

SECTION 2
CARS (CONSTRUCTION AUTOMATED RECORDS SYSTEM)

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CARS Procedures

The Construction Automated Records System or CARS is the NDDOT's computer based construction records system. The system uses the internet for data entry and stores project records on a central database. Reports generated in CARS can be viewed online at any time so copies do not have to be printed and filed. Pay estimates are prepared and approved online allowing for more timely payments to the contractor.

User ID & Passwords

Before being able to enter or view data, CARS users are assigned a user ID and user's rights by the Information Technology Division. The user ID and a password allow you to login to the CARS system. The user rights assigned determines what access you have to view and edit data. Consultants, counties and cities must fill out and submit SFN 53085 LDAP Account Information to Construction Services in order to get a user ID and be assigned user rights. DOT employees will be required to fill out the LDAP Account Information form and submit it along with SFN 14272 Request for Computer Software/Equipment & Computer System Changes. The request must be signed by their division director and submitted to the Information Technology Division.

The SFN 53085 LDAP Account Information form can be obtained by going to the following address:

www.dot.nd.gov/forms/sfn53085.pdf

User ID information will be mailed to the CARS coordinator for cities, counties and consultants. Department employees will receive User ID information by email.

If you will be using temporary employees for data entry, you will have to submit the LDAP Account Information form for that employee. The Information Technology Division should also be informed when a User ID is no longer being used such as when temporary or permanent employees are no longer working for an organization. User ID's will be audited for activity from time to time and if no activity is shown within a certain time frame, the User ID will be removed.

The User ID will be sent out with a generic password and the user will be required to change their password the first time they log in to CARS. To change your password:

1. Click on the Change Password link.
2. Sign in with your User ID and the generic password given to you by ITD. The Change Password page is displayed.
3. Enter your new password. Passwords are case sensitive and must contain the following:
 - a. At least 6 characters
 - b. At least 1 uppercase letter
 - c. At least 2 lower case letters

- d. At least 1 number
4. Type the password in the second text box to confirm and click on the Login key. This will take you to the Main Menu of CARS.

Write down your password and store it in a secure location. If you forget your password, contact the Information Technology Division. Consultant, county and city users will be required to know the answers to the two hint questions submitted on the LDAP Account Information form or they will be unable to get their password information.

Login to the CARS Program

Access to the CARS programs is provided on the NDDOT website. To access CARS:

1. Go to the DOT website at <http://www.dot.nd.gov/>.
2. From the home page, click on the 'Doing Business with NDDOT' button
3. A link for CARS can be found on the 'Doing Business' page under the Construction Division heading.
4. Click on the CARS link to go to the Login page.
5. Type in User ID and Password and click the Login button.
6. The CARS Main Menu is displayed.

Navigation

The same methods used to navigate Internet Explorer are also used to navigate in CARS. The following lists the most common navigation tools used.

1. Links
Links are usually colored, underlined text but can also be a picture or 3-D image. To check whether an item is a link, put the mouse pointer over the text or the image. If it turns into a hand, it is a link. Clicking on the link will take you to the page indicated by the link.
2. Text Box
Text boxes are used throughout CARS to enter data composed of numbers, text or both. A cursor will appear when you click inside the text box and data can be entered in the box. Sometimes data will be entered in a series of text boxes. Use the TAB button to move to the next text box.
3. Drop Down Box
A drop down box looks similar to a text box but it has an arrow pointing down on the right side. By clicking on the arrow, a list 'drops down' from the box with a list of different options that may be chosen to fill the box.

4. Check Box
Check boxes can be used to modify data or select a certain record. A check box is a square next to entered data or a record. Clicking inside the check box will put a check mark or an 'X' in the square. This indicates the data or record has been selected.
5. Buttons
Buttons are used throughout CARS to perform various functions such as SAVE, RETURN, SEARCH, etc. Clicking on them activates these buttons.
6. Radio Buttons
CARS also uses radio buttons. These are small circles followed by text and are used to pick a certain option within a data entry page. To select an option, click inside the radio button and a small black circle will appear. Only one choice can be made in a group of options with radio buttons. If you click on one radio button in a group of options and then click on another, the black circle will disappear from the first choice.

Input Basics

The following list is basic information needed to enter data into CARS.

1. CARS uses a time out feature. The session will time out after 30 minutes if there is no activity registered and data entered but not saved may be lost. If you are logged on and are interrupted, it is recommended that you click on the Save button before leaving your computer. It is also recommended that you click on the Save button every so often when entering tickets for a haul sheet, especially for haul sheets with a large number of loads. Entering tickets on the Haul Sheet Maintenance page does not register as activity and the session could time out before you finish the tickets.
2. **DON'T USE THE BACK BUTTON!** The program will function using the back button but you may lose data or you may get a 'Warning: Page has Expired' error message. If this occurs, click the Refresh button on the Internet Explorer tool bar. A dialog box appears asking you to use the Retry button to send the information again. Click on the Retry button and you will be returned to the previous page.
3. The TAB key can be used to move from one input field to the next. As you get used to working in the new CARS format, you will find the TAB key very useful for moving around in the data entry boxes.
4. The date and time must be entered in the following formats or an error message will be generated.
 - a. All time is entered as military time but also uses a colon for example 4:00 PM would be entered as 16:00

- b. Dates are entered 00/00/0000
- 5. Station/Location format
 - a. Stations are entered without the plus for example Sta. 100+32 would be entered as 10032
- 6. The project and subproject displayed at the top of the screen will be the same as the project from the last logon. Change these by clicking on the Project or Subproject link. This will take you to the Project Search Criteria page where you can change the project or subproject.
- 7. The Main Menu can be accessed by clicking on the link in the top right hand corner or the button at the bottom of each page.
- 8. Pay items are marked by release flags that indicate if they are paid.
 - a. R – for release. Can still be edited
 - b. E – examined. Selected for preliminary estimate. If the estimate is not approved, you will still have the opportunity to rectify any input errors.
 - c. S – submitted. Waiting for estimate approval. At this point, records can be viewed but you will no longer be able to edit them.
 - d. P – paid
- 9. A change order drop down box will be found in pay quantities, mix bitumen, concrete paving and haul sheets. This is used to indicate when a pay item is affected by a change order.
- 10. Deleting records
 - a. Check box for deleting rows
 - b. Delete button deletes the entire record
- 11. Printing reports requires having Adobe 5.0 Reader which can be obtained free from the DOT website. If the reports do not generate, check the settings. Also, the full version of Adobe Acrobat will not generate the reports. The reader will have to be downloaded and set as the program that opens the CARS reports. If you are still having problems generating the reports, you will have to change settings in the Reader by:
 - a. From the Start Menu on your computer, open the Adobe Reader.
 - b. Click on Edit and choose Preferences.
 - c. From the list on the left hand side, go to Options.
 - d. There are four check boxes under Web Browser Options. The first two boxes (Display PDF in Browser and Check Browser Settings When Starting Acrobat) should be unchecked.

Care of Computer Equipment

Proper care and treatment of computer equipment is essential to keep it in proper working condition. The following list of precautions will help keep computer equipment in good working order.

1. Computer equipment is particularly susceptible to weather conditions such as extremes in heat or cold, dust or wet conditions.
2. Make sure computer equipment is secure in field offices or vehicles. Lock the field office or the vehicle when unattended.
3. Computer equipment can be vulnerable during electrical storms especially in the field office setting. It's a good practice to turn off and unplug the computer during an electrical storm or when you leave the office for the day. Although surge protectors are an essential part of protecting your computer, they will not save it from a lightning strike.
4. **DO NOT** spray window cleaner directly on the screen of the monitor or the display on a laptop as it can damage or destroy this equipment. Cleaning supplies used specifically for monitor screens and laptop displays can be obtained from Supply.

Repairs and Other Problems

Any hardware or software problems that occur should be handled by contacting the NDDOT Help Desk at 328-HELP (4357). If the Help Desk can't assist you at the time of the call, they will log the problem and a technician will be assigned to your problem and will work with you until it is resolved.

Any problems with the CARS programs should be directed to Construction Services at 328-4418 or 328-2912.

Text Box Field Lengths

CARS uses text boxes throughout the program. Typing in more characters than the size of the text box will generate an error. The following table lists the character length of all text boxes in CARS.

TITLE OF FIELD	# OF CHARACTERS
Change Order Maintenance Remarks	200
Change Order Maintenance Explanation of Change	3,000
Change Order Spec/Code Maintenance Description	50
Change Order Spec/Code Maintenance Other	50
Concrete Paving Remarks	200
Haul Sheet Maintenance Remarks	200
Mix Bitumen Maintenance Remarks	200
Pay Quantity Maintenance Remarks	200
Project Diary Days and Weather Maintenance Lost Time Reason	80
Project Diary Section Maintenance – Engineering Staff	500
Project Diary Section Maintenance - Work in Progress	2,000
Project Diary Section Maintenance – Labor Force	500
Project Diary Section Maintenance – Equipment Summary	500
Project Diary Section Maintenance – Project Visitors	500
Project Diary Section Maintenance – Hours Worked	500
Project Diary Section Maintenance – Remarks	2,000
Project Diary Supplement Maintenance – Short Description	30
Project Diary Supplement Maintenance – Remarks	1,000
Stockpile/Invoice Item Maintenance Remarks	200
Construction Status Maintenance Remarks	200
Weekly Progress Report Maintenance – Remarks	2,000
Weekly Progress Report Maintenance – Road Const. Map Info	300
Weekly Progress Report Maintenance – DBE Remarks	200
Contract Adjustment Maintenance – Remarks	200
Contract Adjustment Maintenance – Item Description	50
Final Checklist Maintenance – Remarks	200

Assign Project Engineers & Project Personnel

After the bid opening and award process is complete, the projects are downloaded into CARS from PACER. An email will be sent to the district engineer listing the projects from the bid opening for that district. The district engineer will assign project engineers and/or consultants for each project listed.

After the District Engineer has assigned a project engineer to a project, the project engineer will assign their project personnel. For consultants, the designated CARS coordinator will assign the project engineer to a project who will in turn assign project personnel. Project personnel will be able to update or view project information depending on the user rights they have been assigned by the Information Technology Division of the DOT.

Assign Project Personnel

To assign project personnel:

1. On the Main Menu, check to see that the project displayed at the top of the page is correct. To select a project, click on the Project link in the upper left hand corner of the Main Menu page. The Project Search Criteria page is displayed. Choose your project from the Assigned Project drop down list and click on the Search button. You can also access your project by typing in the project number in the Project ID text box or typing the PCN number in the PCN text box. You will only be able to assign personnel to projects assigned to you.
2. Once you have picked the project, click on the Project Personnel link. The Project Personnel page is displayed.
3. The project engineer's name will be listed under Assigned Personnel. Click on the Assign/Remove Personnel button. The Assign Project Personnel page is displayed.
4. A list of available personnel is displayed in alphabetical order along with their user ID's. To assign personnel to the project, click in the check box in the Assign column.
5. Click on the Save button. If you have tied projects, a dialog box will display asking if you want to update all tied projects. Clicking on yes will assign the personnel chosen to all projects tied to the one shown at the top of the page. If you choose no, you will need to assign personnel to those projects separately.
6. After the assigned personnel are chosen and saved, you will be returned to the Project Personnel page. All personnel assigned to the project will now be listed alphabetically under Assigned Personnel.

If a project engineer is assigned to multiple projects or a large project with several tied project numbers, it is possible to change projects or subprojects from any location within the CARS programs.

Change Projects/Subproject Selection

To change the project or subproject selection:

1. To change the project
 - a. Click on the Project link
 - b. The Project Search Criteria page is displayed. Pick the project by:
 - (1) Choose the project from the Assigned Project drop down
 - (2) Type in the project number in the Project ID text box
 - (3) Type in the project control number in the PCN text box
 - (4) Click on the Search button
2. To change the Subproject
 - a. Click on the Subproject link
 - b. The Subproject Selection page is displayed. All subprojects for the project chosen are displayed under Subproject Search Results. Click on the link for the subproject.
 - c. The Project Search Criteria is also displayed on this page. If the project is changed from this page, the subprojects displayed will change to the ones for that project.

The CARS Main Menu is divided in two distinct categories – Maintenance and Reports. The Maintenance side of the menu is used to make entries into CARS and create reports for the information entered. The Reports side allows you to access any report already created from previously input information. Instructions for use of the various Maintenance and Report functions will be listed by type in subsequent sections of this manual.

CARS/FileNET Electronic Document Database

The NDDOT uses an electronic document management system (FileNET) to store construction project records. FileNET is available to Non-DOT personnel as part of the CARS program.

FileNET document management shall be used for all NDDOT projects where the Contract is signed by the Director. Use of FileNET is not required on Local Agency projects.

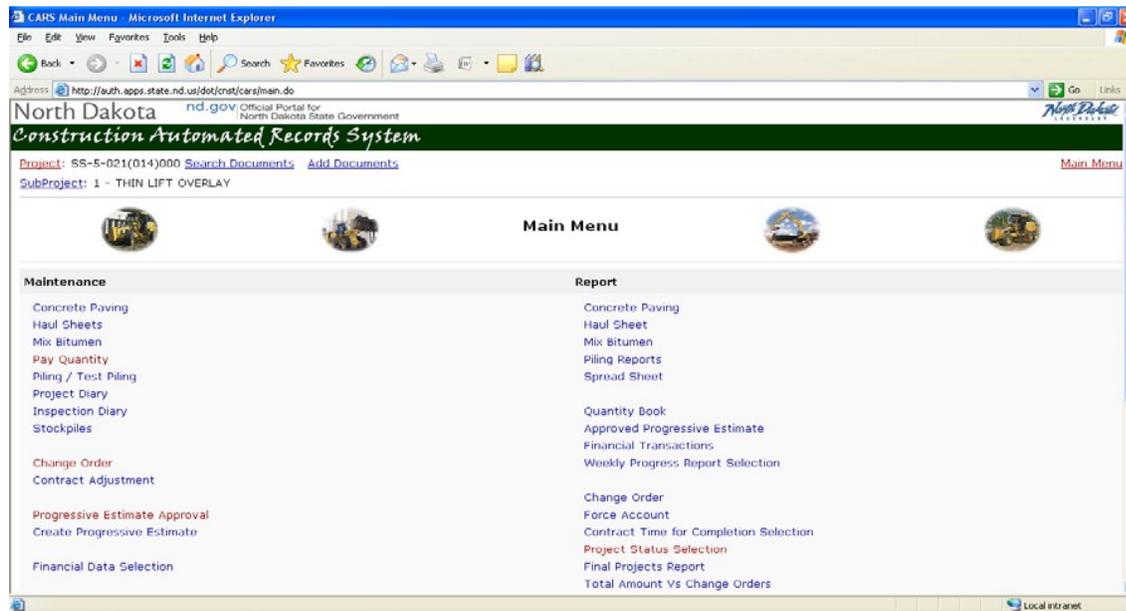
A modified version of FileNET has been incorporated with the CARS program. This will enable all users in CARS to add, search and store project records to FileNET while using the CARS program.

CARS/FileNET

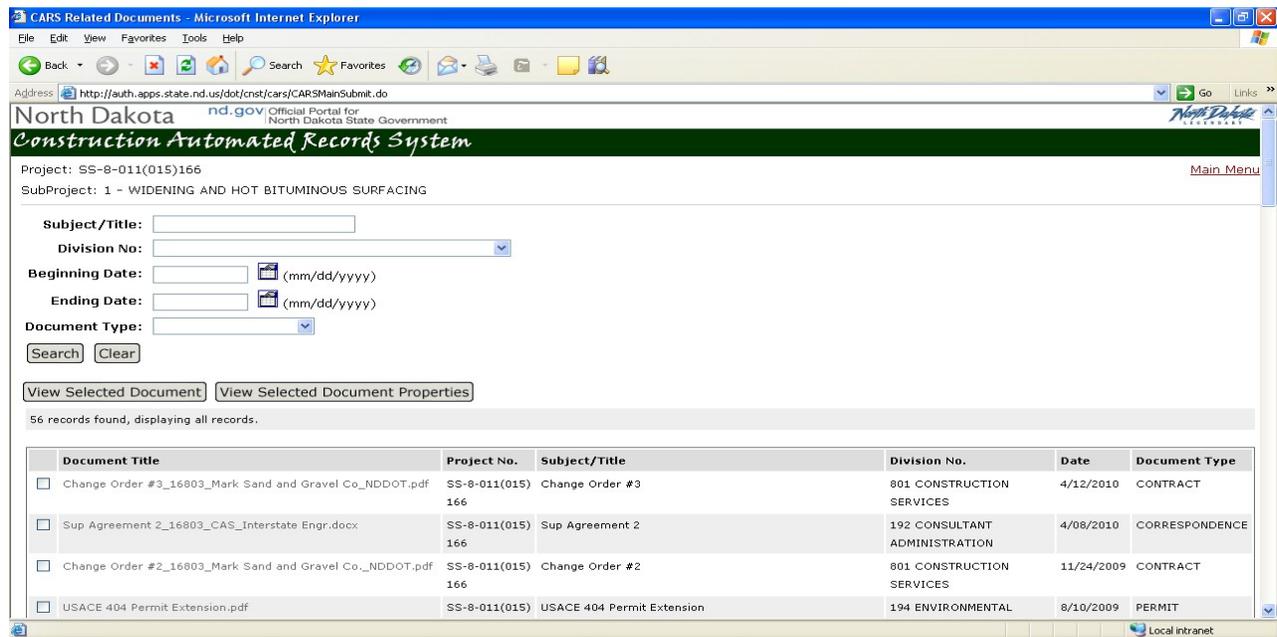
There are two new functions available on the Main Menu in CARS. They are the Search Documents link and the Add Documents link.

Search Documents Link

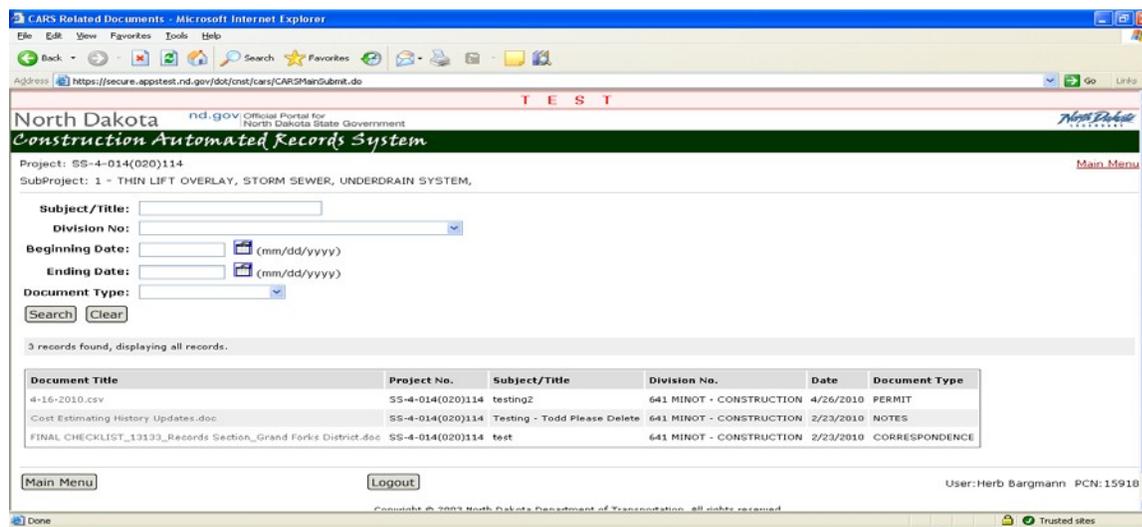
All CARS users will be able to view project related documents stored in FileNET. Project related documents from the bid opening date forward will be displayed in the new Search Documents link located on the CARS Main Menu. (see below)



Users are able to refine the search results by choosing several options. They are Subject/Title, Division Number, Beginning and Ending date, and Document Type. Users may enter one or all of the criteria to refine their search. Click the Search button to retrieve the results. NDDOT Employees -To view the documents, the user must click on the Document Title. Use the check box to select more than one document to view. Documents will open up in an Image Viewer. The screen shot below is a sample for DOT personnel only



Non DOT CARS users will be able to open one document at a time by clicking the Document Title. The ability to open several documents at one time is not available. The View Selected Documents and View Selected Documents Properties boxes will not be visible. See sample below.



Add Documents Link

The Add Documents Link is where CARS users will add electronic project documents into CARS. The users will be required to give each document a Subject/Title. A document type is also required, a drop down box is available to define the document type. The users will then click the Browse button to search their PC's for the source documents location they are saving to CARS/FileNET. The final step is to click the Add button, this will store the document into CARS/FileNET. The preferred file formats are (tiff, pdf, xlsx, docx). The files should not exceed 100 mb. Once a document is added, it cannot be deleted unless the user contacts Construction Services

The screenshot shows a Microsoft Internet Explorer browser window titled "CARS Add Documents - Microsoft Internet Explorer". The address bar displays the URL: <http://auth.apps.state.nd.us/dot/cnst/cars/CARSMainSubmit.do>. The page header includes the North Dakota State Government logo and the text "North Dakota nd.gov Official Portal for North Dakota State Government". The main heading is "Construction Automated Records System". Below this, the project information is displayed: "Project: SS-8-011(015)166" and "SubProject: 1 - WIDENING AND HOT BITUMINOUS SURFACING". The form contains the following fields and controls:

- Subject/Title:** A text input field.
- Document:** A text input field with a "Browse..." button next to it. A note below the field states "File can be no larger than 500 MB."
- Document Type:** A dropdown menu currently set to "AUDIO".
- Buttons:** "Return" and "Add" buttons are located below the form fields. "Main Menu" and "Logout" buttons are located at the bottom of the form area.

At the bottom right of the page, the user information is displayed: "User: Lance Bargmann PCN: 16803". The footer contains the copyright notice: "Copyright © 2003 North Dakota Department of Transportation. All rights reserved." and logos for "ND DOT" and "AA Better".

The Department of Transportation's retention on project records is: 3 years after FHWA final payment, then microfilm. Retain microfilm for 75 years after date filmed. To ensure that quality records are put to microfilm, the DOT recommends the following scanning standards:

1. 300 dpi
2. Tiff Group 4 compression
3. Color only if necessary (detailed maps/photos)
4. Pdf

All Project Engineers shall store the following construction project records documents in CARS/FileNET:

When scanning and storing documents in CARS/FileNET, Stamp the documents with a red star as they are processed. This will help identify documents that have been scanned.

1. **Preconstruction Meeting Minutes.** Notify Construction Services when this document is stored in CARS/FileNET either by email or (NDDOT) email with a link to the document.
2. **Correspondence.** Project correspondence, including email shall be stored in CARS/FileNET. Any documents received should be scanned and stored in CARS/FileNET in a timely manner. Do not store draft documents.
3. **Progress Reports.** This will be the original progress report with the project engineer signature and contractors signature.
4. **Inspectors Diaries.** If the CARS system is not being used to enter Inspectors Diaries, The diaries can be scanned and saved into CARS/FileNET. They should be saved in CARS/FileNET once a week per contractor/subcontractor.
5. **NOTE Project Diaries** These diaries should be in the CARS system. In some instances, when the CARS system is not being used, the diaries shall be scanned and stored in CARS/FileNET. This would be in the case of an emergency job were the project is not setup in CARS. The following criteria shall be used when scanning diaries into FileNET.
 - a. Approval from Construction Services is required
 - b. Project number must be on each page.
 - c. Legibility is not to be compromised.
 - d. Diary entries must be saved on a daily basis.
 - e. Consistency – cannot alternate CARS entries/File Net entries.

In the case of projects that are not set up in CARS, such as an emergency project, the project diaries will be scanned and stored in FileNET using the criteria listed above

6. **Piling logs.** Any piling logs that are not in the CARS system shall be scanned and stored in CARS/FileNET.
7. **Bench Mark books.** All field books used for bench marks shall be scanned and stored in CARS/FileNET.

The following are CARS/FileNET suggestions for adding these documents.

<u>Document</u>	<u>Subject/Title</u>	<u>Document Type</u>
Preconstruction Conference Correspondence	Preconstruction Conference Subject	Correspondence
Progress Report	Progress Report_weekending (Progress Report_05142010)	Correspondence Report
Inspection Diary	Inspector_Contractor_weekending (Johnson_Gowen_07242010)	Form
Project Diary	Engineer_Project Diary_day (Johnson_Project Diary_07022010)	Form
Piling Logs	Piling Log	Form
Bench Mark Books	Bench Marks	Field Book

The following documents will continue to be mailed to Construction Services, Construction Services will store the documents in FileNET, Hard copies of these documents WILL NOT be mailed back to project engineers. They will be available in CARS/FileNET after they have been processed.

1. Change Orders
2. Requests for Contract Time Extension
3. Requests to Sublet and Subcontract Agreements.

Final Records

All construction project records, not stored in CARs/FileNET, will continue to be sent to Construction Services as outlined in the Construction Records Manual. This includes all final paperwork required on the Final Records Checklist.