

HISTORIC WHITTIER RAILROAD PLAZA

PROJECT NO.: 1433100

CITY OF WHITTIER
Whittier, Alaska



September 2014

Prepared for:
City of Whittier
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INVITATION TO BID

HISTORIC WHITTIER RAILROAD PLAZA

The City of Whittier is soliciting sealed bids from qualified contractors for the construction of the Historic Whittier Railroad Plaza to include all labor, equipment, and materials necessary to construct the facility in accordance with Contract Documents. The work includes construction of the concrete plaza and amenities including, but not limited to landscaping, benches, decorative fencing, interpretive signs, concrete steps, railings, lighting and electrical systems, installation of a pre-engineered shelter and stair covering; relocation and renovation of the historic Whittier Railroad monument and other related work indicated in the project documents. The Engineer's Estimate for this project is between \$200,000 and \$500,000, including all additive alternates.

Bids will be received at the Whittier City Clerk's office 100 Kenai Suite 105, Whittier, AK 99693 until 3:00 PM, Wednesday October 8, 2014. Bid will be awarded on October 22, 2014 following approval of bids at the October 21st Whittier City Council meeting. Bids shall be enclosed in an envelope clearly marked "HISTORIC WHITTIER RAILROAD PLAZA." Faxed bids will not be accepted. Bids stamped after 3:00 p.m. will be rejected.

Complete bidding documents will be available in printed form at the City Clerk's office, or can be downloaded in PDF form from the City's website (www.whittieralaska.gov). Bidders must register with the City Clerk's office prior to downloading the document set. Bidding documents can also be downloaded from Plan Well (plan room):

(http://order.e-arc.com/arcEOC/Secures/PWELL_PrivateList.aspx?PrjType=Pub&mem=122&custTotken=)

or

<http://nwcontractorsnetwork.com/>

Any addenda to the project will be published via the City of Whittier website. Bidders must register with the City Clerk's office to be notified when addenda are posted. Bidders are solely responsible to obtain all Bid Documents, Reference Documents, and Addenda documents made available. If paper copies of the documents are desired, Bidders are responsible for providing their own printing.

All bidders are required to attend the mandatory pre-bid meeting to be held in the Whittier City council chambers at 2:00 PM, October 1, 2014 at the Whittier City Council Chambers, 100 Whittier Street, Whittier, Alaska.

This contract is subject to the provisions of State of Alaska, Title 36 Minimum Wage Rates. The contract will require certificates of insurance and performance and payment bonds.

A Bid Bond in the amount of ten (10) percent of the total bid price must accompany each bid. The Bid Bond may be in the form of a certified check or a cashier's check made payable to the City of Whittier or a Bid Bond issued by a surety licensed to do business in Alaska.

Questions can be directed in writing to Scott Korbe, Director of Public Works; fax: (907) 472-2435, email: pworks@whittieralaska.gov

The City of Whittier reserves the right to reject any and all bids and to waive informalities.

INSTRUCTIONS TO BIDDERS

HISTORIC WHITTIER RAILROAD PLAZA

1. EXAMINATION OF SITE/PRE-BID CONFERENCE

Each Bidder is responsible for inspecting the site(s) and for reading and being thoroughly familiar with the Contract Documents. The failure or omission of any Bidder to do any of the foregoing shall in no way relieve any bidder from any obligation in respect to his bid.

Bidders may visit the sites and should take such other steps as may be reasonably necessary to ascertain the nature and location of the Work and the general and local conditions which can affect the Work or the cost thereof.

A mandatory pre-bid conference and site visit will be held at 2:00 pm, October 1, 2014, at City of Whittier, Whittier Alaska.

2. EXAMINATION AND INTERPRETATION OF DOCUMENTS

Complete bidding documents for this project will be available on Monday September 29, 2014.

Any addenda to the project will also be sent to registered plan holders. Bidders are solely responsible to obtain all Bid Documents, Reference Documents, and Addenda Documents being made available. If paper copies of the documents are desired, Bidders are responsible for providing their own printing.

Bidders shall familiarize themselves with the requirements of all of the Bid Documents including these Instructions to Bidders, the Bid Form, the Agreement, the General Conditions, the Supplementary Conditions, the Specifications, the Drawings, and any addenda issued prior to the receipt of bids, and any other documents referenced or referred to therein.

Written requests for interpretation or correction of any ambiguity, inconsistency, discrepancy, omission, or error in the Bid Documents may be directed to Scott Korbe, pworks@whittieralaska.gov, City of Whittier, PO Box 608, Whittier, Alaska 99693 or by FAX to (907) 472-2435. Telephone inquiries are not accepted.

DEADLINE for questions: 3:00 PM, Friday, October 3, 2014

Any interpretation or correction will be issued in an addendum. Only a written interpretation shall be binding. No bidder shall rely on any interpretation or correction given by any other method.

3. ADDENDA

The Owner may modify the Bid Documents no later than seven (7) calendar days prior to the date fixed for opening of bids by issuance of an addendum to all parties who have been furnished Bid Documents for bidding purposes. Bidders must acknowledge receipt of all addenda on the Bid Form.

4. BID FORM

Bids must be submitted on the forms provided, completed in all respects as required by the Bid Form and Bid Documents, and manually signed by an authorized official of the bidder. Bidders may make copies of the bid forms for submission of bids. A conditional or qualified bid will not be accepted.

In no event, will the City of be responsible for bid preparation costs, nor for costs including attorney fees, associated with any administrative, judicial, or other challenge of the determination of the lowest responsive and responsible bidder and/or award of contract. By submitting a bid, each bidder agrees to be bound in this respect and waives all claims for such costs and fees.

5. SUBMISSION OF BID

Bids must be submitted sealed in an envelope addressed to the City of Whittier, PO Box 608, Whittier, Alaska 99693 or delivered to the Whittier City Clerk's office 100 Kenai Suite 105, Whittier, AK 99693. Bids must be delivered at or prior to the exact time set for opening bids.

The envelope shall bear on the outside the name and address of the bidder, and clearly be marked "HISTORIC WHITTIER RAILROAD PLAZA."

6. BID SECURITY

Each bid must be accompanied by a bid bond payable to the Owner in the amount of ten percent (10%) of the total bid price. As soon as bid prices have been compared, the Owner will return the bonds of all except the three lowest responsive bidders. When the Agreement is executed, the bonds of the two remaining unsuccessful bidders will be returned. The bid bond of the successful Bidder shall be retained until the payment bond and/or performance bond have been executed and approved, after which it will be returned. A certified check may be used in lieu of a bid bond. Attorneys-in-fact who sign bid bonds must file with each bond a certified copy of their power of attorney.

7. MODIFICATION OR WITHDRAWAL OF BIDS

Bids may be modified or withdrawn by written notice received at the City of office at least one hour prior to the time and date set for bid opening. Modifications or withdrawals must be signed by the person who signed the original bid.

A facsimile modification or withdrawal will be effective if received at least one hour prior to the time and date set for bid opening. The City of Whittier Fax number is (907) 472-2404. DO NOT reveal the actual bid amount in a FAX.

No Bidder may withdraw a bid within 60 days after the actual date of opening thereof. Should there be reason why the Contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the Owner and the Bidder.

8. BID OPENING

Bids will be publicly opened after the time set for opening in the Invitation to Bid. Any bid received after the time and date specified shall not be considered.

9. CANCELLATION OF SOLICITATION; REJECTION OF BIDS

The Owner may cancel this solicitation if it determines that it no longer requires the construction, or it can no longer reasonably expect to fund the project, or that there is need of major design revisions. The Owner also reserves the right to waive minor or immaterial defects or irregularities in a bid, or to reject any and all bids.

The City of Whittier may reject any bid which is unbalanced if it is in the best interest of the City to do so. A bid is unbalanced when, in the opinion of the City Manager, it allocates a disproportionate share of costs or profit, or both, to the price of one or more items of Work and reduces the share of costs or profit, or both, allocated to the price of another item or items of Work, and if there is a reasonable possibility that the bid will not result in the lowest overall cost of the Work to the City.

10. AWARD OF CONTRACT

A contract award shall be made on the basis of a total basic bid plus additive alternates or less deductive alternates (if applicable), which the Owner selects. The Owner is not required to award any alternate and may choose to do all, none, or some of the alternates as it deems in its best interest. Award will be subject to the availability of funds, which is deemed solely by the Owner.

The Owner may make such investigations as the Owner solely deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Agreement and to complete the work contemplated herein.

11. EXECUTION OF CONTRACT

The party to whom the Contract is awarded will be required to execute the Agreement and obtain the performance bond within ten (10) days from the date when Notice of Award is delivered to the Bidder. Notice of Award shall be accompanied by the necessary agreement and bond forms. In case of the failure of the Bidder to execute the agreement, the Owner may at his option consider the Bidder in default, in which case the bid bond accompanying the proposal shall become the property of the Owner.

The Owner within ten (10) days of receipt of the agreement signed by the party to whom the contract is awarded shall sign the agreement and return to such party an executed duplicate of the agreement.

12. FAILURE TO EXECUTE CONTRACT

If the bidder to whom the Contract is awarded refuses or neglects to execute it, the Owner may declare the Bidder non-responsive, and award the work to another responsive bidder.

BID FORM

TO: City of Whittier
Attn: City Clerk
P. O. Box 608
Whittier, Alaska 99693

BIDDER: _____
Company Name

Company Contact

Address

Telephone

PROJECT: HISTORIC WHITTIER RAILROAD PLAZA
WHITTIER, ALASKA

BIDDER'S DECLARATION & UNDERSTANDING

The undersigned, hereinafter called the Bidder, declares that he has carefully examined the Project Manual, Project Drawings, and all addenda (hereinafter "Contract Documents") for the construction of the project, that he has personally inspected the site, that he understands thoroughly the improvements and method by which payment will be made for said work and hereby proposes to undertake and complete the work embraced in this improvement in accordance with said Contract Documents at the rates and prices found in the Bid Schedule.

The Bidder further declares that the only person or parties interested in the Proposal are those named herein, that this Proposal is, in all respects, fair and without fraud, that it is made without collusion with any official of the City of Whittier (OWNER) and that the Proposal is made without any connection or collusion with any person submitting another Proposal on this Contract.

The Bidder agrees not to withdraw his bid within 60 days after the actual date of the bid opening.

Signature and Date

DOCUMENTS TO SUBMIT WITH THIS BID FORM

Bidders are advised that failure to submit documents shown and detailed on this sheet shall be justification for rendering the bid nonresponsive.

1. Bid Form & Bid Schedule (6 Pages Total), including certification.
2. Bid Bond, or certified check, or cashier's check (10% of Base Bid), AND ANY REQUIRED POWER OF ATTORNEY
3. Qualifications of coating personnel, and electrical, control, and process control and instrumentation systems personnel in accordance with instructions to bidders and technical specifications.

DOCUMENTS OWNER IS TO RECEIVE FROM APPARENT LOW BIDDER WITHIN 72 HOURS AFTER BID OPENING

1. Copy of Current State of Alaska Contractor's License

DOCUMENTS OWNER IS TO RECEIVE WITHIN 10 DAYS

AFTER NOTICE OF AWARD

The Bidder agrees that if this Bid Form is accepted he will deliver to the OWNER, within 10 calendar days of Notice of Award, the following:

1. Performance Bond Form (100% of Contract)
2. Labor & Material Payment Bond Form (100% of Contract)
3. Necessary Power-of-Attorney
4. The Contractor's Certificates of Insurance
5. City of Whittier Business License for Contractor and all Subcontractors.

CONTRACT TIME OF COMPLETION AND LIQUIDATED DAMAGES

Bidder agrees to commence work on or before a date to be specified in a written "Notice to Proceed" from the OWNER expected on or about July 16, 2014. Bidder further agrees to be:

1. Substantially Complete no later than July 16, 2015;
2. Final Acceptance no later than January 1, 2016;
3. All Contract requirements complete by February 15, 2016.

The Bidder is directed to the Supplemental Conditions of the Contract for definitions of substantial and final completion, and for conditions of partial acceptance.

Liquidated Damages: OWNER and CONTRACTOR recognize that time is of the essence of the Contract and the OWNER will suffer financial loss if the Work is not substantially complete within the time specified above, plus any extensions thereof allowed in accordance with Contract Documents. They also recognize the delays, expense, and difficulties involved in proving in a legal proceeding the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that

as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER one thousand dollars (\$1,000.00) for each calendar day that expires after the time specified above until the Work is substantially complete.

Further, should the CONTRACTOR fail to meet the final completion requirements within 30 calendar days following substantial completion, he will be assessed liquidated damages of and additional two hundred and fifty dollars (\$250.00) per calendar day until final completion is satisfied.

ADDENDA ACKNOWLEDGMENT

The undersigned acknowledges receipt of the following Addenda. If no Addenda were received, write the word "NONE" on the first line.

ADDENDUM NO.

RECEIVED BY

* Signatures shall be the same as the individuals who signed the bid proposal.

BID TABULATION AND SUMMARY

Bidder agrees to perform all of the construction work described in the Contract Documents including the specifications, special provisions, and work shown on the plans for the prices stated in the attached Bid Schedule.

Prices are to be shown in clearly printed figures as identified in the Bid Schedule. Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informality in the bidding. A contract award shall be made on the basis of a total basic bid plus the additive alternates or less the deductive alternates, to be awarded. The Owner is not required to award any alternate and may choose to do all, none, or some of the alternates as it deems in its best interest. The Owner reserves the right to select any alternate or combination of alternates. Award will be subject to the availability of funds, which is deemed solely by the Owner.

BID GUARANTEE: The Undersigned further agrees that the certified check or bid bond accompanying the proposal is left in escrow with the Owner, that the amount of the check or bond is the measure of damages which the Owner will sustain by failure of the Undersigned to deliver said documents within 10 days after written notice of the award of contract to him or her, and that check shall become the property of the Owner or the bid bond shall remain in full effect should he or she so fail. But if this proposal is not accepted within 60 days of the date set for the opening thereof, or if accepted and the Undersigned delivers said agreement and performance and labor and material payment bonds as required, the check shall be returned to him or her and the bid bond shall become void.

UNBALANCED BIDS: The Owner may reject any bid which is unbalanced if it is in the best interest of the Owner to do so. A bid is unbalanced when, in the opinion of the City Manager, it allocates a disproportionate share of costs or profit, or both, to the price of one or more items of Work and reduces the share of costs or profit, or both, allocated to the price of another item or items of Work, and if there is a reasonable possibility that the bid will not result in the lowest overall cost of the Work to the Owner.

EXECUTION OF BID FORM

Bidder shall execute and submit all pages of the Bid Form including the following Bid Schedule and appropriate signatures. **All signatures shall be notarized.**

**BID SCHEDULE CITY OF WHITTIER RAILROAD PLAZA
WHITTIER, ALASKA**

The undersigned proposes to furnish all tools, equipment, supplies, manufactured articles, labor and materials, services and incidentals, and to perform all work necessary for the Completion of the Project as shown and specified in strict accordance with the Contract Documents.

BID Schedule

Base Bid:	Whittier Railroad Plaza	\$ _____
Additive Alternate 1:	Furnish and Install Shelter and Staircase Canopy	\$ _____
Additive Alternate 2:	Move and Refurbish Railroad Tunnel Monument	\$ _____
	TOTAL BID	\$ _____

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____
as Principal, and _____, as Surety, are hereby held
and firmly bound unto the City of Whittier as the OWNER in the penal sum of
_____ dollars (\$ _____) payment of which, well and
truly made, we hereby jointly and severally bind ourselves, successors, and assigns.

Signed this _____ day of _____, 2014.

The Principal has submitted to the City of Whittier a certain BID, attached hereto and hereby
made a part hereof to enter into a contract in writing for

NOW, THEREFORE,

- (a) If said BID shall be rejected or
- (b) If said BID shall be accepted and the principal shall execute and deliver a contract in
the Form of Contract attached hereto (properly completed in accordance with said
BID), and shall furnish a BOND for his faithful performance of said contract, and for
the payment of all persons performing labor or furnishing materials in connection
therewith, and shall in all other respects perform the agreement created by the
acceptance of said BID,

Then this obligation shall be void; otherwise the same shall remain in force and effect; it being
expressly understood and agreed the liability of the Surety for any and all claims hereunder shall,
in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety
and its BOND shall be in no way impaired or affected by any extension of the time within which
the OWNER may accept such BID; and said Surety does hereby waive notice of any such
extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals,
and such of them as are corporations have caused their corporate seals to be hereto affixed and
these presents to be signed by their proper officers, the day and year first set forth above.

Principal

Surety

By: _____

IMPORTANT – Surety companies executing BONDS must appear on the Treasury
Department’s most current list (Circular 570 as amended) and be authorized to transact business
in the state where the project is located.

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Wage Schedules

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This contract is subject to the provisions of State of Alaska, Title 36-Minimum Wage Rates.

Contractor shall comply with all applicable Federal and State labor regulations, including State of Alaska Title 36, Public Contracts, otherwise known as the Little Davis-Bacon Act, and all labor regulations and minimum rates of pay contained therein.

State Wage Rates

State Wage Rates can be obtained at <http://labor.alaska.gov/lss/pamp600.htm>. Use the State wage rates that are in effect 10 days before Bid Opening.

Federal Wage Rates

Federal Davis-Bacon Wage Determinations by State are available at <http://www.wdol.gov/dba.aspx>. Use General Decision Number: AK140001 03/07/2014 AK1, Superseded General Decision Number: AK20130001; Construction Types: Building and Heavy.

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SECTION 01 01 00 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Location: Work under this Contract is located within the City of Whittier, Alaska. The work location(s) are more particularly located as shown on the Drawings.
- B. The project owner is The City of Whittier referred to throughout these specifications as the Owner. For the purposes of this project, the Engineer is the authorized representative of the Owner. The Owner and Engineer will be assisted by inspectors as the Engineer may assign.
- C. Description of Work: The Work included under this Contract consists of furnishing all labor, materials, equipment, supervision, and other facilities necessary to complete the work set forth in the plans and specifications. It shall be the responsibility of the bidder to prepare the bid so that all materials and/or fittings shall harmoniously conform to the intent of the Contract, Drawings, Specifications, Referenced Documents, and other Provisions.
- D. The Scope of Work consists of the construction of the Whittier Railroad Plaza and Stairs, and associated work as more particularly indicated on the project drawings. The project includes the following:

- 1. Base Bid – Historic Whittier Railroad Plaza
 - a. Demolition, clearing and grubbing
 - b. Excavation for concrete slab and stairs
 - c. Construct concrete plaza and install site furnishings
 - d. Install concrete stairs and railings
 - e. Planting bed preparation and planting plant materials
 - f. Place boulders
 - g. Place topsoil and seeding
 - h. Replicate Railroad Tunnel Monument.
 - i. Relocate street light and pole
 - j. Relocate Visitor Sign
 - k. Construct shelter footings
 - l. Place underground electrical conduits and pull boxes.
 - m. Anton Anderson Statue footing.

2. Additive Alternate 1 – Furnish and Install Shelter and Staircase Canopy
 - a. Furnish and Install Shelter
 - b. Furnish and Install Staircase Canopy
 3. Additive Alternate 2 – Move and Refurbish Railroad Tunnel Monument
 - a. Move and refurbish Railroad Tunnel Monument
 - b. Deduct price to replicate Railroad Tunnel Monument-Base Bid Item h.
- E. The bike trail and pedestrian tunnel under the railroad tracks must remain in operation during the Work. The contractor will be responsible for providing temporary bypasses, diversions, etc., as may be required to construct the work.
- F. Examination Prior to Bid: All locations including the Additive Alternates are available for examination prior to the bid by prior arrangement with the Owner. The Bidders are encouraged to examine the facility. In the event a bidder determines that the existing conditions are not as represented on the drawings or herein, they are required to notify the Owner prior to bid opening.

1.3 QUALITY ASSURANCE

- A. Codes and Standards: The work shall comply with codes and standards applicable to each type of work and as listed in the individual sections of these specifications. This Contract incorporates materials, applications, and tests by reference, with the same force and effect as if they were given in full text.
- B. Conflict: Where a conflict occurs between reference documents and project specifications, the project specifications shall govern.
- C. Drawings: The drawings are general in nature. The Contractor shall be responsible for verifying actual dimensions, configurations and requirements prior to fabricating or procuring materials and equipment. This is a rehabilitation of an existing facility, and Contractor will be required to modify design and installation as needed to accommodate existing conditions, subject to the review and approval of the Engineer.
- D. Measurements: Where approved manufacturer's diagrams and shop drawings give specific measurements or rough-in dimensions for equipment, these dimensions shall take precedence over dimensions indicated on the drawings.
- E. Equipment: Prior to ordering equipment, verify dimensions and functions of equipment proposed for use including the electrical service requirements. Contractor shall verify the equipment is compatible with the structural and architectural features of the work, avoid conflicts with equipment of other crafts, and that it will fit in the space provided.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Protect products incorporated into the work from damage while in transit to the site. Products must be delivered in original, unopened containers with manufacturer's name, brand designation, and contents legibly indicated.

- B. Storage: Provide temporary storage facilities for products. Storage shall comply with the manufacturer's instructions. The storage area shall permit access for inspection and handling.
 - 1. Storage and staging area shall be limited to the location shown on the plans and the limits of work.
 - 2. At no time may stored materials or equipment obstruct operations of the Owner, the adjacent property owners, or public access.
 - 3. Emergency vehicle access shall be maintained at all times.
- C. Handling: Load and unload products in such a manner that protects them from damage.

1.5 PROJECT AND SITE CONDITIONS

- A. Access to the Work:
 - 1. Contractor shall coordinate all hours of operation with the Owner and Engineer.
 - 2. No work shall be scheduled for Sundays, or Federal Holidays without written consent from the Engineer.
- B. Environmental Considerations: Fuel or oil spills occurring during the work of this project shall be excavated to a depth of 12 inches beyond contaminated material and removed from the work location. Prescribed measures to prevent water pollution to nearby water resources shall be strictly observed.
- C. Occupancy: Property owners and tenants will be continuously occupying areas immediately adjacent to the work area. Conduct work in a manner that will minimize needs for disruption of these individuals. Provide a minimum of 72 hours advance notice to the Engineer of any activities that may impact the property owners. Secure the property owners written approval of activities that will impact the property owner's normal operations to avoid delays in overall construction and permit proper installation or work.
- D. Other Construction: In the event that other construction activity is taking place in the proximity of the Work, the Contractor shall coordinate all work activity so as not to interfere with another contractor or other construction activity. The Contractor shall schedule all work activity through the Engineer to avoid any conflicts with other contractors.

1.6 SEQUENCING AND SCHEDULING

- A. Requirements: Operations necessary to complete the work, including coordination with other crafts relative to the Contractor's requirements are the Contractor's responsibility.

PART 2 - PRODUCTS – Not Used.

PART 3 - EXECUTION

3.1 PROJECT MEETINGS

- A. Pre-Work Conference: Will be held prior to the start of the work. The Contractor will be notified in advance of the meeting time, date, and place. The purpose will be to review required work, project drawings, specifications, submittals, construction schedules, payroll, and payments, and administrative provisions of the Contract.
 - 1. Be prepared to summarize and explain procedures planned for the project and present the submittals requested in the specifications.
- B. Progress Meetings: Will be held weekly in accordance with Section 01 04 10 "Project Coordination." Additional meetings may be requested by either the Engineer or the Contractor. The request shall state who should attend and include an agenda.
- C. Substantial and Final Inspection: Notify the Engineer in writing at least five working days before the desired inspection date to schedule inspection.

3.2 PREPARATION

- A. Work Layout: The Contractor is responsible for all layouts and measurements required to perform the work required by this contract.

3.3 PROTECTION

- A. Damage: Repair of damage to new, or existing, construction and equipment resulting from construction procedures, shall not be initiated prior to notification of the Engineer.
- B. Repairs: Repair damages to new or existing active utilities above or below ground, whether indicated on the drawings or not and immediately report such damage to the Engineer. Costs of repair for damages due to the Contractor's negligence shall be paid by the Contractor.

3.4 DISPOSAL OF DEBRIS

- A. Requirements: Items or debris not designated as salvage by the Owner shall become the property of the Contractor. The disposal of materials is the responsibility of the Contractor and shall be conducted in accordance with all local, State, and Federal regulations.

END OF SECTION 01 01 00

SECTION 01 04 10 - PROJECT COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 GENERAL CONTRACTOR

- A. The Contractor shall coordinate all of the work of his own employees and subcontractors and coordinate his work with that of other contractors and the Owner.
- B. The Contractor shall expedite his work to assure compliance with schedules.
- C. The Contractor shall comply with orders and instructions of the Owner.
- D. The Contractor shall monitor and control use of the site:
 - 1. Supervise field work and site layout.
 - 2. Allocate space for each subcontractor's use for work and storage areas based on the work locations shown on the drawings.
 - 3. Establish access and maintain traffic for the public, operations of the Owner, and into and out of adjacent property owners at all times; provide traffic control and flagging as necessary.
- E. General Contractor and subcontractors shall diligently comply with the following:
 - 1. Coordinate in planning and layout of the work well in advance of operations. Coordinate with other contractors as necessary to prevent delay or revisions.
 - 2. Ensure delivery of materials and the performance of work on coordinated schedule.
 - 3. The General Contractor is responsible for proper layout of work and for the surveying of all lines and measurements for all of the work executed under the contract documents. The Contractor is responsible for field verifying the figures shown on the drawings before laying out the work and reporting any inaccuracies in writing to the Owner before commencing work. The Owner or the Engineer will in no case assume responsibility for layout of the work.
 - 4. The mechanical and electrical trades shall be responsible for the layout of the piping, equipment, and conduits based on the reference lines established.

1.3 COORDINATING UTILITIES

- A. Cooperate and coordinate work with all utilities involved with this Project. Utilities include, but are not limited to water, sewer, and electric. Cooperate and coordinate with associated utilities to facilitate connections and hook-up for the Project.

- B. Give notice to and coordinate with the Owner before any utility service is to be interrupted or changed out. Contractor shall schedule and coordinate all utility work, especially electrical work to avoid or limit interruption of service.
- C. Comply with all utility requirements for trench work close to, or that will disturb public water, sewer, electric, gas, cable, phone, or other utilities.

1.4 OWNER NOTIFICATION

- A. Contractor shall provide the Owner forty-eight (48) hours advance notice of intention to work anytime outside of the usual working hours listed in the Contract. In no case shall the Contractor do any such work without first receiving permission from the Owner.

1.5 CONSTRUCTION PROGRESS MEETINGS

- A. Weekly regular construction meetings will be held at a time to be determined by mutual agreement of the Owner and Contractor for the purpose of project coordination, progress reporting, and schedule reporting. As a minimum, the Contractor's supervisor or project manager shall attend such meetings. Additional Contractor personnel, subcontractors, vendors, and other persons pertinent to the work at hand shall also be required to attend at the Owner's request.

1.6 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability requires maximum utilization of space for efficient installation of different components or for the installation of products and materials.
 - 1. Indicate relationship of components, products, and materials shown on Shop Drawings.
 - 2. Indicate proposed installation sequences.
 - 3. Refer to Division 26 sections for specific requirements for electrical installations.
- B. Staff Names: Prepare a list of principal staff assignments, including superintendent and other personnel assigned to the Project. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cell phone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to the project. Submit lists to the Owner before starting construction.
- C. In addition to the Project Superintendent and key work personnel, provide other administrative and supervisory personnel as required for proper performance of the Work.

PART 2 - PRODUCTS - Not Used.

PART 3 - EXECUTION - Not Used.

END OF SECTION 01 04 10

SECTION 01 06 01 - REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 BUILDING CODES

- A. Construction which is not governed by a local building code or the Contract Specifications will be governed by the more stringent provisions of the latest published edition of the following applicable codes and regulations:

1. International Building Code.
2. National Electrical Code.
3. Uniform Plumbing Code.
4. International Mechanical Code.
5. ASHRAE 90-75 as applicable to Alaska.
6. National Fire Code, Volumes 1-10.
7. International Fire Code.
8. National Electrical Safety Code.
9. NFPA Life Safety Code.
10. NFPA National Fire Code.
11. Uniform Federal Accessibility Standards.
12. Alaska Department of Environmental Conservation Drinking Water Regulations.

1.3 BUILDING PERMITS

- A. All permits, licenses, or inspection fees which are required by the Alaska State DEC, shall be obtained and paid for by the Owner when such permits, licenses, or inspection fees are necessary for the prosecution of the work.
- B. It will be the Contractor's responsibility to give all notices and comply with all laws, ordinances, rules, and regulations bearing on the conduct of the Work as specified herein. The Contractor shall also be responsible for requesting and coordinating all public utility requirements and for meeting all applicable code requirements. The Contractor is responsible for all dumping and waste disposal fees and requirements.

1.4 APPLICABLE STANDARDS

- A. Where indicated, comply with the requirements and recommendations of the standards and other publications, except to the extent more detailed or more stringent requirements are indicated, including those of applicable codes and governing regulations.

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- B. Where two or more standards or recommendations of trade associations apply to the same quality control requirement for the work, comply with the most stringent. Refer uncertain instances to the Engineer for a decision.

PART 2 - PRODUCTS – Not Used.

PART 3 - EXECUTION – Not Used.

END OF SECTION 01 06 01

SECTION 03 30 00 - CAST IN PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.
- B. Related Requirements:
 - 1. Section 12 93 00 "Site Furnishings"

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete mixture.
- C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- B. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
- C. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
 - 1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5.
 - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- D. Concrete Testing Service: Contractor shall engage a qualified independent testing agency to perform material evaluation tests.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice.

2.3 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
 - 1. Portland Cement: ASTM C 150, Type I or Type III, gray.
- B. Normal-Weight Aggregates: ASTM C 33, graded.
 - 1. Maximum Coarse-Aggregate Size: 3/4 inch nominal.
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: ASTM C 94/C 94M and potable.

2.4 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C 260.
- B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 - 2. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
 - 3. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.5 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Construction Chemicals - Building Systems; Confilm.
 - b. Dayton Superior Corporation; Sure Film (J-74).
 - c. Euclid Chemical Company (The), an RPM company; Eucobar.

- d. Meadows, W. R., Inc.; EVAPRE.
- e. Sika Corporation; SikaFilm.
- f. Unitex; PRO-FILM.

B. Water: Potable

2.6 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.

2.7 CONCRETE MIXTURES

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

B. Admixtures: Use admixtures according to manufacturer's written instructions.

- 1. Use water-reducing, high-range, water-reducing, or plasticizing admixture in concrete, as required, for placement and workability.

C. Proportion normal-weight concrete mixture as follows:

- 1. Minimum Compressive Strength: 4000 psi at 28 days.
- 2. Maximum Water-Cementitious Materials Ratio: 0.45.
- 3. Slump Limit: 4 inches, 8 inches for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1-inch.
- 4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 3/4-inch nominal maximum aggregate size.

2.8 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.9 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.

PART 3 - EXECUTION

3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

- C. Chamfer exterior corners and edges of permanently exposed concrete (3/4" x 3/4" chamfer).

3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
- B. JOINTS
- C. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- D. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated.
- E. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints as indicated.
- F. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

3.4 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
- C. Cold-Weather Placement: Comply with ACI 306.1.

3.5 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
 - 1. Apply to concrete surfaces not exposed to public view.

- B. Sand-Grout Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities. After irregularities have been treated, the concrete surface shall be thoroughly wetted and brushed with grout consisting of 1 part fine sand and 1 part cement, and enough water added to make a workable paste. The grout shall be troweled, and then brushed with a soft-bristle brush. Vertical surfaces shall be brushed vertically. The finished texture should have soft, parallel lines. Keep grouted surfaces moist for 48 hours. Using spray sealers or curing compounds is not permitted on grouted surfaces.

- 1. Apply to concrete surfaces exposed to view except slabs.

3.6 FINISHING SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Broom Finish: Apply a broom finish to a float-finish surface to exterior concrete plaza, steps, ramps, and elsewhere as indicated on drawings.

3.7 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.8 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Owner. Remove and replace concrete that cannot be repaired and patched to Owner's approval.

3.9 FIELD QUALITY CONTROL

A. Testing and Inspecting:

1. Testing: Contractor will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
2. Special Inspections: Owner will engage a special inspector to provide special inspections.

B. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture not exceeding 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
6. Compression Test Specimens: ASTM C 31/C 31M.
 - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
 - b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.
7. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
 - a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
 - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
9. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified

- compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
10. Test results shall be reported in writing to Owner, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
 11. Nondestructive Testing: Impact hammer, Sonoscope, or other nondestructive device may be permitted by Owner but will not be used as sole basis for approval or rejection of concrete.
 12. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Owner. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Owner.
 13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
 14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

END OF SECTION 03 30 00

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SECTION 04 43 13.16 - ADHERED STONE MASONRY VENEER

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Stone masonry adhered to concrete backup.

B. Related Requirements:

1. Section 03 30 00 "Cast in Place Concrete".

1.2 ACTION SUBMITTALS

A. Product Data: For each source and selection of stone, stone accessory, and manufactured product.

B. Samples: For approval by Engineer and Owner.

1. For each stone type indicated.
2. For each color of mortar required.

1.3 FIELD CONDITIONS

A. Protection of Stone Masonry: During construction, cover all exposed concrete and masonry with waterproof sheeting at end of each day's work.

B. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until masonry has dried.

PART 2 - PRODUCTS

2.1 OTHER STONE

A. Regional Materials: Stone shall be fabricated within 500 miles of Project site from stone that has been extracted within 500 miles of Project site.

B. Varieties and Sources: Selected stone to match size, color, and thickness of existing variety used on Railroad monument:

1. "Hope" stone is an alternative source as collected in Hope, Alaska.

2.2 MORTAR MATERIALS

- A. Portland Cement-Lime Mix: Packaged blend of portland cement, and hydrated lime.

2.3 FABRICATION

- A. Split stone to produce pieces of thickness, size, and pattern to match existing Railroad monument
- B. Thickness of Stone: Provide thickness indicated, but not less than the following:
 - 1. Thickness: 1-inch plus or minus 1/4-inch.
- C. Finish exposed stone faces and edges to comply with requirements indicated for finish and to match approved samples.

2.4 MORTAR MIXES

- A. General: Do not use admixtures unless otherwise indicated.
 - 1. Do not use calcium chloride.
 - 2. Use portland cement-lime mortar unless otherwise indicated.
 - 3. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate materials together before adding water. Then mix again, adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 1 to 2 hours. Add remaining water in small portions until mortar reaches required consistency. Use mortar within 30 minutes of final mixing; do not retemper or use partially hardened material.
- B. Mortar for Stone Masonry: Comply with ASTM C 270, Proportion Specification.
 - 1. Mortar for Setting Stone: Type S.

PART 3 - EXECUTION

3.1 SETTING STONE MASONRY

- A. Perform necessary field cutting and trimming as stone is set.
 - 1. Use hammer and chisel to split stone that is fabricated with split surfaces.
 - 2. Pitch face at field-split edges as needed to match stones that are not field split.
- B. Sort stone before it is placed in wall to remove stone that does not comply with requirements relating to aesthetic effects, physical properties, or fabrication, or that is otherwise unsuitable for intended use.
- C. Arrange stones in polygonal (mosaic) pattern with uniform joint widths; or of a pattern matching the existing Railroad monument.

- D. Maintain uniform joint widths except for variations due to different stone sizes and where minor variations are required to maintain bond alignment if any. Lay walls with joints not less than 1/2 inch at narrowest points or more than 1-inch at widest points.

3.2 CONSTRUCTION TOLERANCES

- A. Variation from Plumb: For vertical lines and surfaces, do not exceed 1/4-inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch in 40 feet or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4-inch in 20 feet or 1/2 inch in 40 feet or more.
- B. Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2-inch in 40 feet or more.

3.3 INSTALLATION OF ADHERED STONE MASONRY VENEER

- A. Coat backs of stone units and face of concrete with cement-paste bond coat, then butter both surfaces with setting mortar. Use sufficient setting mortar so a slight excess will be forced out the edges of stone units as they are set. Tap units into place, completely filling space between units and scratch coat.
- B. Rake out joints for pointing with mortar to depth of not less than 1/4-inch before setting mortar has hardened. Rake joints to uniform depths with square bottoms and clean sides.

3.4 POINTING

- A. Prepare stone-joint surfaces for pointing with mortar by removing dust and mortar particles. Where setting mortar was removed to depths greater than surrounding areas, apply pointing mortar in layers not more than 3/8 inch deep until a uniform depth is formed.
- B. Point stone joints by placing and compacting pointing mortar in layers of not more than 3/8 inch deep. Compact each layer thoroughly and allow to it become thumbprint hard before applying next layer.
- C. Tool joints, when pointing mortar is thumbprint hard, with a smooth jointing tool to produce the following joint profile:

- 1. Joint Profile: Concave.

3.5 ADJUSTING AND CLEANING

- A. In-Progress Cleaning: Clean stone masonry as work progresses. Remove mortar fins and smears before tooling joints.

- B. Final Cleaning: After mortar is thoroughly set and cured, clean stone masonry as follows:
1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 2. Test cleaning methods on mockup; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before cleaning stone masonry.
 3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.
 4. Wet wall surfaces with water before applying cleaner; remove cleaner promptly by rinsing thoroughly with clear water.
 5. Clean stone masonry by bucket and brush hand-cleaning method described in BIA Technical Note No. 20, Revised II, using job-mixed detergent solution.

3.6 EXCESS MATERIALS AND WASTE

- A. Excess Stone: Stack excess stone where directed by Owner for Owner's use.
- B. Disposal as Fill Material: Dispose of clean masonry waste, including mortar and excess or soil-contaminated sand, by crushing and mixing with fill material as fill is placed.
1. Do not dispose of masonry waste as fill within 18 inches of finished grade.

END OF SECTION 04 43 13.16

SECTION 05 50 00 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Miscellaneous decorative fence and handrail.

B. Related Sections include the following:

1. Section 03300 "Cast-in-Place Concrete" for concrete requirements.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

B. Paint products.

C. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.

PART 2 - PRODUCTS

2.1 METALS

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated.

B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

C. Steel Tubing: ASTM A 500/A 500M, cold-formed steel tubing.

D. Steel Pipe: ASTM A 53/A 53M, Standard Weight (Schedule 40) unless otherwise indicated.

E. Slotted Channel Framing: Cold-formed metal box channels (struts) complying with MFMA-4.

1. Size of Channels: 1-5/8 by 1-5/8 inches.
2. Material: Galvanized steel, ASTM A 653/A 653M, commercial steel, Type B, with G90 coating; nominal thickness.

2.2 FASTENERS

A. General: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633 or

ASTM F 1941, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.

1. Provide stainless-steel fasteners for fastening aluminum.
2. Provide stainless-steel fasteners for fastening stainless steel.

B. Cast-in-Place Anchors in Concrete: ASTM A-307A headed bolts.

C. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors.

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.
2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.

D. Slotted-Channel Inserts: Cold-formed, hot-dip galvanized-steel box channels (struts) complying with MFMA-4, 1-5/8 by 7/8 inches by length indicated with anchor straps or studs not less than 3 inches long at not more than 8 inches o.c. Provide with temporary filler and tee-head bolts, complete with washers and nuts, all zinc-plated to comply with ASTM B 633, Class Fe/Zn 5, as needed for fastening to inserts.

2.3 MISCELLANEOUS MATERIALS

A. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.

1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.

B. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

C. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

D. Concrete: Comply with requirements in Section 03300 "Cast-in-Place Concrete" for normal-weight, air-entrained, concrete with a minimum 28-day compressive strength of 4000 psi.

2.4 FABRICATION, GENERAL

A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Use connections that maintain structural value of joined pieces.

B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges. Remove sharp or rough areas on exposed surfaces.

- C. Weld corners and seams continuously to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended.
- D. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Locate joints where least conspicuous.
- E. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- F. Where units are indicated to be cast into concrete, equip with integrally welded steel strap anchors not less than 8 inches from ends and corners of units and 24 inches o.c.

2.5 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

2.6 FINISHES, GENERAL

- A. Finish metal fabrications after assembly.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.

3. Remove welding flux immediately.
 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction.
- E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

END OF SECTION 05 50 00

SECTION 12 93 00 - SITE FURNISHINGS

PART 1 - GENERAL

1.1 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including the General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Related Work Specified Elsewhere:
 - 1. Section 03 30 00 – Cast-In-Place Concrete

1.2 DESCRIPTION OF WORK

- A. Provide equipment, materials, labor, and approvals necessary to provide site amenities as shown on the Drawings and specified.

1.3 DELIVERY, STORAGE AND HANDLING

- A. Store units in such a manner as to prevent damage prior to installation or relocation
- B. Mark each unit for easy identification as to type and job name.

1.4 SUBMITTALS

- A. Provide shop drawings and color samples for review for all site furnishings.
- B. Provide manufacturer's product data for all furnishings.

1.5 SUBSTITUTIONS

- A. Substitutions shall have same line and form and quality as that indicated by the design documents.
- B. Acceptance of all Equals shall be at the discretion of the Owner and Owner's Representative.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. All products specified shall be by the manufacturers listed herein or accepted equal:
 - 1. Litter Barrel shall be Keystone Ridge MT3D-32 with elevated lid, powder coated RAL-5005 (Nantucket Blue) or accepted substitute.
 - 2. Bike Racks shall consist of an inverted "U" form constructed with ~2 3/8-inch galvanized steel pipe. Bike racks shall be embedded in concrete. Acceptable manufacturers are Cycloops, model 2170-7-G. Cycloops is a division of

Columbia Cascade, 1975 S.W. Fifth Avenue, Portland, Oregon 97201-5293. Phone (503) 223-1157 or FAX (503) 223-4530; or Ribbon Rack Model-07-I-G, BRANDIR INTERNATIONAL, INC. 521 Fifth Avenue, 17th Floor, New York, NY 10175-1799 USA 800-849-3488.

3. Benches shall be Schenley Bench C-SC26 as manufactured by Keystone Ridge, powder coated RAL-5005 (Nantucket Blue), or an accepted substitute.
4. Shelter and Custom Stair Canopy shall be: Poligon: Custom, Nested Crossing; Polygon, 4240 136th Avenue, Holland, MI 49424; Telephone-1-(616)-399-1963; Fax-1-(616)-399-9123; Email info@poligon.com; Alaska Contact: Bob McGarvey Northwest Playground Equipment 1-(800)-726-0031.
5. Picnic Tables shall be Wabash Valley-Green Valley 6' Portable GV-106V or accepted substitute
6. Boulders:
 - a. Priority shall be given to obtaining boulders on site if possible. Some variance from size requirements will be accommodated if boulders are available as a result of excavation.
 - b. For boulders from off-site, boulder sizes shall be in accordance with dimensions identified on the drawings.
 - c. Boulders shall be uniform in color and character, free of blast holes, paint and sharp edges.
 - d. All boulders shall be handled in such a way as to not leave a damaged or scarred surface to the portion of the boulder exposed to view after placement.

PART 3 - EXECUTION

3.1 GENERAL

- A. All site furnishings to be installed per manufacturer's recommendation.
- B. All fasteners or stainless steel shall be galvanized and sized per manufacturer's recommendations.

3.2 PREPARATION

- A. Shelters and staircase canopy to be stamped and approved by an Alaska Registered Engineer prior to purchase by Contractor. Contractor is responsible for submitting these drawings to the Owner.
- B. Locate all site furnishings in accordance with approved layout drawings and obtain approval from owner representative prior to installation.
- C. Inspect job conditions to assure that all areas to receive units specified have been properly prepared and that all inserts, anchorages, blocking and other items have been accurately placed.
- D. Make needed corrections prior to proceeding.

3.3 INSTALLATION OF SITE FURNISHINGS

- A. Provide tape or other covering for exposed areas of site furnishings prior to placing concrete.
- B. Site furnishings are to be installed plumb vertically and level horizontally and in accordance with manufacturer's written recommendations.
- C. Clean furnishings. Damage to finish is cause for rejection of item and replacement by Contractor.
- D. Handle boulders with equipment so as not to leave scares or gashes metal portions of machinery only on portions of boulder that will be below ground

END OF SECTION 12 93 00

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SECTION 32 92 00 - TOPSOIL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Section 32 93 00 - Seeding
- C. Section 32 94 00 - Trees, Shrubs, Plants, and Groundcovers

1.2 WORK INCLUDED

- A. Subsoil grade shall be 4 inches + or - 1/10-foot below finish grade, allowing for a 4-inch lift of topsoil for all areas to receive turf surfacing.
- B. Subsoil grade shall be 18 inches + or - 1/10-foot below finish grade, allowing for an 18-inch lift of topsoil for all tree and shrub planting beds.
- C. Place, level, and compact topsoil when material is dry and unfrozen.

1.3 SUBMITTALS

- A. Submit soil test report on soils proposed for use under this section. Include pH, nitrogen, phosphorus, and potassium; particle size and organic content by volume.
- B. The Contractor shall notify the Owner of the location from which he proposes to furnish topsoil at least 14 days prior to delivery of topsoil to the Project from the location. The topsoil and its source may be inspected and tested separately by the Owner before approval will be granted for its use. Owner may test topsoil at any time during planting operations. Should topsoil not meet standards of approved submittal, Contractor must adjust topsoil or remove existing and replace.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Topsoil furnished shall consist of a natural friable surface soil without admixtures of undesirable subsoil, refuse, or foreign materials. It shall be free from roots, hard clay, coarse gravel, stones larger than 3/4-inch in diameter, noxious weeds, tall grasses, brush, sticks, stubble, or other litter, and shall have a healthy growth of crops, grasses, trees, or other vegetation that it is free-draining and non-toxic.
- B. Topsoil Composition:
 - Organic Materials: Not less than 40% or more than 60% by volume (15-20% by weight).
 - Silt: Not less than 20% by volume (50-60% by weight).

Sand: Not less than 20% or more than 30% by volume
(20-30% by weight).

2.2 FERTILIZER AND LIMESTONE

- A. The application rate of the fertilizer and limestone per 1,000 square feet of ground area of topsoil shall be determined by the Owner, based on soil analysis test so that the total natural and applied chemical constituents are as follows:

Nitrogen	21-35 PPM
Phosphoric Acid	11-20 PPM
Potassium	76-150 PPM
Limestone	Sufficient to attain a pH of 6.0-7.0

2.3 FILL MATERIAL

- A. On-site usable fill material may be used to create landforms as indicated on drawings. Material shall be free of man-made debris, large tree stumps, and other materials that may cause settling through decay. All fill shall be compacted so that future settling will be minimized.

PART 3 - EXECUTION

3.1 SUBSOIL PREPARATION

- A. Eliminate uneven areas and low spots. Remove all subsoil contaminated with petroleum products.
- B. Scarify sub-grade to depth of 6 inches where topsoil is scheduled. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

3.2 PLACING TOPSOIL

- A. Place topsoil in areas where seeding and planting is scheduled.
- B. Use topsoil in relatively dry state. Place during dry weather.
- C. Place and rake topsoil to eliminate depressions and irregularities such that the finish grade is smooth and even and drains in accordance with the plans.
- D. Roll placed topsoil with a water-filled roller with a weight of 100-150 lbs. designed for use in the compacting of topsoil.

3.3 SCHEDULE

- A. All disturbed areas as noted on drawings shall receive a minimum of 4 inches of topsoil after compaction.
- B. Topsoil for trees, shrubs and planters shall be as shown on the drawings with minimum 18 inches throughout the bed.

3.4 FINISHED GRADES

- A. Finished grades shall be as follows: Planters and Lawn Area shall be a minus 1-inch at all adjacent walks, curbs, and surface edges.

END OF SECTION 32 92 00

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SECTION 32 93 00 - SEEDING

PART 1 - GENERAL

1.1 RELATED WORK

- A. Section 32 92 00 - Topsoil
- B. Section 32 94 00 - Trees, Shrubs, Plants and Groundcovers
- C. Section 32 94 50 - Landscape Maintenance

1.2 DESCRIPTION OF WORK

- A. Preparation of subsoil
- B. Placing topsoil
- C. Fertilizing
- D. Seeding, hydroseeding
- E. Mulching

1.3 REGULATORY REQUIREMENTS

- A. Comply with all requirements of the State of Alaska, Department of Environmental Conservation concerning application of herbicides, pesticides, and insecticides.

1.4 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.
- B. Provide fresh re-cleaned seed of the latest crop meeting the minimum purity and germination requirement.

1.5 TESTS AND SUBMITTAL

- A. Comply with testing requirements of Section 32 92 00 - Topsoil.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.
- B. Furnish standard products in manufacturer's standard containers bearing original labels showing quantity, analysis and name of source.

- C. Store products in such a manner that they are protected from weather or other conditions that would damage or impair the effectiveness of the product.

1.7 MAINTENANCE SERVICE

- A. Maintain seeded areas in accordance with Section 32 94 50 - Landscape Maintenance.

1.8 INSPECTION

- A. A final acceptance inspection will be conducted by the Owner at the conclusion of the 60 day establishment period. Conditions governing final acceptance are that a healthy and uniform stand of grass be achieved, free of weeds, disease and showing no signs of a chlorotic condition. The cost of any replacement seeding shall be borne by the Contractor.

PART 2 - PRODUCTS

2.1 SEED MIXTURE-No.1-Lawns

	% by Wt.	Min % Purity	Min % Germination
Alene Bluegrass	45	90	85
Merion Bluegrass	45	90	85
Annual Rye	10	90	85

Application Rate: 5 pounds per 1,000 square feet

2.2 SOIL MATERIAL

- A. Topsoil as specified in Section 32 92 00 - Topsoil.

2.3 ACCESSORIES

- A. Fertilizer: Fertilizer shall be a brand recommended for grass, with 50% of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil as indicated in analysis. Provide a dry 8-32-16 fertilizer for establishment of lawn areas.
- B. Water: Clean fresh and free of substances or matter which could inhibit vigorous growth of grass.
- C. Lime: Provide Dolomitic limestone at the rate of 50 lbs. per 1,000 s.f.; or as required to adjust the soil pH to a measured level of between 6.0 and 7.0.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Verify that prepared soil base is ready to receive the work of this Section.
- B. Beginning of installation means acceptance of existing site condition.

3.2 PREPARATION OF SUBSOIL

- A. Preparation subsoil and placement of topsoil shall be under provisions of Section 02 92 00 - Topsoil.

3.3 PLACING TOPSOIL

- A. Spread topsoil to a minimum depth of 4 inches after compaction, over all disturbed areas as noted on plans. Rake until smooth.
- B. Grade to eliminate rough, low, or soft areas. Grades shall meet and blend naturally with existing, undisturbed areas. All grades shall produce positive drainage.
- C. Remove all foreign materials, roots, stones larger than 3/4-inch in diameter, noxious weeds, or other litter while spreading material.
- D. Seven days maximum prior to seeding:
 - 1. Loosen area 2 inches deep, dampen thoroughly, and cultivate to properly break up clods and lumps.
 - 2. Rake area to remove clods, rocks, weeds, roots, and debris.
 - 3. Grade and shape area to receive seed to bring surface to true uniform planes free from irregularities and to provide drainage and proper slope to catch basins.
 - 4. After lawn areas have been prepared, take no heavy objects over them except lawn rollers.
 - 5. After preparation of lawn areas and with top soil in semi-dry condition, roll lawn planting areas in two directions at approximately right angles with water ballast roller weighing between 100 and 150 lbs.

3.4 FERTILIZER AND LIMESTONE

- A. Apply fertilizer in accordance with manufacturer's instructions at a rate of 12 lbs. per 1,000 s.f.
- B. Apply after smooth raking of topsoil and prior to roller compaction.
- C. Apply fertilizer to turf again, 45 days following germination of seed crop of planting. If 45-day period occurs after August 15, apply a second application between May 1, and June 1, of the following year.
- D. Lightly water to aid the dissipation of fertilizer.

- E. If required, apply Dolomitic limestone. Work limestone into soil to a depth of 2 inches minimum. Do not apply more than 50 lbs. per 1,000 s.f. at one time.

3.5 HYDROSEEDING

- A. Apply water with a fine spray immediately after each area has been hydroseeded. Saturate to 4 inches of soil. If hydraulic methods are used, apply spray mulch to attain a uniform cover over the seed bed to depth of 1/8-inch after seeding is complete.

3.6 SEED PROTECTION

- A. Identify seeded areas with stakes, string, and fluorescent ribbon around area periphery. Set string height to 36 inches. Space stakes at 60-inch intervals.

3.7 CLEANUP

- A. Project area shall be left clean and neat at the end of each working day.
- B. Wash clean all building and paving surfaces that were affected by seed installation.
- C. MAINTENANCE
- D. Maintenance shall be in accordance with Section 32 94 50 - Landscape Maintenance.

END OF SECTION 32 93 00

SECTION 32 94 00 - TREES, SHRUBS, AND GROUNDCOVERS

PART 1 - GENERAL

1.1 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including the General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Section 32 93 00 – Seeding
- C. Section 32 92 00 – Topsoil
- D. Section 32 94 50 – Landscape Maintenance

1.2 DESCRIPTION OF WORK

- A. Landscaping required for this contract is shown on the drawings and includes:
 - 1. Placing of Topsoil
 - 2. Planting of trees and shrubs

1.3 APPLICABLE PUBLICATIONS

- A. All plant materials used shall be true to name and size in conformity with the following standards:
 - 1. ANSI Z 60.1-2004 American Standard for Nursery Stock, (Sponsor: American Nursery and Landscape Association, 1250 I Street, N.W., Suite 500, Washington, D.C. 20005).

1.4 SUBMITTALS

- A. Planting Mix (Topsoil): Submit a certified laboratory analysis of planting mix in accordance with the requirements of Section 32 92 00 Topsoil.
- B. Wood Mulch: Provide a representative one-gallon bag of wood mulch

1.5 PROJECT/SITE CONDITIONS

- A. Planting Dates:
 - 1. Trees and shrubs shall be planted at a time that natural ground is not frozen.

PART 2 - PRODUCTS

2.1 TREES AND SHRUBS

- A. Quality: All plants shall be nursery-grown stock, typical of their species or variety. All plants shall have normal, well-developed branches and vigorous root systems. They

shall be sound, healthy, vigorous, and free from defects, disfiguring knots, and abrasions of the bark, sunscald injuries, plant diseases, insect eggs, borers and all other forms of infection. Plants which have been held in storage will be rejected if they show signs of growth or decline during storage.

- B. Size and Grading Standards: Size and grading standards shall conform to the "American Standard for Nursery Stock".
- C. Balled and burlapped plants shall have a solid ball of earth held in place securely by burlap and stout rope. Oversize or exceptionally heavy plants are acceptable if the size of the ball or spread of the roots is proportionately increased to the satisfaction of the Architect. Broken, loose, or manufactured balls will be rejected.
- D. Delivery: All plants shall be packed, transported, and handled with utmost care to insure adequate protection against injury and desiccation. Plants coming from out-of-state certified growers and/or suppliers shall be certified by Federal authorities to be free from disease and infestation. Any inspection certificates required by law to this effect shall accompany each shipment invoiced or order of stock, and on arrival, the certificate shall be filed with the Architect.
- E. Inspection: No plant material shall be planted by the Contractor until it is inspected and approved by the Landscape Architect. All rejected material shall be immediately removed from the site and replaced with acceptable material at no additional cost.

2.2 PLANTING MIX (TOPSOIL)

- A. As specified in Section 32 92 00 - Topsoil.

2.3 WEED-FREE FABRIC

- A. Shall be placed in all mass planting bed areas under river rock mulch.
- B. Shall be "DeWitt Pro 5" or accepted substitute.

2.4 MULCH-3-INCH DEPTH

- A. River Rock shall consist of washed river rock between 1-inch and 3-inch with a minimal amount of fines. Place to a depth of 3 inches in planting beds as shown on drawings.
- B. Wood Mulch: Wood mulch is called out for use in the circular tree wells that are found in turf areas. Wood mulch shall consist of shredded bark and/or wood that has been allowed to age for minimum of 5 years prior to being used as a mulch surfacing. Wood mulch shall be free of sticks and stones and shall be screened to eliminate particles greater than 3 inches and smaller than $\frac{3}{4}$ of an inch. Wood mulch shall be placed directly over topsoil (no landscape fabric required). Place to a depth of 3 inches

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to be landscaped and the details on the drawings for defects that will adversely affect the work and for deviations beyond allowable tolerances.
- B. Start of work shall mean acceptance of interfacing surfaces as capable of producing an acceptable job.

3.2 PREPARATION

- A. Layout: Planting shall be located where it is shown on the Drawings except where obstructions overhead or below ground are encountered or where changes have been made in construction. Prior to the excavation of planting areas or plant pits, the Contractor shall ascertain the location of all utility lines, electric cables, and conduits so that proper precautions may be taken not to disturb or damage any subsurface improvements. Should obstructions be found, the Contractor shall promptly notify the Architect who will arrange to relocate the plant material. Necessary adjustments shall be approved by the Architect.
- B. Planting mix shall be placed in maximum 6-inch layers and hand tamped to approximately 80% density.

3.3 INSTALLATION

- A. Setting Plants: Each plant shall be planted in an individual hole as specified for trees and shrubs. All holes shall be dug with straight vertical sides and crowned bottoms. All plants shall be set to ultimate finished grade.
- B. No filling will be permitted around trunks or stems. Burlap shall be properly cut and laid back from the top of the ball. A layer of planting mix shall be applied on the bottom of each hole and then lightly tamped to achieve a 6-inch thick layer. Excess excavation from all holes shall be removed from the site.
- C. Backfilling, Planting Pits, and Planting Beds: Backfill in maximum 6-inch layers with approved planting mix. Planting pits and beds shall be backfilled carefully to fill all voids and to avoid breaking root ball or bruising roots. Tamp backfill firm to prevent settlement. When pit is nearly filled, water thoroughly and allow water to soak away. If settling of the backfill occurs after watering, add more backfill to bring to finish grade.
- D. Trees: All trees shall be planted in holes at least 3 times the root ball diameter. The depth of the holes shall be the depth of the root ball. Handling trees by trunks is expressly forbidden. Any adjustments of trees shall be by holding of root ball to transport or adjust trees. Planting mix shall be made firm under the root ball by tamping.
- E. Shrubs: All shrubs shall be planted in holes 3-times the diameter than the root ball. The depth of the holes shall be at least 1-foot and greater as is necessary to properly set the plant at finish grade. After preparation of the hole as specified, the plant shall

be planted in the center of the hole. Roots of bare rooted plants shall not be matted together, but arranged in their natural position with planting mix worked in among them. The hole shall be filled with planting mix and settled thoroughly by watering. Arrangement of shrubs must meet with the approval of the Architect.

- F. Mulching: After tree and shrub planting has been approved by the Architect, place river rock mulch in mass planting beds and spread to a 3-inch depth. Mass planting beds shall have weed-free fabric below river rock mulch. Tree wells in turf areas shall have wood mulch to a depth of 3".
- G. Watering: Thoroughly water each plant immediately following planting. Contractor shall follow the approved watering schedule and watering procedure throughout the duration of the planting and maintenance phases of the Contract.
- H. Pruning and Repair: All plants shall be neatly pruned and/or clipped to remove dead or diseased limbs in a manner that preserves the natural character of the plants. No plants shall be pruned or clipped prior to delivery. Broken or badly bruised branches shall be removed with a clean cut. All pruning shall be done with clean, sharp tools in accordance with standard nursery practice. All accidental damages to trees and shrubs occurring during the course of planting operations, which is not so great as to necessitate removal of a branch or replacement of a plant, shall promptly be treated as required in accordance with recognized horticultural practices. Pruning cuts shall not be painted.

3.4 MAINTENANCE AND GUARANTEE

- A. Provide one-year maintenance and a one year guarantee in accordance with Section 32 94 50 - Landscape Maintenance.

3.5 CLEAN-UP

- A. Waste Materials: Quantities of subsoil, rock and other spoils resulting from excavation during planting shall be removed from planting sites and disposed of off-site.
- B. Condition: All planting sites shall be left in an acceptable condition.

END OF SECTION 32 94 00

SECTION 32 94 50 - LANDSCAPE MAINTENANCE

PART 1 - GENERAL

1.1 RELATED WORK

- A. Drawings and general provisions of the Contract, including the General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Section 32 92 00 - Topsoil
- C. Section 32 93 00 – Seeding
- D. Section 32 94 00 - Trees, Shrubs, Plants & Groundcovers

1.2 DESCRIPTION OF WORK

- A. Maintenance: Trees & Shrubs
- B. Maintenance: Lawn
- C. Clean-up
- D. Inspection

1.3 REGULATORY REQUIREMENTS

- A. Comply with all requirements of the State of Alaska Department of Environmental Conservation concerning application of herbicides, pesticides, and insecticides.
- B. All materials used shall conform with all local, state, or federal regulations controlling the use of chemicals, sprays, or other toxic materials. Required permits or certifications for use of "restricted" materials shall be obtained by the Contractor. Proof of Certification shall be proved, to the Owner's Representative.

1.4 ACCEPTANCE INSPECTION

- A. Contractor shall provide the Owner's Representative 14 day's notice prior to desired date of acceptance inspection. A request for acceptance for lawn areas may be submitted separately from acceptance for Trees and Shrubs. The acceptance inspection shall be completed upon satisfactory establishment of lawn areas and upon satisfactory installation of all trees and shrubs.

1.5 MAINTENANCE PERIOD AND WARRANTY

- A. TREES AND SHRUBS: Upon completion of the acceptance inspection, the Contractor shall commence the one-year maintenance and warranty period. Date of final acceptance is that date upon which final inspection occurs or when items identified in that inspection have been suitably corrected.

- B. **LAWN AREAS:** The maintenance period for lawn areas shall be a 60 day establishment period. The establishment period shall commence upon satisfactory completion of all seeding or hydroseeding operations. During the 60 day establishment period, the Contractor shall be responsible for all maintenance activities necessary to achieve a uniform and healthy stand of turf. Activities during the establishment period shall include watering, fertilizing, mowing, and repair to areas that may be damaged as a result of construction activities.
- C. Owner's Representative will provide the Contractor with written notice of any deficiencies with performance during the maintenance period. If the Contractor fails to address those concerns on the written notice within thirty (30) days, the Owner's Representative shall terminate the Contractor's maintenance period and hire an alternative contractor to complete the remainder of the warranty period. The cost of the alternative contractor shall be at the original contractor's expense.

1.6 SUBMITTAL

- A. The Contractor shall supply a maintenance schedule approved by the Owner's Representative seven (7) days prior to the acceptance inspection.

1.7 QUALITY ASSURANCE AND SAFETY

- A. The Contractor's maintenance representative shall be experienced in landscape maintenance, preferably with an education in Ornamental Horticulture, with the work crew to be experienced and familiar with maintaining plant materials in sub-arctic conditions.
- B. The Contractor shall furnish all labor, materials, equipment, supervision, traffic control, and transportation and shall secure all necessary permits and licenses required to maintain and keep the landscape in an attractive, healthy and vigorous growing condition for one year.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.1 MAINTENANCE: TREES AND SHRUBS

- A. **ACCEPTANCE:** For Trees and Shrubs shall be upon completion of all planting operations and clean-up. All plants shall be of the type and size specified and shall conform in shape and quality to the specifications. All plant material shall be staked or guyed and in good health. Planting beds shall be mulched and free of any debris. One year maintenance period shall commence upon acceptance.
- B. **WATERING:** The Contractor shall deep water all trees and shrubs providing water penetration throughout the root zone to depth of planting pits. Deep watering shall be done in accordance with the following schedule:
 - 1. **SUMMER OF INSTALLATION:** Deepwater all trees and shrubs each week (during periods of extended dry weather, watering shall be increased to occur

- twice weekly) continuing through the first hard frost, or October 15, whichever occurs first.
2. **SECOND SUMMER:** Beginning on May 1, deep water all trees and shrubs each week through the end of the maintenance period. Watering is not required between October 15 and May 1 and watering is not required during periods of frequent rainfall. This water application shall be applied at a rate that will permit maximum penetration providing moisture throughout the entire rootball with a minimal run-off.
- C. **FERTILIZATION** of all trees shall be as follows:
1. **SECOND SEASON:** Fertilize trees at the beginning of the season with 8-32-16 fertilizer. Apply one cup of fertilizer for every half-inch diameter of the tree uniformly around the drip-line of the tree.
- D. **PRUNING:** The Contractor shall pinch, thin, shear, or head back as necessary to promote healthy growth and shape of all trees and shrubs. If necessary, shrubs shall be pruned in the spring when the new growth first appears. If necessary, trees shall be pruned immediately following flowering.
- E. **PLANT DAMAGE:** In the event of damages to trees or shrubs from a third party, including vandalism, the Owner may direct the Contractor to replace them at unit cost amounts. Such replacements to be made only upon written notice from the Owner's Representative.
- 3.2 **MAINTENANCE: LAWN**
- A. **ACCEPTANCE:** The establishment period (60 days) shall begin upon acceptance of seeding operations. Acceptance shall be granted when all areas requiring seeding are complete and all clean-up associated with seeding activities has been accomplished.
 - B. **WATERING:** All turf areas shall be watered such that soils are continuously moist during the germination period. Once the turf areas have germinated and lawn is established watering shall continue on a daily basis as needed to maintain soil moisture throughout the root zone. Watering shall be conducted regardless of natural rain fall unless approved in writing by the Owner's Representative.
 - C. **MOWING:** Once lawn areas reach a height of four (4) inches, cut lawn to a height of two and one half (2-1/2) inches. Following first cutting, mow lawn weekly throughout the establishment period.
 - D. **EDGING:** Trimming of all curbs, walks, bed edges, tree wells, and mow strips to be done every other mowing.
 - E. **FERTILIZATION:** Apply one and one-half (1 1/2) pounds of actual nitrogen per 1,000 square feet, a minimum of four (4) times per year. Suggested applications are every four (4) to six (6) weeks between May 1 and October 1.

- F. LIMESTONE: Apply dolomitic limestone at rates to bring pH to 6.0 plus or minus 0.5 at the beginning of the growing season. An additional application may also be necessary to keep the pH level at 6.0 plus or minus 0.5.
- G. REPAIR: Repair and replacement of all damaged or dead turf of seeded areas shall occur upon request to the Owner's Representative regardless of cause.
- H. WEED CONTROL: All planting and seeding areas shall be kept free of weeds by chemical control, hand weeding, or other approved methods.
- I. WINTER SHUT DOWN: The establishment period shall be 60 day in length. If acceptance of seeding operations occurs after August 15, that establishment period shall carry over into the following spring. The 60 day establishment period shall pause on October 15 and any remaining days of the establishment period shall commence on May 15 of the following year.
- J. FINAL ACCEPTANCE: For final acceptance, turf areas shall be uniformly healthy and free of bare spots, weeds, and chloritic coloring. Lawns shall be neatly mown and edged.

3.3 CLEAN-UP

- A. The Contractor shall keep the project site clean and free of excess materials, and rubbish incidental to his work at all times. Clean-up will be one of the conditions to be met prior to all phases of planting acceptance.

3.4 INSPECTION

- A. FINAL INSPECTION: At the conclusion of the maintenance period, a final inspection shall be conducted. The Contractor shall notify the Owner's Representative in writing seven (7) days in advance of the final inspection.

3.5 FINAL PAYMENT

- A. All trees, shrubs, plants, and turf areas shall be inspected and shall meet all required specified conditions. Acceptance and the final payment shall be contingent upon satisfactory conditions of all work.

END OF SECTION 32 94 50