

Addendum No. 1

Owner: City of Unalaska

Project: **PUBLIC SAFETY PARKING LOT EXPANSION**
DPW Project No. 14103

Date: February 23, 2015

Please acknowledge receipt of this Addendum No. 1 in the appropriate blanks on the bid form.

The following corrections, changes, additions, deletions, revisions, and/or clarifications are hereby made a part of the contract documents for the **PUBLIC SAFETY PARKING LOT EXPANSION**. In case of conflicts between this Addendum and previously issued documents, this Addendum shall take precedence.

Item 1: PROJECT MANUAL, Section 00300 BID FORM;

Replace the Bid Proposal – PUBLIC SAFETY PARKING LOT EXPANSION with the attachment..

Narrative: A pay item was added for the option of using chain link fence.

Item 2: PROJECT MANUAL, Technical Specification 01025 MEASUREMENT AND PAYMENT;

Delete this specification in its entirety and replace it with the specification attached to this Addendum.

Narrative: Revisions are highlighted in red.

Item 3: PROJECT MANUAL, Technical Specification 01025 MEASUREMENT AND PAYMENT;

Add drawing for Chain Link Barrier Fence.

Narrative: Chain link fence was added as an option to the wire fence detailed in the plan sheets.

Item 4: PROJECT MANUAL, Technical Specification 203 EXCAVATION;

Delete this specification in its entirety and replace it with the specification attached to this Addendum.

Narrative: Revisions are highlighted in red.

Attachments

Item 1: Bid Proposal

Item 2: Specification Section 01025 MEASUREMENT AND PAYMENT

Item 3: Specification Section 01025 MEASUREMENT AND PAYMENT, Chain Link Fence Drawing

Item 4: Specification Section 203 EXCAVATION

End of Addendum No. 1

BID PROPOSAL
City of Unalaska
PUBLIC SAFETY PARKING LOT EXPANSION

ITEM NO.	EST. QUANT.	DESCRIPTION (Write Unit Bid Price in Words)	UNIT PRICE	TOTAL PRICE
1	All	BASE BID - Site Mobilization and Demobilization _____per lump sum		
2	All	BASE BID - Unclassified Excavation _____per lump sum		
3	700 tons	ADDITIVE BID ITEM 1 - Surfacing Material _____per ton		
4	260 LF	ADDITIVE BID ITEM 2 - Furnish and Install Wire Barrier Fence _____per linear foot		
4A	260 LF	ADDITIVE BID ITEM 2A - Furnish and Install Chain Link Barrier Fence _____per linear foot		
5	180 LF	ADDITIVE BID ITEM 3 - Furnish and Install Guardrail _____per linear foot		
6	All	ADDITIVE BID ITEM 4 - Slope Stabilization _____per lump sum		

Total Bid Price (Base Bid, Sum of Items 1 & 2):_____

Total Bid Price (Base Bid, Items 1 & 2 in words):_____

Bidding Company:_____

Name (Printed):_____

Signature:_____Date:_____

Contractors License No._____ Business License No._____

PART 1 - GENERAL

1.1 SCOPE

- A. General: The scope of work is to expand the parking and pad areas around the Department of Public Safety building to increase parking and storage area. The expansion requires that overburden and bedrock be removed to create flat land. The expanded area will have uniform grades and will get surfacing material installed to provide a useable and free draining surface. A fence will be installed at the top of the cut slope to separate the house and yard from the face of the slope. A guardrail will be installed on the west side of the pad area to separate traffic from a steep slope. All the work will be bid on a unit price or lump sum basis as further described below.

The City has limited funding so the contract has been broken down into a Base Bid with Additive Bid Items. The Base Bid is the sum of the Mobilization/Demobilization and Unclassified Excavation items. An Additive Bid Item is an amount proposed by Bidders and stated on the Bid Form for certain construction activities described herein that may be added to the Base Bid amount if the Owner decides to accept a corresponding change in the amount of construction to be completed. The City reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate Contract terms with the successful Bidder. Award of the Additive Bid Items will be made to the extent that construction funds are available, in such order as may suit the best interest of the Owner. The Additive Bid items are not in any specific order and are not listed in order of preference. The Owner reserves the right to select the Base Bid plus any combination of Additive Bid items. If the order of the bids is affected, the award will be made on the basis of the Base Bid plus any combination of Additive Bid items that the Owner selects at their option.

- B. Payment for the various items of the Bid Schedule, as further specified herein, shall include full compensation to be received by the CONTRACTOR for furnishing all tools, equipment, supplies, and manufactured articles, and for all materials, labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the WORK in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Bid Schedule, and all costs therefore shall be included in the prices named in the Bid Schedule for the various appurtenant items of WORK.

1.2 PAY ITEMS

- A. Pay items indicated in the Bid Form are for bidding and contract purposes only. For Lump Sum bid items, required quantities and measurements supplied or placed in the WORK shall be the full responsibility of the CONTRACTOR.

1.3 PAYMENT

- A. Payment includes full compensation for furnishing all required labor, materials, products, tools, equipment, plant, transportation, services, incidentals, erection, application, or installation of all items of the WORK described or required, and all other costs for the items of WORK completed in place.
- B. Payment for Lump Sum and Unit Cost pay items will be in accordance with the General Conditions and Section 00800 - Supplementary General Conditions.

1.4 NON-PAYMENT FOR REJECTED ITEMS

- A. Payment will not be made for any of the following:
1. Products wasted or disposed of in a manner that is not acceptable.
 2. Products determined as unacceptable before or after placement.
 3. Products placed beyond the lines and grades of the required WORK.
 4. Products remaining on hand at the completion of the WORK.
 5. Loading, hauling, and disposing of rejected products.
 6. Overly wet or frozen material.
 7. Excavation or fill made for the convenience of the CONTRACTOR for any purpose or reason.

1.5 SUBMITTALS

- A. Provide submittals for the following items if selected for construction:
1. Schedule
 2. Surfacing material (gradation and Proctor)
 3. Guardrail materials
 4. Fencing materials
 5. Slope stabilization materials
 6. Site, blasting and explosive information as required by the technical specification, safety plan

PART 2 - PRODUCTS (Not Used)

PART 3- MEASUREMENT AND PAYMENT

3.1 Incidental Work

- A. Several items of work not specifically covered in the Contract Documents will be considered incidental to the cost of the contract. These items include, but are not limited to the following:
1. Construction surveying to identify adjacent property lines, limits of work, elevations, and other requirements to construct the project to the lines and grades identified on the drawings.
 2. Restoration of disturbed areas and final grading to restore the adjacent grounds to uniform grades.
 3. Safety Plan and Site Safety.
 4. Removal and disposal of existing gabion baskets, with rock materials salvaged and being delivered to the City.
 5. Traffic control, barricades, cones, candles, and other traffic control devices to separate the work area(s) from active Department of Public Safety (DPS) activities'
 6. Attendance of weekly progress meetings during the construction period.
 7. Control of surface water runoff to prevent damage to or contamination of adjacent properties. Waddles, silt fence, or other Best Management Practices necessary to meet environmental standards are considered incidental to the work. This excludes the stockpile areas. **All work shall be conducted to meet applicable regulatory requirements. The Contractor shall control surface water runoff to prevent damage to or contamination of adjacent waters or properties. The selection, installation, performance, and maintenance of Best Management Practices as described in the Alaska Stormwater Guide with monitoring necessary to control stormwater runoff, prevent erosion, and to minimize suspended sediments and turbidity from leaving Contractor disturbed areas are considered incidental to the Work. The Contractor is responsible to prevent deposition of soil on the paved surfaces and shall immediately take whatever measures required to prevent and/or clean up asphalt areas impacted from**

GENERAL, MEASUREMENT AND PAYMENT

this Work. Submit an Erosion and Sediment Control Plan which shows the site, the direction of surface slopes and flow, and the location and type of erosion control installations proposed.

8. Other items not specifically called out but otherwise necessary for proper construction.
9. Fracturing rock under the guardrail to the extent required for proper post installation.
10. Site cleanup.

These items are not associated with pay items and are considered incidental to other work performed under this contract. No separate payment will be made.

3.2 Site Mobilization and Demobilization

- A. Measurement: No measurement of quantities will be made. Mobilization and Demobilization includes costs of transporting, mobilizing, and demobilizing all materials, construction equipment, and personnel necessary to complete this project, including bonds, and insurance. The measurement will be split so that 50% of the payment is made with mobilization and 50% is made with Demobilization. Demobilization will be paid for after the project is complete and the site is cleaned up and fully restored.
- B. Basis of Payment: Payment for this work shall be in accordance with the General Conditions and shall include full payment for all work described. Payment will be made under the following Units:

<u>ITEM No.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
1	Site Mobilization and Demobilization	lump sum

3.3 Rock Excavation

- A. Measurement: No measurement of quantities will be made. Unclassified Excavation includes costs for stripping, excavating, drilling, blasting, loading, hauling, dumping, and stockpiling materials as described in the technical specification and shown on the drawings. The Contractor is responsible to remove all of the materials from the site necessary to establish the lines and grades provided in the design. No adjustment will be made for the actual quantities of material excavated and removed from the site. Overburden materials shall be stripped, hauled, and stockpiled separately from the rock materials. Controlled blasting or face stabilization by other methods, including scaling with heavy equipment, are included with the pay item for Unclassified Excavation. This item also includes stockpiling the materials at locations designated by the City.
- B. Basis of Payment: Payment for this work shall be in accordance with the General Conditions and shall include full payment for all work described. Payment will be made under the following Units:

<u>ITEM No.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
2	Unclassified Excavation	lump sum

3.4 Surfacing Material

- A. Requirements: Material shall meet the requirements for D-1 as defined in the Alaska Department of Transportation (ADOT) Standard Specifications, Table 703-2. Rock shall be competent crushed stone consisting of sound, tough, durable rock fragments of uniform quality, free from clay balls, vegetable matter, or other deleterious matters. The requirements of Table 703-1 with regards to L.A. Wear and Degradation Value will not be enforced. The rock shall be spread with a tolerance of 0.1' from design grades. The installed material shall be compacted to 95% maximum density.
- B. Measurement: Measurement for Surfacing Material shall be per ton of material placed and compacted to the lines and grades shown on the drawings.

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When any vehicle delivers to the project surfacing material of any kind, or any other material measured by weight, the driver of the vehicle shall give to the inspector a legible "original" computer-generated or machine-printed weight ticket with the following information:

1. Vehicle identification number.
2. License number & associated trailer license number(s).
3. Tare weight of the vehicle(s).
4. Gross weight of the loaded vehicle(s) as registered on the scale.
5. Maximum allowable vehicle weight (MAVW) or legal gross weight of the vehicle(s) as permitted by AMC 9.46.090 or AMC 9.46.100.
6. Sequential ticket number, date, time of weight, pay item in words, and project location.
7. Bid Schedule and Number of Item
8. Pit location and name of scale operator.

The Owner will not pay for that portion of the load in excess of the legal gross weight. Vehicle(s) shall be tared a minimum of once daily by the scale operator. The Engineer may request additional tares to be done at any time the scale is operational. The Engineer may also require that he be present when tares are done. The accuracy of all scales is the responsibility of the Contractor. The Contractor shall maintain scales according to the specifications, tolerances and regulations for commercial weighing and measuring devices contained in the National Bureau of Standards, Handbook 44, as adopted by AS 45.75.050(d).

The City may elect to install just a portion of the quantities in the Bid Proposal and has final say on the quantities hauled. No adjustment will be made in the unit price of materials if the final installed quantity varies by more than 25% of the bid quantity.

- C. Basis of Payment: Payment for this work shall be in accordance with the General Conditions and shall include full payment for all work described. Payment will be made under the following Units:

<u>ITEM No.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
3	ADDITIVE BID ITEM 1 - Surfacing Material	ton

3.5 Fall Protection/Barrier Fence

- A. Requirements: Materials shall be hot-dip galvanized and meet the requirements specified on the drawings. The fence shall be straight with posts installed within 2" of true line. Grade transitions shall be equally distributed along a minimum of three posts. Wires shall be taut and the signs shall be secured as required and detailed.

Two options are available for the Fall Protection/Barrier Fence. The first option is for construction of a wire barrier fence as detailed on the drawings. All work associated with this option is included with Item No. 4 ADDITIVE BID ITEM 2. The second option is to install a chain link fence as detailed in this addendum. For this option, brace and top rail sets are required at approximate 3rd points of the installation and signage is required similar to what is shown for the wire fence. All work associated with this option is included with Item No. 4A ADDITIVE BID ITEM 2A.

- B. Measurement: Measurement will be per linear foot along the centerline of the fence. No extra measurement will be made for posts, rails, tension wires, signage, braces and appurtenant items required for a complete workable installation as detailed in the drawings.

GENERAL, MEASUREMENT AND PAYMENT

- C. Basis of Payment: Payment for this work shall be in accordance with the General Conditions and shall include full payment for all work described. Payment will be made under the following Units:

<u>ITEM No.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
4	ADDITIVE BID ITEM 2 - Furnish and Install Wire Barrier Fence	linear foot
4A	ADDITIVE BID ITEM 2A - Furnish and Install Chain Link Barrier Fence	linear foot

3.6 Guardrail

- A. Requirements: Materials shall be hot-dip galvanized and meet the requirements specified on the drawings. When not shown, ADOT Standards shall apply. The guardrail is intended to confine vehicles to the pad and it will be field fit to approximately align with the edge of the finished pad. The Owner will assist with layout. Posts shall be driven or excavated and backfilled with surfacing material.
- B. Measurement: Measurement will be per linear foot along the centerline of the guardrail. No separate measurement will be made for posts, rails, terminal ends, braces and appurtenant items required for a complete workable installation as necessary and/or detailed in the drawings. Excavation of rock and installation of bedding or backfill material will be considered incidental to this work item and no separate payment will be made. Bedding/backfill for guardrail installation will not be paid for on a tonnage basis with the Surfacing Material.
- C. Basis of Payment: Payment for this work shall be in accordance with the General Conditions and shall include full payment for all work described. Payment will be made under the following Units:

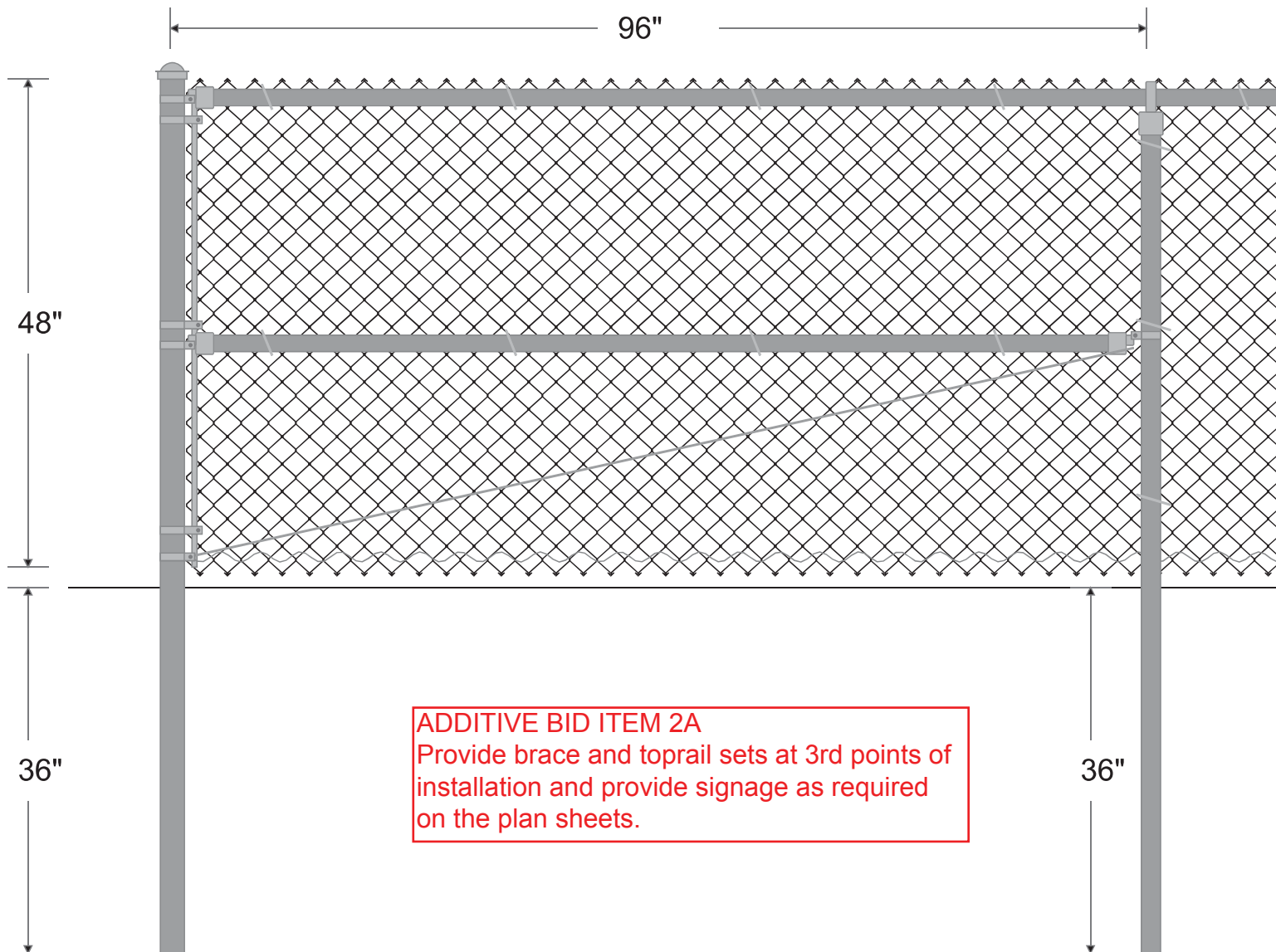
<u>ITEM No.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
5	ADDITIVE BID ITEM 3 - Furnish and Install Guardrail	linear foot

3.7 Slope Stabilization

- A. Requirements: Slope stabilization is intended for the brown silty sand material and the organic materials (collectively referred to as overburden) located on top of the in-situ rock. The slope shall be smoothly laid back at a 1:1 slope and stabilized with turf reinforcing matting and seed mix as specified on the drawings. Matting shall be secured as described on the drawings.
- B. Measurement: No measurement of quantities will be made. Matting shall extend vertically between the organic/grass layer on the surface and the bedrock and shall extend horizontally to include the same areas that receive the fall protection/barrier fence, which is about 260 linear feet wide. The contractor shall make his own estimate of the thickness of the overburden and the total area to receive slope stabilization.
- C. Basis of Payment: Payment for this work shall be in accordance with the General Conditions and shall include full payment for all work described. Payment will be made under the following Units:

<u>ITEM No.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
6	ADDITIVE BID ITEM 4 - Slope Stabilization	lump sum

END OF SECTION



FABRIC: 48" 11 GA. CORE-8 GA.
FINISH BLACK EXTRUDED BONDED (2"
Mesh) CHAIN LINK FABRIC.

TOP RAIL: 1 5/8" O.D. DOM. 40 WT.
PIPE, 1.82 lbs. per foot. Top rail
21' in length, joined with 1 5/8"
SLEEVE.

LINE POST: 1 7/8" O.D. DOM. 40 WT.
PIPE POST, 2.28 lbs. per foot.
Line posts set 8' on center maximum
spacing.

TERMINAL POST: 2 3/8" O.D. DOM. 40
WT. PIPE POST, 3.12 lbs. per foot.

BRACING: Terminal posts braced and
trussed to the nearest line post
with 1 5/8" O.D. DOM. 40 WT. PIPE
and 3/8" TRUSS ROD & IND. TRUSS ROD
TIGHTENER.

TENSION WIRE: 7 GA. COIL SPRING
(1.2 oz.) TENSION WIRE attached to
bottom of fence fabric with 9 GA.
STEEL HOG RING spaced 24" on
center.

FITTINGS: (1/8" X 1") BRACE BAND &
CARRIAGE BOLT, PRESSED STEEL
RAIL-END, PRESSED STEEL EYE-TOP,
PRESSED STEEL CAP, 3/16" X 3/4"
TENSION BAR, (1/8" X 1") TENSION
BAND & CARRIAGE BOLT.

TIE WIRE: 1 7/8" 9 GA. STEEL TWIST
TIE WIRE & 1 5/8" 9 GA. STEEL TWIST
TIE WIRE spaced 15" on center for
line posts & 24" on center for
rails.

ADDITIVE BID ITEM 2A
Provide brace and top rail sets at 3rd points of
installation and provide signage as required
on the plan sheets.



Northwest Barriers LLC
2147 W Shirley Rd.
Wasilla, AK 99623
907-376-7498

City OF Unalaska

LINE OF FENCE

Drawn: 02/18/2015
File:

203-1.01 DESCRIPTION. Excavate, haul, and dispose of specified materials necessary to construct the project. Conform to the lines, grades, depths and typical cross sections shown on the Plans and Cross Sections. Material to be removed within the excavation limits is designated unclassified excavation. Excavate and/or drill and blast rock down to subgrade elevations in the expanded area as shown on the drawings. Remove all materials to 4"-6" below elevations shown on the cross sections at the base of the expanded site. The volumes shown on the plans are neat line volumes to final grades. Overexcavation will increase the excavation volume by the amount of imported surfacing material. Rock face shall be scaled to leave an exposed face that is solid, smooth and uniform, unfractured, and free from loose rock. The area where the guardrail is to be installed shall have the rock fractured to a minimum of 4-feet below grade to allow guardrail installation as required.

203-2.01 MATERIALS.

1. Unclassified Excavation. All materials of whatever character encountered in the work. Includes rock, common, or muck.

CONSTRUCTION REQUIREMENTS

203-3.01 GENERAL. All work shall be confined to the City parcel identified on the survey plan. Adjacent lands shall not be accessed without express written permission from specific property owners.

The Contractor is responsible to protect adjacent lands, structures, utilities and other objects from damage resulting from this work. Anything damaged shall be replaced or repaired to its condition before the start of any work to the satisfaction of the Owner and property owner.

Keep excavation and embankment areas free draining at all times as the work progresses. Finish the excavation to reasonably smooth and uniform surfaces. Excavate material only within the limits on the Plans or as directed. Prevent disturbing material and vegetation outside of the slope limits.

The overburden and organic materials are considered unsuitable and shall be stripped and removed separately from the rock. Dispose of unsuitable material at location designated below.

Rock will remain the property of the City and shall be stockpiled at the location designated below.

All material shall be disposed of/stockpiled at Needle Subdivision, located at the NE corner of the South Channel Bridge. The overburden material will likely be stockpiled at the top of the site. The rock will be stockpiled at the bottom. The City will provide support services to shape stockpiles and grade materials hauled from the DPS site. **The contractor shall provide 24-hour notice to the DPW Roads Division Superintendent prior to hauling any materials. The Contractor shall further provide 2-hour notice on the day that they are actually hauling. These notices are required to allow planning and availability for attending the stockpile(s) during the hauling operations.**

Ensure that all waste areas are properly graded and drained.

203-3.02 ROCK EXCAVATION. Excavate rock with heavy equipment, blasting, ripping, or a combination thereof. Excavate material within the limits of the site to a minimum depth of 4-inches below subgrade.

1. Excavating/Blasting.
 - a. Evaluation. The Contractor shall make their own assessment of the site conditions and material volumes, including rock quality, grain, overburden depth and quantity, access, and other issues that affect means, methods, efforts and costs. No adjustments to quantity or time will be made based on what is encountered in the field except for items identified in the General and Supplemental Conditions.

- b. **Blasting Plan.** Prior to commencement of drilling, submit a Blasting Plan prepared by a qualified Blaster. Include the details of test blasting, controlled blasting and production blasting. Include station limits, date and time of each blast, layout details of each blast, trade names, types and sizes of explosives and accessories, delay sequences of the blast holes, and powder factors. Submit a revised Blasting Plan any time there is a change in the drilling or blasting methods. Provide a plan for site access and for remediation of the access corridor if required.
- c. **Blaster.** Use a qualified blaster licensed or otherwise authorized under all applicable federal, state and local laws or regulations to possess, transport, store and use explosives of the type used on the Project. Provide the Blaster's resume and copies of all applicable licenses to the City with the Blasting Plan. Have the Blaster on site during all loading and blasting operations. Require the Blaster to take responsible charge for safety procedures as set forth below and to maintain a detailed record for each day of blasting work.
- d. **The Department of Public Safety** will remain fully operational during this work. Access to/from the Fire Station garages and the DPS personnel entrances shall remain clear at all times. Provide a plan view drawing of the site and delineate work areas, cordoned off areas, equipment storage areas, and other site uses for coordination and approval from the Unalaska Department of Public Works and the Unalaska Department of Public Safety.
- e. **Pre-Blast Conference.** Hold a pre-blasting meeting at the jobsite or other designated location prior to commencement of any drilling and blasting operations with the Contractor, the Blaster and representatives of the City. Discuss the Blasting Plan and visit such specific sites as are necessary to familiarize the participants with the details of the blasting operations.
- f. **Safety.** Submit a Safety Plan that includes descriptions of closed areas, warning signals, and plans for notification of affected local, state, and federal agencies. Discuss in the Safety Plan methods for protection of life and health, public and private property, new work or existing work on the project, nearby structures, lands, waters and wildlife. Hold a safety meeting prior to commencement of blasting operations to address safety issues.
- g. **Controlled Blasting.** Controlled blasting holes are closely spaced, lightly loaded holes drilled along the plane of the final design slope. Controlled blasting is either preshear blasting with holes detonated before the production blasting or cushion (trim) blasting with holes detonated after the production blasting. Drill holes parallel to each other and within 12 inches of the staked slope plane. Use controlled blasting or heavy equipment excavation scaling techniques for all rock slopes to produce a stable cut face sheared along the designed neat excavation line. If at any time during the progress of the work, the approved methods of blasting and drilling fail to produce the desired result of a smooth, stable backslope, modify the blasting method to achieve the desired result. Do not use ANFO in controlled blasting holes.
- h. **Production Blasting.** Use materials and methods as necessary to fragment and loosen the rock inside the design excavation limits, while leaving a smooth, stable back slope using the controlled blasting methods set forth above. Use appropriately designed delay sequences and charge weights per delay to minimize ground vibrations and prevent damage to buildings, structures, utilities, sensitive wildlife habitat and other facilities. Prior to blasting, remove all loose objects, and render safe all dangerous conditions, in or near the cut slope area. Clear the site of Eagles. Detonate production hole charges in a delay sequence toward the free face. Remove and dispose of loose material from rock slope failures or slides. Protect existing structures from damage.
- i. **Scaling.** Remove all loose, hanging, or potentially dangerous rock from newly excavated slopes and from surrounding existing slopes as the excavation progresses to ensure the rock slopes are stable. Do not commence work on subsequent lifts or shots until scaling is complete. Accomplish scaling with hand tools, hydraulic splitters, machine scaling with excavators or other equipment, high pressure water spray, light explosive charges, or other approved methods.
- j. **Stockpiling.** **The City will** shape, stack and shape the rock and overburden disposal stockpiles to increase height and limit the horizontal area of the pile. ~~Use loaders, dozers, or other equipment as necessary to accomplish this.~~

203-4.01 METHOD OF MEASUREMENT. No measurement of quantities will be made. Work includes controlled blasting and scaling to product a smooth and uniform solid rock face. ~~Quantities will be established using the cross sections and computations shown on the drawings.~~ Materials are unclassified so no differentiation between overburden and rock will be made. It is understood that the volume of hauled rock will significantly increase from the in-place volume. The Contractor shall make his own estimate but the swell factor can increase the haul volume 50% or more from the in-place volume.

203-5.01 BASIS OF PAYMENT. The following work is subsidiary:

1. Contractor safety plan, blasting plan, site plan
2. Separation and removal of overburden and other waste material from the rock
3. Hauling, placing and stockpiling of material
4. Excavating overbreak material
5. Slope rounding excavation
6. Stage construction of cuts and stage excavation of material sources
7. Controlled Blasting and/or Scaling and removal of loose materials from the face of the slope
8. Site Cleanup