

Chapter Six

PROJECT CONSTRUCTION

6.01 INITIATING CONSTRUCTION

- A. The Designer provides professional services** for the project in accordance with the terms and conditions of the Owner/Designer Agreement. Toward fulfilling those obligations, the Designer shall adhere to the following procedures unless specifically approved otherwise in writing by the Owner.
- B. The Project Manager** participates in the Owner's management of the project by performing the following duties:
1. Make regular site visits, attends meetings and inspections - this role is not one of "inspectors", but of observers and conferees;
 2. Confer with the User Agency and the Designer on matters of concern to the Owner, and provide that related information is communicated in a timely manner;
 3. Assist Designer and Contractor in understanding State procedures; review payment applications, changes in the Work, and inspection certifications;
- C. General Requirements**
1. Exact State Building Commission project title and SBC number; and current phase shall be included on all project related communications, correspondence, documents, and deliverables (i.e. e-mails, reports, submittals, drawings, etc.).
 2. All document submittals to Owner shall bear a reference date (i.e. date of issue).
 3. All digital deliverables to Owner shall be labeled according to Owner's file naming convention and, unless directed otherwise, submitted in a PDF format.

XXX-XXX-XX-xxXXXX-YYYYMMDD-%%%%%%%%%
[1][2][3][4]
1 – SBC Number with subproject extension, if applicable
2 – Document Type (4 letters)
3 – Year, month, and day of record/correspondence
4 – Description (Twenty (20) Character Maximum)
 4. Unless indicated otherwise, Designer is responsible for the scheduling, organizing, preparation of agendas and recording of all project team meetings/events where they are in attendance. Designer shall provide draft written minutes within five working days of the meeting/event. Owner will review and issue comments, if any, within five working days of receipt. If necessary, Designer shall revise and issue final written minutes within five working days.
- D. Designer shall maintain the following logs** at commencement of construction, and maintain these through completion of the project. Designer shall submit digital copies of these logs to the Owner each month.
1. **Action Item Log** – to track the development and resolution of construction issues.
 2. **RFI Log** – to track Requests for Information.
 3. **ASI Log** – to track Supplemental Instructions.
 4. **RFP Log** – to track the development and resolution of Requests for Proposals, proposals, change orders, and directives.
 5. **Change Order/Field Order Log**
 6. **Non-Conforming Items Report (NCR)** - to track the list of non-conforming items.
 7. **Submittal Log** – to track the submission and approval of all contractor submittals.

8. **HPBr, OPR, and BIM, if applicable** – to track implementation of these guidelines or recommendations into project construction and completion.

6.02 CONSTRUCTION PHASE

- A. The Construction Phase** of the Project shall begin with:
1. A Pre-Construction Conference (PCC), and
 2. A NTP to Construction issued by the Designer to the Contractor.
- B. Prior to the PCC**
1. Review list of attendees with Owner,
 2. Schedule the PCC,
 3. Prepare PCC Agenda, and
 4. Prepare the NTP to Construction and submit to Owner for review and acceptance.
 5. Establish a project team and provide all contact information to the designer; and,
 6. Source and/or request any pertinent project information necessary for Construction planning.

6.03 PRE-CONSTRUCTION CONFERENCE

- A. Designer will coordinate with Owner, Contractor, and other required attendees** to initiate Pre-Construction Conference, which will normally be held at the project Site immediately after or concurrent with award of contract. It may be held early, if all parties agree, but should not be held before Owner has received proper bonds, insurance certificates, and the signed agreement from the proposed Contractor.
- B. A [Pre-Construction Conference Discussion Guide](#)** is provided in Appendix 1 – *Administrative Forms*. This is provided for the Designer’s convenience in leading the conference. Copies may be handed out to attendees. The following suggested agenda conforms to this guide.
- C. Suggested agenda for a Pre-Construction Conference**
1. Record attendance
 2. Record project pre-construction information
 - a. Project title, location, SBC project number
 - b. Project representatives
 - c. Contractor receipt of executed contract and related documents
 - d. Progress meetings and site visits schedule
 3. Chain of communication
 4. Site safety plan
 5. Wage rates and payrolls, if federal funds are included
 6. HPBr, OPR, and BIM checklist/tracking, if applicable
 7. Hours of construction
 8. Coordination with facility
 9. Construction phasing
 10. Contractor’s initial submittals (specify the contractual requirements and due dates)
 11. Local building permits
 12. Visitor’s log
 13. Laboratory reports
 14. Shop drawings

6.03 PRE-CONSTRUCTION CONFERENCE

15. Construction record drawings
16. Field reports
17. Use of the site
18. Contractor's insurance requirement
19. Progress meetings
20. Applications for payment
21. Retainage
22. Modifications
23. Liquidated damages
24. Substantial completion
25. Work without proper authorization
26. Final inspection
27. Roof warranty
28. Diversity participation
29. Final payment
30. Contractor evaluation
31. Remaining questions from Contractor
32. The Owner may have additional project specific items

6.04 NTP and CONTRACT TIME

- A. NTP shall be a written order to commence work and the contract time. The Designer issues the NTP to the Contractor.
- B. **NTP should only be issued:**
 - 1. After the contract has been fully executed and awarded,
 - 2. After coordination and written concurrence from the Owner,
 - 3. After a PCC has been held or at its conclusion, and
 - 4. After all required notifications to regulatory authorities have been submitted properly.
- C. **Example Language for NTP**

"This is your Notice to Proceed, commencing the Contract Time on March 18, 2019. You may occupy the site and commence Work on that date. Your contract states that Substantial Completion shall be achieved sixty calendar days from and including the NTP date. You are therefore required to be Substantially Complete on or before May 16, 2019."
- D. Note that in the above-suggested wording, Contract Time is counted with March 18, 2019 as day one of the sixty days. Contract Time is counted "...from and including..." the date of commencement.

In the event of a multi-phase project, the NTP must include clarification of the NTP requirements for each phase.
- E. Designer will provide a copy of NTP to Owner upon issuance to Contractor.

6.05 SITE OBSERVATIONS

- A. The design team shall make on-site observations as needed during all phases of construction in accordance with Designer's Terms and Conditions, to guard against nonconformity of the work with the Contract Documents.
- B. For all visits to the site, a written project observation report shall be submitted to the Owner and Contractor for information within five days of the site visit. A sample ["Field Report"](#) form is provided in Appendix 1 - *Administrative Forms*. The report shall provide information that includes observed nonconforming items.
- C. Observed nonconforming items shall be documented in a Non-Conforming Report (NCR) and shall be discussed with the Owner and the Contractor at each progress meeting. The Designer shall consider such deficiencies in evaluation of the Contractor's application for payment.

A. Progress meetings are intended to be an opportunity for:

1. A review of progress of the work;
2. Contractor to submit applications for payment, and attachments;
3. A general review of pending change orders and proposals;
4. Identifying and mitigating impediments to timely completion; and,
5. Review previous month's outstanding items.

The Designer will conduct and take minutes of Progress Meetings.

B. Recommended agenda for a Progress Meeting

1. Review progress of Work and field observations since previous meeting.
2. Review of Contractor's Quality Assurance/Quality Control Plan.
3. Review updated project schedule.
4. Review upcoming schedule for pre-installation conference(s).
5. Projected progress leading to next meeting:
 - a. Problems, conflicts, and other impediments to timely completion,
 - b. Corrective measures to restore the schedule, and
 - c. Revisions to the schedule.
6. Submittal review.
 - a. Status of submittals yet to be made by Contractor.
 - b. Status of submittals yet to be returned to Contractor.
7. Review of Designer's Logs (See page 6.01).
 - a. Action item/issues log
 - b. RFI log
 - c. ASI log
 - d. RFP log
 - e. Change order / field order log
 - f. NCR log
 - g. Submittal log
 - h. HPBr, OPR, and BIM, if applicable
8. Review of Field Reports.
 - a. Designer's Field Reports
 - i. Critical activities
 - ii. Testing activities
 - iii. Work force
 - b. Commissioning agent's observation reports, if applicable.
9. Check as-built documents to ensure the accuracy and are current.
10. Review the current application for payment.
(Refer to 6.07 Contractor applications for payment.)
11. Other business, as appropriate.
12. Confirm time, date, and place for next meeting.

A. Applications for payment should be reviewed at progress meetings, and if complete and correct submitted by Designer to Owner.

B. Review outline for Application for Payment

1. Properly identified with project title, SBC number, application number, and period of application.
2. Reflects correct Contract Sum.
3. Excludes unapproved or pending change orders.
4. Total Completed and Stored to Date.
 - a. AIA G703 Continuation Sheet (Critical Path Method (CPM) schedule to match schedule of values).
 - b. Representative of work completed and without significant deficiencies.
 - c. On-site stored materials evident.
 - d. Off-site stored materials properly documented and insured with Owner named as insured.
 - e. Amounts claimed on allowances properly documented.
5. Comparison of percentages of completion and time.
6. Retainage: consistent with contract documents.
7. Reflects correct prior payments.
8. Signed by the Contractor, and notarized.
9. Attachments and accompanying submittals
 - a. Copy of payroll transmittal letter(s) to Department of Labor & Workforce Development, if applicable.
 - b. Completed Personnel Used in Contract Performance attestation.
 - c. Documentation for allowances and off-site storage, if applicable.
 - d. Insurance certificate(s) for off-site storage, if applicable.
 - e. Consent of Surety for final payment.
 - f. Updated CPM progress schedule.
 - g. Visitor's log and submittals log.
 - h. Unit Price log (if applicable).
 - i. Budget tracker is required for CM/GC and design-build contracts.
 - j. Monthly Weather Delay Report, [Section 01 26 25](#) (starting with second pay application).
10. Refer to Contract Documents (especially Division 01) for other possible attachments or further requirements to be met by Contractor for Designer approval of application.

No applications for payment will be processed before the Contractor has submitted the following documents:

1. A signed Contract; and
2. Notice to Proceed.

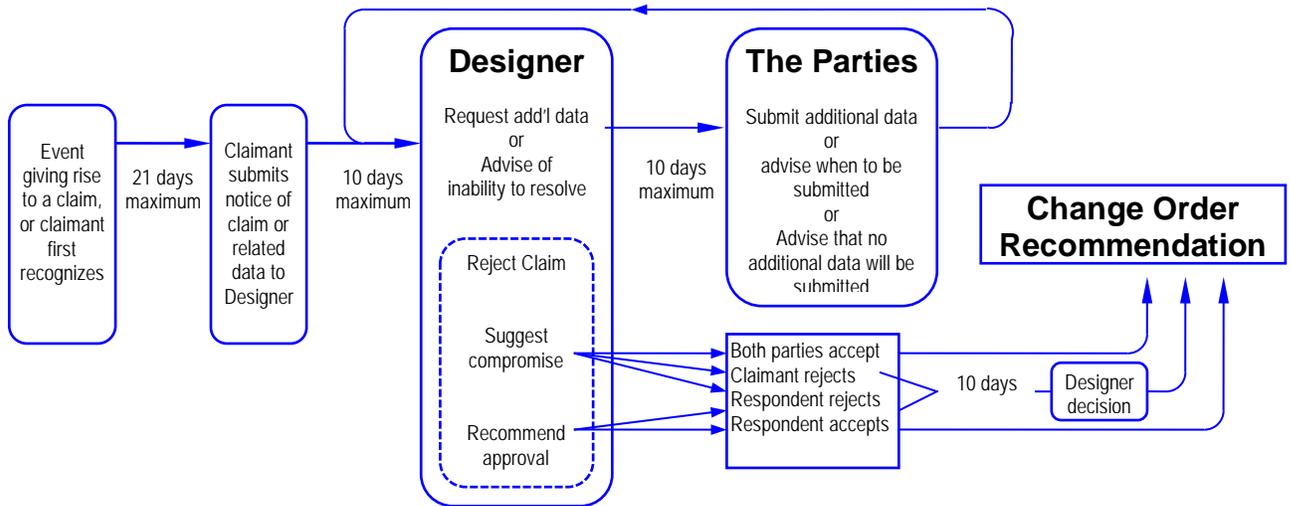
C. If certifying an amount other than the amount for which applied, the Designer shall mark & initial all affected line items in the Application and in the Continuation Sheet. No mark-ups are allowed on the Application.

D. Designer shall send to the Owner, via e-mail copying the Contractor for information, the certificate for payment and all attachments as a single .pdf file.

6.08 CLAIMS

The procedures for claims are detailed in the Conditions for General Work. Refer to Article 15 of the General Conditions of the Contract for Contractor. The following flow chart may serve to illustrate the process:

Claims Flowchart:



6.09 MINOR CHANGES AND DIRECTIVES

Orders for minor changes in work, normally issued on AIA document G710 Architect's Supplemental Instructions, should be issued with care not to overstep contractual authority. Refer to 7.4 of the General Conditions of the Contract for Construction.

6.10 INITIATING CHANGE

- A. **Complete discussion of proposed changes shall take place** before final paperwork is initiated. Designer should endeavor to channel a complete flow of information between the Owner and Contractor, including additional explanation for changes, such as a letter explaining justification or history of the decision to make a change, or Designer's original request for proposal if unsuitable for direct attachment. Designer shall document the justification for each item.
- B. **Designer will be provided budget information by Owner** and should keep track of pending change proposals and consider their impact on the Owner's budget. "Hoarding" changes over a long period for a multi-item change order is strongly discouraged; as this usually has a negative impact to the project. Therefore, change orders should be processed as soon as possible.
- C. **Prior review by Owner:** If documentation for a particular item is complete while documentation is being assembled for other items of a change order, advance submittal of the one-item proposal to the Owner can allow problems in the documentation to be addressed before a formal change order is in process, and facilitate the final approval process.

The Owner will particularly scrutinize:

- 1. Changes resulting in individual or cumulative change approaching 5% of original contract sum or significantly impacting construction contingency;
 - 2. Extended overhead or damage claims;
 - 3. Critical time extensions and extensions on projects with Owner assisted scheduling (scheduler recommendation required);
 - 4. Changes inconsistent with original design intent or scope;
 - 5. Changes requested after substantial completion; and,
 - 6. Changes resulting from Designer errors or omissions in the contract documents.
- D. The Designer has a responsibility for providing a design that is in accordance with sound and accepted engineering and architectural practices that comply with all applicable codes and ordinances. Such practices would include providing a design that is generally exact and complete, and not with excessive or costly errors and omissions. If, in the Owner's judgment, change order work is required that is resultant from excessive or costly errors and omissions, then the Owner will require the following actions to be taken:

Owner actions:

- 1. If the associated costs would have been included in the initial contract sum had the error or omission not been made, then Designer shall be expected only to assume all required additional design costs;
 - 2. If the associated costs would not have been included in the initial contract sum had the error or omission not been made, then Designer shall be expected to assume all required additional design costs *and* an appropriate portion of the construction costs; and,
 - 3. The above actions will be included in the Designer's evaluation and reported via the evaluation to members of the SBC.
- E. **For a change in the contract time, the contract Sum, or both** based on a proposed or ordered change in the work, Designer should obtain a Contractor's proposal to complete the described change in the work.
- 1. **For change in contract time, proposal shall explain** its direct relationship to time needed to procure materials plus the labor and equipment time required to perform the work, and the resultant effect on the required substantial completion date. The request for extension of contract time must be accompanied by a revised CPM schedule showing the addition of new work.

6.10 INITIATING CHANGE

2. **For change in contract sum, proposal shall show** major category cost subtotals, plus applicable percentages for labor burden, sales tax, overhead and profit. The proposal must be supported by [Section 01 26 54 Form for Price Summary](#), [Section 01 26 55 Form for Price of Work](#), and/or [Section 01 26 56 Form for Price of Time](#) as specified, completed to show values of direct cost to Contractor and subcontractors. Separate itemizations are preferred from General Contractor and from each applicable subcontractor. Quote:
 - a. **Materials:** units, costs, quantities, & total for each item.
 - b. **Equipment:** hours, rate, & total for each item.
 - c. **Labor:** hours, rate, & total for each item.
 3. **Provide Designer's letter of evaluation and recommendation.**
- F. For a change in contract time based on delays** beyond the control of Contractor (Note: Float: The contractor's construction schedule shall begin with the date of issuance of NTP and conclude with the date of final completion of the project. Float is a jointly owned, expiring, project resource available to both parties as needed to meet contract milestones and the project completion date):
1. **Provide Contractor's initial letter making claim** for extension of time within twenty-one days after commencement of delay, and stating nature of delay, immediate impact, and whether delay is isolated or continuing. If a continuing delay, Contractor's subsequent letter detailing full scope of delay is required. The request for extension of contract time must be accompanied by a revised CPM schedule showing the delay start and finish.
 2. **Provide Contractor's supporting data**
 - a. Contractor's daily work logs documenting delay, if required.
 - b. For weather related delays, a monthly summary of local climate data as reported by the National Oceanic and Atmospheric Administration for the reporting station nearest the affected location; as an impartial basis for evaluating weather conditions, when applicable.
 - c. If an unusual and not reasonably anticipatable manufacturing or shipping delay, a letter from the manufacturer or shipper explaining the delay, and if based on weather, climatologic data as stated above.
 - d. Revised CPM schedule showing added days and revised substantial completion.
 3. **Provide Designer's letter of evaluation and recommendation.**
- G. Construction Change Directives may be issued occasionally** but are generally reserved for emergency situations or in the event Contractor, Designer, and/or Owner are not in agreement in all respects regarding the changes. Construction Change Directives shall be written on the same form as that specified for Change Orders. Refer to "Example Change Order" form shown on page 6.11c.

A. Change Order Form and Content:

1. **The Owner produces the Change Order form.**
2. **The Change Order document will include:**
 - a. Description of the change(s) in work, either completely or briefly, with reference to a fully descriptive attachment; and, identifying prior Directive or Construction Change Authorization, if applicable;
 - b. Statement of the change(s) in contract sum and contract time, both per item and total. The brief summary of changes in contract sum and contract time provided at the bottom of the form does not take the place of the statement included in the body of the form;
 - c. Separate items for extensions of time unrelated to change in work, such as delays or suspensions; and,
 - d. Reference to attachments (See paragraph 6.11.B *Change Order Attachments* below).
3. Signatures of the Owner depend on dollar amount and percentage of base contract, thus:
 - a. The Project Manager does not have the authority to sign a change order; and,
 - b. Change Order may be signed by the State Architect or those individuals delegated authority to sign change orders by the State Architect.

B. Change Order Attachments

1. **Designer’s letter of evaluation and recommendation** should be used to further reference and organize multiple attachments. This should be a dated letter or similarly formalized document from the Designer. When properly applied, this is the only attachment actually referenced in the change order form. For each item, this “master attachment” repeats the brief information from the body of the change order, and adds justification, fuller description, and detailed references. As a minimum, Designer’s letter of evaluation and recommendation shall include:
 - a. RFI,
 - b. RFP,
 - c. Contractor itemized costs sheets,
 - d. Invoices (as applicable),
 - e. Revised critical path schedule, and
 - f. Drawings/sketches.
2. **Every document attached to a change order must be referenced in it.** Reference may be indirect, such as a referenced attachment making further reference to another attachment.
3. **Attachment references** should be adequately descriptive to provide a clear meaning of its contents - a reference such as “Attachment A” is inadequate. If an attachment addresses multiple changes or issues, each item should have an adequate sub-reference.
4. **Attachment contents** should be limited to a complete description of the proposed change(s) in the Work. If at all possible, no issues or items should be included which are not associated with the contents of the change order.

C. Processing Change Orders and Directives

1. **Owner prepares and signs original.** Owner then sends the change order to the Designer.
2. Designer and Contractor shall sign and return to the Owner electronically in .pdf format.

Example Change Order
(Reminder: prepared by Owner)

FORM FOR AMENDMENT, CHANGE ORDER, OR DIRECTIVE

- Amendment
- Change Order
- Construction Change Directive

Change Order Number: 5

Project: BOOKER T. WASHINGTON STATE PARK (010)

Original Contract Date: 12/10/2013

Group Camp Renovation

Change Order Initiated: 04/17/2014

126/010-01-2012

as of 04/17/2014

The following changes in the contract are hereby directed:

ItemSequence	Reference	Work to be performed	Contract Sum	Contract Time
1	RFP 18	Provide the labor, equipment and materials needed to install a steel fitch plate at the edge of the dining hall porch as requested by the Hamilton County Building Inspector.	1,918.46	0

The Original Contract Sum: 2,120,400.00

Net Change previously authorized: 37,106.92

The Contract Sum prior this Modification: 2,157,506.92

This modification(~~increases/does not change/decreases~~) the Contract Sum: 1,918.46

The Contract Sum including this Modification: 2,159,425.38

This modification(~~increases/does not change/decreases~~) the Contract Time: 0

The new Contract Time, including this Modification: 153

The last day of the Contract Time, including this Modification: 05/21/2014

Contractor

Designer

Owner

Signed: _____	Signed: _____	Signed: _____
Name: _____	Name: _____	Name: _____
Title: _____	Title: _____	Title: _____
For: _____	For: _____	For: TN. DEPT OF GENERAL SERVICES
Date: _____	Date: _____	Date: _____



- A. **Schedule an inspection** with Contractor, major subcontractors, Designer's consultants, and the Owner upon receipt of the following from Contractor:
 - 1. Written assertion that work is substantially complete;
 - 2. Written list of items to be completed or corrected and dates scheduled for completion or correction of each item;
 - 3. Written certification that orientation and training for specific-named facility maintenance personnel is complete or written assertion that it will be prior to inspection; and,
 - 4. Operating & maintenance data binder(s) or written assertion that they will be complete and available prior to inspection.

- B. **Standard provisions** for substantial completion procedures and payment are in:
 - 1. Conditions paragraph Article 9,
 - 2. Specification sections [01 29 76](#), [01 77 70](#), and [01 78 21](#),
 - 3. Check whether videotaping or other special requirements were specified relative to equipment demonstrations in [01 79 00](#) series section, or elsewhere in the specifications, and,
 - 4. Commissioning Closeout [01 77 70.91](#).

- C. **Recommended agenda for a substantial completion inspection meeting**
 - 1. Preliminary
 - a. Consider status of contract time.
 - b. Review Contractor's list of incomplete items and timeframe to complete.
 - c. Verify demonstration of equipment and systems.
 - 2. Verify completeness of operation & maintenance data binders.
 - 3. Review commissioning progress, if required.
 - 4. Log of outstanding issues.
 - 5. Conduct inspection tour of the work.
 - 6. Review results of inspection (reschedule if incomplete and explain re-inspection cost)
 - a. Discuss punch list of incomplete contract requirements, or construction activity, outstanding issues and documentation, and time frame for corrections.
 - b. Discuss substantial completion certification and partial release of retainage.
 - c. Review/adjust Contractor's application for payment.
 - 7. Review unfinished construction business
 - a. Review requirements for completion of warranty documents.
 - b. Review balance of allowances and unit prices, if applicable.
 - c. Set date for final completion and schedule final inspection.
 - d. Discuss 25% liquidated damages assessed beyond final completion date.

- D. **Certifying Substantial Completion**
 - 1. Designer shall consult with Owner prior to certification of Substantial Completion to verify that the facility is ready to be used for its intended purpose.
 - 2. When Contractor has submitted operating & maintenance data binders, and Designer and Owner have found these complete and correct in accordance with specifications, Designer shall turn the binders over to Owner's facility manager (See page 6.12-.13). Designer shall provide to Owner certification that Facility Manager has received the operating & maintenance data binders signed by the Facility Manager.

6.12 SUBSTANTIAL COMPLETION

3. Inasmuch as the operating & maintenance data binders and approved commissioning closeout binder are prerequisite to substantial completion, issue of certificate of substantial completion constitutes certification by the Designer that construction activity, plus binders, are substantially complete. Designer shall include in punch list notations regarding data binders and other documentation, so that the punch list addresses the whole work, not just construction activity.

6.13 CONSTRUCTION CLOSE-OUT

- A. When record documents, such as data binders, are turned over to the Owner, **Designer shall certify the completeness of the documents** in a cover letter which shall include a place for the Owner to sign as a receipt for the binders. The receipt shall not relieve Contractor or Designer of their obligations with respect to completeness of record documents. Designer shall obtain such receipt from the Owner.
- B. **Advertisement immediately upon substantial completion** may be required
 1. Determine whether any one of the **following circumstances** apply:
 - a. The contract has no surety; normally, when the Initial contract sum is \$100,000. or less. The Owner will advertise a [Notice of Settlement](#).
 - b. The Owner will advertise the final payment; for reasons such as:
 - i. Concern regarding the General Contractor's payment for all materials, labor, and equipment used on the project; or,
 - ii. The General Contractor has been declared in default.
 - iii. The bonding company has been declared insolvent.
 2. **If any of the above circumstances apply, then the Owner shall advertise** a legal notice of the impending final completion of the work, calling for the filing of all claims:
 - a. On a Wednesday, if possible, within seven days of the substantial completion date; and,
 - b. In a newspaper published in the grand division where the bid was advertised, or if no such newspaper is published, then in a newspaper in an adjoining county.
 3. **Transmit a copy of the legal notice** to all known subcontractors & suppliers, and to Contractor.
 4. When such advertisement is made, payment is normally not made to the Contractor until at least thirty days after the advertisement.
- C. **Claims filed for non-payment** shall be dealt with in the following manner:
 1. Notify Contractor of claims filed and request a response as to Contractor's position on the matter, and intent for resolution of claim.
 2. Consult with Owner as to determining the degree of concern applicable to the amount and number of claims filed.
 3. If circumstances warrant a degree of concern that Contractor resolution of claims filed will not be forthcoming in an adequate timeframe, then:
 - a. Notify Contractor of Owner intent to withhold payment until Contractor demonstrates an appropriate resolution of claims.
 - b. If the contract has a surety, notify surety of claims and of Owner intent to withhold payment.
 4. If an adequate resolution appears unlikely, then proceed with default procedures.

CHAPTER 6 END