

CITY COUNCIL AGENDA ITEM
CITY OF SHORELINE, WASHINGTON

AGENDA TITLE:	Authorizing the City Manager to Execute an Amendment to the Contract with Jacobs Engineering Group for the Design and Right of Way Services for the SR-523 (N/NE 145 th Street) – Aurora Avenue to Interstate-5 Project in an Amount Not to Exceed \$1,876,114
DEPARTMENT:	Public Works
PRESENTED BY:	Tricia Juhnke, City Engineer
ACTION:	<input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Motion <input type="checkbox"/> Discussion <input type="checkbox"/> Public Hearing

PROBLEM/ISSUE STATEMENT:

The City of Shoreline has completed 30% design of the 145th Corridor project (SR 523 – Aurora Avenue N to Interstate 5). The original contract with CH2M Hill included scope and fees through 30% design and environmental review of the project. Therefore a contract amendment is needed to proceed with design to 60% and move into the right-of-way phase of the project. Since the initial contract authorization, CH2M Hill has been acquired by Jacobs Engineering Group (Jacobs) thus the name has been revised from the original contract. Tonight, Council is being asked to authorize the City Manager to execute an amendment with Jacobs to continue with design and right-of-way services.

RESOURCE/FINANCIAL IMPACT:

Jacobs will continue engineering design and right of way services for the project as defined in Attachment A to this staff report. The fee for services will be \$1,876,114. The City has received \$4,235,000 of Surface Transportation Program grant funding for environmental review and final design. The additional funds for this amendment come from Roads Capital. Future phases of the project will utilize Connecting Washington grant funds. The project cost and budget summary for the design phase is as follows:

EXPENDITURES

City Staff + Expenses	\$ 750,000
Consultant Contracts (CH2MHill/Jacobs)	
30% Design and Environmental (original contract)	\$ 1,710,640
60% Design and Right of Way Acquisition Services	\$ 1,876,114
(This amendment)	
Final Design (available budget)	\$ 555,156
WSDOT	\$ 4,050
Total Expenditures	\$ 4,895,960

REVENUE

Roads Capital Fund (Design Phase)	\$ 660,960
Federal Grant (Design Phase)	\$ 4,235,000
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Total Revenue	\$ 4,895,960

RECOMMENDATION

Staff recommends that Council authorize the City Manager to execute an amendment with Jacobs Engineering Group for 60% design and right of way services related to the SR-523 (N/NE 145th Street) – Aurora Avenue N to Interstate-5 Interchange Project in an amount not to exceed \$1,876,114 for a contract total of \$3,586,754.

Approved By: City Manager ***DT*** City Attorney ***MK***

BACKGROUND

In 2016, the City completed the 145th Street Multimodal Corridor Study which identified needed improvements along SR-523 (145th Street) from Aurora Avenue N to Interstate-5, in addition to improvements on three other segments of the corridor. The improvements are needed to improve traffic operations, safety, pedestrian and bicycle mobility and to improve access to the proposed 145th Street light rail station. The Multimodal Corridor Study broke the project into five phases that are consistent with segments of the roadway. This contract covers the segment from Interstate 5 to Aurora Avenue N. The interchange is being designed through a separate project; the segment from SR-522 to I-5 is included in the Sound Transit 3 scope; and the final segment from Aurora Avenue to 3rd Avenue is not currently funded for design.

On June 5, 2017, the City Council authorized the City Manager to enter into a contract with CH2MHill for the design and environmental services for the 145th Corridor project. The staff report for this Council authorization can be found at the following link: <http://cosweb.ci.shoreline.wa.us/uploads/attachments/cck/council/staffreports/2017/staffreport060517-7b.pdf>. The scope of the initial contract covered through 30% design and environmental review for a contract amount of \$1,710,640.

DISCUSSION

Work performed under this amendment will advance the design to 60% completion and will support the City's future purchase of the right of way needed for the project.

The project has three funding sources: local funding from the Roads Capital Fund; federal grant funding for engineering and design; and state Connecting Washington funding for right of way acquisition and a portion of construction. Additional funding will be needed for completion of the project.

ALTERNATIVES ANALYSIS

CH2M was selected for this work in 2017 based on a competitive selection process including review of written qualifications, an interview, and a review of references. The scope of the selection process included design, right of way services and construction. Their work on the preliminary design and environmental documentation has been satisfactory and staff recommends that the consultant be retained for the additional services presented.

RESOURCE/FINANCIAL IMPACT

Jacobs will continue engineering design and right of way services for the project as defined in Attachment A to this staff report. The fee for services will be \$1,876,114. The City has received \$4,235,000 of Surface Transportation Program grant funding for environmental review and final design. The additional funds for this amendment come from Roads Capital. Future phases of the project will utilize Connecting Washington grant funds. The project cost and budget summary for the design phase is as follows:

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ATTACHMENTS

Attachment A: Jacobs Engineering 145th Street Multimodal Corridor Project – Aurora Avenue to Interstate-5 Project, 60% Design and Right of Way Acquisition Scope of Work

City of Shoreline
145th Street Multimodal Corridor Project
Aurora Avenue to I-5
60% Design and Right of Way Acquisition

11/01/2019

Exhibit A-1

Scope of Work

Amendment 1

During the term of this AGREEMENT, CH2M HILL, Inc., a wholly owned subsidiary of Jacobs Engineering, Inc. (CONSULTANT) team will perform professional services in connection with the 145th Street Multimodal Corridor Project as described below. The CONSULTANT team consists of CH2M HILL, Inc., LMN Architects, EnviroIssues, Parametrix, Alta Planning + Design, HBB Landscape Architecture, and RES Group Northwest.

PROJECT DESCRIPTION

This Scope of Work is for the CITY of Shoreline 145th Street Multimodal Corridor Project with project extents from the Aurora Avenue intersection to the I-5 Interchange (approximately 1 mile). This scope includes survey and base mapping, right of way acquisition, 60% design engineering, plans, specifications, cost estimating, environmental permitting, public involvement, agency approvals, and agency coordination. The Project will be completed in Phases. This scope of work is for the following phases:

- Phase 1 and Phase 2 Right of Way Acquisition
- Phase 1, Phase 2, and Phase 3 60% design

Completion of final design will require an amendment of this scope with additional tasks for right of way services and final design.

Proposed improvements are based on the 145th Street Corridor 30% Design. The Design includes signalized intersection improvements at Meridian Avenue and 1st Avenue NE involving new left turn lanes, new traffic signals, signal timing modifications, new sidewalk, curb ramps, landscaping, bus zones, and urban design treatments. Overhead utilities will be relocated underground for a portion of the corridor, and storm drainage improvements will be made. In addition, an off-corridor bike network will be developed for the corridor.

This scope of work assumes that the project will have duration of no more than 24 months commencing in November 2019 and being completed by November 2021.

The baseline milestone schedule for the project is shown on the table below:

Table 2. Project Design Milestones

	Dates
Notice to Proceed	November 1, 2019
PS&E – 60% Submittal	May 28, 2020
WSDOT R/W Certification	January 31, 2021

Scope Assumptions

The following general assumptions have been made in developing the Scope of Work and Budget for 145th Street. Additional detail has been included in the task descriptions contained in the remainder of the Scope of Work

General Assumptions

1. This Scope of Work is premised on a notice-to-proceed date of approximately November 1, 2019, with a 24-month project duration for final design activities. CONSULTANT's ability to meet this schedule is contingent upon timely receipt of information and / or comments from CITY or third parties. The Project Right-of-Way and Design Survey has already been completed. Supplemental survey found in this Scope of Work will be as needed and not exceed the maximum hours listed in this Scope of Work.
2. This Scope of Work lists task items to be performed by other City of Shoreline agencies and stakeholders. CITY will secure agreement between CITY and the other City of Shoreline agencies and stakeholders and coordinate the execution of this Scope of Work. A stakeholders meeting (led by CITY) will occur prior to signing agreements to ensure that there is agreement from other City agencies and the products they need.
3. Work performed will be in accordance with the WSDOT Local Agency Guidelines as applicable.
4. If additional sheets are required to adequately detail the project, then the level of effort and associated fees will be adjusted.
5. All drawings will be produced using AutoCAD®, following City of Seattle Standards.
6. City of Shoreline, SDOT and review AGENCIES will take four weeks to review all products. CITY will be responsible for the collecting comments from AGENCIES reviews, resolving conflicting comments, and submitting one set of consolidated comments to the CONSULTANT for each submittal.
7. The CONSULTANT will coordinate and obtain rights-of-entry.

8. If asbestos or hazardous substances in any form are encountered or suspected, CONSULTANT will stop its own work in the affected portions of the PROJECT to permit testing and evaluation by CITY. If asbestos is suspected, CONSULTANT will, if requested, support CITY with related activities using a qualified subcontractor at an additional fee and contract terms to be negotiated. If hazardous substances other than asbestos are suspected, CONSULTANT will, if requested, conduct tests to determine the extent of the problem and will perform the necessary studies and recommend remedial measures at an additional fee and contract terms to be negotiated. CITY recognizes that CONSULTANT assumes no risk and/or liability for a waste or hazardous waste site originated by other than CONSULTANT.
9. Subsurface Investigations - In soils, foundation, groundwater, and other subsurface investigations, the actual characteristics may vary significantly between successive test points and sample intervals and at locations other than where observations, exploration, and investigations have been made. Because of the inherent uncertainties in subsurface evaluations, changed or unanticipated underground conditions may occur that could affect total project cost and/or execution. These conditions and cost/execution effects are not the responsibility of CONSULTANT.
10. Opinions of Cost, Financial Considerations, and Schedules - In providing opinions of cost, financial analyses, economic feasibility projections, and schedules for the project, CONSULTANT has no control over cost or price of labor and materials; unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs; competitive bidding procedures and market conditions; time or quality of performance by operating personnel or third parties; and other economic and operational factors that may materially affect the ultimate project cost or schedule. Therefore, CONSULTANT makes no warranty that CITY's actual project costs, financial aspects, economic feasibility, or schedules will not vary from CONSULTANT's opinions, analyses, projections, or estimates.
11. CONSULTANT will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by CITY.

1.0 PROJECT MANAGEMENT

The CONSULTANT will provide overall project administration and management for the duration of this contract.

- 1.1 Project Management Plan. Preparation of an updated project management plan to include a project work breakdown structure (WBS), identification of the project team and organization structure, scope of services, invoicing procedures, communication plan, quality management plan, risk analysis plan, project Health and Safety Plan, Change Management Plan, and Contract Close-out Plan.
- 1.2 Quality Plan. The CONSULTANT will prepare an updated project quality plan (PQP) that addresses quality control. The project quality manager will administer the PQP. Quality control includes technical discipline review while the work is in progress and senior review of work products prior to submittal to the CITY.

The PQP will include the following: Process, sequence, and procedures of reviews, Individual roles and responsibilities of reviewers, documentation and response to review comments for internal and external reviews, approval process

- 1.3 Project Schedule. An overall project schedule completion date will be established by the CITY. A detailed schedule for the CONSULTANT work elements shall be prepared by the CONSULTANT and will be jointly developed with the CITY. The baseline schedule shall be delivered to the CITY within 45 days from the date of the Notice to Proceed. The schedule shall be revised up to 6 times during the course of the project, at the request of the CITY.
- 1.4 Direction and Review. Implementation of the workplan, and direction of the staff and review of their work over the course of the project shall be provided. This is for the overall project rather than a specific work element and shall provide guidance to the entire team. The CONSULTANT shall direct and control the staff by supervising their work, holding regular internal coordination meetings, and by other methods.
- 1.5 Document Management. The CONSULTANT shall provide for the management of the drawings and documents received and generated over the course of the project. This information shall be filed to facilitate ready and selective retrieval. A status of requested information also shall be maintained by the CONSULTANT.
- 1.6 Monthly Progress Reports and Invoicing. This work element shall include the monthly invoice and progress reports. Invoices and backup shall be prepared in accordance with the format agreed to with the CITY project manager. The progress reports shall describe the work accomplished during the billing period including the status of individual work elements, meetings attended, and action or information needed from the CITY. Progress reports shall also indicate work to be accomplished during the next month. The progress reports shall be submitted to the CITY with the monthly invoice.
- 1.7 Budget Monitoring and Projections. Periodic monitoring of the CONSULTANT'S budget shall occur over the course of the project and projections provided to the CITY upon request. Current project financial status as well as independent projections (i.e. non-project related Consultant staff) to complete work shall be developed as needed. This work element is intended to help monitor costs and budgets and to propose corrective actions. These actions could include formal requests for budget or scope modifications.
- 1.8 Issue and Change Management. The Change Management Plan shall address the five elements of change management: Identification of change; Analysis of the change and determination of its impacts; Development of a response strategy; Communication of the strategy and gaining agreement on the change; and Revision of the workplan, scope, schedule and budget
- 1.9 Subconsultant Management. SUBCONSULTANT management shall provide an overview of progress, review invoices and provide overall coordination of SUBCONSULTANTS conducting various project elements.

Task 1 Deliverables:

- Project Management Plan
- Project Quality Plan
- Project schedule and up to six (6) schedule updates
- Monthly invoices and progress reports

- Monthly budget status reporting
- Project change log and updates

2.0 PROJECT DELIVERY AND PROJECT COORDINATION

This work element is continuous throughout the duration of the project. It includes the work necessary to coordinate the work with the CITY, related projects, and project team. Coordination with partner agencies is included in Task 12.

- 2.1 Project Management Team Meetings. The CONSULTANT will plan and facilitate monthly project management team (PMT) meetings. The CITY will host the PMT meetings. These meetings will occur rotating between the CITY's office and the CONSULTANT'S office and are assumed to be 2 hours in length. Up to two CONSULTANT team staff members will attend each meeting, depending on the agenda. The CONSULTANT will prepare meeting agendas, meeting summaries, and action items.
- 2.2 Risk Management. The Risk Register is a tool that identifies potential risks to the project and management strategies for those risks. A Risk Register will be maintained and updated by the CONSULTANT up to five times to monitor project progress over the course of the development of this Project Element.
- 2.3 Interchange Project Coordination Meetings. The CONSULTANT will facilitate monthly project coordination meetings with the Interchange Project team. These meetings will occur at the CITY's office and are assumed to be 2 hours in length. Up to two CONSULTANT team staff members will attend each meeting, depending on the agenda. The CONSULTANT will prepare meeting agendas, meeting summaries, and action items.
- 2.4 Consultant Project Team Meetings. The CONSULTANT will plan and lead bi-weekly team meetings to coordinate work between the team members. This effort is for the overall project rather than a specific task and is intended to provide the coordination that the team will need to understand project priorities, deadlines, and resolve issues that arise. CITY staff involvement is encouraged. For budgeting purposes, bi-monthly meetings, two hours in length are assumed over the duration of the project (24 meetings).

Assumptions:

- CITY will pay directly for venue reservations and facilitation materials (if needed).

Task 2 Deliverables:

- PMT meeting agendas and meeting notes
- Risk Register, up to five updates
- Interchange Coordination Meeting agendas and meeting notes

3.0 Funding Support

The CONSULTANT will assist the CITY in its continued pursuit of full funding for the Project. This will consist of the preparation of funding applications and promotion of the project.

- 3.1 Identification of Opportunities. Identify potential funding opportunities that could provide partial or full funding of corridor pre-construction activities, right-of-way, and construction of improvements. Anticipate schedule for application submittals for each source. Establish unique requirements for

each source to help prepare for application. List intent of each source and special attributes and criteria that are important to those funding programs.

3.2 Funding Program Coordination. Maintain contact with funding programs and coordinating agencies to anticipate opportunities and to keep them informed on this project.

3.3 Project Promotion. Maintain interest and promote the project with local and federal funding partners through regular contact. Seek to maintain consensus among partnering agencies by addressing their issues, and considering their project needs.

Task 3 Deliverables:

- Project brochure development and updates
- Grant application support, up to two (2)
- Cash flow analysis

4.0 Right of Way

Assumptions:

- Right of Way acquisition for the Project will be completed in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisitions Policies Act (URA), WSDOT's Local Agency Guidelines manual – Section 25 (Right of Way Procedures), and the City's WSDOT approved Right of Way Acquisition procedures, dated January 31, 2018.
- The CONSULTANT will provide the CITY with a list of title reports needed. Costs to obtain the title reports will be paid directly by the CONSULTANT.
- Relocations will be identified after the completion of the relocation plan
- Phase 1
 - 17 property acquisitions within the City of Shoreline
 - 3 property acquisitions within the City of Seattle
- Phase 2
 - 16 property acquisitions within the City of Shoreline
 - 5 property acquisitions within the City of Seattle
- Phase 3
 - 21 property acquisitions within the City of Shoreline
 - 12 property acquisitions within the City of Seattle
 - Phase 3 right of way activities are not included in this scope of work

4.1 Preparation and Administration

This task covers coordination and planning of the overall process with the Right of Way Acquisition team. Coordinate with City the use of approved acquisition documents. The CONSULTANT will prepare parcel files meeting the documentation requirements of the effective Local Agency Guidelines at the time of acquisition to include but is not limited to fair offer letters, recording and ancillary documents, a

standard diary form indicating all contacts with owner(s), and other items necessary for negotiations. The CONSULTANT will coordinate up to 6 bi-weekly teleconference meetings with the CITY.

4.2 Review Title Reports and Parcel Calculations

The CITY will order preliminary commitments for title for parcels affected by fee-simple or easement acquisitions, and possibly other properties affected by this project, as deemed necessary by the CITY.

The CONSULTANT will review existing right of way and ownership information. The CONSULTANT will review special exceptions described in each title report to determine the City's acceptance of title at closing and provide the City with a parcel summary memo listing ownerships, title exceptions, and various encumbrances. The CONSULTANT will calculate property lines for parcels affected by fee-simple, easement acquisitions, and possibly other properties affected by this project, as requested by the CITY.

Setting of property lines and/or corner surveys are NOT a part of this work.

Deliverables:

- Parcel Calculations and Supporting Documentation
- Required Title Report List
- Title Reports and Updates

4.3 Legal Descriptions

The CONSULTANT will identify right of way requirements for each parcel within the project limits, as shown on the Right of Way Plans. The CONSULTANT will prepare a legal description for each individual acquisition area (partial or full fee simple, permanent easements, temporary construction easements) as required from each affected parcel.

This scope does not include the preparation of legal descriptions for temporary construction easements.

No legal descriptions or exhibits will be required for full acquisitions, but full parcel acquisitions will be reflected on the Right of Way Plans if applicable. Legal descriptions for full parcel fee simple acquisitions will be obtained directly from related title report.

Deliverables:

- Parcel Legal Descriptions and Supporting Documentation

4.4 Parcel Maps

The CONSULTANT will prepare a parcel exhibit map for each parcel affected by partial acquisition, permanent easements, and temporary construction easements/permits. Each exhibit map will include Tax Parcel ID, limits of fee-simple or easement acquisitions, limits of temporary construction easements/permits (if any), existing property boundary, existing right-of-way and easements, street names and widths, north arrow, Section, Township, Range, and dates and names for preparation, checks and revisions.

Deliverables:

- Parcel Exhibit Maps and Supporting Documentation.

4.5 Administrative Offer Summary (AOS)

Following review of the right-of-way plan, CONSULTANT will prepare an AOS for all impacted parcels. AOS will be written for those acquisitions valued under \$25,000 in the PFE. Should any appraisals be required, CONSULTANT will make a recommendation with cost estimates for appraisal consultants to the CITY.

Assumptions:

- Project Funding Estimate is included in prior Scope of Work

Deliverables:

- Administrative Offer Summaries

4.6 Appraisal and Appraisal Review

Appraisal and appraisal review contracts shall be handled directly by the CONSULTANT.

Deliverables:

- Appraisals
- Appraisal reviews

4.7 Title Review, Clearing and Closing

CONSULTANT will review title reports for affected parcel and provide Title Review Memos identifying all potential encumbrances to project team members. CONSULTANT will assist in clearing the necessary encumbrances prior to closing, if feasible. CONSULTANT will assist in facilitating in-house closing on low impact parcel or manage closing through escrow should those services become necessary.

Deliverables:

- Title Reports and Updates (from CITY to CONSULTANT)
- Title review memos
- List of required Title Reports

4.8 Right of Way Documentation, Negotiations and Closing

CONSULTANT will assist the CITY in developing all right-of-way documents/offer letters in accordance with the CITY's right-of-way procedures manual for acquisition of impacted properties. The CONSULTANT will prepare a Right of Way acquisition schedule. CONSULTANT will draft the acquisition documents using CITY approved forms or QC any forms that are created directly by CITY staff for pre-acquisition review by the WSDOT LPA coordinator, only if necessary, before any offers are made to property owners.

CONSULTANT agents will act in good faith at all times and never coerce owners in an attempt to settle the parcels. All negotiations will start with an in-person presentation of all offers when feasible. We will identify property owner issues, concerns and differences early on and document that information in the individual parcel negotiation diaries. CONSULTANT will work with CITY staff throughout the negotiation process and with the property owner until settlement is reached on each parcel. If negotiations reach an impasse, the CONSULTANT will provide the CITY with written notification. The filing and cost of condemnation proceedings shall be the responsibility of the CITY.

Deliverables:

- Weekly Status Reports
- Transmittal Packages
 - Title Memos
 - Offer Letter
 - Payment Vouchers
 - Escrow Instructions
 - Conveyance Documents
 - Diaries
- Condemnation Transmittal Packages (as needed)

- Baseline Right of Way acquisition schedule

4.9 Property Owner Coordination Support

Prepare an interface plan overlay on aerial photograph, one cross-section, and driveway regrade design profiles. These deliverables may be used in meetings with CITY staff, the CITY's appraiser, and property owners.

Deliverable(s) may include:

- Plan view of property interface design option over aerial mapping
- Cross-sections
- Driveway re-grade design profiles
- Utility Service Changes.

4.10 Right of Way Certification

CONSULTANT will assemble the project's final parcel files and draft the supporting certification memo and property interest's summary. CONSULTANT will maintain constant contact with the local WSDOT LPA coordinator throughout the project, follow the WSDOT LAG manual and Uniform Act guidelines, and use the prescribed right-of-way documents with as little deviation as possible.

Deliverables:

- Certification Worksheets

4.11 Relocation Assistance and Advisory Services

The CONSULTANT shall develop a relocation plan and addendums, prepare and present all relocation notices and benefit letters, provide relocation advisory services, prepare relocation documents, participate in appeals, and compile executed documents and final relocation files for submittal to the CITY.

Deliverables:

- Weekly Status Repots
- Relocation Plan and Addendums
- Relocation files, including:
 - Required notices
 - Claim forms
 - Preparation of Commercial or Residential Move Bids solicitation
 - Relocation memos approved by the City with back-up documentation

5.0 Phase 1 and 2 60% Contract Drawings

This final design task progresses the design from 30 percent level to preparing the 60 percent contract drawings for review. See Attachment A for sheet list by Discipline. In addition to preparing the contract drawings, the CONSULTANT will maintain design documentation including design calculations. Quantity take-offs will be performed for each discipline under this task, to be compiled in Task 6, Cost Estimating.

5.1 General Plans

5.1.1 General Plans

The CONSULTANT will prepare a cover sheet in accordance with CITY standards and an index of drawings. The list of plan sheet titles in the indices will exactly match the titles as they appear on the plan sheets. See Appendix A for preliminary list of the contract drawing sheets.

The CONSULTANT will prepare a vicinity map showing the project limits in accordance with CITY standards. The vicinity map will include the beginning and ending of construction, stations, major cross streets, waterways, and critical areas.

The CONSULTANT will prepare a sheet layout index for each scale used showing the sheet layout for the various disciplines. The CONSULTANT will prepare general notes, abbreviations, and symbols sheet.

A summary of quantities depicting bid items quantities will not be included in the plan set.

5.1.2 Survey Control, Alignment, and Right of Way Plans

The CONSULTANT will prepare a Survey Control, Alignment, and Right of Way Plan that will show monumentation, alignment information, right of way, and survey control.

Task 5.1 Deliverable(s):

- Plans described in Tasks 5.1 and as listed in Attachment A: Sheet List by Discipline

5.2 Roadway Plans

The CONSULTANT will prepare plans, profiles, cross-sections, and details for the roadway improvements.

5.2.1 Typical Roadway Sections

The CONSULTANT will prepare typical roadway cross-sections denoting roadway widths, sidewalks, medians, landscaping and traffic lanes.

5.2.2 Paving and Grading

The CONSULTANT will prepare roadway modification plans that will show dimensions for roadway outlines and sidewalks. The plans will also show curb returns, tapers, intersection layouts, proposed driveway access, and other pertinent surface features. Property conform limits will be developed and shown in the form of cut-and-fill lines and property reconstruction limit. The CONSULTANT will perform property interface design to existing terrain, including driveway grading, and identify retaining wall location and grading to match existing. Property interface design will be shown on the roadway modification plans. The location of preliminary driveway access for the properties impacted by the selected alternative will be determined based on property access requirements and City of Shoreline standards. Existing driveways might be combined or their location changed to maintain/improve traffic operations and account for safe operations. Driveway modifications will be shown on the paving and grading plans.

The CONSULTANT will prepare vertical profile drawings for the main roadways and cross streets within the project area. Cross-slope diagrams will be included on the profiles. Cross-sections will be prepared denoting roadway widths, sidewalks, medians, landscaping and traffic lanes.

The CONSULTANT will coordinate with King County Metro on geometric requirements for bus/transit movements. King County Metro coordination is included in Task 12.

The CONSULTANT will prepare paving details for non-standard construction item details, such as non-standard curbs and driveway aprons.

5.2.3 Intersection Grading

Plans detailing intersections in the project area will be prepared at 1 inch = 10 feet scale showing curb ramp details, number of lanes, turn pockets, and curb return data for each leg of the intersection including tables with gutter elevations at PC, PT, quarter; grades, radius and length of curve will also be provided. Lane width and therefore the overall footprint of each major intersection will be essentially known and can be used to ascertain right-of-way impacts. Roadway contour grading for intersections will be prepared. Vehicle turn simulation figures, at 1 inch = 40 feet scale, will be updated as necessary.

Task 5.2 Deliverable(s):

- Roadway plans described in Tasks 5.2 and as listed in Attachment A: Sheet List by Discipline

5.3 Drainage and Utility Plans

5.3.1 Drainage Plans and Details

The CONSULTANT will prepare plans and details for the drainage design, including plan views of drainage pipes and structures, connections to the existing stormwater systems, stormwater treatment and flow control facilities, and nonstandard drainage details. These storm system layouts will include catch basin, manhole and stormwater management facility locations, and the details required to describe them.

These updates also include updates to the BMP modelling that was previously completed for 30% drainage design.

For coordination purposes, the drainage plans will include the street lighting poles, traffic signal poles, conduit runs, and junction box locations as designed in Task 5.4, Traffic Plans.

5.3.2 Drainage Profile Plans

These plans will include profiles for drainage lines required within the project limits. Pipe size, length, and type as well as drainage structures will be included on the plans. Profiles of the stormwater facilities will also be included. Existing and proposed utility crossings will be depicted.

5.3.3 Utility Design

The CONSULTANT will prepare utility plans that show existing utilities (type, size, and location) and information related to proposed relocations. Relocation data will also be depicted in a table format. Public and private utility systems will be identified, shown on the plans, and coordinated with the various utility companies. The CONSULTANT will design the water line relocations per (CITY) SPU standards and include plan layout of the water lines, hydrant locations, valve locations, and connections. Profiles of proposed water lines will also be included. Design of all other utility relocations will be prepared by the utility owner and will be coordinated by the CONSULTANT.

For coordination purposes, the utility plans will include the street lighting poles, traffic signal poles, conduit runs, and junction box locations as designed in Task 5.4, Traffic Plans. Locations of utilities will also be coordinated with project elements designed by the Landscape and Irrigation discipline.

Assumptions

1. Meetings with SPU, SCL, PSE, and various telecommunication companies to coordinate utility design are include in task 13.4
2. Upgrades for water lines and sanitary sewer lines are not included in this scope.
3. Utility design elements will be separated from the Drainage Plans and shown on the Utility Plans.
4. The Stormwater Pollution Prevention Plan is not included in this scope.

5.3.4 Drainage and Hydraulic Modeling

In support of the 60% design level, prepare a Draft Hydraulic Report following WSDOT format to document that level of design. The report shall include discussion and supporting calculations for the conveyance elements (pipes), water quality and flow control facilities. City comments on the 30% preliminary stormwater report will be addressed in the Draft Hydraulic Report. A single report will be prepared for review by the City, WSDOT and City of Seattle.

Updated hydrologic modeling performed for 30% of the three 30% water quality facilities, and the two flow control facilities will be included, using Western Washington Hydrology Model (WWHM) software.

5.3.5 Utility Potholing and Conflict Resolution

Pothole locations will be determined during the design phase and coordinated with the various utility owners. These critical locations will include locations where proposed utilities cross existing utilities that will remain. Documentation will consist of pothole location shown on plan drawings with additional information in tabular form. Tabular information will include utility type, size, location, depth and additional detail as determined. It is assumed that the CITY will pay permit fees to perform this work. For budgeting purposes, twenty (20) potholes are assumed as part of this scope of work.

Task 5.3 Deliverables:

- Drainage and Utility Plans at the 60 percent level
- Drainage profiles at the 60 percent level
- Drainage details at the 60 percent level
- Draft Hydraulic Report
- Pothole data table
- 60% plans will include pothole locations

5.4 Traffic Plans**5.4.1 Channelization and Signing**

The CONSULTANT will prepare plans and details for the channelization, including lane and edge stripes, stop bars, pavement markings, crosswalks, and geometry of striped medians and turn pockets. Limits of channelization will match paving limits and extended beyond paving limits to match extent of channelization modified due to construction staging and temporary traffic control if applicable for 60 percent design.

Signing plans will show proposed signs, sign structures, and sign relocations and removals. A preliminary sign schedule will be developed and included in the 60 percent submittal.

Deliverable(s):

- Channelization and signing plans (60 percent)

5.4.2 Traffic Signal

The CONSULTANT will prepare traffic signal plans and wiring diagrams. The CONSULTANT will prepare 60% signal plans for the First Avenue NE, Corliss Ave N, Meridian Avenue N, and Ashworth Ave N intersections.

The CONSULTANT will prepare 60% traffic signal plans based on the conceptual design review comments from CITY, SDOT, and WSDOT. The plans will include the type and location of control equipment, signal poles and supports, signal heads, conduit runs, type of detection, phasing diagram, wiring diagram, pole schedule, and other equipment required for improving and revising the traffic signal system. The plans will also include location of push buttons and curb ramps, vehicular and pedestrian signal head locations, stop bar and crosswalk locations, detection locations, service point location, and interconnect/fiber communication locations.

60% signal design will also include wiring diagrams for the new signal as well as a pole schedule for the proposed luminaries. Agency coordination and documentation for agency approval is included in Task 12. The traffic signal will be designed for installation and construction that provides new signal equipment and the minimum interruption of service. The CONSULTANT will not reuse any of the existing signal equipment.

Deliverable(s):

- Traffic signal plans (60 percent)

5.4.3 ITS, Communications and Signal Interconnect

The CONSULTANT will prepare design plans for the project corridor that includes an ITS, communications, and signal interconnect.

Intelligent Transportation System

The CONSULTANT will determine the approximate location for ITS equipment within the project area boundary. The CONSULTANT will identify the communications requirements and links to all ITS equipment and develop probable routes for new fiber communications, including fiber communication connections to the City of Seattle Traffic Management Center (TMC) and WSDOT Traffic Systems Management Center (TSMC).

The CONSULTANT will meet with SDOT, WSDOT, and stakeholders for two two-hour meetings with two of the CONSULTANT staff attending these meetings. The meetings will establish the ITS needs of CITY, the COUNTY, and WSDOT in the project area and select existing and proposed traffic control, surveillance, and detection technologies to be included in this project. The meetings will establish communication system requirements, equipment, interfaces to other systems, and system integration requirements. Work will focus on developing the technology solution and interface for each ITS field device and its proposed location.

This task will include field investigation in the defined project area and will include the following:

- Field investigation of communications infrastructure in the project area will be performed; *escort by SDOT staff will be required for access to existing cabinets, vaults and junction boxes.*

The CONSULTANT will prepare ITS design on the Illumination plans based on CITY and WSDOT requirements. The plans will include the location of ITS field devices, proposed communication routing of fibers, ITS cabinet locations, junction boxes and vaults as required. Wiring, details and pole schedules will not be included in the 60 percent plans.

Deliverable(s):

- Technical memorandum documenting ITS and communication design and technology requirements and design decisions including graphics of communication (1-line diagram) for ITS devices.
- ITS design is included on the illumination Plans

5.5 Structures Design and Retaining Wall Plans

This task will involve 60 percent design of the retaining walls and miscellaneous minor structures, including detention vaults, drainage structures, bus shelter foundations, and signal and luminaire pole foundations to produce 60 percent plans.

5.5.1 Retaining Wall Plans and Structure Details

The CONSULTANT will prepare detailed design drawings for 60 percent design of the retaining walls and miscellaneous minor structures. These drawings will include plans, profiles, typical sections, and details for the walls. The details will include wall barrier design details, form liner finish details, foundation details, pedestrian safety rail details, luminaire mounting details, and sloping and shoring requirements. Pedestrian safety rail details to be coordinated with urban design elements including lighting pavement treatments and form liner finishes.

Structural calculations for the analysis and design of the retaining walls and miscellaneous minor structures are not included with this Scope of Work and will be provided for 90 percent level of design. A structural integrity check is not included with this Scope of Work and will be completed on the 90 percent retaining wall designs.

Task 5.5 Deliverable(s):

- Retaining wall and miscellaneous minor structures plans and details at the 60 percent level

5.6 60 Percent Submittals

See assumptions in general sections for the number of copies to be submitted.

5.6.1 60 Percent Submittal

The 60 percent submittal will include electronic files in PDF format hard-copy drawings and details; an outline of technical specifications; draft contract specifications (as described in Task 7), and updated cost estimates at the 60 percent complete design level for project design review (as described in Task 6). Hard-copy sheets will match the electronic files that are submitted. At the 60 percent review, 30 percent comments will be resolved and addressed. The cost estimate will be formatted to reflect the bid item breakdown.

5.6.2 30 Percent Comment Resolution

The CITY will compile all comments made by CITY staff, review agencies, and stakeholders on the 30% submittal into a single document and provide to the CONSULTANT. The CONSULTANT will provide responses to comments made by CITY staff and applicable review agencies and stakeholders on the 30% submittal. The CONSULTANT will work with reviewers to resolve comments and incorporate changes into the plans for 60%.

Task 5.6 Deliverable(s):

- 60 percent plans (PDF and 10 hard copies)
- 60 percent cost estimate (PDF and 1 hard copy)
- 60 percent specifications (PDF and 1 hard copy)
- 30 percent comment responses and action taken (PDF and 1 hard copy)

6.0 Cost Estimating

6.1 Quantities

The CONSULTANT will compile quantities from different disciplines for the project into a single summary of quantities sheet. Quantity tabulation sheets will not be prepared.

Deliverable(s):

- Summary of Quantities Sheet

6.2 Engineer's Estimate

The CONSULTANT will prepare an engineer's estimate for the project at the 60 percent level of completion. The estimate will be prepared using the summary of quantity sheets with documented unit costs, lump-sum prices, and back up. The CONSULTANT will submit unit price documentation for nonstandard work items. The estimates will be submitted in hard copy and PDF Format.

Deliverable(s):

- 60 percent design level estimate with all quantity and unit cost back-up and documentation.

7.0 Specifications

7.1 Specifications

The CONSULTANT will use of the *WSDOT APWA Standard Specifications 2018* in preparing the contract documents as applicable to the project design. The CONSULTANT will modify the standard specifications by preparing contract specifications. The CONSULTANT will review any proposed changes to the standard specifications with CITY and *receive CITY's concurrence* before preparing the contract specifications. In addition, the CONSULTANT will prepare new specification sections with contract specific requirements when the standard specifications do not cover a certain work element.

A contract specifications outline along with draft contract specifications will be prepared for the 60 percent design submittal.

Complete specification sections are not included in this Scope of Work and will be provided with the 90 percent submittal.

Deliverable(s):

- Draft contract specifications: 60 percent submittal

8.0 Secondary Design Development

8.1 Landscaping

This Scope of Work will be performed by the landscape architecture SUBCONSULTANT. The CONSULTANT will design manage and coordinate with the SUBCONSULTANTS. The CONSULTANT will compile deliverables from the SUBCONSULTANTS to be submitted to CITY.

Assumptions:

- Arborist services are included in this scope of work.

8.1.1 Meetings

To accomplish this work, there will need to be meetings (shown below) that allow for sharing ideas, information, criteria and data. These will be “internal” in nature, involving the CONSULTANT team, other possible consultants, and CITY staff. The following is a list of the meetings that are anticipated:

Meeting Types	Landscaping CONSULTANT
City of Shoreline Coordination Meetings	2, 2-hour meetings

Deliverable(s):

- Meeting Notes for City of Shoreline Coordination Meetings

8.1.2 Landscape Amenity Zone Scenarios

The SUBCONSULTANT will develop typical layout concepts showing various levels (high, medium and low) of planting in the amenity zone. The purpose of these graphic documents will be to assist the city in determining which level of planting is appropriate along the corridor. The SUBCONSULTANT will meeting with CITY staff to discuss the various levels of planting options. The SUBCONSULTANT will also meeting with CITY staff after submitting the DRAFT typical layout concepts to discuss any comments or updates that need to be made to the graphics.

The SUBCONSULTANT will prepare a preliminary engineer’s estimate for landscaping items for the project based on each of the various levels of planting shown in the typical layout concepts.

Deliverable(s):

- Three (3) DRAFT typical layout concept
- Three (3) FINAL typical layout concept
- Three (3) Preliminary Landscaping Estimates

8.1.3 Arborist Services

The SUBCONSULTANT will coordinate with the arborist who will perform tree inventory along the corridor.

8.2 Construction Sequence and Traffic Control Plans

The CONSULTANT will develop construction staging plans at a scale sufficient to show the project limits on five plan sheets, with the sheets repeated for assumed three stages of construction. The plans will include staging notes describing contractor requirements for maintaining traffic lanes, access to parcels, and maintenance of a safe work zone. The plans will also delineate specific areas of concern such as interfaces with other construction contracts, critical access requirements for individual properties, commitments made to adjacent property owners and businesses, and CITY and other agency requirements. The CONSULTANT will coordinate with KCMetro, Seattle Fire/Life Safety, and CITY Traffic Engineer to identify requirements for closures, detour and/or relocation of facilities for any transit route or facilities and specific roadways, and will include these requirements in the Construction Staging plans. The construction staging plans prepared by the CONSULTANT will serve as the basis for the contractor to prepare detailed construction staging and maintenance of traffic plans.

Assumptions:

- Channelization on the west end of the interchange (145th and I-5) will remain as is and the Interchange Project will not be in construction
- Sound Transit's Lynnwood Link Light Rail will be in construction during the construction of the 145th Corridor Project and coordination with the Lynnwood Link traffic control plans will be need
- Any new development that impacts 145th St or abutting side streets will not impact traffic control required to construct the 145th Corridor.

Task 8.2 Deliverable(s):

- Construction Sequence and Traffic Control Plans as described in Task 8.2 and as listed in Attachment A: Sheet List by Discipline

8.3 Site Preparation and Temporary Erosion Control

The CONSULTANT will define the demolition activities, including items to be abandoned, salvaged, recycled or removed, and identify facilities that need to be protected during construction. Demolition plans will include surface feature items, such as pavements (by type), sidewalk, curbs, walls, building structures and foundations and miscellaneous structures. Demolition required for utilities, drainage features, signing, striping, signalization and illumination will not be included in these drawings and will be shown on the relevant discipline drawings. Building remodeling is not included in the demolition drawings, these items will be addressed in the real estate agreements with the necessary modifications completed by the property owner before acquisition.

Private property fencing and gates will not be included.

The CONSULTANT will prepare erosion control measures and details which show erosion and sedimentation controls measures to be used for this project.

Task 8.3 Deliverable(s):

- Site Preparation and Temporary Erosion Control as described in Task 8.3 and as listed in Attachment A: Sheet List by Discipline

8.4 Illumination Design:

The CONSULTANT will develop 60 percent illumination plans and calculations including roadway and pedestrian lighting design. The CONSULTANT will work with CITY and Seattle City Light to determine the type of decorative light fixture(s) for the pedestrian lighting to be used on this project and model photometrics that match the chosen fixture.

The 60 percent design will include the existing or proposed street lighting and will show the lane configuration, sidewalk zone, type of luminaire, and spacing between luminaries. Plan sheets will indicate roadway and pedestrian luminaire locations, conduit and junction box layout and power feed location(s). The plans will also include construction notes, luminaire schedule and wiring schedule. The calculation package will include AGi results, line loss, conduit sizing and junction box sizing.

The CONSULTANT will meet with CITY, SCL, WSDOT, and stakeholders for two, two-hour meetings with two of the CONSULTANT staff attending these meetings. These meetings are included as part of Task 12.

Task 8.4 Deliverable(s):

- Illumination plans and details (60 percent)
- Illumination Calculation Package (60 percent)

9.0 Geotechnical Investigations**9.1 Supplemental Geotechnical Investigation and Analysis**

9.1.1 The CONSULTANT will perform site reconnaissance, limited subsurface exploration, and laboratory testing to produce information for supplemental geotechnical design of the project elements.

The subsurface exploration will consist of the following:

- Up to 1 boring with continuous standard penetration test sampling to a depth of up to 40 feet, including visual inspection and documentation. This boring will be at the proposed detention pond site near the I-5 offramp. The boring will also be used to determine both slope stability and infiltration characteristic of the soils.

The CONSULTANT will update the Geotechnical Data Report containing a map of the sample locations and laboratory test results.

Assumptions:

General geotechnical issues and assumptions for the project are discussed below.

- This task does not include an environmental assessment or exploration to define contamination.
- This scope of work does not include test pits and infiltration testing. It is assumed test pits and infiltration testing will be done during construction to confirm the design.

- The extent of the subsurface exploration program to be implemented will be reviewed and discussed with the CITY to obtain CITY endorsement that the appropriate level of subsurface exploration is performed to reasonably manage project risks.
- The site is underlain by primarily granular soils and calculations of consolidation settlement and liquefaction susceptibility are not required. Granular soils are also assumed to be non-aggressive from a corrosion standpoint.
- Borings will be drilled with hollow stem auger and groundwater depths will be noted at the time of drilling only. Groundwater monitoring wells will not be installed.
- Explorations will be within City right of way.
- Traffic control will be required for all borings.
- The CONSULTANT will obtain all permits for work with the right of way, the City will pay for the permit fees directly.
- The soils are uncontaminated.
- Soil samples will not be retained past the final completion of the Geotechnical Data Report.
- The CONSULTANT will record soil sample locations with a handheld GPS.
- Cultural resource monitoring is not required.

9.1.2 Updated Geotechnical Design Recommendations. The CONSULTANT will interpret the geotechnical data to provide geotechnical design parameters for design of gravity retaining walls less than 10 feet high, signal pole foundations, luminaire foundations, stormwater vaults, and infiltration facilities located within the project limits. Shoring Recommendations for the proposed stormwater vault at the northeast corner of 1st Ave NE and 145th St will be included. Slope stability analysis and infiltration characteristics of the soil for the boring at the proposed detention pond site near the I-5 offramp will be included. Data gaps and the need for additional explorations or analyses will be identified.

Deliverable(s):

- Updated Geotechnical Data Report (PDF version)
- Updated technical memorandum summarizing Updated Geotechnical Design Recommendation

10.0 Community Engagement

10.1 Community Outreach Support

Outreach to local residents, business owners and tenants, property owners, and groups affected by changes to this corridor will continue throughout the 60% design and right-of-way acquisition phase. Agencies with jurisdiction and interest in this corridor will also be included, such as transit providers, resource agencies, WSDOT, and all related City of Seattle departments.

Public involvement tasks include updating a Public Involvement Plan (PIP) and conducting community outreach activities throughout the next phase of the design process, which are described in the remainder of this section.

10.1.1 Public Involvement Plan

The CONSULTANT will update the project public involvement plan (PIP) for review by the CITY. The PIP will reflect progress made to date on the project to complete the planning, environmental and

preliminary design phase, including what the team has learned to date regarding corridor stakeholders and preferred outreach methods. The PIP will remain a working document throughout the duration of this project.

The updated PIP will include refreshed public involvement goals, objectives, individual work tasks, key messages, stakeholder groups, team roles and responsibilities, and a schedule of the work activities for the final design and right-of-way acquisition phase. The CONSULTANT will work closely with CITY staff in implementing the plan.

Deliverable(s):

- Draft PIP (electronic copy)
- Final PIP (electronic copy)

10.1.2 Newsletter

The CONSULTANT will develop a newsletter that describe the selected alternative, the remaining design process and schedule, and ways to stay involved as the CITY the design phase for the project. It is anticipated that this newsletter will be prepared at approximately the 60-percent milestone.

Deliverable(s):

- Project newsletters (1)

10.1.3 Community Outreach Materials

Assist the CITY with the preparation of various community outreach materials, including project fact sheets, FAQ's, property owner brochures, and website updates. These materials will be prepared on an as needed basis, pending CITY, key stakeholder, community and/or property owner information requests. All support materials will be prepared in clear, understandable terminology, with maximum use of graphics to enhance clarity. The CONSULTANT will also coordinate with the CITY to produce translated versions of outreach materials using the CITY's approved translation provider. The CITY will manage and make any updates required to the project website using content from the CONSULTANT. The CITY will utilize these outreach materials for any city-wide outreach efforts, including at other project public events and/or local events, fairs and festivals. Any additional or unanticipated outreach materials needs that may arise during this phase will be applied toward this task.

Deliverable(s):

- Fact sheets
- FAQs
- Brochures
- Website updates
- Additional infographics and/or community outreach materials, as identified

10.2 Property Owner Meetings

Assist the CITY in meetings with property owners and/or tenants. The meetings will be working meetings to discuss and present property interface designs. Collect and compile the comments from the property owner meetings and enter them into the project interface design notebook. Attend meetings and provide handouts and sketches for each property.

Deliverable(s):

- Property interface design sketches including plan, cross section, and driveway profile

11.0 Off Corridor Bike Network

The CONSULTANT will update the Off Corridor Bike Network design from 30 percent level to preparing the 60 percent contract drawings for review, the 90 percent contract drawings for review, and 100 percent drawings for review, and FINAL (bid ready) contract drawings. See Attachment A for sheet list. In addition to preparing the contract drawings, the CONSULTANT will maintain design documentation including design calculations. Quantity take-offs will be performed for each discipline under this task, to be compiled in Task 11.6, Cost Estimating.

11.1 Bike Network General Plans

11.1.1 General Plans

The CONSULTANT will prepare a cover sheet in accordance with CITY standards and an index of drawings. The list of plan sheet titles in the indices will exactly match the titles as they appear on the plan sheets. See Appendix A for preliminary list of the contract drawing sheets.

The CONSULTANT will prepare a vicinity map showing the project limits in accordance with CITY standards. The vicinity map will include the beginning and ending of construction, stations, major cross streets, waterways, and critical areas.

The CONSULTANT will prepare a sheet layout index for each scale used showing the sheet layout for the various disciplines. The CONSULTANT will prepare general notes, abbreviations, and symbols sheet.

A summary of quantities depicting bid items quantities will not be included in the plan set.

11.1.2 Survey Control, Alignment, and Right of Way Plans

The CONSULTANT will prepare a Survey Control, Alignment, and Right of Way Plan that will show monumentation, alignment information, right of way, and survey control. This applies only to the intersections mentioned in Task 11.4.1 Traffic Signal. Project area outside of these intersections will not have survey control and alignment due to limits of survey. Survey for these intersections is included in Task 13.

11.1.3 Site Preparation and Temporary Erosion Control

The CONSULTANT will define the demolition activities, including items to be abandoned, salvaged, recycled or removed, and identify facilities that need to be protected during construction. This applies only to the intersections mentioned in Task 11.4.1 Traffic Signal. Project area outside of these intersections will not have specific demolition activities identified. Demolition plans will include surface feature items, such as pavements (by type), sidewalk, curbs, walls, building structures and foundations and miscellaneous structures. Demolition required for utilities, drainage features, signing, striping, and signalization will not be included in these drawings and will be shown on the relevant discipline drawings.

Private property fencing and gates will not be included.

The CONSULTANT will prepare erosion control measures and details which show erosion and sedimentation controls measures to be used for this project.

Task 11.1 Deliverable(s):

- Site Prep and TESC Plans described in Tasks 11.1 and as listed in Attachment A: Sheet List by Discipline

11.2 Bike Network Roadway Plans

The CONSULTANT will prepare plans and details for the roadway, channelization, and signing improvements.

11.2.1 Roadway Plans and Details

The CONSULTANT will prepare roadway modification plans that will show dimensions for roadway outlines and sidewalks as well as roadway channelization. Roadway elements to be shown on the plans include curb returns, tapers, intersection layouts, landscaping and other pertinent surface features. Channelization elements to be shown on the plans include lane and edge stripes, stop bars, pavement markings, crosswalks, and bicycle facility markings. Signing elements to be shown on the plans include proposed signs, sign structures, and sign relocations and removals. A preliminary sign schedule will be developed and included in the 60 percent submittal.

The CONSULTANT will prepare paving, channelization and signing details for non-standard construction item details, such as non-standard curbs, traffic circles, and pavement markings.

11.2.2 Intersection Grading

Intersections receiving signal improvements along the Off Corridor Bike Network will have plans prepared at 1 inch = 10 feet scale showing number of lanes, turn pockets, and curb return data for each leg of the intersection including tables with gutter elevations at PC, PT, quarter; grades, radius and length of curve. Roadway contour grading for intersections will be prepared. Vehicle turn simulation figures, at 1 inch =40 feet scale, will be updated as necessary.

Task 11.2 Deliverable(s):

- Roadway plans described in Tasks 11.2.1 through 11.2.2 and as listed in Attachment A: Sheet List by Discipline

11.3 Bike Network Drainage and Utility Plans

11.3.1 Drainage Plans and Details

The CONSULTANT will prepare plans and details for the drainage design, including plan views of drainage pipes and structures, connections to the existing stormwater systems and nonstandard drainage details. These storm system layouts will include catch basin manholes required to describe them.

11.3.2 Drainage Profile Plans

If necessary, drainage profile elements will be included. These plans will include profiles for drainage lines required within the bike network limits. Pipe size, length, slope and type of drainage structures will be included on profiles. Existing and proposed utility crossings will be depicted.

Task 11.3 Deliverables:

- Off Corridor Bike Network Drainage Plans at the 60 percent, 90 percent, and 100 percent (bid ready) levels

- Off Corridor Bike Network Drainage profiles at the 60 percent, 90 percent, and 100 percent (bid ready) levels

11.4 Bike Network Traffic Signal Plans

11.4.1 Traffic Signal

The CONSULTANT will prepare traffic signal plans and wiring diagrams. The CONSULTANT will prepare signal plans for the design of Rapid Rectangular Flashing Beacons (RRFB) for the intersections of Ashworth Ave N/N 155th St and Meridian Ave N/N 150th St.

The CONSULTANT will prepare final traffic signal plans based on the conceptual design review comments from CITY, SDOT, and WSDOT. The plans will include the type and location of control equipment, signal poles and supports, signal heads, conduit runs, type of detection, phasing diagram, wiring diagram, pole schedule, and other equipment required for improving and revising the traffic signal system. The plans will also include location of push buttons and curb ramps, vehicular and pedestrian signal head locations, stop bar and crosswalk locations, detection locations, and service point location.

Deliverable(s):

- Traffic signal plans (60 percent, 90 percent, and Final)

11.5 Submittals (60 Percent, 90 Percent, and 100 Percent Bid-Ready)

11.5.1 60 Percent Submittal

The 60 percent submittal will include electronic files in PDF format hard-copy drawings and details; an outline of technical specifications; draft contract specifications (as described in Task 11.6), and updated cost estimates at the 60 percent complete design level for project design review (as described in Task 11.5). Hard-copy sheets will match the electronic files that are submitted. At the 60 percent review, 30 percent comments will be resolved and addressed. The cost estimate will be formatted to reflect the bid item breakdown.

11.5.2 90 Percent Submittal

The 90 percent submittal will include electronic files in PDF format hard-copy drawings and details; special provisions and supplemental technical specifications; and updated cost estimates at the 90 percent complete design level for project design review. Hard-copy sheets will match the electronic files that are submitted. The work will be essentially complete with only minor items needing detailing or checking. All calculations will be completed and checked in accordance with established QC procedures and submitted in bound format. Drawings will be nearly complete (90 percent) and will have incorporated or resolved all comments made during the 60 percent design review and other informal reviews. The cost estimate will be formatted to reflect the bid item breakdown.

11.5.3 100 Percent Submittal

The 100 percent submittal will include electronic files in PDF format hard-copy drawings and details; special provisions and supplemental technical specifications; and updated cost estimates at the 100 percent complete design level for project design review. Hard-copy sheets will match the electronic files that are submitted. The work will be essentially complete for final checking. All calculations will be completed and checked in accordance with established QC procedures and submitted in bound format. Drawings will have incorporated or resolved all comments made during the 90 percent design review and other informal reviews. Unless otherwise agreed, the CONSULTANT'S final list of proposed contract

bid items and quantities will be submitted. The cost estimate will be formatted to reflect the bid item breakdown.

11.5.4 Final Submittal

The Issue for Bid (100 Percent) Submittal will include electronic files in AutoCAD and PDF formats; hard-copy drawings and details; special provisions and supplemental technical specifications; and bid item list ready for bidding of the work. Hard-copy sheets will match the electronic files that are submitted. Drawings will be stamped and signed by the appropriate CONSULTANT team professional licensed in the State of Washington. Final drawing check prints (prepared in accordance with established QC procedures) will be submitted to the City. Final sealed original calculations (properly indexed) and all cost-estimating back-up will be submitted.

11.6 Cost Estimating (60 Percent, 90 Percent, and 100 Percent Bid-Ready)

11.6.1 Quantities

The CONSULTANT will compile quantities from different disciplines for the project into a single summary of quantities sheet. Quantity tabulation sheets will not be prepared.

Deliverable(s):

- Summary of Quantities Sheet

11.6.2 Engineer's Estimate

The CONSULTANT will prepare an engineer's estimate for the project at the 60 percent, 90 percent, and final levels of completion. The estimate will be prepared using the summary of quantity sheets with documented unit costs, lump-sum prices, and back up. The CONSULTANT will submit unit price documentation for nonstandard work items. The estimates will be submitted in hard copy and PDF Format.

Deliverable(s):

- One 60 percent design level estimate with all quantity and unit cost back-up and documentation.
- One 90 percent design level estimate with all quantity and unit cost back-up and documentation.
- One final bid-ready design level estimate with all quantity and unit cost back-up and documentation.

11.7 Specifications (60 Percent, 90 Percent, and 100 Percent Bid-Ready)

The CONSULTANT will use of the *WSDOT APWA Standard Specifications 2018* in preparing the contract documents as applicable to the project design. The CONSULTANT will modify the standard specifications by preparing contract specifications. The CONSULTANT will review any proposed changes to the standard specifications with CITY and *receive CITY's concurrence* before preparing the contract specifications. In addition, the CONSULTANT will prepare new specification sections with contract specific requirements when the standard specifications do not cover a certain work element.

A contract specifications outline along with draft contract specifications will be prepared for the 60 percent final design submittal, with complete specification sections included beginning with the 90 percent submittal.

The CONSULTANT is responsible for the preparation of all divisions including federal divisions 0 and 1. CITY will provide a current boilerplate example for Divisions 0 and 1 specifications.

Deliverable(s):

- Draft contract specifications: 60 percent submittal
- Contract specifications: 90 percent and bid-ready submittals

12.0 Agency Coordination, Documentation and Approvals

The CONSULTANT will coordinate with applicable stakeholder agencies to develop and provide the necessary documentation for agency approvals.

12.1 WSDOT

The CONSULTANT will coordinate with WSDOT by attending coordination meetings and other general coordination. The CONSULTANT will develop documentation for WSDOT approvals as required by WSDOT on a state route.

12.1.1 WSDOT Coordination Meetings

The CONSULTANT will support the CITY in coordination with WSDOT. The CONSULTANT will prepare for, attend, and participate in up to six (6) meetings with WSDOT staff. The CONSULTANT will prepare meeting notes. These meetings include documents approval coordination meetings, comment resolution meetings, and project update briefings.

The CONSULTANT will assist the CITY to schedule, coordinate, and support project briefings and outreach WSDOT representatives, to identify key issues of concern to elected officials and agencies to be resolved and build support for the project through resolution of key issues.

12.1.2 Intersection Control Evaluation

The CONSULTANT will update and submit the Intersection Control Evaluation (ICE) document as required by WSDOT. Responding to and coordinating comment resolution are included in this task.

12.1.3 WSDOT Channelization Plans for Approval

The CONSULTANT will prepare and submit WSDOT Channelization Plans for CITY review and then WSDOT review. The Channelization Plans will be prepared per WSDOT Northwest Region Chan Plan Checklist. It is anticipated that the Chan Plans will be at 1"=40" for 11x17 plots. Coordination with WSDOT will be performed under this task. Revisions to the Channelization Plans and development of the Project Analysis will be performed under this task as well. This task assumes two draft submittals and one final submittal.

12.1.4 Design Documentation

The CONSULTANT will prepare and submit Design Documentation as required for approval by WSDOT. WSDOT coordination meetings for Design Documentation including an initial meeting to confirm documentation requirements are included in task 12.1.1. The following documents are included in Task 12.2.4 of the Scope of Work and will be developed for WSDOT approval of design elements.

- Intersection Offset Report
- Design Analyses

- Local Agency Agreement Memos
- Access Control – Evaluation of Manage Access
- Roadside Safety Analysis – Clearzone Memo
- Signal Permits

The following documents will be included in the Design Documentation Package but are developed in other tasks in this Scope of Work.

- Geotechnical Report (included in Task 9.1)
- Hydraulics Report (included in Task 5.3.4)
- Monumentation Map (Included in WSDOT Channelization Plans for Approval, Task 12.1.3)
- Signing, Signal, ITS, grading, bus stops, pedestrian and bicycle facility plans (Included in Task 5)
- Planting, illumination, traffic control plans (Included in Task 8)

The following documents will be included in the Design Documentation Package but have been developed as part of a previous scope of work. Any updates required to this documents that are not included in another Scope of Work will be included in this Scope of Work.

- Basis of Design (previously developed for 30% design)
- Right of Way Plans (included in previous scope of work)
- Pavement Design Report (previously developed for 30% design)
- Crash Analysis Report (previously developed for Environmental Documentation)
- Traffic Analysis Report (previously developed for Environmental Documentation)

The ICE and Channelization Plans for Approval will also be included in the Design Documentation Package. Individual reports and memos may be submitted prior to Design Documentation package submittal for early concurrence. This task assumes three draft submittals of the Design Documentation Package and one final submittal.

An ADA Maximum Extent Feasible Document will not be required by WSDOT for 60% Design

Task 12.1 Deliverable(s):

- Updated Intersection Control Evaluation
- DRAFT WSDOT Channelization Plans for Approval (2)
- FINAL WSDOT Channelization Plans for Approval (1)
- WSDOT Coordination Meeting agendas and meeting notes (6)
- DRAFT WSDOT Design Documentation Package (3)
- FINAL WSDOT Design Documentation Package (3)

12.2 City of Seattle

The CONSULTANT will coordinate with the City of Seattle by attending coordination meetings and other general coordination. It is assumed that additional permitting submittals are not required by Seattle, including a Street improvement Permit (SIP).

12.2.1 Seattle Coordination Meetings

The CONSULTANT will support the CITY in coordination with the City of Seattle including SDOT, SCL, SPU, and Seattle IT. The CONSULTANT will prepare for, attend, and participate in up to nine (9) meetings with City of Seattle agencies. The CONSULTANT will prepare agendas and meeting notes.

12.2.2 Design Review and Resolution

The CONSULTANT will prepare responses to design comments and participate in coordination to resolve design comments from SDOT, SPU, SCL, and Seattle IT.

Task 12.2 Deliverable(s):

- Meeting agendas and meeting notes
- Responses to comments

12.3 King County

The CONSULTANT will coordinate with King County by attending coordination meetings and other general coordination. The CONSULTANT will develop documentation for King County approvals.

12.3.1 King County Coordination Meetings

The CONSULTANT will support the CITY in coordination with King County. The CONSULTANT will prepare for, attend, and participate in up to two (2) meetings with King County. The CONSULTANT will prepare meeting notes.

12.3.2 Transit Coordination

The CONSULTANT will coordinate transit elements with King County Metro to obtain approvals necessary for improvements impacting the existing transit infrastructure. The CONSULTANT will develop and coordinate the following items with King County Metro.

- Bus turning movement exhibits
- Stop bar locations
- Curb return radii
- Stop amenities and standards
- Future proofing Corliss stop pair

A meeting will be held with King County Metro to determine appropriate approval documentation required.

Task 12.3 Deliverable(s):

- Meeting agendas and meeting notes
- Project design documentation to achieve King County approvals

12.4 Utilities

The CONSULTANT will coordinate with utility companies within the project area to identify utilities that require relocation. The CONSULTANT will provide utility companies with project plans and information.

The CONSULTANT will provide technical assistance to the CITY in support of the CITY's relocation agreement negotiations with the applicable utility companies.

The CONSULTANT will coordinate with each utility company to confirm that their design is consistent and compatible with the roadway design.

The CONSULTANT will attend meetings with utility companies including SCL, SPU, PSE, CenturyLink, Comcast, Seattle IT, and Zayo. Coordination with SCL, SPU, and Seattle IT is included in task 12.2. Up to four (4) meetings are assumed for two (2) CONSULTANT staff. Following is a breakdown of the number of meetings per agency:

- a. Puget Sound Energy (PSE – Gas): one
- b. Private Telecommunications Companies (Century Link, Comcast, Zayo): three

Task 12.4 Deliverable(s):

- Meeting notes

13.0 Supplemental Survey

13.1 Supplemental Survey

It is assumed that during the design phase, some level of supplemental survey may be necessary as the design progresses. The CONSULTANT will perform supplemental surveys as needed for purposes such as private property match/conforms, locating additional utility features, structures and elevations, or to obtain features requiring more definition for design purposes. For budgeting purposes this task item has been estimated not to exceed 80-field crew hours. Any costs for performing additional survey beyond 80-field crew hours, will be covered by supplemental agreement.

ATTACHMENT A

Sheet List by Discipline

FIGURE A-1				
Sheet List				
60% Submittal				
			(Primary)	(Secondary)
Drawing Title	Scale	Comments	No. of Sheets	
General Plans				
Cover sheet	N/A		1	
Project Location Plan, Index, and Detail & Section Referencing	N/A		1	
General notes, legend, abbreviations	N/A		2	
Survey, Alignment, Right of Way Plans	1 inch = 20 feet		18	
Construction Sequence and Traffic Control Plans	1 inch = 50 feet			14
Site Preparation and TESC Plans	1 inch = 20 feet			14
TESC notes	N/A			1
TESC details	N/A			2
<i>General plans: subtotal</i>			22	31
Roadway Plans				
Typical sections	N/A		6	
Paving and Grading plans	1 inch = 20 feet		14	
Roadway profiles	1 inch = 20 feet (height)		8	
Intersection grading plans	1 inch = 10 feet		10	
Roadway details	N/A		4	
<i>Roadway plans: subtotal</i>			41	
Drainage Plans				
Drainage notes	N/A		1	
Drainage plans	1 inch = 20 feet		14	
Drainage profiles	1 inch = 20 feet (height)		14	
Drainage details	N/A		3	

FIGURE A-1					
Sheet List					
60% Submittal					
				(Primary)	(Secondary)
Drawing Title	Scale	Comments	No. of Sheets		
Drainage Facility Details	N/A		3		
<i>Drainage and Utility plans: subtotal</i>			<i>35</i>		
Utility Plans					
Utility notes	N/A		1		
Utility plans	1 inch = 20 feet		14		
Utility sections and details	N/A		3		
<i>Utility plans: subtotal</i>			<i>18</i>		
Traffic Plans					
Channelization and Signing plans	1 inch = 20 feet		14		
Signing details	N/A		4		
Pedestrian Lighting, and interconnect notes	N/A			1	
Lighting plans	1 inch = 20 feet			14	
Pedestrian Lighting pole schedules	N/A			1	
Pedestrian Lighting single line diagrams	N/A			1	
Pedestrian Lighting details	N/A			1	
Traffic signal interconnect and ITS details	N/A		1		
Traffic signal notes	N/A		1		
Signal removal plans	1 inch = 10 feet		2		
Traffic signal plans	1 inch = 10 feet	1 signal	4		
Traffic signal wiring diagram and terminations	N/A	1 sheets per signal	4		
Traffic signal pole schedule	N/A	1 signals per sheet	4		
<i>Traffic plans: subtotal</i>			<i>34</i>	<i>18</i>	
Structural Plans					
Retaining wall location map	1 inch = 40 feet		1		
Retaining wall plans and profiles	1 inch = 10 feet		14		
Structures details	N/A		10		

FIGURE A-1				
Sheet List				
60% Submittal				
			(Primary)	(Secondary)
Drawing Title	Scale	Comments	No. of Sheets	
<i>Structural plans: subtotal</i>			25	
60% 145th Corridor TOTAL			175	52
Off Corridor Bike Network Plans				
Cover sheet	N/A		1	
Project Location Plan, Index, and Detail & Section Referencing	N/A		1	
General notes, legend, abbreviations	N/A		1	
Survey, Alignment, Right of Way Plans	1 inch = 20 feet		4	
Site Preparation and TESC Plans	1 inch = 20 feet		2	
Bike Network Plans	1 inch = 40 feet		9	
Bike Network Roadway Details	N/A		2	
Bike Network Sign Schedule	N/A		1	
Bike Network Intersection Plans	1 inch = 10 feet		2	
Bike Network Drainage Plans	1 inch = 20 feet		2	
Bike Network Drainage Details	N/A		1	
Bike Network Traffic signal plans	1 inch = 10 feet	2 RRFBs	2	
Bike Network Traffic signal wiring diagram and terminations	N/A	1 sheets per RRFB	2	
Bike Network Traffic signal pole schedule	N/A	1 RRFB per sheet	2	
Off Corridor Bike Network plans: subtotal			32	

