



# NEW WESTMINSTER

November 15, 2024

**ADDENDUM #1**  
**NWIT-24-12**  
**Queensborough Shoreline Protection Rehabilitation**  
**New Westminister, BC**

This addendum modifies the Invitation to Tender only as noted:

**ATTACHMENT 1 – CONTRACT DRAWINGS**

<ADD>

317071-00039-00-MA-DGA-1536 Revision B Location 2 Typical Sections and Details (1 page following)

<ADD> Updated Planting Schedule (2 pages following)

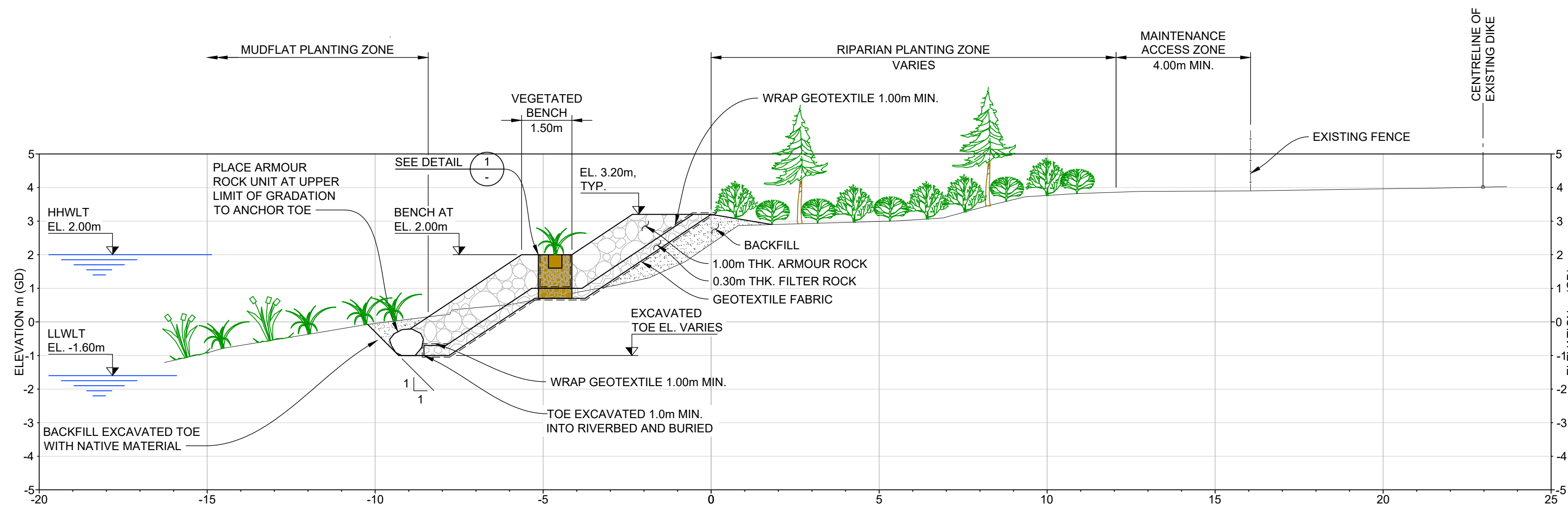
Please acknowledge this addendum as directed in the Form of Tender.

**END OF ADDENDUM #2**

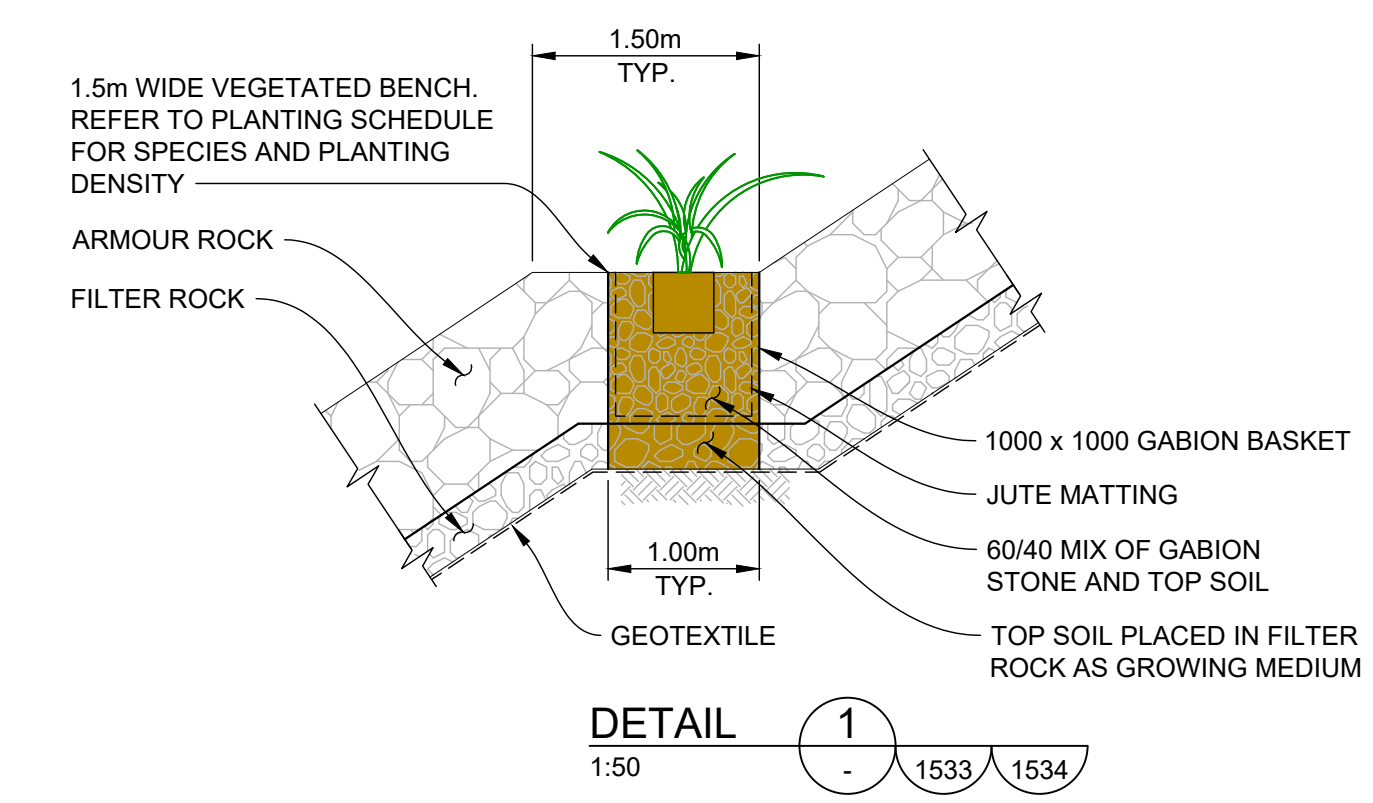
Yours truly,

Heather Rossi  
Procurement Specialist





**TYPICAL SECTION**  
1:100  
NOTE: ALL SLOPES ARE 1.5H:1V, UNO



**DETAIL 1**  
1:50

**WATER LEVEL CONVERSION FROM GEODETTIC DATUM TO CHART DATUM**

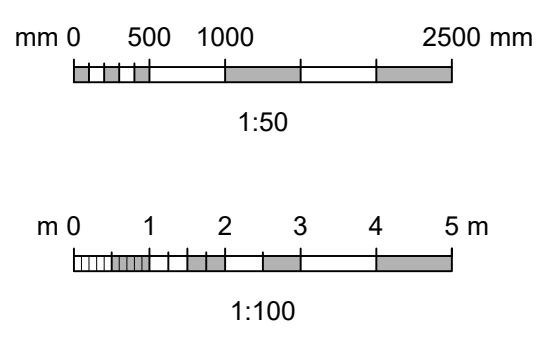
HHWLT +2.0m (GD)	+3.5m (CD)
MWL +0.0m (GD)	+1.5m (CD)
LLWLT -1.6m (GD)	-0.1m (CD)

**LEGEND:**

	ARMOUR ROCK
	FILTER ROCK
	PLANTING BASKET
	EXISTING GROUND
	FENCE
	BACKFILL

**MARKERD UP FOR TENDER ADDENDA 5-NOV-2024**

**PRELIMINARY**  
DO NOT USE FOR CONSTRUCTION  
Last Saved: Feb. 21/24 11:01am



PLANTING SCHEDULE						
COMMUNITY TYPE	PLANTING AREA	DENSITY (SPSQM)	LAYER	SPECIES NAME <sup>3</sup>	PROPORTION	APPROXIMATE NUMBER OF SEEDLINGS
RIPARIAN PLANTING AREA						
SHRUB WOODLAND	500m <sup>2</sup>	0.25	TREE <sup>1</sup>	BALSAM POPLAR (POPULUS BALSAMIFERA)	2%	1
				BIGLEAF MAPLE (ACER MACRAPHYLLUM)	2%	1
				RED ALDER (ALNUS RUBRA)	3%	2
				HARDHACK (SPIRAEA DOUGLASII)	30%	150
				RED-OSIER DOGWOOD (CORNUS SERICEA)	30%	150
MEADOW	1146m <sup>2</sup>	25 kg/ha Seeding rate	FORB	DULL OREGON GRAPE (MAHONIA NERVOSA)	15%	150
				HEDGE NETTLE (STACHYS COOLEYAE)	50%	250
				SWORD FERN (POLYSTICHUM MUNITUM)	50%	250
				BLUE JOINT (CALAMAGROTIS CANADENSIS)	30%	-
				TUFTED HAIRGRASS (DESCHAMPSIA CESPITOSA)	40%	-
				JOINTED RUSH (JUNCUS ARTICULATUS)	15%	-
				WESTERN YARROW (ACHILLEA MILLEFOLIUM)	5%	-
				NODDING ONION (ALLIUM CERNUUM)	5%	-
				DOUGLAS' ASTER (ASTER SUBSPICATUS)	5%	-
				VEGETATED BENCH		
RIPARIAN BENCH	168m <sup>2</sup>	1	SHRUB	WILLOW SPECIES (SALIX SPP.) <sup>2</sup>	70%	118
				PACIFIC NINEBARK (PHYSOCARPUS CAPITALUS)	30%	50
			FORB	RED-OSIER DOGWOOD (CORNUS SERICEA)	10%	17
				PACIFIC SILVERWEED (POTENTILLA ANSERINA)	40%	67
MUDFLAT AREA						
INTERTIDAL LOW MARSH	453m <sup>2</sup>	5	GRAMINOID	LYNGBYE'S SEDGE (CAREX LYNGBYEI)	30%	680
				SLOUGH SEDGE (CAREX OBNUPTA)	20%	453
INTERTIDAL MID-HIGH MARSH	453m <sup>2</sup>	1	FORB	PACIFIC SILVERWEED (POTENTILLA ANSERINA)	10%	45
				WATER PARSNIP (SIUM SUAVE)	5%	23
				BALTIC RUSH (JUNCUS BALTICUS)	10%	181
				JOINTED RUSH (JUNCUS ARTICULATUS)	10%	181
INTERTIDAL MID-HIGH MARSH	453m <sup>2</sup>	4	GRAMINOID	LYNGBYE'S SEDGE (CAREX LYNGBYEI)	15%	272
				LYNGBYE'S SEDGE (CAREX LYNGBYEI)	15%	272

**NOTES:**  
1. THESE REPRESENT INDIVIDUAL TREES AT LEAST 1.5m IN HEIGHT.  
2. WILLOWS WILL INCLUDE A MIX OF PACIFIC (SALIX LUCIDA SSP. LASIANDRA), SCOULER'S (S. SCOULERIANA), AND SITKA (S. SITCHENSIS).  
3. THE SPECIES LISTED IN THE PLANTING SCHEDULE ABOVE ARE THE PREFERRED SPECIES. HOWEVER, IF SPECIES ARE NOT AVAILABLE BY THE SUPPLIER, SPECIES MAY BE SUBSTITUTED AND A VEGETATION ECOLOGIST WILL CONFIRM APPROPRIATE SPECIES FOR THIS LOCATION.

Insert into shrub list

WESTERN SERVICEBERRY (AMALANCHIER ALNIFOLIA)	25%	125
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Insert into shrub woodland list

4	GRAMINOID	BLUE JOINT (CALAMAGROTIS CANADENSIS)	30%	600
		TUFTED HAIRGRASS (DESCHAMPSIA CESPITOSA)	40%	800
		JOINTED RUSH (JUNCUS ARTICULATUS)	30%	600

**NOTES:**

- FOR GENERAL NOTES AND DESIGN CRITERIA, SEE DWG. 317071-00039-00-MA-DGA-1531.
- GABION BASKETS**  
GABION BASKETS TO BE P.V.C COATED 4.3mm WIRE GABION BASKETS BY GEOSYNTHETIC SYSTEMS OR APPROVED EQUIVALENT AND COMPLY WITH ASTM A975.  
GABION BASKETS TO BE:  
- FACTORY FABRICATED SO THAT SIDES, ENDS, LID AND INTERNAL DIAPHRAGMS READILY ASSEMBLE AT SITE INTO RECTANGULAR BASKETS OF SIZES AS INDICATED.  
- SINGLE UNIT CONSTRUCTION OR WITH JOINTS HAVING STRENGTH AND FLEXIBILITY EQUAL TO THAT OF MESH.  
- WHEN LENGTH EXCEEDS HORIZONTAL WIDTH, PROVIDE DIAPHRAGMS OF SAME MESH AS GABION WALLS TO DIVIDE BASKET INTO EQUAL CELLS OF LENGTH NOT IN EXCESS OF HORIZONTAL WIDTH.  
- WIRE MESH TO BE UNIFORM HEXAGONAL PATTERN WIRE WOVEN IN TRIPLE TWIST PATTERN WITH OPENINGS OF APPROXIMATELY 80 x 100 mm AND FABRICATED TO BE NON-RAVELLING. PERIMETER EDGES OF MESH TO BE SECURELY SELVEDGED SO THAT JOINTS FORMED BY CONNECTING SELVEDGES ARE AS STRONG AS BODY OF MESH.
- GABION BASKETS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS
- INSTALL GABIONS TO LINES AND GRADES AS INDICATED. FOLLOW MANUFACTURER'S INSTRUCTIONS IN ASSEMBLING BASKETS.
- PLACE BASKETS IN POSITION PRIOR TO FILLING WITH STONES.
- JOIN ADJACENT BASKETS TOGETHER AT CORNERS AS RECOMMENDED BY MANUFACTURER, SO THAT JOINTS ARE AS STRONG AS MESH. LENGTH OF INDIVIDUAL BASKET TO BE MAX 1.0 m OR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND APPROVED BY THE OWNER'S REPRESENTATIVE.
- TENSION GABIONS ACCORDING TO MANUFACTURER'S INSTRUCTIONS BEFORE FILLING WITH STONE. DO NOT RELEASE WALL TENSION UNTIL SUFFICIENT STONE FILL HAS BEEN PLACED TO PREVENT WALL SLACKENING.
- ON EXPOSED FACES OF GABIONS, PLACE STONES BY HAND WITH FLATTEST SURFACES BEARING AGAINST FACE OF MESH TO PRODUCE SATISFACTORY ALIGNMENT AND APPEARANCE.
- FILL GABION CELLS IN LIFTS NOT EXCEEDING 300 mm AND CONNECT OPPOSITE WALLS WITH 2 TIE WIRES AFTER EACH LIFT.
- MULCH**  
FOLLOWING PLANTING, PLACE 75 mm OF WOODCHIPS OVER PLANTING BASKET AND RIPARIAN PLANTING ZONE.
- ESTABLISHMENT PERIOD**  
THE ESTABLISHMENT PERIOD IS THE PERIOD OF TIME WHICH THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SURVIVAL OF ALL PLANTS. THE ESTABLISHMENT PERIOD FOR THIS PROJECT IS 12 WEEKS AFTER SUBSTANTIAL COMPLETION HAS BEEN AWARDED.  
AN INSPECTION OF THE PLANTS WILL BE UNDERTAKEN AFTER 6 WEEKS. ANY PLANTS THAT HAVE NOT SURVIVED AT THIS POINT SHALL BE REPLACED.  
A FINAL INSPECTION WILL BE UNDERTAKEN AFTER 12 WEEKS. ANY PLANTS THAT HAVE NOT SURVIVED AT THIS POINT SHALL BE REPLACED.  
THE ESTABLISHMENT PERIOD WILL START AGAIN FOR ANY PLANTS THAT ARE REPLACED.  
THE CONTRACTOR SHALL KEEP THE PLANTING AREAS FREE OF WEEDS THROUGHOUT THE ESTABLISHMENT PERIOD.  
THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AN IRRIGATION AND MAINTENANCE PLAN FOR THE ESTABLISHMENT PERIOD DEPENDING ON THE SEASON.

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	OAR	REF DRAWING No	REFERENCE DRAWING TITLE
B	21-FEB-24	ISSUED FOR TENDER	AAL	BJM	DTD	NP	DTD	HA		
A	05-FEB-24	ISSUED FOR CLIENT REVIEW	AAL	-	DTD	-	DTD	-		

D SHEET SCALE SHOWN	ENGINEERING AND PERMIT STAMPS (As Required)	CUSTOMER
 empowered   enabled   ethical	 Worley Canada Services Ltd. Permit Number: 1000612	 <b>NEW WESTMINSTER</b>
WORLEY PROJECT No		
317071-00039		
 <b>Advisian</b> Worley Group <b>QUEENSBOROUGH</b> SHORELINE PROTECTION REHABILITATION LOCATION 2 <b>TYPICAL SECTIONS AND DETAILS</b>		
DRG No	317071-00039-00-MA-DGA-1536	REV B

LOCATION: U:\V\317071\00039\_DWG\_SHRPROCON\W11\_DRAWINGS\15\_LAND\_EVO\_COAST\1317071-00039-00-MA-DGA-1536.DWG  
USER NAME: baron.ledsham  
PLOT DATE & TIME: 21/2/2024 4:48:16 PM  
SAVE DATE & TIME: 21/2/2024 11:01:30 AM



Table 11-1: Planting prescription by habitat type

Habitat Type	Planting Area (m <sup>2</sup> )	Layer	Planting Density (seedling [sdl]/m <sup>2</sup> )	Species Name	Proportion	Seedling Number
<b>Intertidal Marsh</b>						
<b>Low-Mid Marsh</b>	453	Graminoid	5	Lyngbye's sedge ( <i>Carex lyngbyei</i> )	30%	680
				Slough sedge ( <i>Carex obnupta</i> )	20%	453
<b>Mid-High Marsh</b>		Forb	1	Pacific silverweed ( <i>Potentilla pacifica</i> )	10%	45
				Water parsnip ( <i>Sium suave</i> )	5%	23
		Graminoid	4	Lyngbye's sedge ( <i>Carex lyngbyei</i> )	15%	272
				Baltic rush ( <i>Juncus balticus</i> )	10%	181
Jointed rush ( <i>Juncus articulatus</i> )	10%	181				
<b>Vegetated Bench</b>						
<b>Vegetated Bench</b>	168	Shrub	1	Willow species ( <i>Salix</i> spp.)	70%	118
				Pacific ninebark ( <i>Physocarpus capitalus</i> )	30%	50
		Forb	1	Pacific silverweed ( <i>Potentilla pacifica</i> )	40%	67
		Graminoid	4	Saltgrass ( <i>Distichlis spicata</i> )	60%	403
<b>Riparian</b>						
<b>Tall Shrub Woodland</b>	500	Tree		Balsam poplar ( <i>Populus balsamifera</i> )	-	1*
				Bigleaf maple ( <i>Acer macrophyllum</i> )	-	1*
				Red alder ( <i>Alnus rubra</i> )	-	2*
		Shrub	1	Hardhack ( <i>Spiraea douglasii</i> )	30%	150
				Dull Oregon grape ( <i>Mahonia nervosa</i> )	15%	75
				Red-osier dogwood ( <i>Cornus sericea</i> )	30%	150
				Western serviceberry ( <i>Amelanchier alnifolia</i> )	25%	125

Habitat Type	Planting Area (m <sup>2</sup> )	Layer	Planting Density (seedling [sdl]/m <sup>2</sup> )	Species Name	Proportion	Seedling Number
		Graminoid	4	Bluejoint ( <i>Calamagrostis canadensis</i> )	30%	600
				Tufted hairgrass ( <i>Deschampsia cespitosa</i> )	40%	800
				Jointed rush ( <i>Juncus articulatus</i> )	30%	600
		Forb	1	Hedge nettle ( <i>Stachys cooleyae</i> )	50%	250
				Sword fern ( <i>Polystichum munitum</i> )	50%	250
<b>Meadow</b>	1,146	Graminoid	25 kg/ha Seeding rate	Bluejoint ( <i>Calamagrostis canadensis</i> )	30%	-
				Tufted hairgrass ( <i>Deschampsia cespitosa</i> )	40%	-
				Jointed rush ( <i>Juncus articulatus</i> )	15%	-
		Forb		Western Yarrow ( <i>Achillea millefolium</i> )	5%	-
				Nodding onion ( <i>Allium cernuum</i> )	5%	-
				Douglas' aster ( <i>Aster subspicatus</i> )	5%	-

Notes: (\*) denotes a 1.5-m tall tree. Sdl=Seedling