

## 104 SCOPE OF WORK

Alterations of plans or work, extra work, maintenance of traffic, and value engineering are addressed in ALDOT Standard Specifications for Highway Construction (SSHC) Section 104.

### 104-1 INTENT OF CONTRACT.

The intent of the contract is to provide for completion of the work described.

When Pay Item 680A is included in the contract, the Contractor shall also furnish all geometric controls. See SSHC 680 and [680](#).

#### TOPIC CONTENTS:

<a href="#">104-1</a>	Intent of Contract
<a href="#">104-2</a>	Alterations of Plans or Character of Work
<a href="#">104-3</a>	Extra Work
<a href="#">104-4</a>	Maintenance of Traffic and Sequence of Construction
<a href="#">104-6</a>	Final Cleaning Up
<a href="#">104-7</a>	Maintenance of Roads and Detours
<a href="#">104-8</a>	Value Engineering

### 104-2 ALTERATIONS OF PLANS OR CHARACTER OF WORK.

Often, alterations in the work and/or changes in quantities become necessary to satisfactorily complete the project. These changes may increase or decrease contract time or cost. They may be directed or allowed by the Engineer to protect the interest of ALDOT and/or to address encountered conditions that differ from those anticipated or reflected in the contract documents.

The Engineer is allowed by contract to allow or direct changes or alterations to the work. Some changes may be directly compensated for by simple overruns of existing contract quantities. Other insignificant changes will be considered inherent to the work and not directly compensated for. If a change is significant, additional payment and/or contract time may be granted.

Payment for significant alterations of the work is made by supplemental agreement or on a force account basis in accordance with SSHC 109.05. If appropriate, an extension of contract time will be granted in accordance with SSHC 108.09. The amount of additional payment and contract time should be agreed upon prior to the contractor performing the work.

If the Contractor disagrees with ALDOT decisions regarding the change or alteration, the contractor may file a claim in accordance with SSHC 110. See also [110](#) for information related to contractor claims.

## SIGNIFICANT CHANGE

**Significant Change** is described in the SSHC as generally applying to the following circumstances:

1. When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction, or
2. When the quantity of a major item of work is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Changes in quantities for the items of Unclassified Excavation, Muck Excavation, Borrow Excavation, Pipe Underdrain, extra Concrete and Steel Reinforcement (for structure foundations), Piling, Bituminous Plant Mix leveling and widening material, and Bituminous Material used in plant mix bases and pavements, Disposal of Hydrocarbon Contaminated Soil, Underground Storage Tank (UST) Removal, and Removing and Disposing UST Contents are excluded in determining increases and decreases because these items typically cannot be accurately determined before the work is performed.

**Major Item** is defined as any item having an original contract value in excess of 10 percent of the total contract bid price.

Supplemental Information 1.104 Significant Change.

## EXTENSION OF WORK LIMITS

SSHC 104.02 states, under no circumstances shall alterations of plans or of the nature of the work involve work beyond the termini of the proposed construction except as may be necessary to satisfactorily complete the project. Similar language is included in state law and is intended to ensure that a contractor is not directed to perform work beyond those original limits without scrutiny, justification, and proper approval.

The exception mentioned in the SSHC is more fully described in the law as follows: *...except as may be necessary to satisfactorily complete the project in the most feasible and economical manner, in the judgment of the Director of Transportation.* These exceptions are rare; however, they do occur, and the Director has the prerogative to determine when it is reasonable to allow an extension of project limits.

The referenced termini should be interpreted to correspond to the work limits shown on the plans and defined above. Any work beyond the limits of work deemed necessary by the Area Construction Engineer must be submitted to the Construction Bureau with a request for approval by the Transportation Director. The Transportation Director's approval is required prior to any work being performed outside the project work limits. Terminology clarification and examples of possible exceptions are shown below.

### PROJECT LIMITS AND WORK LIMITS

The terms work limits and project limits are sometimes used interchangeably to describe the general boundaries of the project and work. However, the terms have specific meanings and purposes that may not align with the context of their use in common vernacular (incorrect usage has also been noticed in some ALDOT policy and procedure documentation and some SSHC language).

**Project Limits** are points on the centerline of construction where the primary proposed improvement, as described in the project description on the title sheet, begins and ends. Project limits are generally based on the beginning and ending of full-depth, full-width pavement for the main route of the project. Project limits with stationing are shown on the plans as BEGIN PROJECT and END PROJECT only on the centerline of the main route.

**Work Limits** typically extend beyond the project limits and generally indicate the true length of the work area and the extreme limits of the contractor's responsibility on a project. This includes work required to tie or connect to existing pavement and drainage. Some aspects of the TCP will be inside of the work limits. Portions of the advance warning area and signage may be outside the work limits. Work limits with stationing on the plans as BEGIN WORK and END WORK on the centerline of the main route and on the centerline of all crossing or side roads affected by the project.

Terminology 1.104 Project Limits and Work Limits.

**EXAMPLES –**

**Scenario 1:** *A resurfacing project does not tie to a previously resurfaced roadway at the end of the work limits, i.e., a few hundred feet of the roadway mainline are left un-resurfaced and in poor condition.*

In this case, if the designer intended to tie to the adjacent project, the END WORK stationing shown in the plans could be in error. The Director would normally agree that extending the work limits (and project limits if necessary) is necessary in this situation to “satisfactorily complete the project” as originally intended.

**Scenario 2:** *An intersection improvement project with changes in alignment and drainage appears to need additional curb and gutter and drainage work to properly handle the flow of water along the intersecting side road but the work is outside of the work limits.*

In this case, the designer should be contacted for explanation and determination of the extent of work limit extension required to accommodate additional design elements if necessary. Again, the Director would most likely agree that satisfactory completion of the project would require an extension of the work limits.

**Example 2.104 Extension of Work Limits.**

Other limitations of work areas for the protection or preservation of resources or hazard areas may be shown on the plans or described in the plan notes.

**CHANGED OR DIFFERING SITE CONDITIONS**

Changed or Differing Site Conditions are intended to apply to two conditions encountered at the project site. They are described as follows.

- 1) When subsurface or latent physical conditions are materially different from those indicated in the contract or,
- 2) When unknown physical conditions are found to be of an unusual nature and materially different from those ordinarily encountered and recognized as inherent to the type of work being performed.

Here, *latent* means concealed or hidden and *materially different* means different to a substantial degree.

The first condition is compared to information shown in the contract and the second condition is compared to what could reasonably be expected by the contractor. ALDOT rarely recognizes any condition as changed or differing under the context of SSHC 104.02(b). This is primarily due to the language of corresponding SSHC 102.05. This specification places significant responsibility on the contractor to thoroughly review and understand all contract documents and to examine the conditions of the project site. Further, when ALDOT conducts borings at the

project site and makes this information available prior to the contract letting, the bidder is encouraged to carefully review this information, make independent interpretations, and draw conclusions related to subsurface conditions. The Contractor bears the burden, to a large degree, of submitting bids that reflect the inherent risks of unknown surface and subsurface conditions.

SSHC 104.02(b) requires that when changed or differing site conditions are discovered, the contractor must immediately notify the Engineer. Conversely, the Engineer should notify the contractor immediately when a determination of changed conditions is made. This immediate communication will allow for the conditions discovered to be discussed and addressed promptly. The Engineer will decide whether additional compensation is due and give direction to the contractor on how to proceed. Additional payment, when warranted, will be made as Extra Work under SSHC 104.03. See also [104-3](#).

After discussion is exhausted, the contractor may initiate the contractor claims process if there is disagreement with the Engineer's changed or differing site condition determination. The contractor claims process is outlined in SSHC 110. It is also described in [110](#). The first step of the process is for the contractor to provide a notice of intent to file a claim prior to beginning the work, which would allow the affected operations to be identified and required documentation of the work to begin.

#### **CONTRACT ADMINISTRATION CHANGE APPROVAL AUTHORITY**

ALDOT policy for the levels of approval authority for different types of change related to contractual matters can be confusing. The table below attempts to consolidate several types of change and their corresponding approval authorities in a single location.

For additional information regarding the types of changes and organizational hierarchy, see also [104-2](#), [104-3](#), [108-9](#), [109-5](#), and [100 SG-1](#).

Table 1.104 Approval Authorities for Contract Administration.

Type of Change	Minimum Level of Approval Authority
Extra Work (significant change)	Region Engineer <sup>1, 2</sup>
Quantity Overrun of Existing Pay Item	Region Engineer <sup>2</sup>
Contract Time Extension	Region Engineer <sup>3</sup>
Contract Time Reduction	State Construction Engineer
Unit Price or Other Cost Reduction	State Construction Engineer
Traffic Control Plan Revision	State Construction Engineer
Extension of Work Limits	Deputy Director for Operations and Transportation Director

<sup>1</sup>also requires State Construction Engineer approval if the change is over \$100,000

<sup>2</sup>also requires Deputy Director for Operations and Transportation Director approval if the change is over \$150,000

<sup>3</sup>also requires State Construction Engineer approval for calendar completion date projects

For projects with full FHWA oversight, extra work with monetary impacts exceeding \$100,000, with or without changes to contract time must also be approved by FHWA before commencement of the change. For changes with impacts of less than \$100,000, FHWA approval may be obtained retroactively. The Area Construction Engineer is responsible for securing FHWA approval when required.

The monetary amounts listed in the notes and descriptions above apply to a particular occasion of the addition of related items of work. They do not apply to numerous items of unrelated work or the cumulative total of all additional work.

“N/A” should be entered on signature lines of required forms when authority at that level is not required. When the Region Engineer is the final approving authority, required forms should be submitted directly to the State Office Engineer Bureau with a copy to the State Construction Engineer. The cover letter to the Office Engineer should state that the changes were approved by the Region Engineer.

Documentation supporting a contract-related change approval or approval request should include the following.

- ▼ Reasons for the change and justification for the approval or approval request.
- ▼ Documentation of research and review supporting the need for change and approval.
- ▼ Contractor submittals requesting the change and supporting approval if applicable.
- ▼ Descriptions of contractor actions or inaction that may have contributed to the need for change, if any.
- ▼ Any work or costs that are saved or offset by the change.
- ▼ Impacts to the controlling item(s) of work if any.

- ▼ Specific dates and/or number of days with impacts related to the change.
- ▼ FHWA discussion notes and formal approval when applicable.

**EXAMPLES –**

**Scenario 1:** *On a particular project, pay items for reinforced concrete pipe, bituminous plant mix leveling, and underdrain need to be added by supplemental agreement and are completely unrelated based on need. Each pay item totals approximately \$60,000.*

Although cumulatively the pay items exceed \$150,000, the Region Engineer may approve all three pay items and include on a single supplemental agreement since they are unrelated.

**Scenario 2:** *A bridge replacement project on a low volume two-lane State route was designed such that traffic would pass thru the project limits in a single-lane configuration throughout the duration of construction using temporary traffic signals. After the project was awarded but prior to work beginning, the contractor proposed to completely close the State route and detour traffic around the project site. If approved, the contractor offered to reduce contract time and a variety of contract unit bid prices since the restriction of traffic through the work area would result in higher production rates.*

Since this change would result in a reduction in contract time and cost, State Construction Engineer approval is required.

Example 3.104 Contract Change Approval.

---

### 104-3 EXTRA WORK.

Extra Work is defined as an item of work not provided for in the contract as awarded but found essential to the satisfactory completion of the contract within its intended scope. Extra work is paid for by supplemental agreement or on a force account basis as outlined in SSHC 109.04. See also 109-4 below. It is important that the Engineer promptly establishes a payment mechanism and notifies the contractor of the decision prior to the work being performed.

If a price for the extra work can be agreed upon, a supplemental agreement should be executed. If no agreement for compensation can be reached, the work should be tracked and paid on a force account basis.

The Engineer may direct the immediate start of work by an emergency order, but the work should be tracked as force account work even if the intention is to eventually pay by supplemental agreement. No party benefits when a significant amount of work has been accomplished and there are no reliable records from which to determine a fair cost.

If the scope and duration of the extra work is unknown, tracking and payment on a force account basis is always the best option. Care must be taken to compile all the records required by SSHC 109.04(b). These are further described in 109-4 below.

The process of gathering and maintaining force account records can be cumbersome for all parties. It may be advantageous in some circumstances to convert to a supplemental agreement at some point during the progression of the work. The force account records must be thorough enough to establish unit prices for a supplemental agreement. An example is provided below.

**EXAMPLE –**

Several stormwater inlet inverts and tops must be modified as result of a roadway widening project. The contract does not include the necessary pay items for the inlet work. The number of inlets is known, but the scope of work is somewhat unknown due to the varying configuration and materials of the old inlets. The work required here is considered extra work.

The Engineer should direct the contractor to begin work on a force account basis due to the difficulty in establishing unit costs for the work. After completing the work on a few of the inlets, the contractor may be more comfortable in quoting a unit price per inlet, and the Engineer can determine from the force account records if the unit price is reasonable. If so, force account tracking can be terminated, and a supplemental agreement processed to establish a per each pay item. This will save both parties the significant amount of time need to gather and maintain force account records.

Example 4.104-3 Extra Work Tracked by Force Account Until Price can be Established.

**APPROVAL OF EXTRA WORK**

Determination and approval of extra work should be based on an estimation of the time, materials, equipment, and labor required to complete the work. This estimate should be further validated by comparison with current bid history for similar work, when available. In cases where sufficient bid history is available for comparison, and the cost compares favorably with the average bid history when factors such as quantity, project vicinity, and other site-specific conditions are considered, bid history alone may be used as the basis of approval.

In all cases of extra work, written approval from the appropriate authority should be secured prior to commencement of the work. Approval authority levels for extra work are further described and summarized in [104-2](#).

---

## 104-4 MAINTENANCE OF TRAFFIC AND SEQUENCE OF CONSTRUCTION

The Contractor is required to always maintain existing traffic flow through the project unless otherwise provided by the plans. SSHC 104.04, SSHC 107.10, and SSHC 740.03 provide further description and elaboration regarding the contractor's responsibilities related to maintenance of traffic and the overall traffic control plan.

### TRAFFIC CONTROL PLAN (TCP)

The Contractor is required to follow the TCP provided in the plans. If there is a need for traffic control not addressed by the TCP, the TCP may be revised by the Engineer. Major TCP revisions should be handled as provided in ALDOT's Traffic Control Procedure which is in [700 SG-1](#) Traffic Control in Construction Work Zones.

A change affecting the flow of traffic is an example of a change requiring a major TCP revision. Project managers may approve minor TCP changes for immediate implementation as deemed necessary. A minor TCP change might include adding additional drums, barricades, or missing signs.

### TRAFFIC CONTROL PLAN REVISIONS BY THE CONTRACTOR

The contractor may request that ALDOT revise the TCP or may develop and submit a proposed revision for review. Any such request or proposal should be submitted to the Project Manager and must include a thorough explanation of the basis for the requested or proposed changes and the effect on contract time, cost, or phasing of the work. A review will be conducted by the Project Manager, Area Construction Engineer, State Construction Engineer, and FHWA (when applicable). The contractor's request or proposal will be considered for approval only if found to be equivalent or more efficient, effective, or safe than the TCP provided in the plans. The contractor may not implement any part of a revised TCP until fully approved.

SSHC 104.04 also brings attention to the possibility that utilities may exist in a work area and may or may not be shown on the plans. It highlights the contractor's responsibility for locating, protecting, and preserving utilities. See [105-5](#) Utility Relocation for additional information regarding utilities.

---

## 104-5 BLANK.

Blank.

---

## 104-6 FINAL CLEANING UP.

As a part of project final acceptance, the completed project must be brought to or restored to an acceptable condition. This includes the removal and disposal of all waste materials, falsework, and other temporary elements associated with the work.

---

#### 104-7 MAINTENANCE OF ROADS AND DETOURS.

The Contractor is required to maintain at its expense all detours and haul roads, and all roads, streets, bridges, and intersections associated with the work. The Contractor is required to coordinate with the owner of roads planned for use as haul routes. The existing condition of the road should be reviewed and agreed upon as agreements are made related to maintenance and restoration. The contractor is responsible for maintenance, protection, and restoration of all facilities impacted by their operations.

Any agreements made between the contractor and public or private entities related to offsite route maintenance, repair, and replacement associated with a project should be memorialized in writing. A copy of all agreements should be provided to the project manager.

---

#### 104-8 VALUE ENGINEERING.

A value engineering (VE) proposal is a contractor-developed and proposed opportunity for the contractor to make an innovative change that will provide value to the project once it has been implemented. Any monetary savings associated with an approved VE proposal is divided equally between ALDOT and the prime contractor. VE is intended to draw on and reward the contractor's ingenuity, resourcefulness, and experience in determining a faster, better, more cost-effective method of completing the required work. Simple deletion of required work and associated payment is not considered value engineering. Any cost savings associated with such a proposal, even if approved, will not be shared with the contractor.

VE proposals must be submitted to the Project Manager by the prime contractor (not a subcontractor). VE proposals are forwarded through the Area Office to the Construction Bureau for review and final approval determination. If approved, changes to the contract associated with the VE proposal are processed as extra work by supplemental agreement. The contractor remains obligated to the terms of the contract until the supplemental agreement is executed.

SSHC 104.08 includes a very specific process for submitting a VE proposal, including the information and documentation that must be included. Since a timely review of a VE proposal is crucial to a contractor's schedule, the Project Manager should carefully examine a submittal once received and ensure that all information listed in SSHC 104.08(b) is included. If not, the submittal should be returned to the contractor. This will minimize the time required for Construction Bureau review and approval.