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CHANGE ORDERS

It is the contractor's responsibility to construct the project according to the requirements of the plans, special provisions and specifications as originally drawn and written unless the project is revised by approved written change orders.

Section 104 of the Standard Specifications allows the DOT to modify the plans and terms of the contract by changes, additions or deletions to properly complete the work planned under the contract.

Contract changes are alterations or revisions of the plans and quantities of work, deletion of work items found unnecessary during construction or extra work required to properly complete the project.

NEPA Reassessment

All potential change orders must be reviewed to assess any changes that affect the conditions of environmental notes, or modify any environmental permits or associated mitigation. Change orders involving these items must be coordinated with the original registrant and/or environmental document author.

Functional Design & Inherent Variability

Change orders also need to be reviewed and assessed for any changes that are outside of inherent variability or result in a functional design change. These types of change orders need to be sealed, signed, and dated by the original registrant. See Chapter 1 Section 9 of the Design Manual for more information.

Value Engineering

Change orders containing Value Engineering must be submitted for review to ETS – Technical Services before they are signed by the Project Engineer.

Alterations

Alterations on the contract include changes made in the plans or plan quantities, revision of the method of measurement for pay quantities, deletion of items of work or extra work determined necessary during construction due to unforeseen circumstances or to make a beneficial improvement to the project. These alterations will require a written change order.

Contract Change Orders

A contract change order is a written supplemental agreement executed between the contractor and the DOT which provides for the performance of modifications to the contract such as changes in plans, specifications, special provisions or plan quantities. A contract change order would also be created for changes in the construction of the project necessary to satisfactorily complete the work.

The effect of the change order on contract time will be addressed on all change orders whether an adjustment to time is made or not. Section 108.06 of the Standard Specifications provides guidelines when determining a time adjustment on the change order. Justifiable increases or decreases in contract time should be included in the change order whenever the number of days can be determined with reasonable certainty. When the amount of contract time cannot be determined at the time the change order is created, the option stating that the contract time 'may be revised if the work affects/affected the controlling operation' should be used.

When preparing a change order, you will be required to include a detailed explanation of the change to the contract including quantities affected, items added and the reasons for the change to the project.

Justification for unit prices on the change order must be adequately explained and documented. Change orders should be prepared under the presumption that the approval authorities may not be as familiar with the details of the work as the engineer.

A change order must be self-explanatory and must incorporate sufficient detail to assist the approval authority in evaluation of the change order. Justification for unit prices on change orders needs to receive special emphasis by the project engineer and the district. Change orders must provide adequate documentation to establish a basis for unit costs before the appropriate authority approves the change order.

The list of Annual Average Bid Prices can be used to compare against unit prices submitted by the contractor. You may also require the contractor to submit a breakdown of costs as justification for the unit price submitted.

Increased or Decreased Quantities

The quantities of any item of work on a project may vary from the original plan estimate. The specifications provide protection for both the owner and the contractor by allowing an adjustment of the contract unit price when the quantity of a major work item is increased or decreased by more than 25 percent from the original contract quantity. Any adjustments of the contract unit price will be made by change order. These adjustments are governed by Section 104 of the Standard Specifications.

A change order is not required for normal increases or decreases in contract item quantities that occur in the completion of the project or to delete minor bid items that were not required on the project. A change order is also not required for those items adjusted by provisions in the specifications such as deducts for failing materials.

Change Order Approval Procedures

Work added to the project by change order should not be started by the contractor until the change order has been created and has been signed by the contractor, the project engineer and all other required approval authorities.

When conditions dictate that the extra work begin without delay and the work is estimated to be beyond the project engineer's approval authority, verbal approval for the change order may be obtained so the work can progress. The change order document should be created and signatures obtained as soon as possible. Work on a change order item can be started before a change order has been created if:

1. A delay in starting the work would jeopardize life, property or result in environmental damage
2. A delay in starting the work would result in delay damages to the contractor or the DOT
3. A fully executed change order will be processed for approval as soon as possible.

If higher approval authorities disagree with the project engineer's decision and direct the work to stop, all work performed to that point will be paid for under the terms of Section 109.03 E Force Account. The project records of the contractor's labor, equipment and materials used to perform the work must be kept with enough detail to allow accurate payment.

On change orders with non-participating items added, signatures will also be obtained from the owner responsible for the costs i.e., city, county, park district, etc.

Change Order Approval

Change order approval authority is determined by the monetary amount of the change order, amount of days requested, and/or the reason for the change order. The Change Order Approval Process Chart shows the required approval authority for various types of change orders and monetary amounts. Parts A through E are described as follows:

Part A

The Project Engineer has final change order approval authority for the change orders listed in Part A if the following conditions are not exceeded:

1. Net change order increase or decrease up to \$10,000
2. Any single contract pay item with an increase or decrease up to \$10,000
3. Force Account up to \$10,000
4. A time extension up to five working days

A Team Leader has final change order approval authority for the change orders listed in Part A if the following conditions are not exceeded:

1. Net change order increase or decrease up to \$20,000
2. Any single contract pay item with an increase or decrease up to \$20,000
3. Force Account up to \$20,000
4. A time extension up to five working days

The District Engineer has final change order approval authority for the change orders listed in Part A if the following conditions are not exceeded:

1. Net change order increase or decrease up to \$100,000
2. Any single contract pay item with an increase or decrease up to \$100,000
3. Force Account up to \$100,000
4. A time extension up to fifteen working days

The Office of Operations Director has final change order approval authority for the change orders listed in Part A if the following conditions are not exceeded:

1. Net change order increase or decrease up to \$500,000
2. Any single contract pay item with an increase or decrease up to \$500,000
3. Force Account up to \$500,000
4. A time extension over fifteen working days

Change Orders over \$500,000 will be signed by the Office of Operations Director but will require verbal approval from the Deputy Director for Engineering.

When local agency approval is required, the change order must also be signed by a representative of that agency.

Parts B and C

Change orders described in Part B ‘Structural design changes’ and Part C ‘Changes in specifications’ require Department approval at the Office of Operations level as shown in the approval chart.

Part D and E

Change orders described in Part D ‘Environmental Commitments’ and Part E ‘Emergency Relief’ require Department approval at the Office of Operations level as shown in the approval chart.

Change Order Approval Procedures for Local Agency Funds on Department project

On some Department projects, there is local public agency funding (ie, city, county) in addition to the federal or state funding.

Change orders for work that only has local public agency funds associated with it do not require a “Recommendation of Approval” or “Approval” by either the District Engineer or Office of Operations, regardless of the amount or reason for the change order.

These change orders shall be signed by the contractor, approved by the Project Engineer and signed by the local public agency official.

If a change order contains a combination of federal/state funded work and local public agency funded work, then the change order approval shall follow the outlined change order approval process in this manual.

If there is a change to the contract time as a result of the change order, then the change order approval shall follow the outlined change order approval process in this manual.

Change Order Approval Procedures for Non-NDDOT Projects

On Non-NDDOT project without federal aid, the owner’s authorized representative such as a city, county, park district, etc. will approve change orders. The DOT does not review these change orders for approval.

On Non-NDDOT project with federal aid, the owner and/or the owner’s authorized representative will approve the change order. Change orders that have non-participating items must be approved by the owner responsible for the costs.

The Department will review change orders that exceed any of the following criteria to determine if the costs are eligible for federal aid. These are:

1. Net increase or decrease greater than \$10,000
2. Any single contract pay item with an increase or decrease greater than \$10,000
3. A Force Account greater than \$10,000
4. A time extension greater than five working days

The District Engineer and, if required, the Director of Operations, will review and approve these change orders for federal aid eligibility. The approval authority of the District Engineer and Director of Operations for federal aid eligibility is the same as the authority provided on Department projects and detailed in the [Change Order Approval Process Chart](#).

If the federal funds authorized in the cost participation agreement with the local agency are exceeded and no federal funds are available for any change order, the local agency will assume the total cost of the change order.

If the federal aid participation on the project is limited and the limit is reached, the NDDOT will no longer review and approve subsequent change orders for federal aid eligibility. The owner will be responsible for those extra costs.

Changes to emergency relief (ER) projects that affect the scope identified in the Detailed Damage Inspection Report (DDIR) must have prior FHWA concurrence. Normal overruns and underruns plus routine change orders on ER project should be processed according to procedures previously defined.

Change Order Approval Process Chart

REASON FOR CHANGE ORDER	CHANGE ORDER PARAMETERS	FINAL APPROVAL AUTHORITY ⁵
A. All reasons except those listed in items B. through E. including: <ul style="list-style-type: none"> • Changes in contract documents. • Extra work within the scope of the contract. • For establishing the basis of payment or time adjustments for work affected by the changes. 	Costs up to \$10,000. ¹ Time extensions up to 5 working days. ²	Project Engineer
	Costs up to \$20,000. ¹ Time extensions up to 5 working days. ²	Team Leader ³
	Costs up to \$100,000. ¹ Time extensions over 5 working days up to 15 working days. ²	District Engineer ³
	Costs up to \$500,000. ^{1,4} Time extensions over 15 working days. ²	Office of Operations Director ^{3,4}
B. Structural Design Changes.	All	Office of Operations Director ³
C. Changes in specifications, including materials specifications.	All	Office of Operations Director ³
D. Changes that affect the “Environmental Commitments” where the environmental action needs to be reassessed.	All	Office of Operations Director ³
E. Emergency Relief (ER) Projects	All	NDDOT approval in accordance with A.
	Scope Change	Federal Highway Administration ³

1. Cost thresholds can be an increase or decrease to the original cost. The costs are cumulative, not net:
 - (An increase of \$80,000 and decrease of \$70,000 = \$150,000 final approval authority required)
2. Calendar to working days conversion: [working days = (calendar days requested) × (working days specified to be charged per week) ÷ 7].
3. Verbal approval of the final approval authority is required prior to the start of change order work and prior to obtaining the Contractor’s signature on the Change Order.
4. Change Orders over \$500,000 will be signed by the Office of Operations Director but will require verbal approval from the Deputy Director for Engineering.
5. If not authorized to sign as final approval authority, need to sign “Approval Recommended” before going to the next authority.

Change Orders in CARS

When entering change order data into CARS, you will be required to choose a change order reason from the drop down list on the Change Order Maintenance page. The choices are as follows:

1. Design changes
2. Structural design changes
3. Changes in specifications
4. Environmental commitments
5. Major changes in project limits
6. Emergency relief
7. Emergency relief scope change

You will also be required to pick a Category and Sub-Category for the change order items. The sub-categories are different for each category. The categories and sub-categories will be used to track the types and amounts of change orders during the construction season and produce a report. The categories and their sub-categories are listed below.

1. Design Changes
 - a. Plan error/omission
 - b. Work due to unknown condition
 - c. Design change to improve the project/public interest
 - d. Design change to provide equal or greater product for less cost
 - e. Work done to correct error in the field
 - f. Value Engineering Proposal
2. Specification Changes
 - a. Equal or better product for less cost
 - b. Unable to construct/supply what was specified
 - c. Original specifications were not suitable for project
3. Contract Administration Issue
 - a. Price deductions
 - b. Resolution of Notice of Intent or Claim
 - c. Haul Road Related Issues
 - d. Fuel Cost Adjustments
 - e. Partnering
4. Other
 - a. This category is used when the change order item does not fit in any of the other categories. The project engineer will be required to enter a short description for the sub-category.

The recommended approval personnel will be shown on the Change Order Approval page. The approval level is based on the change order reasons, the monetary amounts on the change order and the time extensions approved in the change order.

Create a change order in CARS

1. From the Main Menu, click on the Change Order link. The Change Order Selection page is displayed. Any change orders created previously will be displayed in descending order and separated by subproject. The change order number, date created, change order reason and approval status are shown.

2. To create a new change order, click on the Add Change Order link. The Change Order Maintenance page is displayed.
3. A change order number is assigned and the date you are creating the change order is displayed.
4. The Reason drop down box has seven general categories which are used along with dollar amounts to determine approval authority. Pick the one that best describes why the change order is being created.
5. Pick one of the choices in the Contract Time Change drop down box. If a change is being made in the contract time, enter the increase or decrease in the Calendar Days text box.
6. A short description of the change order work can be entered in the Remarks text box. The Remarks entered here are used for identification of the change order in the Change Order Summary management report. They are also displayed on the Change Order after the Explanation of Change.
7. Enter a narrative of the change being made in the Explanation of Change text box. Additional details such as price breakdown and correspondence from the contractor may be attached to the hard copy change order.
8. Click on the Save and Continue button. The Change Order Spec/Code List is displayed.
9. Click on the Add Spec Code button. The Change Order Spec/Code Maintenance page is displayed.
10. Enter the Spec and Code for the item being added, if known. The spec and code can also be determined two ways:
 - a. Click on the Annual Average Bid Price Report link. The Bid Opening Reports page from the DOT website will open in a separate window. Go to the drop down box under Annual Average Bid Price and click on the report year. The Annual Average Bid Price list will open and you can browse the list for the item to be added if you are adding an item with a valid spec and code.
 - b. If you know the specification number for the item to be added but are not sure of the code, type the spec number in the text box and click on the Search button. A list of all valid items for that spec number will be opened. Click on the link for the item to be added and the code number will be filled in.
11. Enter the unit price and quantity.
12. Click in one of the radio buttons to mark the item Participating or Non-Participating.
13. In the Category drop down box, pick one of the options. If the item doesn't fall into the design change, specification change or contract administration issue options, choose the Other category and enter a short description in the Other text box.
14. In the Sub-Category drop down box, pick the subcategory that best describes the change order item.
15. If the item added by change order doesn't have a valid spec and code (one not found in the list), you will be required to enter the following information:
 - a. Enter a short description in the Description text box. For example, you are adding a force account on the change order and are using 109/0180 for the spec and code. Enter 'Force Account #1' in the description text box.
 - b. Pick the unit for the item being added.
 - c. If the item being added will be recorded on a mix bitumen report, concrete paving report, test piling/piling report or haul sheet, pick the spec/code group that applies from the drop down list. This allows the change order item to be added as a choice for these reports.

16. Click on the Save and Add New button to enter additional items for the change order. Clicking on the Save button will return you to the Change Order Spec/Code List. From this page, you can click on the Add Spec Code button to enter additional items for the change order.
17. The Change Order report can be printed from several places in the change order screens.
 - a. From the Change Order Selection page, click on the Report link.
 - b. From the Change Order Maintenance page, click on the Save and Run Report button.
 - c. From the Change Order Spec/Code List page, click on the Run Report button.

After all the information has been entered and saved, the change order will be displayed on the Change Order Selection page and it will be shown as 'Not Approved' in the Approval column. A printed report will be used to gather signatures for all external signers (people without CARS access.) The remaining signatures will be obtained using the electronic signature process in CARS.

Attach supporting documentation to the change order

Supporting documentation is attached to the change order using the Files link on the main change order selection screen. Files can be added to the change order at any time prior to beginning the electronic signature process. Files can also be deleted prior to beginning the electronic signature process. If a change to a file is necessary after starting the electronic signature process, then the signatures must be reset and the signature process restarted after making the file changes.

There are currently three options available to label file attachments in the drop down menu next to the Browse button. It is important to select the correct document description because this selection becomes the document's "Subject/Title" in FileNet. The options are:

1. Cost Justification: Internal Cost Justification
2. Support Document: Supporting documents such as pictures, invoices, or correspondence
3. External Signed Change Order: Used to upload the signed change order after receiving all external signatures

External Signatures

External Signers are people who do not have access to CARS such as the Contractor, a County Engineer, or a Park Board President. These people will physically sign the change order. All external signatures must be obtained on the change order prior to beginning the electronic signature process.

1. Obtain all external signatures
2. Click on the "Files" link in the Documentation column on the change order selection screen
3. Attach the externally signed change order to the change order by browsing to the location of the file.
4. Select "External Signed Change Order" from the drop down menu
5. Click "Save"

Electronic Signature Process

After the externally signed change order has been entered into CARS, the external signatures must be entered into the electronic change order:

1. Click on "Signatures" link on the main change order selection screen.
2. The Contractor will be automatically populated as a required external signature.

3. Add additional external signatures, such as city or county representatives, by using the “Add External Signer” & “Add Custom Signer” buttons. Each entity which signed the change order externally should be represented by an external signature line. Each signature will be populated into the final electronic version of the signed change order.

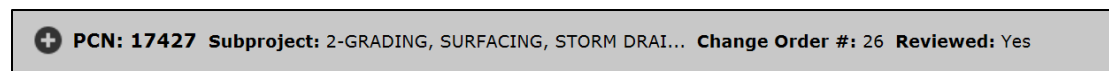
Electronic signers are signers who will sign the change order using CARS. The Project Engineer, Team Leader, District Engineer representative, and Office of Operations representative’s signatures are obtained electronically in CARS. The recommended approval personnel will be shown at the top of the electronic signature screen. This is based on the dollar amount and change in time entered for the change order. Add each signer to the signature queue in order of approval authority.

1. Add all necessary Electronic Signers to the queue by selecting a signer from the “Electronic Signature” drop down menu and clicking “Add Electronic Signer”. The signers must be added in order of approval authority, starting with the Project Engineer.
2. Click “Save & Start Signatures Process”.
3. Add the date of external signatures by selecting the date each entity signed the change order from the calendar next to the external entity. If multiple external signatures were obtained, all dates must be entered prior to clicking ‘Save External Signatures.’
4. Click “Confirm” to confirm that all external signatures have been received and the signed report has been entered into Filenet. After clicking “Confirm”, options become available to Reset, Reject, or Sign the change order.
5. The Project Engineer signs the change order by clicking the “Sign” button. Each time the change order is signed electronically, an email is automatically sent to the next signer in the signature queue which notifies them of a change order which requires their signature.

District Engineer & Office of Operations Signatures

After the change order is signed by the Team Leader the change order becomes available for the District Engineer’s review. The District Engineer and Office of Operations users review the change order using the “Change Order Signature Overview” link located on the CARS main menu in the Maintenance column.

Any change orders which are awaiting signature will be shown in the list as shown below:



The “Reviewed” field (Yes/No) is indicating whether the change order has been reviewed by the Assistant Construction Engineer.

To sign the review and sign the change order:

1. Click the “+” sign to expand the change order for review. The change order report, supporting documentation, and other information are available from this screen.
2. Select “Reject” or “Apply Signature”. If the change order is rejected, an email is automatically sent to the Project Engineer and the process is restarted.
3. When the change order is signed by the District representative, an automated email is sent to Office of Operations (if applicable) which notifies them of a change order awaiting approval.

4. The change order now appears in the queue for the Office of Operations.

Approving the Change Order

After the final approval authority has signed the change order, the Project Engineer will receive an email stating that all electronic signatures have been received. After the final signature, the “Approve Change Order” check box becomes available to be checked by the Project Engineer.

Make the Change Order approved by:

1. From the Main Menu, click on the Change Order link. The Change Order Selection page is displayed.
2. Click on the Not Approved link for the change order to be approved. The Change Order Approval page is displayed.
3. Click on the Approve Change Order check box.
4. Click on the Save button. You will be returned to the Change Order Selection page.

The change order will now show ‘Approved’ in the Approval column and the change order items will be added to Quantity Manager in spec and code order with the original contract items. The information entered for the change order can be edited or deleted as long as it has not been marked approved. Once the change order is marked approved, the information can only be viewed.

All change orders regardless of amounts are subject to review at any time for proper expenditure of Federal funds. Sometimes a change order is processed and approved and it is determined later by the FHWA or the NDDOT that all or part of the change order is non-participating. The project engineer will be informed about the funding change. A change order will be created deleting the participating item or items and adding them back to the project as non-participating items.

Change Order Routing

Construction Services is automatically notified when the change order is approved by the Engineer. The individual files which make up the change order are compiled into one file and entered into Filenet by Construction Services Division. After the combined file is entered into Filenet, the Signed Report becomes available on the project’s change order selection screen.

The Engineer should confirm that all necessary files (Original Contractor Signature, E-Signature Change Order, Cost Justification, etc.) are included in the final Signed Report. After confirming that all files were compiled correctly, the original documents which made up the change order can be disposed of. It is no longer necessary to send the original documents to Construction Services as long as the Electronic Signature process was followed.

In the rare case where a change order is executed outside the CARS electronic signature process, the original copies of fully executed change orders shall be forwarded to the Construction Services Division for recording, processing, and distribution, regardless of the approval level.

Change Orders and Quantity Manager

When a change order modifies the quantity of an item, the quantity displayed in Quantity Manager will be revised and an * will be placed next to the revised quantity.

When a change order modifies the price of an item, the displayed price will not change on Quantity Manager, but an * will appear next to it, notifying the user that there are multiple prices available.

TIME EXTENSIONS

Contract Time Adjustments

The Project Engineer is responsible for addressing contract time adjustments. Section 108.06 of the Standard Specifications and any supplemental specifications provide for the adjustment of contract time under certain conditions. Either the NDDOT or the contractor may initiate an adjustment of the contract time.

NDDOT Initiated Time Adjustment

All change orders involving added work and compensation will address contract time whether an adjustment is made or not. Section 108.06 of the Standard Specifications provides guidelines for determining time adjustments. Justifiable increases or decreases in contract time should be included in contract change orders whenever the amount of contract time involved can be determined with reasonable certainty. When creating a change order in CARS, the Project Engineer is given three options to address contract time which are:

1. No change
2. May be revised if the work affects/affected the controlling operation
3. Will increase/decrease by Calendar or Working days.

If a time extension is necessary for some reason other than additional work or compensation, the extension shall be addressed by the Project Engineer with a change order. The change order must state the increase or decrease in contract time and the reason for it.

Contractor Initiated Time Extension

The Contractor can request additional time by following Section 104.03 in the Specifications and submitting [SFN 14461](#) Request for Additional Time.

The Project Engineer will promptly review any time extension request received. The contractor must provide sufficient documentation and justification to support their position. A letter or email will be sent to the contractor to acknowledge that the request was received and if necessary, to ask for additional supporting information. If the request is the result of a suspension or delay, refer to Section 108.06 B of the Standard Specifications on how to handle it. If the contractor submits poor or no justification, the request may be denied based on the lack of submitted information.

District Administration and Construction Services Division should also be made aware of the request, depending on the amount of days requested. The approval authority for time extension requests is the same as for Change Orders. The Project Engineer can make the final determination for time extension requests of up to 5 days. Most District Administrations will want to be notified of all time extension requests, and be involved in drafting the response, regardless of the amount of days requested. The

District can approve time extension requests of up to 15 days. Construction Services Division should be notified of time extension requests of greater than 15 days.

After reviewing the time extension request, the Project Engineer will prepare a detailed report of the contractor-claimed delays and make an internal recommendation for action (This is for time extension requests which require higher approval authority.) The internal recommendation should be attached on a separate document, not written on the time extension request form received from the contractor. The District's internal recommendation to the Office of Operations Director (if applicable) should also be made on an attached document, or added to the Project Engineer's document.

The Owner's Action section of SFN 14461 should only be filled out and signed by the person with final approval authority. This is the document that will be returned to the Contractor to notify them of the Owner's decision.

For non-NDDOT projects, the Project Engineer will contact the owner. The decision on federal aid eligibility will be made by the NDDOT at the highest approval authority for the number of days requested.

Executing the Time Extension

Ideally, the days granted in response to a time extension request will be included on a change order signed by the Contractor. The change order will contain language resolving the NOI or stating that this change order is complete compensation for the issue that caused the time extension. The benefit of resolving a time extension through a signed change order is that the Department can be sure the issue is resolved.

The NDDOT and Contractor will not always agree on the number of days to be granted in response to an issue, NOI, or time extension request.

Example Scenario:

A Contractor notifies the Engineer in accordance with 108.06 B. The Specifications are followed in regards to tracking the delay, but a disagreement arises regarding the number of days the Contractor was delayed. The Contractor requests 10 days on the time extension request form, but the Engineer can only justify 5 days.

In this case the District (since approval authority is based on the amount of days requested) fills out the Owner's Action section of the form. The NDDOT grants 5 days. As mentioned above, ideally, the 5 days would be included on a change order and signed by the contractor. In this case, the Contractor has stated they will not sign a change order which includes any less than 10 days.

Therefore, the completed SFN 14461 form is returned to the Contractor, notifying them of the NDDOT's decision to add 5 days. The 5 days are added to the contract and accounted for on SFN 5660: Contract Time for Completion. The completed and signed time extension request is entered into CARS/Filenet.

If the Contractor decides to further dispute the issue, they have the ability to file a claim in accordance with Specification 104.05.

CONTRACT ADJUSTMENTS

Contract adjustments are used to add bid items to the project when the unit price is established in the contract documents such as the Standard Specifications or the bidder's proposal for the project. Some examples of items commonly added to the project using the contract adjustment are deducts for failing materials, piling adjustments and bonus or deducts for contract items. Adding items using the contract adjustment is similar to adding items by change order but does not require approval signatures.

Some contract adjustments do not have a fixed unit price but are computed by using a formula set in the contract documents. Unit price adjustment computations must be included in the project records. These computations can be documented on the pay quantity report made out for the contract adjustment.

Create Contract Adjustments in CARS

To create a contract adjustment in CARS:

1. From the Main Menu, click on the Contract Adjustment link. The Contract Adjustment Selection page is displayed.
2. Click on the Add button to enter a new contract adjustment. The Contract Adjustment Maintenance page is displayed. Enter the following information:
 - a. Date
 - b. Enter the spec and code from the Spec & Code List at the bottom of this section. They are also included in the Spec & Code list on the NDDOT website. If no Spec & Code number for the Contract Adjustment exists call the Construction Services Division. A Spec & Code number will be assigned or instructions will be given to process adjustments that will not be added to the list.
 - c. Enter the unit price and quantity for the adjustment.
 - d. Determine if the contract adjustment is participating or non-participating and click the appropriate radio button.
 - e. The Adjustment Description text box can be used to enter a short explanation of the contract adjustment. This will be displayed under the item name of the Contract Adjustment Selection page.
 - f. The Remarks text box is used to enter more information about the contract adjustment. For example, if a deduct for failing aggregate samples is being added to the project by contract adjustment, the remarks text box could be used to document which samples failed.
3. After all the information has been entered, click on the Save button. If you have entered a spec and code that is not valid (one that is not in the list of spec and code numbers), two error messages will display at the top of the Contract Adjustment Maintenance screen. This requires entry of a short description of the contract adjustment in the Item Description text box. You will also be required to pick a unit designation from the Unit drop down box. After all the required information has been entered and successfully saved, you will be returned to the Contract Adjustment Selection screen. The item added will be listed and a Generate PQE button will be displayed. Clicking on this link adds the PQE to Quantity Manager where it will need to be checked and submitted. Future payments for the same adjustment can then be made from Quantity Manager. Contract Adjustments are displayed at the end of the spec and code list on Quantity Manager. Supporting documentation for the contract adjustment should be attached to the PQE when applicable.

Liquidated Damages

Liquidated damages are assessed when the project work has not been completed within the time allowed in the contract documents or approved time extensions.

Liquidated damages are charged on the total contract amount. On contracts with tied projects, liquidated damages will be prorated per project. For example, projects A, B, and C are let as one contract totaling \$1,000,000. The total bid amounts for the projects are as follows:

Project A - \$500,000 Project B - \$375,000 Project C - \$125,000

If 8 days @ \$400.00/day are charged against the contract, the days for each project would be as follows:

Project A - 4 days Project B - 3 days Project C - 1 day

Fuel Cost Adjustment

All contracts contain the special provision 'Fuel Cost Adjustment Clause'. The project engineer must check the Fuel Cost Adjustment Affidavit (SFN 58393) found in the project proposal to see if the contractor is participating in the fuel cost adjustment program.

If the contractor elects to participate, the project engineer will calculate the adjustments monthly using the Fuel Cost Adjustment module in CARS. Additional information about Fuel Cost Adjustments can be found on the NDDOT website at the following address:

<http://www.dot.nd.gov/divisions/construction/fuelcostadjustments.htm>

PROGRESSIVE ESTIMATES

The quantities listed in the plans and proposals are estimated quantities of work to be completed by the contractor. The breakdown of quantities and the different funding sources are listed in the detail sheets. Payment to the contractor is made for the actual quantities incorporated in the project work.

Accurate documentation of all pay quantities is kept by using Quantity Manager in CARS, inspection reports, field books and various reports such as those used for concrete paving, mix bitumen, haul sheets, etc. The pay quantities are recorded in Quantity Manager on a regular basis and are used to make regular payments to the contractor. These payments are made on the progressive estimate. If a contract has multiple tied projects, a separate estimate is used for each project even though there is only one contract.

A minimum of one progressive estimate a month will be made as the project work proceeds. Progressive estimates may be created as often as the amount of work completed is sufficient to warrant making a payment to the contractor. Keep in mind that a subcontractor's work is sometimes performed near the end of a project. This may include items such as seeding, sod, striping, signing, lighting, signals, etc. Unless special circumstances exist that demand withholding payment, intermediate estimates should be prepared to pay for subcontract work items in order for the subcontractors to receive timely payments. DO NOT wait until the final estimate to pay for the subcontract work items completed.

Most estimate quantities are based on actual field measured quantities. Some items such as common excavation may be paid as an estimated quantity until all final measurements can be made and calculated. Estimates also include payments for stockpiled or invoiced materials, contract adjustments and change order items.

The progressive estimate consists of detail sheets listing all original pay items along with any items added by change order in order by specification and code number. The detail sheets also include those items added by contract adjustment and stockpile/invoiced items. Detail sheets will also be divided by subprojects. The progressive estimate has a cover sheet that shows the estimate number, the dates covered by the estimate and a breakdown by funding sources of the total monetary amount for the estimate.

Estimates are generated by the project engineer. When the estimate is generated, the project engineer can review the quantities and make any changes if required. The estimate must be re-generated if any changes are made.

Withholding Progressive Estimates

There are various contract provisions which allow the Engineer to withhold Progressive Estimates until the Contractor is in compliance with the contract.

The Contractor should be notified if Progressive Estimates are being withheld. The notification should be documented by the Engineer (Examples: letter, email, recording it in the Project Diary).

Create Progressive Estimate in CARS

To make a progressive estimate in CARS:

1. From the Main Menu, click on Create Progressive Estimate. The Create Progressive Estimate page is displayed.
2. On the Create Progressive Estimate page, the following items are shown:
 - a. A message will display if the previous estimate has been paid or if a progressive estimate has been generated but not paid and additional pay items have been added since it was generated.
 - b. The construction start date or the previous estimate date.
 - c. The date the estimate is being created.
 - d. The division of the DOT responsible for approval of the estimate before it is sent to Finance. Most projects will be approved by the Construction Services Division but some will be approved by the District or by the Maintenance Division.
 - e. A drop down box for the estimate type – intermediate, semi-final and final.
 - f. Text boxes are provided for the retainage percent or a retainage amount. These will only be filled in for semi-final estimates where you have approval from Construction Services to reduce the retainage to less than one percent or to a specific dollar amount.
 - g. Text boxes to enter liquidated damage amounts and days to the estimate.
 - h. Copies of approved estimates can be emailed to Contractors (Recommended) or others with up to 3 email addresses (each email address should be separated by a ; (semi colon)) The copy will be sent after the Construction Engineer approves the estimate. Use the check box to toggle this function off or on.

3. To create the progressive estimate, click on the Generate button. The Progressive Estimate page is displayed.
4. Only items that have been submitted in Quantity Manager will be displayed.
5. The Progressive Estimate page displays the following information about the estimate:
 - a. The status of the estimate. Until the estimate is approved by the project engineer, the status is shown as preliminary. The status will change as the estimate goes through the approval process.
 - b. An estimate number will be assigned after the project engineer has approved the estimate.
 - c. The division, type of estimate and estimate dates are shown.
 - d. The payment this estimate and total amount to date are shown. All subprojects and the total amount for each subproject are listed.
 - e. Detail sheets may be viewed and printed separately by clicking on the Details link after the total amount for each subproject. All the subprojects can be viewed and printed at once by clicking on the All Details button.
 - f. The cover sheet can be viewed and printed by clicking on the Cover Sheet button.
6. If all the detail sheets and cover sheet are acceptable, click on the Approved button. A dialog box asking if the estimate should be approved will be displayed. Click OK and the estimate will electronically transfer to the next approval authority.

If the estimate should not have been approved, it can still be rejected at the District or Construction Engineer level. If the estimate is rejected by the District or Construction Engineer, it goes back to the Project Engineer level to be edited and re-generated. When the estimate has been through all the approvals, the message on the Create Progressive Estimate page will show that the last estimate number has been paid. No new estimates can be created until the previous estimate has been through the entire approval process and has been sent for payment.

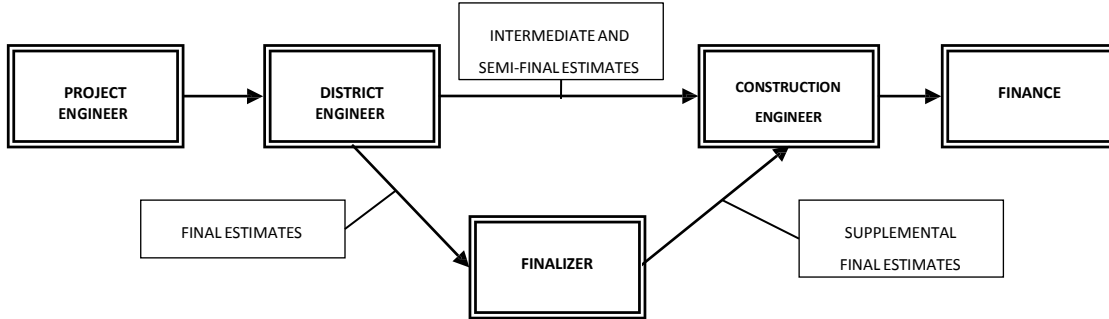
Not all estimates will be approved by the Construction Engineer. Projects that are paid with Maintenance funds will be approved by the Maintenance Engineer. District funded projects will be approved by the District Engineer. The Claim for Payment will be signed by the individual having approval authority for the estimate.

The diagrams on the following page show the electronic flow for intermediate, semi-final and final estimates approved by the Construction Engineer, the Maintenance Engineer and the District Engineer.

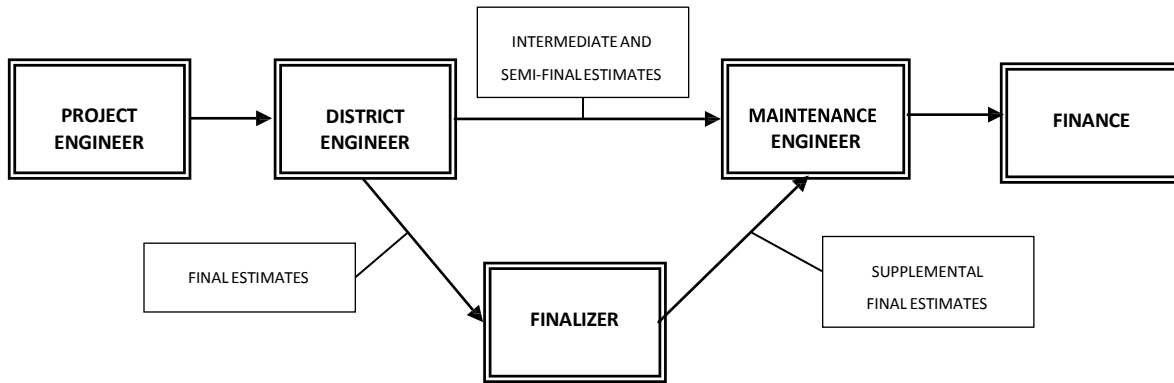
It is no longer necessary to generate estimates at the end of the fiscal year or those with a June 30th cutoff date on projects that have used CARS to generate pay estimates. CARS will automatically sort the pay items by date and the amounts for each fiscal year will be indicated in the information forwarded to Finance.

Estimate Approval Flow Charts

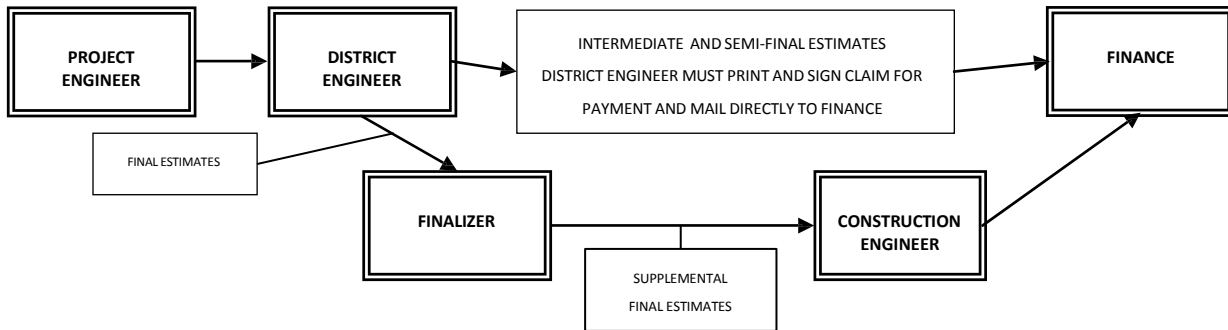
CONSTRUCTION PROGRESSIVE ESTIMATE FLOW



MAINTENANCE PROGRESSIVE ESTIMATE FLOW



DISTRICT PROGRESSIVE ESTIMATE FLOW



EXTENSION PROJECTS

Small scale projects are sometimes added to an existing project by creating an extension project. Because of the proximity of the small project to the contractor's work and plant operations, it is more economically feasible to add the work in this manner. Extension projects are generally district funded non-participating projects or emergency relief projects that may be eligible for federal funds. The District and the contractor negotiate the unit prices and time allowed to accomplish the work.

To add an extension project, the District notifies Construction Services that the work will be added along with the project numbers to be used for the extension project and the parent project. Construction Services will set up the project information and a project engineer will be assigned to the extension project. After that, the extension project will be in the assigned project drop down list for the engineer.

The project engineer will create a change order for the extension project adding all work items required. The change order is signed by the contractor, the project engineer and the District and is then forwarded to Construction Services.

After reviewing the change order, the financial information required will be added that allows estimates to be generated for the extension project.

All project records and documents for the extension project will be included in the final for the parent project.

FORCE ACCOUNT

Extra work can be performed on a project due to unforeseen circumstances or to make a beneficial improvement to the project. Payment for extra work can be made at an agreed unit price or lump sum. A change order signed by the contractor, project engineer and all other approval authorities directs and pays for the extra work. When an agreement cannot be reached as to method of payment, the project engineer can direct the contractor to complete the work on a force account basis. Standard Specification 109.03 E contains further information about extra work and force account.

The project inspector must keep accurate, detailed records of all labor hours, equipment hours and materials used for the force account whenever the contractor is working on the extra work item. Preliminary field documentation of employee names, employee hours, equipment used, equipment hours and any material incorporated in the work are kept on [SFN 14462](#) Statement of Daily Force Account Work. The project number, date, type of extra work, the contractor and subcontractor if applicable, are entered on the top portion of the statement. At the end of each day, the contractor and the inspector will review the force account records and each will sign the daily statement.

Force Account Maintenance in CARS

The Force Account Module in CARs does not need to be used if SFN 14462 is complete.

Before entering any of the labor, equipment or materials information into CARS, the force account must be added. The Force Account Maintenance page is for entry of the date, a short description of the extra work item, a subcontractor, if applicable, and mark-up percentages. After this information is entered and saved, a number will be assigned to the force account work.

Labor

The classification and wage rates for employees that worked on the force account item are filled out using the contractor's payrolls. The wage rates shown on the contractor's payrolls should agree with those rates set in the project proposal for the classification shown. Some classifications are also compensated for pension/health & welfare. These amounts are also included in the force account. The pension/health & welfare amounts are paid on a straight time basis only. For example, an employee on the force account works eight hours of straight time and two hours of overtime. The total for pension/health & welfare would be computed at ten hours multiplied by the rate. The employee may have more hours worked on the payroll than documented on the force account statement but should not have fewer hours. Hours worked on the force account should not exceed hours shown on the payrolls. Mechanic hours are not included in the force account labor as their functions are included in the rental rates for equipment.

A contractor's foreman sometimes works on force account items. If the foreman is paid hourly, compensation will be the hourly rate shown on the contractor's payroll. When a foreman is a salaried employee, an hourly rate will be determined by dividing the rate of pay by the number of hours the foreman is expected to work. For example, the foreman is paid \$700 for a 50 hour work week. In this case, the foreman's hourly rate would be \$14.00/hr. You will also have to know if the foreman is compensated with overtime pay for any hours worked in excess of the 50 hour work week. The contractor must submit this information in writing. The foreman's hourly rate is then put on SFN 13890 Equipment Rental and Wage Rates Agreement. If the foreman has more hours worked per day than shown in the foreman's salary determination and is not compensated for the increased hours, the extra hours will not be paid for on the force account. On force account work, the contractor is only reimbursed for actual costs.

When all the required labor information has been received, it can be entered in the personnel details portion for force accounts in CARS.

Equipment

Along with the type of equipment and number of equipment hours worked, it is useful to collect as much other information about the equipment as possible. This information is recorded on SFN 13891 Request for Equipment Rental Rate Determination. Fill out as much information on each piece of equipment including the contractor's equipment number, the brand & type of equipment, the model number, the model year, and the equipment capacity. It is acceptable to fill out the preliminary information and have the contractor complete the remaining information on the request. After you have gathered as much information on a piece of equipment as possible, submit the request to Construction Services.

When the rental rate determinations have been completed, all rental rates for equipment and any wage rates, such as the foreman's rate discussed previously, are added to SFN 13890 Agreement for Wage and Equipment Rental Rates. This agreement is signed by the contractor and the project engineer and indicates the contractor's acceptance of the rental and wage rates shown.

Equipment rates and hours are entered in the equipment details portion of force account in CARS.

Material

The contractor is also compensated for any material incorporated into the force account work. Any items used in the force account work that are part of the original bid items will be paid at contract unit prices on the progressive estimate not on the force account. All other material used on a force account will be paid at prices shown on invoices furnished by the contractor. The contractor will also be compensated for any state and local taxes paid on the material and any shipping costs shown on the invoice.

If material is used to construct the force account but is not incorporated as a permanent part of the extra work item, a reasonable depreciation for the material plus transportation costs will be allowed. An example would be concrete forms or form material.

When all the necessary documentation for materials has been received, it can be entered in the materials detail section of CARS.

Summary of Force Account

When all the information for labor, equipment and material has been collected and entered in the details sections, a summary will be generated. This computes the totals with all markups for the force account. The summary will be signed by the project engineer and the contractor. The force account work will be added to the project with a change order. After the change order has been signed by the contractor and the project engineer, it is submitted to Construction Services.

The following supporting documents will be submitted with the change order:

1. All Statements of Daily Force Account Work
2. The Force Account Equipment, Materials and Personnel detail reports from CARS
3. The Force Account Summary report from CARS
4. Copies of the contractor's payrolls supporting the personnel entries
5. The Agreement for Wage and Equipment Rental Rates
6. Any invoices supporting materials entries

Do not approve the change order in CARS until the change order and force account documents have been checked and returned to you by Construction Services. If any errors are found in the force account, the final amount on the change order can be edited before it is added to the CARS pay items.

If the force account becomes large or covers a long time period, you may want to create a change order for an estimated force account item. This can be done in order to make payment to the contractor until all the required documentation is gathered and the force account total calculated. Remember to subtract the estimated force account payment from the pay quantities when you pay for the final amount of the completed force account. For a large force account, you may also submit the completed force account documentation to Construction Services to be checked before creating the change order.

Enter Force Account Information in CARS

To enter force account information into CARS:

1. From the Main Menu, click on the Force Account link. The Force Account Selection page is displayed.
2. Click on the Add button. The Force Account Maintenance page is displayed.
3. On the Force Account Maintenance page, enter the following information:
 - a. A short description of the type of work
 - b. Enter the date. This date will be displayed when printing the Summary of Force Account report.
 - c. If the force account work was performed by a subcontractor, pick the subcontractor from the list in the drop down box.
 - d. Default values for percent of labor, percent of materials and the prime contractor's percentage automatically fill the text boxes. These percentages can be edited if required.
4. After all the information is entered on the Force Account Maintenance page, click on the Save button. You will be returned to the Force Account Selection page and a number will be assigned to the force account. Click on the Details link by the newly created force account. The Force Account Equipment/Material/ Personnel Selection page is displayed.
5. Click on the Add link by Equipment. The Force Account Equipment Maintenance page is displayed. To enter information for equipment:
 - a. Enter the date the equipment was used.
 - b. Enter the type of equipment.
 - c. Enter the unit number, serial number and capacity. These fields are not required but will help identify each piece of equipment listed on the Force Account Equipment Selection page.
 - d. Enter the bare rate and service charge rate.
 - e. Enter the hours for that day and any standby hours if applicable.
 - f. Click on either the Save or the Save and Add New button.

Clicking on the Save button returns you to the Force Account Equipment/Material/ Personnel Selection page. Enter data for additional equipment by clicking on the Add link and entering the required information.

Clicking on the Save and Add New button saves the data entered and brings up a new entry screen. The date and rental hours will be blank. The equipment information fields will be filled with the last piece of equipment entered. Enter a new date and rental hours or edit the information to add a new piece of equipment. You can also clear any information in the text boxes by clicking on the Clear button.

Additional entries can also be made by going to the Force Account Equipment/Material/ Personnel Selection page and clicking on the Maintain link for Equipment. Click on the Copy link for a specific piece of equipment. The Force Account Equipment Maintenance page with the information for that equipment will be displayed. Edit the date and hours and click on the Save button. A new entry for that equipment will be generated.

6. Click on the Add link by Material. The Force Account Material Maintenance page is displayed. To enter information for material:
 - a. Enter the date the material was used.

- b. Enter the type of material used.
- c. Enter the invoice number. This field is not required but can help identify the material on the Force Account Material Selection page.
- d. Enter the quantity used, unit and unit price of the material.
- e. Enter the sales tax as shown on the invoice. The tax will be entered as a whole number, for example six percent is entered as 6.0.
- f. Click on the Save or Save and Add New Button.

Clicking on the Save button returns you to the Force Account Equipment/Material/ Personnel Selection page. Enter data for additional material by clicking on the Add link and entering the required information.

Clicking on the Save and Add New button saves the data entered and brings up a new entry screen. The date and quantity will be blank. The other material information fields will be filled with the information from the previous entry. Enter a new date and quantity or edit the information to add a new material entry. You can also clear any information in the text boxes by clicking on the Clear button.

Additional entries can also be made by going to the Force Account Equipment/Material/ Personnel Selection page and clicking on the Maintain link by Material. Click on the Copy link for a specific material entry. The Force Account Material Maintenance page with the information for that date will be displayed. Edit the date and quantity and click on the Save button. A new entry for that material will be generated.

7. Click on the Add link by Personnel. The Force Account Personnel Maintenance page is displayed. To enter information for personnel:
 - a. Enter the date the employee worked
 - b. Enter the last name and first name of the employee
 - c. Enter the employee's craft designation and group number as shown on project payrolls
 - d. Enter the hourly wage amount for the employee as shown on the project payrolls
 - e. Enter the Health & Welfare amount if it applies. Not all craft designations have a Health & Welfare amount so if it does not apply to the employee, enter 0 in the text box.
 - f. Enter the straight time and overtime hours for that employee.
 - g. The overtime multiplier has a default value of 1.5. This number can be edited in the event that the employee has any hours paid as double time. Double time entries will be rare but they do occur sometimes especially with certain craft designations.
 - h. Click on the Save or Save and Add New button.

Clicking on the Save button returns you to the Force Account Equipment/Material/ Personnel Selection page. Enter data for additional personnel by clicking on the Add link and entering the required information.

Clicking on the Save and Add New button saves the data entered and brings up a new entry screen. The date, straight time hours and overtime hours will be blank. The last name, first name, craft designations, hourly wage and health & welfare hours will be filled with the last employee information entered. Enter a new date and hours worked or edit the information to add a new employee. You can also clear any information in the text boxes by clicking on the Clear button.

Additional entries can also be made by going to the Force Account Equipment/Material/Personnel Selection page by clicking on the Maintain link by Personnel. Click on the Copy link for a specific employee. The Force Account Personnel Maintenance page with the information for that date and employee will be displayed. Edit the date and hours and click on the Save button. A new entry for that employee will be generated.

8. After all the daily equipment, material and personnel information has been entered, the force account reports and summary can be printed.
 - a. To print the equipment, material and personnel reports, go to the Force Account Selection page and click on the Details link for the force account. The Force Account Equipment/Material/Personnel Selection page is displayed. Click on the Report link for equipment, material or personnel. A report will be generated and can be printed.
 - b. To print the Summary of Force Account report, go to the Force Account Selection page and click on the Summary link. The Summary of Force Account report will be generated and can be printed.