

# ATTACHMENT A

## Contract Statement of Work Delivery Schedule and Summary of Estimate for Services

### MEYERS ROAD EXTENSION PROJECT (HIGH SCHOOL AVENUE – OR HWY213)

#### CA/CEI Amendment

City Project #: CI17-001

June 4, 2019

#### Oregon City

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## PROJECT UNDERSTANDING AND WORK SCOPE FOR COMPLETE PROJECT

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### Background

The General description, background and proposed improvements for the Project are unchanged from the original SOW.

Earlier phases of the project included (1) preliminary engineering and (2) the final design and bidding assistance. This amendment adds the (3) and final phase to the project which is the Construction Contract Administration/Construction Engineering and Inspection (CA/CEI).

### **List of Attachments:**

#### **Attachment B: Breakdown of Costs ("BOC") for Services**

### **B. STANDARDS and GENERAL REQUIREMENTS**

#### **1. Standards**

As provided in the Contract, all Services under this amendment shall be performed in accordance with the professional standard of care set forth in the Contract.

Consultant shall complete the CA/CEI Services in accordance with City Standards and the current version in effect of the [ODOT Construction Manual](#), the [Quality Control Compliance Specialists \("QCCS"\) Handbook](#), the [Manual of Field Test Procedures](#), the [ODOT Inspector's Manual](#), and this amendment.

#### **2. General Requirements**

As required in **ORS 672.002 to 672.325**, Consultant shall provide appropriate supervision and control with a licensed Professional Engineer in responsible charge of the CA/CEI Services.

All Inspection work will be performed by ODOT certified Inspectors as required by the ODOT's Inspection Quality Assurance Program ("IQAP").

### **3. Communication**

Communication is an important element to the successful completion of the Project and CA/CEI Services. All communication and deliverables covered under this CA/CEI SOW shall be directed to the LAPM (or such other individual as designated in writing to Consultant).

To the extent possible, all transmittals from Consultant to Local Agency must include the Contract#. Formats for the document control system shall be discussed at the initial meeting between Local Agency and Consultant pertaining to the CA/CEI Services.

The CC for the Project will be determined through the competitive bidding or proposal process. When the CC has been determined, Consultant shall establish appropriate contacts with that firm prior to the Pre-Construction Conference.

### **4. ROLES AND RESPONSIBILITIES**

The LAPM is City's primary point of contact for Consultant. The LAPM has the authority to review and accept, or recommend acceptance of, all Consultant deliverables. The LAPM may distribute deliverables to appropriate Agency personnel for review and approval.

City has overall authority in scope, schedule and budget for the Project. All construction Change Orders prepared by Consultant are subject to City review and approval prior to implementation by the CC.

#### **Local Public Agency ("LPA") is responsible for the following:**

- Access to LPA owned ROW and easements
- Attend Project meetings
- Review and comment on progress submittals
- Coordination with other outside agencies
- Provide Consultant with existing Project information including As-Constructed drawings, pavement typical sections, utility maps, etc.
- Sign CCOs, EWOs, and Request for Increase/Overrun in Project Authorizations prepared by Consultant
- Reviewing and processing monthly pay estimates for construction contract
- Provide a Letter of Acceptance of Project
- Execution of Intergovernmental Agreements ("IGAs") related to the Project
- Attend Pre-Construction Conference
- All contact with state and federal agencies
- All contact with Native American Tribes
- Final Project acceptance of City Right-of-Way ("ROW") improvements
- Providing access to ODOT-owned Right-of-Way ("ROW") and easements

#### **Consultant**

Consultant shall provide all labor, equipment, and materials to provide the CA/CEI Services as outlined in this SOW.

Consultant is not responsible for the means, methods, operating procedures or safety precautions of any CC or other entity.

### **C. REVIEW, COMMENT and SCHEDULE REQUIREMENTS**

- Consultant shall complete all CA/CEI tasks and deliverables in a timely manner to avoid unnecessary delays in the construction Project. Consultant shall provide written notice to Local Agency at the first sign of delays caused by ODOT, Consultant, CC, or any other entity that may delay completion of the Project or otherwise have a negative impact on the construction schedule.
- Consultant shall notify LAPM immediately (within 2 business days) upon discovery of any changes in the Project that may impact scope, schedule or budget of the Project or CA/CEI Services.
- Consultant shall submit all deliverables to LAPM or designee unless otherwise stated in specific tasks.
- All deliverables are considered draft until reviewed and accepted by Local Agency. Consultant shall make revisions to address Local Agency comments and submit revised deliverable(s) to LAPM within 5 business days of receipt of Local Agency review comments, unless a different timeframe is stated in specific tasks or otherwise agreed to in writing by Local Agency. If no revisions are necessary, the submittal will be considered final.

### **D. FORMAT REQUIREMENTS**

- Deliverables shall be submitted to Local Agency in the format approved by the Local Agency
- **ODOT Forms** – Consultant shall use ODOT forms where required.
- Each draft and final text-based or spreadsheet-based deliverable shall be provided in MS Office file formats (i.e., Word, Excel, MS Project, etc.) and must be fully compatible with version used by Local Agency.
- Additional format requirements may be listed with specific tasks/deliverables throughout the CA/CEI SOW or in the PA/Contract.

### **TASK CE-1 PROJECT MANAGEMENT OF CA/CEI SERVICES**

This activity is continuous throughout the duration of these CA/CEI Services. Consultant shall guide and direct the CA/CEI Services and Consultant's team in conformance with this amendment requirements of the CA/CEI Services and the Project's goals and objectives. Consultant shall monitor progress of the Project and CA/CEI Services.

#### **Task CE-1.1 Coordination**

Consultant shall provide leadership, direction and control of these CA/CEI Services.

Consultant shall:

- Direct Consultant's team with regard to overall CA/CEI activities and team meetings.
- Maintain liaison, communication and coordination between Consultant's staff, local agency project manager (LAPM), CC and ODOT staff to facilitate timely, efficient operations for all involved.

#### **Deliverables:**

- On-going coordination and communication as needed to appropriately manage the CA/CEI Services (no tangible deliverables for this task.)

#### **Task CE-1.2 Status Reports and Invoices**

Consultant shall prepare (24) monthly Status Reports throughout the duration of the CA/CEI Services. See Section E.2, Project Schedule.

The Monthly Status Report must:

- Describe the previous month's Consultant activities

- Describe the planned activities for the next month
- Identify any issues or concerns that may affect the CA/CEI Services and budget or the Project schedule and Project budget

If the construction Project schedule milestones are significantly revised, Consultant shall attach the updated Project schedule and submit with Monthly Status Report. Consultant shall submit the Monthly Status Reports to LAPM with the monthly Consultant invoice.

### **Deliverables**

Monthly Status Report - Submitted to LAPM with the monthly invoice no later than the 15th calendar day of the month following the reporting month.

## **TASK CE-2 CONSTRUCTION CONTRACT ADMINISTRATION/CONSTRUCTION ENGINEERING & INSPECTION**

Consultant shall support the Project's needs by providing CA/CEI Services required for the LAPM to certify that the Project was completed according to the Plans and Specifications for the Project. Consultant shall engage the Professional of Record (POR) as required to provide engineering Services required to administer design changes that may become necessary during the construction phase of the work.

### **Task CE-2.1 Construction Contract Administration**

Consultant shall provide day-to-day administration of the construction contract. Consultant shall complete contract administration tasks as outlined in the ODOT Construction Manual, the Manual of Field Test Procedures, the Non-field-Tested Materials Accepted Guide, the ODOT Inspector's Manual, QCCS Handbook, Qualified Products List ("QPL"), the Contract Plans and Specifications, and this amendment.

In addition to any other requirements identified in the reference standards identified above, Consultant shall:

- Issue First Notification when on-site construction work begins.
- Monitor overall budget and costs included in the Project Construction Authorization
- Monitor and evaluate the construction schedule and determine whether the CC is proceeding in a manner that will result in timely Project completion in conformance with the construction contract documents. If the CC is not proceeding in this manner, document the delay and determine and pursue the appropriate action
- Review Contractor's Request for Subcontract Consent
- Perform Labor Compliance monitoring as required
- Prepare, submit and coordinate processing of CCO and EWO
- Prepare, track and submit to Local Agency billings from CC.

### **Deliverables**

- First Notification, Second(substantial completion) and Third Note (final completion/project acceptance)
- Contractor's Request for Subcontract Consent
- Certified payroll reports.
- Draft CCO and EWO documents with supporting documents (cost estimate and justification)

### **Task CE-2.2 Monthly Preliminary Progress Estimates**

Consultant shall prepare the monthly preliminary progress estimate for CC's work performed through the last working day of the month.

No later than the 10<sup>th</sup> of the month, Consultant submit the preliminary progress estimate to the LAPM with CC concurrence.

#### **Deliverables**

- Monthly Preliminary Progress Estimate - Completed and ready for LAPM review by the 10th of the month following each month in which CC's work was performed.

### **Task CE-2.3 Project Progress Meetings**

Consultant shall attend the Pre-Construction Conference according to [Oregon Standard Specification for Construction](#) (Standard Specifications) Section 00180.42, and the ODOT Construction Manual, Chapter 11 – Before On-Site Work Begins. Attendees will include the CC, LAPM, and others as may be appropriate to discuss the construction schedule, utility involvement, permit concerns, required documentation submittals, materials and other items relevant to the construction of the Project.

Consultant shall attend periodic Project Progress Meetings with the CC and others as needed, including but not limited to the LAPM. The Project Progress Meetings are intended to promote Project progress, proper communications, effective working relationships and timely issue resolution.

Consultant shall attend additional activity-specific technical kick-off meetings for various activities required by the construction contract. These activities may include, but are not limited to:

- HMAC Paving
- ADA Ramp
- Traffic Signals

#### **Consultant shall:**

- Attend and participate in Preconstruction Conference.
- Attend and participate in Project Progress Meetings.

**ASSUMPTIONS FOR BUDGETING PURPOSES:** Project Progress Meetings are assumed to be weekly (during active construction) with no more than (2) Consultant staff attending and (48) meetings are assumed, see Section E.2 Project Schedule.

#### **Deliverables**

- Project Progress Meeting minute comments – Submit via email (1) copy to each attendee and (1) copy to LAPM within (5) business days after the meeting.

### **Task CE-2.4 Shop Drawing & Submittal Review**

Consultant shall review construction shop drawings and working drawings submitted either electronically or in paper form by the CC. If electronic submittals are received, Consultant shall process them according to the ODOT Guide to Electronic Shop Drawing Submittal. Consultant shall log in the submittal when it arrives, track the submittal to ensure timely response, and log out the reviewed submittal when it is returned to the CC. Consultant shall conduct submittal review in accordance with Section 00150.35 of the Standard

Specifications, and the ODOT Construction Manual, Chapter 16 – Working Drawings. Of the multiple copies of each shop drawing received from CC, Consultant shall:

- Maintain (1) of the as-submitted copies in the Project files
- Conduct review and prepare (5) mark-up/comment copies of the shop drawing. Stamped Drawings must be signed and dated by the POR and marked as either RV = Reviewed, or RVC = Reviewed with Comment. Unstamped Drawings shall be marked as AP = Approved, AX = Approved as Noted, or RC = Returned for Correction
- Include construction contract number on all shop drawings

Consultant shall review the following submittals as required using the guidelines in ODOT's Construction Manual, Chapter 16 – Working Drawings, the ODOT Guide to Electronic Shop Drawing Submittal, and the Standard Specifications Section 00150.35:

- Traffic control plan (1 total)
- Metal Sign Supports
- Pavement Design (2 total)
- Concrete mixes (2 total)
- Planting Work Plans (1 total)
- Erosion Control Plan
- Pollution Control Plan
- Rebar shop drawings (2 total)
- Water quality structure
- Sewer materials
- Traffic Signal ODOT Blue and Green Sheets
- Traffic Signal Mast Arm Pole drawings
- Signing materials
- Striping materials

Consultant shall prepare shop drawings for non-standard permanent signs in accordance with Standard Specifications Section 00940.03, and for steel sign supports in accordance with Section 00930.02. Based on field survey information, Consultant shall review and verify all new sign post lengths.

**Deliverables:**

- Return approved shop drawings electronically with comments:

**Task CE-2.5 Consultation during Construction**

Consultant shall provide consultation and technical Services regarding design issues raised during construction of the Project. Consultant shall clarify construction contract documents and provide written responses to Requests for Information ("RFIs"). The design consultation will occur only as required and may be ongoing throughout the CA/CEI Services and the Project.

Upon request of the CC or Agency during construction, Consultant shall:

- Clarify construction contract documents
- Respond to field inquiries
- Engage the services of the POR on all matters involving design changes

**Deliverable:**

- Written documentation of responses to CC or Local Agency inquiries – Submit (1) copy to LAPM within (2) business days of inquiry, unless other delivery date is agreed to by LAPM.

**Task CE-2.6 Design Modifications [CONTINGENCY TASK, see Sec. F]**

If Consultant or CC determines that design modifications may be necessary, Consultant shall discuss potential changes with LAPM and POR prior to verbally agreeing on changes with CC or preparing the appropriate contract change order documents, depending upon the type of work (changed work, extra work, or force account work). Upon request of the LAPM, Consultant shall work with the POR to prepare detailed engineering design revisions necessitated by conditions encountered during construction. These design revisions must be accompanied by the necessary contract change order documents (CCO, EWO) to make them a part of the construction contract.

**Deliverables:**

- Design details for modifications (prepared or approved by the POR for appropriate changes to Project design) - Submit to LAPM at date agreed to when work was requested.

**Task CE-2.7 Claim(s) Support [CONTINGENCY TASK, see Sec. F]**

If authorized by LAPM, Consultant shall provide support to Local Agency to review and respond to any and all claims submitted by the CC as specified in the Standard Specifications Section 00199 – Disagreements, Protests and Claims. Consultant tasks for claim(s) support may include but are not limited to:

- Prepare memoranda and supporting documentation (photo logs, inspection reports, memos, drawings, etc.) related to claims.
- Provide consultation related to claims (in person, via telephone or email).
- Attend claim resolution meetings.
- Prepare a claim decision in conformance with the requirements of Standard Specifications Section 00199.40(b).

**ASSUMPTIONS FOR BUDGETING PURPOSES:** This task assumes no more than fifty-four (54) hours for claim(s) support. Assume up to (1) claim, each requiring (3) staff to do (1) day of preparation and attend up to (1) all-day meeting for each claim, plus Principal and PM reviews and clerical assistance.

**Deliverables:**

The deliverables for claim(s) support may include but are not limited to:

- Memoranda and supporting documentation (photo logs, inspection reports, memos, drawings, etc.) related to claims
- Consultation related to claims (in person, via telephone or email)
- Attendance at claim resolution meetings
- Claim decision that satisfies Standard Specifications Section 00199.40(b)

**TASK CE-3 CONSTRUCTION, ENVIRONMENTAL COMPLIANCE & WORK ZONE MONITORING AND INSPECTION**

Consultant shall provide on-site monitoring and inspection of construction for conformance with, and shall enforce compliance with, construction contract documents and conducting environmental inspection site visits during the construction phase of the Project, typically to document compliance with the environmental permits,

including effectiveness of best management practices, avoidance and minimization measures, challenges encountered and corrective actions. Consultant shall coordinate and conduct on-site monitoring and inspections so they do not cause unnecessary adverse impacts to the construction schedule. On-site monitoring and inspections must occur at critical times during the construction process based on Consultant's evaluation of the CC's schedule, construction contract documents and as outlined in the ODOT Construction Manual, the Manual of Field Test Procedures and the ODOT Inspectors Manual.

Consultant shall have a certified Inspector on site during all critical times during the construction process. Consultant shall monitor the CC's quality control process for compliance with the construction Contract requirements.

The following are the approved ODOT Inspector Certifications currently in place in the Inspection Quality Assurance Program:

- Certified Bridge Construction Inspector (CBCI)
- Certified Environmental Construction Inspector (CECI)
- Certified Traffic Signal Inspector (CTSI)
- Certified General Inspector (CGI)
- Certified Hot Mixed Asphalt Concrete Inspector (HMAC)
- Certified Drilled Shaft Inspector (CDSI)

Consultant shall perform work zone monitoring as required by the ODOT Construction Manual, ODOT Inspectors Manual and the construction contract documents. Accordingly, Consultant shall monitor and enforce the following for compliance to construction contract requirements:

- Permit compliance during construction
- Temporary Traffic Control measures
- Erosion Control installation and maintenance
- Turbidity Monitoring (if required)

Consultant shall monitor the CC to verify the following deliverables are completed and submitted (to the extent the deliverables are required by the construction contract documents). If the documents are not submitted to the Consultant, then the Consultant shall take appropriate action to require compliance by the CC:

- Temporary Protection and Direction of Traffic (TP&DT) Reports
- Erosion Control Monitoring Reports
- Turbidity Monitoring Reports

### **Task CE-3.1 Construction Activity Monitoring**

#### **Construction Activity Monitoring**

Consultant shall monitor construction activities during construction of the Project utilizing Agency-certified Inspectors and require compliance with the construction contract documents. Consultant shall provide inspection concurrently with the CC's operation. Consultant shall coordinate closely with CC to ensure on-site inspections are coordinated with the construction schedule. Consultant shall prepare General Daily Progress Reports of construction for days Consultant is on site. Consultant shall take photos of the various construction activities.



Consultant shall determine and document all pay quantities for work and materials incorporated into the Project. Consultant shall keep quantity documentation current at all times and available for Local Agency review upon request.

### **Environmental Compliance and Mitigation Monitoring**

#### **Consultant shall:**

- Conduct site environmental inspections site visits to assist in maintaining compliance with issued regulatory permits and the special provisions.
- Provide documentation of the construction process relative to this environmental compliance.
- Coordinate and schedule monitoring visits coincident with activities that have significant environmental components.
- Evaluate onsite conditions and construction techniques during environmental inspections site visits to assess compliance with Project permits, the Pollution Control Plan, the Erosion and Sediment Control Plan, proposed site rehabilitation measures, and general environmental conservation measures.
- Identify deficiencies and potential permit compliance issues and provide guidance to aid in avoiding potential regulatory agency involvement or violations.
- Provide input and clarifications during construction activities to facilitate biological functioning as outlined in Project permits, based on the Project's significant site rehabilitation measures (to offset Project impacts)

In the event that deficiencies are noted, Consultant's Environmental Specialist shall immediately bring the deficiency to the attention of the APM and recommend a corrective course of action to comply with environmental regulations, performance standards, and permit conditions.

Consultant shall review the CC's following submittals for compliance with the construction contract and permits:

- Temporary Water Management Plan ("TWMP"),
- Erosion and Sediment Control Plan ("ESCP"),
- Pollution Control Plan ("PCP"), and

Consultant shall conduct up to 14 environmental inspection site visits and prepare brief construction environmental inspection report or monitoring memorandums summarizing site conditions and providing recommended measures to facilitate permit compliance and correct deficiencies.

#### **Deliverables:**

### **Construction Activity Monitoring**

- General Daily Progress Reports – Complete each day Consultant is on-site. Make available for review at Consultant's field office or home office. Originals submitted to Local Agency with final Project documentation submittal per task 5.4.
- Source Documents "Paynotes" - Field notes, calculations, receipts, invoices, reports used to determine Project pay quantities, installation sheets, and other supporting documentation – Complete as work is performed (and enter data monthly per task 2.5). Make available for Local Agency review as needed and submit with final Project documentation per task 5.4.

### **Environmental Compliance and Mitigation Monitoring**

- Reviewed CC-submitted Erosion Control Monitoring Reports (Form 734-2361) for compliance no later than 14 calendar days after each inspection site visit. Maintain in the Project files and submit with final Project documentation as defined in Task 5.4.
- Completed Consultant construction monitoring memorandums– If compliance issues are noted, document the deficiencies, recommendations and corrective action taken to correct deficiencies. Submit 1 copy to APM within 5 business days after the monitoring site visit.

**ASSUMPTIONS FOR BUDGETING PURPOSES:** This task assumes full time inspection during the CC's activities for 14 months.

### **Task CE-3.2 Quality Control Monitoring (Non-Field Tested & Field Tested Materials)**

Consultant shall document the work and Non-Field-tested materials incorporated into the Project.

Consultant shall monitor the CC's Quality Control (QC) program for conformance with requirements of the ODOT Manual of Field Test Procedures and the construction contract documents.

Consultant shall monitor the CC's QC Program. One or more Consultant staff shall perform the QCCS functions as defined in the QCCS Handbook and the Agency's Quality Assurance Program, which is in Section 2 of the ODOT Manual of Field Test Procedures. Consultant staff fulfilling the role of the QCCS shall be experienced in all areas of field testing and documentation, and be certified by the Agency's Technician Certification Program for the specific tests being monitored.

The following are the approved Technician Certifications currently in place in the Technician Certification Program:

- Certified Aggregate Technician (CAgT)
- Certified Embankment and Base Technician (CEBT)
- Certified Density Technician (CDT)
- Certified Asphalt Technician I (CAT-I)
- Certified Asphalt Technician II (CAT-II)
- Certified Mix Design Technician (CMDT)
- Quality Control Technician (QCT)
- Concrete Control Technician (CCT)
- Concrete Strength Testing Technician (CSTT)

#### **Consultant shall:**

- Review and monitor the CC's documentation for the quality of all materials incorporated into the Project.
- Verify that all materials furnished, inspected by OBEC staff and placed on the Project comply with the approved specifications.
- Certify that the documentation confirms that all materials comply with Construction Contract requirements.
- Identify and monitor CC's quality control technicians and require proper and current certification(s), and require that proper testing frequencies and procedures are being followed. Monitoring must be done by Consultant staff experienced in all areas of field testing and documentation and certified by ODOT's Technician Certification Program for the specific tests being monitored.

- Take appropriate action if CC's quality contract technicians do not have proper or current certifications or if proper testing frequencies and procedures are not being followed.

**Deliverables:**

- Field and non-field tested reports and certifications

**TASK CE-4 CONSTRUCTION SURVEYING**

Consultant's licensed Land Surveyor shall provide land surveying Services and deliverables that conform to all state statutes pertaining to survey and land boundary laws. These include, but are not limited to, the following Oregon Revised Statutes (ORS):

- ORS Chapter 92 - Subdivisions and Partitions
- ORS Chapter 93 - Conveyancing and Recording
- ORS Chapter 209 - County Surveyors
- ORS Chapter 672 - Professional Engineers; Land Surveyors; Photogrammetrists; Geologists

Consultant's survey personnel shall perform all construction surveying tasks in accordance with the most recent version of the ODOT Construction Surveying Manual for Contractors (available on line at:

**<http://www.oregon.gov/ODOT/ETA/Pages/Manuals.aspx>**

as required to ensure conformance of the Project construction with the approved plans and specifications. Consultant shall provide qualified personnel to verify the Project is constructed to the lines and grades as shown, specified, or established.

**Task CE-4.1 QA Survey**

**Consultant shall:**

- Coordinate with LAPM and CC as needed to require compliance with and verify that the construction survey work completed by the CC for the Project is in conformance with the approved plans, specifications and applicable laws.
- Attend and participate in a pre-survey meeting with the CC, LAPM and others as may be appropriate. Consultant shall coordinate with CC, LAPM to determine participants and to schedule the pre-survey meetings at an agreed-upon time no later than 2 weeks prior to beginning construction. Prepare and distribute the meeting agenda to LAPM and other participants at least 4 business days prior to meeting. Prepare and distribute the meeting minutes to LAPM and other participants within 1 week of meeting.
- Perform QA review of CC's survey data such as, but not limited to, office calculations and stake-out information. Provide memo indicating dates and times grade calculation checks were performed and the results of the calculation checks along with copy of notification to CC on items not in compliance from calculation checks and when/what corrections were made.
- Perform QA review of CC's field survey work. Provide memo indicating dates and times the survey field checks of CC's survey work were performed and the results of the field checks along with copy of notification to CC on items not in compliance with approved construction plans and when/what corrections were made.
- Provide a map, digital ASCII file of the coordinates, and field notes as applicable, of horizontal and vertical control points (from the construction contract plans) for use by the CC's surveyor.
- Prepare horizontal and vertical alignment print outs, construction grade data, including annotated cross sections (from the construction contract plans) for use by the CC's surveyor.

**ASSUMPTIONS FOR BUDGETING PURPOSES:** This task assumes no more than six (6) site visits by a two-man survey crew for construction surveying.

**Deliverables:**

- Memo regarding grade calculation checks – Submit via email to CC with copy to LAPM within 5 business days of receipt of survey data from CC.
- Memo regarding survey field checks – Submit via email to CC with copy to LAPM within 5 business days of request.
- Map, digital ASCII file of the coordinates and field notes as applicable, of horizontal and vertical control points – Submit original to CC at the pre-construction or pre-survey meeting.
- Horizontal and vertical alignment print outs, construction grade data, including annotated cross sections – Submit original to CC at the pre-construction or pre-survey meeting.

**Task CE-4.2 Locate, Recover & Reference Monuments**

Consultant shall recover and reference monuments (as indicated below) in the location of the ROW identified in the control, recovery and retracement survey. Consultant shall document in field notes the monuments either found, or not found during the search phase. Consultant shall ensure compliance with the requirements of ORS 209.155.

For all monuments not destroyed during construction activities, Consultant shall note in the field notes that:

- All monuments were recovered (include date),
- All monuments exist per the control, recovery and retracement survey, or
- All monuments are within the new ROW and do not need to be reset

The monuments may or may not be retied to confirm their original surveyed positions. This decision will be made based on Consultant surveyor's professional judgment.

**Consultant shall:**

- Recover monuments shown on the control, recovery and retracement survey to confirm they either still exist or were destroyed during construction. Consultant shall note destroyed monuments that are within the Project limits.
- Locate and recover any new monumentation within the Project work zone which were placed after the original field search and survey ties, which may include research of county records as appropriate.

**Deliverables**

☒ Submit the deliverables below to the LAPM.

- ASCII File of located monuments with monument point numbers and coordinates and any other electronic files (such as .fwd, .alg, ASCII, etc.) created or produced for the Project documenting Monumentation surveying - Submit within (2) weeks after recording of the survey filing map (SFM) with the appropriate County Surveyor's office
- Original field notes and (1) electronic .pdf copy - Submit within (2) weeks after recording of the SFM with the appropriate County Surveyor's office

**Task CE-4.3 Right of Way Monumentation**

Consultant shall document the location of the ROW lines at the completion of the Project construction. Consultant shall perpetuate the location of the monuments found prior to construction and shall document the ROW lines for all property acquired for the Project.

Unless otherwise approved by the Local Agency, Consultant shall monument the new ROW using the Boundary Method in conformance with the [ODOT Monumentation Policy](#) and the [Survey Filing Map Standards](#), available on the Internet at

<http://www.oregon.gov/ODOT/ETA/Pages/Manuals.aspx>

Consultant may be assigned the method of monumentation, which could be the Network Method, Boundary Method, or a combination of both methods which are defined in the [ODOT Monumentation Policy](#).

Consultant shall set control and/or ROW monuments within 45 days of the completion of construction.

#### **Deliverables**

☒ Submit the deliverables below to the LAPM.

- AutoCad Civil 3D file displaying the control and/or monuments – Submit within (2) weeks after recording of the SFM with the appropriate County Surveyor's office
- AutoCad Civil 3D file with centerline(s), control and monument data, and report of alignment(s) showing coordinates, bearing, stations, etc., per AutoCad Civil 3D reports – Submit within (2) weeks after recording of the SFM with the appropriate County Surveyor's office
- Final report of monument station and offset relationship to the alignment(s) – Submit within (2) weeks after recording of the SFM with the appropriate County Surveyor's office
- Agency ROW files and copies of all deeds, court judgments, etc., from the appropriate County – Submit within (2) weeks after recording of the SFM with the appropriate County Surveyor's office
- Original field notes and (1) copy in .pdf format – Submit within (2) weeks after recording of the SFM with the appropriate County Surveyor's office
- Final ASCII file of all control and monument points set – Submit within (2) weeks after recording of the SFM with the appropriate County Surveyor's office

#### **Task CE-4.4 Monumentation Survey Filing Map (SFM)**

Consultant shall create SFM in accordance with Agency Survey Filing Map Standards, County and ORS 209 requirements. Consultant shall ensure preservation of existing survey markers in conformance with Chapter 6.2 of the [ODOT Construction Survey Manual for Contractors](#), available on line at:

<http://www.oregon.gov/ODOT/ETA/Pages/Manuals.aspx>

Consultant shall monument any newly acquired ROW in accordance with Survey Filing Map Standards for Right of Way Monumentation, available on line at

<http://www.oregon.gov/ODOT/ETA/Pages/Manuals.aspx>

Consultant shall submit the survey to Clackamas county for filing on archival Mylar or acceptable media per county requirements.

#### **Deliverables**

- SFM –File at the appropriate County Surveyor's office within (45) days after setting monuments.
- ☒ Submit the deliverables below to the LAPM
- Final recorded SFM and narrative regarding methodologies used – Submit within (2) weeks after recording of the SFM with the appropriate County Surveyor's office

## **TASK CE-5 PROJECT CLOSE-OUT**

Consultant shall complete interim and final on-site inspections and submit all Project records required for final payment and Project acceptance.

### **Task CE-5.1 Final Inspection(s) & Submittals**

Consultant shall attend a review of the Project at a time close to completion of on-site work. Consultant shall attend a Project Final Inspection with CC and Local Agency within (15) days after receiving notice from the CC that all punch list items, final trimming and cleanup according to Section 00140.90 have been completed. If additional construction items are identified, Consultant shall provide input to a punch-list of items to be corrected by the CC. Once the punch-list items have been corrected, Consultant shall meet at Project site with LAPM for a follow-up to the Final Inspection.

#### **Deliverables:**

- Comments for Project punch list to LAPM (5) business days following final walk-thru.

### **Task CE-5.2 As-Constructed Plans**

Consultant shall prepare as-constructed plans in conformance with City and ODOT standards.

The following clarifications or exceptions or both to the above reference documents apply to Consultant-prepared as-constructed plans:

- As-constructed plans must be reviewed and approved by the POR prior to submittal to the City and ODOT.
- The submittal and distribution requirements are specified in the “Deliverables” section of this task.

#### **Deliverables & Schedule.**

Provide the City with Paper and PDF As-Built submittals shall be 22” x 34” or 24” x 36” in size.

- For Review:
  - Submit As-Built in PDF format
- Upon Approval:
  - Provide full set As-Built in PDF, formatted as Highest Quality Print
  - One (1) paper As-Built plan set
  - Provide the As-Built with all external reference files and post construction survey in AutoCAD format

[https://www.orcity.org/sites/default/files/fileattachments/public\\_works/page/4537/asbuilt\\_requirements.pdf](https://www.orcity.org/sites/default/files/fileattachments/public_works/page/4537/asbuilt_requirements.pdf)

Provide ODOT with the following as-built plans that are on their facilities:

**Roadway Plans** – If roadway plans are applicable to the Project, Consultant shall submit stamped and signed as-constructed plans **within 30 calendar days of issuance of Third Notification** as follows:

1. **A single electronic PDF file** that includes all roadway plan sheets showing red-line as-constructed markups -

- Use file naming convention as shown in [Contract Plans Development Guide, Vol 1](#).

- In the “AsConstructedPlans” folder on the ODOT FTP directory, available at

<ftp://ftp.odot.state.or.us/AsConstructedPlans/>

Create a subfolder under the “Roadway” folder using the ODOT key number for the subfolder name. Place the PDF file in the key number folder.

**Traffic Plans** - If traffic signal, traffic sign, or illumination plans (collectively “Traffic Plans”) are applicable to the Project, Consultant shall submit stamped and signed as-constructed plans **within (30) calendar days of issuance of Third Notification** as follows:

1. **Electronic PDF file output** that shows all red-line as-constructed markups (**also submit MicroStation file if**
2. **11 inch x 17 inch Mylar plan sheets (only required if on or connected to an ODOT facility)** showing hand drafted as-constructed markups
  - Submit (1) set to ODOT Traffic Section, 4040 Fairview Industrial Dr SE, Salem OR 97302.

### **Task CE-5.3 Submittal of Final Project Documents**

Consultant shall organize and submit the final Project quality, quantity that was inspected by the consultant

#### **Deliverables:**

- All final Project quality and quantity documentation – Original documents must be submitted to Local Agency within 90 calendar days after Final Project Acceptance
- All Project quality and quantity documentation related to plant establishment work – Original documents must be submitted to Local Agency within (14 calendar days after plant establishment work).

## **E.2 PROJECT SCHEDULE**

### **Schedule Assumptions**

The Project is scheduled for a May 2019 bid opening for the CC. It is anticipated that the CC will receive NTP no later than August 2019. All construction work is assumed to be completed by June 30, 2021.

## **F. CONTINGENCY TASKS**

<b>CONTINGENCY TASK DESCRIPTION</b>	<b>(UNIT) NTE</b>	<b>MAX QUAN.</b>	<b>METHO D OF COMP.</b>	<b>CONTINGENCY NTE AMOUNT</b>
Task CE-2.6 Design Modifications	\$9,471.00	1	T & M	\$9,471.00
Task CE-2.7 Claims Support	\$7,852.00	1	T & M	\$7,852.00
<b>Total NTE For All Contingency Tasks:</b>				<b>\$17,323.00</b>

## ACRONYMS & DEFINITIONS

AASHTO	American Association of State Highway and Transportation Officials
Acceptance	In this WOC, “Acceptance” or “Accept” means that Agency has reviewed the deliverable(s) submitted by Consultant and finds the deliverable(s) submitted in reasonable compliance with WOC requirements. Agency Acceptance does not release Consultant from liabilities due to any Errors or Omissions with respect to Consultant's Services and/or deliverables.
ODOT	Oregon Department of Transportation
APM	Agency’s Project Manager for CA/CEI Phase
CA	Contract Administrator
CA/CEI	Contract Administration/Construction Engineering and Inspection
CAGT	Certified Aggregate Technician
CAT I	Certified Asphalt Technician I
CAT II	Certified Asphalt Technician II
CBCI	Certified Bridge Construction Inspector
CC	Construction Contractor
CCO	Contract Change Order
CCT	Concrete Control Technician
CE	Construction Engineering
CEBT	Certified Embankment and Base Technician
CECI	Certified Environmental Construction Inspector
CDSI	Certified Drilled Shaft Inspector
CDT	Certified Density Technician
CGI	Certified General Inspector
Change Order	Contract Change Orders (CCO), Extra Work Orders (EWO)
CMDT	Certified Mix Design Technician
CPS	ODOT Contract Payment System
CSTT	Concrete Strength Testing Technician
CTSI	Certified Traffic Signal Inspector
CUF	Commercially Useful Function
DBE	Disadvantaged Business Enterprises
DRR	Documentation Review Report
EEO	Equal Employment Opportunity
EWO	Extra Work Order
FHWA	Federal Highway Administration
FIR	Field Inspection Report
HMAC	Certified Hot Mixed Asphalt Concrete Inspector
IA	Independent Assurance
IGA	Intergovernmental Agreement
Inspector	Representative of Consultant, with appropriate certifications, authorized to inspect and report on construction contract performance.
IQAP	Inspection Quality Assurance Program
LAPM	Local agency project manager
LPA	Local Public Agency (City of Oregon City)
LRFD	Load and Resistance Factor Design
NTE	Not to Exceed
NTP	Notice to Proceed



OCR	ODOT Office of Civil Rights
OJT	On-the-Job Training
ORS	Oregon Revised Statutes
PA	Price Agreement
PE	Preliminary Engineering
PM	Consultant's Project Manager for CA/CEI Phase
POR	Professional of Record
QA	Quality Assurance
QAC	Quality Assurance Coordinator
QA/CA Plan	Quality Assurance & Contract Administration Plan
QC	Quality Control
QCCS	Quality Control Compliance Specialist
RAS	Region Assurance Specialist
RFI	Request for Information
RFP	Request for Proposal
ROW	Right of Way
SFM	Survey Filing Map
SOW	Statement of Work
Standard Specifications	<a href="#">Oregon Standard Specification for Construction</a> - current version in effect during CA/CEI phase for this Project
TP&DT	Temporary Protection & Direction of Traffic
WOC	Work Order Contract
WYDOT	Wyoming Department of Transportation

## **ATTACHMENT B**

### **BREAKDOWN OF COSTS FOR SERVICES**

The Breakdown of Costs (BOC) dated January 31, 2019 is not physically attached but incorporated into this amendment with the same force and effect as though fully set forth herein. A Copy of the final BOC has been provided to Consultant prior to WOC execution.