performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:

1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
2. an itemization of the specific matters to be covered by such authority and responsibility; and
3. the extent of such authority and responsibilities.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.

C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise

resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.

B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.

C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.

B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's

representative during construction are set forth in the Contract.

10.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.

B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.

C. Engineer's authority as to Change Orders is set forth in Article 11.

D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or

to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

1. Change Orders:

a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.

b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.

2. *Work Change Directives*: A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on

Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.

B. An adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

   a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;

   b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;

   c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than

that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.

B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures*: Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.

2. *Engineer's Action*: Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

3. *Binding Decision*: Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

B. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and

Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders covering:

1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;

2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;

3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and

4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

A. *Claims Process*: The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:

1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;

2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and

3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.

B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.

D. Mediation:

1. At any time after initiation of a Claim, Owner and Contractor may mutually

agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.

2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.

E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours,

on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

    a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

    c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

    d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

    e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

    f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the

purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded*: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*: When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*: Contractor agrees that:

1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by

allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.

E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;

2. there is no corresponding adjustment with respect to any other item of Work; and

3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 *Tests, Inspections, and Approvals*

A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.

B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;

2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;

3. by manufacturers of equipment furnished under the Contract Documents;

4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and

5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

A. *Contractor's Obligation*: It is Contractor's obligation to assure that the Work is not defective.

B. *Engineer's Authority*: Engineer has the authority to determine whether Work is defective, and to reject defective Work.

C. *Notice of Defects*: Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.

D. *Correction, or Removal and Replacement*: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.

C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.

2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

A. *Basis for Progress Payments*: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. Applications for Payments:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every

aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or

b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.

6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:

a. the Work is defective, requiring correction or replacement;

b. the Contract Price has been reduced by Change Orders;

c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. Payment Becomes Due:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. Reductions in Payment by Owner:

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:

a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;

c. Contractor has failed to provide and maintain required bonds or insurance;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;

e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;

f. the Work is defective, requiring correction or replacement;

g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

h. the Contract Price has been reduced by Change Orders;

i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;

j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;

k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

l. there are other items entitling Owner to a set off against the amount recommended.

2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in

writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.

2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. Application for Payment:

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents;

b. consent of the surety, if any, to final payment;

c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

d. a list of all disputes that Contractor believes are unsettled; and

e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. Engineer's Review of Application and Acceptance:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

D. *Payment Becomes Due*: Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.

B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. correct the defective repairs to the Site or such other adjacent areas;
2. correct such defective Work;
3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);

2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;

3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or

4. Contractor's repeated disregard of the authority of Owner or Engineer.

B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:

1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.

C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.

D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.

E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and

3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or

other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

A. *Disputes Subject to Final Resolution*: The following disputed matters are subject to final resolution under the provisions of this Article:

1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and

2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.

B. *Final Resolution of Disputes*: For any dispute subject to resolution under this Article, Owner or Contractor may:

1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or

2. agree with the other party to submit the dispute to another dispute resolution process; or

3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty,

obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract. All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

SC-1.01 Defined Terms

SC-1.01A.20 Replace Paragraph 1.01A.20 with the following and add new Paragraph definitions A.20.a and A.20.b:

"Engineer and Design Engineer – the individuals or entities named as such in the Agreement and/or Supplementary Conditions.

A.20.a Engineer – Engineer is Brown and Caldwell, Inc., who is to act as Owner's representative and who assumes duties and responsibilities, and has the rights and authorities assigned to Engineer in the Contract Documents.

A.20.b Design Engineer – Design Engineer (Owner's Consultant) is CH2M HILL Engineers, Inc. (CH2M HILL). Who designed the Project and who will assist Owner and Engineer with respect to recommending and preparing Contract Document design changes, reviewing design-related submittals, performing certain special inspections and system checks-out, and in other matters."

SC-1.01.A.40. Add the following language at the end of Paragraph 1.01.A.40:

"Substantial Completion is further defined as (i) that degree of completion of the Project's operating facilities or systems sufficient to provide Owner the full time, uninterrupted, and continuous beneficial operation of the Work; and (ii) all required functional, performance and acceptance or startup testing has been successfully demonstrated for all components, devices, equipment, and instrumentation and control to the satisfaction of Engineer in accordance with the requirements of the Specifications; and (iii) all inspections required have been completed and identified defective Work replaced or corrected; and(iv) all Training and Operations and Maintenance information required by the specifications has been provided."

ARTICLE 2 – PRELIMINARY MATTERS

SC-2.02 Copies of Documents

SC-2.02.A. Amend the first sentence of Paragraph 2.02.A. to read as follows:

Owner shall furnish to Contractor five copies of the Contract Documents (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Contractor shall be responsible to produce any additional copies Contractor may need.

SC-2.03 Before Starting Construction

SC-2.03. Add the following new paragraph immediately after Paragraph 2.03.A:

B. Prior to the execution of the Agreement for public work in Idaho, Contractor shall file notice of award information on form obtained from Idaho State Tax Commissioner and provide a copy to the Owner in compliance with Idaho Code 54-1904A.

ARTICLE 3 – DOCUMENTS; INTENT, REQUIREMENTS, REUSE

SC-3.01 Intent

SC-3.01. Add the following new paragraph immediately after Paragraph 3.01.E:

F. Sections of Division 01, General Requirements, govern the execution of the Work of all sections of the Specifications.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03 Subsurface and Physical Conditions

SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.B:

C. The following reports of explorations and tests of subsurface conditions at or adjacent to the Site are known to Owner:

1. Geotechnical Data is included as Volume 6 – Supplementary Information of the Contract Documents

D. The following drawings of physical conditions relating to existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities) are known to Owner:

1. Drawings dated October 1964, prepared by Johnson, Underkofler & W.W. Briggs entitled “1964 Outfall Sewer Project” consisting of 1 sheet. All of the information in such drawings constitutes technical data on which the Contractor may rely.
2. Drawings dated November 1964, prepared by Johnson, Underkofler & W.W. Briggs entitled “1964-65 Phase I Interceptor &

Outfall Sewer Lines" consisting of 13 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.

3. Drawings dated January 1965, prepared by Johnson, Underkofler & W.W. Briggs entitled "1964-65 Phase II Sewage Treatment Plant Expansion" consisting of 50 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.
4. Drawings dated November 1967, prepared by Johnson, Underkofler & W.W. Briggs entitled "1968 Phase IV Sewage Treatment Plant Expansion" consisting of 15 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.
5. Drawings dated September 1969, prepared by J-U-B Engineers, Inc. entitled "1969 Sewerage Project" consisting of 8 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.
6. Drawings dated October 1974, prepared by City of Nampa Engineering Department entitled "WWTP Sludge Pond No. 3" consisting of 1 sheet. All of the information in such drawings constitutes technical data on which the Contractor may rely.
7. Drawings dated March 1975, prepared by City of Nampa Engineering Department entitled "WWTP Safety Improvements" consisting of 2 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.
8. Drawings dated December 1978, prepared by CH2M Hill entitled "Trickling Filter Rehabilitation and Pump Station" consisting of 15 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.
9. Drawings dated March 1979, prepared by CH2M Hill entitled "Primary & Secondary Treatment Systems Modifications Contract 4" consisting of 173 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.
10. Drawings dated January 1980, prepared by CH2M Hill entitled "Nitrification & Chlorination Facilities Contract 5" consisting of 203 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.
11. Drawings dated October 2000, prepared by HDR Engineering, Inc. entitled "Secondary Clarifier Replacement" consisting of 26 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.

12. Drawings dated September 2006, prepared by MWH entitled "Final Clarifier No. 3" consisting of 73 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.
13. Drawings dated March 2008, prepared by MWH entitled "Final Clarifiers No. 1 and No. 2 Retrofit" consisting of 38 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.
14. Drawings dated June 2008, prepared by MWH entitled "Primary Clarifier No. 3" consisting of 81 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.
15. Drawings dated February 2009, prepared by MWH entitled "Nitrification Basins Retrofit" consisting of 45 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.
16. Drawings dated January 2011, prepared by MWH entitled "Primary Digester No. 3 and Related Facilities" consisting of 124 sheets. All of the information in such drawings constitutes technical data on which the Contractor may rely.

E. Contractor may examine copies of reports and drawings identified in SC 5.03.C and SC 5.03.D that were not included with the Bidding Documents at Brown and Caldwell, 950 West Bannock Street, Suite 350, Boise, ID 83702, during regular business hours. Volume 6 of the Contract Documents includes selected drawings to assist the Contractor. Not all drawings required to complete the work have been included in Volume 6.

SC-5.06 Hazardous Environmental Conditions

SC 5.06 Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.

B. Not Used.

ARTICLE 6 – BONDS AND INSURANCE

SC-6.02 Insurance—General Provisions

SC-6.02 Add the following paragraph immediately after Paragraph 6.02.B:

1. Contractor may obtain worker's compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the project is located, (b) is certified or authorized as a worker's compensation insurance

provider by the appropriate state agency, and (c) has been accepted to provide worker's compensation insurance for similar projects by the state within the last 12 months.

SC-6.03 Contractor's Liability Insurance

SC 6.03 Add the following new paragraph immediately after Paragraph 6.03.J:

K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

State:	Statutory
Federal, if applicable (e.g., Longshoreman's):	Statutory

Employer's Liability:

Bodily injury, each accident	$ 1,000,000
Bodily injury by disease, each employee	$ 500,000
Bodily injury/disease aggregate	$ 1,000,000

2. Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

General Aggregate	$ 2,000,000
Products - Completed Operations Aggregate	$ 2,000,000
Personal and Advertising Injury	$ 2,000,000
Each Occurrence (Bodily Injury and Property Damage)	$ 2,000,000

3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

Bodily Injury:

Each person	$ 1,000,000
Each accident	$ 2,000,000

Property Damage:

Each accident $ 1,000,000

[or]

Combined Single Limit of $ 2,000,000

4. Excess or Umbrella Liability:

Per Occurrence $ 5,000,000

General Aggregate $ 5,000,000

5. Contractor's Pollution Liability:

Each Occurrence $ _____

General Aggregate $ _____

☒ If box is checked, Contractor is not required to provide Contractor's Pollution Liability insurance under this Contract

6. Additional Insureds: In addition to Owner and Engineer, include as additional insureds the following:

City of Nampa
411 Third Street South
Nampa, ID 83651

Brown and Caldwell
950 West Bannock Street, Suite 350
Boise, ID 83702

CH2M HILL
322 East Front Street, Suite 200
Boise, ID 83702

J-U-B Engineers, Inc.
250 South Beechwood Avenue, Suite 201
Boise, ID 83709

STRATA, Inc.
8653 W. Hackamore Dr.
Boise, ID 83709

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

SC-7.02 Labor; Working Hours

SC-7.02.B. Add the following new subparagraphs immediately after Paragraph 7.02.B:

1. Regular working hours will be between 7:00 a.m. and 6:00 p.m.
2. Owner's legal holidays are:
   New Year's Day
   Martin Luther King, Jr. / Idaho Human Rights Day (3rd Monday in January)
   President's Day (3rd Monday in February)
   Memorial Day (Last Monday in May)
   Independence Day
   Labor Day (1st Monday in September)
   Veteran's Day
   Thanksgiving Day (4th Thursday in November)
   Christmas Day

SC-7.09 Taxes

SC 7.09 Add a new paragraph immediately after Paragraph 7.09.A:

B. In accordance with Idaho Code 63-1503, the Contractor, in consideration of securing the business of erecting or constructing public works in this state, recognizing that the business in which he is engaged is of a transitory character, and that in the pursuit thereof, its property used therein may be without the state when taxes, excises, or license fees to which Contractor is liable become payable, Contractor shall:

   1. pay promptly when due all taxes, (other than on real property), excises, and license fees due to the state, its subdivisions, and municipal and quasi-municipal corporations therein, accrued or accruing during the term of this Contract, whether or not the same shall be payable at the end of such term;
   2. if the said taxes, excises, and license fees are not payable at the end of said term, but liability for the payment thereof exists, even though the same constitute liens upon its property, secure the same to the satisfaction of the respective officers charged with the collection thereof; and
   3. in the event that its default in the payment or securing of such taxes, excises, and license fees, consent that Owner entering into this Contract may withhold any payment due it hereunder the estimated amount of such accrued and accruing taxes, excises, and license fees for the benefit of all taxing units to which said Contractor is liable.

ARTICLE 8 – OTHER WORK AT THE SITE

SC-8.02 Coordination

SC-8.02 Delete Paragraph 8.02.A in its entirety and replace with the following:

A. Owner intends to contract with others for the performance of other work at or adjacent to the Site.

1. Resident Project Representative shall have authority and responsibility for coordination of the various contractors and work forces at the site.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

SC-10.03 Project Representative

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.A:

B. The Resident Project Representative (RPR) will be Engineer's representative at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions.

1. General: RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner only with the knowledge of and under the direction of Engineer.

2. Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning acceptability.

3. Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings, and prepare and circulate copies of minutes thereof.

4. Liaison:

a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.

b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.

c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.

5. Interpretation of Contract Documents: Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.

6. Shop Drawings and Samples:

   a. Record date of receipt of Samples and Contractor-approved Shop Drawings.

   b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.

   c. Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved by Engineer.

7. Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, if any, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.

8. Review of Work and Rejection of Defective Work:

   a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.

   b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress is defective, will not produce a completed Project that conforms generally to the Contract Documents, or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

9. Inspections, Tests, and System Start-ups:

   a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.

b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.

10. Records:

    a. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.

    b. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.

    c. Maintain records for use in preparing Project documentation.

11. Reports:

    a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the Progress Schedule and schedule of Shop Drawing and Sample submittals.

    b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.

    c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, force majeure or delay events, damage to property by fire or other causes, or the discovery of any Constituent of Concern or Hazardous Environmental Condition.

12. Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

13. Certificates, Operation and Maintenance Manuals: During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with

the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

14. Completion:

    a. Participate in Engineer's visits to the Site to determine Substantial Completion, assist in the determination of Substantial Completion and the preparation of a punch list of items to be completed or corrected.

    b. Participate in Engineer's final visit to the Site to determine completion of the Work, in the company of Owner and Contractor, and prepare a final punch list of items to be completed and deficiencies to be remedied.

    c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the notice of acceptability of the work.

C. The RPR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).

2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.

3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.

4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work.

5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.

6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.

7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.

8. Authorize Owner to occupy the Project in whole or in part.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

SC-15.01.D Payment Becomes Due

SC-15.01.D.1 Delete "Ten" in the first sentence and replace with "Forty-Five"

SC-15.03 Substantial Completion

SC 15.03.B Add the following new subparagraph to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

SC-15.06. Final Payment

SC-15.06.A Add the following new paragraph immediately after Paragraph 15.06.A.3:

4. Submit with the final Application for Payment a Public Works Tax Release in accordance with Idaho Code 63-1504.

SC-15.06.D. Delete "Thirty" in the first sentence and replace with "Sixty"

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.

SC-17.02 Arbitration

A. All matters subject to final resolution under this Article will be decided by arbitration in accordance with the rules of *American Arbitration Association*, subject to the conditions and limitations of this ARTICLE 17. This agreement to arbitrate and any other agreement or consent to arbitrate entered into will be specifically enforceable under the prevailing law of any court having jurisdiction.

B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitrator or arbitration provider, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in this Article, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event shall any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations. The demand for arbitration should include specific reference to Paragraph SC-17.02.D below.

C. No arbitration arising out of or relating to the Contract shall include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:

1. the inclusion of such other individual or entity is necessary if complete relief is to be afforded among those who are already parties to the arbitration; and

2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration and which will arise in such proceedings.

D. The award rendered by the arbitrator(s) shall be consistent with the agreement of the parties, in writing, and include a concise breakdown of the award, and a written explanation of the award specifically citing the Contract provisions deemed applicable and relied on in making the award.

E. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.

F. The fees and expenses of the arbitrators and any arbitration service shall be shared equally by Owner and Contractor.

SC-17.03 Attorneys' Fees

SC-17.03 Add the following new paragraph immediately after Paragraph 17.02.

SC-17.03 Attorneys' Fees: For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

ARTICLE 18 – MISCELLANEOUS

SC- 18.01 Giving Notice

SC-18.01 Add the following new Paragraph immediately after 18.01.A.2:

3. Electronically as a portable document format file on company letterhead signed by an authorized representative using the internet-based project management software system."

SC-18.01 Add the following as Paragraph 18.01.B:

B. Electronic mail messages shall not be used to give notice and will not fulfill any contractual requirement for written notice.

SC-18.09 Add the following as Paragraph 18.09:

SC-18.09 Idaho Clean Water State Revolving Fund Loan

A. This project is funded in part by a loan from the State of Idaho Clean Water State Revolving Fund.

B. Form 6-C, Idaho Clean Water State Revolving Fund (SRF) Speculations Insert and all associated forms are attached to and made a part of this contract in PART 2 – CONTRACTING REQUIREMENTS, PROJECT FORMS.

SC-18.10 Add the following as Paragraph 18.10:

SC-18.10 Section References

A. Section references within the Contract are made various formats but have the same meaning. The following are examples that have synonymous meanings. Other formats are used that also have synonymous meanings.

1. Section 01 75 00, Testing, Equipment Startup, and Commissioning.
2. Section 017500 – Testing, Equipment Startup, and Commissioning.
3. Section 017500.

END OF SECTION

PART 3

SPECIFICATIONS

SECTION 01 10 00
SUMMARY OF WORK

PART 1 GENERAL

1.01 THE REQUIREMENT

A. The Work to be performed under this Contract shall consist of furnishing plant, tools, equipment, materials, supplies, and manufactured articles, and furnishing all labor, transportation, and services, including fuel, power, water, and essential communications, and performing all Work or other operations required for the fulfillment of the Contract in strict accordance with the Contract Documents. The Work shall be complete, and all work, materials, and services not expressly indicated or called for in the Contract Documents which may be necessary for the complete and proper construction of the WORK in good faith shall be provided by the Contractor as though originally so indicated, at no increase in cost to the Owner.

B. No attempt has been made in these Specifications or Drawings to segregate work covered by any trade or subcontract under one specification. Such segregation and establishment of subcontract limits will be solely a matter of specific agreement between the Contractor and Its subcontractors and shall not be based upon any inclusion, segregation, or arrangement in or of these Specifications or Drawings.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. The expansion of the plant will be accomplished by construction the following major facilities and improvements, along with supporting piping, plumbing, heating, ventilating, air conditioning, fabricated metalwork, painting, electrical, instrumentation and controls, site work, and other items necessary to complete the Work. The major components of the Work include:

1. Construction of a Primary Effluent Pump Station (PEPS).
2. Construction of an associated PEPS Electrical Building.
3. Construction of a new Aeration Basin 3.
4. Upgrades to existing Aeration Basins 1 and 2.
5. Demolition of existing Trickling Filter 1, Secondary Clarifier 1, Secondary Effluent Pump Station, and Secondary Sludge Pump Station.
6. Yard piping demolition and new yard piping.
7. Civil grading and roadways, site and equipment electrical work to support the new process facilities.
8. Instrumentation and controls to support the new process facilities and begin the conversion of the site control network from a radial to a looped fiber optic system.

9. Temporary bypass pumping.
10. Construction dewatering

B. The Work is located at the Nampa Wastewater Treatment Plant (WWTP), 340 West Railroad, approximately 1/2 mile northwest of the intersection of Nampa Boulevard and West Railroad Street in the City of Nampa, Idaho.

1.03 CONTRACT METHOD

A. The Work hereunder will be constructed under a single lump sum Contract.

1.04 WORK BY OTHERS

A. Where two or more contracts are being performed at one time on the same site or adjacent land in such manner that work under one contract may interfere with work under another, the Owner will determine the sequence and order of the work in the contract(s). When the site of one contract is the necessary or convenient means of access for performance of work under another, the Owner may grant privilege of access or other reasonable privilege to the contractor so desiring, to the extent, amount, and in manner and at time that the Owner may determine. No Owner determination of method or time or sequence or order of the Work or access privilege shall be the basis for a claim for delay or damage except under provisions of the General Conditions for temporary suspensions of the Work. The Contractor shall conduct its operations so as to cause a minimum of interference with the work of such other contractors, and shall cooperate fully with such contractors to allow continued safe access to their respective portions of the Site, as required to perform work under their respective contracts.

B. Coordination with other Contracts being performed simultaneously in the Area of Work: Contractor will be required to coordinate construction, traffic control, and staging with construction activity associated with other concurrent projects occurring on the Site. All other work at the Site, known to the Owner at the time of Bid, is listed in Section 01 31 30, Construction and Schedule Constraints.

C. Coordination with Work by Others: The Contractor shall cooperate and coordinate with contractors performing other work in accordance with the General Conditions.

D. Interference With Work On Utilities: The Contractor shall cooperate fully with all utility forces of the Owner or forces of other public or private agencies engaged in the relocation, altering, or otherwise rearranging of any facilities which interfere with the progress of the Work, and shall schedule the Work so as to minimize interference with said relocation, altering, or other rearranging of facilities.

1.05 WORK SCHEDULE

A. Key milestones are indicated in the Agreement. The construction sequence is indicated in Section 01 31 30, Construction and Schedule Constraints.

1.06 WORK SEQUENCE

A. The Contractor's attention is directed to the fact that Work will be performed at an operating wastewater treatment plant. The Owner's ability to accommodate plant outages is limited and must be coordinated in accordance with Contract Documents. De-activation requests shall be made in accordance with Section 01 31 30, Construction and Schedule Constraints.

B. The Work includes a series of phases to be completed in sequential order. See Section 01 31 30, Construction and Sequence Constraints, for specific requirements.

1.07 CONTRACTOR USE OF SITE

A. The Contractor's use of the Site shall be in accordance with the General Conditions.

B. The Contractor use of the Site shall be limited to its construction operations, including onsite storage of materials, onsite fabrication facilities, and field offices. The limits of construction staging and the Work area are shown on the Drawings. All construction equipment, temporary facilities, staging, materials handling and storage, shall be confined to the limits indicated on the Drawings. Contractor shall secure all additional staging area as required to perform the Work at no additional cost to the Owner.

C. Contractor access points, fill disposal, staging and on-site parking areas have been designated on the Drawings. The Contractor shall restrict its operations to those areas and where the Contract Work shall be performed.

1.08 OWNER USE OF THE SITE

A. The Owner will utilize part of the existing Site during the entire period of construction for the conduct of the Owner's normal operations. The Contractor shall cooperate and coordinate with the Owner to facilitate the Owner's operations and to minimize interference with the Contractor's operations at the same time. In any event, the Owner shall be allowed access to the Site during the period of construction. See Section 01 31 30, Construction and Schedule Constraints, for more details.

1.09 PARTIAL UTILIZATION OF THE WORK BY OWNER

A. The Owner will take partial utilization of portions the Work upon completion of the construction phases; see Section 01 31 30, Construction and Schedule Constraints, for more details. Partial utilization shall be implemented as described in the General Conditions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 21 00
ADMINISTERING CONTRACT CHANGES

PART 1 GENERAL

1.01 SCOPE

A. This section specifies the procedures that will be used to administer documents that will be used during construction of the Project to provide information or make changes to the Work. This section only supplements the requirements of the General Conditions. It does not change any of those requirements.

B. Documents required by this Section will be transmitted by the Contractor to the Engineer electronically using an internet-based project management software package as explained in Specification Section 01 22 00, Internet Based Project Management Requirements. Access to and the use of this internet-based website will be provided at no cost to the Contractor. Documents will be returned to the Contractor electronically using the same site.

C. All potential changes to the Contract Price or Contract Times will be administered using the Change Control form as described below.

1.02 DESCRIPTION

A. Conformed Documents: The Contract Drawings and Specifications may be revised by the Engineer to reflect the changes made by Addenda during the bid period. These will be considered the Conformed Documents. The Owner will provide copies of these Conformed Documents to the Contractor in accordance with Article 2 of the General Conditions. The Contractor shall inspect them to confirm that they accurately reflect the changes made by Addendum and will notify the Engineer in writing if any discrepancies are found. These Conformed Documents are being provided to assist the Contractor in ensuring the documents used during construction reflect the changes made during the bidding period. The Conformed Documents do not change or amend the Contract and are not considered Contract Documents. The Contractor will not make a claim for additional time or compensation that is based on the use of the Conformed Documents. The Contract Documents as defined by the General Conditions will be used to resolve any dispute that may arise during the course of the Project.

B. Request for Information: The Contractor may request interpretation or clarification of the Contract Documents during the construction of the Project. Either, the Contractor, the Owner, or the Engineer may request additional information from one of the other parties. These requests will be made using the Request for Information (RFI) form. The request section of the form will be filled out by the party initiating the request. It will be sent to the Engineer. The Engineer will distribute it to the appropriate party for a written response. The written response will be returned to the Engineer who will distribute copies. If the response to an RFI causes a change to the Contract, the Engineer shall be notified. If the Engineer and Owner concur, a Change Control form will be issued requesting a proposal for the change from the Contractor.

C. Request for Proposal:

1. The Owner may, in anticipation of ordering an addition, deletion, or revision to the Work, request that the Contractor prepare a detailed proposal of cost and times to perform the contemplated work. The request will be made through the Engineer. The Request for Proposal will be made using the Change Control (CC) form. The Request for Proposal will include a detailed description of the proposed change and such additional information that the Contractor may need to accurately estimate the cost and time impact on the Project. The Request for Proposal is for information only. The Contractor is neither authorized to execute the proposed change or to stop work in progress as a result of such request. The Contractor's written proposal shall be transmitted to the Engineer within 14 calendar days after Contractor has received the Request for Proposal. Owner's request for a proposal or Contractor's failure to submit a proposal within the required time will not justify a Claim for an adjustment in Contract Price or Contract Time.
2. The Engineer and Owner will review the Contractor's proposal promptly and may enter into negotiations with the Contractor regarding scope, cost, or time impacts. The Engineer will make a written recommendation to the Owner to either accept or reject the proposal using the CC form. The Owner will indicate acceptance or rejection of the proposal and return the signed CC form to the Engineer. The Owner's signature indicates that the proposed change will be included in a Change Order to the Contract. The Engineer will transmit the signed CC form to the Contractor.

D. Work Change Directive

1. A Work Change Directive (WCD) is defined in the General Conditions. Work Change Directives will be prepared by the Engineer using the Change Control form and will be issued to the Contractor through the Engineer. The Owner will sign the WCD before it is issued to the

Contractor indicating authorization of the changes directed. A WCD will be used in situations involving changes in the Work which, if not processed expeditiously, might delay the Project. These changes may affect the Contract Price or Contract Times. A WCD is not a Change Order, but only a directive to proceed with work that may be included in a subsequent Change Order.

2. Upon completion of Work covered by the Work Change Directive or when final Contract Times and Contract Price are determined, Contractor shall submit documentation for inclusion in a Change Order. Contractor's documentation shall include, but not be limited to:
   a. Appropriately detailed records of work performed to enable determination of value of the Work.
   b. Full information required to substantiate resulting change in Contract Times and Contract Price for Work. On request of Engineer, provide additional data necessary to support documentation.
   c. Supporting data for Work performed on a unit price or Cost of the Work basis with additional information such as:
      1) Dates Work was performed, and by whom.
      2) Time records, wage rates paid, and equipment rental rates.
      3) Invoices and receipts for materials, equipment, and subcontracts, all similarly documented.

E. Field Order: A Field Order (FO) is defined in the General Conditions. Field Orders will be prepared by the Engineer using the Change Control form and will be issued to the Contractor through the Engineer. A Field Order is to be used for supplemental instructions and minor changes not involving a change in the Contract Price or Contract Time. The Contractor shall promptly notify the Engineer if he believes the minor changes covered by the field order will involve a change to the Contract Price or Contract Times.

F. Contractor Requested Change: If the Contractor wants to propose the use of a Substitute Item, as defined in the General Conditions, or to suggest a change to the Contract, it will be done using the Change Proposal form. The request will be issued to the Engineer and will be assigned a reference number. The Contractor will provide documentation describing the change and the cost or credit being proposed. The Engineer and Owner will consider the changes being suggested and will provide a written decision to the Contractor.

G. Claim:

1. A Claim is defined in the General Conditions. Claims can be prepared by either the Owner or the Contractor and will be delivered to the Engineer using the Claim Form. The Engineer will assign a reference number to the Claim Form. A claim will include, as a minimum:
   a. Specific references including (i) Drawing numbers, (ii) Specification section and article/paragraph number, and (iii) Submittal type, Submittal number, date reviewed, Engineer's comment, as applicable, with appropriate attachments.
   b. Stipulated facts and pertinent documents, including photographs and statements.
   c. Interpretations relied upon.
   d. Description of (i) nature and extent of Claim, (ii) who or what caused the situation, (iii) impact to the Work and work of others, and (iv) discussion of claimant's justification for requesting a change to price or times or both.
   e. Estimated adjustment in price claimant believes it is entitled to with full documentation and justification.
   f. Requested Change in Contract Times: Include at least (i) Progress Schedule documentation showing logic diagram for request, (ii) documentation that float times available for Work have been used, and (iii) revised activity logic with durations including sub-network logic revisions, duration changes, and other interrelated schedule impacts, as appropriate.

H. Change Order: A Change Order is defined in the General Conditions. Change Orders will be prepared by the Engineer and will incorporate Request for Proposals accepted by the Owner, Work Change Directives that have been completed by the Contractor and the cost and time impacts agreed to by the Owner, Field Orders issued by the Engineer as a no-cost or time change, Contractor Requested Changes that have been accepted by the Owner, and Claims that have been agreed to by the Owner and the Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 22 00
INTERNET-BASED PROJECT MANAGEMENT REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. This section specifies an Internet-based project management system required for use by the Contractor, Engineer, Design Engineer and the Owner for collaboration and communications of all Contract-related work.

B. Related Sections: The requirements of this Section are applicable across all sections of the Contract Documents. Unless otherwise indicated, it is the Contractor's responsibility to use EADOC when performing all Project Communications as defined in Section 1.3 of this Specification.

1.02 SUBMITTALS

A. Procedures: Section 01 33 00, Contractor Submittals.

B. Initial and Updates of User Information.

C. Proposed schedule of attendance for EADOC training sessions.

D. Signed verification of training attendance for all users.

1.03 DEFINITIONS

A. Project Communication(s):

1. All written documentation and written communications required by the Contract Documents including, but not limited to: correspondence, reports, notices, submittals, transmittals, RFIs, request for change orders, payment applications, change orders, claims, change proposals, field orders, meeting agendas and minutes, substitutions, test reports, monitoring reports, punchlists, and all other formal Contract communications.
2. Documents required by the Contract that include written documents, demands, instruments, or directives, unless otherwise indicated in this Section.

B. Electronic Documents:

1. The electronic form or image of Project Communications that can be stored on and retrieved from an electronic storage device through a collaboration system over the Internet.

2. Includes all written and graphic products produced with computer software or converted to electronic form or electronic image by computer software.

C. Secure Documents: A secure form of the original or created electronic document that communicates the content and information of the original document and prevents alteration of the original document.

D. Notice:

1. As defined in the Contract.
2. Notice for documents transmitted through EADOC is the time and date when the document is sent to the other party as recorded in EADOC.

E. Project Team: The associated members of the Owner, Owner Consultants, Engineer, Contractor, subcontractors, and vendors.

F. EADOC:

1. Is the project's internet-based project management system. Information may be obtained at http://eadocsoftware.com. Access to the actual project site will be provided at Notice of Award.
2. Facilitates document workflows, communication, and collaboration, which assists in the management of construction projects.
3. Serves as a single source for project information for communication and collaboration among all project participants by automating various tasks in an organization of modules.
4. Provides a secure, permissions-based access requiring the identification of all users and their approved access rights.

1.04 USER IDENTIFICATION INFORMATION

A. Submit the following for each proposed authorized EADOC user within ten days of the effective date of the Notice to Proceed:

1. Name, title, and company affiliation.
2. Address, phone number, email address, and fax number.
3. Specific job related functions.
4. Level of authority within the Contractor's organization

B. Submit an updated list of authorized users on a quarterly basis or more-frequently, as needed, to indicate users to be added or removed (note only one login ID will be distributed for each General Contractor associated with the overall Program).

1.05 PROJECT COMMUNICATIONS

A. All official Project Communication and collaboration will take place in EADOC by creating and distributing documents directly within the system, or by scanning and/or uploading project documents into the system for distribution. Unless otherwise indicated, no other form of written Project Communication will be recognized.

B. Create submittals in EADOC's submittal module. Distribute reports, documents, samples, etc. that cannot be processed through EADOC per Section 01 33 00, Contractor Submittals. Use EADOC to track and expedite processing submittals. Scan and/or upload support documentation into EADOC and attach to the main submittal document.

C. The Engineer will respond to all documents using the appropriate EADOC module. All documents requiring formal signatures will be printed out in EADOC and hard copies signed and distributed. Otherwise, documents distributed electronically via EADOC will be considered official documentation. Documents requiring formal wet signature include:

1. Change Orders.
2. Construction Change Directives.
3. Others as determined by Owner.

D. All documents will be electronically submitted to the Owner as an attachment to a transmittal created in EADOC transmittal module.

E. This Section shall not relieve the Contractor of its obligations to provide the Owner with Record Drawings in the physical form specified in Section 01 77 00, Project Record Documents.

1.06 ACCESS REQUIREMENTS

A. Maintain the list of authorized users to reflect current authorized users of EADOC.

B. Protect the security of the EADOC system by limiting access to authorized users only. Do not allow 'sharing' of usernames. Take appropriate precautions to maintain the security of the system. Ensure that Owner is notified immediately of any user who is no longer authorized to use the system so that their user account can be de-activated by the EADOC Administrator.

C. Access will only be permitted to certain modules, in accordance with permission levels configured by the Engineer. Requests to change permission levels must be submitted to the Engineer.

1.07 USE REQUIREMENTS

A. Use EADOC as the Project file storage system with a file folder structure created by the Owner to organize the Project documents.

B. The use of EADOC is intended to expedite and improve collaboration and written contract communication and to accurately record the flow of Contract documentation.

C. Abide by all policies, procedures, and standards established by the Owner for the use and application of EADOC.

D. Comply with applicable laws and regulations regarding electronic transmission of documents requiring professional engineering stamps or signatures, including provision of hard copies of such documents as appropriate.

E. Project Communications that require the signature of authorized persons will use a wet signature only; no electronic signatures will be accepted.

1.08 DOWNTIME

A. In the event that the EADOC system is temporarily unavailable (internet not available), continue with Project Communications utilizing other electronic means (email) or hard copies to transmit and receive Project Communications.

B. Maintain records of all Project Communication during the EADOC downtime and upload the records to EADOC when it is operational.

C. Notify the Owner’s EADOC Administrator by telephone or email when EADOC is not functional.

1.09 TRAINING

A. Submit a proposed schedule of attendance for the EADOC training sessions to be provided by the Owner, including a list of back up personnel.

B. Mandatory for listed users of EADOC prior to use, including any training sessions scheduled by the Owner.

1.10 PROJECT MANAGEMENT SYSTEM REQUIREMENTS

A. Provide computer hardware and software that meet the requirements of the EADOC project management software at both field office and home office location(s) where Project Communications on this Contract are generated or processed.

B. Modifications:

1. EADOC is continually modified and improved in order to enhance the product and provide additional functionality.
2. EADOC has many methods of alerting users to changes and providing support to the end users.

C. Software, hardware, and Internet access:

1. Minimum software requirements are as follows:
   a. An Internet browser (Internet Explorer, Mozilla Firefox, or Apple Safari).
2. Minimum hardware requirements are as follows:
   a. A scanning device capable of scanning a minimum of 11-inch x 17-inch color document into electronic Portable Document Format (PDF) with a minimum density of 300 dpi.
3. Recommended access requirements are as follows:
   a. Broadband connection using integrated Services Digital Network (ISDN), Digital Subscriber Line (DSL), with connections speeds of at least 512kb/s better.
4. Be responsible for all costs associated with the provisions, maintenance, and upgrade of the hardware, software, and Internet access for the duration of the Contract.
5. Software necessary to create documents in format compatible with EADOC or to convert non-electronic documents to such formats. Compatible formats include: Word, Excel, AutoCAD, and PDF.

1.11 RESTRICTIONS AND LIMITATIONS

A. All Project Communications submitted to the Owner through EADOC after 5:00 p.m., Mountain Standard Time, Monday through Friday, will be acknowledged no earlier than the following business day.

B. For Project Communication purposes, business days and hours are defined as Monday through Friday, 8:00 a.m. to 5:00 p.m., Mountain Time, excluding the Owner's holidays.

C. User access rights to the EADOC site will restrict access to this Contract only.

D. Access permission levels will be established by the Owner's EADOC Site Administrator.

1.12 OWNER RESPONSIBILITY

A. Provide the Contractor with EADOC. Use Guidelines within 7 days of the effective date of Notice to Proceed.

B. Provide user access to the EADOC system for the duration of the Contract.

C. Manage the permissions level for all users of the system.

D. Provide EADOC training for personnel using the system for each EADOC user identified by the Contractor.

E. Provide technical support (administration) for EADOC, acting solely through and at the request of the Owner.

F. Provide guidelines regarding the organization and format of the EADOC modules and the access permission requirements for each module or element thereof.

G. Allow users to upload, download, view, and markup files, based on permissions.

H. Track history of revisions and activities with respect to each document submitted or managed within EADOC.

I. Adjust and revise the folder structure as necessary to facilitate management of Project Communications.

J. With the prior approval of Owner, exceptions may be made to allow specific items to be transmitted, submitted, responded to, or distributed in hard copy only. In these instances, EADOC shall be used to track and expedite processing of these items. Refer to Section 1.5B above.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 29 00
MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 GENERAL

A. Measurement and payment for all Work shown or specified herein will be made on a unit or lump sum price basis in accordance with the prices set forth in the Bid for individual items of Work. Contractor shall make a careful assessment when preparing the Bid.

B. The items listed below refer to and are the same pay items listed in the Bid Schedule. They constitute all of the pay items for the completion of the Work. No direct or separate payment will be made for providing miscellaneous temporary or accessory services or all other items not specifically named in specific bid item descriptions and needed for the prosecution of the Work, and all other requirements of the Contract Documents. Compensation for all such services, things and materials shall be included in the prices stipulated for the lump sum and unit price pay items listed herein.

C. The prices stated in the Bid Schedule include all costs and expenses for taxes, labor, equipment, materials, commissions, transportation charges and expenses, patent fees and royalties, labor for handling materials during inspection, together with any and all other costs and expenses for performing and completing the Work as shown on the Drawings and specified herein. The basis of payment for an item at the lump sum or unit price shown in the Bid Schedule shall be in accordance with the description of that item in this section.

D. Items listed as Allowances in the Bid Schedule are to be used and will be paid for only at the written direction and authorization of the Engineer, if agreed to by the Owner. Payment under this Section will be made for materials furnished, placed and installed in addition to those shown or beyond the limits indicated or reasonably inferred from the Contract Documents. All materials furnished and installed shall be in accordance with these Specifications. Measurements and payment will be in accordance with the Contract Documents or the terms of the written authorization for the additional Work and will include but not necessarily be limited to, the furnishing, hauling, placing and installing of materials and the furnishing of such manpower and equipment as required to accomplish the Work as directed in writing by the Engineer.

1.02 ALLOWANCES

A. Consult with Engineer in selection of products or services. Obtain proposals from Suppliers and installers and offer recommendations.

B. Allowances will be administered in accordance with Paragraph 11.02 of General Conditions.

C. With application for payment, submit invoice showing date of purchase, from whom the purchase was made, the date of delivery of the product or service, and the price, including delivery to the Site and applicable taxes.

D. Allowances are further described as:

1. Permit and Inspection Fees: This cash allowance shall be used to pay the fee for permits issued by the City of Nampa. Any labor or expenses associated with the permitting process shall be included in the Lump Sum Bid Price. All other permits issued by other entities are not included in the allowance and shall be included in the Lump Sum Bid Price.
2. Construction Dewatering of Confined Groundwater (PEPS):
    a. This cash allowance shall be used to pay for the additional cost of the work to provide additional dewatering of the confined (Artesian) groundwater if the contractor can demonstrate to the satisfaction of the Engineer that the Primary Effluent Pump Station excavation was substantially impacted by confined groundwater.
    b. A revised dewatering plan must be submitted within 7 days of identifying the confined groundwater before any costs are eligible for the allowance. Only costs incurred after identification of the confined groundwater but within 7 days of the submittal of the revised dewatering plan will be eligible for the allowance.
    c. After the initial conditions are met, the costs of confined groundwater dewatering shall be eligible as long as:
        1) The costs are in addition to the regular construction dewatering.
        2) The dewatering system is maintained as specified.
        3) The dewatering system and operations are consistent with the revised dewatering plan
        4) Until the confined groundwater dewatering system is no longer required for that excavation.
    d. The Engineer may direct additional dewatering measures beyond those identified in the Revised Dewatering Plan.

e. All costs for construction dewatering of the groundwater identified in previous Strata reports shall be included in the Lump Sum Bid Price.

3. Hidden Utilities and Existing Conflicts: This contingency allowance shall be used to pay for Work required based on hidden or buried utilities and yard piping that are not shown in the Contract Documents but impact the work shown in the Contract Documents.

1.03 ALTERATIONS

A. The Owner reserves the right to change the alignment, grade, form, length, dimensions or materials of the Work under the Contract, whenever any conditions or obstructions are met that render such changes desirable or necessary. All such alterations shall be paid for under the total lump sum bid or at a unit price bid for these items of Work, except as follows:

1. In case such alterations make the Work less expensive to the Contractor, a proper deduction shall be made from the Contract Prices and the Contractor shall have no claim on this account for damages or for anticipated profits on the Work that may be dispensed with.
2. In case such alterations make the Work more expensive, a proper addition shall be made to the Contract Prices.
3. Any such deduction or addition shall be determined by the Engineer in accordance with the General Conditions.

1.04 SUBMITTALS

A. Contractor shall submit the following Informational Submittals in conformance with the General Conditions of the Contract:

1. Schedule of Values: Section 01 29 73, Schedule of Values.
2. Schedule of Estimated Progress Payments: Section 01 29 73, Schedule of Values.
   a. Submit with initially acceptable Schedule of Values.
   b. Submit adjustments thereto with Applications for Payment.
3. Applications for Payment.
4. Final Application for Payment.

1.05 APPLICATION FOR PAYMENT

A. Transmittal Summary Form: Attach one Summary Form with detailed Application for Payment and include Request for Payment of Materials and Equipment on Hand as applicable. Execute certification by authorized officer of Contractor.

B. Use detailed Application for Payment Form provided by Engineer.

C. Include accepted Schedule of Values for each portion of Work, the unit price breakdown for the Work to be paid on unit price basis, a listing of equipment by Owner-assigned contracts, a listing of Owner-selected equipment, if applicable, and allowances, as appropriate.

D. Preparation:

1. Round values to nearest dollar.
2. List each Change Order executed prior to date of submission as separate line item. Totals to equal those shown on the Transmittal Summary Form as applicable.
3. Submit Application for Payment, including a Transmittal Summary Form and detailed Application for Payment Form(s) for each schedule as applicable, a listing of materials on hand as applicable, and such supporting data as may be requested by Engineer.

1.06 PAYMENT

A. General:

1. Progress payments will be made monthly.
2. The date for Contractor's submission of monthly Application for Payment shall be established at the Preconstruction Conference.

B. Payment for all the Work shown or specified in Contract Documents is included in the Contract Price. No measurement or payment will be made for individual items.

C. Payment for Mobilization:

1. The Contractor's attention is directed to the condition that 10 percent of the Contract Price will be deducted from any money due the Contractor as progress payments until mobilization items (as defined in Section 01 29 73, Schedule of Values) have been completed. The aforementioned amount will be retained by the Owner as the agreed, estimated value of completing the mobilization items listed. Any such retention of money for failure to complete such mobilization items shall be in addition to the retention from any payments due to the Contractor in accordance the General Conditions.
2. As soon as practicable after receipt of the Notice to Proceed, the Contractor shall submit a breakdown to the Engineer for approval, which shall show the estimated value of each major component of mobilization. When approved by the Engineer, the breakdown will be the basis for initial progress payments in which mobilization is included.

1.07 NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS

A. Payment will not be made for following:

1. Rejected or unused products.
2. Defective work.

1.08 PARTIAL PAYMENT FOR STORED MATERIALS AND EQUIPMENT

A. Major Equipment Delivered under the following conditions.

1. Shopping drawings have been submitted and "Approved."
2. Operations and Maintenance Manuals have been approved.
3. Up to 80 percent of the equipment value.
4. Provide manufacturer's invoice for the equipment.
5. Provide secure location for equipment to the satisfaction of the Owner.
6. Store and maintain equipment according to the manufacturers written instruction. Failure to properly store and maintain the equipment will be grounds for deducting any previous payments for the equipment.

1.09 FINAL PAYMENT

A. Final payment will be made only for products incorporated in Work; remaining products, for which partial payments have been made, shall revert to Contractor unless otherwise agreed, and partial payments made for those items will be deducted from final payment.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 29 73
SCHEDULE OF VALUES

PART 1 GENERAL

1.01 GENERAL

A. The Contractor shall develop the Schedule of Values (lump sum price breakdown) and incorporated it into the cost loading function of the CPM Schedule in accordance with the requirements of Section 01 32 16, CPM Construction Schedule.

B. Monthly progress payment amounts will be determined, in part, from the monthly progress updates of the CPM Schedule activities.

C. The Schedule of Values shall be developed independently but simultaneously with the development of the CPM Schedule activities and logic.

1.02 PRELIMINARY SCHEDULE OF VALUES

A. The Contractor shall submit a preliminary Schedule of Values for the major components of the Work at the Preconstruction Conference in accordance with the requirements of Section 01 31 19, Communications and Project Meetings.

B. At a minimum, the preliminary Schedule of Values shall include proposed values for the following major Work components:

1. Mobilization: Maximum of 5 percent of Contract Price.
    a. Moving onto the Site of Contractor's plant and equipment necessary for the first month of operations.
    b. Installing temporary construction power, wiring, and lighting facilities.
    c. Establishing fire protection system.
    d. Developing construction water supply.
    e. Providing field offices for the Contractor and the Engineer, complete with furnishings, equipment, and utility services.
    f. Providing on-Site communication facilities, including telephones and internet.
    g. Providing on-Site sanitary facilities and potable water facilities.
    h. Arranging for and erection of Contractor's staging and storage yards.
    i. Constructing and implementing security features and requirements complying with Section 01 35 53, Site Security.
    j. Obtaining required permits.

k. Having OSHA required notices and establishing safety programs.
l. Having the Contractor's superintendent at the Site full time.
m. Submitting initial submittals.

2. Demobilization: 2 percent of Contract Price.
3. Demolition, all phases.
4. Total value of electrical Work.
5. Total value of instrumentation and control Work.
6. Total value of yard mechanical Work inclusive of excavation, pipe installation, testing and backfill of pipe, and all incidental Work associated with underground pipe installations.
7. Total value of mechanical Work other than major equipment:
   a. Exclusive of yard mechanical Work, but including piping, valves, minor equipment, tanks, and appurtenances at new and existing structures.
8. Total value of structural reinforced concrete Work, inclusive of formwork, rebar, and concrete.
9. Total value of site civil Work, inclusive of clearing and grubbing, excavation, backfill, paving, grading and drainage Work.
10. Major equipment, broken down by type of equipment.
11. Total value of other Work not specifically included in the above items.

C. Review and Revisions:

1. The Contractor and Engineer shall meet and jointly review the preliminary Schedule of Values and make any adjustments in value allocations if, in the opinion of the Engineer, these are necessary to establish fair and reasonable allocation of values for the major Work components.
2. Front-end loading will not be accepted.
3. The Engineer may require reallocation of major Work components from items in the above listing if in the opinion of the Engineer such reallocation is necessary.
4. This review shall be completed within 15 days from the date of its initial submittal. No payments will be made to Contractor until the preliminary Schedule of Values is completed.

1.03 DETAILED SCHEDULE OF VALUES

A. The Contractor shall prepare and submit a detailed Schedule of Values to the Engineer within 15 days from the date preliminary Schedule of Values review meeting.

B. The Contractor shall base the detailed Schedule of Values on the accepted preliminary Schedule of Values for major Work components.

C. Because the ultimate requirement is to develop a detailed Schedule of Values sufficient to determine appropriate monthly progress payment amounts through cost loading of the CPM Schedule activities, the Contractor shall furnish a sufficiently detailed breakdown to meet this requirement. At a minimum the Schedule of Values shall include the following work breakdown structure:

1. Each milestone.
2. Each facility.
3. Each applicable CSI Division.
4. Individual work components.

D. The Engineer will be the sole judge of acceptable numbers, details and description of values established.

E. If, in the opinion of the Engineer, a greater number of Schedule of Values items than proposed is necessary, the Contractor shall add the additional items so identified by the Engineer.

F. The Contractor shall submit the minimum detail of breakdown of the major Work components in the following order and shall furnish greater detail if requested by the Engineer:

G. Procurement: For each piece of equipment and type of material for which a submittal is required, identify a cost for purchase and delivery. Minor equipment may be lumped together into categories.

H. Break down other Work not specifically included in the above items, as necessary for the establishment of pay and schedule activity items.

I. Adjustments and Acceptance:

1. The Contractor and Engineer shall meet and jointly review the detailed Schedule of Values within 15 days from the date of submittal, at which time the value allocations and extent of detail shall be reviewed in order to determine if necessary adjustments to the values are required, and to determine if sufficient detail has been proposed in order to allow acceptable cost loading of the CPM Schedule activities.
2. The Contractor shall make necessary adjustments to the value allocation or level of detail, and submit a revised detailed Schedule of Values within 7 days from the date of review meeting.
3. Following acceptance of the detailed Schedule of Values, the Contractor shall incorporate the values into the cost loading portion of the CPM Schedule.

4. The Contractor shall concurrently develop the CPM activities and logic with the development of the detailed Schedule of Values; however, it shall be necessary to adjust the detailed Schedule of Values to correlate to individual Schedule activities.
5. It is anticipated that instances will occur, due to the independent but simultaneous development of the Schedule of Values and the CPM Schedule activities, where interfacing these two documents will require changes to each document.
6. Schedule activities may need to be added to accommodate the detail of the Schedule of Values, and Schedule of Value items may need to be added to accommodate the detail of the CPM Schedule activities.
7. Where such instances arise, the Contractor shall propose changes to the Schedule of Values and to the CPM Schedule activities in order to satisfy the CPM Schedule cost loading requirements.

1.04 CROSS-REFERENCE LISTING

A. To assist in the correlation of the Schedule of Values and the CPM Schedule, the Contractor shall provide a cross-reference listing to be furnished in two parts:

1. In the first part, list each scheduled activity with the breakdown of the respective valued items making up the total cost of the activity; and,
2. In the second part, list the valued item with the respective schedule activity or activities that make up the total indicated cost.

B. In the case where a number of schedule items make up the total cost for a valued item (shown in the Schedule of Values), the Contractor shall indicate the total cost for each Schedule of Value item.

C. The Contractor shall update and submit these listings in conjunction with the CPM monthly submittals as indicated in Section 01 32 16, CPM Construction Schedule.

D. The Contractor shall incorporate approved Change Orders reflected in the CPM Schedule into the Schedule of Values as a single unit identified by the Change Order number.

1.05 ESTIMATED PROGRESS PAYMENTS

A. Within 15 days after Engineer’s acceptance of the Detailed Schedule of Values and the Original CPM Construction Schedule, the Contractor shall provide the Engineer with an estimate of anticipated Progress Payments, by month, throughout the Project’s construction duration.

1.06 CHANGES TO SCHEDULE OF VALUES

A. Changes to the CPM Schedule which additional activities not included in the original schedule but included in the original Work (schedule omissions) shall have values assigned as approved by the Engineer.

B. The Contractor shall reduce other activity values in order to provide equal value adjustment increases for added activities, as approved by the Engineer.

C. In the event that the Contractor and Engineer agree to make adjustments to the original Schedule of Values because of inequities discovered in the original accepted detailed Schedule of Values, increases and equal decreases to values for activities may be made.

1.07 COMPLETE AND TIMELY SUBMISSIONS

A. The Schedule of Values information is an integral part of the progress payment information. As such, it is critical information for evaluating the Project's progress. Accordingly, if any submittal required by this section is found to be incomplete or is submitted later than required, it may result in a deferral by Engineer to recommend all or any part of Contractor's Application for Payment, either partial or final.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 19
COMMUNICATION AND PROJECT MEETINGS

PART 1 GENERAL

1.01 DESCRIPTION

A. The Work specified in this section establishes the lines of communication and outlines the requirements for Project Meetings prior to and during construction as designated in the Contract.

1.02 COMMUNICATION

A. Written communication to the Contractor shall be transmitted from the Owner through the Engineer per General Conditions Paragraph 9.01 or directly from the Engineer.

B. Written communication from the Contractor, other than legal documents relating to the Contract sent directly to the Owner, shall be transmitted through the Engineer.

C. Routine verbal communication, other than during Project Meetings, will typically occur between the Owner and Engineer, and between the Engineer and Contractor.

1.03 PRECONSTRUCTION CONFERENCE

A. The purpose of the Preconstruction Conference is to establish lines of authority and communication and identify duties and responsibilities of the parties.

B. Engineer will schedule the Preconstruction Conference no later than 14 days after Notice to Proceed. All parties concerned are to be notified of the time and place of the meeting. Attendance is mandatory for, at a minimum, Contractor's Project Manager, Field Superintendent, Quality Control Engineer, Safety Representative, Public Relations Representative, major Subcontractors, and Idaho Department of Environmental Quality project representative. Others are to attend as invited by the Engineer.

C. The Engineer will preside at the preconstruction conference and will arrange for keeping and distributing the meeting notes to all persons in attendance. Contractor shall advise Engineer within 5 days of receipt of meeting notes if Contractor does not agree with contents of the notes.

D. The Contractor and its subcontractors should plan on the conference taking 2 hours.

E. Submit the following at or before the Preconstruction Conference:

1. 60-Day Plan of Operation and Project Overview Schedule.
2. Contractor-obtained permits.
3. Preliminary Schedule of Values.
4. Names and emergency contact numbers of Project Manager, Field Engineer, Field Superintendent, and Contractor's personnel responsible for safety and community relations.
5. Contractor's Safety Plan.
6. Emergency Cleanup Plan.
7. Environmental Management Plan (EMP).
8. Spill Prevention, Control, and Countermeasures Plan (SPCC).
9. Traffic Control Plan.
10. Site Access Plan.
11. Site Security Plan.
12. Sediment and Erosion Control Plan as necessary for the initial 4 months of Work, ready for Contractor submittal to regulatory agencies for review/approval.

F. Contractor shall provide other pertinent data required, contribute appropriate items for discussion, and be prepared to discuss all items on agenda.

G. Purpose:

1. The purpose of the meeting is to designate responsible personnel and establish working relationships. Matters requiring coordination will be discussed and procedures for handling such matters will be established. An agenda will be furnished to Contractor prior to the meeting date. Contractor shall be prepared to discuss the following:
   a. Designation of responsible personnel.
   b. Subcontractor communications.
   c. Coordination with other contractors, if any.
   d. Contractor's initial schedule submittals and critical work sequencing.
   e. Transmittal, review, and distribution of Contractor's submittals.
   f. Internet Based Project Management requirements and processing of Requests for Clarifications, Field Orders, Work Change Directives, Change Orders, and Applications for Payment.
   g. Use of Site, office and storage areas, security, housekeeping, and Owner's needs.
   h. Permit and easement conditions and requirements.
   i. Contractor responsibilities for safety and first aid.

j. Major equipment and material deliveries and priorities.
k. Traffic Control Plan and Site Access Plan.
l. Contractor use of standard forms.
m. Maintaining Record Documents.
n. Notification procedures.
o. Specialty Inspection Procedures.
p. Liquidated damages.
q. Certified payroll and wage compliance.

1.04 WEEKLY PROGRESS MEETINGS

A. Hold Progress Meetings weekly, and at other times as required by the progress of the Work. The purpose and agenda of the meetings include:

1. Review minutes of previous Progress Meeting.
2. Review 3-Week Look-Ahead Schedule.
3. Review (monthly) updated Construction Schedule.
4. Track submittal and RFI status.
5. Identify and determine resolution of quality issues.
6. Discuss safety and security issues.
7. Discuss notifications and other public relations matters.
8. Identify schedule issues and key material and equipment delivery dates.
9. Review upcoming Work.
10. Discuss coordination of Work with others.
11. Review Prevailing Wage determination compliance and records.
12. Determine steps for resolution of other problems which may develop.

B. Attend these meetings and arrange for subcontractor's attendance. At a minimum, Contractor's Project Manager, Field Superintendent, and Field Engineer must attend. Engineer and any other interested party, such as public utility, local government representatives, and suppliers when needed, will also attend. Representatives of Contractor, Engineer and Owner present at the meetings shall have the competence and authority to make any necessary decisions. Their decisions and statements shall commit their represented party to the agreed procedures, sequence of operations and schedules.

C. Hold the meetings at Engineer's field office. The Engineer will preside at the meetings and will record and distribute meeting notes. Contractor shall advise Engineer within 5 days of receipt of meeting notes if Contractor does not agree with contents of the notes.

1.05 PROCESS INSTRUMENTATION AND CONTROL SYSTEMS (PICS) COORDINATION MEETINGS

A. Engineer will schedule meetings at Site, conducted monthly to review specific requirements of PICS work, per Section 40 90 00, Instrumentation and Control for Process Systems.

B. Attendees will include:

1. Contractor.
2. Owner.
3. PICS Subcontractor/Installer.
4. Engineer's representatives.

1.06 COORDINATION MEETINGS

A. Hold Coordination Meetings as required by the progress of the Work. The purpose of the Coordination Meetings is to coordinate the Work of this Contract with the work of the Owner and with the work of other contractors.

B. Attend these meetings and arrange for subcontractor's attendance. Engineer will also attend and any other interested party, such as public utility, local government representatives, and suppliers when needed.

C. Hold the meetings at the Contractor's or Engineer's field office. The Engineer will preside at the meetings and will record and distribute meeting notes. Contractor shall advise Engineer within 5 days of receipt of meeting notes if Contractor does not agree with contents of the notes.

1.07 PRE-EVENT MEETING

A. Prior to start of new critical activities, the Contractor shall schedule a meeting with Engineer to review applicable Specifications and Drawings, coordination and inspection requirements, and other key activities.

1.08 OTHER MEETINGS

A. The Contractor shall prepare for and attend other meetings as identified elsewhere in the Contract Documents. The Contractor shall arrange for participation of subcontractors, suppliers, utilities, regulatory agencies and representatives of the Owner and Engineer as necessary. The Contractor shall prepare agendas, reference materials and provide for keeping and distribution of meeting notes to meeting participants.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 30
CONSTRUCTION AND SCHEDULE CONSTRAINTS

PART 1 GENERAL

1.01 THE REQUIREMENT

A. Work shall be scheduled, sequenced, and performed in a manner which minimizes disruption to the public, prevents interruption of the operation and maintenance of existing facilities, and ensures compliance with the Owner's permit requirements.

B. The Contractor shall incorporate the construction and schedule constraints of this Section in preparing the construction schedules required under Section 01 32 16, CPM Construction Schedule. The construction schedules shall include the Contractor's activities necessary to satisfy all constraints of the Contract Documents.

1.02 RELATED SECTIONS

A. Related sections include, but are not necessarily limited to:

1. Section 01 10 00, Summary of Work.
2. Section 01 32 16, CPM Construction Scheduling.
3. Section 01 57 28, Temporary Flow Control.

1.03 RELATED WORK AT SITE

A. General:

1. Other work that is either directly or indirectly related to scheduled performance of the Work under these Contract Documents, listed henceforth, is anticipated to be performed at Site by others.
2. Coordinate the Work of these Contract Documents with work of others as specified in General Conditions.
3. Include sequencing constraints specified herein as a part of Progress Schedule.

B. Power:

1. Agency and Contact Person: Idaho Power Company: Jim Havda, 208-880-4370 (cell).
2. Work to be performed by Idaho Power Company:
   a. Removal of 12.47kV feeder (cables only) from Primary Sludge Pump Station 1 to Trickling Filter Recirculation Pump Station.

b. Underground power cables from Primary Sludge Pump Station 1 to PEPS Electrical Building, and from PEPS Electrical Building to Trickling Filter Recirculation Pump Station. Work includes:
   1) Materials.
   2) Installation.
   3) Termination.
c. Electrical Distribution equipment including pad-mounted transformer and switch. Work includes:
   1) Equipment.
   2) Installation.
   3) Equipment Pads.
d. Work performed by Idaho Power Company will likely be done during construction period.

3. Work to be Performed by Contractor:
   a. Demolition of the conduit and encasement of the existing 12.47 kV feeder from Primary Sludge Pump Station 1 to the Trickling Filter Recirculation Pump Station.
   b. Trench, conduit, and concrete encasement for utility cables shall be provided by Contractor.
   c. Contractor shall terminate secondary conductors on transformer.
   d. Plant is primary metered, therefore no utility metering is required.
   e. Coordinate Contractor's Work with Idaho Power Company.
4. Owner will be responsible for payment of direct charges of Idaho Power Company.

C. Group B:

1. Contractor and Contact Person: To be determined.
2. Work to be performed by Group B Contractor: Attend site construction coordination meetings for Group A as organized by the Engineer.
3. Work to be performed by Group A Contractor: Attend site construction coordination meetings for Group B as organized by the Engineer. Assume meetings shall occur weekly for 1 hour.
4. Sequencing: Construction work on Group B is expected to commence in July 2017.

D. Applications Software Development:

1. System Integrator (hired by Owner) will perform programming of applications software for Process Instrumentation and Control Subsystem (PICS). Refer to Section 40 90 00, Instrumentation and Control for Process Systems, for detailed information pertaining to System Integrator programming.
   a. Coordinate and deliver to System Integrator's office hardware and standard software components, as specified for PICS.

b. Sequencing: Include sequencing constraints specified herein as part of Progress Schedule.
c. System's Integrator will confirm delivery date with Contractor 10 days prior to scheduled delivery, and within 24 hours of expected delivery time.

2. Return delivery of hardware to Project Site within constraints detailed in Section 40 90 00, Instrumentation and Control for Process Systems.
3. Allowance for interruptions to the Work because of testing by System Integrator of System Integrator developed applications software:
   a. During Functional Testing and Performance Testing, Contractor shall plan for interruption of testing of the Work to allow System Integrator to investigate software problems, make software configuration changes, and conduct additional testing.
   b. Allowance for Interruptions: 20 days total.
   c. When applications software testing is delayed because of altered equipment interfaces or receipt of incorrect Shop Drawing information, duration of delay will be excluded from interruption allowance, unless notified otherwise by Engineer.

E. Other Miscellaneous Maintenance and Repair Contracts: To be awarded at a later date.

1.04 EXISTING PLANT OPERATIONS

A. The Work shall be executed while the existing WWTP is in operation. Operation of the existing plant shall not be jeopardized nor shall the efficiency of wastewater treatment or the plant throughput be reduced as a result of the execution of the Work. The Owner shall have the authority to order Work stopped or prohibited which would, in its opinion, unreasonably result in stopping the necessary functions of the plant operations.

B. Unless indicated otherwise, temporary pumping, piping, power, lighting, controls, instrumentation, alarms, security devices, and safety devices shall be provided by the Contractor, at its cost, whenever its activity or interruption due to its activity affects the existing facility.

C. The construction sequence and schedule constraints in this section do not include every item affecting the completion of the Work, but are intended to describe the sequence of critical events and associated constraints necessary to minimize disruption to the ongoing treatment plant processes and to ensure continuous compliance with NPDES discharge requirements at the plant. It shall be understood and agreed by the Contractor that the critical events described are not all inclusive and that additional items of Work not included may be required to minimize disruption and ensure compliance. Deviation from, or modification of, these sequences is permitted if techniques and

methods known to the Contractor will result in reducing disruption to the facility operation and maintaining treatment efficiency, and if deviation is approved in advance by the Engineer.

D. At no time shall the Contractor undertake to isolate any pipelines, open and close valves, block ingress or egress, or take any action that would affect operation and maintenance of the existing facility, except as specifically required by the Specifications and Drawings, and after approval is granted by the Engineer, and after proper notification.

1.05 OPERATION OF PLANT EQUIPMENT

A. Operational functions or shutdown of the existing plant required to facilitate Contractor's operation will be done by the Owner's personnel only.

B. The plant operation and maintenance personnel will cooperate in every way that is practical to facilitate Contractor's operation. However, certain shutdown and connections may only be permissible at times other than normal working hours such as nights or weekends. No additional payment will be made to the Contractor for any night, weekend, or holiday premium or overtime payments.

C. If it becomes necessary for the proper operation or maintenance of portions of the plant, the Owner may require the Contractor to reschedule an approved shutdown. The Contractor shall then reschedule its operations so there shall be no conflict with necessary operations or maintenance of the plant. The Contractor shall, within 2 working days, furnish the Engineer with a revised Deactivation Request and a plan for rescheduling the shutdown in accordance with the requirements of the construction schedule. If notice of said rescheduling is given to the Contractor at least 3 working days in advance of the scheduled shutdown, the Contractor shall not be entitled to additional compensation as a result of the impacts of rescheduling. Contractor shall be responsible to mitigate its costs of rescheduling an approved shutdown.

1.06 SCHEDULE CONSTRAINTS

A. General: It is the Contractor's responsibility to coordinate and plan the construction activities to integrate each schedule constraint into performance of the overall Work. This section defines a general sequence for the Work. It does not list every single item of Work that must be completed. It remains the Contractor's responsibility to complete all Work needed to provide functional systems as defined in the Contract Documents in the sequence listed here whether or not each of the components of each system is listed here.

B. Temporary Facilities: Contractor may elect to construct temporary facilities or portions of facilities to achieve the sequence listed here rather than construct permanent facilities in the sequence listed here.

1. Refer to Section 01 57 28, Temporary Flow Control, for a description of required temporary bypass pumping and piping systems.

C. Construction Phases:

1. Milestone 1: Completion of PEPS, PEPS Electrical Building and Aeration Basin 3.
2. Substantial Completion: Completion of Aeration Basin 1 and 2 modifications, Effluent Splitter Box demolition, Trickling Filter 2 mechanism replacement, plant control system modifications, and the remainder of the work.

D. Seasonal Wastewater Flow Variations: The wastewater treatment plant experiences higher flows and loading during the period that The Amalgamated Sugar Company (TASCO) conducts their annual sugar beet processing campaign (referred to as “campaign season” or “campaign”). This campaign normally starts in early November and runs through the end of February to early April. Requirements for the process units that must be online during this campaign are listed below.

E. Working Hours:

1. Normal Construction Activities: The Contractor shall limit all normal construction activities to the following periods:
    a. Between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday.
    b. Between the hours of 8:00 a.m. and 5:00 p.m. on Saturday and Sunday and the following holidays:
        1) New Year’s Day; Jan. 1, 2016 and 2018 and Jan. 2, 2017.
        2) Human Rights (MLK) Day; Jan. 18, 2016; Jan. 16, 2017 and Jan. 15, 2018.
        3) President’s Day; Feb. 15, 2016; Feb. 20, 2017 and Feb. 19, 2018.
        4) Memorial Day; May 25, 2015; May 30, 2016; May 29, 2017 and May 28, 2018.
        5) Independence Day; July 3, 2015 and July 4, 2016, 2017 and 2018.
        6) Labor Day; Sept. 7, 2015; Sept 5, 2016; Sept. 4, 2017and Sept. 3, 2018.
        7) Veteran’s Day; Nov. 11 2015 and 2016,;Nov. 10, 2017 and Nov. 12, 2018.

8) Thanksgiving Day; Nov. 26, 2015; Nov24, 2016; Nov. 23, 2017 and Nov. 22, 2018.
9) Christmas Day; December 25, 2015, 2017, and 2018 and Dec 26, 2016.

F. Local Schedule Constraints: The listing of schedule constraints below does not mean that every constraint or special condition has been identified. The list does not substitute for the Contractor's coordination and planning for completion of the Work within the Contract Times.

1. During the TASCO campaign season as described above, at least one trickling filter and two aeration basins and both Primary Clarifier 2 and Clarifier 3 must be kept on line at all times except for complete plant shutdowns that require a more widespread outage for critical process tie-ins.
2. During the non-TASCO campaign season, one trickling filter and one or two aeration basins or two trickling filters and one aeration basin, as well as primary clarifier 2 or 3, must be kept on line at all times except for complete plant shutdowns that require a more widespread outage for critical process tie-ins.
3. At all times that a trickling filter is operational, at least one secondary clarifier must be operational and secondary sludge must be withdrawn. Secondary sludge pumping may be suspended for up to 4 hours.
4. Complete Plant Shutdowns: The City collection system has very limited storage capacity, so for process tie-ins that require a complete flow shut down downstream of the primary clarifiers, the Contractor shall either provide bypass pumping or work with the City operations staff to have Primary Clarifier 2 empty and divert flow to fill this clarifier to allow the tie-ins to be made. Primary Clarifier No. 2 has an estimated volume of 587,000 gallons. Plant flows range from a minimum of approximately 5 mgd to a maximum of 26 mgd.
5. The RAS can be down for 4 hours at a time while the RAS piping to Aeration Basins 1 and 2 is modified and the new pipe to Aeration Basin 3 is installed. If necessary, multiple shutdowns may be required depending on the amount of work accomplished during a given shut down. Subsequent shutdowns must be timed at least 48 hours between shutdowns. RAS line shut downs cannot occur during campaign season as there is no off line aeration basin in which to hold plant flow while the RAS line is down.
6. If an aeration basin(s) is taken offline to hold plant flow by filling an empty basin(s) to accomplish a basin or piping modification, this action cannot be repeated for a subsequent aeration basin shutdown for at least 10 days. During an aeration basin shutdown, if the basin is not completely emptied and the aeration system will be operational,

maintain 4 feet of submergence over the top of the diffusers in the basin that is partially emptied.

7. If a trickling filter is taken off line and the biofilm allowed to dry out, it can take as long as 2 months for the biofilm to get re-established on start up. Therefore, plan on the following times to re-start a trickling filter following a shutdown, during which period that trickling filter shall be considered as offline for purposes of scheduling other shutdowns or having the necessary treatment facilities in service.
   a. 1 day shutdown – 7 day start up.
   b. 2 day shutdown – 14 day start up.
   c. 3 day shutdown – 21 day start up.
   d. 4 day shutdown – 31 day start up.
   e. 5 day shutdown – 45 day start up.
   f. More than 5 day shutdown – 60 day start up.
8. For total plant shutdowns, shutdown of an aeration basin, trickling filter, RAS system, secondary sludge line or other system that impacts the ability of the plant to process wastewater, contractor to schedule work during time of day when flows and basin volumes provide adequate storage for the projected length of the shutdown. Normally this can be expected to be in the midnight to 6 a.m. time period when plant flow is at its minimum level.

1.07 CONSTRUCTION SEQUENCE

A. General critical activities in the sequence of the construction are presented below. The sequence of construction shown does not include all activities necessary to complete the Work, but is intended to show the sequence of critical activities necessary to minimize disruption to ongoing operation and maintenance of the existing facility by the Owner and to ensure compliance with the Owner's permit requirements. The critical activities shown are not all inclusive and additional items of Work not explicitly listed may be required to complete the Work. The sequence of construction shown is not a substitute for the Contractor's Construction schedule.

B. Milestone 1:

1. Mobilization.
2. Plan and begin dewatering as required to allow the demolition of Trickling Filter 1 and construction of PEPS and PEPS Electrical Building.
3. Plan and coordinate removal of the Idaho Power high voltage line in the vicinity of Trickling Filter No. 1.
   a. This line runs close to Trickling Filter No. 1 and removing it prior to the start of demolition may facilitate the demolition.

b. The utility power system is configured in such a way that the removal of this section of the power system will not provide a long-term outage in the other facilities.

4. Demolition of Trickling Filter 1:
   a. This work will require a shutdown of all three trickling filters in order to plug the lines to Trickling Filter 1. This work shall not exceed 48 hours.
   b. This work must be complete before construction of PEPS and PEPS Electrical Building can begin.
   c. Performing this work before the demolition of the Primary Clarifier Splitter Box, the bypass line from that splitter box to SEPS and SEPS will allow primary effluent flow to be bypassed around the trickling filters using existing installed facilities.
   d. While all trickling filters are shut down, if plant flow is routed to Primary Clarifier 2 and diverted from the Primary Clarifier Effluent Splitter box to SEPS, the new gate in Diversion Box 3 can be installed. Primary Clarifier 3 must be out of service to work in Diversion Box 3. Tis work can only be done during the non-campaign season.
   e. Demolition of Trickling Filter 1 must be performed before the Secondary Sludge line from Secondary Clarifier 2 can be rerouted. This sludge line must be rerouted before the Secondary Sludge Pump Station can be demolished to allow Aeration Basin 3 to be constructed.
5. Plan and begin dewatering as required to allow the demolition of Secondary Clarifier 1, Parshal Flume 3, the Secondary Effluent Pump Station and the Secondary Sludge Pump Station and construction of Aeration Basin 3.
6. Plan and install the bypass pumping system at Secondary Clarifier 2 and on the north and south sides of Aeration Basins 1 and 2 as described in Section 01 57 28, Temporary Flow Control. These bypass pumping systems must be operational to allow the demolition of Secondary Clarifier 1, Parshal Flume 3, the Secondary Effluent Pump Station and the Secondary Sludge Pump Station and construction of Aeration Basin 3.
   a. This Work will require outages of both Aeration Basins 1 and 2 (non-concurrently) to allow core drilling and installation of new SI pipe wall penetrations into the Selector Zones for the bypass pumping system.
   b. While each basin is down for core drilling the Selector Zone SI pipe penetrations, the new FAZ zone SI pipe and RAS pipe penetrations could be made to eliminate another shutdown to make these penetrations at a future time.

7. Demolition of Secondary Clarifier 1, Parshal Flume 3, the Secondary Effluent Pump Station and the Secondary Sludge Pump Station, including rerouting of buried utilities.
    a. To complete this work, the secondary sludge line must be rerouted to the headworks through its new vault with relocated flow meter.
    b. The existing 42-inch aeration basin bypass line from SEPS must be prepared for extension as a ML line to Aeration Basin 3 as shown on the drawings. This will require dewatering of the aeration basin effluent box and that one of the aeration basins be emptied prior to the shutdown and filled to maintain plant flow during the period the effluent box is out of service. This work must be done during the non-campaign season.
    c. While the effluent box is empty and a basin is being filled, it is recommended the ALP headers south of Aeration Basins 1 and 2 be modified, as air flow to both Aeration Basin 1 and 2 must be shut down to perform this work.
8. Construction of PEPS and the PEPS electrical building, rerouting of influent piping to PEPS, and piping of SI from PEPS to Aeration Basins 1 and 2.
    a. To connect SI piping from PEPS to Aeration Basin 1 or 2, the bypass piping from the Secondary Clarifier must be disconnected. One basin must be connected to PEPS while the other basin remains connected to the bypass pumping system.
    b. The new 12.47 kV feeder and Idaho Power service transformers and switches must be complete for PEPS to operate.
    c. At the completion of this work PEPS must be capable of pumping the entire plant flow to Aeration Basins 1 and 2, with the effluent from secondary clarifier Number 2 rerouted to PEPS.
9. After PEPS is operational, demolition of the Primary Effluent Splitter Box can be accomplished. Primary Clarifier 1 and 2 will not be operational until the new connection around the splitter box is made. This work must be done during the non-campaign season as only Primary Clarifier 3 will be operational.
10. Tie in the new RAS pipe penetrations to Aeration Basin 1, 2, and 3:
    a. This work could begin as early as concurrently with the PEPS construction or be delayed to when Aeration Basin 3 is constructed.
    b. When Aeration Basin 3 is brought on line the RAS line will have had to be connected to it.
11. Construction of Aeration Basin 3:
    a. Construct and leak test basin.
    b. Install baffles, diffusers, mixers and internal and external piping.
    c. Tie-in ML effluent line leaving Aeration Basin 3. Provide shutdown of Aerations Basins 1 and 2 if necessary to make this connection.

d. Modify the aeration blower control program to accommodate the operation of the new Aeration Basin 3 as well as the existing Aeration Basins 1 and 2. This may require an interim program that will require further modification when Aeration Basins 1 and 2 are modified.

C. Substantial Completion:

1. Modification of Aeration Basin 1:
   a. Aeration Basin 2 can be modified prior to Aeration Basin 1 at the Contractor's option, but only one of Aeration Basin 1 and 2 can be modified at a time. Aeration Basin 3 must be available for operation when aeration basin 1 or 2 is taken off line for the major modifications.
   b. Demolish existing internal piping and diffusers as shown on the Drawings.
   c. Construct new baffles, install new diffusers and modify basin piping as shown on the Drawings.
   d. Aeration Basins 2 and 3 shall be available for operation prior to taking Aeration Basin 1 off line for modification.
2. Modification of Aeration Basin 2:
   a. Demolish existing internal piping and diffusers as shown on the Drawings.
   b. Construct new baffles, install new diffusers and modify basin piping as shown on the drawings.
   c. Aeration Basins 1 and 3 shall be available for operation prior to taking Aeration Basin 2 off line for modification.
3. Replacement of Trickling Filter 2 mechanism with the mechanism salvaged from Trickling Filter 1.
4. Implementation of remaining portions of the new plant control system.

1.08 DEACTIVATION REQUESTS

A. Modifications to existing facilities, the construction of new facilities, and the connection of new to existing facilities may require the temporary deactivation or bypass of existing treatment processes or facilities. In addition to the construction schedule required under Section 01 32 16, CPM Construction Schedule, the Contractor shall submit a detailed Deactivation Plan within 60 calendar days following NTP for the Engineer's review and acceptance. The Deactivation Plan will define general Deactivation requirements and shall include a schedule for all construction activities which will make it necessary to remove a tank, pipeline, channel, electrical feeder, instrumentation and control circuit, equipment, structure, road or other facilities from service. This Deactivation Plan shall be updated and resubmitted for the Engineer's review and acceptance, as needed, throughout

the duration of the project to accommodate previously omitted Deactivation activities.

B. For each Deactivation activity summarized in the Deactivation Plan, System Deactivation Requests shall be submitted for the Engineer's review and acceptance a minimum of 2 weeks in advance of the time that such outages are required. The Contractor shall fill out a System Deactivation Request form furnished by the Engineer to make a deactivation request. The System Deactivation Requests shall be coordinated with the Deactivation Plan and construction schedule and shall comply with the constraints of this section. The System Deactivation Requests shall describe the Contractor's method for preventing bypassing or interruption of affected facilities; the length of time required to complete said operation; any necessary temporary power, controls, instrumentation, or alarms required to maintain control, monitoring, and alarms; and the manpower, plant, and equipment which the Contractor shall provide to ensure proper operation of associated facilities. All costs for preparing and implementing the System Deactivation Requests shall be included in the original Contract Price.

C. The Owner and Engineer shall be notified in writing at least 1 week in advance of the required deactivation if the schedule for performing the work has changed or if revisions to the deactivation plan are required.

D. The Contractor shall provide written confirmation to Owner and Engineer of the shutdown date and time two working days prior to the actual shutdown.

1.09 TEMPORARY BYPASSING AND CONNECTIONS

A. Contractor shall provide temporary bypass piping when the necessary system tie-ins and shut downs cannot be accomplished during the time made available by diverting influent flows to empty basins as described under Local Scheduling Constraints in this section.

B. Connections to PEPS, Aeration Basins 1, 2, and 3, and rerouting of existing process and utility lines shall be accomplished as shown on the Drawings and as described under Construction Sequence in this section.

C. Making connections to or bypassing existing facilities or other operations that interfere with the operation of the existing equipment shall be thoroughly planned in advance, and required equipment, materials, and labor shall be on hand at the time of undertaking the connections. Work shall be completed as quickly as possible and with as little delay as possible and shall proceed continuously (24 hours a day and 7 days a week) if necessary to complete modifications and/or connections in the minimum time.

D. The cost of any temporary facilities and night, weekend, or holiday activity and overtime payments required during process interruptions shall be included in the Work.

E. Temporary facilities and piping shall be located to minimize interference with Contractor's construction facilities and Owner's operation and maintenance of the WWTP. Unless otherwise indicated, each temporary pipeline shall be of the same size as its connection to the existing or permanent facility at the downstream end of the pipeline. Piping materials shall be suitable for the material being conveyed and be as required in the piping schedule.

F. When temporary electrical power, controls, instrumentation, or alarms are required for routine continuous operations of existing or new equipment, the Contractor shall provide the necessary equipment and appurtenances. Prior to installing said equipment and appurtenances, Contractor shall furnish a submittal on the proposed components and installation for Engineer's review and approval.

G. A plan showing the size and location of the temporary facilities and piping shall be submitted to the Engineer at the same time as the System Deactivation Requests required under this Section. Costs for design, provision, operation, and removal of temporary facilities and piping shall be part of the original Contract Price.

H. Refer to Section 01 57 28, Temporary Flow Control, for required bypass pumping and piping.

1.10 PERMITS AND EASEMENTS

A. The Contractor shall abide by the conditions of permits and shall obtain proof of satisfaction of conditions from issuers of permits prior to acceptance of the Work by the Owner.

B. Section 01 41 26, Permits and Easements, includes additional schedule and construction constraints and requirements for Owner-obtained permits.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 32 16
CPM CONSTRUCTION SCHEDULE

PART 1 GENERAL

1.01 GENERAL

A. The Contractor shall schedule the Work in accordance with this section.

B. The Critical Path Method (CPM) shall be employed by Contractor for the planning, cost-loading and scheduling of all Work required under the Contract Documents. The CPM Schedule shall be cost-loaded based on the Schedule of Values as approved by the Engineer in accordance with Section 01 29 73, Schedule of Values. Preparation, submittal, acceptance and updating of a CPM construction schedule are considered of vital importance to the success of the Project.

C. The CPM schedule and related reports shall be prepared with Oracle's current version of Primavera P6 scheduling software or approved equal. Software that cannot produce files compatible with Primavera P6 will not be acceptable.

D. Where submittals are required hereunder, the Contractor shall submit the information in accordance with Section 01 33 00, Contractor Submittals. Each submittal shall include a complete set of all data files required by the software to allow the Engineer to reproduce or generate new reports using Primavera P6. Portable Document Format (PDF) files of the printed material will not fulfill this requirement.

1.02 DEFINITIONS

A. CPM Scheduling: CPM, as required by this section, shall comply with the standards outlined in the second edition of Construction Planning and Scheduling by Thomas E. Glavinich. In the case of conflicts between this Section and the book, this Section shall govern.

B. Data Date: The date up to which actual progress is reported and the date from which future work is scheduled.

C. Float: Float is the number of days an activity can be delayed from its early finish without delaying the project. Float is synonymous to total float or total slack.

D. Critical Path: The critical path is the longest path (or paths) through the network and is determined by the least amount of float in the project.

E. Float Ownership: Float within the schedule is not for the exclusive use of either Owner or Contractor, but is a shared resource available to both parties as needed to meet Contract milestones and the Contract completion date.

1.03 QUALIFICATIONS OF SCHEDULER

A. The schedule shall be prepared by a competent scheduler with verifiable experience, whose qualifications are subject to acceptance by the Engineer.

B. Contractor shall submit a statement of the scheduler's qualifications within 10 days after Notice to Proceed to verify that either: (1) the Contractor has in-house capabilities to use CPM techniques and Primavera P6; or (2) that the Contractor will arrange for the services of a CPM scheduling consultant that is qualified. In either event, the qualification statement shall identify the individual who will perform the CPM scheduling along with details of the information required under Qualification Criteria below.

C. Qualification Criteria: The individual performing the scheduling shall have successfully applied computerized CPM scheduling techniques for at least two previously completed projects of similar nature, scope, and value not less than one half the Contract Price of this project. Provide the contact person's name for each completed project with current telephone number and address information.

1.04 CPM STANDARDS

A. Construction CPM Schedule: The construction CPM schedule shall identify all activities required to complete the project and shall include a graphic time scaled network diagram and other computerized schedule reports as required below.

B. Work Breakdown Structure (WBS): A work breakdown structure shall be used to organize and sub-divide activities into identifiable work packages, phases, categories of work, or areas. The WBS shall be easy to understand with discrete, measurable, tangible components and major deliverables clearly identified to communicate how the Work will be completed.

C. Activity ID: Every activity in the schedule shall be identified by their activity number. The activity ID shall be a unique identifier or reference number and shall not change during the course of the Project.

D. Activity Description: Verify that the scope of work is clearly depicted in the activity description. Activity descriptions should not be ambiguous and should contain an action verb, object, and location. Avoid using duplicate activity names. Use abbreviations that are clearly understood.

E. Activity Calendars: When using Primavera P6, activity calendars should be maintained at the project level instead of global level. Calendars shall include all holidays or non-working days. Activity calendars shall be named with a short unique ID to represent the number of working days in a week. For example, “5D” and “7D” are five and seven day work week calendars with standard non-work days/holidays, and “CD” represents calendar days with no holidays and used to for concrete cure, contract time, etc.

F. Duration Estimates: The duration estimate for each activity shall be computed in Days and shall represent the single best estimate considering the scope of the Work and resources planned for the activity. Except for certain non-labor activities, such as curing of concrete or delivery of materials, activity duration shall not exceed 10 days nor be less than 1 day, unless otherwise accepted by the Engineer.

G. Activity Logic and Relationships: Generally, each activity in the schedule shall have at least one predecessor and one successor, except for Notice to Proceed. If using a start-to-start relationship, verify if it should also have a finish-to-start or finish-to-finish relationship. Avoid the use of redundant logic.

H. Lag: Because lag used between relationships are not transparent, and Primavera’s scheduling software does not depict lag on network diagram reports, lag shall be kept to a minimum. Avoid the use of negative lag on finish-to-finish relationships and avoid using lag in place of a constraint for date-dependent activities. The critical path should be free of all lags. If unusual or significantly large lag values are used, an explanation shall be provided the Narrative Report.

I. Responsibility: The responsible party for each activity shall be identified in the schedule by a responsibility code. Responsibility includes, but is not limited to, the subcontracting firm, Contractor’s Work force, Engineer, or Government agency performing a given task. Activities shall not belong to more than one responsible party.

J. Sequestering Float: Contractor shall not sequester float through such strategies as extending activity duration estimates to consume available float, using preferential logic, using extensive crew/resource sequencing, etc.

K. Constraints: Minimize the use of software constraints and only use on activities when appropriate. Avoid the use of mandatory start and finish constraints. If constraints are used, an explanation shall be provided in the Narrative Report. Remove all constraints for completed activities.

L. Actual Dates and Progress: Record actual start, actual finish, and remaining duration contemporaneously as the project is progresses. Actual start and finish dates shall reflect when the work actually occurred and shall not be automatically updated by default mechanism. Updating percent complete and remaining duration for each activity shall be independent functions. Verification of actual start and finish dates may be independently confirmed.

M. Primavera Schedule Options: To avoid invalid progress for out-of-sequence work, Retained Logic shall be used instead of Progress Override in Primavera's scheduling options. When problems develop with out-of-sequence work during updating, The Contractor shall correct out-of-sequence logic to deal with actual conditions of the Project.

N. File Maintenance: Do not update the same schedule over and over. Make a copy of the schedule and rename it prior to updating or revising. Name electronic schedules and schedule reports using a standard naming convention, such as Year-Month-Day-Title-Rev. Use the following example for sorting chronologically: 12.06.01 – Network Diagram, Water Treatment Plant Update No. 10 (Rev2). This allows schedules to be sorted chronologically and revisions easily identified. Maintain and regularly back-up electronic schedules and reports.

O. Notice: A CPM schedule submittal or updated CPM schedule shall not constitute as notice under the terms of the Contract.

1.05 SCHEDULE SUBMITTAL AND REPORTS

A. The Contractor shall provide all schedule submittals and associated reports for review and acceptance in accordance with this section. Each schedule submittal shall be based on the current CPM schedule.

B. At a minimum, the following schedules shall be submitted:

1. Initial Schedule.
2. Baseline Schedule.
3. Monthly Schedule Updates.

C. The following schedule reports shall be submitted with each submittal:

1. Narrative Report.
2. Network Diagram.
3. Critical Path Report.
4. Tabular Reports.

D. All schedule reports shall be provided in Adobe PDF for reproduction later if necessary. In addition, a copy of the electronic Primavera schedule (XER format) shall also be provided with each submittal.

1. Narrative Report: The Contractor shall provide a Narrative Report with each schedule submittal summarizing at a minimum the status the following:
   a. Current status of the project. Include the status of major project components, contract completion dates, time adjustments, amount of time ahead or behind schedule, and an explanation of how the project will be brought back on schedule if delays have occurred.
   b. Progress made on critical activities and near critical activities. Include a description of the critical path, changes to the critical path, and an explanation for any lack of Work on critical path activities.
   c. Provide a list of the critical activities scheduled to be performed in the next 2 months.
   d. Summarize the status of major material and equipment procurement.
   e. Provide any delays encountered during the reporting period.
   f. Include an assessment of inclement weather delays and impacts to the progress of the Work.
   g. Summarize major change orders, anticipated problems, restrictions, unusual conditions, issues, concerns, risks, and opportunities.
   h. List the activity work calendars and holidays used in the software.
   i. Explain any software constraints used in the schedule or unusual lag that may be affecting logic.
   j. Provide an explanation for any major logic changes made from the previous update. This includes listing all major changes, including added and deleted activities, added and deleted predecessors, added and deleted successors, and activity descriptions. Primavera's Claim Digger can develop a separate report if necessary to list all changes to the schedule.
2. Network Diagram: The Contractor shall provide a Network Diagram with each schedule submittal summarizing at a minimum the status the following:
   a. A time-scaled Network Diagram shall be provided with each schedule submittal grouped by an appropriate work breakdown structure, then sorted by early start. The Network Diagram shall be provided on 11-inch by 17-inch. If requested, the Network Diagram shall be plotted in color on 22-inch by 34-inch or 34-inch by 60-inch paper.
   b. The Network Diagram shall depict all activities on the schedule, and clearly display the critical path. At a minimum, the Network

Diagram header or footer shall clearly depict the project name, report title, data date, print date, substantial complete date, page numbers, layout used and filter used. At a minimum, the Network Diagram shall have the following tabular information:

1) Activity ID and Activity Name.
2) Original Duration and Remaining Duration.
3) Total Float.
4) Calendar ID.
5) Responsibility.
6) Early Start and Early Finish.
7) Predecessor and Successor.

3. Critical Path Report: A Critical Path Report shall be provided with each schedule submittal. The Critical Path Report will have the same information as the Network Diagram; however, it does not have any grouping. All activities are sorted by total float then early start. The Critical Path Report shall be provided on 11-inch by 17-inch and at a minimum shall depict all activities on the schedule, clearly display the critical path, and shall have the same tabular information as the Network Diagram.
4. Tabular Reports: The following two tabular reports shall be provided with each schedule submittal. If requested by the Engineer, up to four different tabular reports shall be submitted with each schedule.
   a. Detailed Predecessor/Successor Report: Include the following detailed information; activity ID and description, calendar, duration, driving relationship, lag, float, and logic. Sort by activity ID.
   b. Primavera P6 Scheduling/Leveling Report: Identifies Software Settings, Constraints, Open Ends and Scheduling Statistics.

1.06 INITIAL SCHEDULE SUBMITTAL

A. The Contractor shall submit two schedule documents at the Preconstruction Conference which serve as the Contractor's plan of operation for the initial 60 day period of the Contract Times and identify the manner in which the Contractor intends to complete the Work within the Contract Times.

1. 60 Day Plan of Operation: During the initial 60 days of the Contract Times, the Contractor shall conduct operations in accordance with a 60-day CPM schedule. The chart so prepared shall show accomplishment of the Contractor's early activities (mobilization, permit acquisition, submittals necessary for early material and equipment procurement, submittals necessary for long lead equipment procurement, CPM submittals, initial sitework and other submittals and activities required in the first 60 Days).

2. Project Overview or Summary Schedule: The overview schedule shall indicate the major components of the Work and the sequence relations between major components and subdivisions of major components. The overview schedule shall indicate the relationships and time frames in which the various components of the Work will be made substantially complete and placed into service in order to meet the required milestones. Sufficient detail shall be included to subdivide major components in such activities as (1) excavation, (2) foundation subgrade preparation, (3) foundation concrete, (4) completion of structural concrete, (5) major mechanical Work, (6) major electrical Work, (7) instrumentation, and control Work, and (8) other important Work for each major facility within the overall project scope. Planned durations and start dates shall be indicated for each Work item subdivision. Each major component and subdivision component shall be accurately plotted on time scale sheets not to exceed 36 inches by 60 inches in size. No more than four sheets shall be employed to present this overview information.

B. The Engineer and the Contractor shall meet to review and discuss the 60 day plan of operation and project overview bar chart within 10 days after submittal to the Engineer. The Engineer's review and comment on the schedules will be limited to conformance with the sequencing and milestone requirements in the Contract Documents. The Contractor shall make corrections to the schedules necessary to comply with the requirements and shall adjust the schedules to incorporate any missing information requested by the Engineer.

1.07 BASELINE CPM SCHEDULE SUBMITTAL

A. Within 45 days after the Notice to Proceed, the Contractor shall submit a Baseline Schedule submittal to the Engineer for review. This submittal shall have already been reviewed and accepted by the Contractor's Project Manager, superintendent, and estimator prior to submission.

B. The schedule shall include, but not be limited to, the following activities:

1. Notice to Proceed.
2. Permits.
3. Submittals, including any deferred submittals, with review time.
4. Early procurement activities for long lead equipment and materials.
5. Initial Site work.
6. Earthwork.
7. Specified Work sequences and construction constraints.
8. Contract Milestone and Completion Dates.
9. Products delivery dates or ranges of dates.

10. All facilities, by area designation, by discipline, level, or other major component.
11. Facility testing/startup/commissioning including all testing requirements of the Contract Documents.
12. Project close-out.
13. Demobilization.

C. Work Breakdown Structure: The activities described shall be organized according to the WBS included in the Schedule of Values including:

1. Each milestone.
2. Each facility.
3. Each applicable CSI Division.
4. Individual work components.

D. The schedule shall include proper interfacing of related activities including critical submittals, major material and equipment deliveries, procurement, required permits and other constraints such as equipment or manpower/crew availability. Submittal dates must include review periods and permit schedules must include agency review and issue dates.

E. The schedule must show agreement with the interim milestones, schedule coordination requirements, and completion dates indicated in the Contract Documents.

F. Baseline Schedule Review Meeting: The Contractor shall, within 55 days from the Notice to Proceed, meet with the Engineer to review the Baseline CPM schedule submittal. The Contractor shall have the Project Manager, superintendent, and the scheduler in attendance. Contractor will allocate one work day for this meeting. The Engineer's review will be limited to conformance with the Contract Documents. However, the review may also include:

1. Clarifications of the design intent.
2. Directions to include activities and information missing from the submittal.
3. Requests to the Contractor to clarify and revise the schedule.

G. Revisions to the Baseline Schedule: The Contractor shall revise the Baseline Schedule submittal to address review comments from the Engineer, correct deficiencies identified and resubmit the schedule, along with all reports, to the Engineer for review.

1. Within 14 Days after the Contractor re-submits the revised schedule, the Engineer will either (1) accept the schedule as submitted or (2) advise

the Contractor in writing those items that are unsatisfactory or deficient to monitor the status of Work or evaluate monthly payment requests.

2. When the schedule is accepted, it shall be considered the "Baseline CPM Construction Schedule".
3. The Engineer reserves the right to require that the Contractor adjust, add to, or clarify any portion of the schedule which may later be discovered to be insufficient for the monitoring of Work or evaluating monthly payment requests. No additional compensation will be provided for such adjustments, additions, or clarifications.

H. Monthly Updates and Periodic CPM Schedule Submittals:

1. Following acceptance of the Contractor's Baseline CPM Schedule, the Contractor shall update the schedule each month to reflect actual progress and any changes to the work then submit the updated schedule to the Engineer for review.
2. Each monthly schedule update shall be the basis for payment and measuring Contractor performance.
3. The monthly schedule update submittal shall be reviewed with the Contractor during a monthly construction progress meeting. The goal of these meetings is to enable the Contractor and the Engineer to initiate appropriate remedial action to minimize any known or foreseen delay in completion of the Work and to determine the amount of Work completed since the last schedule update. These meetings are considered a critical component of the overall monthly schedule update submittal.
4. Within 7 Days after the monthly progress meeting, the Contractor shall submit a revised CPM schedule if necessary and incorporate the Engineer's schedule review comments. Within 5 days of receipt of the revised submittals, the Engineer will either accept or reject the monthly schedule update submittal. If rejected, the update shall be corrected and resubmitted by the Contractor before the Application for Payment for the update period will be processed.

1.08 ACCEPTANCE

A. The Contractor's Baseline Schedule will be acceptable to Engineer when it provides an orderly progression of the Work from Notice to Proceed to Final Completion in accordance with the Contract requirements, adequately defines Contractor's Work plan, provides a workable arrangement for processing submittals in accordance with the requirements, and properly allocates cost-loaded resource values for manpower, major materials, equipment to each activity (free of unbalances in resources) as determined by Engineer.

B. Engineer's review and acceptance of Contractor's schedules is for conformance to the requirements of the Contract Documents only, and does

not relieve Contractor of any of its responsibility whatsoever for the accuracy or feasibility of the schedule, or of Contractor's ability to meet interim milestone dates and the Contract completion date, nor does such review and acceptance expressly or impliedly warrant, acknowledge, or admit the reasonableness of the logic, durations, and resource value loading of Contractor's schedule.

C. The Contractor agrees to utilize sufficient and necessary management and other resources to perform Work in accordance with the schedule.

D. Upon submittal of a schedule update and acceptance by the Engineer, the updated schedule shall be considered the "current" project schedule.

1.09 CPM CONSTRUCTION SCHEDULE REVISIONS

A. Upon approval of a Change Order or upon receipt by the Contractor of authorization to proceed with additional Work, the change shall be reflected in the next submittal of the CPM Schedule. The Contractor shall utilize a fragnet (sub-network) in the schedule depicting the changed Work and its effect on other activities. This fragnet shall be tied to the main network with appropriate logic so that a true analysis of the critical path can be made. Whenever the Contractor believes that a Change Order will extend the Contract Times, the fragnet analysis herein shall be submitted with the price proposal for the change. If the Contractor does not submit the fragnet demonstrating that the change affects the Contract Times, then no subsequent claim for additional time due to the change will be accepted.

B. Engineer may direct and, if so directed, Contractor shall propose revisions to the CPM Construction Schedule upon occurrence of any of the following instances:

1. The actual physical progress of the Work falls more than 5 percent behind the accepted CPM Construction Schedule, as demonstrated by comparison to the accepted monthly CPM Construction Schedule updates or as determined by Engineer if a current accepted CPM Construction Schedule does not exist.
2. Engineer considers milestone or completion dates to be in jeopardy because of "activities behind schedule". "Activities behind schedule" are all activities that have not or cannot be started or completed by the dates shown in the CPM Construction Schedule, regardless of the existence of positive float on the activity.
3. A Change Order has been issued that changes, adds, or deletes scheduled activities or affects the time for completion of scheduled activities. Upon approval of a Change Order, or upon receipt by the Contractor of authorization to proceed with additional Work, the change shall be reflected in the next submittal of the schedule. The Contractor

shall utilize a fragnet in the schedule depicting the changed Work and its effect on other activities. This fragnet shall be tied to the main network with appropriate logic so that a true analysis of the critical path can be made.

4. When the instances requiring revision to the CPM Construction Schedule occur, Contractor shall submit the proposed revised CPM Construction Schedule within 10 working days after receiving direction from Engineer to provide such Schedule. No additional payment will be made to Contractor for preparation and submittal of proposed revised CPM Construction Schedules. However, if Engineer accepts the proposed revised CPM Construction Schedule, it shall replace and supersede all previous CPM Construction Schedules and substitute for the next monthly CPM Construction Schedule update that would otherwise be required and shall qualify for payment of the monthly CPM Construction Schedule update. Failure to submit required CPM Construction Schedule revision proposals in a form acceptable to Engineer shall result in forfeiture and deduction of payments for monthly CPM Construction Schedule updates.
5. Revisions to the CPM Construction Schedule shall comply with all of the requirements of this section.

1.10 SCHEDULE RECOVERY

A. If a revised CPM Construction Schedule accepted by Engineer requires Contractor to employ additional manpower, equipment, hours of work or work shifts, or to accelerate procurement of materials or equipment, or any combination thereof, as schedule recovery measures to meet Contract milestones, Contractor shall implement such schedule recovery measures for Contractor caused delays without additional charge to Owner.

1.11 TIME EXTENSION REQUEST

A. Extensions of Contract Time may be granted only for excusable or compensable delays to activities that actually delay critical path and project completion beyond the contract Substantial Completion date.

1. The Contractor shall give timely written notice of any delay or anticipated delay that affects the critical path and may delay the project. An estimate of the probable days of delay shall be included with any notice of delay. Failure to provide a notice of delay within 7 days of when a delay is or should have been known waives the Contractor’s right to a time extension for delays up to the date of untimely notice.

B. For any period in which a change in the Contract Time is anticipated, whether for a Change Order, Work Change Directive, Field Order, or event for which

the Owner is responsible, the Contractor shall submit a Contemporaneous Time Impact Analysis justifying any requested time extension.

1. The Time Impact Analysis shall utilize the current schedule update and include a detailed network diagram of the activities affected (a fragnet) demonstrating where the Contractor proposes to incorporate the change or delay in the current schedule. The network diagram(s) shall show: (1) the current activities affected by the change or delay; and (2) the proposed activity logic relationships due to the change or delay.
2. The Time Impact Analysis shall incorporate all delays (including Owner, Contractor, and third party delays without exception) in the time frame that they actually occurred with actual logic ties.
3. The Time Impact Analysis shall include a narrative containing the rationale used in developing the analysis. It shall address the basis for the time extension, the facts giving rise to the delay, an analysis of how the event or actions for which the Owner is responsible and why the Contractor is due additional time. The recitation of the facts shall reference the documents or statements of individuals supporting the asserted facts, and pertinent documents shall be attached to the narrative when practical.
4. When requested, the Time Impact Analysis shall also include an analysis of possible re-sequencing and acceleration to regain some or all of the lost time and an estimate of the probable cost of such effort.

1.12 EARLY COMPLETION SCHEDULES

A. Early completion schedules are generally not acceptable to Owner but may be accepted as a convenience to Contractor and under the following conditions.

1. Contractor must submit a specific written request outlining the specific reasons for using the early completion schedule.
2. A Baseline CPM submittal showing early completion shall either be accompanied by:
    a. Contractor's request for a change of Contract Times at zero change of Contract Price, accompanied by documentation demonstrating that the Bid was based on early completion, or
    b. Contractor acknowledges and agrees in writing that the proposed reduction in time represents Project time already paid for by Owner as part of the Bid Price and is available to both Contractor and Owner for the mitigation of impacts to the Project from any source. Contractor shall not be entitled to any increase in Contract Price for failure to achieve the early completion and waives all claims to same.
3. Early completion schedules shall not be based upon or rely on expedited approvals by Owner, Engineer, or Regulatory Agencies.

4. Early completion schedules must meet all other requirements of the Contract.

B. Early completion schedules which have activities behind schedule shall be revised when requested by Engineer.

C. When completion occurs early, any remaining future schedule updates shall be considered complete and earned and shall be paid as part of the final payment.

1.13 PROGRESS MEETINGS AND LOOK-AHEAD SCHEDULES

A. For the weekly progress meetings, Contractor shall submit a Three Week Look-Ahead Schedule. This schedule will cover 5 weeks: the immediate past 2 weeks, the current week, and the forthcoming 2 weeks. Reflect actual progress for the prior 2 weeks. Forecast start and finish dates shall be provided current and forthcoming 2 weeks.

B. The Look-Ahead Schedule shall be in a format acceptable by Engineer.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 32 20
PHOTOGRAPHS AND DVD RECORDING

PART 1 GENERAL

1.01 REQUIREMENTS

A. This section describes photographs and color video/audio DVDs to provide a comprehensive record to document conditions prior to, during, and after construction. The photographs and video/audio DVDs are intended for use as documentation of pre-construction conditions and in ascertaining the extent of any damage that may have occurred as a result of the Contractor's operations, and are for the protection of the Owner and the Contractor. They shall be a means of determining whether, and to what extent, damage occurred during or after the execution of the Contract Work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 CONTRACTOR DOCUMENTATION

A. The Contractor shall make a thorough examination of all the existing structures, vegetation, and general condition of the Work Site. Where surface excavations or entry onto private property are required, the Contractor shall document existing conditions with pre-construction DVD and photographs for its own purposes.

B. The Contractor shall document existing structures, vegetation and resulting condition of the Work Site, in addition to constructed new facilities following restoration with DVD and photographs post-construction for its own purposes.

3.02 OWNER DOCUMENTATION

A. Video/audio recordings and photography shall be performed by a professional video and photography firm, retained by the Owner, to provide a comprehensive video/audio recording and photography on digital media. Engineer will establish a mutually-agreeable time with Contractor and firm to conduct the pre-construction and post-construction video and photography of the Project. Contractor may accompany Engineer and firm during videotaping and photography.

B. Prior to the start of construction, Engineer will schedule DVD recording and photography of all areas where the Contractor plans to excavate, stage work, or use as ingress and egress.

C. After the post-construction DVD and photographs are taken, the Engineer will ascertain the extent of any damage to existing structures, vegetation and general conditions, and will determine whether improvements, damaged or removed during construction, have been returned to the original or specified condition.

END OF SECTION

SECTION 01 32 23
SURVEY INFORMATION

PART 1 GENERAL

1.01 SUMMARY

A. This section describes requirements related to construction surveying, providing field data which will be used to verify design and to prepare record drawings, and other field engineering services necessary for performance of the Work.

B. Provide and pay for survey work required in execution of the Project.

C. Pre-Survey Conference: The Contractor, subcontractors, Contractor's surveyor, survey crew leader, Owner's surveyor, and all surveying personnel who are to be involved in the survey work shall meet with the Engineer 2 weeks prior to beginning survey work in accordance with Section 01 31 19, Communication and Project Meetings.

1.02 SURVEY WORK BY THE OWNER

A. The Owner will conduct quality assurance checks of the Contractor's surveyors. Contractor shall cooperate with and support the Owner's surveyor in this effort and provide access to the Work as needed to perform such surveys.

B. The Owner will provide horizontal and vertical control points and information (as shown on the Drawings) for the Contractor's use in the layout of the Work.

C. The Contractor will replace all Owner-provided control points or existing monuments lost or damaged by the Contractor at the Contractor's expense. Existing monuments shall be replaced in accordance with requirements of the applicable County and City.

1.03 SURVEY WORK BY THE CONTRACTOR

A. Surveyor shall be registered in the State of Idaho.

B. From control provided and as shown on the Drawings, make additional surveys as needed for layout of all Work, such as control lines, slopes stakes, batter roads, stakes for pipe locations and other working points, lines, and elevations.

C. Contractor's surveyor shall conduct all surveying necessary to document Contractor's Quality Assurance/Quality Control for all Work.

D. Contractor's surveyor shall survey (horizontal and vertical) all underground utilities and structures including:

1. Structures, piping, and duct bank installed by the Contractor.
2. Structures, piping, and duct banks uncovered by the Contractor.
3. Any utilities identified in the Contract Documents to be located by the Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION BY THE CONTRACTOR

3.01 REFERENCE POINTS

A. Locate and protect control points prior to starting site work, and preserve all permanent reference points during construction.

1. Make no changes or relocations without prior written notice to Engineer.
2. Report to Engineer when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.

B. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.

3.02 PROJECT SURVEY REQUIREMENTS

A. Maintain control for line and grade of any pipelines, manholes, structures and all other work and furnish record survey to the Engineer upon request.

B. Provide adequate information and access for the Engineer and allow the Owner's surveyor and/or the Engineer to perform Quality Assurance checks of the Work.

C. In advance of any paving or final grading, if required, provide the Engineer with adequate survey information to check the line and grade which the Contractor will use for paving elevations and slopes.

D. Prior to placing topsoil, or other treatment, on finish subgrade, Surveyor shall provide hubs at finish subgrade elevation to provide confirmation of the accuracy of the Work.

E. Notify the Engineer immediately if deviations from required lines, grades, or elevations exceed allowed tolerances.

END OF SECTION

SECTION 01 33 00
CONTRACTOR SUBMITTALS

PART 1 GENERAL

1.01 GENERAL

A. Submittals covered by these requirements include manufacturers' information, shop drawings, test procedures, test results, samples, requests for substitutions, Deferred Submittals and miscellaneous Work-related submittals. Submittals shall also include, but not be limited to, all mechanical, electrical and electronic equipment and systems, materials, reinforcing steel, fabricated items, and piping and conduit details. The Contractor shall furnish all drawings, specifications, descriptive data, certificates, samples, tests, methods, schedules, and manufacturer's installation and other instructions as specifically required in the Contract Documents to demonstrate fully that the materials and equipment to be furnished and the methods of work comply with the provisions and intent of the Contract Documents.

1.02 CONTRACTOR'S RESPONSIBILITIES

A. The Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall assure that the material, equipment or method of work shall be as described in the submittal. The Contractor shall verify that all features of all products conform to the specified requirements. Submittal documents shall be clearly edited to indicate only those items, models, or series of equipment, which are being submitted for review. All extraneous materials shall be crossed out or otherwise obliterated. The Contractor shall ensure that there is no conflict with other submittals and notify the Engineer in each case where its submittal may affect the work of another contractor or the Owner.

B. The Contractor shall coordinate submittals with the Work so that Work will not be delayed. Contractor shall coordinate and schedule different categories of submittals, so that one will not be delayed for lack of coordination with another. No extension of time will be allowed because of failure to properly schedule submittals. The Contractor shall not proceed with Work related to a submittal until the submittal process is complete. This requires that submittals for review and comment shall be returned to the Contractor marked "No Exceptions Taken" or "Make Corrections Noted."

C. The Contractor shall certify on each submittal document that it has reviewed the submittal, verified field conditions, and complied with the Contract Documents.

D. The Contractor may authorize in writing a material or equipment supplier to communicate directly with the Engineer with regard to a submittal. These communications shall be limited to Contract interpretations to clarify and expedite the Work.

E. For the requirements of submittals related to seismic anchorage and bracing, reference Section 01 60 01, Seismic Anchorage and Bracing Requirements.

1.03 CATEGORIES OF SUBMITTALS

A. General:

1. Submittals fall into three general categories: submittals for review and comment, Deferred Submittals, and submittals which are primarily for information only.
2. At the beginning of Work, the Engineer may furnish the Contractor lists of those submittals specified in the Contract Documents.

B. Submittals For Review and Comment (synonymous with "Action Submittals"): All submittals except where specified to be submitted for information only shall be submitted by the Contractor to the Engineer for review and comment.

C. Deferred Submittals: Those portions of the Work which are to be designed and/or detailed by the Contractor and are not submitted at the time of building permit application. Deferred Submittals are to be submitted to the permitting agency by the Contractor in accordance with IBC Section 106.3.4.2.

D. Submittals for Information Only (synonymous with "Informational Submittals"): Where specified, the Contractor shall furnish submittals to the Engineer for information only. Examples of this type of submittal include, but are not limited to:

1. Manufacturers' installation instructions.
2. Manufacturers' and Installers' experience qualifications.
3. Ready mix concrete delivery tickets.
4. Affidavits and manufacturers' certification of compliance with indicated product requirements.
5. Laboratory analysis results.
6. Factory test reports.

1.04 TRANSMITTAL PROCEDURE

A. General:

1. Unless otherwise specified, submittals shall be accompanied by a Transmittal Form. A separate form shall be used for each specific item, class of material, equipment, and items specified in separate, discrete sections, for which the submittal is required. Submittal documents common to more than one piece of equipment shall be identified with all the appropriate equipment numbers. Submittals for various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole.
2. Submittals shall be transmitted by the Contractor to the Engineer electronically using an internet-based construction management software package as described in Specification Section 01 22 00, Internet-Based Project Management Requirements. Access to and the use of this internet-based construction management site will be provided at no cost to the Contractor. Submittals will be returned to the Contractor electronically using the same site.
3. A unique number, sequentially assigned, shall be noted on the transmittal form accompanying each item submitted. Original submittal numbers shall have the following format: "ZZZ-XXX," where "ZZZ" is defined by the Engineer, "XXX" is the sequential number assigned by the Contractor. Resubmittals shall have the following format: "XXX-Y," where "XXX" is the originally assigned submittal number and "Y" is a sequential letter assigned for resubmittals, i.e., A, B, or C being the 1st, 2nd, and 3rd resubmittals, respectively. Submittal 25B, for example, is the second resubmittal of Submittal 25.

B. Deviation from Contract: If the Contractor proposes to provide material, equipment, or method of work which deviates from the Contract Documents, it shall indicate so under "deviations" on the transmittal form accompanying the submittal copies. Failure to identify a deviation from Contract may negate the Engineer's review response. Any costs associated with resubmittal or correction of products shall be at the Contractor's expense.

C. Submittal Completeness: Submittals which do not have all the information required to be submitted, including deviations, are not acceptable and will be returned without review.

1.05 REVIEW PROCEDURE

A. General:

1. Review shall not extend to means, methods, techniques, sequences or procedures of construction, or to verifying quantities, dimensions, weights or gages, or fabrication processes (except where specifically indicated or required by the Contract Documents) or to safety precautions or programs incident thereto. Review of a separate item, as such, will not indicate approval of the assembly in which the item functions.
2. When the Contract Documents require a submittal, the Contractor shall submit the specified information as an electronic file in searchable PDF format. Submittal drawings shall be prepared in 11 by 17 or smaller format to facilitate scanning and printing. Include the submittal transmittal form, filled out completely by the Contractor, with each file. The Engineer will return the submittal to the Contractor with comments in PDF format.
3. In the event that Contractor requests a substitution for a previously approved item, Contractor shall reimburse Owner for Engineer's charges for such time unless the need for such substitution is beyond control of Contractor.

B. Submittals for Review and Comment: Unless otherwise specified, within 21 calendar days after receipt of a submittal for review and comment, the Engineer shall review the submittal and provide comments and/or markups where necessary. The returned submittal shall indicate one of the following actions:

1. If the review indicates that the material, equipment or work method complies with the Contract Documents, the submittal review will indicate "NO EXCEPTIONS TAKEN." In this event, the Contractor may begin to implement the work method or incorporate the material or equipment covered by the submittal.
2. If the review indicates limited corrections are required, the submittal review will indicate "MAKE CORRECTIONS NOTED." The Contractor may begin implementing the work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections. Where submittal information will be incorporated in O&M data, a corrected copy shall be provided.
3. If the review indicates that the submittal is insufficient or contains incorrect data, the submittal review will indicate "AMEND AND RESUBMIT." The Contractor shall not undertake Work covered by its submittal until it has been revised, resubmitted and returned marked

either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

a. If the submittal is further marked "PARTIAL RESUBMITTAL REQUIRED" the Contractor shall provide the missing information and/or replace the unacceptable portions of the submittal as required by the Engineer. The partial resubmittal shall conform to the requirements of this Section. The resubmittal shall clearly indicate what parts of the original submittal are being replaced, modified or added to. The Engineer's response to this resubmittal shall apply to the preceding entire submittal as modified or amended by the partial resubmittal.

b. If the submittal is further marked "COMPLETE RESUBMITTAL REQUIRED" the Contractor shall revise the submittal and provide a complete resubmittal package including all of the information and material required by the Specifications for the original submittal. This resubmittal shall stand-alone and shall not rely on or incorporate by reference any of the material contained in prior submittals.

4. If the review indicates that the material, equipment, or work method does not comply with the Contract Documents, the submittal review will indicate "REJECTED - SEE REMARKS." Submittals with deviations which have not been identified clearly may be rejected. The Contractor shall not undertake the Work covered by such submittals until a new submittal is made and returned either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

C. Deferred Submittals:

1. A list of Deferred Submittals is contained in the Drawings. Deferred Submittals are those portions of the Work which are to be designed and/or detailed by the Contractor and are not submitted at the time of building permit application. Deferred submittals are to be submitted to the permitting agency by the Contractor in accordance with IBC Section 106.3.4.2.
2. Documents for Deferred Submittal items shall be submitted to the Engineer who shall review them and forward them to the Building Official with a notation indicating that the Deferred Submittal documents have been reviewed and found to be in general conformance with the design intent. The Deferred Submittal items shall not be installed until the Deferred Submittal documents have been approved by the Building Official.
3. The Deferred Submittal shall clearly indicate the Contractor's Engineer of Record for the items in the Deferred Submittal. Submittal shall include the direction from the Contractor's Engineer of Record

regarding what items will require Special Inspection or Structural Observation.

4. Design Requirements: Where required, provide system, equipment and component designs, including their supports, anchorage and bracing designs, in accordance with the Project-specific design loads and criteria given on the Structural Notes on the Drawings and associated Specifications.
5. In addition to the electronic files required for each submittal, provide three sets of sealed drawings, structural calculations, and product information for each Deferred Submittal package for review and acceptance by the Engineer and review and approval by the Building Official prior to installation.
6. The Owner will pay any fees associated with Deferred Submittals. Contractor shall be responsible for obtaining permit-approved Deferred Submittal documentation from the Building Official.
7. Once a Deferred Submittal is submitted, the Engineer will have the time outlined herein to review the Deferred Submittal before transmitting it to the Building Official. The Building Official will have 60 days to review any Deferred Submittal from the date of receipt to date of review comments to Contractor.

D. Submittals for Information only: Such information is not subject to detailed review and shall be provided as part of the Work under the Contract and its acceptability determined under normal inspection procedures. These submittals will indicate “No Action Taken”.

1.06 EFFECT OF REVIEW OF CONTRACTOR’S SUBMITTALS

A. Review of Contract Drawings, methods of work, or information regarding materials or equipment the Contractor proposes to provide, shall not relieve the Contractor of its responsibility for errors therein and shall not be regarded as an assumption of risks or liability by the Engineer or the Owner, or by any officer or employee thereof, and the Contractor shall have no claim under the Contract on account of the failure, or partial failure, of the method of work, material, or equipment so reviewed. An indication of “NO EXCEPTIONS TAKEN” or “MAKE CORRECTIONS NOTED” shall mean that the Owner has no objection to the Contractor, upon its own responsibility, using the plan or method of work proposed, or providing the materials or equipment proposed.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 35 29
SAFETY AND HEALTH

PART 1 GENERAL

1.01 CONTRACTOR'S RESPONSIBILITY FOR SAFETY

A. Contractor shall conduct its operations and perform all Work safely and perform all Work necessary to ensure the safety of its personnel and others and shall be solely and completely responsible for safety and conditions of Contractor operations on and off the Job Site, including the safety of all persons and property during the Contract period. This requirement shall apply continuously and not be limited to normal working hours.

1.02 FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS

A. This section outlines the minimum safety and health requirements applicable to this Project. These requirements include, but are not limited to, the Federal and State Departments of Labor Occupational Safety and Health Act (OSHA), Safety and Health Regulations for Construction, promulgated by the Secretary of Labor under Section 107 of the Contract Work Hours and Safety Standards Act, as set forth in Title 29, CFR, and all other applicable federal, state, county, and local laws, ordinances, codes, the requirements set forth herein, and any regulations that may be specified elsewhere in these Contract Documents. Where any of these are in conflict, the more stringent requirement shall be followed. Contractor's failure to thoroughly familiarize itself with the aforementioned safety provisions shall not relieve it from compliance with the obligations or relieve it of the penalties set forth therein.

1.03 SAFE ACCESS TO THE WORK AND SITE SAFETY

A. Contractor shall at all times provide proper facilities for safe access to the Work by Owner, Engineer, and authorized representatives and by all authorized government officials.

B. If required in the Plan, the Contractor shall also provide safety training for the Owner and Engineer.

1.04 PROJECT-SPECIFIC SAFETY AND HEALTH PLAN

A. Neither Owner nor Engineer nor Design Engineer shall be responsible for safety precautions and programs in connection with the construction Work. However, Contractor shall provide a Project-Specific Safety and Health Plan as specified below.

B. Twenty one days prior to the performance of any Work or within 15 days after the Preconstruction Conference, whichever comes first, submit for information only to Engineer six copies of a Draft Project-Specific Safety and Health Plan. The Project-Specific Safety and Health Plan shall identify the specific hazards, exposures and risks of the Project including storage and use of chemicals, potential exposure to sewage, and potential exposure to solvents, as well as other project-specific risks. The Safety and Health Plan shall detail the means/methods the Contractor will use for eliminating and controlling the hazards, exposures, and risks. Contractor shall be responsible for ensuring that subcontractor tiers develop a Project-Specific Safety and Health Plan for their portion of the Work, and/or are integrated into Contractor's Project-Specific Safety and Health Plan.

C. Contractor shall not begin any construction activities until the Final Project-Specific Safety and Health Plan has been submitted to Engineer. The safety plans shall be formatted in a manner that facilitates potential revisions. Revisions would include any necessary Job Hazard Analysis, and/or additions required due to changes in the job conditions or other factors.

D. Engineer's review of the Project-Specific Safety and Health Plan is only for apparent conformance with the known exposures and risks, and does not extend to other aspects of the Work. Engineer's review of the safety plan does not diminish any obligation the Contractor may have, by statute or Contract, regarding safety. Engineer's review also in no way relieves Contractor's obligation to fully meet all contractual requirements, nor shall Engineer's review give rise to any right of action against the Owner, its officers, agents or employees, of the Contractor, subcontractor or other third parties. Contractor shall be responsible for the review of the specific requirements of the Project, for the analysis of planned methods of operation, and for the incorporation of any additional specific or unique safety requirements in the written Project-Specific Safety and Health Plan.

E. Contractor shall furnish all training as required by the Project-Specific Safety Plan. If required by the Contractor's policies or Project-Specific Safety and Health Plan, the Contractor shall provide safety training to personnel of the Owner, Engineer and others with access to the Site. All training shall be at the Contractor's cost.

1.05 CONSTRUCTION SAFETY SUPERVISOR

A. Contractor shall appoint for the duration of this Contract a Primary Safety Representative to develop and supervise Contractor's job safety program that will effectively implement the required safety provisions.

1.06 EXCAVATION PLAN

A. In accordance with the governing state and federal requirements, submit a detailed excavation plan to Engineer before excavation activities associated with each construction Phase, as defined in Section 01 31 30, Construction and Schedule Constraints, showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground. The excavation plan shall be prepared, sealed and signed by a licensed professional engineer registered in the State of Idaho.

B. This submittal is for record purposes only and shall not be reviewed and approved by Engineer. The plan is the complete responsibility of Contractor and submitting it to Engineer shall not relieve Contractor for overall responsibility and liability for the Work.

C. It shall be understood that the above-stipulated requirements are considered to be the minimum to be provided. Contractor shall be solely responsible for any and all liabilities which may arise from his failure to provide adequate shoring, bracing, or sheeting as necessary to support the excavation under any or all of the conditions of loading which may exist, or which may arise during the construction of the Project.

1.07 SAFETY EQUIPMENT

A. Contractor shall maintain at the Job Site safety equipment applicable to the Work as prescribed by the governing safety authorities and all articles necessary for giving first aid to the injured and shall establish the procedure for the immediate removal to a hospital or a doctor’s care of persons who may be injured on the Job Site.

B. The performance of all Work and all construction, particularly with respect to ladders, platforms, structure opening, scaffolding, shoring, lagging, machinery guards, and work around and on water shall be in accordance with the requirements of applicable governing safety authorities.

C. Contractor shall be responsible for all labor, materials and equipment needed to secure the construction site at all times. This may include labor, lighting, fencing, alarm systems and other miscellaneous materials to maintain security at all sites where the Contractor may be working, staging work and storing materials or equipment. Unauthorized persons shall be removed from the Site.

1.08 ACCIDENT REPORTS

A. If death or serious injuries or serious damages are caused, the accident shall be reported immediately by the Contractor, by telephone or in-person to Engineer. In addition, Contractor shall promptly report in writing to Engineer all accidents in connection with Work, giving full details, names, and statements of witnesses.

B. If a claim is made by anyone against Contractor or any subcontractor on account of any accident, Contractor shall promptly report the facts in writing to Engineer, giving full details of the claim.

1.09 TRAFFIC SAFETY AND ACCESS TO PROPERTY

A. Contractor shall comply with all rules and regulations of the City, State, and County authorities regarding closing or restricting the use of public street or highways. No public or private road shall be closed, except by express permission of the applicable jurisdiction and the Engineer. Contractor shall conduct the Work so as to assure the least possible obstructions within traveled roadways by installing approved signs, barricades, and lights where necessary for the safety of the public. The convenience of the general public and residents adjacent to the Project, and the protection of the persons and property are of prime importance and shall be provided for in an adequate and satisfactory manner.

B. Contractor shall conduct the Project with proper regard for the safety and convenience of the public. When the Project involves use of public ways, provide necessary flag persons and install and maintain means of reasonable access to all fire hydrants, service stations, warehouses, stores, houses, garages, and other property. Contractor shall close private residential driveways only with approval of the Engineer or specific permission of the property owner. Contractor shall not interfere with normal operation of public transit vehicles unless otherwise authorized. Contractor shall not obstruct or interfere with travel over any public street or sidewalk without approval. Contractor shall provide open trenches and excavations with secured and adequate barricades or fences of an approved type which can be seen from a reasonable distance, at all times. Contractor shall close up or plate all open excavations at the end of each working day in all street areas unless approved otherwise by Engineer and in all other areas when it is reasonably required for public safety or as directed by the Engineer. At night, Contractor shall mark all open work and obstructions by barricades, railings, runways, stairs, bridges and facilities. Contractor shall observe all safety instructions received from Engineer or governmental authorities, but following of such instructions shall not relieve Contractor from its responsibility or liability for accidents to workmen or damage or injury to person or property.

1.10 FIRE PREVENTION AND PROTECTION

A. Contractor shall execute all Work in a fire-safe manner and shall supply and maintain on the Site adequate fire-fighting equipment capable of extinguishing incipient fires. Contractor shall comply with applicable federal, local, and state fire prevention regulations. Where these regulations do not apply, applicable parts of the National Fire Prevention Standards for Safeguarding Building Construction, Alteration and Demolition Operations, (NFPA No. 241) shall be followed.

1.11 EMERGENCY RESPONSE

A. At the Preconstruction Conference the Contractor shall provide the Owner with a list of phone numbers of those employees responsible for responding to emergency calls outside normal working hours concerning the Contractor's Work.

B. If injuries or damages occur, the incident shall be reported immediately to the Engineer. In addition, Contractor must promptly report in writing to Engineer all accidents in connection with Work, giving full details, names, and statements of witnesses.

C. If a claim is made by anyone against Contractor or any subcontractor on account of any accident, Contractor shall promptly report the facts in writing to Engineer, giving full details of the claim.

D. Upon failure of the Contractor to immediately respond to a safety issue with corrective action, the Owner may respond without further notice to the Contractor and deduct all costs thereof from any payments due or coming due the Contractor. The Owner shall not be required to act in any situation and nothing shall relieve the Contractor of his duties in this regard.

END OF SECTION

SECTION 01 41 26
PERMITS AND EASEMENTS

PART 1 GENERAL

1.01 DESCRIPTION

A. This section includes the requirements for the applicable permits and easements as designated in the Contract Documents.

B. Work shall be performed in accordance with all requirements set forth in the permits, agreements, and easements. Where more restrictive requirements are included in the Contract Documents, the Contractor shall comply with the more restrictive requirements.

C. Permit Violations/Payment of Fines: The Contractor shall be responsible for payment of fines for violations within Contractor's realm of responsibility/control.

D. Owner will secure permits as identified in Subsection 1.02 herein.

E. On the north side of Aeration Basin 1 and 2, some of the existing utilities between the basins and Indian Creek are located north of the property line of the WWTP. The City of Nampa will have an easement in place or will have purchased this property prior to the start of construction.

F. The Contractor is responsible to obtain all permits associated with temporary construction facilities such as power, water, sanitary sewer, and other utilities such as natural gas, telephone, high-speed internet services, disposal of demolished materials, disposal of other Work materials, transport of materials and equipment to/from the site, traffic control, temporary signage, and others as may be identified elsewhere in the Contract Documents, and as required for performance of the Work.

1.02 PERMITS

A. Contractor shall keep fully informed of all local ordinances, as well as state and federal laws, which in any manner affect the Work specified herein. At all times comply with said ordinances, laws, and regulations, and protect and indemnify Owner, Engineer, and their officers and agents against any claim or liability arising from or based on the violation of such laws, ordinances, or regulations. Contractor shall secure all permits, licenses, and inspections necessary for prosecution and completion of the Work, unless otherwise specified.

B. Permits: Owner will provide the following permits for this Work and pay all necessary fees unless otherwise noted in Table 1 below. Contractor is assigned responsibility for compliance with all permit conditions. Permits and separate Owner and Contractor responsibilities associated therewith are identified in Table 1.

Table 1

Permits	Description/ Agency	Fees Paid By/Status/Owner Responsibilities	Contractor Responsibility
High Voltage Line Relocation	Idaho Power	Fees paid by Owner/Owner to coordinate with Idaho Power on line reroute and location of tap to PEPS electrical building transformer.	Coordinate the Work with Idaho Power. Demolish the existing conduit after IPCo removes cables, and install new conduit.

1. Contractor shall obtain all other permits and pay all associated fees (except where otherwise indicated), including but not limited to, the following:
   a. Services: Arrange and pay for all other utilities used for the construction activities, including all applicable permit applications and fees. Arrange and pay for temporary water, power, sewer, phone or internet access hook-up and payment for these utilities where used during the course of the project at the Contractor's construction trailer site location For water or electricity served from a tie-in point inside the wastewater plant, the Contractor is responsible for installation of pipe, conduit and wire to get the utility to the use point, but the City of Nampa will pay for the water or electricity. Obtain a hydrant use permit and comply with any local water utility requirements.
   b. City of Nampa building permit. (Fee to City is allowable under Permit and Inspection Fees Cash Allowance).
   c. Stormwater Pollution Prevention permit. See Section 01 57 23, Stormwater Pollution Prevention.
2. Provide three copies of all final executed permits to Engineer prior to commencing with Work authorized under the permits.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 42 00
STANDARD REFERENCES

PART 1 GENERAL

1.01 QUALITY ASSURANCE

A. Applicability of References:

1. Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
2. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
3. Copies of Standards:
   a. Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
   b. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. The Contractor shall construct the Work in accordance with the Contract Documents and the referenced portions of those referenced codes, standards, and specifications.

B. References to “Building Codes” or “Uniform Building Code” shall mean Uniform Building Code of the International Conference of Building Officials (ICBO). References to “Building Code” or “National Building Code” shall mean National Building Code of Building Officials and Code Administrators International (BOCA). References to “Building Code” or “International Building Code” shall mean International Building Code of the International Code Council (ICC) as amended in the local jurisdiction. Similarly, references to “Mechanical Code” or “International Mechanical Code”, “Fire Code” or “International Fire Code” or “Energy Code” or “International Energy Code” shall mean International Mechanical Code, International Fire Code and International Energy Code of the International Code Council (ICC), and references to “Plumbing Code” or “Uniform Plumbing Code” shall mean Uniform Plumbing Code of the International Association of Plumbing and Mechanical Officials (IAPMO) and amended by the local jurisdiction.

"Electric Code" or "National Electric Code (NEC)" shall mean the National Electric Code of the National Fire Protection Association (NFPA). The latest edition of the codes as approved by the Municipal Code and used by the local agency, as of the date that the WORK is advertised for Bids, shall apply to the WORK herein, including all addenda, modifications, amendments, and other lawful changes hereto.

C. In case of conflict between codes, reference standards, drawings, and the Contract Documents, the most-stringent requirements shall govern. All conflicts shall be brought to the attention of the Engineer for clarification and direction prior to ordering or providing any materials or furnishing labor. The Contractor shall bid for the most stringent requirements.

D. References to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments hereto.

E. References to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments hereto.

1.03 REGULATIONS RELATED TO HAZARDOUS MATERIALS

A. The Contractor shall be responsible that all WORK included in the Contract Documents, regardless if indicated or not, shall comply with all EPA, OSHA, RCRA, NFPA, and any other federal, state, and local regulations governing the storage and conveyance of hazardous materials, including petroleum products.

B. Where no specific regulations exist and the Owner has not waived the requirement in writing, chemical, hazardous, and petroleum product piping and storage in underground locations shall be double containment piping and tanks or be installed in separate concrete trenches and vaults with an approved lining that cannot be penetrated by the chemicals.

1.04 ABBREVIATIONS AND ACRONYMS FOR STANDARDS AND REGULATIONS

A. Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list.

1.	AA	Aluminum Association
2.	AABC	Associated Air Balance Council
3.	AAMA	American Architectural Manufacturers Association

4.	AASHTO	American Association of State Highway and Transportation Officials
5.	ABMA	American Bearing Manufacturers Association
6.	ACI	American Concrete Institute
7.	AEIC	Association of Edison Illuminating Companies
8.	AF&PA	American Forest and Paper Association
9.	AGA	American Gas Association
10.	AGMA	American Gear Manufacturer's Association, Inc.
11.	AHA	American Hardboard Association
12.	AI	The Asphalt Institute
13.	AIA	American Institute of Architects
14.	AIHA	American Industrial Hygiene Association
15.	AISC	American Institute of Steel Construction
16.	AISI	American Iron and Steel Institute
17.	AITC	American Institute of Timber Construction
18.	ALSC	American Lumber Standard Committee
19.	AMCA	Air Movement and Control Association, Inc.
20.	ANSI	American National Standards Institute
21.	APA	American Plywood Association
22.	API	American Petroleum Institute
23.	APWA	American Public Works Association
24.	ARI	Air-Conditioning and Refrigeration Institute
25.	ASA	Acoustical Society of America
26.	ASAE	American Society of Agricultural Engineers
27.	ASCE	American Society of Civil Engineers
28.	ASCII	American Standard Code for Information Interchange
29.	ASE Code	American Standard Safety Code for Elevators, Dumbwaiter and Escalators
30.	ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc.
31.	ASME	American Society of Mechanical Engineers
32.	ASNT	American Society of Nondestructive Testing
33.	ASTM	American Society for Testing and Materials
34.	AWPA	American Wood-Preservers Association
35.	AWS	American Welding Society
36.	AWWA	American Water Works Association
37.	BHMA	Builders Hardware Manufacturer's Association
38.	BOCA	Building Officials and Code Administrators, International, Inc.
39.	CABO	Council of American Building Officials
40.	CBM	Certified Ballast Manufacturers
41.	CEMA	Conveyors Equipment Manufacturer's Association
42.	CGA	Compressed Gas Association
43.	CMAA	Crane Manufacturers Association of America, Inc.
44.	CRSI	Concrete Reinforcing Steel Institute

45.	CSA	Canadian Standards Association
46.	DEMA	Diesel Engine Manufacturer's Association
47.	DEQ	Idaho Department of Environmental Quality
48.	DHI	Door and Hardware Institute
49.	DIPRA	Ductile Iron Pipe Research Association
50.	DIS	Division of Industrial Safety
51.	EEI	Edison Electric Institute
52.	EIA	Electronic Industries Association
53.	EJMA	Expansion Joint Manufacturers Association
54.	EJCDC	Engineers Joint Contract Documents Committee
55.	EPA	Environmental Protection Agency
56.	ESO	Electrical Safety Orders
57.	F&G	Idaho Department of Fish and Game
58.	FCC	Federal Communications Commission
59.	FEMA	Federal Emergency Management Agency
60.	FHWA	Federal Highway Administration
61.	FM	Factory Mutual Engineering and Research Corporation
62.	HEI	Heat Exchange Institute
63.	HI	Hydraulic Institute
64.	HPVA	Hardwood Plywood & Veneer Association
65.	IAPMO	International Association of Plumbing and Mechanical Officials
66.	IBC	International Building Code (with any local amendments)
67.	ICBO	International Conference of Building Officials
68.	ICC	International Code Council
69.	ICEA	Insulated Cable Engineers Association
70.	IDWR	Idaho Division of Water Resources
71.	IEC	International Electrical Code
72.	IMC	International Mechanical Code
73.	IPC	International Plumbing Code
74.	IEEE	Institute of Electrical and Electronics Engineers
75.	IES	Illuminating Engineering Society of North America
76.	ISA	Instrument Society of America
77.	ISO	International Organization for Standardization
78.	ITD	Idaho Transportation Department
79.	JIC	Joint Industrial Council
80.	MFMA	Metal Framing Manufacturers Association
81.	MILSPEC	Military Specifications
82.	MSS	Manufacturers Standardization Society of the Valve & Fittings Industry, Inc.
83.	NAAMM	National Association of Architectural Metal Manufacturers
84.	NACE	National Association of Corrosion Engineers
85.	NEC	National Electric Code

86.	NEMA	National Electrical Manufacturer's Association
87.	NESC	National Electric Safety Code
88.	NETA	National Electrical Testing Association
89.	NFOR	National Forest Products Association
90.	NFPA	National Fire Protection Association
91.	NHLA	National Hardwood Lumber Association
92.	NSF	National Sanitation Foundation
93.	OSHA	Occupational Safety and Health Act
94.	PCA	Portland Cement Association
95.	PCI	Precast/Prestressed Concrete Institute
96.	PPI	Plastic Pipe Institute
97.	PPIC	The Plumbing & Piping Industry Council, Inc.
98.	RCRA	Resource Conservation and Recovery Act
99.	RIS	Redwood Inspection Service
100.	RMA	Rubber Manufacturers Association
101.	SAE	Society of Automotive Engineers, Inc.
102.	SAMA	Scientific Apparatus Makers Association
103.	SBC	Standard Building Code
104.	SDI	Steel Door Institute
105.	SMACNA	Sheet Metal and Air Conditioning Contractors National Association, Inc.
106.	SPI	Society of the Plastics Industry, Inc.
107.	SSPC	Society for Protective Coatings
108.	SSPWC	Standard Specifications for Public Works Construction Construction
109.	TEMA	Tubular Exchanger Manufacturer's Association
110.	TPI	Truss Plate Institute
111.	UBC	Uniform Building Code
112.	UL	Underwriters Laboratories Inc.
113.	UMC	Uniform Mechanical Code
114.	UPC	Uniform Plumbing Code
115.	USACE	United States Army Corps of Engineers
116.	USBR	Bureau of Reclamation
117.	WCLIB	West Coast Lumber Inspection Bureau
118.	WRI	Wire Reinforcement Institute
119.	WWPA	Western Wood Products Association

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 43 33
MANUFACTURERS' FIELD SERVICES

PART 1 GENERAL

1.01 DEFINITIONS

A. Person-Day: One person for 8 hours within regular Contractor working hours.

1.02 QUALIFICATION OF MANUFACTURER'S REPRESENTATIVE

A. Authorized representative of the manufacturer, factory trained, and experienced in the technical applications, installation, operation, and maintenance of respective equipment, subsystem, or system, with full authority by the equipment manufacturer to issue the certifications required of the manufacturer. Additional qualifications may be specified in the individual specification section.

B. Representative subject to acceptance by Owner. No substitute representatives will be allowed unless prior written approval by such has been given.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 FULFILLMENT OF SPECIFIED MINIMUM SERVICES

A. Furnish manufacturers' services, when required by an individual specification section, to meet the requirements of this section.

B. Where time is necessary in excess of that stated in the Specifications for manufacturers' services, or when a minimum time is not specified, time required to perform specified services shall be considered incidental.

C. Schedule manufacturer' services to avoid conflict with other onsite testing or other manufacturers' onsite services.

D. Determine, before scheduling services, that conditions necessary to allow successful testing have been met.

E. Only those days of service approved by Engineer will be credited to fulfill specified minimum services.

F. When specified in individual specification sections, manufacturer's onsite services shall include:

1. Assistance during product (system, subsystem, or component) installation to include observation, guidance, instruction of Contractor's assembly, erection, installation or application procedures.
2. Inspection, checking, and adjustment as required for product (system, subsystem, or component) to function as warranted by manufacturer and necessary to furnish Manufacturer's Certificate of Proper Installation.
3. Providing, on a daily basis, copies of manufacturers' representative's field notes and data to Engineer.
4. Revisiting the Site as required to correct problems and until installation and operation are acceptable to Engineer.
5. Resolution of assembly or installation problems attributable to or associated with respective manufacturer's products and systems.
6. Assistance during functional and performance testing, and facility startup and evaluation.

3.02 MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION

A. When so specified, a Manufacturer's Certificate of Proper Installation form, a copy of which is attached to this section, shall be completed and signed by equipment manufacturer's representative.

B. Such form shall certify signing party is a duly authorized representative of manufacturer, is empowered by manufacturer to inspect, approve, and operate their equipment and is authorized to make recommendations required to ensure equipment is complete and operational.

3.03 SUPPLEMENTS

A. The supplement listed below, following "End of Section", is part of this specification.

1. Form: Manufacturer's Certificate of Proper Installation.

END OF SECTION

MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION

OWNER _____ EQPT SERIAL NO: _____

EQPT TAG NO: _____ EQPT/SYSTEM: _____

PROJECT NO: _____ SPEC. SECTION: _____

I hereby certify that the above-referenced equipment/system has been:

(Check Applicable)

☐ Installed in accordance with Manufacturer's recommendations.

☐ Inspected, checked, and adjusted.

☐ Serviced with proper initial lubricants.

☐ Electrical and mechanical connections meet quality and safety standards.

☐ All applicable safety equipment has been properly installed.

☐ Functional tests.

☐ System has been performance tested, and meets or exceeds specified performance requirements. (When complete system of one manufacturer)

Note: Attach any performance test documentation from manufacturer.

Comments: _____

_____

_____

_____

I, the undersigned Manufacturer's Representative, hereby certify that I am (i) a duly authorized representative of the manufacturer, (ii) empowered by the manufacturer to inspect, approve, and operate their equipment and (iii) authorized to make recommendations required to ensure equipment furnished by the manufacturer is complete and operational, except as may be otherwise indicated herein. I further certify that all information contained herein is true and accurate.

Date: _____, 20___

Manufacturer:_____

By Manufacturer's Authorized Representative: _____

(Authorized Signature)

SECTION 01 45 00
QUALITY CONTROL

PART 1 GENERAL

1.01 DESCRIPTION

A. This section specifies administrative and procedural requirements for quality control services, field inspections and field testing required for this Project. Contractor is responsible for the quality assurance and quality control of its Work.

1.02 DEFINITIONS

A. Certificate of Compliance: Certificate from the manufacturer of the material or equipment identifying said manufacturer, product and referenced standard, and shall be signed by a designated officer of the manufacturer.

B. Certified Inspection Report: Reports signed by approved inspector(s) attesting that the items inspected meet the specification requirements other than any exceptions included in the report.

C. Factory Tests: Tests made on various materials, products and component parts prior to shipment to the job site.

D. Field Quality Control: The testing and inspections conducted by the QCS Inspector(s) in the field during and at the completion of each construct to verify that the in-process and completed construction is in compliance with the Contract Documents, applicable Codes and standards.

E. Field Tests: Tests and analyses made at or in the vicinity of the Job Site in connection with the actual construction.

F. QCS Supervisor: That person in responsible charge of the Work occurring, under contract with the Contractor and as designated in the QCS Plan.

G. Quality Assurance: The day-to-day, in-process supervisory observations of work and materials conducted by the Contractor to assure that the proper methods and materials are being used and installed by tradesmen.

H. Quality Control System (QCS): The quality control, assurance, and inspection system established and carried out to ensure compliance with the Drawings and Specifications.

I. Source Quality Control: The in-process testing and inspections conducted by the QCS Inspector(s) to verify that the materials, equipment, workmanship and shop manufactured constructs are in compliance with the Contract Documents, applicable Codes and standards.

J. Standard Compliance: Condition whereby specified materials or equipment must conform to the standards of organizations such as the American National Standard Institute (ANSI), American Society for Testing and Materials (ASTM), Underwriters Laboratories (UL) or similar organization as listed in each technical specification section.

1.03 REFERENCES

A. This section contains references to the following documents. They are a part of this section as specified and modified. Where a referenced document contains references to other standards, those documents are included as references under this section as if referenced directly. In the event of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

B. Unless otherwise specified, references to documents shall mean the documents in effect at the time of Invitation For Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization, or if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued, or replaced.

Reference	Title
ASTM C102	Practice for Laboratories Engaged in the Testing of Building Sealants.
ASTM C802	Practice for Conducting an Inter-Laboratory Test Program to Determine the Precision of Test Methods for Construction.
ASTM C1093	Practice for Accreditation of Testing Agencies for Unit Masonry.
ASTM D3740	Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.

Reference	Title
ASTM D4561	Practice for Quality Control Systems for an Inspection and testing Agency for Bituminous Paving Materials.
ASTM E329	Practice for Use in the Evaluation of Inspection and Testing Agencies as Used in Construction.
AISC	Steel Construction Manual, 13th Edition, American Institute of Steel Construction
AL SPEC	Specification for Aluminum Structures Part I-A - Allowable Stress Design Part I-B – LRFD of Buildings and Similar Type Structures (Aluminum Association)
ACI 318	Building Code Requirements for Structural Concrete, American Concrete Institute, latest edition

1.04 CONTRACTOR'S RESPONSIBILITIES

A. QCS Supervisor, designated by the Contractor, shall prepare an initial and final QCS plan to include all of the required information of Section 1.10 for Engineer's review and approval no later than 60 calendar days following Notice to Proceed.

B. Monitor quality assurance over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce work of specified quality.

C. Schedule specified inspections with the Engineer and the Owner's designated Special Inspection Agency in a timely manner. Provide normal and customary assistance to the Inspectors.

D. Comply fully with manufacturers' instructions, including each step in sequence.

E. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

F. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

G. Work shall be performed only by persons qualified to produce workmanship of specified quality.

1.05 REGULATORY REQUIREMENTS

A. General:

1. Comply with all Federal, State, and local Codes as referenced herein. Such regulations apply to activities including, but not limited to, site work and zoning, building practices and quality, on and offsite disposal, safety, sanitation, nuisance, and environmental quality.
2. Contractor designed structural systems are subject to the same overall inspection requirements as all other work.

B. Special Inspection:

1. Special Inspection is in addition to, but not replacing, other inspections and quality control requirements herein.
2. Owner will contract with and pay for the services of an independent Special Inspection Agency. Contractor shall coordinate with the designated Special Inspector to schedule the timing of site visits to perform the inspections in a timely manner.

C. Structural Observation:

1. Inspect formwork, shoring, pipe supports and other Contractor-designed systems for adequacy.
2. The Engineer will provide structural observation in addition to the inspection performed by the Special Inspection Agency.

1.06 FIELD SAMPLE PROCEDURES

A. When field samples are specified in a unit of work, construct each field sample to include work of all trades required to complete the field sample prior to starting related field work. Field samples may be incorporated into the Project after acceptance by Engineer. Remove unacceptable field samples when directed by Engineer. Acceptable samples represent a quality level for the Work.

1.07 CONTRACTOR-DESIGNED STRUCTURAL SYSTEMS

A. Design Engineering: Contractor shall employ and pay for engineering services from a Professional Engineer registered in the State of Idaho for design of Contractor-designed systems including but not limited to: shoring, dewatering, formwork, and pipe and conduit supports.

B. Tests and Inspections of Contractor-Designed Structural Systems and Material Sources: Prior to the start of such work, the Contractor shall pay for preliminary testing for all Contractor designed structural systems and source quality control specified materials including, but not limited to concrete, grout, and mortar mix designs.

1.08 MANUFACTURERS' FIELD SERVICES AND REPORTS

A. When specified in individual specification sections, product suppliers or manufacturers shall provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance of equipment as applicable, and to provide instructions when necessary. Contractor shall submit qualifications of observer to Engineer 30 days in advance of required observations. QCS Inspector shall record observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

1.09 JOB SITE CONDITIONS

A. Contractor shall schedule to ensure all preparatory work has been accomplished prior to proceeding with current work. Proceeding with the work constitutes acceptance of conditions. Allow adequate time for materials susceptible to temperature and humidity to "stabilize" prior to installation. Establish and maintain environmental conditions (e.g., temperature, humidity, lighting) as recommended by the various material manufacturers for the duration of the Work.

1.10 SUBMITTALS

A. The following information shall be provided in accordance with Section 01 33 00, Contractor Submittals:

1. Written description of Contractor's proposed QCS plan in sufficient detail to illustrate understanding and approach. Preliminary submittal of the QCS plan shall be made prior to commencing field Work. The preliminary submittal will illustrate the Project's initial 3 month's Work, and be followed one month later by a final QCS plan submittal that includes all remaining Work.
2. The QCS plan and submittal shall include:
    a. QCS Supervisor: Resume and/or three recent similar projects with references and contact telephone numbers or each.
    b. Building Department Inspections.
    c. Special Inspections.
    d. Structural Observations.

e. Welding Inspections.
f. Quality Assurance Procedures.

3. If requested by the Engineer during the Work, manufacturer's field services and reports.

1.11 QCS MEETING

A. A meeting including the Contractor, the Owner and the Engineer will be held after submittal and review of the Contractor's QCS plan. Engineer and Owner comments will be reviewed, and a general discussion of the adequacy of the QCS plan will take place.

PART 2 PRODUCTS

2.01 SOURCE QUALITY CONTROL

A. Contractor Responsibilities: Provide source quality control according to the reviewed and accepted QCS plan and paragraph Contractor's Responsibilities herein. Coordinate with Engineer to facilitate the work of the QCS Inspector(s) and Owner's testing laboratory and Special Inspector(s). Provide ready access to sampling and inspection locations and incidental labor customary in such sampling and inspections. Timely prepare and submit submittals, and revise as indicated by review comments. Comply with technical requirements in each specification section that applies to the Work.

B. Engineer Responsibilities: Review Contractor's tracking of QCS activities at monthly meetings. Facilitate completion of submittal review per Section 01 33 00, Contractor Submittals. Assist Contractor to ensure that Special Inspection occurs where and when specified.

C. Acceptance Criteria: Acceptable characteristics and quality of a particular item of Work is defined in that item's specification section.

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

A. Acceptable characteristics and quality of a particular item or Work is defined in that item's or Work's specification section.

3.02 CORRECTION OF DEFECTIVE WORK

A. Remove and replace defective or rejected Work at Contractor's expense until such Work meets the requirements of Contract Documents.

3.03 EXCESSIVE RE-INSPECTION

A. Excessive re-inspection is any required inspection after the first inspection which is necessitated by prior inspection failures or cancelled inspections for that item. Contractor shall reimburse Owner for this excessive re-inspection at cost on a monthly basis.

END OF SECTION

SECTION 01 45 33
SPECIAL INSPECTION AND TESTING

PART 1 GENERAL

1.01 SUMMARY

A. This section covers requirements for Special Inspection, and Testing required in accordance with Chapter 17 of the 2012 International Building Code and is in addition to and supplements requirements included in Statement of Special Inspections (Plan) shown herein.

1.02 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. International Code Council (ICC):
   a. 2012 International Building Code (IBC).
   b. Evaluation Service (ICC-ES) Reports and Legacy Reports.
2. American Society of Civil Engineers (ASCE): 7-10, Minimum Design Loads for Buildings and Other Structures.

1.03 DEFINITIONS

A. Agencies and Personnel:

1. Approved Agency: An established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when such agency has been approved.
2. Registered Design Professional in Responsible Charge: An individual who is registered or licensed to practice their respective design profession as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the Project is to be constructed.
3. Special Inspector: Qualified person employed by Owner who will demonstrate competence to the satisfaction of the building official for inspection of a particular type of construction or operation requiring Special Inspection.

B. Special Inspection:

1. Special Inspection: Inspection required of materials, installation, fabrication, erection, or placement of components and connections requiring special expertise to ensure compliance with approved Contract Documents and referenced standards.

2. Special Inspection, Continuous: Full-time observation of work requiring Special Inspection by an approved Special Inspector who is present in the area where the Work is being performed.
3. Special Inspection, Periodic: Part-time or intermittent observation of work requiring Special Inspection by an approved Special Inspector who is present in the area where the Work has been or is being performed, and at the completion of the Work.

C. Structural Systems and Components:

1. Diaphragm: Component of structural lateral load resisting system consisting of roof, floor, or other membrane or bracing system acting to transfer lateral forces to vertical resisting elements of structure.
2. Drag Strut or Collector: Component of structural lateral load resisting system consisting of a diaphragm or shear wall element that collects and transfers diaphragm shear forces to vertical force-resisting elements or distributes forces within diaphragm or shear wall.
3. Seismic-Force-Resisting System: That part of structural lateral load resisting system that has been considered in the design to provide required resistance to seismic forces identified on Drawings.
4. Shear Wall: Component of structural lateral load resisting system consisting of a wall designed to resist lateral forces parallel to the plane of the wall. Unless noted otherwise on Drawings, load-bearing walls with direct in-plane connections to roof and floors shall be considered to be shear walls.
5. Wind Force Resisting System: That part of the structural system that has been considered in the design to provide required resistance to wind forces identified on Drawings.

D. Nonstructural Components:

1. Architectural Component Supports: Structural members or assemblies of members which transmit loads and forces from architectural systems or components to the structure, including braces, frames, struts, and attachments.
2. Electrical Component Supports: Structural members or assemblies which transmit loads and forces from electrical equipment to the structure, including braces, frames, legs, pedestals, and tethers, as well as elements forged or cast as part of component for anchorage.
3. Mechanical Component Supports: Structural members or assemblies which transmit loads and forces from mechanical equipment to the structure, including braces, frames, skirts, legs, saddles, pedestals, snubbers, and tethers, as well as elements forged or cast as part of component for anchorage.

E. Professional Observation:

1. Does not include or waive responsibility for required Special Inspection or inspections by building official.
2. Requirements are indicated on the Statement of Special Inspections (Plan) provided herein.
3. Geotechnical Observation: Visual observation of selected subgrade bearing surfaces by a registered design professional for general conformance to Contract Documents.
4. Structural Observation: Visual observation of structural system(s) by a registered design professional for general conformance to Contract Documents.
5. Statement of Special Inspections (Plan): Detailed written procedure contained on Drawings establishing systems and components subject to Special Inspection and Testing during construction, type and frequency of testing, extent and duration of Special Inspection, and reports to be completed and distributed by Special Inspector.

1.04 STATEMENT OF SPECIAL INSPECTIONS (PLAN) REQUIREMENTS

A. Designated Systems for Inspection:

1. Seismic-force-resisting systems designated under IBC Section 1705 and subject to Special Inspection under Section 1707: None required.
2. Wind-force-resisting systems designated under IBC Section: None required.
3. Architectural, Mechanical, and Electrical Components subject to Special Inspection and testing under IBC Section 1707 for Seismic Resistance: None required.

B. Statement of Special Inspections (Plan):

1. As included in Drawings and in support of the building permit application, the Project specific plan was prepared by the registered design professional in responsible charge. The following identifies elements of the inspection and testing program to be followed in construction of the Work:
   a. Special Inspection and testing required by IBC Section 1704 and Section 1708, and other applicable sections and referenced standards therein.
   b. Type and frequency of Special Inspection required.
   c. Type and frequency of testing required.
   d. Required frequency and distribution of testing and Special Inspection reports to be distributed by Special Inspector to Engineer, Contractor, building official, and Owner.

e. Geotechnical Observation to be Performed: Required frequency and distribution of Geotechnical Observation reports by registered design professional to Contractor, building official, and Owner.

C. Special Inspection and associated testing of shop fabrication and field construction will be performed by an approved accredited independent agency. Owner will secure and pay for the services of the agency to perform Special Inspection and associated testing.

D. Owner's plan for code required Special Inspection with associated testing, as provided in the Statement of Special Inspections (Plan) attached to this section and further provided in this section, is for the sole benefit of Owner and does not:

1. Relieve Contractor of responsibility for providing adequate quality control measures.
2. Relieve Contractor of responsibility for damage to or loss of material before acceptance.
3. Constitute or imply acceptance.
4. Affect continuing rights of Owner after acceptance of completed Work.

E. The presence or absence of code required Special Inspector or Observer does not relieve Contractor from Contract requirements.

F. Contractor is responsible for additional costs associated with Special Inspection and Testing and Observation when Work is not ready at time identified by Contractor, and Special Inspectors and Professional Observer are on Site but not able to provide contracted services.

G. Contractor is responsible for associated costs for additional Special Inspection and Testing and Professional Observation by Special Inspectors and Professional Observers required due to rejection of materials of in place Work that cannot be made compliant to Contract Document without additional Site visits or testing.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. Provide access to shop or Site for Special Inspection and Testing.

B. Notify Engineer in advance of required Special Inspection and Professional Observation no later than 48 hours prior to date of Special Inspection and Professional Observation.

C. Materials and systems, inclusive, shall be inspected during placement where Continuous Special Inspection is required.

D. Materials and systems shall be inspected during or at completion of their placement where Periodic Special Inspection is allowed.

1. Periodic Special Inspection shall be performed so that Work inspected after, but not during, its placement can be corrected prior to other related Work proceeding and covering inspected Work.
2. Periodic Special Inspection does not allow sampling of a portion of the Work. All Work shall be inspected.

3.02 SUPPLEMENTS

A. The supplements listed below, following "End of Section," are a part of this Specification:

1. Contractor's Statement of Responsibility.
2. Schedule of Special Inspections (Plan).

END OF SECTION

CONTRACTOR'S STATEMENT OF RESPONSIBILITY

_____
(Project)

_____
(Name of Contracting Company)

_____
(Business Address)

(_____)_____ (_____) _____
(Telephone) (Fax)

I, (We) hereby certify that I am (we are) aware of the Special Inspection and Testing requirements contained in Contract Documents for this Project as listed in the Statement of Special Inspections (Plan)(included herein), and that:

1. Control of this Work will be exercised to obtain conformance with the Contract Documents approved by the building official.

2. Procedures to be used for exercising control of the Work, the method and frequency of reporting, and distribution of reports required under the Statement of Special Inspections (Plan) for this Project are attached.

3. I, (We) will provide 48-hour notification to Engineer and approved agency as required for structural tests and Special Inspection for this Project.

4. The following person is hereby identified as exercising control over the requirements of this section for the Work designated above:

   Name:_____

   Qualifications:_____

   _____

   _____

   (Print name and official title of person signing this form)

   Signed by:_____

   Date:_____

   Project Name: _____

Required mounting and anchorage details are shown on the attached Seismic Outline Drawing for the most seismically vulnerable component covered by this Certification.

Signed by:_____

Address:_____

Date:_____

Project Name: _____

SCHEDULE OF SPECIAL INSPECTIONS (PLAN)			
PROJECT	**NAMPA WWTP PHASE 1 UPGRADES**		
2012 IBC REFRENCE AND MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**
1704.2.5 Inspection of Fabricators		Y	
Verify fabrication/quality control procedures	In-plant review (3)	Y	Periodic
1705.1.1 Special Cases (work unusual in nature, including but not limited to alternative materials and systems, unusual design applications, materials and systems with special manufacturer's requirements)	Submittal review, shop (3) and/or field inspection	Y	Post Installed Anchors: As required by submitted ICC ESR Report or if specifically called out on plans.
1705.3 Concrete Construction		Y	
1. Inspection of reinforcing steel installation (see 1705.2.2 for welding)	Shop (3) and field inspection	Y	Periodic
2. Inspection of prestressing steel installation	Shop (3) and field inspection	N	Periodic
3. Inspection of anchors cast in concrete where allowable loads have been increased per section 1908.5 or where strength design is used	Shop (3) and field inspection	N	Periodic
4. Inspection of anchors and reinforcing steel post-installed in hardened concrete: Per research reports including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, concrete minimum thickness, anchor embedment and tightening torque	Field inspection	Y	Periodic or as required by the research report issued by an approved source
5. Verify use of approved design mix	Shop (3) and field inspection	Y	Periodic
6. Fresh concrete sampling, perform slump and air content tests and determine temperature of concrete	Shop (3) and field inspection	Y	Continuous
7. Inspection of concrete and shotcrete placement for proper application techniques	Shop (3) and field inspection	Y	Continuous
8. Inspection for maintenance of specified curing temperature and techniques	Shop (3) and field inspection	Y	Periodic
9. Inspection of pre-stressed concrete:	Shop (3) and field inspection	N	

SCHEDULE OF SPECIAL INSPECTIONS (PLAN)			
PROJECT	**NAMPA WWTP PHASE 1 UPGRADES**		
2012 IBC REFRENCE AND MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**
1705.4 Masonry Construction		Y	
(A) Level A, B and C Quality Assurance:		Y	
1. Verify compliance with approved submittals	Field Inspection	Y	Periodic
(B) Level B Quality Assurance:		Y	
1. Verification of f'm and f'_{AAC} prior to construction	Testing by unit strength method or prism test method	Y	Periodic
(D) Levels B and C Quality Assurance:		Y	
1. Verification of Slump Flow and Visual Stability Index (VSI) of self-consolidating grout as delivered to the project	Field testing	Y	Continuous
2. Verify compliance with approved submittals	Field inspection	Y	Periodic
3. Verify proportions of site-mixed mortar, grout and prestressing grout for bonded tendons	Field Inspection	Y	Periodic
4. Verify grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages	Field Inspection	Y	Periodic
5. Verify construction of mortar joints	Field Inspection	Y	Periodic
6. Verify placement of reinforcement, connectors, and prestressing tendons and anchorages	Field Inspection	Y	Level B - Periodic
		N	Level C - Continuous
7. Verify grout space prior to grouting	Field Inspection	Y	Level B - Periodic
		N	Level C - Continuous
8. Verify placement of grout and prestressing grout for bonded tendons	Field Inspection	N	Continuous

SCHEDULE OF SPECIAL INSPECTIONS (PLAN)			
PROJECT	**NAMPA WWTP PHASE 1 UPGRADES**		
2012 IBC REFRENCE AND MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**
9. Verify size and location of structural masonry elements	Field Inspection	Y	Periodic
10. Verify type, size, and location of anchors, including details of anchorage of masonry to structural members, frames, or other construction.	Field inspection	Y	Level B - Periodic
		N	Level C - Continuous
11. Verify welding of reinforcement (see 1705.2.2)	Field inspection	N	Continuous
12. Verify preparation, construction, and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F)	Field inspection	Y	Periodic
13. Verify application and measurement of prestressing force	Field Inspection	N	Continuous
14. Verify placement of AAC masonry units and construction of thin-bed mortar joints (first 5000 SF of AAC masonry)	Field inspection	N	Continuous
15. Verify placement of AAC masonry units and construction of thin-bed mortar joints (after the first 5000 SF of AAC masonry)	Field inspection	N	Level B - Periodic
		N	Level C - Continuous
16. Verify properties of thin-bed mortar for AAC masonry (first 5000 SF of AAC masonry)	Field inspection	N	Continuous
17. Verify properties of thin-bed mortar forAAC masonry (after the first 5000 SF of AAC masonry)	Field inspection	N	Level B - Periodic
		N	Level C - Continuous
18. Prepare grout and mortar specimens	Field testing	N	Level B - Periodic
		N	Level C - Continuous
19. Observe preparation of prisms	Field inspection	N	Level B - Periodic
		N	Level C - Continuous

SCHEDULE OF SPECIAL INSPECTIONS (PLAN)			
PROJECT	**NAMPA WWTP PHASE 1 UPGRADES**		
2012 IBC REFRENCE AND MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**
1705.6 Soils		Y	
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Field inspection	Y	Periodic
2. Verify excavations are extended to proper depth and have reached proper material.	Field inspection	Y	Periodic
3. Perform classification and testing of controlled fill materials.	Field inspection	Y	Periodic
4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of controlled fill	Field inspection	Y	Continuous
5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly	Field inspection	Y	Periodic

Notes:

1. The inspection and testing agent(s) shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The qualifications of the Special Inspector(s) and/or testing agencies may be subject to the approval of the Building Official and/or the Design Professional.

2. The list of Special Inspectors may be submitted as a separate document, if noted so above.

3. Special Inspections as required by Section 1704.2.5 are not required where the fabricator is approved in accordance with IBC Section 1704.2.5.2

4. Observe on a random basis, operations need not be delayed pending these inspections. Perform these tasks for each welded joint, bolted connection, or steel element.

5. NDT of welds completed in an approved fabricator's shop may be performed by that fabricator when approved by the AHJ. Refer to AISC 360, N7.

SECTION 01 50 10
PROTECTION AND MAINTENANCE OF PROPERTY, WORK, AND UTILITIES

PART 1 GENERAL

1.01 DESCRIPTION

A. Protect all public and private property, insofar as it may be endangered by the Work and take precaution to avoid damage to such property.

B. Protect and maintain utilities encountered in Work, or affected by Work in their existing or temporary locations.

C. Restore and repair any public or private improvement facility, structure or land and landscaping that is removed, damaged or injured directly or indirectly by or on account of an act, omission, or neglect in the execution of the Work. All removed or damaged property and/or structures shall be restored/repaired to a condition equal or better than the pre-construction condition.

D. Provide for the flow of sewers, drains, or water courses interrupted during the progress of the Work, and restore such drains or water courses.

1.02 NOTIFICATION OF UTILITIES AND OTHER AGENCIES

A. In areas where the Contractor's operations are adjacent to or near a utility and such operations may cause damage which might result in utility owner's expense, loss and inconvenience, the operations shall be suspended until all arrangements necessary for the protection thereof have been made by the Contractor.

1. The Contractor shall notify all utility offices which may be affected by the construction operation at least 48 hours in advance. Before exposing any utility, the utility having jurisdiction shall grant permission and may oversee the operation. Should service of any utility be interrupted due to the Contractor's operation, the proper authority shall be notified immediately Contractor shall cooperate with said authority in restoring the service as promptly as possible.

B. Contractor shall be responsible for contracting with a utility locating specialty firm for conducting onsite utility and underground facilities locates.

C. Make excavations and borings ahead of Work, as necessary, to determine the exact location of interfering utilities or underground structures.

D. The right is reserved to the Engineer and the owners of utilities, or their authorized agents, to enter upon the street right-of-way for the purpose of making changes as are necessary for the rearrangement of their facilities or for making necessary connections or repairs. Cooperate with forces engaged in this work and conduct operations in such a manner to avoid any unnecessary delay or hindrance to the work being performed by other forces.

E. Arrange and facilitate a meeting at the site with the Engineer and respective utility representatives for the utilities to be affected by the Work at least 7 days prior to Work in the vicinity of the specific utility unless otherwise specified.

F. In addition to the requirements of any applicable utility permit, street use permit or franchise relating to this Contract, conform to standard plans and specifications of the agency which controls the use of the right-of-way in which this Work is performed.

1.03 INTERRUPTION OF UTILITY SERVICE

A. Indicate required shutdowns of existing utilities or interruptions of existing operations on the CPM Construction Schedule per Section 01 32 16, CPM Construction Schedule.

B. Submit requests for interruptions to utility service not less than 10 business days in advance of the date scheduled for the interruption, or provide notice as required by the utility service, whichever is greater.

C. Following receipt of the request, Engineer will notify Contractor if the requested date will be permitted. Evaluation of the request will be based upon the availability of the utility owner’s personnel to assist and monitor utilities during the shutdown period and to mitigate impact to customer service.

D. Minimize the period of interruption by thorough advance planning. Procure required materials, equipment and labor and have on hand during the shutdown.

E. Do not begin interruption until written authorization is received from Engineer.

1.04 SIGNAGE

A. Do not remove warning, regulatory, guide, or project signs prior to formal acceptance.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 INSTALLATION

A. Verify location, function and condition of each of the affected structure or utility system prior to commencing Work in the area.

3.02 UNSAFE AND UNSUITABLE STRUCTURES AND UTILITY SYSTEMS

A. Notify Engineer if the condition or location of the facility to be supported in place will require a modification to the support system as initially proposed or installed. Coordinate the revised support system through the Engineer.

3.03 WATER, SANITARY SEWER, AND STORM SEWER FACILITIES

A. Maintain service of existing facilities and temporary support and protection of all Nampa WWTP facilities, as well as water, sanitary sewer, and storm sewer facilities during construction.

3.04 ELECTRIC DISTRIBUTION FACILITIES

A. Maintain continuity of existing facilities including power to the WWTP, facility and street lighting, support in place and protect power facilities during construction.

B. Where facilities are to be relocated, rerouted, abandoned, or taken out of service, the appropriate power utility will perform the Work.

C. Provide personnel, material, lifting devices and working surfaces to enable the power utility forces to service, maintain, and repair if necessary any power lines suspended over excavations within the scope of the Project.

1. Provide all lifting devices and working surfaces that meet applicable safety requirements.
2. Within 1 hour of notification by the Engineer, make such lifting devices and working surfaces available for the appropriate power utility use and provide and operate said devices and surfaces continually until the appropriate power utility servicing, maintenance, and repair is complete.
3. Maintain safe working clearances as required by law.

3.05 GAS FACILITIES

A. Provide notice to Intermountain Gas if gas facilities will be impacted by the Work. Intermountain Gas will provide temporary service to local customers. This work will require coordination. Support facilities in use in place.

3.06 TELEPHONE, CABLE, AND FIBER OPTIC FACILITIES

A. Maintain continuity of existing facilities, support in place and protect telephone, cable, and fiber optic facilities during construction.

B. Where facilities are to be relocated, rerouted, abandoned, or taken out of service, the appropriate utility will perform the Work.

C. Support utilities to be left in place. Furnish, install, and maintain hangers and temporary support members.

3.07 FIRE PROTECTION SYSTEMS

A. Maintain service of all fire protection systems including fire water piping supply systems and fire hydrants unless approved in writing by the Engineer.

B. Perform Work on fire protection systems only as directed by the Engineer.

C. Notify the Nampa Fire Department at least 7 days in advance whenever water service is to be interrupted, whenever hydrants are to be shut off, and whenever fire truck lane access is to be temporarily blocked off.

3.08 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.

B. Provide protection for plant life designated to remain. Replace damaged plant life.

C. Protect non-owned vehicular traffic, stored materials, site and structures from damage.

3.09 PROTECTION OF INSTALLED WORK

A. Provide temporary and removable protection for installed equipment and materials. Control activity in immediate work area to minimize damage.

END OF SECTION

SECTION 01 51 00
FIELD OFFICE AND TEMPORARY FACILITIES

PART 1 GENERAL

1.01 DESCRIPTION

A. This section specifies temporary facilities, temporary utilities, security, and other miscellaneous facilities required during construction.

B. Contractor shall provide and maintain temporary field offices trailers and locate these offices at the Wastewater Treatment Plant (WWTP) Site in the area designated on Contract Drawings. Owner shall provide power to the Contractor's field offices. Contractor shall make arrangements with the Owner for power takeoff points, voltage and phasing requirements, and transformers. Contractor shall be responsible for setting up temporary poles and overhead wiring from the Owner's power takeoff point. Prior to Substantial Completion, the Contractor shall demolish all temporary poles and overhead wiring (except for those necessary to service the Engineer's Field Office as which will remain in place for additional construction phases). All costs associated with delivering power to Contractor's field offices, excluding power consumption, shall be borne by the Contractor.

C. Contractor shall provide all necessary utility connections for telephone, broadband, water, and sanitary facilities. Contractor shall also provide security services, storage trailer, staging areas, and all other temporary facilities necessary to accomplish the Work and shall pay the costs and fees arising there from.

1.02 SUBMITTALS

A. Comply with requirements of Section 01 33 00, Contractor Submittals.

B. Submit drawings showing the layout of temporary facilities and utilities.

1.03 FIELD OFFICE, PARKING, AND STAGING AREA

A. Contractor's Field Offices:

1. General Description: Unless released earlier by the Engineer in writing, the field office shall be maintained in full operation until the Notice of Completion has been executed or recorded. Upon execution or recording of the Notice of Completion, or upon early release of the field office by the Engineer, the Contractor shall vacate the field office(s) within 14 days from the date of notification, and shall restore the staging area and parking areas to their original condition.

2. Engineer's Field Offices:
   a. The Contractor will be required to provide field offices for the exclusive us of the Engineer. This shall include a 12-foot by 60-foot mobile office trailer in new or nearly new condition. The Contractor will be required to furnish the Engineer's trailer with broadband internet service, phone service, furniture and equipment as specified below. The office shall be fully functional within one month of Notice to Proceed and shall remain permanently on-site for use by the Owner for additional construction phases.
   b. After normal work hours, provide weekly cleaning service of all field office restrooms, conference room(s), and office(s) for the duration of the Project.

B. Parking:

1. Parking onsite will be available to the Contractor for the duration of work on site.
2. Coordination with the Owner may be required to accommodate Contractor staff parking at various times during construction however it is anticipated that the primary contractor laydown area will also serve the needs of Contractor parking. The Contractor shall direct its employees to park in areas as directed by the Owner if additional space is required outside of the primary contractor laydown area. Contractor is encouraged employ staff carpooling methods to limit parking needs onsite.
3. Traffic and parking areas shall be maintained in sound condition, free of excavated material, construction equipment, mud, and construction materials. The Contractor shall repair breaks, potholes, low areas which collect standing water, and other deficiencies that are created from construction activities.

C. Staging Area: Establish and maintain staging areas in accordance with Section 01 55 00, Site Access, Staging and Storage. Engineer will coordinate staging areas with other contractors at or near the Site.

1.04 ENGINEER'S FIELD OFFICES

A. The Contractor shall provide all necessary electrical, broadband internet fiber optic wiring to field office trailer, plumbing, toilet and lavatory fixtures, air conditioning and heating equipment, shelving, and shall furnish all necessary light, heat, water, and weekly janitorial services in connection with the field offices specified herein, for the duration of the Work.

B. The Contractor shall provide and maintain for the exclusive use of one field office trailers for the Engineer in the north portion of the "Primary Contractor Laydown Area" as designated on the Contract drawing 010-G-007.

C. The field office trailer shall be fully functional within one month of Notice to Proceed and shall remain permanently onsite for subsequent phases of the wastewater treatment plant improvement program.

1.05 ENGINEER'S FIELD OFFICE FURNISHINGS

A. The Contractor shall provide the following listed items in new condition for the Engineer's office:

1. Office Furniture: the Contractor shall furnish three private offices (each) with the following items:
   a. L-shaped desk configuration; 30 by 42 by 42 corners station, two 30 by 42 side stations.
   b. One under desk drawer unit, letter size, three-drawer with lock and keys, complete with Pendaflex suspension rack for file size drawer.
   c. 4 feet high by 3 feet wide freestanding book shelf.
   d. 3-foot by 5-foot whiteboard with erasable color markers and supplies
   e. Office chair, adjustable arm rest type, adjustable swivel tilt-back with casters.
   f. Upholstered arm chair.
   g. Waste basket.
2. In addition to the furnishings listed in Subsection 1.5.A.1 above, the Contractor shall furnish the Engineer's 12-foot by 60-foot office trailer as follows:
   a. Plan rack (all metal plan-hold type) capable of holding 10 sets of plans, complete with 10 standard all metal plan-hold clamps.
   b. Plan table suitable for laying out full size drawings.
   c. Upholstered swivel arm chair drafting height.
   d. Four file cabinets, letter size, four-drawer with lock and three keys, double suspension, complete with Pendaflex suspension racks for each drawer.
   e. Conference table(s) assembly, approximately 60 by 160-inch top; 30 inches high.
   f. 16 upholstered swivel arm chairs, matching.
   g. Six upholstered stack chairs, matching.
   h. Two waste baskets.
   i. Two tack boards 36 by 42 inches, wall mounted where directed.
   j. Three 4 feet high by 3 feet wide freestanding book shelves.
   k. Whiteboard, 4-foot by 8-foot with erasable color markers and supplies.
   l. 72-inch by 30-inch lockable storage cabinet.
   m. Refrigerator, 15 cubic feet.
   n. Microwave.
   o. Bottled water dispenser unit (supplying both hot and cold water) and bottled water service and continuous supply of paper cups.

1.06 MULTIFUNCTION PRINTER/COPIER/ SCANNER

A. The Contractor shall provide, for the exclusive use of the Engineer, one networkable wireless multifunction printer/copier/scanner. Contractor shall have this multifunction machine set up on a wireless network within the field office that allows printing from any computer on the network, scanning to any computer on the network, and scanning to email.

B. The machine must have duplex automatic document feeder, collating, sorting, automatic stapling, and automatic three-hole punch features.

C. Copying shall be both black and white and color, capable of reproducing 8-1/2-inch by 11-inch, 8-1/2-inch by 14-inch, and 11-inch by 17-inch originals on either 8-1/2-inch by 11-inch, 8-1/2-inch by 14-inch, and 11-inch by 17-inch plain bond paper. The machine shall be capable of both full-size and reduced size prints such that an 11-inch by 17-inch original can be copied on a sheet of 8-1/2-inch by 11-inch paper. Copy speed shall be at least 50 pages per minute for letter size for both black and white and color.

D. The multifunction machine shall be configured such that it can serve as a printer for any computer on the field office network.

E. The Contractor shall obtain and pay for a service contract with a local representative of the multifunction machine vendor or manufacturer for daily, on-site availability of a service representative for onsite service and repair. The Contractor shall furnish all necessary powders, toner, chemicals, or other materials required for proper operation of the multifunction machine, exclusive of bond paper. The Engineer will supply all bond reproduction paper required.

F. The Contractor shall set up and configure the multifunction machine to be fully functional. This shall include searchable email addresses provided by the Engineer.

1.07 TELEPHONE AND BROADBAND SERVICE

A. The Contractor shall provide, for the use of the Engineer’s employees, high speed broadband internet service for the field offices. Service will be made available by connecting to the Owner’s fiber optic network at the Administration Building. Service equipment shall provide at a minimum 100 Mb/s speed and include router, wireless N modem with dual network capability (secure and visitor), and any other connection equipment that may be required.

B. The Contractor shall provide a telephone system for the use of the Engineer’s employees. Four voice lines are required for the project. System shall provide that incoming voice calls roll over to any available line and that another phone cannot

interrupt a line that is in use. The Contractor shall provide three desktop phones with voicemail capabilities and one conference phone system.

C. Contractor shall provide all cabling required inside the office complex for the telephone and computer network.

D. The Contractor shall provide initial setup and ongoing computer connectivity troubleshooting for Engineer's office facility.

1.08 COMPUTER AND OTHER EQUIPMENT

A. Conference Room Monitor

1. The Contractor shall provide a 60-inch plasma TV monitor, 1080p full HD resolution, HDMI inputs, and remote control. Panasonic or equal. Install on an end wall in the conference room with a long arm articulating TV wall mount. Conceal wires in wall.
2. The Contractor shall provide audio speakers for use with the TV monitor, Bose Solo TV Sound System or equal.
3. The Contractor shall provide a video conferencing web camera with microphone suitable for small conference rooms, Logitech Quickcam Orbit AF or equal.

B. Computers:

1. The Contractor shall provide a desktop computer system for use with the conference room monitor. System shall include computer with 4th Generation Intel I7 processor, upgraded video card to provide HD quality images on the large monitor and provide internet video conferencing, wireless keyboard and mouse, wireless N network card, DVD reader/write, 500GB hard drive, 8 GB RAM. System shall be Dell or equal.
2. System shall have Windows 7 Professional 64-bit operating system, MS Office Professional, Adobe Photoshop Elements and Adobe Acrobat Writer. Other versions of Windows are not acceptable due to network compatibility issues.

1.09 PROJECT SIGNS

A. Contractor shall supply one project sign in accordance with Form 6-E Idaho Department of Environmental Quality Clean Water State Revolving Fund specification insert. Location of Project Sign to be coordinated with Owner.

B. Contractor shall supply office trailer signage for Engineer's office trailers.

1.10 INSTALLATION OF TEMPORARY UTILITIES

A. Comply with local, state, and national codes.

B. Comply with all permits, easements, and lease requirements of Section 01 41 26, Permits and Easements.

C. Obtain all utility hookup permits and utility service, and arrange for all inspections required by the permitting authorities.

D. Unless otherwise specified or indicated, make all necessary connections to existing facilities including structures, drain lines, and utilities such as water, sewer, gas, telephone, and electricity. In each case, obtain permission from Owner and the owning Utility prior to undertaking connections. Protect facilities against deleterious substances and damage.

E. The Contractor shall make all provisions and pay all installation and other costs for the Contractor's and the Engineer's offices in order to provide telephone service, power service, potable water, sewage, broadband internet service, exterior lights and any local code and OSHA requirements. With the exception of charges for long-distance and toll calls, the Contractor shall pay all monthly charges for the various services provided to the Engineer's office throughout the construction period as specified herein.

F. Plan thoroughly in advance all connections to existing facilities. Have on hand at the time of undertaking the connections, all materials labor and required equipment. Proceed continuously to complete connections in minimum time. Arrange for the operation of valves or other appurtenances on existing utilities, under the direct supervision or by the owning Utility.

1.11 POWER AND LIGHTING

A. Provide for all temporary power required for construction including, but not limited to, trailers, construction activities, staging areas, lighting, and generators. Make arrangements with the electrical utility for power takeoff points, voltage and phasing requirements, transformers and metering. Exterior lighting shall be fully shielded and be provided over the entrance door. Generators shall not be used for functions necessary for continuous (24 hours per day) power needs such as excavation dewatering pumps due to noise limitations, except for emergency standby service, which the Contractor shall provide.

1.12 SANITARY, WATER, AND FIRST AID FACILITIES

A. Supply and maintain toilet and wash-up facilities for the Engineer's and Contractor's work force at the Site. Comply with applicable laws, ordinances and regulations pertaining to the public health and sanitation.

B. Contractor shall make all necessary arrangements with the Owner to install potable water service for the office trailers and other construction needs.

C. Contractor shall make all necessary arrangements with the Owner to install sewage service for the office trailers and other construction needs.

D. First Aid Station:

1. Post first aid facility and information posters, conforming to requirements of OSHA and other applicable Laws and Regulations, in readily accessible locations.
2. Provide at least one employee, trained in first aid procedures, onsite while Work is in progress.
3. First aid facilities shall be clearly posted, unlocked, accessible, and staffed during periods Work is being performed.

1.13 STORAGE AND WORKSHOP FACILITIES

A. Provide temporary onsite storage facilities acceptable for the protection of equipment, materials, and supplies and fabricated items, as applicable. Supply workshop facilities to ensure that the environment for onsite assembly and fabrication is maintained. Locate storage and workshop facilities in the staging area. The Contractor shall plan the location of storage and workshop areas and their required relocation as the Work progresses. Such locations shall not interfere with the Owner's operation and maintenance of the WWTP at any time. Coordinate location of storage facilities with Engineer.

1.14 TOOLS AND EQUIPMENT

A. Supply necessary tools and equipment for accomplishing the Work.

1.15 CONTRACTOR PROVIDED SECURITY

A. Supply Site security for field offices, constructed facilities, and the equipment and material on the Site. Make adequate provision for protection of the Work from fire, theft, and vandalism; and for the protection of the public against exposure to injury. See Section 01 35 53, Site Security, for additional Contractor security responsibilities under the Contract.

1.16 JANITORIAL SERVICES

A. Arrange for collection and proper disposal of construction debris, garbage, and office trash.

1.17 WWTP TEMPORARY FACILITIES

A. A number of temporary facilities, including piping and temporary utility routing are required. See Section 01 31 30, Construction and Schedule Constraints, and Temporary and Demolition Drawings for additional details. Temporary facilities shall meet the contract requirements for permanent facilities, except as noted below or with approval of the Engineer.

B. Materials to be used for temporary facilities integrated with WWTP operation shall be new.

C. Piping:

1. Temporary piping shall be of the material indicated on the drawings or described in specifications. If no material is indicated, Contractor may select suitable piping, considering criteria such as corrosion resistance and pressure/loading requirements.
2. Temporary piping projected to be in use for 1 year or more shall be subject to the requirements of permanent piping with regards to materials and testing.

D. Temporary Connections for Operability of Existing Facilities:

1. Contractor shall provide temporary utility connections to existing facilities, as required, to ensure remaining facilities remain active including, but not limited to: utility water, hose bibbs and existing site lighting.
2. Temporary connections shall be established within 24 hours of demolition of existing connections for non-critical components. Critical connections shall be completed as required by Section 01 31 30, Construction and Schedule Constraints.

1.18 REMOVAL OF TEMPORARY FACILITIES

A. Remove all temporary facilities and utilities and restore the area to the condition specified or to the original condition in accordance with Section 01 50 10, Protection and Maintenance of Property, Work, and Utilities, and Section 01 74 23, Final Cleanup. Remove temporary underground installations to as indicated on Contract Drawings.

B. Remove from the Site all surplus materials and temporary structures when they are no longer needed.

C. Neatly stack construction materials such as concrete forms and scaffolding when not in use. Promptly remove splattered concrete, asphalt, oil, paint, corrosive liquids, and cleaning solutions from surfaces to prevent marring or other damage.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PREPARATION

A. Fill and grade sites for temporary structures to provide surface drainage. Provide all-weather surfaced access roads and paths and parking areas.

3.02 INSTALLATION

A. Construct temporary field offices on proper foundations and provide connections for utility services. Secure portable or mobile buildings when used. Steps and landings shall be provided at entrance doors.

3.03 MAINTENANCE AND CLEANING

A. Provide periodic maintenance and weekly cleaning after normal work hours for Engineer's field offices, furnishings, and equipment.

3.04 REMOVAL

A. Remove Contractor's temporary field offices, workshops and storage buildings, and contents and services at a time when no longer needed. Remove temporary underground installations as indicated on Contract Drawings. Foundations and debris shall be removed; Site shall be graded to required elevations and the area cleaned. Restore the area to the condition specified or to the original condition in accordance with Section 01 50 10, Protection and Maintenance of Property, Work, and Utilities; Section 01 55 00, Site Access, Staging and Storage; and Section 01 74 23, Final Cleanup.

END OF SECTION

SECTION 01 55 00
SITE ACCESS, STAGING, AND STORAGE

PART 1 GENERAL

1.01 CONTRACTOR'S WORK AND STORAGE AREA

A. The area for Contractor's use during the term of the Contract is the Project Site with the following provisions:

1. Contractor and Owner/Engineer construction offices and parking for Contractor management staff and Owner/Engineer staffs shall be in the location shown on Drawing 010-G-007.
2. Lands made available by the Owner for Contractor's direct performance of Work are limited to the Project Site; within the Owner's site property lines shown on the Drawings.
3. The Contractor may utilize the Project Site for staging and storage purposes and shall establish such on-site facilities and shall relocate such on-site facilities as and when required to accommodate the sequence of construction and constraints identified in the Contract Documents. Contractor's use of the Project Site for staging and storage is further limited by the following provisions and requirements:
    a. Maintain Owner's continuous operation and maintenance access to the WWTP facilities, including Owner parking, delivery of process chemicals, and removal of solids.
    b. Maintain emergency access to WWTP areas for emergency response agencies (City of Nampa Fire Department and City of Nampa Police Department).
    c. Protection of trees and other vegetation designated to remain as part of the completed Work.
    d. Protection of existing on-site facilities and public and private facilities located adjacent to the Project Site.

B. A portion of the Project Site is reserved for use of separate contractors engaged by the Owner to construct Project Group B Solids Handling Facility/ Project Group C Primary Digester 4. The portion of the Project Site reserved for this purposes is generally as shown on Drawing 010-G-007. It is anticipated that the work for Project Group B could commence as early as June 2017 and the work for Project Group C could commence as early as June 2018. Should the Contractor find it necessary to use any additional land for its operations or for other purposes during the construction of the Work, it shall arrange for the use of such lands at its own expense.

1.02 CONTRACTOR WORKFORCE PARKING REQUIREMENTS AND PROVISIONS

A. Parking onsite will be available to the Contractor for the duration of work on site.

B. Coordination with the Owner may be required to accommodate Contractor staff parking at various times during construction however it is anticipated that the primary contractor laydown area will also serve the needs of Contractor parking. The Contractor shall direct its employees to park in areas as directed by the Owner if additional space is required outside of the primary contractor laydown area. Contractor is encouraged employ staff carpooling methods to limit parking needs onsite.

C. Traffic and parking areas shall be maintained in sound condition, free of excavated material, construction equipment, mud, and construction materials. The Contractor shall repair breaks, potholes, low areas which collect standing water, and other deficiencies that are created from construction activities.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PUBLIC ACCESS

A. Continuous, unobstructed, safe, and adequate pedestrian and vehicular access shall be provided to fire hydrants, commercial and industrial establishments, private residences, churches, schools, parking lots, service stations, motels, fire and police stations, and hospitals. Continuous emergency vehicle access shall be provided through work areas in public roadways. The Contractor shall cooperate with parties involved in the delivery of mail and removal of trash and garbage so as to maintain existing schedules for such services.

1. If exceptions are necessary, notify Owner so that Owner can secure written consent of individuals or authorities concerned to permit such temporary construction associated with access points.
2. Prior to excavation, deliver written consent to Engineer; provide Owner at least 5 work days advance notice.
3. Plan and perform the construction work so that all adjacent businesses have access at all times. Maintain clear communication and scheduling with the business owners and residents at all times.
4. Access to the Work shall be provided as may be required by the Owner or its representatives, and all authorized representatives of the state and federal governments and any other agencies having jurisdiction over any phase of the work, for inspection of the progress of the work, the methods of construction or any other required purposes.

5. Site security fencing and site access gates have been installed by the Owner to prevent public access to the Project Site and other Owner purposes. The Contractor shall maintain these facilities throughout the Contract duration except as specifically noted below:
   a. The location of security fencing and gates shall be modified by the Contractor as and when necessary to accommodate Contractor's performance of Work. Such modifications shall maintain a continuous secure perimeter for WWTP operations and prevent the public from entering any construction area. Such modification shall be at no additional cost to the Owner. Contractor shall submit such modifications to the Engineer for approval.
   b. At the completion of Work, or when otherwise agreed by the Engineer, the Contractor shall demolish and dispose all temporary materials including chain link site security fencing and gates originally installed by Owner and as modified by Contractor.

3.02 STAGING AND STORAGE AREAS

A. As identified in Part 1 of this section.

3.03 TEMPORARY CONSTRUCTION ACCESS AND PARKING AREAS

A. As identified in Part 1 of this section. Locate any temporary construction roads, drives, walks, and parking facilities to provide uninterrupted access to construction offices, mobilization, work and storage areas, and other areas required and approved by the Owner.

B. Street parking is not allowed.

C. Traffic and parking areas shall be maintained in a sound condition, free of excavated material, construction equipment, mud, and construction materials.

3.04 WORK AND STORAGE AREA

A. Make arrangements for any additional off-site storage or shop areas necessary for the proper execution of the Work at no additional cost to the Owner.

3.05 ROADWAY LIMITATIONS

A. The Contractor shall make its own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the site of the Work. It shall be the Contractor's responsibility to construct and maintain any temporary haul roads required for its construction operations.

END OF SECTION

SECTION 01 57 23
STORMWATER POLLUTION PREVENTION

PART 1 GENERAL

1.01 THE REQUIREMENT

A. The purpose of the Storm Water Pollution Prevention Plan (SWPPP) is to improve water quality by reducing pollutants in stormwater discharges and soil erosion from the construction site. The SWPPP has been prepared to meet requirements under the Environmental Protection Agency (EPA) Phase II Stormwater Regulations – NPDES General Construction Permit. The Contractor shall be a "Permittee" and shall be responsible for the day-to-day implementation of the SWPPP.

B. The SWPPP shall be broken into the following sections:

1. General Project Information.
2. Site Description.
3. Erosion and Sediment Controls.
4. Structural Practices.
5. Stormwater Management.
6. Waste Disposal.
7. Record Keeping.
8. Other Controls.
9. Inventory of Materials.
10. Non-Stormwater Discharges.
11. Endangered species.
12. Cultural Resources.

1.02 CONTRACTOR SUBMITTALS

A. Prior to commencement of any excavation, the Contractor shall submit a stormwater management and erosion control plan and schedule (SWPPP) that details how the Contractor proposes to comply with local, state and federal SWPPP requirements. The Contractor's SWPPP will be subject to review by the Engineer and/or Owner. The following shall be specifically addressed:

1. Define type, location and scheduled placement of stabilization practices that will be implemented to prevent soil erosion.
2. Describe stormwater management techniques and schedule of implementation.
3. Define practices to be employed to prevent offsite movement of sediment.

4. Characterize construction, sanitary and any hazardous waste disposal practices.
5. Define record keeping practices.

B. Prior to commencement of any excavation, the Contractor shall submit a complete Notice-of-Intent (NOI) with the Environmental Protection Agency (EPA) Region 10 office.

C. Upon completion of all excavation, structural and civil work, the Contractor shall submit a complete Notice-of-Termination (NOT) with the EPA Region 10 office.

1.03 REFERENCES – REGULATORY AND OTHER GUIDANCE DOCUMENTS

A. The SWPPP was developed in accordance with the EPA guidebook, "Storm Water Management for Construction Activities, Developing Pollution Prevention Plans, and Best Management Practices" (EPA publication Number 823-R-92-005, September 1992). Other guidance documents include:

1. Region 10 Stormwater Construction General Permit, EPA Region 10, http://yosemite.epa.gov/R10/WATER.NSF/NPDES+Permits/Region+10+CGP+resources/.
2. Catalog of Stormwater Best Management Practices, IDEQ, http://www.deq.idaho.gov/media/622263-Stormwater.pdf.
3. Federal Register/Volume 63, No. 31, Tuesday Feb. 17, 1998. Reissuance of NPDES General Permits for Storm Water Discharges from Construction Activities; Notice.
4. City of Nampa. Facilities Plan for the Wastewater Treatment Plant. Final 2004. Prepared by MWH, Boise, ID.
5. Climatological Data Annual Summary, Idaho. NOAA. 1995.
6. Water Quality Standards, IDAPA 58.01.02 (latest version).
7. Geologic Map of the Boise Valley and Adjoining Area, Western Snake River Plain, Idaho: Idaho Geological Survey, Geologic Map Series, Scale 1:100,000. K.L. Othberg and L.R. Stanford, 1992.

PART 2 STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

2.01 GENERAL PROJECT INFORMATION

A. Contractor's Responsibility: It is the Contractor's responsibility to submit a SWPPP and highlight any requested exceptions if any. The Contractor may also recommend changes to the SWPPP as the project progresses in response to differing site conditions, new spill prevention procedures, and other unforeseen events. The SWPPP shall comply with City of Nampa codes.

2.02 SITE DESCRIPTION

A. The Work is located at the Owner's Wastewater Treatment Plant (WWTP), 340 West Railroad Street, Nampa, Idaho. See Drawing 010-G-001, Description of Construction Activities. A complete list characterizing all of the proposed work under this contract is outlined in Specification 01 10 00, Summary of Work.

B. Site Area: The City of Nampa is located at elevation 2,450 feet above sea level and is situated in the southeast corner of the State of Idaho in Canyon County. The WWTP is located near Indian Creek. Site Maps: See Drawing 010-G-007 for overall site map and 050 series sheets for details site work.

C. Surface and Ground Water Hydrology: Surface water in the vicinity of the planning area consists of Indian Creek which forms the north boundary of the site. The treated wastewater effluent is discharged to Indian Creek. Some portion of the flow in Indian Creek is derived from spring snowmelt runoff and from groundwater discharge. Much of the flow in Indian Creek is likely derived from irrigation water, either as runoff from area fields or from groundwater discharge to the creek and from discharge from the Armour meat packing facility.

D. Indian Creek is classified as an agricultural water supply/cold water biota/secondary contact stream, and is protected for future use as a primary contact recreation waterway. The reach of the Lower Boise River from Star to the confluence with the Snake River has been classified as a high priority water body. The discharge of pollutants to high priority water bodies cannot exceed discharge levels that existed in December 1996 ("no net increase"). The literal definition of "no net increase" would mean that no additional nutrients, etc. could be discharged to the Boise River via Indian Creek.

E. The water quality of the effluent discharged to Indian Creek is controlled by NPDES Permit requirements. Regular monitoring and reporting of the discharge is performed by the City.

F. Pollutant Source During Construction: During the project construction, the likely sources of stormwater pollution include: soil from excavation/backfill operations, soil from construction-related vehicles leaving the construction site, oil and fuel from construction equipment, detergents, metals, , hazardous materials, sanitary wastes, and loading/unloading of various chemicals and hazardous materials.

G. Contractor's Use of the Site: The Contractor's staging area and construction trailer location will be located within the confines of the construction site as

defined in specification Section 01 10 00, Summary of Work, and shown on Drawing 010-G-007.

H. The area designated for Contractor's use will contain construction materials, chemicals used during construction and their containment, and other waste materials. The control measures to prevent pollution of stormwater runoff are described below. The storage location of construction vehicles will be determined after contract award.

I. Sequence of Major Construction Activities: In implementing the construction sequencing, the Contractor shall maintain the existing facilities in service until new facilities are constructed and are operational to supplement the existing capacity. The general order of construction activities shall be as described in Section 01 31 30, Construction and Schedule Constraints, and 01 32 16, CPM Construction Schedule. The sequence of activities shall be verified by the Contractor prior to commencement of construction activities. In implementing the overall construction schedule, the Contractor shall consider stormwater and erosion control measures when sequencing major construction activities. For example, to manage stormwater runoff, the Contractor shall construct the stormwater infiltration pond prior to beginning any other earthwork.

2.03 EROSION AND SEDIMENT CONTROLS

A. Stabilization Practices: Temporary stabilization shall be initiated by the Contractor immediately upon commencement of any construction activities that would cause soil erosion. To prevent soil erosion, the Contractor shall employ Best Management Practices (BMPs) as listed in the IDEQ's Catalog of Stormwater BMPs or one or more of the following stabilization practices listed below:

1. Surface Roughening: As outlined in the IDEQ Catalog of Stormwater BMPs, the Contractor shall use heavy equipment to place tread or track groove perpendicular to slope on all disturbed slopes.
2. Rice/Straw Wattles: Wattles shall be placed in swales, channels and other locations to create a check dam, slow water velocities and settle out small solid particles.
3. If properly installed and routine maintenance performed, hay bales will be allowed.
4. Further slope stabilization shall be required where construction activity will not occur for 14 calendar days or more. If snow cover or frozen ground conditions occur within the 14 days of inactivity, stabilization measures shall be postponed until site conditions change. Also, if earthwork is to be resumed within 21 days of ceasing in a given portion of the site, the Contractor shall not be required to initiate stabilization measures. Stabilization measures to be used include:

a. Temporary seeding.
b. Permanent seeding.
c. Mulching.
d. Sod stabilization.
e. Geotextiles.
f. Erosion control blankets.

2.04 STRUCTURAL PRACTICES

A. Structural Practices: Structural practices may include but are not limited to: silt fences earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins.

1. Structural practices shall be employed at all down slope boundaries of the construction area and for those side slope boundaries above excavation with exposed groundwater.
2. The Contractor may construct temporary drainage swales and/or berms to direct stormwater runoff away from construction to the dewatering system Section 31 23 19.01, Dewatering.

2.05 STORM WATER MANAGEMENT

A. Storm Water Management: The Contractor shall be responsible for the installation and maintenance of storm water management measures prior to final stabilization of the site, and will not be responsible for maintenance after storm water discharges associated with construction activity have been eliminated from the site. Storm water management practices may include but are not limited to: storm water detention structures (including ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff onsite, and sequential systems (which combine several practices).

1. The Contractor shall construct the permanent retention pond and any other necessary BMPs prior to any construction activities. All temporary drainage swales and/or berms collecting water from disturbed areas shall be directed to the retention pond.
2. Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.
3. Silt Fence: Silt fence shall be installed on all slopes where stormwater runoff could potentially mix with exposed groundwater.

2.06 WASTE DISPOSAL

A. Construction Waste: Waste disposal from the construction site for construction wastes, sanitary wastes, and hazardous wastes shall be conducted per the requirements of the following SWPPP sections. All construction wastes shall be disposed of in a proper manner via the use of an onsite dumpster supplied by the Contractor. The Contractor shall provide removal services by a licensed solid waste management firm. The dumpster shall be emptied a minimum of once per week and more often if necessary. Burial of construction wastes onsite is not allowed. The Contractor shall ensure that the Contractor's onsite work crews and subcontractors are trained and knowledgeable in the proper manner of disposal for construction wastes. Disposal of solid waste from the construction site shall meet all applicable Federal, State, and local codes.

B. Sanitary Wastes: The Contractor shall provide fixed or portable chemical toilets for use by onsite work crews and subcontractors. The Contractor shall hire a properly licensed sanitary waste management firm for the disposal of the sanitary waste from the construction site, including the Contractor's trailer(s) and the Engineer's trailer(s). Disposal of sanitary waste from the construction site shall meet all applicable Federal, State, and local codes.

C. Hazardous Wastes: All hazardous materials used for the construction shall be stored, handled, and applied per the manufacturer's printed instructions and per all applicable Federal, State, and local codes. The Contractor shall ensure that the Contractor's onsite work crews and subcontractors are trained and knowledgeable in the proper manner of disposal for hazardous wastes. The disposal of hazardous wastes from the construction site shall be the responsibility of the Contractor and be performed by a licensed hazardous waste management firm.

2.07 RECORD KEEPING

A. The Contractor shall maintain the following records onsite at all times throughout construction:

1. Records of Construction Activities: Dates shall be recorded when major grading activities occur, construction activities temporarily cease on a portion of the site, construction activities permanently cease on a portion of the site, and when stabilization measures are initiated and completed on the site.
2. Maintenance and Inspection Reports: The Contractor shall record maintenance performed to repair or correct any implemented stormwater or erosion control BMPs. The Contractor shall have on staff someone who is knowledgeable of the proper construction of the controls, be aware of the requirements of the SWPPP, be aware of spill control

practices and notification requirements, and maintain clear and accurate inspection reports. The inspection reports will be maintained with the latest version of the SWPPP in the Contractor's construction trailer. Also, when an on-site inspection occurs by a regulatory agency, the Contractor shall record the following: Name of inspector, qualifications of inspector, measures/areas inspected, observed conditions, changes necessary to the SWPPP.

3. Reportable Quantities of Oil or Hazardous Materials (if they occur): The Contractor shall perform the following: shall notify National Response Center (1-800-424-8802) immediately, notify permitting authority in writing within 14 days, modify the pollution prevention plan to include: the dates of release, circumstances leading to the release, and steps taken to prevent reoccurrence of the release.
4. Modifications to the SWPPP: When notified by the EPA, the Contractor shall record any modifications made to the SWPPP throughout construction to comply with minimum EPA permit requirements. In addition, the Contractor shall also record any change in design, construction operation, or maintenance that has an effect on the potential for discharge of pollutants.
5. Waste Disposal Records: Records of the type and quantity of waste materials disposed from the site, the disposal firm, and other information required by Federal, State, and local regulations. These records shall be maintained in the Contractor's construction trailer during the entire construction period and available for inspection. A copy of the records shall be transferred to the Owner at the end of the construction period.

2.08 OTHER CONTROLS

A. Offsite Vehicle Trucking: Onsite access roads near the Contractor's storage yard (exact location to be determined) as well as W. Railroad Street outside of the site's main entrance shall be kept clean per Owner's approval.

1. If necessary, a wheel washer (i.e., pressure washer) will be required to remove dirt from truck tires prior to leaving the stabilized gravel road in the Contractor's storage yard. The Engineer shall determine the necessity of a wheel washer as the project progresses.
2. The existing access road shall be swept daily around the construction road entrance, if required, to remove mud, dirt, stone, and other sediment which accumulate due to vehicles entering and leaving the construction site.

B. Dust Abatement: The Contractor shall comply with all of the requirements listed in the SWPPP.

C. Rubbish Control: The Contractor shall comply with all of the requirements listed in the SWPPP.

2.09 INVENTORY OF MATERIALS

A. All materials expected to be present onsite during construction shall be listed in the SWPPP.

2.10 NON-STORMWATER DISCHARGES

A. Non-stormwater discharges will result from this construction activity, and each flow shall be handled differently. These activities, as described below, shall not be performed until the proper stormwater pollution controls described above have been installed and are functioning properly.

1. Flushing of Pipelines. All pipelines shall be tested per Division 1 testing specifications.
2. Dewatering of Uncontaminated Groundwater. The Contractor shall comply with all of the requirements listed in Section 31 23 19.01, Dewatering.
    a. The Contractor shall maintain siltation protection during disposal of water from dewatering activities.
    b. The Contractor shall manage and dispose of groundwater separately from stormwater runoff.
3. Miscellaneous Washdown Water for Buildings and Pavement. Washdown of structures and pavement shall only occur in areas having no sign of contamination of hazardous substances, such as vehicle oil or fuel. Washdown water shall be directed to the storm drain system via proper grading of the site, particularly in the area of the washdown. Any contamination shall be removed in accordance with appropriate regulations.
4. Equipment Testing. Water from equipment testing and plant start-up shall be discharged through the wastewater treatment works if the water is uncontaminated (as defined above). Water which contains contaminants shall be disposed through the sanitary sewer (returned to the head of the plant), or by another manner depending on the type of contaminant(s). The method of disposal shall be as approved by the Engineer prior to commencement of equipment testing or plant testing.

2.11 ENDANGERED SPECIES

A. The Contractor shall comply with the Endangered Species Act of 1973 and ensure that any endangered species are not jeopardized.

B. Fauna, Flora, and Natural Communities. Flora common in uncultivated areas in this area and in the soil at the site includes Kentucky bluegrass, redtop,

white clover, rushes, sedges, willows, big sagebrush, and herbaceous plants. Much of the site has been landscaped and includes common species of lawn grass, as well as various ornamental shrubs and trees. Disturbed, unimproved flora includes common species of invader weeds.

C. Fauna within the planning area is limited primarily to the area outside of the existing WWTP site boundary, although bird species do utilize areas within the WWTP boundary. Fish species in Indian Creek are not known to have been characterized, but it is assumed that species present in Indian Creek could include mountain whitefish, largemouth bass, bluegill, channel catfish, large scale sucker, bridge lipsucker, speckled dace, and perhaps rainbow trout. Waterfowl also utilize the riparian zones and adjacent areas around Indian Creek, including mallards, Canada geese, and cormorant. Various common songbirds are also present. Other potential occupants of the riparian zone and adjacent areas include beaver, muskrat, and mink, as well as various rodents, insects, and other animals indigenous to the region. Potential land users which have been classified as threatened or endangered species include bald eagles, which have been observed in the area but are not known to nest at or near the site.

2.12 CULTURAL RESOURCES

A. The Contractor shall comply with the requirements listed in the SWPPP.

B. All activities associated with the Proposed Action would occur on land which has at some point in the past been disturbed from its pre-development state. It is considered unlikely that archaeological deposits exist on the site. Construction shall immediately cease and appropriate State personnel notified if cultural resources are discovered during construction activities.

PART 3 EXECUTION

3.01 GENERAL

A. The Owner and Contractor shall be co-permittees of the General Construction Permit and, as such, both are responsible for the implementation of the SWPPP.

B. A copy of the SWPPP, NOI, and the NPDES Stormwater General Construction Permit shall be kept on site at all times.

3.02 MAINTENANCE/INSPECTION PROCEDURES

A. Any and all erosion control structures and stabilization practices will be inspected by the Engineer on a weekly basis at a minimum and after any storm event of 0.5 inch or greater. During the winter when the ground is frozen and runoff is unlikely to occur, such inspections shall be conducted at least monthly.

1. The SWPPP shall be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revision to the SWPPP shall be made within 7 calendar days following any identified correction. Copies of the revised SWPPP shall be provided to the Owner, Contractor, and Engineer.
2. All areas that undergo temporary and final stabilization with seeding or sodding shall be inspected, areas that have lack of growth and bare spots shall be reseeded by the Contractor to ensure healthy growth.
3. All erosion control structures and stabilization practices shall be maintained in good working condition throughout the duration of the construction project.
4. Repair of the damage to any structural erosion control structure shall be completed by the Contractor within 24 hours of discovery of the damage.
5. In locations where silt fences or wattles are used around catch basins, trapped sediment shall be removed by the Contractor when one-third of the height of the silt fence or wattle is covered by sediment.

B. To determine potential buildup of sediment in the infiltration pond, the depth of the pond shall be measured monthly by the Contractor and the depth shall be provided to the Engineer within one day of measuring. The Contractor shall remove sediment buildup in the pond if the buildup begins to interfere with the proper operation of the pond. The infiltration pond shall be excavated to design profile depths and slopes at the end of the project, if sediment buildup has significantly altered the pond profile.

C. It is intended that the excavated material from the site be used as fill grade elevation of the construction site. Excess excavated material shall be placed as described in the Contract Documents. Once placed, the excess excavated material shall be stabilized using one of the suggested BMPs listed above or in IDEQ’s Catalog of Stormwater BMPs.

3.03 SPILL PREVENTION

A. The Contractor shall comply with requirements listed in Section 01 55 00, Site Access Staging and Storage.

B. Material Best Management Practices:

1. General Good Housekeeping. The following are good housekeeping techniques which shall be utilized when construction materials are onsite:
   a. Only materials used for this construction project shall be stored onsite. These materials shall be stored in quantities reasonable for use on this project.
   b. Materials shall be stored in a neat and orderly fashion in their original containers. The materials shall be protected from the elements as specified by the manufacturer.
   c. The handling and storage of all materials shall follow the manufacturer's written instructions, the project specifications, or applicable governmental codes; whichever is most stringent.
   d. Construction materials storage containers shall be disposed in a proper manner and, if possible, only after all the contents have been used.
   e. The Contractor shall maintain on file, at the Contractor's construction trailer, all manufacturer's printed recommendations for the storage, handling, use, and disposal of construction materials.
   f. The Contractor shall inspect the materials storage area on a daily basis and ensure that proper housekeeping practices are utilized for materials storage.
   g. The Contractor shall maintain an inventory of construction materials stored onsite. The inventory shall be kept in the Contractor's construction trailer and be available for inspection by the Engineer.
   h. During adverse weather and against the possibility thereof, the Contractor shall take all necessary precautions to ensure the protection of the construction materials storage areas.
2. Hazardous Materials. The following additional housekeeping practices shall be followed for hazardous construction materials:
   a. Hazardous materials shall be stored separately from non-hazardous materials onsite.
   b. Products shall remain in their original containers with the original legible product label attached to the container.
   c. All products shall be used before disposal of the container.
   d. The handling and storage of all hazardous materials shall follow the manufacturer's written instructions, the project specifications, or applicable governmental codes, whichever is most stringent.
   e. Hazardous materials, including diesel fuel, must be stored in contained areas which are able to contain 150 percent of the volume of the largest container's contents. If the area is not exposed to stormwater, the volume of the containment area shall

be 110 percent of the volume of the largest container's contents. Each hazardous material shall be stored in its own containment area.

f. Under no circumstances shall hazardous materials be used or stored within 100 feet of any water supply well, unless specifically permitted by the Engineer and governing Federal, State, or local agency.

g. At the minimum, the containment area shall be constructed with dikes and lined with a material resistant to the properties of the hazardous material being contained. Before removal of any stormwater from the containment area, a representative sample of the water shall be tested for contamination by the hazardous material stored in that containment area. For example, if the hazardous material is an acid, the pH of the rainwater shall be measured prior to disposal. Disposal of non-contaminated stormwater shall be directed to the nearest storm drain system component. If the stormwater is found to be contaminated, as defined above, the Contractor shall follow the spill control measures for this hazardous material.

h. The Contractor shall maintain all manufacturer's storage, handling, use, and disposal recommendations and Material Safety Data Sheets of all hazardous materials at the Contractor's construction trailer.

i. The Contractor shall inspect the hazardous materials storage area on a daily basis and ensure proper storage of the hazardous materials.

j. The Contractor shall maintain an inventory of hazardous materials stored onsite. The inventory shall be kept in the Contractor's construction trailer and be available for inspection by the Engineer.

k. When transferring or unloading hazardous materials, the Contractor shall ensure that the area is protected from stormwater and that the materials transfer operation shall not cause contamination (as defined above) to stormwater. The hazardous materials handling operation shall occur in a contained area of the construction site.

l. During adverse weather and against the possibility of damage thereof, the Contractor shall take all necessary precautions to insure the protection of the hazardous materials storage areas.

C. Product Specific Practices: Special stormwater management specific practices shall be utilized for specific products. These products are discussed in the following paragraphs.

1. Petroleum-Based Products: All onsite vehicles shall be properly maintained and checked for any leaks of fluids or petroleum-based products. If a leak is found, the vehicle shall be repaired immediately or removed from the site. Diesel fuel shall be considered a hazardous material and stored in a containment area as indicated above.
2. Acid and Base Chemicals: All acid and base chemicals are considered hazardous materials and shall be stored in containment areas as described above. Disposal of acid or base chemicals shall, under no circumstances, occur via the storm drain system, but instead through proper hazardous materials disposal procedures.
3. Paints, Thinners and Solvents: Paints, thinners, and solvents shall be stored in their original containers. Unused paints, thinners, and solvents shall not be dumped onsite or disposed through the sanitary or storm sewer system. Disposal of unused paints, thinners, and solvents shall be through proper hazardous materials disposal procedures.
4. Fertilizers and Pesticides: Fertilizers and pesticides shall be applied at the minimum rate recommended by the manufacturer. Pesticides shall be applied by a certified pesticide applicator. Fertilizers shall be protected from exposure to stormwater. Contents of partially used bags of fertilizer shall be transferred to sealable containers to prevent spillage and exposure to stormwater and rain. Fertilizer shall be worked into the soil upon application in a landscaped area.
5. Concrete Trucks: The washdown of concrete trucks or the disposal of unused or unacceptable concrete from a concrete truck will be permitted onsite only if the Contractor has set aside a specific area for this purpose, with dikes to prevent contact between the washdown water or excess concrete and stormwater. Once the solids in the area have hardened, the Contractor shall dispose of the solids in an approved manner.

D. Spill Control Practices: In addition to good housekeeping practices, hazardous materials practices, and the product specific practices as described above, the following practices shall be followed for spill prevention, control, cleanup, and notification:

1. Any and all spills shall be cleaned immediately.
2. The Contractor shall notify the Engineer, Owner, and all applicable governmental agencies if a spill occurs.
3. Manufacturer’s printed instructions for the cleanup of a spill shall be kept onsite by the Contractor at all times. The Contractor’s work crews and subcontractors shall be required to be familiar with the requirements

and procedures for spill cleanup. Equipment necessary for spill cleanup, such as gloves, metal containers, mops, etc., shall be maintained onsite by the Contractor. The cleanup instructions and the location of the cleanup equipment shall be maintained at the Contractor's construction trailer during construction activities.

4. Workers involved in the cleanup of a spill shall be properly protected by protective suits, ventilation masks, goggles, and other necessary equipment, prior to contact with the spilled material.
5. The Contractor shall name an employee who will be onsite full-time throughout the duration of the project as the spill cleanup coordinator. The spill cleanup coordinator will be responsible for notifying the proper personnel and agencies of a spill and obtaining the proper equipment and personnel to cleanup the spill. The name and phone number where the spill cleanup coordinator can be reached at all times shall be posted on the construction site. The spill cleanup coordinator shall be properly trained in spill cleanup procedures.
6. The Contractor shall maintain material data safety sheets for all hazardous materials in the Contractor's trailer. The spill cleanup coordinator shall have access to the material data safety sheets at all times during construction.
7. After a spill is contained and cleanup, a spill occurrence report shall be completed by the Contractor. The SWPPP shall be modified to prevent a reoccurrence of a type of spill.

END OF SECTION

SECTION 01 57 28
TEMPORARY FLOW CONTROL

PART 1 GENERAL

1.01 DEFINITIONS

A. Bypass Pumping: Temporary flow control accomplished by diverting flow away from the Work area using one or more pumps.

B. Temporary Flow Control: Reducing, limiting, or excluding flow in or to a sanitary sewer, storm sewer, pump station, force main, or other facility as required for performing the Work under the Contract. Draining, handling, and disposal of sanitary sewage and stormwater from pipelines and other facilities as required for performing the Work under the Contract is also part of temporary flow control.

C. Temporary Flow Control Plan: Plan prepared by Contractor containing complete information on how Contractor proposes to perform temporary flow control in accordance with specified requirements.

1.02 SYSTEM DESCRIPTION

A. Provide facilities and controls required to intercept, convey, and discharge flow to be controlled; include standby and emergency equipment.

B. Conform to regulatory requirements.

C. Protect water resources, wetlands, and other natural resources.

D. Temporary flow control shall be done in a manner that will not damage private or public property, or create a nuisance or public menace. Flow shall be conveyed in enclosed pipes that are adequately protected from traffic or other hazards.

E. Discharge:

1. To wastewater treatment plant.
2. Dumping or free flow on private or public property, gutters, streets, or sidewalks is prohibited.
3. Discharge of sanitary sewage to storm sewers, to surface waters or wetlands, or into the ground, is prohibited.

1.03 SITE CONDITIONS

A. Existing facilities in vicinity of the wastewater treatment plant are shown on Drawings.

B. Provide pumping, level monitoring and control systems and temporary piping as described herein and on the Drawings.

1.04 SUBMITTALS

A. Informational Submittals:

1. Temporary Flow Control Plan.
2. Information describing equipment and materials to be used and showing conformance with specified requirements.

1.05 QUALITY ASSURANCE

A. Qualifications:

1. Temporary Flow Control System Designer: Professional engineer who has at least 5 years' experience in design of such systems and who is registered in the State of Idaho.

1.06 SEQUENCING AND SCHEDULING

A. Refer to Section 01 31 30, Construction and Schedule Constraints.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. Install temporary flow control facilities only within Owner's property.

B. Operate and maintain temporary flow control 24 hours per day, 7 days per week, including without limitation, holidays, as required to control flows.

C. Promptly remove temporary flow control facilities as soon as they are no longer needed.

D. Contractor or the temporary flow control subcontractor shall respond in 30 minutes or less to a call from the Nampa treatment plant operators indicating that there is a malfunction in the temporary flow control system. Phone number contacts shall be furnished to the Owner and shall be posted and made available to the onsite or on-call treatment plant operators.

3.02 REQUIRED TEMPORARY FLOW CONTROL

A. Secondary Clarifier Bypass Pumping:

1. The total plant flow shall be pumped from the Trickling Filter Effluent Pump Station (TFEPS) wet well to the secondary clarifier. Bypass pumping must be operational for 7 days prior to removing the following processes from service.
   a. The existing flow path from the Primary Effluent Splitter Box to the Secondary Effluent Pump Station (SEPS).
2. Bypass pumping capacity shall be 5 mgd to 24 mgd. This capacity shall be achieved through a combination of the two existing TFEPS submersible pumps, each rated for 5.75 mgd, and a minimum of three temporary pumps each rated for a minimum of 6.25 mgd, such that the 24 mgd flow can be achieved with any one pump out of service.
3. The bypass pumps shall take suction from the TFEPS wet well with a water service elevation of 2443 and pump to the Secondary Clarifier No. 2 with a water surface at elevation 2469.2. The bypass may discharge into the existing TFEPS discharge header, or pump over the wall of the clarifier (at elevation 2471.2) and discharge into the center distribution well of the clarifier. If a tie-in is made to the existing 30-inch TFEPS discharge header, the Contractor shall provide calculations that the existing pump flow will not be substantially reduced as a function of the bypass pump back pressure such that the 24 mgd cannot be achieved. If a temporary discharge line is used, this line must be supported across the secondary clarifier radius and shall not impede secondary clarifier sweep arm operation.
4. The bypass pumps shall be electric motor driven and provided with variable speed drives and their own level control system to vary pump speed and cycle pumps to control the level in the TFEPS wet well. The bypass pumps shall be the base-load pumps.
5. The two existing TFEPS variable speed submersible pumps shall continue to operate off their existing level control system, and shall be the backup pumps. If the bypass pumps turn on and ramp up to full speed, and the wet well level continues to rise, then the existing TFEPS pumps shall start and ramp up and down in speed to control the level in the wet well.
6. The existing wet well high and low level alarm switchers shall remain in place and be used to generate alarms through the plant control system.
7. The bypass pumping system shall operate off a single 480V, three-phase power supply as shown on the electrical drawings. Any required control voltage shall be derived from this 480V power supply.
8. The bypass pumps, variable speed drives and associated controls shall be suitable for outdoor installation, or the Contractor shall provide a suitable enclosure if any of this equipment is to be located indoors.

Piping material is the Contractor's option. Provisions to prevent freezing shall be provided.

9. Refer to the drawings for a layout of the existing TFEPS and its discharge piping, and the Secondary Clarifier No. 2.
10. Provide a discrete signal for pump failure (motor temperature, motor moisture, not-operating) and provide temporary connection to the plant SCADA system.

B. Secondary Clarifier Discharge Piping:

1. The trickling filter secondary effluent (TFSE) shall be piped from the discharge of Secondary Clarifier No. 2 to Aeration Basins 1 and 2. The connection to Aeration Basins 1 and 2 shall be made using the new 16-inch SI pipe connections to the Selector Zones that are shown on the Drawings for the new permanent SI feed to these basins.
2. The temporary piping shall be designed to convey the TFSE by gravity from the secondary clarifier launder with a water surface of elevation2468.6 to Aeration Basins 1 and 2 with a water surface of 2460.8. The existing 30-inch TFSE line may be reused to the extent possible and as allowed by the modifications required by the work under this Contract.
3. Valves shall be provided to allow the flow to either Aeration Basin 1 or 2 to be shut off to take a basin out of service and to provide operational flexibility. Piping to one of the basins that may be isolated and have no flow shall be arranged to drain or have provisions for draining to prevent freezing during sub-freezing temperatures.
4. Provide calculations to demonstrate that the flow to Basins 1 and 2 will split equally within 20 percent for flows from 5 mgd to 15 mgd and within 10 percent for flows from 16 mgd to 24 mgd based on the installed bypass piping loss. If the valves in the lines to each basin need to be throttled to achieve these flow splits, provide a chart of valve position versus flow.
5. Piping material is the Contractor's option. Piping may be located above or below grade, but shall be installed in either scenario such that the Owner's access to the road on the north side of Aeration Basins 1 and 2 is not impeded except as authorized by the Owner.
6. Provisions to prevent freezing shall be provided.

C. Temporary Underdrain Pump Station Piping –North Side of Aeration Basins 1 and 2:

1. The discharge of the underdrain pump station located on the north side of Aeration Basins 1 and 2 shall be rerouted to Aeration Basins 1 and 2 until such time as the permanent reroute of this discharge line to an operating PEPS is in service.

2. The pipe shall be routed over the top of the aeration basin wall and discharge into the FAZ zones of Basins 1 and 2. Valves shall be provided in the line to each basin to allow the flow to be routed to either Basin 1 or 2, or to both Basin 1 and 2. Piping shall be arranged relatively symmetrically to each basin so that the flow will split about equally based on the piping layout without the need to throttle the valve to either basin. Piping to one of the basins that may be isolated and have no flow shall be arranged to drain or have provisions for draining to prevent freezing during sub-freezing temperatures.
3. Piping material is the Contractor's option. Piping may be located above or below grade, but shall be installed in either scenario such that the Owner's access to the road on the north side of Aeration Basins 1 and 2 is not impeded, except as authorized by the Owner. Any piping routed over the walkway(s) on the aeration basins shall be located at least 6 feet above the top of the walkway.
4. Provisions to prevent freezing shall be provided.

D. Temporary Underdrain, Storm Drain, and TOF Piping – South Side of Aeration Basins 1 and 2:

1. The discharge of the digester underdrain pump station, storm drain piping and the TOF line located on the south side of Aeration Basins 1 and 2 shall be rerouted to Aeration Basins 1 and 2 until such time as the permanent reroute of these lines to an operating PEPS is in service.
2. The underdrain and storm drain flows currently combine in manholes on the south side of Aeration Basin 1 and 2. These are to be intercepted and eventually rerouted to the PEPS wet well as shown on 050-CY-109. On that same sheet, an existing 15-inch TOF line is shown to be intercepted and rerouted to PEPS as part of the permanent modifications. During construction, until PEPS is operating, both of these lines are to be routed and flow by gravity to Primary Clarifier 1. From Primary Clarifier 1, the flows are to be pumped to Aeration Basins 1 and 2.
3. Provide a minimum of two pumps, sized to maintain the required flow with one pump out of service. The required maximum pumping rate is 1,200 gpm. The Contractor can select pump type (i.e. submersible).
4. The pumps are to pump from Primary Clarifier 1 to Aeration Basins 1 and 2. Primary Clarifier 1 has a bottom sidewall elevation of 2445, a bottom center elevation of 2441.6 and a diameter of 90 feet. The pumps should operate in ON-OFF control at fixed speed, with a lead pump and a lag pump, and maintain the level in the clarifier at not more than 2447. Contractor shall provide level controls to automatically control the pumps.
5. Pumps shall be electric motor driven and contractor shall provide disconnects and starters for the pumps. Power to the pumps shall be a single 480V, three-phase power connection as shown on the electrical

Drawings. Any required control voltage shall be derived from the 480V power supply.

6. The bypass pump discharge pipe shall be routed over the top of the aeration basin wall and discharge into Zone 3 of Basins 1 and 2. A valve shall be provided in the line to each basin to allow the flow to be routed to either Basin 1 or 2, or to both Basin 1 and 2. Piping shall be arranged relatively symmetrically to each basin so that the flow will split about equally based on the piping layout without the need to throttle the valve to either basin. Piping to one of the basins that may be isolated and have no flow shall be arranged to drain or have provisions for draining to prevent freezing during sub-freezing temperatures.
7. Piping material is the Contractor's option. Piping may be located above or below grade, but shall be installed in either scenario such that the Owner's access to the road on the south side of Aeration Basins 1 and 2 is not impeded, except as authorized by the Owner and as required by the Work. Any piping routed over the walkway(s) on the aeration basins shall be located at least 6 feet above the top of the walkway.
8. Provide a high high-level switch in the basin to indicate that the elevation has exceeded 1 foot above the highest level start.
9. Provisions to prevent freezing shall be provided.

3.03 EQUIPMENT AND MATERIALS

A. General:

1. Provide materials and equipment that will ensure continuous and successful operation of temporary flow control systems.
2. Repair or modify systems as necessary.
3. Unless otherwise shown or specified, materials and equipment may be new or used at Contractor's option.

B. Pumps:

1. Fully automatic, self-priming units that do not require use of foot valves or vacuum pumps in priming system, or submersible pumps.
2. Solids handling design with ability to pump minimum 3-inch diameter sphere.
3. Able to run dry for long periods of time to accommodate cyclical nature of flows.
4. Motors: 480V, three-phase, with enclosure suitable for outdoor application.

C. Standby Equipment:

1. Standby Pump: One for each bypass system to be installed and sequenced into the control system to start automatically if one of the other bypass pumps or one of the existing TFEPS pumps fails.
2. Electric Power Generators: Minimum of one if temporary flow control system contains electric powered pump. Able to simultaneously start and run electric powered pumps required for flow to be controlled.

3.04 TEMPORARY FLOW CONTROL PLAN

A. Prepare and submit Temporary Flow Control Plan at least 30 days before starting the Work requiring temporary flow control; include following information:

1. Drawings indicating location of temporary pumps and bypass gravity and discharge lines.
2. Locations where flow will be intercepted and discharged.
3. Complete descriptions and performance characteristics of pumps, electric power generators, and standby equipment.
4. Details of temporary force mains, including horizontal and vertical alignments, pipe materials, protection of existing buried and aboveground facilities and improvements, maintenance of traffic and access to facilities.
5. Design calculations proving adequacy of temporary system and selected equipment to convey all flows.
6. Drawings showing layouts and configurations of temporary flow control facilities.
7. Drawings and design calculations for thrust restraint of temporary piping.
8. Details of system controls and control logic; include diagrams and narrative.
9. Power system layout and pump wiring schematic.
10. Anticipated schedule for the Work.
11. Other information to completely describe temporary flow control facilities and conformance to specified requirements.
12. Contract information for requesting service during all hours when Contractor is not onsite.

3.05 DRAINING EXISTING PIPELINE

A. Before initiating shutdown, ensure required materials, equipment, and labor are available onsite. Excavate and expose portions of existing pipeline to be removed or bypassed.

B. Provide tap and piping in place to drain liquid from existing pipeline before it is cut and to capture contents that may drain out when pipe is cut.

C. Liquid drained from pipeline shall be conveyed and discharged to basin approved by the Owner.

3.06 FIELD QUALITY CONTROL

A. Hydrostatic Pressure Test for Pump Bypass Systems:

1. Prior to operation, test each section of discharge piping with maximum pressure equal to 1.5 times maximum operating pressure of system.
2. Notify Engineer 24 hours prior to testing.

B. Full Scale Test:

1. At least 7 days prior to test, notify Engineer of date and time of test.
2. Do not begin temporary flow control activities until successful test has been completed.
3. Conduct on proposed temporary flow control at least 7 days before scheduled date of actual proposed temporary flow control.
4. Purpose of test is to demonstrate capability, function, and reliability of Contractor's proposed method of temporary flow control.
5. Duration: Minimum of 3 hours.
6. Conduct between 8:00 a.m. and 4:00 p.m. on a weekday.
7. If electric pumps are being used, provide standby generators to ensure continuity of pumping operation in event of power failure.
8. Demonstrate system controls and operation, reliability, and transfer to standby equipment during test.
9. Conduct until flow is accommodated for minimum specified test duration.
10. Failure:
    a. Test shall be deemed to have failed if during test flows are not accommodated for whatever reason and for whatever length of time.
    b. If test fails, determine and correct deficiencies that caused test to fail and conduct another Full Scale Test.
11. Determination by Engineer of a successful test, permission by Engineer to proceed with the Work requiring temporary flow control, or anything else shall not relieve Contractor from responsibility to provide temporary flow control.

END OF SECTION

SECTION 01 60 01
ANCHORAGE AND BRACING REQUIREMENTS

PART 1 GENERAL

1.01 DESCRIPTION

A. General: This section establishes the minimum anchorage and bracing requirements for architectural, mechanical, and electrical components, as well as non-building structures. All components and non-building structures shall be permanently attached to supporting structures with sufficient strength and ductility to resist the forces described in this section. Gravity supports and anchorages are specified on the Drawings and in subsequent sections of the Contract Documents.

B. Contractor Responsibilities:

1. Design, provide and install all supports, restraints, and anchorages as required herein. All design calculations and drawings shall be stamped by an Idaho licensed Civil/Structural engineer. Drawings and calculations shall be submitted for review and approval of Engineer prior to any ordering or fabrication of any material.
2. Engineering design is not required where such supports are specifically detailed on the drawings or specified. Engineering design is not required where tabularized system selection guides are specified using listed References.
3. Ensure that all manufacturers, material suppliers, and subcontractors understand and conform to requirements of this section.
4. Coordinate and verify the location of anchor bolts prior to the placing of concrete. See paragraph 3.1. Coordinate and assist Special Inspections as specified in Section 01 45 16.33, Special Inspection and Testing.

1.02 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. American Institute of Steel Construction (AISC) 360, Specification for Structural Steel Buildings.
2. American Society of Civil Engineers (ASCE): ASCE 7, Minimum Design Loads for Buildings and Other Structures.
3. International Code Council (ICC): International Building Code (IBC).

1.03 DEFINITIONS

A. Authority Having Jurisdiction (AHJ): Permitting building agency; may be a federal, state, local, or other regional department, or individual including building official, fire chief, fire marshal, chief of a fire prevention bureau, labor department, or health department, electrical inspector; or others having statutory authority. AHJ may be Owner when authorized to be self-permitting by governmental permitting agency or when no governmental agency has authority.

B. Designated Seismic System: Architectural, electrical, and mechanical system or their components for which component importance factor, Ip, is greater than 1.0.

1.04 DESIGN AND PERFORMANCE REQUIREMENTS

A. General:

1. Anchorage and bracing systems shall be designed by a qualified professional engineer registered in the State of Idaho.
2. Design anchorage and bracing of architectural, mechanical, and electrical components and systems in accordance with this section, unless a design is specifically provided within Contract Documents or where exempted hereinafter.
3. Design attachments, braces, and anchors for equipment, components, and distribution systems to structure for gravity, seismic, wind, and operational loading.
4. Piping and ductwork, whether exempt or not exempt for this section, shall be anchored and braced so that lateral or vertical displacement does not result in damage or failure to essential architectural, mechanical, or electrical equipment.
5. Provide supplementary framing where required to transfer anchorage and bracing loads to structure.
6. Adjust equipment pad sizes or provide additional anchorage confinement reinforcing to provide required anchorage capacities.
7. Design anchorage and bracing for:
    a. Mechanical or Electrical Equipment and components that weigh more than 400 pounds and have center of mass located 4 feet or less above adjacent finished floor.
    b. Mechanical or Electrical Equipment weighing more than 75 pounds that has center of mass located more than 4 feet above adjacent finished floor.
    c. Distribution systems that weigh more than 5 pounds per foot that are mounted more than 5 feet above adjacent finished floor.

8. Design seismic anchorage and bracing for Designated Seismic Systems regardless of weight or mounting height.
    a. Component Important Factor
        1) Ip = 1.0, unless noted otherwise.
        2) Ip shall be taken as 1.5 if any of the following conditions apply:
            a) Component is required to function for life-safety purposes after an earthquake, including fire protection sprinkler systems and egress stairways.
            b) Component contains hazardous materials.
        3) Ip shall be taken as 1.5 for the following: Primary Effluent Pumps.
9. For components exempted from design requirements of this section, provide bolted, welded, or otherwise positively fastened attachments to supporting structure.

B. Design Loads:

1. Gravity: Design anchorage and bracing for self-weight and superimposed loads on components and equipment.
2. Wind: Design anchorage and bracing for wind criteria provided on General Structural Notes on Drawings for exposed architectural components and exterior and wind-exposed mechanical and electrical equipment. Alternately, manufacturer certification may be provided for components such as roofing and flashing to verify attachments meet Project-specific design criteria.
3. Operational:
    a. For loading supplied by equipment manufacturer for IBC required load cases.
    b. Loads may include equipment vibration, torque, thermal effects, effects of internal contents (weight and sloshing), water hammer, and other load-inducing conditions.
    c. Locate braces to minimize vibration to or movement of structure.
    d. For vibrating loads, use anchors meeting requirements of Section 05 50 00, Metal Fabrications, for anchors with designated capacities for vibratory loading per manufacturer's ICC-ES report.
4. Hydraulic: Design of anchorage for submerged gates and other mechanical equipment shall include hydrostatic and hydrodynamic loads determined in accordance with Section 15.7 of ASCE 7-10.
5. Seismic:
    a. In accordance with 2012 IBC, Section 1613, and Chapter 13 of ASCE 7.
    b. Design anchorage and bracing for design criteria listed on General Structural Notes on Drawings.

c. Design forces for anchors in concrete or masonry shall be in accordance with ASCE 7, Section 13.4.2 as applicable for Project Seismic Design Category.

C. Seismic Design Requirements: Analyze local region of body of nonstructural component for load transfer of anchorage attachment if component Ip = 1.5.

1.05 SUBMITTALS

A. Submittals shall be provided for each piece of equipment, system, or anchorage, in accordance with Section 01 33 00, Contractor Submittals, and shall include the following information:

B. Action Submittals:

1. Certificate of Compliance for each Contractor designed bracing system, signed and sealed by a Professional Engineer registered in Idaho. Certification shall state that the component's support and anchorage systems are designed to withstand the required seismic forces and displacements in accordance with this section.
2. Shop Drawings:
   a. List of architectural, mechanical, and electrical equipment requiring Contractor-designed anchorage and bracing, unless specifically exempted.
   b. Manufacturers' engineered seismic hardware product data.
   c. Seismic attachment assemblies' drawings; include connection hardware, braces, and anchors or anchor bolts for nonexempt components, equipment, and systems.
   d. Submittal will be rejected if proposed anchorage method would create an overstressed condition of supporting member. Revise anchorages and strengthening of structural support so there is no overstressed condition.

C. Informational Submittals:

1. Anchorage and Bracing Calculations: For attachments, braces, and anchorages, include IBC and Project-specific criteria as noted on General Structural Notes on Drawings, in addition to manufacturer's specific criteria used for design; sealed by a civil [or structural] engineer registered in the State of Idaho.
2. Manufacturer's hardware installation requirements.

D. Deferred Submittals:

1. Submitted seismic anchorage drawings and calculations are identified as IBC deferred submittals and will be submitted to and accepted by AHJ prior to installation of component, equipment or distribution system.
2. Submit deferred action submittals such as shop drawings with supporting deferred informational submittals such as calculations no less than 4 weeks in advance of installation of component, equipment or distribution system to be anchored to structure.

1.06 SOURCE QUALITY CONTROL

A. Contractor and supplier responsibilities to accommodate Owner-furnished shop fabrication related special inspections and testing are provided in Project's Statement of Special Inspections in Section 01 45 33, Special Inspection and Testing.

B. All other specified, regulatory required, or repair verification inspection and testing that are not listed in Statement of Special Inspections, are to be provided by Contractor and shall meet requirements of Section 01 45 16.13, Contractor Quality Control.

C. Source Quality Control for shall be in accordance with Section 05 50 00, Metal Fabrications.

PART 2 PRODUCTS

2.01 MATERIALS AND PRODUCTS

A. Materials and products associated with the requirements of this section are specified in their respective Division 02 through Division 46 sections or noted on the drawings.

B. Attachments and supports transferring seismic loads to structure shall be designed and constructed of materials and products suitable for application and be in accordance with design criteria shown on Drawings and nationally recognized standards.

C. Provide anchor bolts and concrete and masonry anchors for anchorage of equipment to concrete or masonry in accordance with Section 05 50 00, Metal Fabrications. Size of anchor bolts and anchors, required minimum embedment, and spacing shall be based on calculations submitted by Contractor.

D. Do not use powder-actuated fasteners or sleeve anchors for seismic attachments and anchorage where resistance to tension loads is required. Do not use expansion anchors, other than undercut anchors, for nonvibration isolated mechanical equipment rated over 10 horsepower.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. Design and construct component bracing and anchorage to resist the seismic forces specified above. These forces shall be considered acting at the center of gravity of the piece under consideration. No equipment shall be anchored to vertical structural elements without written approval of the Engineer.

B. Make attachments, bracing, and anchorage in such a manner that component lateral force is transferred to lateral force resisting system of structure through a complete load path.

C. Overall seismic anchorage system shall provide restraint in all directions, including vertical, for each component or system so anchored.

D. Components mounted on vibration isolation systems shall have snubbers in each horizontal direction and vertical restraints where required to resist overturning.

3.02 ARCHITECTURAL COMPONENTS

A. Architectural components include, but are not necessarily limited to, nonstructural walls and partitions, parapets, veneers, ceilings, penthouses, cabinets and storage racks, access floors, appendages, ornamentation, signs and billboards. Structural and architectural drawings and specifications generally provide engineered designs for nonstructural walls, partitions, parapets, veneers, ceilings and penthouses. Bracing and anchorage requirements, or the use of a Contractor designed system for other architectural components, are described on the drawings or in each section specifying that item. All items listed above may not be included in this Contract.

3.03 MECHANICAL COMPONENTS

A. Mechanical components include, but are not necessarily limited to HVAC ducts and mechanical units in total, boilers and furnaces, plumbing to include non-buried pipes and all fixtures, fire protection systems, power generation equipment, manufacturing and process mechanical equipment units and piping, storage tanks and bins, conveying systems, elevators and escalators.

B. Anchor piping in such a manner as to ensure piping system has adequate flexibility and expansion capabilities at flexible connections and expansion joints.

C. Piping and ductwork suspended more than 12 inches below supporting structure shall be braced for seismic effects to avoid significant bending of hangers and their attachments, unless high- or limited- deformability piping is used per ASCE 7, Section 13.6.8 or HVAC ducts have a cross-sectional area of less than 6 square feet or weigh 17 pounds per foot or less.

D. Anchor tall and narrow equipment such as motor control centers and telemetry equipment at base and within 12 inches from top of equipment, unless approved otherwise by Engineer.

3.04 ELECTRICAL COMPONENTS

A. Electrical components include, but are not necessarily limited to power distribution systems and associated equipment, control and instrumentation systems and associated equipment, and lighting systems.

B. Anchor electrical components in such a manner as to ensure stability. Anchor tall and narrow equipment at base and within 12 inches from top of equipment, unless approved otherwise by Engineer.

C. Anchor electrical components in such a manner as to ensure components system has adequate flexibility and expansion capabilities at flexible connections and expansion joints.

3.05 INSTALLATION

A. Do not install components or their anchorages or restraints prior to review and acceptance by Engineer and AHJ.

B. Notify Engineer upon completion of installation of seismic restraints in accordance with Section 01 45 33, Special Inspection and Testing.

3.06 FIELD QUALITY CONTROL

A. In accordance with Section 05 50 00, Metal Fabrications.

B. Contractor responsibilities to accommodate Owner-furnished special inspections and testing are provided in Project's Statement of Special Inspections in Section 01 45 33, Special Inspection and Testing.

C. Any other specified, regulatory required, or repair verification inspection and testing that are not listed in Statement of Special Inspections, are to be provided by Contractor and shall meet requirements of Section 01 45 16.13, Contractor Quality Control.

END OF SECTION

SECTION 01 61 00
COMMON PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 DEFINITIONS

A. Products:

1. New items for incorporation in the Work, whether purchased by Contractor or Owner for the Project, or taken from previously purchased stock, and may also include existing materials or components required for reuse.
2. Includes the terms material, equipment, machinery, components, subsystem, system, hardware, software, and terms of similar intent and is not intended to change meaning of such other terms used in Contract Documents, as those terms are self-explanatory and have well recognized meanings in construction industry.
3. Items identified by manufacturer's product name, including make or model designation, indicated in manufacturer's published product literature, that is current as of the date of the Contract Documents.

1.02 DESIGN REQUIREMENTS

A. Where Contractor design is specified, design of installation, systems, equipment, and components, including supports and anchorage, shall be in accordance with provisions of latest edition of International Building Code (IBC) by International Code Council.

1. Wind: Refer to the Design Criteria on the Structural Notes drawing.
2. Snow Load: Refer to the Design Criteria on the Structural Notes drawing.
3. Seismic: Refer to the Design Criteria on the Structural Notes drawing.

1.03 ENVIRONMENTAL REQUIREMENTS

A. Altitude: Provide materials and equipment suitable for installation and operation under rated conditions at 2500 feet above sea level.

B. Provide equipment and devices installed outdoors or in unheated enclosures capable of continuous operation within an ambient temperature range of minus 10 degrees F to 110 degrees F.

PART 2 PRODUCTS

2.01 GENERAL

A. Provide manufacturer's standard materials suitable for service conditions, unless otherwise specified in the individual specifications.

B. Where product specifications include a named manufacturer, with or without model number, and also include performance requirements, named manufacturer's products must meet the performance specifications.

C. Like items of products furnished and installed in the Work shall be end products of one manufacturer and of the same series or family of models to achieve standardization for appearance, operation and maintenance, spare parts and replacement, manufacturer's services, and implement same or similar process instrumentation and control functions in same or similar manner.

D. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.

E. Provide interchangeable components of the same manufacturer, for similar components, unless otherwise specified.

F. Equipment, Components, Systems, and Subsystems: Design and manufacture with due regard for health and safety of operation, maintenance, and accessibility, durability of parts, and shall comply with applicable OSHA, state, and local health and safety regulations.

G. Regulatory Requirement: Coating materials shall meet federal, state, and local requirements limiting the emission of volatile organic compounds and for worker exposure.

H. Safety Guards: Provide for all belt or chain drives, fan blades, couplings, or other moving or rotary parts. Cover rotating part on all sides. Design for easy installation and removal. Use 16-gauge or heavier; galvanized steel, aluminum coated steel, or galvanized or aluminum coated 1/2-inch mesh expanded steel. Provide galvanized steel accessories and supports, including bolts. For outdoors application, prevent entrance of rain and dripping water.

I. Authority Having Jurisdiction (AHJ):

1. Provide the Work in accordance with NFPA 70, National Electrical Code (NEC). Where required by the AHJ, material and equipment shall be labeled or listed by a nationally recognized testing laboratory or other organization acceptable to the AHJ in order to provide a basis for

approval under NEC. A list of acceptable testing agencies is available on the State of Idaho, Division of Building Safety, electrical branch's website.

2. Materials and equipment manufactured within the scope of standards published by Underwriters Laboratories, Inc. shall conform to those standards and shall have an applied UL listing mark.

J. Equipment Finish:

1. Provide manufacturer's standard finish and color, except where specific color is indicated.
2. If manufacturer has no standard color, provide equipment with gray finish as approved by Owner.

K. Special Tools and Accessories: Furnish to Owner, upon acceptance of equipment, all accessories required to place each item of equipment in full operation. These accessory items include, but are not limited to, adequate oil and grease (as required for first lubrication of equipment after field testing), light bulbs, fuses, hydrant wrenches, valve keys, handwheels, chain operators, special tools, and other spare parts as required for maintenance.

L. Lubricant: Provide initial lubricant recommended by equipment manufacturer in sufficient quantity to fill lubricant reservoirs and to replace consumption during testing, startup, and operation until final acceptance by Owner.

M. Components and Materials in Contact with Water for Human Consumption: Comply with the requirements of the Safe Drinking Water Act and other applicable federal, state, and local requirements. Provide certification by manufacturer or an accredited certification organization recognized by the Authority Having Jurisdiction that components and materials comply with the maximum lead content standard in accordance with NSF/ANSI 61 and NSF/ANSI 372.

1. Use or reuse of components and materials without a traceable certification is prohibited.

2.02 FABRICATION AND MANUFACTURE

A. General:

1. Manufacture parts to U.S.A. standard sizes and gauges.
2. Two or more items of the same type shall be identical, by the same manufacturer, and interchangeable.
3. Design structural members for anticipated shock and vibratory loads.
4. Use 1/4-inch minimum thickness for steel that will be submerged, wholly or partially, during normal operation.

5. Modify standard products as necessary to meet performance Specifications.

B. Lubrication System:

1. Require no more than weekly attention during continuous operation.
2. Convenient and accessible; oil drains with bronze or stainless steel valves and fill-plugs easily accessible from the normal operating area or platform. Locate drains to allow convenient collection of oil during oil changes without removing equipment from its installed position.
3. Provide constant-level oilers or oil level indicators for oil lubrication systems.
4. For grease type bearings, which are not easily accessible, provide and install stainless steel tubing; protect and extend tubing to convenient location with suitable grease fitting.

2.03 SOURCE QUALITY CONTROL

A. Where Specifications call for factory testing to be witnessed by Engineer, notify Engineer not less than 14 days prior to scheduled test date, unless otherwise specified.

B. Calibration Instruments: Bear the seal of a reputable laboratory certifying instrument has been calibrated within the previous 12 months to a standard endorsed by the National Institute of Standards and Technology (NIST).

C. Factory Tests: Perform in accordance with accepted test procedures and document successful completion.

PART 3 EXECUTION

3.01 INSPECTION

A. Inspect materials and equipment for signs of pitting, rust decay, or other deleterious effects of storage. Do not install material or equipment showing such effects. Remove damaged material or equipment from the Site and expedite delivery of identical new material or equipment. Delays to the Work resulting from material or equipment damage that necessitates procurement of new products will be considered delays within Contractor's control.

3.02 MANUFACTURER'S CERTIFICATE OF COMPLIANCE

A. When so specified, a Manufacturer's Certificate of Compliance, a copy of which is attached to this section, shall be completed in full, signed by entity supplying the product, material, or service, and submitted prior to shipment of product or material or execution of the services.

B. Engineer may permit use of certain materials or assemblies prior to sampling and testing if accompanied by accepted certification of compliance.

C. Such form shall certify proposed product, material, or service complies with that specified. Attach supporting reference data, affidavits, and certifications as appropriate.

D. May reflect recent or previous test results on material or product, if acceptable to Engineer.

3.03 INSTALLATION

A. Equipment Drawings show general locations of equipment, devices, and raceway, unless specifically dimensioned.

B. No shimming between machined surfaces is allowed.

C. Install the Work in accordance with NECA Standard of Installation, unless otherwise specified.

D. Repaint painted surfaces that are damaged prior to equipment acceptance.

E. Do not cut or notch any structural member or building surface without specific approval of Engineer.

F. Handle, install, connect, clean, condition, and adjust products in accordance with manufacturer's instructions, and as may be specified. Retain a copy of manufacturers' instruction at Site, available for review at all times.

G. For material and equipment specifically indicated or specified to be reused in the Work:

1. Use special care in removal, handling, storage, and reinstallation to assure proper function in the completed Work.
2. Arrange for transportation, storage, and handling of products that require offsite storage, restoration, or renovation. Include costs for such Work in the Contract Price.

3.04 FIELD FINISHING

A. In accordance with Section 09 90 00, Painting and Coating, and individual Specification sections.

3.05 ADJUSTMENT AND CLEANING

A. Perform required adjustments, tests, operation checks, and other startup activities.

3.06 LUBRICANTS

A. Fill lubricant reservoirs and replace consumption during testing, startup, and operation prior to acceptance of equipment by Owner.

3.07 SUPPLEMENTS

A. The supplement listed below, following “End of Section”, is part of this specification.

1. Form: Manufacturer’s Certificate of Compliance.

END OF SECTION

MANUFACTURER'S CERTIFICATE OF COMPLIANCE

OWNER: _____

PROJECT NAME: _____

PROJECT NO: _____

PRODUCT, MATERIAL, OR SERVICE SUBMITTED: _____

Comments: _____

_____

_____

_____

_____

_____

I hereby certify that the above-referenced product, material, or service called for by the Contract for the named Project will be furnished in accordance with all applicable requirements. I further certify that the product, material, or service are of the quality specified and conform in all respects with the Contract requirements, and are in the quantity shown.

Date of Execution: _____, 20___

Manufacturer: _____

Manufacturer's Authorized Representative *(print)*: _____

_____

(Authorized Signature)

SECTION 01 66 00
SHIPMENT, PROTECTION, AND STORAGE

PART 1 GENERAL

1.01 GENERAL

A. Equipment, products and materials shall be shipped, handled, stored, and installed in ways which will prevent theft, vandalism, or damage to the items. Contractor shall bear all costs resulting in theft, vandalism or damage to the items. Damaged items will not be permitted as part of the Work except in cases of minor damage that have been satisfactorily repaired and are acceptable to the Engineer.

B. In case of conflict with the Technical Specifications Division 02 through Division 46, the more stringent requirements for shipment, protection, and storage of materials will apply.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. All products shall be handled, protected, and stored as recommended by the manufacturer. Products with paint, tape coatings, linings or the like shall be stored to protect the coating or lining from physical damage or other deterioration.

B. Damaged Products, Materials and Equipment: Replace with new, no exceptions. Coordinate replacement with Engineer prior to installation.

3.02 SHIPMENT

A. Packaging and Marking: All equipment shall be protected against damage from moisture, dust, handling, or other cause during transport from manufacturer's premises to Site. Each item or package shall be marked with the number unique to the specification reference covering the item.

B. Shipping and Receiving:

1. Contractor shall provide cranes or forklifts for offloading materials and equipment at the Job Site.
2. Inspect the materials and equipment prior to receipt, note any damage or discrepancies between the Bill of Lading and the equipment delivered, and notify shipper or supplier of any claims in regard to the shipment.

3. Damage shall be corrected to conform to the requirements of the Contract before the assembly is incorporated into the Work. The Contractor shall bear the costs arising out of dismantling, inspection, repair and reassembly.

C. Extra Materials, Special Tools, Test Equipment, and Expendables:

1. Furnish as required by individual specifications.
2. Schedule:
   a. Ensure that shipment and delivery occurs concurrent with shipment of associated equipment.
   b. Transfer to Owner shall occur immediately subsequent to Contractor's acceptance of equipment from Supplier.
3. Packaging and Shipment:
   a. Package and ship extra materials and special tools to avoid damage during long-term storage in original cartons insofar as possible, or in appropriately sized, hinged-cover, wood, plastic, or metal box.
   b. Prominently displayed on each package, the following:
      1) Manufacturer's part nomenclature and number, consistent with Operation and Maintenance Manual identification system.
      2) Applicable equipment description.
      3) Quantity of parts in package.
      4) Equipment manufacturer.
4. Deliver materials to Site.

3.03 STORAGE

A. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.

B. Handle products/equipment in accordance with manufacturer's written instructions, and in a manner to prevent damage. Store products, upon delivery, in accordance with manufacturer's instructions, with labels intact and legible. Do not open manufacturer's containers until time of installation unless recommended by the manufacturer or otherwise specified.

C. Provide manufacturer's recommended maintenance during storage, installation, start-up, and commissioning until products/equipment are accepted for use by Owner.

D. Equipment and materials to be located outdoors may be stored outdoors if protected against the elements in accordance with the manufacturers' recommendations.

1. Covered Outdoor Storage: Equipment and fabricated items stored outdoors shall be stored on wood blocking or skids. Covers shall be tied down with rope and materials shall be positioned to prevent the accumulation of water on the covers. Place all fabricated items on sloped supports, above ground, covered with material that provides protection against ultraviolet degradation and impervious to water.
2. Uncovered Outdoor Storage: Items stored outdoors shall be stored on planks or other dunnage as necessary to keep materials from contact with the ground and water.
3. Fully Protected Storage: Store all products not named above in buildings or trailers which have a concrete, steel, or wooden floor, a roof, and fully closed walls on all sides. Maintain temperature and humidity at levels recommended by material manufacturer.
4. Provide electrical power to any equipment that the manufacturer recommends be powered during storage, such as motors or control cabinets with heaters to prevent condensation.
5. Provide any maintenance during storage as recommended by the manufacturer, such as lubrication or rotation of equipment.

E. Provide offsite storage and protection when Site does not permit onsite storage and protection.

F. Provide equipment and personnel to store items by methods to prevent soiling, disfigurement or damage, and provide security measures to prevent vandalism or theft.

G. Arrange storage to permit access for inspection. Periodically inspect to verify items are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 74 23
FINAL CLEANUP

PART 1 GENERAL

1.01 GENERAL

A. At the completion of Work and immediately prior to final inspection, cleaning of the entire Project Site and Owner-provided offsite parking areas for Contractor personnel shall be accomplished according to the following provisions:

1. Thoroughly clean, sweep, and wash all work and equipment provided under the Contract, including finishes. The cleaning shall leave the structures and site in a complete and finished condition.
2. Remove all temporary structures and all debris, including all dirt, sand, gravel, rubbish and waste material.
3. Should the Contractor not remove rubbish or debris or not clean the Site as specified, the Owner reserves the right to have the cleaning done at the expense of the Contractor.
4. Cleaning materials shall be used only on surfaces recommended by the cleaning material manufacturers.
5. Grease, dust, dirt, stains, labels, fingerprints, and other foreign materials shall be removed from sight-exposed interior and exterior finished surfaces. In preparation for substantial completion or occupancy, a final inspection of sight-exposed interior and exterior surfaces, and of concealed spaces, shall be conducted.
6. Marred surfaces shall be repaired, patched, and touched up to specified finish, to match adjacent surfaces.
7. Materials shall be handled in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights.

1.02 POST-CONSTRUCTION REPAIRS AND RESTORATION

A. Unless otherwise specified or requested in writing by the Owner, roads and streets in which the surface is removed, broken, or damaged, or in which the ground has caved or settled during the Work under this Contract, shall be brought to the original grade and repaired with temporary hot-mix trench patch. Before resurfacing material is placed, edges of pavements shall be trimmed back far enough to provide clean, solid, vertical faces, and shall be free of loose material. All paved surfaces shall be cut with a pavement saw. Rough cuts are not allowed.

B. Reconstruct curbs, gutters, driveways, sidewalks, and similar structures that are broken or damaged. Reconstruct with the same kind of material, with the same finish, and in not less than the same dimensions as the original Work. Make repairs by removing and replacing the entire portions between joints or scores and not merely refinishing any damaged part. When replacing sidewalk at intersection corners, construct curb ramps in accordance with the appropriate plans as determined by the Engineer. Match the appearance of the existing improvements as nearly as possible.

C. Restore waterways, channels, drainage ditches, drains, culverts and similar facilities that are damaged to their original condition. Where necessary, provide temporary facilities or temporarily realign such water courses to maintain a continuously serviceable facility until restored to its original location and condition.

D. Cultivated and other planted surface areas and surface improvements shall be restored to their original condition. Hand-rake and drag all former grassed and/or planted areas leaving disturbed areas free from rocks, gravel, clay, or any other foreign material and ready, in all respect, for seeding. Provide a finished surface that conforms to the original surface, is free-draining and free from holes, rough spots, or other surface features detrimental to a seeded area.

E. Existing guard posts, barricades, and fences shall be replaced if damaged during prosecution of the Work.

F. Restoring Mobilization, Staging, and Access Areas: Clean all properties that were disturbed during construction of the project unless otherwise specified in Section 01 50 10, Protection and Maintenance of Property, Work, and Utilities. Dispose of all uprooted stumps, felled trees, brush, excess excavation, rock, discarded materials, rubbish and debris. Remove all equipment, tools and supplies and restore the occupied properties in a neat, clean and orderly condition, to an equal or better condition that existed before move in.

1.03 SITE CLEANUP

A. Have the sidewalks and streets affected by the Work swept by a street or sidewalk cleaner as needed to comply with sediment control requirements. Other surfaces of the grounds shall be rake cleaned. Owner will not authorize final payment until Contractor has removed all rubble and debris from the street and adjoining work areas, including all temporary staging, access, and parking areas used by Contractor.

B. Clean sanitary sewers, sanitary manholes, storm sewers, and catch basins of any construction sediment or debris at the conclusion of the project. Thoroughly flush with water for fluid lines. Debris cleaned from the lines shall be removed from the lowest access points.

C. Remove all temporary facilities, utility drops, fencing.

D. Remove all project identification signs, barricades, tools, rubbish collection receptacles and other such items. Turn over to the Owner at the conclusion of the Project any Project identification signs or custom traffic control signs.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 75 00
TESTING, EQUIPMENT STARTUP, AND COMMISSIONING

PART 1 GENERAL

1.01 REQUIREMENTS

A. Startup is a prerequisite to the Substantial Completion of each Construction Phase and shall be completed within the Contract Times specified in Section 01 10 00, Summary of Work.

B. Startup of a wastewater treatment plant unit process is a highly complex operation requiring the combined expertise and participation of the Contractor, Subcontractors, Suppliers, Engineer, System Integrator and Owner. The Contractor shall be responsible for coordinating all parties for successful testing and startup. The Engineer and Owner will be available for technical and operational advice prior to and during startup.

C. The Contractor shall conduct all testing, check-out, startup, and related requirements indicated in the Contract Documents and provide documentation of same to the Engineer prior to requesting Substantial Completion for each Construction Phase from the Engineer. Where manufacturer onsite inspections are required before startup, the manufacturer shall furnish a written statement that the installation and check out is complete and proper and that the item(s) are ready for startup.

D. Temporary facilities may be necessary. If so, Contractor shall design, provide, operate, and later decommission them.

E. During startup, product water shall be wasted to the locations specified herein.

F. General requirements for testing startup activities are included in this section. More specific requirements are also included in other portions of the Contract Documents.

1.02 RELATED SECTIONS

A. Related sections include but are not necessarily limited to:

1. Section 26 08 00, Commissioning of Electrical Systems.
2. Section 40 90 00, Instrumentation and Control for Process Systems.
3. Division 44, equipment and aeration system sections.

1.03 DEFINITIONS

A. Startup: The testing, demonstrations, and other activities required to achieve Substantial Completion of each Construction Phase. Startup includes all pre-commissioning activities, commissioning activities, and all related activities, as defined herein.

B. Pre-Commissioning: The systematic demonstration through testing and operation that major equipment and auxiliary systems, including related components and subsystems, operate properly and consistently with their intended function. Pre-commissioning involves control valve testing, calibration, loop tests, and control and logic system testing. Pre-commissioning also includes activities to simulate shutdown conditions, failure conditions, power fail and restart conditions, bypass conditions, and failure resets. Pre-commissioning will not be considered complete until successful results and documentation of tests and manufacturer's certifications required by the Contract Documents are submitted and accepted by the Engineer. Pre-commissioning key activities, in chronological order for facilities in each Construction Phase include factory testing, equipment testing, system testing, and pre-commissioning, as described herein:

1. Factory Testing: The offsite testing of products, materials, or equipment requiring certification or witnessing as follows:
   a. Project required factory tests as specified in individual Technical Specifications.
   b. Standard factory tests of manufacturer and standard industry practice.
   c. Specified delivery acceptance tests and inspections.
2. Equipment Testing: The onsite operational testing of each process, mechanical, electrical, and instrumentation equipment and device specified in the Contract Documents. Each equipment test shall include all associated instrument calibration, control valve testing, analog functional loop testing, and discrete loop testing, in accordance with Section 40 90 00, Instrumentation and Control for Process Systems.
3. System Testing: The onsite operational testing of an arrangement of equipment and devices specified and shown for a system, including equipment, structures, piping, wiring, materials, or incidentals, so related or connected to form an identifiable, unified, functional, operational, safe, and independent system. The systems for this project shall be as specified in Section 40 90 00, Instrumentation and Control for Process Systems, and shown on the referenced Instrumentation Drawing(s). System testing shall include all associated control and logic system testing, in accordance with Section 40 90 00, Instrumentation and Control for Process Systems.

4. Pre-Commissioning: The onsite, operational, clean-water 5-day testing of the PEPS and Aeration Basin systems specified and shown on the Contract Drawings, including all associated equipment, structures, piping, wiring, materials, or incidentals, so related or connected to form an identifiable, unified, functional, safe, operational, and independent part of the overall facilities. The Areas to be tested during Pre-Commissioning for each Construction Phase shall be as defined in Paragraph Pre-Commissioning Requirements for each Construction Phase below. Pre-Commissioning testing shall include all associated SCADA functional tests, in accordance with Section 40 90 00, Instrumentation and Control for Process Systems.

C. Commissioning: The verification through 15-day functional testing and operation that the complete onsite facility work associated with each Construction Phase functions on an extended basis in full conformance with the design requirements. Prior to starting a Commissioning activity, the pre-commissioning of all the associated, specified, portions of the Construction Phase work shall be successfully completed. Commissioning shall include the process instrumentation and control commissioning requirements, in accordance with Section 40 90 00, Instrumentation and Control for Process Systems.

D. Pre-Commissioning Requirements for each Construction Phase: The following Pre-commissioning activities are required for specific systems and related sub-systems, requiring Substantial Completion within the Contract Time specified in Section 01 10 00, Summary of Work:

1. PEPS Construction: PEPS wet well leak test, pipe pressure testing, PEPS functional testing, PEPS electrical building equipment pre-commissioning, PEPS instrumentation and control system Functional Test 1 and 2, PEPS clean water performance test (one pump at a time during recirculation), Aeration Basin 1 and 2 SI control valve calibration.
2. Aeration Basin 3 Construction: Basin leak test, aeration system clean water test, Aeration Basin 3 SI and ALP control valve calibration, mixer functional tests, instrumentation and control system Functional Tests 1 and 2 and dewatering pump station functional test.
3. Aeration Basin 1 and 2 Modifications: Aeration system clean water test, Aeration Basin 1 and 2 ALP control valve calibration, mixer functional tests and instrumentation and control system Functional Test 1 and 2.
4. Trickling Filter 2 Mechanism Relocation: Check for level, plumbness and free rotation.

1.04 SUBMITTALS

A. Schedule: The schedule for startup activities shall be submitted under Section 01 32 16, CPM Construction Schedule.

B. Startup Plan: A detailed Startup Plan shall be submitted for each Construction Phase in accordance with Section 01 33 00, Contractor Submittals, and all the requirements herein. The "prior-to-test" requirements shall be submitted no less than 90 days prior to the startup of each Construction Phase. The "after-test" requirements shall be submitted not less than 30 days after the completion of each Construction Phase. The Startup Plan shall be organized by the Areas and Systems in each Construction Phase and address each startup phase listed herein. The Contractor shall revise each Startup Plan as necessary to incorporate the review comments and document the test results.

C. Factory Tests:

1. Results of factory tests specified in individual specifications.
2. Delivery acceptance tests and inspections specified in individual specifications.
3. Other standard factory test results available from manufacturer.

D. Equipment Tests:

1. Prior to Test:
   a. Submit for approval, comprehensive package with the following information that documents the proposed test procedures for each equipment item:
      1) Written test procedures proposed to verify compliance with the specifications and operating parameters. The associated diagrams, temporary facilities, and specific equipment numbers with state of operation during testing (such as, open/closed, on/off, etc.) shall be included.
      2) Testing checklist and data form for each item of equipment.
      3) Upstream and downstream interfacing requirements, along with associated notifications, safety precautions, and testing communication (as necessary).
      4) Schedule for hydrostatic testing of pipelines, hydraulic structures, and other water holding equipment, including water source, conveyance, testing and disinfection procedures, and treatment and disposal of test water.
      5) List of required calibration and loop tests, in accordance with Section 40 90 00, Instrumentation and Control for Process Systems.
      6) Provide the following where applicable and/or requested by the Engineer in the initial review:

a) Notification of relevant parties including Owner, the Engineer, regulatory agencies, City of Nampa, and others where appropriate.
b) Identification of necessary staff, equipment and proposed communication protocols.
c) Dry test procedures (walk through procedures prior to the tests).
d) Checking and validating emergency and incident response procedures.

b. Factory Test Phase results and delivery acceptance tests and inspections for each Equipment item in the System.

2. After Test:
   a. Completed Manufacturer's Certificate of Proper Installation for each equipment item per the requirements of Section 01 43 33, Manufacturer's Field Services and Section 01 33 00, Contractor Submittals.
   b. Equipment certifications shall include:
      1) Verification of proper check-out, alignment, adjustment, and calibration.
      2) All test information and results including specified operational parameters.
      3) Record of relevant performance data for the original testing and all re-tests.
      4) Signature of Equipment manufacturer's representative, the Contractor's representative, and the Engineer.

E. System Test:

1. Prior to Test:
   a. Submit for approval, comprehensive typewritten package with the following information that documents the proposed test procedures for each System:
      1) Prepare individual package for each system.
      2) Contractor to coordinate with the System Integrator to develop process and instrumentation diagrams detailing System to be tested.
      3) Equipment list pertaining to the system with cross-references to the appropriate specification.
      4) A description of normal system operating parameters.
      5) Written test procedures proposed to verify compliance with the specifications and operating parameters. The associated diagrams, temporary facilities, and specific equipment numbers with state of operation during testing (such as, open/closed, on/off, etc.) shall be included.
      6) Testing checklist and data form for each system.

7) Upstream and downstream interfacing requirements, along with associated notifications, safety precautions, and testing communication (as necessary).
8) Schedule for hydrostatic testing of pipelines, hydraulic structures, and other water holding equipment, including water source, conveyance, testing and disinfection procedures, and treatment and disposal of test water.
9) Contractor to work with the PICS subcontractor to develop a list of required activities for functional loop tests, network path tests, and process instrumentation and control functional tests, in accordance with Section 40 90 00, Instrumentation and Control for Process Systems.
10) Provide the following where applicable and/or requested by the Engineer in the initial review:
    a) Notification of relevant parties including Owner, the Engineer, regulatory agencies, City of Nampa, and others where appropriate.
    b) Identification of necessary staff, equipment and proposed communication protocols.
    c) Dry test procedures (walk through procedures prior to the tests).
    d) Checking and validating emergency and incident response procedures.
11) Contractor to work with PICS Subcontractor to develop a list of required calibration and loop tests, in accordance with Section 40 90 00, Instrumentation and Control for Process Systems.
12) Factory Test Phase results and delivery acceptance tests and inspections for each Equipment item in the System.
13) Equipment Test Phase results for each Equipment item in the system.

2. After Test: Update system test package with system test phase results and evaluations.

F. Pre-Commissioning:

1. Prior to Test:
    a. Submit for approval, comprehensive package with the following information that documents the proposed test procedures:
        1) Written procedures detailing the tests proposed to verify compliance with the specifications and operating parameters.
        2) Factory Test Phase results and delivery acceptance tests and inspections for each Equipment item in the System.

3) Equipment Test Phase results for each Equipment item in the system.
4) System Test Phase results.

2. After Test: Update facility test package with area test phase results and evaluations as related to other Systems, facilities or contracts.

G. Training Submittals:

1. Master Operating and Maintenance Training Schedule: Do not schedule training on holidays observed by Owner.
2. Schedule and attend a planning and coordination meeting 14 days prior to first anticipated training presentation.
   a. Update master O&M training schedule.
   b. Provide a status report and schedule-to-complete for requirements that are prerequisites to training presentation.
   c. Identify initial target dates for individual training presentations.
3. Provide agenda for each training presentation a minimum of 14 days prior to the training presentation.
4. See also Section 01 43 33, Manufacturer's Field Services, for further requirements.

1.05 COORDINATION WITH OWNER PROVIDED SYSTEM INTEGRATOR

A. The Owner will provide all programmable logic controller (PLC) based Application Software programming and configuration services for the control strategies. The Owner provided programming does not include equipment specific PLC's as described in the equipment specifications.

B. The Owner will provide programming and configuration of the SCADA nodes, and their existing supervisory control, alarm, and data acquisition system. The Owner will also be responsible for configuration of the communication required between these systems.

C. The Contractor shall configure the equipment specific PLCs and network components to enable Ethernet IP communication with the Owner-configured PLC and SCADA system required to support the functions described in the contract document. The Contractor will coordinate the communication requirements with the System Integrator.

D. The Contractor shall be responsible for the building access control system software setup, configuration, and interfacing.

E. The Contractor shall provide all testing and certification as required by Section 40 90 00, Instrumentation and Control for Process Systems.

F. Deactivation Requests: Request for shutdown of existing systems as necessary to test or start up new facilities. See Section 01 31 30, Construction and Schedule Constraints, for details.

G. Records and Documentation:

1. Where required by the specifications, submit equipment installation certifications under those sections.
2. Records of startup as indicated below.

1.06 COST OF STARTUP

A. Contractor to provide labor, equipment, and auxiliary work associated with facility startup through the date of Field Acceptance, which includes successful Startup and Demonstration period and completion of all training as specified herein.

B. Owner to pay all electrical power, fuel, and chemical costs for permanent facilities.

C. Contractor shall pay the cost for all required temporary facilities associated with Startup activities.

1.07 PUBLIC AGENCY INSPECTIONS

A. Contractor shall inform local authorities including building, plumbing, fire, OSHA, and other agencies regarding required inspections and permits. Contractor is responsible for coordination of all required inspections and obtaining final permits as stated in Section 01 41 26, Permits and Easements.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 MALFUNCTIONS

A. During the extended operational demonstrations, all components, subsystems, systems, and equipment must properly run continuously 24 hours per day for 15 days at rates indicated by the Engineer throughout the test period. Unless indicated otherwise, if any item fails or malfunctions during the test, the item shall be repaired and the test restarted at time zero with no credit given for the operating time before the failure or malfunction. Malfunctions satisfying all three of the following conditions will allow the demonstration period to resume at the elapsed time when the malfunction started:

1. Malfunction did not cause any interruption of the continuous operation of any other components, subsystems, systems, and equipment.
2. Malfunction was corrected without causing or requiring any components, subsystems, systems, and equipment to cease operations.
3. Malfunction was corrected within 4 hours of the time the malfunction was detected (the 4-hour period includes the time required to locate the cause of the malfunction, beginning upon Contractor's notification from the Engineer that a malfunction has occurred and ending when the item is corrected and the system is successfully placed back into operation).

B. The Contractor shall arrange for manufacturer's representatives to visit the Site as often as necessary to correct malfunctions.

3.02 PREREQUISITES

A. Pre-commissioning and commissioning activities shall be scheduled according to Section 01 32 16, CPM Construction Schedule, and Section 01 31 30, Construction and Schedule Constraints. The 5-day pre-commissioning demonstrations and the 15-day commissioning demonstrations shall start between 8:00 a.m. and noon. Testing periods shall not include holidays, based on Owner's calendar.

B. The following shall be completed before pre-commissioning begins.

1. All O&M Manual information required by the Contract Documents has been submitted.
2. Safety equipment, emergency shower and eyewash units, fire extinguishers, gas detectors, protective guards and shields, emergency repair kits, safety chains, handrails, gratings, safety signs, and valve and piping identification required by the Contract Documents are provided. Devices and equipment shall be fully functional, adjusted, and tested.
3. Manufacturer's certifications of proper installation have been accepted.
4. Leakage tests, electrical tests, and adjustments have been completed.
5. The Engineer has approved the Startup Plan.
6. Temporary facilities are functional, adjusted, and ready for use.
7. Contractor has worked with the System Integrator to ensure individual instrumentation loops (analog, status, alarm, and control) have been verified functionally.
8. Pressure switches, flow switches, timing relays, level switches, vibration switches, temperature switches, RTD monitors, pressure regulating valves, and other control devices to the settings determined by the Engineer or the equipment manufacturer have been adjusted for accuracy.

9. Individual interlocks between the field-mounted control devices and the motor control circuits, control circuits of variable-speed controllers, and packaged system controls have been verified.

3.03 GENERAL

A. Supplies:

1. The Contractor shall furnish:
   a. Required lubricants.
   b. HVAC system filters and refrigerant charge.

B. Startup Records: The Contractor shall maintain the following during testing and startup and submit originals to Engineer:

1. Lubrication and service records for each mechanical and electrical equipment item.
2. Hours of daily operation for each mechanical and electrical equipment item.
3. Equipment alignment and vibration measurement records.
4. Logs of electrical measurements and tests.
5. Instrumentation calibration and testing logs.
6. Testing and validation of SCADA inputs, outputs, logic functions, status indications, and alarms.
7. Factory and field equipment settings.
8. Log of problems encountered and remedial action taken.
9. Other records, logs, and checklists as required by the Contract Documents.

3.04 PRE-COMMISSIONING

A. After individual equipment items and subsystems have been tested and certified as required by the Technical Specifications, tests of systems comprised of single or multiple equipment items with appurtenant equipment and instruments and controls shall be conducted. Items of equipment shall be tested as part of a system to the maximum extent possible.

B. Subject to the malfunction criteria above, each system shall be demonstrated for a continuous 5-day, 24-hour/day period. If any system malfunctions, the item or equipment shall be repaired and the test restarted at time zero with no credit given for the elapsed time before the malfunction.

C. The Contractor shall demonstrate the manual and automatic modes of operation to verify proper control sequences, software interlocks, proper operation of software logic and controllers, etc. System testing shall include

the use of water, wastewater, or other process media, as applicable, to simulate the actual conditions of operation.

D. Systems testing activities shall follow the detailed procedures and checklists in the Testing and Startup Plan. Completion of systems shall be documented by a report.

E. The Contractor shall demonstrate utility, chemical feed, safety equipment, and other support systems before whole process systems are Pre-commissioned.

F. Furnish the Engineer at least 7 days written notice confirming the start of pre-commissioning. The Owner's staff will observe pre-commissioning.

G. Test Equipment:

1. Comply with the requirements of this Contract and the recommendations of the Equipment manufacturers.
2. Provide test gauges, meters, recorders and monitors as required by the Engineer to supplement or augment the instrumentation System provided under this Contract to properly demonstrate that Equipment fully satisfies the requirements of the Contract. Specifically select devices employed for the purpose of measuring the performance of the Facility's Equipment and Systems to be consistent with the variables to be monitored. Instruments to be recently calibrated.
3. Demonstrate through re-calibration the accuracy of instruments employed for testing purposes.
4. Calibration procedures are in accordance with applicable standards of ASTM, ISA, and IEEE. The adequacy of gauges, meters, recorders and monitors are subject to review by the Engineer.

H. Testing Requirements:

1. General Requirements:
   a. Test and inspect Equipment and partially completed or fully completed portions of the Work to prove compliance with the Contract requirements.
   b. Unless otherwise noted, Contractor shall pay all costs of testing, including temporary facilities and connections.
   c. Contractor shall accomplish the testing under the direction of a startup coordinator whose sole responsibility is the orderly, systematic testing of equipment, systems, and the complete Facility.
2. Test the following:
   a. Equipment with one or more moving parts or devices requiring an electrical, pneumatic or hydraulic connection.

b. Test concrete and steel hydraulic structures for water tightness as specified in Section 03 30 00, Cast-in-Place Concrete.
c. Leakage tests and other piping tests as specified in Division 01 and Section 40 80 01, Process Piping Leakage Testing.
d. Testing and balance for heating, ventilation and air conditioning Systems as specified in accordance with Division 23.
e. Electrical devices and systems as specified in accordance with Division 26 and verified safe to use with overloads set, timers adjusted, and VFD settings entered.
f. Instrumentation devices and systems as specified in accordance with Division 40 with loops calibrated, initial set points entered, and interlocks and alarms functional.

3. Receive Engineer approval for the application of all tests only after Engineer inspection of Equipment for conformance with the specifications.
4. Tests and inspections, unless otherwise specified or accepted, are in accordance with the recognized standards of the industry.

I. Design testing procedures to duplicate, as nearly as possible, conditions of operation to ensure that the equipment is not damaged. Once the testing procedures have been reviewed and approved by the Engineer, organize by System into test packages and include the proper checkout, alignment, adjustment, and calibration signoff forms for each item of equipment and each system.

J. Jointly use forms with the Engineer to ensure that documentation for each electrical, mechanical and instrumentation equipment item has been properly recorded for installation and testing. Failure to follow the Engineer approved procedure will result in non-acceptance of the equipment.

K. Fulfillment of the test and inspection requirements are by either of the following:

1. Tests and inspections carried out in Engineer’s presence.
2. Certificates or reports of tests and inspections carried out by Engineer approved persons or organizations.
3. Maintain the systems test packages, which contain tests and sign-off forms including, but not limited to, piping, Equipment, electrical, and instrumentation. Submit test packages to the Engineer for inspection upon request.

L. Test Phases:

1. Factory Test:
   a. Test items at the place of manufacture during or on completion of manufacture. Tests are comprised of [Final Designer to amend

following list as necessary] hydraulic pressure tests, electric and instrumentation subsystem tests, performance and operating tests and inspections.

b. Perform in accordance with the relevant standards of the industry if not specified in the Contract Documents.

2. Equipment Test:
   a. General:
      1) Equipment to be tested to the requirements of the Engineer before a system is placed into operation.
      2) Each individual equipment item in a system must be successfully tested before the System Test can begin.
      3) Incorporate specifications requirements into the equipment test procedures and proceed in a logical, step-wise sequence to ensure that the installed Equipment has been properly assembled, serviced, lubricated, aligned, adjusted, connected and calibrated prior to operation.
      4) Perform all changes, adjustments, or replacements required to make the Equipment operational.
   b. Prior to Test:
      1) Walk-through the test procedure with the Equipment Manufacturer, Engineer, and Owner staff to ensure that as-built conditions have not made any of the test activities obsolete or unsafe to perform as written.
      2) Any changes made to the procedures after the walk-through shall be submitted to the Engineer for final approval.
      3) The persons conducting the tests shall review the procedures before testing and verify they are aware of their roles and responsibilities.
      4) Provide necessary measuring equipment. Calibrate prior to use.
      5) Mechanical Set-Up and Check:
         a) PEPS pumps.
         b) Actuated valves and gates.
         c) Mixers.
         d) Dewatering pumps.
         e) PEPS electrical building HVAC equipment.
      6) Electrical Set-Up and Check:
         a) PEPS electrical building equipment.
         b) Site and basin lighting.
         c) Building access controls.
         d) Field located wiring and devices.
      7) PLC/SCADA Set-Up and Check:
         a) Loop check out.
         b) Instrument calibration and function.
         c) Fiber optic loop.

c. During Test:
   1) Completely test each equipment item over the entire range of operating conditions.
   2) Record relevant operating measurements in field testing report.
   3) Perform vibration tests as specified in individual equipment specification.
   4) Actuate all alarms from field devices by physically changing state of field device to cause alarm. Do not simulate conditions. Provide and complete a checklist to demonstrate that all alarms are received on local control panels, annunciators, and at PLC inputs.

d. After Test:
   1) Provide a complete test report on each equipment item to the Engineer and include in System Test Package.
   2) Perform other tests, checks, and activities required to make equipment ready for System Test Phase.

3. System Test:
   a. Sequence: Following Engineer approval of the Equipment Test Phase results, test and operate all individual Systems under operating conditions to determine as comprehensively as possible, whether the Equipment and System meet the requirements of the Specifications.
   b. Prior to Test:
      1) Except as described below, employ potable water in the testing of all liquid Systems. For all other Systems, use the intended fluid or a compatible substitute. Engineer to approve test media disposal methods.
      2) When testing requires the use of auxiliary Systems such as electrical power, compressed air, control air, or instrumentation which have not yet been placed in service, provide acceptable substitute sources, capable of meeting the requirements of the machine, device, or System.
      3) Provide power, fuel, compressed air supplies, labor and all other necessary items and work required to complete the tests and inspections specified herein, unless otherwise specified.
      4) Provide temporary heating, ventilation, and air conditioning for areas requiring it where permanent facilities are not complete and operable at the time of installed tests and inspections.
      5) Maintain temporary facilities until permanent services are in service.

c. During Test:
   1) Owner's System Integrator will provide and complete checklists, in conjunction with Contractor's system test efforts, to:
      a) Demonstrate discrete and analog points are displayed on OIP and SCADA graphic screens.
      b) Verify discrete and analog inputs from field devices update PLC operator interface panel.
      c) Confirm that alarms are generated and recorded.
      d) Confirm the operating sequence is in conformance with the control loop descriptions.
   2) If, under test, a portion of the work should fail to meet the Contract requirements and is adjusted, altered, renewed or replaced, tests on that portion, together with other portions of the work affected, shall be repeated within a reasonable time and in accordance with the specified conditions at no additional cost to the Owner.
   3) Test results to be within the tolerances set forth in the Specifications. If no tolerances have been specified, conform to tolerances established by recognized industry practice.
   4) Where, in the case of an otherwise satisfactory installed test, doubt or dispute arises between the Engineer and the Contractor regarding the test results or the methods or Equipment used in the performance of such test, then the Engineer may order the test to be repeated. The repeat test using such modified methods or Equipment will be paid per the following:
      a) If the test results confirm the satisfactory installed test results, then costs for the repeat test will be paid by the Owner.
      b) If the test results of an installed test fail to comply with the Contract requirements, then all costs associated with the repeat tests and Equipment necessary to achieve the Contract requirements are at Contractor's expense.

d. After Test:
   1) Recheck machines for proper alignment, realign if necessary, and dowel in place.
      a) Check Equipment for loose connections, unusual movement or other indications of improper operating characteristics.
      b) Correct deficiencies to the requirements of the Engineer.

c) Disassemble and inspect equipment which exhibits unusual or unacceptable operating characteristics. Repair or remove from the Site and replace with new at no cost to the Owner.
d) Systems to be tested to the requirements of the Engineer before proceeding to Pre-Commissioning Test Phase.

3.05 COMMISSIONING

A. At the end of each Construction Phase, the Contractor shall start up the plant and operate it without malfunction for a continuous 15-day, 24-hour/day period. The Engineer will determine the operational parameters. The operational parameters shall include, but not be limited to:

1. Up to 9 mgd per aeration basin.
2. Up to 27 mgd for the PEPS.
3. Up to half the plant flow routed through the trickling filters, to a maximum of 11.5 mgd.
4. The number of online basins and trickling filters as defined in Section 01 31 30, Construction and Schedule Constraints.

B. Defects that appear shall be promptly corrected. Time lost for wiring corrections, control point settings, or other reasons that interrupt the test may, at the judgment of the Engineer, be cause for extending the demonstration an equal amount of time.

C. Commissioning shall not begin until leakage tests, instrumentation tests and adjustments, electrical tests and adjustments, equipment field tests, disinfection, and system tests have been completed to the satisfaction of the Engineer.

D. The Owner will furnish certified wastewater treatment plant operators during the commissioning period.

E. During Commissioning: Contractor shall coordinate with Owner to facilitate operation of the WWTP to ensure that discharge permits are met during commissioning new or modified treatment processes.

3.06 SUBSTANTIAL COMPLETION (PROJECT PARTIAL TRANSFER TO OWNER)

A. After commissioning period, the Contractor will transfer spare parts, equipment O&M manuals and copies of field drawings (for conversion to As-Built drawings) to the Engineer.

1. Upon successful completion and Engineer approval of the15-day Commission test, responsibility for portion of the facility operation and maintenance associated with the Construction Phase will be transferred from the Contractor to the Owner staff.

3.07 FINAL COMPLETION (PROJECT TRANSFER TO OWNER)

A. After commissioning period for all phases of the project, the Contractor will verify that the transfer of spare parts, equipment O&M manuals and copies of field drawings (for conversion to As-Built drawings) to the Engineer.

B. When other work as defined in Section 01 77 00, Project Closeout, other sections of these specifications and as shown on the Drawings is complete, responsibility for the entire facility operation and maintenance associated with the Construction Project will be transferred from the Contractor to the Owner staff.

END OF SECTION

SECTION 01 76 00
OPERATING AND MAINTENANCE INFORMATION

PART 1 GENERAL

1.01 GENERAL

A. Operation and maintenance (O&M) instructions shall be provided in accordance with Section 01 33 00, Contractor Submittals, and as required in the technical specifications of the Contract Documents. O&M information shall be provided for each maintainable piece of equipment, equipment assembly or subassembly, and material provided or modified under this Contract.

1. All vendor-supplied operations and maintenance manuals must be written in English.
2. Each O&M manual shall include a list of the Asset ID or P&ID tags that is covered by the manual. A single manual submittal may cover multiple items as long as they share common product specific options, wiring, service and features. If the options, wiring, service or features differ between equipment from the same manufacturer, the options or features shall be clearly marked in the O&M manual with the associated Asset ID or P&ID tag.
3. Vendor O&M information shall contain the names, addresses, and telephone numbers of the manufacturer, the nearest representative of the manufacturer, and the nearest supplier of the manufacturer's equipment and parts.
4. O&M instructions must be submitted and accepted at least 14 days before onsite training may start.

B. Contractor shall provide preliminary O&M Manuals after the equipment submittal has been reviewed and accepted by the Engineer and before the equipment has arrived at the Site.

C. Contractor shall provide final O&M Manuals after the preliminary manual has been reviewed and comments provided by the Engineer but prior to conducting onsite training for the equipment.

1.02 SUBMITTALS

A. Vendor O&M manuals, information, and data shall be transmitted in accordance with Section 01 33 00, Contractor Submittals. Only complete sets of O&M instructions will be reviewed for acceptance. O&M manuals shall be reviewed and approved in accordance with Section 01 33 00, Contractor Submittals. Submissions found requiring corrections or to be incomplete shall

be returned to the Contractor for correction and re-submission. All submitted and approved O&M manuals shall be retained by the Owner.

1. O&M Manuals: One printed copy and either three electronic copies on CD or DVD disc or one electronic copy through the internet-based project management system shall be provided. If disks are provided they shall have a professional quality label that includes, at a minimum, a descriptive title, Asset or P&ID tag, the name of the vendor or supplier, and a date of creation.
2. O&M manual submittals shall conform to the following requirements:
    a. For ease of identification, each manufacturer's brochure and manual shall be appropriately labeled with the Asset ID or P&ID tag, as it appears in the Contract Documents.
    b. If manufacturers' standard brochures and manuals are used to describe O&M procedures, such brochures and manuals shall be modified to reflect only the model or series of equipment used on this project. Extraneous material shall be crossed out neatly or otherwise annotated or eliminated.
3. Electronic Files: Electronic files shall be in Adobe PDF format for Windows™. Electronic files shall also conform to the following requirements:
    a. File formats shall be in Adobe PDF file format latest version. Alternate electronic formats may be acceptable as determined by the Engineer.
    b. Each PDF document or alternate format shall be searchable. Scanned documents are not acceptable.
    c. Pages within the PDF must be formatted to standard letter (8-1/2 inches by 11 inches) portrait for text and/or ledger (11 inches by 17 inches) landscape for drawings.
    d. Include a copy of the PDF O&M Manual with each manual separated into individual chapters in separate PDF files. Include individual drawings as separate files.
    e. Include a copy of the PDF O&M Manual contained in one PDF file containing the entire O&M manual in one file. All chapters, sections and drawings must be bookmarked. Bookmarks shall include a logical description of the chapter or section or the title and number of a drawing.
    f. Font color shall be black. Font sizes for text based documents shall be no less than 10-point and no greater than 14-point. for general text and no less than 12-point and no greater than 18-point for headers.
    g. File names shall be in English, clearly convey the information contained within the file, and must not exceed 100 characters in length. Only standard abbreviations may be used in file names.

h. File names shall contain no spaces, shall not exceed 25 characters, shall have only alphanumeric characters, and shall not contain symbols such as: ` ! @ # $ % ^ & *( ) - = + < > ? / \ | . , ~ ‘ “ ; { [}.

i. All information provided electronically shall be consistent with information provided in paper format. Do not add content to an electronic submittal which is not also in the paper submittal.

j. Files shall not be password protected.

4. Paper Manuals: The information in the paper manual shall be organized in the binders in numerical order by the equipment numbers assigned in the Contract Documents.

a. The binders shall be provided with a cover, spine label, table of contents and tab sheets to permit easy location of desired information. Binders shall be white, D-ring, three-post style suitable for bookshelf storage.

b. Drawings: Provide with reinforced punched binder tab in the paper copy. Bind in with text; reduce larger drawings and fold to size of text pages but not larger than 11 inches by 17 inches or provide suitable packet with drawing identification.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. Each manual shall include at a minimum separate chapters or sections describing operating instructions, preventative maintenance, corrective maintenance, troubleshooting, drawings, wiring diagrams, warranty information, spare parts, training information and any other information required to operate and maintain a piece of equipment, equipment assembly, subassembly, or material.

B. Operating Instructions: Required operating instructions including specific instructions, procedures, and illustrations shall be provided for the following phases of operations:

1. Asset ID or P&ID and any other equipment tag numbers.
2. Name plate data of equipment installed.
3. Manufacturer’s operation instructions including start-up, break-in, normal operating instructions and sequences and shut down. Provide a control sequence and diagrams for each of these operations. These will explain function, normal operating characteristics, limiting conditions and operation and control of systems and specific equipment.

4. Emergency Operations: Provide emergency procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment. Include emergency shutdown instructions for fire, explosion, spills, or other foreseeable contingencies. Provide guidance on emergency operations of all utility systems including valve locations and portions of systems controlled.
5. Performance curves, engineering data, and test results.
6. Summer, winter, and special operating instructions, if applicable.
7. Sequence of operations and as-installed control diagrams by controls manufacturer with composite wiring diagrams.
8. Operating instructions for microprocessors or other programmable devices.
9. Routine procedures for troubleshooting.
10. Servicing and lubrication schedule and list of required fuel, air, oil, plant air, and HVAC filter replacement schedules including commercial number of each.
11. Safety Precautions: List personnel hazards for equipment and list safety precautions for all operating conditions.
12. Operator Restart: Provide requirements to set up and prepare each system for use.
13. Operator Services Requirement: Provide instructions for services to be performed by the operator such as lubrication, adjustments, and inspection.
14. Environmental Conditions: Provide a list of environmental conditions (temperature, humidity, and other relevant data) which are best suited for each product or piece of equipment and describe conditions under which equipment should not be allowed to run.

C. Preventative Maintenance: The following information shall be provided for preventive and scheduled maintenance to minimize corrective maintenance and repair:

1. Lubrication Data: Provide lubrication data, other than instructions for lubrication and provide the following information:
   a. A table showing recommended lubricants for specific temperature ranges and applications.
   b. Charts with a schematic diagram of the equipment showing lubrication points, recommended types and grades of lubricants, and capacities.
   c. A lubrication schedule showing service interval frequency.
2. Preventive Maintenance Plan and Schedule: Provide manufacturer's schedule for routine preventive maintenance, inspections, tests, and adjustments required to ensure proper and economical operation and to minimize corrective maintenance and repair. Provide manufacturer's

projection of preventive maintenance man-hours on a daily, weekly, monthly, and annual basis including craft requirements by type of craft.

D. Corrective Maintenance: Manufacturer's recommendations shall be provided on procedures and instructions for correcting problems and making repairs.

1. Troubleshooting Guides and Diagnostic Techniques: Provide step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the checkout is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or requires replacement.
2. Wiring Diagrams and Control Diagrams: Wiring diagrams and control diagrams shall be point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job-specific wiring and control work. On diagrams, number electrical and electronic wiring and pneumatic control tubing and the terminals for each type identically to actual installation numbering.
3. Maintenance and Repair Procedures: Provide instructions and list tools required to restore product or equipment to proper condition or operating standards.
4. Removal and Replacement Instructions: Provide step-by-step procedures and list required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings, and adjustments required. Instructions shall include a combination of test and illustrations.
5. Spare Parts and Supply Lists: Provide lists of spare parts and supplies required for maintenance and repair to ensure continued service or operation without unreasonable delays. Special consideration is required for facilities at remote locations. List spare parts and supplies that have a long lead time to obtain.
6. Corrective Maintenance Man-hours: Provide manufacturer's projection of corrective maintenance man-hours including craft requirements by type of craft. Corrective maintenance that requires participation of the equipment manufacturer shall be identified and tabulated separately.

E. Appendices: The following information shall be provided; include information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment.

1. Parts Identification: Provide identification and coverage for all parts of each component, assembly, subassembly, and accessory of the end items subject to replacement. Include special hardware requirements,

such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial number, and source of supply to allow reordering without further identification. Provide clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing shall show the index, reference, or key number which will cross-reference the illustrated part to the listed part. Parts shown in the listings shall be grouped by components, assemblies, and subassemblies.

2. Warranty Information: List and explain the various warranties and include the servicing and technical precautions prescribed by the manufacturers or Contract Documents to keep warranties in force.
3. Personnel Training Requirements: Provide information available from the manufacturers to use in training designated personnel to operate and maintain the equipment and systems properly.
4. Testing Equipment and Special Tool Information: Provide information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components.

F. Maintenance Summary:

1. Compile individual Maintenance Summary for each applicable equipment item, respective unit or system, and for components or sub-units.
2. Format:
   a. Use Maintenance Summary Form format as bound with this section.
   b. Each Maintenance Summary may take as many pages as required.
   c. Use only 8-1/2-inch by 11-inch size paper.
   d. Maintenance data shall also be provided in database format. Format will be provided by the Engineer.
3. Include detailed lubrication instructions and diagrams showing points to be greased or oiled; recommend type, grade, and temperature range of lubricants and frequency of lubrication.
4. Recommended Spare Parts:
   a. Data to be consistent with manufacturer’s Bill of Materials/Parts List furnished in O&M manuals.
   b. “Unit” is the unit of measure for ordering the part.
   c. “Quantity” is the number of units recommended.
5. “Unit Cost” is the current purchase price.

G. Payment:

1. Preliminary O&M manuals shall be submitted prior to payment in excess of 50 percent of the schedule of values line item for the equipment, product or material covered by the manual.
2. Final O&M manuals shall be submitted and accepted prior to requesting payment in excess of 80 percent of the schedule of values line item for the equipment, product or material covered by the manual. Payments in excess of 80 percent shall be withheld until the final manual has been submitted and accepted.

H. Field Changes: Following the acceptable installation and operation of an equipment item, the item's instructions and procedures shall be modified and supplemented by the Contractor to reflect any field changes or information requiring field data.

3.02 SUPPLEMENTS

A. The supplements listed below, following "End of Section", are part of this Specification.

1. Forms: Maintenance Summary Form.

END OF SECTION

MAINTENANCE SUMMARY FORM

PROJECT:_____ CONTRACT NO.:_____

1. EQUIPMENT ITEM_____

2. MANUFACTURER _____

3. EQUIPMENT/TAG NUMBER(S) _____

4. WEIGHT OF INDIVIDUAL COMPONENTS (OVER 100 POUNDS)_____

5. NAMEPLATE DATA (hp, voltage, speed, etc.) _____

6. MANUFACTURER'S LOCAL REPRESENTATIVE _____

   a. Name_____ Telephone No. _____

   b. Address _____

7. MAINTENANCE REQUIREMENTS

Maintenance Operation Comments	**Frequency**	**Lubricant (If Applicable)**
List briefly each maintenance operation required and refer to specific information in manufacturer's standard maintenance manual, if applicable. (Reference to manufacturer's catalog or sales literature is not acceptable.)	List required frequency of each maintenance operation.	Refer by symbol to lubricant required.

8. LUBRICANT LIST

Reference Symbol	Shell	Exxon Mobile	Chevron Texaco	BP Amoco	Or Equal
List symbols used in No. 7 above.	List equivalent lubricants, as distributed by each manufacturer for the specific use recommended.				

9. RECOMMENDED SPARE PARTS FOR OWNER'S INVENTORY.

Part No.	Description	Unit	Quantity	Unit Cost
Note: Identify parts provided by this Contract with two asterisks.				

SECTION 01 77 00
PROJECT CLOSEOUT

PART 1 GENERAL

1.01 FINAL WALKTHROUGH INSPECTION

A. When the Contractor has informed the Engineer that the Work has been completed, the Contractor shall participate in a final walkthrough inspection with the Owner and Engineer at which time the final punchlist will be prepared. The punchlist shall include all preliminary punchlist items and/or non-compliance or uncompleted work items. The Contractor shall complete and sign off all punchlist items with the Engineer.

1.02 FINAL CLEANUP

A. The Contractor shall promptly remove from the vicinity of the completed Work, all rubbish, unused materials, concrete forms, construction equipment, and temporary structures and facilities used during construction in accordance with Section 01 74 23, Final Cleanup. Final acceptance of the Work by the Owner will be withheld until the Contractor has satisfactorily performed the final cleanup of the Site and Owner-provided offsite parking areas for Contractor personnel.

1.03 CLOSEOUT TIMETABLE

A. The Contractor shall establish dates for equipment testing, acceptance periods, and onsite instructional periods in the Contract Documents, as required. Such dates shall be established not less than 3 weeks prior to beginning any of the foregoing items, to allow the Owner, the Engineer, and their authorized representatives sufficient time to schedule attendance at such activities.

1.04 OPERATION AND MAINTENANCE INFORMATION COMPLETE AND TIMELY SUBMISSIONS

A. The Operation and Maintenance Information is an integral part of the Project scheduling and execution. As such, it is critical information to evaluate the Project's progress and the proper planning of the Owner's and Engineer's work efforts associated with this Project. Accordingly, if any submittal required by Section 01 33 00, Contractor Submittals, or Section 01 76 00, Operating and Maintenance Information, is found to be incomplete or is submitted later than required, it may result in a deferral by Engineer to recommend whole or any part of Contractor's Application for Payment, either partial or final.

1.05 FINAL SUBMITTALS

A. The Contractor, prior to requesting final payment, shall obtain and submit the following items to the Engineer for transmittal to the Owner:

1. Written guarantees and warranties, where required.
2. Operation and Maintenance Manuals and instructions.
3. New permanent cylinders and key blanks for all locks.
4. Maintenance stock items; spare parts; special tools.
5. Completed record documents (Drawings).
6. Bonds for roofing, maintenance, etc., as required.
7. Certificates of inspection and acceptance by local governing agencies having jurisdiction.
8. Correction period bonds.
9. Releases from all parties (including private property owner's whose properties were used for yard or staging areas or were damaged) who are entitled to claims against the subject project, property, or improvement pursuant to the provisions of law.

1.06 FINAL APPLICATION FOR PAYMENT

A. Prior to the acceptance of the Work and final payment, the Owner will require the Contractor to submit a certificate in form as follows:

1. [Name of Contractor] hereby certifies that all Work has been performed and materials supplied in accordance with the Contract Documents for the above Work, and that:
    a. Not less than the prevailing rates of wages has been paid to laborers, workers and mechanics employed on this Work.
    b. All claims for material and labor and other services performed in connection with these Specifications have been paid.
    c. All permit final inspections and approvals are complete.
    d. Contractor releases and discharges the City of Nampa of and from all liabilities, claims, obligations and actions arising under the Contract.
    e. Contractor and the surety for this Contract shall defend, indemnify and save the City of Nampa harmless from any liability or expense because of any claim on any Bond or any other claim related to the Contract or the Work.

1.07 CORRECTION OF DEFECTIVE WORK

A. The Contractor shall comply with the defective Work correction requirements contained in the General Conditions.

1. Replacement of earth fill or backfill, where it has settled below the required finish elevations, shall be considered as a part of such required corrective work, and any repair or resurfacing constructed by the Contractor which becomes necessary by reason of such settlement shall likewise be considered as a part of such required corrective work unless the Contractor shall have obtained a statement in writing from the affected private owner or public agency releasing the Owner from further responsibility in connection with such repair or resurfacing.
2. The Contractor shall make all repairs and replacements promptly upon receipt of written order from the Owner. If the Contractor fails to make such repairs or replacements promptly, the Owner reserves the right to do the Work and the Contractor and its surety shall be liable to the Owner for the cost thereof.
3. The Engineer will establish a Need for Warranty Service system with the Owner whereby the Owner will alert the Contractor of the need for warranty service any applicable warranty period. The Contractor shall respond promptly to these requests.

1.08 BOND

A. The Contractor shall provide a Performance Bond and a Payment Bond to guarantee performance of the provisions in the General Conditions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 78 39
PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDE

A. Maintain at Site for Engineer's access one Record Copy of the Drawings, Specifications, Operation and Maintenance manuals, and Shop Drawings that are clearly marked to indicate all changes and or revisions.

B. Unless otherwise specified, documents shall be full size and shall include the following:

1. Actual project as constructed.
2. Addenda.
3. Change orders and other modifications.
4. Field revisions.
5. Request for Information/Clarification (RFI/C) responses.
6. All other changes.
7. Survey of subsurface utilities and structures.

1.02 MAINTENANCE AND DELIVERY OF DOCUMENTS

A. Store documents in Contractor's field office apart from documents used for construction.

1. Provide files and racks for storage of documents.

B. Maintain documents in clean, dry, legible condition and in good order.

C. Make documents and samples available at all times for reference by Engineer.

D. Keep documents current. Record required information at the time the material and equipment is installed.

E. Record Documents will be reviewed monthly to ascertain that changes have been recorded.

F. If determined by Engineer that Record Documents are inadequate or incomplete, the next scheduled progress payment will be withheld until Record Documents are acceptable to Engineer.

1.03 MARKING DEVICES

A. Marking of the documents shall be kept current and shall be done at the time the material and equipment are installed. Annotations to the Record Documents shall be made with an erasable colored pencil conforming to the following color code:

1. Additions: Red.
2. Deletions: Green.
3. Comments: Blue.
4. Dimensions: Graphite (legibly mark to record actual depths, horizontal and vertical location of underground raceways, cables, and appurtenances referenced to permanent surface improvements).

1.04 RECORDING

A. Label each document "RECORD" in neat large red printed letters.

B. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.

C. Documents shall be legibly marked to record actual construction:

1. Record actual depths, horizontal and vertical location of underground pipes, duct banks and other buried utilities exposed during construction. Reference location to Project Datum.
2. Identify and record specific details of piles, pile caps, ground anchors, manholes, cathodic protection systems, sump manholes, piping and any other structures or equipment installed as part of the Work or as directed by the Engineer.
3. Record field changes of dimension and detail.
4. Record changes made by instruction to Contractor or by Change Order.
5. Record details not on original Contract Drawings (such as, service lateral locations and size).
6. Record construction dewatering wells or cutoffs.

1.05 SUBMITTALS

A. The following submittals shall be provided in accordance with Section 01 30 00, Contractor Submittals:

1. At the completion of the Work, prior to Final Payment, submit all Record Documents to Engineer.
2. Include with submittal a transmittal letter containing:
   a. Date.
   b. Project title and number.

c. Contractor's name and address.
d. Title and number of each Record Document.
e. Signature of Contractor or its authorized representative and a statement that certifies that the Record Documents are accurate and reflect what was actually installed during construction.

3. In the case of those drawings which depict the detail requirement for equipment to be assembled and wired at the factory, update the Record Documents by indicating those portions which are superseded by Change Order documents or final Shop Drawings, and by including appropriate reference information describing the Change Orders by number and the Shop Drawings by manufacturer, drawing, and revision numbers.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 79 00
TRAINING

PART 1 GENERAL

1.01 DESCRIPTION

A. This section contains requirements for training the Owner's personnel, by persons retained by the Contractor specifically for the purpose, in the proper operation and maintenance of the equipment and systems installed under this Contract. Specific required number of training sessions and hours are provided in the individual technical specification sections.

B. Where required by the Contract Documents, the Contractor shall provide on-the-job training of the Owner's personnel. The training sessions shall be conducted by qualified, experienced, factory-trained representatives of the various equipment manufacturers. Training shall include instruction in both operation and maintenance of the subject equipment.

C. Owner videotaping, photographing, audio recording, or other documentation of training classes: Owner reserves the right to videotape, photograph, audio record, or otherwise document any or all training classes. The organization(s) conducting the training and the Contractor shall cooperate with the Owner in making such videotapes, photographs, audio recordings, which shall remain the exclusive property of the Owner.

1.02 SUBMITTALS

A. The following information shall be submitted to the Engineer in accordance with the provisions of Section 01 33 00, Contractor Submittals.

B. The training materials shall be reviewed and accepted by the Engineer as a condition precedent to receiving progress payments in excess of 80 percent of the Contract Price and not less than 4 weeks prior to the provision of training.

C. Lesson plans for each training session to be conducted by the manufacturer's representatives. In addition, training manuals, handouts, visual aids, and other reference materials shall be included.

D. Subject of each training session, identity and qualifications of individuals to be conducting the training, and tentative date and time of each training session. Training classes shall be organized by the Startup Systems, as defined in Section 01 75 00, Testing Equipment Startup and Commissioning. Each training class shall consist of a classroom portion and a field tour portion. Each training class shall include:

1. Training on an overview of the startup system, conducted by the Design Engineer.
2. Training on each item of equipment within the startup system, conducted by the Equipment Manufacturers representative.
3. Training on the mechanical piping system within the startup system, conducted by the Contractor's mechanical superintendent.
4. Training on the power distribution system within the startup system, conducted by the Contractor's electrical superintendent.
5. Training on the instruments and control systems within the startup system, conducted by the Contractor's I&C System Supplier.
6. Training on the SCADA control system within the startup system, conducted by the System Integrator.

PART 2 PRODUCTS

2.01 GENERAL

A. Where specified, the Contractor shall conduct training sessions for the Owner's personnel to instruct the staff on the proper operation, care, and maintenance of the equipment and systems installed under this Contract.

B. Approved operation and maintenance manuals shall be available at least 14 days prior to the date scheduled for the individual training session.

2.02 LESSON PLANS

A. Formal written lesson plans shall be prepared for each training session. The Owner may request that particular subject matter be emphasized and the lesson plans shall be adjusted to accommodate these requests. Lesson plans shall contain an outline of the material to be presented along with a description of visual aids to be utilized during the session. Each plan shall contain a time allocation for each subject.

B. One complete set of originals of the lesson plans, training manuals, handouts, visual aids, and reference material shall be the property of the Owner and shall be suitably bound for proper organization and easy reproduction. The Contractor shall furnish ten copies of necessary training manuals, handouts, visual aids and reference materials at least 1 week prior to each training session.

2.03 FORMAT AND CONTENT

A. Each training session shall be comprised of time spent both in the classroom and at the specific location of the subject equipment or system. As a minimum, training session shall cover the following subjects for each item of equipment or system:

1. Familiarization:
   a. Review catalog, parts lists, drawings, etc., which have been previously provided for the Owner's files and operation and maintenance manuals.
   b. Check out the installation of the specific equipment items.
   c. Demonstrate the unit and indicate how all parts of the Specifications are met.
   d. Answer questions.
2. Safety:
   a. Using material previously provided, review safety references.
   b. Discuss proper precautions around equipment.
3. Operation:
   a. Using material previously provided, review reference literature.
   b. Explain all modes of operation (including emergency).
   c. Check out Owner's personnel on proper use of the equipment.
4. Preventive Maintenance:
   a. Using material previously provided, review preventive maintenance (PM) lists including:
      1) Reference material.
      2) Daily, weekly, monthly, quarterly, semiannual, and annual jobs.
   b. Show how to perform PM jobs.
   c. Show Owner's personnel what to look for as indicators of equipment problems.
5. Corrective Maintenance:
   a. List possible problems.
   b. Discuss repairs; point out special problems.
   c. Open up equipment and demonstrate procedures, where practical.
6. Parts:
   a. Show how to use previously provided parts list and order parts.
   b. Check over spare parts on hand. Make recommendations regarding additional parts that should be available.
7. Local Representatives:
   a. Where to order parts: name, address, telephone.
   b. Service Problems:
      1) Who to call.
      2) How to get emergency help.

8. Operation and Maintenance Manuals:
    a. Review any other material submitted.
    b. Update material, as required.

PART 3 EXECUTION

3.01 EXECUTION

A. Training shall be conducted in conjunction with, but separate from, the operational testing and commissioning periods. Training shall not be scheduled until the manufacturer has certified that the equipment or system is properly installed and performs satisfactorily. Specific classes shall be scheduled a minimum of 4 weeks in advance to allow Owner staffing arrangements. The Owner shall approve the class scheduling. Classes shall be scheduled such that classroom sessions are interspersed with field instruction in logical sequence. Training shall be certified.

B. Acceptable operation and maintenance manuals for the specific equipment shall be provided to the Owner at least 30 days prior to the start of any training.

C. The following services shall be provided for each item of equipment or system as required in individual specification sections. Additional services shall be provided, where specifically required in individual specification sections.

1. As a minimum, classroom equipment training for operations personnel will include:
    a. Using slides and drawings, discuss the equipment's specific location in the plant and an operational overview.
    b. Purpose and plant function of the equipment.
    c. A working knowledge of the operating theory of the equipment.
    d. Start-up, shutdown, normal operation, and emergency operating procedures, including a discussion on system integration and electrical interlocks, if any.
    e. Identify and discuss safety items and procedures.
    f. Routine preventative maintenance, including specific details on lubrication and maintenance of corrosion protection of the equipment and ancillary components.
    g. Operator detection, without test instruments, of specific equipment trouble symptoms.
    h. Required equipment exercise procedures and intervals.
    i. Routine disassembly and assembly of equipment if applicable (as judged by the Owner on a case-by-case basis) for purposes such as operator inspection of equipment.
2. As a minimum, hands-on equipment training for operations personnel will include:

a. Identifying piping and flow options.
b. Identifying valves and their purpose.
c. Identifying instrumentation:
    1) Location of primary element.
    2) Location of instrument readout.
    3) Discuss purpose, basic operation, calibration, maintenance, troubleshooting, repair, and information interpretation.
d. Discuss, demonstrate, and perform standard operating procedures and round checks.
e. Discuss and perform the preventative maintenance activities.
f. Discuss and perform start-up and shutdown procedures.
g. Perform the required equipment exercise procedures.
h. Perform routine disassembly and assembly of equipment if applicable.
i. Identify and review safety items and perform safety procedures, if feasible.

3. Classroom equipment training for the maintenance and repair personnel will include:
    a. Theory of operation.
    b. Description and function of equipment.
    c. Start-up and shutdown procedures.
    d. Normal and major repair procedures.
    e. Equipment inspection and troubleshooting procedures including the use of applicable test instruments and the “pass” and “no pass” test instrument readings.
    f. Routine and long-term calibration procedures.
    g. Safety procedures.
    h. Preventative maintenance such as lubrication; normal maintenance such as belt, seal, and bearing replacement; and up to major repairs such as replacement of major equipment part(s) with the use of special tools, bridge cranes, welding jigs, etc.
4. Hands-on equipment training for maintenance and repair personnel shall include:
    a. Locate and identify equipment components.
    b. Review the equipment function and theory of operation.
    c. Review normal repair procedures.
    d. Perform start-up and shutdown procedures.
    e. Review and perform the safety procedures.
    f. Perform Owner-approved practice maintenance and repair job(s), including mechanical and electrical adjustments and calibration and troubleshooting equipment problems.

D. If, in the opinion of the Owner, the scheduled training was not provided by an appropriately knowledgeable person, such training shall be rescheduled and repeated with a suitable instructor at no additional cost to the Owner.

END OF SECTION

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