



Arizona Department of Transportation

INTERMODAL TRANSPORTATION DIVISION

Construction Group

CONSTRUCTION BULLETIN 02-02

To: District Engineers
Construction & Materials Orgs

Date: August 29, 2002

From: Julio Alvarado, Asst. State Engineer,
Construction Group

Subject: Pen System and Laptop
Computer Directive

Purpose

To standardize procedures and guidelines for the utilization of the Pen System Application with laptop computers.

Scope

The laptop computers are designated for utilization by the Construction Org Inspectors pay grades S4 through S7, excluding the Lab Coordinator and office personnel.

1. Laptop computers belong to the District/Org that purchased them. The computers are assigned to the individual for the duration that the individual remains in the construction District. If the individual is transferred to another Org within the same District, the laptop will be transferred to that Org. The receiving Org will then transfer another laptop from their Org to the Org from which the employee was transferred. Both Orgs will fill out an equipment transfer form and the sending Org will contact the support desk to create a heat ticket number so the proper asset transfer can be reflected in the Fixed Asset inventory system.
2. If an Inspector with a laptop promotes above an S7, transfers to a different District or leaves state service, the laptop remains in the Org or District the Inspector transferred from.
3. When an Org hires, promotes, or transfers an inspector into the Org and they do not currently have a laptop, the Org or District will provide one.
4. Inspectors will receive the following training within six months of their hire date:
 - a. Office Pen basics, including construction forms;
 - b. Computer Security Awareness;
 - c. Current Windows program;
 - d. Pay Item Documentation;
 - e. Plans Reading;
 - f. Force Account;
 - g. Outlook.

When all training is complete a request will be sent to the District Engineer for approval to receive full access to the Pen System.

When the District Engineer approval has been obtained the field office will contact the support desk and open a heat ticket to have the Inspector's laptop set up by a computer tech.

When all of the above is complete the office training person will register the Inspector for the Pen Training course. This course will be taken within the Inspector's probationary period.

5. The Inspector will complete a Computer Access Request Form so they can be assigned a RACF ID number.
6. Laptop computers will not be stored overnight in any vehicle. The laptop will be stored in a locked and alarmed building (where available) at night. It is the laptop user's responsibility to make sure that the laptop is secure.
7. All laptop users will have an ADOT safety approved truck mount with the laptop in the stored position, or if the individual does not want a mount, the computer will be stored in the tool box while the vehicle is in motion, regardless of distance.
8. Only Diaries confirming pay items will be printed.
9. The office personnel will back up field office computer servers on a daily basis.
10. At no time will the author of a Daily Diary sign off on it as a Supervisor. Office personnel can create a Daily Diary but cannot sign off on their own Daily Diary or any other person's Daily Diary. At all times the Project Supervisor or Resident Engineer shall check and sign off on the Daily Diary or pay item documentation for the project.
11. Only project related information should be included in Daily Diaries (per the Construction Manual).
12. When an individual leaves state service, all state items must be returned to the office where they were employed. If all items are not returned, the cost of the items will be deducted from their last paycheck.
13. All precautions should be taken to prevent sun, or any other kind of damage and overheating of the laptop computers. Laptops will be kept clean at all times.

Pen Application Procedures

The following procedures for Daily Diary, Force Account Report, Maintenance & Protection of Traffic, Concrete Cylinder Report, Sand Cone Density Report, and Field Density Nuclear Method apply to all Pen Application users.

1. Daily Diary

- A. The Inspector creates the Diary in the field, entering all the necessary data for the project related work that they are doing that day - ensuring that if pay items are listed, none have zero quantities.
- B. When the Inspector returns to the office, motel room, etc., they will upload (via modem) the Diary to the SQL server within the next business day of item inspection.
- C. Within the next business day of the Diary creation date the Project Supervisor will look at the SQL server for Diaries that they need to approve. Then they download the Diaries and check for content and accuracy (don't forget the calculated quantities sheet).
- D. If no errors are noted, the Supervisor signs, saves, and uploads to the SQL server.
- E. If errors are detected, the Supervisor notifies the Inspector of the particular Diary with an error that needs correction. The Supervisor then deletes the Diary from their hard drive (listed on the SQL server list). When the Inspector corrects the error and uploads the Diary again it overwrites the previous Diary. When the Supervisor downloads the Diary again they will see the corrected Diary.
- F. The office staff assigned for processing Diaries for the required projects downloads the Diaries and checks for pay item errors. Within the next business day the Supervisors checks. If errors are found they notify the Project Supervisor and the Supervisor will create a Daily Diary and correct the error. If no errors are found then the office person signs and uploads the Diary to the SQL server. After processing all the Diaries with quantities, the office person opens the CPE program and selects the Project, Payment, Pen, and then Import.

2. Force Account Report

- A. The Inspector creates the FA Daily Report in the field, entering all the necessary data for the work that they are monitoring, as the contractor completes the work. The contractor's representative should either sign on the computer or on a printed hard copy. Either way the contractor receives a hard copy and then the contractor completes the summary and submits all the necessary paper work to the ADOT project office for verification and payment.
- B. When the Inspector returns to the office, motel room, etc., they will upload (via modem) the FA Daily Report to the SQL server within the next business day.
- C. Within the next business day of the force account creation the Project Supervisor will look at the SQL server for FA daily reports that they are interested in. They then download the reports and check for content and accuracy. If errors are found the office person notifies the Inspector of the particular FA report that has an error and needs correction. Then the Supervisor deletes the FA reports from their hard drive (listed on the SQL server list). When the Inspector corrects the error and uploads the FA report again it overwrites the previous report. When the office person downloads the FA report again they will see the corrected report. If no errors are noted, the office person signs, saves and prints a copy for the office and uploads to the SQL server.
- D. The office staff assigned to process the FA report for the required projects holds the report until receiving the FA package from the contractor for processing and payment.

3. Maintenance & Protection of Traffic

- A. The Inspector creates the Maintenance and Protection of Traffic (MPT) report in the field, entering all the necessary data for the work that they are doing that week - insuring that there are no zero quantities in the total column. This report is normally generated on Monday of the noted week. If the Inspector creates the report anytime from Saturday through Friday the report will have that Saturday's date. If more than one report is needed for the time period the Inspector needs to explain this information in the remarks section.
- B. When the Inspector returns to the office, motel room, etc., they will upload (via modem) the weekly MPT report to the SQL server within the next business day of the end of the week.
- C. The office person checks for errors and then uploads it to the SQL server within the next business day of the MPT report creation date.
- D. The office staff assigned for processing MPT reports for the required projects downloads the reports and checks for errors. If errors are found, they notify the Project Supervisor. If no errors are found the office person signs off and uploads the MPT report to the SQL server. After processing all the Diaries with quantities, the office person opens the CPE program and selects the Project, Payment, Pen, and then Import.

4. Concrete Cylinder Report

- A. The Inspector creates the Concrete Cylinder Report (CCR) header in the field, entering all the necessary data for the test that they are doing for the concrete placement.
- B. When the Inspector returns to the office, motel room, etc., they will upload (via modem) the CCR to the SQL server that same day. The cylinders will be transported to the laboratory and handled per ADOT specification and time limits (ASTM C 31/C 31M and AASHTO T 23-97).
- C. Before cylinders are transported to the lab, the Project Materials Coordinator will look at the SQL server for CCR reports that they are interested in. They then download the CCRs and check for content and accuracy (the Coordinator can make changes to the cylinder number only). If errors are found, the Coordinator notifies the Inspector of the particular CCR that has an error and needs correction. Then the Supervisor deletes the CCR from their hard drive (listed on the SQL server list). When the Inspector corrects the error and uploads the CCR again it overwrites the previous CCR. When the Coordinator downloads the CCR again they will see the corrected CCR. If no errors are noted, the Coordinator signs off, saves and uploads to the SQL server.
- D. The Laboratory Staff receives the concrete cylinders, logs them electronically, strips and stores them until the time to test.

5. Sand Cone Density Report

- A. The Inspector performs the test and creates the Density Report in the field, entering all the necessary data for the test that they are doing at that time.
- B. When the Inspector returns to the office, motel room, etc., they will upload (via modem) the Density Report to the SQL server that same day.
- C. The Project Materials Coordinator will look at the SQL server for the Density Reports that they are interested in. They then download the Density Reports and check for content and accuracy. Upon finding errors, the Coordinator notifies the Inspector of the particular Density Report that has an error and needs correction. The Coordinator then deletes the Density Report from their hard drive (listed on the SQL server list). When the Inspector corrects the error and uploads the Density Report again it overwrites the previous Density Report. When the Coordinator downloads the Density Report again they will see the corrected Density Report. If no errors are noted, the Coordinator signs off, saves and uploads to the SQL server. This is the final process; all reports are stored on the SQL for record.

6. Field Density Nuclear Method

- A. The Inspector performs the test and creates the Density Report in the field, entering all the necessary data for the test (same as the Sand Cone Report).
- B. When the Inspector returns to the office, motel room, etc., they will upload (via modem) the Density Report to the SQL server that same day.
- C. The Project Materials Coordinator will look at the SQL server for Density Reports that they are interested in. They then download the Density Reports and check for content and accuracy. Upon finding errors, the Coordinator notifies the Inspector of the particular Density Report that has an error and needs to be corrected. Then the Coordinator deletes the Density Report from their hard drive (listed on the SQL server list). When the inspector corrects the error and uploads the Density Report again it overwrites the previous Density Report. When the Coordinator downloads the Density Report again they will see the corrected Density Report. If no errors are noted, the Coordinator signs off, saves and uploads to the SQL server. This is the final process; all reports are stored on the SQL for record.