Alaska Department of Transportation & Public Facilities

SMALL PROCUREMENT DOCUMENTS PART C - CONTRACT AWARD, NOTICE TO PROCEED & INVOICE SUMMARY

Agreement No.....: 25192022
IRIS Program No.....: Z5668500000 /
..... Z580800000
Federal Project No.....: 0A32022 / 0A32023

Contractor: McClintock Land Associates, Inc.
Project Title: Seward Highway MP 50 to 75 Pavement Preservation Post Construction Survey Services

CONTRACT AWARD & NOTICE TO PROCEED

You have been awarded this Agreement in accordance with Parts A, B & C of these documents and the following correspondence:

From .....: DOT&PF
To .....: McClintock Land Associates, Inc.
Subject.....: Statement of Services, and
Contractor's Technical Proposal, dated 9/13/2018 (4 pages)

Date : 9/25/2018
Number of Pages : 45 pages

This Agreement incorporates by reference the Small Procurement Standard Provisions Booklet dated January 2018. If you do not have a copy of the Standard Provisions Booklet, obtain one from the Contracting Agency. You are authorized to proceed with performance of this contract immediately and are required to complete it not later than: January 31, 2019.
The Agency Manager for this Contract is: Matthew T. Burkholder, P.L.S. Telephone: 907-269-0701 Email: matt.burkholder@alaska.gov
Compensation for this Contract shall be by the method(s) and not exceed the authorized amount(s) shown in the Invoice Summary (below):.

Issued for the Contracting Agency per ADOT&PF Policy #01.01.050 by:	Accepted for the Contractor by:
Signature 10/2/18 Date	Signature Date
Name: Joel G. St. Aubin, P.E., Regional Construction Engineer	Name: William McClintock, P.L.S., President

INVOICE SUMMARY

This Invoice is for [ ] Progress OR [ ] Final Payment. ***Sequential Invoice Number for this Contract is:*** [ ].

* Each firm may be compensated for this Contract by only one of the following Methods of Payment (as explained in the Standard Provisions Booklet):
Fixed Price (FP) .....Amounts entered in Columns "c" and "g" only
FP + Expenses (FPPE) ....Columns "c", "e" and "g" only
Cost Plus Fixed Fee (CPFF) ..... Columns "c", "d", "e", "f" and "g"
Time and Expenses (T&E) ..... Columns "c", "e" and "g" only

a	b	c	d	e	f	g
Firms (Prime & Subcontractors)*	**Meth of Pay**	**Labor (or FP)**	**Indirect Cost**	**Expenses**	**Fixed Fee**	**Total Price**
McClintock Land Associates, Inc.	FP	$140,001.00	$0.00	$0.00	$0.00	$140,001.00
Total Contract Amounts Authorized for All Firms		$140,001.00	$0.00	$0.00	$0.00	$140,001.00
Sum of Prior APPROVED Payments						
Sum for THIS INVOICE						
Sum of Prior Payments plus this Invoice						
Balance of Authorized Amounts						

PAYMENT

Phase Code: T04000
Activity Code: 145P
Template Code: TPJ001
Object Code: 3054

CONTRACTOR'S PAYMENT REQUEST:

Signature Date
Name: William McClintock, P.L.S., President

PAYMENT RECOMMENDED: I certify this Invoice to be valid and accurate and that services were performed substantially in conformance with the contract requirements and schedule.

Signature Date
Name: Matthew T. Burkholder, P.L.S., Survey Consultant Coordinator

PAYMENT APPROVED: Based upon the payment recommendation and certification, I hereby approve payment.

Signature Date
Name: Alan Drake, P.E., Project Manager

Alaska Department of Transportation & Public Facilities

INSTRUCTIONS FOR AGENCY ISSUE AND CONTRACTOR BILLING

1. Agency Contract Manager – The Small Procurement Documents are organized for ***only one Notice-to-Proceed (NTP) to be issued with the Contract Award for all services to be provided so that accounting procedures do not become unnecessarily burdensome and costly*** (i.e., the Contractor is required to establish only one cost account for this contract). Also, this document (Pact C – Contract Award, Notice to Proceed & Invoice Summary) must be issued and signed by the Contracting Officer (or a written designee per DOT&PF Policy #01.01.050). All items with a text form field must be complete at the time this document is issued. Other items are completed by the Contractor with each billing. *Note: If a revised NTP is required, do not reissue this document; use the "c-2 ntp" or "c-3-cr.ntp" form.*

2. Contractor – If this Contract Award & NTP is unacceptable, notify the Contracting Agency immediately. If acceptable, acknowledge by signature where indicated on page 1 ***on a copy*** of this document and return the signed copy within ten days after your receipt. ***Retain the unmarked, as issued, document to be used for reproduction and billing.***

3. Contractor – Submit Invoices to the Agency Contract Manager named on page one of this document. Contractor may use the firm's invoice forms; however the Contractor must also ***provide a copy of page one of this form as the FACE PAGE of each invoice submitted and with the following entries under "Invoice Summary" and "Contractor's Payment Request" accurately completed:***

    a) Indicate if the Invoice is for Progress or Final Payment and enter the Sequential Invoice Number for this Contract.

    b) In each column (c, d, e, f & g) where there is an Authorized Amount, show amounts for: Prior APPROVED Payments; THIS INVOICE; Prior Payments plus this Invoice; and Balance of Authorized Amounts.

Note ***"Prior APPROVED Payments" amounts might not equal the total of all prior invoices if some items were disallowed or adjustments were made. If a prior billing has not been acknowledged with any payment, or a different amount from the billing was paid without any notification of the reason(s), Contractor may attach a request for an explanation and remedial action.***

4. Contractor – Sign and date under "CONTRACTOR'S PAYMENT REQUEST" thereby attesting to the following:

    "By signature hereunder, the Contractor certifies entries to be true and correct for the services performed to date under or by virtue of said Contract and in accordance with AS 36.30.400. The Contractor further certifies that all applicable Federal, State and Local taxes incurred by the Contractor in the performance of the services have been paid and that all Subcontractors engaged by the Contractor for the services included in any invoice shall be fully compensated by the Contractor for such services."

5. Contractor – Substantiate all charges on each invoice, other than for Fixed Prices or Fixed Fees, by attaching a summary of hours expended and hourly labor rate per employee; summary of units completed; subcontractor invoices; expense receipts, etc., or other proof of expenditures.

6. Contractor - ***Prime Contractor's Labor and Indirect Cost shall be billed to the Contracting Agency within 45 days of performance. Subcontractors' Labor and Indirect Cost shall be billed to the Contracting Agency within 60 days of performance. All of the Contractor's and Subcontractors' Other Direct Costs (Expenses) shall be billed to the Contracting Agency within 90 days of being incurred. Charges submitted after the above stated times will, at the Contracting Agency's discretion, not be paid.***

7. Contractor – When this Contract is approximately 75% complete, the Contractor shall determine if the Authorized Amount(s) might be exceeded; and, if so, shall provide an estimate of cost to complete. The Contracting Agency will determine after discussion with the Contractor if additional cost is reasonable and does not include costs that should be absorbed by the Contractor. If additional cost is validated, a negotiated Amendment will be executed which either (1) reduces the scope of services/work products required commensurate with the Authorized Amount(s), or (2) increases the Authorized Amount(s) to that required for completion of the original contract.

8. Amendments – if required – will be issued per Article A8 of Appendix A, General Conditions, as contained in the Standard Provisions Booklet.

END OF PART C

STATEMENT OF SERVICES
APPENDIX B

Seward Hwy MP 50 to 75 Pavement Preservation
Post Construction Survey Services

RFP No: 25192022
IRIS Program No: Z566850000 / Z580800000
Federal Project No: 0A32022 / 0A32023
Date Prepared: 9/25/2018

ARTICLE B1

INDEX

ARTICLE B2
GENERAL CRITERIA FOR SURVEYING AND MAPPING SERVICES

B2.1 Standards. The Contractor shall perform the services to standards called for in the Alaska State Professional Land Surveyors (ASPLS) Standards of Practice, the California Geodetic Control Committee (CGCC) Standards for Band IV surveys, U.S. COE Manual EM-1110-1-10000 for Photogrammetric Mapping, or the DOT&PF Construction Surveying Requirements, as appropriate to the services being performed.

All studies, reports and services shall be performed in accordance with applicable codes, regulations and standards; professional practice procedures; and commonly recognized surveying and mapping methods. The contractor shall package the deliverable in an electronic format using folders. The Contractor shall not begin surveying for design, surveying for right-of way, or right-of-way mapping without specific written authorization from the Contracting Agency.

B2.2 Considerations. The Contractor shall consider the geographical location of the project as well as other environmental and site specific constraints when performing services. The Contractor shall procure the necessary right of entry permissions when required, including private property, any Native Allotments, and Alaska Railroad property.

B2.3 Registration. All survey services shall be conducted by, or under, the direct supervision of a Professional Land Surveyor (PLS) holding current registration in the State of Alaska. A PLS shall be an active, on-site field supervisor of the survey crew. A PLS shall also be directly involved in the preparation of all survey deliverables.

B2.4 Field books. The Contractor shall furnish hardbound field books for recording survey information. The books shall become the property of the Contracting Agency after the survey information has been entered and the contract completed. Each book shall be labeled with the project name and an appropriate title, e.g. Horizontal Control, Vertical Control, etc., and shall have an index and comments page. The index page shall reference the contents by page number. A readable PDF copy of the field books is acceptable.

B2.4.1 Field notes shall be kept in a neat and orderly fashion. All pages shall be consecutively numbered, showing date, weather, and crew names. All abbreviations used shall be described on the comments page. Sketches are to be used frequently and shall be detailed enough to assist in following the progression of the services. Notes and sketches shall be adequately detailed to convey their intent to a person who is not familiar with the project. Descriptions of all monuments or other points, recovered or set, are to include the data stamped on the monument and the condition of the monument.

B2.5 Units. U.S. Customary System of Measurement (foot units) shall be used throughout development of the project. Any metric conversions required shall be based upon the U.S. Survey Foot (3937 feet = 1200 meters exact).

B2.6 Drawings, Plats, and Maps shall be prepared in electronic format as specified by the Contracting Agency.

B2.6.1 Unless otherwise stated, the format and standards for all drawings will be according to the most current DOT/PF Central Region Design Drafting Manual. These standards are available upon request. The plotted scale shall be as specified by the Contracting Agency.

B2.6.2 Drawings shall be produced and provided in English (U.S. Survey foot units) format. Distances will be shown in horizontal ground foot units. Areas shall be annotated with "Ac." for acres, and "sq. ft." for square feet. Metric units shall not be shown on drawings developed for design work, unless requested to do so by the Contracting Agency.

B2.6.3 All linework and lettering must be of professional quality and all line widths and lettering sizes must be of such size that all information can be clearly shown without overlap or confusion. All lettering must be a minimum size of 0.1 inch at a full-scale plot. Lettering and linework must be in the appropriate black drafting ink. AutoCAD style names and fonts shall follow the Contracting Agency's specified standards. See the current Design Drafting Manual (B2.6.1)

B2.6.4 Linework shall not run through text. Do not break lines at text; mask the linework using color 155 solids. Solids shall be placed on the same layer as the text that the solid lies under.

B2.6.5 Drawings are to be accurate models of the data shown, e.g.; a line labeled N 10°00'00" E 104.35' shall be electronically drawn exactly as labeled, a line that is shown to terminate at a monument symbol shall be electronically drawn with no distance between the endpoint of the line and the center of the symbol, etc.

B2.6.6 All CAD work within Model Space shall be color by layer. The drawing shall include metadata, to include: control statements, drawing notes, and any other survey related info shown as text within Model space. The drawing shall be purged before submitting. Zoom to extents and remove any extraneous features. Check to ensure that all symbols are the same scale, which should be the plotted scale of the drawing. A standard DOT&PF north arrow, a legend depicting only the symbols and linework used on that sheet, a foot unit bar scale, and standard DOT&PF border will be included on each sheet within the drawing. Do not include any extraneous backup files.

B2.6.7 Final Plans, Maps, and Plats shall be submitted electronically and with solid black ink on 22" x 34" original mylar. All final drawings shall be plotted so that the ink is on the front surface of the mylar. Topographic drawings are not required to be plotted.

B2.6.8 Drawings not meeting these standards will be rejected. All drawing files shall be submitted electronically to the AK DOT&PF Survey Manager upon completion for review. The contractor shall perform their own internal review of these products before delivery, to see that Department standards have been followed.

B2.7 TINs shall be an Autodesk Civil3D Surface or 3D lines with an accompanying LandXML file. Include the TIN boundary as a closed polyline at elevation zero, and the fault lines as 3D polylines. All TINs produced shall be checked by ground based survey methods and by field inspection of contours generated by the TIN.

B2.7.1 A TIN certificate shall be submitted, signed, and sealed by the responsible PLS and shall contain the following: 1) the methods used to gather data for production of the TIN(s), 2) the accuracy of the TIN(s), and 3) the checks used to substantiate the accuracy of the TIN(s). All ground based TIN(s) shall be field checked before final submittal, and this shall be stated on the TIN certificate. All TIN(s) shall be checked by a PLS using withheld Topographic points randomly collected throughout the TIN(s) area. A minimum of 50 points shall be collected. Provide a spreadsheet showing the elevation differences from the TIN(s). A sample certification of TIN is available from the Contracting Agency's Survey Section.

B2.8 Coordinate Files shall be comma-delimited ASCII text files. Data shall be in the sequence Point Number, N, E, Z, and Description. Coordinates shall be given to four decimals for the Northings and Eastings, and two decimals for elevations. Points of unknown elevation shall have a placeholder of -9999 in the Z position. Descriptors are to be case sensitive, e.g.: Rebar5 shall not equal REBAR5. Descriptors for found or set monuments shall follow examples provided by the Contracting Agency.

B2.8.1 Point Numbering Scheme. The following point numbering scheme shall be used:

Range	Use
1-200	Primary Control Set (main project, line-of-sight traverses)
201-300	Primary GNSS Control
301-400	Aerial Control Panels or Naturals (HV's)
401-550	Secondary Control Points (Spikes/Nails)
551-600	Recovered Published Hz. Control (NGS, NOS, etc.)
601-700	Set or Recovered Vertical Control
701-2000	Fnd Mons/Prop Cors
2,001-5,000	Computed/Protracted Points, Search, Pre/Post Stakeout
5,001-20,000+	Topography Survey Points

The Surveyor shall ensure that point numbers used in this task do not conflict with point numbers used in other survey tasks on this project.

B2.9 Electronic Data (drawing files, coordinate files, reports, etc.) shall be submitted on appropriate size and type of digital media.

B2.10 Quality Control shall be performed by the Contractor prior to all submittals. Three dimensional backsight checks shall be recorded at the beginning and end of all instrument setups. Three dimensional coordinate checks shall be recorded at the beginning and end of an RTK GNSS work session. These checks shall become part of the submittal, labeled as "Quality Control Checks" within the Control Summary deliverable. The Contracting Agency will **reject** submittals that do not substantially conform to the requirements of this statement of services.

B2.11 Reviews. Draft documents required under this agreement shall be submitted to the Contracting Agency Survey Manager for review. The Contractor shall allow three weeks for the return of written comments. The Contractor shall address and respond to these comments to the satisfaction of the Contracting Agency prior to submitting the final documents.

B2.12 Submittal Delivery. It is anticipated Deliverables shall be submitted to the Contracting Agency by December 15, 2018.

ARTICLE B3
SURVEYING AND MAPPING SERVICES

B3.1 OVERVIEW

B3.1.1 General. The Contractor shall research all information applicable to the requirements of the assigned project and perform all necessary field and office services necessary to collect geospatial data and to reduce the collected data to a form useful for the Contracting Agency's project.

B3.1.2 Survey Limits and Scope. The survey limits and scope are defined in the attached Exhibit A, Survey Request. **EXHIBIT B and C** depict project control and monuments to recover.

B3.1.3 Survey Services shall be performed in the following sequence unless otherwise directed by the Contracting Agency:

A. Research
B. Pre-Work Meeting with ADOT&PF
C. Control Survey
D. Aerial Photography/Photogrammetry (N/A)
E. Topographic/Planimetric Survey (N/A)
F. Bridge Site(s)/Drainage Survey (N/A)
G. Special Features (N/A)
H. Right-of-Way Survey
I. Right-of-Way Mapping (N/A)
J. Preconstruction Surveying (N/A)
K. Post Construction Surveying (N/A)
L. Right of Way Engineering Closeout Services (N/A)
M. Aeronautical Surveys (As necessary to comply with control and topo) (N/A)

B3.2 Control Surveys

B3.2.1 General. Control surveys include establishing horizontal and vertical control points as directed by the Contracting Agency. The Contractor shall prepare a Survey Control Diagram (SCD) showing the results of the control survey. The SCD will be a recorded document, and as such, will need to meet certain criteria. All points used or tied as a part of these control surveys shall be included in the project coordinate file and shown on the SCD. SCD guidelines are available from the DOT&PF Survey Section. Prior to performing field surveys for the project, the Contractor shall meet with the Contracting Agency's Survey Manager, or their designee, to get existing Department control data and to discuss the control requirements for the project.

B3.2.1.1 Basis of Horizontal Control. When the primary control is provided by the Contracting Agency, it shall be held as the basis of control for the project. Contact the Contracting Agency if the provided control is found to be disturbed or out of tolerance. Any auxiliary control points necessary to augment this control shall be incidental to the task for which it is required. When the primary control is to be performed by the Contractor, the basis of control shall be as directed by the Contracting Agency's Survey Section. The local project coordinate system to be used shall be based upon transformation parameters supplied by the Contracting Agency.

B3.2.1.2 Horizontal Control Standards. All horizontal control survey measurements and references shall be recorded in field books. Electronic data collection can be used to record control data, but is not acceptable as the sole data source for survey measurements. Distances shall be measured and recorded in both feet (nearest 0.01 foot) and meters (nearest 0.001 meter) as a check. Recorded angle sets, at a minimum, will contain 2 direct and 2 reverse measurements of the forward angle right. When the difference between a direct and reverse pointing of an angle pair exceeds six seconds (ten seconds for distances of 150 feet or less), then that angle pair shall be rejected and remeasured. The mean angle right shall be used for all computations. All foresights and backsights shall be of the fixed leg type. Secondary control points may be side-tied in the same manner. Secondary control points shall be, at minimum, a mag-nail in paved areas or a 6-inch spike in unpaved areas.

All traverses performed shall meet or exceed the standards for Third Order Class I, Traverse Surveys as specified in the ASPLS Standards of Practice. All traverses shall be closed; beginning and ending at known points with an allowable linear error of closure of 1:10,000 or better. In no case shall ground traverses run greater than 2 miles between GNSS controlled points. Static GNSS work shall meet current CGCC Standards for Band IV Surveys. Traverse and GNSS network adjustments shall be by simultaneous least squares adjustment methods.

All cadastral, property, or right of way corners controlled with GNSS shall be done using Static GNSS survey methods. These corners are to be considered secondary control and need only to be occupied once, providing there is a minimum of two 20 minute duration vectors from project control computed for the corner position that differ by no more than 0.08 feet horizontally.

The use of Post-Processed Kinematic (PPK) or Real-Time-Kinematic (RTK) GNSS procedures are not allowed for establishing control.

B3.2.1.3 Primary Horizontal Control. For Highway Projects or traverses along road corridors, GNSS control points shall be set at approximately 2 mile intervals within the project limits, in areas where they may be easily traversed in and out of. These points shall be used for both the project horizontal and vertical control. A 9/16" dia. stainless steel rod shall be used for these deep monuments. A minimum 4" dia. well case of length 2.5 feet shall be set around each monument with a protective cap and marker post. These points shall be driven to a maximum of 40 feet or refusal, whichever is less. An acceptable alternative would be to cement a cap into a solid rock outcropping or bedrock, or a dig-in type flared-base monument where conditions warrant.

Additional intervisible traverse points, as needed, shall be set at maximum 1320 foot intervals, and shall consist of a minimum 5/8" x 24" rebar (5/8" x 8" in pavement) with identifying cap. These points shall be located off of the existing paved surface wherever possible, and shall be set at least 0.1 foot below the existing ground surface. No spikes or nails shall be used as the Primary Horizontal Control.

All primary horizontal control points and reference points, found or set, shall be shown on the SCD.

The Contractor shall prepare a narrative horizontal control summary detailing the datum, primary control points used, Basis of Bearings, type of adjustment performed and statistics, problems encountered during the survey, equipment used, etc., which shall include annotated copies of control computations and control adjustments, and a horizontal control statement. For GNSS control surveys, the Contractor shall also provide a RINEX2 format data file of at least 8 hours of GNSS data for at least two control points for at least two different days in the Contractor's control network. **The Contracting Agency recommends logging as much data on as many different days as possible to account for any solar disturbances or other unanticipated problems that might occur**.

B3.2.1.4 Basis of Vertical Control. When primary vertical control is provided by the Contracting Agency, it shall be held as the basis of control for the project. Any auxiliary control points necessary to augment this control shall be incidental to the task for which it is required. When the primary vertical is to be established by the Contractor, the vertical datum shall be determined by the Contracting Agency. Note: A tie to MLLW shall be made for all surveys in or adjoining tidally influenced areas unless specifically directed to do otherwise by the Contracting Agency.

B3.2.1.5 Vertical Control Standards. All vertical control survey measurements shall be recorded in field books. If an electronic digital level is used and the data is recorded electronically the Contractor shall provide annotated copies of the raw and reduced data. All vertical survey circuits shall meet or exceed the standards for third order leveling as specified in the latest printing of the Federal Geodetic Control Committee's Standards and Specifications for Geodetic Control Networks. All vertical control points shall be part of a closed level loop; side-shots are not acceptable. Each loop shall be adjusted and this adjusted elevation used for any further loops. Loop closures and loop-adjusted elevations shall be shown in the field books. The books shall also be used to record descriptions and sketches of vertical control points found or set, condition of found points, and for electronically recorded data the loop information (start point, point(s) controlled, end point, etc.) necessary to interpret the data. Primary vertical control points (BMs and TBMs) shall be controlled by differential leveling. Elevations may be established for secondary control points by closed trigonometric loops, in which case sight distances shall not exceed 750 feet with foresights and backsights of approximately equal lengths, and the line of sight shall clear obstacles by a minimum of 1.5 feet to avoid the effects of adverse refraction. Elevation differences shall be measured and recorded to the nearest 0.01 foot.

B3.2.1.6 Primary Vertical Control. For highway projects or projects along road corridors, primary vertical control points shall be established every ½ mile or less. Existing official bench marks (BMs) shall be used wherever possible, with intermediate temporary bench marks (TBMs) established between them. These TBMs shall be stable objects such as luminaire and signal pole base bolts, spikes in trees, etc. **Wooden utility poles, scribes in concrete, and traverse points shall not be used for TBM's.** Contact the Contracting Agency for direction if no suitable TBM locations exist. Where no permanent official bench marks exist, the Contractor shall establish a minimum of two **permanent bench marks** per project site, or one per mile, whichever is the greater number, for use through project construction. Permanent bench marks shall be at a minimum, 9/16" dia. stainless steel rod driven no more than 40 feet or until refusal into dry ground, encased by a 2.5 foot section of 4" dia. well casing flush with the ground with a rubber cap covering the top of the pipe, or a brass cap cemented into rock outcrops or stable concrete structures, e.g. bridge abutments or building foundations and walls. These points may also satisfy the requirements for Horizontal control, under section B3.2.1.3. A marker post shall be placed near each permanent benchmark, found or set. Refer

to the NOAA Manual NOS NGS 1, Geodetic Bench Marks for recommended guidelines for setting permanent benchmarks.

Primary vertical control points, found or set, shall be described in great detail, identifying the particular physical feature used for the elevation point, and sketches shall be made to aid in this effort. Instructions sufficient to enable someone unfamiliar with the project to find these points shall be recorded; these instructions shall include distances and directions from recognizable terrain features such as major intersections, bridges, buildings, etc. All primary vertical control points, found or set, shall be tied to the project horizontal control and shown on the SCD.

The Contractor shall prepare and provide a narrative vertical control summary detailing the datum, primary control points used, vertical network adjustment data, problems encountered during the survey, equipment used, etc., which shall include an NGS benchmark data sheet if available.

B3.2.2 Survey Control Diagram. The Contractor shall prepare a Survey Control Diagram (SCD) for the project showing the relationship between survey monuments set and found in the field. The SCD typically shows all horizontal and vertical control found or set in the course of a survey, as well as all found or set monuments that exist in the roadway. The SCD will be recorded as a Record of Survey in the appropriate Recording District by the Contracting Agency once approved. In cases where Right of Way Mapping will not take place as part of a project, the Contractor may be required to show all monument ties on the SCD, as directed by the Contracting Agency.

B3.2.3 Survey Control Sheet. (NIC) The Contractor shall prepare a Survey Control Sheet (SCS) for the project showing the relationship between the final project centerline and survey monuments in the field. This differs from a Survey Control Diagram (SCD-see section B3.2.2) in that the SCD does not show the final project centerline. The SCS shall be part of the construction plan set and its principal users will likely be Land Surveyors staking the project centerline prior to and after construction or replacing corners that have been disturbed, Contracting Agency surveyors checking that work, and the Project Engineer to ensure that existing monumentation does not get disturbed. Other near-term users may include Land Surveyors who are performing boundary work in the vicinity of the project. The SCS may be recorded as a Record of Survey, but typically is not. **The SCS must not be prepared before the final design centerline is known**, typically after the Pre PS&E Review. Samples are available from the Contracting Agency's Survey Section.

B3.2.4 Electronic Photographs. To assist in the point identification, verification of markings, condition of monument and accessories, we ask that .jpg digital photographs be gathered of all monuments found, set, or tied. Each corner should have a minimum of three photographs: one readable close-up of the cap, one near distance showing monument condition, and one with an overview of the monument and its surroundings (it helps to have a tripod setup over the point or some other indicator like fiberglass post to find monument in surrounding picture). All original bearing trees and other accessories of record should also be photographed for these corners. The photographs should be indexed by point number, with the point number in the file name to aid identification of the point. Many times a chalkboard or other similar device can be used in the field to identify the point in the photographs by writing the point legal designation and project point number on the board, and placing board in scene of the pictures. Resolution/File Size should be limited to no more than 1Mb per photo, or a resolution of no more than 2048x1356.

B3.3 Surveying for Design

B3.3.1 General. Design Surveys include topographic, hydrographic, photogrammetric, and other geospatial methods of data collection associated with defining the existing ground surface and both natural and man-made features.

B3.3.2 Monument Ties. (NIC) The Contractor shall research, locate, photograph, and verify all monuments within the existing Right-of-Way limits and the proposed construction limits. If the Contracting Agency previously performed a field survey tying monumentation, the existence of these monuments shall be field verified. This will insure that the Contracting Agency can comply with the provisions of AS 19.10.260 and AS 34.65.040, and enable an estimate of quantities to be made. Examples would be Rectangular or Centerline monuments. In the event there is no Right of Way survey performed, these corners will need to be surveyed using the methodology described in section B3.2.1.2, so their position can be accurately reestablished.

B3.3.3 Remote Sensing. (NIC) When directed by the Contracting Agency, the Contractor shall obtain remotely sensed and associated mapping products. The Contracting Agency shall be granted rights to use of the data and associated delivered products, for our project design and other in-house uses, including transmittal to others.

B3.3.3.1 Photogrammetry. As an alternative to ground surveying, the Contractor may use controlled aerial photography to provide planimetric and topographic information. Use of photogrammetric data for this project is subject to the Contracting Agency's approval. As aerial photography may be used for a variety of analyses, the photography shall be natural color and have sufficient scale and resolution to allow for the preparation of the photogrammetric products, which meet the required accuracies and provide economical acquisition. Aerial photography used for topographic mapping products shall be acquired during leaf-free and snow free conditions. Aerial photography used solely for orthophoto products may be acquired with leaf-on conditions. Existing photography may be substituted for new photography with the approval of the Contracting Agency Project Manager. All acquired aerial photography, and all photogrammetric products prepared by the Contractor, shall conform to the guidelines and standards of the US COE Manual EM-1110-1-1000. The Contractor using methods suitable to return the desired mapping accuracies shall control aerial photography used for mapping products. Horizontal and vertical datum for the photogrammetric products shall be on the same datums as that used for the project control. Any photo pre-mark panel points shall be set and controlled for this task, using the same methods and materials as detailed for auxiliary control points presented above for Horizontal and Vertical Control. The Contractor shall determine the number of, location of, and panel size for these points in conjunction with the firm performing the aerial photography. Each photogrammetric control point shall be marked using appropriate panel material. The Contractor shall remove and dispose of all panels set under this contract at the direction of the Contracting Agency. The use of the most cost effective techniques that will provide the specified products is encouraged. All photogrammetric products for development of TINs shall meet the format, content, accuracy and certification requirements of Section B3.3.4.1 through B3.3.4.6 unless directed otherwise by the Contracting Agency.

If aerial photography is acquired for, or available for use on this project, a digital orthophoto, geo-referenced to the project coordinates, shall be provided to the Contracting Agency for use in design. Orthophotos shall be delivered in two formats with the associated world files: uncompressed .TIF, and compressed Mr. Sid image file.

B3.3.4 Topographic Survey. (NIC) Topographic features shall be surveyed using appropriate data collection methods. The Contractor shall provide complete topographic mapping in a single AutoCAD drawing file along with a single TIN upon completion. All points located in these surveys shall be included in the project coordinate file. The Contractor shall:

B3.3.4.1 Define the existing ground surface by creating a Triangular Irregular Network (TIN). The TIN shall be capable of accurately generating 1 foot contours in all areas. Hard shots (pavement, concrete, etc.) shall have vertical accuracy of less than 0.1 foot. The TIN shall incorporate fault lines (grade breaks, existing centerlines, edges of pavement, curbs [flowline and top back], sidewalks, shoulders and/or tops of bank, toes of slope/fill, ditches and/or drainages, etc.) and additional shots as necessary to insure that the TIN accurately represents the **existing ground surface**. The TIN shall not represent water surfaces. Sufficient data shall be gathered along driveways and side streets to allow grade matching. Provide TIN verification in the form of the Contracting Agency's TIN Certificate. (B2.7)

B3.3.4.2 Locate and map all **existing improvements and utilities** (above and below ground) within the survey limits. Mapping of overhead utility wires shall include the apparent low point of the wire sag. Overhead wire crossings shall also be located at the existing and proposed centerlines. Elevations for these points shall be the bottom wire elevation. Locate all attachments (guy wires, pedestals, stand pipes, load centers, lights, etc.) within the project survey limits. This includes, but is not limited to, power, telephone, fuel lines, water and sewer lines, cable television, edge of pavement, fences, signage, and navaids within the survey limits. Note any historical sites located in this area. Caution shall be used to avoid disturbing any historic remnants. Locate the edge of trees and identify the approximate average height of the trees at the edge. Locate the limits of any apparent contaminated soils and waters within the project area. Tie to any Corp of Engineers flood plain datums. For Airports: Heights of towers, antennas and any other structure that could be considered a hazard to aircraft shall be included. Determine location, finish floor elevations, peak roof elevations and a description of all buildings in and within 100 feet of the surveyed area. Locate the first tier of structures lying outside of the proposed airport boundary and within 200 feet of that boundary.

B3.3.4.3 Locate and map all **drainage structures** within the survey limits. Record diameter, length, invert elevations, structure type and condition, high water marks, and apparent flow direction.

B3.3.4.4 Locate and map any **other physical feature, natural or man-made**, including any ordinary or mean high water boundaries that could affect the design of the project, as directed by the Contracting Agency.

B3.3.4.5 After the Contracting Agency has reviewed the provided data, the Contractor may need to **extend the TIN & topographic mapping as specified** by the Contracting Agency.

B3.3.4.6 Locate and tie, both horizontally and vertically, **all proposed and existing geotechnical sample locations.** The Contractor shall stake the baseline or sample locations as directed by the Contracting Agency.

B3.3.5 Bridge Site/Drainage Survey. (NIC) The Contractor shall perform drainage surveys in the vicinity of proposed channel crossings or major drainages. All work shall be tied to project horizontal and vertical control. Surveys shall be performed as specified in the Preconstruction or Drainage Manual unless otherwise directed by the Contracting Agency. The Contractor shall coordinate with the Contracting Agency for site-specific requirements. The data collected for these surveys shall be incorporated into the TIN and topographic files, and all shots taken shall be included in the project coordinate file.

For culverts 36 inches and over in diameter, 4 cross sections upstream and 4 cross sections downstream from the inlet and outlet of said culvert shall be surveyed. The spacing of these cross sections shall typically be equal to the average width of the existing streambed (i.e. 10 feet wide will then have cross sections taken at 10, 20, 30, and 40 feet up stream and downstream). Cross sections shall be taken perpendicular to the existing streambed. Shots shall be taken at: the thalweg, the toe of slope, the edge of existing water, ordinary high water, the top of bank, and one shot past the top of bank. The data collected for these surveys shall be incorporated into the TIN, topographic, and project coordinate files. The Contractor shall perform the following drainage survey work:

B3.3.5.1 For bridge sites, the line of **ordinary high water** shall be located. The Contractor shall search for evidence of extreme high water and locate it at the existing structure. These items shall be located both horizontally and vertically. The Contractor shall complete the appropriate sections of the Contracting Agency's Bridge Site Survey Form.

B3.3.5.2 Prepare a topographic map of each bridge site. The map shall show the ordinary high water elevation (or mean high water in tidally influenced areas) and indicate the edge of water at the time of the survey. All buildings, dikes, rock outcroppings and other physical features shall be noted on the map.

B3.3.5.3 Additional data collection for the Hydraulic Report may be required after the design has reached the Local Review stage.

B3.3.5.4 Prepare a Bridge Site Report, which is a summary in ASCII format noting pertinent information such as horizontal and vertical control basis, date of survey, bridge number, name of water body, ordinary high water coordinate point numbers, extreme high water coordinate point numbers, existing structure coordinate point numbers, and note whether body of water is navigable.

B3.3.6 Special Features. (NIC) The Contractor shall collect ground elevation data necessary and stake the location of project specific appurtenances to the roadway (retaining walls, breakwaters, special ditches, turnouts, sound barriers, etc.) as necessary for their design and field review by the Contracting Agency.

B3.3.7 Deliverable Items. The deliverables shall be organized electronically in folders according to the following list. Only submit what is required for your specific project. Do not submit extra information not required by the Contracting Agency. Name the files and folders according to what they represent. Do not use contractor specific job numbers. CAD drawings should be named in such a manner that anyone can tell what it represents without having to open the drawing. An example would be "Sleetmute_Topo.dwg", and not "06-342.dwg". The Contractor shall submit the following items related to their survey to the AK DOT&PF Survey Section:

Deliverable Description

A. Field Books: The original field books or PDF indexed, reduced, stamped and checked. (B2.4)

Deliverable Description

B. Point Files: An ASCII coordinate file containing all recovered, computed, and topographic points in the local system (if provided). Electronic format shall be submitted. Elevations that are not valid TIN elevations shall be coded as such in the descriptor. (B2.8)

C. Descriptors: An ASCII file listing all descriptors used and an expanded description of their meanings. Descriptors not used on this project shall not be included in this list. (B2.8)

D. Survey Report and Control Summary: Horizontal and vertical control summaries in ASCII format. The Contractor shall also provide stamped annotated copies of control computations and control adjustments, including a check shot report. (B3.2)

E. Survey Control Diagram (Record of Survey): Electronic CAD and PDF copy. (B3.2.2)

F. Survey Control Sheet(s): Electronic CAD and PDF copy. (B3.2.3) **(NIC)**

G. GNSS Data: For GNSS control surveys, the Contractor shall provide RINEX2 GNSS data files of 8 hours length for at least 2 control points, along with any GNSS processing or OPUS reports. (B3.2.1.3)

H. Electronic Pictures: Organized folders containing all of the control, monument ties, and project site photos. Do not use separate folders for each point. If applicable, the point number should be referenced within the image filename. (B3.2.4)

I. TIN: All TIN files with a sealed and signed certificate of accuracy. Quality control check spreadsheet showing the differences from the true values (B2.7). **(NIC)**

J. Bridge Site/Drainage Survey mapping: Electronic drawing files and TIN files (B3.3.5.2) **(NIC)**

K. Bridge Site Report: Refer to the Preconstruction or Drainage Manual, and or the Contracting Agency for possible additional information. (B3.3.5.4) **(NIC)**

L. Project Drawing: A single complete and edited AutoCAD drawing file of the entire survey limits, containing topographic mapping (points, surfaces, annotations, metadata), base-mapping, bridge site/drainage surveys. (B3.3.4) **(NIC)**

M. Air Photo Report: A report of the photogrammetric control shall be provided including all ground control points, aerial photography camera logs, airborne GNSS control procedures and results, analytical aero triangulation results, current camera calibration reports, and other data associated with control of the aerial photography. (B3.3.3.1) **(NIC)**

N. Ortho Photo Mosaic: .tif format files shall be delivered in files less than 250MB in size. A compressed image file in Mr. Sid format shall also be included. An index file showing the project area and the areas covered by the individual files shall be included. (B3.3.3.1) **(NIC)**

B3.4 SURVEYING FOR RIGHT-OF-WAY

B3.4.1 General. The Contractor shall perform the following services to the standards in B3.2. Typically the surveying for ROW is performed after horizontal control is established for the project. Any exceptions shall be discussed at the project pre-work meeting.

B3.4.1.1 Prior to commencement of the survey, the Contractor shall review any title documents and mapping in the Contracting Agency's possession which is considered relevant to the project. The Contractor shall be responsible for researching additional relevant documentation from other sources. These documents include but are not limited to the following:

Bureau of Land Management (BLM) and Department of Natural Resources (DNR) land status plats, BLM township survey plats, Mineral and U.S. Survey plats and field notes, any records of survey, subdivisions, and relevant engineering control surveys, United States Coast and Geodetic Survey (USC&GS)/ National Geodetic Survey (NGS) control diagrams-descriptions, DOT&PF right-of-way records and other easement or boundary documents of record, DOT&PF engineering as-builts, DOT&PF Airport Leasing documents, DNR surveys, and aerial photos, DEC Community Profile Maps, Local or Municipal data.

All research for property corner ties (generally includes local platting authority subdivision plats and right-of-way plats, BLM U.S. Surveys, state land survey plats, waiver documents, deeds, record of surveys and monument records) should be done prior to commencement of searching and tying property and ROW controlling corners.

B3.4.1.2 Tie the nearest Public Land Survey System (PLSS) monuments (Section, 1/4 Section and 1/16 Section Corners) left and right of the project Right-of-Way corridor or if existing monuments that represent the legal corner positions do not exist at those locations, sufficient additional rectangular monuments and/or accessories to control the computations of the legal locations of those corners per the relevant BLM *Manual of Surveying Instructions for Public Lands*. Any corner monument in need of rehabilitation or re-monumentation shall first be photographed, and then have rehabilitation accomplished prior to tying the monument location and re-photographing the final condition. The intent of the PLSS monument ties is to define the larger remaining parcel surrounding the existing road Right-of-Way.

Tie all existing centerline monumentation throughout the project limits including two centerline monuments at each end that extend beyond the limits of the project. Additional PLSS monuments shall be recovered to allow section breakdown for property boundary determination as directed by the Contracting Agency. Tie adequate centerline monumentation on side streets to determine side street alignment to the project limits. A minimum of two side street centerline monuments shall be tied. If side street centerline monuments are not recovered then sufficient block or lot corners will be tied to define the side streets.

For the initial surveys all property corners within and along the existing ROW and the ROW centerlines should be searched for, documented and tied. In most cases, there will be some non-fronting property corners also required to be tied to setup subdivision blocks, survey boundaries and side-street ROWs. Sufficient control is required to establish the location of all surveys adjoining the ROW, or where acquisitions are planned. The extent of the corners to be tied normally is discussed and clarified during contract negotiations or at the survey pre-work meeting.

B3.4.1.3 For projects with PLO ROWs or other ROWs dependent on the physical road location (such as prescriptive claims), tangent as-builts are required. This procedure normally requires the field determination of pavement or unpaved surfaces centerline by physical measurement, and then location of those points. Points are normally surveyed near each tangent end and a minimum of 3 points on curves The number of shots actually required depends on curve length and degree of curve and should be clarified in writing at the pre-work meeting. The Contractor at the direction of the Contracting Agency may also be tasked with developing an alignment and locating existing slope or clearing limits. Please consult the Contracting Agency's ROW Engineering section for guidance.

B3.4.2 Record of Survey. A Record of Survey shall be prepared for recording in the appropriate Recording District for the Right of Way survey. All Right of Way surveying completed above in section B3.4.1 shall be included in the Record of Survey. Consult with the Contracting Agency for guidance in the preparation of the Record of Survey.

B3.4.3 Annotated Plats and Research Documents. (NIC) PDF Copies of all of the research documents for the rectangular survey, centerline monuments, ROW monuments and property corners shall be provided, along with annotations of whether the point was searched for and not found, or monument destroyed, or if found it's corresponding project point number. These annotations do not need to be "works of art", and many times are the original paper plat copies, or scans of such, that the field crews had in the field with them. The annotated plats should be indexed in some method (by Section Location, MOA grid, or other logical means), placed in labeled folders organized by the indexing scheme.

B3.4.4 Additional Topography for Right-of-Way Acquisition. (NIC) The Contractor shall collect all topographic information that may affect the cost and/or schedule of defined right-of-way acquisitions for the project, such as culverts, land service or access roads, improvements, apparent contaminated soils or waters, buried fuel tanks, fences and any structures. Septic system, well and building locations are examples of pertinent data, usually outside of the acquisition area, that may affect the value of the right-of-way to be acquired.

B3.4.5 Deliverable Items. (NIC) The deliverables shall be organized electronically in folders according to the following list. Only submit what is required for your specific project. Do not submit extra information not required by the Contracting Agency. Name the files and folders according to what they represent. Do not use contractor specific job numbers. CAD drawings should be named in such a manner that anyone can tell what it represents without having to open the drawing. An example would be "Sleetmute_ROW.dwg", and not "06-342.dwg". The Contractor shall submit the following items related to their Survey to the AK DOT&PF Survey Section:

Deliverable Description

A. Field Books: The original field books or PDF indexed, reduced, stamped and checked. (B2.4)

B. An ASCII coordinate file containing all recovered, computed, and topographic points in the local system (if provided). Electronic format shall be submitted. Elevations that are not valid TIN elevations shall be shown as -9999. (B2.8)

C. An ASCII file listing all descriptors used and an expanded description of their meanings. Descriptors not used on this project shall not be included in this list. This file shall be submitted with the draft coordinate file. (B2.8)

D. Right of Way Survey Report Memo. A brief description of the survey methods, equipment, computations, quality control checks and accuracy estimates.

E. Survey Control Diagram (Record of Survey): Electronic CAD and PDF copy. (B3.2.2)

F. Annotated Plats and Research Documents. (B3.4.3)

G. GNSS Data: For GNSS control surveys, the Contractor shall provide RINEX2 GNSS data files of 8 hours length for at least 2 control points, along with any GNSS processing or OPUS reports. (B3.2.1.3)

H. Electronic Pictures: Organized folders containing all of the control, monument ties, and project site photos. Do not use separate folders for each point. If applicable, the point number should be referenced within the image filename. (B3.2.4)

B3.5 RIGHT-OF-WAY MAPPING (NIC)

B3.5.1 General. The Contractor shall perform the services necessary to establish the existing Right of Way, and, prepare ROW Lines for Construction Plans, Base Maps, Right of Way Maps, Parcel Plats, Airport Property Plans, Airport Land Occupancy Maps, and Right of Way Acquisition Plats in accordance with the DOT&PF Right of Way Manual and specific instructions from the Contracting Agency.

B3.5.2 ROW Lines for Construction Plans. The Contractor shall submit an electronic drawing file which contains the existing ROW lines, existing ROW centerline, adjoining property lines and subdivisions. The Contractor shall include a narrative of the ROW that is being shown. Narrative shall include source documents and methods used to determine existing rights-of-way.

B3.5.3 Base Maps shall show the entire project limits and shall include a DOT&PF standard Right of Way title sheet, legend sheet, tract maps, plan sheets, monument summary sheets, and general notes sheet including a source document table using Contracting Agency supplied AutoCAD format at the scale and layout specified by the Contract Manager. The plan sheets shall show the following information:

A. Existing property boundaries, including all Public Land Survey System survey lines.
B. All subdivisions, including name, plat number, lot and block, or aliquot part description, and easements as shown.
C. Existing right of way centerline.
D. Existing rights-of-way
E. Improvements.
F. Other features required by the Right of Way Manual and /or the Contracting Agency.

B3.5.3.1 When preparing Base Maps, the Contractor shall (a) thoroughly document sources of existing rights-of-way (b) resolve problems with existing Right of Way and boundary locations and (c) analyze preliminary engineering information to determine where additional survey ties are required. The Contractor shall provide a written summary of (any significant) Boundary Problems encountered in making specific boundary determinations, including rationale for the solution. The Contractor shall provide digital copies of all research with the preliminary Base Map.

B3.5.3.2 The Contractor shall not begin preparing Base Maps without prior specific written authorization from the Contracting Agency.

B3.5.4 Right of Way Maps shall show the entire project limits and shall include a DOT&PF standard Right of Way title sheet, legend sheet, tract maps, plan sheets, and monument summary sheets. The plan sheets shall show all the information required for the Base Maps plus the following information:

A. Proposed Right of Way.
B. Proposed project centerline.
C. Station and offsets to right of way limits.
D. Easements.
E. Parcels.
F. Parcel Information Block.
G. Proposed slope limits.
H. Revision block.
I. Other features required by the Right of Way Manual and /or the Contracting Agency.
J. For Airport Property Plan and Airport Acquisition Plat (in addition to the above):
    1. Plan view showing Tracts and Parcels.
    2. Runway Centerline end coordinates in the NAD83 CORS datum.

B3.5.4.1 When preparing Right of Way Maps, the Contractor shall:

A. Resolve survey conflicts with existing right of way and boundary locations.
B. Analyze preliminary engineering information to determine where additional survey ties are required.
C. Examine Title Reports and adjust preliminary boundaries, add additional easements and update owner information as required.
D. Compute the Take and Remain areas of each parcel based on right of way requirements supplied by the Contracting Agency.
E. Prepare Map per appropriate platting codes.

B3.5.5 Parcel Plats. The Contractor shall prepare plats for all parcels to be acquired for this project when directed by the Contracting Agency. Note: full takes do not need a parcel plat prepared. Parcel plats shall contain the information required by the DOT&PF Right of Way Manual. . The Contractor shall make revisions to Parcel Plats requested by the Contracting Agency. Parcel Plats shall use the Contracting Agency's standard 8-1/2 by 14 inch format and be submitted as a PDF or in a format specified by the Contracting Agency. Plats shall be at a scale suitable for legibility and clarity of detail using Contracting Agency supplied AutoCAD format and shall contain information as required by the DOT&PF Right of Way Manual and the parcel plat checklist. A Title block and border drawing file will be supplied by the Contracting Agency.

B3.5.6 Airport Property Plan and Airport Acquisition Plat. The Contractor shall prepare an Airport Property Plan according to the DOT&PF Right of Way Manual. The Airport Property Plan is considered similar to a Base Map and relates the existing property boundary and property status. An Airport Acquisition Plat is necessary for acquisition areas in the Unorganized Borough and is required to follow the regulations as set for Right-of-Way Acquisition Plats by Department of Natural Resources.

B3.5.7 Airport Land Occupancy Maps. The Contractor shall research current and historic airport tenant lease documents, resolve any found discrepancies and map errors, and provide an updated Airport Land Occupancy (LO) Map, as directed by the Contracting Agency.

B3.5.8 Right-of-Way Negotiations. The Contractor shall provide technical support for right-of-way negotiations. This shall include interpreting documents prepared for the project and explaining project impacts to the Contracting Agency's personnel, property owners, and others. The Contractor shall also attend meetings as required to make presentations and answer questions.

B3.5.9 Pre-Acquisition Meeting. When requested by the Contracting Agency, the Contractor shall attend the pre-acquisition meeting. The purpose of this meeting is to discuss proposed project features and impacts to adjoining properties and parcel configuration prior to plat approval and acquisition. The Contractor should be prepared to discuss any design features which may affect adjoining properties such as project alignments, pathways, sidewalks, medians,

curb and gutter, slope limits, impacts to driveways and utilities. Adjoining property information shall include lot boundaries, buildings, driveways, and any other features/improvements that will help the Contracting Agency in negotiations with affected property owners and others to assess project impacts. In addition to preliminary right of way plans, the Contractor may be requested to provide additional visual displays for clarification.

B3.5.10 Reviews and Schedule. The Contractor shall submit drafts of the Base Maps, Right of Way Maps and Parcel Plats, for the Contracting Agency's review, in accordance with the following: Base Maps shall be submitted with the Local Review Assembly. Right of Way Maps including proposed takes for project construction shall be submitted with the Plans-In-Hand Review Assembly. Right of Way Maps including proposed takes for the project and all required utility relocations shall be submitted within four months of the Plans-In-Hand Review submittal. Current Right of Way Maps shall be submitted with the PS&E Assembly. The Summary of Boundary Problems shall be submitted with the drafts of Base Maps. The Contracting Agency shall have a minimum of four weeks for the return of written comments. The Contractor shall address comments to the satisfaction of the Contracting Agency prior to submitting final documents for Right of Way Certification.

B3.5.11 Deliverable Items. The Contractor shall submit draft and final Base Maps, Right of Way Maps and Parcel Plats in PDF and DWG format for Contracting Agency review. Electronic copies of all research and the Summary of Boundary Problems shall be submitted with the draft Base Map. If requested by the Contracting Agency, the Contractor shall provide full sized mylars with original signature for recording along with the final Base Map submittal. Prior to Right of Way Certification, the Contractor shall submit two final Right of Way Maps on 11x17 paper with original signatures and one full size mylar with original signature.

B3.5.12 Provided Items. The Contracting Agency will provide the following (item A can be found on the DOT&PF web site. Items B-D can be obtained on the DOT&PF FTP site. Call 269-0680 for site addresses):

A. One copy of the Title and Plans Section from the DOT&PF Right of Way Manual.
B. Samples of final drawings, parcel plats, and title reports.
C. Civil 3D Drawing Template
D. The Contracting Agency's Standard Right of Way legend sheet.
E. Original Title reports for each property to be acquired.

B3.6 Pre & Post Construction Surveying (NIC)

B3.6.1 General. In order to best perpetuate the positions of DOT/PF Project Centerline Monuments, we encourage the use of Static GPS ties to permanent control stations that are set outside project limits, and are expected to last well beyond construction.

B3.6.2 Pre-Construction. When directed by the Contracting Agency upon completion of the design phase of the project, but prior to advertising for construction, the Contractor, using the previously established project control shall monument the project (PC's, PT's, and no-curve PI's, etc.) using conventional methods. All monuments established shall consist of a minimum 5/8" dia. X 24" rebar (5/8" dia. X 8" in pavement) with a 2" dia. cap, and stake nearby. Once set, all monuments shall be photographed and re-tied to verify their position (B3.2), and a comparison to the design coordinates shall be presented to the Contracting Agency in spreadsheet format. This information shall be presented in project staking report.

Static GNSS Control points for this task shall be set at approximately two mile intervals, or closer for a small project, outside of the construction limits, so as to last for the duration of the project. A plan identifying the type of monument to be set for control, and its proposed location, shall be submitted to the Contracting Agency prior to the work being performed. Control points from the design survey effort may be used for this effort upon approval.

Monuments that may be disturbed during construction shall be referenced by static GNSS to the off-project control. It shall be the Contractor's responsibility to coordinate with the Agency or Firm developing the Right of Way Mapping to identify these monuments. Two in line conventional reference points, set outside the construction limits, may be used in the cases where static GNSS will not work. Two vectors at a minimum shall establish the position of the monument to be referenced. These two vectors shall differ by no more than 0.08 feet.

This procedure is further explained here:
http://www.dot.state.ak.us/creg/dot-cadastral/Construction_Surveys/Centerline_Referencing_and_Perpetuation_2011.doc.

B3.6.3 Post-Construction: When directed by the Contracting Agency, and upon completion of the construction phase of the project, the Contractor shall establish and monument the project and a random control line. Monument type and spacing shall be determined in discussions with the Contracting Agency. In the case of a project centerline, the points shall be established using the data from the Pre-Construction effort. Right of Way monumentation that was referenced prior to construction shall be field verified that it was not disturbed. A digital photo shall be required as proof. Any disturbed ROW monuments shall be reestablished as part of this effort. This procedure is further explained here http://www.dot.state.ak.us/creg/dot-cadastral/Construction_Surveys/Centerline_Referencing_and_Perpetuation_2011.doc. A final Record of Survey or data incorporation into the project Right of Way Mapping shall be completed that shows any new monumentation set.

B3.6.4 Final Record of Survey (Airports). When directed by the Contracting Agency, and upon completion of the Construction phase, the Contractor shall complete the final Record of Survey which may include, but is not limited to, the following tasks: FAA Aeronautical Survey, locate all navigational aids, as built the runway using guidelines provided by the Contacting Agency, set or check the airport boundary monumentation, set or check the access road monumentation, tie into older horizontal and vertical datums, and establish threshold coordinates. If land was acquired as part of the project a Right-of-Way Acquisition plat will be developed and recorded in the appropriate recording district.

Deliverable Description

A. Field Books: The original field books or PDF indexed, reduced, stamped and checked. (B2.4)

B. Point Files: An ASCII coordinate file containing all recovered, computed, and topographic points in the local system (if provided). Electronic format shall be submitted. Elevations that are not valid TIN elevations shall be coded as such in the descriptor. (B2.8)

C. Descriptors: An ASCII file listing all descriptors used and an expanded description of their meanings. Descriptors not used on this project shall not be included in this list. (B2.8)

D. Survey Report and Control Summary: Horizontal and vertical control summaries in ASCII format. The Contractor shall also provide stamped annotated copies of control computations and control adjustments, including a check shot report. (B3.2)

E. Record of Survey for centerline and random control, and/or Monument of Record Forms (B3.6.3) if this information is not incorporated with the project Right of Way Mapping closeout effort. (B3.5 or B3.7)

F. Project Staking Report (B3.6.2)

G. GNSS Data: For GNSS control surveys, the Contractor shall provide RINEX2 GNSS data files of 8 hours length for at least 2 control points, along with any GNSS processing or OPUS reports. (B3.2.1.3)

H. Electronic Pictures: Organized folders containing all of the control, monument ties, and project site photos. Do not use separate folders for each point. If applicable, the point number should be referenced within the image filename. (B3.2.4)

I. Right of Way Acquisition plat. (B3.5.6)

J. Airport as-built Record of Survey (B3.6.4)

B3.7 Right of Way Engineering Closeout Services (NIC)

B3.7.1 Right of Way Engineering Services: *Engineering Services* may include identification of field surveying and mapping services necessary to close out the various projects, such as a Record of Survey or ROW Acquisition Plat, but the performance of the identified field surveying and associated mapping services will not be part of the initial *Right of Way Engineering Services*.

A. The Contractor shall perform the services necessary to reconcile the Right of Way conveyance documents with the Right of Way Mapping in accordance with the Department Project Close Out check list, and specific instructions from the Contract Manager.
B. The Contractor should check the centerline and right of way geometry (Bearings, Distances, Curves, Station-offsets, Monument Summary Tables etc.) for any mathematical errors to verify that the right of way can be computed from the information shown.
C. The Contractor shall proof read the vesting documents of record on file with the Department and/or the Recorders Office. The written legal description and parcel plats will be checked against the Right of Way mapping both visually and for mathematical closure.
D. The Contractor shall review the Right of Way mapping. The Right of Way mapping shall include (if it applies) the following information:

    1. Information as defined in the Project Close Out check list.
    2. Lands purchased in excess to the ROW needed for the project. These lands will be identified on the ROW mapping as "X" or "R" parcels on older projects.
    3. Commissioner's Quit Claim Deed or Relinquishment.
    4. Lands acquired from DNR will be referenced to the ADL number associated with the parcel.
    5. Files involving these parcels are contained within the Department Right of Way Section.
    6. Final Judgments need to be researched if there was a declaration of taking on the project.

E. When reviewing the Right of Way mapping, the Contractor shall identify discrepancies among the ROW mapping, written legal descriptions, and parcel plats. The Department will review and approve and/or modify the corrective actions the contractor is to take.
F. When directed by the Department the Contractor shall hand edit the original mylar Right of Way mapping using drafting ink and lettering sets and update any electronic drawings provided by the Department.
G. The Contractor will submit copies of the edited ROW mapping to the Contracting Agency who will then submit the plans to the appropriate platting authority for plat approval. When directed by the Contracting Agency, the Contractor will make the final changes to the mylars and electronic drawings then submit for final review to the Contracting Agency. After platting authority and Department approval the contractor will sign the mylars using the Department's Contractor Closeout Certificate.

B3.8 Aeronautical Surveys (NIC)

B3.8.1 General When directed by the Contracting Agency the Contractor shall perform any and all necessary tasks required by current FAA Advisory Circulars related to the performance and delivery of Aeronautical Surveys. The type and level of effort required will be determined by the Contracting Agency at the time of request. Additional design or ROW survey information may be requested concurrently with an Aeronautical Survey task.

The Contractor shall contact the Contracting Agency's Maintenance and Operation Supervisor, in the appropriate district, to coordinate airport entry procedures and shall exercise caution when working in the vicinity of the runway.

The Contractor shall coordinate with the Contracting Agency prior to fieldwork for threshold locations, runway length, and runway width; no changes to these shall be made without Contracting Agency approval.

Data providers shall make maximum use of existing data for the airport that is traceable to the source to meet the requirements of this Statement of Services before undertaking additional data collection.

B3.8.2 Services. For each of the airports, the Contractor shall perform the following tasks:

The ACs identified below detail the data collection requirements and accuracies for the AOC Survey.
AC 150/5300-16A "General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to the National Geodetic Survey."
AC 150/5300-17C "General Guidance and Specifications for Aeronautical Survey Airport Imagery Acquisition and Submission to the National Geodetic Survey."
AC 150/5300-18B "General Guidance and Specifications for Submission of Aeronautical Surveys to National Geodetic Survey (NGS): Field Data Collection and Geographic Information System (GIS) Standards."

Note: The FAA Airports GIS (AGIS) website and the ACs mentioned above are currently being refined and changes to the process should be expected. The Contractor shall use the most current AC upon the start of work for each airport.

B3.8.3 Record of Survey. A Record of Survey shall be prepared for recording in the appropriate Recording District for the Airport Monuments. All temporary monumentation completed above in Section B3.8.2 shall be included in the Record of Survey. Consult with the Contracting Agency for guidance in the preparation of the Record of Survey.

B3.8.4 Deliverable Items. Deliverables will be submitted to the FAA AGIS Portal, and copies of final FAA approved deliverables will be submitted to the Contracting Agency in a local geodetic system as specified by the contracting agency or developed by the Contractor as directed by the Contracting Agency. The Contractor shall submit, for each airport, the following items:

Deliverable Description

A. AC 150/5300-16A Deliverables:
Geodetic Control Plan
Geodetic Control Data and Report

B. AC 150/5300-17C Deliverables:
Imagery Plan
Georeferenced Imagery & Orthophotos
Orthophotos

C. AC 150/5300-18B Deliverables:
Survey and Quality Control Plan
Airport GIS Survey Data
AutoCAD Support Drawings and Files
Final Project Report & Spreadsheet

ARTICLE 4
ADMINISTRATIVE REQUIREMENTS

B4.1 General. The CONTRACTOR shall be responsible for all tasks and services authorized by a Notice to Proceed signed by the Project Manager and shall perform such services in accordance with the project schedule.

B4.2 Project Schedule. The schedule will be discussed in negotiations. Services are anticipated to be complete by December 15, 2018.

B4.3 Project Staff. All services must be performed by or under the direct supervision of the following individuals. Only prior written approval from the CONTRACTING AGENCY shall accomplish replacement of, or addition to, the Project Staff named below:

Name	Company	Project Responsibilities

B4.4 Professional Registration. Where applicable, all reports, plans, specification, estimates and similar work products provided by the CONTRACTOR shall be prepared by, or under, the supervision of the Registered Land Surveyor in responsible charge for the services. These Surveyors shall be currently registered in the State of Alaska and they shall sign and seal each final work product for what they are responsible.

B4.5 Billing Reports. The Contractor shall provide a two-page (typical) report with each monthly billing for months in which services are performed. The report shall specifically describe the services and other items ***for which the billing is submitted***, and shall estimate the percent the services are complete. Any delayed costs from previous billing periods that are included in the current billing must be clearly explained in the report.

B4.6 Correspondence. All correspondence prepared by the Contractor shall bear the Contracting Agency's assigned Project name and numbers (State & Federal).

B4.7 Contractor Name on Plan Sheets and Documents shall comply with 12 AAC 36.185. No Contractor logos shall be allowed on any electronic or hard copy document produced for the Contracting Agency. The Contractor company name shall be included in the box above or below the engineer's seal on each sheet. Documents produced for the Contracting Agency shall include the Contractor's company name at the bottom right of the first page, cover sheet, or title sheet only. Contractor letterhead shall be allowed only as exhibits in document appendices. The Contractor name shall be in the following format:

PLANS DEVELOPED BY:
COMPANY NAME
ADDRESS
TELEPHONE NUMBER
LICENSING INFORMATION

B4.8 Documents and Reports shall be printed with solid black letters that are double spaced on white, 8.5 inch x 11-inch bond or "Xerox Copy" paper. Other size paper may be used for illustrations if they are folded to 8.5 inch x 11-inch size. Original documents and reports shall be printed on one side of the paper only and shall be ready for copying. Documents and reports shall have no black and white photographs, color photographs, or multicolored graphics except as specifically approved by the Contracting Agency. Original, camera ready, copies of final documents and reports shall be submitted to the Contracting Agency for a check before printing.

B4.8.1 Copies. When the Contract calls for multiple copies of documents or reports, the copies shall be printed on both sides of the paper. However, the cover and pages with approved illustrations, multicolored graphics, or photographs shall be printed on one side of the page only. All copies - except for originals - shall be bound.

B4.8.2 Page Numbers. All documents shall be page numbered to allow every major Section, Chapter, Appendix, etc., to begin on a "right hand," odd numbered page.

B4.8.3 Covers. The cover of all documents and reports shall include the following information:

A. Name of document or report.
B. Date.
C. Indicate whether draft or final.
D. Project Name.
E. State and Federal Project Number(s).
F. Prepared for: Alaska Department of Transportation and Public Facilities.
G. Prepared by:
H. Map and/or picture of project area.

B4.9 Revisions. The Contractor shall modify work products in response to direction from the Contracting Agency. Corrections, adjustments, or modifications necessitated by the review/approval process, but which do not substantially affect the scope, complexity, or character of the services, shall be considered a normal part of the Contractor's services.

B4.9.1 Errors and Omissions. Except as described in this Statement of Services, work products shall be essentially complete when submitted to the Contracting Agency. Work products having significant errors or omissions will not be accepted until such problems are corrected.

B4.9.2 Review Meetings. Following each review the Contracting Agency will provide written comments and may hold a meeting to discuss the issues. The Contractor's personnel who are in responsible charge for the work products under review shall attend the meeting and they may be asked to interpret and provide explanations of the content.

B4.9.3 Comment Resolution. The Contractor shall provide a written response with subsequent submittals that address all written and oral comments from the Contracting Agency. All changes from previous submittals shall be clearly explained.

B4.9.4 Reproduction and Distribution. When the contract requires only the original or only one copy of a work product to be delivered, the Contracting Agency will reproduce and distribute all other copies required. Items delivered for reproduction shall be organized and camera ready for copying and not stapled or otherwise bound.

Exhibit A

SURVEY REQUEST

Project Name:	**Seward Hwy: MP 50-75 Pavement Preservation**				
From: (Section, Design Group)	Surveys		**Date Submitted:**	8/21/18	
Request Initiated by:	Matt Burkholder		**Phone:**	269-0701	
State/Federal/AIP Project #:	Z580800000				
Desired Completion Date:	December 15, 2018	**Activity Code:**		**Phase Code:**	T04000

Project Scope & Survey Limits: **(include exhibits as attachments)**

(Please contact Right of Way Engineering prior to filling this out, as their requirements may directly affect the survey effort required. Include their response)

For each area the following information is needed: Alignment data or physical location of line (exist CL, top bluff, etc.); Desired contour interval; Distance or physical limits left and/or right from line desired. Please provide an attachment for each alignment.

Scope of overall project:

The project was a pavement preservation project (repave) that has been completed by Construction. Prior to construction a Contractor recovered and /or set horizontal and vertical control thru the project. The Contractor also tied all of the centerline and miscellaneous monuments in the road thru the project. During construction the monuments were paved over and the Department's Survey Section has decided not to dig them up to verify their pre-construction position.

Scope of survey work requested:

The Consultant shall verify the existence of horizontal and vertical control from the SRD 2014-2. The control to recover and verify is highlighted in **Exhibit B**. If either a horizontal or vertical control monument needs to be refurbished the Contractor shall reestablish it and report it on the ROS. The Contractor shall also run level loops thru the vertical benchmarks t. No new benchmarks are anticipated to be set.

Locate: (Fill empty slots if desired & Check all that apply)

Improvements		Drainage		Utilities		Right of way/Monuments		Other	
Edge Pvmt., Curbs, etc.		Culverts		Above Ground		Front Corners Only			
Structures		Ditches		O'head X-ings		Front & Back Corners			
Sewer/Septic System		Storm Drain		Inverts		Monuments in Roadway			
Bridge Site Survey						Encroachments			

Vertical Control

Are there any elevation-critical features needing to be located? ☐Yes ☒No

If Yes, which datum are these features to be referenced to? (MSL, MLLW, MHW, Project, Geoid__, etc…)

Monuments in the road

Are there survey monuments in the roadway (from as-builts)? ☒Yes ☐No

Construction Schedule

When is construction anticipated to occur? ALREADY COMPLETED

Completed by _____ Date Completed _____

Notes: _____

(This section for Survey Section use)

Survey Assigned to: Consultant

Estimated Completion Date: December 15, 2018

Project History:
See above…

Hz/Vert Control:
Control highlighted in **Exhibit B,** SRD 2014-2, shall be recovered and evaluated for stability and longevity. Some monuments may need to be reset (anticipate 5 of each). New monuments and refurbished monuments should be tied to existing control and reported on the Survey Control Diagram (SCD), Record of Survey (ROS) for this project referencing SRD 2014-2.

Third Order Levels shall be run through the benchmarks and Temporary Bench Marks (TBMs) do not need to be set for this project. Benchmarks do not necessarily need to be one mile apart either. The Department does not anticipate any new bench marks.

ROW/Monument Ties:

Mining claim corners 1003-1005 (page 4/25, **Exhibit B**) should be verified if they are still existing and replaced if not.

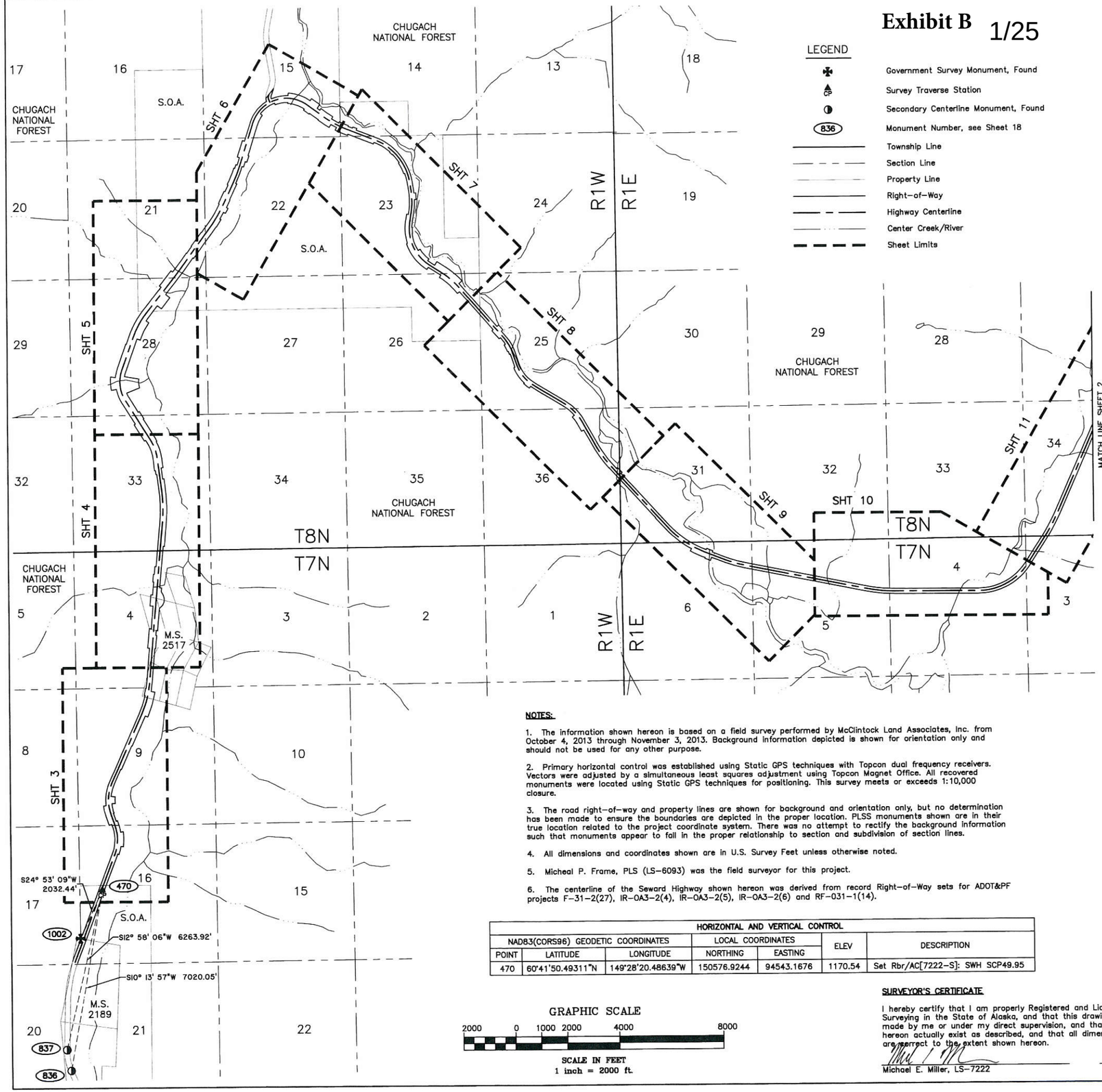
Also, verify that corner 1008 (page 14/25, **Exhibit B;** Monument C**, Exhibit C**) is still existing and tie the corner to the North (page 15/25, **Exhibit B; Monument B, Exhibit C**) If they have been destroyed they should be replaced.

TIN/Topo:
N/A

Other:

Completed by _____ Date Completed_____
Notes:_____

Exhibit B 1/25

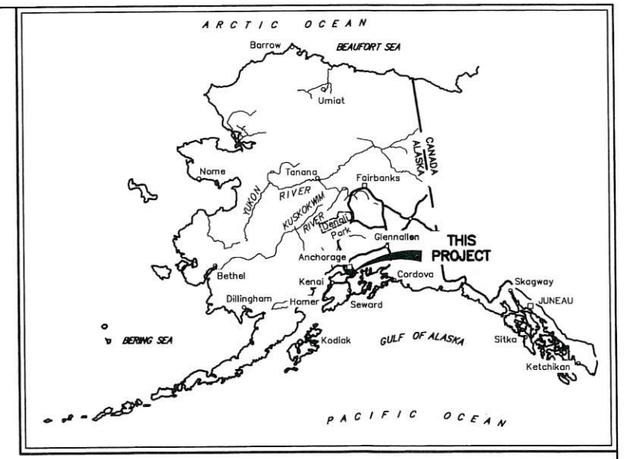


LEGEND

- Government Survey Monument, Found
- Survey Traverse Station
- Secondary Centerline Monument, Found
- 836 — Monument Number, see Sheet 18
- Township Line
- Section Line
- Property Line
- Right-of-Way
- Highway Centerline
- Center Creek/River
- Sheet Limits

T8N R1E, R1W
T7N R1E, R1W
S. M.

Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013



HORIZONTAL CONTROL STATEMENT

Coordinate System:
This project is located entirely within SEW–2, a U.S. Survey Foot local surface grid coordinate system developed by the Alaska Department of Transportation. Seward 2 extends from Mile 36 of the Seward Highway to Ingram Creek.

Basis of Coordinates:
The Basis of Coordinates is NGS Station PF–118, a standard NGS disc crimped to the top of a stainless steel rod, located near the intersection of the Seward and Sterling Highways. Said station has SEW–2 coordinates of 91039.9407 N, 81567.4796 E.

Basis of Bearings:
The Basis of Bearings is a local plane bearing between NGS Station PF–118 and AKDOT GPS Monument G–1, a brass disc crimped to a stainless steel rod, at the intersection of the Seward Highway and the road to Johnson Pass trail. AKDOT GPS Monument G–1 bears N 34° 10' 17.5" E a distance of 86091.01 U.S. Survey Feet from NGS Station PF–118. AKDOT GPS Monument G–1 has SEW–2 coordinates of 162268.1826 N, 129922.4155.

Translation Parameters:
The conversion from the local Sew–2 coordinate system to Alaska State Plane coordinate system, Zone 4, NAD83(CORS96): translate the local coordinates using +2,296,870.1057 feet North and +1,640,621.2309 feet East; then scale resulting coordinates using a scale factor of 0.99988347.

The conversion from Alaska State Plane coordinate system, Zone 4, NAD83(CORS96), to the local Sew–2 coordinate system: scale the State Plane coordinates using a scale factor of 1.00011654; then translate the resulting coordinates using −2,296,870.1057 feet North and −1,640,621.2309 feet East.

VERTICAL CONTROL STATEMENT

Elevations are NAVD29 heights expressed in U.S. Feet. The Alaska Department of Transportation provided elevations for the National Geodetic Survey benchmarks located along this section of the Seward Highway. A Topcon DL–502 digital level was used for differential leveling on this project. Elevations were established on control points from National Geodetic Survey benchmarks by long static observations or differential leveling. National Geodetic Survey benchmarks were not compared to one another throughout the project, and listed elevations on set control in this Survey Control Diagram should be treated as project elevations.

RECOVERED MONUMENTATION

POINT	NORTHING	EASTING	DESCRIPTION
836	143668.5261	93296.1100	Fd AC[AKDOT]: PC 2952+07.12 Seward Highway
837	144472.7692	93137.4590	Fd AC[AKDOT]: PT 2960+33.31 Seward Highway
1002	148733.1955	93687.8935	Fd BC[BLM]: CC S17|S16/MS 2189 INV–2 *T7N R1W SM

NOTES:

1. The information shown hereon is based on a field survey performed by McClintock Land Associates, Inc. from October 4, 2013 through November 3, 2013. Background information depicted is shown for orientation only and should not be used for any other purpose.

2. Primary horizontal control was established using Static GPS techniques with Topcon dual frequency receivers. Vectors were adjusted by a simultaneous least squares adjustment using Topcon Magnet Office. All recovered monuments were located using Static GPS techniques for positioning. This survey meets or exceeds 1:10,000 closure.

3. The road right–of–way and property lines are shown for background and orientation only, but no determination has been made to ensure the boundaries are depicted in the proper location. PLSS monuments shown are in their true location related to the project coordinate system. There was no attempt to rectify the background information such that monuments appear to fall in the proper relationship to section and subdivision of section lines.

4. All dimensions and coordinates shown are in U.S. Survey Feet unless otherwise noted.

5. Micheal P. Frame, PLS (LS–6093) was the field surveyor for this project.

6. The centerline of the Seward Highway shown hereon was derived from record Right–of–Way sets for ADOT&PF projects F–31–2(27), IR–0A3–2(4), IR–0A3–2(5), IR–0A3–2(6) and RF–031–1(14).

HORIZONTAL AND VERTICAL CONTROL

NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
470	60°41'50.49311"N	149°28'20.48639"W	150576.9244	94543.1676	1170.54	Set Rbr/AC[7222–S]: SWH SCP49.95

GRAPHIC SCALE
2000 0 1000 2000 4000 8000
SCALE IN FEET
1 inch = 2000 ft.

SURVEYOR'S CERTIFICATE

I hereby certify that I am properly Registered and Licensed to practice Land Surveying in the State of Alaska, and that this drawing represents a survey made by me or under my direct supervision, and that the monuments shown hereon actually exist as described, and that all dimensions and other details are correct to the extent shown hereon.

Michael E. Miller, LS–7222 — Date 1/15/14

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

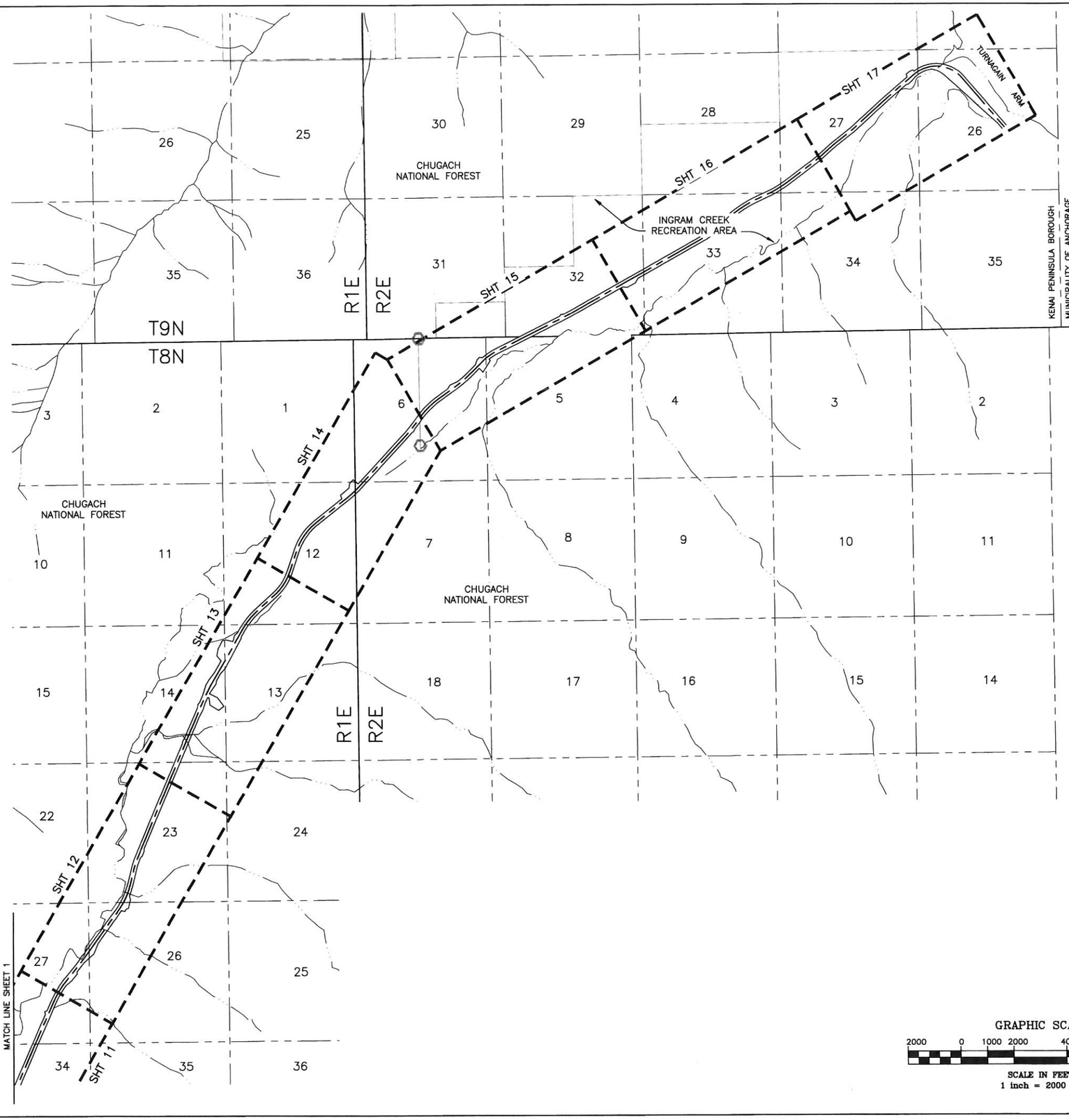
Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903
Seward Highway MP 50–75
Pavement Preservation

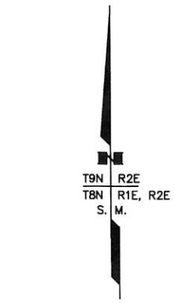
Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12–2–13	SCALE 1" = 2000'	
CHECKED MM	DATE 12–2–13	SHEET 1 OF 25	

Seward recording District PL 2014-2

Exhibit B 2/25





Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

LEGEND

- Township Line
- Section Line
- Property Line
- Right-of-Way
- Highway Centerline
- Center Creek/River
- Sheet Limits

GRAPHIC SCALE

2000 0 1000 2000 4000 8000

SCALE IN FEET
1 inch = 2000 ft.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

Seward Recording District PL 2014-2

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903

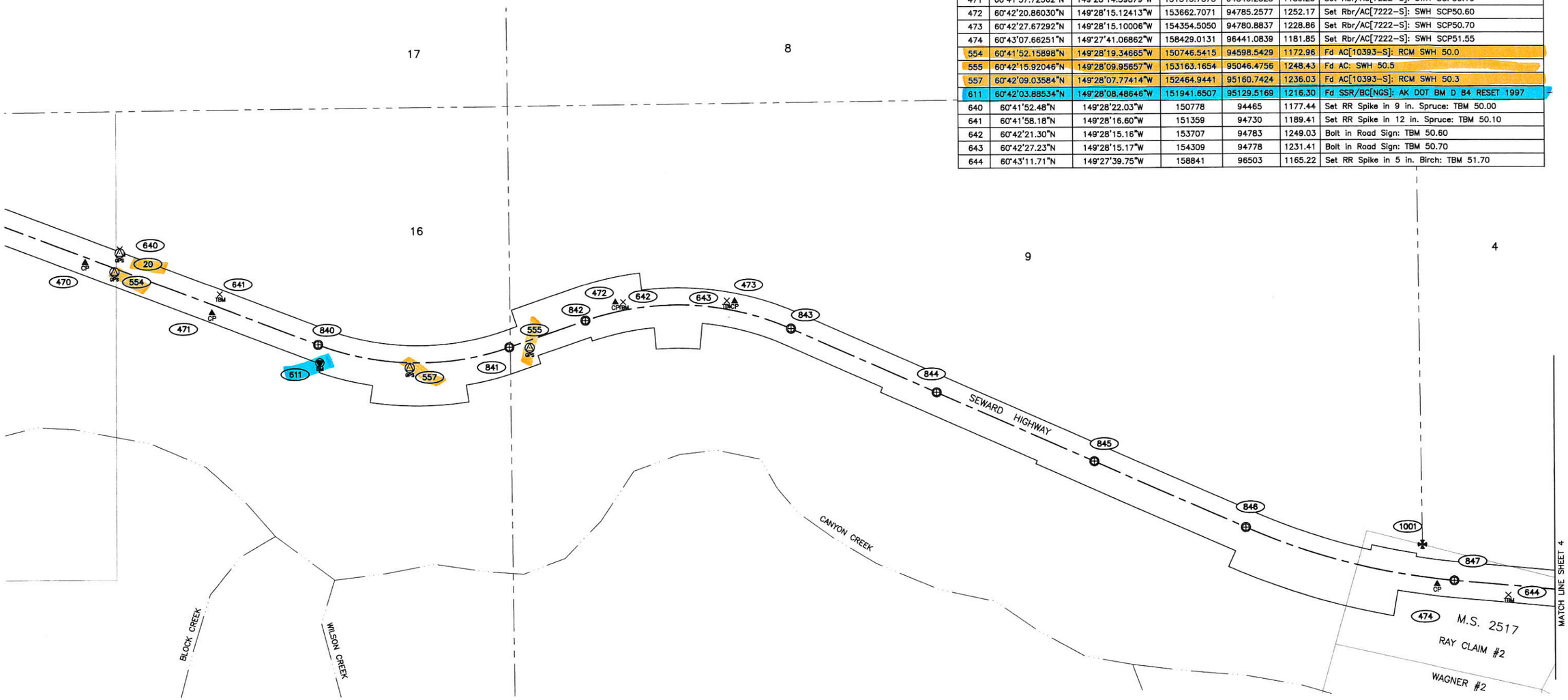
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12–2–13	SCALE 1" = 2000'
CHECKED MM	DATE 12–2–13	SHEET 2 OF 25

Exhibit B 3/25

HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
20	60°41'52.47019"N	149°28'21.54501"W	150777.2640	94488.8595	1175.12	Set AC[7222-S]: SWH RCM50.00
470	60°41'50.49311"N	149°28'20.48639"W	150576.9244	94543.1676	1170.54	Set Rbr/AC[7222-S]: SWH SCP49.95
471	60°41'57.72562"N	149°28'14.39879"W	151313.7873	94840.2828	1189.23	Set Rbr/AC[7222-S]: SWH SCP50.10
472	60°42'20.86030"N	149°28'15.12413"W	153662.7071	94785.2577	1252.17	Set Rbr/AC[7222-S]: SWH SCP50.60
473	60°42'27.67292"N	149°28'15.10006"W	154354.5050	94780.8837	1228.86	Set Rbr/AC[7222-S]: SWH SCP50.70
474	60°43'07.66251"N	149°27'41.06862"W	158429.0131	96441.0839	1181.85	Set Rbr/AC[7222-S]: SWH SCP51.55
554	60°41'52.15898"N	149°28'19.34665"W	150746.5415	94598.5429	1172.96	Fd AC[10393-S]: RCM SWH 50.0
555	60°42'15.92046"N	149°28'09.95657"W	153163.1654	95046.4756	1248.43	Fd AC: SWH 50.5
557	60°42'09.03584"N	149°28'07.77414"W	152464.9441	95160.7424	1236.03	Fd AC[10393-S]: RCM SWH 50.3
611	60°42'03.88534"N	149°28'08.48646"W	151941.6507	95129.5169	1216.30	Fd SSR/BC[NGS]: AK DOT BM D 84 RESET 1997
640	60°41'52.48"N	149°28'22.03"W	150778	94465	1177.44	Set RR Spike in 9 in. Spruce: TBM 50.00
641	60°41'58.18"N	149°28'16.60"W	151359	94730	1189.41	Set RR Spike in 12 in. Spruce: TBM 50.10
642	60°42'21.30"N	149°28'15.16"W	153707	94783	1249.03	Bolt in Road Sign: TBM 50.60
643	60°42'27.23"N	149°28'15.17"W	154309	94778	1231.41	Bolt in Road Sign: TBM 50.70
644	60°43'11.71"N	149°27'39.75"W	158841	96503	1165.22	Set RR Spike in 5 in. Birch: TBM 51.70



LEGEND

- Government Survey Monument, Found
- GPS Control Station
- Survey Traverse Station
- Primary Centerline Monument, Found
- Vertical Bench Mark, Found
- Temporary Bench Mark, Set
- (845) Monument Number, see Sheet 18
- Section Line
- Property Line
- Right-of-Way
- Highway Centerline
- Center Creek/River

RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
840	151932.1578	95025.1256	Fd AC/BX[6101-S]: PC 22+47.66 Seward Highway
841	153044.8794	95042.6110	Fd AC/BX[6101-S]: PT 33+83.14 Seward Highway
842	153487.6351	94890.2691	Fd AC/BX[6101-S]: PC 38+51.34 Seward Highway
843	154681.8951	94941.0862	Fd AC/BX[6101-S]: PT 50+75.05 Seward Highway
844	155527.6846	95315.2622	Fd AC/BX[6101-S]: POT 60+00.00 Seward Highway
845	156442.2552	95719.6026	Fd AC/BX[6101-S]: POT 70+00.00 Seward Highway
846	157318.6312	96107.1194	Fd AC/BX[6101-S]: PC 79+58.26 Seward Highway
847	158527.9823	96418.5357	Fd AC/BX[6101-S]: PT 92+12.72 Seward Highway
1001	158344.9446	96211.1106	Fd BC[BLM]: CC S4/S9|MS 2517 RC-2 *T7N R1W SM

T7N R1W
S4 S9 S16
S. M.

Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

Seward Recording District PL 2014-2

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey

AKSAS Project No. 56685, 56687
56693, 56695, 56903

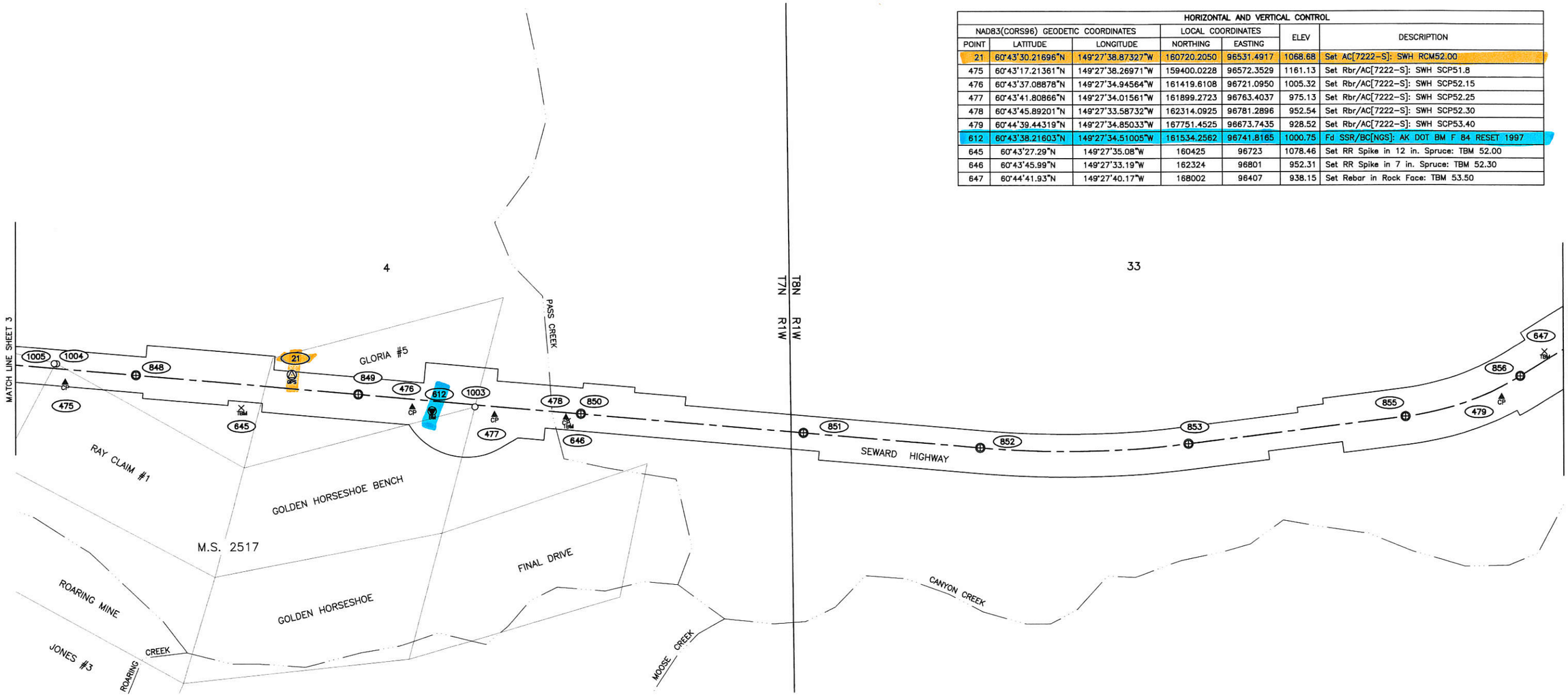
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE 1" = 300'
CHECKED MM	DATE 12-2-13	SHEET 3 OF 25

Exhibit B 4/25

HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
21	60°43'30.21696"N	149°27'38.87327"W	160720.2050	96531.4917	1068.68	Set AC[7222-S]: SWH RCM52.00
475	60°43'17.21361"N	149°27'38.26971"W	159400.0228	96572.3529	1161.13	Set Rbr/AC[7222-S]: SWH SCP51.8
476	60°43'37.08878"N	149°27'34.94564"W	161419.6108	96721.0950	1005.32	Set Rbr/AC[7222-S]: SWH SCP52.15
477	60°43'41.80866"N	149°27'34.01561"W	161899.2723	96763.4037	975.13	Set Rbr/AC[7222-S]: SWH SCP52.25
478	60°43'45.89201"N	149°27'33.58732"W	162314.0925	96781.2896	952.54	Set Rbr/AC[7222-S]: SWH SCP52.30
479	60°44'39.44319"N	149°27'34.85033"W	167751.4525	96673.7435	928.52	Set Rbr/AC[7222-S]: SWH SCP53.40
612	60°43'38.21603"N	149°27'34.51005"W	161534.2562	96741.8165	1000.75	Fd SSR/BC[NGS]: AK DOT BM F 84 RESET 1997
645	60°43'27.29"N	149°27'35.08"W	160425	96723	1078.46	Set RR Spike in 12 in. Spruce: TBM 52.00
646	60°43'45.99"N	149°27'33.19"W	162324	96801	952.31	Set RR Spike in 7 in. Spruce: TBM 52.30
647	60°44'41.93"N	149°27'40.17"W	168002	96407	938.15	Set Rebar in Rock Face: TBM 53.50



LEGEND

- GPS Control Station
- Survey Traverse Station
- Primary Centerline Monument, Found
- Vertical Bench Mark, Found
- Temporary Bench Mark, Set
- Secondary Corner, Found
- 845 Monument Number, see Sheets 18 & 19
- Township Line
- Property Line
- Right-of-Way
- Highway Centerline
- Center Creek/River

RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
848	159810.1712	96531.4005	Fd AC/BX[6101-S]: POT 105+00.00 Seward Highway
849	161105.1657	96645.6681	Fd AC/BX[6101-S]: POT 118+00.00 Seward Highway
850	162400.0515	96759.7862	Fd AC/BX[6101-S]: POT 131+00.00 Seward Highway
851	163695.0042	96873.9090	Fd AC/BX[6101-S]: POT 144+00.00 Seward Highway
852	164722.1301	96964.4462	Fd AC/BX[6101-S]: PC 154+31.10 Seward Highway
853	165932.0286	96942.7349	Fd AC/BX[6101-S]: PT 166+43.57 Seward Highway
855	167195.3214	96786.0037	Fd AC/BX[AKDOT]: PC 7+266.942 Seward Highway
856	167860.9392	96550.5797	Fd AC/BX[AKDOT]: PT 7+483.782 Seward Highway
1003	161784.0328	96717.4100	Fd Rbr/AC[6912-S]: C4 GHB MS 2517
1004	159349.9496	96463.7141	Fd PC[AKDOT]:
1005	159335.9151	96462.7628	Fd PC[AKDOT]:

T7N R1W S4
T8N R1W S 33
S. M.

Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903

Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

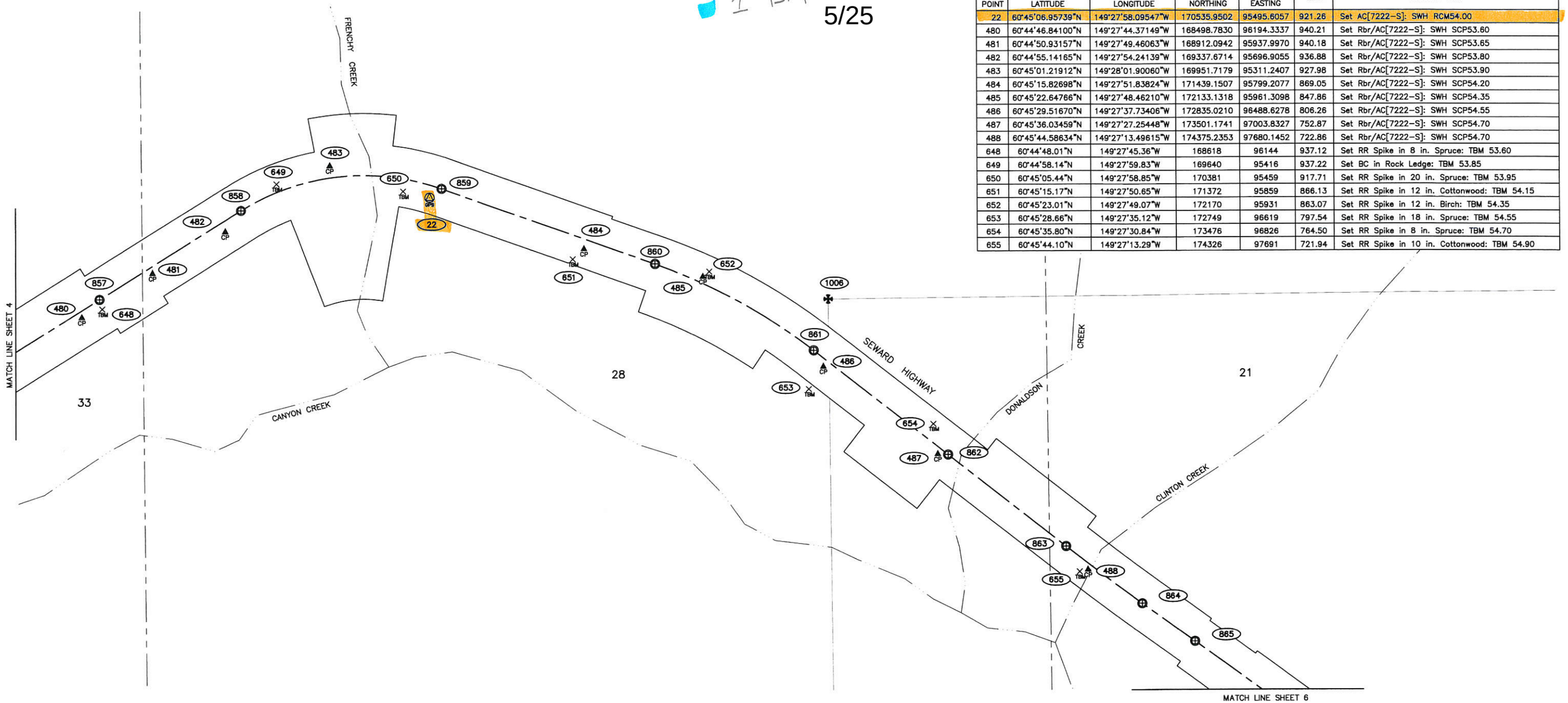
DRAWN SKS	DATE 12-2-13	SCALE 1" = 300'
CHECKED MM	DATE 12-2-13	SHEET 4 OF 25

Seward Recording District 2014-2

Exhibit B
5/25

1 BM

HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
22	60°45'06.95739"N	149°27'58.09547"W	170535.9502	95495.6057	921.26	Set AC[7222-S]: SWH RCM54.00
480	60°44'46.84100"N	149°27'44.37149"W	168498.7830	96194.3337	940.21	Set Rbr/AC[7222-S]: SWH SCP53.60
481	60°44'50.93157"N	149°27'49.46063"W	168912.0942	95937.9970	940.18	Set Rbr/AC[7222-S]: SWH SCP53.65
482	60°44'55.14165"N	149°27'54.24139"W	169337.6714	95696.9055	936.88	Set Rbr/AC[7222-S]: SWH SCP53.80
483	60°45'01.21912"N	149°28'01.90060"W	169951.7179	95311.2407	927.98	Set Rbr/AC[7222-S]: SWH SCP53.90
484	60°45'15.82698"N	149°27'51.83824"W	171439.1507	95799.2077	869.05	Set Rbr/AC[7222-S]: SWH SCP54.20
485	60°45'22.64766"N	149°27'48.46210"W	172133.1318	95961.3098	847.86	Set Rbr/AC[7222-S]: SWH SCP54.35
486	60°45'29.51670"N	149°27'37.73406"W	172835.0210	96488.6278	806.26	Set Rbr/AC[7222-S]: SWH SCP54.55
487	60°45'36.03459"N	149°27'27.25448"W	173501.1741	97003.8327	752.87	Set Rbr/AC[7222-S]: SWH SCP54.70
488	60°45'44.58634"N	149°27'13.49615"W	174375.2353	97680.1452	722.86	Set Rbr/AC[7222-S]: SWH SCP54.70
648	60°44'48.01"N	149°27'45.36"W	168618	96144	937.12	Set RR Spike in 8 in. Spruce: TBM 53.60
649	60°44'58.14"N	149°27'59.83"W	169640	95416	937.22	Set BC in Rock Ledge: TBM 53.85
650	60°45'05.44"N	149°27'58.85"W	170381	95459	917.71	Set RR Spike in 20 in. Spruce: TBM 53.95
651	60°45'15.17"N	149°27'50.65"W	171372	95859	866.13	Set RR Spike in 12 in. Cottonwood: TBM 54.15
652	60°45'23.01"N	149°27'49.07"W	172170	95931	863.07	Set RR Spike in 12 in. Birch: TBM 54.35
653	60°45'28.66"N	149°27'35.12"W	172749	96619	797.54	Set RR Spike in 18 in. Spruce: TBM 54.55
654	60°45'35.80"N	149°27'30.84"W	173476	96826	764.50	Set RR Spike in 8 in. Spruce: TBM 54.70
655	60°45'44.10"N	149°27'13.29"W	174326	97691	721.94	Set RR Spike in 10 in. Cottonwood: TBM 54.90



LEGEND

- Government Survey Monument, Found
- GPS Control Station
- Survey Traverse Station
- Primary Centerline Monument, Found
- Temporary Bench Mark, Set
- (845) Monument Number, see Sheet 19
- Section Line
- Property Line
- Right-of-Way
- Highway Centerline
- Center Creek/River

RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
857	168601.9592	96088.2059	Fd AC/BX[AKDOT]: POT 7+750.000 Seward Highway
858	169430.4876	95571.2669	Fd AC/BX[AKDOT]: PC 8+047.562 Seward Highway
859	170605.6427	95443.6750	Fd AC/BX[AKDOT]: PT 8+420.362 Seward Highway
860	171854.3179	95886.6535	Fd AC/BX[AKDOT]: PC 8+824.196 Seward Highway
861	172778.4458	96394.0275	Fd AC/BX[AKDOT]: PT 9+146.955 Seward Highway
862	173561.6993	97006.4907	Fd AC/BX[AKDOT]: POT 9+450.000 Seward Highway
863	174247.5980	97542.6898	Fd AC/BX[AKDOT]: PC 9+715.371 Seward Highway
864	174690.7973	97877.2759	Fd AC/BX[AKDOT]: PT 9+884.645 Seward Highway
865	174996.6639	98100.1307	Fd AC/BX[AKDOT]: EOP 10+000.000 Seward Highway
1006	172864.6471	96093.2705	Fd BC[BLM]: CN1/16 S28 *T8N R1W SM

Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903

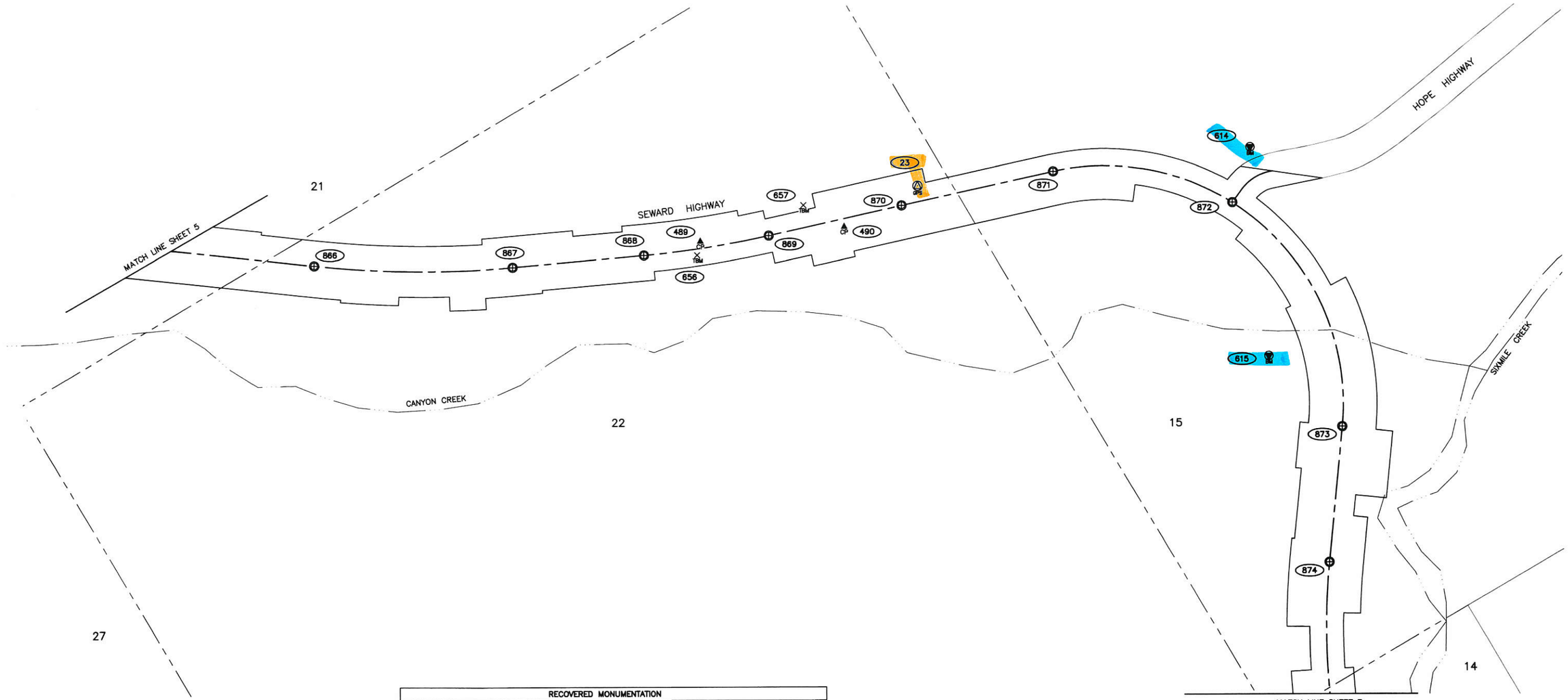
Seward Highway MP 50-75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE 1" = 300'
CHECKED MM	DATE 12-2-13	SHEET 5 OF 25

Seward Recording District 2014-2

Exhibit B 6/25

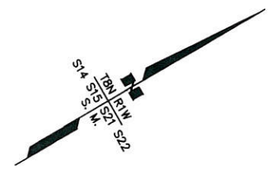


RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
866	176054.3713	98870.7736	Fd AC/BX[AKDOT]: PC 10+398.876 Seward Highway
867	177049.2112	99456.3613	Fd AC/BX[AKDOT]: PT 10+751.283 Seward Highway
868	177743.7862	99778.5011	Fd AC/BX[AKDOT]: PC 10+984.665 Seward Highway
869	178429.0090	100044.1361	Fd AC/BX[AKDOT]: PT 11+208.835 Seward Highway
870	179183.1199	100281.8775	Fd AC/BX[AKDOT]: POT 11+450.000 Seward Highway
871	180043.5286	100553.9305	Fd AC/BX[AKDOT]: PC 11+725.052 Seward Highway
872	180851.9080	101231.1890	Fd AC/BX[AKDOT]: POC 12+054.916 Seward Highway
873	180747.5589	102673.3323	Fd Rbr/AC/BX[AKDOT]: PT 12+518.921 Seward Highway
874	180284.3389	103315.3886	Fd AC/BX[AKDOT]: PC 12+760.209 Seward Highway

HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
23	60°46'33.07264"N	149°26'21.30001"W	179320.6696	100231.0917	546.88	Set AC[7222–S]: SWH RCM55.95
489	60°46'20.76075"N	149°26'28.69434"W	178067.3182	99874.5498	613.27	Set Rbr/AC[7222–S]: SWH SCP55.75
490	60°46'28.27303"N	149°26'21.58604"W	178833.1687	100221.0505	569.06	Set Rbr/AC[7222–S]: SWH SCP55.90
614	60°46'50.55411"N	149°26'05.37786"W	181102.8197	101006.4567	490.92	Fd BC[USC&GS]: L 84 1964
615	60°46'45.39036"N	149°25'43.36029"W	180587.7258	102104.1829	439.25	Fd BC[USC&GS]: M 84 1964
656	60°46'20.20"N	149°26'27.53"W	178011	99933	614.87	Set RR Spike in 8 in. Cottonwood: TBM 55.75
657	60°46'26.89"N	149°26'26.20"W	178691	99993	593.95	Set RR Spike in 6 in. Cottonwood: TBM 55.85

LEGEND

- GPS Control Station
- Survey Traverse Station
- Primary Centerline Monument, Found
- Vertical Bench Mark, Found
- Temporary Bench Mark, Set
- 845 — Monument Number, see Sheet 20
- Section Line
- Property Line
- Right–of–Way
- Highway Centerline
- Center Creek/River



Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

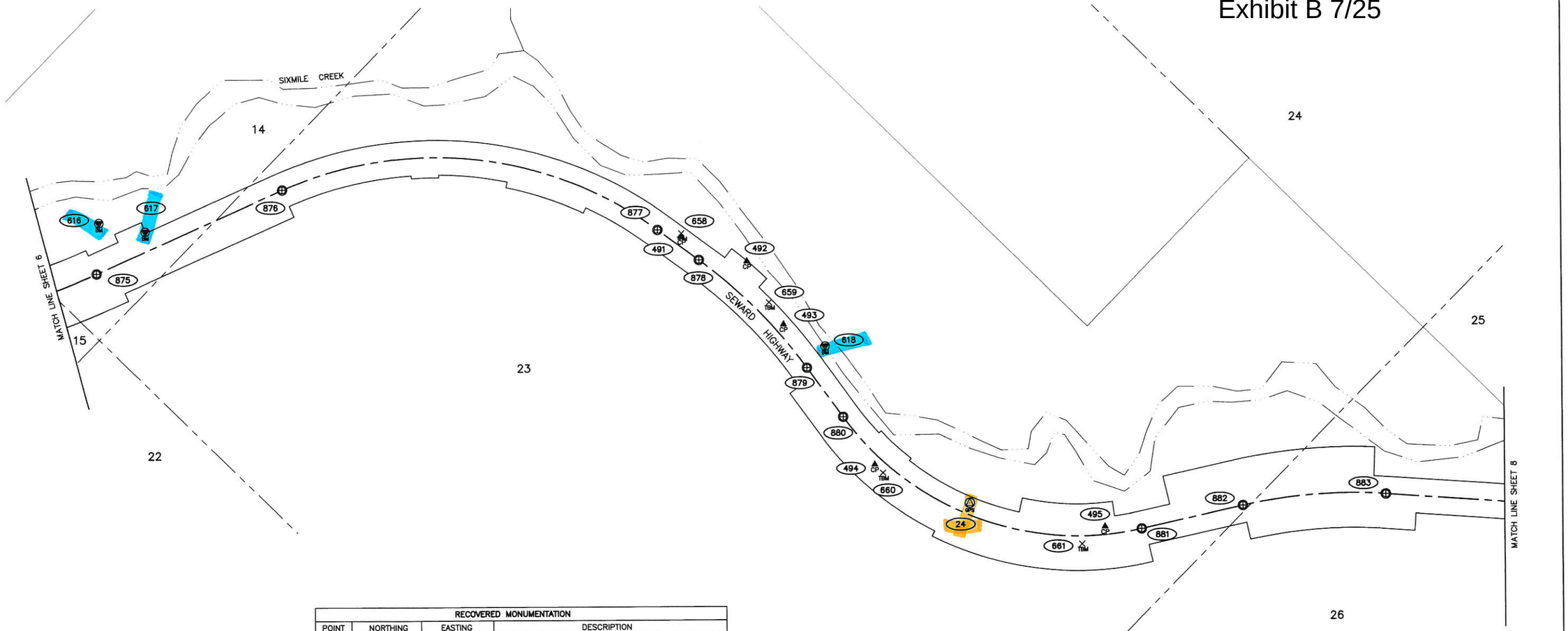
Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12–2–13	SCALE 1" = 300'	
CHECKED MM	DATE 12–2–13	SHEET 6 OF 25	

Seward Recording District PL 2014-2

Exhibit B 7/25



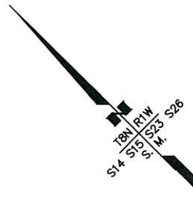
RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
875	179804.0227	104201.7035	Fd AC/BX[AKDOT]: PT 13+068.324 Seward Highway
876	179388.4593	105280.6185	Fd AC/BX[AKDOT]: PC 13+420.759 Seward Highway
877	177720.1228	106621.2029	Fd AC/BX[AKDOT]: PT 14+104.096 Seward Highway
878	177434.3417	106664.8264	Fd AC/BX[AKDOT]: PC 14+192.239 Seward Highway
879	176570.5171	106661.4282	Fd AC/BX[AKDOT]: PT 14+456.637 Seward Highway
880	176229.7024	106606.5792	Fd AC/BX[AKDOT]: PC 14+561.892 Seward Highway
881	174584.4038	107345.1867	Fd AC/BX[AKDOT]: PT 15+143.842 Seward Highway
882	174268.9431	107841.8547	Fd AC/BX[AKDOT]: PC 15+323.165 Seward Highway
883	173741.4347	108458.0425	Fd AC/BX[AKDOT]: PT 15+571.236 Seward Highway

LEGEND

- GPS Control Station
- Survey Traverse Station
- Primary Centerline Monument, Found
- Vertical Bench Mark, Found
- Temporary Bench Mark, Set
- (845) Monument Number, see Sheets 20 & 21
- Section Line
- Property Line
- Right-of-Way
- Highway Centerline
- Center Creek/River

HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
24	60°45'53.67343"N	149°24'10.47729"W	175377.1475	106763.7443	524.64	Set AC[7222-S]: SWH RCM58.05
491	60°46'15.52152"N	149°24'11.58720"W	177595.2181	106688.4448	496.09	Set Rbr/AC[7222-S]: SWH SCP57.65
492	60°46'11.95761"N	149°24'08.37466"W	177234.7710	106851.2883	505.71	Set Rbr/AC[7222-S]: SWH SCP57.70
493	60°46'08.05202"N	149°24'10.62095"W	176837.1610	106743.3306	502.09	Set Rbr/AC[7222-S]: SWH SCP57.80
494	60°45'58.96523"N	149°24'14.85067"W	175912.5315	106541.6249	504.95	Set Rbr/AC[7222-S]: SWH SCP57.95
495	60°45'47.35463"N	149°24'01.63061"W	174739.5080	107209.0522	527.65	Set Rbr/AC[7222-S]: SWH SCP58.25
616	60°46'39.37552"N	149°24'56.94164"W	179997.2281	104414.3846	457.99	Fd SSR/BC[NGS]: AK DOT N 96
617	60°46'37.18660"N	149°24'53.95742"W	179776.2724	104564.5447	476.30	Fd BC[USC&GS]: N 84 1964
618	60°46'05.55098"N	149°24'09.11977"W	176583.8705	106820.2020	495.58	Fd BC[NGS]: AK DOT P 96
658	60°46'15.68"N	149°24'11.31"W	177611	106702	492.54	Set RR Spike in 9 in. Spruce: TBM 57.65
659	60°46'09.50"N	149°24'09.97"W	176984	106774	496.95	Set RR Spike in 20 in. Cottonwood: TBM 57.75
660	60°45'58.32"N	149°24'14.89"W	175847	106540	507.56	Set RR Spike in 10 in. Spruce: TBM 57.95
661	60°45'47.60"N	149°24'04.86"W	174763	107048	531.25	Set RR Spike in Rock Face: TBM 58.25

Seward Recording District PL 2014-2



Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey

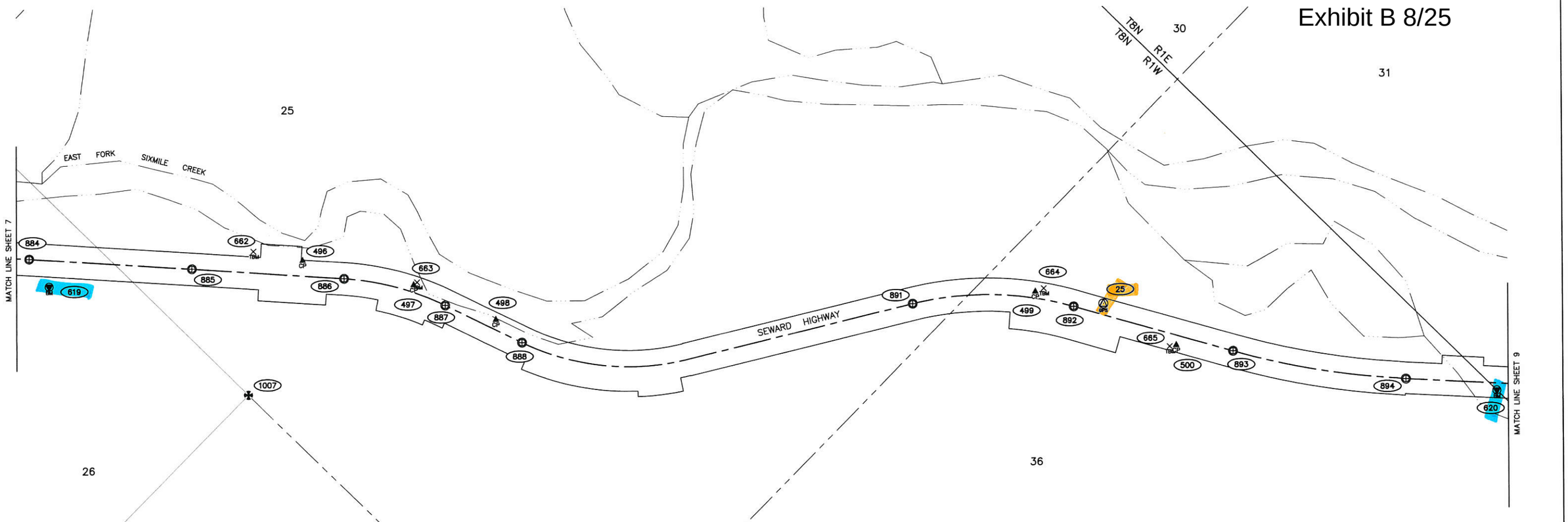
AKSAS Project No. 56685, 56687
56693, 56695, 56903

Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN	SKS	DATE 12-2-13	SCALE 1" = 300'
CHECKED	MM	DATE 12-2-13	SHEET 7 OF 25

Exhibit B 8/25



HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
25	60°44'44.24362"N	149°21'59.52952"W	168387.8668	113336.4304	523.66	Set AC[7222–S]: SWH RCM60.00
496	60°45'20.10395"N	149°23'03.71787"W	171998.9584	110111.9014	499.40	Set Rbr/AC[7222–S]: SWH SCP59.00
497	60°45'14.36542"N	149°22'56.40937"W	171419.6496	110480.5287	499.47	Set Rbr/AC[7222–S]: SWH SCP59.15
498	60°45'09.43357"N	149°22'52.40746"W	170920.7179	110684.1057	498.58	Set Rbr/AC[7222–S]: SWH SCP59.25
499	60°44'47.61006"N	149°22'04.26469"W	168727.4425	113097.7851	529.22	Set Rbr/AC[7222–S]: SWH SCP59.90
500	60°44'39.40260"N	149°21'56.97146"W	167897.5137	113468.3220	523.30	Set Rbr/AC[7222–S]: SWH SCP60.05
619	60°45'29.81775"N	149°23'27.53444"W	172974.3115	108919.3495	507.95	Fd SSR/BC[NGS]: AK DOT Q 96
620	60°44'23.95366"N	149°21'33.72574"W	166339.9736	114639.0674	570.02	Fd BC[NGS]: AK DOT BM S 84 RESET 1997
662	60°45'22.59"N	149°23'07.12"W	172250	109941	495.52	Set RR Spike in 12 in. Cottonwood: TBM 58.95
663	60°45'14.34"N	149°22'55.88"W	171417	110507	498.54	Set RR Spike in 10 in. Spruce: TBM 59.15
664	60°44'47.40"N	149°22'03.26"W	168707	113148	530.46	Set RR Spike in 10 in. Spruce: TBM 59.90
665	60°44'39.64"N	149°21'57.62"W	167921	113436	524.68	Set RR Spike in 12 in. Spruce: TBM 60.05

LEGEND

- Government Survey Monument, Found
- GPS Control Station
- Survey Traverse Station
- Primary Centerline Monument, Found
- Vertical Bench Mark, Found
- Temporary Bench Mark, Set
- 845 Monument Number, see Sheet 21
- Township Line
- Section Line
- Property Line
- Right–of–Way
- Highway Centerline
- Center Creek/River

RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
884	173177.5440	108953.2925	Fd AC/BX[AKDOT]: POT 15+800.000 Seward Highway
885	172437.9357	109602.6743	Fd AC/BX[AKDOT]: POT 16+100.000 Seward Highway
886	171745.3242	110210.9420	Fd AC/BX[AKDOT]: PC 16+380.944 Seward Highway
887	171199.6184	110528.4534	Fd AC/BX[AKDOT]: PT 16+574.578 Seward Highway
888	170712.1785	110697.3353	Fd AC/BX[AKDOT]: PC 16+731.824 Seward Highway
891	169201.3546	112524.7125	Fd AC/BX[4725–S]: PC 508+00.40 Seward Highway
892	168501.8025	113197.3197	Fd AC/BX[4725–S]: PT 517+81.68 Seward Highway
893	167630.4499	113683.4277	Fd AC/BX[4725–S]: PC 527+79.44 Seward Highway
894	166773.5626	114300.7387	Fd AC/BX[4725–S]: PT 538+37.94 Seward Highway
1007	171660.6849	109305.4463	Fd BC[BLM]: 1/4 S26|S25 *T8N R1W SM

Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District PL 2014-2

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey

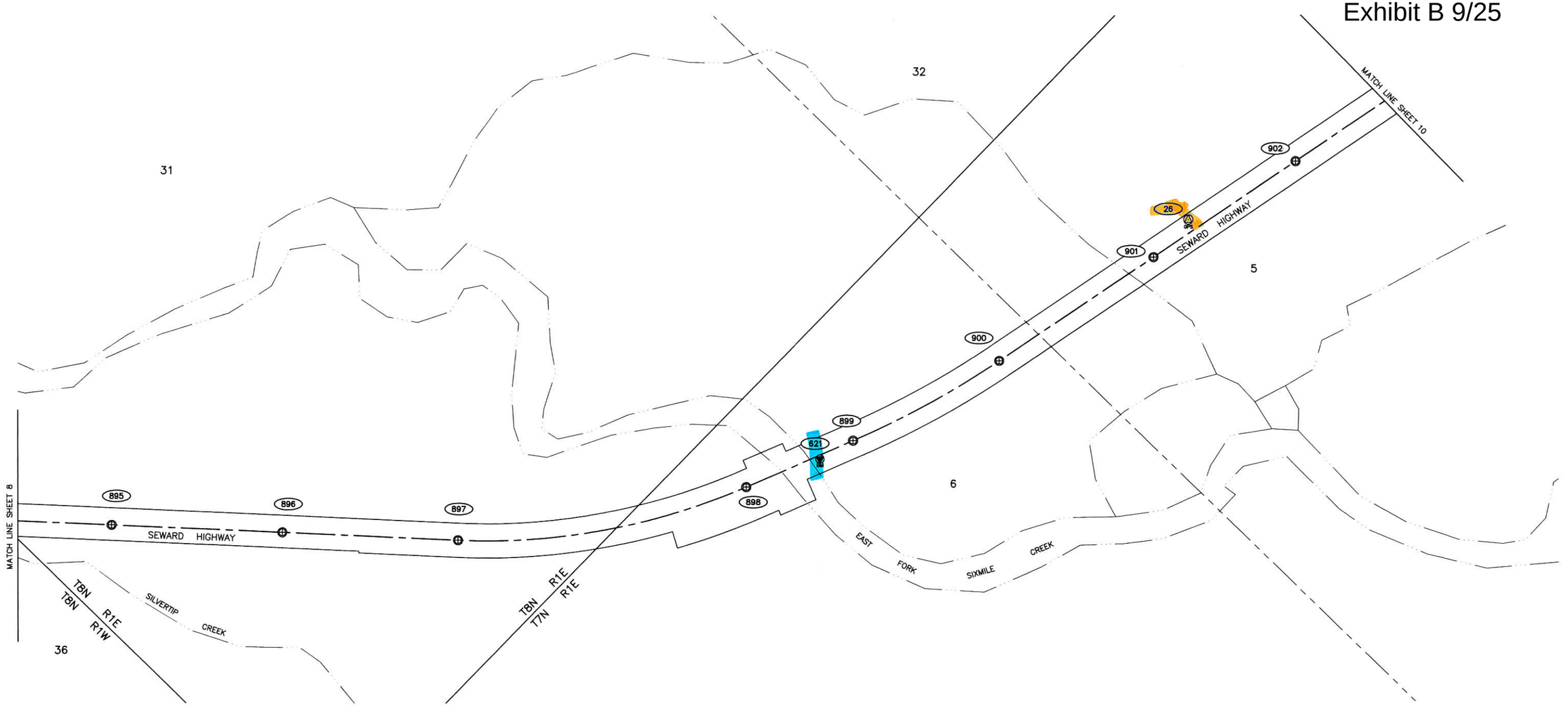
AKSAS Project No. 56685, 56687
56693, 56695, 56903

Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12–2–13	SCALE 1" = 300'	
CHECKED MM	DATE 12–2–13	SHEET 8 OF 25	

Exhibit B 9/25



RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
895	165915.1900	115084.0699	Fd AC/BX[4725–S]: POT 550+00.00 Seward Highway
896	165176.5840	115758.1434	Fd AC/BX[4725–S]: POT 560+00.00 Seward Highway
897	164418.4168	116450.0631	Fd AC/BX[4725–S]: PC 570+26.38 Seward Highway
898	163443.9248	117859.8027	Fd AC/BX[4725–S]: PT 587+54.99 Seward Highway
899	163192.0475	118493.1596	Fd AC/BX[4725–S]: PC 594+36.47 Seward Highway
900	162915.8246	119426.7480	Fd AC/BX[4725–S]: PT 604+11.47 Seward Highway
901	162702.8752	120494.2709	Fd AC/BX[4725–S]: POT 615+00.00 Seward Highway
902	162507.1397	121474.9590	Fd AC/BX[4725–S]: POT 625+00.00 Seward Highway

LEGEND

- GPS Control Station
- Primary Centerline Monument, Found
- Vertical Bench Mark, Found
- (845) Monument Number, see Sheet 21
- Township Line
- Section Line
- Right–of–Way
- Highway Centerline
- Center Creek/River

HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
26	60°43'47.62070"N	149°19'30.69720"W	162711.8296	120792.9834	577.90	Set AC[7222–S]: SWH RCM62.00
621	60°43'53.21204"N	149°20'21.11536"W	163254.1050	118280.0939	570.71	Fd BC[NGS]: AK DOT BM T 84 RESET 1997

Seward Recording District PL2014-2

Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

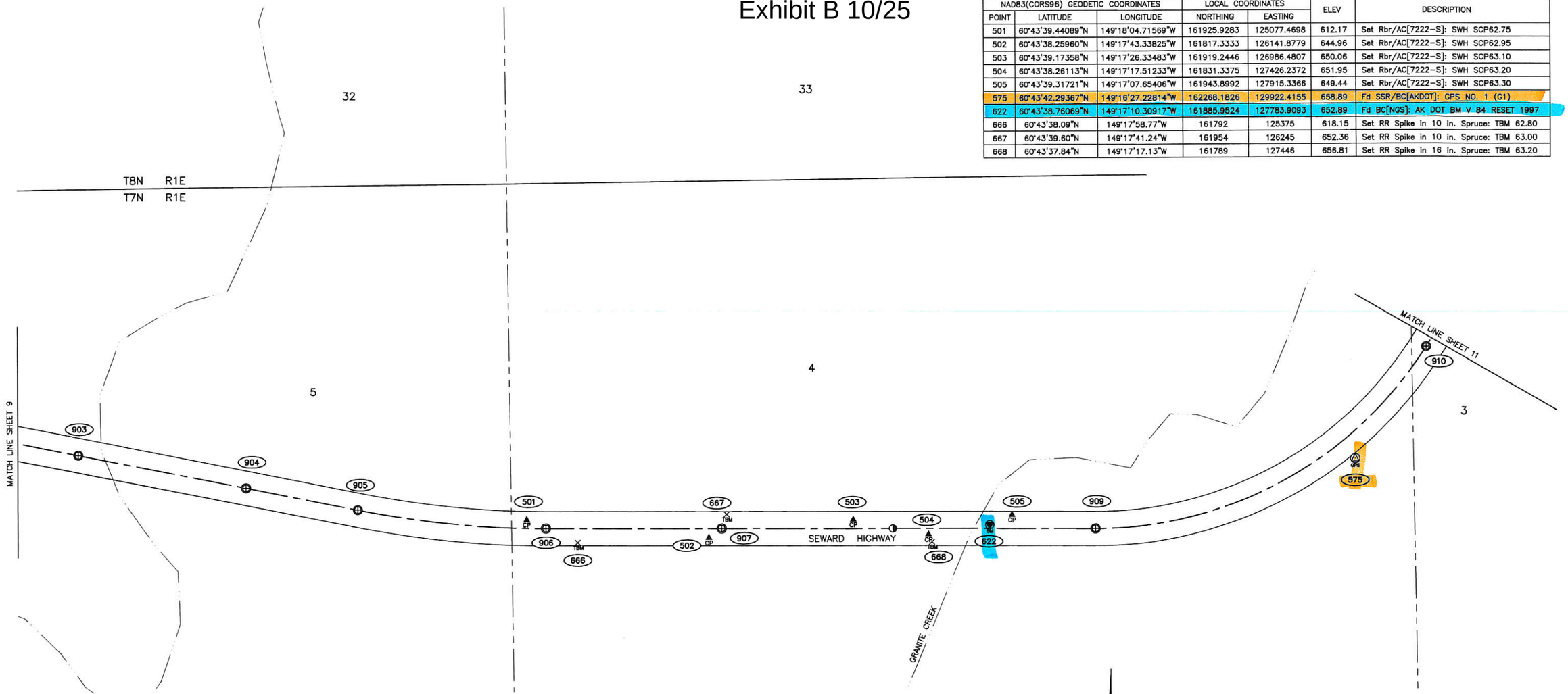
Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12–2–13	SCALE 1" = 300'
CHECKED MM	DATE 12–2–13	SHEET 9 OF 25

Exhibit B 10/25

HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
501	60°43'39.44089"N	149°18'04.71569"W	161925.9283	125077.4698	612.17	Set Rbr/AC[7222-S]: SWH SCP62.75
502	60°43'38.25960"N	149°17'43.33825"W	161817.3333	126141.8779	644.96	Set Rbr/AC[7222-S]: SWH SCP62.95
503	60°43'39.17358"N	149°17'26.33483"W	161919.2446	126986.4807	650.06	Set Rbr/AC[7222-S]: SWH SCP63.10
504	60°43'38.26113"N	149°17'17.51233"W	161831.3375	127426.2372	651.95	Set Rbr/AC[7222-S]: SWH SCP63.20
505	60°43'39.31721"N	149°17'07.65406"W	161943.8992	127915.3366	649.44	Set Rbr/AC[7222-S]: SWH SCP63.30
575	60°43'42.29367"N	149°16'27.22814"W	162268.1826	129922.4155	658.89	Fd SSR/BC[AKDOT]: GPS NO. 1 (G1)
622	60°43'38.76069"N	149°17'10.30917"W	161885.9524	127783.9093	652.89	Fd BC[NGS]: AK DOT BM V 84 RESET 1997
666	60°43'38.09"N	149°17'58.77"W	161792	125375	618.15	Set RR Spike in 10 in. Spruce: TBM 62.80
667	60°43'39.60"N	149°17'41.24"W	161954	126245	652.36	Set RR Spike in 10 in. Spruce: TBM 63.00
668	60°43'37.84"N	149°17'17.13"W	161789	127446	656.81	Set RR Spike in 16 in. Spruce: TBM 63.20



LEGEND

- GPS Control Station
- Survey Traverse Station
- Primary Centerline Monument, Found
- Vertical Bench Mark, Found
- Temporary Bench Mark, Set
- 845 — Monument Number, see Sheet 22
- Township Line
- Section Line
- Right-of-Way
- Highway Centerline
- Center Creek/River

RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
903	162311.5173	122455.6376	Fd AC/BX[4725-S]: POT 635+00.00 Seward Highway
904	162115.7777	123436.3415	Fd AC/BX[4725-S]: POT 645+00.00 Seward Highway
905	161985.5223	124089.5119	Fd AC/BX[4725-S]: PC 651+66.13 Seward Highway
906	161874.9383	125188.2615	Fd AC/BX[4725-S]: PT 662+72.19 Seward Highway
907	161871.0354	126216.0330	Fd AC/BX[4725-S]: POT 673+00.00 Seward Highway
909	161862.5596	128402.3219	Fd AC/BX[4725-S]: PC 694+86.24 Seward Highway
910	162921.4697	130342.9127	Fd AC/BX[4725-S]: PT 717+92.98 Seward Highway

T8N R1E S32 S33
T7N R1E S3 S4 S5
S. M.

Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District PL 2014-2

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE 1" = 300'
CHECKED MM	DATE 12-2-13	SHEET 10 OF 25

Exhibit B 11/25

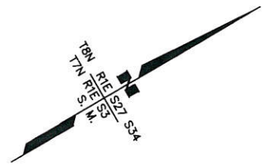
RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
911	163898.9711	130967.0442	Fd AC/BX[4725–S]: PC 729+52.77 Seward Highway
912	164928.6005	131518.3327	Fd AC/BX[4725–S]: PT 741+21.86 Seward Highway
913	166098.1647	132033.8045	Fd AC/BX[4725–S]: POT 754+00.00 Seward Highway
914	167287.8389	132558.0949	Fd AC/BX[4725–S]: POT 767+00.00 Seward Highway
915	168477.4784	133082.3189	Fd AC/BX[4725–S]: POT 780+00.00 Seward Highway
916	169758.6318	133646.9628	Fd AC/BX[4725–S]: EOP 794+00.00 Seward Highway
917	170707.3300	134065.1759	Fd BC/BX[AKDOT]: PC 11+47.94 Seward Highway

LEGEND

- GPS Control Station
- Primary Centerline Monument, Found
- Vertical Bench Mark, Found
- (845) Monument Number, see Sheet 22
- Township Line
- Section Line
- Right–of–Way
- Highway Centerline
- Center Creek/River

HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
27	60°43'56.88265"N	149°16'05.96079"W	163761.3309	130963.5290	702.17	Set AC[7222–S]: SWH RCM64.05
556	60°44'55.55699"N	149°15'11.55883"W	169749.7660	133600.8211	791.53	Fd Rbr[AKDOT]: SWH 65.3
623	60°43'50.72729"N	149°16'13.59765"W	163132.0708	130590.7420	690.26	Fd BC[USC&GS]: W 84 1984
624	60°44'28.96178"N	149°15'34.27580"W	167036.4106	132502.2834	743.98	Fd BC[NGS]: AK DOT BM X 84 RESET 1997
625	60°45'01.76509"N	149°15'07.24270"W	170382.5989	133808.1435	800.54	Fd BC[NGS]: Y 84 RESET 1984

Seward Recording District PL 2014-2



Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey

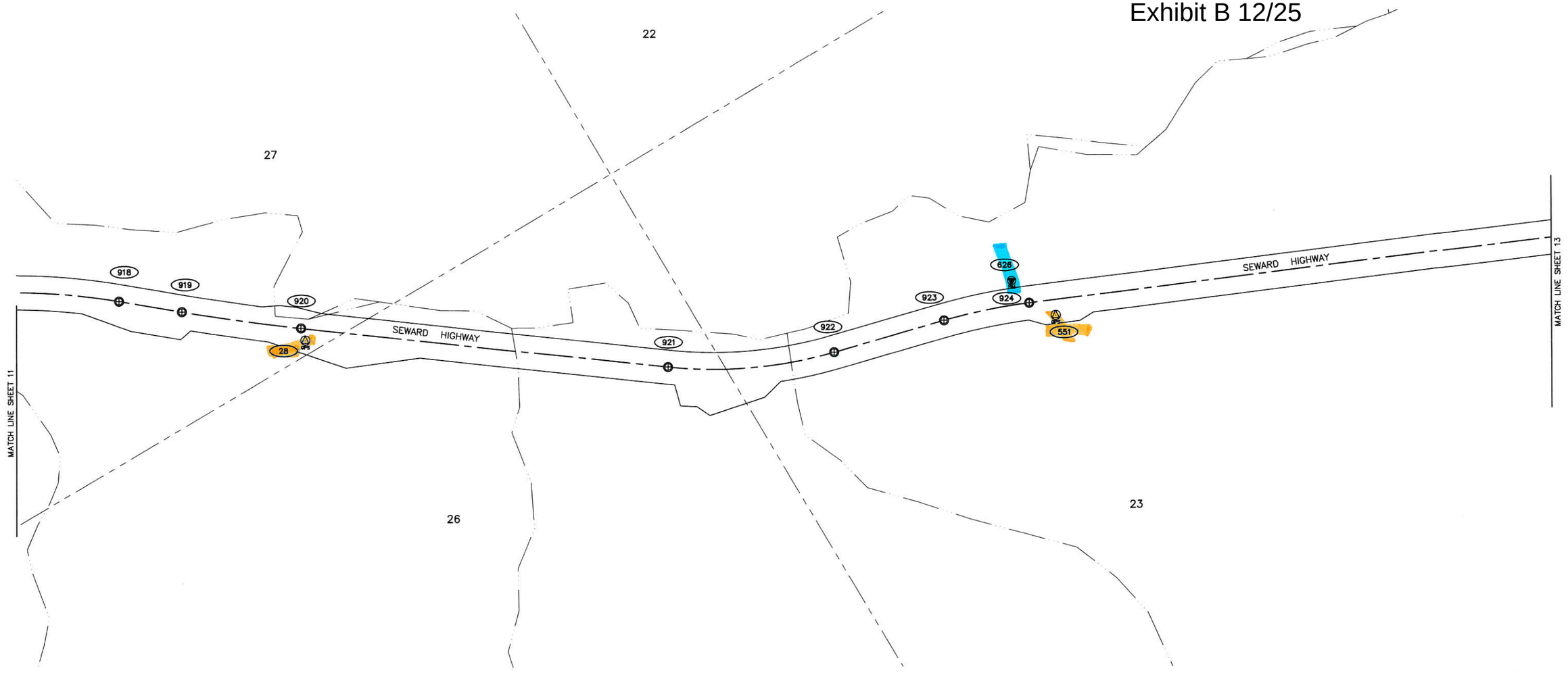
AKSAS Project No. 56685, 56687
56693, 56695, 56903

Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12–2–13	SCALE 1" = 300'
CHECKED MM	DATE 12–2–13	SHEET 11 OF 25

Exhibit B 12/25



LEGEND

- GPS Control Station
- Primary Centerline Monument, Found
- Vertical Bench Mark, Found
- (845) Monument Number, see Sheet 23
- Section Line
- Right-of-Way
- Highway Centerline
- Center Creek/River

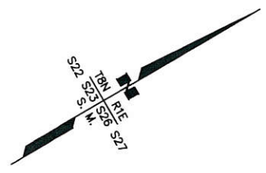
RECOVERED MONUMENTATION

POINT	NORTHING	EASTING	DESCRIPTION
918	171605.5144	134619.8873	Fd BC/BX[AKDOT]: PT 22+06.92 Seward Highway
919	171893.1765	134858.5301	Fd BC/BX[AKDOT]: PC 25+80.75 Seward Highway
920	172451.6387	135293.0171	Fd BC/BX[AKDOT]: PT 32+88.25 Seward Highway
921	174200.1448	136568.7099	Fd BC/BX[AKDOT]: PC 54+52.61 Seward Highway
922	175087.0931	136982.9470	Fd BC/BX[AKDOT]: PT 64+37.43 Seward Highway
923	175737.7876	137144.6070	Fd BC/BX[AKDOT]: PC 71+07.95 Seward Highway
924	176221.7458	137305.7788	Fd BC/BX[AKDOT]: PT 76+18.43 Seward Highway

HORIZONTAL AND VERTICAL CONTROL

NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
28	60°45'21.82298"N	149°14'35.39675"W	172437.4792	135367.2632	841.17	Set AC[7222-S]: SWH RCM65.95
551	60°45'59.82103"N	149°13'52.65608"W	176320.5990	137445.7301	880.28	Fd AC[AKDOT]: SWH 66.7
626	60°45'58.64829"N	149°13'58.79909"W	176197.9462	137141.9960	870.43	Fd BC[NGS]: R 84 RESET 1984

Seward Recording District PL 2014-2



Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District
State Business - No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

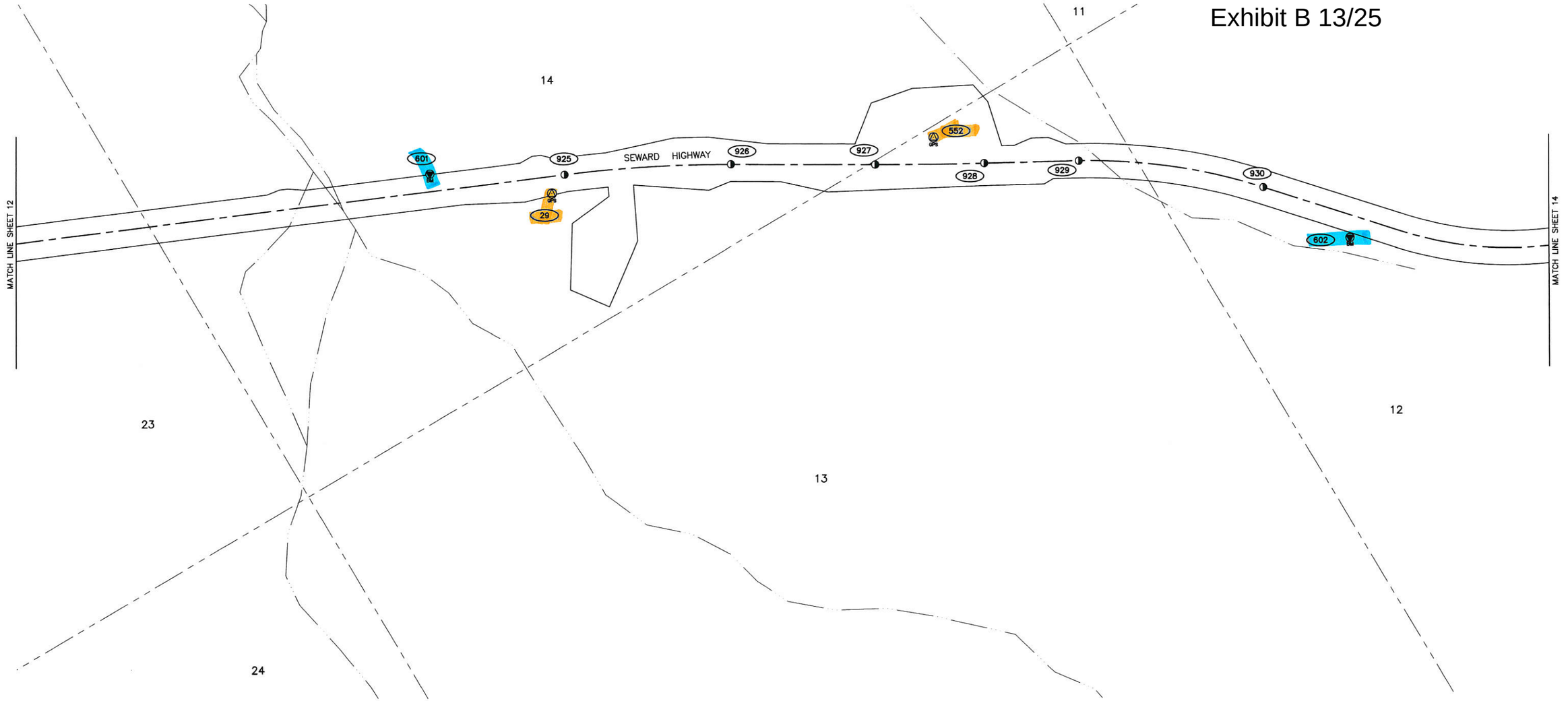
Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903

Seward Highway MP 50-75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE 1" = 300'
CHECKED MM	DATE 12-2-13	SHEET 12 OF 25

Exhibit B 13/25



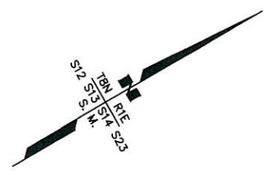
RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
925	182055.7191	139768.2546	Fd AC[11547–S]: PC 139+50.76 Seward Highway
926	182932.1624	140206.3629	Fd AC[11547–S]: PT 149+31.32 Seward Highway
927	183663.6683	140632.8340	Fd AC[11547–S]: PC 157+78.07 Seward Highway
928	184222.4224	140947.9803	Fd AC[11547–S]: PT 164+19.18 Seward Highway
929	184709.5046	141213.8866	Fd AC[11547–S]: PC 169+74.36 Seward Highway
930	185568.1922	141890.6057	Fd AC[11547–S]: PT 180+72.30 Seward Highway

LEGEND

- GPS Control Station
- Secondary Centerline Monument, Found
- Vertical Bench Mark, Found
- 845 — Monument Number, see Sheet 23
- Section Line
- Right–of–Way
- Highway Centerline
- Center Creek/River

HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
29	60°46'54.83723"N	149°13'03.38742"W	181936.0389	139826.3383	947.78	Set AC[7222–S]: SWH RCM67.95
552	60°47'15.45381"N	149°12'45.92477"W	184039.8830	140668.1919	992.12	Fd AC[AKDOT]: SWH 68.3
601	60°46'49.33793"N	149°13'12.74877"W	181372.0905	139368.2127	933.90	Fd BC[NGS]: A 85 RESET 1984
602	60°47'33.16401"N	149°12'10.54719"W	185859.4296	142402.4142	1007.02	Fd BC[USC&GS]: B 85 1964

Seward Recording District PC 2014-2



Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

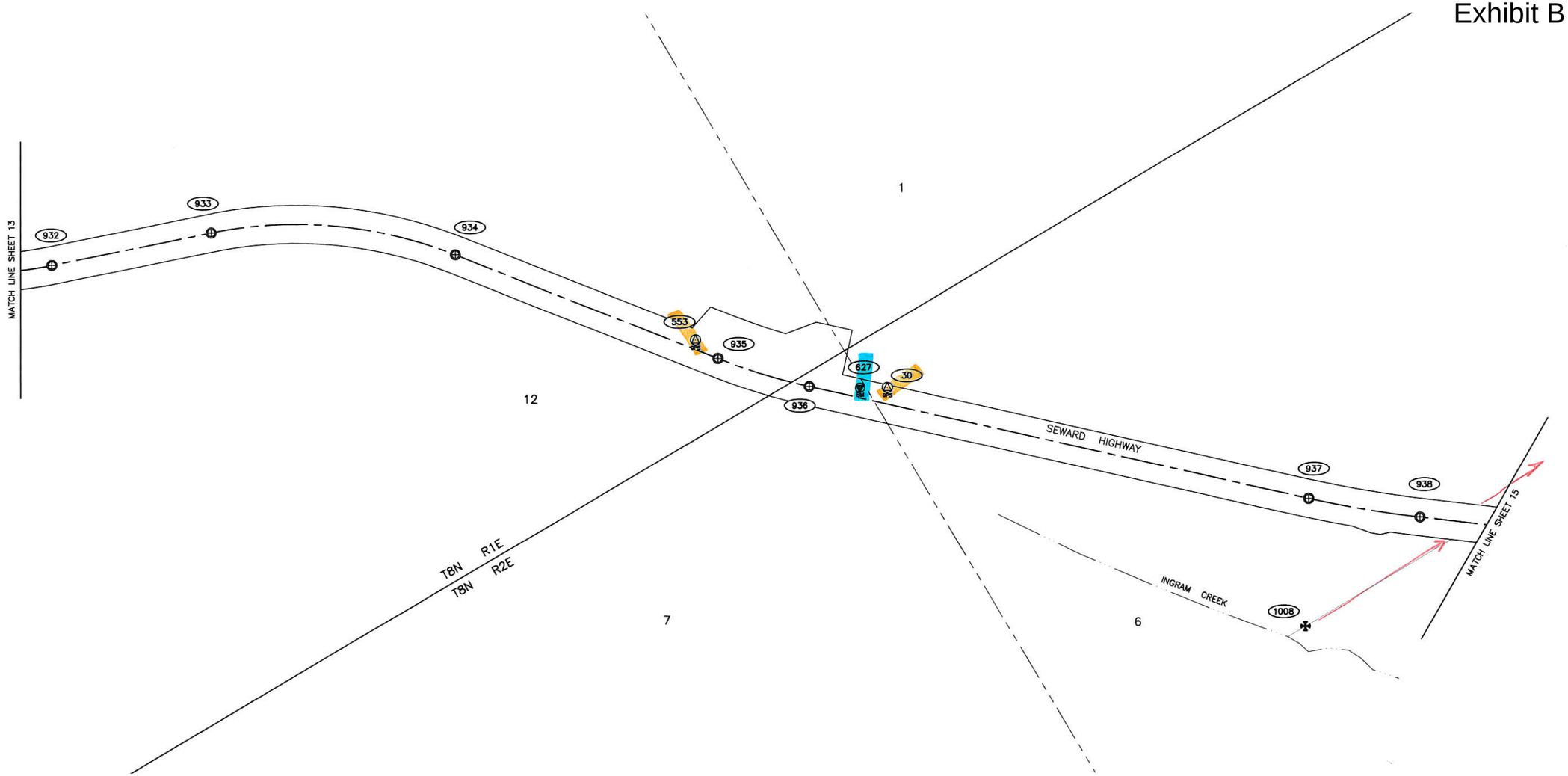
Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903

Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12–2–13	SCALE 1" = 300'
CHECKED MM	DATE 12–2–13	SHEET 13 OF 25

Exhibit B 14/25



LEGEND

- Government Survey Monument, Found
- GPS Control Station
- Primary Centerline Monument, Found
- Vertical Bench Mark, Found
- (845) Monument Number, see Sheets 23 & 24
- Township Line
- Section Line
- Property Line
- Right-of-Way
- Highway Centerline
- Center Creek/River

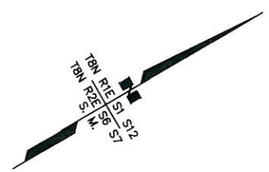
RECOVERED MONUMENTATION

POINT	NORTHING	EASTING	DESCRIPTION
932	187004.2464	143081.6814	Fd BC/BX[AKDOT]: PT 199+64.55 Seward Highway
933	187818.2870	143355.8259	Fd BC/BX[AKDOT]: PC 208+23.47 Seward Highway
934	188882.0549	144103.7271	Fd BC/BX[AKDOT]: PT 221+41.97 Seward Highway
935	189810.0494	145274.0670	Fd BC/BX[AKDOT]: PC 236+35.70 Seward Highway
936	190153.5461	145644.6226	Fd BC/BX[AKDOT]: PT 241+41.10 Seward Highway
937	192141.6264	147481.5139	Fd BC/BX[AKDOT]: PC 268+47.74 Seward Highway
938	192599.7140	147862.7127	Fd BC/BX[AKDOT]: PT 274+43.85 Seward Highway
1008	191784.5394	148057.8268	Fd BC[BLM]: WC SMC C S6 *T8N R2E SM

HORIZONTAL AND VERTICAL CONTROL

NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
30	60°48'18.52666"N	149°10'59.79200"W	190508.8728	145856.6714	988.56	Set AC[7222-S]: SWH RCM70.00
553	60°48'11.20573"N	149°11'14.61787"W	189756.3501	145130.3584	986.95	Fd AC[AKDOT]: SWH 69.8
627	60°48'17.30"N	149°11'01.25"W	190383	145786	987.25	Fd BC[NGS]: C 85 RESET 1984

Seward Recording District PL 2014-2



Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

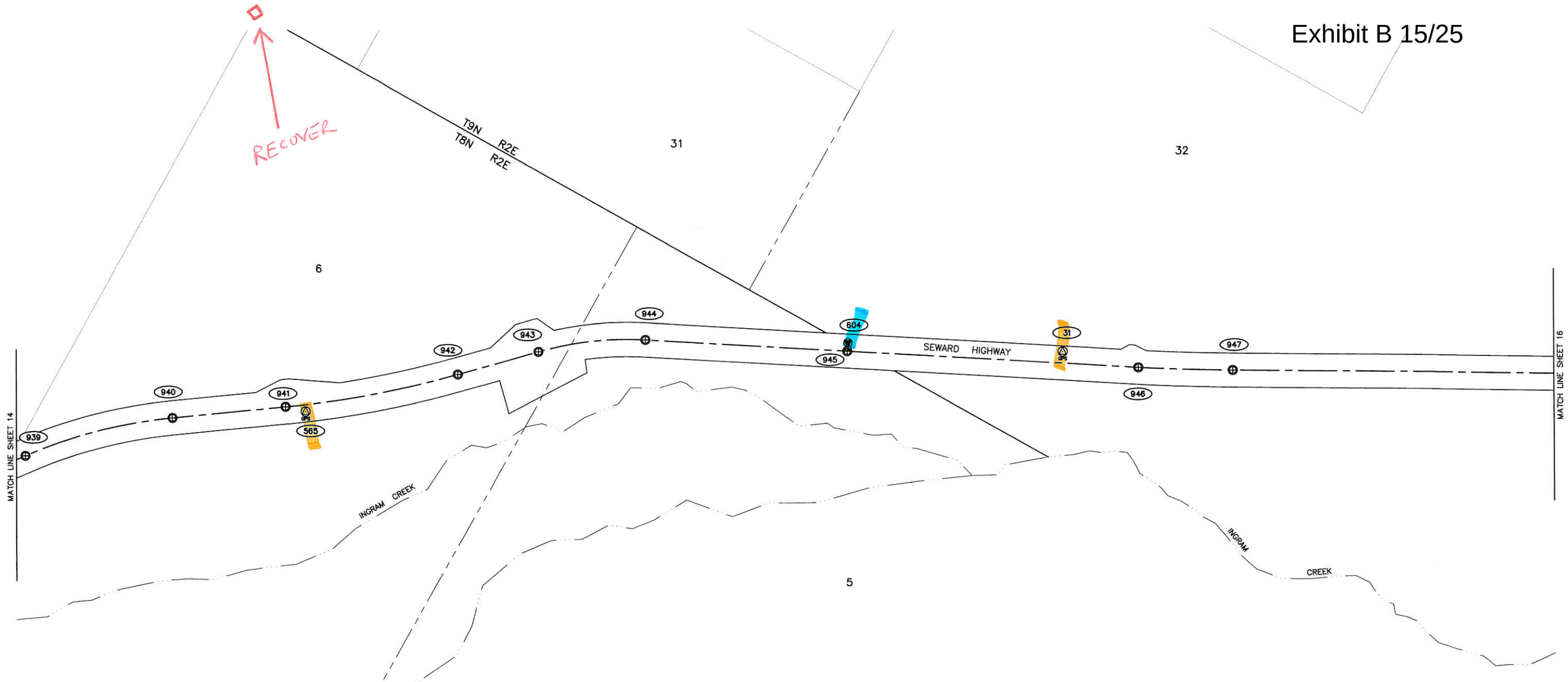
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE 1" = 300'
CHECKED MM	DATE 12-2-13	SHEET 14 OF 25

Exhibit B 15/25



RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
939	192930.7092	148110.0756	Fd BC/BX[AKDOT]: PC 278+57.20 Seward Highway
940	193551.2336	148746.3710	Fd BC/BX[AKDOT]: PT 287+49.56 Seward Highway
941	193936.6378	149289.0124	Fd BC/BX[AKDOT]: PC 294+15.31 Seward Highway
942	194603.9555	150070.2494	Fd BC/BX[AKDOT]: PT 304+43.37 Seward Highway
943	194954.8092	150413.4165	Fd BC/BX[AKDOT]: PC 309+34.29 Seward Highway
944	195326.7631	150922.8829	Fd BC/BX[AKDOT]: PT 315+67.90 Seward Highway
945	195857.0277	151980.5323	Fd BC/BX[AKDOT]: PI 327+50.76 Seward Highway
946	196622.5466	153506.4486	Fd BC/BX[AKDOT]: PC 344+57.78 Seward Highway
947	196881.9354	153993.8874	Fd BC/BX[AKDOT]: PT 350+10.00 Seward Highway

HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
31	60°49'16.43536"N	149°08'32.72844"W	196482.1583	153075.6894	528.66	Set AC[7222-S]: SWH RCM71.85
565	60°48'52.18070"N	149°09'47.41684"W	193971.4449	149403.6507	729.79	Fd AC[AKDOT]: SWH 70.9
604	60°49'10.86"N	149°08'55.39"W	195902	151960	578.73	Fd BC[NGS]: E 85 RESET 1984

Seward Recording District PL 2014-2

LEGEND

- GPS Control Station, Set
- Primary Centerline Monument, Found
- Vertical Bench Mark, Found
- 845 — Monument Number, see Sheet 24
- Township Line
- Section Line
- Property Line
- Right-of-Way
- Highway Centerline
- Center Creek/River

Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

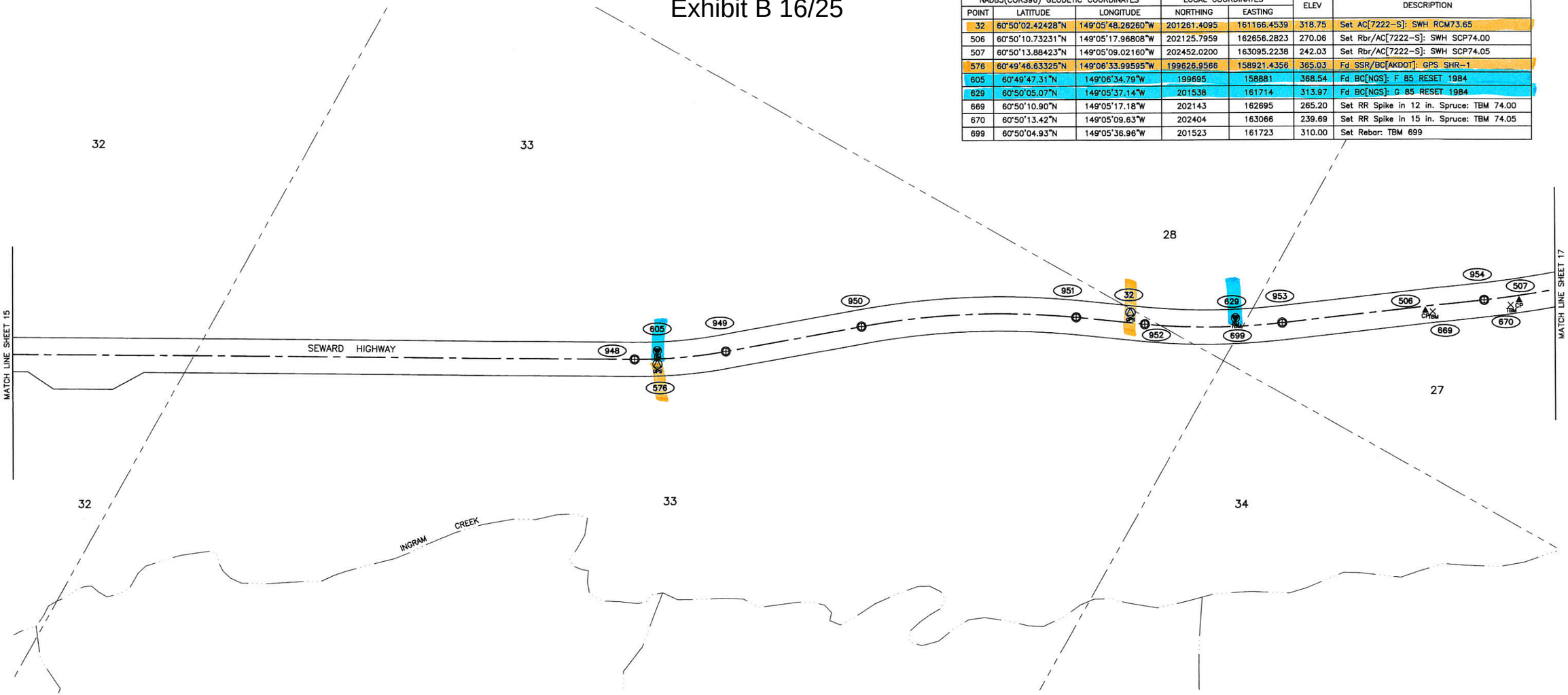
Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE 1" = 300'
CHECKED MM	DATE 12-2-13	SHEET 15 OF 25

Exhibit B 16/25

HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
32	60°50'02.42428"N	149°05'48.26260"W	201261.4095	161166.4539	318.75	Set AC[7222-S]: SWH RCM73.65
506	60°50'10.73231"N	149°05'17.96808"W	202125.7959	162656.2823	270.06	Set Rbr/AC[7222-S]: SWH SCP74.00
507	60°50'13.88423"N	149°05'09.02160"W	202452.0200	163095.2238	242.03	Set Rbr/AC[7222-S]: SWH SCP74.05
576	60°49'46.63325"N	149°06'33.99595"W	199626.9566	158921.4356	365.03	Fd SSR/BC[AKDOT]: GPS SHR-1
605	60°49'47.31"N	149°06'34.79"W	199695	158881	368.54	Fd BC[NGS]: F 85 RESET 1984
629	60°50'05.07"N	149°05'37.14"W	201538	161714	313.97	Fd BC[NGS]: G 85 RESET 1984
669	60°50'10.90"N	149°05'17.18"W	202143	162695	265.20	Set RR Spike in 12 in. Spruce: TBM 74.00
670	60°50'13.42"N	149°05'09.63"W	202404	163066	239.69	Set RR Spike in 15 in. Spruce: TBM 74.05
699	60°50'04.93"N	149°05'36.96"W	201523	161723	310.00	Set Rebar: TBM 699



Magnetic Declination 18° E
NOAA Geophysical Data Center
October 2013

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

LEGEND

- GPS Control Station
- Survey Traverse Station
- Primary Centerline Monument, Found
- Vertical Bench Mark, Found
- Temporary Bench Mark, Set
- 845 Monument Number, see Sheet 24
- Section Line
- Right-of-Way
- Highway Centerline
- Center Creek/River

RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
948	199584.8647	158790.8307	Fd BC/BX[AKDOT]: PC 405+16.00 Seward Highway
949	199889.6510	159229.8781	Fd BC/BX[AKDOT]: PT 410+51.14 Seward Highway
950	200409.5262	159846.8680	Fd BC/BX[AKDOT]: PC 418+58.05 Seward Highway
951	201079.0296	160907.3841	Fd BC/BX[AKDOT]: PT 431+16.05 Seward Highway
952	201244.4835	161273.8889	Fd BC/BX[AKDOT]: PC 435+18.25 Seward Highway
953	201649.4625	161964.4696	Fd BC/BX[AKDOT]: PT 443+19.73 Seward Highway
954	202352.0515	162917.7956	Fd BC/BX[AKDOT]: PC 455+03.54 Seward Highway

Seward Recording District PL-2014-2

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

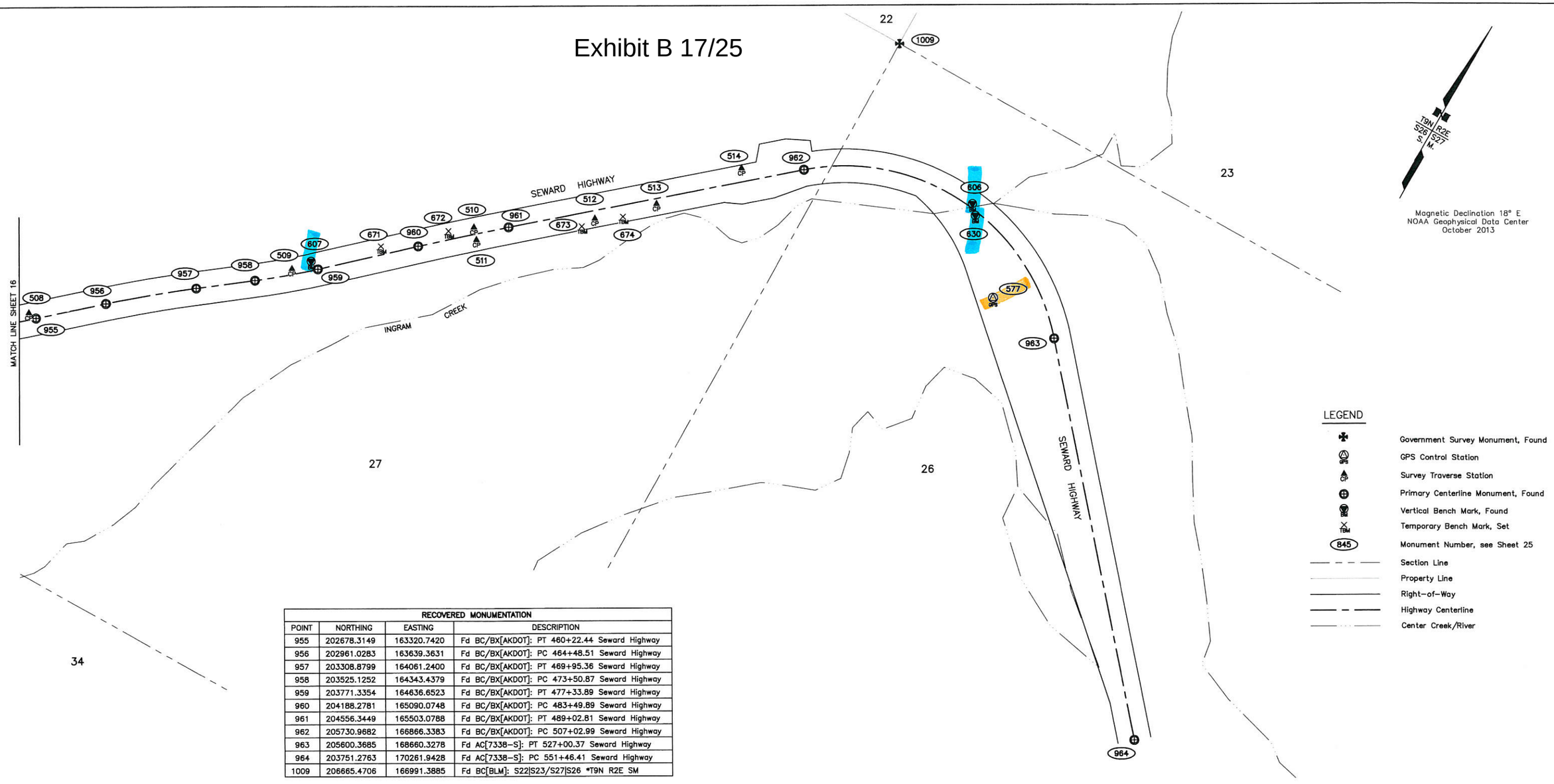
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903
Seward Highway MP 50-75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE 1" = 300'
CHECKED MM	DATE 12-2-13	SHEET 16 OF 25

Exhibit B 17/25



RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
955	202678.3149	163320.7420	Fd BC/BX[AKDOT]: PT 460+22.44 Seward Highway
956	202961.0283	163639.3631	Fd BC/BX[AKDOT]: PC 464+48.51 Seward Highway
957	203308.8799	164061.2400	Fd BC/BX[AKDOT]: PT 469+95.36 Seward Highway
958	203525.1252	164343.4379	Fd BC/BX[AKDOT]: PC 473+50.87 Seward Highway
959	203771.3354	164636.6523	Fd BC/BX[AKDOT]: PT 477+33.89 Seward Highway
960	204188.2781	165090.0748	Fd BC/BX[AKDOT]: PC 483+49.89 Seward Highway
961	204556.3449	165503.0788	Fd BC/BX[AKDOT]: PT 489+02.81 Seward Highway
962	205730.9682	166866.3383	Fd BC/BX[AKDOT]: PC 507+02.99 Seward Highway
963	205600.3685	168660.3278	Fd AC[7338-S]: PT 527+00.37 Seward Highway
964	203751.2763	170261.9428	Fd AC[7338-S]: PC 551+46.41 Seward Highway
1009	206665.4706	166991.3885	Fd BC[BLM]: S22|S23/S27|S26 *T9N R2E SM

HORIZONTAL AND VERTICAL CONTROL						
NAD83(CORS96) GEODETIC COORDINATES			LOCAL COORDINATES		ELEV	DESCRIPTION
POINT	LATITUDE	LONGITUDE	NORTHING	EASTING		
508	60°50'16.15875"N	149°05'05.47030"W	202685.4342	163268.0050	223.79	Set Rbr/AC[7222-S]: SWH SCP74.15
509	60°50'25.93818"N	149°04'40.31082"W	203695.9202	164500.9294	159.82	Fd AC[4469-S]: CP 8
510	60°50'33.27546"N	149°04'23.51635"W	204452.6922	165322.6519	120.44	Fd AC[4469-S]: CP 9
511	60°50'32.70595"N	149°04'22.52653"W	204395.5562	165372.5165	120.12	Fd AC[4469-S]: CP 14
512	60°50'37.18368"N	149°04'11.24991"W	204858.1448	165924.8479	95.33	Set Rbr/AC[7222-S]: SWH SCP74.80
513	60°50'39.69567"N	149°04'05.58540"W	205117.2012	166201.9015	84.36	Set Rbr/AC[7222-S]: SWH SCP74.85
514	60°50'43.94182"N	149°03'58.68650"W	205553.2259	166537.5977	73.76	Set Rbr/AC[7222-S]: SWH SCP74.95
577	60°50'44.45814"N	149°03'24.61541"W	205629.8023	168224.9653	26.56	Fd BC[AKDOT]: CLINCK
606	60°50'48.71245"N	149°03'32.23843"W	206056.3702	167841.0723	32.39	Fd BC[AKDOT]: BM TROLL 1986
607	60°50'26.88"N	149°04'38.73"W	203793	164578	161.17	Fd BC[6714-S]: BM SHR-607 2005
630	60°50'48.19"N	149°03'31.24"W	206004	167891	28.89	Fd BC[NGS]: J 85 RESET 1984
671	60°50'29.64"N	149°04'32.23"W	204077	164896	142.77	Set RR Spike in Rock Face: TBM 74.55
672	60°50'32.35"N	149°04'25.98"W	204357	165202	128.55	Set RR Spike in Rock Face: TBM 74.60
673	60°50'36.40"N	149°04'12.17"W	204778	165880	100.53	Set RR Spike in 14 in. Cottonwood: TBM 74.80
674	60°50'38.07"N	149°04'08.40"W	204951	166065	90.00	Set RR Spike in 14 in. Cottonwood: TBM 74.85

Seward Recording District PL 2014-2

GRAPHIC SCALE

300 0 150 300 600 1200

SCALE IN FEET
1 inch = 300 ft.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey

AKSAS Project No. 56685, 56687
56693, 56695, 56903

Seward Highway MP 50–75
Pavement Preservation

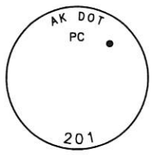
Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE 1" = 300'
CHECKED MM	DATE 12-2-13	SHEET 17 OF 25

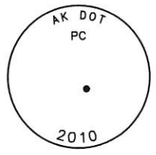
Exhibit B 18/25

Sheet 1 Monuments

470 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



836 — Found 2" aluminum cap in pavement, flush with grade, good condition.



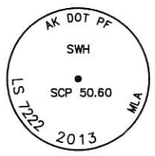
837 — Found 2" aluminum cap in pavement, flush with grade, marks partially obliterated.

1002 — Found 3 1/4" brass cap on 2 1/2" stainless steel post, flush with grade, good condition.

Sheet 3 Monuments

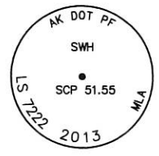
20 — Set an aluminum post, 2 1/2" diam., 30" long, 29" in the ground with 3 1/4" aluminum cap.

471 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

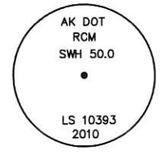


472 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

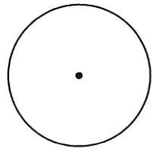
473 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



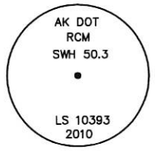
474 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



554 — Found 3 1/4" aluminum cap on 2 1/2" aluminum post, 0.2' below grade, good condition.



555 — Found 2" aluminum cap in pavement, flush with grade, marks obliterated.



557 — Found 3 1/4" aluminum cap on 2 1/2" aluminum post, 0.2' below grade, good condition.

611 — Found 9/16" stainless steel rod, projecting 0.4' above the ground with 3 1/2" brass donut, good condition.

840 — Found 3 1/4" aluminum cap in monument case, 0.25' below lip, no case cover.

841 — Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.

842 — Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.

843 — Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.

844 — Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

845 — Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.

846 — Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.

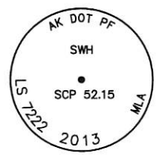
847 — Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

1001 — Found 3 1/4" brass cap on 2 1/2" stainless steel post, 0.3' above grade, good condition.

Sheet 4 Monuments

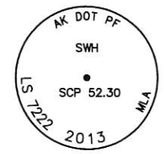
21 — Set an aluminum post, 2 1/2" diam., 30" long, 29" in the ground with 3 1/4" aluminum cap.

475 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



476 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

477 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



478 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

479 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

612 — Found 9/16" stainless steel rod, projecting 0.2' above the ground with 3 1/2" brass donut, good condition.

848 — Found 3 1/4" aluminum cap in monument case, 0.2' below lip, good condition.

849 — Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.

850 — Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.

Seward Recording District PL 2014-2

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12–2–13	SCALE N/A
CHECKED MM	DATE 12–2–13	SHEET 18 OF 25

Sheet 4 Monuments, Cont.

851 — Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

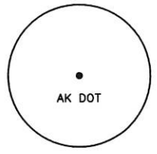
852 — Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.

853 — Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

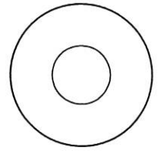
855 — Found 3 1/4" aluminum cap in monument case, 0.25' below lip, marks obliterated.

856 — Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

1003 — Found 2" aluminum cap on 5/8" diam. rebar, 0.2' below grade, under mon case lid (no mon case), good condition.



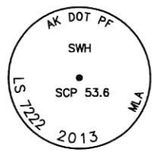
1004 — Found 1 1/4" yellow plastic cap in edge pavement, 0.25' below grade, good condition.



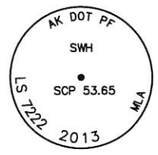
1005 — Found 1 1/4" yellow plastic cap on 5/8" rebar , 0.25' below grade, marks obliterated.

Sheet 5 Monuments

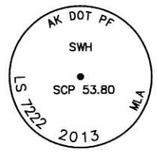
22 — Set an aluminum post, 2 1/2" diam., 30" long, 29" in the ground with 3 1/4" aluminum cap.



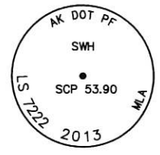
480 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



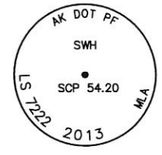
481 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



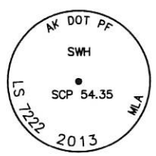
482 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



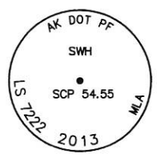
483 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



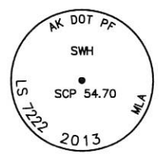
484 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



485 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

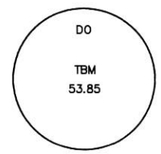


486 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



487 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

488 — Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



649 — Set 3 1/4" brass cap on rock ledge.

857 — Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

858 — Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

859 — Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

860 — Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

861 — Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

862 — Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

863 — Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

864 — Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.

865 — Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.

1006 — Found 3 1/4" brass cap on 2 1/2" stainless steel post, 0.25' above grade, good condition.

Seward Recording District PL 2014-2

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903

Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE N/A
CHECKED MM	DATE 12-2-13	SHEET 19 OF 25

Sheet 6 Monuments

23

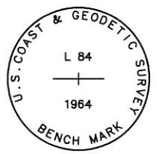
Set an aluminum post, 2 1/2" diam., 30" long, 29" in the ground with 3 1/4" aluminum cap.

489

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

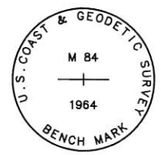
490

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



614

Found 3 1/2" brass cap, set on rock ledge, good condition.



615

Found 3 1/2" brass cap grouted in bridge abutment over Canyon Creek on Old Seward Highway, good condition.

866

Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.

867

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

868

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

869

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

870

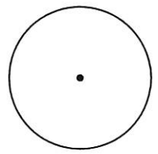
Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

871

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

872

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.



873

Found 2" aluminum cap on 5/8" diam. rebar, in monument case, 0.3' below lip, good condition.

874

Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.

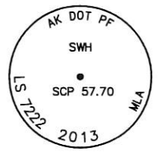
Sheet 7 Monuments

24

Set an aluminum post, 2 1/2" diam., 30" long, 29" in the ground with 3 1/4" aluminum cap.

491

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



492

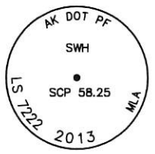
Set 5/8" X 30" rebar, 29" in the ground with 2" aluminum cap.

493

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

494

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

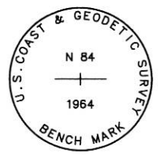


495

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

616

Found 9/16" stainless steel rod, projecting 0.5' above the ground with 3 1/2" brass donut, good condition.



617

Found 3 1/2" brass cap grouted in bridge abutment over unnamed creek, good condition.

618

Found 3 1/2" brass cap grouted in concrete retaining wall, good condition.

875

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

876

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

877

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

878

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

879

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

880

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

Seward Recording District PL 2014-2

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE N/A
CHECKED MM	DATE 12-2-13	SHEET 20 OF 25

Sheet 7 Monuments, Cont.

881

Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.

882

Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.

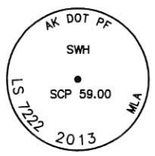
883

Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.

Sheet 8 Monuments

25

Set an aluminum post, 2 1/2" diam., 30" long, 29" in the ground with 3 1/4" aluminum cap.

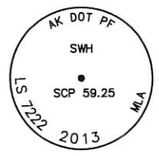


496

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

497

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

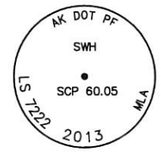


498

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

499

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



500

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

619

Found 9/16" stainless steel rod, projecting 0.3' above the ground with 3 1/2" brass donut, good condition.

620

Found 3 1/2" brass cap grouted in culvert abutment over Silvertip Creek, good condition.

884

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

885

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

886

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

887

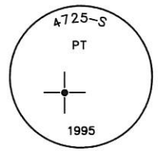
Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

888

Found 3 1/4" aluminum cap in monument case, 0.5' below lip, good condition.

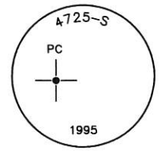
891

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.



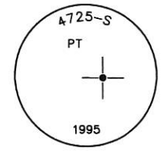
892

Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.



893

Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.



894

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

1007

Found 3 1/4" brass cap on 2 1/2" stainless steel post, 0.2' above grade, good condition.

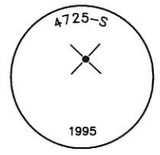
Sheet 9 Monuments

26

Set an aluminum post, 2 1/2" diam., 30" long, 29" in the ground with 3 1/4" aluminum cap.

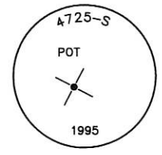
621

Found 3 1/2" brass cap grouted in bridge abutment over East Fork, Six Mile Creek, good condition.



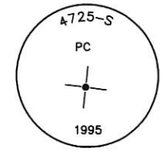
895

Found 3 1/4" aluminum cap in monument case, 0.5' below lip, good condition.



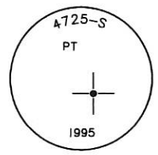
896

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.



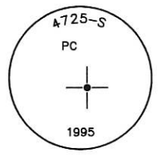
897

Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.



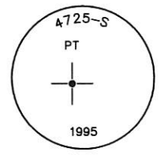
898

Found 3 1/4" aluminum cap in monument case, no lid, 0.3' below lip, good condition.



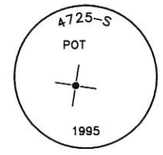
899

Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.



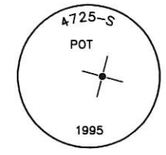
900

Found 3 1/4" aluminum cap in monument case, 0.5' below lip, good condition.



901

Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.



902

Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.

Seward Recording District PL 2014-2

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey

AKSAS Project No. 56685, 56687
56693, 56695, 56903

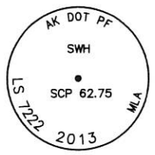
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE N/A
CHECKED MM	DATE 12-2-13	SHEET 21 OF 25

Exhibit 22/25

Sheet 10 Monuments



501

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

502

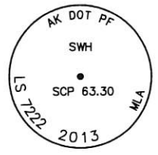
Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

503

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

504

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



505

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

575

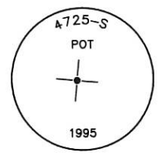
Found 9/16" stainless steel rod, projecting 0.1' above the ground with 2 1/4" brass donut, good condition.

622

Found 3 1/2" brass cap grouted in bridge abutment over Granite Creek, good condition.

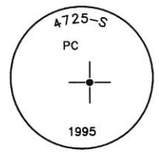
903

Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.



904

Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.



905

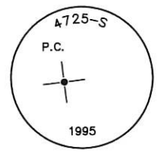
Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.

906

Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.

907

Found 3 1/4" aluminum cap in monument case, 0.3' below lip, good condition.



909

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.

910

Found 3 1/4" aluminum cap in monument case, 0.2' below lip, good condition.

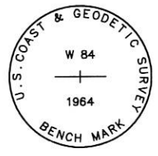
Sheet 11 Monuments

27

Set an aluminum post, 2 1/2" diam., 30" long, 29" in the ground with 3 1/4" aluminum cap.

556

Found 5/8" rebar in paved pullout area, 0.2' below grade, good condition.



623

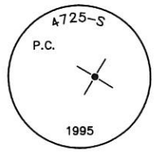
Found 3 1/2" brass cap, set in iron pipe, flush with grade, good condition.

624

Found 3 1/2" brass cap grouted in headwall of culvert for Spokane Creek, good condition.

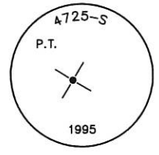
625

Found 3 1/2" brass cap, set in plastic pipe, flush with grade, good condition.



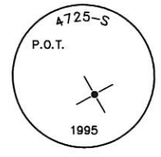
911

Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.



912

Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.

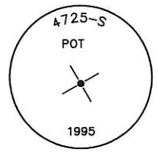


913

Found 3 1/4" aluminum cap in monument case, 0.2' below lip, good condition.

914

Found 3 1/4" aluminum cap in monument case, 0.4' below lip, good condition.



915

Found 3 1/4" aluminum cap in monument case, 0.25' below lip, good condition.

916

Found 3 1/4" aluminum cap in monument case, 0.2' below lip, good condition.

917

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.3' below grade, good condition.

Seward Recording District PL 2014-2

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey

AKSAS Project No. 56685, 56687
56693, 56695, 56903

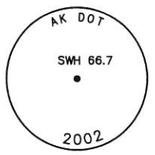
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE N/A
CHECKED MM	DATE 12-2-13	SHEET 22 OF 25

Sheet 12 Monuments

28 — Set an aluminum post, 2 1/2" diam., 30" long, 30" in the ground with 3 1/4" aluminum cap.



551 — Found 2" aluminum cap in pavement, flush with grade, good condition.

626 — Found 3 1/2" brass cap, set in plastic pipe, 0.2' above grade, good condition.

918 — Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.4' below grade, good condition.

919 — Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.25' below grade, good condition.

920 — Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.3' below grade, good condition.

921 — Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.4' below grade, good condition.

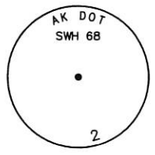
922 — Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.3' below grade, good condition.

923 — Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.25' below grade, good condition.

924 — Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.3' below grade, good condition.

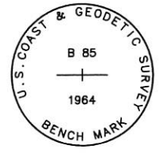
Sheet 13 Monuments

29 — Set an aluminum post, 2 1/2" diam., 30" long, 29" in the ground with 3 1/4" aluminum cap.



552 — Found 2" aluminum cap in pavement, 0.2' below grade, marks partially obliterated.

601 — Found 3 1/2" brass cap, set in plastic pipe, 0.25' above grade, good condition.



602 — Found 3 1/2" brass cap, set in iron pipe, 0.2' above grade, good condition.

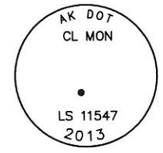
925 — Found 2" aluminum cap in pavement, flush with grade, good condition.

926 — Found 2" aluminum cap in pavement, flush with grade, good condition.

927 — Found 2" aluminum cap in pavement, flush with grade, good condition.

928 — Found 2" aluminum cap in pavement, flush with grade, good condition.

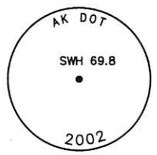
929 — Found 2" aluminum cap in pavement, flush with grade, good condition.



930 — Found 2" aluminum cap in pavement, flush with grade, good condition.

Sheet 14 Monuments

30 — Set an aluminum post, 2 1/2" diam., 30" long, 29" in the ground with 3 1/4" aluminum cap.



553 — Found 2" aluminum cap in pavement, 0.1' below grade, good condition.

627 — Found 3 1/2" brass cap grouted vertically in rock face, good condition.

932 — Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.7' below grade, good condition.

933 — Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.7' below grade, good condition.

934 — Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.7' below grade, good condition.

935 — Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.7' below grade, good condition.

936 — Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.7' below grade, good condition.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE N/A
CHECKED MM	DATE 12-2-13	SHEET 23 OF 25

Seward Recording District PL 2014-2

Sheet 14 Monuments, Cont.

937

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.7' below grade, good condition.

938

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.4' below grade, good condition.

1008

Found 3 1/4" brass cap on 2 1/2" stainless steel post, flush with grade, good condition.

Sheet 15 Monuments

31

Set an aluminum post, 2 1/2" diam., 30" long, 29" in the ground with 3 1/4" aluminum cap.

565

Found 2" aluminum cap in pavement, flush with grade, marks partially obliterated.

604

Found 3 1/2" brass cap grouted vertically in rock face, good condition.

939

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.6' below grade, good condition.

940

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.8' below grade, good condition.

941

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.7' below grade, good condition.

942

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.5' below grade, good condition.

943

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.5' below grade, good condition.

944

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.4' below grade, good condition.

945

Found 2 1/2" brass cap, centerline Seward Highway. 0.25' below grade, good condition.

946

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.6' below grade, good condition.

947

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.7' below grade, good condition.

Sheet 16 Monuments

32

Set an aluminum post, 2 1/2" diam., 30" long, 29" in the ground with 3 1/4" aluminum cap.

506

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

507

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

576

Found 9/16" stainless steel rod, with 2 1/4" brass donut, 0.2' below grade, in iron pipe case, good condition.

605

Found 3 1/2" brass cap grouted vertically in rock face, good condition.

629

Found 3 1/2" brass cap, set vertically in rock face, good condition.

948

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.6' below grade, good condition.

949

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.6' below grade, good condition.

950

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.6' below grade, good condition.

951

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.7' below grade, good condition.

952

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.6' below grade, good condition.

953

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.6' below grade, good condition.

954

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.4' below grade, good condition.

Seward Recording District PL 2014-2

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

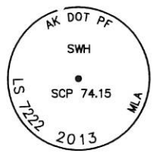
Survey Control Diagram
Record Of Survey
AKSAS Project No. 56685, 56687
56693, 56695, 56903
Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12-2-13	SCALE N/A
CHECKED MM	DATE 12-2-13	SHEET 24 OF 25

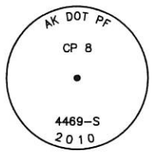
Exhibit B 25/25

Sheet 17 Monuments



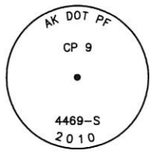
508

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



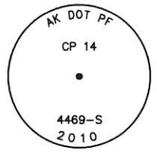
509

Found 2" aluminum cap, flush with grade, good condition.



510

Found 2" aluminum cap, flush with grade, good condition.

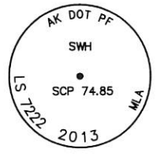


511

Found 2" aluminum cap, 0.1' above grade, good condition.

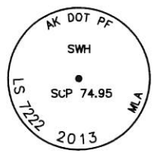
512

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.



513

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

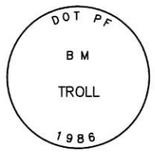


514

Set 5/8" X 30" rebar, 30" in the ground with 2" aluminum cap.

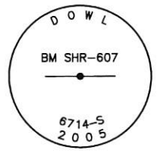
577

Found 2 1/2" brass cap in monument case, centerline Old Seward Highway. 0.4' below grade, good condition.



606

Found 2 3/4" brass cap grouted in bridge abutment over Ingram Creek, good condition.



607

Found 3 1/4" brass cap grouted vertically in rock face, good condition.

630

Found 3 1/2" brass cap, set vertically on side of bridge over Ingram Creek, good condition.

955

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.5' below grade, good condition.

956

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.7' below grade, good condition.

957

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.5' below grade, good condition.

958

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.6' below grade, good condition.

959

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.75' below grade, good condition.

960

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.7' below grade, good condition.

961

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.6' below grade, good condition.

962

Found 2 1/2" brass cap in monument case, centerline Seward Highway. 0.7' below grade, good condition.

963

Found 3 1/4" aluminum cap in monument case, no lid, centerline Seward Highway. 0.4' below grade, good condition.

964

Found 3 1/4" aluminum cap in monument case, no lid, centerline Seward Highway. 0.25' below grade, good condition.

1009

Found 3 1/4" brass cap on 2 1/2" stainless steel post, flush with grade, good condition.

Seward Recording District
State Business – No Fee
This survey does not constitute a subdivision as defined by AS 40.15.900

2014-2
Plat #
Seward
Rec Dist
1-17 2014
Date
Time 9:52 AM

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Survey Control Diagram
Record Of Survey

AKSAS Project No. 56685, 56687
56693, 56695, 56903

Seward Highway MP 50–75
Pavement Preservation

Located within Sections 4, 9 & 16, T7N, R1W,
Sections 14, 15, 21, 22, 23, 25, 26, 28, 33 & 36 T8N, R1W,
Sections 3, 4, 5 & 6, T7N, R1E,
Sections 1, 12, 13, 14, 23, 26, 27, 31 & 34 T8N, R1E,
Sections 5, 6 & 7, T8N, R2E,
and Sections 26, 27, 28, 32 & 33, T9N, R2E, S.M., AK.

DRAWN SKS	DATE 12–2–13	SCALE N/A
CHECKED MM	DATE 12–2–13	SHEET 25 OF 25

Officially Filed
DATE MAY 17, 1999

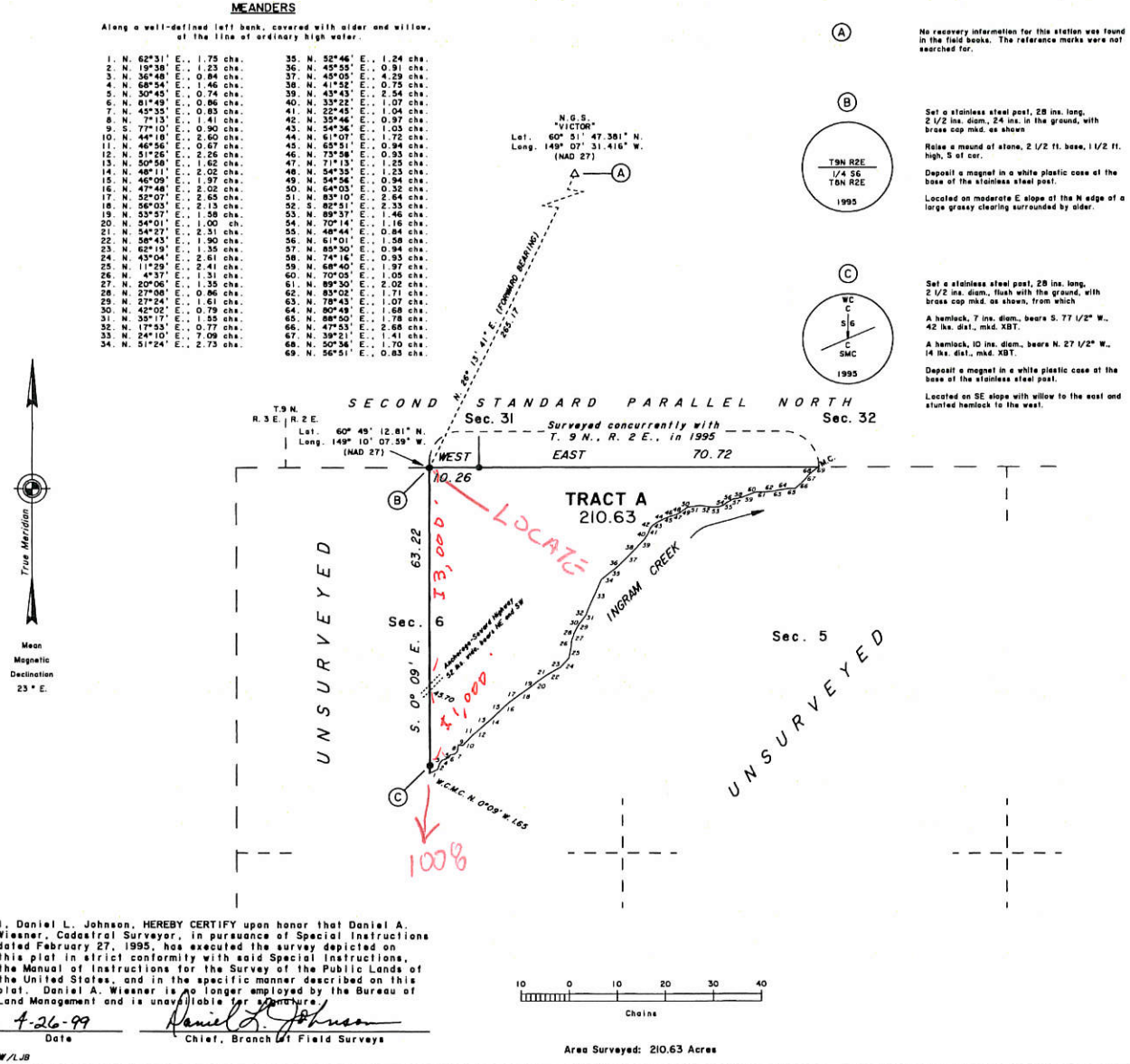
ORIGINAL

TOWNSHIP 8 NORTH, RANGE 2 EAST, OF THE SEWARD MERIDIAN, ALASKA

MEANDERS

Along a well-defined left bank, covered with alder and willow, at the line of ordinary high water.

1.	N. 62°31' E., 1.75 chs.	35.	N. 52°46' E., 1.24 chs.
2.	N. 19°38' E., 1.23 chs.	36.	N. 45°55' E., 0.91 chs.
3.	N. 36°48' E., 0.84 chs.	37.	N. 45°05' E., 4.29 chs.
4.	N. 68°54' E., 1.46 chs.	38.	N. 41°52' E., 0.75 chs.
5.	N. 30°45' E., 0.74 chs.	39.	N. 43°43' E., 2.54 chs.
6.	N. 81°49' E., 0.86 chs.	40.	N. 33°22' E., 1.07 chs.
7.	N. 45°35' E., 0.83 chs.	41.	N. 22°45' E., 1.04 chs.
8.	N. 7°13' E., 1.41 chs.	42.	N. 35°46' E., 0.97 chs.
9.	S. 77°10' E., 0.90 chs.	43.	N. 54°36' E., 1.03 chs.
10.	N. 44°18' E., 2.60 chs.	44.	N. 61°07' E., 1.72 chs.
11.	N. 46°56' E., 0.67 chs.	45.	N. 65°51' E., 0.94 chs.
12.	N. 51°26' E., 2.26 chs.	46.	N. 73°58' E., 0.93 chs.
13.	N. 50°58' E., 1.62 chs.	47.	N. 71°13' E., 1.25 chs.
14.	N. 48°11' E., 2.02 chs.	48.	N. 54°35' E., 1.23 chs.
15.	N. 46°09' E., 1.97 chs.	49.	N. 54°56' E., 0.94 chs.
16.	N. 47°48' E., 2.02 chs.	50.	N. 64°03' E., 0.32 chs.
17.	N. 52°07' E., 2.65 chs.	51.	N. 83°10' E., 2.64 chs.
18.	N. 56°03' E., 2.13 chs.	52.	S. 82°51' E., 2.33 chs.
19.	N. 53°57' E., 1.58 chs.	53.	N. 89°37' E., 1.46 chs.
20.	N. 54°01' E., 1.00 ch.	54.	N. 70°14' E., 1.16 chs.
21.	N. 54°27' E., 2.31 chs.	55.	N. 48°44' E., 0.84 chs.
22.	N. 58°43' E., 1.90 chs.	56.	N. 61°01' E., 1.58 chs.
23.	N. 62°19' E., 1.35 chs.	57.	N. 85°30' E., 0.94 chs.
24.	N. 43°04' E., 2.61 chs.	58.	N. 74°16' E., 0.93 chs.
25.	N. 11°29' E., 2.41 chs.	59.	N. 68°40' E., 1.97 chs.
26.	N. 4°37' E., 1.31 chs.	60.	N. 70°05' E., 1.05 chs.
27.	N. 20°06' E., 1.35 chs.	61.	N. 89°30' E., 2.02 chs.
28.	N. 27°08' E., 0.86 chs.	62.	N. 83°02' E., 1.71 chs.
29.	N. 27°24' E., 1.61 chs.	63.	N. 78°43' E., 1.07 chs.
30.	N. 42°02' E., 0.79 chs.	64.	N. 80°49' E., 1.68 chs.
31.	N. 35°17' E., 1.55 chs.	65.	N. 88°50' E., 1.78 chs.
32.	N. 17°53' E., 0.77 chs.	66.	N. 47°53' E., 2.68 chs.
33.	N. 24°10' E., 7.09 chs.	67.	N. 39°21' E., 1.41 chs.
34.	N. 51°24' E., 2.73 chs.	68.	N. 50°36' E., 1.70 chs.
		69.	N. 56°51' E., 0.83 chs.



A — No recovery information for this station was found in the field books. The reference marks were not searched for.

B — Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 24 ins. in the ground, with brass cap mkd. as shown

Raise a mound of stone, 2 1/2 ft. base, 1 1/2 ft. high, 5 of cor.

Deposit a magnet in a white plastic case at the base of the stainless steel post.

Located on moderate E. slope at the N edge of a large grassy clearing surrounded by alder.

C — Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., flush with the ground, with brass cap mkd. as shown, from which

A hemlock, 7 ins. diam., bears S. 77 1/2° W., 42 lks. dist., mkd. XBT.

A hemlock, 10 ins. diam., bears N. 27 1/2° W., 14 lks. dist., mkd. XBT.

Deposit a magnet in a white plastic case at the base of the stainless steel post.

Located on SE slope with willow to the east and stunted hemlock to the west.

This plat contains the entire survey record.

This plat represents the survey of a portion of the subdivision of section lines and meanders of the left bank of Ingram Creek in sections 5 and 6, in Township 8 North, Range 2 East, Seward Meridian, Alaska.

This survey was executed by Daniel A. Wiesner, Cadastral Surveyor, August 9 through September 21, 1995, in accordance with the specifications set forth in the Manual of Surveying Instructions, 1973, Special Instructions for Group No. 653, Alaska, dated February 27, 1995, approved May 24, 1995, and Assignment Instructions dated May 26, 1995. A portion of the south boundary of Township 9 North, Range 2 East was surveyed concurrently.

Field assistants were:

Michael O. Harmening, Land Surveyor
David M. Klein, Land Surveyor
William R. Tackman, Student Trainee (LS)
Kent W. Harder, Surveying Technician
Timothy P. Donahoe, Contract Laborer
Eric Goudey, Contract Laborer
Ronald C. Heidemann, Contract Laborer
Ty M. Johnson, Contract Laborer
Clinton T. Lancaster, Contract Laborer
Sabin R. Olson, Contract Laborer

The directions of the lines of this survey are based on the Global Positioning System, using static relative positioning techniques, verified by solar observations and refers to the true meridian.

The corner points of this survey were computed based on the official Bureau of Land Management Protraction Diagram S14-4, approved June 29, 1960.

The lines of this survey were established based on the Global Positioning System, using static relative positioning techniques and conventional ground survey methods.

The geographic position of the 1/4 section corner on the north boundary of section 6, as determined by a direct tie from National Geodetic Survey triangulation station "VICTOR", established in 1964, is:

Latitude: 60° 49' 12.81" North
Longitude: 149° 10' 07.59" West
NAD 27

The mean magnetic declination was observed during the execution of this survey.

This survey is situated on the left bank of Ingram Creek, approximately 1 mile northeasterly from Turnagain Pass.

The land is a mix of timbered and open areas, with the highest concentrations of trees in the valley surrounding Ingram Creek.

The soil is glacial silt, loam and bedrock.

Access to the survey was by helicopter and highway vehicle

Acceptance of this survey does not purport to transfer any interest in submerged lands to which the State of Alaska is entitled under the Equal Footing Doctrine and Section 6(m) of the Alaska Statehood Act, P.L. 85-508, notwithstanding the use, location, or absence of meander lines to depict water bodies.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Anchorage, Alaska

The survey represented by this plat, having been correctly executed in accordance with the requirements of law and the regulations of this Bureau, is hereby accepted.

For the Director

George R. Grant — 29 April 1999
Date

Deputy State Director for Cadastral Survey, Alaska

I, Daniel L. Johnson, HEREBY CERTIFY upon honor that Daniel A. Wiesner, Cadastral Surveyor, in pursuance of Special Instructions dated February 27, 1995, has executed the survey depicted on this plat in strict conformity with said Special Instructions, the Manual of Instructions for the Survey of the Public Lands of the United States, and in the specific manner described on this plat. Daniel A. Wiesner is no longer employed by the Bureau of Land Management and is unavailable for signature.

4-26-99
Date

Daniel L. Johnson
Chief, Branch of Field Surveys

MDW/LJB

Area Surveyed: 210.63 Acres

Boat Sheet S 14-9

BCA

Exhibit C

McCLINTOCK LAND ASSOCIATES INC.
16942 N. Eagle River Loop Road
Eagle River, Alaska 99577

September 13, 2018

Matt Burkholder, PLS
Survey Consultant Coordinator
ADOT/PF - Central Region
4111 Aviation Avenue
Anchorage, Alaska 99502

Re: Request for Proposal 25192022
Seward Highway MP 50 - 75 Pavement Preservation Project

Dear Mr. Burkholder:

McClintock Land Associates, Inc. (MLA) is pleased to offer our services once again to the Alaska Department of Transportation and Public Facilities (DOT&PF) for the Seward Highway MP 50-75 Pavement Preservation Post Construction Surveying Services contract. MLA was hired by DOT&PF Central Region in September 2013 to provide topographic and planimetric surveys as specific areas identified by DOT&PF, recovery existing control monuments, centerline monuments, bench marks and property corners as well as establishing supplemental control monuments for the Seward Highway MP 50-75 Pavement Preservation project.

MLA is an Alaska Native majority-owned and managed Survey & Mapping firm based in Eagle River, Alaska. We are certified (Certificate No. 9900009) as a Disadvantaged Business Enterprise (DBE) for Photogrammetry & Mapping, Drafting & Reproduction, ROW Acquisition & Negotiation, Transportation Planning, and Unlicensed Construction Surveying. MLA has been in business since 1983 when it was known as McClintock Land Survey Co. MLA has worked throughout Alaska in over 120 villages and hundreds of remote sites. As a result, MLA survey crews are particularly experienced in working in remote Alaskan locations.

Project Objectives

MLA understands that the horizontal and vertical control for this project will be the DOT&PF SEW-2 local coordinate system as shown on Survey Control Diagram Record of Survey (ROS) Plat 2014-2 Seward Recording District.

MLA has reviewed Exhibit B and the Survey Request provided with the RFP. It is clear that the Survey Request can be best described by the following tasks.

Phone (907) 694-4499 *AK Toll Free (800) 478-4499* *Fax (907) 694-8965*
Visit us on the web: www.mappingalaska.com *E-Mail: info@mappingalaska.com*

Task 1

MLA will recovery twenty-four record DOT&PF control points between MP 50 and MP 74 which are highlighted in yellow on Exhibit B. MLA will replace any missing or destroyed control monuments. The record positions of these previously established control points will be confirmed by static GPS observation.

Using two of the recovered primary control points at the beginning, middle and end of the project MLA will collect a minimum of 8 hours of data on two separate sessions on these control points. The static GPS data will be submitted to the online NGS OPUS utility program.

The remaining eighteen control monuments will be tied to the primary control with a minimum of twenty minute Static GPS observations.

The results of the control network will be discussed with DOT&PF and reported on the Record of Survey. MLA will maintain DOT's naming convention of SWH followed by the highway mile marker for any control points that are set for this project.

Task 2

MLA will recover up to 25 record benchmarks which are highlighted in blue on Exhibit B. If any bench marks are damaged or destroyed, MLA will consult with DOT&PF for an appropriate course of action. Using digital levels Third Order closed level loops will be run between the recovered benchmarks. The results will be reported on the Survey Control Diagram.

Task 3

The survey request lists three mining claim corners that need to be recovered and replaced if they are damaged or destroyed. In addition there is a Special Meander Corner Section 6 shown on page 14 of Plat 2014-2. DOT&PF has requested that this monument as well as the Section Corner to the North be recovered or replaced if they are damaged or destroyed. If any of these monuments have been destroyed or damaged MLA intends to discuss with DOT&PF the appropriate method for resetting the monuments

A minimum of twenty minute static GPS observations will be completed on the monuments that are recovered for Task 3.

Task 4

MLA will provide DOT with a Survey Control Diagram ROS detailing the results of this survey. Prior to starting on the deliverables MLA will confirm the version of AutoCAD and current template to be used. MLA has the AutoCAD drawing for Plat 2014-2. In

order to meet DOT&PF's aggressive schedule we intend to request that DOT&PF approve a request to use this drawing as our template for this project.

An electronic survey report containing copies of our field notes, photographs, AutoCAD drawing, survey report and OPUS Reports will be prepared and submitted to DOT.

Technical Approach

Depending on availability at the time of survey MLA intends to secure lodging in Tern Lake, Moose Pass or Girdwood for the duration of the field work.

All of the horizontal control will be performed with static GPS. Tribrachs will be checked and adjusted as needed prior to commencement of field work. Sufficient GPS data will be collected on the recovered DOT&PF control points as well any control monuments that MLA may have to establish meeting the requirements of the DOT&PF Statement of Services.

Vertical control for this project will be completed using digital levels including rod bubbles on the level rods. Care will be taken to balance shots and not exceed the maximum distance allowed by the Statement of Services.

All of the field work will be performed under the direct supervision of Travis Baril, PLS who will be MLA's field supervisor for this project. Prior to earning his PLS, Travis worked the original Seward Highway MP 50 – 75 project as a field technician.

MLA will be using the DOT numbering scheme shown on Plat 2014-2 for all sets and recoveries. All data will be recorded in hardbound field books. Two photographs will be taken of all recovered and set monuments. All photographs will be cataloged using the DOT numbering scheme.

Project Personnel

MLA intends to assign a two man crew to this project supervised by an onsite Registered Alaskan Surveyor. Depending on this crews progress MLA will assign additional staff as needed.

Project Manager in Responsible Charge – Michael Miller, PLS
Field Surveyor in Responsible Charge – Travis Baril, PLS
Field Survey Technician – Daryl Moistner
Office Technicians – Mike Frame, Travis Baril

Schedule

The schedule for this project will be dependent on when DOT&PF issues NTP, however we are confident that we could be in the field within 2-3 days of receiving NTP. We will submit the draft data for review by Monday November 26th. Our proposed schedule is very much dependent on when we receive the NTP from DOT&PF.

Currently MLA has one active DOT&PF contract with Northern Region to complete the property plan for the Point Hope Airport.

I will be available at anytime to meet and discuss the scope for this project.

Please contact me if you have any questions.

Sincerely,

Michael Miller, PLS
Survey Manager
McClintock Land Associates, Inc.