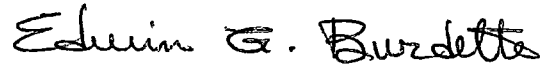


To the Graduate Council:

I am submitting herewith a thesis written by Russell N. Rackley entitled "Effective Contract Drafting for the Avoidance and Resolution of Construction Claims." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Civil Engineering.

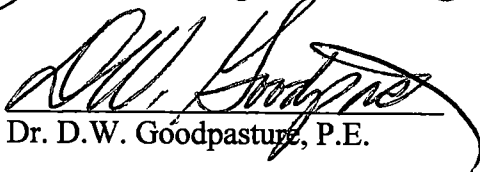


Dr. Edwin G. Burdette, P.E., Major Professor

We have read this thesis
and recommend its acceptance:



Dr. J.H. Deatherage, P.E.



Dr. D.W. Goodpasture, P.E.

Accepted for the Council:



Associate Vice Chancellor and
Dean of The Graduate School

**Effective Contract Drafting for the Avoidance and Resolution of
Construction Claims**

A Thesis
Presented for the
Master of Science
Degree
The University of Tennessee, Knoxville

Russell N. Rackley
May 2000

Abstract

The subject of construction claims avoidance and resolution is a complex issue. Many thoughts and ideas on this topic can be debated as to both their applicability and legal viability. Claims resolution and avoidance are, however, primary concerns for many project owners. The ability to minimize the number of disputes and to resolve disputes effectively is an important factor in minimizing the cost and impact of construction projects.

This thesis compared the Tennessee Department of Transportation standard specifications with other states' specifications from the same region. The intent of this comparison was to identify alternative forms of drafting contract provisions for the goal of avoiding and resolving construction claims. The analysis focused on four issues. These were scheduling requirements, bid eligibility based on satisfactory progress, claims resolution procedures, and access-to-records. The provisions relating to these issues were analyzed and discussed to determine the most advantageous approach to draft provisions that would meet the intended goals of these topics.

Recommended contract provisions for these four focus issues were included to provide alternatives to the current provisions in the Tennessee Department of Transportation specifications. The analysis, discussions, and recommendations in this thesis are intended to provide options for creating contract provisions that will promote more efficient execution of construction projects.

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Chapter One

Introduction

Construction claims are a costly and time-consuming problem for any project owner. Claim prevention and resolution is an ongoing issue with project owners, whether or not they have had large numbers of claims in the past. Because of potential problems relating to construction claims, the Tennessee Department of Transportation (TDOT) has asked the University of Tennessee Department of Civil and Environmental Engineering to perform a study of construction claims.

The purpose of this research project is to evaluate the provisions and processes that TDOT has in place to defend and resolve construction claims, to make recommendations which will help to avoid future claims, to assist in analyzing future construction claims, and to provide TDOT with the State of the Art claims practices of other states. By looking at present contract language and completed contracts, the researchers hope to determine what TDOT is doing or could do to minimize the impact of construction claims. The goal of this project is to present TDOT with a claims resolution manual. A historical look at completed contracts was the first step in the project.

This historical research looked at completed contracts over the past ten years. These contracts were analyzed by comparing the final contract amount to the bid amount to get an idea of the average percent overrun on TDOT contracts. All changes in the contract are signed as supplemental agreements. However, not every change can be classified as a construction claim. The very nature of open bid public projects results in a number of changes, mostly because bid quantities are only

estimated quantities. Based on data accumulated for the past five years for contracts exceeding \$5,000,000, the average contract overrun was on the order of 2 percent. The vast majority of these overages were supplemental agreements to accommodate changes in quantities. Although all changes to the agreement are signed into the contract as supplemental agreements, most are of the expected variety.

A construction claim is a dispute that cannot be settled easily by correspondence. In construction the vast majority of claims are based on some variation of negligence. The text Construction Law by Brian Samuels defines a negligence claim as “customarily asserted by a party who has been injured, either financially or physically, by the act (or omission) of another party with whom the first party has no contract. However, it is not uncommon for negligence claims to be made between parties who have a contractual relationship.”⁽¹⁾ Although construction claims are between contractual parties, the claims are basically negligence claims. In general, disputes that force both contract parties to compromise require some form of formal claims resolution. These types of disputes must be based on a contract provision allowing compensation for the disputed problem. A claim must also follow notification protocols set forth in the contract provisions in order to be valid. Arguably, the most effective way of defending against claims is through contract drafting.

Drafting of contract specifications to defend against claims takes place primarily in the general conditions section of the standard specifications. This section of the specifications is where the “rights, responsibilities, and liabilities of the parties”⁽¹⁾ are defined as they pertain to contract administration. Another way of

looking at contract drafting is from the viewpoint of risk allocation. The party that assumes risk in the contract stands to bear the loss should that risk item become a dispute. There are five main types of contract terminology relating to risk allocation. These types are performance terms, financial terms, administrative terms, regulatory terms, and exculpatory terms. The provisions within these five main categories define the process for and merit of any construction claim.

A few of the most common reasons for construction claims are indistinct provisions, inadequate protection in contract provisions, and misinterpretation of contract provisions.⁽²⁾ Therefore, contract provisions in general should be written with clear and concise language that states precisely their intended meaning. It is important in the general conditions, however, to write provisions that are fair and enforceable to ensure that a defense based on one or more of these provisions will be supported during proceedings. It was said in a Georgia court "where construction of a contract is required, it is to be construed most strongly against the party who formulated it."⁽³⁾ This statement implies that the language in a contract should not be ambiguous, nor be too harsh. The preceding discussion indicates that effective drafting of contract provisions is the first place to focus when attempting to protect an owner from construction claims.

Some professionals in the field believe contract drafting to be a very important tool to defeat claimsmanship, where claimsmanship is defined as "the art or practice of making and winning claims by questionable expedients without actually violating the rules."⁽⁴⁾ This definition implies that some contractors actually use deficient contract provisions to their advantage. There are several 'games'

contractors can play to take advantage of insufficient contract provisions. One such 'game' is reservation of rights, which is when the contractor negotiates direct costs only and takes the position that they cannot estimate impact.⁽⁴⁾ They would then file notice of a claim to reclaim all the 'soft' costs from the changes at the end of the job. This leaves the owner in a position of having to evaluate the contractor's justification of all the costs, which is typically hard to do months after the work has been done. This type of claim is similar to total cost claims. A total cost claim is where the contractor presents the actual costs after completion and contends that the difference after subtracting the bid price and agreed on changes is the impact cost.⁽⁴⁾ This type of claim can be successfully defended by a provision outlining a dispute resolution procedure. Such a provision should give the contractor prior knowledge of the procedure required for filing a claim, which items are eligible for additional compensation, requiring full access to relevant documentation, and outlining the resolution process. These are just a few of the issues that can arise from vague and inadequate contract provisions.

The purpose of this thesis is to analyze the TDOT general conditions provisions in construction contracts, compare them to similar provisions in contracts in selected other states, and offer any recommendations that will provide for better claim prevention, resolution, and defense. The focus of this thesis is on provisions in the general conditions that relate to issues determined to be relevant to claims avoidance and resolution. Some of these issues are scheduling, bid eligibility for multiple projects, claim resolution procedure, and access-to-records.

Chapter 2

Methodology

The types of contract terminology relating to risk allocation are performance terms, financial terms, administrative terms, regulatory terms, and exculpatory terms. The provisions within each of these terminology types culminate to describe the construction process from a rights and responsibility aspect for both contract parties. It is important to note that all contract provisions should reflect any applicable statutory requirements for that state.⁽²⁾

Performance terms include such topics as “scope of work, the establishment of responsibility for means and methods, and the requirements related to preparing and updating a project schedule.”⁽²⁾ These provisions answer the basic who, how, and when issues. The performance provisions are mostly standard in the industry with the exception of scheduling requirements.

Financial terms deal with payment and bonding. Payment provisions include payment to subcontractors, grounds for non-payment, and final payment. These provisions are very important in describing how, when, and under what conditions the contractor collects compensation. The financial provisions, however, tend to be very similar from state to state.

Contract administration terms are used to describe the procedure by which the execution of the project is administered. These terms “should describe the obligations imposed on the contractor with as much clarity and detail as possible.”⁽²⁾ Along with provisions outlining submittals and inspection procedures, these terms

include the protocol for filing a claim. Another important administrative provision is the access-to-records provision. This provision enables the owner to review the contractor's documents once a claim has been filed. A provision outlining the procedure for claims resolution should also be included under this terminology classification.

Regulatory provisions are typically similar from one state to another. These provisions include obtaining permits, safety codes, and labor uses. These provisions "address issues where the owner is furthering a goal beyond that of the physical construction of the project."⁽²⁾ An example would be an owner's requiring specific pay scales for certain skill positions to ensure quality workmanship.

Exculpatory provisions are the purest form of risk allocation. These provisions are written to support the owner's position on specific issues. The two provisions with the most variation between states are no damage for delay and full and final change order compensation.

The first step in the analysis of TDOT's general condition was to break down the provisions into the five categories of terminology. Reading each provision thoroughly and isolating the provisions pertaining to the main issues of each terminology type accomplished this breakdown. The next step in the analysis was to compare TDOT's provisions with other states' general condition provisions.

The states chosen for the state-to-state comparison were the members of the Federal Highway Administration Region IV. This group is the southeast region that includes Tennessee. These states were selected for their commonalities

in projects, materials, labor, and even some contractors. The provisions of these states were used to gain insight into different ways to allocate risk on specific issues.

The specific issues, or focus provisions, were selected by determining the TDOT provisions that, upon review, were deemed not to give enough protection from claims. This determination was based on possible interpretations, ambiguities, and faulty requirements. The provisional issues that appeared to be problematic were first compared to the AIA (American Institute of Architects) Document A201. This Document is mainly used in the private sector of the industry; however, it is widely accepted as a thorough and complete document.

Once the focus provisions were selected, recommended changes or additions were formulated. These recommendations were drafted by using examples from the group of documents listed above. The purpose of these recommendations is to give TDOT an alternative to their existing provisions that will better accomplish the goals of said provisions.

The provisions in TDOT's general conditions which were found to be in need of recommended changes were the provisions pertaining to schedule, eligibility to bid on multiple projects, claims resolution procedure, and access to documentation. These provisions are considered and compared in detail in the following chapters of this thesis.

Chapter 3

Scheduling Provisions

Construction schedules are intended to show that proper, prudent planning and coordination of all activities needed to complete the project has been done.⁽⁵⁾ They are also very important tools for defending claims regarding delays and acceleration, as well as predicting whether a contractor is ahead or behind on the project. However, schedules must be of good form and updated regularly to be of any real use. Tennessee's scheduling provision, with the most recent amendments in *Italics*, follows.

105.06-Planning of the Operations-Preconstruction Conference.

After execution of the Contract by both parties thereto and prior to beginning work, the Contractor shall furnish the Engineer a complete and practicable plan of operations which shall provide for orderly and continuous performance of the Work. The plan of operations shall be in such form and in such detail as to show properly the sequence of operations, the location of operations and the period of time required for completion of the portion of the Work under each item or group of like items in the schedule. *The plan of operations shall show the controlling item of work during each phase and a revised schedule shall be submitted when changed conditions warrant. An anticipated schedule may be submitted by the Contractor that will show the anticipated monthly progress for the duration of the Contract. If the Contractor does not submit an anticipated schedule, then a straight-line*

curve will be used to determine progress. The plan of operation shall indicate the manpower and equipment to be available to handle the several phases of the Work. If the Contractor so elects, the Work may be scheduled by the Critical Path Method (CPM), if called for in the Proposal, utilization of the Critical Path Method (CPM) shall be mandatory. When required, the CPM should be updated at least every 90 days as directed by the Engineer.

Subsequent to submission of the plan of operation, the Contractor shall attend a preconstruction conference called by the Engineer. He shall have available at such meeting all data necessary to substantiate his plan of operation and the scheduling thereof.

In addition to this basic plan of operations, the Contractor shall keep the Engineer notified of his planned or contemplated operation details sufficiently in advance of starting each phase so that inspection may be arranged by the Engineer. Such notice shall include the nature and location of the work planned or contemplated, the date and time of starting, and any hours outside of the conventional working day and working week during which the prosecution of such work is contemplated. The performance of any work without such notice to the Engineer and in the absence of inspection or the written waiver thereof, in itself, shall constitute sufficient grounds for rejection of such portion of the work.⁽⁶⁾

The provision's main requirement is for a 'plan of operation'. This plan, although described as "in such form and in such detail as to show properly the sequence of operations"⁽⁶⁾, does not provide for the detail necessary to forecast

anticipated progress accurately. This provision instead offers the contractor the option of submitting an 'anticipated monthly progress schedule'. In lieu of this anticipated schedule, the state will use a straight-line curve to determine progress. This type of analysis for projecting expected progress is not as accurate or precise as using a detailed, regularly updated schedule.

The provision only requires the 'plan' to be revised when changed conditions warrant. This statement allows the contractor to revise the plan of operation based on their own decision as to when conditions warrant a new 'plan'. In this situation the owner must calculate change-order impacts based on the baseline or non-current 'plan' and is thereby prevented from analyzing contractor-caused impact.⁽⁵⁾ A detailed, regularly updated schedule is crucial in analyzing and predicting impacts. That is to say, an owner must have the information necessary to evaluate the current state of the project and forecast the future status.

Alabama's scheduling provision requires a bar graph schedule and stipulates updating conditions. Alabama's provision is given in the following.

108.03 Progress Schedule of Operations.

Prior to the Preconstruction Conference, the Contractor shall submit a satisfactory, comprehensive bar graph schedule of operations to the Division Engineer on all projects which have a contract time in excess of 300 working days or 600 calendar days. This schedule shall be on Form C-10 furnished by the Department at the time of contract award. Said schedule of operation shall provide a bar for each major phase of construction such as, but not limited to, clearing and grubbing, grading, drainage structures, bridges, base, shoulders,

paving, etc. with an estimated start and completion date for each bar and an overall project completion date, all within the specified contract time. The Engineer may order the submittal of a bar graph schedule of operation on any project which has a contract time less than that specified above should he deem such necessary for project control.

A revised bar graph schedule and completion update may be required within ten (10) days of the occurrence of any one of the following conditions (1) at each major change from the original submitted, (2) when a time extension is granted, and (3) when a revised bar graph schedule is requested by the Engineer.

When a Critical Path schedule is required in the proposal, this schedule will be used in lieu of the bar graph schedule of operation in evaluating work progress. In such case, the same time frame noted hereinbefore in this Article for the original submittal along with the update requirements will apply.

The Engineer's approval of the aforementioned Schedule of Operations does not waive any contract requirements. ⁽⁷⁾

This provision sets a project size limit for which a formal schedule is required. This limit is to prevent having to prepare schedules for small projects that may have only one or two activities. On the projects above the limit, however, the Alabama provision defines in detail what type of schedule must be prepared. This provision also requires updated schedules within a specific time period when certain events occur. The time frame for updating the schedule, when triggered by certain

events, is plainly stated in the provision. This provision requires a bar (gant) style schedule with updates at regular intervals, which is a good start in maintaining proper project management and project forecasting. This scheduling provision also identifies that a Critical Path Method (CPM) schedule may be required by the proposal.

While Tennessee's provision does leave the option to use CPM schedules, the decision to use this form of scheduling is left up to the contractor, or the engineer can stipulate one in the proposal. Although CPM schedules are not necessary for smaller jobs, it is the type of detailed schedule needed to provide accurate job progress and planning on larger projects. If a CPM schedule is used, according to Tennessee's provision, it must be updated at least every 90 days. This requirement provides for a detailed, regularly updated construction schedule. It is this type of requirement that should be the primary contract scheduling provision. The Saddle Island Institute has a suggested scheduling provision, which is a modification to the American Institute of Architects document A201 97, that requires CPM scheduling and revised schedules to be submitted monthly with the application for payment. This example provision seems stringent; however, it provides the owner with current, detailed information on the progress of the project. This information is important not only for calculation of contractor-caused impact, but is used in determining if the contractor is ahead or behind on the project. This determination of satisfactory progress is used in allowing a contractor to bid on multiple projects.

The comparison of these two state's provisions demonstrates the difference between specific and vague contract provisions. It is not so much what type of

schedule is required, but that the scheduling requirement is clear and concise. Describing in detail the form a schedule must be in and defining regular revision intervals is the main goal.

A general criticism of the Tennessee provisions for scheduling is that these provisions lack specificity. While these provisions apparently are adequate for the great majority of projects, this lack of specificity would seem to increase the probability of a problem occurring because of inadequate scheduling. A "tightening up" of the contract provisions for scheduling, along the lines of the Alabama provisions cited, is discussed in Chapter 7 herein.

Chapter 4

Bid Eligibility Based on Satisfactory Progress

A recent addition to the Tennessee state specifications was a provision outlining the process for the state to disqualify a contractor from bidding on additional projects. This determination is based on the progress of current projects the contractor is involved with. This type of provision is common to many state transportation departments. The difficulty in enforcing such a requirement lies in the necessity of providing a sound analysis guideline and having the information for that analysis.

Tennessee's provision provides for this determination to be based on either the contractor submitting an anticipated schedule or the time versus money method. The amendment to section 108.03-Prosecution of Construction reads as follows.

Progress of the Contract will be determined by either the time versus money or an anticipated schedule by the Contractor, if submitted. The anticipated schedule that the Contractor may submit at the start of a contract normally may not deviate more than 15% from a straight-line curve beginning when the contractor commences work. If for any reason, the construction progress is 15% or more behind schedule the Contractor may be required to submit in writing and/or in person the reason for the unsatisfactory progress. If two or more Contracts are 15% or more behind the Contractor will be required to submit in writing and/or in person the reason for the unsatisfactory progress. If the Contractor cannot satisfactorily justify the

unsatisfactory progress the Department may remove the Contractor from the Department's list of qualified bidders as specified in Subsection 102.01 (c)...

The first difficulty with this provision is the description of the method of determination of satisfactory progress. Although most states use a time versus money method, the level of detail in explanation varies. What time versus what money needs to be spelled out in some detail. The level of detail in describing a method of determination is important to make certain that the procedure is defensible and, thusly, that the decision is enforceable. One example of such detail can be seen in Alabama's provision 108.04, which states, "After preparation of the contractor's monthly estimate, the Department will review the progress of the work comparing the dollar value of work performed to the percentage of contract time elapsed. If the percentage of the dollar value of work performed as compared to the percent of contract time elapsed is behind by more than 25 percentage points, a warning notice of possible disqualification will be sent to the Contractor...Such warning notice will note the unsatisfactory progress revealed by the computation and that ten days will be allowed from the date of receipt of the warning in which to bring his progress within the allowed 25 percent or furnish acceptable reasons why he should not be given a final notice of disqualification " ⁽⁷⁾ This provision leaves no doubt as to how the analysis of progress is to be performed. Eliminating any ambiguities as to how the analysis is performed prevents the contractor from disputing their disqualification from bidding and allows the state to be more concrete in their decision.

The next difficulty with Tennessee's provision is the penalty for a determination of unsatisfactory progress. Tennessee's provision states that only

when a contractor is 15% or more behind on two or more projects can the contractor be disqualified from bidding. It does require that when a contractor is 15% or more behind on a single project, they "may be required" to explain the reason for the unsatisfactory progress. If these penalties are compared to other states in this study, it is obvious that Tennessee's provision is lenient. The penalty for unsatisfactory progress, that is, disqualification from future bidding while the condition exists, should be stated in terms that are at once unambiguous and reasonable. In other words, the provision needs to read like the state means it. This approach will, potentially, give the contractor more resolution to stay on track with the project. A clear, decisive penalty will also be more enforceable. Another state handles this issue with an exculpatory statement in their bidding requirements section. This provision states "The Department may refuse any Contractor Proposals to bid on additional work if the Contractor is behind schedule on work he has with the Department, as determined from the Progress Schedule called for in the Specifications." ⁽⁸⁾ One concern with this statement is whether it is too harsh to hold up in dispute resolution proceedings; however, it definitely states explicitly the intentions of the state with regard to preventing a contractor from having several behind-schedule projects with the state

The determination of satisfactory progress in Tennessee's provision relies on either an anticipated schedule or a CPM schedule. Other states in the region do not offer such options in the analysis procedure. Because it plays such an important role in preventing contractors from being delinquent on multiple projects, the provision should have one clear method of analysis. Another option with this type of

provision, one that requires a high level of detail and analysis for execution of the provision, would be to base all determination of satisfactory progress on a CPM type schedule. To accomplish this, however, the scheduling provision would have to stipulate that CPM schedules be mandatory.

The concern with Tennessee's provision regarding this topic is clarity. The provision could be made clearer and more enforceable by adding more detail to the analysis procedure and by stating a clearly and strongly worded penalty for falling behind on a project. Some examples of such a provision can be found in Chapter 7 of this manuscript.

Chapter 5

Claims Resolution Procedure

It is the goal of every project owner to prevent claims before they occur.

This goal is seldom met completely. Therefore, the next agenda for a project owner is to settle claims with as little impact (physical, financial, or otherwise) as possible as promptly as possible. Some claim settlements may not be completely just, to one or both parties involved, in order to meet this goal. One way to avoid unjust situations is to provide a provision in the specifications that outlines a progression of events toward the final resolution of a claim. A description of this progression, or procedure, in the contract documents enables both contract parties to fully understand the escalating events leading toward a final resolution. Such a provision would also help both parties get a fair and just result.

There are many different types of claims resolution procedures to choose from. Most disputed claims begin with negotiations between the owner and contractor directly. However, settlements often cannot be reached with negotiations alone. Therefore, some additional measures must be taken to arrive at a suitable agreement regarding the claim. These additional measures need to be outlined in the contract specifications. Some examples of these added measures are arbitration, mediation, claims committees, disputes review boards, and claims appeal boards. One of the states in this study presents a provision for disputed claims for extra compensation that does an excellent job in outlining the procedures for resolving such claims. This particular provision allows the first level of judgment to fall upon

the transportation director for that state. If the contractor is not happy with this decision, he can request a hearing by the claims committee. The provision outlines requirements of, and selection process for, the committee members. If the contractor does not accept the committee's ruling, the provision provides rules for requesting a hearing by the claims appeal board. The appeal board's composition and appointment procedures are also described in detail. ⁽⁷⁾ A provision outlining the succession of events, such as the aforementioned example, eliminates any question as to the process under which a claim is to be settled. The issue here is not what type of resolution procedure the state uses; the issue is that the state should stipulate the process for resolving the claim in the contract. This type of provision will force both parties to agree to use a certain form or forms of resolution. The provision will also specify the rules under which the form or forms will be used. ⁽²⁾

Tennessee's provision 105.16-Claims for Adjustment and Disputes states that once notice of a claim has been given and the state afforded facilities for keeping account of disputed work, the engineer will consider the claim and decide if it is just. The provision does not allow for delay or acceleration claims. On one hand this may be viewed as preventative; by not giving the contractor guidelines for filing such a claim it prevents the contractor from filing said claim. However, any owner is aware that nothing will prevent a contractor from filing a delay claim when they feel they have been held up on a job. From this truism it follows that a provision describing the rules and processes for filing and resolving a delay or acceleration claim would be beneficial to any contract party.

Another of the states in this study provides detailed descriptions for delay and acceleration claims. This state's provision stipulates in detail what items will be recoverable by the contractor as "delay damages".⁽⁹⁾ Furthermore, it describes the required contents of such a claim. A provision such as this ensures that the state will receive the detailed data necessary to evaluate the delay or acceleration claim. This particular provision may be viewed by some as too stringent a requirement with the concern that it may possibly be so stringent that it would have a difficult time surviving a judicial proceeding. The point, however, is that a claim, if filed meeting the provisional requirements, would be easily settled. The example provision also puts a lot of the burden on the contractor to prove the state's liability, rather than the state's having to prove it is not accountable.

The foregoing discussion is very important in the effort to minimize claim damages. It is also a very difficult topic to sort out, as there are a lot of variables to consider. The most important variable involves whether the state has a claims resolution procedure on record somewhere. If not, the question is raised as to whether the state recognizes the importance of having such a procedure. Based on both research and common sense, it seems safe to say that the best defense against claims is a good offense. Effectively communicating the requirements to the parties involved on the 'front end', before problems arise, is the best way to minimize the impact of claims on the project. Some recommendations for provisions regarding this issue are described in Chapter 7 of this manuscript.

Chapter 6

Access-To-Records

One issue important to claim resolution is sound analysis of the claim to determine what is fair and just compensation. Any thorough analysis of a claim involves the review of related documentation supporting the claim. Therefore, the ability of an owner to gain access to all relevant documentation is paramount to assessing the cost and impact of a claim effectively. In general, effective contract administration is dependent on the documentation needed to sufficiently support positions taken and decisions made.⁽²⁾ There are several different means of gaining access to documentation through the use of contract provisions.

One such way to ensure access to pertinent supporting documentation for claims analysis is a provision defining the required contents of a claim. Major claims, typically, are intricate documents prepared by the contractor, or consultant, with the purpose of persuading the owner that the monetary amount of the claim is justifiable. A contract provision requiring claims to include specific items the owner deems important to the analysis of the claim can prevent a filibuster on the part of the contractor. Some examples of such items, taken from Georgia standard specifications 105.13D, are listed below.

- a. A description of the operations that were delayed, the reasons for the delay, how they were delayed, including the report of all scheduling experts or other consultants, if any.

- b. An as-built chart, CPM scheme, or other diagram depicting in graphic form how the operations were adversely affected.
- c. The date on which actions resulting in the claim occurred or conditions resulting in the claim became evident.
- d. The name, function, and activity of each Department official, or employee, involved in, or knowledgeable about facts that gave rise to such claim.
- e. The name, function, and activity of each Contractor or Subcontractor official, or employee, involved in, or knowledgeable about facts that gave rise to such claim.
- f. The identification of any pertinent documents, and the substance of any material oral communication relating to such claim.
- g. A statement as to whether the additional compensation or extension of time sought is based on the provisions of the Contract or an alleged breach of Contract.
- h. If an extension of time is also sought, the specific days for which it is sought and the basis for such claim as determined by an analysis of the construction schedule.

The requirement of these specific items should lead to a clear presentation of the claim. A clear presentation of the claim will enable the owner to start his analysis of the claim from a better position, as compared to wading through a bulky, unclear maze of information prepared by the contractor to win the claim

Another provision useful in the analysis of claims is an audit clause. A claim audit provision provides the owner with access to specific contractor records in an attempt to determine fair compensation for the claim. This provision has two effects

on contracts. First, it allows the owner to access detailed information regarding the contractor's finances. Such access will enable the owner to determine if a claim, or a part of the claim, is frivolous. In addition, the contractor will be less likely to file a claim containing unjustifiable compensation when the contract allows the owner access to such records. The Georgia specification 105.13F contains items such as daily time sheets, payroll register, earnings records, material invoices, canceled checks, job cost report, job payroll ledger, as well as the following list of items.

1. Financial statements for all years reflecting the operations on this project.
2. Income tax returns for all years reflecting the operations on this project.
3. Depreciation records on all company equipment whether such records are maintained by the company involved, its accountant, or others.
4. If a source other than depreciation records is used to develop costs for the Contractor's internal purposes in establishing the actual cost of owning and operating equipment, all such other source documents.
5. All documents which reflect the Contractor's actual profit and overhead during the years this Project was being performed and for each of the five years prior to the commencement of this Project.
6. All documents related to the preparation of the Contractor's bid including the final calculations on which the bid was based unless such documents are placed in escrow under other provisions of the Contract.
7. All documents which relate to each and every claim together with all documents which support the amount of damages as to each claim.

8. Worksheets used to prepare the claim establishing the cost components for items of the claim including, but not limited to, labor, benefits and insurance, materials, equipment, subcontractors, and all documents which establish the time periods and individuals involved, along with the hours and the rates for the individuals

This list of materials used to audit a claim could give the owner the necessary information to substantiate the claim. Most certainly, a provision such as this will deter a contractor from 'padding' a claim. The goal of both of these provisions, required contents of a claim and claim audit access to documentation, is not only to enable the owner to properly analyze the claim, but to provide for a timely resolution to the claim. Resolving a claim quickly, with both parties content with the outcome, will minimize the impact of the claim on the project and save both the owner and the contractor money.

An issue some in the industry have with documentation supplied on request is that an unethical contractor could falsify such data for the benefit of their claim. A procedure does exist, however, to guarantee the authenticity of documentation. This procedure is called Escrow Bid Documents (EBD). This procedure is relatively new to the industry, but has had success where it has been used. The purpose of this procedure is to make the original bid calculations and documentation available to both the owner and contractor in the event of a dispute. The process is for the contractor to submit their "quantity take-off, calculations, quotes, consultant's reports, notes and other information that was used to arrive at the bid price."⁽¹⁰⁾ The documents should be submitted before the agreement is signed and placed in a third party's possession. The documents remain the property of the contractor and are

returned after final acceptance of the project. Furthermore, the documents can only be viewed with a representative of both contract parties present, although either party can request consultation of the documents. It should be noted that the specifications should specify that no extraordinary effort in preparing this document package should be undertaken.⁽¹⁰⁾

Placing the bid documents in escrow could prove to be beneficial to both owner and contractor. It allows both parties to refer to the original analysis of projected costs in an attempt to determine what additional compensation is fair for a specific issue, or claim. The placing of the document package in escrow before the project begins assures the authenticity of the documentation. This assurance will strengthen any decisions, whether supporting or disputing a contractor's position.

This provision is not necessary on all jobs, specifically small jobs. Therefore, there should be a size limit for mandatory use of EBD and certain complex projects that are indicative of claims. The state DOT's and large municipalities that have been using EBD have had good success with it. It has been said "both owners and contractors have indicated that the escrow document requirement leads to a more honest and cooperative relationship on the job."⁽¹⁰⁾ The escrow bid document provision may be viewed as less invasive than the procedures discussed previously in this chapter. A more detailed explanation of an EBD provision can be found in Chapter 7 of this thesis.

Chapter 7

Recommendations

The recommended contract provisions in this chapter were formulated by using parts of several state contract conditions. It is the intent of these recommended provisions to offer examples of alternatives to the existing Tennessee specification. These recommended provisions reflect the issues discussed in the preceding chapters of this thesis. It should be emphasized that these recommended provisions are written to provide illustrative content. The state legal department should write the actual provisions, if such change is warranted based on these recommendations, to ensure that proper contractual language is used.

As discussed in chapter 3, Tennessee's scheduling provision lacks specificity. The alternative provision would require and describe a more detailed schedule format, as well as require specific updating periods. The following provision meets these criteria and sets a project size limit for which detailed schedules are required.

105.06-Planning of the Operations-Preconstruction Conference.

"After execution of the Contract by both parties thereto and prior to beginning work, the Contractor shall furnish the Engineer a complete and practicable *schedule* (the word *plan* is presently used) of operations which shall provide for orderly and continuous performance of the Work."⁽⁶⁾ This schedule of operations shall be mandatory for all projects with a contract time in excess of 300 calendar days. "Said schedule of operation shall provide a bar for each major phase of construction such as, but not limited to, clearing

and grubbing, grading, drainage structures, bridges, base, shoulders, paving, etc. with an estimated start and completion date for each bar and an overall project completion date, all within the specified contract time. The Engineer may order the submittal of a bar graph schedule of operation on any project that has a contract time less than that specified above should he deem such necessary for project control.

A revised bar graph schedule and completion update may be required within ten (10) days of the occurrence of any one of the following conditions: (1) at each major change from the original submitted, (2) when a time extension is granted, and (3) when a revised bar graph schedule is requested by the Engineer ”⁽⁷⁾

“If the Contractor so elects, the Work may be scheduled by the Critical Path Method (CPM), if called for in the Proposal, utilization of the Critical Path Method (CPM) shall be mandatory. When required, the CPM should be updated at least every 90 days as directed by the Engineer. Subsequent to submission of the *schedule* of operation, the Contractor shall attend a preconstruction conference called by the Engineer. He shall have available at such meeting all data necessary to substantiate his *schedule* of operation.

In addition to this basic schedule of operations, the Contractor shall keep the Engineer notified of his planned or contemplated operation details sufficiently in advance of starting each phase so that inspection may be arranged by the Engineer. Such notice shall include the nature and location of

the work planned or contemplated, the date and time of starting, and any hours outside of the conventional working day and working week during which the prosecution of such work is contemplated. The performance of any work without such notice to the Engineer and in the absence of inspection or the written waiver thereof, in itself, shall constitute sufficient grounds for rejection of such portion of the work ”⁽⁶⁾

The most notable change in the scheduling provision is the emphasis on a ‘schedule of operation’ rather than a ‘plan of operation’. This emphasis, along with a detailed description of the format for such a schedule, makes it clear to the contractor what is expected. The requirement for revising the schedule is also improved by specifically stating the events that would warrant a revision. One could go a step further and require updated schedules with every pay request; however, this requirement could be viewed as being overly stringent. The size requirement of 300 calendar days was chosen as a cut-off for mandatory schedules to eliminate the need for schedules on projects lasting less than a year. This limit seems reasonable to ensure that a project with any major complexity or size would have a required schedule implemented. The option for the use of a CPM schedule is retained. The decision is left to the project engineer as to when it is necessary.

The alternative scheduling provision just discussed is related to the next issue of bid eligibility based on satisfactory progress. Chapter 4 pointed out that Tennessee’s provision, which was amended within the past year, tends to be vague and does not make a strong statement. The first issue with this provision is the method of analysis. Currently, the satisfactory progress calculation is based on

time versus money method or the anticipated schedule supplied by the contractor. The easiest and most straightforward solution is to eliminate the option and specify the time versus money method. However, this analysis method needs to be described in detail as illustrated in the next paragraph herein. The next issue is the penalty for falling behind on a project. Tennessee's current penalty is for contractors who are 15% or more behind on two or more projects. This provision allows the contractor to be behind on one project with nothing to prevent them from bidding on a new project. A stronger approach would be disqualification from bidding when the contractor is some percentage behind on one project. This provision can be improved by clarifying the analysis process and making a clearer definition of the penalty.

Consistent with the preceding argument, the second paragraph of section 108.03 of the Tennessee specifications would be deleted and the following added.

“After preparation of the Contractor's monthly estimate, the Department will review the progress of the work comparing the dollar value of work performed to the percentage of contract time elapsed.”⁽⁷⁾ “If the percentage of the work performed is less than the percentage of contract time elapsed on the work by more than 15 percentage points the Contractor's progress will be considered as unsatisfactory. The percentage of work performed will be the dollar value of the work performed divided by the current contract amount. The percentage of contract time elapsed will be number of calendar days elapsed as shown in the latest partial pay estimate divided by the total contract time in calendar days ”⁽¹¹⁾ Once a contractor's

progress has been determined unsatisfactory, the Department will notify the Contractor of possible disqualification. "Said notice will note the unsatisfactory progress revealed by the computation and that ten days will be allowed from the date of receipt of the notice in which to bring progress within the allowed 15 percent or furnish an acceptable reason why they should not be given a final notice of disqualification."⁽⁷⁾

The suggested penalty and calculation of progress stated in the illustrative Section 108.03 meets the needs discussed in the analysis of this type of provision. It clearly states the analysis process and describes the procedure for disqualification. If a state were to use a scheduling requirement similar to the one suggested in the beginning of this chapter, an analysis based on the regularly revised schedule could be used instead of the time versus money method. However, it must be decided which one would be used, and only that process should then be used. The disadvantage to an analysis based on the schedule would be that the progress would have to be determined from a forecasting standpoint, therefore allowing discussion as to the accuracy of the analysis

In chapter 5 the issue of outlining a claims resolution procedure in a contract provision was discussed. This discussion pointed out the importance of all contract parties' understanding the processes in place to resolve a dispute. As mentioned in the discussion in chapter 5, the issue of formulating a claims resolution procedure is complex. It is not the intent of this thesis to recommend a specific procedure; it is the intent of this thesis to recommend that a procedure be outlined in a contract provision. Appendix A to this thesis includes two contract provisions regarding

claims resolution procedures. The provisions are taken in their entirety from the Alabama Highway Department and the Colorado Department of Transportation. Although Colorado is not in the FHWA region used in this study, it was used in some comparisons because of its progressive contract provisions. Both provisions in the appendix are good examples of outlining a claims resolution procedure in the contract specifications.

The discussion in chapter 6 introduced several different methods of ensuring that sufficient documentation to evaluate a claim is available to the project owner. The least invasive and perhaps the most beneficial to both contract parties is the escrow bid documents procedure. This procedure should be described in detail in the provision. It should also be limited to larger projects and those that are relatively complex in nature.

The first part of the provision should dictate when the provision is applicable. It should read in a way similar to the following.

The successful bidder on any project greater than \$2,000,000, and any subcontractors with subcontracts in excess of \$200,000, shall submit all information and calculations used to determine their bid for this project prior to executing the Contract.⁽¹²⁾

Next, a short explanation of the purpose of the documentation should be included before the detailed description begins.

This documentation, hereinafter referred to as "Escrow of Bid Documentation" or "EBD", will be held in escrow for the duration of the Contract. If necessary, it will be used for the purpose of determining the

Contractor's proposal concept, for price adjustments as provided in the

Contract, or to resolve any dispute or claim by the Contractor.⁽¹²⁾

Following this initial description, the provision should break down the details of the process into the categories of format, storage, submittal, examination, and return

The provision should dictate that the format of the EBD should be the normal cost estimating format and that no extra work should be caused by this provision. It is only important that the material be of such format to enable proper interpretation and understanding. Further description as to what level of itemization could be included. However, such a requirement might prove to be invasive to the contractor estimating the job. Thus, the inclusion of such a description is not proposed here.

Storage of the EBD should also be described in the provision. Typically, the storage of the documents is with a third party institution. This third party could be a bank or an attorney's office. The documents are also to remain the property of the Contractor. It is important to make this point clear since this information could be classified as trade secrets and should not be accessible by anyone other than the owner and contractor. The provision should also state that the cost of storage is to be paid by the owner.

The submittal procedure is similar to the submittal of a bid. The EBD should be submitted in a sealed container prior to the execution of the contract. It should include a signed affidavit stating that the contents have been inspected by the contractor and all information used in preparing the bid is included.

The examination procedure is such that both parties can request to view the documentation. It should be stated, however, that a representative from both parties

must be present for the examination of the documents. The provision needs to specify that the approved representatives from both the owner and contractor be decided before the work is started. All requests for examination of the documents should be preceded by notification to the other party at some minimum time interval.

The provision should conclude with a statement regarding the return of the documents. The documents should be returned to the contractor, and subcontractors if applicable, after final payment has been accepted and all disputes and claims have been resolved. The provision could also require the contractor to sign a statement that no further claims can be submitted on any project to which the EBDs were applicable before the release of the documents.⁽¹²⁾

There is room within this provision to tailor the requirements to fit the specific needs of the Tennessee Department of Transportation. It should be noted, however, that too many restrictions would weaken the provision by making it appear to be overly harsh and invasive to the open bid process. Included in the Appendix B of this thesis is an example provision from the publication "Avoiding and Resolving Disputes During Construction" as prepared by the American Society of Civil Engineers' Technical Committee on Contracting Practices of the Underground Technology Research Council.

Chapter 8

Conclusion

Preparation of a construction contract that deals with every possible situation and contingency is probably an unrealistic goal. It is not possible to foresee all potential situations that can occur, and not all contract provisions will be applicable in all situations. However, even though a 'perfect' contract is not practically attainable, many potential problems can be avoided by careful drafting of contract specifications. The discussions and recommendations in the preceding chapters are intended to give the Tennessee Department of Transportation options in their efforts to prepare construction documents which will reduce the number of construction claims and assist in the resolution of potentially costly construction claims.

The provisions discussed in this thesis were chosen on the basis that they were the most direct approach to avoiding and resolving claims. The difficulties identified with the TDOT provisions analyzed were related more to wording than to content. While there are certainly other provisions in the general conditions of the contract that can affect construction claims, the four issues analyzed and discussed in Chapters 3 through 6 could be considered the most directly relevant.

First, scheduling and satisfactory progress are directly related to avoiding claims. Both of these provisions dictate where the contractor should be on a project and where they are on a project. Scheduling is important to assess and forecast the impact of delays and changes. Satisfactory progress to determine bid eligibility is important to prevent a contractor from becoming behind on multiple projects, a

situation which could deteriorate the owner-contractor relationship and become costly for the project.

Second, the resolution procedure and the escrow of bid documents procedure are directly related to resolving claims as effectively as possible. Both of these provisions provide for the means and methods to bring a claim to an agreeable conclusion with the least impact possible. A claims resolution procedure gives all parties involved an understanding of the process for resolving a claim before any claim exists. The idea of placing the bid documents in a secured location gives all parties involved the confidence of having documentation to review which will assist in the negotiation of costs associated with a in construction claim.

Appropriate incorporation into the contract specifications of the four areas considered in this thesis will potentially reduce the number of claims filed and facilitate the handling of those claims that are filed. The ultimate goal of effective contract drafting, irrespective of the subject of the provision, is that each contract provision should be written with clear, complete, and concise language to ensure proper understanding and application. This proper understanding and application can be expected to lead to more efficient administration of construction contracts and, ultimately, to more efficient execution of construction projects.

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Appendices

Appendix A

Alabama and Colorado Provisions for Claims Resolution

Alabama Highway Department Standard Specifications

109.10 Disputed Claims for Extra Compensation.

In any case where the Contractor deems that extra compensation is due him for additional cost not clearly covered in his contract and not ordered by the Engineer as extra work as defined herein, the Contractor shall notify the Project Engineer in writing, with copy to the Director, of his intention to make claim for such extra compensation.

The written notice of claim shall be furnished the Engineer prior to the time the contested work is started. Oral notification by the Contractor and confirmed in writing by the Contractor within three (3) calendar days, will be accepted as complying with this requirement.

If the basis of potential claim does not become apparent until the Contractor has proceeded with the work, the Contractor shall orally notify the Engineer of the intent to make claim for additional compensation immediately when the basis becomes evident, followed by written confirmation within three (3) calendar days.

The written notice of potential claim shall set forth the reasons the Contractor believes additional compensation will be due, the nature of cost involved and insofar as possible the total amount of the claim.

Upon notification of potential claim, the Engineer will keep an account of costs involved in the claim related work by force account records if necessary.

The Contractor hereby agrees to waive any claim for additional compensation if notification as provided in the foregoing is not furnished or the Engineer is not provided facilities by the Contractor for keeping account of actual costs as defined for force account construction.

Such notice by the Contractor, and the fact that the Engineer has kept account of the cost as aforesaid, is not evidence of the validity of the claim. A separate determination of the validity of the claim must be made by the Engineer.

After the work has been completed on the disputed terms of work, the Contractor shall submit eight (8) copies of the claim, along with all supporting data, to the Project Engineer. Once the claim is received by the Project Engineer, the Division will have thirty (30) calendar days to review the claim and make a written recommendation to the Construction Bureau. A copy of the Division's written recommendation shall be forwarded to the Contractor at the same time it is forwarded to the Construction Bureau. The Construction Bureau will evaluate the claim data submitted by the Contractor and the Division's recommendation. After the Construction Bureau's evaluation, the Contractor will be notified that

the claim is either approved or denied, or a proposed settlement may be offered, all subject to the approval of the Transportation Director. The Construction Bureau's response to the Contractor will be within thirty (30) calendar days after receipt of the claim from the Division.

Claims Committee, Composition and Appointment

If the Contractor does not accept the decision of the Construction Bureau, he may request a hearing by the Claims Committee. The Claims Committee will be composed of four Departmental employees, appointed by the Director, who were not involved in the design or construction of the project. For Federal Aid projects, the Director will advise the Federal Highway Administration of the time, date, and location of the hearing, and will invite the FHWA to send an observer. The Claims Committee's recommendation may be accepted or denied by the Transportation Director.

Claims Appeal Board, Composition and Appointment

If the Contractor does not accept the decision of the Director, he may request a hearing by a Claims Appeal Board (provided the request is made within twenty-one (21) calendar days of the receipt of the Director's decision on the Claims Committee Report).

The Claims Appeal Board is a standing committee. The Board consists of three primary members who shall be appointed for two-year terms normally ending on the last day of January, first following the second year of the term. A three-member pool of alternates will be selected from which to provide a substitute for the primary member in the event that the primary member is unable to serve at a particular time or in the event that the Director declares the position vacant due to unfitness, death, illness, incapacity, conflict of interest or any other circumstance which would make service on the Board by that member impossible, difficult or unobjective. The three primary members of the Board and three alternates are appointed in the following manner. The Transportation Director appoints the primary and one alternate for one position. The Alabama Road Builders' Association appoints the primary and one alternate for a second position. The Transportation Director and the Alabama Road Builders' Association jointly appoint the primary and one alternate for a third position. The jointly appointed primary member will be the Board Chairman. The jointly appointed alternate will be the alternate Board Chairman. At least two Board Members must be registered Professional Engineers in the State of Alabama.

In the event that an alternate member is elevated to permanently replace a primary member of the Board, then a new alternate shall be appointed in the same manner as was the departing alternate. Such will also be the case if an alternate position is declared vacant by the Director due to death, illness, incompetence or other reasons. In the event that both the primary member and the alternate member are unable to serve or must recuse themselves due to

conflict of interest, etc., on a particular claim(s) hearing, a new member of the.109.11

Board will be appointed in the same manner as the primary member to sit for that particular hearing.

The Board Chairman and alternate Board Chairman will be paid an annual honorarium equivalent to two days per diem by the Department as compensation for use of their good names, and as compensation for their attendance at an annual orientation period, and as compensation for reasonable training in the duties expected of their positions. A per diem of \$450.00 per day will be paid to each Board member for each day of participation in a hearing action. The per diem will cover all compensation and expenses.

Requesting a Claims Appeal Board Hearing

The Contractor may initiate a request for a Board hearing by filing five copies of Form C-32 by certified mail with the Director within twenty-one (21) calendar days from the receipt of the response of the Director to the recommendation of the Claims Committee. Form C-32 serves to notify the Board to begin to prepare to hear the claim, and to limit the topics to be considered by the Board to a few precise areas of disagreement.

After Form C-32 has been served upon the Director by certified mail, the Department has twenty-one (21) calendar days to respond to the claim(s) by serving the Contractor with Form C-33. One copy will be sent by certified mail to the Contractor and three other copies will be made available to the Board. The purpose of this form is to make the Contractor aware of the Department's position, and to notify the Contractor of the composition of the Board and of the date, time and location of the hearing. The Board hearing will convene at the mutual convenience of the Director and the Contractor, not sooner than twenty-one (21) calendar days from the service of Form C-32, nor later than forty-two (42) calendar days after said service.

The Department will provide Board members with copies of Forms C-32 and C-33, with the Claims Committee report, and with the Director's response.

The issues to be examined, the evidence to be presented, and the witnesses to be heard are normally limited to those declared on Forms C-32 and C-33. Either party has the right to amend its submitted form up to ten (10) calendar days before the scheduled date of the hearing, provided that the other party then has five (5) calendar days to amend its submitted form in response.

For Federal Aid projects, the Director will supply the Federal Highway Administration (FHWA) with the time, date and location of the hearing, and will invite the FHWA to send an observer.

The Department maintains (dated) rules for conducting Board hearings and procedures for paying for Board hearings. Such rules and procedures are filed in the Construction Bureau and are available to the Contractor upon request at the time of bid letting. The Contractor will pay for fifty (50) percent of the expenses of a Board hearing. The written recommendation of the Board will be sent to the Director and Contractor within ten (10) calendar days of the final hearing. If the decision is unanimous, then only the recommendation involving the unanimous decision will be presented in the report. If the decision is not unanimous, then the written recommendation of the Board will contain a majority/minority recommendation. The Claims Appeal Board's recommendation may be accepted or denied by the Transportation Director. The Director has twenty-one (21) calendar days to report his decision to the Contractor after receiving the Claims Appeal Board Report.

Colorado Department of Transportation Standard Specifications

105.17 Disputes and Claims for Contract Adjustments. When the Project Engineer is a Consultant Project Engineer, actions decisions, and determinations specified herein as made by the Project Engineer may be made by the Resident Engineer.

- (a) Disputes include, but are not limited to, any disagreement resulting from a change, a delay, a change order, another written order, or an oral order from the Project Engineer, including any direction, instruction, interpretation, or determination by the Project Engineer. When a dispute occurs, the Contractor shall pursue resolution through the process set forth in this subsection. The Contractor shall:
1. Provide a written notice of protest to the Project Engineer before doing the work;
 2. Supplement the written protest within 15 calendar days with a written statement providing the following:
 - (1) The date of the protested order;
 - (2) The nature of the order and circumstances which caused the protest;
 - (3) The contract provisions supporting the protest;
 - (4) The estimated dollar cost, if any, of the protested work and documentation supporting the estimate; and
 - (5) An analysis of the progress schedule showing the schedule change or disruption if the Contractor is asserting a schedule change or disruption; and
 3. Supplement the information provided in 2. above as necessary during the time the dispute continues.

Throughout protested work, the Contractor shall keep complete records of extra costs and time incurred. The Contractor shall permit the Project Engineer access to these and all other records needed for evaluating the protest as determined by the Project Engineer.

The Project Engineer will evaluate all protests. If the Project Engineer determines that a protest is valid, the Project Engineer will adjust payment for work or time by an equitable adjustment in accordance with subsection 108.06, 109.04, or 109.10. If the Project Engineer fails to provide satisfactory resolution, the Contractor may pursue the more formalized method for submitting a claim, as outlined below.

- (b) All claims filed by the Contractor based upon: (1) work or materials not clearly defined in the Contract, (2) extra work not ordered by the Engineer in accordance with subsection 104.03, (3) extensions of time made pursuant to subsection 108.06, or (4) any other cause, resulting in requests for additional compensation or time, shall be governed by this subsection.

The Contractor and the Department agree that the dispute resolution process set forth in this subsection shall be exhausted in its entirety prior to initiation of litigation.

Failure to comply with the requirements set forth in this subsection shall bar the Contractor from any further administrative, equitable, or legal remedy.

- (c) Upon discovery of any facts which formulate the basis of a potential claim, or upon unsatisfactory resolution of a dispute, the Contractor shall give written notice to the Project Engineer to enable the Department to obtain its independent evidence of these facts.

Within seven calendar days after the discovery of the facts giving rise to a claim, or after unsatisfactory resolution of a dispute, the Contractor shall notify the Project Engineer in writing of the intent to file a claim as described in subsection 105.17(b), unless written notice of protest was given in accordance with subsection 105 17(a). The Contractor's formal notification of intent to file a claim shall describe the contractual and legal basis of the claim and factual evidence supporting the claim.

If notice of protest or notice of intent to file claim are not properly given by the Contractor according to these specifications, the Contractor shall not be entitled to any additional compensation or extension of time for any cause related to the claim, including any act or failure to act by the Engineer. Any such claim based upon any cause will be considered invalid and will be denied by the Project Engineer on the basis that proper notifications, as required herein, were not given. The Contractor's prior and formal notifications of intent to file a claim and subsequent Department acknowledgment of those notifications shall not be construed as proving or substantiating the validity of the Contractor's claim as related to the contractual basis of the claim, factual information related to the claim, or cost, or amount of time extension related to the claim.

- (d) When the Contractor provides written notification of intent to file a claim pursuant to subsection 105.17(c), the claim will be reviewed by the Project Engineer who will render a written decision to the Contractor to either affirm the claim as valid or deny the claim, in whole or in part, in accordance with the following procedure:

1. Within 60 days after project acceptance, the Contractor shall submit to the Project Engineer a complete claim package which represents the final position the Contractor wishes to have considered by the Department. The submitted claim package shall include all documents supporting such claim, regardless of whether such documents have been provided previously to the Department. All claims filed by the Contractor shall be in writing and in sufficient detail to enable the Engineer to ascertain the basis and amount of claim. As a minimum, the following information must accompany each claim submitted:

- A. A claim certification containing the following language:

CONTRACTOR'S CLAIM CERTIFICATION

Under penalty of law for perjury or falsification, the undersigned, (name), (title), of (company), hereby certifies that the claim of \$ _____ for extra compensation and _____ Days additional time, made herein for work on this contract is a true statement of the actual costs and time incurred, and is fully documented herein and supported under the contract between the parties

Dated _____ /s/ _____
Subscribed and sworn before me this _____ day of _____.

NOTARY PUBLIC

My Commission Expires:

- B. A detailed factual statement of the claim for additional compensation, time, or both, providing all necessary dates, locations, and items of work affected by the claim.
- C. The date on which facts were discovered which gave rise to the claim.
- D. The name, title, and activity of all known CDOT, Consultant, and other individuals who may be knowledgeable about facts giving rise to such claim.
- E. The name, title, and activity of all known Contractor, subcontractor, supplier and other individuals who may be knowledgeable about facts giving rise to such claim.

- F. The specific provisions of the Contract which support the claim and a statement of the reasons why such provisions support the claim.
- G. If the claim relates to a decision of the Engineer which the Contract leaves to the Engineer's discretion, the Contractor shall set out in detail all facts supporting its position relating to the decision of the Engineer.
- H. The identification of any documents and the substance of any oral communications that support the claim.
- I. Copies of all known documents that support the claim.
- J. If an extension of contract time is sought, the documents required by subsection 108.06(d).
- K. If additional compensation is sought, the exact amount sought and a breakdown of that amount into the following categories:
 - (1) Labor costs;
 - (2) The actual cost of materials;
 - (3) Equipment costs calculated in accordance with subsection 109.04(c) for Contractor owned equipment and based on invoice costs for rented equipment.
 - (4) Jobsite overhead costs;
 - (5) Documentation and costs for additional bond, insurance and tax;
 - (6) Subcontractor's claims (the same level of detail as specified herein is required for all subcontractor's claims);
 - (7) An additional 10 percent may be added to the total of items (1), (2), (3), (4), (5), and (6) as compensation for items for which no specific allowance is provided, which includes profit and home office overhead.

The time period within which the Contractor is to provide such written documentation may be extended by the Project Engineer if requested by the Contractor and if the Project Engineer determines an extension would enhance the claim record and improve the potential for resolution of the claim. If the Contractor fails to provide such written documentation within 60 days after project acceptance, or within an extended time period authorized by the Project Engineer, the Project Engineer will base the decision upon the information previously submitted in the Contractor's notification of intent to file a claim and pertinent specification and contract documents. Requests of time extension to submit documentation shall be submitted in writing prior to final acceptance of the project. The Engineer's approval or disapproval of the extension will be given to the Contractor in writing prior to final acceptance.

The Contractor shall keep full and complete records of the costs and additional time incurred for each claim. All Contractor's records and the records of all subcontractors on the Contract shall be open to inspection or audit by representatives of the Department during the life of the Contract and for a period of not less than three years after the date of final payment. The Contractor, subcontractors, and lower tier subcontractors shall provide adequate facilities, acceptable to the Engineer, for the audit during normal business hours. The Contractor shall permit the Engineer or Department auditor to examine and copy those records and all other records required by the Engineer to determine the facts or contentions involved in the claim. The audit may be performed for any claim, and is mandatory for all claims with amounts greater than \$250,000.

2. The Project Engineer: (1) will review the information in the Contractor's written notification of intent to file a claim, (2) will review all written documents as submitted by the Contractor in support of the claim, and (3) may consider any other information available in rendering a decision. The Project Engineer will assemble and maintain a claim record comprised of all written documents submitted by the Contractor in support of the claim and all other written documents considered by the Project Engineer in reaching a decision. All documentation the Contractor wants considered shall be made available to the Project Engineer and will be made a part of the claim record during the review of the claim. Once the claim record has been assembled by the Project Engineer, the submission of

additional information, other than clarification and data supporting previously submitted documentation, at any subsequent levels of review by anyone, will not be permitted. The Project Engineer will provide a copy of the complete claim record along with the written decision to the Contractor describing the contractual basis and factual information considered by the Project Engineer in reaching a decision.

- 3 The Project Engineer will render a written decision to the Contractor within 60 days from the receipt of the Contractor's submission of all written documentation supporting the claim. If more than one claim has been filed by the Contractor on the Project, the Project Engineer will have the right to consolidate all related claims and issue one decision on all such claims provided that consolidation of claims does not extend the time period within which the Project Engineer is to render a decision. Consolidation of unrelated claims will not be made. If the Project Engineer fails to render a written decision to the Contractor within the specified 60 day time period, or within any extended time period as agreed to by both, the Contractor must either: (1) accept this as a denial of

the claim, or (2) appeal the claim to the Region Transportation Director, in the same manner as if the Project Engineer had denied the Contractor's claim, according to subsection 105.17(e).

- (e) If the Contractor disagrees with the written decision of the Project Engineer, the Contractor must either: (1) accept the Project Engineer's decision as final, (2) file a one-time written appeal to the Project Engineer with the submission of additional information, or (3) file a written appeal to the Region Transportation Director based upon all information previously submitted and made a part of the claim record. The Contractor's written appeal shall be made within 60 days from the receipt of the Project Engineer's written decision. The Contractor hereby agrees that if a written appeal is not properly filed within this specified 60 day time period, the claim shall be settled in the same manner as if the Contractor had accepted the Project Engineer's written decision as final. Failure by the Contractor to properly file a written appeal, according to these specifications, shall bar the Contractor from any further administrative equitable or legal remedy for said claim under the Contract.
- (f) When the Contractor properly files a written appeal to the Project Engineer pursuant to subsection 105.17(e), the Project Engineer will review all new submissions made by the Contractor and render a decision to the Contractor pursuant to subsection 105.17(d). When a written appeal to the Region Transportation Director is properly filed by the Contractor pursuant to subsection 105.17(e), the Project Engineer will provide the complete claim record, as defined by subsection 105.17(d), to the Region Transportation Director. The claim will be reviewed by the Region Transportation Director who will render a written decision to the Contractor to either affirm, overrule, or modify the Project Engineer's decision, in whole or in part, in accordance with the following procedure:
 - 1. For the purpose of this subsection, Region Transportation Director shall be understood to mean the Region Transportation Director or the Region Transportation Director's designated representative.
 - 2. The Region Transportation Director will maintain the claim record during the review of the claim. The Contractor's written appeal to the Region Transportation Director will be made a part of the claim record. Either the Contractor or the Department may request an oral hearing of the claim before the Region Transportation Director. When an oral hearing is requested by either party, both the Project Engineer and the Contractor's representative shall be present and the hearing shall be conducted at a time which is convenient to all parties. The Region Transportation Director will consider all written documents in the claim record and all oral presentations in support of that record made by the Contractor and the Project Engineer. The Region Transportation Director will not

consider any written documents or oral arguments, which have not previously been made a part of the claim record, other than clarification and data supporting previously submitted documentation.

3. The Region Transportation Director will render a written decision to the Contractor within 60 days from the receipt of the Contractor's written appeal, unless both parties agree to an extension of time. If the Region Transportation Director fails to render a written decision to the Contractor within the specified 60 day time period, or within any extended time period as agreed by both parties, the Contractor must either: (1) accept this as a denial of the claim, or (2) appeal the claim to the Chief Engineer, in the same manner as if the Region Transportation Director had denied the Contractor's claim, according to subsection 105 17(g).
- (g) If the Contractor disagrees with the written decision of the Region Transportation Director, the Contractor must either: (1) accept the Region Transportation Director's decision as final, or (2) file a written appeal to the Chief Engineer within 60 days from the receipt of the Region Transportation Director's written decision. The Contractor hereby agrees that if a written appeal is not properly filed within this specified 60 day time period, the claim shall be settled in the same manner as if the Contractor had agreed with and accepted the Region Transportation Director's written decision as final. Failure by the Contractor to properly file a written appeal according to these specifications shall bar the Contractor from any further administrative, equitable, or legal remedy for said claim under the Contract.
- (h) When the Contractor properly files a written appeal to the Chief Engineer pursuant to subsection 105 17(g), the complete claim record as maintained by the Region Transportation Director will be provided to the Chief Engineer. The Chief Engineer will review said claim and will render a written decision to the Contractor to either affirm, overrule, or modify the Region Transportation Director's decision, in whole or in part, in accordance with the following procedure:
- 1 The Contractor's written appeal to the Chief Engineer will be made a part of the claim record. Either the Contractor or the Chief Engineer may request that arbitration be commenced to review the claim and provide a recommendation to the Chief Engineer. Arbitration will not be convened when the value of the claim is less than \$20,000. Arbitration shall be in accordance with subsection 105.17(i).
 2. When arbitration is not requested by either the Contractor or the Chief Engineer, the Chief Engineer will render a decision within 60 days after reviewing the information contained in the claim record. The Chief Engineer will not consider any written documents or oral arguments,

which have not previously been made available to the Region Transportation Director and properly made a part of the claim record, other than clarification and data supporting previously submitted documentation.

3. When arbitration is requested by either the Contractor or the Chief Engineer, it shall be convened pursuant to subsection 105.17(i). The Chief Engineer will consider the entire administrative claim record, including the arbitrator's written recommendation. The Chief Engineer will not consider any written documents or oral arguments which have not been made available to arbitration and made a part of the claim record. The Chief Engineer will not be bound by the recommendation of the arbitration.
- (i) When requested by either the Contractor or the Chief Engineer, pursuant to subsection 105.17(h), arbitration shall consist of independent arbitrators who shall consider the claim in accordance with the following procedures:
1. The Chief Engineer shall contact an independent arbitration organization such as the American Arbitration Association (AAA) which shall appoint arbitrators according to their internal procedures. Arbitrators shall not be employed by, affiliated with, or have consultive or business connection with the claimant Contractor. Arbitrators shall not have assisted either in the evaluation, preparation, or presentation of the claim case either for the Contractor or the Department or have rendered an opinion on the merits of the claim for either party, and shall not do so during the proceedings of arbitration.

The costs and reasonable expenses of arbitration shall be directly paid by the Department. The Department will subtract one-half of the cost of the arbitration from the Contractor's final payment.

2. Once established, the arbitrators shall serve until the final recommendation is made to the Chief Engineer. The entire claim record will be made available to the arbitrators by the Chief Engineer.

The independent arbitrators shall administer the process pursuant to the CDOT modified version of AAA's Construction Industry Arbitration Rules, established for its construction claims, except to the extent that such rules conflict with the specifications, in which case the specifications shall control. A copy of the modified AAA rules is attached. Unless both parties agree otherwise one arbitrator shall be used for claims less than \$250,000 and three arbitrators shall be used for

claims \$250,000 and greater. The arbitrators shall consider the facts of the claim and preside over an informal hearing on the claim. The hearing will be transcribed by a court recorder. Any person, who has been licensed to practice law in any of the 50 states may not participate in the claimant Contractor's, or CDOT's, oral claim presentation, question or cross examine witnesses or object to the presentation of any testimony at the arbitration. Either party may have an attorney present at the arbitration hearing to provide advice during the proceedings. Unless both parties agree otherwise all hearings shall be held in Denver.

The arbitrators shall consider all written information available in the claim record and all oral presentations in support of that record by the Contractor and the Department. The arbitrators shall not consider any written documents or oral arguments which have not previously been made a part of the claim record, other than clarification and data supporting previously submitted documentation. The arbitrators shall not consider an increase in the amount of the claim, or any new claims.

3. After complete review of the facts associated with the claim, the arbitrators shall render a written explanation of it's recommendation, based upon it's findings of fact, to the Chief Engineer who will retain authority over disposition of the claim. When three arbitrators are used, and only two arbitrators agree then the recommendation of the two arbitrators and the recommendation of the third arbitrator shall be given to the Chief Engineer. The arbitrator's recommendation shall include. (1) a summary of the issues and factual evidence presented by the Contractor and the Department concerning the claim, (2) recommendations concerning the validity of the claim, (3) recommendations concerning the value of the claim as to cost and time impacts if the claim is determined to be valid, (4) the contractual and factual bases supporting the recommendations made, (5) detailed and supportable calculations which support any recommendation made. The arbitrators shall act only in an advisory capacity to the Chief Engineer, with no direct authority for resolution of the claim. Recommendations which are not supported by either the plans, the specifications or other portions of the Contract will not be considered by the Chief Engineer. The arbitrators shall not consider Contractor's claims for legal or consultant preparation fees or anticipated profit. Recommendations concerning the value of the claim as to cost and time impacts will not be considered by the Chief Engineer if not supported by the required documents from subsection 105.17(d).
4. Upon receipt of the recommendation of the arbitration, the Chief
Engineer will render a final decision

within 60 days pursuant to subsection 105.17(h).

The decision of the Chief Engineer, or the Chief Engineer's designee, shall constitute the final offer by the Department. The conclusions and recommendations of the arbitration panel and the Chief Engineer shall not be admissible in any court of law. Any offer made by the Contractor or the Department at any stage of the claims process as set forth in this subsection shall be deemed an offer of settlement pursuant Colorado Rule of Civil Procedure 408 and therefore inadmissible in any litigation.

Appendix B

Example Provision for Escrow of Bid Documents from “Avoid and Resolving Construction Claims” by The Technical Committee on Underground Construction, ASCE

Escrow Bid Documents Specification

1. Scope

This specification requires that the three low bidders submit, within the specified time after receipt of bids, one copy of all documentary information generated in preparation of bid prices for this project. This material is hereinafter referred to as "Escrow Bid Documents". The Escrow Bid Documents of the successful bidder will be held in escrow for the duration of the contract.

The successful bidder agrees, as a condition of award of the contract, that the Escrow Bid Documents constitute all of the information used in preparation of his bid, and that no other bid preparation information shall be considered in resolving disputes.

Nothing in the Escrow Bid Documents shall change or modify the terms or conditions of the Contract Documents.

2 Ownership

The Escrow Bid Documents are, and shall always remain, the property of the Contractor, subject only to joint review by the Owner and the Contractor, as provided herein

The Owner stipulates and expressly acknowledges that the Escrow Bid Documents, as defined herein, constitute trade secrets. This acknowledgement is based on the Owner's express understanding that the information contained in the Escrow Bid Documents is not known outside the bidder's business, is known only to a limited extent and only by a limited number of employees of the bidder, is safeguarded while in bidder's possession, is extremely valuable to bidder and could be extremely valuable to bidder's competitors by virtue of it reflecting bidder's contemplated techniques of construction. Owner acknowledges that the bidder expended substantial sums of money in developing the information included in the Escrow Bid Documents and further acknowledges that it would be difficult for a competitor to replicate the information contained therein. Owner further acknowledges that the Escrow Bid Documents and the information contained therein are made available to Owner only because such action is an express prerequisite to award of the contract. Owner acknowledges that the Escrow Bid Documents include a compilation of information used in the bidder's business, intended to give the bidder an opportunity to obtain an advantage over competitors who do not know of or use the contents of the documentation. Owner agrees to safeguard the Escrow Bid Documents, and all information contained therein, against disclosure to the fullest extent permitted by law.

3. Purpose

Escrow Bid Documents will be used to assist in the negotiation of price adjustments and change orders and in the settlement of disputes, claims and other controversies. They will not be used for pre-award evaluation of the Contractor's anticipated methods of construction or to assess the Contractor's qualifications for performing the work

4. Format and Contents

Bidders may submit Escrow Bid Documents in their usual cost estimating format. It is not the intention of this specification to cause the bidder extra work during the preparation of the proposal, but to ensure that the Escrow Bid Documents will be adequate to enable complete understanding and proper interpretation for their intended use. The Escrow Bid Documents shall be in the language (e.g., English) of the specifications.

It is required that the Escrow Bid Documents clearly itemize the estimated costs of performing the work of each bid item contained in the bid schedule. Bid items should be separated into sub-items as required to present a complete and detailed cost estimate and allow a detailed cost review. The Escrow Bid Documents shall include all quantity takeoffs, crew, equipment, calculations of rates of production and progress, copies of quotations from subcontractors and suppliers, and memoranda, narratives, consultant's reports, add/deduct sheets, and all other information used by the bidder to arrive at the prices contained in the bid proposal. Estimated costs should be broken down into the bidder's usual estimate categories such as direct labor, repair labor, equipment operation, equipment ownership, expendable materials, permanent materials, and subcontract cost as appropriate. Plant and equipment and indirect costs should be detailed in the bidder's usual format. The Contractor's allocation of plant and equipment, indirect costs, contingencies, markup and other items to each bid item shall be included.

All costs shall be identified. For bid items amounting to less than \$10,000, estimated unit costs are acceptable without a detailed cost estimate, providing that labor, equipment, materials, and subcontracts, as applicable, are included and provided that indirect costs, contingencies, and markup, as applicable, are allocated.

Bid documents provided by the owner should not be included in the Escrow Bid Documents unless needed to comply with the requirements of this specification.

5. Submittal

The Escrow Bid Documents shall be submitted by the three lowest bidders in a sealed container within (24, 48, 72) hours after the time of receipt of bids. The container shall be clearly marked on the outside with the bidder's name, date of submittal, project name and the words "Escrow Bid Documents".

The Escrow Bid Documents shall be accompanied with the Bid Documentation Certification, signed by an individual authorized by the bidder to execute the bidding proposal, stating that the material in the Escrow Documentation constitutes all the documentary information used in preparation of the bid and that he has personally examined the contents of the Escrow Bid Documents container and has found that the documents in the container are complete.

Prior to award, Escrow Bid Documents of the apparent successful bidder will be examined, organized and inventoried by representatives of the Owner, together with members of the Contractor's staff who are knowledgeable in how the bid was prepared.

This examination is to ensure that the Escrow Bid Documents are authentic, legible and complete. It will not include review of, and will not constitute approval of, proposed construction methods, estimating assumptions, or interpretations of Contract Documents. Examination will not alter any condition(s) or term(s) of the contract.

If all the documentation required in Section 4, "Format and Contents", has not been included in the original submittal, additional documentation shall be submitted, at the Owner's discretion, prior to award of the contract. The detailed breakdown of estimated costs shall be reconciled and revised, if appropriate, by agreement between the Contractor and the Owner before making the award.

If the contract is not awarded to the apparent successful bidder, the Escrow Bid Documents of the bidder next to be considered for award shall be processed as described

Timely submission of complete Escrow Bid Documents is an essential element of the bidder's responsibility and a prerequisite to contract award. Failure to provide the necessary Escrow Bid Documents will be sufficient cause for the Owner to reject the bid.

If the bidder's proposal is based on subcontracting any part of the work each subcontractor, whose total subcontract price exceeds five percent of the total contract price proposed by the bidder, shall provide separate Escrow Bid Documents to be included with those of the bidder. These documents will be opened and examined in the same manner and at the same time as the examination described above for the apparent successful bidder.

If the Contractor wishes to subcontract any portion of the work after award, the Owner retains the right to require the Contractor to submit Escrow Bid Documents from the subcontractor before the subcontract is approved.

Escrow Bid Documents submitted by unsuccessful bidders will be returned unopened, unless opened as provided above, following award of the contract.

6 Storage

The Escrow Bid Documents will be placed in escrow, for the life of the contract, in a mutually agreeable institution. The cost of storage will be paid by the Owner.

7 Examination

The Escrow Bid Documents shall be examined by both the Owner and the Contractor, at any time deemed necessary by either the Owner or the Contractor, to assist in the negotiation of price adjustments and change orders, or the settlement of disputes.

Examination of the Escrow Bid Documents is subject to the following conditions:

- a As trade secrets, the Escrow Bid Documents are proprietary and confidential as described in Section 1.
- b. The Owner and the Contractor shall each designate, in writing to the other party and a minimum of ten days prior to examination, representatives who are authorized to examine the Escrow Bid Documents. With the consent of both the Owner and Contractor, members of the Disputes Review Board may examine the Escrow Bid Documents if required to assist in the settlement of a dispute. No other person shall have access to the Escrow Bid Documents.
- C. Access to the Escrow Bid Documents will take place only in the presence of duly designated representatives of both the Owner and Contractor.

& Find Disposition

The Escrow Bid Documents will be returned to the Contractor at such time as the contract has been completed and final settlement has been achieved.

Vita

Russell Nolan Rackley was born in Knoxville, Tennessee on January 12, 1973. He attended public schools in Knox County until his junior year of high school. He finished his high school education by home schooling through Faith Christian Academy of Oliver Springs, Tennessee.

After receiving his high school diploma, Russell spent five years as a carpenter and later as a sub-contractor in residential construction in the Knoxville area. He started college in August of 1995 as a full time student, receiving his Bachelor of Science in Civil Engineering from the University of Tennessee, Knoxville in December of 1998. He accepted a graduate research assistantship at the University of Tennessee, Knoxville in the fall of 1999.

His Master of Science with a major in Civil Engineering was conferred on May 12, 2000. At the time of this writing, Russell was entertaining offers for employment from several companies in the East Tennessee region