

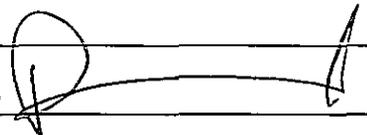
CITY OF PALMER ACTION MEMORANDUM No. 08-054

SUBJECT: Authorize the City Manager to Negotiate and Enter into a Professional Services Agreement with Hattenburg, Dilley & Linnell in the Amount of \$366,829 to Perform Professional Design and Bid Phase Services for the Palmer Southwest Utility Extension Phase II, Trunk Road Water Main Extension and Reservoir No. 4

AGENDA OF: July 22, 2008

Authorized

Approved for presentation by B. B. Allen, City Manager



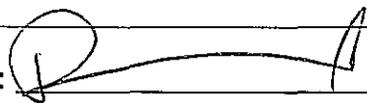
| Route To: | Department/Individual: | Initials: | Remarks: |
|-----------|--------------------------------|--------------------|----------|
| X | Originator – Public Works | | |
| X | City Clerk | <i>JFD</i> | |
| X | City Attorney | <i>[Signature]</i> | |
| | Director of Public Safety | | |
| | Director of Administration | | |
| | Director of Community Services | | |
| | Director of Public Works | | |

Attachment(s): Hattenburg, Dilley & Linnell Fee Proposal for Engineering Services dated July 9, 2008

Finance Director's Certification of Funds:

| | | |
|---|---|----------------------|
| | No fiscal impact. | |
| X | Funds are budgeted from this account number: | <i>See AM 08-027</i> |
| | Funds are not budgeted. Budget modification is required. Affected account number: | |

Finance Director Signature: _____



Summary statement: Hattenburg, Dilley & Linnell Engineering Consultants have served as the City's engineer on the Southwest Utility Extension Project. Phase II of the project will erect an approximate one million gallon water storage reservoir and extend the main line with fire hydrants north of the current terminus point approximately 5,000 feet along Trunk Road to the new reservoir site. The approximately two acre site for reservoir will be selected based on topography, availability and cost. HDL has submitted a fee proposal for the design and engineering services for the project in the amount of \$366,829.00.

Funding for the project will consist of an Alaska Department of Environmental Conservation (ADEC) grant at the 70% reimbursement level and potential grants from the Federal Environmental Protection Agency or a loan from the ADEC.

Administration recommendation: Approve action memorandum 08-054.

July 8, 2008

File: 78-046

Greg Wickham, Acting Public Works Director
 Sara Jansen, Public Works Administrator
 City of Palmer
 231 West Evergreen Avenue
 Palmer, Alaska 99645

Re: Fee Proposal for Planning and Design Services
Palmer Southwest Utility Extension, Phase II
 Trunk Road Water Main Extension and Reservoir No. 4

Dear Mr. Wickham and Ms. Jansen,

Hattenburg Dilley & Linnell (HDL) is pleased to present this fee proposal for planning and design phase services for the Palmer Southwest Utility System Extension, Phase II, Trunk Road Water Main Extension and Reservoir No. 4 project. The tasks and their estimated engineering costs are summarized as follows:

| <u>Task</u> | <u>Description</u> | <u>Total</u> |
|-------------|---|--------------|
| 1. | Preliminary Engineering /Reservoir Site Selection Assistance..... | \$48,330 |
| 2. | Land Acquisition Services | 58,010 |
| 3. | Surveying, Mapping, and Easements | 55,060 |
| 4. | Geotechnical Engineering..... | 45,282 |
| 5. | Environmental Permits | 17,900 |
| 6. | Public Meetings | 10,720 |
| 7. | Final Design..... | 121,150 |
| 8. | Bidding Services..... | 10,377 |
| 9. | Construction Administration..... | 0 |
| | | \$366,829 |

Project Description

The City has received an ADEC municipal matching grant of \$1.715 million to construct a new water storage reservoir (Reservoir No. 4) near Trunk Road north of the University of Alaska Experimental Farm, and extend the existing water main with fire hydrants north approximately 5,000 feet along Trunk Road to the new reservoir site. The current total project cost estimate is \$3.430 million. The water storage reservoir size is anticipated to be approximately 1.0 million gallons and located on high topography in Pressure Zone 1 as

Scott Hattenburg, PE
 Lorie Dilley, PE/CPG
 Dennis Linnell, PE
 David Lundin, PE

shown in the attached Figure 1. This project is a continuation of the Southwest Utility System Extension (SWX) project and is consistent with the City's water utility master plan.

The new reservoir will provide a redundant water supply to the southwest portion of the Palmer water system. This area currently serves the new hospital and medical office buildings and will address anticipated growth along Trunk Road near the University of Alaska's Mat-Su College campus. Trunk Road is scheduled for significant expansion to a separated four-lane arterial in the next two years and the area is expected to grow rapidly once the Trunk Road project is complete.

The project will provide a more reliable supply of drinking water and fire fighting water to important community facilities, particularly in the event of a major earthquake. This part of the water system is separated from existing reservoirs by 5 miles of pipeline constructed in 2006 under the SWX project. The new reservoir will provide a redundant water supply to this isolated part of the water system and will increase available fire flows. The new reservoir will also allow the SWX pipeline to be shutdown periodically for maintenance without affecting the users.

Proposed Services

Proposed professional services include geotechnical engineering, surveying, platting, land acquisition services, environmental and agency permitting, civil engineering, electrical and controls engineering, and bidding assistance. We will subcontract electrical and controls design for the new reservoir to EDC Inc. Construction Administration services are available as additional services should the City so request it.

Our work will include assistance with the planning, site selection, land/easement acquisition, design, bidding of the proposed reservoir and water line. We will help the City with analyzing potential sites, providing the City with a decision-making report (Preliminary Engineering Report) and interfacing with prospective land owners. Because the City only has "slow-take" eminent domain powers in this area, negotiations with land owners will be cooperative and will avoid any contentiousness, to the greatest degree practical.

TASK 1 - Preliminary Engineering and Reservoir Site Selection Assistance

- a. Kickoff. Upon Notice to Proceed (NTP), we will meet with the City Public Works Director to refine the work plan and schedule. We will coordinate our work plan with the City, and discuss communication and procedural matters to assure efficient communications that follow City protocol. Work will be accomplished following the explicit guidelines of the ADEC and EPA. The following lists our approach to accomplish the project tasks.
- b. Research. We will research land records, review topography and discuss prospective reservoir sites with City staff. We will gather State of Alaska Department of

Transportation and Public Facilities (DOT) right-of-way (ROW) mapping and the Trunk Road project design.

- c. Analysis. Our analysis will include looking at topography, potential reservoirs sites, and reviewing water system flow data. We will review the water system master plan and calculate expected future flows. Sizing of the new water line will be based on the new service area boundaries and forecast growth. The planning horizon will be 30-years plus. We will review Borough planning demographics for the area and the long-term strategy for system utilities.
- d. Reservoir Site and Water Line Route Analysis. We will meet with DOT and City officials to discuss potential water line routing between the end of the existing system and the proposed new reservoir site. Our analysis will include looking at topography, potential reservoirs sites, and reviewing water system flow data. We will review the water system master plan and calculate expected future flows. Sizing of the new water line will be based on the new service area boundaries and forecast growth. The planning horizon will be 30-years plus. We will review Borough planning demographics for the area and the long-term strategy for system utilities
- e. Land Owner Coordination. Upon approval by the City, we will meet with prospective land owners and discuss the potential for a land purchase in order to determine who will likely be a willing seller at or near appraised land value. We anticipate for the purposes of this proposal that the City will find a willing seller at or near appraised land value and that eminent domain will not be required. If eminent domain is required, additional ROW, appraisal, and legal work will be required that is outside the current scope of this contract.
- f. ADEC Coordination. HDL will meet with ADEC to discuss the details of the project and inform them of our progress. Their early involvement will assure that any ADEC concerns are addressed early-on in a cooperative manner.
- g. Preliminary Engineering Report (PER). HDL will draft a Preliminary Engineering Report that addresses the reservoir site and water line route alternatives and their costs. The report will include:
 - (1) General Background
 - (2) Project Planning Area
 - (3) Existing Facilities
 - (4) Need for the Project
 - (5) Alternatives Considered
 - (6) Selection of An Alternative
 - (7) Proposed Project (Recommended Alternative)
 - (8) Conclusions and Recommendations

- h. HDL will also meet with Mike Phillips with ADEC and discuss the content and details for the PER and will submit a report his review.
- i. At the conclusion of the PER, the City will select the preferred reservoir site and we will begin negotiations with the prospective seller.

TASK 2: Land Acquisition Services

The level of effort required for land acquisition services is highly dependent on the cooperation of land owners, the DOT, University of Alaska, and the total number of parcels required. As such, we have provided "allowances" in the fee for most subtask items under Task 2. We anticipate the work under Task 2 as follows:

- a. Easements. On behalf of the City, we will negotiate approximately 5,000 feet of utility easements for the waterline. We will prepare easement legal descriptions, sketches and agreements for City processing.
- b. Land Acquisition Negotiations. Dryden and LaRue (D&L), our ROW consultant, will negotiate for the acquisition of the reservoir parcel in accordance with the Uniform Relocation Act and provide temporary construction and permanent easements for the water line corridor. D&L will use approved federal forms, maintain Records of Contact to document negotiations with the property owner(s), and maintain a Project Record of Contact for project management and project administration.
- c. Appraisal Services. Frank King with King Appraisal Company, or Vince Coan with Statewide Appraisals (as available) will provide a certified commercial appraisal following the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the ACT). The deliverable for this task will be a certified appraisal which follows the Uniform Appraisal Standards for Federal Land Acquisitions. The deliverable for this task will be 5 copies of the final appraisal.
- d. Review Appraisal. If needed, we will provide a review of the initial appraisal in accordance with generally accepted practice. The deliverable for this task will be a copy of the review appraisal.

TASK 3: Surveying, Mapping, and Easements

- a. Preliminary Mapping. For initial planning, we will use the Borough's 1986 2-foot non-digital contour mapping and their 1988 5-foot digital contour mapping. We will purchase existing 2007 aerial photography of the planning area.
- b. Survey Control. For control, we anticipate using existing survey control recovered in DOT project STP-0001(117) Trunk Road Reconstruction. Using a combination of conventional and GPS methods we will establish a control network based on Alaska

State Plane values in NAD83 feet. Vertical control will also be based on the DOT survey. We will tie our survey network to the nearby MSB vertical benchmarks and confirm the vertical datums are the same. A boundary survey will be performed to establish the boundary of the reservoir site and to establish control along the water line corridor. The boundary survey will provide the legal boundary control needed for any future platting needs and legal descriptions for utility easements and property conveyance.

- c. Design Survey. Once the proposed reservoir site and water line route has been selected, we will provide a detailed design survey of the reservoir parcel and water line route. The preliminary water line route centerline will be surveyed and marked using a combination of conventional and GPS methods. All topographical and planimetric features needed for design will be collected. Topographic data will be collected at breaks and at 100-foot stations, with 50 and 100-foot shots each side of centerline. A 60-foot wide utility corridor is anticipated. On the reservoir site, we anticipate surveying a 50-foot grid for a 2-acre parcel. We will coordinate with the local utility companies and locate underground utilities that may affect the reservoir site or pipeline design. The topographic and planimetric data will be reduced to produce 2-foot contour base mapping.
- d. Platting. Upon completion of the field work HDL will prepare a preliminary plat and application for submittal to the MSB Platting Department. We anticipate subdividing a larger parcel into an approximate 2-acre tract. We will process said plat through the platting process and provide any additional documents or drawings MSB may require. HDL will attend and represent the City during the platting hearings. After approval from the Platting Board, we will work with the City and MSB to resolve all platting conditions imposed by the Board. We will set survey monumentation required by MSB code and record the final mylar. The City attorney will provide all legal documents required to convey the parcel of land to the City.
- e. Easements. We will prepare written legal descriptions and exhibits for the temporary construction and permanent easements. Dryden and LaRue, our consultant, will prepare easement agreements under Task 2. We anticipate that the cost of easements will be based on a factor of 2008 Borough assessed valuation. The preliminary alignment is located within the Trunk Road right-of-way, which is defined by dedicated right-of-way and prescriptive easement. Because the final alignment has not yet been determined and the Trunk Road right-of-way varies in width and description we cannot offer a cost estimate at this time. We will work closely with the City and our land consultant to resolve these right-of-way issues.
- f. Survey Control for Construction. During field surveys, we will set primary horizontal and vertical control points for construction. 5/8-inch rebar with stamped caps will be set at approximate 1000-foot intervals along the corridor. Coordinates and elevations will be established and provided to the contractor for control during construction. Additional

vertical control will be established along the corridor to aid in construction. A survey control diagram will be prepared and included in the plan set for the project.

TASK 4 – Geotechnical Engineering

- a. Geotechnical Investigation. HDL will perform a geotechnical investigation and prepare a geotechnical report. The purpose of the investigation will be to provide useful information for design and for contractors during bidding and construction. Ten test borings at approximately 500-foot spacing will be advanced along the proposed water line alignment and in areas suspected of adverse construction conditions such as erratics, silt-laden depressions, deep layers of surficial silt, and high-ground water. Four additional borings will be advanced at the location of the proposed water reservoir. Discovery Drilling of Anchorage, Alaska will be our drilling contractor. The borings along the water line alignment will be along the existing Trunk Road which is a heavily traveled road. We will coordinate with the Department of Transportation for a right-of-way permit. We will try to limit the borings to along the shoulders however we will still need to close one-lane due to the narrow width of the shoulder and road. Flaggers will be needed along the road during the drilling. Northern Dame Construction will provide the traffic control plan, signs and flaggers.

Spilt spoon samples will be obtained at 2.5 foot, 5 foot and at 5 foot intervals thereafter. The total depth of each boring will be 15 feet along the water main alignment. The borings at the water reservoir will be advanced to 30 feet. An engineering geologist from our office will be on-site during the drilling in order to evaluate the nature of the soils, collect samples, and to observe the drilling action.

A 1-inch slotted PVC pipe will be placed in nine of the borings (five along the water main alignment and four at the water reservoir area). The borings will be backfilled with native material and a flush-mounted cap will be placed on the top of each boring. Cold patch asphalt will be placed to complete the borings in the road. At the reservoir site, the PVC pipe will extend 2 to 4 feet above the ground. Approximately one to two weeks after the drilling is completed the groundwater levels will be checked in each of the PVC installed pipe.

Select samples will be analyzed in our laboratory for moisture content and grain size. If soils with high silt/clay content are encountered in the water reservoir area, consolidation tests will also be conducted. After the field and laboratory work is completed, a geotechnical report will be prepared detailing the geotechnical data, our interpretation of the subsurface conditions, and design recommendations. We anticipate that design recommendations will be developed for the trench and pipe foundation, shoring, dewatering, and the reservoir foundation. The report will be supported by drilling logs and other data that was used to prepare the recommendations. The report will be

stamped by a professional engineer and we will supply one loose original, four bound copies, and a PDF file of the report.

Task 5 - Environmental Permits

- a. Environmental Review / Categorical Exclusion. The likely use of federal funds (EPA grant) requires compliance with National Environmental Policy Act (NEPA) regulations. We anticipate the proposed water pipeline and reservoir will qualify for a Categorical Exclusion (CE) under 7 CFR § 1794.22 (b)(3), *construction of new facilities that are designed to serve less than 500 equivalent development units with modest growth potential.* We will provide the necessary research, assist the City with public notices, obtain the State Historic Preservation Office (SHPO) Letter of Concurrence that no historic properties will be affected, and complete the required environmental documentation for approval of a CE from EPA.
- b. Permits. Minor permits will be required for this project. The proposed site will require a survey to ensure that there are no Bald Eagle nests in the area. HDL will complete a Coastal Zone Questionnaire for the project. The U.S. Department of Agriculture will issue a concurrence that this land does not qualify as Unique or Prime Farmland. The ADEC will perform a plan review and issue a Certificate to Construct. We will coordinate with ADEC for plan review. We have included in our fee an estimate of the ADEC review fee, assuming no waivers are required. The DOT will issue a ROW Permit for constructing utilities in the State's right-of-way. The State Fire Marshall will review the plans. A Matanuska-Susitna Borough Core Area Land Use permit will be obtained. No threatened or endangered species are found in the project area. We anticipate that no wetlands or streams will be impacted by the project.
- c. Storm Water Plan. We will prepare a written Erosion and Sediment Control Plan for use by the contractor during construction to prepare their Storm Water Pollution Prevention Plan in compliance with the EPA's National Pollutant Discharge Elimination System (NPDES) Construction General Permit.

TASK 6 - Public Meetings

- a. Public Meeting Workshops. We anticipate assisting with two City Council workshops and one open house with the City/Borough. Prior to conducting the workshops, HDL will involve representatives of the user groups and agencies that will have a say in the design. Our plan is to address their concerns in the design and prior to any public meetings. This will build trust and support for the proposed action. As the design develops, we will listen to interested parties and incorporate their ideas into the design to the greatest extent practical. Once the design is developed with input from user groups, HDL will assist with a final City/Borough open house to inform the public of the routes

and design features of the project. A public notice will be prepared by HDL and paid for by the City to announce public meetings.

TASK 7 - Final Design

Upon selection of the preferred site and route by the City and receiving a notice to proceed with the final design phase, we will prepare the following.

- a. 95% Construction Plans and Specifications. We will prepare an assembly of detailed engineered drawings and specifications to approximately the 95% completion level that describe the proposed work. The plans will include plan and profiles, cross-sections, details, general note, legend and abbreviations, stormwater and utility improvements, and erosion control requirements. Specifications will be based on the 1998 Palmer Standard Specifications as amended for local, state and federal special provisions. We anticipate the following drawings prepared in AutoCAD® 2008:

| | |
|-------|---------------------------------------|
| 1 | Cover Sheet / Drawing Index |
| 1 | Notes, Abbreviations and Legend |
| 1 | Project Layout Plan |
| 3 | Survey Control |
| 3 | Reservoir Site Plan and Site Sections |
| 3 | Reservoir Details |
| 8 | Plan and Profile – Water |
| 3 | Water System Details |
| <hr/> | |
| 23 | Total, plus Electrical |

- b. 95% Estimate. We will prepare a detailed construction cost estimate to reflect final quantities and pay items determined in the final detailing of the work. Earthwork quantities will be updated and we will examine and update unit prices based on this season's bidding climate to provide an accurate final estimate.
- c. Electrical Engineering and Controls. Our consultant, EDC, Inc., will coordinate with Matanuska Electric Association to bring utility electrical power to the site. They will design electrical power distribution at the reservoir site for lighting, security, and level controls for the water reservoir. Level controls for the new reservoir will communicate to the City's existing control system at Reservoir 1. The means for communicating information from the new reservoir to Reservoir 1 will be investigated, but will most likely be either by City owned radios or dedicated telephone landlines. The existing communications system between Reservoir 1 and Wells 4/5 will also be upgraded to match the new system. The new communications system will allow for remote access of status information at all sites from a PC located in the City office or other location. Work will also include upgrading the controls at Reservoir 1 to a Siemens programmable logic controller (PLC) based system with graphical operator interface panel. This system is to

match the control system installed at Wells 4/5 a couple years ago. The owner anticipates a new well at the proposed new reservoir in the near future and wishes the reservoir and well controls to be a compatible system and expandable to allow this. We assume standby power will not be required and that the new reservoir will be within 800 feet of an established road right of way that has existing MEA power.

- d. Quality Assurance (QA) Program. HDL will perform an internal review of documents. Our internal QA review will be performed by an independent senior-level professional engineer in the firm. Comments will be addressed and resolved, and documents updated prior to submission to the City. The design documents will be submitted to the City at the 35%, 95% and 100% design stages, and to ADEC at the final stage. The ADEC will review final plans and specifications and accept the design prior to bidding the project. HDL will coordinate comments received and will resolve and respond in writing after a formal review conference.
- e. Final Plans. Once the design is approved in writing by the ADEC, we will then provide stamped 100% plans that are bid-ready. We have included the cost for 12 plan sets for the City, agencies, and consultant team. We assume that the City will use their "on-line" process to electronically distribute construction documents to prospective bidders, so we have not included the cost of reproducing documents for bidders.

TASK 8 – Bidding Phase

- a. Bidding Phase Services. HDL will assist the City bidding the project and getting the successful bidder under contract for the work. On behalf of the City, we will prepare the invitation to bid, public notices, respond to bidders' questions, conduct a pre-bid conference, issue written addendums, tabulate bids and check proposals for completeness, review bonding and insurance submittals, and provide a written recommendation for award to the City based on the lowest responsive bid.

TASK 9 - Construction Administration (TO BE DETERMINED LATER)

- a. Construction Administration (CA) Services. If requested by the City, HDL will provide CA services including project management and coordination, conducting a pre-construction conference, reviewing submittals and shop drawings, processing pay requests; responding to contractor questions and DCVRs; providing briefings to the City; preparing weekly status reports on the Contractor's progress; and processing Change Orders. We will provide a qualified Resident Inspector approved by the City to observe, test, and document the construction on behalf of the City. Documentation will include photographs and daily reports detailing the equipment, labor, inspections, material and acceptance testing, and activities occurring each day. We will provide milestone inspections on any electrical and controls. HDL will provide quality assurance for material testing including soil gradations, moisture content, and field densities. A

qualified independent laboratory such as Alaska Testlab or Mark Hansen will be used for asphalt and other specialized testing.

- b. Final Closeout Documents. HDL will assist with the substantial and final inspection of the completed work, processing of the bond and lien releases and project completion certificate. HDL will provide a bound closeout report, record drawings in electronic format, and will manage the contractor's preparation of the Operations and Maintenance Manuals for the reservoir controls.

BASIC ASSUMPTIONS

The following basic assumptions were used to prepare this estimate. Anything to the contrary, may require a contract amendment depending on the extent of the scope deviation and level of effort required to address it.

1. Eminent domain will not be required.
2. A categorical exclusion (CE) will be granted by the EPA. Discovery of impacts to cultural resources wildlife, or farmlands, or significant public controversy may trigger an EA.
3. The cost of cultural resource studies has not been included.
4. An allowance of \$30,000 for land acquisition services and \$15,000 for appraisal services has been included; however, the actual cost will vary depending on the route selected.
5. Surveying will be performed under snow-off conditions before about October 1st.
6. The City will provide legal services, if required.
7. Advertising during the bid process is not included.
8. The improvements will be designed in one package and bid one time.
9. CA and Inspection under Task 9 is not included in this fee estimate. The CA scope, level of effort, and fee will be determined when the design is complete and the actual construction phase schedule is known.
10. Design and construction of natural gas, power, telephone and cable television utility relocations and extensions to the reservoir site, if necessary, are assumed will be provided by the utility companies. We will provide coordination of this work on behalf of the City.
11. Traffic Control Plans will be specified as contractor-provided.
12. Storm Water Pollution Prevention Plan will be specified as contractor-provided.

SCHEDULE

The schedule will be driven by the land acquisition process. If a willing seller can be located immediately this summer, we anticipate completing the survey and geotechnical tasks by October 1, 2008, and having bid-ready construction documents by March 30,

RE: Palmer SWX Phase II, Reservoir No. 4 and Water Line Extension
July 8, 2008
Page 11 of 11

2009. If the land acquisition process drags on, the project could be delayed as much as a season, or additional costs for survey and geotechnical work could be incurred due to the additional cost of winter field work.

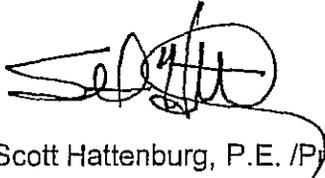
FEE

We propose to provide the aforementioned services on an hourly basis at our published hourly rates in accordance with the fee estimate dated July 8, 2008 consisting of 4 pages attached herewith. See page 1 for a summary by task, including markup. Reimbursable expenses and subconsultants are charged at cost plus 5%.

We appreciate the opportunity to work on this very exciting project and look forward to beginning immediately. If you have any questions, you can contact me at 564-2120, or at shattenburg@hdlalaska.com.

Sincerely,

HATTENBURG DILLEY & LINNELL, LLC



Scott Hattenburg, P.E. /Principal Engineer

Attach: Fee Worksheet (4 pages)
Figure 1 (1 page)
EDC Proposal (dated 7/7/08)

H:\proposals\78-046 Palmer SWX Phase II\Palmer SWXII Fee Proposal 8 Jul 08.doc

Project: Palmer Southwest Utility System Extension Phase 2
Engineer: Hattenburg Dilley & Linnell
Scope: Design and Bidding **SM**
Date Prepared: 07/08/08

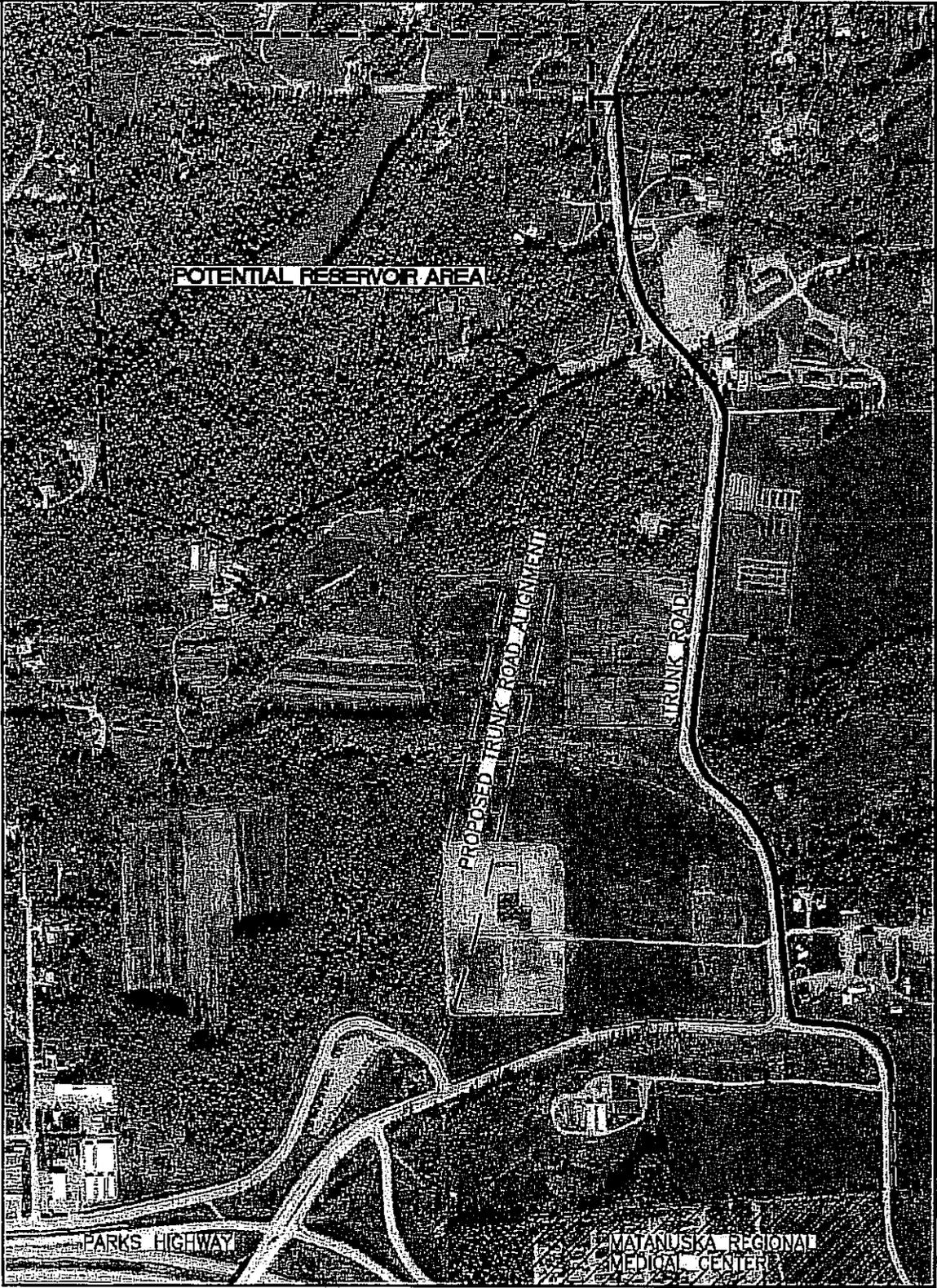
| ITEM | ACTIVITY | QTY | RATE | LABOR | SUB | REIMB | ITEM TOTAL | TOTAL |
|------------|--|---------|------------|-------|-----|--------|---------------|-----------------|
| 1.0 | Preliminary Engineering /Reservoir Site Selection Assistance..... | | | | | | | \$48,080 |
| | <u>Reservoir and Water Line Analysis</u> | | | | | | 11,400 | |
| | Principal | 4 hrs | @ \$145 | 580 | | | | |
| | Associate Engineer | 16 hrs | @ \$120 | 1,920 | | | | |
| | Staff Engineer | 40 hrs | @ \$95 | 3,800 | | | | |
| | Drafting Technician | 60 hrs | @ \$85 | 5,100 | | | | |
| | <u>Land Owner Coordination</u> | | | | | | 7,160 | |
| | Principal | 8 hrs | @ \$145 | 1,160 | | | | |
| | Associate Engineer | 50 hrs | @ \$120 | 6,000 | | | | |
| | <u>ADEC Coordination</u> | | | | | | 1,540 | |
| | Principal | 4 hrs | @ \$145 | 580 | | | | |
| | Associate Engineer | 8 hrs | @ \$120 | 960 | | | | |
| | <u>Preliminary Engineering Report & 35% Plans</u> | | | | | | 22,120 | |
| | Principal | 4 hrs | @ \$145 | 580 | | | | |
| | Associate Engineer | 32 hrs | @ \$120 | 3,840 | | | | |
| | Staff Engineer | 80 hrs | @ \$95 | 7,600 | | | | |
| | Drafting Technician | 60 hrs | @ \$85 | 5,100 | | | | |
| | Electrical/Controls Allow. | 1 allow | @ \$5,000 | | | 5,000 | | |
| | <u>35% Quantities and Cost Estimate</u> | | | | | | 5,860 | |
| | Principal | 4 hrs | @ \$145 | 580 | | | | |
| | Associate Engineer | 8 hrs | @ \$120 | 960 | | | | |
| | Staff Engineer | 24 hrs | @ \$95 | 2,280 | | | | |
| | Drafting Technician | 24 hrs | @ \$85 | 2,040 | | | | |
| 2.0 | Land Acquisition Services | | | | | | | \$55,760 |
| | <u>HDL Oversight & Coordination</u> | | | | | | 10,760 | |
| | Principal | 8 hrs | @ \$145 | 1,160 | | | | |
| | Associate Engineer | 80 hrs | @ \$120 | 9,600 | | | | |
| | <u>Land Acquisition Negotiations</u> | | | | | | 30,000 | |
| | Land Acquisition Negotiations | 1 allow | @ \$30,000 | | | 30,000 | | |
| | <u>Appraisals (Reservoir Site)</u> | | | | | | 15,000 | |
| | Appraisal Allowance | 1 allow | @ \$7,500 | | | 7,500 | | |
| | Check Appraisal Allowance | 1 allow | @ \$7,500 | | | 7,500 | | |

| ITEM | ACTIVITY | QTY | RATE | LABOR | SUB | REIMB | TOTAL | TOTAL | |
|------------|--|--------|------------|-------|-------|-------|-------|-------|-----------------|
| 3.0 | Surveying, Mapping, and Easements | | | | | | | | \$55,060 |
| | <u>Research</u> | | | | | | | | 4,040 |
| | Survey Manager | 16 hrs | @ \$125 | 2,000 | | | | | |
| | Survey Technician | 24 hrs | @ \$85 | 2,040 | | | | | |
| | <u>Boundary and Control Survey</u> | | | | | | | | 12,800 |
| | Survey Manger | 16 hrs | @ \$ 125 | 2,000 | | | | | |
| | 2-Man Survey Crew | 40 hrs | @ \$ 185 | 7,400 | | | | | |
| | Surveyor Technician | 40 hrs | @ \$ 85 | 3,400 | | | | | |
| | <u>Design Survey</u> | | | | | | | | 18,320 |
| | Survey Manger | 16 hrs | @ \$ 125 | 2,000 | | | | | |
| | 2-Man Survey Crew | 40 hrs | @ \$ 185 | 7,400 | | | | | |
| | 1-Man Survey Crew | 24 hrs | @ \$ 135 | 3,240 | | | | | |
| | Surveyor Technician | 16 hrs | @ \$ 85 | 1,360 | | | | | |
| | Utilities locates (1-Man Crew) | 32 hrs | @ \$ 135 | 4,320 | | | | | |
| | <u>Topographic and Control Drawings</u> | | | | | | | | 8,140 |
| | Survey Manager | 8 hrs | @ \$ 125 | 1,000 | | | | | |
| | Surveyor Technician | 24 hrs | @ \$ 85 | 2,040 | | | | | |
| | Drafting Technician | 60 hrs | @ \$ 85 | 5,100 | | | | | |
| | <u>Platting</u> | | | | | | | | 11,760 |
| | Survey Manager | 16 hrs | @ \$ 125 | 2,000 | | | | | |
| | Surveyor Technician | 20 hrs | @ \$ 85 | 1,700 | | | | | |
| | Drafting Technician | 60 hrs | @ \$ 85 | 5,100 | | | | | |
| | 2-Man Survey Crew | 16 hrs | @ \$ 185 | 2,960 | | | | | |
| 4.0 | Geotechnical Engineering | | | | | | | | \$44,395 |
| | <u>Management & Utility Coordination</u> | | | | | | | | 5,980 |
| | Principal Geotech Engineer | 16 hrs | @ \$ 130 | 2,080 | | | | | |
| | Project Geologist | 16 hrs | @ \$ 85 | 1,360 | | | | | |
| | Utility Locates | 24 hrs | @ \$ 85 | 2,040 | | | | | |
| | DOT Right-of-Way Permit | 1 ea | @ \$ 500 | | 500 | | | | |
| | <u>Fieldwork</u> | | | | | | | | 23,355 |
| | Project Geologist | 60 hrs | @ \$ 85 | 5,100 | | | | | |
| | Monitoring Wells Check | 12 hrs | @ \$ 85 | 1,020 | | | | | |
| | Mob/Demob Drill Rig | 1 ea | @ \$ 1,500 | | 1,500 | | | | |
| | Drilling 14 borings (270 ft total) | 270 ft | @ \$ 26 | | 7,020 | | | | |
| | Piezometers | 190 ft | @ \$ 1 | | 190 | | | | |
| | Flush mounted caps | 5 ea | @ \$ 125 | | 625 | | | | |
| | Cold Patch Asphalt | 5 ea | @ \$ 40 | | 200 | | | | |
| | Misc. Reimbursable | 1 ea | @ \$ 200 | | 200 | | | | |
| | Traffic Control Plan | 1 ea | @ \$ 100 | | 100 | | | | |
| | Two Flaggers & Signs | 40 hrs | @ \$ 185 | | 7,400 | | | | |

574

| ITEM | ACTIVITY | QTY | RATE | LABOR | SUB | REIMB | TOTAL | TOTAL | |
|------------|---|---------|------------|--------|--------|-------|--------|-------|------------------|
| | <u>Laboratory Analysis</u> | | | | | | 4,800 | | |
| | Grain Size/Atterburg Limit | 20 ea | @ \$ 75 | 1,500 | | | | | |
| | Consolidation | 4 ea | @ \$ 450 | 1,800 | | | | | |
| | P200 | 20 ea | @ \$ 35 | 700 | | | | | |
| | Moisture Content | 80 ea | @ \$ 10 | 800 | | | | | |
| | <u>Memo Report and Recommendations</u> | | | | | | 10,260 | | |
| | Principal Geotech Engineer | 24 hrs | @ \$ 130 | 3,120 | | | | | |
| | Project Geologist | 48 hrs | @ \$ 85 | 4,080 | | | | | |
| | AutoCAD Drafting | 36 hrs | @ \$ 85 | 3,060 | | | | | |
| 5.0 | Environmental Permits | | | | | | | | \$17,900 |
| | <u>Environmental Document</u> | | | | | | 8,140 | | |
| | Principal | 16 hrs | @ \$ 145 | 2,320 | | | | | |
| | Senior Environmental Specialist | 40 hrs | @ \$ 90 | 3,600 | | | | | |
| | Drafter | 20 hrs | @ \$ 85 | 1,700 | | | | | |
| | Clerical | 8 hrs | @ \$ 65 | 520 | | | | | |
| | <u>Permits</u> | | | | | | 9,760 | | |
| | Principal | 16 hrs | @ \$ 145 | 2,320 | | | | | |
| | Senior Environmental Specialist | 60 hrs | @ \$ 90 | 5,400 | | | | | |
| | Drafter | 24 hrs | @ \$ 85 | 2,040 | | | | | |
| 6.0 | Public Meetings | | | | | | | | \$10,720 |
| | <u>3 Public Meetings</u> | | | | | | 10,720 | | |
| | Principal | 12 hrs | @ \$145 | 1,740 | | | | | |
| | Associate Engineer | 24 hrs | @ \$120 | 2,880 | | | | | |
| | Staff Engineer | 32 hrs | @ \$95 | 3,040 | | | | | |
| | Drafting Technician | 36 hrs | @ \$85 | 3,060 | | | | | |
| 7.0 | Final Design | | | | | | | | \$119,500 |
| | <u>Quality Assurance</u> | | | | | | 3,480 | | |
| | Principal | 24 hrs | @ \$145 | 3,480 | | | | | |
| | <u>Plan Sheets (23 Civil Sheets)</u> | | | | | | 67,100 | | |
| | Associate Engineer | 120 hrs | @ \$120 | 14,400 | | | | | |
| | Staff Engineer | 120 hrs | @ \$95 | 11,400 | | | | | |
| | Drafting Technician | 480 hrs | @ \$85 | 40,800 | | | | | |
| | Reimbursables | 1 sum | @ \$500 | | | 500 | | | |
| | <u>Electrical Engineering</u> | | | | | | 32,500 | | |
| | EDC, Inc | 1 fee | @ \$32,500 | | 32,500 | | | | |
| | <u>Specifications & Bidding Documents</u> | | | | | | 10,580 | | |
| | Associate Engineer | 32 hrs | @ \$120 | 3,840 | | | | | |
| | Staff Engineer | 60 hrs | @ \$95 | 5,700 | | | | | |
| | Clerical | 16 hrs | @ \$65 | 1,040 | | | | | |

| ITEM | ACTIVITY | QTY | RATE | LABOR | SUB | REIMB | TOTAL | TOTAL |
|------------|------------------------------------|---------|---------|------------------|------------------|----------------|-------|------------------|
| | <u>Cost Estimate</u> | | | | | | 5,840 | |
| | Associate Engineer | 12 hrs | @ \$120 | 1,440 | | | | |
| | Staff Engineer | 32 hrs | @ \$95 | 3,040 | | | | |
| | Drafting Technician | 16 hrs | @ \$85 | 1,360 | | | | |
| 8.0 | Bidding Services..... | | | | | | | \$10,350 |
| | <u>Documents</u> | | | | | | 800 | |
| | Clerical | 4 hrs | @ \$65 | 260 | | | | |
| | Reproduction | 12 sets | @ \$45 | | | 540 | | |
| | <u>Pre-Bid Conference (1 each)</u> | | | | | | 2,120 | |
| | Associate Engineer | 6 hrs | @ \$120 | 720 | | | | |
| | Staff Engineer | 12 hrs | @ \$95 | 1,140 | | | | |
| | Clerical | 4 hrs | @ \$65 | 260 | | | | |
| | <u>Assistance During Bidding</u> | | | | | | 6,060 | |
| | Principal | 4 hrs | @ \$145 | 580 | | | | |
| | Associate Engineer | 16 hrs | @ \$120 | 1,920 | | | | |
| | Staff Engineer | 24 hrs | @ \$95 | 2,280 | | | | |
| | Drafting Technician | 12 hrs | @ \$85 | 1,020 | | | | |
| | Clerical | 4 hrs | @ \$65 | 260 | | | | |
| | <u>Bid Review & Tabulation</u> | | | | | | 1,370 | |
| | Associate Engineer | 4 hrs | @ \$120 | 480 | | | | |
| | Staff Engineer | 8 hrs | @ \$95 | 760 | | | | |
| | Clerical | 2 hrs | @ \$65 | 130 | | | | |
| | Subtotal | | | \$260,490 | \$100,235 | \$1,040 | | \$361,765 |
| | 5% Markup | | | | \$5,012 | \$52 | | \$5,064 |
| | TOTAL | | | \$260,490 | \$105,247 | \$1,092 | | \$366,829 |



EXISTING WATER SYSTEM ————
 PROPOSED WATER MAIN —————

HDL HATTENBURG DILLEY & LINNELL
 Engineering Consultants

- ENGINEERING
- EARTH SCIENCE
- PROJECT MANAGEMENT
- PLANNING

(907) 584-2120
 www.HDLalaska.com

**SOUTHWEST UTILITY SYSTEM EXTENSION PHASE II
 CITY OF PALMER
 PALMER, ALASKA**

DATE: 8-3-2007
 SCALE: 1"=600'

DRAWN BY: CAB
 CHECKED BY: SLH

SHEET:
 JOB NO.:

H:\2007-08\Palmer\ADD Sheets (Rev. 08/10/07) - Revised (07-02-07-08-09-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000-1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1036-1037-1038-1039-1040-1041-1042-1043-1044-1045-1046-1047-1048-1049-1050-1051-1052-1053-1054-1055-1056-1057-1058-1059-1060-1061-1062-1063-1064-1065-1066-1067-1068-1069-1070-1071-1072-1073-1074-1075-1076-1077-1078-1079-1080-1081-1082-1083-1084-1085-1086-1087-1088-1089-1090-1091-1092-1093-1094-1095-1096-1097-1098-1099-1100-1101-1102-1103-1104-1105-1106-1107-1108-1109-1110-1111-1112-1113-1114-1115-1116-1117-1118-1119-1120-1121-1122-1123-1124-1125-1126-1127-1128-1129-1130-1131-1132-1133-1134-1135-1136-1137-1138-1139-1140-1141-1142-1143-1144-1145-1146-1147-1148-1149-1150-1151-1152-1153-1154-1155-1156-1157-1158-1159-1160-1161-1162-1163-1164-1165-1166-1167-1168-1169-1170-1171-1172-1173-1174-1175-1176-1177-1178-1179-1180-1181-1182-1183-1184-1185-1186-1187-1188-1189-1190-1191-1192-1193-1194-1195-1196-1197-1198-1199-1200-1201-1202-1203-1204-1205-1206-1207-1208-1209-1210-1211-1212-1213-1214-1215-1216-1217-1218-1219-1220-1221-1222-1223-1224-1225-1226-1227-1228-1229-1230-1231-1232-1233-1234-1235-1236-1237-1238-1239-1240-1241-1242-1243-1244-1245-1246-1247-1248-1249-1250-1251-1252-1253-1254-1255-1256-1257-1258-1259-1260-1261-1262-1263-1264-1265-1266-1267-1268-1269-1270-1271-1272-1273-1274-1275-1276-1277-1278-1279-1280-1281-1282-1283-1284-1285-1286-1287-1288-1289-1290-1291-1292-1293-1294-1295-1296-1297-1298-1299-1300-1301-1302-1303-1304-1305-1306-1307-1308-1309-1310-1311-1312-1313-1314-1315-1316-1317-1318-1319-1320-1321-1322-1323-1324-1325-1326-1327-1328-1329-1330-1331-1332-1333-1334-1335-1336-1337-1338-1339-1340-1341-1342-1343-1344-1345-1346-1347-1348-1349-1350-1351-1352-1353-1354-1355-1356-1357-1358-1359-1360-1361-1362-1363-1364-1365-1366-1367-1368-1369-1370-1371-1372-1373-1374-1375-1376-1377-1378-1379-1380-1381-1382-1383-1384-1385-1386-1387-1388-1389-1390-1391-1392-1393-1394-1395-1396-1397-1398-1399-1400-1401-1402-1403-1404-1405-1406-1407-1408-1409-1410-1411-1412-1413-1414-1415-1416-1417-1418-1419-1420-1421-1422-1423-1424-1425-1426-1427-1428-1429-1430-1431-1432-1433-1434-1435-1436-1437-1438-1439-1440-1441-1442-1443-1444-1445-1446-1447-1448-1449-1450-1451-1452-1453-1454-1455-1456-1457-1458-1459-1460-1461-1462-1463-1464-1465-1466-1467-1468-1469-1470-1471-1472-1473-1474-1475-1476-1477-1478-1479-1480-1481-1482-1483-1484-1485-1486-1487-1488-1489-1490-1491-1492-1493-1494-1495-1496-1497-1498-1499-1500-1501-1502-1503-1504-1505-1506-1507-1508-1509-1510-1511-1512-1513-1514-1515-1516-1517-1518-1519-1520-1521-1522-1523-1524-1525-1526-1527-1528-1529-1530-1531-1532-1533-1534-1535-1536-1537-1538-1539-1540-1541-1542-1543-1544-1545-1546-1547-1548-1549-1550-1551-1552-1553-1554-1555-1556-1557-1558-1559-1560-1561-1562-1563-1564-1565-1566-1567-1568-1569-1570-1571-1572-1573-1574-1575-1576-1577-1578-1579-1580-1581-1582-1583-1584-1585-1586-1587-1588-1589-1590-1591-1592-1593-1594-1595-1596-1597-1598-1599-1600-1601-1602-1603-1604-1605-1606-1607-1608-1609-1610-1611-1612-1613-1614-1615-1616-1617-1618-1619-1620-1621-1622-1623-1624-1625-1626-1627-1628-1629-1630-1631-1632-1633-1634-1635-1636-1637-1638-1639-1640-1641-1642-1643-1644-1645-1646-1647-1648-1649-1650-1651-1652-1653-1654-1655-1656-1657-1658-1659-1660-1661-1662-1663-1664-1665-1666-1667-1668-1669-1670-1671-1672-1673-1674-1675-1676-1677-1678-1679-1680-1681-1682-1683-1684-1685-1686-1687-1688-1689-1690-1691-1692-1693-1694-1695-1696-1697-1698-1699-1700-1701-1702-1703-1704-1705-1706-1707-1708-1709-1710-1711-1712-1713-1714-1715-1716-1717-1718-1719-1720-1721-1722-1723-1724-1725-1726-1727-1728-1729-1730-1731-1732-1733-1734-1735-1736-1737-1738-1739-1740-1741-1742-1743-1744-1745-1746-1747-1748-1749-1750-1751-1752-1753-1754-1755-1756-1757-1758-1759-1760-1761-1762-1763-1764-1765-1766-1767-1768-1769-1770-1771-1772-1773-1774-1775-1776-1777-1778-1779-1780-1781-1782-1783-1784-1785-1786-1787-1788-1789-1790-1791-1792-1793-1794-1795-1796-1797-1798-1799-1800-1801-1802-1803-1804-1805-1806-1807-1808-1809-1810-1811-1812-1813-1814-1815-1816-1817-1818-1819-1820-1821-1822-1823-1824-1825-1826-1827-1828-1829-1830-1831-1832-1833-1834-1835-1836-1837-1838-1839-1840-1841-1842-1843-1844-1845-1846-1847-1848-1849-1850-1851-1852-1853-1854-1855-1856-1857-1858-1859-1860-1861-1862-1863-1864-1865-1866-1867-1868-1869-1870-1871-1872-1873-1874-1875-1876-1877-1878-1879-1880-1881-1882-1883-1884-1885-1886-1887-1888-1889-1890-1891-1892-1893-1894-1895-1896-1897-1898-1899-1900-1901-1902-1903-1904-1905-1906-1907-1908-1909-1910-1911-1912-1913-1914-1915-1916-1917-1918-1919-1920-1921-1922-1923-1924-1925-1926-1927-1928-1929-1930-1931-1932-1933-1934-1935-1936-1937-1938-1939-1940-1941-1942-1943-1944-1945-1946-1947-1948-1949-1950-1951-1952-1953-1954-1955-1956-1957-1958-1959-1960-1961-1962-1963-1964-1965-1966-1967-1968-1969-1970-1971-1972-1973-1974-1975-1976-1977-1978-1979-1980-1981-1982-1983-1984-1985-1986-1987-1988-1989-1990-1991-1992-1993-1994-1995-1996-1997-1998-1999-2000-2001-2002-2003-2004-2005-2006-2007-2008-2009-2010-2011-2012-2013-2014-2015-2016-2017-2018-2019-2020-2021-2022-2023-2024-2025-2026-2027-2028-2029-2030-2031-2032-2033-2034-2035-2036-2037-2038-2039-2040-2041-2042-2043-2044-2045-2046-2047-2048-2049-2050-2051-2052-2053-2054-2055-2056-2057-2058-2059-2060-2061-2062-2063-2064-2065-2066-2067-2068-2069-2070-2071-2072-2073-2074-2075-2076-2077-2078-2079-2080-2081-2082-2083-2084-2085-2086-2087-2088-2089-2090-2091-2092-2093-2094-2095-2096-2097-2098-2099-2100-2101-2102-2103-2104-2105-2106-2107-2108-2109-2110-2111-2112-2113-2114-2115-2116-2117-2118-2119-2120-2121-2122-2123-2124-2125-2126-2127-2128-2129-2130-2131-2132-2133-2134-2135-2136-2137-2138-2139-2140-2141-2142-2143-2144-2145-2146-2147-2148-2149-2150-2151-2152-2153-2154-2155-2156-2157-2158-2159-2160-2161-2162-2163-2164-2165-2166-2167-2168-2169-2170-2171-2172-2173-2174-2175-2176-2177-2178-2179-2180-2181-2182-2183-2184-2185-2186-2187-2188-2189-2190-2191-2192-2193-2194-2195-2196-2197-2198-2199-2200-2201-2202-2203-2204-2205-2206-2207-2208-2209-2210-2211-2212-2213-2214-2215-2216-2217-2218-2219-2220-2221-2222-2223-2224-2225-2226-2227-2228-2229-2230-2231-2232-2233-2234-2235-2236-2237-2238-2239-2240-2241-2242-2243-2244-2245-2246-2247-2248-2249-2250-2251-2252-2253-2254-2255-2256-2257-2258-2259-2260-2261-2262-2263-2264-2265-2266-2267-2268-2269-2270-2271-2272-2273-2274-2275-2276-2277-2278-2279-2280-2281-2282-2283-2284-2285-2286-2287-2288-2289-2290-2291-2292-2293-2294-2295-2296-2297-2298-2299-2300-2301-2302-2303-2304-2305-2306-2307-2308-2309-2310-2311-2312-2313-2314-2315-2316-2317-2318-2319-2320-2321-2322-2323-2324-2325-2326-2327-2328-2329-2330-2331-2332-2333-2334-2335-2336-2337-2338-2339-2340-2341-2342-2343-2344-2345-2346-2347-2348-2349-2350-2351-2352-2353-2354-2355-2356-2357-2358-2359-2360-2361-2362-2363-2364-2365-2366-2367-2368-2369-2370-2371-2372-2373-2374-2375-2376-2377-2378-2379-2380-2381-2382-2383-2384-2385-2386-2387-2388-2389-2390-2391-2392-2393-2394-2395-2396-2397-2398-2399-2400-2401-2402-2403-2404-2405-2406-2407-2408-2409-2410-2411-2412-2413-2414-2415-2416-2417-2418-2419-2420-2421-2422-2423-2424-2425-2426-2427-2428-2429-2430-2431-2432-2433-2434-2435-2436-2437-2438-2439-2440-2441-2442-2443-2444-2445-2446-2447-2448-2449-2450-2451-2452-2453-2454-2455-2456-2457-2458-2459-2460-2461-2462-2463-2464-2465-2466-2467-2468-2469-2470-2471-2472-2473-2474-2475-2476-2477-2478-2479-2480-2481-2482-2483-2484-2485-2486-2487-2488-2489-2490-2491-2492-2493-2494-2495-2496-2497-2498-2499-2500-2501-2502-2503-2504-2505-2506-2507-2508-2509-2510-2511-2512-2513-2514-2515-2516-2517-2518-2519-2520-2521-2522-2523-2524-2525-2526-2527-2528-2529-2530-2531-2532-2533-2534-2535-2536-2537-2



ENGINEERING DESIGN & CONSULTING

An Alaskan Owned Professional Corporation

EDC, INC.

213 W. Fireweed Lane
Anchorage, AK 99503

July 7, 2008

Scott Hattenburg, P.E.
Hattenburg, Dilley, & Linnell
3335 Arctic Boulevard, Suite 100
Anchorage, AK 99503

Subject: Palmer Southwest Utilities Extension, Phase II- Electrical Proposal

Dear Scott:

This proposal is for providing electrical engineering services in support of the Palmer Southwest Utilities Extension project. This proposal is based on the following:

SCOPE OF WORK:

Provide the electrical design for a new approximate 1.0 million gallon water tank. The design will include:

1. Coordination with Matanuska Electric Association to provide electrical power to the site.
2. New electrical service and power distribution equipment.
3. Site lighting.
4. Tank level controls and instrumentation.
5. Site security cameras.
6. A communications link to the City of Palmer's existing Reservoir 1 site.

The scope of work shall also include upgrades to the existing relay based control panel at Reservoir 1. The control panel shall be replaced with a new PLC based control panel with operator interface. The existing field wiring and instrumentation shall be re-used to the greatest extent possible, but it is anticipated that some re-wiring will be required in order to 'clean-up' the existing system. The existing communications link between Reservoir 1 and wells #4/5 will also be upgraded. Finally, the design will include a PC based monitoring (SCADA) system that can remotely access each of the well sites.

It is anticipated that the design will include the following drawings:

- E1 -- Power One-line, Legend and Abbreviations
- E2 -- Water Tank Electrical Site Plan
- E3 -- Control Panel Layout and Functional Narrative
- E4 -- Control Panel I/O
- E5 - Security Camera Details and Schematics
- E6 -- Lighting and Electrical Details
- E7 -- Reservoir 1 Electrical Plan

Scott Hattenburg, P.E.

Page 2

July 7, 2008

- E8 – Reservoir 1 Wiring Schematics
- E9 - Reservoir 1 Control Panel Layout & Functional Narrative
- E10 – Reservoir 1 Control Panel I/O
- E11 - Overall Communications System Block Diagram

Electrical specifications as well as an engineer's construction cost estimate will also be provided as part of the design.

ASSUMPTIONS:

HDL will provide site background drawings and any site information required.

EXCLUSIONS:

This proposal does not include any electrical or telephone utility line extension design. It is assumed that MEA/MTA will provide service to the site. EDC, Inc. will provide coordination with MEA/MTA only.

This proposal does not include any provisions for water treatment or an additional well.

This proposal also does not include any construction management services such as site inspections, submittal reviews, design clarifications or record drawings.

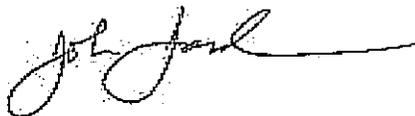
DELIVERABLES - A full and/or half-size, reproducible copy of each of the design drawings will be provided. An electronic copy of the drawings in AutoCAD format will also be available upon request.

FEE:

The fee to perform the above scope of work is **\$37,500**.

Please feel free to contact me if you have any questions concerning this proposal.

Sincerely,



John H. Faschan
President / EDC, INC.