

# **DIVISION 100**

## **CONTRACT ADMINISTRATION & INSPECTION PROCEDURES**

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#### **101.00 -- CONSTRUCTION ORGANIZATION**

##### **101.01        PURPOSE OF MANUAL**

- Establish uniform policies and procedures for contract administration and inspection of construction projects, and provide interpretation and clarification of specifications.
- Serve as a collecting point for new instructions and guidelines relating to administration and inspection of construction projects.
- Describe the role of District Engineers, District Construction Engineers, Project Managers, Construction Technicians, and others assigned to supervise and inspect construction projects.

##### **101.02        ENGINEER'S DUTIES AND AUTHORITY**

###### **I.        Authority of the Director**

- A.        General - The specifications are the Engineer's authority to decide questions as to quality or acceptability of material furnished, work performed, manner of performance, rate of progress of the work, and interpretations of the plans and specifications.

The authority exercised by the Engineer as provided in *SSHC Subsection 104.02 and Subsection 105.01* includes the following:

1.        Authority to enforce specific requirements and provisions of the plans and specifications.
2.        Authority to interpret the requirements and provisions of the plans and specifications in cases of questionable or doubtful application.
3.        Authority to authorize (approve) revisions or modifications in the plans or specification requirements and/or to authorize or establish new or additional plans or specification requirements.
4.        Authority to suspend the work under certain conditions.

###### **B.        Delegation of Authority**

General - The Director, exercising the responsibilities given him/her by the statutes regarding the control, management, supervision, administration, and direction of the Department of Roads, assigns and designates to various engineering, management, and technical

personnel the responsibility for the performance of certain functions of the highway construction operations.

The assignment and designation of responsibility for the performance, supervision, or completion of any task by this Construction Manual also includes the authority necessary to complete that task.

### **101.03 CONSTRUCTION DIVISION**

The Construction Division is the eventual authority for all your unresolved contract and construction related questions. It provides:

- Direction and consultation to District Engineers, Construction Engineers, Project Managers, Construction Technicians, and other central offices relating to specifications, methods, techniques, and policies on highway construction, inspection, and contract award and administration.
- Final decision capability for all disputes or questions regarding contract administration.

The Construction Engineer is directly accountable to the Deputy Director for Engineering. The organizational chart for the Construction Division is shown in Figure 101.1.

Responsibility for administering construction contracts on the roads, highways, and interstate systems rests with the Construction Engineer. Responsibility for actual construction work is delegated to the District Engineer and ultimately rests with the Project Manager.

# Construction Division

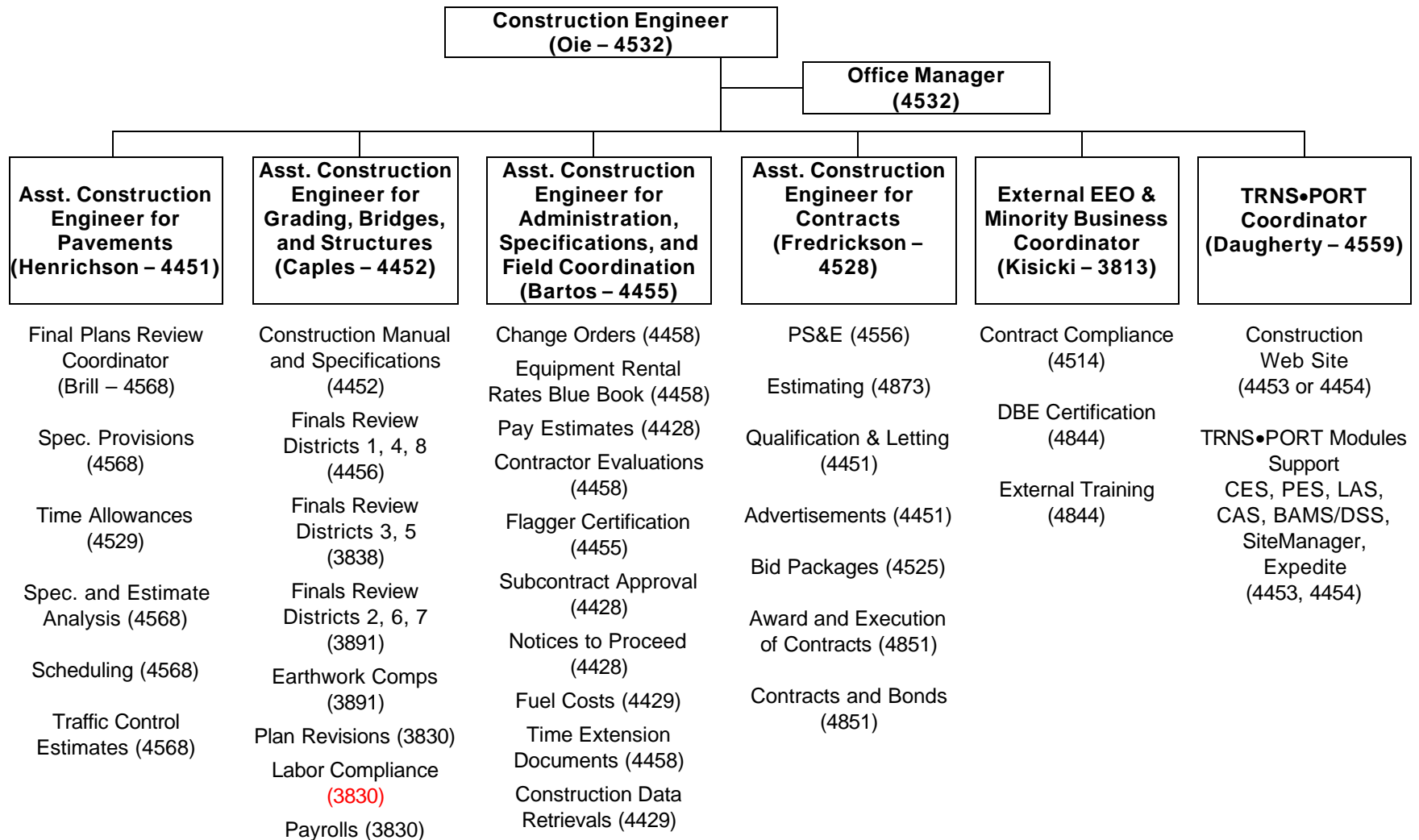
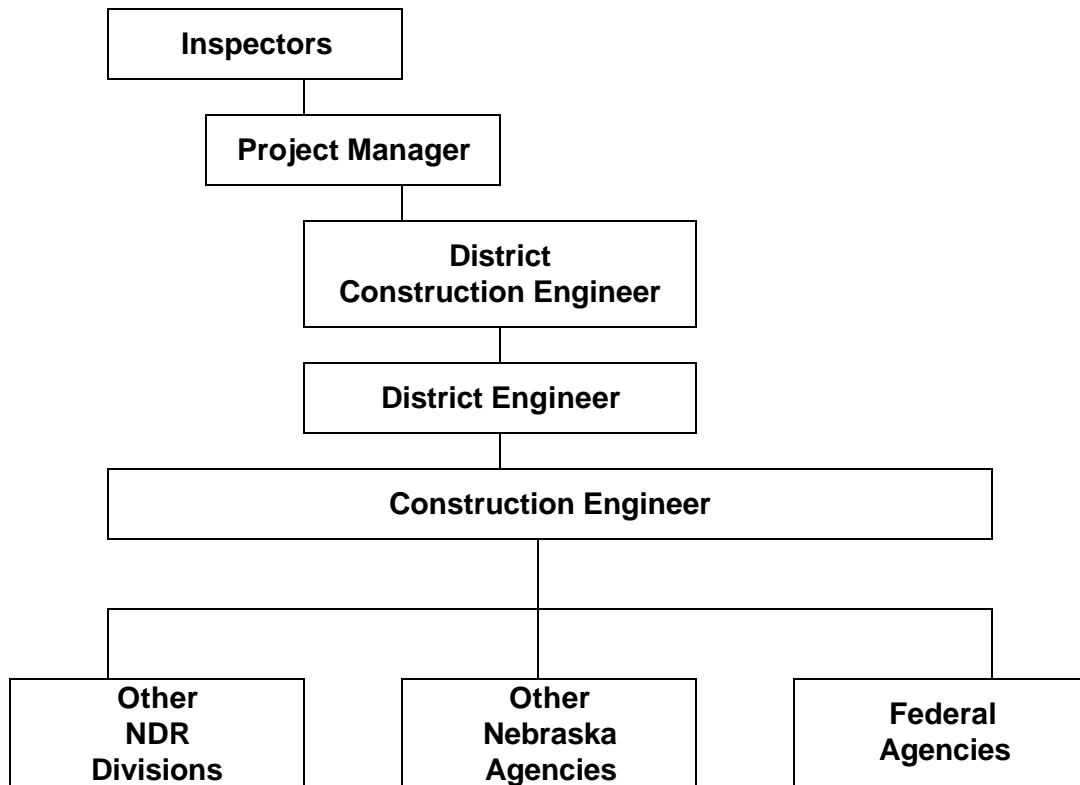


Figure 101.

## 101.04 CHAIN OF COMMAND

The normal chain of command for questions and business operations is as follows:



## 101.05 CONSTRUCTION ENGINEER

The Construction Engineer provides guidance to District Construction Offices to insure compliance with Specifications and established policies and procedures in the timely completion of NDR projects. The District Engineer, through the Project Manager, has direct responsibility for construction projects. The Construction Engineer is the next level of authority on approval of substantial change orders and the resolution of contract disputes when District Engineer decisions are appealed.

### Interpretation of Specifications

The Construction Division provides consultation and advice on construction problems concerning the application and interpretation of Specifications and other contract requirements. Providing this guidance on a statewide basis is intended to insure uniform and fair contract administration.

**101.06 DISTRICT ENGINEER (DE)**

**101.07 DISTRICT CONSTRUCTION ENGINEER** - The District Engineer is responsible to the Director for the proper administration and completion of each contract for highway construction in his/her District.

The District Engineer has the responsibility and the authority to:

- a. Manage the field staff that provides construction and materials inspection on highway projects within each NDR District. This responsibility includes oversight on contract administration issues, compliance of materials, quality of work performed, and approval of most change orders.
- b. Enforce specific requirements of the plans and specifications in the completion of contracts for highway work. (Generally, he/she will actually delegate this responsibility and authority to the Project Manager.)
- c. Interpret or rule on disputes over requirements of the plans and specifications and decide questions which may arise in all cases when such interpretations and decisions will result in completion of the work in accordance with the intent of the plans and specifications.
- d. Prepare and recommend revisions and modifications in the requirements or provisions in the plans or specifications, or prepare and recommend additional requirements in cases where construction conditions appear to warrant revisions or additional requirements. See *SSHC Subsection 104.02* for alterations which can be approved by the District Engineer.
- e. Delegate the direct responsibility for the engineering supervision and inspection at the project level, generally through the District Construction Engineer to Project Managers in the field.

DEs also provide field input into construction related problems for process improvements. It is imperative that DEs maintain a close working relationship with all central offices.

**101.07 DISTRICT CONSTRUCTION ENGINEER (DCE)**

The DCE is responsible for management of the field staff that provides construction and materials inspection on highway projects within each NDR District. This responsibility includes oversight on contract administration issues, compliance of materials, quality of work performed, and approval of most change orders. DCEs also provide field input into construction related problems for process improvements. It is imperative that DCEs maintain a close working relationship with all central offices. The DCEs report to the DE.

The District Construction Engineer is responsible directly to the District Engineer for the direct and close supervision of the construction work and the supervision of Project Managers at the project level, as assigned to him/her by the District Engineer.

The District Construction Engineer has the same authority as listed for the District Engineer when carrying out and discharging the responsibilities assigned to him/her by the District Engineer.

#### **101.08 PROJECT MANAGER (PM)**

The Project Manager, working directly under the supervision of the District Construction Engineer (DCE), is responsible through the DCE to the District Engineer for the construction of the project in accordance with the requirements of the plans and specifications. The Project Manager is responsible for and has the authority to assign or delegate the supervision, staking, or inspection of construction work phases or operations to engineers or construction technicians working under his/her direction.

The Project Manager is the key person in the field organization. The Project Manager's diligence, knowledge, and integrity are important in carrying out the work of planners and designers. The assignment demands judgment, courage, ingenuity, foresight, and tact. Its reward includes priceless experience in the arts of supervision, organization, engineering, and public relations. It also furnishes pride and satisfaction in a job well done.

In assuming the responsibility for proper fulfillment of assigned construction work, the Project Manager is also accountable for:

- Maintaining good relations with contractors, affected property owners, and the general public.
- Assigning personnel to inspection and survey operations on the project, along with providing the supervision and instructions necessary to assure proper performance of assigned duties.
- Keeping the District and Headquarters Office informed as to construction progress, status, etc.
- Maintaining a complete record and proper documentation of all quantities and transactions relative to the project.
- Assuring proper use of equipment and materials used in the performance of assigned duties.

While Project Managers have responsibility for general supervision of the work, their main concerns are compliance with specifications and project completion. It is not their responsibility to direct the everyday activities of the contractor, **and they should not do so.**

The Project Manager is authorized to assign or delegate the inspection and record keeping required for the project. The Project Manager must monitor the delegated tasks to insure they are being properly performed.

In cases of questionable application of plan or specification requirements, the Project Manager may decide such questions or make interpretation of specification requirements if the decision or interpretation will clearly result in the completion of the work in accordance with the intent of the plans and specifications.

If the intent of the plans or specifications is not clear or a dispute over interpretation of plan or specification requirements develops, or if the provisions are clearly unworkable or impractical, the Project Manager shall submit the question or problem to the District Construction Engineer or District Engineer for determination.

If an immediate decision must be made, or question resolved, and the District Engineer or the District Construction Engineer is not available, the Project Manager is authorized to contact and consult the Construction Engineer or the appropriate Assistant Construction Engineer who will, if required, contact the appropriate division engineer concerned (Design, Bridge, Materials and Research, or Right of Way) for a determination. Exceptions to the foregoing are questions considered routine in nature concerning materials, in which case the Materials and Research Division may be contacted directly.

### **Delegation of Responsibility**

The Project Manager cannot and should not expect to retain all the duties and responsibilities assigned. In an efficient organization, each employee should be delegated authority in line with their responsibilities and duties. The Project Manager must check to see that duties delegated to the Construction Technicians are properly performed.

Responsibility for inspection and surveying on a project should be delegated to one or more experienced employees. This includes the responsibility for documentation of quantities and administrative work necessary for preparation of the final estimate. Inspectors must have authority to direct and coordinate activities of inspection or survey personnel assigned to them.

All employees should be encouraged to accept delegated responsibility and to make decisions within the authority delegated to them.

## **101.09 CONSTRUCTION TECHNICIAN (CT)**

Construction Technician must review and understand the Plans, Special Provisions, Specifications, utility agreements, railroad agreements, and municipal/county agreements. A CT will be assigned to monitor or inspect specific construction operations by the Project Manager. The CT will be responsible for and directly accountable to the Project Manager for the proper performance of the task assigned.

The CT has the authority to inspect all work performed and materials furnished and to enforce all specific requirements of the plans and specifications involved in the operations to which he/she is assigned.

In cases of questionable application of plan or specification requirements to the work in progress, and if an immediate decision is needed, the CT should, if the CT judges the intent of the requirement to clearly warrant a reasonable interpretation, make such an



interpretation. The CT should, when time permits, initially take such matters to the Project Manager for interpretation. If an immediate decision is necessary and is made by the inspector, the CT should have the Project Manager review and confirm the decision or interpretation at the earliest opportunity.

If the intent of the plans or specifications is not clear, or if the provisions are unworkable, the CT shall consult the Project Manager.

## **102.00 -- GENERAL RESPONSIBILITIES**

### **102.01        PROMPT EXERCISE OF AUTHORITY**

The three most common complaints of contractors are:

1.        Often it is not clear to the contractor which of our personnel is responsible for the inspection of various operations.
2.        CTs do not exercise their authority to make decisions.
3.        CTs do not promptly advise as to acceptability of the materials or work. This results in delay to the contractor's operation while awaiting decisions on such matters.

Clearly, the contractor is entitled to prompt decisions and prompt notice as to acceptability or failure of the work or materials to conform to specified requirements.

All CTs should understand their duties, responsibility for the performance of the assignment, the authority of the assignment, and the authority to carry out the responsibility.

Making decisions is exercising authority. Decisions as to the acceptability or failure of work or materials should be made promptly and as near to the actual site of the work as possible. Accordingly, the large proportion of decisions and the largest exercise of authority will be made by the inspector and the Project Manager at the site of the work. These engineering personnel are on the site of the work in actual contact with the work operation and with the contractor. If the work is not being performed or produced to meet the specified requirements, they have the responsibility and the authority to advise the contractor (or material producer), reject the material, suspend the improper operation, or take remedial or corrective measures.

It is obvious that the decision of the Project Managers and the CTs are of primary and the greatest importance in the completion of quality construction work. Failure or delay in the exercise of assigned and delegated responsibility and authority can result in inferior or unacceptable work or materials.

### **102.02        APPEALED DECISIONS**

Authority exercised will sometimes be questioned by an appeal of the decision or interpretation which was made. This procedure can be expected in the case of:

1.        Decisions made or instructions given which are contrary to or inconsistent with the plans or specifications.

Obviously, decisions should not be made or instructions should not be given which are contrary to design requirements, the plans, or the Specifications. However, through lack of knowledge, inadvertence, or complication of application of the proper requirements, such decisions or instructions are sometimes made.

In such cases, the decision or instruction should be rectified, whether by appeal or otherwise, and without prejudice.

2. Decisions made in cases of conflicting plan or specification requirements or interpretation made in the case of questionable application of plan or specification requirements.

It will be realized that in cases of conflicting requirements or questionable application of plan or specification requirements, the decision or interpretation must be made on the basis of engineering analysis and judgment, precedent, or policies previously established. In most cases, the engineer at the site of work will be able to make a decision which will be supported by these factors. However, in a few cases he/she may make a decision based on a limited knowledge of the factors involved. Appeal of the decision may show that additional factors or elements which were not known to the Project Manager may make it necessary to overrule the original decision. This situation can be compared to appeals of court decisions to higher courts where additional study and comparison of preceding cases will sometimes result in reversed decisions. Accordingly, an engineer making decisions or giving instructions in the case of plan or specification requirements of questionable intent or application may occasionally have such decisions or instructions appealed, overruled, or reversed. The engineer should understand, however, that when such decisions are necessary, they are made without prejudice to himself/herself or to the other parties involved.

## **102.03 INTEGRITY OF EMPLOYEES**

Complete integrity on the part of all government employees is essential. Integrity is defined as "moral soundness; honesty; uprightness".

The wide national publicity given to the few inefficient or dishonest employees discovered in the selected investigations, audits, and inspections make it necessary to officially recognize and emphasize that complete integrity is an essential and required qualification. It is also considered necessary to direct the attention of all our engineering employees to the "conflict of interest" statutes, listing specific items which may be prohibited by such statutes or which are incompatible with complete integrity.

Examples of serious conflict of interest acts which are forbidden:

1. Solicitation or acceptance of a cash loan or a gift of value from any contractor, contractor's representative, or contractor's material supplier doing business with the Department.
2. Performing engineering work or services for, or receiving compensation for such work or services from, any contractor, contractor's representative, or contractor's material supplier doing business with the department.
3. The Project Manager and all inspectors shall report to the District Engineer any salvage materials that will be required to be removed from

the limits of the project but are not indicated on the plans. This may include, but not be limited to, such items as: trees, fence, fence posts, structures, crops, or any other item that may or may not appear to have value. These materials are the property of the state and cannot be removed and disposed of for personal gain.

The "conflict of interest" portion of the "Regulations for the Administration of Federal Aid for Highways, effective May 11, 1960" reads in part as follows:

"No engineer, inspector, or other person performing services for a state or a governmental instrumentality in connection with a project shall have, directly or indirectly, a financial or other personal interest, other than his/her employment or retention by a state or other governmental instrumentality, in any contract or subcontract in connection with such project."

All contracts for construction on Federal-Aid highway projects include a statement in the contract Special Provisions called:

**"FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS"**

This provision says the contractor, Project Manager, inspectors, and all others can be fined not more than \$10,000 or imprisoned not more than five years, or both, for making false statements.

The Project Manager and inspector should realize that as an employee of the public, his/her conduct must be exemplary and merit the full confidence and appreciation of the public. Accordingly, he/she should avoid conduct or acts which may seem harmless, but which could be misinterpreted or appear questionable. Examples of conduct that could possibly be classified as incompatible with complete integrity are:

1. Excessive fraternization between the Project Manager (PM) or Construction Technicians (Inspectors) and the contractor or his/her supervisory personnel;
2. Excessive fraternization between the PM or CT and the contractor's material supplier or material promoter.

It is essential that all PMs and CTs be familiar with these requirements and comply with the specific requirements of the regulations and statutes and conduct themselves with complete integrity.

**Removing Materials from Projects**

NDR personnel are not allowed to remove any construction related materials from a project during or after work hours for any reason other than official sampling and testing. Such actions could be misconstrued by the public as accepting favors from a contractor or private use of public property.

Construction materials are defined as, but not limited to, pile cut-offs, old plywood, broken tools, piles of aggregate, erosion control materials and plantings, concrete test

beams, samples of aggregates or other materials, and the products of project site clearance.

Complete cleanup of the construction area or plant site, including test materials, is the responsibility of the contractor.

#### **102.04 PRESENCE ON SITE**

As the Department's representative on the project, it is essential that the Project Manager be available at all times to the contractor, his/her subordinates, and the supervisor. The PM should never be absent from the job without his/her whereabouts being known to someone, so that he/she may be contacted if necessary. The Project Manager's absence from the project will certainly compromise his/her efficiency and can be most embarrassing to his/her superiors.

#### **102.05 PLANS AND WORKING DRAWINGS (SSHC 105.02)**

"All authorized alterations affecting the requirements and information given in the approved plans shall be in writing". Such alterations will generally be authorized by revised plans, and the Project Manager should only authorize alterations on that basis.

#### **102.06 PLAN ERRORS/OMISSIONS**

The Project Manager, upon discovering or suspecting an error or omission in the plans, will immediately send an e-mail note to the District Construction Engineer and the Construction Division in Lincoln. The note should provide all available information. This would include:

- A description of the problem and reasons for concluding a plan error or omission.
- The sheet number(s) where the error is located.
- What alternatives are available.

The Construction Division will contact the Section Head responsible for the work where the error or omission is suspected and determine if a problem exists.

- For consultant designed plans, the Section Head must notify the consultant and Project Development's Agreement Engineer if a problem with the plans exist.
- The consultant must be included immediately in the discussion and resolution of the problem. They may have a workable and less costly solution.

The final solution to the error or omission will be an agreed joint decision by the Construction Division, the District, and the responsible Section Head, and the consultant (when applicable).

For consultant designed plans, the District must send the Agreements Engineer a signed copy of the "Contractor Change Order/Supplemental Agreement."

**102.07        ENGINEER RELATIONS**

**102.08        PUBLIC RELATIONSHIPS**

**General Project Supervision**

The PM should have the correct crew for each job.

Meeting the public with courtesy is always possible and will usually encourage a willingness to cooperate. The general public will exhibit a natural interest in work performed by or under the supervision of the Department of Roads, and employees should carefully refrain from making any unauthorized interpretation of policy or careless comment concerning the organization and its policies.

Project Managers and inspectors are among the most important individuals in development of good public relations. Located throughout the state, they can contribute toward a better understanding of the highway program and construction operations by volunteering to appear before local civic organizations. Acquainting the public with interesting details of highway construction is a proactive approach and usually avoids or diffuses criticism.

**Residents Along Construction Projects**

Project Managers and their staffs and the contractor's representative should contact residents and businesses along the roads that will be under construction. Before work is started, an effort should be made to advise these people of upcoming construction and discuss the probable effect on their operations. This gives them an opportunity to arrange their operations to fit the construction schedule. Both the Project Managers and the contractors have a large interest in promoting local goodwill. Construction schedules can always be arranged so that the least inconvenience will result to local residents and businesses.

Highway construction operations can cause a major change in daily traffic patterns of residents and business people. Most have no conception of road construction problems but accept some inconvenience for the welcomed improvement.

Occasionally, Project Managers may encounter individuals that are critical of the construction inconvenience. Their viewpoint must be understood to deal patiently with their demands and criticisms. Give these individuals a chance to state the problem. Sincere and courteous consideration could avoid development of ill feeling and anger.

**Services Relationships**

Many services such as mail delivery, school buses, fire protection, etc., may require special attention. People in charge of these services should be advised of upcoming construction and, where possible, arrangements made to provide a detour or access across or through the project for services that must be continued during construction.

## **News Media Relationships**

Consult the Communication Division's *Media Guide* before making any public comments.

Good relations with news media can help develop and maintain good public relations. When time permits, always contact the Communication Division before going on the record. While reporters may have very little knowledge of road construction, they are well known by local residents and could have a big influence on attitudes of people living along or otherwise affected by the construction project. News media contacts should be professional and positive to maintain a good public image for the Department.

**RULE #1:** Never criticize another NDR division or employee in public (i.e., Don't say the design was bad.)

The Project Manager represents a public agency spending public money and is not entitled to withhold information from the public press. The Freedom of Information Act of 1983 opens most of our files to public scrutiny. Sensitive material should be cleared with the NDR Assistant Attorney General prior to release to the public or outside attorneys.

Information should always be presented in as favorable and factual form as possible. Project Managers should confine remarks to those areas over which they have personal control. Any questions directed toward NDR policies or public criticism of their superiors should be politely turned aside.

## **Relations with Cities and Counties**

Cost overruns on projects where other governmental entities (cities or counties) bear a portion of the cost, particularly County Federal-Aid Secondary projects, can cause an unexpected financial burden for that governmental entity. On past occasions these situations have provoked feelings of ill will against the Department of Roads when the governmental entity was billed for the unexpected overrun of costs for which they had not budgeted.

Accordingly, the Project Manager should maintain a watchful eye for this particular situation and, if it becomes apparent that a significant overrun in engineering or construction costs will occur, notify the governmental entity in writing of the approximate amount of overrun.

When consultant engineering is used, the State's representative needs to insure that the Federal/State aid is being properly spent. Any doubts or problems should be discussed with the consultant/county's Project Manager. If it cannot be resolved at this level, a letter detailing the problem must be sent to the chairman of the county board or village/city council.

## **102.09 CONTRACTOR (PARTNERING) RELATIONSHIPS (SSHC Section 113)**

Under the contract system used in highway construction, contractors aim to perform the work contracted and NDR Engineers see that the work performed is done according to project plans and Specifications. Since these aims are essentially the same, Engineer-contractor relations should be conducted in a spirit of mutual cooperation within the framework of the Specifications and with the best interest of both contracting parties. Establishing a cooperative and collaborative working relationship with contractors may result in improved quality and fewer unresolved contract issues. This is the goal of "Partnering."

Contractors should do no less than required by contract, nor should they expect compensation for work done that was not required.

Good contractor relations can be promoted by keeping an open line of communication and advising contractors when they are doing unacceptable work before such work is completed.

- Good Project Managers know how the contractor should construct the project. They go out of their way to make sure the contractor starts each phase of construction using proper methods and the correct materials.
- It is 1,000 times easier to correct a subgrade problem with the grading crew than with the paving crew.

The most common construction problem is the contractor being notified after the fact that the work was not done according to the Specifications.

In general, relations with the contractor should be fair, firm, courteous, and based on sound judgment under the guidance of specification requirements.

## **102.10 FHWA & OTHER OUTSIDE AGENCIES RELATIONSHIPS**

FHWA has oversight authority only. FHWA representatives have the right to examine any phase of work, including methods of testings, project records, material reports, etc., to review performance of State inspection personnel assigned to the project, and to check work for compliance with plans and specifications. Their responsibility or authority does not extend to supervising or directing Project Managers or contractor forces.

Reports covering their inspections are forwarded to the Construction Division and then are made available to the District Engineer and Project Manager.

Relations with FHWA personnel should be conducted in a spirit of cooperation and courtesy, extending any assistance or facilities available. The FHWA Engineer should be informed of anticipated plan changes or extra work when the value exceeds \$50,000.00, on full oversight projects (usually Interstate System with a contract value of \$1,000,000 or greater).

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Inquiries from other state or government agencies should be given prompt and courteous consideration.

## **102.11        EMPLOYMENT OF CONSULTANTS FOR CONSTRUCTION ENGINEERING AND INSPECTION**

From time to time, and with increasing frequency, various governing bodies hire consultant services. Governing bodies could be cities, counties, or the State.

### **Agreement Responsibilities**

Responsibilities of a consultant may be limited to providing professional advice to the governing body on the best means of satisfactorily accomplishing the work or may include specific project level engineering and/or inspection responsibilities. These guidelines will address engineering and/or inspection responsibilities. The consultant's contract should define respective authorities and responsibilities of the full-time publicly employed project administrator in charge of the project and consultant's staff.

Under federal-aid regulations, however, prime responsibility for general supervision of construction remains with the governing body. The state (county or city under agreement with state) cannot be relieved of its responsibility to insure that work is performed in accordance with project plans and specifications, even when we hire a consultant to do the inspection or design.

### **Project Manager**

When a consultant has been engaged to provide engineering and inspection services, a Project Manager designated by the Department should also maintain working knowledge of the project.

The designated Project Manager is responsible for being thoroughly knowledgeable of day-to-day operations of both contractors and consultants providing the construction inspection/engineering services. Knowledge of day-to-day operations is construed to mean:

- Knowledge of current project status.
- Involvement in decisions relative to conditions which require change orders or supplemental agreements.
- Involvement in authorization of progress payments even though the consultant may furnish measurements or computation of quantities.
- Making periodic inspections, visits, or on-site reviews of the project; frequency dependent upon the magnitude and complexity of the project.
- The PM must verify that the consultant understands what records are required, how to record the data, and who can sign/verify each document. This is also true when a city or county does the project engineering.

- In regard to projects utilizing consultant inspection services, some misunderstandings have arisen when our acceptance date preceded a date when the county board “accepted” the project.
- Consultants utilized for engineering and inspection services must be given written notice regarding project completion dates. The consultant agreements usually specify the time allowed for the preparation and submittal of As-Built Plans and other final records, and the consultants need to be told when the clock has started. The consultant agreements state “The State will provide written notification of construction acceptance to the Consultant.” At least one consultant has reported they do not receive the required notice.
- Feel free to be somewhat flexible in “starting the clock,” but do put it in writing – and **send a copy of the letter to Lee Pavel in Project Development** so that he may begin his end-of-project paperwork, too. The consultant services agreements and payments are audited by the Department, and it is important to have the notification documented.



## **102.12 PERSONNEL**

### **102.13 EMPLOYEE POLICIES**

Some of the personnel references that employees should read and follow include:

- Classified System Personnel Rules & Regulations
- Nebraska Association of Public Employees Labor Contract
- Employee Safety Manual
- Nebraska Department of Roads' Operating Instructions
- Davis-Bacon Act

### **102.14 STAFF REQUIREMENTS**

A definite need exists to develop and maintain procedures to properly manage engineering staff requirements necessary for highway construction projects. Proper planning and staffing procedures provide the means to estimate staffing needs based on anticipated workloads.

#### **Field Estimates**

@ District Construction Engineers provide an estimate of staffing needs to the Deputy **Director** for each construction season. Each Project Manager analyzes their particular workload according to the production schedule, and District Construction Engineers collect and combine the data to determine minimum staffing for the upcoming construction season. These figures provide a guide for temporary employee hires (usually submitted in January or February each year).

#### **Adjustments**

@ As necessary throughout the year, the District Construction Engineers review their personnel requirements with the Deputy Director.

#### **Field Personnel Duties & Staff Requirements**

The District Engineer and District Construction Engineer are responsible for providing the Project Manager with a sufficient number of engineers and construction technicians to adequately and properly supervise and inspect the construction operations. The personnel furnished will have such education and experience, which, together with instruction, training, or direction by the Project Manager, will qualify them for the proper performance of the inspection or other duties assigned to them. It is the responsibility of the Project Manager to assign and utilize such personnel effectively and economically to obtain completed work of good quality and meeting the requirements of the plans and specifications.

**102.15 SUBCONTRACTS****Subcontract Request And Approval**

All subcontracts are subject to the requirements of *SSHC Subsection 108.01*, and FHWA 1273 (when included in the contract documents), and approval of contracting authority before they are recognized as valid. Subcontracts are required for independent trucking companies when hauling is covered by the provisions of Davis-Bacon wages (*Construction Manual 102.26*). Field forces shall not allow work to proceed without prior approval of the District Construction Engineer or District Engineer. Contractors are expected to make their application for subcontractor approval sufficiently in advance to allow time for processing and approval. On rare occasions, this may not be possible. Under these circumstances, a Project Manager may provide verbal approval provided the contractor has submitted a written application for approval of the subcontract. **If the contract has a DBE goal on it, you shouldn't assume the DBE subcontract has been approved just because their name appears in the subcontract area. One way to tell is to open up the subcontract record. If no approval date has been entered, the subcontract has not been approved.**

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**A. Contractor's Requirements**

The prime contractor must initiate a letter requesting to sublet items in the contract. This letter must be sent to the Construction Engineer and shall include the following information:

1. Subcontractor's name, mailing address, and telephone number.
2. Prime contractor's identification number (used on employer's quarterly federal tax return, U.S. Treasury Department Form 941).
3. A check off indicating whether or not the subcontractor is registered with the Division of Labor.
4. Estimated starting and completion dates of the subcontractor's work.
5. Items to be subcontracted with descriptions, quantities, unit prices, and amounts of non-specialty and/or specialty items. Unit prices shown must be the contract unit prices except when "labor only" or "place only" items are subcontracted. In such cases, indicate that the "item unit price" is approximate.

When a subcontracted item is used to satisfy a DBE goal, the amount paid to a DBE must be shown and verified with signatures of the prime contractor and the subcontractor. These signatures will document the agreement for payment between a prime contractor and their subcontractor and eliminate the need for a copy of a DBE subcontract/agreement. Note the additional guidelines on the administration of DBE subcontracts that follow.

6. It has been common practice for subcontractors to include appropriate mobilization costs in their unit bid prices. Prime contractors may have encouraged this practice. However, adjustments in unit prices due to overruns or underruns will have to meet the test of "significant change".

To reduce the risk resulting from changes in quantities which are not subject to price renegotiation, appropriate use of the mobilization item for subcontractors is encouraged. On all subcontract requests, mobilization must be listed for the item even if the dollar amount listed/subcontracted is zero.

7. The Subcontract Request and Approval letter shall include the following statement: ***"It is clearly understood by both the prime contractor and the subcontractor that all terms of the prime contract shall apply."*** When "Required Contract Provisions" (Form FHWA-1273) are part of the contract documents, the prime contractor is responsible to see that a copy of this form is physically attached to the subcontractor's copy of all subcontracts. The prime contractor is responsible for fulfilling terms of the contract, including construction work completed by approved subcontractors, plus completing all required forms or reports. Refer to *SSHC Subsection 108.01* for requirements and limitations on contract subletting.

B. Project Manager Involvement

If a Subcontract Request is received by the Project Manager, it should be forwarded immediately to the Construction Division.

The Project Manager is responsible to make sure a subcontractor performs the kinds of work described in the approved subcontract.

Occasionally, contractors may have to rent additional equipment and hire extra employees to complete their work. However, when the entire crew and equipment of another contractor is used to complete the work, the prime contractor is violating the intent of *SSHC Subsection 108.01* and is considered brokering a project. If the District Engineer or the Project Manager observe work performed by anyone other than the approved subcontractors, the Construction Division should be notified. Assistance will be provided to investigate the circumstances.

At the preconstruction conference, it will be beneficial to discuss methods of keeping subcontractors informed of the work status. Although the prime contractor is responsible to make progress payments to a subcontractor, numerous incidents in the past have indicated a lack of timely progress payments from the prime contractor to the subcontractor. Subcontractors may review a copy of the "Contract Construction Progress Estimate" in the District office.

C. Field Approval of Subcontract Work

The **District Engineers** can approve a subcontract request for work up to a maximum amount of \$50,000 for each occasion. This is done on DR Form 42, "Field Approval of Subcontract Work."

@

There are some specific items that need to be kept in mind at all times when considering a request of the prime contractor to have certain work performed by subcontract. These are as follows:

1. The contractor being considered to do the subcontract work must have been approved by the Department to perform as a subcontractor. A contractor is considered approved if he/she is prequalified to bid work; or is presently a prime contractor on a current project; or is an approved subcontractor on a current project; or has performed subcontract work in the past under the same company name. This information is available on CICS-3.
2. The subcontractor being considered must have current insurance. This information is available on CICS-3.
3. The aggregate total of all work to be subcontracted cannot exceed 70 percent of the contract amount.

If you are not able to determine the status of any of the above or have a question concerning the completion of the form, please contact Steve Bartos or Sharron Magnuson (402-479-4455) in the Construction Division.

### D. Exemptions from Subcontract Requirements

The following items of work may be exempted from the normal subcontracting requirements: (It should be noted, however, that these exemptions do not prohibit the contractor from executing a subcontract if he/she chooses to do so.)

#### Materials

1. Small amounts of asphaltic concrete. When small amounts of material are needed to complete the work, such as for wedges at bridge ends, tying into existing surfaces, etc., the contractor will be permitted to obtain asphaltic material (and placement) from another contractor's portable (or commercial) plant without the need for a subcontract.
2. Tack or prime oil. When small quantities and/or irregular areas are involved, the contractor may obtain this material from another contractor without the need for a subcontract. This exemption in no way relieves the contractor from furnishing material which meets the requirements of the specifications.

#### Equipment

1. Tree spading
2. Concrete pumping
3. Bump grinding. Equipment used for corrective grinding on asphaltic or portland cement concrete pavement may be hired without the need for a

subcontract. A subcontract is still required for any anticipated milling or grinding on a project.

4. Fertilizer spreading
5. Unanticipated horizontal boring
6. Sawing loop detectors
7. Profilograph. In emergency situations only, the contractor may employ another contractor or company without the need for a subcontract. In those cases where a contractor elects not to perform the surface testing himself/herself on a regular basis, a subcontract will be required.

### Services

1. Plumbing. A subcontract will not be required for miscellaneous plumbing services (e.g., hook-ups, tap-ins.)
2. Sprinkler system work. A subcontract will not be required for those situations where minor repairs or adjustments to existing sprinkler systems are required. A subcontract is still required for the installation of new equipment.
3. Dewatering and Well Drilling. No subcontract will be required for this work. Pre-watering, however, is still subject to the normal subcontracting requirements. (Permit requirements still apply.)
4. Engineering and Testing. Work performed by an outside engineering firm, such as for the relocation of section corners or conducting a mixer performance test, will not require the need for a subcontract.

Other miscellaneous items of work may also be considered for exemption from the normal subcontracting requirements. Please contact the Construction Division if you have an item of work which you think may be eligible.

Regardless of whether or not work is exempted from the normal subcontracting procedures, contractors should be reminded that they are still responsible to see that all insurance and safety requirements are being met.

The work of producing and hauling materials by any party other than the contractor may, or may not, be considered as subcontracting, depending upon the classification and ownership of the materials and/or trucks used in hauling the materials. The work of hauling and/or producing materials under any of the conditions specified below shall not be considered as subcontracting.

1. The production of materials from recognized commercial pits or plants.
2. The hauling of materials from recognized commercial pits or plants in trucks owned or operated by the owner of the pit or plant.



3. Any hauling of materials by a recognized commercial hauling company.
4. Any bona fide lease agreement between the contractor and the truck owner.

A recognized commercial pit or plant shall be considered to include any pit or plant which was producing or processing materials for sale prior to the date of the award of the contract.

The term "recognized commercial hauling company" shall include any common or contract carrier who has obtained an "RC" permit to operate as such.

To determine if a barricade or signing service company is doing work requiring subcontracting approval, the following guidelines will be used.

If the barricade or signing service company only provides and delivers the materials to the project site, he/she is considered to be a material supplier and a subcontracting approval is therefore not required. This has been interpreted to also include the work of replacement of batteries, lights, etc., on a routine basis. If, however, in addition to the above, the barricade or sign service company also performs any work of installation, maintenance, or removal and salvaging of signs, posts, fasteners, etc., on the project site, subcontracting approval is required.

In the event a prime contractor elects not to subcontract but to "carry the workers on the payroll", the question will arise that an unauthorized subcontract may actually exist. The Project manager should then perform the following checks:

1. Check the prime contractor's payrolls to determine if the workers in question and their supervisor(s) are included on his/her payroll, except for those men working for and listed on an authorized subcontractor's payroll.
2. Request to see, on a random basis and prior to distribution, the payroll checks of the workers in question who should be included on the prime contractor's payroll to determine if the checks are drawn against the prime contractor's account. (This could be done by a direct request to the prime contractor or by requesting Department of Roads' auditors to check on this.)
3. Request a copy of the lease agreement on equipment to ascertain that compensation is on a time period basis rather than the amount of work accomplished.
4. Check material supplier invoices or billings to ensure that the prime contractor is or will make payment for the materials used in the work in question.

If all the above conditions are satisfied, it can be assumed that an unauthorized subcontract does not exist. However, if any or all of the above conditions are not

satisfied, the matter should be immediately brought to the attention of the District Construction Engineer for further handling, and the prime contractor should be immediately notified of the unsatisfied condition or conditions.

The conditions referenced above can only be met concurrently or after work on the project has started. A condition may arise where work has been performed prior to approval of a subcontract, thereby making such work ineligible for payment. It is, therefore, vital that in addition to a discussion of subcontracting requirements at the preconstruction conference, the contractor be informed that the above mentioned checks will be made in the event that he/she elects to place the workers on the payroll rather than subcontract.

## **102.16            DETOUR REPORT**

During the construction season, detour and shoofly maps are prepared every month to show roads closed for construction or under construction but open to traffic with restrictions. You should forward information for these maps to the Communication Division via Lotus notes by the 20th of each month.

The District Engineer or his/her representative is responsible for identifying when project work will begin and end, restrictions in vertical and horizontal clearance through the work zone, and other information identified on the Detour Report. *It is extremely important that the information provided be current and accurately represent all traffic restrictions and detours in effect.* This information should be reported as soon as the construction schedule is known so the information is available for Motor Carriers when applying for truck permits.

## **102.17            CONTROL NUMBERS AND CONTRACT NUMBERS**

DOR-OI 10-2 requires that, with the exception of letters for the Governor's signature, correspondence relating to a specific highway project will include the project number, location, and control number.

## **102.18            PROJECT DOCUMENTS DISPOSITION**

### **Contract Compliance Review**

FHWA Form 86 Case File of review to determine compliance with equal employment opportunity and affirmative action contract requirements. Kept in EEO for one year from the compliance review, then sent to Archives. Dispose of after three years of receipt in Archives.

### **Contract Payrolls**

Salaries and wages paid to individual employees of contracting firm that receives low bid awards. In District Construction Office for varying lengths of time depending on FHWA. Stored on the Hill for three years. Dispose of three years after FHWA has paid off.

### **Contract Records**

Including the following: prequalifying prospective bidders, qualifying low bidders, advertising of bids, engineer's estimates, awards of contract and concurrences, agreement estimates, anti-collusion, certifications for force account construction, award and execution correspondence, letting information (such as plan orders, etc.), and any similar records considered necessary to document the contract. Retain two years plus current year in Contracts Office – to Archives – microfilm annually and destroy original, security microfilm, transfer to security storage; dispose of after 25 years.

## **103 -- PRECONSTRUCTION**

### **103.00 PRECONSTRUCTION**

#### **103.01 PRECONSTRUCTION CONFERENCE**

As soon as practical after a contract is awarded, the Project Manager will arrange a preconstruction conference with the contractor. The number of people attending this meeting will depend upon the complexity of the job. Usually it includes:

- Project Manager and assistants in charge of the project
- District Engineer
- District Construction Engineer/Assistant DCE
- Design Engineer
- Prime contractor
- Subcontractors (have prime invite them)
- Utility and railroad companies
- Local government (city and county) when associated with project

The following agencies may, on certain projects, be invited:

- Federal Highway Administration division office
- Law enforcement - highway patrol, sheriff, or city police
- Construction Office
- Minority Business Office

The conference is usually conducted by the Project Manager. During introductions by the Project Manager, a form for names, addresses, and phone numbers of those present should be circulated. Minutes of the meeting should also be kept by the Project Manager and copies sent to all interested parties.

The purpose of the conference is to discuss:

- Safety of employees and the public (*SSHC Subsection 107.07*).
- The project plans and specifications.
- Unusual conditions and constructability.

- Utility requirements (*SSHC Subsection 105.06*).
- Erosion Control Plans
- Contractor's plan and schedule of operation (*SSHC Subsection 108.07*).
- Type and adequacy of equipment.
- No materials are to be incorporated in the project until approved by the PM. All electrical materials must be approved by the Construction Division before any electrical work begins.
- Material Suppliers
- Sources of labor and labor requirements.
- Maintenance of traffic and business access.
- Other pertinent items that will result in a better job understanding.
- Partnering opportunities.

#### **103.02 ADMINISTRATION DETAILS**

Before discussing any project details, Subsections 103.00 to 103.61 of the *Construction Manual* may be distributed to the contractor and subcontractors at the Project Manager's option.

Administrative issues to be discussed at the preconstruction conference include:

##### **A. Change Orders**

Before commencing any work not covered by the contract, the contractor and the Project Manager must agree on the price or prices to be paid for the work (or the method used to determine them). Extra work performed before this agreement is reached cannot be considered for payment. The basis of payment for the cost of extra work follows four general categories:

- Contract unit prices
- Agreed unit prices
- Agreed total prices
- Force account

On force account work, the contractor is required to prepare payrolls and invoices, in duplicate, for labor, equipment and material furnished, using a "Force Account Agreement" (DR Form 58). This form shall be signed by the inspector and contractor's representative at the end of each day's work. Both the contractor and inspector will retain a copy.

##### **B. Contract Documents**

Contractors must see that copies of plans, specifications, and special provisions are available at all times to their representatives on the project.

Plan revisions will be mailed to the contractor as soon as they are issued. Contractors will be responsible for keeping their field representatives informed and supplied with such revisions. If contractors feel such revisions require extra work, they should immediately advise the Project Manager.

C. Wage Rates (Federal Aid Projects)

All wages paid must conform to wage and hour provisions prescribed in the contract. Crafts must be listed exactly as shown in the wage decision. Crafts not listed but needed shall be requested by the contractor through the Project Manager. Required payrolls must be submitted weekly and within seven days after the last day covered by the payroll.

It is suggested that the prime contractor collect, sign, and submit all payrolls of approved subcontractors, as a group, to the Project Manager.

The Project Manager may withhold progress estimates if payrolls are more than two weeks behind schedule.

D. Postings

The contractor shall be responsible for erecting and maintaining required postings as outlined in *Construction Manual* Subsections 103.21 to 103.24.

E. Stockpiled Material

If contractors want payment for stockpiled material, they should provide receipted bills showing the actual cost of the material stockpiled. For payment of stockpiled material, refer to *Construction Manual* 105.06.

F. All plants shall be labeled.

The information on each plant's label shall described the plant's:

- (1) Botanical genus.
- (2) Species.
- (3) Common name.
- (4) Size or age.

Legible labels shall be attached by the nursery grower to individual plants, boxes, bundles, bales, or other containers to insure that all species and varieties are identified.

G. Subcontracting

1. On all projects, prime contractors must submit their subcontract requests to the Construction Division in a letter or FAX.
2. The prime contractor is responsible for EEO and minimum wage compliance by all subcontractors.
3. All subcontractors must be approved by the Construction Division prior to the subcontractor starting work.
4. In the event a prime contractor elects not to subcontract and instead "carry the people on the payroll", the District Engineer and/or his/her authorized representative may perform the following checks:
  - a. Request to see on a random basis and before distributing the payroll checks of the people in question.
  - b. Request a copy of the lease agreement on equipment to verify that compensation is on a time period basis rather than the amount of work accomplished.
  - c. Check material supplier invoices or billings to insure that the prime contractor is or will make payment for the materials used in the work in question.
  - d. Check the prime contractor's payrolls to determine if the people in question and their supervisor(s) are included on the payrolls.

H. Project Supervision

The prime contractor shall submit in writing, to the Project Manager in charge, the name of an authorized representative on the project. Representative will be empowered to coordinate with all operations of subcontractors and negotiate with the Project Manager any questions concerning extra work, including extra work performed by a subcontractor. If the prime contractor wishes, this representative may be a subcontractor's employee that is present when work on the project is being performed.

I. Weekly Report of Working Days

@ When working time is being charged, the Project Manager will prepare and furnish the contractor the "Weekly Progress/Working Day Report" showing working days charged that week. Objections to days charged must be made in writing by the contractor within ten calendar days after receipt of the report. Objections based on delays due to unavailability of materials should be accompanied by copies of orders placed, acceptance of orders, and promised dates of delivery. All other objections must be accompanied with documentation of the reason for objection. The Project Manager will respond to the objection, indicating acceptance of the claim or reasons for rejection.

J. Right-of-Way

All parties are reminded that highway right-of-way abuts upon private property. Any infringement or trespassing upon such private property could cause damage that would become a liability to the person or organization involved. Maintaining good relations with the public (especially private property owners) is very important.

K. Safety

Contractor must comply with provisions of the Federal and State Occupational Safety and Health Acts.

L. Nebraska One Call Notification System shall be explained by the Project Manager. The Diggers Hotline of Nebraska phone number is 1-800-331-5666.

M. Contractor has 48 hours to file notice with county sheriff when burial sites are discovered.

N. Water Pollution & Wetlands

The contractor's schedule and methods for control of water pollution and protection of wetlands should be reviewed. For more information, refer to Construction Manual Division 1100.

All disposal sites require NDR approval.

O. EEO Requirements (Federal Aid Projects)

1. Forms PR-1391, Manpower reports required. (Distribute sample form)

A. The Contractor (prime and subs) shall send two copies to State Contract Compliance Officer.

B. Submit by 10<sup>th</sup> of August.

@ C. Needed for the week of July 15<sup>th</sup> only.

D. If no minorities or women employed - explain why.

E. Required of subcontractors, also, with subcontract of \$10,000 or more.

2. All subcontract and purchase agreements must include E.E.O. provisions.

A. All sections of Form PR-1273 must be attached to these agreements.

3. Not allowed to maintain segregated facilities of any kind.

4. Must pay comparable wages.



5. Contractor must adopt an EEO policy statement.
  - A. Post it on job site and in home office.
  - B. Send it to outside referral sources.
6. Designate an E.E.O. Officer.
  - A. Should be in writing and signed by policy officer of the company.
  - B. Send the notice of designation to NDR project manager.
  - C. Post this designation where employees can see it.
  - D. E.E.O. Officer must be someone with authority.
7. Conduct E.E.O. meetings with supervisory personnel before the job starts.
  - A. Review all the requirements of the contract.
  - B. Meetings must be held at least every six months.
  - C. Document and keep records of these meetings. (Can be formal minutes or diary notes).
8. Disseminate E.E.O. policy to employees.
  - A. If done by meetings, document and record. (Diary Notes acceptable)
  - B. May be done by pamphlets or other handouts.

There is no set way of doing this. The contractor may use whatever system works best for the company. However, the company must be able to document that employees are told about E.E.O.
9. Put up E.E.O. posters.
  - A. Two required - Federal and State.
  - B. Must be at job site and home office.
10. When advertising for jobs, he/she must include the notation "An Equal Opportunity Employer". Should keep copies of ads.
  - A. When advertising, place ads in local commuting area of job site.

- B. Use newspapers and other media likely to yield minority and female applicants.
11. When hiring, the contractor should show some active recruitment in local commuting area of job site.
- A. Make personal recruitment visits to organizations, agencies, etc. in the commuting area of the job site.
  - B. Write letters of recruitment to organizations and agencies in the local commuting area.
  - C. Keep records of all recruitment activity (diary notes are acceptable for personal visits).
12. Must show that some attempt is made to analyze the labor market where the job is located.
- A. Determine number of minorities and women in the commuting area of job site.
  - B. Analyze staffing pattern of crew at job site.
  - C. Set up some type of goal or objective for utilizing minorities and women on that particular job. If minorities and women will not be utilized, be prepared to explain why. Keep records of this analysis activity.
13. Will need to show that personnel actions are reviewed by top management for discriminatory effects.
- A. If a minority or women is discharged at the job site, make sure that the home office knows about it and that the company E.E.O. Officer gives the facts surrounding that discharge.
  - B. If a minority or women is transferred or promoted, the E.E.O. Officer should know about it.
- We are not advocating that contractors establish a highly formal procedure for this, because in some cases, it would not be practical or feasible. However, it is the contractor's responsibility to show that this is being done regardless of the method used.
14. Must show some type of training activity. Must advise employees about training opportunities available and encourage minorities and females to participate.

A. Document progress of trainees.

When training is given on an informal basis, the contractor will need to show that it is given. Records of case histories should be kept, subject to being verified by interviewing the trainee involved. Keep records of all training activity.

15. Letters must be sent to known minority contractors regarding any subcontract work. Documentation must be kept on the efforts made to solicit minority businesses.

16. Keep records of the following:

A. Number of minority and women applicants referred and where they come from.

B. Number of minorities and women hired - if not hired, reasons why.

C. Number of minorities and women transferred, terminated, promoted, etc.

17. Identify minority and women employee files after hire.

Note: Each Federal-Aid project will stand by itself when being evaluated for affirmative action. In other words, affirmative action on one project will not satisfy the requirement of affirmative action on another project. The contractor should satisfy himself/herself that the foregoing actions are taken and that records are kept for each and every project under his/her control.

**103.03 PROJECT DETAILS**

A. On many projects it may be necessary for the Project Manager to prepare and present an enlarged plan or map for showing:

- Location.
- Terminal points.
- Type of construction involved.
- Special areas of concern, including installation of public utilities to be fenced or marked if hazardous or sensitive.
- Restrictions due to lack of right-of-way or defined by right-of-way agreements.
- Detours and staging of construction for traffic.

B. Contractor must present his/her detailed construction schedule, or else postpone preconstruction conference.

1. Starting Date \_\_\_\_\_ Completion Date \_\_\_\_\_

Any date before Notice to Proceed must be approved in writing by the **Construction Division.**

@

- 2. Staging Schedule and/or Sequence of Operation.
- 3. Items to be sublet and names of subcontractors.
- C. Sampling and material testing requirements shall be discussed.
- D. Contractor Insurance requirements shall be verified.
- E. Railroad Protective Insurance

The contractor must have appropriate insurance in force when working on the railroad right-of-way.

The Controller Division will enter the effective dates of railroad insurance policies in SiteManager. However, the Project Manager must, in the Key Dates area of SiteManager, record the date that construction started and the date when construction in the railroad right-of-way is complete. **Check to make sure that Railroad Protective coverage is in force.** If not, do not allow the contractor on the right-of-way and do give Controller Division (402-479-4631) a call so that they can verify that insurance has, in fact, not been received. When work has been completed on the railroad right-of-way, the same procedure should be used to record the ending date.

@

F. Utilities and Law Enforcement Attendance

At major project preconstruction meetings, attendance of utilities and law enforcement personnel is highly beneficial to all concerned. The Project Manager should expend extra effort to assure attendance or open communication with utilities and appropriate law enforcement agencies.

Relocation of utilities is of extreme interest to all concerned in the progress of the project. For safe control of traffic, the ability to discuss traffic control with both contractors and law enforcement could be highly beneficial. The State Patrol, local sheriff, or police should be invited to attend preconstruction meetings when appropriate. The State Patrol can be contacted through the State Patrol District Office charged with responsibility for the area of the project being discussed.

It is beneficial to discuss utilities relocation, project staging, and/or traffic control early in the meeting before more detailed and time consuming construction matters are approached. You may excuse utility companies early.

G. Plan and specification omissions must be discussed.

H. Traffic Control (PM shall present the NDOR Traffic Control Plan.)

In addition, the following must be verified:

1. Brand and model of barricade light proposed to be used are on the Approved Products List.
2. Maintaining spare parts on project.
3. Checking barricades and signs at frequent intervals daily.
4. Phone number of person to call at night if barricades, or signs or devices are down or not working.

Name and Number \_\_\_\_\_ - \_\_\_\_\_

Name and Number \_\_\_\_\_ - \_\_\_\_\_

5. Notify Project Manager before picking up signs and also at first notice of damaged or stolen signs.

I. Prompt Submittal of Certificates of Compliance, Certified Analysis etc. to insure payments.

J. Location of Field Laboratory and Field Offices

K. Subcontractors must be approved before they can begin working on project. We need to be notified when they are going to be working on project.

L. Contractor's Borrow Pits – Approval

M. Payrolls – Prime Contractor needs to check subcontractors

N. Welding on girders not allowed without written permission.

O. Labor, Payrolls, Wage Rates, Training & E.E.O.

E.E.O. Officer \_\_\_\_\_

Safety Officer \_\_\_\_\_

P. Extra Work Orders

Before commencing any work not covered by the contract, the contractor and the engineer must agree on the price or prices to be paid for the work. Extra work performed before this agreement cannot be considered for payment.

**103.04 ADDITIONAL TOPICS FOR DISCUSSION**

- Anticipated work starting dates.
- Clean up of cast-in-place concrete structures.
- Staging schedule.
- Falsework plans and falsework removal.
- Presentations by various utility representatives
- Please remind contractors at the preconstruction conference that they or their suppliers are required to furnish 2 (two) 2.0 m (6 foot) sample lengths of reinforcing bars whenever such samples are called for in the *Standard Specifications* or *Materials Sampling Guide*.
- Signing, barricades, pavement marking, warning lights, and other temporary traffic control devices according to:
  - ◆ Department responsibilities (*SSHC Sections 422 and 423; Subsections 104.05, 105.01, 107.07, and 107.14*).
  - ◆ Contractor responsibilities (*SSHC Sections 422 and 423; Subsection 104.05, 105.05, 107.07, and 107.14*).
  - ◆ Contractor's work plan (*SSHC Subsection 108.07*).
- Project Lighting (if applicable).
- Remind contractor when ordering piling, he/she must tell manufacturer to stamp the heat number on the piling. (*SSHC Subsection 703.02*)
- Presentation by county or city representatives.
- Names and chain of command for state or county forces assigned to project.
- Authority and duties of inspector. (*SSHC Subsection 105.05*)
- Assignment of contractor's personnel for:
  - ◆ Person responsible to maintain traffic control devices (24 hour call number). (*SSHC Subsection 422.01*).
  - ◆ Person authorized to make decisions and sign extra work orders, etc.
  - ◆ Project safety officer.
  - ◆ EEO officer.
  - ◆ Project supervisor (*SSHC Subsection 105.05*).
  - ◆ Disadvantaged business enterprise liaison officers.

- Discussion of items to be sublet, names of subcontractors, and commercially useful function of DBE subcontractors, suppliers, and manufacturers should be discussed.
- Construction staking requirements.
  - ◆ The contractor must avoid destroying stakes
  - ◆ The contractor must advise Department 48 hours in advance of requirement.
- Equipment to be used - contractor should identify equipment with greater than legal axle loads that is to be moved across bridges or pavements that will remain in place. Equipment with greater than legal axle loads (*SSHC Subsection 105.11*) must be either loaded on an appropriate trailer or specifically exempted. Requests for exemptions will be analyzed on a case-by-case basis by the Construction, Bridge, and Maintenance Divisions.
- Special notes on plans or proposals and special or unusual provisions that apply.
- Safety precautions and compliance with:
  - ◆ Posting of OSHA Form 200.
  - ◆ Public Convenience and Safety (*SSHC Subsection 107.07*).
- Contract quantity settlement.
- Frequency of estimate vouchers (normally once or twice each month).
- Covers on trucks hauling on highways when necessary.
- Specified working period.
- Contractor's submittal of work plans for:
  - ◆ Control of water pollution and erosion (*SSHC Sections 201, 204, and Division 800*).
  - ◆ Control of fugitive dust.
  - ◆ Compliance with storm water discharge requirements (*Construction Manual 1100.30*).
- Equal Employment Opportunity responsibilities for statement of compliance and required postings (*Construction Manual 102.23*).
- Statements by Federal Highway Administration and visiting Commission personnel.
- Pre-concreting conferences.
- Value engineering incentive proposals submitted by the contractor (*SSHC Subsection 104.03* and *Construction Manual 103.09*).

- Partnering Opportunities (*SSHC Section 113*)
  - ◆ Workshops/Training
  - ◆ Dispute resolution procedures
  - ◆ Meeting schedule/location

### **103.10 ONE CALL NOTIFICATION**

**It is the law; anyone who digs a hole, pushes a pipe through the ground, or even moves a stockpile of gravel must contact Diggers Hotline first. The Diggers Hotline phone number is 1-800-331-5666.**

#### **Fiber Optic Cable Buried on Railroad Right-of-Way**

##### **Railroad Points of Contact for Location of Fiber Optic Cable**

Burlington Northern Santa Fe Railway.....	800-533-2891
Nebraska Central Railroad Company.....	800-336-9193
Nebkota Railway.....	308-282-1550
Nebraska Northeastern Railway Company.....	402-748-3535
Nebraska Kansas Colorado Railnet.....	817-571-2356
Union Pacific Railroad.....	800-336-9193

Most railroad lines have fiber optic cables buried in the right-of-way.

The Union Pacific Railroad has an "800" number available 24 hours a day to determine if fiber optic cable is buried on their right-of-way.

The number is 1-800-336-9193. Anyone calling the "800" number will need to give the railroad milepost number to the operator.

When we have a construction project that may involve railroad right-of-way, a railroad special provision will be added to the bid proposal. The contractor will be required to call the appropriate "800" number before working on railroad right-of-way. The railroad milepost number will be included in the special provision.

Project Managers should confirm that the contractor knows how to get clearances.

### **103.11 UTILITIES AND RAILROAD REHABILITATION**

- A. General - Work by utility companies and railroads in making necessary rehabilitation of their facilities for our project construction will often require certain advance preparations by the Project Manager and cooperation with the firm during the progress of their work. In many cases it will be necessary that our right-of-way be defined by setting of stakes prior to beginning rehabilitation work. Grade stakes may be required at railroad crossings or in connection with pipe line or pole line work on the project. The firm involved will generally be responsible for furnishing their own stakes needed for the actual rehabilitation but will need basic information from which to work. Cooperation with these firms will assist in getting their facilities out of the way of our construction.
- B. Preventing Damage to Utility Properties - The Project Manager should document that proper precautions are taken to protect and prevent damage to the property



of railroads, underground or overhead utilities, and pipelines in connection with highway construction work.

No excavation will be permitted in the area of underground utility facilities until all such facilities have been located and identified to the satisfaction of all parties. The excavation must be accomplished with extreme care in order to avoid any possibility of damage to the utility facility.

- C. Beginning Rehabilitation - The utility firm will generally begin work shortly after they have been notified to proceed. The Project Manager should provide them with information regarding the contractor's schedule as soon as possible if the facilities will be a material delay to progress of the construction. This will allow the firm to schedule rehabilitation work in an order of priority over other rehabilitation.

The Utilities Section of the Project Development Division tells the utility companies to advise the Project Manager by letter when they begin work, their tentative progress schedule, the name and address of their person in charge of the work. The Utilities Section of the Project Development Division also tells the utility company to furnish the Project Manager (and copy to utilities officer) with the completion date of the revision work. These letters are to be confirmed with appropriate field book entries.

- D. Inspecting Rehabilitation Work - Whenever an agreement provides that certain items of work are to be performed by a municipality, railroad, or utility, contact with the work should be maintained. If the work is to be done at state expense, the Project Manager shall keep a record of the work in sufficient detail to enable him/her to determine that the charges are justified and in accordance with the agreement. However, on most work of this nature, it would be difficult to keep a detailed record of each and every item without involving considerable expense. The Project Manager should consult with a representative of the organization involved and arrange to obtain information as the work progresses on the labor, equipment, and material used in the work and the material salvaged for future use.

In some cases, such as the placing of pipeline crossings, ditching and backfilling in the roadway area may require inspection to insure that compaction of the backfill is properly performed.

The Utilities Engineer no longer requires that you keep and submit a separate field notebook for all utility agreements. He/she does, however, ask that you notify him/her of the completion date for all utility work on your projects.

Notification should be made using the UTILDONE program available on VMS (as per Mark Ottemann's letter to District Construction Engineers on September 12, 1994).

Your inspection and documentation of utility rehabilitation work should be limited to the amount necessary to complete the information required when using the UTILDONE program.

**103.12**      **HAUL ROADS** (*SSHC Section 107*)

Prior to beginning any work, the contractor is required to meet with all involved local governmental entities and advise them of any intentions to use their local roads. The contractor shall be responsible for resolving claims concerning damage to local roads caused by his/her operation.

The contractor shall protect and indemnify the State and its representatives against any claims or liabilities arising from damage to local roads caused by the contractor's operation.

**103.20 CONTRACT ADMINISTRATION (SEPARATE HANDOUT FOR ALL CONTRACTORS)**

This section provides instructions and guidance to contractors and Project Managers for administration of construction contracts. Instructions include information on required reports or forms, equal employment opportunity, wage reports, training program, minority recruitment, and subcontracting. Copies of all NDR forms mentioned in the *Construction Manual* are included in *Appendix 1* -- NDR forms or *Appendix 2* -- Federal Forms) and can be copied as needed. (However, use stock forms when possible to cut reproduction costs.)

**103.21 NEBRASKA & FHWA FORMS & REPORTS - PREPARED BY CONTRACTOR**

Form No.	Title	Reference Section	Office Where Forms are Available
DR 298	Special Training Provision Monthly On-Job-Training Report	102.24	DBE Office
DR 439	EEO Contractor's Self-Analysis	102.23	DBE Office
FHWA-1391	Annual EEO Report (July)	102.23	DBE Office
FHWA-47	Statement of Material & Labor	102.25	Construction
WH 348	Statement of Compliance	102.25	District Const. Office
Standard Form 1444	Request for Authorization, Additional Classification and Rate	102.26	Construction

**Postings**

At the preconstruction conference, the Project Manager will supply copies of the posters listed below:

**a. Federal-Aid Contracts**

Federal Poster - Equal Employment Opportunity is the Law  
State Poster - Equal Opportunity Commission  
WH-1420 - Your Rights under the Family and Medical Leave Act 1993  
WH-1462 - Notice: Employee Polygraph Protection Act  
FHWA-1022 - False Statements Notice  
FHWA-1495 - Wage Rate Information

b. State Funded Contracts

State Poster - Equal Opportunity Commission

WH-1420 - Your Rights under the Family and Medical Leave Act 1993

WH-1462 - Notice: Employee Polygraph Protection Act

USDOL-1088 - Your Rights - Federal Minimum Wage

Examples are included in *Appendix 2*. Additional copies, if needed, can be obtained from the Project Manager or the Construction Division (Mr. Dan Necas, 4453). In addition to postings noted above, a copy of the Policy Statement shall be posted.

All required site postings shall be in a location that is easily accessible to all employees. They may be fastened to a bulletin board, tool shed, or job office trailer and protected from weather by glass or clear plastic. Postings that become soiled, faded, or otherwise illegible should be replaced. More than one posting may be necessary if there are multiple locations where workers report for work. Such cases typically occur on complex or long projects involving several different crews and/or subcontractors.

**103.22 OCCUPATIONAL SAFETY AND HEALTH**

Occupational Safety and Health Act (OSHA) regulations (federal and state) apply to all construction projects. (Federal OSHA regulations are codified in *29 CFR, Sections 1910 and 1926*.) Contractors are responsible for compliance with OSHA regulations and shall maintain a safe work site. Therefore, contractors and their employees must be familiar with the health and safety requirements of the act.

- As an employer, contractors are required to keep employee occupational injury and illness records at the location where their employees usually report for work. The "Log and Summary of Occupational Injuries and Illnesses" (OSHA Form 200) must be completed within six days following a recordable occupational illness or injury. A copy of the completed form must be maintained at the work site. In addition, OSHA Form 200 is to be completed at the end of each calendar year and posted at job sites before February 1. Detailed instructions are printed on the back of each form.
- A poster entitled "Safety and Health Protection on the Job" must be displayed in a prominent place at all times.

Contractors can obtain OSHA forms and posters from:

Regional Director-OSHA  
Federal Office Building  
Lincoln

or      Administrative Safety & Labor Standards  
            Division  
            Department of Labor  
            Lincoln

**103.23**      **EQUAL EMPLOYMENT OPPORTUNITY (EEO)** (*SSHC Subsection 102.09*)

**A**      **Contractor's Responsibility**

Contractors and their staff who are authorized to hire, supervise, promote, and discharge employees or recommend such action must understand the requirements of applicable EEO specifications including "Required Contract Provision", Form FHWA 1273, and Executive Order 11246 in the Special Provisions.

Policy Statement and Compliance Letter

All contractors must formally adopt an Equal Employment Opportunity Policy Statement which:

- Prohibits discrimination of any kind or for any reason.
- Encourages employment of minorities and women.

Examples of minimum acceptable policy statements for both federal and nonfederal aid projects appear in *Appendix 2*. When posted, these policy statements must be on company letterhead.

A sample of an EEO proof of compliance letter, which lists the EEO requirements and postings, is in *Appendix 2*. Written proof of compliance will not be required for material suppliers, manufacturers, truckers, and surveyors.

**B.**      **Project Manager Involvement**

Responsibility for complying with EEO requirements is solely the contractor's. However, the Project Manager has oversight involvement to ensure that contractors comply with these requirements and that proper forms and/or letters have been received. When a contractor is not in compliance with EEO requirements, the Project Manager shall advise the contractor, in writing, and make a diary entry, that continued negligence in EEO requirements will result in the withholding of progress payments. **The Project Manager will also inform the Contract Compliance Officer of the contractor's noncompliance. The Contract Compliance Officer will investigate all reports of noncompliance and make a recommendation as to what the contractor must do to be in compliance.** If the contractor still fails to take corrective action relative to EEO noncompliance, the Project Manager may, with concurrence from the Construction Engineer (Lincoln), suspend work. All suspensions shall be documented in writing and sent to the contractor.

1. Contracts and Subcontracts Over \$10,000
  - a. Site Inspections

As soon as a major part of contract work is underway, an EEO project site inspection must be completed by the EEO Office relative to work in progress. A representative of each affected company shall be present and accompany the inspector during an EEO inspection.

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b. Training Program

Contractor training special provisions requires the contractor to have a formal employee training program. During an EEO inspection, the training program should also be checked.

c. Required Posting

During the inspection, all required postings should be checked. Project Managers shall check to see that correct names and addresses appear in the boxes on posters entitled "Wage Rate Information Federal-Aid Highway Project" (FHWA-1495) and "Notice" (FHWA-1022). Copies of these forms are provided in *Appendix 2*.

d. Reports

- "Federal-Aid Highway Construction Contractors Annual EEO Report"

Contractors and subcontractors (with contracts over \$10,000) shall provide the Contract Compliance Officer in the Construction Division two copies of "Federal-Aid Highway Construction Contractors Annual EEO Report" (FHWA-1391). A blank copy is provided in *Appendix 2*. **1391's can also be obtained off the NDOR website under Contractor's Corner – DBE Information.**

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These forms are to be completed for all federal-aid contracts for which work was performed **during the week of July 15<sup>th</sup>**.

NOTE: If Prime or Sub submit the 1391 to the Project Manager, return them and tell the Prime or Sub that the 1391's must be submitted directly to the Contract Compliance Officer to avoid double counting.

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A copy of Form FHWA-1391 is provided in *Appendix 2*. Copies can be ordered from:

Construction Division  
Nebraska Department of Roads  
1500 Hwy. 2  
P.O. Box 94759  
Lincoln, Nebraska 68509-4759

Instructions for completing this form are provided by the Construction Division on a yearly basis. Contractors are cautioned to be sure they have the CURRENT instructions. If there is any question about revision dates, contact the Construction Division in Lincoln (402) 479-4514.

Distribution: Route one copy to the Construction Division, Lincoln, and retain one copy in project file.

2. Construction Contracts and Subcontracts \$10,000 and Less

An EEO project site inspection is not necessary for these construction contracts.

3. Maintenance Contracts

On maintenance contracts, an EEO project site inspection is not necessary regardless of contracted amount.

4. Complaints of EEO Violations

The Project Manager will report all complaints of EEO violations to the Construction Division's EEO section for investigation.

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**103.24 TRAINING & TRAINEE PROGRAMS**

**Contractor's Responsibility**

1. Training Program

All prime contractors and subcontractors (with contracts over \$10,000) must develop, or have, an approved training program in accordance with the *Specifications*. The Contracts Office (EEO Section) approves these programs and can be contacted [(402) 479-4514] for answers to questions or assistance in developing an approved program.

Shortly after a contract is awarded, the Contracts Office will verify that the successful bidder has an approved training program on file. If not, the contractor will be advised that a formal training program must be approved by the Contracts Office within 30 days. Failure to submit a training program will be considered noncompliance with the *Specifications*. A contractor who does not comply may be refused bidding proposals for future lettings until requirements for a training program are met. (Typically, contractors adopt and use the Associated General Contractors' (AGC) training program. It is acceptable in Nebraska.)

An acceptable training program shall include information covering:

- Method of trainee recruitment.
- Crafts to be trained and upgraded.
- Number of expected trainees per year and what part of total will be female, minority, and disadvantaged.
- Training procedures, including approximate training time.
- Commitment for keeping up-to-date records to summarize total time each trainee is trained in each classification.
- Proposed use of trainee upon successful completion of training program and commitment to issue a certificate or statement of successful completion of training.

- Number of total work force (Nebraska operation).

2. Trainee Program

Contractors responsible for fulfillment of reimbursable training hours on federal-aid projects must obtain written approval from the Construction Division's EEO Section for each trainee prior to the trainee's enrollment in the program.

- a. Contractors shall submit their written requests for trainee approval to the Construction Division, attention EEO Section, with a copy to the Project Manager. Requests must include job classification, number of hours to be fulfilled, trainee name, race, sex, address, phone number, and social security number.
- b. If additional trainees or replacements for terminated trainees are needed, crafts and classifications must be approved by the Project Manager with a follow-up letter to the EEO Section. Hiring of non-minority trainees to replace semi-skilled or skilled workers may not be used to establish eligibility for federal reimbursement since the trainee program is designated for members of female, minority, or disadvantaged groups.

Note: Changes to the number or class of trainees initially requested must be submitted and pre-approved by the Construction Division.

c. Trainee Reimbursement

In order to qualify for trainee reimbursement:

- Trainees must be registered in the appropriate program.
- Wage determination decisions of the Davis-Bacon Act are used as the basic rate on any project involving federal aid.
- Minimum starting wage will be 60 percent of the rate established for a craft or classification for the first half of a training period. This percentage will change to 75 percent for the third quarter, and 90 percent for the last quarter. Certified payrolls shall specifically identify each individual in trainee status, their base rate, and applicable reduction percentage.
- After a trainee has completed his/her training program, the trainee's base wage rate shall be increased to Davis-Bacon's wage determination for that job classification.



- 3. Trainee Recruitment

The contractor's trainee program outline must include method of recruitment.

Occasionally, it may be impossible to recruit members of minority groups due to minority unavailability at the project location. When this occurs, contractors must have documented their efforts in attempting to recruit minorities. The Project Manager and the Construction Division EEO Section should be informed of recruitment problems. Recruitment which results in an inadequate number of minority trainees does not eliminate a contractor's responsibility to fulfill the requirements of the "Trainee Reimbursement bid item.

If minority recruitment results in less than the required number of qualified individuals, the contractor shall then recruit non-minorities or use some of their own employees for the training program. Any non-minority substitution requires preapproval of the Project Manager and the Construction Division (EEO Section).

4. Reports

- "Reimbursable Trainee Training Record"

Each month the contractor must submit a DR Form 298 "Special Training Provision Monthly On-Job-Training Report."

- If no trainees are employed during the early phase of work, the contractor shall so advise the Project Manager and the Construction Division (EEO Section).

**Project Manager's Involvement**

1. Training Program

Project Managers shall have a copy of the approved training program. Copies may be obtained from the contractor or the Construction Division (EEO Section). Since training programs have been standardized by AGC, any preapproved program can be used as a model for evaluating a particular contractor's program during inspection.

For convenience, training program inspections will be made concurrently with EEO inspections. An inspection will include interviews with individuals enrolled in the training program. Also, the contractor's training program will be spot-checked. A copy of the contractor's program shall be available for review.

The Construction Division shall be notified if:

- A contractor does not have a training program.
- The contractor's program is deemed inadequate.

- Other training deficiencies are noted during the inspection.

It is the Construction Division's responsibility to work with the Project Manager and contractor to rectify noted discrepancies. If after a reasonable time a contractor fails to meet training requirements or ignores requests for corrective actions, the Construction Division, working through the Project Manager, may request suspension of work until corrective action(s) are implemented. Suspending work will be used as a last resort. However, the offending contractor's bidding ability on future contracts could be restricted until such time that compliance with training is demonstrated.

2. Wage Rates

Wage rate interviews may also be completed during the EEO inspection.

- Interviews should be conducted a minimum of every six months for each contractor and subcontractor.
- Projects whose duration is less than six months should have one interview with each contractor and subcontractor.
- Each District must keep interviews on file for three years.

3. Reports

a. "Reimbursable Trainee Training Record"

Shortly after a letting, the Contracts Office (EEO Section) will prepare and forward a letter listing projects that require a "Special Training Provision Monthly On-Job-Training Report" (Form 298) along with a supply of these forms. **Additional forms can be obtained off of the NDOR website under Contractor's Corner – DBE Information.**

Monthly, the contractor will be sending one completed Form 298 for each trainee employee until training for that employee is completed or terminated. The Project Manager will review, initial, copy, and forward the original Form 298 to the Construction Division, EEO Section. The copy will be placed and retained in the project file.

- b. Occasionally, contractors train employees on contracts that do not have a line number for trainee reimbursement. In this case, Project Managers are not responsible for monitoring that program and Form 298 is not required.

**103.25 WAGES AND EMPLOYMENT**

- A. In order to comply with the requirements of the Freedom of Information Act regarding protection of personal privacy, all requests for access to certified payroll records shall be forwarded to the Construction Division. Requests must be in writing, and if not made on behalf of an individual, the request must indicate the name of the organization making the request.
- B. Access to or copies of payrolls shall not be permitted until authorization has been received from the Construction Division. (Adherence to these procedures during investigation by the Department of Labor or FHWA is not required.)

- C. All contracts for highway construction work have certain requirements on wages and conditions of employment. These requirements vary between Federal-aid and State-funded contracts.
- D. Some laws or regulations provide specific requirements in the contract documents, while others may be cited by reference. Section 107 of the Standard Specifications requires compliance with all laws and applicable regulations, and accordingly, compliance is required whether or not specific listing or reference is made in the contract.
- E. Labor Laws Cited
  - 1. Section 107 of the Specifications calls attention to certain State laws and provides that additional regulations and restrictions will be set forth in the special provisions in the contract. These additional regulations are normally included in the required provisions or the special provisions. The enforcement of contract provisions such as these cannot be ignored. However, the inspection, reporting, and enforcement requirements vary between contracts. A basic knowledge of the laws and the exercise of good judgement and diplomacy are required when any enforcement action is taken. Project Managers are advised to contact the Construction Division for decisions on labor complaints for which answers are not readily available. Knowledge concerning these problems is to be handled in confidence, and complete records are a necessity. Certain standard requirements are made a part of all contract provisions. These are as follows:
    - a. A minimum employment age of sixteen years and the restricting of employment of persons whose age or physical condition is such as to make his/her employment dangerous to themselves or others.
    - b. A provision prohibiting the employment of anyone currently serving sentence to a penal or correction institution (this shall not be interpreted to prohibit the use of persons on a bona fide work release program).
    - c. A provision prohibiting discrimination on any grounds against workers who are qualified for the work by training or experience, and who are not disqualified by Paragraphs a. and b.

2. These regulations are required by State law, but often are duplicated or made more restrictive by Federal laws.
3. *SSHC Section 110* refers to State law restrictions of hours and labor. This would include the State Fair Labor Standards Law which is cited in the Special Provisions in each State-funded project and requires the contractors to comply with such a scale of wages and conditions of employment as are paid and maintained by at least 50 percent of the contractors in the same business or field of endeavor. Contracts for State-funded projects do not contain an established scale of minimum wage rates; however, no wages paid can be below the minimum wage of the Fair Labor Standards Act. Questions which arise concerning the payment of proper rate should be referred to the District Office, or to the Construction Division (Mr. Dan Necas, 4453).

**103.26 DAVIS-BACON AND RELATED ACTS REQUIREMENTS (Payrolls)**

A. General Information

1. On selected contracts containing Federal-aid funds, Federal laws (Davis-Bacon Act) and regulations require the Secretary of Labor to issue a determination for minimum wage schedules to be included in each of these Federal-aid contracts. Special instructions to the contractors are issued by the Construction Engineer prior to the construction operations. A copy of the current instructions are available in *Appendix 2* (FHWA Forms) under Form WH 348, "STATEMENT OF COMPLIANCE."
2. Project Managers or their assistants shall conduct wage rate interviews (Report of Labor Compliance Interviews DR Form 98) on the selected Federal-aid projects in order to determine whether contractors and subcontractors are properly classifying employees and are complying with the minimum wage rate requirements of the Special Provisions.
3. The Project Manager is to make systematic spot interviews with the contractor's or subcontractor's employees when he/she feels it is necessary. As a matter of courtesy, the contractor's superintendent or foreman should be advised that personal interviews with employees will be made. The Project Manager shall select the employees to be interviewed and these should be of different payroll classifications if possible.
4. The number of different employees and classifications to be interviewed shall be at the discretion of the Project Manager to ascertain compliance with these requirements. If violations are discovered, the frequency and number to be interviewed shall be increased and corrective action taken until such violations have been eliminated. Depending on the size of the crews, an attempt should be made to avoid repeating interviews with the same individuals.

5. Employees should be privately interviewed; that is, without the presence of other employees or their supervisor. The employee being interviewed must not be informed of wage rates reported by fellow employees, but is entitled to know the minimum rates specified for his/her classification.
6. Any apparent violations of labor classification or wage rates are to be called to the attention of and discussed with the contractor's or subcontractor's superintendent. In such cases, the Project Manager and the superintendent, considering all the facts and conditions involved, must reach agreement on the proper labor classification. The wage rate paid must be at least the minimum specified for that classification. If a violation in either proper classification or minimum specified wage rate is involved, the contractor or subcontractor shall be directed to correct the classification and/or wage rate being paid and to make any retroactive payment necessary to provide strict compliance with the requirements.
7. In all cases of apparent violations of proper classification or minimum wage rates paid, and the Project Manager and superintendent having reached agreement on the proper classification or minimum wage rate specified, the employee shall then be contacted and notified as to his/her proper classification and the minimum wage rate specified for that classification.
8. In unusual cases involving apparent violations, the Project Manager and the superintendent may not be able to agree on the proper classification of work performed by the employee. In such cases, the matter may be submitted to higher authority, through proper channels, for decision. The current Standard Labor Classifications and Descriptions for Highway Construction shall be used in determining the proper classifications. (See *Appendix 2, Form WH 348, "STATEMENT OF COMPLIANCE"*).
9. The interviews shall be recorded on DR Form 98, "Report of Labor Compliance Interviews" and transmitted to the District Engineer for review and distribution. The report should be submitted regularly, showing the interview information as found, indicating any apparent existing discrepancies. Information concerning the handling of such discrepancies shall be shown, by means of an appropriate note, on that report or in the subsequent report.
10. Any classification not covered by the wage determination included in the contract will require the Project Manager to initiate Standard Form 1444, "Request for Authorization of Additional Classification and Rate."
11. The Construction Division (**ext: 3830**) will supply each District Office with current applicable wage rates to be posted for each individual Federal-aid contract and labor and E.E.O. posters.
12. Regardless of the source of funds, highway construction is associated with interstate commerce and, therefore, is covered by the Federal Fair Labor Standards Act. It has specific requirements for payment of a

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minimum wage rate and time and one-half for overtime over 40 hours in a week, with certain supervisory or administrative employees exempted.

13. Contractors on selected Federal-aid contracts are permitted to employ trainees and apprentices that are paid below the wage decision included in the contract provided the following information is supplied:
  - a. Proof of certification by the Department of Transportation for programs other than Nebraska and Iowa A.G.C. training programs.
  - b. Proof of registration of trainee in said program.
  - c. Proof of the number of previous hours of training the employee has received.
  - d. The employees are listed as "trainees" on the payrolls.
14. The Nebraska and Iowa Associated General Contractors Manpower Development and Training Programs have been approved by the Department of Transportation.

B. Payrolls

1. On selected Federal-aid contracts, the contractor and each subcontractor are required to submit to the Project Manager a certified copy of each weekly payroll and Statement of Compliance - Form WH 348 or a contractor's form with identical wording. The payrolls and Statement of Compliance are to be submitted within seven days after the date the employees are paid. The Project Manager may withhold progress estimates until all delinquent payrolls, with attached Statement of Compliance, have been received.
2. Required Contract Provisions Federal-Aid Construction Contracts - Form FHWA 1273 requires us, as a contracting agency, to perform a certain amount of checking of the submitted payrolls to comply with our oversight responsibilities. The FIRST payroll received from any contractor or subcontractor should be THOROUGHLY checked. (The Project Manager may use some discretion in deferring this thorough check for several weeks, such as in the case when only a few employees appear during the first week or two of a project.) Random checking of all other payrolls is approved.

3. The Project Manager should check the payrolls for:
  - a. The employee's full name, mailing address, and Social Security number. (The employee's Social Security number need only appear on the first payroll on which his/her name appears. The employee's mailing address need only be shown on the first submitted payroll on which the employee's name appears, unless a change of mailing address necessitates a submittal to reflect the new address.)
  - b. Each classification, title, and equipment capacity rating must be verified to assure that they are the same (or recognizable abbreviation) as listed in the Contract Wage Rate Decision Schedule, with no deviations permitted.
  - c. Each employee's hourly rate must be verified and checked with a red pencil mark indicating that at least the minimum hourly rate and correct overtime rate has been paid for the listed classification.
  - d. All deductions other than the allowable ones are explained.
  - e. Payroll computation (with the exception of the electronic machine computations) shall be spot checked to verify accuracy.
  - f. Payrolls once transmitted to the Project Manager cannot be returned to the contractor for correction of errors. Photocopies of the payrolls may be made and appropriate notes placed on the copies to explain the error(s) to the contractor. The contractor must submit revised certified payrolls or other forms of applicable evidence which provides documentation of the correction(s).
  - g. The Project Manager is to retain all payrolls until notified by the Controller Division that they may be destroyed. When the payrolls are complete, the Project Manager is to send a letter to the Construction Division Final Review Section in Lincoln, indicating the date the last payroll was received.
4. Most subsequent payrolls will require only a very cursory review. The Project Manager is encouraged to consider such things as the length of the project and the number of errors encountered on the first thorough examination when determining how many additional thorough payroll checks are performed.
5. On DR Form 84, "Record of Contractor Payrolls Received," the Project Manager should pay particular attention to the column head "Date Received" and to the "Payrolls Completed (Date)". A delay in submittal of payrolls will negate payment of interest on retained monies until receipt by the Project Manager.

6. The contractor and subcontractor payrolls are to be retained until three years after the District Engineer is notified by Controller Division that the final vouchers have been submitted to the Federal Highway Administration.

(Each District should establish a central location for storing payrolls.)

C. Interpretation

1. The interpretation is taken from the U.S. Department of Labor Field Operations Handbook dated June 1, 1987. (A copy of this manual is available at each permanent field headquarters.)
2. Application of labor laws often becomes a matter of interpretation, such as may be involved in instances when furnishing materials must be classified as subcontracting and subject to highway contract labor regulations. This usually applies to labor involved in producing materials from local pits but is not necessarily limited to that operation. The following are examples of elementary rules that may be used in this determination. It is requested that these rules be followed in enforcing the minimum wage requirements of the Special Provisions.
  - a. The contract labor standards provisions are not normally applicable to employees of "established material suppliers" engaged in the production and delivery of aggregates or materials to the contractor, either to stockpiles or on the road. An "established material supplier" is normally considered to be an aggregate production plant, quarry, concrete plant, or asphalt plant which has been established for commercial production not making more than token amounts of sales to other Federal-aid projects.
  - b. When a contractor produces and hauls aggregates for his/her own use from a previously established pit or quarry from which he/she had been producing and selling aggregates immediately prior to the award of the contract, his/her production and hauling operations will be considered to be as an "established material supplier" and the minimum wage rates will not apply.
  - c. When a new pit or quarry is opened or production equipment is moved into a previously opened pit or quarry for the purpose of producing material for a specific contract, none of the operations will be considered to be commercial and the minimum wage rates and conditions of employment shall apply to all labor employed in producing and hauling the aggregate to the work.
  - d. The work of producing or loading material from a local pit shown in the plans, or from a source substituted by the contractor for a local pit shown in the plans, and the work of hauling materials from such sources is considered to be part of the work



contemplated in the contract. As such, the minimum wage rates shall apply to all operations performed by the contractor or his/her subcontractor in processing, loading, and hauling the materials.

- e. The minimum wage rate requirements do not apply to bona fide owner-operators of trucks who are independent contractors. The certified payrolls including the names of such owner-operators need not show hours worked nor rates allegedly paid, but only the notation "owner-operator".
- f. The contractor is required to pay the minimum wage rates to drivers which he/she employs to operate trucks which he/she owns or leases from another party.

D. Apprentices

- 1. The contractor is not required to submit the Standard Form 1444 "Request for Authorization of Classification and Rate" for apprentices if verification is received that the employee is registered in a bona fide apprenticeship program.

- E. Various outside agencies may request copies of payrolls under The Freedom of Information Act. The FHWA processes these requests. If you receive a request for copies of payrolls, have the person who is requesting a payroll contact the FHWA. The FHWA will request the payrolls from the Construction Division. The Construction Division will tell the PM to forward requested payrolls to the FHWA. The FHWA will remove any personal information such as name and Social Security Number before forwarding the information to the requesting agency.

**103.27 DISADVANTAGED BUSINESS ENTERPRISE (DBE) SUBCONTRACTOR**

A. Contract Award

On Federal-aid projects with predetermined **DBE participation** goals, all bidders will be required to submit a required DBE Participation Form (see bid proposal package) with their bid. This form identifies DBE subcontractors, suppliers, transporters, and/or manufacturers that will be used to satisfy the DBE goal. The DBE Participation Form shall also include work or items to be subcontracted, and dollar amount committed to each DBE.

Upon execution of a contract, the prime contractor becomes committed to those DBEs goals listed on the form. This commitment is therefore a contractual arrangement between the State and the prime contractor with the same enforcement as any other provision specified in the contract documents. A prime contractor is required to enter into a contractual arrangement with each DBE listed by formally executing a written subcontract agreement specifying the work to be performed and appropriate compensation for that work. This two-tier process, which contractually obligates the prime contractor to both the State and each participating DBE, formalizes implementation of all DBE contract provisions.

**The DBE** Office will review the low bidder's "Required DBE Participation Form" to assure that certified DBEs are being used.

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The successful bidder must **then** submit a letter **and copy of the DBE Subcontract** to the Construction Division to get subcontractors approved.

**B. Commercially Useful Function**

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(1) A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, you must evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

To meet commercially useful function requirements of the regulations and contract, the following statements are applicable:

- DBE firm must manage the work contracted. Management shall include scheduling work operations, ordering equipment and materials (if materials are part of the contract), preparing and submitting payrolls and all other required reports and forms, as well as hiring and firing employees, including supervisory employees.
- DBE shall perform work with employees normally employed by and under the DBE's control. In all instances, the DBE shall be responsible for payroll and labor compliance requirements concerning all workers under their control. DBEs may use other means to perform work on a limited basis when the contract requires specialized knowledge, skills, or equipment. A DBE may be allowed to augment their work force with personnel which normally work for another firm. If the request can be approved prior to commencing work.

NOTE: All arrangements must be presented in writing and pre-approved by the DBE Office.

- DBE must supervise daily operations of their portion of contracted work. The only two acceptable ways for a DBE to supervise daily operations are:
  - 1) The DBE owner may act as the superintendent and directly supervise work, or
  - 2) A skilled and knowledgeable superintendent employed and paid wages by the DBE must directly supervise that work.

If the latter is used, the DBE owner must be actively involved in making operational and managerial decisions of the firm. Basically, this means that all administrative functions shall be performed by personnel responsible to, or employed by, the DBE at facilities or locations under the DBE's control.

- DBEs shall supervise and perform contracted work with workers on their payroll and under their direct supervision. The DBE and the superintendent must, on a full-time basis, supervise and control contracted work. Supervision of contract work by personnel normally employed by another contractor or by personnel not under the DBE's control constitutes failure to perform a commercially useful function.

(Responsibilities include minimum requirements for DBE manufacturers, dealers, transportation services, and subcontractors.) DBE subcontractors that indicate work which will be performed by employees

@ of another firm or with leased equipment should be questioned. The DBE Office shall be notified in all cases where there is a question regarding "commercially useful function".

3. Partial Subcontract of an Item

It is not unusual for DBE subcontractors to be involved in only part of a contract item.

For conditions where a subcontract does not exist but a DBE firm is manufacturing, supplying, or trucking materials to the job site, this dollar value will not be used to determine the percent subcontracted as specified in the *Specifications*.

Inspection staff must monitor work performed and periodically inform the Project Manager as to which individuals and equipment actually worked so payrolls can be spot-checked.

C. Construction Period

@ The Project Manager and inspectors must review work subcontracted to DBE subcontractors to assure work is being performed and that DBEs are performing a commercially useful function. Where work is performed by any other contractor or with equipment not owned by the DBE, the inspector shall issue a noncompliance notice citing violation of *Supplemental Specifications for Specific Affirmative Action Responsibilities*. This noncompliance shall be immediately reported to the Project Manager, who will in turn immediately notify the DBE Office.

Prime contractors will be given credit toward the DBE contract goal only when a DBE performs a commercially useful function. The requirements for a commercially useful function are outlined in the previous section "Subcontract Approval."

@ A DBE may lease equipment consistent with standard industry practice provided a rental agreement specifying the terms of the lease arrangement is approved prior to a DBE starting work. If equipment is of a specialized nature, the lease may include an equipment operator. No credit will be given for the cost of equipment leased or rented from the prime contractor.

DBEs shall negotiate cost, arrange for delivery, and pay for materials and supplies required for their portion of the contract work. Invoices for materials shall be invoiced to the DBE firm and not to a prime contractor.

@ A prime contractor may occasionally find it necessary to ensure that payments are made to suppliers for materials used by subcontractors. When such a **joint check** payment arrangement is pre-approved by the **Highway Civil Rights Coordinator**, counting the cost of materials actually incorporated into the project by a DBE subcontractor toward DBE participation will be allowable provided the DBE:

- orders and schedules the delivery of materials, and
- is fully responsible for ensuring that materials meet Specifications.

@ **When the DBE office approves** such payments **to be** made by the prime contractor, payments must be made by preparing jointly endorsed checks signed by the DBE and supplier.

No credit shall be allowed toward the DBE goal for cost of materials placed by a DBE subcontractor when payment is made by deducting this payment from the prime contractor's payment to the DBE.

@ Project Managers must evaluate and document performance of the DBE's activity on all projects as part of the normal project contract compliance monitoring. On-site project monitoring by field personnel shall include employee assignments, equipment used, and supervision of the work. All irregularities must be documented in the field books and immediately reported to the prime contractor, and the **Contract Compliance Officer in the DBE Office**.

@ **Project Managers shall not allow a prime contractor or another contractor to perform work that has been committed to a DBE subcontractor without prior written approval from the DBE Office.**

@ In situations where a DBE subcontractor cannot (or is not) performing, the prime contractor must follow all steps described in *Supplemental Specification for Specific Affirmative Action Responsibilities*. Upon receipt of a signed statement from the DBE and documentation where the prime contractor will satisfy the goal with other items or DBEs, the Project Manager may recommend to the **DBE Office** that the commitment be waived and the required goal adjusted. The **DBE Office** must provide written approval of all substitutions before any changes in subcontracted work are performed.

#### D. Post Construction

@ Prime contractors shall submit a completed "Identification of DBE Goal Achievement" (DR Form 441) with the final project documents **to the DBE office**. The subcontractor submits DR Form 442 "Identification of Work Performed." Blank forms are provided in **Appendix 1 and at the website**. These forms certify the dollar amount paid to each DBE. **DBE Office** must compare the dollar amounts on Forms 441 and 442 to dollar amounts committed to a DBE on "Required DBE Participation Form." The prime contractor will be assessed a penalty by change order for failure to satisfy the DBE commitments. This penalty may be reduced when conditions described in

@

*Supplemental Specification for Affirmative Action Responsibilities are satisfied. Project Managers must include a written explanation describing situations, background, and findings which resulted in reductions or adjustments.*

Unique problems have been noted with the goals and variables of the DBE program. Documentation of any activity related to the program is important and must not be overlooked. Record all telephone or personal contacts noting time, place, and details.

The DR Form 440 Contractor EEO Compliance Record has been eliminated. These records are no longer to be maintained.

### **103.28 LEASE OF PROPERTY BEYOND THE HIGHWAY RIGHT-OF-WAY**

The NDR has found that it is more cost effective and quicker to have the contractor make most land use agreements for areas outside the highway right-of-way. This means borrow sites, plant sites, storage areas, parking lots, and so forth are the contractor's responsibility to lease.

### **103.29 CONTRACTOR'S USE OF HIGHWAY RIGHT-OF-WAY**

Occasionally a contractor requests permission to establish a plant site or a material stockpile on highway right-of-way. In reviewing these requests, the District Engineer must consider the impact of vehicles (trucks or equipment) entering and leaving these sites on public traffic. In situations where these vehicles must enter an open ramp or lane at a point where access is not allowed to the general public, the request shall normally be denied. On two-lane roads if an access permit can be obtained and public convenience and safety is not adversely affected, the request may be approved. On closed sections of the highway, right-of-way may be used as long as trucks can enter and leave the closed road safely.

Many times a contractor will have to exit a controlled-access facility to deliver materials such as mulch, subdrain, guardrail, etc. These stockpiles may be allowed as long as the material is to be used in the general vicinity where stockpiled and is stored beyond the "clear zone".

NOTE: In these situations, the contractor will be responsible to initiate and provide a storm water permit for their operations in that area.

### **103.30 "CONTRACT QUANTITIES"**

The Project Manager and the contractor may agree to a final payment for an item based on contract quantities, i.e., plan quantity. The Project Manager shall verify that the plan quantities are reasonably accurate. If the contractor concurs with the final quantities as shown on the PM Final Estimate, the Project Manager will forward this concurrence to the Construction Division with a copy to the contractor for information.

Final review corrections should be limited to errors of \$150.00 or more per pay item. Do not waste time and money making small corrections.

**103.31            CONTRACTOR'S SALES TAX EXEMPTION**

When a NDR contract is awarded, the Contracts Section of the Construction Division will issue the prime contractor a "Purchasing Agent Appointment" (DR Form 2-A) and an "Exempt Sale Certificate for Contracts" (DR Form 2-B). These forms allow the contractor to purchase materials that are to be incorporated into a highway project without paying any sales tax. The prime contractor is allowed to make copies of both forms and provide them to the project subcontractors for their use. The prime contractor must contact the Contracts Section [(402) 479-4851] to obtain an extension. The Contracts Section completes the extension by issuing a new "Purchasing Agent Appointment" (DR Form 2-A).

**103.32            LOTUS NOTES – NOTIFICATION**

Field personnel are strongly encouraged to open their electronic mail daily. The Construction Division (and others) use it regularly and expect messages sent to be messages read.

Any time a plan error/omission is discovered or if for any reason the contract must be changed, the PM should send a Lotus note with appropriate details to the designer (Bridge or Roadway), Construction Division, and if necessary, to Materials & Research.

**103.33            PRIME CONTRACTORS/SUBCONTRACTORS**

Project Managers should be reminded that correspondence pertaining to a subcontractor should be directed to the prime contractor.

**103.40        FREIGHT RATES**

Nebraska does not regulate freight rates on bulk containerized materials like cement, fly ash, and asphalt cement; and, therefore, the Construction Division will not make freight rate adjustments.



**103.50            BARRICADES, DANGER, WARNING, AND DETOUR SIGNS**

*SSHC Subsection 107.07* provides for furnishing, erection, and maintenance of necessary barricades, lights, signs, and watchpersons, in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways (each Project Manager should have a copy) and taking necessary precautions for the protection of the work and safety of the public by the contractor. The contractor must erect advance warning signs for traffic hazards created by his/her operations, and at points where the work crosses or coincides with an existing road, in accordance with the plan requirements.

Signs which have been furnished to the contractor at no cost for placement on projects under construction must be returned to the appropriate NDR location in reusable condition when they are no longer needed. A charge will be made to the contractor for the value of signs damaged or not returned. The office issuing the sign will determine the charge for damage or loss.

## **103.60 SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION**

Nebraska provides job safety and health protection for all workers throughout the State of Nebraska.

The Labor Department is responsible for administering safety policy. The Nebraska Labor Department adopts federal occupational safety and health standards as State of Nebraska standards. Employers and employees are required to comply with these standards. The OSHA requirements are enforced by the Federal Government. The Nebraska Department of Labor will, upon request, conduct consultation visits of the job site.

### **103.61 Responsibility of Contractor**

Contractors shall be responsible for initiating, maintaining, and supervising all safety precautions and programs for their employees in connection with the work. Furthermore, contractors are responsible to provide a safe work site for NDR employees.

#### **Safety Inspections**

The contractor may conduct safety inspections at the start of all major phases of the project. The contractor is to document inspections and provide a written report to the Project Manager.

#### **Postings**

The contractor is required to have four documents regarding safety posted on the project bulletin board:

- Job Safety & Health Protection (OSHA 2203)
- "Log and Summary of Occupational Injury and Illnesses" Poster (OSHA Form 200) (11 or more employees)
- Emergency Action Fire Prevention Plan (See *Appendix 3*)
- Emergency Phone Numbers (i.e., 911, Poison Control, etc.) (See *Appendix 3*).

#### **Checklist Safety Program**

- Does the contractor have a definite safety program?
- Does the program have the active and continued support of company management?
- Has responsibility for safety been assigned to a specific top company official? Is there a staff for full time safety work?

- Does the contractor know the governmental safety regulations and consider carefully the cost of safety in bidding and executing the work under contracts?
- In dealing with labor, subcontractors, and material and equipment suppliers, does the contractor make clear the safety responsibilities and requirements to be met?
- Does the contractor make frequent safety inspections of operations on the project? Does this include subcontractor operations?
- Does the contractor train his/her employees to recognize and to avoid unsafe conditions and practices related to their individual work assignments?
- Are all accidents investigated, recorded, and reported?
- Does the contractor keep in touch with responsible officials and organizations concerned with standards and with enforcement of occupational safety and health requirements?

This checklist may be used when discussing Safety at the pre-construction conference.

### **Crystalline Silica Exposure & OSHA Notification**

The Occupational Safety and Health Administration (OSHA) has expressed some concerns to the Department regarding the health hazards of exposure to crystalline silica dust.

The Project Manager must notify OSHA of any project where any of the following types of work are anticipated at some time during the life of the project.

- 1) Lead paint removal when the removal is identified in the Special Provisions as being a hazard.
- 2) Sandblasting
- 3) Concrete removals done with a jackhammer
- 4) Concrete sawing
- 5) Concrete drilling

Notification will consist of furnishing OSHA:

- 1) The project number and general location
- 2) The project manager's name and phone number.
- 3) A copy of the contractor's schedule (one of the four required by Subsection 108.07 of the *1997 Standard Specifications*). Delete all references to any contractor on the project.

Notification should be made to:

Bernard Hauber, Industrial Hygienist  
Occupational Safety and Health Administration  
Overland-Wolfe Building, Suite 100  
6910 Pacific Street  
Omaha, NE 68106

***After the original notification has been made, it will be OSHA's responsibility to determine if and when they choose or desire to make an on-site inspection.***

## 104.00 -- CONSTRUCTION INSPECTION

### 104.01 CONTRACT TIME DETERMINATION (*SSHC Subsection 108.02*)

**Tentative Beginning Date** - The proposal will show a tentative date on which it is anticipated that the contractor may begin operations.

In most cases, the tentative beginning dates are established several weeks in advance of the letting date by determining the latest possible date the Department would like to see the work completed and backing out the estimated number of days required to complete the work. Consequently, any requests to delay the start of work on a project are examined very carefully before being approved. Additionally, the approval to delay the start of work on a project may be made contingent upon certain concessions by the contractor (such as the imposition of a disincentive payment for a late completion).

In the case of contracts involving multiple time allowances, extensive utility relocation, or work to be performed by others (e.g., railroads, cities, counties), it may be necessary to delay the start of work for several weeks after the tentative starting dates shown in the proposal.

If the tentative beginning date shown in the proposal appears to be earlier or later than believed possible or practical due to job, weather, traffic, or other conditions relevant to the project, the Construction Engineer should be notified promptly.

**Notice to Proceed** - The contractor will be given a Notice to Proceed by the Construction Division, and work should not begin until the notice has been issued (or at least verbally acknowledged) by the Construction Division.

Normally, the Notice to Proceed date will coincide with the tentative beginning date shown in the proposal; and the Notice to Proceed will automatically be issued after the contract is in place, usually a week or two prior to the starting date. In some cases, however, such as for seeding or landscaping projects, the Construction Division will check with the District Construction Engineer to verify that the site is ready for work to proceed before issuing the notice. The issuance of the Notice will also be delayed when a project is let far in advance of the tentative starting date -- almost always resulting in a request for an early start by the contractor.

It should be noted that in SiteManager, the Notice to Proceed date is recorded in SiteManager under “Key Dates” as the “Notice to Begin Work” date. SiteManager’s “Notice to Proceed” date is actually the contract execution date.

Some contracts contain an “early start provision”. For those projects, the contractor may begin work prior to the tentative starting date by notifying the District Engineer of his/her intent to begin work early. The notice must be given two weeks prior to the intended starting date and is not subject to review by the Department. When such notice is given, the District should notify the Construction Division of the need to issue the notice and the date for which it should be issued.

For those contracts which do not contain the “early start provision”, requests to begin work prior to the tentative starting date should be made by the contractor directly to the Construction Engineer in Lincoln. In many cases, such requests are made following issuance of the original Notice to Proceed. If the request is approved, a revised notice will be issued.

Requests to begin work after the tentative starting date shown in the proposal should be made by the contractor to the Construction Engineer in Lincoln.

**Beginning the Counting of Working Days** - The counting of working days or calendar days must begin on the date established in the written Notice to Proceed or on the actual beginning date, whichever is earlier. Accordingly, working day report entries should be made beginning with the established beginning date or actual beginning date – whichever occurs first. Entries should continue for each and every day (seven days per week) until the project has been tentatively accepted. Reports may be suspended when the work is suspended for an extended period.

Under specified conditions, some items of work may be performed for which working days or calendar days will not be charged. Even under these circumstances, however, working day reports must be created to document that work was performed without the charge of working days or calendar days. Work subject to this rule is listed in *SSHC Subsection 108.02*.

**Calendar Day** - *SSHC Subsection 101.0313* gives the definition of a calendar day.

**Working Day** - *SSHC Subsection 101.0399* gives the definition of a working day.

**Current Controlling Operation** - *SSHC Subsection 101.0326* gives the definition of the current controlling operation.

While the counting of calendar days is quite straightforward and is usually dependent only on the passage of time, the counting of working days requires a determination of the current controlling operation. A basic test for the determining the current controlling operation on any given day is whether or not the non-performance of that operation will delay the completion of the work.

The contractor's project schedule can be a very useful tool in determining the current controlling operation. The specifications require that the critical path activities be shown on the schedule; and those activities, in essence, are the controlling activities. Because the specifications allow several types of schedules and because contractors possess varying degrees of skill in preparing the progress schedule, it is strongly recommended that the Project Manager and Project Superintendent discuss the project schedule and come to some mutual agreement concerning the path of critical activities - as may be the case when a bar graph shows several activities occurring at the same time.

The contractor has the right to object to the charge of working days, and those kinds of objections will be minimized if there is an "up front" agreement regarding the controlling operation. There usually will be little dispute regarding whether or not the work was performed.

The current controlling operation should be shown in the Project Manager's diary and on the working day reports. Any discussions or agreements with the contractor regarding it should also be documented in the diary. The assessment of working days is a very important task for the Project Manager, but should not be considered extremely difficult. Common sense and fairness should prevail.

Following are the basic criteria for determining the charging of working days:

1. Weekdays, Monday through Friday, except for Martin Luther King Day, Presidents' Day, Arbor Day, Columbus Day, and Veterans Day, are to be counted as working days -- whether the contractor works or not -- if he/she is not prevented by weather, soil conditions beyond his/her control from proceeding on the current controlling operation for at least 50 percent of the hours in a normal schedule with 80 percent of the normal work force. Martin Luther King Day, Presidents' Day, Arbor Day, Columbus Day, and Veterans Day -- regardless of whether or not the contractor works -- are never counted as working days.
2. Saturdays will not be counted as working days, except for certain cases when New Year's Day, Independence Day, and Christmas Day fall on Saturday and the contractor works (any work) **and** inspection or engineering work by the Department is required.
3. Sundays will not be counted as working days unless the contractor works (any work) **and** inspection or engineering work by the Department is required.
4. New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the day after Thanksgiving Day, and Christmas Day will not be counted as a working day unless the contractor works (any work) **and** inspection or engineering work by the Department is required.

It is emphasized that if the Project Manager does not count working days because of delays "beyond the contractor's control", the situation involved should be clearly beyond the contractor's control. The Project Manager should be thoroughly familiar with the provisions of Specification 108.02. For example, Paragraph 7 provides consideration will not be given to possible "loss of efficiency" due to prosecution of the work during the winter months in the charging of working days when the special provisions require performance of work during cold weather periods. The following example illustrates the application of this provision:

On a clear, cold day in January, a pile-driving operation may be 80 percent as efficient as it would be on a fair, warm day in July. Under this provision, a working day would be counted against the current controlling pile-driving operation even though the relative efficiency of the operation was reduced. When bidding on work that is to be accomplished during the winter months, the contractor is presumed to have accounted for the loss of efficiency. However, if sufficient snowfall or extremes of wind or temperature make it physically impractical to prosecute the pile driving operations, working days would not be counted under such conditions.

Shortages of material delaying prosecution of the controlling operation would not normally be considered beyond the contractor's control. Unusual, extensive, or industry-wide situations (strikes, transportation tie-up conditions, industry-wide shortages) may constitute delays beyond the contractor's control if the contractor has used due care and planning in ordering and scheduling delivery of the materials. The

Project Manager investigates and determines when shortages of materials are beyond the contractor's control.

Shortages of labor are specifically eliminated as justification for an extension of time (*SSHC Subsection 108.02, Paragraph 9*).

*SSHC Subsection 108.05* requires the contractor to employ sufficient equipment of adequate size and in such mechanical condition as to meet the requirements of the work. Accordingly, delays resulting from breakdown or malfunction of the contractor's equipment are not considered to be beyond the contractor's control.

**Working Day Report and Diary Record** - *SSHC Subsection 108.02, Paragraph 5* provides that the contractor will be furnished with a copy of the weekly report of working days. These reports are generated, compiled, and mailed from the Lincoln office at mid-week, so it is very important that the working day information is entered promptly following the completion of the week's work. Special efforts should be made to impress upon consultants employed by the Department or other governmental agencies that they must submit their working day report information without delay at the beginning of each week.

In addition to our contractual requirement to furnish a copy of the working day report to the contractor, these reports are reviewed by one or more individuals in the central office. The following information should be included on each report:

- Notice to Proceed date (Notice for Work to Begin)
- Actual starting date (Work Begin)
- Current Controlling Operation
- Hours Worked on the CCO
- Hours worked on non-CCO work if CCO hours are zero
- Reason for charge or non-charge of a day if the charge is not what might normally be expected. (Such comments must be entered into the "CCO" field in SiteManager to be visible on the report.)

It is the contractor's obligation to review the working day report when it is received and promptly file any objections to it. The Project Manager is obligated to promptly review the objections and rule on their validity. When such reviews are delayed until the project is complete, there is too great a risk that the details affecting the decision can be forgotten. Whatever the result, the decision should be documented -- either by letter (preferably) or diary entry when the objection is denied or by the issuance of a Time Extension Document when an adjustment to the time allowance is justified.



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Although the contractor is required to file an objection to the working day count within 14 days, claims often fail to surface until the latter stages of a job when the remaining working days are few. For this reason, it is especially important that a complete and accurate diary record be maintained. For purposes of making the initial assessment of working days -- and any subsequent review -- the following information, if applicable, should be recorded or documented daily in the Project Manager's diary:

1. The current controlling operation
2. The weather
3. The work performed
4. Unusual or adverse weather or soil conditions encountered
5. Other unusual occurrences impacting work on the project
6. The times that major work operations halted and resumed and the reasons why
7. Changes in the work force effecting work on the controlling operation
8. Major deviations from the contractor's approved progress schedule
9. Conversations pertaining to any of the above

The need for this information isn't always apparent until the work is completed or until a request has been made for reconsideration of the charging of working days.



**104.02 CHARACTER OF WORKPERSONS, METHODS, AND EQUIPMENT**

The Project Manager may have the contractor remove intemperate or incompetent superintendents or workers (*SSHC Subsection 108.05*). The PM may also order the removal of unsatisfactory equipment (*SSHC Subsection 107.01*). However, the contractor should be given complete latitude in the supervision, methods, and equipment used in performing the work unless the specifications specifically prescribe the methods and equipment to be used.

### 104.03      **TEMPORARY SUSPENSION OF WORK** (*SSHC Section 108*)

**Specification Provisions** - If weather or other conditions are such as to clearly determine the unsuitability of prosecution of the work for more than two weeks, the Project Manager should discuss the situation with the District Construction Engineer, and with his/her approval, temporarily suspend the work and the counting of working days. The working day report should be clearly marked "Work Temporarily Suspended". The condition or situation which makes the suspension necessary should be briefly described under "Explanation of Delays" in the report which will constitute the written order suspending the work. The term or estimated length of suspension should be included in the explanation. Typical explanations are listed:

1. "One-half application of detour gravel placement completed. Work and working day reports are suspended until approximately (date) when second one-half application will be placed."
2. "Bituminous base (or mat) surface course operations and working day reports are suspended because of lateness of season. The consideration of working days resume approximately (date) with the return of weather conditions favorable to the prosecution of this work."
3. "Grading operations and working day reports suspended until approximately (date) when progress of the bridge work will permit backfilling and finishing around the structures."
4. "Bridge operations and working day reports suspended until approximately (date) when progress of grading work will permit construction of concrete approach slabs and guard rail at the bridge locations."
5. **Winter Work Provision:** When the contract includes special provisions allowing work through the winter without the charging of working days, reports must be submitted showing the hours the contractor worked even though working days are not charged. If the contractor suspends operations on the project, reports may be suspended; but they must resume on the date specified in the special provisions for the end of the winter work season or when the contractor resumes work, whichever is first.

**Specialty Items, Time Suspensions** - There have been inquiries regarding the propriety of temporarily suspending the work for short or limited periods of time, in the performance of minor, specialized work items which are usually performed by subcontractors or specialized personnel or technicians, rather than with the contractor's own forces. Examples of such work items would be small quantities of electrical, traffic control or lighting work, the painting of one or two small bridges, etc. Small quantities of normal work items which are outside the contractor's field of skill and qualification would also be included. Examples of the latter would be minor quantities of concrete items, sodding, waterway protection, etc. included in a grading contract or minor items of grading work included in a contract for bridges or for surfacing.

It is recognized that at times the contractor may have difficulty in getting the specialized personnel or subcontractor, skilled in performing minor specialized items of work, to

schedule and perform such work precisely when the site is available. Accordingly, it is considered proper to authorize a temporary suspension of the work in such cases, subject to the following:

1. The work is minor, specialized work, which is to be performed by specialized forces rather than the usual work forces.
2. The suspension will be for a limited, reasonable length of time; that such suspension will not adversely affect the scheduled use of the completed facility by the state; and that the suspension will not delay the work of any other contractor.
3. The contractor should make written request for such suspension to the Project Manager, listing the reasons for and the length of the proposed suspension.

The Project Manager should discuss the matter with the District Construction Engineer and may, with his/her approval, make such temporary suspension of the work, subject to meeting the conditions listed above.

**104.04            PROGRESS OF WORK** (*SSHC Subsection 108.07*)

The Project Manager should monitor the contractor's progress in relation to his/her progress schedule and the requirements of *SSHC Subsection 108.07*. If a contractor's progress falls seriously behind the schedule necessary to complete the work in the allotted time, the Project Manager and the District Construction Engineer should review the possible causes for this situation. If the contractor's progress is behind in proportion to the working days charged, one of the three conditions listed will probably be the cause.

1.     Working days are being improperly charged. Weather or other adverse conditions or conditions beyond the contractor's control may be preventing the contractor from working with 80 percent of forces or from working on the controlling operation. If work days appear to have been improperly charged, the matter should be discussed with the Project Manager; and, if necessary, revised working day reports or Time Extension Documents should be prepared to correct the working days charged.
2.     Work is being delayed by causes beyond the contractor's control. If this is true, it should be documented by letter from the contractor and also in field records (diary). The District Construction Engineer must approve an extension in the time allowance.
3.     The contractor is not prosecuting the work with sufficient forces and equipment to complete the contract within the specified time allowance.

Progress is considered not satisfactory if the work falls 10 percent behind the contractor's work schedule. When this occurs and condition three appears to be the cause, the District Construction Engineer shall immediately notify the contractor in writing of the steps considered necessary to expedite completion of the work in a satisfactory manner. The Construction Division will maintain a log of this action and, if necessary, shall have the responsibility of taking further action as provided under the specifications.

#### **104.05 WINTER WORK (Special Provision)**

Determination of contract working days charged during the winter is made according to the rules set forth in the Specifications unless the proposal contains what is commonly referred to as the Winter Work Provisions. This special provision will generally permit the contractor to work without the charge of days during the months of December, January, February, and March. (Days near December 1 and March 31 may be selected to delimit the period so that the affected period of time begins and ends on a Sunday or Saturday, respectively.)

The “winter work” provisions are usually included in contracts where the Department anticipates work to carry over from one construction season to the next. They may be added to a contract by preparing a supplemental agreement to that affect, but they should not be added automatically. For example, a contractor should not be rewarded with the winter work provisions when he or she has failed to complete a project as scheduled because of inadequate prosecution of the work.

On the other hand, a contractor desiring to start a project early or a contractor delayed for reasons beyond his or her control should probably be granted the winter work provisions as an encouragement to pursue the work.

The Project Manager may require the contractor to place temporary materials prior to a suspension in the following situations:

- A project (or a required intermediate portion) is not completed within the allowed contract time, **and**
- Work continues (or is required) after November 30th, **and**
- Due to weather conditions, work cannot be completed.

Typically, temporary materials will be required for safety or soil erosion considerations. All temporary materials shall be furnished, placed, and removed (if required) prior to start-up at the contractor's expense.

#### **Project Suspensions**

If work is suspended, with approval of the District Engineer, working days would not be charged.

#### **104.06 WEEKLY REPORT OF WORKING DAYS**

Working day reports are maintained in and generated by SiteManager.

**104.07 RENTAL RATE GUIDELINES** (SSHC Subsection 109.05 and Section 919)

**Contractor-Owned Equipment**

The following guidelines apply to the determination of rental rates for contractor-owned equipment used on an “extra work” basis.

1.
  - a. The *Rental Rate Blue Book for Construction Equipment* should be used to determine the hourly rental rate of the equipment in question.
  - b. In order to determine the proper rental rate, equipment should be identified as completely as possible (make, model, year of manufacture). When practical to do so, it may prove helpful to examine the *Blue Book* before beginning the task of identifying the equipment. Such an examination may lend some insight into the identifying characteristics of the equipment (such as bucket capacity, horsepower, fuel type, etc.) and the potential equipment attachments that may qualify for additional payment.
  - c. The *Serial Number Guide for Used Construction Equipment* may be helpful in identifying the age of a piece of equipment.
2. The hourly rental rate shall be calculated by dividing the monthly rental rate shown in the *Blue Book*, including that of attachments actually used, by 176.
3. The hourly rental rate shall be:
  - a. increased or decreased by the regional/climatic ownership factor published in the *Blue Book*. The *Blue Book* publishes an individual table in each section showing the adjustment factor for each state. The tables showing the regional/climatic factors are usually located at the beginning of each section with other rate adjustment tables.
  - b. decreased (or allowed to remain the same) by the age factor found in the *Blue Book*. (See 1.c. above)
4. The estimated hourly operating costs, including those of attachments used in the prosecution of the work, shall be determined from the information shown in the *Blue Book*. Adjustments due to age or regional/climatic conditions ARE NOT applied to the estimated hourly operating costs.
5.
  - a. The total hourly rate (sum of adjusted hourly rate and estimated operating costs) shall be increased by 15% to compensate the contractor for overhead and profit. (See “Additional Considerations”)
  - b. The *1995 Metric Supplemental Specifications* have already incorporated this change in policy (as will the *1997 Standard Specifications*). By this directive, dated March 28, 1997, authorization is granted to pay the additional 15% for overhead and profit on contracts being built under the *1985 Standard Specifications*. A change order will not be required.



6.
  - a. Equipment operators, when applicable, shall be compensated according to the rules set forth in the *Specifications*, average hourly wages being calculated by dividing the total hours worked during the week, including overtime, into the gross wages earned during the week.
  - b. Equipment may be shown as “fully operated” by adding an amount equal to 150% of the operator’s average hourly wage to the rental rate. When this method is chosen, the equipment rate will be eligible for the additional 15% for overhead and profit; the adjusted operator’s rate is not.
7.
  - a. The number of hours of “equipment rental” for which payment will be made for each item of equipment must be determined on a case-by-case basis.
  - b. In general, when equipment is already on the project, payment hours shall be limited to the actual hours of use, with no deductions being made for minor interruptions of the work. If the equipment has been dedicated to another operation and was actively being used in that operation when it was reassigned to the “extra work”, consideration may be given to paying for “standby time” for idle periods exceeding two consecutive hours which are not the fault of the contractor.

### **Rented or Leased Equipment**

The following guidelines apply to the determination of rental rates for rented or leased equipment used on an “extra work” basis.

1. When it becomes necessary for the contractor to rent or lease equipment to complete extra work, the contractor shall be compensated 115% of the actual invoice cost of the rented or leased equipment. This procedure provides compensation for overhead and profit.
2.
  - a. The rental or lease rate shown on the invoice may be compared to rates published in the *AED Green Book* to determine if it is reasonable.
3. Because the estimated hourly operating costs shown in the *Blue Book* include costs associated with the maintenance and replacement of items such as tires, pumps, and other components which are the responsibility of the owner, the operating costs shown in the *Blue Book* shall not be included for payment. However, if the contractor itemizes and documents the daily costs incurred for fuel, lubricants, etc., those costs can be included for payment.
4.
  - a. Equipment operators, when applicable, shall be compensated accordingly to rules set forth in the *Specifications*, average hourly wages being calculated by dividing the total hours worked during the week, including overtime, into the gross wages earned during the week.

- b. In some cases, where the invoice provides a convenient way to do so, equipment may be shown as “fully operated” by adding an amount equal to 150% of the operator’s average hourly wage to the rental rate.

### **Additional Considerations**

#### **1. Mobilization**

- a. If the equipment needed to perform extra work is not located on the project, the contractor is entitled to compensation for mobilizing and demobilizing the equipment. Labor and hauling equipment used to transport the equipment to and from the project is eligible for compensation. The equipment needed for the extra work is eligible for compensation at “standby” rates if it is transported during normal working hours.
- b. Reasonable costs associated with readying the equipment for transport (assembly and disassembly) shall also be allowed.

#### **2. Standby Time**

- a. If the contractor is required to idle equipment engaged on “extra work” and the equipment was:
  - 1) already located on the project site and engaged in other productive activities, or
  - 2) brought onto the project for the specific purpose of performing extra work,

he/she may be entitled to compensation for “standby time”. The equipment must be idled due to reasons beyond the contractor’s control and not be used for the performance of other work.

- b. When payment for standby time is justified, payment for the idle hours should be made at one-half of the established rental rate (excluding estimated operating costs).
- c. Additional compensation for overhead and profit shall not be made for any equipment considered to be “on standby”.
- d. Operators of idled equipment are eligible for compensation according to the procedures previously described provided they are not reassigned to other duties or taken off the payroll.
- e. The sum of “active” and “standby” time for any piece of equipment or its operator will generally be limited to 8 hours per day, but must be monitored to insure that an unreasonable limitation is not placed on the standby hours. For example, if a piece of machinery is utilized from 8:00 to noon, stops for lunch until 12:30, and then resumes working until 2:30

when an unavoidable delay stops activity on the “extra work” until the next morning, the standby time should be limited to 2 hours -- the hours which would have been utilized to complete an 8-hour day.

3. Reconciliation of Records

It is highly recommended that the Department’s records and the contractor’s records of labor, equipment, and materials used on any “extra work” be compared, reconciled, and documented daily.

@ **104.08**      **CHANGE ORDER - SUPPLEMENTAL AGREEMENTS**  
(SSHCH Subsection 104.02)

Change Orders are used to:

- Change the authorized quantity of a contract item. This includes increases, decreases, or deletions to contract quantities.
- Add a new item or material to an existing contract. Often this is a result of plan revisions or a change in scope from what was originally envisioned at time of letting.
- Serve as a source document for the Controller Office.
- Officially document changes to the contract documents. CO/SAs and work orders are written orders to a prime contractor which are initiated and prepared by the Project Manager. Once signed by all parties, these documents become a legally binding part of the contract ordering a specific change to the original contract.

**Policy for Change Orders**

A. Contractor Markup

**Subcontracted Items.** Extra work performed by a subcontractor entitles a prime contractor an allowance to cover administration expenses. This markup is not to apply to incentive payments. The percentage allowed for administration expense is discussed in SSHCH Subsection 109.05.

**Contract Unit Price.** Change orders covering an overrun/underrun (SSHCH Subsection 104.02) of items at contract unit prices are NOT eligible for any additive like an allowance for administration expenses. This includes work which was done by a subcontractor. The contract unit price should have already considered any necessary additives for administrative expenses.

The contractor may request a change order when additional work differs materially in kind or nature from the work included in the originally proposed construction.

A major item of work is defined as an item whose total original contract cost exceeds 10 percent of its original group total amount. The price for a pay item may require adjustment when a major item is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of the original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

A contractor may request a price adjustment to recover lost administration expense for underruns amounting to more than 25 percent of the bid amount for a major item of work. A contractor is allowed to recover only that portion of lost administration expense represented by the underrun.

By the same reasoning, a like price adjustment may be made to reduce the cost of major items of work which overrun by more than 25 percent, since the contractor should have already included overhead expenses in their bid. Overrun price adjustments apply to only that portion/quantity which is more than 125 percent.

**Agreed Unit Price.** Extra work orders based on an agreed price or lump sum should have overhead considered as a part of the negotiation. The agreed unit price may include the cost of overhead for handling subcontracted items. It may be included in lump sum items if justified. However, if negotiations specifically excluded markup, the item may be shown as a separate entry on a cost work up sheet.

**Force Account.** (*SSHC Subsection 109.05*) Specified force account percentages for labor and material are intended to cover all costs that a contractor may incur due to the work, regardless of who does that work (prime or subcontractor). Force account work to a subcontractor will be authorized for additional administration percentage to a prime.

### **Plan Revisions**

Often, plan revisions result in Change Orders having to be negotiated. Processing Change Orders resulting from plan revisions is sometimes delayed due to disagreement on prices, lack of success in obtaining qualified subcontractor(s), or various other reasons.

It is imperative that Project Managers actively pursue Change Order negotiations to an early conclusion, especially if proposed work involves public safety (guardrail, safety enhancement, etc.) or work related to a prolonged detour. Obviously, agreement on unit prices is desirable. However, there are times that work will have to proceed on a Force Account basis. In all cases, documented agreements on the Method of Measurement and Basis of Payment for extra work items must be obtained before the Change Order is written. NOTE: No work can begin until the contractor has either agreed to a Change Order or agreed to a basis of computing force account costs.

### **Change Order Approval Limits**

Contracts are awarded for a specific dollar amount. Overruns or change orders expend additional funds and can only be authorized by specific people.

### **FHWA/Certification Acceptance**

FHWA projects that have full oversight have "FHWA" stamped in red on the front page of the proposal. The Contracts Section makes the determination and affixes the red stamp.

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On FHWA oversight projects, current rules require that expenditures in excess of **\$50,000** be discussed with the FHWA.

The following table shows the Department's approval limits:

APPROVAL LIMITS	
Deputy Director	Over \$150,000.00
Construction Engineer	\$50,000.00 to \$150,000.00
District Engineer & DCE	\$0 to \$50,000.00

### Preparation of Change Order

The following instructions are applicable in the preparation of a Change Order-Supplemental Agreement:

- Create a brief description of the work not in the contract.
- Show reasons for the change; or, if the document is a combination change order-supplemental agreement, show purpose of the agreement. When the work to be performed is not covered in the specifications, the name of the items shall be worded to define the work to be performed. References should be made to similar items in the specifications or plans and the method of measurement and basis of payment definitely established.
- Show the basis of the unit prices established, such as comparison with unit prices for similar contract items or the previous year's average contract unit prices.
- Include statement as to the determination of a change in the contract time allowance.
- Show the name of the FHWA engineer and date of discussion with him/her when the Change Order is for more than **\$50,000.00** and the federal-aid contract is for more than \$1,000,000 and on the Interstate.
- Enter estimated increased and decreased changes in quantities of items of work. Use standard item numbers and standard specification/contract wording, when applicable, for the new item description you define.

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All Change Orders (CO) and Change Order-Supplemental Agreements (CO/SA) shall address the subject of additional working days or calendar days, if any, to be added to the contract time allowance.

The original working day or calendar day allowance is calculated by assigning some average rates of progress to the various items of work and then making some assumptions as to which items might tend to overlap during the actual performance of

the work. The system is not perfect; but, regardless of the result, it does provide all bidders with a time frame upon which they can estimate a schedule for completion of the work and prepare a bid.

The performance of extra work should not be cause to suspend the working day or calendar day count. Working days or calendar days should be assessed for all extra and originally contracted work according to the guidelines for doing so, and then any relief to which the contractor might be entitled should be granted by issuing a time extension document or addressing the time in a CO or CO/SA.

@ In SiteManager under Reference Tables/Standard Definitions there several option clauses to be added to the Change Order. Four of the options pertain to working/calendar days. They are further described below:

1. No additional working days or calendar days to the contract time allowance are being granted. Additional working day or calendar day consideration is not applicable to this change.
2. “\_\_\_\_\_” additional working days or calendar days to the contract time allowance are being granted.
3. Additional working days or calendar days to the contract time allowance shall be granted on the basis of the actual working days or calendar days charged for performing the work under this agreement, provided that said work is judged to be the controlling operation.
4. Additional working days or calendar days to the contract time allowance, if any, shall be granted on the monetary value in accordance with Paragraph 10. of Subsection 108.02 of the Standard Specifications.

The writer of the CO or CO/SA must use some judgment when determining which note is appropriate. In fact, there may be instances when it will be necessary to write more than one CO/SA because the items to be added to the contract do not all subject themselves to the same rule. A little extra work, perhaps; but the right thing to do. The discussion that follows should be helpful in determining which note to select.

Note 1 - No additional days

**No additional working days or calendar days to the contract time allowance are being granted. Additional working day or calendar day consideration is not applicable to this change.**

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This note could be used on any CO/SA which addresses subjects which are not financial in nature. An example would be an early starting date coupled with the conditional addition of the winter work special provision to the contract. A condition might be that the contractor not make any claims for delays due to utilities not being out of the way --- thus the need for a supplemental agreement requiring the contractor's signature. The work remains the same, however; and no change would be made in the contract time allowance.

This note should also be used on any CO/SA that increases the value of the contract but does not necessarily require additional time to perform the work. An example might be the substitution of one type of asphaltic concrete for another. The concrete actually used might be more expensive; but the time to mix, haul, lay, and roll it remains the same. (This does not, however, preclude the granting of some additional time due to an overrun of the final quantities.)

In general, this note could also be used on a CO/SA that has a negative financial impact on the project. An example might be the substitution of an 18" culvert pipe for a 24" pipe. The cost of the pipe and excavation is probably going to result in a savings to the project, but it is not the Department's policy to reduce the contract time allowance.

Note 2 - Specified number of days

**“ \_\_\_\_\_ ” additional working days or calendar days to the contract time allowance are being granted.**

This note is the preferred note in many cases and should be utilized whenever possible. The Construction Division will rarely question the number of days granted, no calculations are required by the Final Reviewers, and the fact that the CO/SA is signed by the contractor leaves little opportunity for it to be contested. Obviously, the use of this note is restricted to situations where the supplemental agreement is created after the work is performed and the number of days required is known.

This note can appropriately be used in cases where the extra work is determined to be the controlling operation when it was performed. It definitely should be used when the time required to perform the work is grossly disproportionate to its monetary value. As an extreme example, it may take just one day to add a million-dollar traffic controller on a fifty-thousand-dollar project. Determination of an additional time allowance on the basis of cost would obviously not be correct.

This note can also be used on a CO/SA that is more administrative in nature. As an example, the contractor and the Department may negotiate some changes to the contract for which a time adjustment is a condition of the agreement. This note is a proper method to document the adjustment to the contract time allowance. It functions in the same way as would a Time Extension Document.



Note 3 - Unspecified number of days (controlling operation)

**Additional working days or calendar days to the contract time allowance shall be granted on the basis of the actual working days or calendar days charged for performing the work under this agreement, provided that said work is judged to be the controlling operation.**

This note should be used in situations similar to those described for Note 2 when the CO/SA is completed prior to the work being performed. When it can be anticipated that the additional work will be the controlling operation or the value of the work is disproportionate to the time required to perform it (especially when the work takes a long time to complete but is not very expensive), this note should be used. In some cases, it may be appropriate to grant some additional time on the basis of monetary value for extra work performed when the work is not the controlling operation for the entire time required to complete it.

The Project Manager should closely monitor the work when choosing this method of calculating an increase to the contract time allowance. The completion of other work is certainly not discouraged or prohibited, but the contractor should not be allowed to intentionally slow the progress of the extra work to gain the advantage of allowing other contract work to be completed concurrently during the time period being added.

Note 4 - Unspecified number of days (monetary value)

**Additional working days or calendar days to the contract time allowance, if any, shall be granted on the monetary value in accordance with Paragraph 10. of Subsection 108.02 of the Standard Specifications.**

This note serves to cover those situations not addressed by Notes 1, 2, or 3. It is an inexact method, but is usually a fair way to provide additional time to the contract time allowance when the methods associated with Notes 1, 2, and 3 are clearly not more appropriate.

It should be used to address those additional items of work which are similar in nature to other items of work in the contract but for which it is difficult to determine or monitor the actual amount of time required to complete. An example might be additional work performed sporadically over a long period of time or the addition of more work of a type already in the contract --- such as may be added by a plan revision.

The use of this note does require the Finals Reviewers to calculate the amount of extra time to be granted. The calculation should be done on the basis of the monetary value alone, and no consideration should be given to whether or not working days or calendar days were charged during the performance of the work. If the extra work to be added by the CO/SA could have been anticipated prior to the letting, time certainly would have been allowed for it; and it is only fair that an additional time allowance be considered after the fact.

The Project Manager should have the best feel for the type of working day or calendar day consideration that is most appropriate. He/she is encouraged to make a fair

evaluation of the situation and select the method that fits. As indicated in the discussion above, the use of Note 2 is encouraged.

### **Cost Overrun/Underrun Notification (DR Form 74)**

When project costs overrun or underrun by \$50,000 or more and the change in cost is not reflected in a "Change Order/Supplemental Agreement", the Project Manager shall prepare and send a "Cost Overrun/Underrun Notification" (DR Form 74) to Laurie Burling (BURLING) as an attachment via Lotus Notes. Laurie will print the form and circulate it for the appropriate approval signatures.

DR Form 74 is available on Server 50 in the folder titled DORFORMS. Space is provided in the identification block in the lower-left corner to provide a unique identification before saving the file. The Project Manager's name must be shown in the "Prepared by" window, but an actual signature is not required to submit to the DR Form 74 to the Controller Division.

Please note that the net change in the total project cost --- not an individual group --- shall be the determining factor when deciding if an event should trigger the preparation of DR Form 74. Caution is necessary as it is not always apparent when the costs have overrun by more than \$50,000. However, as soon as an overrun/underrun of \$50,000 is noticed, then a DR Form 74 must be initiated by the Project Manager.

### **Work Orders**

(SSHHC Subsection 109.05) - If there is sufficient time to execute a change order-supplemental agreement or force account agreement prior to beginning the extra work, no work order need be issued. The change order-supplemental agreement or force account agreement shall provide the basis for authorization and payment for extra work. The change order-supplemental agreement and force account agreement shall be prepared in accordance with the instructions in this manual. The work order shall state that the work will be done either by change order-supplemental agreement or by force account agreement.

If prices can be agreed upon at the time of writing the work order (see SSHHC Subsection 109.05, Paragraphs 8 and 9 regarding rental rates), but insufficient time exists to permit execution of a change order-supplemental agreement, a work order shall be prepared authorizing such work and then be followed by a change order-supplemental agreement formalizing the prices or basis of payment stated in the work order.

If negotiated prices cannot be agreed upon at the time of writing the work order, the work will be done by force account. Under certain circumstances, when approved by the Construction Engineer, this may be changed at a later date to a change order-supplemental agreement.

The work order shall be signed by both the Project Manager and the contractor or his/her superintendent.

The Project Manager and District Office shall implement the following procedures to expedite payment for extra work.

1. The Project Manager shall keep a file of work orders issued on a project and shall take the necessary steps to get agreements consummated.
2. The Construction Division shall track the change orders progress.
3. Contractors must furnish back-up information to justify prices they quote for extra work. Contractors should notify the state immediately of items of work that they do not think are covered in the contract.
4. The introduction of any new item of work not included in the contract items, no matter how small the quantity, must be covered by a change order-supplemental agreement establishing a unit price for the new item.
5. Canceled items (materials furnished by the contractor and not used due to a change in plans) will require the Project Manager to prepare an Imprest Inventory Form 329 and a Change Order-Supplemental Agreement when the material involved is to become the property of the State. Most often involved are pieces of culvert pipe ordered but not installed. In some cases the contractor may wish to retain the materials and no further action need be taken when this is true. (See *SSHC Subsections 109.06* for further information.)

#### **Force Account Agreements and Statements** (*SSHC Subsection 109.05*)

**Force Account Agreements** - It is necessary that force account agreements be executed when the nature of the proposed work is such that the costs involved cannot be accurately estimated or when there are no similar items included in the contract which may be used as a basis in determining unit prices.

Before beginning the work or preparing the agreement, the Project Manager should have a definite understanding with the contractor's representative regarding the labor, equipment, and materials to be used and the manner in which the work is to be prosecuted, and the rates to be paid for the equipment. If a satisfactory understanding cannot be reached, the matter should be referred to the District Engineer.

In preparing the agreement, the Project Manager should be very careful to include rates for all labor and equipment that may be used in the work. If it becomes necessary to use labor or equipment for which rates are not established in the agreement, the Project Manager normally shall negotiate the rental rates and shall immediately prepare and submit for approval a force account agreement supplementing the original agreement and establishing the rates to be paid for such labor and equipment. However, it will not usually be necessary to issue supplemental force account agreements for additional labor rates if the original agreement covers a rate range from the minimum required by the detailed schedule listed in the contract Special Provisions to the rate the contractor is paying or which he/she anticipates he/she will pay due to future rate increases.

Equipment rental rates are negotiated or determined as indicated in *Construction Manual Section 104.07*.

The approved rental rates shall only apply to equipment used under the following conditions:

The contractor's equipment that is available on the project. If equipment not available on the project is needed only for the extra work, it may be necessary to pay rates in excess of the approved rates or to pay compensation for the cost of moving in the equipment. (Mobilization is explained in *Construction Manual Section 104.07*.)

If it is necessary for the contractor to rent equipment for the extra work from a third party, the rate established shall be the actual rental cost plus fifteen percent for overhead and profit.

Equipment used on extra or additional work performed under normal working conditions on a force account or contingent item basis.

If the equipment is to be used under working conditions involving abnormal expenditures for maintenance, fuel, or service, it may be necessary to pay rates in excess of the approved rates.

If major quantities or extended amounts of work are involved, it may be equitable and necessary to negotiate rates at less than those indicated above.

The approved rates shall be paid only for the time actually used in the performance of the work ordered by the Project Manager. Standby time, time involved moving to and from the work and repairing and greasing time shall not normally be included for payment.

If the contractor is required to hold equipment which he/she has brought in specifically for the extra or additional work "on standby" because of circumstances beyond his/her control, consideration may be given to payment for normal schedule "standby time". In such cases, it will be necessary to negotiate lower hourly rates with the contractor which will not include compensation for fuel, oil, grease, repairs and other costs which would not be incurred on the equipment "standing by".

The Project Manager should be careful to obtain the correct name, model size, series number, and type of the equipment and major attachments - (loader or dragline bucket, etc.) involved for each item of equipment for which a rental rate is to be established. This information should be furnished to the District Office and they may then determine the approved rate from the "Rental Rate Blue Book". Complete information is needed to determine the proper rate since the rates vary considerably depending on the model, series, etc. The name of the established item should be descriptive but brief, for example, "Crawler Tractor Loader, 1 Cu. Yd." The body of the force account or supplemental agreement should then include all of the information necessary to determine and verify the correct rate, for example "Caterpillar, Model 955 'H', 100 horsepower, 1 Cu. Yd."

If fully operated rates, including operators' wages are to be established, the rate paid the operator shall be increased by 50 percent to cover insurance, social

security taxes and profit and added to the approved rental rate, rounding to the nearest five cents. When such rates are established, the words "fully operated" shall be included in the equipment rental item.

The Project Manager should call or write to the general office of the contractor advising him/her of the nature of the proposed work to be performed on a force account basis and request that they advise by letter regarding their insurance premium rates for workmen's compensation, public liability, and property damage. Request that the contractor send copies of his/her letter to the District and Construction Engineers. The letter stating the insurance rates should be attached to the force account agreement to be filed as a part of the permanent records. The agreement may also be prepared without the insurance rates and sent to the contractor's office for signature with instructions that the contractor place the rates on the agreement.

The reverse side of the agreement form must contain the "Estimate of Cost". This itemized estimate of the cost of the work shall include an item for each class of labor or piece of equipment for which a rate is established in the agreement. The estimated number of hours that it is contemplated that each item of labor and equipment will be employed shall be shown, extended at the established rates, and totaled. Allowances for insurance, social security taxes, and profit shall be shown and included in the total cost. In the event that the contractor will be required to furnish materials in performing the work, the quantity and estimated cost of each item of material should be shown and included in the totals.

The hourly labor rates to be used in the itemized estimate shall be the average rates that would be earned, including overtime, if the laborer worked a full week. Such rates shall be referenced with asterisks to the following note to be entered below the estimate:

"Average rates earned at the established basic rates in a 40 hour week."

The heading of the "Estimate of Cost" on the reverse side should be on the same end of the sheet as the signatures on the face of the form so that it will not be obscured when it is placed in the Lincoln Office file.

**Force Account Statements** - A force account statement, signed by both the Project Manager and the contractor's representative, is required for each calendar week during which work is performed. These reports should be prepared and signed weekly. In the event that overtime payment is involved and the agreement requires that reimbursement be made at the average hourly rate earned during the week, the statement shall be prepared and signed on the Monday following the week in which the work is performed.

A daily record of labor, equipment and materials used on force account work shall be kept in **SiteManager**. Work on force account and contract items will often occur at the same place at the same time. It will be the duty of the Project Manager or inspector to record his/her estimate of the force account labor and equipment hours and check with the contractor's foreman each day.

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A receipted invoice is required for all items of expense incurred by the contractor except insurance, social security taxes, and the items for which rates are established in the force account agreement. The quantity or amount of such services furnished or materials used during each week may be included in the statement for that week, or the total quantity or amount for all materials or other expense covered by the same agreement may be included for payment on a later statement, substantiated by receipted invoice. Payment cannot be made for such items until the receipted invoices are received.

The contractor shall furnish the Project Manager with a copy of his/her weekly labor payroll which contains the names of those personnel working on force account items. The hours worked and the rates paid to labor on force account work shall be compared with this transcript. Any discrepancies should be investigated and corrected to insure the accuracy of the force account statements. See Pages 492 through 497 for instructions and examples of force account agreements and statements.

#### **Alterations of Plans or Character of Work (*SSHC Subsection 104.02*)**

This subsection in the specifications authorizes the Department (Project Manager) to increase or decrease quantities of contract items for which there are unit prices included in the contract, if changes in plans or alterations of construction make such increases or decreases necessary or desirable.

A CO/SA may be necessary when there is a significant change in the character of the work. A "significant change" is defined in Subsection 104.02. A CO/SA will not be required if the Project Manager and contractor agree that the additional work can be done at the bid price. Such agreement, preferably including the contractor's initials or signature, should be documented in **SiteManager and** in the Project Manager's diary.

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#### **Sign Deductions**

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The change order for sign deductions must indicate that "State Funds Only" shall be used.

**104.09 VALUE ENGINEERING (SSHC Subsection 104.03)**

In accordance with *SSHC Subsection 104.03* a contractor may submit a value engineering proposal to the Project Manager with copies to the District and Construction Division. The purpose of value engineering is to encourage alternative, cost effective measures which produce equal or better quality end products.

Value Engineering proposals will not be accepted for:

- Changes in basic design of a bridge or pavement type. For example: Value engineering a project from PCC to ACC will not be acceptable. Changing a designed bridge to a box culvert is not acceptable.
- Changes which the contracting authority may already be considering.
- Basing a value engineering proposal on, or similar to, existing standard Specifications, Special Provisions, or design plans and standards adopted by the contracting authority. For example: A plan was let using **15 foot (4.6 m)** PCC joint spacing. A value engineering proposal would not be accepted changing this to **20 feet (6 m)** because Roadway Design Division standards have included this spacing as an acceptable standard.

The written proposal shall have sufficient detail to be evaluated for compliance with the requirements. The detail provided must also allow for reviewing how a proposal impacts the entire project. It shall include:

- A description of existing requirements and proposed changes
- All affected contract items, including new, extra work items and supporting justification for that extra work
- Unit prices requested for the work
- Effects on crew, equipment, and production needs for the project
- Impact on the construction period
- Schedule for obtaining all required materials

It is very important to pursue these requests quickly to maximize potential savings. Once a proposal is received, the Project Manager should (a) discuss the merits of the VE proposal with the District Engineer, and (b) initiate an office review and forward review comments to the Construction Division within a week. The Construction Division will coordinate the review with other offices, including selected section leaders (Design and/or Bridge) and the FHWA, if appropriate. Following this review, the Construction Division will notify the District and Project Manager of approval or disapproval and any special considerations or requirements. Following notification from the Construction Division, the Project Manager will prepare a written notification to the contractor outlining the review and conclusions of that review.



If a proposal is acceptable, this notification will form the basis for issuing a Change Order and Supplemental Agreement to implement conditions of the value engineering proposal. Therefore, a notification should include:

- A restatement of any changes
- All costs involved, and how costs will be addressed
- Any Specification requirements which result from changes or modifications to the existing contract
- Details pertaining to special requirements for materials inspection and testing, if applicable
- Any other special considerations or conditions

If a proposal is not approved, the notification needs to include reasons for rejection.

The Construction Division has established a goal of ten days to complete the entire review and notification process.

## **104.10 PLANT INSPECTION**

### **Portland Cement Concrete Paving Plant (*SSHC Subsection 1002.02*)**

The National Ready Mixed Concrete Association Quality Control Manual, Section 3, *Certification of Ready Mixed Concrete Production Facilities* lists the minimum monitoring requirements. A plant inspector (Construction Technician) will normally be assigned to each project with duties split between plant and grade inspection. Plant inspectors should schedule work so the plant can be visited daily during production. The amount of time spent at the plant will depend on the overall quality control at the production plant.

### **Structural Concrete Plant**

Ready mix tickets shall be prepared and signed by the person batching the concrete or the plant inspector.

### **Asphaltic Concrete Paving Plant Inspection (*SSHC Sections 503, and 1028*)**

Table 502.40.1 lists the ACC plant monitoring requirements. A plant monitor will normally be assigned to each project with duties split between plant and grade inspection. The plant monitor should schedule work so that the plant can be visited daily during production. The amount of time spent at the plant will depend on the overall quality control at the production plant. The contractor's QC inspector will be providing production and placement information to be entered on the daily plant report. Visits of the plant monitor to the plant laboratory for exchange of information and book work will normally be done daily.

The plant monitor will be responsible for witnessing core sampling and performing verification density tests.

### **Testing Equipment and Supplies**

Necessary plant inspection forms will be furnished to the producer at no cost. The producer can request these through the Materials & Tests Engineer or Project Manager. It is a good idea for the plant monitor to carry a supply of forms and make these available to the producers as needed.

NDR plant monitors can utilize contractor furnished equipment for testing required at the plant site.

### **Samples**

The contractor's inspector and NDR plant inspectors should indicate on the sample submittal form the field lab telephone number and hours they can be contacted for test results.

For QA/QC projects, the contractor is responsible for field sampling. The project monitors should witness sampling to the extent that they are assured the samples are taken properly. Additional witnessing of obtaining, identifying, splitting, testing, and storing samples will be as directed by the QA/QC Specification.

## 104.11 PLANT REPORTS

The Project Manager should make arrangements with the contractor's plant inspector for timely receipt of plant reports. The original and all copies of the plant report shall be kept at the plant until all documentation is completed. Normally, this will be the day following the end of the reporting period. Review and distribution of the reports will be made by the Project Manager. This distribution will include a copy to be returned to the contractor's plant inspector. Prompt consultation between the plant inspector and the NDR plant monitor shall follow any significant error or omission.

### Documentation

@

A separate field book **entry in SiteManager** should be set up on each project to document plant inspection. Some flexibility in the suggested format may be necessary depending on project size, type of plant, and if the QA/QC Specification applies. It is important to document discrepancies and corrective action taken by the contractor.

## **104.20 FIELD TESTS**

### **104.21 FIELD TESTING ON CONSTRUCTION PROJECTS**

#### **Materials**

All sampling, measuring, and testing for construction project quality control shall be performed as prescribed in the NDR Materials Sampling Guide and the NDR Standard Method of Tests.

#### **Project Acceptance Sampling and Testing**

Both construction inspection personnel and the contractor are responsible for the field sampling and testing portion of project acceptance tests. The Project Manager must review inspector assignments and maintain a program of continuing training for personnel and training of additional employees if required. Samples taken by inspectors and submitted to District or Central materials laboratories must be properly and completely identified on "Sample Identification Form" (DR Form 12) or other appropriate forms as required.

The *Materials Sampling Guide* shows the minimum required frequency of tests for various types of work. Additional tests should be made as necessary for adequate project control. Reports showing test results must include all tests made.

***Reports do not need to be included in field books or diaries.***

#### **Assurance Sampling and Testing**

*SSHC Section 1028* discusses the requirements related to asphalt assurance sampling and testing, most of which are Materials and Research Office responsibilities. Occasionally, assurance samples have not been taken on some projects because timely notification of ongoing work was not made. This has been more common with test cylinders from bridge deck pours and culvert projects.

While the actual taking of assurance samples remains the responsibility of Materials and Research personnel, it is of equal importance that project inspectors provide timely notification regarding available dates for testing.

**104.30 TRUCKS/HAULING OF MATERIALS**

The Motor Carrier Permit Office is responsible for the monitoring and enforcement of truck weights on roadways outside the project limits and on roadways within the project limits utilized to maintain through traffic. Our involvement in monitoring hauling units in these situations should normally be limited to notification of the appropriate Motor Carrier Permit personnel if obviously overloaded trucks are suspected. The primary focus of our attention should be insuring compliance with legal axle loads on pavements and structures on roadways within the project limits that are closed to the traveling public.

## **104.40        SCALES**

Aggregates are generally measured in the delivery vehicle on a platform scale. Asphaltic mixtures may be measured over platform scales, in silos on load cells, in hoppers, or by counting batches.

## **104.41        SCALE TICKETS**

The contractor shall provide a scale ticket for each load showing the required mass information on the procedure being used, the project number or contract description, the truck number, the date, and the type of material.

The required data to be automatically printed on the scale tickets will vary according to the method of measurement (hopper, silos on load cells, batch scales, or platform scales) and type of system (automatic or semi-automatic).

### **Automatic or Semi-Automatic Measuring**

- For hoppers, batch scales, or silos on load cells, all tickets printed automatically shall include the gross mass, empty mass of the hopper or mass not discharged, net mass of material for each drop, and the total net mass for the load. When measured under the semi-automatic procedure, the scalemaster may include on the ticket the calculated total net mass.
- For batch scales, the batch mass and batch count are to be automatically printed under both procedures. The total net mass may be printed with a system or calculated by a scalemaster with a semi-automatic system.
- For truck platform scales, all scale tickets printed automatically shall include gross mass, tare mass of the truck, and net mass of the load. For semi-automatic measuring, the printer shall print the gross mass, and the scalemaster shall conduct all measurements and may enter by hand or by printer the tare mass of the truck and calculate the true net mass.

### **Manual Measurement**

- For manual measurement of loaded trucks (project quantities less than 10,000 Mg) (11,000 ton), scale equipment on truck platform scales may or may not include a mechanical ticket printer. A scalemaster shall include the gross and tare mass and calculate the net mass on the scale ticket. The Project Manager may arrange for the measurement to be witnessed.

The inspector will collect the accompanying load ticket for each load of material on its arrival at the work site and check to see that the ticket has been validated by the scale inspector when such scale inspection is required. The inspector will observe each load of delivered material to detect any obvious deficiencies in quality or in quantity and reject any loads which are unsatisfactory.

The inspector will sign or initial the scale ticket for each accepted load to verify the material was delivered and accumulate the tickets on a daily basis for determination of

pay quantities. Quantities for each day's operation shall be totaled and checked against the contract records and any discrepancy promptly resolved.

The requirement that an inspector personally receive all load tickets at the time of delivery may be relaxed only in cases of very small quantities or intermittent deliveries under conditions where the Project Manager or inspector can visually determine the approximate quantity delivered.

On asphalt projects, it is permissible for a contractor's employee to collect the tickets and place them on a clipboard. An inspector must be present at the laydown operations at all times and observe the collection of the tickets.

#### **104.42 TRUCK PLATFORM SCALE APPROVAL**

The *SSHC Subsection 503.03* explains requirements for scales. A platform scale used for measurement of items such as crushed stone, base and subbase material, and asphaltic mixtures, contracted for and measured by the Megagram, shall meet these criteria.

##### **Truck Platform Scale Use**

*Each truck to be measured shall be tared twice a day.* Taring of trucks should be on a random basis during the day's operation, using the previous day's tare mass until a new tare mass for that day is determined. No truck may be used for hauling material paid for on a mass basis until tared.

## **104.50        SMOOTHNESS**

### **104.51        TESTING**

*SSHC Sections 502 and 602* contain the current asphalt and concrete pavement smoothness Specifications.

The special provisions provide the current smoothness Specification for bridge decks and bridge deck overlays. They discuss the requirements of smoothness criteria for bridge decks, new approaches, bridge deck overlays, and overlaid approaches. They will also indicate when evaluation is excluded.

Any pavement and bridge deck areas carrying traffic, but excluded from profilograph testing, must be checked with the 3 m (10 foot) straightedge or “bump buggy”. Deviations in these areas shall not exceed 3 mm (1/8”) in 3 m (10 feet).

If two or more lanes are placed in a single pass with a full width paver, smoothness results of adjoining lanes should be evaluated separately and independently so that each lane has its own profilograph trace.

### **104.52        EVALUATION**

#### **Bridge Approach Smoothness**

The final 1.8 m (6 feet) at a section end may be excluded from testing and evaluation only when the contractor is not responsible for the adjacent section, but the entire header-to-header section should be included in computations for price reduction or incentive assessments.

The 1.8 m (6 feet) on either side of a 100 mm (4”) expansion joint may be excluded from testing by the Project Manager, since the small averaging wheels on the profilograph may fall into the joint and possibly damage the profilograph and affect the trace. Contractors should fill these joints or cover them to allow the profilograph to run through the joint area.

A composite header, where one side is ACC and one side is PCC, is excluded from profilograph testing only when this header is at the extreme end of the project (i.e., only where one half of the header joint is existing pavement). If the composite header is constructed as a single project, no exclusions for smoothness testing should occur since both types of pavement (ACC and PCC) are under the same contract. The smoothness index should be determined independently for each surface type, but the bump specification should apply across the header.

#### **Bridge Deck Smoothness**

Profilograph tests will be conducted in each traffic lane approximately 1.0 m (3 feet) from the outside lane line of each traffic lane segment of bridge decks and bridge deck overlays.



The final 1.8 m (6 feet) at the end of a bridge and at an expansion joint are not included in testing or evaluation, but should be included in computations for incentive or price adjustment assessments. These areas will be evaluated for deviations exceeding 3 mm (1/8") in 3 m (10 feet).

Profilograph tests for bridge approach sections or overlay of bridge approach sections are run 1.0 m (3 feet) from the outside lane line of each traffic lane. These areas shall be corrected for smoothness and will not be used in the computation for incentive or price reduction of bridge decks or bridge deck overlays.

#### **104.53           BUMP CORRECTION**

Exact location of 10 mm (3/8") bumps requiring correction has proven difficult particularly on resurfacing projects. Referencing by station location, string line, and rolling straightedge often lacks the precision necessary for identification of exact bump locations. Locate bumps on the pavement surface during initial profilograph testing with spray paint or have a profilograph available during correction to locate bumps and monitor correction results.

#### **104.60           LIQUIDATED DAMAGES & EXTENSION OF CONTRACT TIME**

##### **Liquidated Damages** (*SSHC Subsection 108.08*)

The Construction Division will assess liquidated damages based on the District's recommendation.

The Construction Division will be responsible for settling liquidated damage disputes.

If project level good faith efforts fail to resolve differences, the Project Manager shall request negotiation assistance from the District Construction Engineer. In addition, factual information relative to the issue(s) shall be forwarded to the Construction Engineer.

Should combined efforts described above fail to resolve dispute(s), the issue will be considered to have reached an impasse. At this point, a meeting with all affected parties shall be scheduled with representatives from the Construction Division.

##### **Contract Time Extensions** (*SSHC Subsection 108.02*)

In SiteManager, all time extensions are change orders and the "Contract Time Allowance Extension Document" (DR Form 16) is obsolete. The value of a time extension is the liquidated damage amount times the number of days extended. The "Approved Limits" chart in Subsection 104.08 applies to time extension change orders.

A good example would be when a contractor was held up due to a delay in delivery of material and it was necessary to charge working days until the contractor provided proper documentation. After proper documentation, the contract time allowance is extended by the District for the amount of working days assessed during the delay.

It is intended to use this means to correct mischarged days rather than going back and revising the working day report. An example of this would be when a contractor

contests the working day charges shown on the working day report and he/she is considered to be correct.

The "Head to Head", "Detour" and "Earth Shouldering" time allowances are specific time allowances within the time frame of the overall contract allowance. They usually are not, but can be, affected by contract time extensions.

*SSHC Subsection 108.02*, Paragraph 6 says the Project Manager will grant an extension in the working day time allowance consistent with delays resulting from conditions beyond the contractor's control.

The Project Manager should be careful to keep complete and accurate records and information on any conditions or circumstances which delay the work. The Project Manager should keep good records, particularly on circumstances in connection with acts by the State and delays (to the work) caused by other contractors. If such delays are involved and the time allowance is exceeded, the contractor will surely request and be entitled to an extension in the time allowance. In the fair handling of such requests, the Construction Division review relies principally on the records kept by the Project Manager, and accurate, complete records on any such delays are of prime importance.

If the working day time allowance has been exceeded, the Project Manager should prepare a resume of the working days charged to accompany the final records. The resume should be based on a review of the working days charged, considering any requests for extensions in time made by the contractor.

**104.70      ACCIDENTS**

Whenever a traffic accident occurs in a construction zone, the Attorney General suggests that the Project Manager immediately video tape, photograph, and/or document the area to verify the position of signage, obstructions, traffic control devices, and other pertinent features.

Use the publication *Collecting of Accident Data* as an aid when reporting accidents.

## **105.00 -- MEASUREMENT AND PAYMENT**

### **105.01 GENERAL**

The Project Manager may elect to pay the plan quantity for items like pavement when the item is built to plan geometrics. Measurements are not always required when the item is constructed to plan and specification requirements.

If the item of work does not conform to the specification requirements, a new item of work must be added as extra work. Example: On guard rail, if it is necessary to leave out a post because of a drainage structure and use a double safety beam section, this section of guard rail must be paid for as extra work as it does not conform to the specification requirements for guard rail.

### **105.02 MEASUREMENT OF QUANTITIES AND COMPENSATION FOR ALTERED QUANTITIES**

@ All standard items of work listed in the contract are to be measured for payment using **English (metric)** System of measurement. A list of standard contract items and their units of measurement is available at each field headquarters and on Lotus Notes or the NDR Web Page. Inspectors or survey parties concerned with measuring and/or recording contract items will need to be informed of proper procedures to be followed.

The contractor may request that materials hauled to the project and paid for by the cubic meter (cubic yard) be measured and a mass conversion factor be used for determining the cubic meters (cubic yards) of material delivered. When the Project Manager approves this procedure, the mass of the material must be obtained on approved scales, the material must be hauled approximately the average haul to the point of delivery, and then the volume of the material must be determined. The mass of the material in kilograms (tons) divided by the volume of the material in cubic meters (cubic yards) will be the mass conversion factor. The cubic meters (cubic yards) of material used may be determined by dividing the total mass delivered by the mass conversion factor.

The Project Manager will determine the frequency for establishing mass conversion factors. The frequency will be dependent on the quantity of material delivered, on variations in the material's characteristics (moisture content, gradation, etc.), and on variations in the length of haul.

The final record for the contracted work must include all records and computations used in determining the mass conversion factors.

If provision is made that payment of any contract item is to be made as an "established quantity", payment will be made on the established quantity listed unless authorized alterations are made. Established quantities are often listed with prescribed tolerances set forth to allow for minor construction changes without requiring that final measurement be made. Authorized alterations are considered to be substantial changes in construction items which would usually be authorized by revised plans or

specifications, and may be listed in two categories. (See *SSHC Subsections 104.02, 109.01 and 109.04.*)

- The first type would be an alteration of a minor item and does not involve supplemental agreements. In this case, payment will be made at the contract unit price for the actual total.
- The second type is an alteration of a major item involving an increase or decrease of more than 25 percent of the item. This situation may involve a supplemental agreement stipulating changes in the actual quantities of the work and establishing (if necessary) a new price per unit price for such work. If there is an overrun, the original contract quantity plus 25% is paid for at the bid price. The extra quantity above 125% is paid for at the new negotiated cost. If there is an underrun, the entire quantity is paid for at the new negotiated price per unit. Payment would then be made at the new unit price for the increased orders and quantity.

#### **105.03 CANCELLED ITEMS (MATERIALS FURNISHED BY CONTRACTOR AND NOT USED DUE TO CHANGES IN PLANS)**

The Department will, if the contractor desires, take over unused material at the cost delivered to the location at which it is accepted by the Department.

It will be necessary for the District Engineer or the Project Manager to initiate a change order providing for payment for such materials. The item included in this agreement shall include the phrase, "delivered but not incorporated in the work", in order to specifically identify such materials. The unit price established for items of material furnished by the contractor and not used because of a change in plans will usually be based on the actual cost of the materials, plus 10 percent to cover overhead, handling, other costs and profit. To substantiate the unit price established, the Project Manager should obtain a copy of the receipted invoice for the material and attach it to the supplemental agreement.

@ **Change Order/Supplemental Agreement must be created to pay this.** It will also be necessary for the Project Manager to include an explanation of the transaction in **the Change Order/Supplemental Agreement**. Complete information regarding the disposal made of the material, such as the supply base to which it is delivered or the project on which it is used, is essential. The party to whom it is delivered should prepare a DR Form 329, "Imprest Inventory", providing for the proper transfer of the charges for the material.

Payment for such materials must be included in the final estimate as a nonparticipating contingency.

#### **105.04 PARTIAL PAYMENT**

The contractor is to be paid once a month for satisfactory progress on the basis of work completed during that month. The Project Manager prepares a contractor's estimate in the computer stating the estimated quantities for items of completed work to date. This

document is forwarded to Lincoln through the District Engineer's office for processing and payment via E-mail.

When the value of the work completed during the first half of the contractor's pay month exceeds the amount stipulated in the specifications (usually \$10,000.00), a semi-monthly contractor's estimate is prepared. All partial payments are made on satisfactory work and materials only, as evidenced by complete certifications or test results as required. Defective work or material shall not be included for payment until the defect has been remedied.

## 105.05 FIELD MEASUREMENT AND PAYMENT

**Photographs and Video Tapes** - Documentation on film can save many questions and provide critical answers. Take a picture any time it may be helpful.

**Field Records - General** - Payment for most contract items is based on the plan quantities. Final measurements should be avoided as long as the specifications permit and the contractor does not dispute the quantities. Their construction should, however, be documented as described under "Inspection Notebooks" with the statement (if applicable) "Constructed as per plans" and substantiating data or measurements, if necessary, also entered in the record.

Field records must be properly kept to substantiate that the contractor has conformed to the requirements of the plans, specifications, and Special Provisions both as to quantity, usually involving measurements, and quality, usually involving tests, of the work or material items used on the project.

Instructions and examples of preparation of specific records may be found in this manual in *Appendix 3*.

@ **Field SiteManager Entries or SiteManager Item Documentation** - Field measurements made for pay items of work and records of placement of materials shall be entered directly in SiteManager.

@ Field and lab test results on quality of materials will be entered into SiteManager. Record and document tests using approved Material Sampling Guide and SiteManager procedures.

@ The item documentation records should indicate the stationing used, date placed or constructed, and sketches with dimensions if necessary to give clear understanding of the placement and material used. The names of the party or engineer making the measurements and dates performed must be entered in SiteManager or included with the supporting documentation. Materials used in the construction of the project for which no direct payment is made but are considered subsidiary to other pay items should also be documented in SiteManager, Materials Management Section.

@ **SiteManager** should contain a detailed summary of all shipments received for the project, including the kind of material, the identification number, net mass, date received, delivery point and, if possible, the point of origin. Include distribution to the proper group of the contract and information on material received but not used on the project.

The laydown inspector shall **enter in SiteManager** the activities required in the performance of his/her job. This would normally include such items as types of equipment being used, equipment checks, tonnage checks, thickness checks, temperature checks of mixture, etc. **All entries are to be dated.** Also, we would like to bring to your attention that the inspectors are to sign the scale ticket on receipt and acceptance of the material. Base all entries on facts, not opinions.

@ Final computations shall be entered directly into **SiteManager or other approved recording and documentation methods used in conjunction with SiteManager**. Operations of performing computations and checking computations shall be identified on each page of computations by operation, date, and the name or initials of the individual.

@ Plans, tables, and sketches provide supplementary details necessary to clarify **SiteManager entries** for pay items. Any such plan or sketch shall be **saved electronically in the project files**. Supplementary plans and sketches are sometimes necessary to define the extent of a pay item sufficiently enough to remove any doubt as to its limits.

@ 

- A good technique is to build the sketch or table in the computer and then **save it electronically**.

Supplementary sketches are sometimes necessary to show measurements of irregular areas for both pavement removal and the construction of new pavement.

@ Computation **spread**sheets **should be** used where detailed computations are necessary to determine pay quantities. These computations are made from **SiteManager**, cross section, or sketch information and should be fully referenced in **SiteManager**. It is necessary that all computations **be referenced in SiteManager or saved electronically in a project folder (Read Only Access)** so that the computations can be checked for correctness of method and accuracy.

**Scale Tickets** - Scale tickets are used to substantiate quantities of materials which are paid for by mass. The original copies (white) should be submitted with the final records of the project to the District Final Reviewer. Preparation of scale tickets and distribution is discussed in the section pertaining to asphaltic concrete inspection (Subsection 507.12 in this manual).

105.06 CONTRACTOR'S ESTIMATES

*SSHC Subsection 109.07* allows payments to the contractor if satisfactory progress is being made. These contractor's estimates will include quantities and amounts for items of work completed to the date of the estimate.

@

Progress estimates are completed in **SiteManager** by the Project Manager and signed electronically. It is the District Engineer's responsibility to review and approve the estimate in a timely manner, sign it electronically, and forward it electronically to the Controller.

Upon receipt by the Controller, the estimate is processed further by the Construction and Controller Divisions before it is released for payment.

@

On all Federal-Aid projects, it is necessary to separate participating and nonparticipating items of work on the progress estimate form by dividing them into separate summaries for each project in a contract. Each line is properly divided by the Controller Division when the item is loaded in **SiteManager**. This procedure is done to comply with our agreement with the Federal Highway Administration regarding procedures for current billing and current audits. Items which are added to the contract should be included in the proper group in the participating or nonparticipating summary as applicable. Items added by change order-supplemental agreement should be considered as participating unless the agreement form is marked "nonparticipating" when returned from the Lincoln Office. The District Office should be consulted for further information on any item for which there is some uncertainty regarding its status.

For contracts which include wage rates, progress estimates shall not be released by the Project Manager until the contractor and subcontractor have submitted all delinquent payrolls and Forms WH-348. These reports shall be considered delinquent when they are not in the Project Manager's hands by the seventh day after the date on which the employees are paid. Notify the contractor by letter, with a copy to the Construction Division, of any delinquent payrolls and WH-348's in advance of the estimate date. The estimate should be prepared at the regular time and forwarded immediately upon the receipt of the payrolls.

**Estimate Preparation**

Please remember to update Line 2 (current quantity) on the estimate for all items added by plan revision or supplemental agreement. This adjustment should be made as soon as you receive the plan revision or supplemental agreement.

The Controller Division depends on Line 2 being accurate so they can allocate sufficient funding to each project.



DISTRICT ESTIMATE SCHEDULE		
District No.	Regular Estimate Date (Only if money due contractor)	Alternate Estimate Date (\$10,000 or more must be paid)
*1	1st Saturday of Month	3rd Saturday of Month
2	2nd Saturday of Month	4th Saturday of Month
*3	1st Saturday of Month	3rd Saturday of Month
4	2nd Saturday of Month	4th Saturday of Month
5	4th Saturday of Month	2nd Saturday of Month
6	3rd Saturday of Month	1st Saturday of Month
7	4th Saturday of Month	2nd Saturday of Month
8	4th Saturday of Month	2nd Saturday of Month
* Districts 1 and 3 use the 5th Saturday of the month instead of the 1st Saturday of the future month as Primary Cutoff day when there are 5 Saturdays in a month.		

**Stockpiling:**

*SSHC Subsection 109.07*, Paragraph 4. provides that estimates may also be allowed for acceptable nonperishable materials meeting the requirements of the plans and specifications and delivered in the vicinity of the project or stored in acceptable storage places. This will generally apply to aggregates, structural and reinforcing steel, metal specialty items delivered but not incorporated in the work, and other materials which cannot be used for extended periods of time because of delays beyond the contractor's control. The amount included in the estimate will be determined by the PM, but in no case shall it exceed 100-percent of the value of the materials as shown by copies of receipted invoices or costs. Partial payments shall be listed under the stockpiling category with an "800" series number.

As the material is used, the payment for this material should be reduced accordingly in the stockpile item on the estimate.

Payment for stockpiled material is "permissive", and it should not be interpreted to be a requirement in cases where the material will remain in storage a comparatively short time (less than one month). When there is a question as to the inclusion of a material for payment, the District Construction Engineer should be consulted for instructions.

*SSHC Subsection 106.02* states that:

All materials are subject to and will be inspected, tested, and accepted by the Project Manager before incorporation in the work.

*SSHC Subsection 1001.02* requires:

Materials which must be documented by a certificate of compliance, certified test, or test reports shall not be incorporated into the work until such certificates have been delivered to the Department and verified for compliance.

It follows from the above that material items which have not been tested and accepted, or for which appropriate certification, as defined in the Materials and Research Manual, has not been delivered to the State, should not be included on an estimate for payment.

Likewise, no material item which has been stored in accordance with Paragraph 4. of Subsection 109.07 of the Specifications should be included on an estimate for payment unless the appropriate test data or certifications for compliance with the specified requirements are in the files of the Project Manager and documented in SiteManager.

The Project Manager shall maintain documentation of progress estimate quantities.

**Types of Contractor Estimates** – SiteManager has only three types of estimates:

- **Progress** – all estimates prior to the “Final Estimate.”
- **Final** – generated once District has completed its review and is ready to forward the project to Lincoln for “Finaling.”
- **Supplemental** – all estimates generated to change the “Final Estimate.” Additional estimates are obsolete in SiteManager. However, the PM must notify the Construction Division when a project is complete – which used to be the purpose of the additional estimate. In SiteManager, the PM must send a Lotus note to “DOR-CONST-COMPLETION NOTIFICATION.” The Finaling Manual explains what must be included in the “note.”

**Processing Estimates** – Each District should direct a copy of signed estimates to the Construction Division printer (CON1) as soon as possible after affixing the electronic signature.

Each District is encouraged to sign and print estimates as often as possible. The uniform and steady arrival of estimates in Lincoln is encouraged and appreciated by both the Construction Office and the Controller Division.

**Contractor's Statement of Compliance (Form WH-348)** - Form WH-348 shall be submitted for each weekly payroll period by each contractor and subcontractor on all projects financed by Federal Funds. (Form WH-348 is not required on other than Federal-Aid projects.) The WH-348 form should be attached to and submitted to the

Project Manager with the contractor's payrolls and kept in the District. The Project Manager should maintain a record of WH-348s and payrolls received. The WH-348 for the last week of work shall clearly indicate that it is the final report.

The contractor and subcontractor are required to submit the payrolls with Form WH-348 weekly. Payrolls shall be considered delinquent when they are not in the Project Manager's hands by the seventh day after the date on which the employees are paid. The Project Manager shall defer the release of progress estimates until contractors comply with this rule. The Project Manager shall notify the contractor by letter of any delinquent payrolls or Forms WH-348 in advance of the estimate date.

**Contractor's Statement of Materials and Labor - (Form FHWA-47).** Form FHWA-47, "Statement of Materials and Labor", shall be submitted by the contractor as required and explained in Section VI, Record of Materials, Supplies and Labor, Form FHWA-1273 (Rev. 4-93). The FHWA-1273 is included in every Federal Aid project. The contractor shall submit one copy of this report to the Lincoln Construction Division. If this report has not been received when the final records are sent to the Lincoln Office, the Construction Division shall withhold release of the final estimate until the Form FHWA-47 is received.

## **105.07 FIELD COMPUTATIONS FOR FINAL PAYMENT**

**General** - The quantity of each item of work on the project shall be computed and checked by the Project Manager and his/her assistants. Computations must be complete so that each step may be easily followed without completely checking the mathematics. The date and initials of persons performing computations and verifications should be shown on each sheet of the field notes, cross sections, and computations. Unless this information is shown, it will be necessary for the work to be duplicated in the District Office.

All computations will then be reviewed in the District Office to determine the correctness of the method used in computing the quantities of the various items. Sufficient checks of the mathematics should be made to determine the care and accuracy used in preparing the computations. A check should be made to determine if all necessary, supplemental and force account agreements have been executed. Considerable discretion must be exercised during the District review in order to ascertain the accuracy of final computations and yet eliminate needless rechecking.

The Construction Division will not check all projects. Only random audits will be performed.

**Roadway Excavation** - Final earthwork quantities may be computed by either of two methods or a combination of the two methods.

- A. **Data Collector** - When the preliminary survey was entered in a Data Collector, then all survey data during and after construction can be modeled with GeoPak. Final cross sections are computed by GeoPak once the final surface shots are input in the Data Collector. Cross sections can be taken at any location by GeoPak.

- B. **Planimeter Method** - After the final cross sections have been plotted and checked, the areas of excavation which are enclosed by the original and final cross sections are measured by the planimeter. In using the planimeter, for areas plotted 60 mm (5 feet) to 1 mm (1") horizontally and vertically, each area should be circumscribed twice. The reading at the end of the second circuit should be twice the reading at the end of the first circuit. The planimeter shall be set so that the reading at the end of the second circuit is in square meters (square yards) of end area. Without changing the planimeter setting, areas may also be determined for cross sections plotted vertically 60 mm (5 feet) to 1 mm (1") and horizontally 120 mm (10 feet) to 1 mm (1"). The reading at the end of the second circuit should be twice the reading at the end of the first circuit. The reading at the end of the second circuit should then be divided by 2 for the area in square meters (square yards).

Planimeters shall be checked frequently by running around 4 squares of the cross section paper. Different individuals and different cross section sheets often require different settings of the planimeter arm, and the machine should be checked when changing operators or cross section sheets. Each area should be checked by another person. In checking areas, the following shall be the allowable error:

<u>ALLOWABLE AREA ERROR</u> (metric)		
Areas of 3 to 38 m <sup>2</sup>		1 m <sup>2</sup>
Areas of 39 to 50 m <sup>2</sup>	not over	2 m <sup>2</sup>
Areas of 51 to 99 m <sup>2</sup>	not over	3 m <sup>2</sup>
Areas of 100 to 250 m <sup>2</sup>	not over	4 m <sup>2</sup>
Areas of 251 to 500 m <sup>2</sup>	not over	5 m <sup>2</sup>
Areas over 500 m <sup>2</sup>		1 percent

<u>ALLOWABLE AREA ERROR</u> (English)		
Areas of 32 to 400 ft <sup>2</sup>		10 ft <sup>2</sup>
Areas of 400 to 550 ft <sup>2</sup>	not over	20 ft <sup>2</sup>
Areas of 550 to 1075 ft <sup>2</sup>	not over	30 ft <sup>2</sup>
Areas of 1075 to 2700 ft <sup>2</sup>	not over	40 ft <sup>2</sup>
Areas of 2700 to 5400 ft <sup>2</sup>	not over	50 ft <sup>2</sup>
Areas over 5400 ft <sup>2</sup>		1 percent

All excavation cross sections shall be inspected for closure and, if necessary, a "field check" made. Sections must close in order that the end area may be accurately determined.

If any excavation area occurs on a horizontal curve, it must be corrected for curvature. This correction will be a reduction in area size on the inside of the curve and an addition to the area size on the outside of the curve. If the entire area is a cut section, the correction may be either a subtraction or an addition to the original area size depending on the location of the center of gravity of the cross section. The formula and an example of end area curvature correction for both simple and spiral curves is shown here:

### INSTRUCTIONS FOR CORRECTING EARTHWORK AREAS FOR CURVATURE

Excavation areas of cross sections on horizontal curves shall be corrected for curvature using the formula  $C = \frac{Ae}{R}$  where:

- A = the area of the cross section
- e = the eccentricity
- R = the centerline radius of the curve

The area A is the area of the section determined with a planimeter. The eccentricity is the distance between the centerline or base line of the cross section and the center of gravity of the cross section, and is a positive number when the center of gravity falls outside the centerline, and a negative number when the center of gravity falls inside the centerline. The correction is positive or negative depending upon the sign of the eccentricity.

The center of gravity of the cross section in most cases can be determined by inspection. If the area and the eccentricity are large and the radius small, it may be necessary to determine the center of gravity of the section by the moment arm method, after determining the center of gravity of the smaller portions of the section by inspection.

In determining the center of gravity, it must be remembered that the center of area falls at the center of gravity only when the area is rectangular in shape.

All computations for the correction for curvature may be made with a slide rule.

#### EXAMPLE

Assume a three degree curve to the left with the following cross section on the curve at Station 100+00.



StaM 100+00

$$C = 595 + 19 = 614$$

$$F = 0$$

$$\text{Then, } C = \frac{595 \times 62}{1910} = 19$$

#### RADIUS COMPUTATION FOR AREAS IN SPIRAL CURVE

When the above area falls in a spiral curve, the radius must be computed for each station and plus using the formula  $r = \frac{RL}{1}$  where:

- r = Radius at Required Station on the Spiral
- R = Radius of Main Curve
- L = Length of Spiral
- 1 = Distance from T.S. to Required Station

If the above Station 100+00 is 150 m from the T.S. and given a 300 m spiral, then  
 $r = \frac{(1910)(300)}{150} = 3820$  m, the radius at Station 100+00.

After the excavation areas have been carefully checked, they are transferred to earthwork computation sheets (DR Form 99) and the volumes of cut areas computed. These need be computed only as far as the fifth column (Sum End Areas Corrected for Distance). The total of this column may be converted to cubic meters (square yards) by multiplying it by the factor 50 (in English units use factor 1.8518519.) Earthwork computations shall be computed to one decimal place (0.1 m<sup>3</sup>) (0.1 cy). Sheet totals to the nearest cubic meter (cubic yard) should be summarized on DR Form 205.

**Overhaul** - Overhaul will be computed in the Lincoln Office using the mass diagram. When overhaul is involved, the following procedures should be followed by field personnel (See *SSHC Section 209*):

1. Recheck balance to determine that all plan excavation has been incorporated.
2. Recheck embankment to insure that undue swelling or slope flattening has not occurred.
3. Locate additional excavation within the balance if possible.
4. Inform the District Office of the existing conditions and shortages.
5. Take embankment sub final cross sections over the entire area where embankment is deficient. Correlate this area to the project centerline.
6. Take preconstruction cross sections of the new borrow area and correlate it to the project centerline. Should the borrow originate in an adjoining balance, subfinal cross sections should be taken to complete the separation of the two balances. Upon completion of the excavation and placement in embankment, final cross sections over both areas (excavation and embankment) are necessary to measure the quantity of excavation moved and in order to compute the overhaul, if any. A diagram of the source and final deposit area with "measured distances" will be very helpful in making the final computations.
7. Transmit all notes, plotted cross sections and computations (DR Form 99), diagrams, and pertinent information to the Lincoln Office for analysis and overhaul computations.
8. The Project Manager will be advised of the quantity for payment and all notes, diagrams, computations, and pertinent information will be returned.

**Foundation Course** - Foundation course may be of several types. It will be noted that *SSHC Subsection 307.04* provides that Foundation Course will be measured for payment by the square meter (square yard) or Megagram (ton) as defined in the Bid Item Schedule. When Foundation Course is measured by determining the mass, it is important that the moisture content be maintained within the limits shown in the

specifications in order to avoid payment for extra water in the material. Frequent moisture tests should be made at the time of measurement.

*SSHC Subsection 307.04* says moisture content at time of measurement shall be between optimum and 3 percent below optimum.

**Gravel Surfacing** - Gravel surfacing computations should be submitted on DR Form 264.

Since the payment the contractor receives for gravel depends on test results and computations shown on this form, it is extremely important that both the testing and the arithmetic be accurate. Placing information shall be shown in the field books.

"Truck Capacity Computations", Form DR-101, are necessary when trucks are hauling such items as gravel, sand, filler, etc. and payment is to be on a cubic meter (cubic yard) basis. This form shall be prepared promptly at the beginning of the work and submitted to the District Office. The type of material being hauled shall be noted on the form.

If trucks are transferred to another project under the inspection of the same Project Manager or inspector during the construction season, it is not necessary to remeasure the trucks or submit DR Form 101. However, always inform the District Office of the transfer.

This information should include the name of the owner and license number, capacity of the truck, original project number on which the truck was measured, and the new project number.

**Prime Coat and Tack Coat** - (See *SSHC Sections 504 and 517*) - Asphaltic materials for prime coat and tack coat shall be measured in liters, corrected to 15°C (60°F). If the material is delivered in tank cars, the quantity is usually determined by measuring the mass or metering at the source. If this is not done at the source, the mass of the material must be measured at the point of delivery.

When material is transported directly to the work in trucks, the mass shall be measured on scales.

If the material has been metered, the volume at 15°C (60°F) shall be determined. (Contact Materials & Tests Division for proper conversion factors.) Any material that is lost, wasted, used on private work, or transferred to other projects shall be deducted. Tank cars and trucks shall be checked to verify that they have been entirely emptied before returning to the refinery.

When asphaltic material is transferred from the project, the Project Manager shall measure the material before it leaves the project and immediately notify the Materials and Research Division that the material is being transferred. The Construction Division and the District Engineer(s) should also be notified. The notice shall be by the DR Form 193, Transfer of Asphaltic Material. If possible, it is advantageous for a copy of this report to accompany the transferred asphaltic material.

**Asphaltic Concrete Surface Course and Base Course** - Tickets may be furnished by the Department or by the contractor. The contractor may furnish the tickets if he/she wishes to use automatic printing equipment. If the contractor desires a copy of the scale tickets, they should be prepared in triplicate. The original should be received by the laydown inspector. The first copy is the contractor's copy, and the second copy is for the project records.

The liters of asphaltic cement shall be measured as shown in *SSHC Subsection 503.05*. (HINT: A common final computation error is the failure to deduct asphalt cement used in wasted asphaltic concrete from the final pay quantity.)

**Concrete Pavement** - The number of square meters (square yards) of concrete pavement to be paid for will be the plan quantity. Widths and lengths of irregular areas built other than as shown in the plans shall be measured and recorded in a data collector and the areas computed, or computations made from staking data providing no changes occurred during the actual construction. Quite often the plans indicate the quantity (square meters) (square yards) involved in intersections, driveways, and the more complex sections of the projects. In these instances, the quantity indicated on the plans for a given area may be used as the final pay quantity, provided that no geometric changes have been made from those shown on the plans and that a rough check of the quantity shown has been made to determine if any apparent errors exist.

In determining the final quantities for concrete pavement or base course on an area basis, deductions will be made for fixtures in the roadway having an area greater than 1.0 m<sup>2</sup> in accordance with *SSHC Subsection 109.01, Paragraph 1.b*.

When municipal paving projects involve several items of work for which payment is made on an area or length basis, such as sidewalk, curb, curb and gutter, driveways, pavement, etc., it is suggested that complete sketches be prepared in Microstation or on cross section paper to show the actual work performed as well as the computations for the pay quantities. As a general rule, two complete sets of sketches should be prepared. One set should show the removal items and the other set should show the new work. The measurements and dimensions included with these sketches should be clearly identified as to whether they are actual field measurements or computed dimensions. The computations should always be shown on, or accompany, such sketches.

When municipal paving projects contain various radii curves at street intersections, concrete paving area measurements and computations may be based on the chord and rise method. Dimensions used for final payment will be as staked dimensions. (This assumes any difference is a contractor error.) The only exception would be if the area was constructed smaller than it was staked.

Combination curb and gutter is measured for payment by the meter (linear foot). (*SSHC Section 606*)

### **Removal of Existing Structures and Preparation of Existing Structures** (*SSHC Section 203*)

- A. **Removal of Existing Structures** - Unless the contract contains a unit bid for the removal of an old structure, the excavation necessary for such removal is paid



for by the cubic meter (cubic yard). Preconstruction cross sections shall be taken for all removals.

Pipe removal excavation limits are shown in the *SSHC* in *Figure 701.01*. Headwalls and box culverts may be removed on a unit basis and any removal excavation will be subsidiary. The volume occupied by them within the limits of the new work shall be included for payment as culvert excavation. However, deductions will be made for openings in structures, other than pipe and pipe-arch culverts, if the openings have an average cross sectional area over 2.0 m<sup>2</sup> (21.5 square feet). This means the nominal opening of the old concrete box regardless of the accumulated silt and debris. On old structures without paved floors, the PM shall measure and compute the average cross sectional area of the opening. (See *SSHC Subsection 702.04*.)

In the case of removal of old pipe and headwalls, where the headwall is removed on a unit price basis, the excavation limits for the old pipe removal will extend 500 mm (18 inches) beyond the end of the pipe the same as would be applicable if no headwalls were involved. Any necessary excavation for removing the old headwalls outside the pipe excavation limits would still be subsidiary. (See *SSHC Subsections 702.04* and *702.05*)

- B. **Preparation of Existing Box Culverts** - When the contractor has the option of breaking the box culvert back 600 mm (2 feet) or drilling dowel holes to insure a structural tie, the concrete and excavation pay item quantities shall be only the volume from the vertical plane that would be necessary for the doweling procedure. When the plans stipulate or the Project Manager orders removal of 600 mm (2 feet) of the box culvert barrel then the pay quantities shall be computed from the vertical plane 600 mm (2 feet) into the existing structure.

The excavation limits are to be computed as shown in *SSHC* in *Figure 701.01*.

### **Excavation for Structures**

- A. **Excavation for Bridges** - Excavation for bridges is computed in the Bridge Division at the time the plans are prepared. Payment is a lump sum for all abutments, piers and/or bents. No further computations need be made on this item unless the station location of the bridge or the depth of the footings is changed. The Project Manager should not change the location of any bridge without first consulting with the District Engineer, and the Bridge Division.

If it is decided that a change in location is necessary, any required information should be forwarded to the Bridge Division, via the Construction Division, for use in redetermining the excavation quantity.

- B. **Concrete Seal Course** - The construction of concrete seal course or removal of unsuitable material is extra work (see *SSHC Subsection 702.05*). These amounts shall be listed in the field book. The concrete seal course quantities shall be negotiated before the contractor begins the work.

The cubic meters (cubic yards) of concrete in the seal course shall be paid for as indicated in *SSHC Subsection 704.05*.

**C. Excavation for Culverts**

1. **General** - The Project Manager should be thoroughly familiar with *SSHC Section 702*, "Excavation for Structures", before measuring or computing the contractor's culvert quantities.

Following are listed some of the various classes of culvert excavation listed for payment in State contracts: "Excavation for Pipe Culverts and Headwalls", "Excavation for Box Culverts", "Excavation for Inlets and Junction Boxes", "Excavation for Sewers", etc. Since these are separate items in the contract, they should be kept separated in the field notebooks and computations. Include sufficient information in the field notebook so this separation may be checked during final review. If the plan data calls for removing a pipe culvert and building a box culvert at the same location, the excavation for removing the pipe culvert and headwalls would be determined as if no box culvert were to be built at the removal location. Any duplicated or overlapping excavation would be deducted from the volume of excavation for the new box culvert.

2. **Typical Channel Section** - When the plans show a typical channel section through a culvert site, the separation of grading and culvert excavation should be handled as follows:

Slope stake the typical channel section through the culvert site.

Take final cross sections after the channel dirt is removed.

Do not pay for any of the excavation twice.

3. **Excavation for New Structures.**

Field Measured Culvert Excavation - In general, the Project Manager shall bear in mind that:

There shall be no duplication of excavation when headwalls are constructed.

No additional excavation will be allowed for concrete elbows. This is a minor amount and since the kind of pipe is usually optional with the contractor, the excavation quantity will be based on the use of corrugated metal pipe.

The contractor is entitled to payment to the excavation limits specified even though he/she may not actually remove the soil to those limits. However, in all cases, the contractor should be held to a width adequate for proper compaction of the backfill beneath the lowest 90 degrees of pipe culverts and adjacent to all pipe-arch culverts at the widest

dimension. If slope is not properly laid back, other safety precautions must be taken to protect people from a cave-in.

Following are the excavation limits to be used in computing the contractor's culvert excavation. Since these limits are fixed by the specifications, final computations may be completed at any time after taking the preconstruction cross sections.

**Box Culverts** - 450 mm (18 inches) outside of the neat lines of the concrete to the bottom of the box floor or footings. On box curtain walls below the bottom of the floor and the footing beneath the lower break of broken back boxes, the excavation shall be the same as the neat lines of the concrete curtain wall or footing.

**Pipe Culverts** - the nominal inside diameter of the pipe plus 1 meter (3 feet), and 450 mm (18 inches) beyond the end of the pipe and to the flowline of the pipe.

**Pipe Arches** - the maximum nominal inside clear span dimension on the arch plus 900 mm (3 feet), and 450 mm (18 inches) beyond the end of the pipe and to the flowline of the pipe.

**Concrete Headwalls** - 450 mm (18 inches) outside the neat lines of the concrete and to the bottom of the headwall. If it is necessary to construct compacted embankment to the flowline elevation before laying the pipe, headwall excavation shall be allowed from the flowline of the pipe to the bottom of the headwall.

**Concrete Elbows, Collars, and Collars with Bend** - the excavation limits for elbows and collars is the same as for pipe culverts without elbows, collars or collars with bend.

All the above limits are increased when flowline is more than 1.25 m (4 feet) below natural ground. There is an additional allowance for safe excavation. See *SSHC Specification Figure 701.01*.

## **Piles and Pile Driving**

The Project Manager shall measure all piling to  $\pm 30$  mm (0.10 foot) before they are placed in the leads by the contractor. Cutoffs shall also be measured to  $\pm 30$  mm (0.10 foot).

**Sheet Piling** - The quantity to be paid the contractor for this item is the number of square meters (square yards) of piling remaining in the completed structure, except that no payment shall be made for lengths in excess of those ordered by the Project Manager.

For steel sheet piling, the computation width shall be the manufacturer's nominal driving width of each sheet, in accordance with *SSHC Subsection 703.04*. This has been interpreted to mean in the case of bent sections for corners, the nominal width of the

sheet before bending regardless of angle of bend. The quantity of steel sheet piling cutoff to be paid for shall be in accordance with *SSHC Subsection 703.05* and shall be verified by the inspector in the bridge book.

The computation width for concrete and timber sheet piling shall be the nominal width shown on the plans. For timber sheet piling in sloping wingwalls, the contractor shall be allowed payment for the square meters (square yards) of piling remaining in the completed wingwall, plus payment as cutoff for the square meters (square yards) cutoff to make the slope. The combined length of pile and cutoff shall not be in excess of the plan order length or revised length ordered by the Project Manager.

In order to determine the final pay quantity for these items, it is essential that the total length, the length of cutoff and the net length remaining in place be shown in the field notebook for each sheet pile. All measurements shall be  $\pm 30$  mm (0.10 foot) and in the case of wing piling cutoff on the slope, the length of cutoff should be the average of the long and short sides.

The field notebook for the bridges shall include definite information as to the final quantities for all contract items even though a number of the items may have the same final quantity as listed in the contract. Final quantities shall be summarized in the field notebook. This eliminates questions on the part of the reviewer as to the correct final quantity.

**Concrete Construction and Reinforcement** - Pay quantities for these two items are computed from tables found on the standard plans. Plans for special structures also contain this information.

The Project Manager shall not make a deduction from the concrete quantity shown on the standard headwall plan when the pipe enters the headwall on a vertical (broken back pipe) skew.

In computations for concrete quantities for junction boxes and inlets, the deductions for pipe openings shall be computed on the basis of right angle openings even though the actual opening may be on a skew. No correction shall be made for shell thickness of concrete pipe culverts.

### **Culverts**

- A. **Concrete Pipe Culverts** - The contractor's payment for concrete pipe is based on a measurement of the actual length of pipe in place, but in no case will a length greater than order length be submitted for payment.

When elbows are required, the measurement shall be continuous through the elbow. The additional allowance for elbows is provided in *SSHC Subsection 718.04*.

When either prefabricated or field constructed elbows connect two sections of new pipe, the pay length of the elbow will be the measured length on the longitudinal axis of the pipe (average of the long and short sides), plus the allowance (depending on the diameter) listed in the specifications or as amended

by the Special Provisions. No payment is allowed for the concrete and reinforcing steel used to construct the elbow.

If the elbow, poured in place, connects old and new pipe, it will be considered as a collar with a bend and no payment will be included for the elbow as such. In lieu thereof the concrete and steel required for the elbow will be included for payment under the items of concrete and reinforcing steel for collars.

The measurement for payment of all the types of culvert pipe is based on the number of linear meters (linear feet) in place and accepted. This is interpreted to mean that culverts are to be measured after material has been cut off for skewed ends. Thus payment is not made for waste resulting from skew angle cuts on either one or both ends of a culvert.

**B. Corrugated Metal Pipe and Pipe Arch Culverts (*SSHC Subsection 718.04*)**

**Corrugated Metal Pipe** - The contractor's payment for corrugated metal pipe is based on a measurement along the longitudinal axis of the pipe and payment will not be made for lengths greater than order length.

When elbows are required, the measurement shall be continuous through the elbow. To the measured length of each elbow shall be added the additional allowance provided in *SSHC Subsection 718.04*. The pay length of the elbow will be based on the centerline distance.

If field connections are required for the extension of existing corrugated metal pipe, the contractor shall receive payment for the necessary connecting band. When the Project Manager makes changes in his/her original pipe order after it has been fabricated, the contractor shall receive payment for any connecting bands made necessary by such changes. (*See SSHC Subsection 718.04*)

**Corrugated Metal Pipe Arches** - Corrugated Metal Pipe Arches shall be measured for payment in the same manner as corrugated metal pipe culverts along the flowline of the pipe-arch. Include elbow and skewed end dimension sketches in the notebook.

**Pipe Ordered But Not Used** - The quantity of various pipe items is shown on the Project Manager's field checked culvert list, the testing laboratory's delivery records and in the final summary. These three records should be in agreement or any differences fully explained before submitting the final estimate.

If any pipe is delivered but not installed, due to a change in plans, this should be recorded in the notebook and the project records shall show the final disposition of the pipe. If the pipe is transferred to the maintenance department, it shall be included for payment on the final estimate under "Contingencies" nonparticipating.

For roadway pipe and driveway culvert pipe, payment shall be made to the contractor on the basis of his/her actual delivered cost to the project plus a handling charge of 10 percent. A supplemental agreement shall be executed to

establish this price which must be substantiated by a copy of the contractor's invoice attached to the agreement.

Notify the District Office or the Maintenance Superintendent who will arrange to pick up the pipe and issue a requisition crediting the project and charging the supply base. Advise the person issuing the credit requisition of the name of the contractor and unit price to be used in making the credit and charge.

- C. **Culvert Pipe** - Some pipe items are "required" in the sense that the contractor must furnish definite types and sizes of pipe if stipulated in the plan and in the bidding proposal. A required pipe is one that the plan definitely states the type and size of pipe to be furnished. This may be an extension of an existing pipe so that the contractor must furnish the same type and diameter. The plans may definitely require a corrugated metal pipe - arch at some location due to low head clearance under the project road, or any type or size necessary due to some special construction feature of the project.

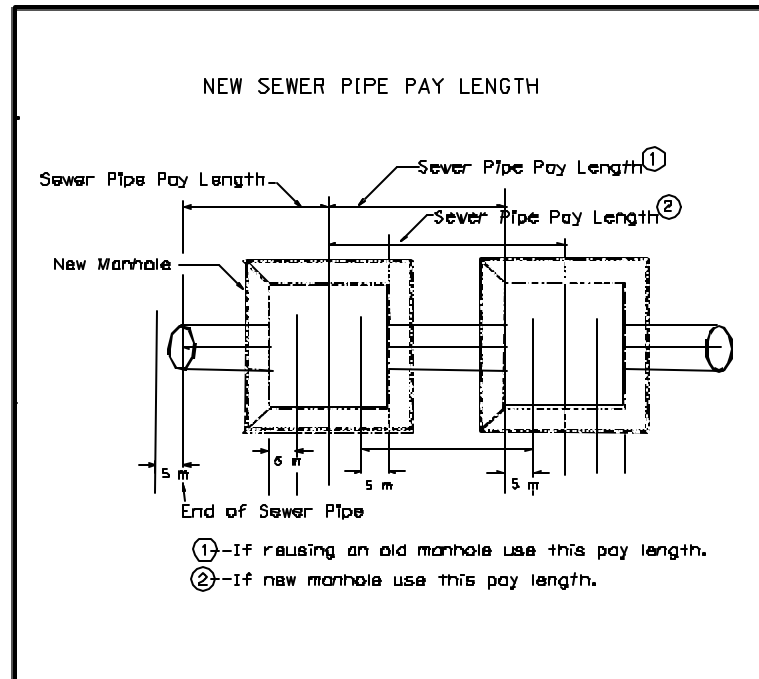
All other pipes are listed in the bidding proposal as "Culvert Pipe". The contractor may furnish any of the types of pipe listed in *SSHC Subsection 718.02*.

Quantities of pipe that are "required" by the plans or are "culvert pipe" shall be separated in the notebook and computations. "Required" and "culvert pipe" prices may be interchanged to some extent. For example, if the contract contains a bid price for 600 mm (2 feet) culvert pipe and it develops that an existing 600 mm (2 feet) pipe must be extended, it will be permissible to include the extension for payment under the contract item for 600 mm (2 feet) culvert pipe, provided the extension is the same type of pipe the contractor has chosen to furnish. This interchange of prices is not permissible between roadway and driveway pipe items.

Flared end sections which are called for in the plans on either concrete or metal pipe shall be furnished, installed, measured and paid for in accordance with *SSHC Section 723*.

#### **Sewers** (*SSHC Section 722*)

- A. **Excavation** - Sewer excavation is subsidiary to the sewer pipe pay item.
- B. **Pipe Computations** - Sewer pipe is measured for payment as described in *SSHC Subsection 722.04*.



**Guardrail** - The contractor shall be allowed payment for linear meters (linear feet) of guardrail complete in place measured from center to center of end posts (SSHC Section 902).

**Seeding and Slope Protection** - Example field book records for Cover Crop Seeding, Seeding, and Slope Protection are in *Appendix 3*.

#### 105.08 BORROW AND LOCAL PIT MATERIALS OBTAINED BY THE CONTRACTOR

Under State Option - All amounts to be paid by the contractor for royalty and borrow costs, to comply with the terms listed in the option block shown in the plans, will be deducted from the payment due on the final estimate. Such amounts will also be included in the retention in the additional estimate. This Department will make payment directly to the owner. Before such payment can be made, it will be necessary to obtain concurrence from the contractor as to the quantities and amounts in order to eliminate the possibility of overpayment to the owner. For this purpose, the Project Manager shall

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prepare and forward a letter to the contractor, substantially in accordance with the example included in *Appendix 2*.

The receipt of such letters from the Project Manager and contractor, plus the required releases from the pit owners, will complete the records required by the Right of Way Division to enable them to make payment to the owners of local pits. In the case of borrow, taken on an acreage basis, sketches are to be prepared showing the dimensions of the individual pits, the name of the owner, the description of the land subdivision, ties with the project centerline and computations for the acreage included in the letter to the contractor. Such sketches shall be forwarded to the Right of Way Division together with their copy of the letter to the contractor.

When the option block in the plans for the local pit includes payment for incidental items such as temporary fencing, reseeding, crop damage, payment for haul road, etc., the consideration for such incidental items will normally be on a lump sum basis and the lump sum payment for such items shall be included in the letter to the contractor. If payment is stipulated in the option block, for such incidental items, on other than a lump sum basis, the Project Manager shall request the Right of Way Division to advise the proper method of handling the item.

When work is to be suspended for the winter season, or for any other reason, for a considerable length of time and it is desirable to make partial payment to the landowners, the necessary information to authorize partial payment shall be forwarded to the Right of Way Division and, in such cases, it is not necessary to advise the contractor. In the event that a section of the project, involving optional borrow pits, is completed or the work is completed on some of the local pits, the normal letter to the contractor should be prepared in which it shall be noted that information will be forwarded at a later date for the remaining borrow or material pits.

In order to complete the records and eliminate any questions, the Project Manager's letter to the contractor must cover all optional borrow and local pits shown in the plans, regardless of whether they are actually used.

There have been some cases where a pit under state option does not appear on the plans for a particular project but does on an adjacent project. The contractor, if he/she uses this pit, must still be responsible for royalty payments.

Royalty payments for local pit material will normally be made on a cubic meter (cubic yard) basis and such quantities may be determined by preconstruction and final cross sections. In cases where payment to the contractor is based on truck measurement the royalty payment may be based on the same measurement, or by using weight conversion factors where payment to the contractor is based on units of mass.

**Borrow and Local Pit Materials Furnished by the State or County and Not Involving the Contractor** - When borrow or local pit materials are purchased from the owner directly by the Department or County, and no option requirements involving the contractor are included in the plans, substantially the same information must be forwarded to the Right of Way Division. However, no letter need be written to the contractor. The PM must obtain a site release from the landowner on these Department obtained borrow sites.

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## **105.09 SUMMARY OF FINAL QUANTITIES**

Project Managers are required to use only black lead pencils in the original preparation and checking of all field records and final computations in the field offices. The District Office review should be indicated by red check marks, initials and dates. Corrections shall be made with red pencil. If any further changes or corrections are found necessary in the Lincoln Office, they will be made in blue or green pencil. This method will eliminate any question at some future date as to where changes or corrections in the records originated.

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**Each pay item in the contract must be summarized in [SiteManager or other approved documentation.](#)**

## **105.10 MOBILIZATION (SSHC Section 112)**

### **Method of Measurement and Basis of Payment**

The percent of payment for mobilization under a group of work is based on the percent of work completed on the original contract group amount. Accordingly, when two or more projects are included in the contract and work has been performed on only one project the quantity for mobilization should be paid to all projects based on the percent of work completed on the original contract group amount. In this case mobilization may be paid on a project when no work has been performed on the project.

## **105.11 SALVAGED PROJECT MATERIALS REPORTING**

Many project plans indicate that some removal items shall be stockpiled or salvaged to a nearby maintenance facility. To accomplish documentation of these times, a DR 147a, "Stock Returned for Credit" form has been developed.

The form shall be completely filled out any time project materials are salvaged to a maintenance facility. The form needs the signature and initials of the project inspector and the maintenance employee who received the material.

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Distribute a copy of the completed form to the Project Manager, District Maintenance Superintendent, [Logistics Division](#), project file, and the contractor. Purchasing & Supply will add the salvaged items to the appropriate stock inventory for the maintenance facility that received these materials. Include a copy of the completed form in the final payment packet for the project.

## **106.00 -- PROJECT FINALIZATION**

### **106.01 FINAL PAYMENT TO CONTRACTOR**

NDR policy is to retain one percent. This retainage is specifically withheld to cover:

- The amount of any possible overpayments or adjustments to contract items and change orders discovered during an audit (State and/or FHWA).
- Any assessed liquidated damages.

Nebraska Code also requires payment of interest on retained contract funds. The interest shall begin to accrue on retained funds on the 61st day after the project is complete provided all of the contractor's documents are on file with the Department.

On projects involving different fundings such as Federal, Interstate, County, State and City, the Project manager must review the project funding agreement and make sure costs are properly recorded on the DR Form 44, "Summary and Distribution of Cost".

### **106.02 PRICE ADJUSTMENT CHANGE ORDERS**

Price adjustment deductions are processed by change orders. If additional price adjustments come up later, a second change order must be prepared; but such increases or decreases are processed as separate change numbers.

### **106.03 EQUIPMENT PURCHASED BY CONSTRUCTION CONTRACTS**

Occasionally, items of equipment are shown as contract items and then taken into the Department's inventory when their use on the project is no longer required (variable message boards, for example). It is required that the contractor be given written confirmation when such equipment is ultimately received and title transferred to the Department.

In order to provide an adequate audit trail, it is required that the letter of confirmation should include detailed information regarding brand, model, serial number, date of transfer, current location and a statement indicating the condition of the equipment when title was transferred.

A copy of the letter of confirmation should be forwarded to the **Logistics** Division (in addition to your normal distribution of project correspondence) so that it may initiate the appropriate paperwork reflecting addition of the equipment to the Department's inventory.

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### **106.04 PROJECT ACCEPTANCE AND AUTHORIZATION FOR FINAL PAYMENT**

The Final Estimate when signed by the Construction Engineer is authorization to the Controller's Office to release the final payment to the contractor.

### **Notification of Project Completion (DR Form 91) - All Projects**

The Project Manager will prepare an acceptance letter and forward it to the DCE to notify the contractor of tentative acceptance.

The DR Form 91 (Notification of Project Completion) should not be prepared and distributed until the work is really done --- such as when a 180-day observation period is required on paint. Wait until the 180 days have past, then determine if all work is acceptable, and then complete the form.

The Controller Division uses the form to trigger final payments, so they want work which the county or city promised to do included in the definition of "complete." They explain that although the local government may have performed the work, the value of that work is included in their bookwork and subsequent notification to the FHWA.

Immediately after completion and acceptance of a contract, the DCE/DE will prepare and sign a DR Form 91.

The DR Form 91 shall be completed promptly and forwarded to the District Engineer. In essence, this means construction work is complete and the contractor does not need to come back. However, processing DR Form 91 should **NOT** be held up waiting for finalization of paperwork, including material certifications and/or "Change Orders."

- Preparing a "Notification of Project Completion" (DR Form 91) is self-explanatory. All applicable blanks are to be completed.
- The DCE/DE, after signing DR Form 91, shall forward it to the FHWA, as applicable. Distribution within NDR is shown on the form.

### **106.05 FINAL PACKAGE**

Refer to the *Final Review Process Manual* to finalize a project and determine documents to forward to the Construction Division.

### **106.06 FINAL COMPUTATIONS**

When submitting final computations for any project, there shall be a statement by the District Engineer to the effect that any and all trucks which hauled materials, incorporated into the work on a volume basis, have been measured, computed and checked for volume specified.

### **106.07 ACCEPTANCE AND FINAL PAYMENT**

**Final Inspection and Acceptance** - The District Engineer shall make the final inspection of the project. Generally, the contractor will be required to complete all items of work included in the contract before the final inspection and total acceptance of all contract work is made. However, it is the Department's policy to make a tentative acceptance of completed groups of a contract which have a separate time allowance. This tentative acceptance relieves the contractor of maintenance responsibilities for such groups. It does not relieve the contractor of the liability for any damage to the completed work caused by his/her operations in completing the remaining groups of work, or the liability for any defective work discovered in any item of groups of work prior to final acceptance and payment.

Before advising the District Engineer that final inspection of the project is desired, the Project Manager shall make a careful inspection of the work with the contractor's superintendent. He/she shall direct the superintendent's attention to any additional work which he/she considers necessary before the final inspection is made. He/she shall also

make certain that the contractor has complied with *SSHC Subsection 105.12* regarding the contractor's use of land obtained by the Department.

After the work has been completed, the District Engineer shall within one week advise the contractor in writing that the work is tentatively accepted by the Department. **The Project Manager shall include in the acceptance letter a list of documents that are missing.**

In the event the Federal Government is participating in the work, the District Engineer shall notify the Division Administrator of the Federal Highway Administration immediately upon completion of the total contract or direct labor project agreement items on any project. This report shall give the actual date that all contract work was completed. If any direct labor work, such as a reflectorized railroad crossing signs, etc., which are a part of the detail estimate, are constructed later, the date of their completion becomes the completion date for the project.

The PM must notify the Construction Division when a project is complete. In SiteManager, the PM must send a Lotus note to "DOR-CONST-COMPLETION NOTIFICATION." The Finaling Manual explains what must be included in the "note."

**Interest Payments on Delayed Estimates** - State law provides that, "if the contractor has furnished the Department all required records and reports, the Department shall pay the contractor interest on the amount retained and on final payment due the contractor beginning the sixty first day after the work under the contract has been completed, as evidenced by the completion date established in the department's letter of tentative acceptance, and running until the date when payment is tendered to the contractor.

The contractor is allowed fourteen calendar days from the date of notice as evidenced by the date of the letter of notification to:

- (1) Reply to the project manager's written notification of optioned pit material quantities and costs involved in a project (such reply shall be directed to the Department's Right-of-Way Division).
- (2) Provide signed records or documents, such as Change Order – Supplemental Agreements, requested in writing by the Department.
- (3) Provide all required records and reports, such as payrolls, material certifications, etc., requested in writing by the Department.

In the event the time interval stated above is exceeded, deductions to the interest time period will be made for the actual number of days to complete the action which occur beyond the original sixty calendar days.

It is essential that the acceptance letter include the correct completion date which shall be in agreement with the completion date as shown in the Project Manager's weekly working day and progress reports. This date will be the last day on which any work is performed on the project, and may be several days after the last working day charged. This condition will occur when minor finishing or cleanup work is required prior to tentative acceptance.

In order to eliminate or minimize interest payments and provide adequate time for processing through the various NDR Headquarters, it is essential that the final records be completed and reviewed in the District Office as soon as possible after the actual completion date. This will require that the final measurements and computations be completed to the greatest extent possible during the time that construction is in progress and will require the taking of final cross sections for grading work (only when plan quantities are disputed) as early as possible. In some Districts, the volume of grading work will undoubtedly require the organization of "floating" parties to take final cross sections, which will require adequate District planning in advance of the need for such parties.

## 106.08 FINAL RECORDS

**Introduction** - The Project Manager shall prepare and submit, at the earliest possible date, all necessary records to expedite payment to the landowners along the project for right-of-way, channel changes, borrow and local pit materials, as provided in the various contracts and options as applicable to the project. Prompt payment to landowners will create good will and help in future right-of-way negotiations. DR Form 232, "Final Status Material and Site Releases" is to be prepared and submitted with the final records for each contract.

**Right-of-Way** - No measurements or computations need to be submitted for right-of-way as payment will normally be made for right-of-way prior to the actual construction, in accordance with the terms of the right-of-way contract. Any requirement for additional right-of-way shall be submitted to the Right of Way Division, through the District Office, for their further handling.

**Crop Damage** - The acquisition of right-of-way and subsequent construction often results in crop damage claims being made by the landowner. In order that information is available to settle these claims, the following should be recorded for all growing crops within the right-of-way, borrow, local pit and channel change areas.

1. A sketch showing the boundaries of each tract within station locations, angles, and distances as necessary to locate the tract accurately with reference to project centerline and to compute the area. The tract should be identified by the owner's name and tenant (if any).
2. If the tract is subdivided with more than one type of crop, show the subdivision of tract into fields as necessary to locate the limits of each crop. Information shown should be similar to that required for the tract. Indicate the type of crop growing in each tract or subdivision.
3. Show date of measurement and the name of the person making the measurement.
4. As construction progresses, record for each tract whether the crops are harvested by their owners or are destroyed by the contractor's operations. If harvested, the date of harvest should be recorded or if this date is not known, the date that the contractor began work in the area and a notation indicating that harvesting was complete should be recorded. If the crop in an area is only partially destroyed, the damage should be noted or sketched in a manner such that the area of damage can be determined.
5. The right-of-way contracts and condemnation descriptions should be reviewed carefully with respect to the provisions pertaining to crop damage. Crops planted after contract has been signed will not be eligible for reimbursement.
6. Crop damage for each tract is to be reported by letter to the Right of Way Division with a copy to the District Engineer as soon as the disposition of the growing crops on that tract is complete. The report should contain the information listed above along with computation of the area in acres, and the legal description of the property (section or part, township and range).
7. A DR Form 44 must be submitted with the final records for each project included in a contract. See *Appendix 1* for examples of this form.
8. On projects in which the Federal government participates in the cost of the work, each project is subdivided to conform with accounting practices established by the Federal Highway Administration. These subdivisions are shown in the "detail estimate", copies which are forwarded to the Project Manager by the Contracts

Section. The costs of each group of work performed in each subdivision shall also be shown on the summary and distribution sheet, DR Form 44, Summary and Distribution of Cost, prepared for the project. If DR Form 44 has insufficient columns to accommodate all the Municipal and Rural Sections required by the Federal Highway Administration, it shall be extended to the right by securely attaching sufficient columns from another DR Form 44.

9. Accounting records require that construction costs be prorated to individual counties. Therefore, county splits must be shown on DR Form 44.
10. Many times, the District Office files do not contain copies of the Certified Analysis of Asphalt Material received on the projects and it is requested the Project Managers include their copies with final computation when transmitted to the District Review Section. When they have served their purpose they will be returned.

### **Alternate Crop Damage Procedure**

The Right-of-Way Division is leaving the way to present the crop damage payment up to the Project Manager. If the acreage is between 1/4-acre increments, go to the higher increment. 1/4 acre will be the minimum.

If the farmers accept the affidavit price, payment will be made within a few weeks. If they do not accept the affidavit price, payment will not be made until the crop is harvested and sold.

If the Project Manager runs into a crop that is not covered or the amount is not agreeable, make the measurements of the field and forward them to the Right-of-Way Division. They will in turn send them an affidavit asking for the average yield for the rest of the field, and the price they were paid when the crop was sold, minus harvesting and marketing costs.

The sources of information used in determining the average yield, average price, and the average cost were obtained from the Cooperative Extension, Institute of Agricultural and Natural Resources, and the Farm Custom Rates, University of Nebraska.

CROP	1/4 Acre	1/2 Acre	3/4 Acre	1 Acre
Irrigated corn	\$75.00	\$150.00	\$225.00	\$300.00
Dry corn	\$40.00	\$ 80.00	\$120.00	\$160.00
Irrigated soybeans	\$62.00	\$124.00	\$186.00	\$248.00
Dry soybeans	\$48.00	\$ 96.00	\$144.00	\$192.00
Wheat	\$31.00	\$ 62.00	\$ 93.00	\$124.00
Oats	\$21.00	\$ 42.00	\$ 63.00	\$ 84.00
Milo	\$32.00	\$ 64.00	\$ 96.00	\$128.00

Alfalfa was not included because the variables of age and cuttings affect the averages greatly. Other crops (beets, edible beans, potatoes, etc.) were not included because of insufficient information.

The schedule will be revised periodically. Any questions or comments should be referred to the Property Management Section, (402) 479-4770.

### **Conversion of Existing Direct Measurement Earthwork Pay Items to Established Quantity Pay Items**

Certain earthwork items may be converted from being direct-measured for final payment to being paid as established quantities. This policy is to expedite the release of final payment to the contractor, reduce possible interest payments to the contractor, and relieve a portion of the workload performed by field personnel.

The following items of work will be eligible for conversion:

1. Excavation
2. Excavation, Borrow
3. Other earthwork-related items when approved by the Construction Engineer

Direct-measurement items may be converted to established quantities when the following requirements are met:

1. The project has been staked and built according to plan, or the plan quantity has been adjusted to account for field changes.
2. The plan quantity has been adjusted for any obvious errors, and the contractor has been notified of the adjustment.
3. The Project Manager has made written notification to the contractor of the proposed change in the method of measurement, and the contractor has agreed to the proposal in writing.
4. If the contractor has agreed in writing to accept plan quantity including field adjustments and revisions, it is not necessary to create a new “established quantity” pay item. Payment will be made under the original contract item.

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## Sample Letter

1997

## CROP DAMAGE PAYMENT AFFIDAVIT

Project:

Tract:

This is to certify that I, the undersigned, agree on the amount of \$\_\_\_\_\_ which is being paid for \_\_\_\_\_ (acres) of \_\_\_\_\_ damaged during construction, based on the schedule prepared by the State of Nebraska, Department of Roads.

\_\_\_\_\_  
Owner/Tenant\_\_\_\_\_  
Social Security #  
Federal Identification #

THE CROP PRICES HAVE BEEN COMPILED USING DEPARTMENT OF AGRICULTURE AND UNIVERSITY OF NEBRASKA STATISTICS. THE PRICE REFLECTS AVERAGE YIELDS AND MARKET PRICES LESS THE COST OF HARVESTING AND MARKETING.

CROP	1/4 Acre	1/2 Acre	3/4 Acre	1 Acre
Irrigated corn	\$75.00	\$150.00	\$225.00	\$300.00
Dry corn	\$40.00	\$ 80.00	\$120.00	\$160.00
Irrigated soybeans	\$62.00	\$124.00	\$186.00	\$248.00
Dry soybeans	\$48.00	\$ 96.00	\$144.00	\$192.00
Wheat	\$31.00	\$ 62.00	\$ 93.00	\$124.00
Oats	\$21.00	\$ 42.00	\$ 63.00	\$ 84.00
Milo	\$32.00	\$ 64.00	\$ 96.00	\$128.00

\_\_\_\_\_  
Project Manager\_\_\_\_\_  
Date



## **106.09 STATEMENT OF MATERIALS AND LABOR**

A "Statement of Materials and Labor" (Form FHWA-47) is required for federal-aid projects that have contract cost (including change order adjustments) of \$1,000,000 or more. Detailed instructions for completing Form FHWA-47 are on the back of the form. Blank forms are available from the Construction Division. A blank copy is provided in *Appendix 2*.

Upon contract completion, each subcontractor must submit a completed Form FHWA-47 (Part "B") to the prime contractor. Subcontractors shall include their name and the word "sub" in the blank space at the top of the form.

The prime contractor shall combine the data from each subcontractor with their own data on one form. Prime contractors shall include their name in the top margin of the "combined" form, note the form is "combined", and attach a listing of all subcontractors involved.

When completing Part "B," contractors shall:

- Report only use of material items that are listed on the form.
- Pay attention to the "units" being requested. "Quantity" entries must correspond to the form's "units."
- Enter required information in the correct column(s).

Prime contractors are responsible to furnish the Construction Division Headquarters (Lincoln) three completed FHWA-47 "packets" before a final pay voucher can be processed. (One packet shall be the original and two packets may be photocopies of the original.) Each FHWA-47 "packet" shall include:

- The prime contractor's combined contract information
- All FHWA-47 forms and any relevant supporting documents furnished by subcontractors.
- Composite of all subcontractors listed on subcontractor request form(s)

Upon receipt of FHWA-47 forms, the Construction Division shall complete Part "A" and verify that:

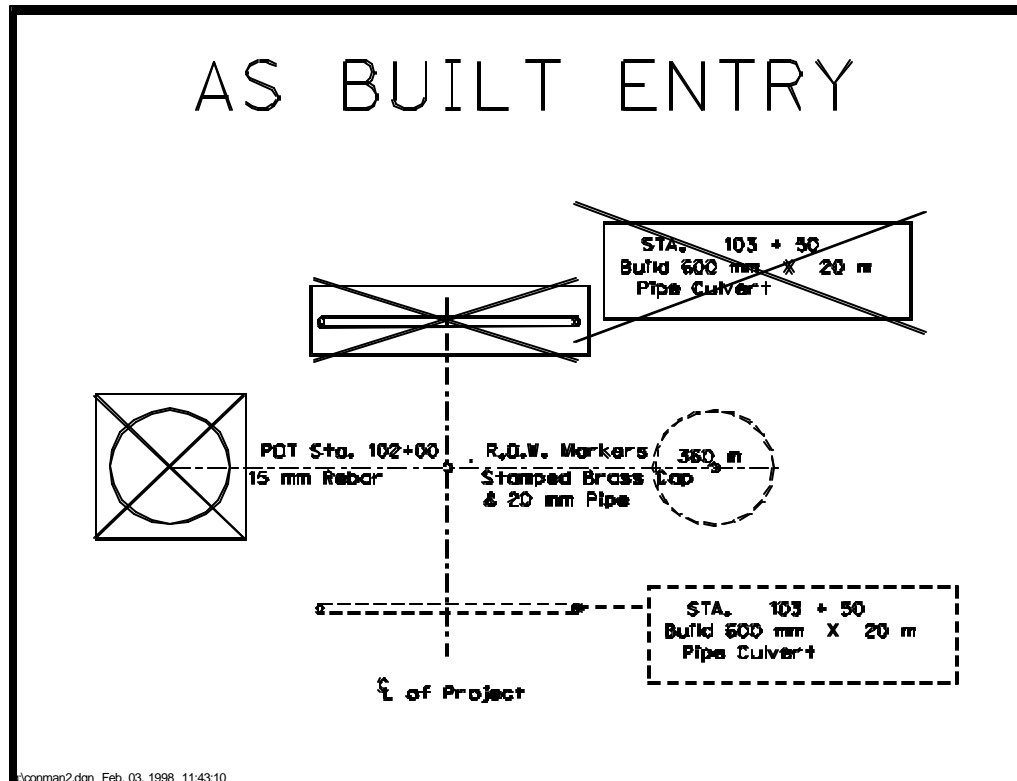
- An item of material used by a contractor has not been omitted.
- All "starred" line items have received a response or entry.
- Costs reported are reasonable and do not have obvious errors.
- The prime contractor has included required information from all subcontractors on the "combined" form.

## 106.10 AS BUILT PLANS

An extra set of full size plans will be furnished the Project Manager for use as as-built plans. The Project Manager may request an additional set of plans from the Construction Division for as-builts if needed. The as-built plans shall be an exact representation of the completed work. Any revised plan sheets must be included and the sheets they replace should be discarded. All special plan sheets must be included. The S1 sheets need to be corrected to show the Final Quantities including additional items of work.

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In preparation of these plans, only black pen shall be used. Lines, dimensions and notations shown in the original plans which have been eliminated or corrected shall be "X ed" (crossed out) and boxed with solid lines. Dashed lines shall be used to indicate any as-built lines, dimensions, or tie points which do not conform to the original plans. For example, a 2' x 65' 8" (600 mm x 20.0 m) pipe culvert is constructed at Station 103+50, whereas the plans called for a 2' x 63' 3" (600 mm x 19.25 m) pipe culvert at Station 101+50. The outline of the culvert at Station 101+50 shall be boxed and the notations describing the work "X ed" within the box with solid lines. The outline of the as-built culvert, in dashed lines, and corrected description notation should be shown at Station 103+50. In striking out figures and notations, care should be used to avoid obliterating the original figures.



In the event appreciable errors are noted in the locations of side roads, section lines, property fences, buildings, roadway structures, or other important landmarks, the corrected locations shall be shown.

<sup>1</sup>  
The front sheet shall bear the following label in some convenient blank space:

#### AS BUILT PLANS

Work performed by.....(Name of Contractor)

(If more than one contract has been let to complete the work, list all prime contractors)

Prepared by.....(Name).....(Title).....(Date)

Approved by.....(Project Manager).....(Title).....(Date)

The following information shall be shown for the various types of work:

Grading:

1. All changes in alignment.
2. All equations in stationing used during construction.

3. All permanent references for control points. Also, all control points required to establish centerline shall be perpetuated. Brass caps and pipe are available for this.
4. All changes in grade lines and elevations.
5. Locations and elevations of all benchmarks used during construction or permanently established in taking final cross sections. Permanent benchmarks should be identified by the word "Permanent". Benchmarks shall be established at box culverts, bridges and other locations where they may be considered permanent.
6. Location and number stamped on brass disc of all Government Survey benchmarks. The elevation based on the project level datum, if available.
7. Location of all right-of-way markers installed.
8. Location of all land corner witnesses, existing, or installed by the Project Manager.
9. Location of all farm entrances constructed showing lengths, diameters and type of culverts laid or relaid.
10. Locations of limits of construction of all borrow pits, channel changes, dikes, intercepting ditches, etc., outside the right-of-way not covered by extended roadway cross sections. The stationing and location of the base line with respect to the project centerline shall also be shown.

Culverts:

1. All changes in location.
2. All changes in lengths or dimensions.
3. The type of pipe installed (CMP, RCP, etc.).

Bridges and Special Culverts:

1. All changes in stationing.
2. All changes in design.
3. All revised dimensions.
4. Floor and bridge seat elevation of bridges.
5. Maximum and minimum length of piling in each footing.
6. The description, location and elevation of all permanent benchmarks.

Surfacing:

1. Beginning and ending stationing of each type and width of surfacing constructed.
2. Location of all option pits used in connection with the construction of the project. If any plan pits are not used, designate by the words "Not Used".

**Processing As Built Plans**

1. Project personnel will prepare one (1) full-size set of As Builts.
2. Cities, counties, etc. that have money involved or a special interest in the project will be asked by the Project Manager if they need/want a complete copy of the As Builts or only specified sheets.
3. The As Builts will be submitted to the Construction Division with the final records for finaling with notification of the number of complete copies or specified sheets desired.
4. The final review will be performed.
5. After the final review is completed, the specified sheets or complete copies, as requested by the District, will be copied in half-size sets. The copies will be returned to the District within three (3) to four (4) weeks after submittal to the Construction Division.
6. The full-size set of As Builts will be submitted to the Communication Division for microfilming after the final review is complete and the half-size copies of the As Builts are made.
7. After the As Builts have been microfilmed, the Communication Division will submit the As Builts to the Transportation Planning Division for their use.
8. Upon completion of their work, the Transportation Planning Division will periodically return the full-size As Builts to the District, via truck.

**Lighting and Signals** - On all roadway lighting and signal projects, a set of "as-builts" will be prepared, pertinent to the wiring alignment, showing the exact location of conduit or cable runs, pull boxes, and any other information which would be beneficial in case of maintenance problems or construction activities in the area. When "as-builts" are submitted to the agency at the time the agency is notified by letter of the acceptance of the installation and to assume the maintenance.

### **Clearance Letter**

The Project Manager shall submit a letter to the Construction Division (with copies to Motor Carrier Permits & Facilities Maintenance) indicating clearance on bridges, sign trusses, and other structures that create a clearance limit.

### **106.11 OVERRUNS AND UNDERRUNS LETTER**

The summary of overruns and underruns letter, which used to be submitted when a contract is finalled, is no longer required. However, a DR Form 74, Cost Overrun/Underrun Notification is required whenever contract quantities overrun/underrun by \$50,000.00 or more. This letter must go to the Construction Division and the Controller Division so that appropriate redistribution of funds is made as soon as possible. This letter is sent as soon as the change in contract quantities is known. The Controller Division will obtain appropriate approvals.

### **@ 106.12 CONTRACTOR EVALUATIONS**

The intent of the Contractor Evaluation is to report strengths and/or weaknesses of a contractor's project-related activities, including paperwork, material documentation, attitude, cooperation, and the actual contracted work. It is suggested that remarks be included to substantiate or help explain significantly high or low ratings or other unusual circumstances on the project. The Construction Division maintains a file of the completed forms, reacts to low evaluations, and seeks to improve the performance and project administration of contractors doing work for us.

The project manager should make note of significant events occurring throughout the life of the project to assist in the preparation of the evaluation when the work is complete. In so doing, perhaps problems can be discussed and resolved as they occur. At a minimum, significant problems reported on a contractor's evaluation should be discussed with him or her when the evaluation is presented.

Evaluations are used as a factor in determining the amount of work on which a contractor may bid. Therefore, it is extremely important that contractors are evaluated realistically, factually, and without bias. In this regard, it is equally important that evaluations are completed promptly. To be at all meaningful, data from the EOC's must be current - - and **ALL** of it must be in the system.

The EOC should be completed and submitted to the Construction Division within 30 days of completion of work. For subcontractors, the EOC should be submitted within 30 days of the time you are relatively certain that the subcontractor's work is complete. For a prime contractor, the EOC should be submitted within 30 days of the project completion date established in the District Engineer's letter of tentative acceptance to the contractor. (In other words, the prime contractor's EOC will always be the last EOC to be completed. The performance of all subcontractors reflects on the prime contractor's overall rating, so it is only proper that the prime contractor's overall rating, so it is only proper that the prime's EOC not be completed until the project is entirely complete.)

The Contractor Evaluation is to be completed on every contractor and subcontractor - - except "trucking" subcontracts. (Trucking subcontractors may receive an optional evaluation at the PM's discretion.) SiteManager identifies whether or not a subcontract is

@ for trucking. An evaluation should also be completed on all bridge painting jobs regardless of size.

Contractor evaluations are required for subcontractors at **any** level - - 2<sup>nd</sup> tier subcontract, for example.

Project Managers shall prepare and sign the evaluation and forward the original to the Construction Office in Lincoln. For projects inspected and managed by consultants, it is appropriate to have the evaluation signed by the local entity's project manager. (The document itself, however, must be prepared on the **RUG** so the results are posted to the database.)

A copy of the complete evaluation must also be furnished to the contractor or subcontractor being rated. Prime contractors deserve to see their ratings as well as those of their subcontractors, so make sure that both get a copy.

All contractor evaluations shall be prepared using the checklist system provided in **RUG**. The use of this system automatically enters the required data into the database.

For evaluations of subcontractors, report type of work done by that subcontractor.

Contractor evaluations are required for subcontractors at **any** level, including 2<sup>nd</sup> tier subcontractors.

The intent of an evaluation is to report strength and/or weakness of a contractor's project related activities including paperwork, material documentation, attitude, and cooperation. Special attention should be given to contractor ratings of "poor" and "unsatisfactory." Remarks should be included for any individual item(s) that is rated less than fair. Also good remarks should be included when a contractor is given a high rating or deserving recognition.

The Construction Division maintains a file of the completed form, reacts to low evaluations, and seeks to improve contractor project administration. Evaluations are also used as a factor to establish bidder qualifications. Therefore, it is very important that contractors are evaluated realistically, factually, and without bias. The rating system developed is intended to produce a rating of "good" when the minimum acceptable performance requirements are met.

A series of less than satisfactory evaluations may be grounds for disqualifying bidders from further contracts or reducing their bidding qualifications.

It is anticipated that lower than average ratings would have been discussed at a meeting between the Project Manager and contractor representatives prior to form submittal. A contractor should have an opportunity to discuss and understand why a low rating was given. Further, a contractor should be given (if requested) a critique of corrective actions which would prevent reoccurrence of low rating(s).

The RDP Form 344, Evaluation of Contractor, is available on the computer or you can use paper copies.

To provide a broader evaluation of the contractor's performance of his/her work with reference to his/her equipment, personnel and prosecution of work, RDP Form 344 "Evaluation of Contractor" has been devised. This report is to be completed by the Project Manager for the prime contractor and subcontractor(s) for each separate time allowance under a contract and submitted with the final computations.

The contract value for the prime contractor shall be the original contract value (not final value). The subcontract value used shall be that authorized by the subcontract approval letter. All subcontract approval letters will show the value of the work being subcontracted.

The working days allowed shall reflect all time extensions approved either by letter from the Construction Division during the progress of the work or by supplemental agreements. If a time extension is forthcoming due to "extra work" a correction in the field entry will be made by the Construction Division. However, extra work should be a consideration taken into account in evaluating the prosecution of the work. When this is the case, an explanation to this effect should be made on the reverse side of the form.



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### **106.13 LETTER OF TRANSMITTAL – FINALIZED PROJECTS**

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The Project Manager shall complete a letter of transmittal with project documents when they are forwarded to the District Reviewer. The District Reviewer will also create a letter of transmittal when he/she forwards the records to the Construction Division. The transmittal letter shall include an itemized list of all field notebooks, cross sections, computation sheets, forms, letters, statements, temperature charts, etc., which are being transmitted, so that the shipment can be checked to determine whether it is complete when received. When overhaul or additional haul computations were made in the Lincoln Office, attention should be directed to that fact. If there is any question regarding the accuracy of any of the computations, or there is any item which should be given special attention in the District Office, the items in question should be explained in the letter of transmittal. If the project was completed within the working day time allowance, a working day resume is not required. The transmittal letter should contain a statement indicating whether or not the work was completed within the contract time allowance and/or any internal time limits. A copy of the Project Manager's transmittal letter shall accompany the project records and final estimate when they are forwarded to the Lincoln Office.

When submitting final records, please label all computation and summary sheets with the item numbers for which documentation is being provided.

### **106.14 FINALING PROCEDURES**

See Construction Division's Final Review Process Manual for detailed steps to finalize a project.

#### **106.15            UNAUTHORIZED WORK**

The contractor should not be permitted to perform work without line and grades established by the Project Manager.

The contractor should not be permitted to perform any work prior to the execution of the contract by the Construction Engineer. The Project Manager can request to be advised by telephone when the contract has been executed, if the contractor is "standing by" awaiting such execution to begin work.

#### **106.16            USE OF ADJACENT LAND UNDER CONTRACT OR LEASE**

We no longer require the contractor to provide a release letter. The contractor is responsible to the landowner and the Department will stay out of the agreement unless the Department acquires the access rights.

Option pits obtained by the Department will require a site release. The Project Manager shall contact the landowner and obtain the site release. The release should be obtained as soon as possible while the contractor is still on site with equipment to make corrections.

#### **106.17            FINAL CLEANING UP**

The importance of timely cleanup of cast-in-place concrete structures should be discussed at the pre-construction conference. It is the Department's policy to request the contractors to perform the necessary cleanup in flood plains at the earliest possible time to prevent scrap lumber, nails, form ties, etc., from being flushed out on adjacent landowners.

If this material is deposited on adjacent landowners, the contractor must satisfactorily gather and dispose of it before final acceptance of the work involved. It is in the contractor's and the Department's best interests to keep this cleanup work "current".

The District Engineer should be advised if the contractor refuses to perform this work in accordance with this policy and a field book entry made each time the contractor was contacted. Progress payments can be withheld until the area is cleaned.

The contractor shall make a final cleanup of the highway, borrow pits and all ground (off or on the project) occupied by him/her in connection with the work, leaving it in a neat and presentable condition.

## 106.18 CONSULTANT INSPECTION

@ In regard to projects utilizing consultant inspection services, some misunderstandings have arisen when our acceptance date preceded a date when the county board “accepted” the project.

Project Development has asked that consultants utilized for engineering and inspection services be given written notice regarding project completion dates. The consultant agreements usually specify the time allowed for the preparation and submittal of As-Built Plans and other final records, and the consultants need to be told when the clock has started. It is my understanding that the consultant agreements state *“The State will provide written notification of construction acceptance to the Consultant.”* At least one consultant has reported he does not received the required notice.

Feel free to be somewhat flexible in “starting the clock”, but do put it in writing --- and **send a copy of the letter to Lee Pavel in Project Development** so he may begin his end-of-project paperwork too. The consultant services agreements and payments are audited by the Department, and it is important to have the notification documented.

### Protest of Final Quantities of Earthwork Items

If the contractor wants to protest any earthwork item, the contractor must notify the NDOR, in writing, of the disputed quantity, including the approximate quantity that the contractor feels is in error and the basis for the dispute.

The NDOR will review the appropriate data and determine if an error exists and notify the contractor of the decision.

Should the contractor dispute the NDOR decision, the contractor will be allowed to disprove the disputed final earthwork quantity provided the following requirements are met:

1. The work is done under the supervision of and the report is certified and stamped by a registered professional engineer licensed in the State of Nebraska.
2. The contractor furnishes the NDOR Construction Engineer with a cost estimate from the consultant for approval prior to commencement of the work.
3. The contractor furnishes the NDOR Construction Engineer with a copy of the contract with the consultant engaged to perform the work with a detailed description of the procedures and technology to be used in calculating the quantities prior to commencement of the work. The procedures and technology must be compatible with NDOR procedures and technology.
4. The report provided by the contractor to the NDOR Construction Engineer must show all calculations used to determine the quantity, list all data used in the review and its origin, identify the technology used and identify any differences between the contractor calculations and NDOR calculations.

- @ 5. If, after reviewing the report, the NDOR agrees that the final pay quantity or the aggregate correction of all items directly related (i.e.: Excavation and Excavation, Borrow) are in error by more than five percent (5%), the NDOR will compensate the contractor for the quantity in excess of the final pay quantity shown in the final records and for the contractor-incurred expenses to perform the post-construction calculations previously approved by the NDOR Construction Engineer.

Payment will not be made for contractor-incurred expenses to perform the post-construction calculations if the contractor fails to prove that the NDOR final pay quantity is in error by more than five percent (5%).

If the contractor's report indicates that an overpayment of more than five percent (5%) has occurred, the NDOR will pay for the contractor-incurred expenses to perform the post-construction calculations previously approved by the NDOR Construction Engineer and will make payment on the reduced quantity.

6. The issues of waste, shrinkage, compaction and settlement are not eligible for additional payment under this policy, and no allowance will be made for them.

Upon request and at no cost, the NDOR will furnish the contractor with the following information:

1. Preliminary Cross-Sections
2. Slope Stake Data
3. Blue Top Data
4. Design Cross-Sections
5. Current Revisions
6. Standard Plans
7. Design Calculations
8. Current Field Changes
9. Final Cross-Sections

The contractor's failure to fulfill any or all of the requirements stated above will be cause to deny the contractor's claim for additional compensation.

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## CHAPTER NOTES:

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