The following White Paper discusses considerations that should be made when drafting or modifying a contract intended for horizontal construction. This paper is broken down into seven sections:

1. Prosecution and Progress, Limitations on Operations, CPM Scheduling Specifications
2. Differing Site Conditions
3. Third Party Impacts
4. Insurance and Bonds
5. Changes in the Work
6. Electronically Stored Information, Records Retention, and Audits
7. Dispute Resolution

Each section discusses considerations for the particular topic and references similar contract language from other public owners.

1. Prosecution and Progress, Limitations on Operations, CPM Scheduling Specifications

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Introduction: *The majority of construction disputes involve some component of a dispute over time. Whenever there is a dispute over time, one party asserts a claim for additional time-related costs against the other for items such as extended general conditions costs, premium time, acceleration, liquidated damages and loss of productivity. It is important that the contract outline the rules and requirements regarding contract time, limitations of operations and scheduling requirements. The schedule is the tool that will enable project participants to understand the causal events and subsequent impacts that effect contract time. It enables participants to identify, avoid, and mitigate issues that may have an impact on time as they arise and quantify the time impact of changes in the work. The schedule is also the tool that will be used to apportion responsibility for delays that have already occurred. This sample specification includes examples of contract language, related to time, that may be included as part of horizontal construction contracts.*

1 Defined Terms

Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1.1 *Contract Times* – The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment with the concurrence of the Owner.

1.2 *Effective Date of the Agreement* – The date indicated in the Agreement on which it becomes effective.

1.3 *Milestone* – A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to completion of all the Work.

1.4 *Notice to Proceed* – A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

1.5 *Progress Schedule* – A schedule, prepared by and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

1.6 *Day* – The word "day" shall constitute a calendar day of 24 hours measured from midnight to the next midnight.

1.7 *CPM* – Critical Path Method is a computerized construction project planning and scheduling process where a construction project schedule's critical path is the longest chain or path of activities leading to project completion.

1.8 *Delays* – Any slippage of the Early Dates in the Contract Progress Schedule which forecast a slippage in the Contract Milestone and/or the Contract Completion Date.

1.9 *Early Completion Schedule* - A CPM schedule showing completion of the Work ahead of the Contract Completion Date specified in Subsection 8.03 - Prosecution of Work or elsewhere in the Contract Documents.

2 Prosecution and Progress

2.1 *Commencement of Contract Times; Notice to Proceed:* The Contract Times will

commence to run on the day indicated in the Notice to Proceed. In no event will the Owner have any obligations or duties to the Contractor under the Agreement until the Notice to Proceed is given to the Contractor. Contractor has no rights or remedies arising from execution of the Agreement prior to receiving the Notice to Proceed. The foregoing prices of the Contract shall include the furnishing of all materials, the performing of all the labor requisite or proper, the providing of all necessary machinery, tools, apparatus and other means of construction, the doing of all the herein referenced work in the manner set forth, described and shown in the specifications and on the drawings for the work, and in the form of contract, and the completion thereof, "Acceptance of the Project", within **XX CALENDAR DAYS** upon receipt of a Notice to Proceed, except that if the completion date falls between December 1 and March 15, then the same number of days beyond December 1st will be extended after March 15.

USE THIS SECTION TO FURTHER DEFINE ANY INTERIM CONTRACT MILESTONES.

2.2 *Starting the Work:* Contractor will start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run. The Contractor shall commence construction operations with that part of the Project designated for such commencement in the progress schedule which it has submitted to the Department, unless the Engineer directs the Contractor to commence with a different part of the Project. The work shall be conducted in such manner and with sufficient materials, equipment and labor as are necessary to ensure completion of the Project in accordance with the Contract within the time set forth in the Contract. The Contractor shall notify the Engineer of its intention to commence or recommence any Project operation at least 48 hours in advance of doing so. The Contractor shall also give the Engineer such advance notice of any intent to discontinue any Project operation, unless emergency conditions make it impracticable to give such notice so far in advance. The Engineer retains the right to disallow such commencement, recommencement or discontinuance of operations.

2.3 *Before Starting Construction*

A. *Preliminary Schedule:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the Contract Documents), Contractor shall submit to Engineer for review a Preliminary Baseline Schedule indicating the times for submitting, reviewing, and processing each required submittal, in accordance with the technical requirements outlined below.

DO NOT REQUIRE A PRELIMINARY SCHEDULE ON SMALLER PROJECT - FOR SMALLER PROJECTS PROCEED DIRECTLY TO THE BASELINE SCHEDULE

A. *Project "Kick-Off" Meeting;* Designation of Authorized

Representatives; Preconstruction Conference

1. Within 14 days of the Effective Date of the Agreement, a project "kick-off" meeting attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedule referred to in Paragraph 2.3.A

2.4 *Early Completion Schedules:* The Contractor is entitled to plan for an early completion. The owner will not entertain any claims for delay in any such case that the Contractor has planned for an early completion and is delayed to an extent that is within the contract duration.

2.5 *Working Hours*

A. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent given after prior written notice to Engineer.

B. Regular working hours are defined as 8 hours per day, Monday through Friday, excluding federal and state holidays, between the hours of 7:00 AM and 5:00 PM. The Contractor shall also abide by work hour restrictions set forth in or required under permits obtained by the Contractor or Owner in connection with the Project. Requests to work other than regular working hours shall be submitted to Engineer not less than 48 hours prior to any proposed weekend work or scheduled extended work weeks. Occasional unscheduled overtime may be permitted provided two hours' notice is given to Engineer.

2.6 *Seasonal and Other Time-Related Restrictions*
USE THIS SECTION TO IDENTIFY ANY WINTER WEATHER, OR OTHER ENVIRONMENTAL RESTRICTIONS TO THE CONTRACT (I.E. ACOE OR DEP PERMIT REQUIREMENTS)

2.7 *Coordination with Work by Other Parties:* The Contractor shall make every effort to perform its work so as not to interfere with other work for the Owner or other parties. In the case of a dispute with another contractor working for the Owner regarding their work for the Owner, or in the case of a conflict between their planned operations or the needs of their projects, the Contractor shall bring that dispute or conflict to the Engineer's attention, and the Engineer shall decide how it shall be resolved. The Engineer's decision shall be binding upon all of the contractors working for the Owner who are involved in the matter.

The Contractor shall, as far as possible, schedule and otherwise plan and arrange its work, and place and dispose of its Project materials, so as not to interfere with the operations of other contractors working for the Owner. The Contractor shall, as necessary to accomplish this goal, endeavor to coordinate and schedule its work in the way which will interfere least with the work of other parties. If the Contractor's work or activities under the Contract come into conflict with other activities or work for the Owner, any financial or other liability arising from such conflicts shall be the Contractor's; and the Contractor shall protect and save harmless the Owner from any and all damages or claims, and the costs of defending same, which may arise because of inconvenience, delay, financial hardship, or injuries caused to the Contractor or to other contractors as a result of such conflicts, unless:
(a) The Contractor notifies the Engineer of such conflicts as soon as the likelihood of such a conflict becomes apparent; or, if such likelihood could not have been foreseen earlier, then as soon as the conflict becomes apparent.
(b) The Contractor waits for direction from the Engineer as to how the conflict should be avoided or resolved, and the Contractor does not proceed with the provided the Contractor with such direction.
(c) The Contractor follows the directions given by the Engineer for avoiding, resolving, or minimizing the conflict. The Contractor shall be responsible for the completion of its Contract work, regardless of any interference with, or delay of, that work which may be caused by the presence or activities of other contractors working for the Owner.

1.1 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions above.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 8.

1.2 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work, fires, floods, epidemics, abnormal weather conditions, or acts of God. Provided, however, that Contract Times shall not be extended unless

the Contractor has fulfilled its obligations under the Contract Documents, including by coordinating with utility owners and other contractors or subcontractors.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times. 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.

C. Neither party shall be liable to the other nor deemed to be in breach of this Contract for failure or delay in performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor. In the event of failure or delay for the causes identified in this Paragraph, Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times and Contractor promptly notifies Owner of the existence and nature of such failure or delay. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph. It is agreed that since the efficiency of performance of this Contract is of the essence, continued failure to perform for periods aggregating thirty (30) or more days, even for causes beyond the control of Contractor, shall afford Owner the right to terminate this Contract without assessment or termination costs or penalties.

D. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

E. In no event shall Owner or Engineer be liable to Contractor, any Subcontractor, any Supplier, or any other person or organization, or any surety for, employee, or agent of any of them, for damages arising out of or resulting from delays caused by or within the control of Contractor or delays beyond the control of both Owner and Contractor, including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 8.

F. Notwithstanding anything to the contrary in the Contract Documents, an extension in the Contract Times, to the extent permitted this contract, shall be the sole and exclusive remedy of the Contractor for any (1) delay in the

commencement, prosecution, or completion of the Work; (2) hindrance or obstruction in the performance of the Work; (3) loss of productivity; or (4) other similar claims (collectively referred to in this paragraph as Delays) whether or not such Delays are foreseeable. In no event shall the Contractor be entitled to any compensation or recovery of any damages, in connection with any Delay, including, without limitation, consequential damages, lost opportunity costs, impact damages, or other similar remuneration. The Owner's exercise of any of its rights or remedies under the Contract Documents (including, without limitation, ordering changes in the Work, directing suspension, rescheduling, or correction of the Work, or terminating this agreement for its convenience), regardless of the extent or frequency of the Owner's exercise of such rights or remedies, shall not be construed as active interference with the Contractor's performance of the Work. If the Contractor submits a progress report indicating, or otherwise expressing an intention to achieve, completion of the Work prior to any completion date required by the Contract Documents or expiration of the contract Times, no liability of the Owner to the Contractor for any failure of the Contractor to so complete the Work shall be created or implied.

1.3 *Acceptance of Project:* The Project will be accepted by the Owner when all Project work has been completed, as defined by the requirements herein, and the following have been submitted to the satisfaction of the Engineer:

A. Supporting information necessary to substantiate pay quantities, such as cost-plus backup documentation;
B. Reports and forms required on all Federal Aid Projects;
C. Warranties, guaranties, final operation and maintenance manuals, and documentation to the effect that training and start-up support required by the Contract have been completed;
D. Any other documents required by the Contract.

3. Schedule Requirements

E. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.3 as it may be adjusted from time to time as provided below.

1. **General Requirements for all Schedules**

This program requires the following schedule submittals to be made by the Contractor:

- Initial Baseline Schedule (within 10 days of Effective Date of this Agreement)
- Baseline Schedule (within 30 days of Effective Date of this Agreement)
- Progress Schedules (requisite for each Application for Payment)

- Short-Term Construction Schedules
- Time Entitlement Analyses
- Recovery Schedules

Software: The Contractor shall use computer software capable of preparing, statusing and revising Critical Path Method (CPM) schedules using precedence diagramming methods as approved by the Engineer. The software shall be capable of printing activity reports and plotting CPM time-scaled logic diagrams, both of which shall be sortable by structures, facilities, subcontractors, submittals, deliveries, change orders and any other critical features of the Contract.

Within seven (7) Calendar Days after NTP, the Contractor shall submit to the Engineer sufficient information demonstrating that the CPM software it proposes to use on the Contract is fully capable of producing the specified schedules and tracking tools. The Engineer shall notify the Contractor in writing within seven (7) Calendar Days after receipt of the Contractor's notification on software (within fourteen (14) Calendar Days after NTP) if there are any objections to the CPM software selected.

Submittal Requirements: The Contractor shall provide a written description with each Schedule submittal that includes: 1) an itemized description of the flow of the Work activities on the Critical Path; 2) a comparison of early and late dates for activities on the Critical Path; 3) progress highlights and quantify work days gained or lost during the period; 4) describe the Contractor's plan, approach, methodologies, and resources to be employed for completing the various operations and elements of the Work.

The Contractor shall provide a bar chart representation of the schedule. Time scaled bar charts shall be prepared using a scale that yields readable plots on 11" X 17" paper. Activities shall be linked by logic ties and shown on the Early Dates. Critical paths shall be highlighted and Total Float shall be shown for all activities.

Float: Float shall be defined as the amount of time between when an activity can start or finish (Early Start or Early Finish Date) and when an activity must start or finish (Late Start or Finish Date.) Float is further defined as the amount of time any given activity or path of activities may be delayed before it will affect the Contract Time. Float belongs to the project and is a shared commodity between the Department and the Contractor and is not for the exclusive use or benefit of either party. Either party has full use of the float until it is depleted. The float may be claimed by whichever party first demonstrates a need for it, i.e., that any activities on the critical path, where float equals zero, any Contract Milestones and/or the Contract Completion Date have been delayed.

Substantial Completion: Substantial Completion occurs when either the Work has

been completed except for work having a Contract Price of less than one (1) percent of the adjusted Total Contract Price or substantially all of the Work has been completed and opened to public use, except for minor incomplete or unsatisfactory work items that do not materially impair the usefulness of the Work.

The Engineer will respond to each schedule submittal within fifteen (15) Calendar Days of receipt providing comments and disposition that either accepts the schedule or requires revision and resubmittal. Schedules shall be resubmitted within fifteen (15) Calendar Days after receipt of the Engineer's comments. Failure to submit schedules as and when required could result in the withholding of full or partial pay estimate payments by the Engineer.

Fragnet: A mini-schedule or sub-network containing a logically-linked group of activities or durations that illustrate a distinct event or period of time in the Contract Progress Schedule. Fragnets are typically used as the schedule portion of a Time Entitlement Analysis (TEA) and are required to be submitted as part of a TEA.

Activities: The Contract Progress Schedule shall show the Work being completed in accordance with the Contract Milestones.

All Contract Schedules shall clearly define the progression of the Work from Notice to Proceed to Final Acceptance by using separate activities for each of the following items:

1) Notice to Proceed

2) Each component of the Work

3) Procurement of permit modifications by the Contractor or the Engineer

4) The preparation and submission of shop drawings and other required submittals, the duration of which shall be determined by the Contractor

5) The review and return of shop drawings and other required submittals, approved or with comments, the duration of which shall be a minimum of thirty (30) Calendar Days, unless otherwise approved by the Engineer

6) Items to be paid, such as, engineering work, permanent materials and permanent equipment (material on hand), unfabricated structural steel (raw materials), equipment procurement, and equipment delivery to the site or storage location

7) Interfaces with adjacent work, utility companies, other public agencies, sensitive abutters, and/or any other third party work affecting this Contract

9) The critical path, clearly defined and labeled

10) Float shall be clearly identified

11) Substantial Completion

12) Punchlist Completion Period

13) Physical Completion

The work activities shall be in sufficient detail to support the pay estimate for that period, including all activities which the Contractor is required to perform or plans to perform and for which the Contractor intends to receive payment

Maximum Activity Durations: The Schedules shall identify activity durations in terms of working days. Except for concrete curing, Submittal review and equipment fabrication and deliveries, no activity shall exceed a duration of twenty (20) working days. Activities involving continuous work with a duration in excess of such time shall be subdivided by location or another sub-element. If the Contractor deems it necessary, the Contractor shall substantiate the need for specific activities having longer durations than stated herein.

Activity Responsibilities: The Contractor shall separate each activity into as many separate activities as necessary in order for each activity to only have one responsible party.

Activity Predecessors and Successors: Every activity shall have logically assigned predecessors and successors in conformance with the requirements of this Exhibit. Unless otherwise specified, Notices to Proceed shall be the only activity in the Schedules without a predecessor, and Final Completion shall be the only activity in the Schedules without a successor.

Activity Constraints: The imposition of a date constraint on any activity shall be permitted only where the Contractor demonstrates the need for such a constraint to the satisfaction of the Owner.

Activity Codes: The Schedules shall contain activity code classifications and code values. The coding structure shall, at a minimum, include code fields for the following: phase, location, design, bid & award, shop drawings/fabrication, construction, renovation, responsibility, change orders, request for information and division.

Calendars: The planning unit for the Work shall be days. The global calendar shall

contain all union holidays. The Contractor shall incorporate the union holidays (if applicable) to be observed into the Schedule as non-working days. If the start, performance or completion of an activity is dependent upon seasonal characteristics (i.e. weather), school breaks, or any other reason independent of the actual Work, a unique calendar shall be made in order to illustrate when the Work can take place.

Logic: The Contractor shall be responsible for developing the logic of all Schedules and for updating that logic each month to accurately reflect the progress of the Work to date and the Contractor's current plan for the timely completion of the Work. The Contractor shall modify all logic relationships in the Schedule updates to eliminate any out-of-sequenced logic. Whenever practical, the Contractor shall use F-S logic ties and avoid the use of lags. All activities starting with a S-S relationship shall have a F-F logic tie associated with it.

Resource Loading: The Contractor shall resource load all activities in Schedules submitted to the Owner. The Contractor shall not resource level the Schedule at any time unless directed to by the Owner. If at any time a critical activity has an over-allocated resource, the Contractor shall notify the Owner of such activity and propose mitigation measures with the Schedule update. The Schedules shall be resource loaded for both the Contractor and all Subcontractors as detailed below, or as otherwise directed by the Owner. The Contractor may propose additional or alternative resource loading for the Owner review and acceptance. Defining a resource shall consist of identifying the resource name, resource description, unit of measure, resource limit and calendar assignment. USE FOR LARGER PROJECTS

Labor Resources: Labor shall refer to all craft labor including foreman. Labor shall be measured in man-days. The labor resource definitions shall be broken down by subcontractor work scope and trade classification.

Construction Equipment Resources: The planned use of construction equipment requiring a licensed operator shall be reflected in equipment resource assignments to activities. USE FOR LARGER PROJECTS

Limits on Resources: The Contractor shall indicate in its narrative the expected available resources and shall define the normal or expected usage along with a maximum limit available. Resource limits may vary for different stages of the work. Resource limits shall be revised to reflect the Contractor's current plan for the timely completion of the Work. USE FOR LARGER PROJECTS

Out of Sequence Work: If any activity starts or is performed in a different sequence than shown in the Schedule, the Contractor shall revise the logic in the next Schedule update to show the actual sequencing of the Work.

Progress Override/Retained Logic: The Contractor shall use retained logic to calculate all Schedules. The use of progress override is not allowed without prior approval of the Owner.

Regulatory/Third Party Approvals: The Contractor shall include activities in the Schedule for all approvals required by regulatory agencies or other third parties.

Cost Loading: The Contractor shall cost-load each activity in the Schedule to show the portions of the Contract Sum or Construction Cost associated with each activity, the sum of which shall equal the Contract Sum or the latest accepted estimate of Construction Cost and Fee, respectively. Where compensation is based on the Construction Cost, the Contractor shall include separate activities in the Schedule for General Conditions, General Requirements, Miscellaneous Costs unrelated to the Subcontractors, and Fee. The cost loading of Subcontractors' activities shall correspond to the line items in the Subcontractors' applications for payment to the Contractor. USE FOR LARGER PROJECTS

2. **Preliminary Baseline Schedule:** The Preliminary Baseline Schedule is a summary-level Contract Progress Schedule that shows how the Contractor plans to perform the Work for the first one hundred and twenty (120) Calendar Days of the Contract on a detailed basis and how it plans to perform the remaining portion of the Work from Notice to Proceed to Final Acceptance on a less-detailed basis. Preliminary Schedule shall be in a detailed precedence-style critical path method (CPM) or Primavera type format satisfactory to the Owner and the Engineer, which construction schedule also (1) provides a graphic representation of all activities and events that will occur during the performance of the Work; (2) identifies each phase of construction and occupancy; and (3) sets forth dates for completion of Milestones

USE FOR LARGER PROJECTS

3. **Baseline Schedule:** The Baseline Contract Progress Schedule shall be due 30 calendar days after the Effective Date of the Agreement. The Baseline Schedule shall only reflect the Work awarded to the Contractor and shall not include any additional work involving extra work orders or any other type of alleged delay.

Once the Baseline Contract Progress Schedule has been accepted by the Engineer, with or without comments, it will represent the as-planned schedule for the Work. It shall then be known as the Baseline Schedule.

4. **Progress Schedule: S**tatused (Updated) Contract Progress Schedules shall be submitted by the Contractor along with the Application for Payment each month.

A Statused Contract Progress Schedule shall include a Schedule Narrative and

Progress Schedule

Each Statused Contract Progress Schedule shall reflect updated progress to the status date and shall forecast the finish dates for in progress activities and remaining activities, but shall not change any activity descriptions, durations, or sequences without the acceptance of the Engineer. Updated progress shall be limited to as built sequencing and as built dates for completed and in progress activities. As built data shall include actual start dates, remaining Work Days, and actual finish dates for each activity.

Statused Contract Progress Schedules submitted later than fourteen (14) Calendar Days after the pay estimate submittal will be deemed to be no longer useful and will not qualify for payment. However, failure to submit a Statused Contract Progress Schedule within any monthly period, whether on time or late, could result in the withholding by the Engineer of the remainder of the pay estimate payment due for that time period.

The Contractor shall seek authorization prior to making any changes to the schedule, including revision logic ties, added / deleted activities, constraints, calendars and other revisions to the schedule. The Contractor shall provide a comprehensive listing of all activities added to or deleted from the Progress Schedule as well as a complete listing of all logic and activity relationship changes which have been made. All changes shall be clearly highlighted, identified, explained, and justified in writing as part of the Contract Progress Schedule Narrative.

No Revised Contract Progress Schedule that extends performance beyond the Contract Time and/or any Contract Milestone shall qualify as a Revised Contract Progress Schedule of Record

5. **Justification for Contract Time Extensions:** Each time the Contractor submits a Proposed Change Order that it believes will delay a Key Milestone, the Contractor shall perform a Time Impact Analysis (TIA) in support of a request for extension of the Contract Time, or request for funds to mitigate the delay so that no extension is necessary. Each TIA shall be performed on a Schedule with a data date that is within five (5) Days of the date of such submission, and shall be submitted at the end of the month in which they occurred. The updated Schedule for each month shall include all changes to activities and logical ties included in the TIAs for that month.

Each TIA shall include:

1) The corresponding Pending Change Order number.

2) New activities, revised logic and durations associated with the proposed change as follows:

   a. When an event causes a suspension in an activity, the activity receives an actual finish date of the date the event occurs. An activity representing the duration of the event is added as a successor with a finish to start (FS) relationship. The remaining duration of the original activity is added as a successor to the event activity with an FS relationship, and has the same successor logic ties as the original activity.

   b. When an event causes a loss of productivity in an activity, new activity must be added to the end of the original activity with an FS relationship, original duration equal to the anticipated extension of time and with the same successors as the original activity. This new activity is called "delayed" followed by the description of the original activity. Progress the original activity to an Actual finish, which makes the actual duration equal to the original duration. Then, make the actual start of the extension activity be the next day and progress it to the actual completion of the work.

   c. Each time an event occurs, the schedule will be progressed and copied using the data date of Day the change occurs, prior to incorporating the change.

3) A Narrative explaining how the proposed change would impact the Schedule, including any delay mitigation measures; and

4) An electronic copy of the impacted Schedule.

Where the Contractor is proceeding with changed work without agreement on the time associated with such changes, the Contractor shall track such changed work in monthly Schedules, Schedule update Narratives and updated time impact analyses as it is being done.

6. **Recovery Schedule:** The Contractor shall promptly report to the Engineer all schedule delays during the prosecution of the Work. In addition, a Recovery Schedule shall be required whenever the Critical Path of the Contract Progress Schedule of Record exceeds the greater of:

a.) A delay of twenty (20) Calendar Days, or

b.) A delay equal to 5% of the Calendar Days remaining until the Contract

Completion Date

due to any of the three situations listed below:

1. If the contractor is behind schedule due to the fault of the contractor.
2. If the contractor anticipates becoming behind schedule due to the fault of the contractor.
3. When the delay is not the fault of the Contractor and the Department chooses to recover the lost time and requests a proposal to achieve that.

Recovery Schedules shall be prepared and submitted within fourteen (14) Calendar Days of any of the cases listed above.

Failure to submit a Recovery Schedule when and as required could result in withholding of full or partial pay estimate payments by the Engineer.

7. **Basis of Payment:** This service will be paid for at the contract lump sum price for "Project Schedule" complete, which price shall include the preparation and submission of all schedules, updates, reports and submittals. The lump sum price shall also include the cost of providing a complete, licensed copy of the Primavera software which will remain the property of the Engineer, and all materials, equipment, labor and work incidental of this service.

The lump sum price will be certified for payment as described in "Method of Measurement" subject to the following conditions:

1) Any month where the monthly update of the "Baseline" CPM schedule is submitted late, without authorization from the Engineer, will result in the following actions:

a.) The monthly payment for the Project Coordinator item shall be deferred to the next monthly payment estimate. If any monthly submittal is more than thirty (30) calendar days late, there will be no monthly payment for the services of the Project Coordinator.

b) The greater of 5% of the monthly payment estimate or $XXXX shall be retained from the monthly payment estimate until such time as the Contractor submits all required reports.

c.) If in the opinion of the Engineer, the contractor is not in compliance with this specification, the Engineer may withhold all project payments.

2) In the event the project extends beyond the original completion date by more than thirty (30) calendar days, and a time extension is granted to the Contractor, the Department may require additional CPM updates which will be paid at the per month cost for the services of the Project Coordinator.

3) If in the opinion of the Engineer, the contractor is not in compliance with this specification or has failed to submit a "Baseline", monthly update or Recovery Schedule for any portion of the work in accordance with this specification shall result in the withholding of all contract payments until the schedule is submitted to, and approved by, the Engineer.

2. Differing Site Conditions

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Encountering a differing site condition on a project can be extremely costly in many different ways and for multiple project participants. Consider a situation where unanticipated rock is encountered in an excavation. The first thought that comes to mind is that of an excavation crew who has stopped work and is staring into a hole, wondering where did this rock come from and how do we get it out. The project suspends, however labor, equipment and overhead costs do not. The owner also begins to incur expenses as the project stands still.

A Question of Risk Allocation

The largest risk and unknown cost on a construction project is associated with what cannot be seen. The fear of a differing site condition can influence the owner as it drafts its contract documents. Sometimes this fear manifests itself in the owner transferring all of the risk to the contractor. In turn the contractor prices the risk accordingly, as if a differing site condition will be encountered. The result is that the owner pays for a differing site condition whether or not it is encountered. There are a couple of questions that need to be considered during the contract drafting stage of the project:

1. Who is best able to handle the risk? This will vary from project to project depending on the type of project, strength of the owner and strength of the contracting community.

2. What is the potential cost of the risk?

3. What is the owner's risk tolerance?

These are important questions that need to be answered objectively and who's answers need

to be communicated to the party who is drafting the contract provisions for the project. The differing site conditions clause should reflect the answers to these questions.

Sample Clauses

In most cases (every project is different) differing site conditions clauses should be balanced between the contractor and owner. The contractor should be held responsible for performing its due diligence during the bidding stage. This typically includes activities such as reviewing geotechnical reports that are not part of the contract, acquiring plans of existing structures, performing investigations of existing utilities and probably most important, performing an independent site investigation. At the same time, it is incumbent that the owner conducts its own due diligence by performing the required quantity and detail of investigations.

Differing site conditions clauses from Ft. Worth Texas, Framingham Massachusetts, the Connecticut Department of Transportation and the Tennessee Department of Transportation are provided below. While they very in content and detail, there are certain aspects of each clause that are critical to any differing site conditions clause functioning properly.

Notice – Notice provisions define a contractor's responsibilities to inform the owner of an alleged differing site condition. Some provisions provide a specific deadline by which the contractor must inform the owner of the alleged differing site condition (see TDOT specs) while others use language like, as-soon as possible (see yellow highlights below). Regardless of timing, each of the notice provisions below require the contractor to provide notice, stop work and then stop work.

Owner's Investigation – The differing site conditions clauses below also discuss the owner's obligation in the event an alleged differing site condition is encountered. An owner has an obligation conduct a technical investigation and to provide an opinion as to whether or not a differing site condition exists and then to make an adjustment to the contract.

Disputes – Differing site conditions are one of the most common claim items. Rarely is there complete agreement regarding contractor entitlement to an adjustment and then the quantification of that adjustment. In the event that an alleged differing site condition is encountered, the owner cannot rely the contractor to accurately track costs. The owner should also not necessarily rely on the documentation tools it has in place for the project. These tools may not be robust enough to capture the data required to accurately determine the additional costs associate with an alleged differing site conditions.

Drafting the Clause – Each of the clauses provided below varies in detail and length. Each of these can be suitable clauses. Department of Transportation clauses are similar from State to State and therefore have been tested either locally or by a neighboring state. While sometimes less detailed, these clauses provide some level of certainty. Whatever clause is chosen or drafted, it is important that they address the requirement of the contractor to provide notice and document costs.

Example Contract from Ft. Worth Texas

Differing Subsurface or Physical Conditions

A. Notice: If Contractor believes that any subsurface or physical condition that is uncovered or

revealed either:
1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents; then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.17.A), notify City in writing about such condition.

Example Contract from Framingham Massachusetts

Differing Subsurface or Physical Conditions
If, during the progress of the Work, the Contractor or Owner discovers that the actual subsurface or latent physical conditions encountered at the Site differ substantially or materially from those shown on the Drawings or indicated in the Contract Documents, either the Contractor or Owner may request an equitable adjustment in the Contract Price of the Contract applying to Work affected by the differing site conditions. A request for such an adjustment shall be made in writing and shall be delivered by the party making such Claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a Claim from Contractor, or upon its own initiative, Owner shall make an investigation of such physical conditions, and, if they differ substantially or materially from those shown on the Drawings or indicated in the Contract Documents or from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Drawings and Contract Documents and are of such a nature as to cause an increase or decrease in the cost of performance of the Work or a change in the construction methods required for the performance of the Work which results in an increase or decrease in the cost of the Work, the Owner shall make an equitable adjustment in the Contract Price, and the Contract shall be modified in writing accordingly. The Contractor and each Subcontractor shall evaluate and satisfy themselves as to the site conditions and limitations under which the Work is to be performed, including, without limitation, (1) the location, condition, layout, and nature of the project site and surrounding areas; (2) generally prevailing climatic conditions; (3) anticipated labor, supply, and costs; (4) availability and cost of materials, tools, and equipment; and (5) other similar issues. The Owner assumes no responsibility or liability for the physical condition or safety of the project site or any improvement located on the project site. Except as set forth in Article 4, the Contractor shall be solely responsible for providing a safe place for the performance of the Work. The Owner shall not be required to make adjustments in either the Contract Price or Contract Times arising from a failure by the Contractor or any Subcontractor to comply with the requirements of this Paragraph.

If Contractor discovers or should have discovered that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either: is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely is materially inaccurate; or is of such a nature as to require a change in the Contract Documents; or differs substantially or materially from that shown on the Drawings or indicated in the Contract Documents or from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Drawings and Contract Documents; then Contractor shall, immediately or not more than 24 hours after the time the Contractor discovers or should have discovered and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as provided in Paragraph 6.16), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of a written order to do so. Such notice shall constitute a Claim as defined in the Contract Documents and shall be subject to the procedures set forth in Paragraph 10.5.

Except as otherwise provided herein or by law, Contractor shall bear all costs, expenses, losses, and damages on account of the quantity or character of the Work or the nature of the land in or under or on which the Work is done being different from that indicated or shown in the Contract Documents or from what was estimated or expected, or on account of the weather, elements, or other causes. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner in respect of Contract Price and Contract Times by the submission of a Bid or becoming bound under the Agreement; or

The existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

Contractor failed to follow the procedures outlined in this Paragraph or in Paragraph 10.5.

Connecticut Department of Transportation – Form 816

1.04.04—Differing Site Conditions:
(1) During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the Contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of

the specific differing conditions before they are disturbed and before the affected work is performed.
(2) Upon written notification, the Engineer will investigate the conditions, and if he/she determines that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the
Contract, an adjustment, excluding loss of anticipated profits, will be made and the
Contract modified in writing accordingly. The Engineer will notify the Contractor of his/her determination whether or not an adjustment of the Contract is warranted.
(3) No Contract adjustment that results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice.
(4) No Contract adjustment will be allowed under this clause for any effects caused on unchanged work

Tennessee Department of Transportation - Standard Specifications January 1, 2015

104.02 Changes in Plans of Character of Construction

A. Differing Site Conditions
During the progress of the Work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the Contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the Work provided for in the Contract, are encountered at the site, promptly notify the Engineer in writing of the specific differing conditions in accordance with 104.03 before the site is disturbed and before the affected work is performed.
Upon written notification, the Engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the Contract, the Engineer will make an appropriate
Contract adjustment, excluding loss of anticipated profits, in accordance with 108.07 and 109.04 and the Contract modified in writing accordingly.

The Department will not allow Contract adjustments under this
Subsection for any portion of the Work unaffected by differing site conditions.

104.03 Contract Change Notification

It is the responsibility of the Contractor to provide reasonable written notice when conditions are believed to require a change to the Contract. The Department will only consider requests for changes to the Contract when the Contractor meets the notification procedures specified in this Subsection.
104.03
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A. Written Notification by Contractor
Provide immediate written notification to the Engineer upon discovering a condition that may require a change to the Contract. Provide the following information, in writing, within fourteen (14) calendar days of notification:
1. A description of the condition, including the time and date first identified, and the location, if appropriate.
2. An explanation of why the condition represents a change to the Contract, with references made to 104.02 and other pertinent portions of the Contract.
3. A statement of all changes considered necessary to the Contract price(s), delivery schedule(s), phasing, and time. Because of its preliminary nature, the Department recognizes that this information may rely on estimates.
After notifying the Engineer, continue to perform the Work under the Contract including the work subject to the condition, and maintain records of actual labor, equipment, and materials used in accordance with 109.04.
B. Written Acknowledgement by Engineer
The Engineer will provide written acknowledgement of the Contractor's written notice within five (5) calendar days.
C. Written Response by Engineer
The Engineer will provide a written response within fourteen (14) calendar days of receiving the Contractors written notice that includes one of the following:
1. A confirmation that a change is necessary in accordance with 104.02, and direction on how the Work will proceed.
2. A denial of the request for a change, which will include references to the Contract as to why the condition does not represent a change.
104.04
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3. A request for additional information stating the specific information needed and the date by which it must be received. The Department will respond to the additional information provided within fourteen (14) calendar days.
When a change is necessary, the Engineer will make appropriate adjustments to the Contract price and time, if warranted, in accordance with 108.07, 109.04, 109.05.A, and 109.06. If the Contractor disagrees with the Engineer's decision or does not agree with the Contract adjustments, the Contractor may pursue the issue as a claim in accordance with 105.16.
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3. Third Party Impacts

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There are numerous parties that are involved with construction projects whose actions are critical to on time completion. The relocation of utilities are often required for a contractor to begin work. Outside agencies such as environmental agencies or the Army Corp. of Engineers often require detailed permits in order for work to commence. There are also railroad approvals and scheduling considerations when working around railroad facilities. Even though the actions of these parties can be crucial for successful completion, they typically have no contractual relationship with the owner or contractor. What that means is that despite the project participants (owner and contractor) efforts to compel third parties to complete their work on time or understand the importance of on time approval of permit applications and cooperation when working around their facilities, they can work at whatever pace they choose and impose whatever regulations they wish without repercussion.

Because of the factors described above, many horizontal contracts now incorporate no damage for delay clauses (see clauses from the Tennessee and Connecticut Departments of Transportation below). These clauses have been tested and upheld by the courts. However, regardless of these clauses and the contractual relationship with the utility or permitting agency or lack thereof, contractors still submit and prevail on delay and impact claims that involve the actions of third parties.

Delays from the late relocation of utilities and the discovery of uncontemplated utilities that require relocation are the most common type of third party impacts. Utility relocations on projects typically require that the owner first notify the utility of the work that will be required. The owner is also responsible for coordinating the work of the utility prior to the contractor notice to proceed. For work after the notice to proceed it is the contractor's responsible to coordinate with the utility. Claims in these cases often accuse the owner of not properly defining the work and coordinating with the utility prior to construction. In addition, there is still a mindset that a utility is a government agency and a municipality is government agency, so they somehow must be connected. In the case of utility relocations, it is imperative that the municipality understand its obligation to define the work and closely coordinate with the utility.

Railroads are now often included in utility no damage for delay clauses. Working in and around the railroad shares the same factors as utility relocations with the requirement that the work be clearly defined and coordinated by the owner prior to construction. However, working in and around the railroad can be very restrictive with the railroad imposing limitations to a contractor's daily operations. These limitations are governed by the railroads own operations schedule as well as its ability to supply railroad employed safety personnel to ensure the contractor is working safely around its facilities. Claims related to railroads often relate to the late approval of contractor plans required to work around the railroad and that the contractor was prevented from working because of the railroads inability to supply safety personnel.

Permitting agencies are typically the most restrictive of any of the third parties involved in construction projects. In addition, the submittals that are required to obtain the permits are detailed, extensive to

review and often require many revisions sometimes consuming months of valuable time. Permitting can become complicated as some permits are acquired by the owner prior to construction, some are obtained by the contractor after contract award and some, such as environmental protection permits require input from the owner and the contractor. In these cases, the owner will include the partially completed permit application as part of the contract documents. The contractor is then required to complete the permit application including an explanation of its means and methods. For example, if a contractor will be working in a navigable channel, the permitting agency will be to ensure that the channel will not be blocked and that the eco-system is not destroyed. As with utilities and railroads, it is imperative that the owner the functions it is required to do, such as obtaining the permit application prior to the contractor on board. Regardless, permit application approval can be held up due to substantive questions regarding means and methods as well as a failure to dot the "I's" and cross the "T's".

No damage for delay clauses have been tested and found to be valid. However, as discussed above, there are avenues where exceptions can be found. The clauses below provide a good starting place. However, the possible exceptions should be carefully addressed on a project by project basis.

Utilities

Connecticut Department of Transportation – Form 816

105.06 Cooperation with Utilities (Including Railroads): The Engineer may anticipate that a Project construction activity will require the removal, repair, replacement or relocation of a utility appurtenance. In such an instance, the Engineer, in advance of the commencement of such activity, will notify the affected utilities, either directly or through the local government, of the anticipated nature and timing of said activity. The Engineer will endeavor to have all necessary adjustments of public or private utility fixtures, pipelines, and other appurtenances within or adjacent to the limits of Project construction made as soon as practicable, when such changes are required by the State or local government.

Whenever the Engineer determines that the relocation or adjustment of poles or the overhead plant of public or private utilities or railroad facilities is dependent upon the completion of certain required Contract activities, the Contractor shall complete those activities within a reasonable length of time. Temporary and permanent changes required by the State or local government in water lines, gas lines, sewer lines, wire lines, service connections, water or gas meter boxes, water or gas valve boxes, light standards, cableways, signals and all other utility (including railroad) appurtenances within the site of the proposed Project construction are to be made by others at no expense to the Contractor, except as otherwise provided for in the Special Provisions or as noted on the plans.

When the Contractor is required by the Engineer to relocate utility appurtenances, such work will be paid for as extra work unless specific bid items for such work appear in the Contract. If the Contractor, for its convenience or for any other reason, desires a change in the location of a water line, gas line, sewer line, wire line, service connection, water or gas meter box, valve box, light standard, cableway,

signal or any other utility (including railroad) appurtenances, the Contractor shall satisfy the Department that the proposed relocation will not interfere with the Contractor's or other contractors' Project operations or their fulfillment of the requirements of the plans, and that said change will not create an obstruction or hazard to traffic. If the requested change of location is acceptable to the Engineer, the Contractor shall make its own request for such relocation work to the utility companies, pipe owners or other parties likely to be affected by said work. Such relocation work shall be done at the Contractor's sole expense.

The Contractor shall schedule its operations in such a manner as to minimize interference with the operations of the utility companies or local governments in effecting the installation of new facilities, as shown on the plans, or the relocation of their existing facilities. The Contractor shall consider in its bid all permanent and temporary utility appurtenances in their present or relocated positions and any installation of new facilities required for the Project. The Department will not make any additional compensation to the Contractor for delays, inconvenience or damage sustained by the Contractor due to (i) interference with Project construction caused by the location, condition or operation of utility (including railroad) appurtenances or (ii) the installation, removal, or relocation of such appurtenances; and the Contractor may not make a claim for any such compensation.

Tennessee Department of Transportation - Standard Specifications January 1, 2015

105.07 Cooperation with Utilities, Railroads, and Pipelines: The Department will notify all utility companies, including pipeline companies, having facilities within the Project limits concerning the planned construction. The Department will make every reasonable effort to cause such parties to make the adjustments in elevation or location that may be necessary to avoid conflict with the construction and with the completed project, and to protect property from damage during construction.

In general, the Contract will indicate the various utility items known to exist, will indicate items to be adjusted or capital improvements proposed by the owners, and will designate items that are to be adjusted by the Contractor.

The location shown on the Plans for utilities are provided by the utility owners and may not be complete or accurate, especially with regard to underground installations. Contact the owners of the various utilities to determine the exact location of the utilities and the owner's schedule of any work the utility may be doing. Unless otherwise noted, the utility company or its representative will perform all utility adjustments. Cooperate with the owners of the utilities in their adjustment operations.

Provide all necessary protective measures to safeguard existing utilities from damage during construction of the Work. Correct and pay for repairs to damaged utilities that result from the Contractor's breach of the standard of care, and restore damaged facilities to their preexisting condition.

The Engineer may require advance clear cutting at any location where clearing is called for in the Plans or Specifications, and where clear cutting is necessary for utility relocation. Costs for advance clear cutting are incidental to the price bid for the clearing item specified.

If special equipment is required to work over and around the utilities, provide such equipment. The cost of protecting utilities from damage and furnishing special equipment is incidental to the price bid for other items of construction.

At least three (3) business days prior to the start of operations around the utility, notify each individual utility owner of the plan of operation, and request that they to properly locate their respective utility on the ground.

It is understood and agreed that the Contractor has considered in its bid all of the known permanent and temporary utility appurtenances in their present and relocated positions, and any proposed utility capital improvements, that the Contractor has contacted each utility owner in regard to its proposed schedule of work and that no additional compensation will be allowed for any delays, inconvenience or damage sustained due to utilities or utility adjustment. However, the Department may consider interference caused by utilities on contracts when assessing time in accordance with 108.06.

Where construction operations require the use of a temporary crossing with the railroad or railroad companies specifically named in the proposal:

1. Request the railroad company to construct the temporary crossings and notify the railroad company 6 weeks in advance of the time the temporary crossings are to be used. This request is subject to the Contractor executing such agreements and furnishing such insurance as the railroad company may require.

2. Assume responsibility for determining and complying with the requirements of the railroad company covering the location, installation, protection, maintenance, use, and removal of such temporary crossing. Bear all costs and expenses related to the temporary crossing, including installation, protection, maintenance, and removal, contractual liability insurance, and incidental work such as drainage facilities and removal, alteration, and replacement of railroad fences.

Permits

Connecticut Department of Transportation – Form 816

1.05.04—Coordination of Special Provisions, Plans, Supplemental Specifications and Standard Specifications and Other Contract Requirements:

All requirements indicated on the plans or in the Standard Specifications, the Supplemental Specifications, Special Provisions or other Contract provisions shall be equally binding on the Contractor, unless there is a conflict between or among any of those requirements. In the case of such a conflict, the order of governance among those requirements, in order of descending authority, shall be as follows:

1. Environmental Permits
2. Environmental Permit Applications
3. Special Provisions

4. Plans other than Standard Sheets (enlarged details on plans, used to clarify construction, shall take precedence over smaller details of the same area; and information contained in schedules or tables, titled as such, shall take precedence over other data on plans)
5. Standard Sheets
6. Supplemental Specifications
7. Standard Specifications and other Contract Requirements Numerical designations of dimensions shall take precedence over dimensions calculated by applying a scale to graphic representations. Neither party to the Contract may take advantage of any obvious error or omission in the Contract. Should either party to the Contract discover such an error or omission, that party shall notify the other party of same immediately in writing. The Engineer will make such corrections and interpretations of the Contract as are necessary, in his judgment, to fulfill the purposes of the Contract that are evident from examining the Contract as a whole. If the Contract includes an item that does not have a corresponding specification for either performance or payment purposes, the Contractor shall notify the Engineer of that fact in writing at least 2 weeks prior to ordering materials for or commencing work on the item. If the Department's documents do not contain such a specification, the Engineer shall, if possible, derive an appropriate specification from applicable AASHTO Specifications or, if necessary, ASTM Specifications. If neither of those sources provides a suitable specification, the Contractor shall seek guidance from the Engineer with regard to the item, and the Engineer will formulate a reasonable specification for the item. When compliance with two or more standards is specified, and the standards may establish different or conflicting requirements for minimum quantities or quality levels, the Contractor shall refer such issues to the Engineer for a decision before proceeding with the pertinent work.

1.07.02—Permits and Licenses: Except as may be provided otherwise in a specific Contract provision or a written direction from the Engineer, the Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices required by government authorities in connection with the due prosecution of the Project. Under Connecticut law, a commercial vehicle used by a contractor or vendor in connection with the Project may be subject to Connecticut registration requirements. The CGS require such registration for any vehicle that most often is garaged in this State, or that most often leaves from and returns to 1 or more points within this State in the normal course of its operation. In addition, a vehicle must be registered in Connecticut if it continuously receives and discharges cargo within this State. Reciprocal registrations as allowed under CGS are acceptable for meeting the registration requirements.

Residence or domicile of the owner, lessor or lessee of the motor vehicle, or the place where the owner, lessor or lessee is incorporated or organized, shall not be a factor in determining whether or not the vehicle must be registered in this State. Failure to register a vehicle, if the law requires it, may result in issuance of a citation for such an infraction, and also may result in administrative action by the Commissioner of Motor Vehicles. The registration requirement applies not only to the Contractor, but also to its subcontractors, suppliers, and other agents and representatives. It is the Contractor's responsibility to ensure that such entities and individuals comply with this requirement as well. The Contractor shall maintain, on the Project Site, records that document compliance with this requirement in connection with all vehicles used for the Project.

107.03 Permits, Licenses, and Taxes: Obtain all permits and licenses, pay all charges, fees, and taxes, and give all notices and submit all paperwork necessary and incidental to the due and lawful prosecution of the Work, except those permits and licenses that the Department is required to obtain.

4. Insurance and Bonds

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www.petrinilaw.com

1. Basic Professional Services Agreement (non-construction)

   a. Consultant shall provide and maintain insurance at its own expense until the completion of Consultant's Services as set forth below:
   b. Worker's compensation insurance, as required by the laws of the Commonwealth of Massachusetts.
   c. Professional liability insurance covering Consultant's errors and omissions with limits of at least $1,000,000.00 for each claim and at least $2,000,000.00 in the aggregate.
   d. Consultant shall furnish to Town a Certificate(s) of Insurance showing coverage as set forth above prior to performing Consultant's Services, and any other evidence of coverage as requested by the Town at any time. All insurance coverage required herein shall be issued by companies licensed and authorized to do business in the Commonwealth of Massachusetts. The Certificate(s) of Insurance shall be attached to this Agreement within Exhibit B

The key requirement is insurance covering the particular professional's errors and omissions. Professional liability policies typically do not allow the defense of anyone other than the named insured, so I recommend including an indemnification provision with a defense obligation (if permitted in your jurisdiction) in the agreement to mitigate the fact that risk allocation through additional insured is not available to the owner.

2. Basis Services Agreement

   a. The Contractor shall, at its own expense, obtain and maintain general liability and **motor vehicle liability insurance** policies protecting the Town in connection with any operations included in this Contract, and **shall have the Town as an additional insured on the policies**. General liability coverage shall be in the amount of at least **$1,000,000 per occurrence and $2,000,000 aggregate** for bodily injury liability and property damage liability.

   b. The Contractor shall, before commencing performance of this Contract, provide by insurance for the payment of compensation and the furnishing of other benefits in accordance with Mass. Gen. L. Ch. 152, as amended, to all employed under the Contract and shall continue such insurance in full force and effect during the term of the Contract.

   c. All insurance coverage shall be in force from the time of the contract to the date when all work under the Contract is completed and accepted by the Town. Certificates and any and all renewals substantiating that required insurance coverage is in effect shall be filed with the Town and shall list the Town as additional insured for each policy.

Limits can be adjusted based on the perceived risk of the particular service. Additional insured status should be required. The second paragraph addresses workers compensation coverage (under Chapter 152 in Massachusetts)

3. Construction-Related Professional Services

   a. The Clerk of the Works shall furnish the following insurance with respect to the Project or the services required under the Agreement:

   b. **Professional Liability.** The Clerk of the Works shall obtain for the benefit of the Project or services under the Agreement professional liability insurance, including contractual liability coverage, having a minimum limit in the aggregate of $1,000,000 for each claim, and an aggregate limit of $1,000,000 for all claims arising out of services performed under this Agreement.

   c. **Commercial Liability and Other Insurance**. At all times while this Agreement is in effect, Clerk of the Works will take out and keep in force at its expense:

i. Public liability insurance, including insurance against assumed or contractual liability of the Clerk of the Works, with a combined single limit for each occurrence of not less than $1,000,000 and $2,000,000 aggregate with respect to claims and damages arising out of personal injury, sickness, disease, death or property damage.

ii. If and to the extent required by law, worker's compensation or similar insurance in amounts, and in a form, as required by the law of the state where Clerk of the Works' employees are employed, or by the state where the services are performed, as may be applicable or required.

iii. Automobile liability insurance to insure Clerk of the Works for operations of all owned, hired, and non-owned vehicles with limits for each accident of not less than $1,000,000 Combined Single Limit with respect to Bodily Injury, Death and Property Damage.

iv. All insurance required under this Section 1.2, with the exception of Section 1.2.2, shall name the Owner and/or, at the option of the Owner, any interested designees of the Owner as additional insureds.

d. **Certificates of Insurance.** At the time of commencement of services under the Agreement, certificates of insurance reflecting the actual retention of the insurance policies required by this Article shall be filed with the Owner. Such certificates shall bear the endorsement "not to be canceled, allowed to lapse or substantially modified without thirty (30) days' prior written notice by certified mail, return receipt requested, to the Owner.

e. **Term of Insurance.** The insurance to be obtained hereunder shall remain in effect for a period of two (2) years from the date of final acceptance of the Project or services by the Owner. Clerk of the Works shall provide the Owner with new certificates of insurance for new policy periods or in cases where the insurance carrier has been changed

Since professional liability policies are claims-made policies, the owner may want the insurance to be maintained after project completion for a reasonable period to cover any claims made against the owner made during that period.

4. Construction Project Management Services

The Owner's Project Manager and any subcontractors shall provide and maintain at their own expense throughout the term of the contract and any extension or renewal thereof the following insurance with companies that are authorized and licensed in the Commonwealth of Massachusetts to issue policies for the coverages and limits so required.

a. Workers' Compensation Insurance as required by the laws of the Commonwealth of Massachusetts and employer's liability in the amount of $500,000/$500,000/$500,000

b. Commercial General Liability Insurance, $1,000,000 each occurrence and $2,000,000 aggregate limit. Such coverage shall also be in effect for three (3) years from the date of final payment of the construction contractor.

c. Automobile Liability Insurance - Combined single limit of $1,000,000.

d. Professional Liability Insurance (Errors and Omissions Insurance included) in the amount of $1,000,000 per claim, $3,000,000 aggregate,

e. Excess Liability Insurance, Umbrella Form, as respects the XXXX Project, $1,000,000 each occurrence and $1,000,000 aggregate, which shall be following form, providing coverage over Commercial General Liability Insurance, Automobile Liability Insurance, and Employer's Liability Insurance under Workers' Compensation.

f. Additional Insureds - Each policy of liability insurance other than Employer's Liability Insurance under Workers' Compensation Insurance and Professional Liability Insurance including Errors and Omissions Insurance shall name the Town and its officers, employees, boards, commissions and committees as additional insureds.

g. Cancellation or Amendment - Each policy of insurance, and the certificate or other evidence thereof, required to be purchased and maintained by the successful applicant shall contain a provision or endorsement that the coverage afforded will not be cancelled or materially amended and no renewal will be refused until at least thirty (30) days' prior written notice has been given to the Town.

h. Failure to Provide and Maintain Insurance - Failure to promptly provide and continue in force such insurance shall constitute a material breach of the contract and shall be grounds for immediate termination thereof by and in the sole discretion of the Owner.

For professional services with a larger role on a project. Limits can be adjusted based on perceived risk.

5. Changes in the Work

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1. Public Works Contract

   a. **Authorized Changes in the Work**: 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 by a [written] Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

   Contract expressly states that "no course of conduct or dealings between the parties, no expressed or implied acceptance of alterations or additions to the Work, and no claim that the owner has been unjustly enriched by any alterations or additions to the Work shall be the basis of any Claim for an increase in any amount due under the Contract Documents or a change in any time period provided for in the Contract Documents."

   Contract requires in mandatory language that Contractor shall "without cost to Owner submit to Engineer, in such form as Engineer may require, an accurate written estimate of the cost of any such proposed extra Work or change" and that "estimate shall indicate the quantity and unit cost of each item of materials, and the number of hours of work and hourly rate for each class of labor, as well as the description and amounts of all other costs chargeable under the terms of this Article" [including an estimate of additional time].

If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

b. **10.02 Unauthorized Changes in the Work***:* Contract expressly states that "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 or in the case of uncovering Work as provided in in the contract documents.

c. **10.03 Execution of Change Orders: Contract establishes strict protocol to be followed by Owner and Contractor if Change Orders in Work, Contract Price or Contract Times are recommended by Engineer** and that "Agreements on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the change order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Price and the Contract Times. In the event a Change Order increases the Contract Price, the Contractor shall include the Work covered by such a Change Order in applications for payments as if such Work were originally part of the Contract Documents."

d. **10.04 Notification of Surety***:* **[Shifts the burden of notice to the Contractor as follows]**: "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.

e. **10.05 Claims:** [Contract provides that] "all Claims, except those waived pursuant to [the terms expressly set forth in the Contract, with reference to the applicable section], shall be referred to the Engineer for review.

Notice [of Claims]: Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event

(unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). [**Claims for adjustment in Contract Price and/or Contract Times shall be prepared in accordance with the provisions of the contract, with reference to the specific contract section**]. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

Engineer's Action: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, recommend in writing that the Owner take one of the following actions:

1. deny the Claim in whole or in part;
2. approve the Claim; or
3. notify the parties that the Engineer is unable to resolve the Claim if it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a recommendation to deny.

In the event that Engineer does not take action on a Claim within said 30 days, the parties shall proceed as if the Engineer recommended denial of such Claim.

Engineer's recommendation under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Contractor, unless (1) Owner issues a separate written decision on the Claim within 30 days of receipt of the Engineer's recommendation, in which case Owner's written decision shall be final and binding on Contractor; or (2) Contractor invokes the dispute resolution procedure set forth in Article 16 within 30 days of such recommendation or denial. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

2. Public Building Construction Contract

a. **Change Directives Generally.** No changes in the Work shall be made in absence of a Change Directive as defined in Article I of these General Conditions of the Contract, directing the Contractor to perform such changes. A request for a change in the provisions of this Contract may be

submitted to the Awarding Authority by the Contractor, Architect, Project Manager, or Owner's Representative. The request must be made in writing and in accordance with the provisions of this Contract, Laws, and the procedures of the Awarding Authority.

A Change Directive may be issued by the Architect as approved by the Awarding Authority for changes in the Work within the general scope of the Contract, including but not limited to, changes in: (1) the Plans and Specifications; (2) the method or manner of performance of the Work; (3) the Owner-furnished facilities, equipment, materials, services or Site; (4) the schedule for performance of the Work.

The Contractor shall immediately perform any Change Directive work that is ordered by the Awarding Authority.

Whenever a Change Directive is issued and said Change Directive will cause a change in the Contractor's cost, the Contractor or the Awarding Authority may request an equitable adjustment in the Contract Price, provided, in the case of the Contractor, that the Contractor submits a request for such Change Directive no later than 21 days following the occurrence of the event giving rise thereto, in addition to complying with any other time limits set forth in the Contract Documents (including under Article VII.3 of these General Conditions). A request for such an adjustment shall be in writing and shall be submitted by the party making such claim to the other party before commencement of the pertinent work or as soon thereafter as possible. No equitable adjustment shall be granted to the Contractor for any claims, whether for work is within the scope of the Contract Documents or for differing conditions under [applicable state law], unless the Contractor requests such an equitable adjustment by submitting a request for a Change Directive in writing to the Owner and Designer within 21 days of the occurrence of the event giving rise to such request for an equitable adjustment. The Contractor agrees that compliance with this notice requirement, and all other procedural and notice requirements set forth in the Contract Documents, shall be a condition precedent to any claim against the Awarding Authority.

The Awarding Authority and the Contractor shall negotiate in good faith an agreement on an equitable adjustment in the Contract Price, and/or time if appropriate, before commencement of the pertinent work or as soon thereafter as is possible. In the absence of an agreement for an equitable adjustment, the Awarding Authority may unilaterally determine the costs attributable to the change and provide the Contractor with a

written notice to that effect. The Contractor may appeal the decision of the Awarding Authority within thirty days of receipt of said notice, to the chief executive official of the Awarding Authority or his designee, and the Contractor shall have the right to file an appeal in a court of competent jurisdiction. However, if the Contractor shall exercise its rights to appeal the decision of the Awarding Authority as aforesaid, the Contractor shall be required to engage in mandatory mediation if and when the Awarding Authority so requires.

During the negotiation of an equitable adjustment in the Contract Price, the Contractor shall, if requested, provide the Awarding Authority with all cost and pricing data used by him in computing the amount of the equitable adjustment, and the Contractor shall certify that the pricing data used was accurate, complete and current. If the Awarding Authority subsequently determines that the data submitted by the Contractor was incomplete, incorrect or not current, the Awarding Authority may exclude such data from consideration under the equitable adjustment request.

Upon satisfactory completion of the work described by the Change Directive, and once an equitable adjustment to the contract amount and/or duration has been agreed to by the Owner, the Contractor, and the Architect, the Architect shall prepare a Change Order which upon execution by all parties shall constitute an amendment to the Contract.

b. **<u>Methods of Computing Equitable Adjustments</u>**

Equitable adjustments in the Contract Price shall be determined according to one of the following methods, or a combination thereof, as determined by the Awarding Authority: (1) fixed price basis . . . , (2) estimated lump sum basis . . . [or] (3) time and materials basis to be subsequently adjusted on the basis of actual costs (but subject to a predetermined "not to exceed limit"). [Contract terms set forth the specific method for calculating adjustments]: (a) the direct cost (or credit) for labor at the minimum wage rates established for this Contract pursuant to [state law], and the direct cost for material and use of equipment; (b) plus (or minus) the cost of Workmen's Compensation Insurance, Liability Insurance, Federal Social Security and Massachusetts Unemployment Compensation, or as an alternative the Contractor may elect to use a flat 30% of the total labor rate computed in accordance with subparagraph (a) above; (c) plus an allowance equal to 20% of the amount of subparagraph (a) above for overhead, superintendence and profit; (In the case of Item 1 work, which is the work of the Contractor and all his non-filed Subcontractors, said 20% allowance shall be paid to the Contractor and the Contractor and said non-filed Subcontractors shall

agree upon the distribution of this amount as a matter of contract between them. In the case of Item 2 work, which is work performed by a Subcontractor filed pursuant to [applicable state law] said 20% allowance shall be paid to the filed Subcontractor, it being understood that this provision does not apply to other Subcontractors including sub-Subcontractors listed under paragraph E of the form for sub-Bid); (d) plus, for work performed by a Subcontractor filed pursuant to M.G.L. c. 149, s. 44F, an additional allowance equal to 7% of the sum of (a) through (c) above as full compensation to the Contractor for processing forms and assuming full responsibility for the faithful performance of such work by said filed Subcontractor(s), provided that there shall be no additional allowance to a General Contractor if the General Contractor itself performs the subcontract work pursuant to M.G.L. c. 149, s. 44F and (e) plus (or minus) the actual direct premium cost of payment and performance bonds required of Contractor and filed Subcontractors for this Contract.

. . . .

c. **Work Performed Under Protest.**

The Contractor agrees to perform all Work as directed by the Architect, and if the Architect determines that certain Work that the Contractor believes to be or to warrant a Change Directive under this Article does not represent a change in the Work, the Contractor shall perform said Work. The Contractor shall be deemed to have concurred with the Architect's determination as aforesaid unless the Contractor shall perform Work under protest in compliance with the following sub-paragraphs (1) and (2) below: (1) If the Contractor claims compensation for a change in the Work that is not deemed by the Architect to be a change or to warrant additional compensation as claimed by the Contractor, the Contractor shall on or before the first working day following the commencement of any such work or the sustaining of any such damage submit to the Architect, Owner's Representative, and the Awarding Authority a written statement of the nature of such work or claim. The Contractor shall not be entitled to additional compensation for any work performed or damage sustained for which written notice is not given within the time limit specified in the preceding sentence, even though similar in character to work or damage with respect to which notice is timely given. (2) On or before the second working day after the commencement of such work or the sustaining of such damage, and daily thereafter, the Contractor shall file to the extent possible with the Owner's Representative, the Architect, and the Awarding Authority, itemized statements of the details and costs of such work performed or damage sustained. If the Contractor shall fail to make such statements to

the extent possible, then the Contractor shall not be entitled to additional compensation for any such work or damages.

d. **False Claims, Statutory Provisions Regarding Changes.**
Contract documents should refer to applicable statute(s) regarding criminal penalties. The language below is applicable to Massachusetts:

Criminal Penalties: The Contractor's attention is directed to M.G.L. c. 30, s. 39I which provides criminal penalties for unauthorized deviations from the Plans and Specifications, and to M.G.L. c. 30, s. 39J and M.G.L. c. 7, s. 42E-42I. The Contractor's attention is also directed to M.G.L. 266, s. 67B which provides criminal penalties for false claims by Contractor under this Contract: *"Whoever makes or presents to any employee, department, agency or public instrumentality of the commonwealth, or of any political subdivision thereof, any claim upon or against any department, agency, or public instrumentality of the commonwealth, or any political subdivision thereof, knowing such claim to be false, fictitious, or fraudulent, shall be punished by a fine of not more than ten thousand dollars or by imprisonment in the state prison for not more than five years, or in the house of correction for not more than two and one-half years, or both."*

6. Electronically Stored Information, Records Retention, and Audits

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Electronically stored information (ESI) is the vast majority of records that are kept by the owner and contractor for a construction project. Those records include the solicitation, contract, amendments, plans, drawings, request for information, change orders, field orders, permits, and all communication between the owner, engineer, contractor, subcontractors, utilities, and other third parties which is typically by email. Even if project records are printed there remains a significant digital/electronic footprint in every project. Retention of ESI must be made a priority for the owner and for all parties involved in a construction project to deal with any future litigation and to meet the requirements of project audits.

Modern construction litigation places a significant burden on the public owner, the contractor and other third-parties to produce ESI. ESI discovery is very expensive and labor intensive. The CCDI work group recommended that all horizontal construction contracts include provisions for records retention in the event of future litigation and audits.

Below is a section from the City of Fort Worth, TX Standard General Conditions of the Construction Contract (Revised September 8, 2011) that addresses the right to audit and sets a three-year duration to retain project records. The section also requires subcontractors to include the requirements in their contracts.

> *6.23 Right to Audit*
> *A. The Contractor agrees that the City shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine and photocopy any directly pertinent books, documents, papers, and records of the Contractor involving transactions relating to this Contract. Contractor agrees that the City shall have access during Regular Working Hours to all necessary Contractor facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this Paragraph. The City shall give Contractor reasonable advance notice of intended audits.*
>
> *B. Contractor further agrees to include in all its subcontracts hereunder a provision to the effect that the subcontractor agrees that the City shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine and photocopy any directly pertinent books, documents, papers, and records of such Subcontractor, involving transactions to the subcontract, and further, that City shall have access during Regular Working Hours to all Subcontractor facilities, and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this Paragraph. The City shall give Subcontractor reasonable advance notice of intended audits.*
>
> *C. Contractor and Subcontractor agree to photocopy such documents as may be requested by the City. The City agrees to reimburse Contractor for the cost of the copies as follows at the rate published in the Texas Administrative Code in effect as of the time copying is performed.*

Another Example:

> *§ ___ DOCUMENT RETENTION AND AUDIT PROVISIONS*
> *Contractor shall account for all materials, equipment and labor entering into the Work and must keep such full and detailed records as may be*

necessary for proper financial management pursuant to the Contract Documents for a period of three (3) years after final payment. Furthermore, the Owner has the right to examine the Contractor's and its Subcontractors' and suppliers' records directly or indirectly pertaining or relating to the Work or the Agreement and the Contractor must grant the Owner access to and an opportunity to copy such records at all reasonable times during the Contract period and for three (3) years after final payment.

Source CCDI A201 Suggested Changes San Francisco, CA Annual Conference 2013

Below are two questionnaires used in litigation to deal with ESI discovery. Also in the program materials are two ESI agreements and orders used in state construction litigation and in federal civil rights litigation.

I. Form Custodian Questionnaire

General-Preliminary ESI Questions

Custodians:

1. Computer Hardware and Devices, Systems and Applications

    a. Other than Microsoft Office and Adobe Acrobat, please identify all computer applications that have you used, or currently use, during the course of your employment with the _____ to create documents related to this matter.

    b. How many and what type of _____ issued devices have you used from _____ to present to create or receive documents related to this matter (desktop, laptop, iPad, tablet, mobile phone, etc.)?

    c. Do you save Apple, Samsung, Android, or other mobile device backups to your laptop/desktop?

    d. Have any of your computers been replaced, re-assigned, or recycled since _____? If you received a new computer since _____, was your data migrated to the new computer?

    e. In _____, your email was migrated to Office 365, as part of the process, you were given the option to migrate your archive mail or PST files to the cloud. Did this occur? If not, where are your PSTs stored? (check the custodians Outlook for PSTs they are not aware of).

f. Where do you access and save documents/information/data during the ordinary course of business (e.g., locally (c: drive), shared drives on the server, or a personal location on the server, removable storage media, cloud etc.)? Do you save ESI on the hard drive of your PC or laptop, external storage media or a home computer? Has this practice been consistent from _____ to present? If not, please explain.

g. Do you store documents in your Microsoft OneDrive account?

h. Do you store documents in Documentum? If so, please specify by cabinet and folder the documents relevant to this matter.

i. Do you store documents in any other document management systems outside of Documentum such as SharePoint, Open Text, or Drop Box?

j. Do you save voice messages relevant to this case in the _____'s phone system or on your mobile device?

k. Do you access documents/data/information remotely? How? From where?

l. Do you use your home computer for business purposes? If so, do you store documents on your home computer?

m. Do you use personal email (such as Yahoo or Gmail) for business purposes?

n. Do you use text messaging, chats, or instant messaging on your mobile phone (or other mobile device) for business purposes?

o. Have all records subject to the litigation hold been preserved during the course of any routine system purge(s), maintenance, or cleanup?

2. Email Systems

a. What procedure do you use for saving email during the ordinary course of your business (e.g., archiving, auto archiving, personal folders, etc.)?

b. Where do you store archived email or personal folders?

c. Was the procedure for saving/archiving email described in Item 2a above followed from _____ through present?

d. Did the procedure for saving/archiving email described in Item 2a above change following your receipt of the litigation hold instructions? If so, how did it change?

e. Have you collected or archived any email pursuant to the litigation hold? If so, when did this practice begin? Where did you store this email?

f. Has all email subject to the litigation hold been preserved during the course of any routine system purge(s), maintenance, or cleanup?

3. Did you receive the litigation hold notice?

a. Are you complying with the notice?

b. What have you done to comply?

c. What are you doing to document compliance?

d. Have you periodically been reminded of the litigation hold?

e. Did the procedure for saving documents/information/data described above change following your receipt of the litigation hold instructions? If so, how did it change?

f. Have you collected or archived any documents pursuant to the litigation hold? If so, when did this practice begin? Where did you store them?

Source Office of the County Attorney, Montgomery County, MD 2016

Form IT Director/Staff Questionnaire

_____

General-Preliminary ESI Questions IT Director/Staff

1. Provide a detailed description of computer systems (including any legacy systems) used by the _____, including hardware systems, primary operating systems, applications (including any customized software), email, calendar and databases. Are the systems for key personnel or divisions any different?

2. Provide a detailed description of how those computers are networked or connected to others outside of the _____ (with a graphical representation if one is available).

3. Provide a detailed description of how your employees can network with your computers from outside of the _____.

4. Provide a detailed description of the computer and communications systems used by your employees outside of the corporate system (e.g., from home desktops or laptops, smartphones).

5. Provide a detailed description of the backup processes for the network and schedules for disaster recovery and/or for archival purposes, document retention and destruction schedules, organized by type of data. Identify the responsible persons or third parties for each process, with contact information. Identify storage locations for all backup data.

    a. Do you have at least one computer (i.e., non-incremental) backup of each network server for each month during the period _____-_____? For the months for which you do not have a complete backup, do you have incremental backups from which a full backup can be created as of a given date?

    b. Can specific files on network backups be selectively restored?

    c. As a matter of policy or practice, are backups overwritten, reformatted, erased or otherwise destroyed, such as by rotation? If so, what is the rotation period?

6. Can/do users store ESI on the hard drives of their PCs or laptops and how is such ESI backed-up? Is backing-up of any such ESI left to the users' discretion?

7. Provide the _____'s records management policy, e-mail, and Internet-usage policies and litigation-hold policy, to the extent they exist. Are emails automatically deleted or archived? Are you able to create .PST files?

8. Describe any monitoring or logging of employees' computer usage.

9. Is any _____ data stored in media controlled/owned by third-parties (i.e., in the "cloud"). If any third parties hold or have access to the _____'s data, identify those third parties with full contact information. Please provide copies of any contracts you have with any such third parties.

10. Have laptops of critical former employees been imaged and secured? If not, what happened to them?

11. Are voicemails digitally recorded and stored?

12. Is any ESI stored on hard drives of networked or stand-alone computers (i.e., off of the network)?

13. Is there ESI at any remote or third-party locations?

14. Is there ESI on _____ intranet, shared areas (public folders, discussion databases, blogs, departmental drives and/or shared network folders).

15. Does the _____ use and make postings on social media, such as Facebook, Twitter and Linked-In? Is it captured and stored?

16. Does the _____ use any collaborative or externally based document repositories such as Google Docs and SharePoint?

17. Is ESI removed from the _____ with portable/removable storage media (i.e., laptops, thumb drives, smartphones, external hard drives, by email)?

18. Do employees use _____ supplied portable devices such as smartphones?

19. Are employees able to access _____ data using portable devices that are not _____-owned? Does the _____ have a bring-your-own device ("BYOD") to work policy?

20. Do mobile devices have remote-wipe capability?

21. Is metadata on _____ ESI preserved, or is it erased by any ESI erasure mechanism, such as a metadata scrubber?

22. Are there any scheduled changes/upgrades to system hardware or software?

23. What is the most efficient or most accessible way to access potentially relevant electronically stored information? User level, network level, back-ups, etc.?

24. Identify the systems (client and server-side applications) used for email and the time period each system was used.

    a. Are emails in users' "Inbox," "Sent Items," "Deleted" or "Trash" and end-user stored mail folders on users' hard drives, an email server or on a third-party's server?

25. Do you have at least one complete (i.e., non-incremental) backup of each of your email servers for each month being the period _____-_____? For the months for which you do not have a complete backup, do you have incremental backups from which a full backup can be created as of a given date?

a. Does each backup contain all emails sent and received since creation of the immediately prior complete email backup?

b. Do email backups contain all emails in each user's "Inbox," "Sent Items," "Deleted" or "Trash" and stored mail folders as of the time such backup is made?

c. Does the _____ have an index that allows one to identify which employees' email is stored or particular backups?

d. Can select email boxes contained on email backups be restored selectively?

e. As a matter of policy or practice are email backups overwritten, reformatted, erased or otherwise destroyed, such as by rotation? If so, what is the rotation period?

26. Extent of search capabilities for e-mails, i.e., to/from, date range, keyword, etc.

27. Does the _____ employ an instant messaging ("IM") system? Are IMs backed-up/stored?

28. Were there any system changes (i.e., upgrades, migrations, etc.) during the relevant time period that caused data to be lost or to become inaccessible? Determine to what extent potentially relevant information may have been lost by routine operation of systems and/or records management policies (in anticipation of potential "safe harbor" issues).

29. Identify any legacy systems/servers retained by the _____.

30. Have any new applications/software been loaded on your systems since the lawsuit was filed or, if earlier, the _____ was notified of _____'s intention to assert a claim?

31. As a matter of policy or practice, are users' desktops and laptop hard drives erased, wiped, scrubbed or reformatted before such hard drives are abandoned, transferred or decommissioned? If not, are they kept/stored?

32. Please provide a copy of any _____ organizational charts.

33. Please provide a copy of any paper documents and ESI retention policies.

34. Please provide information regarding off-site storage of paper documents and ESI.

Source Office of the County Attorney, Montgomery County, MD 2016

7. Dispute Resolution

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Example of mediation section:

> *§ _____ All controversies, claims, or disputes arising out of this Contract shall initially be subject to non-binding mediation as condition precedent to the commencement of binding arbitration pursuant to Section ___ below. The request for mediation may be made concurrently with the filing of an arbitration complaint, but such mediation shall proceed in advance of the binding arbitration, which shall be stayed pending mediation for a period of sixty (60) days from the date of filing, unless stayed for a longer period by agreement of the parties. The Chief Judge of _____ Court for _____ shall appoint the mediator, and such mediation shall be held at a mutually agreeable time and place in _____, _____. A request for mediation shall be made in writing, delivered to the other party to the Contract. If arbitration is stayed pursuant to this Section _____, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.*

Source CCDI A201 Suggested Changes San Francisco, CA Annual Conference 2013

Example of arbitration section:

> *§ _____ Claims, disputes, or other matters in controversy arising out of or related to the Contract that are not resolved by mediation pursuant to Section 15.3, shall be resolved in accordance with the terms of this Contract by _____ [select - American Arbitration Association ("AAA"), Judicial Arbitration & Mediation Services ("JAMS"), some other arbitration organization] or its successor or one otherwise agreed to by the parties by final and binding arbitration. The arbitration hearing shall be conducted at a location determined by the arbitrator in the _____ [select jurisdiction – City, County, State], and shall be*

administered by and in accordance with the then-existing Rules of Practice and Procedure of _____, and judgment upon any award rendered by the arbitrator may be entered by any state or federal court of competent jurisdiction. The parties agree to select an arbitrator that is an attorney with at least twenty (20) years of experience in the practice of construction law. No attorneys' fees may be assessed by the arbitrator against any other party. All parties to the arbitration bear their own attorneys' fees, expert witnesses' fees, expenses and costs incurred in the arbitration. The arbitrating parties each shall pay an equal share of the arbitrator's fees and expenses promptly upon receipt of any invoice in connection therewith. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

Source CCDI A201 Suggested Changes San Francisco, CA Annual Conference 2013

Example of litigation section:

ARTICLE 16 – DISPUTE RESOLUTION
16.01 Methods and Procedures

A. Either City or Contractor may request mediation of any Contract Claim submitted for a decision under Paragraph 10.06 before such decision becomes final and binding. The request for mediation shall be submitted to the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.06.E.

B. City and Contractor shall participate in the mediation process in good faith. The process shall be commenced within 60 days of filing of the request.

C. If the Contract Claim is not resolved by mediation, City's action under Paragraph 10.06.C or a denial pursuant to Paragraphs 10.06.C.3 or 10.06.D shall become final and binding 30 days after termination of the mediation unless, within that time period, City or Contractor:

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

2. agrees with the other party to submit the Contract Claim to another dispute resolution process; or

3. gives written notice to the other party of the intent to submit the Contract Claim to a court of competent jurisdiction.

Source City of Fort Worth, TX Standard General Conditions of the Construction Contract (Rev 9/8/2011)

IMLA 2016 CCDI Horz Proj Contract White Paper JM Edits 9-22-2016