee (SC) by December or January.
- Once a revised or new SD is created and made effective, the only way to make an interim revision is by Recurring Plan Detail (RPD). The SD version on the web has to be removed and an RPD created and placed into the Contract Information Book (CIB) for all affected contracts. This means printing hard copies for each CIB.
- SD are submitted to the SC as either markups of existing SD or drafts of new SD. They are submitted in PDF format. If approved, the draftsperson must make the approved changes, but the final drawing is not sent back to the SC for final approval. Changes are often made either intentionally, for perceived editorial changes, or inadvertently after SC approval for one reason or another.
- After new or revised SD are approved by SC and final drafts are created, they are plotted to PDF, printed and sent to the Chief Engineer (CE) for signature. The drawings are briefly reviewed by others in Construction Management (CM) to check for compliance with minutes from the SC meetings. Once approved by CM, the hard copy drawings are signed by the CE. The drawings then must be matched up with the correct CADD files and a final version is created with an electronic copy of the CE signature. They are again plotted to PDF and released for use. Often, the CADD files used to create the final PDF do not match the preliminary PDF physically signed by the CE.
- The current set of drawings contains numerous editorial errors, they are generally not to scale or correct proportions and they do not use a unified format.
- There are currently about 1800 SD (900 english & 900 metric). This number should be reduced where possible.

Proposed Solution:

- A standard for standard drawings should be developed for format, frames, fonts, etc. and applied to all SD.
- SD should have a place in the title block for initials for “Designed By”, “Design Checked By”, “Drawn By”, “Dwg Checked By” and a place for the CE electronic stamp and signature.
- Approved SD need to be retained entirely in electronic format, with electronic signatures that are erased if the drawing is modified after approval.
- Approved SD are plotted to PDF for use on the web and CD.
- The SC needs to approve final drawings, not drafts.

CONCEPTUAL PROPOSAL ITEMS

1. STANDARD DRAWING PROCESS (HANDOUT) (CONTINUED)

- The SD schedule should be revised to allow for 2 or 3 revision dates each year in order to reduce the need for RPD. A suggested schedule would be Jan 1, May 1 and Sept 1.
- As new and revised SD are approved by the SC, the SC will determine the effective date (letting date) for the drawing. The effective date must take into account the lead time required by designers to make any required changes.
- Each SD will have its effective date in the title block. The entire set can then be maintained on the web. New or revised SD can be added as needed with the effective date (letting date) noted. Old version would be removed and placed in an archive file that is available on the web.
- This process should be put into effect with a target date of Jan 1, 2011. All SD should be in the new format by the time this goes into effect.

Proposed Schedule

- Oct 09 – Nov 09: Production managers and draftspersons will meet to develop standard format, frames, etc.
- Oct 09 – Nov 09: Production managers will determine who will design, check design, draft and check drawings.
- Dec 09 – Oct 10: Draftspersons will revise all drawings per agreed format
- Jan 10 – Nov 10: Checkers will review and approve final drawings
- Feb 10 – Dec 10: Approved drawings will be electronically signed and PDFs created for web posting.
- Mar 10 – Dec 10: Website will be revised off-line and approved drawings posted as available.
- Jan 11: New website will be placed on-line

Ms. Rearick
Date: 09/17/09

SPECIFICATION REVISIONS

REVISION TO THE STANDARD DRAWINGS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: IDEM, as a part of the Section 401 permitting process, is now requiring culverts to be sumped in order to allow for uninterrupted movement of stream-bed material through the culverts.

PROPOSED SOLUTION: Revise the Standard Drawings for three-sided-culvert scour protection to allow for passage of natural stream-bed material as required by IDEM. Standard Drawings 714-CCSP-01 through -05 are affected, with a new drawing added. The CCSP series will be numbered as follows:

New	Old	Drawing Subject
01	01	3-Sided, Riprap Method, Span at least 10' but less than 20', plan view
02	03	3-Sided, Riprap Method, Span at least 10' but less than 20', section view
03	01	3-Sided, Riprap Method, Span greater than 20', plan view
04	02	3-Sided, Riprap Method, Span greater than 20', section view
05	04	3-Sided, Base-Slab Method, plan view
06	05	3-Sided, Base-Slab Method, section view

New drawing 715-PCSP-01 is added to show the sump treatment for a pipe culvert.

The proposed revisions will result in less excavation and a reduction in the amount of riprap required. The reduction in excavation and riprap will have a side benefit of a cost reduction for INDOT.

APPLICABLE STANDARD SPECIFICATIONS: None

APPLICABLE STANDARD DRAWINGS: 714-CCSP-01 through -06, 715-PCSP-01

APPLICABLE DESIGN MANUAL SECTION: New section, 31-3.04(07) Culvert Sumping

APPLICABLE SECTION OF GIFE:None

Submitted By: Anne Rearick

Title: Manager, Office of Structural Services

Organization: INDOT

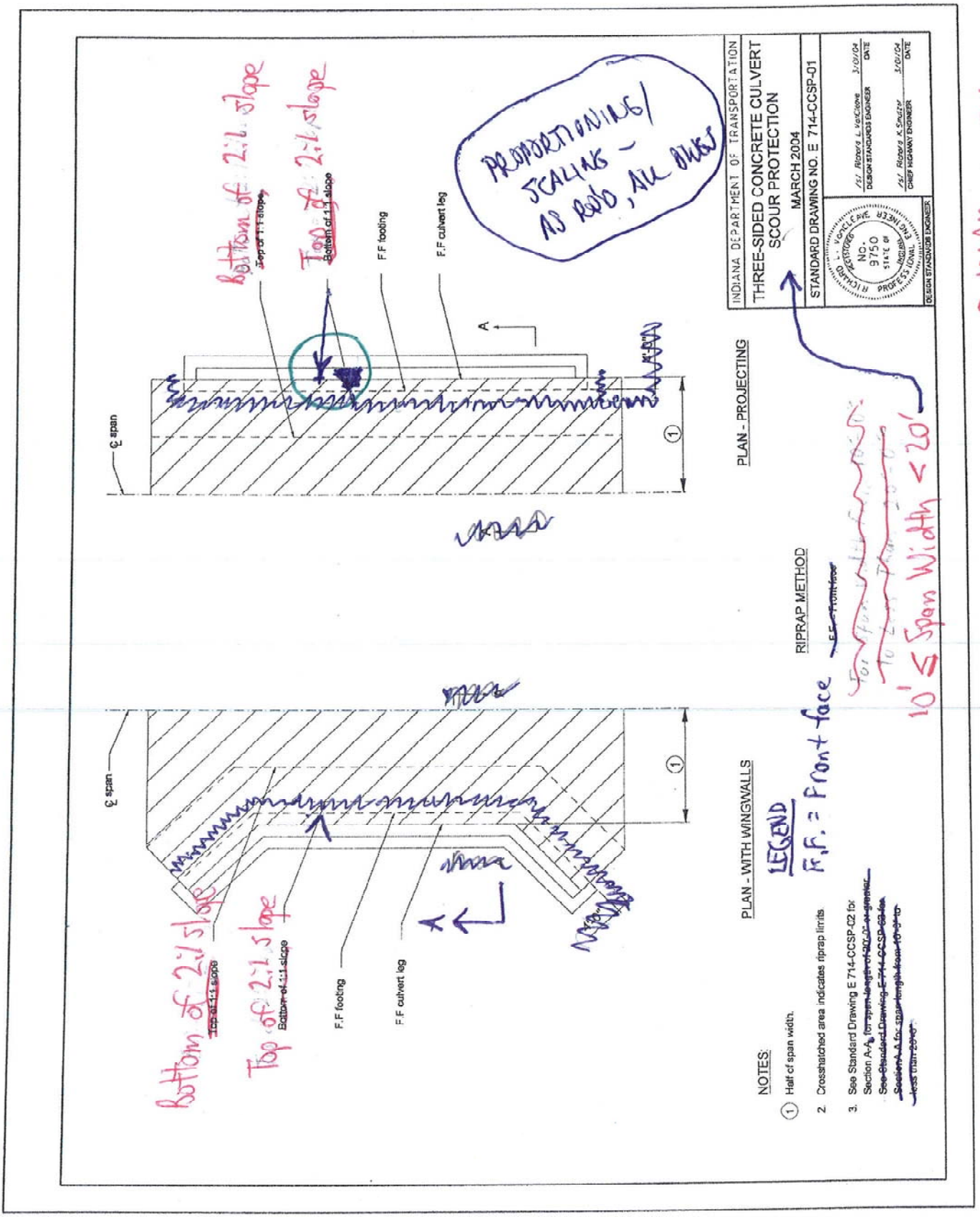
Phone Number: 232-5152

Date: 8-03-09

Item No. 03 04/16/09 (2010 SS)
Ms. Rearick
Date: 09/17/09

REVISION TO THE STANDARD DRAWINGS

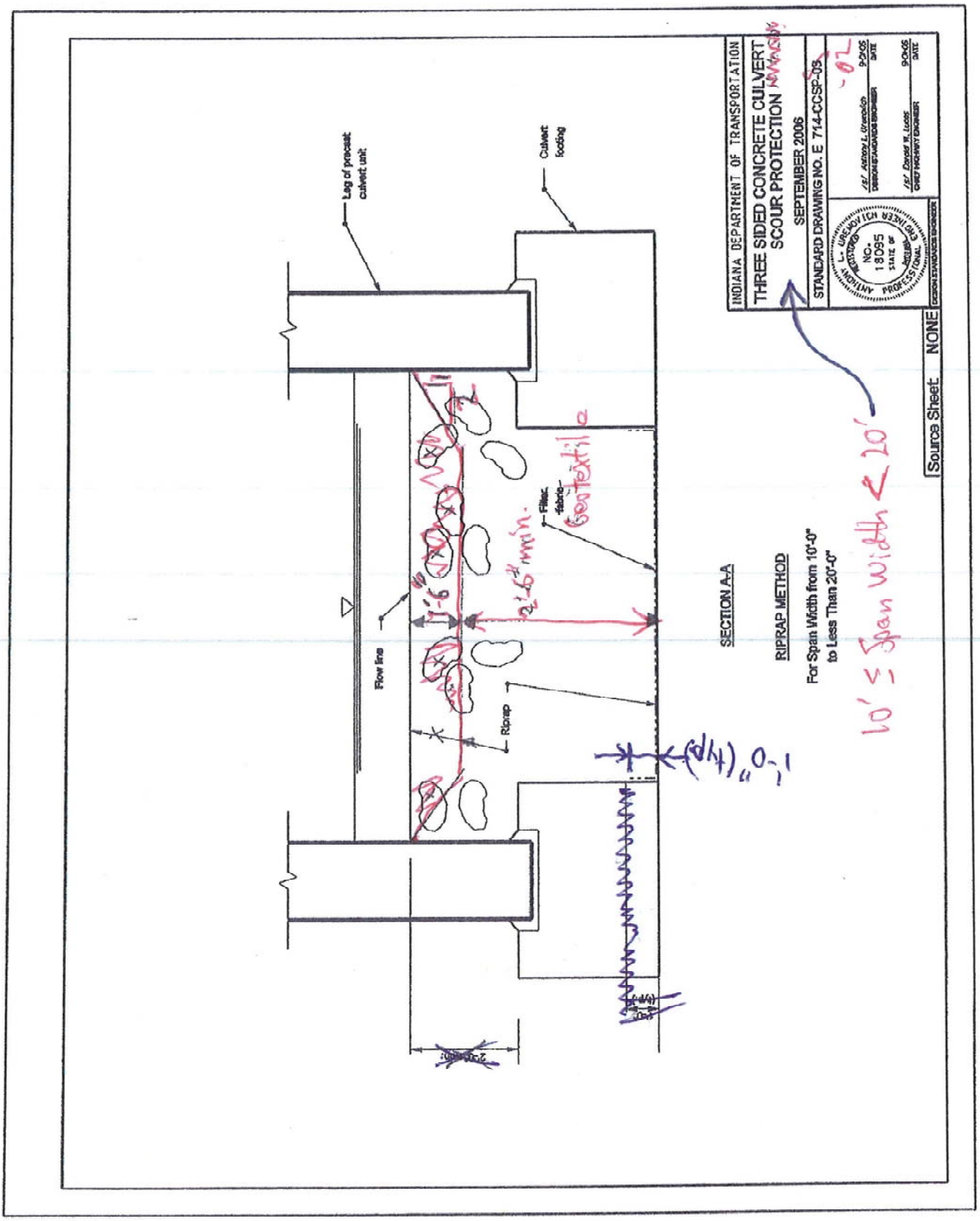
714-CCSP-01 THREE SIDED CONCRETE CULVERT SCOUR PROTECTION
(REVISED DRAFT)



Item No. 03 04/16/09 (2010 SS)
Ms. Rearick
Date: 09/17/09

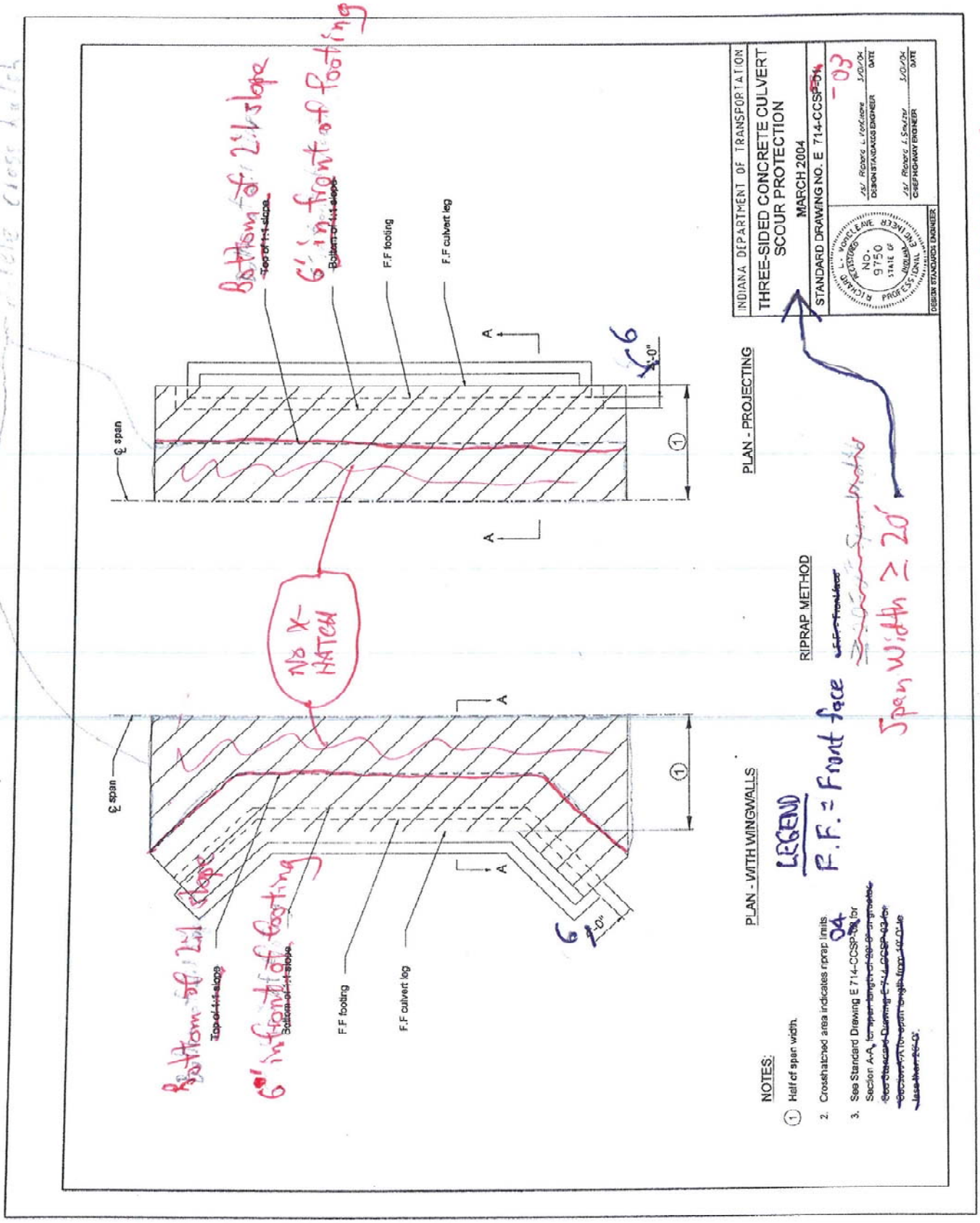
REVISION TO THE STANDARD DRAWINGS

714-CCSP-03 THREE SIDED CONCRETE CULVERT SCOUR PROTECTION
(REVISED DRAFT)



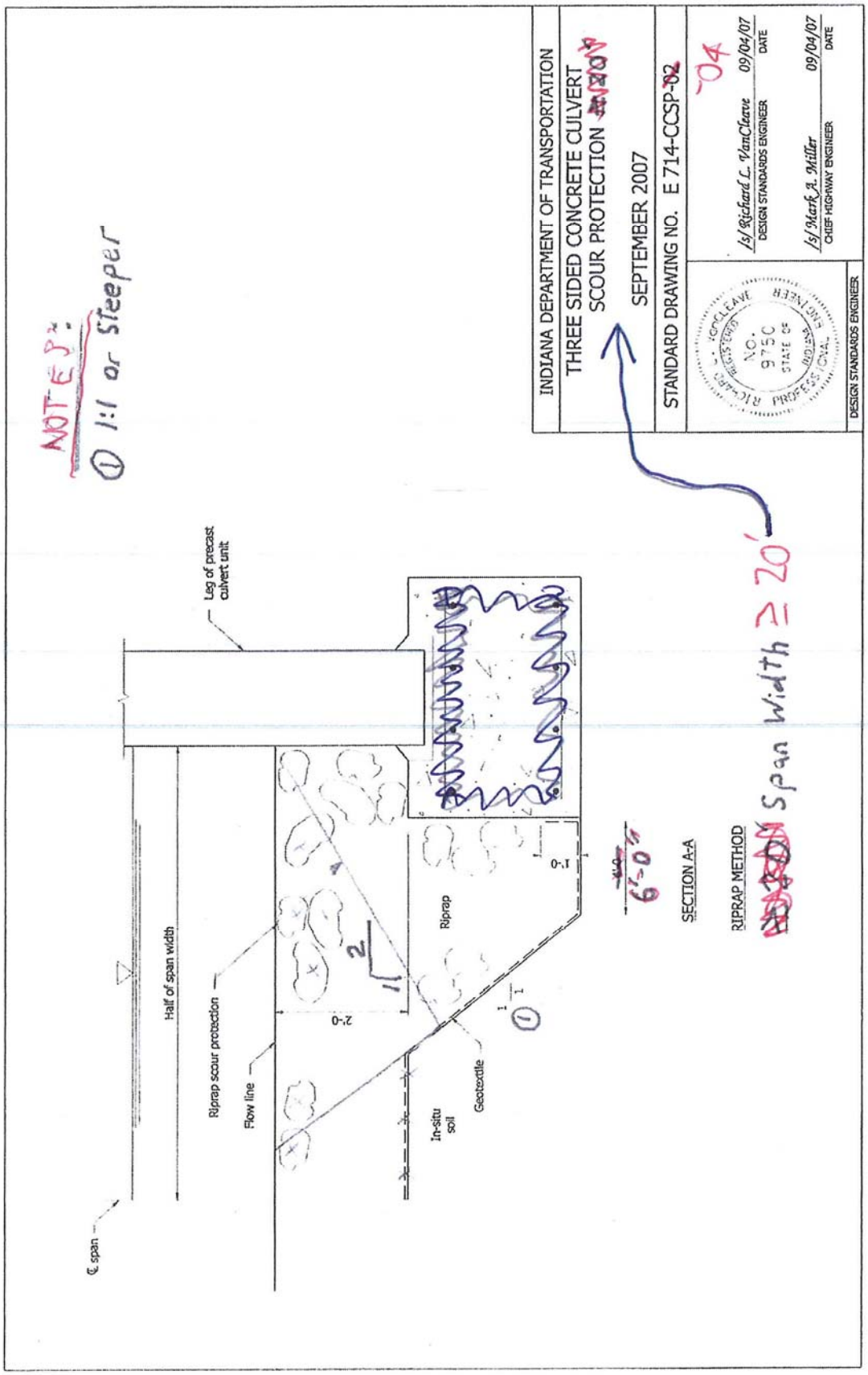
REVISION TO THE STANDARD DRAWINGS

714-CCSP-01 THREE SIDED CONCRETE CULVERT SCOUR PROTECTION
(REVISED DRAFT)



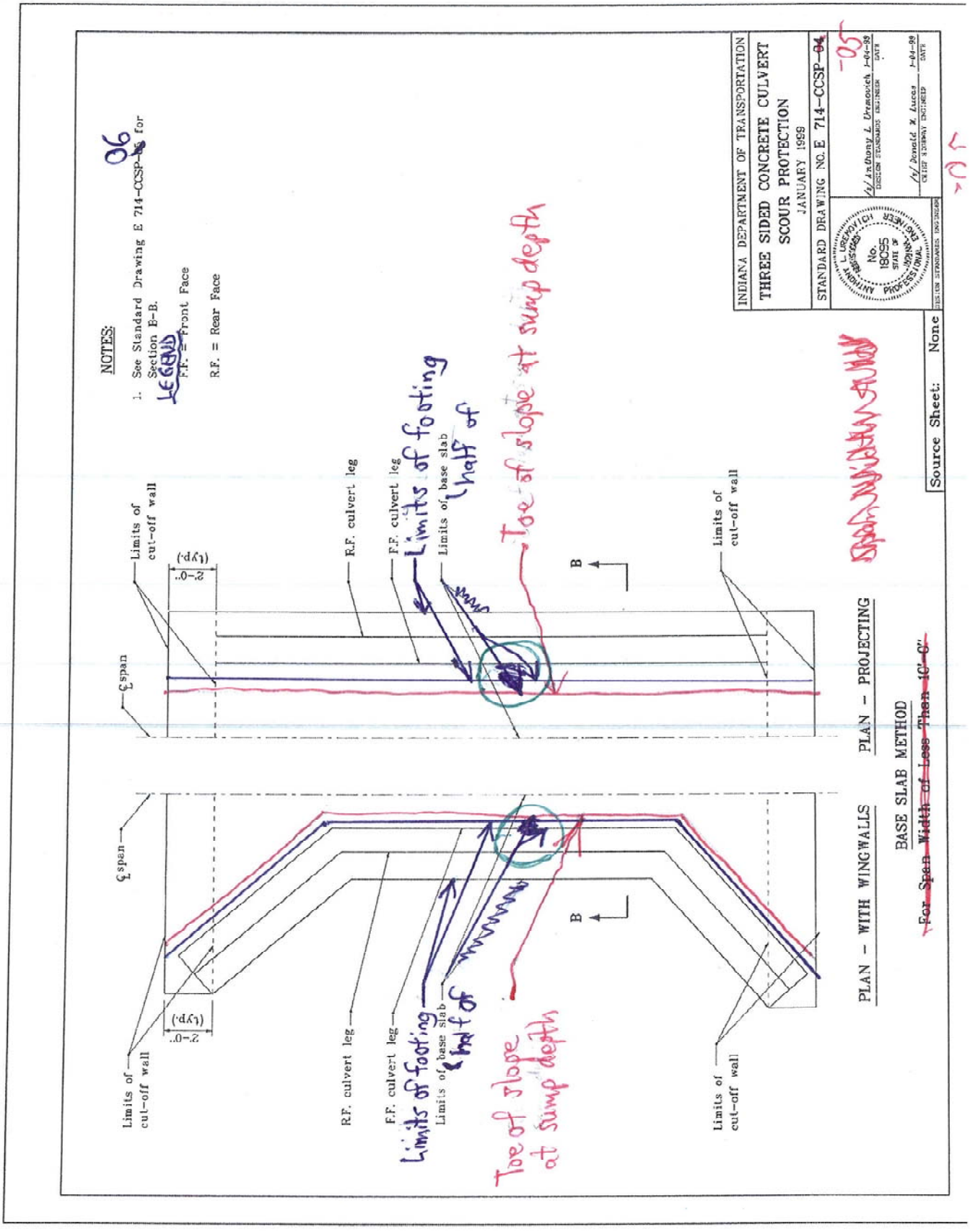
REVISION TO THE STANDARD DRAWINGS

714-CCSP-02 THREE SIDED CONCRETE CULVERT SCOUR PROTECTION
(REVISED DRAFT)



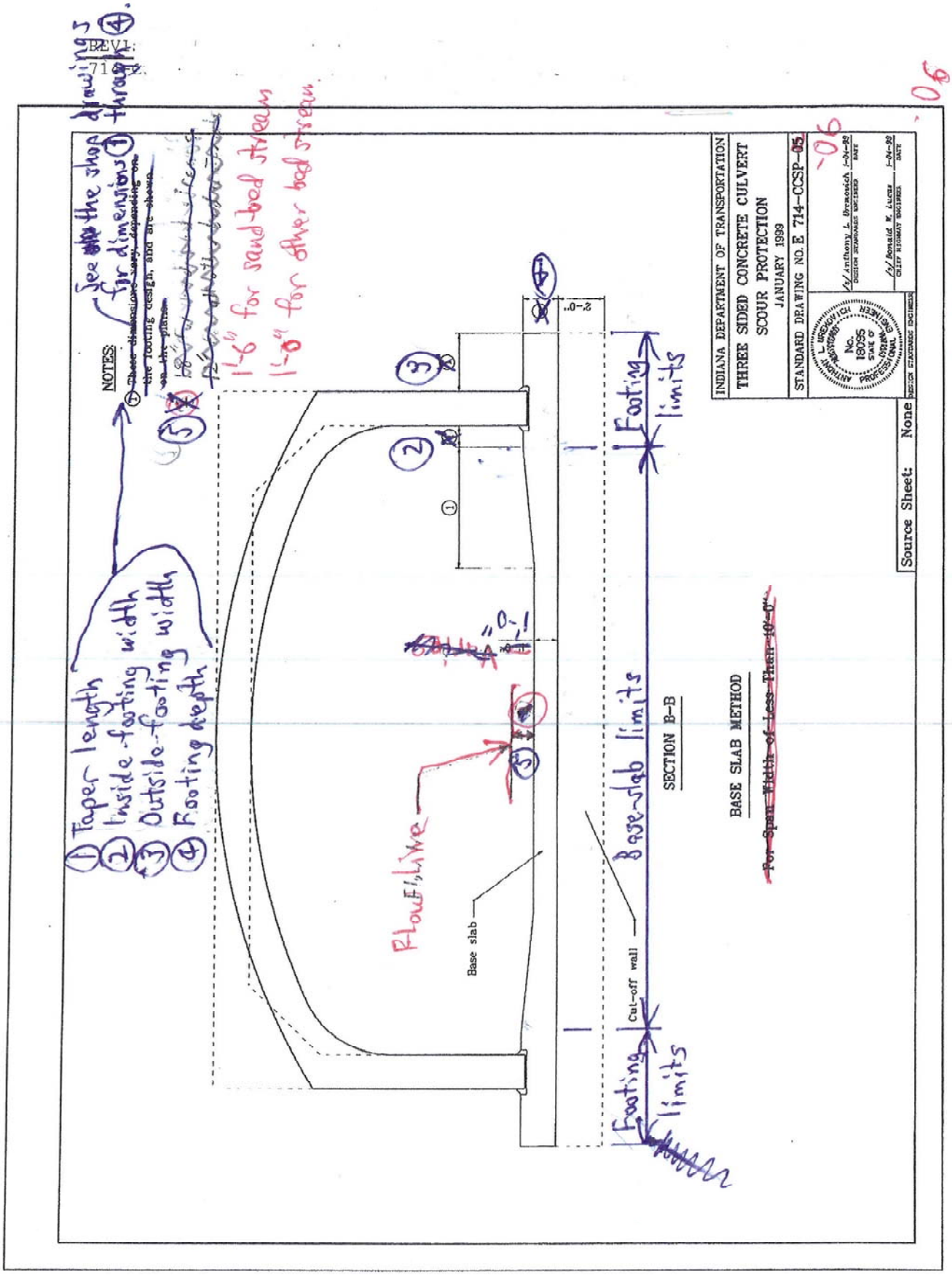
REVISION TO THE STANDARD DRAWINGS

714-CCSP-04 THREE SIDED CONCRETE CULVERT SCOUR PROTECTION
(REVISED DRAFT)



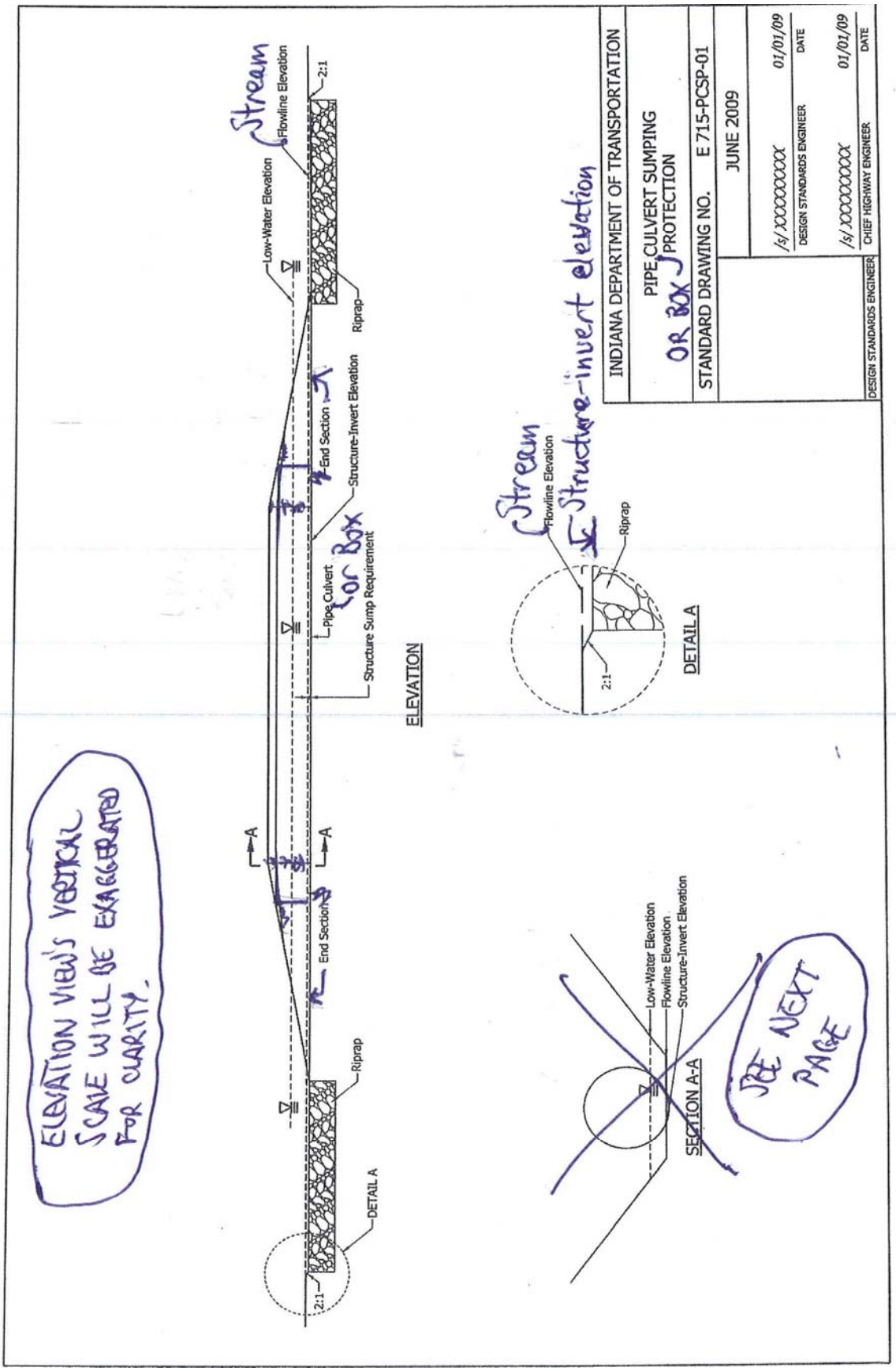
REVISION TO THE STANDARD DRAWINGS

714-CCSP-05 THREE SIDED CONCRETE CULVERT SCOUR PROTECTION
(REVISED DRAFT)



REVISION TO THE STANDARD DRAWINGS

715-PCSP-01 PIPE CULVERT SUMPING PROTECTION
(REVISED DRAFT)



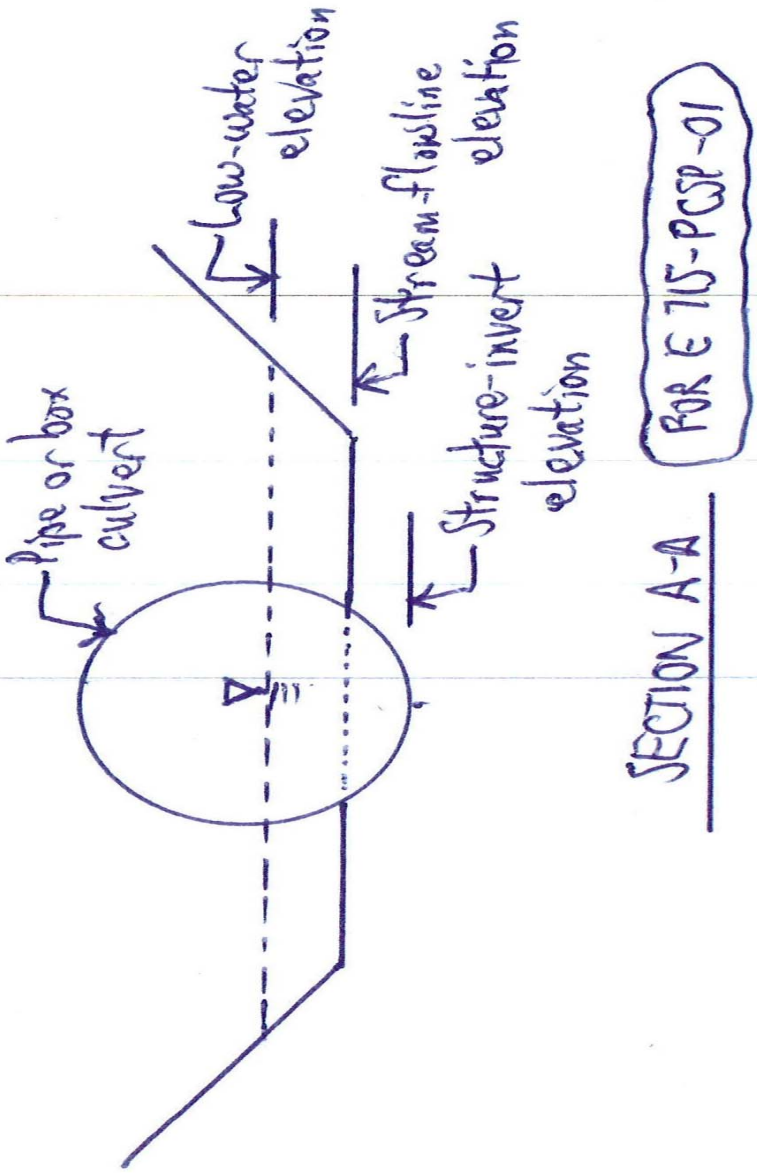
ELEVATION VIEWS VERTICAL SCALE WILL BE EXAGGERATED FOR CLARITY.

SEE NEXT PAGE

PIPE CULVERT

REVISION TO THE STANDARD DRAWINGS

715-PCSP-01 PIPE CULVERT SUMPING PROTECTION (CONTINUED)
(REVISED DRAFT)



BACKUP No. 1

DESIGN DIVISION. MEMORANDUM

INDIANA DEPARTMENT OF TRANSPORTATION
DESIGN DIVISION
INDIANAPOLIS, INDIANA 46204-2249
INTER-DEPARTMENT COMMUNICATION

August 3, 2009

MEMORANDUM

TO: Anne M. Rearick
Structural Services Manager

FROM: Merril E. Dougherty
Hydraulics Supervisor

SUBJECT: **REVISED** Proposed Standard Drawing Revisions and Design Manual Culvert Policy Change to meet IDEM Culvert Sumping Requirement.

IDEM as part of the 401 permitting process has a requirement that culvert structures be sumped 20%. The proposed changes to the 3-sided concrete culvert standard drawings and the culvert sumping policy changes for Chapter 31 "Culverts" of the IDM have been reviewed by the hydraulics staff, OES and IDEM. The original 20% sumping requirement by IDEM was estimated to cost INDOT $1 million per year. This package reflects the changes I have proposed to the 3-sided culvert scour protection standards drawings to meet the IDEM requirement without any increase in structure size or cost. The sumping requirements for culverts with bottoms reflect the reduced requirements after discussions with IDEM. With these changes implemented it is roughly estimated that it will cost INDOT $300K to $400K per year. This is a significant reduction over the original requirement cost of $1M per year. Designers are currently left with out guidance for addressing the IDEM requirement so it is recommended that the standard drawing recommendation become effective ASAP. The design manual information should apply to projects that are submitted for Stage 1 review after June 1 2009. The information should be transmitted by a standards memorandum.

Thank you for your consideration of this item. If you have any questions please let me know.

MED

cc: file

BACKUP No. 2

DESIGN MANUAL. SECTION 31 "CULVERTS"

31-3.04(07) Culvert Sumping

Sumping, for a circular or deformed pipe, or box structure, consists of placing the invert a specified depth below the flow line, so as to be in accordance with IDEM Water Quality Section 401 permit requirements. For a three-sided structure, this consists of treating the stream bed as shown on the INDOT *Standard Drawings*. No increase in rise will be required.

For a pipe or box structure, the required sump is shown in Figure 31-3A(1).

Structure Diameter or Span, *S* (ft)	Sump Required for Stream Bed of Sand (in.)	Sump Required for Stream Bed of Other Soil (in.)
< 4	6	3
$4 \leq S < 12$	12	6
$12 \leq S < 20$	18	12

CULVERT SUMP REQUIREMENT

Figure 31-3A(1)

If the sump shown in Figure 31-3A(1) exceeds 3 in., the structure diameter or rise must be increased by the sump value. The sump area will not be backfilled. It will be allowed to silt in naturally.

Where bedrock or consolidated till is present within the sump depth, the bedrock or till will be excavated such that the invert is placed 3 in. below the surface of the bedrock or till.

For pipes that require end sections, the end sections will be sumped the same depth as required for the pipe.

[P:\Structural Services\Design Memos\09CuSu-dmE.doc]

COMMENTS AND ACTION

714-CCSP-01 THREE SIDED CONCRETE CULVERT SCOUR PROTECTION
714-CCSP-02 THREE SIDED CONCRETE CULVERT SCOUR PROTECTION
714-CCSP-03 THREE SIDED CONCRETE CULVERT SCOUR PROTECTION
714-CCSP-04 THREE SIDED CONCRETE CULVERT SCOUR PROTECTION
714-CCSP-05 THREE SIDED CONCRETE CULVERT SCOUR PROTECTION
715-PCSP-01 PILE CULVERT SUMPING PROTECTION

DISCUSSION: Mr. Uremovich distributed revised draft standard drawings for committee consideration—the CCSP series now includes six sheets. The additional changes included in the handout were marked in purple. Mr. Caplinger noted another slope revision is required on sheet 01. Mr. Keefer and Mr. Pankow were concerned regarding the required foundation excavation width being wider than necessary, although they acknowledged that the riprap requirement may be the reason. Mr. Heustis commented that sheet 04 should account for situations where the foundation could be excavated nearly vertically as would be the case for a tight clay. This would revise the quantity of riprap required. Mr. Heustis suggested that the riprap measurement and payment could be based on a neat line basis.

Mr. Pankow indicated that revisions to 715 may be required to address pipe cleaning.

Mr. Heustis suggested that he and Mr. Pankow assist Ms. Rearick in incorporating these changes.

The revised draft standard drawings distributed by Mr. Uremovich are included in these minutes.

ACTION: The standard drawings should be revised per the comments made at the meeting and updated electronically to present at a future meeting.

Other sections containing specific cross references:
None

Motion: Ms. Rearick
Second: Mr. Cales
Ayes:
Nays:

Action:

Passed as Submitted ___
Revised ___
Withdrawn X

Recurring Special Provision affected:
None

___20__ Standard Specifications Book

___Create RSP (No._____)
Effective _____Letting
RSP Sunset Date: _____

___Revise RSP (No._____)
Effective _____Letting
RSP Sunset Date: _____

Standard Sheets affected:
714-CCSP-01
714-CCSP-02
714-CCSP-03
714-CCSP-04
714-CCSP-05

Standard Drawing Effective _____
___Create RPD (No. _____)
Effective _____Letting
_____Technical Advisory

GIFE Update Req'd.? Y___ N___
By - Addition or Revision

Frequency Manual Update Req'd? Y___ N___
By - Addition or Revision

Received FHWA Approval? ___

SPECIFICATION REVISIONS

REVISION TO THE RECURRING SPECIAL PROVISION

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The current Recurring Special Provision 623-M-039 does not properly address how and for how long liquidated damages are to be assessed for the failure to complete mowing cycles within the allotted periods of time. Currently, liquidated damages are charged for each day past the cycle completion date for each mowing cycle. This is in addition to liquidated damages charged for every day past the completion date. However, the current RSP does not address how to handle the situations where an early mowing cycle is completed late at the fault of the Contractor and subsequently impacts the succeeding mowing cycles. Also, the current RSP does not properly address how to handle the situation where the Contractor fails to complete the contract by the contract completion date and as a result the mowing contract carries into the cooler season where it is undesirable to mow for fear of damaging or killing the grass, or even worse carries through the winter months and into the Spring where it would interfere with the new mowing contract and next round of mowing cycles. There has never been an issue, but I think that it would be prudent to rewrite the special provision to address these deficiencies before it ever becomes an issue.

PROPOSED SOLUTION: I propose the changes to Recurring Special Provision 623-M-039 as shown in the attached document.

APPLICABLE STANDARD SPECIFICATIONS: 108.09 and 108.10

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: 623-M-039

Submitted By: Nathan Butts

Title: Office Area Engineer

Organization: INDOT-LaPorte

Phone Number: (219) 325-7473

Date: 7/31/2009

APPLICABLE SUB-COMMITTEE ENDORSEMENT? N/A

REVISION TO THE RECURRING SPECIAL PROVISION

623-M-039 MOWING CYCLES, STARTING DATES, AND FAILURE TO COMPLETE MOWING ON TIME

623-M-039 MOWING CYCLES, STARTING DATES, AND FAILURE TO COMPLETE MOWING ON TIME

(Revised 07-31-09)

The cycles of work shall be completed as shown below.

CYCLE	APPROXIMATE STARTING DATE	ALLOTTED COMPLETION TIME PER CYCLE
1	_____, 20_____	_____Calendar Days
2	_____, 20_____	_____Calendar Days
3	_____, 20_____	_____Calendar Days

Contract Completion Date: October 31, 20_____

The starting date for each cycle may be adjusted depending on growing conditions and height of grass.

Liquidated damages *for the failure to complete the mowing in the allotted time* will be charged in accordance with 108.09. However, the charge will be $750.00 per calendar day after _____, ~~20~~_____ *the allotted* _____*days* for which the work is not complete for the first cycle. The charge will be $750.00 per calendar day after _____, ~~20~~_____ *the allotted* _____*days* for which the work is not complete for the second cycle. The charge will be $750.00 per calendar day after _____, ~~20~~_____*the allotted* _____ *days* for which the work is not complete for the third cycle.

Liquidated damages for the failure to complete cycle 1 will be allowed to accrue until the mowing cycle is completed or for a maximum of 40 calendar days, whichever occurs first. If after those 40 calendar days cycle 1 is not completed, cycle 1 will be terminated by the Engineer with zero compensation made to the Contractor and cycle 2 will commence as directed by the Engineer.

Liquidated damages for the failure to complete cycle 2 will be allowed to accrue until the mowing cycle is completed or until the contract completion date, whichever occurs first. If cycle 2 is not completed by the contract completion date, cycle 2 and 3 will be terminated by the Engineer with zero compensation made to the Contractor. If the Contractor completes cycle 2, but fails to complete cycle 2 within 40 calendar days of the date of notice to begin mowing, cycle 3 may be terminated by the Engineer with zero compensation to the Contractor.

Liquidated damages for the failure to complete cycle 3 will be allowed to accrue until the mowing cycle is completed or until the contract completion date, whichever

REVISION TO THE RECURRING SPECIAL PROVISION

623-M-039 MOWING CYCLES, STARTING DATES, AND FAILURE TO COMPLETE MOWING ON TIME (CONTINUED).

occurs first. If on the completion date cycle 3 is not completed, cycle 3 will be terminated with zero compensation to the Contractor.

In addition to the liquidated damages detailed above, if the Contractor fails to complete the contract by the contract completion date, a single assessment of $5,000.00 will be assessed as liquidated damages, not as a penalty but as damages sustained. This single assessment of liquidated damages replaces the typical daily assessment as described in Section 108.09.

COMMENTS AND ACTION

623-M-039 MOWING CYCLES, STARTING DATES, AND FAILURE TO COMPLETE MOWING ON TIME

DISCUSSION: Mr. Keefer indicated that he discussed this issue with Mr. Butts. Mr. Butts noted that he had not discussed this issue with any of the mowing contractors. Mr. Keefer also noted that mowing contracts would benefit from being work day related because forcing contractors to mow in the rain often is a problem for the Department. Mr. Heustis indicated that he would discuss this issue in more detail with Mr. Butts.

Other sections containing specific cross references:
None

Motion:
Second:
Ayes:
Nays:

Action:

Passed as Submitted ___
Revised ___
Withdrawn X

Recurring Special Provision affected:
623-M-039

___20__ Standard Specifications Book

___Create RSP (No._____)
Effective _____Letting
RSP Sunset Date: _____

___ Revise RSP (No._____)
Effective _____Letting
RSP Sunset Date: _____

Standard Sheets affected:
None

Standard Drawing Effective _____
___Create RPD (No. _____)
Effective _____Letting
_____Technical Advisory

GIFE Update Req'd.? Y___ N___
By - Addition or Revision

Frequency Manual Update Req'd? Y___ N___
By - Addition or Revision

Received FHWA Approval? ___