APPENDIX D – DATABASE DOCUMENTS

This appendix contains the WIP Database Users Manual:

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WIP Database Users Manual

Overview

Main Menu Selections
When the database opens, a Main Menu screen appears with four options:
1. Enter New Retaining Wall Data
2. Edit Existing Retaining Wall Data
3. Open Reports Menu
4. Exit the WIP Database

Entering New Retaining Wall Data
The application has three forms (screens) for entering field inspection data:
1. Wall function, dimensions, and description data entry
2. Wall element condition assessment data entry
3. Wall condition rating, action status, consequence of failure, repair/replace costs, work order description, and repair recommendations data entry.

Editing Retaining Wall Data
The application has three data input forms (screens) for editing data residing in the database that are identical to the forms for entering new field inspection data, with the exception that a function is provided on the first form to select a specific wall record to be edited.
1. Wall function, dimensions, and description data editing
2. Wall Element condition assessment rating data editing
3. Wall condition rating, action status, consequence of failure, repair/replace costs, brief work order description, and repair recommendations data editing.

Reports for Reviewing Data
The application provides users with a selection of prepared reports for reviewing and printing all the data entered on the forms. Users can also select from several prepared reports that contain summarized and aggregated wall inventory data.

Navigating Through the Fields on the Data Entry Forms
Navigating from one data field to another in any data entry form is best accomplished through using either the "Tab" or "Enter" keys on the computer keyboard. Using the mouse or touch pad to move between data fields is not recommended because certain database processes, such as updating a new record, are triggered by the using the "Tab" or "Enter" keys.

Locating a Park-Specific WIP Database
Park-specific WIP databases are placed on the CFLHD ftp site to which Federal Land Highway Division personnel have access. Users locate a specific database by opening the appropriate directory and folder on the ftp site, then selecting the database identified with the unique national park four character acronym in its name, e.g., YOSE WIP Database 1.0.mdb. Detailed directions for using the WIP database are provided in the following sections.

Open the WIP Database

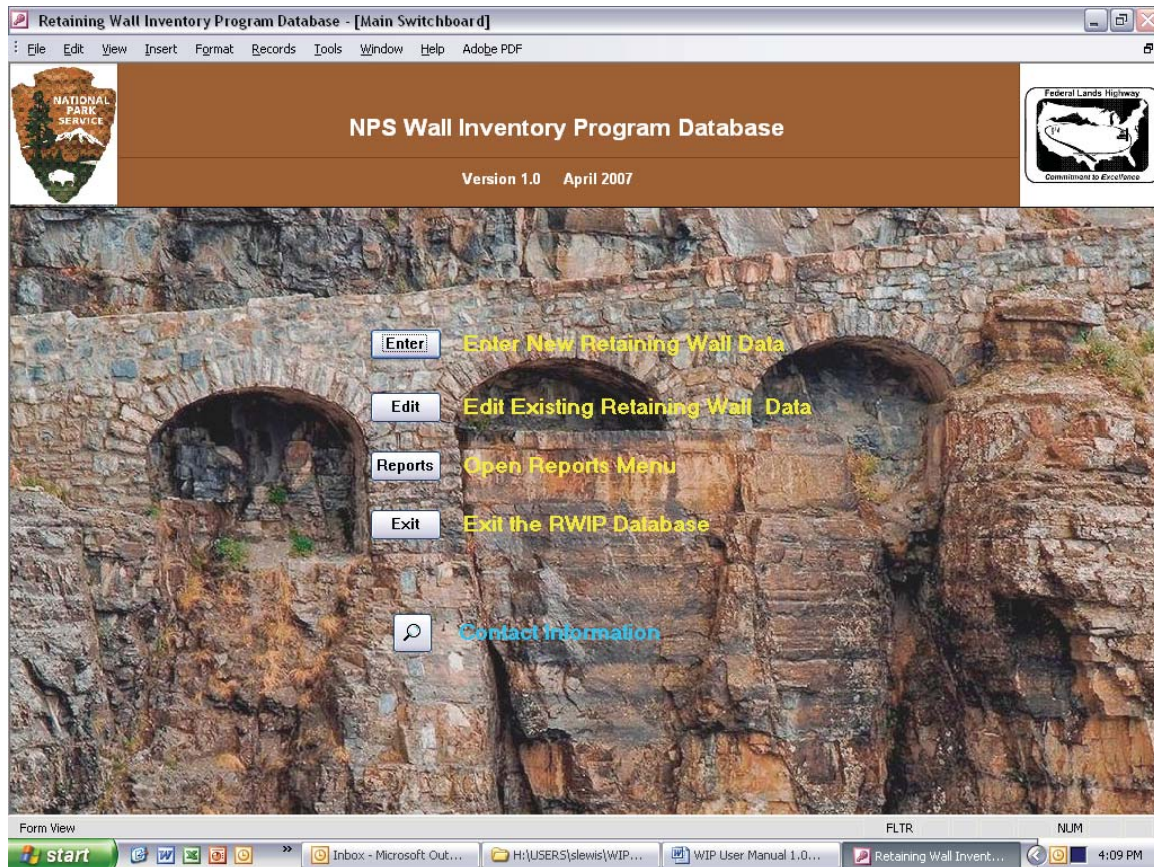Double click on the selected park-specific WIP database. The database "Main Menu" will open.

Figure D1. Example of the WIP Database Main Menu opening page.

From the Main Menu, options are provided to either enter new or edit existing retaining wall data. Both of these functions are described in detail in the following sections. In addition, a variety of reports may be viewed and printed from the "Open Reports Menu". Upon selecting a particular report from this menu, the toolbar options at the top of the print/preview screen can be used to view, print, and close reports.

Upon completion of data entry and/or report access, always click on "EXIT THE WIP DATABASE" to safely close the WIP database program.

Steps for Entering Wall Inspection Data

Step 1 - Wall Function, Dimensions, and Description
Click on the "Enter" button to open the first data entry form. The "Wall Function, Dimensions, and Description" data entry form will open, as shown in Figure D2.

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Use either the "Tab" or "Enter" keys to navigate through the data fields to enter data. Delete incorrect data entries by putting the cursor in the appropriate data entry box and use the "Delete" key. Many of the data fields in this form have "pop-up" notes with additional information for inputting data. To see these notes, place the cursor in any data box and the "pop-up" will appear.

Figure D2. Example of the "Wall Function, Dimensions and Description" data input form in the selected Park database.

Several data fields are automatically populated as data are entered, including:

> PARK NAME
> WALL ID
> WALL BEGIN LATITUDE
> WALL BEGIN LONGITUDE
> AVG. WALL HEIGHT

Drop down lists, accessed by clicking on the down arrow (▼), are also provided to simplify data entry for the following fields:

TEAM LEAD	PRIMARY WALL TYPE
INSPECTED BY	SECONDARY WALL TYPES
SIDE OF CENTERLINE	ARCHITECTURAL FACINGS
WALL FUNCTION	SURFACE TREATMENTS

To begin entering data, place the cursor in the "TEAM LEAD" box and select the appropriate name from the drop down list. If a name is not included on the list, type in the new name in the box. The application will add the new name to the database. Continue to enter data using the "Tab" or "Enter" button to navigate through the data fields in the proper sequence.

There are three command buttons located at the top right corner of the screen that provide additional functions during and after data entry. To delete all of the data entered for the given wall record and start over from the beginning click on "Delete - Restart Data Entry". To save entered data and return to finish data entry later, click on "Pause Data Entry". After data entry is complete on this first form, click on "Next Page" to move to the "Wall Element Condition Assessment" data entry form (shown in Figure D3).

Figure D3. Example of the "Wall Element Condition Assessment" data input form in the selected Park database.

Step 2 - Wall Element Condition Assessment
Within the "Wall Element Condition Assessment" data entry form, select the appropriate
"CONDITION NARRATIVE" box and type in the element condition narrative. Tab to the
"COND RATING" box and enter the 1-10 element condition rating. Tab to the "RELIABILITY"
box and enter the 1-3 data reliability rating. Repeat this data entry sequence for each Primary and
Secondary wall element assessed, and for the overall wall performance. The "COND SCORE" is
automatically calculated, and the application will keep a running total of the "WALL
CONDITION RATING" value at the bottom of the screen as data are entered.

As with the previous data entry form, there are several command buttons located at the top right
corner of the screen that provide additional functions during and after data entry. To delete all of
the condition assessment data entered click on "Delete - Restart Data Entry". To save entered data
and return to finish data entry later, click on "Pause Data Entry". To return to data entry on the
prior "Wall Function, Dimensions and Description" data input form, click on "Previous Page".
After data entry is complete on this second form, click on "Next Page" to move to the "Wall
Repair/Replace Recommendations" data entry form (shown in Figure D4).

**Figure D4. Example of the "Wall Repair/Replace Recommendations" data input form in
the selected Park database.**

Step 3 - Wall Repair/Replace Recommendations
To begin data entry within the "Wall Repair/Replace Recommendations" data input form, select the appropriate response in the "INVESTIGATION REQUIRED?" field ("No" is the default value). Next, using the drop down arrow, select the appropriate option in the "DESIGN CRITERIA" box ("None", "Non-AASHTO", "AASHTO"). Move to the "CULTURAL CONCERN?" field and select the appropriate response ("No" is the default value). Tab on to the "FAILURE CONSEQUENCE" and "ACTION" fields and select the appropriate response from the drop down lists.

Enter a very brief description of the work required, if any, in the "BRIEF WORK ORDER DESCRIPTION" box. The description is limited to no more than 125 characters. The default in this field is "None".

If work is required, enter the detailed work order information in the "REPAIR/REPLACE RECOMMENDATIONS" box. This box will expand as needed to accommodate complete data entry. For this data field, use "Ctrl Enter" to start a new line; use "Enter" to exit the text box.

As with the previous data entry form, there are several command buttons located at the top right corner of the screen that provide additional functions during and after data entry. To delete all of the repair/replace data entered, click on "Delete - Restart Data Entry". To save entered data and return to finish data entry later, click on "Pause Data Entry". To return to data entry on the prior "Wall Element Condition Assessment" data input form, click on "Previous Page". After data entry is complete on this third form, click on "Add Record to Database" to add the data to the database and return to the Main Menu.

NOTE: Clicking on the "Delete - Restart Data Entry" button on the first data entry form ("Wall Function, Dimensions and Description") will result in the deletion of the entire data record. Clicking on this option on the subsequent two data entry forms ("Wall Element Condition Assessment" and "Wall Repair/Replace Recommendations") will only delete data within those forms. For example, upon completion of data entry within the third "Wall Repair/Replace Recommendations" data form, the user may select the "Delete - Restart Data Entry" button to delete all data entries on this form. The user may also return to the previous condition assessment form, select "Delete - Restart Data Entry", and delete just the data entered in this form. However, if the user returns to the first "Wall Function, Dimensions and Description" form and clicks on the "Delete - Restart Data Entry" button, all data entries on all three forms will be deleted, allowing the user to start over on the wall record.

Steps for Editing Wall Inspection Data

Step 1 – Edit Wall Function, Dimensions, Description
In the Main Menu, click on "Edit Existing Retaining Wall Data" to begin editing wall inspection data previously entered into the WIP database. The "Edit Wall Function, Dimensions, Description" data form will open, as shown in Figure D5.

Figure D5. Example of the "Edit Wall Function, Dimensions, Description" data edit form.

Place the cursor in the "Select a Wall ID to Edit/Delete Records" box and select the Wall ID to be edited from the drop down list. The application will load the previously saved wall record for the selected Wall ID. To edit data in the selected record, place the cursor in any of the data fields to make the necessary changes. The application will automatically update the database as changes are made.

NOTE: When editing the "WALL MILEPOINT START" field, the "WALL BEGIN LATITUDE" and "WALL BEGIN LONGITUDE" fields must also be updated. To automatically update these fields, simply Tab into these fields. The "WALL ID" field will also update automatically.

Similar to the data entry form, there are several command buttons located at the top right corner of the screen that provide additional functions prior to, during and after data editing. At any time the user can opt to click on the "Return to Main Menu" button to immediately return to the Main Menu without saving the edits to the current record. To delete the selected record altogether from the database, simply click on "Delete Record". Upon completing data edits on the "Edit Wall Function, Dimensions, Description" data form, click on "Next Page" to move to the "Edit Element Condition Assessment Data" form (shown in Figure D6).

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NOTE: Once deleted, a wall record cannot be restored.

Figure D6. Example of the "Edit Element Condition Assessment Data" data edit form.

Step 2 - Edit Element Condition Assessment Data
Follow the exact same steps for editing element condition assessment data as for entering the original data. All calculated fields will automatically update as edits are made to element ratings.

Similar to the data entry form, there are several command buttons located at the top right corner of the screen that provide additional functions prior to, during and after data editing. Clicking on the "Delete Condition Data" button permanently deletes all of the data contained within the "Edit Element Condition Assessment Data" form, including condition narratives and related element ratings. This is a convenient option to use when substantial changes are required; however, simple edits can be made by simply clicking within a specific field. At any time the user can opt to return to the first page by clicking on the "Previous Page" button. Edits to the condition assessment form will be temporarily saved while in edit mode. Upon completing data edits on the "Edit Element Condition Assessment Data" data form, click on "Next Page" to move to the "Edit Repair Recommendations Data" form (shown in Figure D7).

NOTE: Returning to the previous page and then clicking on the "Return to Main Menu" button will return the user to the Main Menu without saving edits to the selected wall record.

Figure D7. Example of the "Edit Repair Recommendations Data" data edit form.

Step 3 - Edit Repair Recommendations Data
Follow the exact same steps for editing wall repair/replace recommendations data as for entering the original data.

On this form, there are only two command buttons located at the top right corner of the screen that provide additional functions prior to, during and after data editing. At any time the user can opt to return to the condition assessment form by clicking on the "Previous Page" button. Edits to the repair recommendations form will be temporarily saved while in edit mode. Upon completing data edits on the "Edit Repair Recommendations Data" data form, click on "Update Database" to permanently save the updated record and be automatically taken back to the Main Menu.

At the Main Menu, the user may opt to continue to enter/edit wall data, view/print reports, or exit the database.

Saving and Printing Data Reports

At the Main Menu, click on the "Open Reports Menu" button and the "Report Menu" screen will be displayed (as shown in Figure D8).
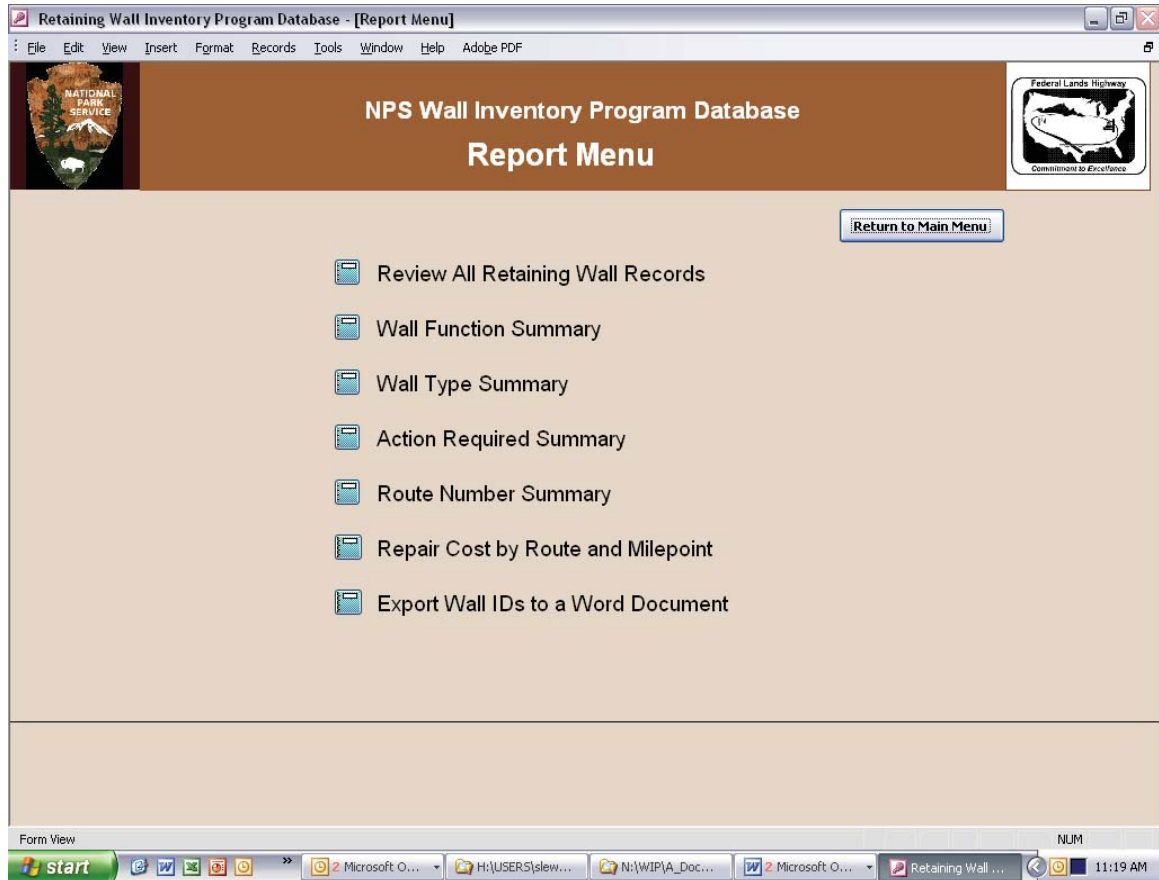

Figure D8. Example of typical canned reports available on the "Report Menu" screen.

To navigate to a particular canned report, click on the button next to the desired report title. A second screen will open displaying the selected report (example shown in Figure D9). Menu buttons/icons at the top of this screen provide the user such options as printing the report as it is displayed, viewing the report and closing the screen.

Data cannot be copied from the displayed report. However, the report can be easily converted to a Microsoft Word document from which data can be saved, copied and printed. In the toolbar menu, click on the Word icon to the right of the "Setup" button and select "Publish It with Microsoft Office Word". The report will be converted automatically into an .rtf text document in an MS Word screen where it can be saved, copied and/or printed. Save the report as a .doc Word document for future use.

Figure D9. Example of report available in the WIP Database.

To return to the "Report Menu" database screen, click on the "Close" button in the toolbar. Continue to open, print and save reports from the Report Menu.

Assigning Wall ID Names to Photographs

Upon return from the field, wall photos are downloaded to the appropriate Park folder on the CFLHD WIP server. Once the field data is loaded to the WIP database and Wall IDs are assigned, the photos are renamed according to Wall ID. The photo naming convention is simply the Wall ID plus a sequential photo number for the wall, starting with "1". For example, the first photo of a wall in Bryce Canyon National Park with Wall ID BRCA-0010-6.202-L would be BRCA-0010-6.202-L-1.jpg.

To assist in renaming wall photos, click on the "Export Wall IDs to a Word Document" on the Report Menu screen. An MS Word document opens with a table of Wall IDs, Photo Numbers, Route Numbers, and Primary Wall Types, as shown in Figure D10. With this document open, copy a Wall ID name from the displayed table (use Ctrl C to copy). Navigate to the appropriate photo in the Park photo folder and paste the Wall ID (use Ctrl V to paste) over the existing photo

name, adding a dash and the photo sequence number to the Wall ID as shown in the example above.

Figure D10. Example of "Export Wall IDs to a Word Document" table accessed from the Report Menu.

Instructions for Downloading and Uploading the WIP Database

To download the WIP Park Database to a workstation computer:

1. Go to ftp://ftp.cflhd.gov.
2. Log in: User ID = cflhd; Password = fhwa-cflhd.
3. Open the GEOTECH folder.
4. Open the Retaining Wall Database System sub-folder.
5. Open the appropriate Park sub-folder.
6. Copy the entire Park Database sub-folder to the workstation computer, including the Park specific "WIP Field Database", "Mousehook.dll" file, and "Pre-Field Work Database to Change Settings.mdb" file.

7. At the workstation computer, open the downloaded Park Database folder, and then open the "Pre-Field Work Database to Change Settings.mdb" database. Follow the instructions for setting database options, and then close the database. The WIP Field Database is now ready for use.

To upload the completed WIP Park Database to the ftp site:

1. Go to ftp://ftp.cflhd.gov.
2. Log in: User Id = cflhd; Password = fhwa-cflhd.
3. Open to the GEOTECH folder.
4. Open the Retaining Wall Database System sub-folder.
5. Open the appropriate Park sub-folder.
6. Copy the completed WIP Field Database and the folder with retaining wall photos from the workstation computer to the Upload Database sub-folder.
7. Send the Database Administrator an email that the field database and photos have been uploaded to the ftp site.