

**OKLAHOMA DEPARTMENT OF TRANSPORTATION**

DATE: August 31, 2000

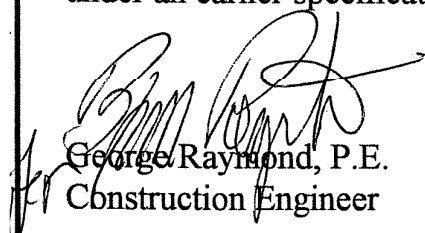
TO: Distribution List

FROM: George Raymond, Construction Engineer

SUBJECT: CONSTRUCTION CONTROL DIRECTIVE NO. 000831.

**JOINT SEALANT & ELASTOMERIC MORTAR**

The specification for Rapid Cure Joint Sealant and Elastomeric Mortar for use in bridge decks(Section 701.08(h)) has been modified for the 1999 Standard Specifications For Highway Construction. You may accept Rapid Cure Joint Sealant and Elastomeric Mortar meeting the specification of 1999, on projects that were let under an earlier specification with no further action.



George Raymond, P.E.  
Construction Engineer

## OKLAHOMA DEPARTMENT OF TRANSPORTATION

DATE: August 4, 2000  
TO: Distribution List  
FROM: George Raymond, Construction Engineer  
SUBJECT: CONSTRUCTION CONTROL DIRECTIVE NO. 000804.

### ADMINISTRATION OF CONSTRUCTION ENGINEERING SERVICES CONTRACTS

This Directive provides requirements for oversight of Construction Engineering Services (CES) contracts and gives guidance on the construction engineering services contractor selection process.

#### SELECTION

To assist with preparing a short list of potential firms to perform CES, the office of the Chief Engineer maintains a list of such firms which have indicated their interest in performing this type of service. The administration of all CES contracts is entirely a Field responsibility. All construction engineering services contracts for work on Federally participating projects, are subject to the requirements of 23 CFR 635.105(b) and 23 CFR 172.7. The selection process is governed by Oklahoma Statute 61-62.

Lump sum type projects are advisable as there is little if any audit process involved. However, when the scope of services cannot be well defined on large projects with various phases, it may be well to consider a different method of payment formula such as, cost plus fixed fee or possibly one which pays hourly for each of the needed services. If the project is in an Oversight Corridor, it is advisable to discuss the type of contract with the FHWA Area Engineer.

#### JUSTIFICATION

Field Division Engineers anticipating the need for a consultant to manage construction contracts, will begin by submitting justification to the Assistant Director-Operations. The justification should indicate the workload/resources/time/ relationship, based on the current and programed workload, showing why the Department cannot perform the work with existing forces.

#### PROPOSAL

The justification should also include a proposal for how the work is to be handled and the number of construction contracts to be handled by the consultant under the proposed contract. The proposal should indicate the anticipated cost of the construction contract, the consultant contract and the scope of work that reflects a clear, accurate and detailed description of services to be rendered by the consultant.

Include the name of at least two firms from the roster of interested firms for each contract to be executed and no less than three if only one contract is contemplated. **Do not select a firm for consideration if that firm is also the designer of the construction project.**

The Assistant Director of Operations will approve and forward to the Chief Engineer. The Chief Engineer will return written approval of the proposal along with the most recent performance evaluations of the firms proposed.

### **INTERVIEWS**

The Field Division Engineer, or designee, will set up a panel to conduct interviews of the considered firms and make a selection. In addition to the firm's staffing and capacity to perform the work, consideration should be given to the amount of construction engineering presently under obligation.

### **DISADVANTAGED BUSINESS ENTERPRISES**

The Department is to give consideration to DBE Firms when securing a consultant as per 23 CFR 172.7(a)(4).

### **FEE NEGOTIATION**

After the selection, a Fee Negotiation Conference will be conducted to establish the cost of the contract. It is recommended that only lump sum contracts be negotiated based on a well defined scope of services, with the intent that, if the construction work is carried out as planned and within the time allotted for completion, the lump sum fee would be paid as negotiated. However, there are certain scenarios which can occur on the construction contract which could impact the consultant contract. These are outlined under the heading, "THE CONTRACT" and are intended to be invoked when there are irregularities with the construction contract. If a contract other than lump sum is considered, it may be necessary to perform a *Prenegotiation Audit* to ensure that the consultant has an acceptable accounting system (23 CFR 172.5)(c)(1).

### **THE CONTRACT**

The contract between ODOT and the consultant will be provided by the Field Division Engineer with assistance from other ODOT offices as needed.

The basic contract is to:

1. List the name and business address of the ODOT Engineer who will oversee the contract and the same for the consultant's representative.
2. List the project number, job/piece number and full description of the construction project(s) for which the consultant will be responsible And the time allotted for the construction.

3. Define the scope of services. Indicate who is to do the inspection, surveying, acceptance testing, independent assurance testing, and in the case of prefabricated products, who is to do the in plant testing? Who will approve shop drawings? In the case of failing tests will retesting be included in other items or paid separately?
4. Describe the process for handling of change orders including the preapproval of the FHWA on oversight projects.
5. Clearly define the compensation to the consultant. Due to the differing scenarios which can occur on a project, it is recommended that certain issues be addressed as follows:

**(a) Normal Operations:**

A portion of the lump sum is paid incrementally at the same rate as the construction progresses.

**(b) The construction is delayed or suspended:**

It is ideal to address limits on this condition to avoid confusion if and when it occurs. It is suggested that there be no additional compensation for a given time period (30 days?) And then go to a reduced rate if the suspension continues.

**(c) In the case of added work to the construction:**

If the added work impacts the consultant causing more hours of the inspector, more travel, etc., additional compensation should be considered.

**(d) In the case of unusually severe weather, flooding, snow :**

In these cases the consultant is still required to make observations of the project and report on Storm Water Runoff. The consultants time on the project would be significantly reduced and a rate reduction would be proper. Also, a time period should be established before the reduced rate would begin. It is suggested that after 15 days of total shut-down due to unusually severe weather, a reduced rate would be invoked.

**(e) The contractor runs out of time and liquidated damages are charged.**

The contract should explain that a portion of the liquidated damages will be passed on to the consultant for each day charged. The daily rate should be indicated.

6. On lump sum type contracts, the circumstances depicted in (b), (c), & (d) above are to be invoked only after the original time allotted to the construction contract has expired

Although a percentage of the construction contract is fine for making comparisons, the negotiated fees are to be based on projected labor, travel, insurance, overhead profit, and related costs.

7. Indicate the time allowed from date of completion until the final documents are delivered to the Division Auditor. (Liquidated damages if late?). Indicate the point in time when the consultant has completed his contract (when the contractor signs the final estimate?).
8. Travel is easily estimated based on the time allotted for construction and should be included in other items.

#### **CONTRACT EXECUTION**

When the contract has been prepared and the consultant's portion completed, send to the Operations Director for final execution. The contract is ready for administration when fully executed copies are returned.

**FINAL AUDIT - Documents of consultant inspected contracts are to be audited by the Field Division in the same manner as contracts inspected by ODOT forces.**

#### **FHWA APPROVAL**

When the project to receive monitoring by a consultant is in an Oversight Corridor and is participating in Federal Funds, the contract with the consultant will require approval of the Federal Highway Administration. A copy of the contract will be forwarded to the FHWA during the execution process.

#### **CONSULTANT EVALUATION**

A performance evaluation report must be prepared in accordance with 23 CFR 172.13(b) by the responsible Department employee. This report, along with any comments from the consultant, will be placed in the contract file and a copy (with the consultant's comments) sent to the Chief Engineer and the Assistant Director-Operations. This information will be made available for future selections of consultants.

  
George Raymond, P.E.  
Construction Engineer

Copy to: Distribution List

# Oklahoma Department of Transportation

## Administration of Construction Engineering Services Contracts Construction Control Directive No. **20000804**

**February 15, 2002**

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**Scope:** To establish the requirements for oversight of Construction Engineering Services (CES) contracts and provide guidance on the construction engineering services contractor selection process.

### **Preface**

This Directive is intended to provide guidance to the Field Divisions in the selection and administration of consultant construction inspection/administration services. In an effort to maintain statewide consistency in the selection and contracting process, each Field Division is strongly encouraged to utilize the services of the Project Management Division.

### **Selection**

To assist with preparing a short list of potential firms to perform CES, the office of the Chief Engineer maintains a list of such firms which have indicated their interest in performing this type of service. The administration of all CES contracts is entirely a Field responsibility. All construction engineering services contracts for work on federally participating projects, are subject to the requirements of 23 CFR 635.105(b) and 23 CFR 172.7. The selection process is governed by Oklahoma Statute 61-62.

Lump sum type projects are advisable as there is little if any audit process involved. However, when the scope of services cannot be well defined on large projects with various phases, it may be well to consider a different method of payment formula such as, cost plus fixed fee or possibly one which pays hourly for each of the needed services. If the project is in an Oversight Corridor, it is advisable to discuss the type of contract with the FHWA Area Engineer.

### **Justification**

Field Division Engineers anticipating the need for a consultant to manage construction contracts, will begin by submitting justification to the Assistant Director-Operations. The justification should indicate the workload/resources/time/ relationship, based on the current and programmed workload, showing why the Department cannot perform the work with existing forces.

### **Proposal**

The justification should also include a proposal for how the work is to be handled and the number of construction contracts to be handled by the consultant under the proposed contract. The proposal should indicate the anticipated cost of the construction contract, the consultant contract and the scope of work that reflects a clear, accurate and detailed description of services to be rendered by the consultant. Include the name of at least two firms from the roster of interested firms for each contract to be executed and no less than three if only one contract is contemplated. **Do not select a firm for consideration if that firm is also the designer of the construction project.**

The Assistant Director of Operations will approve and forward to the Chief Engineer. The Chief Engineer will return written approval of the proposal along with the most recent performance evaluations of the firms proposed.

### **Interviews**

The Field Division Engineer, or designee, will set up a panel to conduct interviews of the considered firms and make a selection. In addition to the firm's staffing and capacity to perform the work, consideration should be given to the amount of construction engineering presently under obligation.

### **Disadvantage Business Enterprises**

The Department is to give consideration to D.B.E. Firms when securing a consultant as per 23 CFR 172.5(a)(4b).

### **Fee Negotiation**

After the selection, a Fee Negotiation Conference will be conducted to establish the cost of the contract. It is recommended that only lump sum contracts be negotiated based on a well-defined scope of services, with the intent that, if the construction work is carried out as planned and within the time allotted for completion, the lump sum fee would be paid as negotiated. However, there are certain scenarios which can occur on the construction contract which could impact the consultant contract. These are outlined under the heading, "THE CONTRACT" and are intended to be invoked when there are irregularities with the construction contract. If a contract other than a lump sum is considered, it may be necessary to perform a pre negotiation audit to ensure that the consultant has an acceptable accounting system (23 CFR 172.5)(c)(1).

## **The Contract**

The contract between ODOT and the consultant will be provided by the Field Division Engineer with assistance from other ODOT offices as needed.

The basic contract is to:

1. List the name and business address of the ODOT Engineer who will oversee the contract and the same for the consultant's representative.
2. List the project number, job/piece number and full description of the construction project(s) for which the consultant will be responsible and the time allotted for the construction.
3. Define the scope of services. Indicate who is to do the inspection, surveying, acceptance testing, independent assurance testing, and in the case of prefabricated products, who is to do the in plant testing? Who will approve shop drawings?  
In the case of failing tests, will retesting be included in other items or paid separately?
4. Describe the process for handling of change orders including the preapproval of the FHWA on oversight projects.
5. Clearly define the compensation to the consultant. Due to the differing scenarios which can occur on a project, it is recommended that certain issues be addressed as follows:
  - (a) **Normal Operations:**  
A portion of the lump sum is paid incrementally at the same rate as the construction progresses.
  - (b) **The construction is delayed or suspended:**  
It is ideal to address limits on this condition to avoid confusion if and when it occurs. It is suggested that there be no additional compensation for a given time period (30 days?) and then go to a reduced rate if the suspension continues.
  - (c) **In the case of added work to the construction:**  
If the added work impacts the consultant causing more hours of the inspector, more travel, etc., additional



compensation should be considered.

**(d) In the case of unusually severe weather, flooding, snow:**

In these cases the consultant is still required to make observations of the project and report on Storm Water Runoff. The consultants time on the project would be significantly reduced and a rate reduction would be proper. Also, a time period should be established before the reduced rate would begin. It is suggested that after fifteen (15) days of total shutdown due to unusually severe weather, a reduced rate would be invoked.

**(e) The contractor runs out of time and liquidated damages are charged.**

The contract should explain that a portion of the liquidated damages will be passed on to the consultant for each day charged. The daily rate should be indicated.

6. On lump sum type contracts, the circumstances, depicted in (b), (c), & (d) above, are to be invoked only after the original time allotted to the construction contract has expired.

Although a percentage of the construction contract is fine for making comparisons, the negotiated fees are to be based on projected labor, travel, insurance, overhead profit, and related costs.

7. Indicate the time allowed from date of completion until the final documents are delivered to the Division Auditor. (Liquidated damages if late?). Indicate the point in time when the consultant has completed his contract (when the contractor signs the final estimate?).
8. Travel is easily estimated based on the time allotted for construction and should be included in other items.

Sample contracts are available for most arrangements which may be needed.

### **Contract Execution**

When the contract has been prepared and the consultant's portion completed, send to the Assistant Director-Operations for final execution. The

contract is ready for administration when fully executed copies are returned.

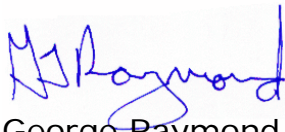
**FINAL AUDIT - Documents of a consultant-inspected contract are to be audited by the Field Division in the same manner as contracts inspected by ODOT forces.**

### **FHWA Approval**

When the project to receive monitoring by a consultant is in an oversight corridor and is participating in Federal Funds, the contract with the consultant will require approval of the Federal Highway Administration. A copy of the contract will be forwarded to the FHWA during the execution process.

### **Consultant Evaluation**

A performance evaluation report must be prepared in accordance with 23 CFR 172.13(b) by the responsible Department employee. This report, along with any comments from the consultant, will be placed in the contract file and a copy (with the consultant's comments) sent to the Chief Engineer and the Assistant Director-Operations. This information will be made available for future selections of consultants.



George Raymond, P.E.  
Construction Engineer

## OKLAHOMA DEPARTMENT OF TRANSPORTATION

DATE: June 23, 2000  
TO: Field Division Engineers, Division Construction Engineers, and  
Resident Engineers  
FROM: Byron Poynter, Construction Division  
SUBJECT: CONSTRUCTION CONTROL DIRECTIVE NO.000623.

### OZONE ALERT DAYS

Ozone in sufficient amounts contaminates the air we breath. One of the major causes is from gasoline burning engines (diesels are not a problem). When there is heavy traffic congestion and several thousand vehicles move slowly through an area or are sitting idle for periods, the problem gets worse. Small two-cycle engines also contribute to the ozone level and their use should be suspended during ozone alerts. The potential for ozone alerts is usually in the Tulsa and Oklahoma City regions where there are high traffic counts. However, since atmospheric conditions play a part, a high ozone count could occur in other areas as well.

When the construction sequence on highway projects requires closing a lane, ramp or other feature which will increase congestion, an ozone alert has been issued and we have the option of postponing the closure for a day or two until the ozone threat is lessened, you should direct the contractor to postpone the closure and credit the contract with a "D" day (or no.4 day) for each day of postponement, in the same manner as a utility delay. However, additional time must only be credited when work that is critical to the timely completion of the work is delayed and in accordance with contract special provisions.

Where a closure has been in service for several days and an ozone alert is issued, it will not be practical and in some cases impossible to reopen closed lanes.

Please make the discussion of ozone alerts part of the preconstruction conference.



Byron Poynter

Construction Advisor

Copy to: Distribution List

ccd.ozo - One

OKLAHOMA DEPARTMENT OF TRANSPORTATION

DATE: May 26, 2000

TO: Field Division Engineers, Construction Engineers, Resident Engineers

FROM: Byron Poynter, Construction Division

SUBJECT: CONSTRUCTION CONTROL DIRECTIVE NO. 000526.

ACCEPTANCE TESTING BY CERTIFIED TECHNICIANS

This Directive cancels Directive No. 980114 and defines the immediate program for certification of materials testing technicians.

Beginning July 1, 2000, persons who perform sampling and testing for acceptance, must be certified by the Highway Construction Materials Technician Certification Board (hereafter referred to as The Board) and the tests must be performed in a qualified laboratory. This includes, contractor's personnel and consultants hired by the contractor to performing Quality Control Testing, **when the tests are being used for acceptance**, as well as ODOT personnel.

On ongoing contracts, consultants representing ODOT and performing acceptance testing or hiring Testing Firms to perform acceptance testing will be allowed to complete those contracts as executed (without certification). ODOT managers contemplating construction inspection assistance by consultants shall make the certification requirement a part of any inspection contracts initiated after this date.

As the number of certified technicians increases, the requirement that the contractors quality control personnel be certified will be made a part of the contracts.

Due to the limited availability of training and certification classes, ODOT personnel if necessary will be given extensions to the July 1, 2000 deadline. However, it is mandatory that full compliance be achieved as soon thereafter as practicable.

**USE OF CONTRACTOR'S TESTS:**

The Department has the responsibility for acceptance and payment for the product. It is essential that the testing by ODOT is compared to the testing by the contractor in a timely manner to ensure that the product produced is acceptable.

If it is not possible for the Residency to perform the acceptance testing and have the results within the next working day, the contractor's tests should be used for initial acceptance. As mentioned above, the contractor's personnel must be Board certified in order for the contractor run tests to be used for final acceptance.

ODOT retains the option to run the tests from material jointly taken and split with the contractor.

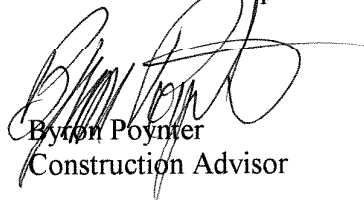
If a significant variation is found on running the tests by ODOT, at a later date, the variance is to be reconciled promptly (check tests, equipment check, representative sample verification etc.).

If tests by ODOT verify closely with those run by the contractor for initial acceptance, the Resident Engineer may approve the use of the contractor's tests for final acceptance, provided that the tests are done by a certified technician.

The specified number of tests shall be used (averaged) for each lot, with all tests being either the contractor's or ODOT's. No co-mingling of the contractor's and ODOT's tests will be permitted within a given lot.

Following is a procedure for when the contractor's quality control testing may be used for acceptance purposes:

1. Samples of materials to be tested by the contractor and used for acceptance are to be split with one half tested by the contractor and the other half stored by the Residency for possible spot testing. The sampling and splitting process is to be performed by a Board certified technician. Each sample shall be marked (tagged) with the date, time, lot and subplot number.
2. The contractor's tests should not be accepted for the initial production and should only be used after test strips have been run with final adjustments made to the plant.
3. Of the stored samples, at least 5% (randomly selected ) must be processed as a spot check of the quality being produced. Should a "spot check" indicate that test characteristics are out of the range of the design mix, the normal interval of acceptance testing by the Department should be resumed until the matter is reconciled.
4. An additional 5% of the testing must be done on samples randomly selected, independent of the above process.



Byron Poynter  
Construction Advisor

Copy to: Distribution List

test.acp 1

## OKLAHOMA DEPARTMENT OF TRANSPORTATION

DATE: April 10, 2000  
TO: Field Division Engineers, Division Construction Engineers, and  
Resident Engineers AND DIVISION AUDITORS.  
FROM: Byron Poynter, Construction Division

SUBJECT: CONSTRUCTION CONTROL DIRECTIVE NO. 000410

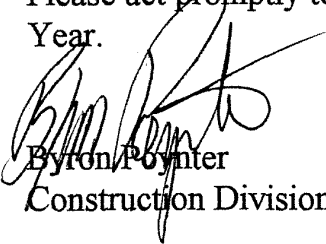
### WAIVER OF DOCUMENTS FOR FINALIZATION OF PROJECTS

The Federal Highway Administration (FHWA) has agreed to a "one time" waiver of any and all documents of projects which have been completed for more than six months but have not been paid off. This includes cases where the DBE goal has not been reached. In order to take advantage of this offer, the project must comply with the following:

1. The project has been completed more than six months.
2. You must list in summary, each certification or other document which is being waived. Please use the enclosed form to avoid confusion with other projects.
3. Include all projects, without regard to oversight parameters.
4. Send the summary to the Construction Division by June 15, 2000.
5. The offer is extended to non-participating projects also.
6. Sorry, the FHWA Form-47 cannot be waived. If this form is the only document lacking and it is "bogged down" give us a call, we may be able to help.

If there is a pending claim or other disagreement with the contractor, that issue will have to be reconciled prior to finalization.

Please act promptly to take advantage of this offer and clear the books this Fiscal Year.

  
Byron Poynter  
Construction Division

OKLAHOMA DEPARTMENT OF TRANSPORTATION

SUMMARY OF "ONE TIME WAIVER" OF PROJECTS WHICH HAVE BEEN COMPLETED LONGER THAN SIX MONTHS, WITHOUT FINAL PAYMENT.

Project No. \_\_\_\_\_ Job/Piece \_\_\_\_\_

County \_\_\_\_\_

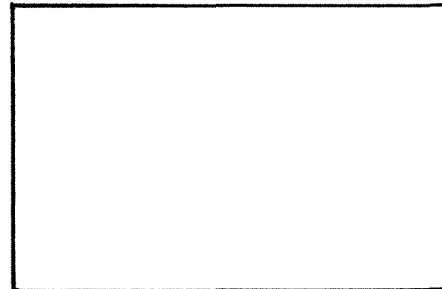
FHWA Approval Box

Summary of Waived Documents:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

A large rectangular box for the FHWA Approval.

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

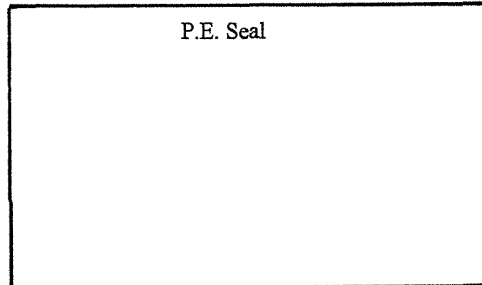
10. \_\_\_\_\_

Use additional sheets as necessary

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\_\_\_\_\_  
Resident Engineer

P.E. Seal

A rectangular box for the Professional Engineer Seal.

## OKLAHOMA DEPARTMENT OF TRANSPORTATION

DATE: March 21, 2000  
TO: DISTRIBUTION LIST (at end of List of Directives)  
FROM: Byron Poynter, Construction Division  
SUBJECT: CONSTRUCTION CONTROL DIRECTIVE NO. 000321.

### SPEED LIMITS AND OVERSIZE LOADS

This Directive cancels Directive No.890414.

Oklahoma Statute 47-11-803 provides that Local Authorities (Field Division Engineers) may adjust speed limits through construction zones as needed for safety. In order to do this send a memo describing the location of the work, the altered speed to be posted, and the anticipated duration to the Oklahoma Highway Patrol Troop having jurisdiction, with copies to the Traffic Division and Construction Division.

When the speed limit is returned to normal, notify the same parties, also by memo. An enclosure indicates the address of OHP Troops.

### OVERSIZE LOADS

When traffic lanes through a work zone will not accommodate oversize or overweight loads, notify the following office of the Oklahoma Department of Public Safety to prevent loads from being routed through the project by permit.

Ron Knox  
Oklahoma Department of Public Safety  
Size & Weight Permit Division  
P.O. Box 11415  
Oklahoma City, Ok. 73136  
Phone: 405-425-2205/2206  
Fax: 405-424-3890



Byron Poynter  
Construction Division

This Directive includes:  
A copy of Okla. Statute 47-11-803.  
List of addresses of Highway Patrol Troops.  
A map of Troop Headquarters.



§ 11-803. When Local Authorities May and Shall Alter Maximum Limits

(a) Whenever local authorities in their respective jurisdictions determine on the basis of an engineering and traffic investigation that the maximum speed permitted under this article is greater or less than is reasonable and safe under the conditions found to exist upon a highway or part of a highway, the local authority may determine and declare a reasonable and safe maximum limit thereon which

1. Decreases the limit at intersections; or
2. Increases the limit within an urban district, but not to more than sixty-five (65) miles per hour during daytime or fifty-five (55) miles per hour during nighttime; or
3. Decreases the limit outside an urban district, but not to less than thirty (30) miles per hour.

(b) Local authorities in their respective jurisdictions shall determine by an engineering and traffic investigation the proper maximum speed for all arterial streets and shall declare a reasonable and safe maximum limit thereon which may be greater or less than the maximum speed permitted under this act<sup>1</sup> for an urban district.

(c) Any altered limit established as hereinabove authorized shall be effective at all times or during hours of darkness or at other times as may be determined when appropriate signs giving notice thereof are erected upon such street or highway.

(d) As to streets and highways within the corporate limits which have been constructed or reconstructed with state or federal funds, local authorities shall have joint authority with the State Highway Commission to establish or alter speed limits; and provided further, that no local authority shall impose speed limits on any such street or highway substantially lower than those justified by the highway design, capacity, and traffic volume as determined by engineering studies.

(e) Not more than six such alterations as hereinabove authorized shall be made per mile along a street or highway except in the case of reduced limits at intersections, and the difference between adjacent limits shall not be more than ten (10) miles per hour.

Laws 1961, p. 385, § 11-803, eff. Sept. 1, 1961; Laws 1991, c. 98, § 5, eff. July 1, 1991.

<sup>1</sup> Section 1-101 et seq. of this title.

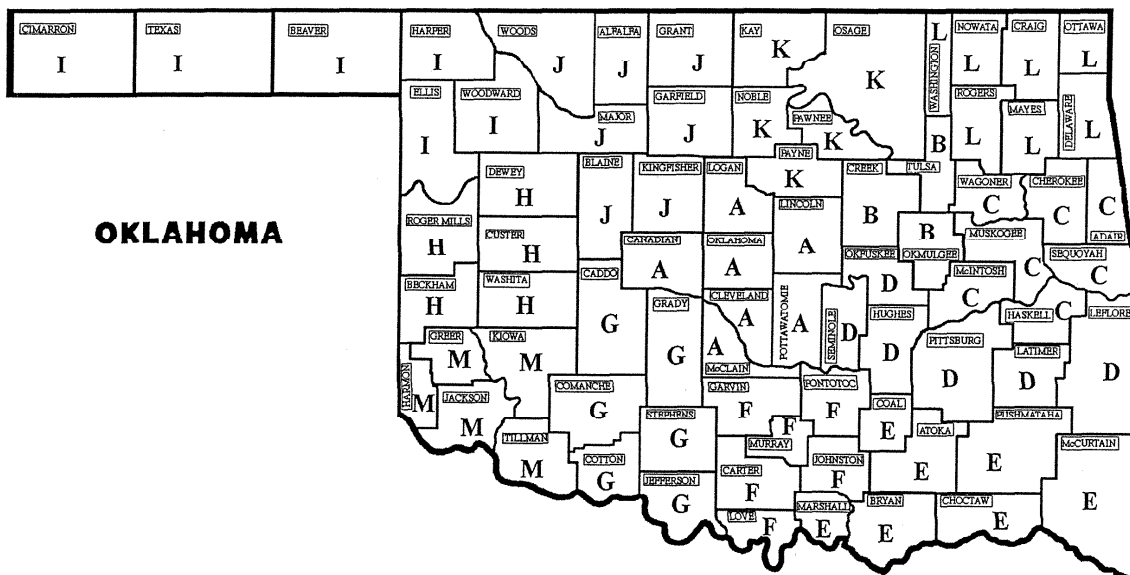
Automobiles §5(4), 7.

March 2000

OKLAHOMA HIGHWAY PATROL TROOP HEADQUARTERS  
Address & Telephone Number

TROOP	ADDRESS	CITY	ZIP	TELEPHONE	FAX
OHP Headquarters	3600 North M L King Avenue Post Office Box 11415	OKC	73111 73136	405/425-2424	405/419-2028
TROOP A (Bradley)	2480 W I-240 Frontage Rd.	OKC	73159	405/424-2323 (E) 405/425-2285 (NE)	405/682-8974
TROOP B (Green)	9191 E Skelley Drive	Tulsa	74129	918/627-0440 (E) 918/627-3881 (NE)	918/627-3149
TROOP C (Lowder)	651 N 43 <sup>rd</sup> St E Rt 5 Box 70	Muskogee	74403	918/683-3256 800/722-0510	918/682-6523
TROOP D (Smith)	U.S. 69 Bypass South Rt 8 Box 140	McAlester	74501	918/423-3636	918/423-4589
TROOP E (Williams)	3801 North Fifth Rt 2 Box 138	Durant	74701	580/924-2601	580/924-6439
TROOP F (Collins)	2001 W Hwy 142 Rt 3 Box 2A	Ardmore	73401	580/223-8800	580/223-6436
TROOP G (Sallee)	8 SE 7 <sup>th</sup> Street	Lawton	73502	580/353-0783	580/353-6310
TROOP H (Benneff)	2225 Gary Freeway	Clinton	73601	580/323-2424	580/323-6512
TROOP I (Holloway)	410 S Perkins	Guymon	73942	580/338-3366	580/338-1790
TROOP J (Hula)	5725 W Owen K. Garriott	Enid	73703	580/234-6147	580/242-4804
TROOP K (Fagan)	805 Harrison Street	Pawnee	74058	918/762-3662	918/762-2050
TROOP L (Lawson)	U.S. 80, 1 mile east of Vinita Rt 6 Box 450	Vinita	74301	918/256-3388	918/256-8542
TROOP M (Alexander)	916 N Veterans Drive Post Office Box 1028	Altus	73521	580/477-2765	580/482-5531
TROOP N (Gentry) (CDL)	3600 N King Avenue	OKC	73136	405/425-7745 405/425-2020	405/425-7747
TROOP O (Jackson)	Hanger 14, Wiley Post	Bethany	73008	405/789-4012	405/787-1373
TROOP P (Mat. Mgmt/Supply Legal, Gun Shop)	3600 N King Avenue Post Office Box 11415	OKC	73111 73136	405/425-2424 405/425-2287	405/425-2022
(Highway Safety)	3223 N Lincoln	OKC	73105	405/521-3314	405/524-4906
(PIO-Mayer)	3600 N King Avenue	OKC	73111	405/425-7707	405/425-7039
(Planning-Elliott)	3223 N Lincoln	OKC	73105	405/521-3478	405/524-4906
TROOP R (Freeman)	Post Office Box 53363	OKC	73152	405/521-4541	405/425-2287
Exec Security (Weeks)	820 NE 23 <sup>rd</sup> Street	OKC	73105	405/528-8523	405/521-1198
TROOP S (Hardridge)	32 NE 23 <sup>rd</sup> Street	OKC	73105	405/521-8103	405/521-6227
TROOP SO (McBride)	Post Office Box 11415	OKC	73136	405/425-2440	405/425-2838
TROOP T (Thompson)	Post Office Box 11415	OKC	73136	405/425-2410	405/425-2464
TROOP V (Fitzpatrick)	Post Office Box 11415	OKC	73111	405/425-2312	405/425-2031
TROOP W (Sanders)	RR 1, BOX 721	Barnsdall	74002-9739	918/847-2001	918/847-2976
TROOP XA (Carman)	Route 6 Box 450	Vinita	74301	918/356-7476 (405/425-3674)	405/425-3676
TROOP XB (Rosenberg)	Post Office Box 180	Jenks	74037	918/683-1782 (405/425-3669)	918/299-6548
TROOP XC (Rosenberg)	Route 3	McAlester	74501	918/548-3512 (405/425-3664)	918/299-6548
TROOP XD (Carman)	Route 6 Box 450	Vinita	74301	918/868-2372	405/425-2894
TROOP XE (Rosenberg)	Post Office Box 180	Jenks	74037	918/299-6599	918/299-6548
TROOP YA (Griffith)	Post Office Box 158	Morrison	73061	405/724-3564 (405/425-3667)	405/425-3677
TROOP YB (Griffith)	Post Office Box 337	Stroud	74079	918/968-3000 (405/425-3672)	405/425-3666
TROOP YC (McClelland)	Post Office Box 672	Chickasha	73018	405/222-3165	
TROOP YD (Collins)	Route 3 Box 2A	Ardmore	73041	580/223-8800	
TROOP YE (Griffith)	Post Office Box 337	Stroud	74079	918/968-3000	
TROOP Z (Burris)	Post Office Box 11415	OKC	73111	405/425-2137	405/425-2283

## MAP OF OKLAHOMA HIGHWAY PATROL TROOP LOCATIONS



## OKLAHOMA DEPARTMENT OF TRANSPORTATION

DATE: February 25, 2000

TO: Field Division Engineers, Division Construction Engineers, and  
Resident Engineers

FROM: Byron Poynter, Construction Division

SUBJECT: CONSTRUCTION CONTROL DIRECTIVE NO. 000225.

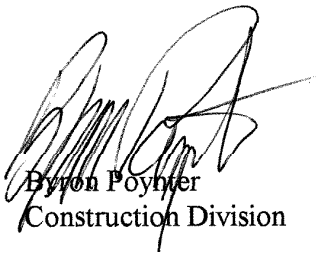
### CHANGE ORDER INSTRUCTIONS

Instructions for Cost Breakdowns and Change Orders have been combined into one document and is herewith enclosed. This is the same document distributed at the Resident Engineer's Academy with a minor update.

With reference to pages 3, 22 and 23 there is now a requirement for oversight projects to perform a separate analysis of the cost and the added time (if any) on change orders. It is not necessary to attach the analysis to the change, but it is to remain in the file for review as needed.

The booklet also includes some quick-reference information and ideas for how to complete a change order.

As always, if there are any questions, please contact the Construction Division.



Byron Poynter  
Construction Division

Copy to: Distribution List

Change orders One

# OKLAHOMA DEPARTMENT OF TRANSPORTATION

## GUIDANCE FOR REVIEW OF THE COST BREAKDOWN FOR SUPPORT OF SUPPLEMENTAL AGREEMENTS - CHANGE ORDERS - ADDED TIME

### CONTENTS

SUBJECT	PAGE
Statute OS 61-121	2
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Change Orders	12
Added Time	23
Independent Cost Analysis of Negotiated Extra Work	22
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## COST BREAKDOWNS - SUPPLEMENTAL AGREEMENTS - CHANGE ORDERS

- I. **PURPOSE:** The purpose of this document is to provide guidance for reviewing the contractor's estimated and/or actual costs shown in the cost breakdown for support of supplemental agreements and instructions for completing change orders.
- II **APPLICABILITY:** This document applies to all work covered under the standard specification and change orders. Title 61 Oklahoma Statutes, Section 121 provides the information and limitations for cost breakdowns, supplemental agreements, and change orders.

### **OS 61-121 CHANGE ORDERS OR ADDENDUMS**

Change orders or addendums to public construction contracts of One Million Dollars (\$1,000,000.00) or less shall not exceed a fifteen percent (15%) cumulative increase in the original contract amount. Change orders or addendums to public construction contracts of over One Million Dollars (\$1,000,000.00) shall not exceed the greater of One Hundred Fifty Thousand Dollars (\$150,000.00) or a ten percent (10%) cumulative increase in the original contract amount. Any change order or cumulative change orders which exceed these limits shall require a readvertising for bids on that part of the contract. Change orders in any amount shall be formally approved by the governing body of the public agency involved and the reasons therefor recorded in the permanent records. The governing body of the Oklahoma Tourism and Recreation Department is authorized, upon approval of a majority of all the members of the Oklahoma Tourism and Recreation Commission, to delegate to the Director of the agency the authority to approve change orders on a construction contract provided that the individual change order does not exceed Twenty-five Thousand Dollars (\$25,000.00) in expenditure and complies with the limits established by this section. The Transportation Commission may, by rule, authorize the Director of the Department of Transportation to approve change orders in an amount of not to exceed Five Hundred Thousand Dollars (\$500,000.00). Change orders approved by the Director shall be presented to the Transportation Commission during the next regular meeting and the reasons therefor recorded in the permanent records. All change orders shall contain a unit price and total for each of the following items:

- I. All materials with cost per item; and
- II. Itemization of all labor with number of hours per operation and cost per hour; and

## COST BREAKDOWNS - SUPPLEMENTAL AGREEMENTS - CHANGE ORDERS

- III Itemization of all equipment with the type of equipment, number of each type, cost per hour for each type, and number of hours of actual operation for each type, and
- III Itemization of insurance cost, bond cost, social security, taxes, workers' compensation, employee fringe benefits and overhead costs; and
- IV Profit for the contractor

If the construction contract was bid on a unit basis, and the change order is based exactly on the unit price or basis, such a change order will not be subject to this section. When the individual change orders are less than Ten Thousand Dollars (\$10,000.00), the change order may be based on an acceptable unit prices) basis in lieu of cost itemization as required in paragraphs 1, 2, 3, 4 and 5 of this section.

Alternates or add items bid with the original bid and contained in the awarded contract as options of the awarding public agency shall not be construed as change order under the provisions of the Public Competitive Bidding Act of 1974, Section 101 et. seq. of this title.

Amended by Laws 1993, c. 293, § 3, emerg. eff. June 3, 1993; Laws 1995, c. 200, § 3, emerg. eff. May 19, 1995; Laws 1997, c. 72, § 1, eff. Nov. 1, 1997; Laws 1998, c. 118, § 1, eff. July 1, 1998.

### **Independent Cost Analysis:**

The Code of Federal Regulations (CFR) 635.120(e) requires that there is a separate analysis performed on each negotiated change or contract modification. It reads as follows:

"The SHA shall perform and adequately document a cost analysis of each negotiated contract change or negotiated extra work order. The method and degree of the cost analysis shall be subject to the approval of the Division Administrator."

### **Contract Time Extension:**

The CFR 635.121(b) requires an analysis of added time to a change order and reads as follows:

"(b) Contract time extensions granted by a SHA shall be subject to the concurrence of the Division Administrator and will be considered in determining the amount of Federal participation. Contract time extensions submitted for approval to the Division Administrator, shall be fully justified and adequately documented."

See additional commentary and instructions with regard to costing and time on pages 23 thru 25.

## COST BREAKDOWNS

### INSTRUCTIONS FOR REVIEW OF COST BREAKDOWN FOR SUPPORT OF SUPPLEMENTAL AGREEMENT

As a minimum the Contractor's Cost Breakdown shall be evaluated by consideration of the following required documentation and/or costing information.

The contractor must be able to support all of the data on the Cost Breakdown. As a comparison of the value of the work, the Engineer might consider checking historical prices from the ODOT data-base.

The term "contract" means all of the documents associated with the contract such as plans, standard specifications, special provisions etc.

The enclosed Cost Breakdown blank form (page 11) sets out circled numbers for each of the cost elements of the form. The number and description that precedes each narration is the same number and description that appears for each cost element of the blank form.

- (1) JOB PIECE : This is the Departments State Job No. and identifies the contract to the computer system. Example; 06319(04).
- (2) PROJECT NUMBER: The Project No. identifies the project as to location and funding. Example; IR-35-4(115)14.
- (3) DATE: Use the date that the contractor submits the cost breakdown.
- (4) CONTRACTOR: This space is to contain the legal name of the contracting firm as it appears on the contract documents. If the Cost Breakdown is submitted by the prime contractor's subcontractor, the subcontractor must be approved to perform work on the project. The Departments acceptance of a subcontractor's Cost Breakdown does not create a contractual relationship between the Department and the subcontractor.



### COST BREAKDOWNS

- (5) DESCRIPTION OF WORK      This description should include the scope of work to be accomplished with the Supplemental Agreement.
- (6),( 7),( 8) MATERIALS:      Provide a clear description of the materials to be used. Enter the units (cy, sy, tons etc.) With the contractor's cost per unit.
- (9) & (10) MATERIALS QUANTITY & AMOUNT      Show the actual quantity of materials to be installed & the amount of money as extended.
- (11) MATERIALS TOTAL:      Show the total cost of materials in this blank.
- (12) LABOR:      Enter job title or classification for each position needed for the task. Examples are foreman, carpenter, form setter steel worker. Personnel categories such as superintendents, engineers, clerks, surveyors, etc. are considered overhead and are shown in the cost element 29.
- (13) LABOR - NO. PERSONNEL working at the same rate of pay.
- (14) LABOR - RATE/HOUR:      The rate per hour should be the same as reported on weekly payrolls.
- (15) LABOR - TOTAL      Where the actual number of hours is not available, a reasonable estimate should be made as to the total time needed to complete the work.
- (16) LABOR - AMOUNT:      The amount in this blank is the result of multiplying element 14 by element 15.
- (17) LABOR - TOTAL:      This blank includes the sum of all cost elements for labor.

## COST BREAKDOWNS

- (18) The rates shown are for equipment in sound workable condition, owned by the prime contractor or a subcontractor. The rates shown do not include allowances for operating labor, mobilization or demobilization costs, overhead or profit.

When equipment is rented from a company which exists for the express purpose of renting or leasing equipment, the rental/lease costs are allowable.

When equipment is leased from a branch or subsidiary of a construction firm, the rental rates will be determined in accordance with the rate guide.

- (19) NUMBER OF PIECES OF EQUIPMENT at the same rental rate.

- (20) EQUIPMENT - COST PER HOUR:

Currently the total ownership and operating rate as shown in the rate guide is reduced to 70% for the rate approved by ODOT for use in Cost Breakdowns. When the rate for standby is needed, use 20% of the 70% ownership and operating rate.

- (21) EQUIPMENT - TOTAL HOURS:

When the actual number of hours to perform the work of a cost breakdown is not known, an estimate of the number of hours each piece of equipment is needed to perform the specific work included in the cost breakdown.

Equipment idled by faults other than the Department's should not be included in any cost breakdown.

- (22) EQUIPMENT - TOTAL AMOUNT

This cost element is obtained by multiplying cost element 20 by cost element 21.

- (23) EQUIPMENT - EQUIPMENT TOTAL:

This cost element is the sum of the cost elements for equipment. The Department currently uses the "Contractor's Equipment Cost Guide" (Primedia Services) as a source of rental rates for heavy equipment owned by the contractor. The quantity and the type of equipment used to perform the work is to be listed. Typically, the make, model, size, horse-power is needed in order to determine the rental rate.

## COST BREAKDOWNS

### (24) INSURANCE LIABILITY:

This cost element covers public liability insurance. Following are examples of rates for various categories of work performed for the Department.

Description	Premium Per \$1000 of Payroll
Bridge Construction	223.80
Carpentry	31.74
Concrete Construction	42.50
Excavation	104.76

These factors are multiplied by cost element 17 and listed in element 31.

### (25) SOCIAL SECURITY TAXES:

Federal and State Unemployment taxes plus Social Security (FICA) taxes are shown in these two cost elements. Both can be incorporated into one. Following are examples:

State & Fed Unemployment =	0.055
FICA =	0.076
	0.131

The 0.131 is multiplied by cost element 17 and is listed in cost element 25.

### (26) WORKERS COMPENSATION:

Following are examples of applicable rates.

DESCRIPTION	W C RATE PER \$100 OF LABOR
Bridge Construction	24.78
Carpentry	10.23
Concrete Construction	8.96
Excavation and Grading	8.46
Pile Driving	22.67

The applicable rate is multiplied by cost element 17 and is listed in cost element 26.

### (27) EMPLOYEE FRINGE BENEFITS:

In some cases, the contractor has to pay for fringe benefits on labor, health and welfare, pension and vacation. In addition there are allowances for apprentice training, travel and subsistence depending on the craft and the location of the work. If the contractor includes this cost, supporting documentation should be included. The total is listed in cost element 17.

## COST BREAKDOWNS

- (28) **PAYROLL ADDITIVES:** Enter total of insurance, social security, workmans, compensation, and fringe benefits.
- (29) **OVERHEAD:**  
Distributed costs are those which cannot be attributed to a single segment, bid item or cost breakdown of the work. These costs are also referred to as indirect costs. Costs which can be applied to a particular item of work should not be included in distributed costs. Indirect costs are customarily divided into two categories; Job Overhead and Home Office Overhead.

Be reminded that pay items listed in the Bid Analysis Management System include incidentals such as overhead and profit. Where unit prices of new pay items are comparable or greater than the items in the data-base, and there are no special circumstances, separate payment of Home Office Overhead and profit would not be proper. In some cases Field Office Overhead has already been covered in other items and likewise should not be repeated.

Home Office Overhead is an item which can fluctuate from month to month depending on how successful the contractor has been in receiving awards of contracts, the amount invested in bidding and various other costs which cannot be separated. Field Office Overhead is subject to issues at the job-site and also can fluctuate.

The following table lists suggested rates for the two types of overhead categories:

A. When the work is done by a Subcontractor,

Category	The Subcontractor	And The Prime
	May Claim,...	May Add,...
Job/Field Overhead	5%	7%
Home Office Overhead	3%	3%

B. When the work is done by the Prime, his overhead would remain the same.

Job/Field Overhead	7%
Home Office Overhead	3%

The above rates are multiplied by the total of cost elements 11,17, and 23. The amount for each category should be shown in the blank immediately adjacent to "Overhead". Show the total of the two categories in cost element 29.

## COST BREAKDOWNS

### (30) PROFIT:

This cost element is obtained by multiplying a reasonable profit factor by the sum of cost elements 11, 17, 23 and 28. The table below sets out suggested profit factors. A reasonable profit factor will vary from 5% on work with very little risk to 10% on work where the contractor has a high risk. A low risk would be when the work is mostly materials or subcontracting. High risk exists when the contractor performs all of the work with his labor and equipment with a very small percentage of the work in materials or subcontracting.

The following lists suggested rates to be used for profit:

- ☞ A. If the work is done by a subcontractor, a profit of 5% would be expected on the Sub's work and the Prime may add 5% to 10%.
- ☞ B. If the work is done by the Prime, the same 5% to 10% would be expected.

### (31) BOND:

Premiums on required payment and performance bonds are charged on the basis of the total bid including profit and bond. The following are examples of rates to be used in calculating the applicable bond cost element.

CONTRACT AMOUNT		\$/ \$1000 OF CONTRACT RANGE	
		From	To
First	\$100,000	\$6.00	\$15.00
Next	\$400,000	\$4.00	\$10.80
Next	\$2,000,000	\$4.00	\$7.00
Next	\$2,500,000	\$3.50	\$5.50
Next	\$2,500,000	\$3.25	\$5.00
Over	\$7,500,000	\$3.00	\$4.50

The rate is multiplied by cost element 32 and shown on line 31.

**COST BREAKDOWNS:**

**(32.) TOTAL COST FOR WORK DESCRIBED.**

This cost element is the sum of cost elements 11, 17, 23, 28, 29, 30, and 31.

If the work is to be paid as lump sum, round to two decimals for placement on the change order form.

**(33.) IF NOT LUMP SUM, COST PER UNIT:**

This cost element is obtained by dividing cost element 32 by the total quantity of the work performed. Round to two decimals before placement on the change order form.

**(34.) CONTRACTOR'S SIGNATURE.**

The Cost Breakdown must be signed by an officer of the prime contracting firm.

**(35) Show the persons title under the signature.**



JOB PIECE NO. ①

OKLAHOMA DEPARTMENT OF TRANSPORTATION  
COST BREAKDOWN FOR SUPPORT OF SUPPLEMENTAL AGREEMENTProject No. ② County ④ Date ③  
Contractor ④  
Description of Work ⑤

MATERIALS:	ITEM	UNIT	CONTRACTOR'S COST	QUANTITY	MATERIAL AMOUNT
	⑥	⑦	⑧	⑨	⑩
MATERIALS TOTAL =					⑪

LABOR:	CLASSIFICATION	NO.	RATE/HOUR	TOTAL HOURS	TOTAL FOR EA. LABOR CLASS
	⑫	⑬	⑭	⑮	⑯
LABOR TOTAL =					⑰

EQUIPMENT:	TYPE	NO.	COST/HOUR	TOTAL HOURS	TOTAL FOR EACH PIECE
	⑱	⑲	⑳	㉑	㉒
					㉓
EQUIPMENT TOTAL =					

PAYROLL ADDITIVES COST		
INSURANCE	⑳	
SOCIAL SECURITY (FICA) & UNEMPLOYMENT TAXES	㉔	
WORKMEN'S COMPENSATION	㉕	
EMPLOYEE FRINGE BENEFITS	㉖	㉗
PAYROLL ADDITIVES TOTAL =		㉘

OVERHEAD	=	㉙
PROFIT	=	㉚
BOND	=	㉛
TOTAL COST FOR WORK DESCRIBED		
IF NOT LUMP SUM, COST PER UNIT:		\$ ㉜
TOTAL COST QUANTITY		\$ ㉝

③④ CONTRACTOR'S SIGNATURE

③⑤

TITLE

## OKLAHOMA DEPARTMENT OF TRANSPORTATION

### PROCESSING OF CHANGE ORDERS - SUPPLEMENTAL AGREEMENTS

The enclosed form for Change Orders and Supplemental Agreements has been marked with circled numbers (page 15 ). The identical numbers follow here with comments relating to each pertinent portion of the form, to assist with the proper completion of the form.

- (1) THE PROJECT NUMBER goes in this space.
- (2) THE JOB/PIECE NUMBER is to be placed in this blank. This is the number used to access the data-base for Change Orders. Include the number in all cases.
- (3) THE CHANGE NUMBER goes in this slot. It is important that a number is not repeated, or skipped. Check with the Construction Division if there are any doubts.
- (4) PROJECT DESCRIPTION: Put in enough information here to identify the project.
- (5) REQUESTED CHANGES AND REASONS: Put enough of the scope of the change here to identify the nature of the change. If the change is complex enough, you may want to add a sheet to discuss the change and reasons for its need.  
PLEASE DO NOT LEAVE THE SPACE BLANK.
- (6) FROM OR AT STATION: If the change deals with a specific location on the project such as a structure, show the station of the structure. If there is a beginning station such as for a detour, indicate the station to help identify the change.
- (7) TO STATION: If an ending station exists which is related to the change, indicate it here. If not, just leave blank.

#### OVERRUN OR NEW QUANTITIES:

- (8) ITEM DESCRIPTION: If the change consists of three or less items, they can be listed here. If there are more than three, we suggest that you refer to an attached list and place all new items on the list. Please "flag" items added to the contract.
- (9) QUANTITY: Indicate here the quantity to be used for the change. If the change is to overrun existing contract items, just show the overrun amount.
- (10) UNITS: Indicate the units, square yard, ton, cubic yard, etc.



### CHANGE ORDERS

- (11) **UNIT PRICE:** Place the unit price here. If the item is new and if it is supported by a cost breakdown where three or more decimals have been used, round to two decimal places when transferred to the Change Order form.
- (12) **UNIT TOTAL:** Enter the extension of element 9 times element 11.
- (13) **TOTAL AMOUNT:** Enter the total cost of the new and/or overrun items.
- (14) **DAYS REQUIRED:** Enter the number of days required to perform the work. See also the section for "Addition of Time by Change Order" which requests the rationale for determination of the number of days added.
- (15) **UNDERRUN OR OLD QUANTITIES:** This space is for items from the original contract ONLY. Do not put items from an earlier change here and if the change is for an overrun of the original quantities, show only the overrun portion in the new quantities and nothing in these spaces. If you have a circumstance that does not seem to comply with these requests, contact the Construction Division for guidance.
- (16) **ENGINEERING MANAGER SIGNATURE:** The Resident Engineer must sign all change orders.
- (17) **RESERVED FOR FHWA:** Leave this space blank for use of the FHWA.
- (18) **DIVISION ENGINEER SIGNATURE:** The Division Engineer must sign the change order if the amount of the change exceeds the authority delegated to the Resident Engineer (usually \$10,000.00).
- (19) **CONSTRUCTION ENGINEER SIGNATURE:** This space is for the signature of the State Construction Engineer.
- (20) **CITY/COUNTY OFFICIAL:** If the project is funded all or in part by Local Government, an official of that body should be requested to sign the change. This is to let the Local Government entity know that additional funds will be needed.
- (21) **CHIEF ENGINEER SIGNATURE:** Presently the Assistant Director-Operations signs for the Chief Engineer. A change order is not approved until this blank is signed.

## CHANGE ORDERS

- ↓
- (22) **NAME OF CONTRACTING FIRM:** The prime contractor's signature is required for all Supplemental Agreements, or modifications to the contract, even when the change is related to work being done by a subcontractor. (Remember, the subcontractors have no contractual agreement with the Department). Supplemental Agreements (modifications) are defined as new items added to the contract
- (23) **NOTARY CERTIFICATION:** This certification must be completed for Supplemental Agreements or modifications to the contract.
- (24) **CONTRACTOR'S SIGNATURE:**
- (25) **CONTRACTOR'S PRINTED NAME:** In case the signature is difficult to read.
- (26) **CONTRACTOR'S TITLE:**

The legal requirements for dealing with Change Orders are found in Oklahoma Statute 61-121, Change Orders and Addendum, which is found at the beginning of this document.

A quick reference interpretation is as follows:

TYPE OF INCREASE	STATUTORY LIMITATION
Overrun of Original Contract Items.	None
Added Items On Projects With Contract Amount \$1,000,000 or Less.	May Not Exceed 15%.
Added Items On Projects With Contract Amount Over \$1,000,000.	May Not Exceed The Greater of 10% or \$150,000.
Changes With Added Items And Original Contract Items.	The Total of Added Items May Not Exceed the Above Limitations. Only The Net Increase Is Counted Towards The Limitation. All Negative Changes Are Considered Zero.

OKLAHOMA DEPARTMENT OF TRANSPORTATION CHANGE ORDER / SUPPLEMENT AGREEMENT <input type="checkbox"/> UNILATERAL CHANGE ORDER <input type="checkbox"/>						
Project No. (1)		Job Piece No. (2)		Change No. (3)		
Project Description: (4)						
TO THE CHIEF ENGINEER						
Requested Changes and Reasons: (5)						
FROM OR AT STATION (6)			TO STATION (7)			
THE ABOVE WILL NECESSITATE THE FOLLOWING CHANGES IN QUANTITIES AND ESTIMATES, WHICH WILL BE SHOWN AS OVERRUNS AND UNDERRUNS ON FUTURE PROGRESSIVE ESTIMATES AND VOUCHERS.						
OVERRUN OR NEW QUANTITIES						
ITEM NUMBER	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	UNIT TOTAL	DAYS REQ'D
(8)		(9)	(10)	(11)	(12)	
TOTAL AMOUNT					(13)	(14)
UNDERRUN OR OLD QUANTITIES						
ITEM NUMBER	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	UNIT TOTAL	DAYS REQ'D
(15)						
TOTAL AMOUNT						
NET OVERRUN OR UNDERRUN			NET CHANGED DAYS			
<div style="display: flex; justify-content: space-between;"> <div> <p>THE PRICES FOR ADDITIONAL ITEMS HAVE BEEN COMPARED WITH OTHER CONTRACT PRICES AND ARE FAIR FOR THE AMOUNT OF WORK INVOLVED. RESPECTFULLY REQUESTED BY:</p> <p>DATE: (16)</p> <p>ENGINEER/BRANCH MANAGER</p> <p>APPROVED: (18)</p> <p>DIVISION ENGINEER</p> <p>APPROVED: (20)</p> <p>CITY/COUNTY OFFICIAL</p> </div> <div> <p>RESERVED FOR FEDERAL HIGHWAY ADMINISTRATION</p> <p>(17)</p> <p>APPROVED: (19)</p> <p>CONSTRUCTION ENGINEER</p> <p>APPROVED: (21)</p> <p>CHIEF ENGINEER</p> </div> </div>						
FOR USE BY CONSTRUCTION/DIVISION 3			As the duly authorized representative of (22)			
APPROVED AS COMMISSION ITEM NO.		DATE:				
	FUNDS	TIME				
APPROVED AMOUNT						
ORIGINAL CONTRACT AMOUNT & TIME						
PREVIOUS CHANGES TO DATE						
THIS SUPPLEMENTAL AGREEMENT CHANGE						
TOTAL						
SUBSCRIBED AND SWORN BEFORE ME (23)						
THIS	DAY OF:	YEAR OF:				
NOTARY PUBLIC						
MY COMMISSION EXPIRES:						
			<p>(24) Signature</p> <p>(25) Name (printed)</p> <p>(26) Title</p>			

### CHANGE ORDERS

Following are instructions for when the contractor's signature or a Cost Breakdown is required.

PURPOSE OF THE CHANGE	VALUE OF THE CHANGE	COST BREAKDOWN REQUIRED?	CONTRACTOR'S SIGNATURE REQUIRED?
Increases Original Items	Any Amount	No	No
Adds New Items	Less Than \$10,000	No	Yes
Adds New Items	\$10,000 or More	Yes	Yes
Changes In Specifications	With Cost Adjustment	Yes, if greater than 10K	Yes
	No Cost Change	No	Yes

If for any reason more funds are required than contract amount, the Transportation Commission must approve the additional amount.

Additional appropriations to pay for overruns of original contract items, although referred to as change orders, are actually just a request for additional funds. The same process is used as for change orders to keep it simple and minimize the number of forms.

When the unit price of an existing contract item is increased (reclassified), only the difference in price is used to calculate the amount subject to statutory limitations. However, if the quantity is also increased, the entire new unit price is applied to the overrun portion, as follows:

$$\frac{(NQ \times NP) - (OQ \times OP)}{\text{Contract Amount}} \times 100 = \text{Percentage Subject To Limitation}$$

Where,  
NQ = New Quantity  
NP = New Price  
OQ = Original Quantity  
OP = Original Price

## CHANGE ORDERS

When a change order is contemplated, it is well to examine the funding aspect first, to make sure that the proposal does not conflict with legal parameters.

If the project is funded all or in part by the FHWA, the project is on the National Highway system and a proposed change qualifies as a "Major" change, you must contact the FHWA Area Engineer for approval before the work for which the change is based begins. Refer to Construction Control Directive No. 961121 for further details.

When there have been overruns of original contract items and the total expenditure is nearing the contract amount, you should estimate the amount needed to complete the work and submit a request for an additional appropriation early, to avoid a suspension of payments to the contractor. It is not necessary to ascertain the exact amount needed. As soon as the final estimate is processed, whatever encumbrance remains is canceled.

List the reasons for ALL of the additional appropriation needed. If you are requesting money to pay the final estimate, just attach a copy of the Explanation of Overruns and Underruns as justification for the added cost. However, please make sure that the explanation contains enough information to support your request.

### **PREPARING THE CHANGE.**

Depict the change fully by attaching copies of documents that are pertinent to the change such as, drawings, copies of portions of plan and profile sheets, letters from the contractor etc.

The verbiage on the forms should utilize the same terminology as the plans and specifications. This helps to fully identify the scope of the change. Avoid lumping several pay items together into one item. This complicates the comparison of prices.

The "contract amount" is always the amount on the original contract. For these purposes, there is no such thing as a "modified contract amount".

When the "Old Quantities" are not pertinent to the change, just leave them off and list only the added work in the "Overrun or New Quantities" area. (Example: Suppose the original plan quantity of Unclassified Borrow is 20,000 CY and you need to overrun that amount by 5,000 CY, just show the 5,000 CY in the New Quantities and nothing in the "Old Quantities".

### **PARTIAL SUBSTITUTION OF ORIGINAL ITEM(S)**

When a new item is to be substituted for a portion (but not all) of an original item, in the "Underrun or Old Quantities" section, show only the portion to be substituted. Otherwise, the change may misrepresent the actual cost.

## CHANGE ORDERS

When all or a portion of an original contract item is not to be used, do not refer to the original item as being "deleted". It is better to use the term "substituted", thereby if some of the item is needed at a later stage of the project, it will be available. In any case, we do not "unencumber" money until final payment is made.

### RECLASSIFICATION OF ITEMS:

When you adjust the unit price on an item which is identical except for the changed price, label the item as "(Reclassified)".

### UNDERRUNS/OVERRUNS OF MAJOR ITEMS

Occasionally, a major pay item will underrun more than 20%. When this occurs the contractor may be entitled to a price adjustment which will allow the recovery of certain costs that cannot be recovered otherwise, due to the underrun. On the other hand if ODOT is contemplating adding more than 20% to a major pay item, since the fixed costs are already paid, a reduction in the unit price should be considered. Usually, the proper amount would be approximately 10% of the portion of the work or materials not used.

 SEE PAGE 21 FOR CHANGES IN THE 1999 SPECIFICATIONS WITH REGARD TO UNDERRUNS/OVERRUNS.

### EXAMPLE:

Lime was a Major Item on a project. The original estimate was for 792 tons. Only 400.00 tons was actually used. The contractor asked for assistance to recover overhead costs for the portion of the work omitted. The matter should be handled as follows:

Pay for the 400 tons used at the original bid price of \$90.00 per ton, in its normal place on the estimate. The overhead loss was estimated at 10% of the portion of the work NOT performed, and is calculated at  $392 \times \$90 \times 0.10 = \$3,528.00$

It will look like this on the change form:

OVERRUN OR NEW QUANTITIES					
ITEM	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	TOTAL
307(a)	Lime	400	Ton	90.00	\$36,000.00
Spec.	Unrecoverable Costs	1	L. Sum	3,528.00	3,528.00

UNDERRUN OR OLD QUANTITIES					
307(a)	Lime	792	Ton	90.00	<u>71,280.00</u>

Overrun/Underrun (\$31,752.00)

## CHANGE ORDERS

Do not adjust the unit price in these cases. Instead, place a new item on the change which depicts the adjustment.

Often the designer will place a "token" amount of an item on the plans just to establish the item in case it is needed. Most contractors will bid an unusually high price due to the small amount. If the Engineer is contemplating overrunning this item significantly, he should negotiate a reduction in the form of a line item rebate.

### **EARLIER CHANGE ORDER EXCEEDED**

When a new item is established by change order (Supplemental Agreement) and the quantity is exceeded, a new change order will be required to secure approval to pay for the quantity over that requested on the original change. Treat this as a new change: DO NOT show the original change quantity in the "Old Quantities" section of the form. Request only the overrun quantity. If the price on the original change was established by cost break-down, you may use the same cost break-down for the new change.

### **SUPPLEMENTAL AGREEMENT:**

At the lower right-hand portion of the change form, is the Supplemental Agreement Certification. If the change includes original contract items and new contract items, separate the new items and list their total value here. If all of the items on the change are added, the amount of the Supplemental Agreement will be the same as the total change amount.

The Construction Division requires three original, signed, notarized copies of the Supplemental Agreement.

### **IDENTIFY REQUESTING PARTY**

When a change is requested by someone other than the Resident Engineer, please identify that party, in case more information is needed. If the change was requested by letter, attach a copy of the letter to the change.

### **SPECIFICATION CHANGE**

If the purpose of the change is to change the specification, attach a copy of the new specification to the change. Include station numbers when it is necessary to identify a specific area of the project.

## CHANGE ORDERS

Whenever possible, use the Form for Cost Breakdowns. The form has been designed to fit the statutes for Cost Breakdowns and will serve as a reminder of the various components. Use the "Guide For Review of the Cost Breakdown For Support of Supplemental Agreements" (1988), when preparing the change. Check all the arithmetic and show check marks so we know that it has been checked.

Each Division has been provided a Rental Guide for determination of rental rates in accordance with the specification. Currently, the approved rates are 70% of the rates in effect January 1, in the year in which the work was done. Books are updated each January.

Standby Rates are 20% of the 70%. When computing standby, refer to the specification. Profit and charges for days when the job is shut down for other reasons is not allowed.

## **A QUICK RESOLUTION FOR COMPENSATION FOR DELAY OR LOSS OF OVERHEAD.**

Use the following formula when the matter of Delay or Loss of Overhead can be resolved with no further considerations. If equipment and rental rates are to be included in a claim for additional compensation, a Cost Breakdown should be prepared as prescribed on page 4 of this document.

### **DELAY:**

$$\frac{(\text{Contract Amount} - \text{Mobilization}) \times 0.10}{\text{Contract Time (CDs)}} = \text{Daily Overhead Rate (DOR)}$$

When a project is totally delayed the DOR would be applied in full.

If the project is only partially delayed, the amount would be reduced by 10% of the amount of earnings during the period of impact.

When a delay only affects a portion of the contract, apply the adjustment to those items which are impacted (or to the prime/sub contractor which is impacted).



#### LOSS OF OVERHEAD:

When a major item is deleted or reduced, the contractor may be entitled to compensation for overhead which is not recoverable due to the deletion. (In cases where there is work being added, compensation may not be appropriate.

Generally, the amount of work not performed is compensated 10%.

This "quick resolution" may be used when the total issue is satisfied. When a claim involves an amount of equipment rental or stand-by time, a formal claim, fully detailed, should be submitted.



#### PROJECTS LET UNDER THE 1999 SPECIFICATIONS HAVE CHANGES WITH REGARD TO UNDERRUNS AND OVERRUNS AS FOLLOWS:

Referring to Section 104.04(c) 2., *Significant Changes In The Character Of Work*. Consideration of a price adjustment due to a significant overrun/underrun is not given until the overrun exceeds 125% and the underrun is decreased to 25% below plan quantity. **Any price adjustment is applied only to the portion over 125% or under 25%.**

Refer also to Section 109.04, Differing Site Conditions, Changes & Extra Work for the charges allowed on Cost Breakdowns.

## COST ANALYSIS

With reference to the requirements of the Code of Federal Regulations on page 3, it is necessary that for each negotiated contract change, a separate analysis be performed to verify the reasonableness of the added costs. Even though this has always been the practice, we have not always documented the verification and made it part of the file.

A cost analysis examines the amount of work needed and the proposed cost when compared to the plans and contract of the specific project. Generally, a cost analysis deals with added contract items. However, even when existing contract items are overrun, there are issues to consider. Lets say that it is necessary to overrun a pay item and a plan note specifies that the same item will include the cost of some other item which will not be increased by the change order, then, payment of the full unit price, as bid, would not be proper for the overrun amount. Often contractors will put costs into a pay item that is unrelated to the item. If the unit price appears greater than is reasonable for the work proposed, you should discuss the matter with the contractor.

As for new items, it is always advisable to compare the proposed cost with the ODOT data-base of actual bid prices, which are established by competitive bidding. Occasionally, the contractor and the Engineer cannot agree as to the proper cost for the amount of work needed. The 1999 Standard Specifications (Section 109.04(b)) allows the work to be based on actual costs when the contractor and the Engineer cannot readily agree.

The analysis does not have to be formal. It can be hand written but should show all the pertinent elements. Place the analysis in the project file for easy reference by FHWA personnel as well as ODOT reviewers. A statement in your cover letter such as, "the cost and the added time (see next page) has been analyzed and are reasonable." would be wise.

## TIME

### ADDING CONTRACT TIME BY CHANGE ORDER

When Contract Time is added as part of a change order, the CFR requires that you prepare an analysis as to how you arrived at the number of days added (see page 3). Following are few comments with regard to Time additions in order to give better focus on the subject.

When additional Time is contemplated, one should consider the actual impact to the project for the period when it occurs.

Is the added work part of the original scope or is it an extension of the original scope?

Does the added work fall on the critical path, or is a crew or a partial crew pulled from a critical item to do the added work, thus affecting the critical path indirectly?

Has the contractor completed all of the original contract work and this addition is at the end? Is time needed for re-mobilization?

If work does not affect the critical path or if an outside crew or subcontractor is brought in to do the work simultaneously while the original work is in progress, additional Time would not be proper.

A very simple approach is to compute the Time based on the amount of money involved when compared to the original contract. Such as:

$$\frac{\text{Contract Amount} + \text{Added Amount}}{\text{Contract Amount}} \times \text{Original Contract Time} - \text{Original Time} = \text{Added Time}$$

This simplification may not be adequate since the specifications require that the added Time is commensurate with the amount and difficulty of the added work. Some tasks can be time consuming while costing very little by comparison.

If the original contract time is calendar days then you will need to determine the number of work days needed and add Saturdays, Sundays, and weather from the weather chart for the period when the work is to be done.

The analysis of Time, as with the analysis of cost is to be placed in the project file for future reference, if and when, needed.

**COMPLETE BY PROJECTS:**

When work is added to a "complete by" project, the only way to make the adjustment is to move the complete by date to the date commensurate with the new work. This can only be done by change order and should be done at the same time as the change order is processed for the new work.

The adjustment of a Complete By date must be due to some condition caused by the Department. The contractor being "busy on another project" is not a reason to extend time.

Whatever method is used to determine added Time, put it in writing and make it a part of the project file. Occasionally you may be asked to furnish a copy of the analysis.



## Oklahoma Department of Transportation

Change Order Instructions  
Construction Control Directive No. **000225**

**February 15, 2002**

Scope: To provide guidance for reviewing the contractor's estimated and/or actual costs shown on the Cost Breakdown for Support of Supplement Agreements and instructions for completing change orders.

The attached [Guidance for Review of Cost Breakdowns Supporting Supplemental Agreements, Preparing Change Orders & Making Additions to Contract Time](#) booklet shall be used to prepare and submit change orders for approval.

A handwritten signature in blue ink, appearing to read "G. Raymond".

George Raymond, P.E.  
Construction Engineer

# OKLAHOMA DEPARTMENT OF TRANSPORTATION

## GUIDANCE FOR REVIEW OF COST BREAKDOWNS SUPPORTING SUPPLEMENTAL AGREEMENTS, PREPARING CHANGE ORDERS & MAKING ADDITIONS TO CONTRACT TIME

### CONTENTS

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The purpose of this document is to provide guidance for reviewing the contractor's estimated and/or actual costs shown in the Cost Breakdown for support of supplemental agreements and provide instructions for preparing Change Orders. This document applies to all construction projects under the Oklahoma Department of Transportation Standard Specifications for Highway Construction.

## **APPLICABLE STATE AND FEDERAL REGULATIONS**

### **Applicable State Regulations**

#### **OS 61-121 Change Orders or Addendums**

Change orders or addendums to public construction contracts of One Million Dollars (\$1,000,000.00) or less shall not exceed a fifteen percent (15%) cumulative increase in the original contract amount. Change orders or addendums to public construction contracts of over One Million Dollars (\$1,000,000.00) shall not exceed the greater of One Hundred Fifty Thousand Dollars (\$150,000.00) or a ten percent (10%) cumulative increase in the original contract amount. Any change order or cumulative change orders which exceed these limits shall require a readvertising for bids on that part of the contract. Change orders in any amount shall be formally approved by the governing body of the public agency involved and the reasons therefor recorded in the permanent records. The governing body of the Oklahoma Tourism and Recreation Department is authorized, upon approval of a majority of all the members of the Oklahoma Tourism and Recreation Commission, to delegate to the Director of the agency the authority to approve change orders on a construction contract provided that the individual change order does not exceed Twenty-five Thousand Dollars (\$25,000.00) in expenditure and complies with the limits established by this section. The Transportation Commission may, by rule, authorize the Director of the Department of Transportation to approve change orders in an amount of not to exceed Five Hundred Thousand Dollars (\$500,000.00). Change orders approved by the Director shall be presented to the Transportation Commission during the next regular meeting and the reasons therefor recorded in the permanent records. All change orders shall contain a unit price and total for each of the following items:

- I. All materials with cost per item; and
- II. Itemization of all labor with number of hours per operation and cost per hour; and
- III. Itemization of all equipment with the type of equipment, number of each type, cost per hour for each type, and number of hours of actual operation for each type; and
- IV. Itemization of insurance cost, bond cost, social security, taxes, workers' compensation, employee fringe benefits and overhead costs; and
- V. Profit for the contractor.

If the construction contract was bid on a unit basis, and the change order is based exactly on the unit price or basis, such a change order will not be subject to this section. When the individual change orders are less than Ten Thousand Dollars (\$10,000.00), the change order may be based on an acceptable unit prices basis in lieu of cost itemization as required in paragraphs 1, 2, 3, 4 and 5 of this section. Alternates or add items bid with the original bid and contained in the awarded contract as options of the awarding public agency shall not be construed as change order under the provisions of the Public Competitive Bidding Act of 1974, Section 101 et. seq. of this title.

Amended by Laws 1993, c. 293, § 3, emerg. eff. June 3, 1993; Laws 1995, c. 200, § 3, emerg. eff. May 19, 1995; Laws 1997, c. 72, § 1, eff. Nov. 1, 1997; Laws 1998, c. 118, § 1, eff. July 1, 1998.

## **Applicable Federal Regulations**

### **Independent Cost Analysis**

The Code of Federal Regulations (CFR) 635.120(e) requires that there is a separate analysis performed on each negotiated change or contract modification. It reads as follows:

“The SHA shall perform and adequately document a cost analysis of each negotiated contract change or negotiated extra work order. The method and degree of the cost analysis shall be subject to the approval of the Division Administrator.”

### **Contract Time Extension**

The CFR 635.121(b) requires an analysis of added time to a change order and reads as follows:

“(b) Contract time extensions granted by a SHA shall be subject to the concurrence of the Division Administrator and will be considered in determining the amount of Federal participation. Contract time extensions submitted for approval to the Division Administrator, shall be fully justified and adequately documented.”

See additional commentary and instructions with regard to costing and time later in this document.



## **INSTRUCTIONS FOR REVIEW OF COST BREAKDOWNS SUPPORTING SUPPLEMENTAL AGREEMENTS**

As a minimum the Contractor's Cost Breakdown shall be evaluated by consideration of the following required documentation and/or costing information.

The Contractor must be able to support all of the data on the Cost Breakdown. As a comparison of the value of the work, the Engineer might consider checking historical prices from the ODOT database.

The term "contract" means all of the documents associated with the contract such as plans, standard specifications, special provisions, etc.

The enclosed [Cost Breakdown](#) form contains circled numbers for each of the cost elements of the form. The number and description that precedes each narration is the same number and description that appears for each cost element of the blank form.

**(1) Job Piece**

This is the Department's State Job Number and identifies the contract to the computer system. Example: 06319(04).

**(2) Project Number**

The Project No. identifies the project as to location and funding. Example: IR-35-4(115)14.

**(3) Date**

Use the date that the contractor submits the cost breakdown.

**(4) Contractor**

This space is to contain the legal name of the contracting firm as it appears on the contract documents. If the Cost Breakdown is submitted by the prime contractor's subcontractor, the subcontractor must be approved to perform work on the project. The Department's acceptance of a subcontractor's Cost Breakdown does not create a contractual relationship between the Department and the subcontractor.

**(5) Description of Work**

This description should include the scope of work to be accomplished with the Supplemental Agreement.

**(6-8) Materials**

Provide a clear description of the materials to be used. Enter the units (cy, sy, tons etc.) with the contractor's cost per unit.

**(9-10) Materials(Quantity & Amount)**

Show the actual quantity of materials to be installed and the amount of money as extended.

- (11) **Materials(Total)**  
Show the total cost of materials in this blank.
- (12) **Labor(Classification)**  
Enter the job title or classification for each position needed for the task. Examples of classifications which may be entered in this location include: foreman, carpenter, form setter steel worker. Personnel categories such as superintendents, engineers, clerks, surveyors, etc. are considered overhead and are shown in the cost element number 29.
- (13) **Labor(Number)**  
Personnel working at the same rate of pay.
- (14) **Labor(Rate/Hour)**  
The rate per hour should be the same as that reported on weekly payrolls.
- (15) **Labor( Total Hours)**  
Where the actual number of hours is not available, a reasonable estimate should be made as to the total time needed to complete the work.
- (16) **Labor(Amount)**  
The amount in this blank is the result of multiplying element number 14 by element number 15.
- (17) **Labor(Total)**  
This blank includes the sum of all cost elements for labor.
- (18) **Equipment**  
The rates shown are for equipment in sound workable condition, owned by the prime contractor or a subcontractor. The rates shown do not include allowances for operating labor, mobilization or demobilization costs, overhead or profit. When equipment is rented from a company which exists for the express purpose of renting or leasing equipment, the rental/lease costs are allowable. When equipment is leased from a branch or subsidiary of a construction firm, the rental rates will be determined in accordance with the rate guide.
- (19) **Equipment(Number)**  
Enter the pieces of equipment at the same rental rate.
- (20) **Equipment(Cost/Hour)**  
Currently, the total ownership and operating rate, as shown in the rate guide, is reduced to 70% for the rate approved by ODOT for use in Cost Breakdowns. When the rate for standby is needed, use 20% of the 70% ownership and operating rate.
- (21) **Equipment(Total Hours)**  
When the actual number of hours to perform the work of a cost breakdown is not known, an estimated number of hours may be used. Equipment idled by faults other than the Department's should not be included in any cost breakdown.

(22) **Equipment(Total Amount)**

This cost element is obtained by multiplying cost element number 20 by cost element number 21.

(23) **Equipment(Equipment Total)**

This cost element is the sum of the cost elements for equipment. The Departments currently uses the Contractor's Equipment Cost Guide , published by the Machinery Information Division of Primedia Information, Inc., as a source of rental rates for heavy equipment owned by the contractor. The quantity and the type of equipment used to perform the work is to be listed. Typically, the make, model, size, and horse-power is needed in order to determine the rental rate.

(24) **Insurance Liability**

This cost element covers public liability insurance. The following table illustrates examples of rates for various categories of work performed for the Department:

Description	Rate Per \$1000 of Payroll
Bridge Construction	223.80
Carpentry	31.74
Concrete Construction	42.50
Excavation and Grading	104.76

These factors are multiplied by cost element 17 and listed in element 31.

(25) **Social Security Taxes**

Federal and State Unemployment taxes plus Social Security (FICA) taxes are shown in these two cost elements. Both can be incorporated into one.

Following are examples:

$$\begin{array}{rcl} \text{State \& Fed Unemployment} & = & 0.055 \\ \text{FICA} & = & \underline{0.076} \\ & & 0.131 \end{array}$$

The 0.131 is multiplied by cost element number 17 and is listed in cost element number 25.

(26) **Worker's Compensation**

The following table illustrates the applicable rates:

Description	Worker's Compensation Rate Per \$100 of Labor
Bridge Construction	24.78
Carpentry	10.23
Concrete Construction	8.96
Excavation and Grading	8.46
Pile Driving	22.67

The applicable rate is multiplied by cost element 17 and is listed in cost element 26.

(27) **Employee Fringe Benefits**

In some cases, the contractor has to pay for fringe benefits on labor, health and welfare, pension and vacation. In addition there are allowances for apprentice training, travel and subsistence depending on the craft and the location of the work. If the contractor includes this cost, supporting documentation should be included. The total is listed in cost element number 17.

(28) **Payroll Additives**

Enter the total of insurance, social security, workman's compensation, and fringe benefits.

(29) **Overhead**

Distributed costs are those which cannot be attributed to a single segment, bid item or cost breakdown of the work. These costs are also referred to as indirect costs. Costs which can be applied to a particular item of work should not be included in distributed costs. Indirect costs are customarily divided into two categories: Job Overhead and Home Office Overhead.

Be reminded that pay items listed in the Bid Analysis Management System include incidentals such as overhead and profit. Where unit prices of new pay items are comparable or greater than the items in the database, and there are no special circumstances, separate payment of Home Office Overhead and profit would not be proper. In some cases Field Office Overhead has already been covered in other items and likewise should not be repeated.

Home Office Overhead is an item which can fluctuate from month to month depending on how successful the contractor has been in receiving awards of contracts, the amount invested in bidding and various other costs which cannot be separated. Field Office Overhead is subject to issues at the job-site and also can fluctuate.

The following table lists suggested rates for the two types of overhead categories:

A. When the work is done by a Sub-contractor:

Category	The Sub-Contractor May Claim	The Prime May Add
Job/Field Overhead	5%	7%
Home Office Overhead	3%	3%

B. When the work is done by the Prime, his overhead would remain the same.

Category	The Prime May Add
Job/Field Overhead	7%
Home Office Overhead	3%

The above rates are multiplied by the total of cost elements of number 11, 17, and 23. The amount for each category should be shown in the blank immediately adjacent to "Overhead". Show the total of the two categories in cost element number 29.

(30) **Profit**

This cost element is obtained by multiplying a reasonable profit factor by the sum of cost elements 11, 17, 23 and 28. A reasonable profit factor will vary from 5% on work with very little risk to 10% on work where the contractor has a high risk. A low risk would be when the work is mostly materials or subcontracting. High risk exists when the contractor performs all of the work with his labor and equipment with a very small percentage of the work in materials or subcontracting. The following table lists suggested rates to be used for profit:

Category	Sub-Contractor May Claim	Prime May Add
Subcontracted Work	5%	5% to 10%
Prime Contractor's Work	-	5% to 10%

(31) **Bond**

Premiums on required payment and performance bonds are charged on the basis of the total bid including profit and bond.

The following table illustrates examples of rates to be used in calculating the applicable bond cost element.

		\$/\$1000 of Contract Range	
Contract Amount		From	To
First	\$100,000	\$6.00	\$15.00
Next	\$400,000	\$4.00	\$10.80
Next	\$2,000,000	\$4.00	\$7.00
Next	\$2,500,000	\$3.50	\$5.50
Next	\$2,500,000	\$3.25	\$5.00
Over	\$7,500,000	\$3.00	\$4.50

The rate is multiplied by cost element number 32 and shown on line 31.

(32) **Total Cost For Work Described**

This cost element is the sum of cost elements 11, 17, 23, 28, 29, 30, and 31. Round the amount to two decimal places before placing on the Change Order form.

(33) **If Not Lump Sum, Cost Per Unit**

This cost element is obtained by dividing cost element number 32 by the total quantity of the work performed. Round the amount to two decimal places before placing on the Change Order form.

(34) **Contractor's Signature**

The Cost Breakdown must be signed by an officer of the prime contracting firm.

(35) **Contractor's Title**

Show the persons title under the signature.

## **PREPARING CHANGE ORDERS - SUPPLEMENTAL AGREEMENTS**

### **Proper Completion of Change Order Form**

The form for Change Orders and Supplemental Agreements is an approved form which must not be altered or revised when being completed. When more space is needed for the explanation or more lines are necessary to list the items, an attachment should be referenced and included with each copy of the Change Order to provide the required space.

The enclosed [form](#) for Change Orders and Supplemental Agreements has been marked with circled numbers. The identical numbers follow here with comments relating to each pertinent portion of the form, to assist with the proper completion of the form.

(1) **Project Number**

The project number is inserted in this space.

(2) **Job Piece Number**

The job piece number is to be placed in this space. This is the number used to access the database for Change Orders. Include the number in all cases.

(3) **Change Number**

The change number is inserted in this space. It is important that a number is not repeated or skipped. Check with the Construction Division if there are any doubts.

(4) **Project Description**

Put in enough information here to identify the project, including the County.

(5) **Requested Changes and Reasons**

Put enough of the scope of the change here to identify the nature of the change. If the change is complex enough, you may want to add an attachment to discuss the change and the reasons for its need. Reference the attachment in this space when one is used. Do not rely on the cover letter alone to convey the explanation of the change and its reasons. PLEASE DO NOT LEAVE THIS SPACE BLANK.

(6) **From Or At Station**

If the change deals with a specific location on the project such as a structure, show the station of the structure. If there is a beginning station such as for a detour, indicate the station to help identify the change.

(7) **To Station**

If an ending station exists which is related to the change, indicate it here. If not, just leave blank.

## **Overrun Or New Quantities**

(8) **Item Description**

If the change consists of three or less items, they can be listed here. If there are more than three, we suggest that you refer to an attached list and place all new items on the list. Please “flag” items added to the contract.

(9) **Quantity**

Indicate here the quantity to be used for the change. If the change is to overrun existing contract items, just show the overrun amount.

(10) **Units**

Indicate the units: square yard, ton, cubic yard, etc.

(11) **Unit Price**

Place the unit price in this space. If the item is new and if it is supported by a cost breakdown where three or more decimals have been used, round to two decimal places when transferring to the Change Order form.

(12) **Unit Total**

Enter the product of element number 9 times element number 11.

(13) **Total Amount**

Enter the total cost of the new and/or overrun items.

(14) **Days Required**

Enter the number of days required to perform the work. See also the section for “Addition of Time by Change Order” which requests the rationale for determination of the number of days added. Do not leave these spaces blank.

(15) **Underrun Or Old Quantities**

This space is for items from the original contract ONLY. Do not put items from an earlier change here and if the change is for an overrun of the original quantities, show only the overrun portion in the new quantities and nothing in these spaces. If you have a circumstance that does not seem to comply with these requests, contact the Construction Division for guidance.

(16) **Engineering Manager Signature**

The Resident Engineer must sign all change orders.

(17) **Reserved for FHWA**

Leave this space blank for use of the FHWA.

(18) **Division Engineer Signature**

The Division Engineer must sign the change order if the amount of the change exceeds the authority delegated to the Resident Engineer (usually \$10,000.00).



(19) **Construction Engineer Signature**

This space is for the signature of the State Construction Engineer.

(20) **City/County Official**

If the project is funded all or in part by Local Government, an official of that body should be requested to sign the change. This is to let the Local Government entity know that additional funds will be needed. This signature is not for approval but to signify that the Local Government entity has been made cognizant of this change.

(21) **Chief Engineer Signature**

Presently the Assistant Director-Operations signs for the Chief Engineer. A change order is not approved until this blank is signed.

(22) **Name of Contracting Firm**

The prime contractor's signature is required for all Supplemental Agreements, or modifications to the contract, even when the change is related to work being done by a subcontractor. (Remember, the subcontractors have no contractual agreement with the Department). Supplemental Agreements (modifications) are defined as new items added to the contract

(23) **Notary Certification**

This certification must be completed for Supplemental Agreements or modifications to the contract.

(24) **Contractor's Signature**

The contractor's signature is not required if the change is a unilateral change.

(25) **Contractor's Printed Name**

This is required in case the contractor's signature is difficult to read.

(26) **Contractor's Title**

This person must have the ability to bind the construction firm.

### **Preparing the Change Order**

The legal requirements for dealing with Change Orders are found in Oklahoma Statute 61-121, Change Orders and Addendum, which is found at the beginning of this document.

When a change order is contemplated, it is well to examine the funding aspect first to make sure that the proposal does not conflict with legal parameters.

Depict the change fully by attaching copies of documents that are pertinent to the change such as, drawings, copies of portions of plan and profile sheets, letters from the contractor, time extension calculations, etc.

A detailed explanation of the scope of the change and its reason must be included on the Change Order

form to identify the nature of the change. If the change is complex enough, you may want to add an attachment to discuss the change and the reasons for its need. Reference should be made to the attachment on the Change Order form when one is used. Do not rely on the cover letter alone to convey the explanation of the change and its reasons, since the cover letter will not accompany all of the approved Change Orders when they are distributed.

The verbiage on the forms should utilize the same terminology as the plans and specifications. This helps to fully identify the scope of the change. Avoid lumping several pay items together into one item. This complicates the comparison of prices.

The "contract amount" is always the amount on the original contract. For these purposes, there is no such thing as a "modified contract amount".

When the "Old Quantities" are not pertinent to the change, just leave them off and list only the added work in the "Overrun or New Quantities" area. (Example: Suppose the original plan quantity of Unclassified Borrow is 20,000 CY and you need to overrun that amount by 5,000 CY, just show the 5,000 CY in the New Quantities and nothing in the "Old Quantities". )

### **Request for Additional Appropriations**

If for any reason more funds are required than contract amount, the Transportation Commission must approve the additional amount.

Additional appropriations to pay for overruns of original contract items, although referred to as change orders, are actually just a request for additional funds. The same process is used as for change orders to keep it simple and minimize the number of forms.

When there have been overruns of original contract items and the total expenditure is nearing the contract amount, you should estimate the amount needed to complete the work and submit a request for an additional appropriation early, to avoid a suspension of payments to the contractor. It is not necessary to ascertain the exact amount needed. As soon as the final estimate is processed, whatever encumbrance remains is canceled.

List the reasons for ALL of the additional appropriation needed. If you are requesting money to pay the Final Estimate, just attach a copy of the Explanation of Overruns and Underruns as justification for the added cost. However, please make sure that the explanation contains enough information to support your request.

When requesting additional appropriations to fund the Final Estimate, list the "final project cost" on a line in the "Overrun or New Quantities" area. In the "Underrun or Old Quantities" area, list the "original contract amount" on one line and the "previously approved additional appropriations" on the next line. This will clearly indicate the remaining additional appropriations required to fund the final project cost.

## **Supplemental Agreement**

At the lower right-hand portion of the change form is the Supplemental Agreement Certification. If the change order adds new items, extends or modifies the contract time or modifies the contract provisions, this section must be completed by the contractor. The Construction Division requires three original, signed, notarized copies of the Supplemental Agreement.

When new items are added, the Item Number must be flagged with an asterisk (\*) to identify the item as a supplemental agreement item rather than a contract pay item.

## **Statutory Limitation**

A quick reference interpretation is as follows:

Type of Increase	Statutory Limitation
Overrun of Original Contract Items	None
Added Items on Projects With Contract Amount \$1,000,000 or Less	May Not Exceed 15%
Added Items on Projects With Contract Amount Over \$1,000,000	May Not Exceed the Greater of 10% or \$150,000
Changes With Added Items and Original Contract Items	The Total of Added Items May Not Exceed the above Limitations. Only the Net Increase Is Counted Towards the Limitation. All Negative Changes Are Considered Zero.

When the unit price of an existing contract item is increased (reclassified), only the difference in price is used to calculate the amount subject to statutory limitations. However, if the quantity is also increased, the entire new unit price is applied to the overrun portion, as follows:

$$\frac{(Nq \times Np) - (Oq \times Op)}{\text{Contract Amount}} = \text{Percent Subject to Limitation}$$

where  $Nq$  = New Quantity

$Np$  = New Price

$Oq$  = Original Quantity

$Op$  = Original Price

### **Earlier Supplemental Agreement Exceeded**

When a new item is established by change order (Supplemental Agreement) and the quantity is exceeded, a new change order will be required to secure approval to pay for the quantity over that requested on the original change. Treat this as a new change. DO NOT show the original change quantity in the "Old Quantities" section of the form. Request only the overrun quantity. If the price on the original change was established by Cost Breakdown, you may use the same Cost Breakdown for the new change.

### **Cost Breakdowns**

Use the form for Cost Breakdown for Support of Supplemental Agreement. The form has been designed to fit the statutes for Cost Breakdowns and will serve as a reminder of the various components. Refer to the "Instructions for Review of Cost Breakdowns Supporting Supplemental Agreements" section of this Guide for details. Check all the arithmetic and show check marks to verify that it has been checked.

Each Field Division has been provided a Rental Guide for determination of rental rates in accordance with the specification. Currently, the approved rates are 70% of the rates in effect January 1, in the year in which the work was done. Books are updated each January.

Standby Rates are 20% of the 70%. When computing standby, refer to the specification. Profit and charges for days when the job is shut down for other reasons is not allowed.

Following are instructions for when the contractor's signature or a Cost Breakdown is required.

<b>Purpose of the Change</b>	<b>Value of the Change Order</b>	<b>Cost Breakdown Required?</b>	<b>Contractor's Signature Required?</b>
Increases Original Items	Any Amount	No	No
Adds New Items	Less Than \$10,000	No	Yes
Adds New Items	\$10,000 or More	Yes	Yes
Changes In Specifications	With Cost Adjustment	Yes, if greater than 10K	Yes
	No Cost Change	No	Yes

### **Partial Substitution of Original Item(s)**

When a new item is to be substituted for a portion (but not all) of an original item, in the "Underrun or Old Quantities" section, show only the portion to be substituted. Otherwise, the change may misrepresent the actual cost.

When all or a portion of an original contract item is not to be used, do not refer to the original item as being "deleted". It is better to use the term "substituted", thereby if some of the item is needed at a later stage of the project, it will be available. In any case, we do not "unencumber" money until final payment is made.

### **Reclassification of Items - Pay Adjustments**

When you adjust the unit price on an item which is identical except for the changed price, label the item as "(Reclassified)".

An option that may be used in lieu of reclassifying an item is to establish a new item for the price difference only as an "(Adjustment)" item. The item for the pay adjustment could be a negative or positive dollar amount. In this instance, payment would be made on the original contract pay item at its unit price in addition to payment on the "(Adjustment)" item. This will result in the same net effect of total payment as an item reclassification.

When materials are incorporated into the project which are not in conformity with the plans or specifications, but are not deficient to the extent that they be removed and replaced, the work may be accepted with an appropriate pay adjustment. This type of adjustment should be accomplished by Change Order which adds a lump sum item for the price reduction. If the amount of the reduction is made in accordance with the contractual documents (specification, special provisions, etc.), then a Change Order will not be required. Refer to Construction Control Directive No. 020212 for further details

### **Underruns/Overruns of Major Items**

In accordance with Section 104.04(c) of the 1999 Standard Specifications, consideration of a price adjustment due to a significant overrun/underrun is not given until the overrun exceeds 125% or the underrun is decreased to 25% below the plan quantity of a major item. When this type of underrun occurs, the contractor may be entitled to a price adjustment which will allow the recovery of certain costs that cannot be recovered otherwise. On the other hand if ODOT is contemplating adding more than 25% to a major pay item, since the fixed costs are already paid, a reduction in the unit price should be considered. Usually, the proper amount would be approximately 10% of the portion of the work or materials not used.

EXAMPLE: Lime was a Major Item on a project. The original estimate was for 792 tons. Only 400 tons was actually used. The contractor asked for assistance to recover overhead costs for the portion of the work omitted. The matter should be handled as follows:

Pay for the 400 tons used at the original bid price of \$90.00 per ton, in its normal place on the estimate. The overhead loss was estimated at 10% of the portion of the work NOT performed, and is calculated at  $392 \times 90 \times 0.10 = \$3,528.00$

It will look like this on the change form:

<b>OVERRUN OR NEW QUANTITIES</b>						
<b>ITEM NUMBER</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNITS</b>	<b>UNIT PRICE</b>	<b>UNIT TOTAL</b>	<b>DAYS REQ'D</b>
307(A)	Lime	400.00	Ton	\$90.00	\$36,000.00	0
*Special	Unrecoverable Costs	1.00	L.S.	\$3,528.00	\$3,528.00	0
<b>TOTAL AMOUNT</b>					\$39,528.00	0

<b>UNDERRUN OR OLD QUANTITIES</b>						
<b>ITEM NUMBER</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNITS</b>	<b>UNIT PRICE</b>	<b>UNIT TOTAL</b>	<b>DAYS REQ'D</b>
307(A)	Lime	792.00	Ton	\$90.00	\$71,280.00	0
<b>TOTAL AMOUNT</b>					\$71,280.00	0

<b>NET OVERRUN OR UNDERRUN</b>	(\$31,752.00)	<b>NET CHANGED DAYS</b>	0
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Do not reclassify the unit price in these cases. Instead, place a new item on the change which depicts the adjustment.

Often the designer will place a "token" amount of an item on the plans just to establish the item in case it is needed. Most contractors will bid an unusually high price due to the small amount. If the Engineer is contemplating overrunning this item significantly, he should negotiate a reduction in the form of a line item rebate. The new item will depict the negative adjustment in this circumstance.

### **Identify Requesting Party**

When a change is requested by someone other than the Resident Engineer, please identify that party in case more information is needed. If the change was requested by letter, attach a copy of the letter to the change.

### **Specification Change**

If the purpose of the change is to change the specification, attach a copy of the new specification to the change. Include station numbers when it is necessary to identify a specific area of the project.

### **Change in the Method of Measurement**

When the contract does not specify payment of an item to be based on the plan quantity, but it is mutually agreed between the Contractor and the Resident Engineer to use the plan quantity as the basis of payment, then a change order must be executed to document that change in the item's method of measurement. The decision to make this change should be made prior to work being performed on the item. The change order must be signed by the Contractor. It is not necessary to list the items and their unit prices and quantities in the "Old Quantities" section of the form; the items which the method of measurement is being changed should be include in the "Requested Changes and Reasons" section along with the reason for the change.

When the contract specifies payment of an item to be based on the plan quantity, but it is requested by either the Contractor or the Resident Engineer to measure and calculate the quantity for the basis of payment, then a change order must be executed to document that change in the item's method of measurement. The decision to make this change should be made prior to work being performed on the item which would affect its accurate measurement. The change order must be signed by the contractor. The affected items do not need to be listed in the "Old Quantities" section of the form, unless more funds are being requested. When there is an "authorized deviation from the Plans" as stated in the Specifications, or payment will be different from the plan quantity for any reason, a change order must be executed to document that deviation.

### **Quick Resolution for Compensation for Delay or Loss of Overhead**

Use the following formula when the matter of Delay or Loss of Overhead can be resolved with no further considerations. If equipment and rental rates are to be included in a claim for additional compensation, a Cost Breakdown should be prepared.

$$\frac{(\text{Contract Amount} - \text{Mobilization}) \times 0.10}{\text{Contract Time (CDs)}} = \text{Daily Overhead Rate (DOR)}$$

When a project is totally delayed the DOR would be applied in full. When the project is only partially delayed, the amount would be reduced by 10% of the amount of earnings during the period of impact. When a delay only affects a portion of the contract, apply the adjustment to those items which are impacted (or to the prime/sub contractor which is impacted).

### **Loss of Overhead**

When a major item is deleted or reduced, the contractor may be entitled to compensation for overhead which is not recoverable due to the deletion or reduction. The consideration of compensation for the significant underrun of a major item would need to meet the criteria detailed in Section 104.04 of the Specifications. In cases where there is work being added or substituted, compensation may not be appropriate.

Generally, the amount of work not performed is compensated at approximately 10%. This "quick resolution" may be used when the total issue is resolved. When a claim involves an amount of equipment rental or stand-by time, a fully- detailed formal claim should be submitted.

## **Cost Analysis**

With reference to the requirements in the Code of Federal Regulations, it is necessary that for each negotiated contract change, a separate analysis be performed to verify the reasonableness of the added costs. Even though this has always been the practice, we have not always documented the verification and made it part of the file.

A cost analysis examines the amount of work needed and the proposed cost when compared to the plans and contract of the specific project. Generally, a cost analysis deals with added contract items. However, even when existing contract items are overrun, there are issues to consider. Let's say that it is necessary to overrun a pay item and a plan note specifies that the same item will include the cost of some other item which will not be increased by the change order, then, payment of the full unit price, as bid, would not be proper for the overrun amount. Often contractors will put costs into a pay item that is unrelated to the item. If the unit price appears greater than is reasonable for the work proposed, you should discuss the matter with the contractor.

As for new items, it is always advisable to compare the proposed cost with the ODOT database of actual bid prices, which are established by competitive bidding. Occasionally, the contractor and the Engineer cannot agree as to the proper cost for the amount of work needed. The Section 109.04(b) of the 1999 Standard Specifications allows the work to be based on actual costs when the contractor and the Engineer cannot readily agree.

The analysis does not have to be formal. It can be hand written but should show all the pertinent elements. Place the analysis in the project file for easy reference by FHWA personnel as well as ODOT reviewers. A statement in your cover letter such as, "the cost and the added time (see next page) has been analyzed and are reasonable." would be wise.

## **FHWA Oversight Projects**

The Federal Highway Administration requires that when a major change is considered on an oversight project, the FHWA Area Engineer must be informed prior to the work for which the change is based begins. The prior approval must be documented by an approved Form 1365. Refer to Construction Control Directive No. 961121 for further details.

All other changes are considered minor and do not require formal documentation prior approval; however, those change orders will ultimately require FHWA approval. Therefore, it will be mutually beneficial to keep the FHWA Area Engineer informed on any pending change orders.

Failure to acquire FHWA approval may result in non-FHWA participation, in accordance with CFR 635.121(b).



## ADDITIONS TO CONTRACT TIME

### Adding Contract Time by Change Order

When contract time is added as part of a Change Order, the CFR requires that you prepare an analysis as to how you arrived at the number of days added. Following are few comments with regard to time additions in order to give better focus on the subject.

When additional time is contemplated, one should consider the actual impact to the project for the period when it occurs.

- Is the added work part of the original scope or is it an extension of the original scope?
- Does the added work fall on the critical path, or is a crew or a partial crew pulled from a critical item to do the added work, thus affecting the critical path indirectly?
- Has the contractor completed all of the original contract work and this addition is at the end?
- Is time needed for re-mobilization?

If work does not affect the critical path or if an outside crew or subcontractor is brought in to do the work simultaneously while the original work is in progress, additional time would not be proper.

A very simple approach is to compute the time based on the amount of money involved when compared to the original contract. Such as:

$$\frac{\text{Contract Amount} + \text{Added Amount}}{\text{Contract Amount}} \times \text{Original Contract Time} - \text{Original Time} = \text{Added Time}$$

This simplification may not be adequate since the specifications require that the added time is commensurate with the amount and difficulty of the added work. Some tasks can be time consuming while costing very little by comparison.

If the original contract time is calendar days then you will need to determine the number of work days needed and add Saturdays, Sundays, and weather from the weather chart for the period when the work is to be done.

The analysis of time- as with the analysis of cost-is to be placed in the project file for future reference.

## **Complete-By Contracts**

When a contract has a complete-by date, the specified date is a term of the contract. If the date is changed, it is a modification of the terms of the contract, or supplemental agreement, and must be accomplished by a Change Order with the Contractor's signature.

When work is added to a complete-by date project, the only way to make the adjustment to the contract time is to move the complete-by date in an amount which is commensurate with the new work. This can only be done by Change Order and should be done at the same time as the Change Order is processed for the new work.

The adjustment of a complete-by date must be due to some condition caused by the Department or for some reason for which the Contractor is not responsible. Weather may only be used as a reason when the amount of unusually severe weather is so extreme that, combined with the physical aspects of the project, render an on-time completion impossible.. The contractor being "busy on another project" is not a reason to extend time.

Whatever method is used to determine added Time, put it in writing and make it a part of the project file. Occasionally, you may be asked to furnish a copy of the analysis.

## **FHWA Oversight Projects**

When the addition of time to a project is not the result of a provision of the Contract or Specifications, the FHWA Area Engineer should be notified. This includes Change Orders which add contract time. The notification can be made by e-mail, memo or with a Form-1365 as described in Construction Control Directive No. 961121. Failure to acquire FHWA approval may result in non-FHWA participation, in accordance with CFR 635.121(b).



Job Piece No. 1

OKLAHOMA DEPARTMENT OF TRANSPORTATION

**COST BREAKDOWN FOR SUPPORT OF SUPPLEMENTAL AGREEMENT**

Project No.	2	County	Date	3
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Contractor	4
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Description of Work	5
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MATERIALS: ITEM	UNIT	CONTRACTOR'S COST	QUANTITY	MATERIAL AMOUNT
6	7	8	9	10
MATERIALS TOTAL =				11

LABOR:	CLASSIFICATION	NO.	RATE / HOUR	TOTAL HOURS	TOTAL FOR EA. LABOR CLASS
	12	13	14	15	16
LABOR TOTAL =					17

EQUIPMENT:	NO.	COST / HOUR	TOTAL HOURS	TOTAL FOR EACH PIECE
18	19	20	21	22
EQUIPMENT TOTAL =				23

PAYROLL ADDITIVES COST		
INSURANCE	24	
SOCIAL SECURITY (FICA) & UNEMPLOYMENT TAXES	25	
WORKMEN'S COMPENSATION	26	
EMPLOYEE FRINGE BENEFITS	27	
PAYROLL ADDITIVES TOTAL =		28

OVERHEAD	=	29
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PROFIT	=	30
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BOND	=	31
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TOTAL COST FOR WORK DESCRIBED	\$ 32
IF NOT LUMP SUM, COST PER UNIT: TOTAL COST / QUANTITY	\$ 33

34

Contractor





# Oklahoma Department of Transportation

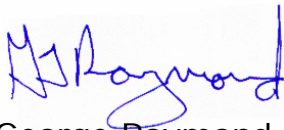
Change Order Instructions  
Construction Control Directive No. **20000225**

**October 20, 2010**

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Scope: To provide guidance for reviewing the contractor's estimated and/or actual costs shown on the Cost Breakdown for Support of Supplement Agreements and instructions for completing change orders.

The attached [Guidance for Review of Cost Breakdowns Supporting Supplemental Agreements, Preparing Change Orders & Making Additions to Contract Time](#) booklet shall be used to prepare and submit change orders for approval.

A handwritten signature in blue ink, appearing to read "G. Raymond", is positioned above the printed name.

George Raymond, P.E.  
Construction Engineer

# OKLAHOMA DEPARTMENT OF TRANSPORTATION

## GUIDANCE FOR REVIEW OF COST BREAKDOWNS SUPPORTING SUPPLEMENTAL AGREEMENTS, PREPARING CHANGE ORDERS & MAKING ADDITIONS TO CONTRACT TIME

### CONTENTS

SUBJECT	PAGE
Applicable State and Federal Regulations	2
Review of Cost Breakdowns	4
Preparing Change Orders	11
Additions to Contract Time	22

The purpose of this document is to provide guidance for reviewing the contractor's estimated and/or actual costs shown in the Cost Breakdown for support of supplemental agreements and to provide instructions for preparing Change Orders and making additions to contract time. This document applies to all construction projects governed by the Oklahoma Department of Transportation Standard Specifications for Highway Construction.

## **APPLICABLE STATE AND FEDERAL REGULATIONS**

### **Applicable State Regulations**

#### **Oklahoma Statutes**

#### **O.S. § 61-121 Change Orders or Addendums**

Change orders or addenda to public construction contracts of One Million Dollars (\$1,000,000.00) or less will not exceed a fifteen percent (15%) cumulative increase in the original contract amount. Change orders or addenda to public construction contracts of more than One Million Dollars (\$1,000,000.00) will not exceed the greater of One Hundred Fifty-Thousand Dollars (\$150,000.00) or a ten percent (10%) cumulative increase in the original contract amount. Change orders or cumulative change orders which exceed these limits will require a readvertising for bids on the incomplete portions of the contract. All change orders will be formally approved by the governing body of the awarding public agency and the reasons for approval recorded in the permanent records. The Transportation Commission may, by rule, authorize the Director of the Department of Transportation to approve change orders in an amount of not to exceed Five Hundred Thousand Dollars (\$500,000.00). Change orders approved by the Director will be presented to the Transportation Commission during the next regular meeting and the reasons therefor recorded in the permanent records. All change orders will contain a unit price and total for each of the following items:

- (1) All materials with cost per item;
- (2) Itemization of all labor with number of hours per operation and cost per hour;
- (3) Itemization of all equipment with the type of equipment, number of each type, cost per hour for each type, and number of hours of actual operation for each type;
- (4) Itemization of insurance cost, bond cost, social security, taxes, workers' compensation, employee fringe benefits and overhead costs; and
- (5) Profit for the contractor.

If a construction contract contains unit pricing, and the change order pertains to the unit price, the change order will not be subject to the limits described above. When the unit price change does not exceed Ten Thousand Dollars (\$10,000.00), the unit price change order computation may be based on an acceptable unit price basis in lieu of cost itemization as required above. Alternates or add items bid with the original bid and contained in the awarded contract as options of the



awarding public agency will not be construed as change orders under the provisions of the Public Competitive Bidding Act of 1974.

## **Transportation Commission Rules**

### **730:1-5-1 Powers and Duties of Director**

The Director is hereby granted the power to approve and execute change orders and supplemental agreements in a total amount of not to exceed Five Hundred Thousand Dollars (\$500,000.00) on a contract. The Director may further delegate to field division engineers authority to approve and execute change orders and supplemental agreements in a total amount of not to exceed Fifty Thousand Dollars (\$50,000.00) on a contract. In no event shall the total amount of such change orders exceed the limits set forth in O.S. § 61-121. Change orders approved by the Director or field division engineer shall be presented to the Commission at its next regular or special business meeting stating the reasons for the change order and supplemental agreement with such other information as the Commission may require.

## **Applicable Federal Regulations**

### **Independent Cost Analysis**

The Code of Federal Regulations 23 CFR 635.120(e) requires that there is a separate analysis performed on each negotiated change or contract modification. It reads as follows:

“The STD shall perform and adequately document a cost analysis of each negotiated contract change or negotiated extra work order. The method and degree of the cost analysis shall be subject to the approval of the Division Administrator.”

### **Contract Time Extension**

The 23 CFR 635.121(b) requires an analysis of added time to a change order and reads as follows:

“Contract time extensions granted by a STD shall be subject to the concurrence of the Division Administrator and will be considered in determining the amount of Federal participation. Contract time extensions submitted for approval to the Division Administrator, shall be fully justified and adequately documented.”

See additional commentary and instructions with regard to costing and time later in this document.

## **INSTRUCTIONS FOR REVIEW OF COST BREAKDOWNS SUPPORTING SUPPLEMENTAL AGREEMENTS**

At a minimum, the Contractor's Cost Breakdown shall be evaluated by consideration of the following required documentation and/or costing information.

The contractor must be able to support all of the data on the Cost Breakdown. The Department reserves the right to require documentation from the contractor to support this information. As a comparison of the value of the work, the Engineer might consider checking historical prices from the ODOT data-base.

The term "contract" means all of the documents associated with the contract such as plans, standard specifications, special provisions, etc.

Following is an explanation for each field in the Cost Breakdown form:

### **Page 1 - Summary**

- (1)      **Contract ID**  
Department's State Contract Number (BAMS Number) which identifies the contract within SiteManager. Example: 090463.
  
- (2)      **Project Number**  
Federal / State Number assigned by Programs Division which identifies the project as to location and funding. Example: IMY-40-4(423)149.
  
- (3)      **Date**  
Date that the contractor submits the cost breakdown.
  
- (4)      **County**  
Primary County associated with this project. Example: Oklahoma.
  
- (5)      **Contractor**  
Legal name of the contracting firm as it appears on the contract documents. If the Cost Breakdown is submitted by the prime contractor's subcontractor, the subcontractor must be approved to perform work on the project. The Department's acceptance of a subcontractor's Cost Breakdown does not create a contractual relationship between the

Department and the subcontractor.

(6) **Description of Work**

Detailed description including the scope of work to be accomplished with the Supplemental Agreement.

(7) **Labor Total**

Total cost of Labor to complete this work. From Attachment A.

(8) **Labor Overhead & Profit**

An additional amount equal to 25% of the Labor Total (15% for overhead and 10% for profit). For contracts governed by the 1999 Standard Specifications, use 20% of the Labor Total.

(9) **Material Total**

Total cost of Material to complete this work. From Attachment B.

(10) **Material Overhead & Profit**

An additional amount equal to 20% of the Material Total (10% for overhead and 10% for profit). For contracts governed by the 1999 Standard Specifications, use 15% of the Material Total.

(11) **Equipment Total**

Total cost of Equipment to complete this work. From Attachment C.

(12) **Equipment Additional Administrative Costs & Profit**

An additional amount equal to 20% of the Equipment Total (10% for additional administrative costs and 10% for profit). For contracts governed by the 1999 Standard Specifications, use 15% of the Equipment Total.

(13) **Bonds**

An additional amount, equal to 1% of the total Labor, Materials, and Equipment costs, less overhead and profit, for increases to bonding costs.

(14) **Property Damage & Liability Insurance**

An additional amount, equal to the actual costs incurred by the contractor for Property

Damage and Liability Insurance. The following table illustrates examples of rates per \$1,000 of payroll for various categories of work performed for the Department. These factors are applied to the Total Labor Cost. If the contractor's proposed actual costs are substantially in excess of those shown in the following table, the Resident Engineer should require additional supporting documentation.

Description	Rate Per \$1000 of Payroll
Bridge Construction	223.80
Carpentry	31.74
Concrete Construction	42.50
Excavation and Grading	104.76

(15) **Workers Compensation**

An additional amount, equal to the actual costs incurred by the contractor for Workers' Compensation coverage. The following table illustrates examples of rates per \$100 of payroll for various categories of work performed for the Department. These factors are applied to the Total Labor Cost. If the contractor's proposed actual costs are substantially in excess of those shown in the following table, the Resident Engineer should require additional supporting documentation.

Description	Rate Per \$100 of Payroll
Bridge Construction	\$21.48
Concrete Construction	\$12.83
Roadway Surfacing	\$12.66
Excavation and Grading	\$10.22
Pipeline and Conduit Construction	\$12.85
Railroad Construction	\$24.89
Fence Construction	\$15.10

(16) **Unemployment Insurance Contribution**

An additional amount, equal to 3.8% of the total Labor costs, less overhead and profit, for the additional costs of unemployment insurance contribution.

(17) **Social Security Taxes**

An additional amount, equal to 7.65% of the total Labor costs, less overhead and profit, for the additional costs of social security taxes.

(18) **Employee Fringe Benefits**

An additional amount, equal to 20% of the total Labor costs, less overhead and profit, for the additional costs of employee fringe benefits.

(19) **Subcontracted Work Total**

Total cost of work performed by an approved subcontractor. The subcontractor must be approved to perform work on the project. The Department's acceptance of a subcontractor's Cost Breakdown does not create a contractual relationship between the Department and the subcontractor.

(20) **Prime Contractor Overhead on Subcontracted Work**

An additional amount equal to 10% of the Subcontracted Work Total. For contracts governed by the 1999 Standard Specifications, use 5% of the Subcontracted Work Total.

(21) **Work of a Non-Highway Construction Nature**

Total cost of work performed by a contractor or a subcontractor not in the highway industry and by workers of a specialized trade or business. The contractor may submit invoices for costs incurred for such services.

(22) **Prime Contractor Overhead on Work of a Non-Highway Construction Nature**

An additional amount equal to 10% of the Work of a Non-Highway Construction Nature Work total. For contracts governed by the 1999 Standard Specifications, use 5% of the Work of a Non-Highway Construction Nature Total.

(23) **Total Cost of Work**

The sum of the cost elements listed above. Round the amount to two decimal places before placing on the Change Order form.

(24) **Unit Price / Quantity / Units**

If the unit for the work is not Lump Sum, divide the Total Cost of Work by the total quantity of the work performed. Round the amount to two decimal places before placing on the Change Order form.

## **Page 2 - Attachment A - Labor Total**

(1) **Contract ID**

Department's State Contract Number (BAMS Number) which identifies the contract within SiteManager. Example: 090463.

(2) **Description**

Detailed description including the scope of work to be accomplished with the Supplemental Agreement.

(3) **Labor Classification**

The job title or classification for the personnel required to perform this work.

(4) **No.**

The number of personnel working in each Labor Classification.

(5) **Rate/Hour**

The hourly wage rate for each Labor Classification.

(6) **Total Hours**

The total number of hours of each Labor Classification.

(7) **Total for Each Labor Class**

The total dollar value for each Labor Classification. Multiply the Rate/Hour by the Total Hours.

(8) **Labor Total**

The sum of all Total for Each Labor Class. This total will be shown in the Labor Total on Page 1 of the Cost Breakdown form.

## **Page 3 - Attachment B - Material Costs**

(1) **Contract ID**

Department's State Contract Number (BAMS Number) which identifies the contract

within SiteManager. Example: 090463.

(2) **Description**

Detailed description including the scope of work to be accomplished with the Supplemental Agreement.

(3) **Material Item**

Provide a clear description of each type of material to be used.

(4) **Unit**

The unit description for each Material Item.

(5) **Contractor's Cost**

The contractor's cost per unit for each Material Item.

(6) **Quantity**

The amount of each Material Item.

(7) **Material Amount**

The total dollar value for each Material Item. Multiply the Contractor's Cost by the Quantity.

(8) **Materials Total**

The sum of all Material Amount. This total will be shown in the Material Total on Page 1 of the Cost Breakdown form.

**Page 4 - Attachment C - Equipment Total**

(1) **Contract ID**

Department's State Contract Number (BAMS Number) which identifies the contract within SiteManager. Example: 090463.

(2) **Description**

Detailed description including the scope of work to be accomplished with the Supplemental Agreement.

(3) **Equipment Type**

Provide a detailed description of the equipment to be used. Include sufficient information (i.e., type, manufacturer, date of manufacture, model, type of fuel used, horsepower rating, attachments, etc.) to ensure proper identification of the equipment utilizing the Rental Rate Blue Book.

(4) **No.**

The number of each Equipment Type used.

(5) **Cost/Hour**

The maximum allowable rate (FHWA hourly rate) for each Equipment Type as listed in the Rental Rate Blue Book found on the ODOT intranet. Be sure to use the rate for the time period when the work was performed, and correct the rate for the age of the equipment and the region (Oklahoma). Refer to Section 109.04 of the Standard Specifications for instructions when dealing with equipment held on a standby basis.

(6) **Total Hours**

The total number of hours of each Equipment Type.

(7) **Amount for Each Type**

The total dollar value for each Equipment Type. Multiply the Cost/Hour by the Total Hours.

(8) **Equipment Total**

The sum of all Amount for Each Type. This total will be shown in the Equipment Total on Page 1 of the Cost Breakdown form.

Refer to Section 109.04 of the Standard Specifications for further instructions and determination of the total hourly rental rate allowed for any one piece of equipment.



## **PREPARING CHANGE ORDERS - SUPPLEMENTAL AGREEMENTS**

### **Proper Completion of Change Orders**

The change order process allows legal changes to be made to a contract by creating, approving, and tracking changes. Contract change orders may include:

- (1) Adjusting quantities for existing contract items
- (2) Adding new items of work to the contract
- (3) Funding incentives or applying deductions
- (4) Revising notice to proceed date, contract time, internal milestone(s), or contract completion date
- (5) Documenting contract final quantities

All change orders, for those contracts administered in SiteManager, shall be processed through the change order function within SiteManager. For information and directions refer to Section 800 of the SiteManager Policies and Procedures, Quick Reference Guides and Training Manual.

All change orders, for those contracts administered in CAS/FieldManager, shall be processed utilizing the change order form included in the previous version of Construction Control Directive No. 20000225.

### **Preparing the Change Order**

The legal requirements for dealing with Change Orders are found in Oklahoma Statute O.S. § 61-121, Change Orders or Addenda, which is found at the beginning of this document.

When a change order is contemplated, it is well to examine the funding aspect first to make sure that the proposal does not conflict with legal parameters.

Depict the change fully by attaching copies of documents that are pertinent to the change such as, drawings, copies of portions of plan and profile sheets, letters from the contractor, time extension calculations, etc.

A detailed explanation of the scope of the change and its reason must be included in the Change Order Description to properly identify the nature of the change. If the change is complex enough, you may want to add an attachment to discuss the change and the reasons for its need.

The verbiage should utilize the same terminology as the plans and specifications. This helps to fully identify the scope of the change. Avoid lumping several pay items together into one item. This complicates the comparison of prices.

### **FHWA Oversight Projects**

The Federal Highway Administration requires that when a Major Change is considered on a Federal oversight project, the FHWA Area Engineer must be informed prior to the work for which the change is based begins. This action is necessary to comply with Federal regulations that prohibit retroactive approval of funds. When reviewing these changes, the FHWA will consider Federal aid eligibility, impact to the original scope, basis of payment and time adjustments. The prior approval must be documented by an approved Form 1365. Refer to Construction Control Directive No. 19961121 for further details and for the definition of a Major Change.

All other changes are considered minor (i.e. material deductions, overrun of existing pay items, etc.) and do not require formal documentation of prior approval. However, these change orders will ultimately require FHWA approval, and it will be mutually beneficial to keep the FHWA Area Engineer informed when considering change orders on oversight projects.

If the Area Engineer approves the work covered by the proposed change order with certain conditions (i.e. evaluation of cost data, determination of time adjustment, submittal of written supporting data, etc.) be sure that this information is provided in a timely manner.

Failure to acquire FHWA approval or to meet the conditions required may result in non-FHWA participation, in accordance with 23 CFR 635.121(b).

### **Request for Additional Appropriations**

If for any reason more funds are required than the contract amount, the Transportation Commission must approve the additional appropriations.

Additional appropriations to pay for overruns of original contract items, although referred to as change orders, are actually just a request for additional funds. The same process is used as for change orders to keep it simple and minimize the number of forms.

When there have been overruns of original contract items and the total expenditure is nearing the contract amount, you should estimate the amount needed to complete the work and submit a request for an additional appropriation early, to avoid a suspension of payments to the contractor.

It is not necessary to ascertain the exact amount needed. As soon as the final estimate is processed, whatever encumbrance remains is canceled.

### **Supplemental Agreement**

If the change order adds new items, extends or modifies the contract time, provides for the final quantities or modifies the contract provisions, this is considered a supplemental agreement and must be signed by the contractor. If the change order is administrative in nature, or if the contractor does not agree with or refuses to sign the change order, this is considered a unilateral change order and does not require the contractor's signature. Refer to the following table:

<b>Purpose of the Change</b>	<b>Contractor's Signature Required?</b>
Increase Original Items	No
Add Time	Yes
Final Quantity Change Order	Yes
Add New Items	Yes
Change In Specifications	Yes

### **Statutory Limitation**

The statutory limitation for each contract is defined in O.S. § 61-121. If the accumulated requests for supplemental agreement money exceeds these limits, the change order will be rejected and the contractor will be forced to file a "friendly" claim. A quick reference guide for the interpretation of statutory limits is presented in the following table:

<b>Type of Increase</b>	<b>Statutory Limitation</b>
Overrun of Original Contract Items	None

Type of Increase	Statutory Limitation
Added Items on Projects with Contract Amount \$1,000,000 or Less	May Not Exceed 15%
Added Items on Projects with Contract Amount Over \$1,000,000	May Not Exceed the Greater of 10% or \$150,000
Changes with Added Items and Original Contract Items	The Total of Added Items May Not Exceed the above Limitations. Only the Net Increase is Counted Towards the Limitation. All Negative Changes are Considered Zero.

When the unit price of an existing contract item is increased (reclassified), only the difference in price is used to calculate the amount subject to statutory limitations.

### **Earlier Supplemental Agreement Exceeded**

When a new item is established by change order (Supplemental Agreement) and the quantity is exceeded, a new change order will be required to secure approval to pay for the quantity over that requested on the original change. On contracts administered in SiteManager, this may be accomplished through the Final Quantity Change Order.

### **Cost Breakdowns**

O.S. § 61-121 states that when the individual change order is less than \$10,000 the change order may be based on an acceptable unit price basis in lieu of cost itemization. When the individual change order is more than \$10,000 the change order shall contain a unit price and total for each of the following items:

- (1) Materials
- (2) Labor
- (3) Equipment
- (4) Insurance
- (5) Social Security
- (6) Unemployment Taxes

- (7) Workers' compensation
- (8) Employee fringe benefits
- (9) Overhead
- (10) Profit
- (11) Bond

When a new item is less than \$10,000, it is always advisable to at least compare the proposed cost with the Weighted Average Item Price Report found on the ODOT intranet.

When a new item is more than \$10,000, or the contractor and the Engineer cannot agree as to the cost for the amount of work needed, a cost breakdown will be required.

When requiring a cost breakdown, have the contractor use the form for Cost Breakdown for Support of Supplemental Agreement attached to this control directive. This form has been designed to comply with the statutes for Cost Breakdowns and will serve as a reminder of the various components. Refer to the Instructions for Review of Cost Breakdowns Supporting Supplemental Agreements section of this Guide for details. Check all the arithmetic and show check marks to verify that it has been checked. The following table helps clarify when a Cost Breakdown is required:

Purpose of the Change	Value of the Change Order	Cost Breakdown Required?
Increase Original Items	Any Amount	No
Add Time	\$0	No
Final Quantity Change Order	Any Amount (no new items may be added)	No
Add New Items	Less Than \$10,000	No
Add New Items	\$10,000 or More	Yes
Change In Specifications	With Cost Adjustment	Yes, if greater than \$10,000
	No Cost Change	No

### **Substitution of Original Item(s)**

When a new item is to be substituted for all or a portion of an original item, be sure to show the underrun of the original item to prevent any misrepresentation of the actual cost of the change order, and the possibility of adversely impacting the statutory limits. If you have a valid reason to not show the underrun of the original item, explain this in the change order description.

When all or a portion of an original contract item is not to be used, do not refer to the original item as being "deleted". It is better to use the term "substituted", thereby if some of the item is needed at a later stage of the project, it will be available. In any case, we do not "unencumber" money until final payment is made.

### **Reclassification of Items - Pay Adjustments**

When adjusting the unit price on an item which is identical except for the changed price, label the item as "Reclassified". Be sure to show the underrun of the original item to prevent any misrepresentation of the actual cost of the change order, and the possibility of adversely impacting the statutory limits. If you have a valid reason to not show the underrun of the original item, explain this in the change order description.

An option that may be used in lieu of reclassifying an item is to establish a new item for the price difference only as an "Adjustment" item. The item for the pay adjustment could be a negative or positive dollar amount. In this instance, payment would be made on the original contract pay item at its unit price in addition to payment on the "Adjustment" item. This will result in the same net effect of total payment as an item reclassification, and only the positive adjustment amount will count toward the statutory limits.

In either case, be sure to thoroughly explain the reason (i.e. significant overrun of a major pay item, etc.) and the method of determining the amount (i.e. deduction guidelines for out-of-spec beams, etc.) of the price adjustment / reclassification in the Line Item Explanation on the change order.

### **Material Deductions**

When materials are incorporated into the project which are not in conformity with the plans or specifications, but are not deficient to the extent that they must be removed and replaced, the work may be accepted with an appropriate pay adjustment. Be sure to contact the appropriate Design Engineer (i.e. Pavement Design Engineer, Bridge Engineer, Traffic Engineer, etc.) to

verify that the proposed acceptance of these materials is acceptable and will not adversely impact the project; and document this contact in the change order and the project file.

This type of adjustment should be accomplished by Change Order which adds a lump sum item for the price reduction. If the amount of the reduction is made in accordance with the contractual documents (specification, special provisions, etc.), then a Change Order will not be required. Refer to Construction Control Directive No. 20020212 for further details

### **Overruns / Underruns of Major Items**

In accordance with Section 104.04 of the Standard Specifications, consideration of a price adjustment due to a significant overrun / underrun of a major item of work is not given until the item is increased in excess of 125% of the original contract quantity or decreased below 75% of the original contract quantity.

A major pay item is defined as a percentage of the original contract amount and may be calculated using the following table from Section 101.05.BC of the Standard Specifications:

<b>Contract Amount</b>	<b>Percent</b>
≤\$1,000,000	≥5.0%
>\$1,000,000 to ≤\$4,000,000	≥\$50,000 + 2.0% of the contract amount over \$1,000,000
>\$4,000,000 to ≤\$8,000,000	≥\$110,000 + 1.0% of the contract amount over \$4,000,000
>\$8,000,000	≥\$150,000 + 0.5% of the contract amount over \$8,000,000

When this type of underrun occurs, the contractor may be entitled to a price adjustment which will allow the recovery of certain costs that cannot be recovered otherwise. On the other hand if ODOT is contemplating adding more than 25% to a major pay item, since the fixed costs are

already paid, a reduction in the unit price should be considered.

Do not reclassify the unit price in these cases. Instead, place a new item on the change which depicts the adjustment. On the change order show the underrun of the original item and add a new item with an adjusted unit price which will be the calculated overhead rate (approximately 10% of the original unit price).

Often the designer will place a "token" amount of an item on the plans just to establish the item in case it is needed. Most contractors will bid an unusually high price due to the small amount. If the Engineer is contemplating overrunning this item significantly, he should negotiate a reduction in the form of a line item adjustment. The new item will depict the negative adjustment in this circumstance.

### **Loss of Overhead**

When a major pay item, as defined in Section 101.05 of the Standard Specifications, is deleted or reduced significantly, the contractor may be entitled to compensation for certain unrecoverable costs associated with the deletion or reduction. The consideration of compensation for the significant underrun of a major item would need to meet the criteria detailed in Section 104.04 of the Standard Specifications. In cases where there is work being added or substituted which will offset this underrun, compensation may not be appropriate.

The total dollar amount of a deletion or reduction will be calculated as the total quantity of the affected pay item multiplied by their unit price. The three major components of this expense are materials, labor and equipment which when totaled will equal the amount of the underrun.

The following cost items will be considered for reimbursement of any unrecoverable cost incurred by the contractor:

#### **1) Materials**

Acceptable materials purchased by the contractor subsequent to the award of the contract and prior to the date of cancellation, alteration, or suspension of the work will be paid for at the actual cost to the contractor and shall thereupon become the property of the State. The cost of any such materials shall be documented by means of itemized invoices as prepared by the materials supplier, and will be designated as Federal aid non-participating (funding category 0900) on the change order in accordance with Construction Control Directive No. 19960508 .

For any materials which would have been used for the prosecution of the affected items of work, either already purchased or anticipated, the contractor may be compensated an amount equal to 5% of the total cost of these materials for overhead.



2) Labor

The contractor may submit an amount equal to 10% of the costs incurred for labor which is directly attributable to the affected items of work as compensation for contractor's overhead. In support of this cost the contractor may be required to submit adequate documentation. The contractor should include in this item any expenses for Social Security Taxes, Unemployment Insurance, Workers' Compensation, and any Employee Fringe Benefits.

3) Equipment

For any machinery or special equipment (other than small tools) which would have been used for the prosecution of the affected items of work, the contractor may be compensated an amount equal to 5% of the total cost of equipment for overhead. The cost of equipment will be computed at a rate as defined in Section 109.04 of the Standard Specifications. The contractor may be required to submit adequate documentation to support the request for compensation for equipment.

The contractor may also be compensated the full amount for any equipment rental charges which can be directly associated with the affected work.

4) General Liability Insurance

For property damage and liability, the contractor may be compensated at a sum equal to 1.3% of the total amount of the underrun.

5) Subcontracted Work or Work of a Non-Highway Construction Nature

When the affected items of work have been sublet by the contractor, or would have been performed by a contractor or a subcontractor not in the highway industry or by workers of a specialized trade or business, the contractor will provide documentation to support the proposed costs incurred for such services and may add an amount equal to 10% of these costs for the contractor's overhead.

6) Miscellaneous

Additional allowance will be made for any other overhead and general expense costs of any kind which can be substantiated by the contractor.

In general, the amount of work not performed will be compensated at the rates defined above for each element. However, if the contractor can provide sufficient documentation of a greater overhead rate than indicated above, that rate will be used instead.

If the overhead rate is determined by performing an audit of the contractor's financial statements, the audit must be performed by a Certified Public Accountant and must comply with the requirements of the Federal Acquisition Regulations System (FAR) found in 48 CFR 31 - Contract Cost Principles and Procedures. The FAR contains cost principles and procedures for pricing and will be used in the determination, negotiation, or allowance of costs when required by a contract clause. Such an audit must be submitted to the Resident Engineer, and must

include a statement that the audit complies with the requirements of the FAR.

### **Quick Resolution for Compensation for Delay or Loss of Overhead**

Use the following formula when the matter of Delay or Loss of Overhead can be resolved with no further considerations. If equipment and rental rates are to be included in a claim for additional compensation, a Cost Breakdown should be prepared.

$$\frac{(\text{Contract Amount} - \text{Mobilization}) \times 0.10}{\text{Contract Time}} = \text{Daily Overhead Rate(DOR)}$$

When a project is totally delayed the DOR would be applied in full. When the project is only partially delayed, the amount would be reduced by 10% of the amount of earnings during the period of impact. When a delay only affects a portion of the contract, apply the adjustment to those items which are impacted (or to the prime/sub contractor which is impacted).

### **Cost Analysis**

With reference to the requirements in the Code of Federal Regulations 635.120(e), it is necessary that for each negotiated contract change, a separate analysis be performed to verify the reasonableness of the added costs. Even though this has always been the practice, we have not always documented the verification and made it part of the file.

A cost analysis examines the amount of work needed and the proposed cost when compared to the plans and contract of the specific project. Generally, a cost analysis deals with added contract items. However, even when existing contract items are overrun, there are issues to consider. For example, if it is necessary to overrun a pay item and a plan note specifies that the same item will include the cost of some other item which will not be increased by the change order, then payment of the full unit price as bid, would not be proper for the overrun amount. Often contractors will put costs into a pay item that is unrelated to the item. If the unit price appears greater than is reasonable for the work proposed, you should discuss the matter with the contractor.

As for new items, it is always advisable to compare the proposed cost with the ODOT database of actual bid prices, which are established by competitive bidding. Occasionally, the contractor and the Engineer cannot agree as to the proper cost for the amount of work needed. Section 109.04 of the Standard Specifications allows the work to be based on actual costs when the contractor and the Engineer cannot readily agree.

The analysis does not have to be formal. It can be hand written but should show all the pertinent elements. Place the analysis in the project file for easy reference by FHWA personnel as well as

ODOT reviewers. It would be wise to add a statement in your cover letter such as, “the cost and the added time (see next page) have been analyzed and found to be reasonable.”

### **Design Changes**

When changes are made which affect the physical properties of a project (i.e. aggregate base in lieu of stabilized subgrade, prestressed beams in lieu of slab girder, video detection in lieu of loops, etc.) be sure to contact the appropriate Design Engineer (i.e. Pavement Design Engineer, Bridge Engineer, Traffic Engineer, etc.) to verify that the proposed change is acceptable and will not adversely impact the project. Document this contact in the change order and the project file.

### **Identify Requesting Party**

When a change is requested by someone other than the Resident Engineer, please identify that party in case more information is needed. If the change was requested by letter, attach a copy of the letter to the change.

### **Specification Change**

If the purpose of the change is to change the specification, attach a copy of the new specification to the change.

### **Change in the Method of Measurement**

When the contract does not specify payment of an item to be based on the plan quantity, but it is mutually agreed between the contractor and the Resident Engineer to use the plan quantity as the basis of payment, then a change order must be executed to document that change in the item’s method of measurement. The decision to make this change should be made prior to work being performed on the item. The change order must be signed by the contractor. It is not necessary to list the items and their unit prices and quantities. The items for which the method of measurement is being changed should be included in the General Change Order Description along with the reason for the change.

When the contract specifies payment of an item to be based on the plan quantity, but it is requested by either the contractor or the Resident Engineer to measure and calculate the quantity for the basis of payment, then a change order must be executed to document that change in the item’s method of measurement. The decision to make this change should be made prior to work being performed on the item which would affect its accurate measurement. The change order must be signed by the contractor. The affected items do not need to be listed in the change order, unless more funds are being requested. When there is an “authorized deviation from the plans” as stated in the specifications, or payment will be different from the plan quantity for any reason, a change order must be executed to document that deviation.

## ADDITIONS TO CONTRACT TIME

### Adding Contract Time by Change Order

When contract time is added as part of a Change Order, 23 CFR 635.121(b) requires that an analysis of added time be performed and adequately documented.

When additional time is contemplated, the actual impact to the project for the period when it occurred should be considered.

- Is the added work part of the original scope or is it an extension of the original scope?
- Does the added work fall on the critical path, or is a crew or a partial crew pulled from a critical item to do the added work, thus affecting the critical path indirectly?
- Has the contractor completed all of the original contract work and this addition is at the end?
- Is time needed for re-mobilization?

If work does not affect the critical path or if an outside crew or subcontractor is brought in to do the work simultaneously while the original work is in progress, additional time would not be proper.

A very simple approach is to compute the time based on the amount of money involved when compared to the original contract. Such as:

$$\text{Added Amount} \div \text{Contract Amount} \times \text{Original Contract Time} = \text{Added Time}$$

This simplification may not be adequate since the specifications require that the added time be commensurate with the amount and difficulty of the added work. Some tasks can be time consuming while costing very little by comparison.

Be sure to consider weekends, holidays and normal adverse weather days when calculating contract time extensions.

The analysis of time, as with the analysis of cost, is to be placed in the project file for future reference.

## **Complete-By Contracts**

When a contract has a complete-by date, the specified date is a term of the contract. If the date is changed, it is a modification of the terms of the contract, or supplemental agreement, and must be accomplished by a Change Order with the contractor's signature.

When work is added to a complete-by date project, the only way to make the adjustment to the contract time is to move the complete-by date in an amount which is commensurate with the new work. This can only be done by Change Order and should be done at the same time as the Change Order is processed for the new work.

The adjustment of a complete-by date must be due to some condition caused by the Department or for some reason for which the contractor is not responsible. Weather may only be used as a reason when the amount of unusually severe weather is so extreme that, combined with the physical aspects of the project, render an on-time completion impossible. The contractor being "busy on another project" is not a reason to extend time.

Whatever method is used to determine added time, adequately document it and make it a part of the project file. Occasionally, you may be asked to furnish a copy of the analysis.

## **FHWA Oversight Projects**

When the addition of time to a project is not the result of a provision of the Contract or Specifications, the FHWA Area Engineer should be notified. This includes Change Orders which add contract time. The notification can be made by e-mail, memo or with a Form-1365 as described in Construction Control Directive No. 19961121. Failure to acquire FHWA approval may result in non-FHWA participation, in accordance with 23 CFR 635.121(b).

# Oklahoma Department of Transportation

## Disadvantaged Business Enterprise (DBE) Monitoring Requirements Construction Control Directive No. **20000105**

**January 5, 2010**

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Scope: To identify the procedures required for reporting and monitoring DBE compliance on federally funded projects.

The purpose of this Directive is to summarize the reporting, tracking, monitoring, and prompt return of retainage requirements of the DBE Program and their affect on the Contractor's and Department's responsibilities. Beginning with the September 1999 letting, projects which include the DBE Special Provision will be subject to the new DBE requirements, including a different way to measure compliance with the statewide DBE goal. Instead of calculating the percentage of the contracts that are dedicated to DBE's the new measure of compliance is calculating the percentage of payments made to DBE's compared to the total amount of money paid statewide each month.

### **1. Reporting by the Contractor**

Once a project begins, the Contractor is required to submit Monthly DBE Payment Logs (Forms 2A or 2B) to the Residency. The form must be submitted to the Residency prior to the 15<sup>th</sup> of the month following the month being reported. The Final DBE Payment Report (Form 3A) is to be completed by the Contractor and submitted to the Residency before the final estimate may be generated. The forms with detailed instructions for their completion can be found in the back of the Disadvantaged Business Enterprises Program Guide and on the Department's website at:

<http://www.okladot.state.ok.us/regserv/dbeinfo/crptforms.htm>

Failure by a Contractor to comply with the monthly reporting deadlines will result in the following actions:

- a) delay in the approval of the project's progressive estimates,
- b) delay in the approval of the Contractor's progressive estimates across the state,
- c) removal of the Contractor from the approved bidders list, and/or

d) assessing of liquidated damages to the affected project.

The Residency must notify Construction Division when step (a) has not been effective for a particular project within 30 days and feels that one of the alternative actions is justified. Construction Division will then take action progressively through the next steps until Contractor is in compliance.

## **2. Tracking by the Residency**

Information from the Forms 2A and 2B must be input into SiteManager by the Residency by the end of the month following the month being reported. This information, when compiled and reported, will be the measure of the Department's goal attainment.

## **3. Prompt Return of Retainage by the Contractor**

To comply with CFR 49 Part 26.29, the Prompt Payment portion of the new DBE regulation, the Department must have a process to expedite the determination and processing of the Final Quantities for any satisfactorily completed subcontracted portions of the Contract. This process will ensure that the release of any retainage from the Prime Contractors to any of their Subcontractors (not just DBE's) be done promptly. The process will include:

- a) Subcontractor's request in writing to the Residency that their portion of the Contract be considered "Completed" in accordance with Section 105.17 of the Specifications and that the Final Quantities be determined. The Subcontractor must be able to state that their portion of the work has been completed in accordance with the plans and specifications. Also, that any required paperwork, including material certifications, payrolls, etc., for their portion of the work, has been submitted to the Residency.
- b) The Residency's response within 14 days to the Subcontractor, with a copy to the Prime for their notification, that they have received the request and are:
  - i) working on the request including the Residency, Division and

material certification audits and scheduling the semi-final (note that for portions of the contract addressed by a semi-final, any damage to the subcontractor's portion of the work caused by the completion of the remainder of the contract would need to be corrected), or

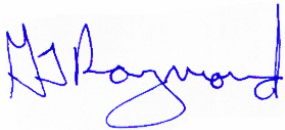
- ii) working on the project as a whole, but will notify them when the Final Quantities have been determined (this is allowable only when the entire project has already been completed and is in the finalization process), or
  - iii) needing to delay action on their request and state the cause for the delay; such as, a concern with the subcontracted work has been identified and the final acceptance is pending resolution of the matter.
- c) A copy of the Final Quantities for a Subcontractor's portion of the project should be disbursed by the Residency to the Prime and Subcontractor upon completion of the semi-final, all levels of audits and when assured that all paperwork has been received. For instances where Subcontractors have not submitted a written request for their portion of the work to be considered "completed", once Final Quantities are determined, they should be disbursed by the Residency to all approved Subcontractors when they are sent to the Prime Contractor. The Prime Contractor must then make prompt return of retainage within 30 days in accordance with the Contract provisions.

#### **4. Commercially Useful Function (CUF)**

In order to credit DBE participation towards a project goal and the Department's annual goal, the DBE must perform a CUF on the project. To comply with the DBE regulation, the Department must perform a CUF review for each DBE performing work on a federally funded project. A CUF Project Site Review Form (CUF Form) has been developed to document that a CUF determination has been made for each DBE that works on a federally funded project. The CUF Form must be completed by the Residency for each DBE and should be conducted when the DBE first begins work. However, a DBE's compliance for performing a CUF needs to be monitored by the Residency throughout the course of the DBE's work on the project. If a DBE is not



performing a CUF, the Residency should contact the Department's Regulatory Services Office. The CUF Form shall be retained in the project file and sent, along with the Form 3A, to the Construction Division for approval. The CUF Forms must be included with the Form 3A for all contracts awarded March 2010 and later, and may be optionally used for projects awarded prior to March 2010. The CUF form with detailed instructions for completion can be found in the back of the Disadvantaged Business Enterprises Program Guide and on the Department's website at: <http://www.okladot.state.ok.us/regserv/dbeinfo/crptforms.htm>

A handwritten signature in blue ink, appearing to read "G. Raymond", is positioned above the printed name.

George Raymond, P.E.  
Construction Division

# OKLAHOMA DEPARTMENT OF TRANSPORTATION

DATE: January 31, 2000  
TO: Field Division Engineers, Division Construction Engineers, and  
Resident Engineers  
FROM: George T. Raymond, Construction Division  
SUBJECT: CONSTRUCTION CONTROL DIRECTIVE NO. 000105.  
(This Directive cancels Construction Control Directive No. 940311)

## DBE PROVISIONS AND TRACKING

The purpose of this Directive is to summarize the changes to the reporting, tracking, and prompt return of retainage requirements of the new DBE Program and their affect to the Contractor's and Department's responsibilities. Beginning with the September 1999 Letting, projects which include the DBE Special Provision will be subject to the new DBE requirements, including a different way to measure compliance with the statewide DBE goal. Instead of calculating the percentage of the contracts that are dedicated to DBE's the new measure of compliance is calculating the percentage of payments made to DBE's compared to the total amount of money paid statewide each month.

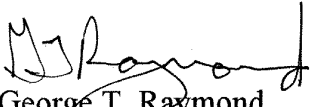
1. Reporting by the Contractor. The changes to the forms with detailed instructions for their completion can be found in the back of the Disadvantaged Business Enterprises - Program Guide. The new Form 2A and 2B have replaced the old Form 2, and must be completed by the Contractor and submitted to the Residency prior to the 15<sup>th</sup> of the month following the month being reported. Failure by a Contractor to comply in the monthly reporting deadlines will result in:
  - a) delay in the approval of the project's progressive estimates,
  - b) delay in the approval of the Contractor's progressive estimates across the state,
  - c) removal of the Contractor from the approved bidders list, and/or
  - d) assessing liquidated damages to the affected project.

The Residency must notify Construction Division when step (a) has not been effective for a particular project within 30 days and feels that one of the alternative actions are justified. Construction Division will then take action progressively through the next steps until Contractor is in compliance.

Also, the new Form 3A has replaced the old Form 1 and Form 3 for the Final Payment Report and is to be completed by the Prime Contractor in accordance with the DBE - Program Guide.

2. Tracking by the Residency. Information on projects let prior to the September 1999 Letting will no longer need to be input into the Subcontractor Tracking System on the computer. For subsequent projects, the information from the Forms 2A and 2B must be input by the Residency by the end of the month following the month being reported. This information, when compiled and reported, will be the only measure of the Department's DBE Goal compliance.

3. Prompt Return of Retainage by the Contractor. To comply with Part 26.29 Prompt Payment portion of the new DBE regulation, the Department must have a process to expedite the determination and processing of the Final Quantities for any satisfactorily completed subcontracted portions of the Contract. This process will ensure that the release of any retainage from the Primes to any of their Subcontractors (not just DBE's) be done promptly. The process will include:
- a) Subcontractor's request in writing to the Residency that their portion of the Contract be considered "Completed" in accordance with Section 105.16(a) of the Specifications and that the Final Quantities be determined. The Subcontractor must be able to state that their portion of the work has been completed in accordance with the plan and specifications. Also, that any required paperwork, including material certifications, payrolls, etc., for their portion of the work, have been submitted to the Residency.
  - b) The Residency's response within 14 days to the Subcontractor, with a copy to the Prime for their notification, that they have received the request and are:
    - i) working on the request including the residency, division and material certification audits and scheduling the semi-final (note that for portions of the contract addressed by a semi-final, any damage to the subcontractor's portion of the work caused by the completion of the remainder of the contract would need to be corrected), or
    - ii) working on the project as a whole, but will notify them when the Final Quantities have been determined (this is allowable only when the entire project has already been completed and is in the finalization process), or
    - iii) needing to delay action on their request and state the cause for the delay; such as, awaiting growth on permanent erosion control items which the acceptance is pending.
  - c) A copy of the Final Quantities for a Subcontractor's portion of the project should be disbursed by the Residency to the Prime and Subcontractor upon completion of the semi-final, all levels of audits and when assured that all paperwork has been received. For instances where Subcontractors have not submitted a written request for their portion of the work to be considered "completed", once Final Quantities are determined, they should be disbursed by the Residency to all approved Subcontractors when they are sent to the Prime Contractor. The Prime Contractor must then make prompt return of retainage within 30 days in accordance with the Contract provisions.

  
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# Oklahoma Department of Transportation

## Disadvantaged Business Enterprise (DBE) Monitoring Requirements Construction Control Directive No. 20000105

**April 18, 2016**

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Scope: To establish and identify the procedures required for monitoring and reporting on federally funded projects.

The purpose of this Directive is to summarize the reporting, tracking, monitoring, and prompt return of retainage requirements of the DBE program and their effect on the Contractor's and Department's responsibilities. The following apply to all Federal projects, without regard to the existence of a project specific DBE goal.

### 1. Reporting by the Contractor

Once a project begins, the Contractor is required to submit Monthly DBE Payment Logs (Forms 2A) to the Residency. The form must be submitted to the Residency prior to the 15<sup>th</sup> of the month following the month being reported. The Final DBE Payment Report (Form 3A) is to be completed by the Contractor and submitted to the Residency before the final estimate may be generated. The forms with detailed instructions for their completion can be found in the back of the Disadvantaged Business Enterprises Program Manual and on the Department's website at:

[http://ok.gov/odot/Doing\\_Business/Civil\\_Rights/Civil\\_Rights\\_-\\_Publications,\\_Posters\\_and\\_Brochures.html](http://ok.gov/odot/Doing_Business/Civil_Rights/Civil_Rights_-_Publications,_Posters_and_Brochures.html)

Failure by a Contractor to comply with the monthly reporting deadlines will result in the following actions:

- a) delay in the approval of the project's progressive estimates,
- b) delay in the approval of the Contractor's progressive estimates across the state,
- c) removal of the Contractor from the approved bidders list, and/or D.B.E. Provisions and Tracking, and/or
- d) assessing of liquidated damages to the affected project.

The Residency must notify Construction Division when step (a) has not been effective for a particular project within 30 days and feels that one of the alternative actions is justified. Construction Division will then take action progressively through the next steps until Contractor is in compliance.

## 2. Tracking by the Residency

Residency individuals are required to continuously track payments on projects to ensure DBE goals are being achieved. Information from the Form 2A is required to be inputted into SiteManager by the Residency, by the end of the month, following the month being reported. (Refer to SiteManager Procedure Section IV, Chapter A). This information, when compiled and reported, will be the measure of the Department's goal attainment.

## 3. Prompt Return of Retainage by the Contractor

To comply with CFR 49 Part 26.29, the Prompt Payment portion of the new DBE regulation, the Department must have a process to expedite the determination and processing of the Final Quantities for any satisfactorily completed subcontracted portions of the Contract. This process will ensure that the release of any retainage from the Prime Contractors to any of their Subcontractors (not just DBE's) be done promptly. The process will include:

- a) Subcontractor's request in writing to the Residency that their portion of the Contract be considered "Completed" in accordance with Section 105.17 of the Specifications and that the Final Quantities be determined. The Subcontractor must be able to state that their portion of the work has been completed in accordance with the plans and specifications. Also, that any required paperwork, including material certifications, payrolls, etc., for their portion of the work, has been submitted to the Residency.
- b) The Residency's response within 14 days to the Subcontractor, with a copy to the Prime for their notification, that they have received the request and are:
  - i) working on the request including the Residency, Division and D.B.E. Provisions and Tracking material certification audits and scheduling the semi-final (note that for portions of the contract addressed by a semi-final, any damage to the subcontractor's portion of the work caused by the completion of the remainder of the contract would need to be corrected), or
  - ii) working on the project as a whole, but will notify them when the Final Quantities have been determined (this is allowable only when the entire project has already been completed and is in the finalization process), or
  - iii) needing to delay action on their request and state the cause for the

delay; such as, a concern with the subcontracted work has been identified and the final acceptance is pending resolution of the matter.

- c) A copy of the Final Quantities for a Subcontractor's portion of the project should be disbursed by the Residency to the Prime and Subcontractor upon completion of the semi-final, all levels of audits and when assured that all paperwork has been received. For instances where Subcontractors have not submitted a written request for their portion of the work to be considered "completed", once Final Quantities are determined, they should be disbursed by the Residency to all approved Subcontractors when they are sent to the Prime Contractor. The Prime Contractor must then make prompt return of retainage within 30 days in accordance with the Contract provisions.

#### 4. Commercially Useful Function (CUF)

In order to credit DBE participation towards a project goal and the Department's annual goal, the DBE must perform a CUF on the project. To comply with the DBE regulation, the Department must perform a CUF review for each DBE performing work on a federally funded project. A CUF Project Site Review Form (CUF Form) has been developed to document that a CUF determination has been made for each DBE that works on a federally funded project. The CUF Form must be completed by the Residency for each DBE and should be conducted when the DBE first begins work. However, a DBE's compliance for performing a CUF needs to be monitored by the Residency throughout the course of the DBE's work on the project. If a DBE is not performing a CUF, the Residency should contact the Department's Civil Rights Division. The CUF Form shall be retained in the project file and sent, along with the Form 3A, to the Construction Division for approval. The CUF form with detailed instructions for completion can be found in the back of the Disadvantaged Business Enterprises Program Manual and on the Department's website at:

[http://ok.gov/odot/Doing\\_Business/Civil\\_Rights/Civil\\_Rights\\_-\\_Publications,\\_Posters\\_and\\_Brochures.html](http://ok.gov/odot/Doing_Business/Civil_Rights/Civil_Rights_-_Publications,_Posters_and_Brochures.html)



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