SECTION 20.24 RIPRAP

Special Provisions

Article 24.2 Materials *Add the following:*

The Contractor shall use, to the maximum extent possible, existing Class III riprap reclaimed from embankments at locations shown on the Plans. The contractor shall produce, to the maximum extent possible, Class I riprap using salvaged riprap or rejected Class III riprap by mechanical breaking or crushing at the site. All riprap derived from reclaimed material at site shall be stockpiled and approved by the engineer before placement. Rejected material should be stored on City of Valdez property above ordinary high water.

The Contractor shall set up an example of rocks that demonstrate the gradation of each rock class as shown in Table 24.2. Each rock shall be labeled with its respective mass. An example shall be set up at each site that sorting of rock occurs.

Table 24.2: Riprap Example Sizes

Example Rock Diameter	Example Rock Mass (lbs)	
	Class I	Class III
D_{25}	-	25
D_{50}	25	700
D_{85}	50	1400

Article 24.3 Construction *Replace Article 24.3 with:*

Stockpile each class of riprap separately to prevent mixing of different riprap gradations. Any method of stockpiling which could cause segregation within the stockpile or excessive breakage will not be permitted.

The Contractor shall provide a level compact area of sufficient size to dump and sort typical loads of riprap at approved location(s). They shall further deposit loads specified in this area and assist the Engineer as needed to sort and measure the stones in the load for the purpose of determining if the riprap is within specifications. Approval of the stockpiled materials is required from the Engineer before placement. Mechanical equipment as needed to assist in this sorting shall be provided by the Contractor at no additional cost to the Owner.

Place each class of riprap to the full thickness, depth and length shown on the Plans or as staked with a minimum of voids. Place Class I riprap to the full course thickness in one operation and in a manner that avoids displacing underlying materials. Unless specified in writing, follow the slope lines and grades indicated on the Plans for the limits of the in-place riprap. No minus tolerance is permitted. A greater thickness is permitted, provided the outside slopes present a uniform appearance with a minimum of pieces projecting outside the plane of the finished slope surface.

Place Class I and Class III riprap on prepared slopes within the limits shown on the Plans, starting each layer at the bottom of the slope and progressing upslope. Place materials in a manner that produces a well-keyed mass of riprap, with each individual rock having at least four points of contact. Construct a uniform and regular surface, free from pockets of single sized riprap, with slopes no steeper than those shown on the Plans. All material going into riprap protection shall be so placed and distributed that there will be no large accumulation or area composed largely of either the larger or smaller sizes of stone. Undesirable voids shall be filled in with small stones or spalls. Place Class III riprap individually as needed to provide a uniform distribution of riprap sizes and a uniform, tightly knit slope. The riprap shall be manipulated sufficiently by means of, rock tongs, or other suitable equipment to secure a reasonably regular surface and mass stability.

Placement by methods likely to cause segregation, or subgrade/slope damage, such as end dumping, side dumping or pushing into position with earth-moving equipment, are not permitted. Dumping of riprap in a manner that result in segregation of sizes or that result in breakage of riprap is prohibited. Any riprap damaged due to improper placement practices will be replaced by the Contractor at no cost.

The desired distribution of the various sizes of riprap throughout the placed mass shall be obtained by selective loading at the quarry or reclaimed riprap at site and by controlled placement of successive loads.

Unless otherwise authorized by the Engineer, the riprap protection shall be placed in conjunction with the construction of the embankment with only sufficient lag in construction of the riprap protection as may be necessary to prevent mixture of embankment and riprap material.

Article 24.5 Basis of Payment *Add the following:*

ITEM	UNIT
Riprap, Class I	Cubic Yard
Riprap, Class III	Cubic Yard
Stockpiling and Placement, Salvaged Riprap, Class III	Cubic Yard

Stockpiling and Placement, Salvaged Riprap, Class III (Pay Item 8), is paid by total riprap removed and sorted from the dike with placement of accepted riprap class III. The quantity will be determined by post removal survey.

The Contractor is encouraged to use the existing accepted riprap where possible. If more Class III riprap is recovered and used to rehabilitate the groins than is estimated, the City will pay for the remaining quantity of the Class III produced under Riprap, Class III, (Pay Item 7) to be stockpiled at a location determined by the City. The limit of riprap to be produced detailed in Pay Item 7 is 31,900 CY, the City will not pay for Class III riprap to be stockpiled that exceeds this quantity.

Add the following Subsection 24.6:

24.6 Submittals. Submit a Riprap Processing, Placement, and Sequencing Plan to the Engineer for required riprap materials 30 days before starting riprap production that demonstrates the Contractor has properly planned for the work. Address the following in the plan:

a. Processing and quality control measures to ensure conformance to material specifications.
b. Transportation and stockpiling methods to minimize material handling and breakage.
c. Equipment and methods for material placement, including geotextile fabric.
d. Haul routes and stockpile areas.
e. Sequencing and placement to minimize storm damage to exposed excavation.

SECTION 20.28 UNCLASSIFIED FILL AND BACKFILL

Special Provisions

Article 28.3 Construction *Replace Article 28.3 with:*

Excavated material not conforming to the specifications for Classified Fill and Backfill shall be used as Unclassified Fill and Backfill adjacent to the fill-slopes to provide additional slope stability to the fill-slopes.

All excess material shall be disposed of on site. Any excess material from excavation (alluvial fill) is not eligible to be taken by the contractor. Material (excavated alluvial fill) may not be taken from site unless a material sales agreement is issued to the contractor from the State of Alaska Department of Natural Resources. After reestablishing the existing channel bed, the excess material should be evenly distributed around the riverside of the dikes to a thickness no more than one (1) foot thick or as directed by the Engineer.

Article 28.5 Basis of Payment *Add the following:*

All cost, labor, equipment, etc. associated with disposal of material is subsidiary to Bid Items 7 and 8.