



*Introduction*

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# Database Systems

## *DATABASE TOOLS FOR CIVIL WORKS PROJECTS*



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# Database Systems

• *COMPONENTS*

• *IMPLEMENTATION*

• *CEBIS*



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# Database System Development

## Purpose

- ❖ MEET REQUIREMENTS
- ❖ GATHER DATA
- ❖ MONITORING
- ❖ DATA REDUCTION
- ❖ DECISION MAKING
- ❖ ARCHIVING



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# Database System Development

## Considerations

❖ **PURPOSE/GOALS**

❖ **FORMAT**

❖ **STANDARDIZE**

❖ **SIMPLIFY**

❖ **CONSISTANCY**

❖ **EFFICIENCY**



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# Database System Development

## Standardization

❖ **RECORDING**

❖ **REPORTING**

❖ **REVIEW**



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# Database System Development

## Web Based

### **1. Advantages**

- a. Follow the Trend
- b. Easy Updates/Maintenance
- c. Greater Administrative Control/Access
- d. Centralized Database

### **2. Disadvantages**

- a. Reliability
- b. Less Local Control
- c. Limitations



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# Database Systems

## IMPLEMENTATION

- ❖ **Acceptance**
- ❖ **Useful**
  - ❖ **All Levels**
- ❖ **Cost Effective**



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# Database Systems

## INSPECTION TOOL

- ❖ **Get Work Done**
- ❖ **Increase Efficiency/Effectiveness**
- ❖ **Consistency**





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## CEBIS Features

### DEVELOPMENT

- ❖ **Meet Reporting Requirements**
- ❖ **Update Existing Program**
- ❖ **Plagiarize**
- ❖ **Address Complaints**
- ❖ **Web Based**
- ❖ **Implemented in 2005**



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## DEVELOPMENT

- ❖ **Incorporate ER**
  - ❖ **References**
  - ❖ **Criteria**
  - ❖ **Standards**

# CEBIS Features



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## Bridge Inventory System

CEBIS

📁 Data Entry and Approval Access Instructions:

📁 CEBIS Login:  Password:

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## Bridge Inventory System

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### CEBIS - BMS

- ☞ REFERENCES:
- ☞ PROGRAMS:
- ☞ STANDARD FORMS:
- ☞ UPDATES:
- ☞ COP:

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**CEBIS - BMS**

REFERENCES:

- ER References:
- Other References:
- Criteria / Procedures:

PROGRAMS:

STANDARD FORMS:

UPDATES:

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**CEBIS - BMS - ER References**

- [23 F.R. 650, "National Bridge Inspection Standard," December 2004.](#)
- [ER 1110-2-100, Periodic Inspection and Continuing Evaluation of Completed Civil Works Structures.](#)
- [ER 1110-2-101, Reporting of Evidence of Distress of Civil Works Structures.](#)
- [EM 385-1-1, Safety and Health Requirements Manual.](#)
- ["AASHTO LRFD Bridge Design Specifications" \(latest edition\).](#)
- ["Bridge Inspector's Reference Manual," October, 2002, Federal Highway Administration, 6300 Georgetown Pike, McLean, VA 22101.](#)
- ["Movable Bridge Inspection, Evaluation, and Maintenance Manual," AASHTO, 1998](#)
- ["Construction and Maintenance Section," American Railway Engineering Association, Volumes I & II.](#)
- ["Culvert Inspection Manual," Federal Highway Administration, FHWA-IP-86-2, July 01, 1986.](#)
- ["Evaluating Scour at Bridges," FHWA Technical Advisory T5140.23, October 28, 1991.](#)
- ["Evaluating Scour at Bridges," Hydraulic Engineering Circular \(HEC\) 18, Federal Highway Administration, FHWA-NHI-01-001, May 01, 2001.](#)
- ["Stream Stability at Highway Structures, Third Edition", Hydraulic Engineering Circular \(HEC\) 20, Federal Highway Administration, FHWA-NHI-01-001, March, 2001.](#)
- ["Bridge Scour And Stream Instability Countermeasures", Hydraulic Engineering Circular \(HEC\) 23, Federal Highway Administration, FHWA-NHI-01-001, March, 2001.](#)
- ["Guide Specifications for Design of Pedestrian Bridges" \(latest edition\), American Association of State Highway and Transportation Officials.](#)
- ["Guide Specifications for Fatigue Evaluation of Existing Steel Bridges," American Association of State Highway and Transportation Officials, 1990.](#)
- ["Inspection of Fracture Critical Bridge Members," Federal Highway Administration, FHWA-IP-86-2, September 01, 1986, supplement to reference 4f.](#)
- ["Manual for Condition Evaluation and Load and Resistance Factor Rating \(LRFR\) of Highway Bridges," American Association of State Highway and Transportation Officials, 444 N. Capitol Street NW, Washington, DC 20001 \(latest edition\).](#)
- ["Manual for Railway Engineering," American Railway Engineering and Maintenance-of-Way Association, Volumes I & II \(latest edition\).](#)
- [OSHA Standard 1926.106\(a\), Personal Protective and Life Saving Equipment, "Standards Interpretation, Fall Protection, Lifejacket, and Lifesaving Requirements When Working Over or Near Water."](#)
- ["Recording and Coding Guide for the Structure Inventory and Appraisal of the Nations Bridges." Design and Inspection Branch.](#)

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### CEBIS - BMS - Other References

- [Link to FHWA site](#)
- [AASHTO Subcommittee on Bridges and Structures](#)
- [The American Railway Engineering and Maintenance of Way Association](#)
- [National Highway Institute](#)
- [FHWA Bridge Technology](#)
- [FHWA Technical Advisories](#)
- [National System of Interstate and Defense Highways](#)

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### CEBIS - BMS - Criteria / Procedures

- Load Rating
- Scour Evaluations - Procedures/Plans of Action
- Fracture / Fatigue
- Seismic Evaluations
- Emergency Procedures
- Follow Up / Monitor Critical Findings
- Inspection Intervals
- Railway Bridges
- Inspection Types
- QC/QA Procedures

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### CEBIS - BMS

#### REFERENCES:

#### PROGRAMS:

#### STANDARD FORMS:

- QCP/5-Year Plan
- Scour Monitoring
- FCM Plan
- QA Checklist
- QC Checklist

#### UPDATES:

#### COP:

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### CEBIS - BMS

REFERENCES:

PROGRAMS:

STANDARD FORMS:

UPDATES:

- Comments
- Search Program Changes:
- Most Recent Changes:
- Standard Procedure Changes
- Interim Policy Changes

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**CEBIS Program Tracker**

Select Desired Information for Query

Category: [All]

POC: [All]

Current Status: [All]

*To select multiple values, push control and click*

- Ready for Production
- Ready for Testing
- Started but not complete
- Not Started
- Waiting on PDT Concurrence
- Removed from Task List
- In Production

Text:

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CEBIS Program Tracker

Select Desired Information for Query

Category: [All]

POC: [All]

Current Status:

*To select multiple values, push control and click*

- Approval Process
- Bridge Mgt System / Menus
- Inventory Data
- Inspection Notes / Photos
- Query
- Report Narrative
- Reports
- Removed from Task List
- In Production

Text:

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### CEBIS Program Tracker - Status as of 7/25/2005

[New Search](#)

[Post New Message](#)

-  (3) [Bridge Mgt System / Menus](#): Bonnie Montgomery 08-JUL-2005  
 Assigned To: Phillip Sauser  
 Provide a location within CEBIS for viewing and commenting on ER changes. Restrict access.  
 Available for Testing - using Groove
-  (1) [Bridge Mgt System / Menus](#): Bonnie Montgomery 08-JUL-2005  
 Assigned To: Bonnie Montgomery  
 Add BMS pages  
 Started by not complete -
-  (4) [Bridge Mgt System / Menus](#): Bonnie Montgomery 08-JUL-2005  
 Assigned To: Bonnie Montgomery  
 Finish Bridge File page  
 Started by not complete -
-  (2) [Bridge Mgt System / Menus](#): Bonnie Montgomery 08-JUL-2005  
 Assigned To: Bonnie Montgomery  
 Provide a site accessible to those outside the Corps for review  
 Not Started -
-  (5) [Inspection Notes / Photos](#): Bonnie Montgomery 08-JUL-2005  
 Assigned To: Bonnie Montgomery  
 Incorporate QC/QA processes  
 Not Started -
-  (39) [Inventory Data](#): Bonnie Montgomery 11-JUL-2005  
 Assigned To: Phillip Sauser

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### CEBIS - BMS

REFERENCES:

PROGRAMS:

STANDARD FORMS:

UPDATES:

- Comments
- Search Program Changes:
- Most Recent Changes:
- Standard Procedure Changes
- Interim Policy Changes

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**CEBIS Program Tracker - Recent Changes**

-  (51) Inventory Data: Bonnie Montgomery 25-JUL-2005  
 Assigned To: Bonnie Montgomery  
 Modify wording on pop-up box displayed when a bridge is deleted.

● In Production - July 2005
-  (49) Reports: Bonnie Montgomery 22-JUL-2005  
 Assigned To: Bonnie Montgomery  
 Report narrative body appears to be Font style: Arial. Report narrative bullets appear to be Times new Roman. Report pictures headings appear to be Times new roman. Is this intended? I suggest using the same font style, but change text height for effect.

● In Production - July 2005
-  (47) Reports: Bonnie Montgomery 15-JUL-2005  
 Assigned To: Bonnie Montgomery  
 Printing the reports...SI&A sheet, above item 67, Appraisal is misspelled.

● In Production - July 2005
-  (15) Inventory Data: Bonnie Montgomery 08-JUL-2005  
 Assigned To: Bonnie Montgomery  
 Include item 62 for pedestrian bridges (currently NA).

● In Production - July 2005
-  (42) Inspection Notes / Photos: Bonnie Montgomery 11-JUL-2005  
 Assigned To: Bonnie Montgomery  
 Add elements 309 and 338

● In Production - July 2005

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REFERENCES:

PROGRAMS:

STANDARD FORMS:

UPDATES:

- Comments
- Search Program Changes:
- Most Recent Changes:
- Standard Procedure Changes
- Interim Policy Changes

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### CEBIS - BMS

REFERENCES:

PROGRAMS:

STANDARD FORMS:

UPDATES:

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- Bridge PDT
- TFT

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CEBIS - BMS - COP - PDT

- [Paul Tan, HQUSACE](#)
- [Thomas Tam, NAD](#)
- [Robert Fulton SAD](#)
- [Robert Taylor, LRD](#)
- [Ken Klaus, MVD](#)
- [John Morris, SWD](#)
- [Victor Yan, SPD](#)
- [Bruce McCracken, NWD](#)
- [Allen Taira, POD](#)
- [Phil Sauser, MVP](#)

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### CEBIS - BMS

#### REFERENCES:

#### PROGRAMS:

- CEBIS - user manual
- Problem Reporting
- Access Instructions
- Load Rating
- Fatigue

#### STANDARD FORMS:

#### UPDATES:

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[My Bridges](#)

Click Heading to Re-Sort

State / Name	NBIS	COE / Division	Insp Date	Edits	Review Status				
					1	2	3	4	A
<input checked="" type="checkbox"/> <input type="checkbox"/> Arizona Painted Rock Dam Service Bridge	CENSPLAZ0000007	<input type="checkbox"/> CENSPLAZ0000007 CESPD CESPL	07-2005	<input checked="" type="checkbox"/>					
<input checked="" type="checkbox"/> <input type="checkbox"/> California Brea Dam Service Bridge	CENSPLCA0000002	<input type="checkbox"/> CENSPLCA0000002 CESPL	02-2001	<input checked="" type="checkbox"/>					
<input checked="" type="checkbox"/> <input type="checkbox"/> California FULLERTON DAM SERVICE BRIDGE	CENSPLCA0000000	<input type="checkbox"/> CA0000004 CESPD CESPL	07-2005	<input checked="" type="checkbox"/>					
<input checked="" type="checkbox"/> <input type="checkbox"/> California HANSEN DAM SERVICE BRIDGE	CESPLCA00000005	<input type="checkbox"/> CENSPLCA0000005 CESPD CESPL	08-2004	<input checked="" type="checkbox"/>					
<input checked="" type="checkbox"/> <input type="checkbox"/> Iowa SAMPLE BRIDGE	CENMVPIA-00LD10	<input type="checkbox"/> CENMVPIA-00LD10 CEMVD CEMVP	11-2002	<input checked="" type="checkbox"/>					
<input checked="" type="checkbox"/> <input type="checkbox"/> Iowa SAMPLE BRIDGE	CEPMVPIAXXXXXXX	<input type="checkbox"/> CEPMVPIAXXXXXXX CEMVD CEMVP	04-2005	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/> <input type="checkbox"/> Minnesota GULL LAKE DAM BRIDGE	000000000007435	<input type="checkbox"/> CEPNCSMN-000003 CEMVD CEMVP	07-2003	<input type="checkbox"/>					
<input checked="" type="checkbox"/> <input type="checkbox"/> Minnesota WINNI LAKE DAM	5358	<input type="checkbox"/> CEPMVPMN0000002 CEMVD CEMVP	12-2003	<input type="checkbox"/>					
<input checked="" type="checkbox"/> <input type="checkbox"/> Minnesota SAMPLE BRIDGE	CENMVPMN-000001	<input type="checkbox"/> CENMVPMN-000001 CEMVD CEMVP	08-2004	<input type="checkbox"/>					
<input checked="" type="checkbox"/> <input type="checkbox"/> Minnesota SAMPLE BRIDGE	CENMVPMN-000002	<input type="checkbox"/> CENMVPMN-000002 CEMVD CEMVP	09-2002	<input type="checkbox"/>					
<input checked="" type="checkbox"/> <input type="checkbox"/> Minnesota SAMPLE BRIDGE	CENMVPMN-000010	<input type="checkbox"/> CENMVPMN-000010 CEMVD CEMVP	08-2001	<input checked="" type="checkbox"/>					
<input checked="" type="checkbox"/> <input type="checkbox"/> Minnesota SAMPLE BRIDGE	CENMVPMN-00LD03	<input type="checkbox"/> CENMVPMN-00LD03 CEMVD CEMVP	05-2001	<input checked="" type="checkbox"/>					

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Structure Number	Name	NBI Structure Number
CEPNCSMN-000003	GULL LAKE DAM BRIDGE	000000000007435

**Bridge File**

**COMPONENTS**

<p><b>Plans:</b> 0 files, 0 KB.</p> <p><b>Specifications:</b> 0 files, 0 KB.</p> <p><b>Correspondence:</b> 0 files, 0 KB.</p> <p><b>Photos:</b> 0 files, 0 KB.</p> <p><b>Materials and Tests:</b> 0 files, 0 KB.</p> <p><b>Maintenance and Repair History:</b> 0 files, 0 KB.</p> <p><b>Coating History:</b> 0 files, 0 KB.</p> <p><b>Accident Records:</b> 0 files, 0 KB.</p> <p><b>Posting:</b> 0 files, 0 KB.</p> <p><b>Permit Loads:</b> 0 files, 0 KB.</p> <p><b>Flood Data:</b> 0 files, 0 KB.</p> <p><b>Traffic Data:</b> 0 files, 0 KB.</p> <p><b>Inspection History:</b> 0 files, 0 KB.</p> <p><b>Inspection Requirements:</b> 0 files, 0 KB.</p> <p><b>SI&amp;A Sheet:</b> 0 files, 0 KB.</p> <p><b>Inventories and Inspections:</b> 0 files, 0 KB.</p> <p><b>Rating Records:</b> 0 files, 0 KB.</p> <p><b>INSPECTION DATA</b></p> <p><b>Inspection Reports:</b> 0 files, 0 KB.</p> <p><b>Waterway Adequacy:</b> 0 files, 0 KB.</p> <p><b>Channel Profile:</b> 0 files, 0 KB.</p> <p><b>Restrictions on Structure:</b> 0 files, 0 KB.</p> <p><b>Utility Attachments:</b> 0 files, 0 KB.</p>	<p>Plans, shop, and/or as-built dwrgs avail. and on file</p> <p>Specs available and on file</p> <p>Pertinent to bridge history, chronological order</p> <p>Plan, elevation, and other pertinent photos</p> <p>Material certs &amp; test data avail. &amp; on file</p> <p>Chronol. record documenting maint. and repairs</p> <p>Prep, application, thick., &amp; types of paint &amp; protec.</p> <p>Dates, descrip., damage, repairs, and reports</p> <p>Summary of posting actions, calcs, date, signs</p> <p>Record of significant special single trip permits</p> <p>History of major events, high water, scour</p> <p>History of variation &amp; types of traffic</p> <p>Chronological record of dates &amp; types</p> <p>Lists of tools, equip., special details, safety &amp; traffic</p> <p>Chronological record of SI&amp;A sheets</p> <p>Reports &amp; results of all other inventories &amp; inspec.</p> <p>Complete record of load capacity determination</p> <p>Previous to automaticly generated CEBIS reports Item 79 &amp; 113</p> <p>Show foundation info. &amp; changes over time</p> <p>Load, speed, or traffic</p> <p>Attached and in ROW</p>
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[My Bridges](#)

Click Heading to Re-Sort

State / Name	NBIS	COE / Division	Insp Date	SELECT	Review Status
					2 3 4 A
Arizona	CENSPLAZ0000007	CENSPLAZ0000007	07-2005		
Painted Rock Dam Service Bridge		CESPD CESPL			
California	CENSPLCA0000002	CENSPLCA0000002	02-2001		
Brea Dam Service Bridge		CESPD CESPL			
California	CENSPLCA0000004	CENSPLCA0000004	07-2005		
FULLERTON DAM SERVICE BRIDGE		CESPD CESPL			
California	CESPLCA00000005	CENSPLCA0000005	08-2004		
HANSEN DAM SERVICE BRIDGE		CESPD CESPL			
Iowa	CENMVPIA-00LD10	CENMVPIA-00LD10	11-2002		
		CEMVD CEMVP			
Iowa	CEPMVPIAXXXXXXX	CEPMVPIAXXXXXXX	04-2005		<input checked="" type="checkbox"/>
SAMPLE BRIDGE		CEMVD CEMVP			
Minnesota	000000000007435	CEPNC SMN-000003	07-2003		
GULL LAKE DAM BRIDGE		CEMVD CEMVP			
Minnesota	5358	CEPMVPMN0000002	12-2003		
WINNI LAKE DAM		CEMVD CEMVP			
Minnesota	CENMVPMN-000001	CENMVPMN-000001	08-2004		
		CEMVD CEMVP			
Minnesota	CENMVPMN-000002	CENMVPMN-000002	09-2002		
		CEMVD CEMVP			
Minnesota	CENMVPMN-000010	CENMVPMN-000010	08-2001		
		CEMVD CEMVP			
Minnesota	CENMVPMN-00LD03	CENMVPMN-00LD03	05-2001		
		CEMVD CEMVP			

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1: State

2: District

3: County

4: Place Code

5a: Record Type

5b: Route Prefix

5c: Service Level

5d: Route Number

5e: Directional Suffix

6: Features Intersected

7: Facility Carried by Structure:

9: Location

10: Min. Vert Clearance  thru  meters

11: Kilometerpoint  thru  kilometers

12: Base Highway

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[My Bridges](#)   [Error Report](#)   [Add COE Bridge](#)

Click Heading to Re-Sort

	State / Name	NBIS	COE / Division	Insp Date	Edits	Review Status				
						1	2	3	4	A
<input checked="" type="checkbox"/>	Minnesota GULL LAKE DAM BRIDGE	000000000007435	CEPNCSMN-000003 CEMVD CEMVP	07-2003						2004
<input checked="" type="checkbox"/>	Minnesota WINNI LAKE DAM	5358	CEPMVPMN0000002 CEMVD CEMVP	12-2003						2004
<input checked="" type="checkbox"/>	Minnesota	CEPNCSMN-000002	CEPNCSMN-000002 CEMVD CEMVP	12-2003						2004
<input checked="" type="checkbox"/>	Minnesota Lac Qui Parle Dam	CEPNCSMN-000004	CEPNCSMN-000004 CEMVD CEMVP	09-2004						2004
<input checked="" type="checkbox"/>	Minnesota Chippewa River Diversion	CEPNCSMN-000005	CEPNCSMN-000005 CEMVD CEMVP	10-2003						2004
<input checked="" type="checkbox"/>	Minnesota Watson Sag	CEPNCSMN-000006	CEPNCSMN-000006 CEMVD CEMVP	10-2003						2004
<input checked="" type="checkbox"/>	Minnesota Browns Valley Culvert	CEPNCSMN-000007	CEPNCSMN-000007 CEMVD CEMVP	09-2004		✓	✓	✓	✓	2004
<input checked="" type="checkbox"/>	North Dakota EGGERTS LANDING BRIDGE	CEPNCSND-00BH02	CEPNCSND-00BH02 CEMVD CEMVP	09-2004		✓	✓	✓	✓	2004
<input checked="" type="checkbox"/>	South Dakota	CEPNCSND-000008	CEPNCSND-000008 CEMVD CEMVP	06-2004						2004

Bridge Count: 9





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**Bridge Inventory System**

Last List New Query COE MAP BMS sign off  
 My Bridges

Click Heading to Re-Sort

State / Name	NBIS	COE / Division	Insp Date	Edits		
Arizona	CENSPLAZ0000007	CENSPLAZ0000007	07-2005			
Painted Rock Dam Service Bridge		CESPD CESPL				
California	CENSPLCA0000002	CENSPLCA0000002	02-2001			
Brea Dam Service Bridge		CESPD CESPL				
California	CENSPLCA0000004	CENSPLCA0000004	07-2005			
FULLERTON DAM SERVICE BRIDGE		CESPD CESPL				
California	CESPLCA00000005	CENSPLCA0000005	08-2004			
HANSEN DAM SERVICE BRIDGE		CESPD CESPL				
Iowa	CENMVPIA-00LD10	CENMVPIA-00LD10	11-2002			
		CEMVD CEMVP				
Iowa	CEPMVPIAXXXXXXX	CEPMVPIAXXXXXXX	04-2005			
SAMPLE BRIDGE		CEMVD CEMVP				
Minnesota	000000000007435	CEPNC SMN-000003	07-2003			
GULL LAKE DAM BRIDGE		CEMVD CEMVP				
Minnesota	5358	CEPMVPMN0000002	12-2003			
WINNI LAKE DAM		CEMVD CEMVP				
Minnesota	CENMVPMN-000001	CENMVPMN-000001	08-2004			
		CEMVD CEMVP				
Minnesota	CENMVPMN-000002	CENMVPMN-000002	09-2002			
		CEMVD CEMVP				
Minnesota	CENMVPMN-000010	CENMVPMN-000010	08-2001			
		CEMVD CEMVP				
Minnesota	CENMVPMN-00LD03	CENMVPMN-00LD03	05-2001			
		CEMVD CEMVP				

SELECT

# CEBIS Features



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Great Lakes and Ohio River Division

Northwestern Division

South Pacific Division

Southwestern Division

Mississippi Valley Division

North Atlantic Division

South Atlantic Division

Pacific Ocean Division

MILCON Only

MILCON Only

Click within District boundary to query by District  
Click **HQ** to query entire Division



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## CEBIS Features

### ***ADD/DELETE RECORDS***

# CEBIS Features



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Click Heading to Re-Sort

State / Name	NBIS	COE / Division	Insp Date	Edits	Review Status				
					1	2	3	4	A
<input checked="" type="checkbox"/> <input type="checkbox"/> Arizona Painted Rock Dam Service Bridge	CENSPLAZ0000007	CENSPLAZ0000007 CESPD CESPL	07-2005						
<input checked="" type="checkbox"/> <input type="checkbox"/> California Brea Dam Service Bridge	CENSPLCA0000002	CENSPLCA0000002 CESPD CESPL	02-2001						
<input checked="" type="checkbox"/> <input type="checkbox"/> California LERTON DAM SERVICE BRIDGE	CENSPLCA0000004	CENSPLCA0000004 CESPD CESPL	07-2005						
<input checked="" type="checkbox"/> <input type="checkbox"/> California HANSEN DAM SERVICE BRIDGE	CESPLCA00000005	CENSPLCA0000005 CESPD CESPL	08-2004						
<input checked="" type="checkbox"/> <input type="checkbox"/> Iowa SAMPLE BRIDGE	CENMVPIA-00LD10	CENMVPIA-00LD10 CEMVD CEMVP	11-2002						
<input checked="" type="checkbox"/> <input type="checkbox"/> Iowa SAMPLE BRIDGE	CEPMVPIAXXXXXXX	CEPMVPIAXXXXXXX CEMVD CEMVP	04-2005						<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> <input type="checkbox"/> Minnesota GULL LAKE DAM BRIDGE	000000000007435	CEPNCSMN-000003 CEMVD CEMVP	07-2003						
<input checked="" type="checkbox"/> <input type="checkbox"/> Minnesota WINNI LAKE DAM	5358	CEPMVPMN0000002 CEMVD CEMVP	12-2003						
<input checked="" type="checkbox"/> <input type="checkbox"/> Minnesota WINNI LAKE DAM	CENMVPMN-000001	CENMVPMN-000001 CEMVD CEMVP	08-2004						
<input checked="" type="checkbox"/> <input type="checkbox"/> Minnesota WINNI LAKE DAM	CENMVPMN-000002	CENMVPMN-000002 CEMVD CEMVP	09-2002						
<input checked="" type="checkbox"/> <input type="checkbox"/> Minnesota WINNI LAKE DAM	CENMVPMN-000010	CENMVPMN-000010 CEMVD CEMVP	08-2001						
<input checked="" type="checkbox"/> <input type="checkbox"/> Minnesota WINNI LAKE DAM	CENMVPMN-00LD03	CENMVPMN-00LD03 CEMVD CEMVP	05-2001						

**SELECT** (arrow pointing to the first checked checkbox)

# CEBIS Features



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Query COE MAP sign off  
 My Bridges Error Report Add COE Bridge

Structure Number CEPNCSMN-000003 Name GULL LAKE DAM BRIDGE NBI Structure Number 000000000007435

https://cebis.wes.army.mil/help/item\_71.html - Microsoft Internet Explorer

[Close this Window](#)

**Item 71 Waterway Adequacy** <1 digit/td>

This item appraises the waterway opening with respect to passage of flow through the bridge. The following codes shall be used in evaluating waterway adequacy (interpolate where appropriate). Site conditions may warrant somewhat higher or lower ratings than indicated by the table (e.g., flooding of an urban area due to a restricted bridge opening).

Functional Classification				Code Description
Principal Arterials - Interstates, Freeways, or Expressways	Other Principal and Minor Arterials and Major Collectors	Minor Collectors, Locals		
N	N	N	1	Bridge not over a waterway.
9	9	9	9	Bridge deck and roadway approaches above flood water elevations (high water). Chance of overtopping is remote.
0	0	0	0	Bridge deck and roadway approaches below flood water elevations (high water). Chance of overtopping is remote.

Internet

SELECT

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Structure Number	Name	NBI Structure Number
CEPMVPMN0000002	WINNI LAKE DAM	5358

[Photos / Sketches](#)   
 [View/Modify INSP Notes](#)   
 [Add INSP Notes](#)   
 [Modify Exec Summary](#)

[Edit by Number](#)   
 [Edit by Category](#)   
 [Delete](#)   
 [Inspection](#)  
[View by Number](#)   
 [View by Category](#)   
 [Reports](#)

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<b>Structure Number</b> CEPMVPMN0000002	<b>Name</b> WINNI LAKE DAM	<b>NBI Structure Number</b> 5358
--	-------------------------------	-------------------------------------

Span Range:  to:

Structure Material:

Structure Design:

Category:

Elements:  ?

NBIS:

Inspection Note:	Env	Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
<input type="text" value="1: Benign"/>	<input type="text" value=""/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

Remarks:   
[format help](#)  characters left

<input type="button" value="Edit by Number"/>	<input type="button" value="Edit by Category"/>	<input type="button" value="Delete"/>	<input type="button" value="Inspection"/>
<input type="button" value="View by Number"/>	<input type="button" value="View by Category"/>	<input type="button" value=""/>	<input type="button" value="Reports"/>



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[My Bridges](#) [Error Report](#) [Add COE Bridge](#)

Structure Number	Name	NBI Structure Number
CEPMVPMN0000002	WINNI LAKE DAM	5358

Photos / Sketches	View/Modify INSP Notes	Add INSP Notes	Modify Exec Summary
 <a href="#">Modify</a> <a href="#">Delete</a>	 <a href="#">Modify</a> <a href="#">Delete</a>	 <a href="#">Modify</a> <a href="#">Delete</a>	 <a href="#">Modify</a> <a href="#">Delete</a>
2	4	5	6

**FILE UPLOAD**

Enter File Description:

Select Page Size:  Half Page  Full Page

Pick a file to upload:

**Click "Upload File" only once per file ... for progress: Watch status bar at bottom of screen**

<a href="#">Edit by Number</a>	<a href="#">Edit by Category</a>	<a href="#">Delete</a>	<a href="#">Inspection</a>
<a href="#">View by Number</a>	<a href="#">View by Category</a>		<a href="#">Reports</a>



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[My Bridges](#) [Error Report](#) [Add COE Bridge](#)

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<b>Structure Number</b> CEPMVPMN0000002	<b>Name</b> WINNI LAKE DAM	<b>NBI Structure Number</b> 5358
--	-------------------------------	-------------------------------------

Photos / Sketches

View/Modify INSP Notes

Add INSP Notes

Modify Exec Summary

1. Summary of Inspection:

2. Summary of Findings:

3. Previous Inspection Findings and Recommendations:

4. Recommendations:

5. Evaluation Summary(s):

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Structure Number	Name	NBI Structure Number
CEPNCSMN-000002	Winni Lake Dam	CEPNCSMN-000002

[SI&A by category](#)
[SI&A by number](#)
[Inspection Notes](#)
[Exec Summary](#)
[Inspection Report](#)
[Approval Status](#)

Phil Sauser Bridge Inspection Team Leader	09-NOV-2004 (Date)
Phil Sauser Technical Review Team Leader	09-NOV-2004 (Date)
Phil Sauser Chief, Engineering Division	09-NOV-2004 (Date)
Phil Sauser MSC / Division	09-NOV-2004 (Date)

[View Comments](#)

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## CEBIS Features

# ***INSPECTION REPORT***



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**QC/QA**



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### ***DATA REPORTING***



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***TRACKING/TRENDS***



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## CEBIS Features

***Archival***





# Bridge Inspection Reporting System



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