



June 25, 2015

Norm Davis, P.E., Director
Town of Prescott Valley Public Works
7501 E. Civic Circle
Prescott Valley, AZ 86314
928-759-3072

Subject: Engineering Design Services Scope and Estimated Fees for Viewpoint Drive Stormwater Mitigation Final Design Planset (Spouse Drive to Manley Drive), Town of Prescott Valley

Dear Mr. Davis:

Lyon Engineering (LE) is pleased to provide you with this scope of services and fee estimate for the completion of the Viewpoint Drive Stormwater Mitigation Project Planset as identified in the *Viewpoint Drive Stormwater Mitigation Study Preliminary Design and Hydraulic Analysis (Viewpoint Drive 30% Design)*. The limits of the design will be from approximately just north of Manley Drive, south to the northern termination of the Spouse Intersection Improvement plans prepared by Dava & Associates. LE staff looks forward to the opportunity to expand on our working relationship with the Town of Prescott Valley (Town). Exhibit 1 includes the approximate limits of analysis and design associated with the major task categories listed herein.

This scope of services, standard terms and conditions, and fee estimates describes the tasks and associated fees required to prepare 100% construction drawings based on the 30% Design. The proposed completion date for the deliverables described herein is October 31, 2015. We propose to perform the following services associated with the project:

Proposed Total Contract Amount Fixed Fee of \$99,870:

Tasks 1000–Pre-Design Fixed Fee of \$6,370:

Task 1001-1003: Data Acquisition and Coordination

This task includes attending a pre-design meeting with the Town, coordination with utility companies, and incorporating the survey as-built data required for the final design into the existing 30% CAD base file. LE will coordinate with utility companies to obtain infrastructure data and utility data shown in the 30% design plans. The 30% CAD base file will also be updated with field verified property corners and boundary data.

Task 1004-1005: Field Survey

This task includes LE surveying existing utility infrastructure (drainage, water, sewer, gas, and power poles) within the project limits to supplement information shown in the 30% construction plans. LE survey crews will also locate property corners for subject parcels within the project limits that will be affected by the proposed infrastructure. LE survey crews will as-built underground utilities identified as critical in the 30% design at the road crossings at Custer Circle and Manley Drive.

Task 2000–Viewpoint Drive 60% Design

Fixed Fee of \$41,600:

Task 2001: 60% Viewpoint Drive Construction Planset

This task includes updating the 30% design plans per the additional survey data and 60% drainage report and analysis. The plans will be updated to show field verified utility locations where applicable. Updates will also include design and details for the horizontal and vertical locations of the future Viewpoint Drive, Viewpoint multi-use path (MUP), proposed drainage infrastructure including storm drain, culverts, and channels, required right-of-way, proposed easements and/or property acquisition, roadway improvements, scour protection, erosion protection including lateral migration and special considerations. These items are necessary to ensure the channel and the proposed ultimate cross section of Viewpoint Drive is within Town Right of Way. Portions of the future Viewpoint Drive roadway and Viewpoint MUP must be designed to support the channel side slopes and prevent runoff from overtopping the existing Viewpoint Drive. Details and cross sections will be included for each area where erosion protection is warranted. The 60% design plans will also include grading for the placement of channel export material within State Land. Utility relocations with the immediate vicinity of the improvements will be shown. LE will start the roadway and channel design at the northern termination of the Spouse Drive and Viewpoint Drive intersection improvements completed by Dava and Associates.

Task 2002: 60% Drainage Report and Analysis

This task includes updating the 30% drainage report to include additional analysis and design for scour and erosion protection. Stable open channel analysis will be included. The 60% drainage design will include analysis and discussion regarding channel velocities for the 100-year event, hydraulic analysis of proposed design, and the evaluation of permissible surface treatment options.

Task 2003: 60% Engineers Cost Estimate

This task includes the preparation of 60% Cost Estimate. LE will provide the total estimate of quantities and the engineers cost estimate for the project based on the preliminary 60% design plan set.

Task 2004: 60% Operation and Maintenance Plan

Per the requirement of the Arizona State Land Department (ASLD), an Operations and Maintenance (O&M) Plan will be developed to describe the inspection schedule and inspection items relevant to the portion of the project within ASLD land. Coordination with Town Staff is expected to be included in this item because maintenance and inspection of the project will be the responsibility of the Town.

Task 2005-2006: Stakeholder Coordination

LE will submit for review by ASLD the preliminary 60% Construction Plans, Drainage Report, and Operation and Maintenance Plan to the ASLD engineering and right-of-way staff. LE will continue coordination with major stakeholders identified in the Viewpoint Drive Report to ensure that the design remains consistent with their expectations. Plans and notification letters will be sent to utility companies for review. One stakeholder/resident meeting is assumed in this task item.

60% Design Plan Set Content For Viewpoint Drive Improvements

- a) Existing conditions including
 - i. Right-of-way and easements
 - ii. Topography (Town of Prescott Valley 2008 Aerial Topography)

- iii. Benchmarks
 - iv. Adjacent property lines (based on Yavapai County GIS) verified per Task 1004-1005
 - v. Existing pavement limits (Town of Prescott Valley 2008 Aerial Topography)
 - vi. Existing vertical and centerline alignments
 - vii. All existing utility information based on the best information available at the time (electric, gas, fiber, water, sewer, effluent and storm drain) located within project limits
- b) Proposed preliminary improvements including:
- i. Road and drainage alignment and configuration as described in tasks 2000 above
 - ii. Cut and fill catch points
 - iii. Wall locations if required
 - iv. Drainage structures
 - v. Water mains conflicts and relocations
 - vi. Sewer mains conflicts and relocations
 - vii. Dry utility anticipated conflicts and relocations
 - viii. Centerline plan & profile for all required facilities including – road and drainage
 - ix. Roadway typical sections and erosion protection
 - x. All required reports, plans, and hydraulic models
 - xi. Pavement sections
 - xii. Conceptual erosion control
 - xiii. Right-of-way including parcel and owner information
- c) 60% Engineers Cost Estimate

Task 3000–Viewpoint Drive 90% Design

Fixed Fee of \$28,100:

Task 3001: 90% Viewpoint Drive Construction Planset

This task includes updating the 60% design plans per Town, ASLD, stakeholder comments, and LE QA/QC review. The 90% design will incorporate design item changes warranted by discussions with Town Staff. Private property impact, ASLD impact and required additional ROW will be updated and identified.

Task 3002: 90% Drainage Report and Analysis

This task includes updating the 60% drainage report per Town, ASLD, stakeholder comments, and LE QA/QC review. The 90% drainage design will analyze any design item changes warranted by discussions with Town Staff.

Task 3003: 90% Specifications and Special Provisions

This task includes the preparation of 90% Specifications and Special Provisions for the Viewpoint Drive Improvements. LE will provide specifications based on the Town's boilerplate for technical specifications. Items not required for the project shall be deleted from the technical specifications. Items included in the project but not covered by the boilerplate technical specifications will be in the special provisions produced by LE. LE will provide a bid schedule based on the specifications and special provisions.

Task 3004: 90% Engineers Cost Estimate

This task includes the preparation of 90% Cost Estimate. LE will provide the total estimate of quantities and the engineers cost estimate for the project based on the 90% design plan set.

Task 3005: 90% Operation and Maintenance Plan

The O&M plan will be updated to account for changes between the 60% and 90% design plans. The plan will also be updated to incorporate Town Public Works and Maintenance Staff review comments and anticipated budgetary constraints.

Task 3006-3007: Stakeholder Coordination

This task includes continued stakeholder coordination in response to feedback and requirements generated during the 60% stakeholder review. Another submittal to the ASLD is anticipated and one stakeholder/resident meeting is assumed in this task item. Plans will be sent to utility companies for review.

90% Design Plan Set Content For Viewpoint Drive Improvements

- a) Existing conditions including
 - i. Right-of-way and easements
 - ii. Topography
 - iii. Benchmarks
 - iv. Adjacent property lines
 - v. Existing pavement limits
 - vi. Existing vertical and centerline alignments
 - vii. All existing utilities (electric, gas, fiber, water, sewer, effluent and storm drain) located within project limits
- b) Proposed improvements including:
 - i. Final horizontal layout and roadway improvements
 - ii. Final cut and fill catch points
 - iii. Final wall locations with plan & profile
 - iv. Final drainage structures including profiles
 - v. Final dry utility conflicts and relocations
 - vi. Final plan & profile for all required facilities including – road and drainage and water main
 - vii. Final roadway typical sections
 - viii. Final pavement sections
 - ix. Final signage & striping sheets
 - x. Final erosion control plan sheets
 - xi. Final Right-of-way including parcel and owner information
 - xii. Final detail sheets
 - xiii. Final construction notes

Task 4000–Viewpoint Drive 100% Design

Fixed Fee of \$13,950:

Task 4001: 100% Viewpoint Drive Construction Planset

This task includes updating the 90% design plans per Town, ASLD, stakeholder comments, and LE QA/QC final review. Property impact, easements, and required acquisition will be finalized and identified. Areas where future utility relocation will be required will be finalized and identified. The 100% planset will also include a temporary erosion control design sheet to propose control measures per State Stormwater Pollution Prevention requirements for construction activities. The final planset will identify three (3) phases of construction with anticipated funding of approximately \$500,000 per phase.

Task 4002: 100% Drainage Report and Analysis

This task includes updating the 90% drainage report per Town, ASLD, or stakeholder comments. The 100% drainage design will analyze any design item changes based on Town Staff review and LE QA/QC final review.

Task 4003: 100% Specifications and Special Provisions

This task includes the preparation of Final Specifications and Special Provisions for the Viewpoint Drive Improvements. LE will provide a final bid schedule based on the specifications and special provisions.

Task 4004: 100% Engineers Cost Estimate

This task includes the preparation of Final Cost Estimate for each phase of construction identified in the final planset. LE will provide the total estimate of quantities and the engineers cost estimate for the three (3) project phases based on the 100% design plan set.

Task 4005: 100% Operation and Maintenance Plan

The O&M plan will be updated to account for changes between the 90% and 100% design plans. The plan will also be updated to incorporate Town Public Works and Maintenance Staff review comments and changes (if any) to anticipated budgetary constraints.

Task 4006-4007: Stakeholder Coordination

This task includes continued stakeholder coordination in response to feedback and requirements generated during the 90% stakeholder review. A final submittal to the ASLD is anticipated and one stakeholder/resident meeting is assumed in this task item. Final plans and notification letters will be sent to utility companies.

Task 5000–Subconsultants/Reimbursables

Fixed Fee of \$8,850:

Task 5001: Geotechnical Report Update

LE will subcontract a geotechnical engineering firm to prepare a geotechnical report for the channelization side slope parameters, interim roadway embankment, MUP section, and suitability of proposed fill material placed adjacent to the channel excavation within Town and ALSD limits.

Task 5002: Reclamation and Re-vegetation Plan

LE will conduct analysis and recommendations regarding reclamation and re-vegetation of areas excavated and disturbed by the proposed project. A portion of the project lies within ASLD property, and attention to the restoration of existing rangeland at the completion of the project is expected. This item will include post construction soil preparation, seed type, seed application, and erosion protection.

Task 5003: Printing and Shipping Fees

This task includes all plan and report printing and reproduction for submittals to the Town and ASLD. Shipping fees to the ASLD are also included. This item does not include agency review fees, permit fees, or any other fees not specifically described herein.

Project Deliverables:

Final deliverables will include a hard copy of all plans and reports, electronic copy in PDF format, and CAD files for all 100% design plans. The anticipated final deliverables for this project include the following:

- Viewpoint Drive 100% design plan set and specifications, 100% Engineer's Opinion of Probable Construction Cost.
- Drainage Report Containing:
 - Analysis and discussion of structure sizing, scour protection, erosion/lateral migration protection, erosion setbacks, and design velocities and surface treatment options.
 - Hydraulic modeling
- Geotechnical Report Containing:
 - Recommendation for Viewpoint Drive structural section, and placement of excavated material within the project site and future constraints and limitations.
- Vegetation plan that identifies proper techniques and applications for re-seeding and the establishment of native grasses and plants within excavated, filled, and disturbed areas.
- State Land Department submittals and coordination for approval of final design
- Utility company notification letters and electronic and paper copy final plan delivery (APS, Unisource, CableOne, Century Link, etc)
- Property/easement acquisition identification, maps, and legal descriptions

100% Design Plan Set Content Viewpoint Drive Improvements:

- a) Existing conditions including
 - viii. Right-of-way and easements
 - ix. Topography (Town of Prescott Valley 2008 Aerial Topography)
 - x. Benchmarks
 - xi. Adjacent property lines (based on Yavapai County GIS and field survey)
 - xii. Existing pavement limits (Town of Prescott Valley 2008 Aerial Topography and field survey)
 - xiii. Existing vertical and centerline alignments
 - xiv. All existing utility information based on the best information available at the time (electric, gas, fiber, water, sewer, effluent and storm drain) located within project limits
- b) Proposed 100% improvements including:
 - xiv. Channel, roadway and drainage infrastructure alignment and configuration as described in tasks 2000, 3000, and 4,000 above
 - xv. Cut and fill catch points
 - xvi. Drainage structures
 - xvii. Water mains conflicts and relocations
 - xviii. Sewer mains conflicts and relocations

- xix. Dry utility anticipated conflicts and relocations
 - xx. Centerline plan & profile for all required facilities including roadway and drainage
 - xxi. Roadway typical sections and channel cross sections
 - xxii. Drainage report submittal items including; reports, plans, and hydraulic models
 - xxiii. Pavement structural section
 - xxiv. Final erosion control
 - xxv. Right-of-way including parcel and owner information
- c) 100% Engineers Cost Estimate

Task 6000–Post Design/construction Administration Services

Fixed Fee of \$1,000:

Task 6001: Pre-bid Meeting

This task includes representatives from Lyon coordinating and conducting the pre-bidding meeting, preparation of the agenda, meeting minutes, preparation of an addendum to the bid documents (if required) and response to questions from the contractors.

Task 6002: Recommendation of Award

After bids are received, LE will evaluate and tabulate the contractor's bids and prepare a recommendation for award. The recommendation of award will be based on a complete and correctly prepared bid.

Items Required for Construction Not Included in this Scope/Fee Agreement:

- a) Permitting and agency review fees
- b) Clean Water Act Potential Waters of U.S. Delineation and Permitting – It is assumed that the 2012 Biozone preconstruction notification is still valid and can be utilized for the portion of the project within State of Arizona Land.
- c) Biological Assessment – It is assumed that the April 2012 Viewpoint Corridor Biological Assessment contained within the Viewpoint Drive Connector Preliminary Design Report can be utilized for Arizona State Land approval requirements
- d) Utility company relocation coordination and verification (APS, Unisource, CableOne, Century Link, etc)

We appreciate the opportunity to provide engineering design services for the Town of Prescott Valley on this project. Please call or email if you have any questions regarding the Tasks included in this proposal.

Sincerely,



Kevin D. Horton, P.E., CFM
Project Manager
Lyon Engineering & Surveying, Inc.

Attachments: Exhibit 1 – Project Scope Limits and Town of Prescott Valley PSA

EXHIBIT 1 - PROJECT LIMITS

