



RM 10.3-11.1 QUANTITIES		
ELEMENT	UNIT	TOTAL QUANTITY
BEAVER DAM COMPLEX	EA	13
TYPE 1 ELJ LARGE BANK ATTACHED	EA	28
TYPE 2 ELJ SMALL BANK ATTACHED	EA	--
TYPE 3 ELJ LARGE APEX	EA	2
TYPE 4 ELJ SMALL APEX	EA	1
TYPE 5 ELJ ALLUVIAL	EA	9
TYPE 6 ELJ FLOODPLAIN	EA	11
SIDE CHANNEL	CY	2700
BERM/LEVEE REMOVAL	CY	--
BANK EROSION PLANTING	AC	0.3
ALDER RELEASE AND COTTONWOOD PLANTING	AC	2.4
COTTONWOOD GALLERY PLANTING	AC	7.2

LEGEND	
	FLOW ARROW
	EXISTING CONTOUR
	REACH BREAK
	PARCEL BOUNDARY
	TRIBUTARY
	EX. CHANNEL CL
	EX. SIDE CHANNEL
	PROPOSED CHANNEL
	PROPOSED SIDE CHANNEL
	BERM/LEVEE EXCAVATION
	PROPOSED BERM
	AVOID IMPACTS AREA
	SEASONALLY WET FLOODPLAIN
	BANK EROSION PLANTING
	ALDER RELEASE AND COTTONWOOD PLANTING
	COTTONWOOD GALLERY PLANTING
	BEAVER DAM COMPLEX
	LARGE BANK ATTACHED ELJ
	SMALL BANK ATTACHED ELJ
	LARGE APEX ELJ
	SMALL APEX ELJ
	ALLUVIAL ELJ
	FLOODPLAIN ELJ

- CONCEPTUAL DESIGN NOTES:
- EVALUATE POTENTIAL TO RECONNECT HISTORIC VALLEY DISTRIBUTED SIDE CHANNEL FOR COTTONWOOD GALLERY DEVELOPMENT AND FLOOD REFUGIA. CONNECTION WILL REQUIRE COORDINATION WITH LANDOWNERS AND MAY REQUIRE FLOOD RISK REDUCTION MEASURES.
  - RECLAIM REMNANT IRRIGATION INFRASTRUCTURE INCLUDING IRRIGATION DITCHES TO IMPROVE HYDROLOGIC CONNECTIVITY, REPLACING WITH VALLEY-FILL DISTRIBUTED SIDE CHANNELS WHERE FEASIBLE. DESIGN SHOULD CAREFULLY CONSIDER RISK OF STRANDING POTENTIAL AND CONSIDER AMELIORATING DESIGN ELEMENTS.
  - RECONNECT HISTORIC COTTONWOOD GALLERY SIDE CHANNEL, PROVIDING ROUGHNESS ELEMENTS FOR COTTONWOOD RECRUITMENT AND ESTABLISHMENT. ADAPTIVELY MANAGE PLANTING AS SOIL AND HYDROLOGIC CONDITIONS IMPROVE.
  - MAIN CHANNEL LOG JAMS ARRANGED IN ALTERNATING PATTERN PROVIDE HOLDING AND REARING HABITAT, RETAIN SEDIMENT, AND DEVELOP COMPLEX HYDRAULIC HABITAT.
  - UTILIZE ALLUVIAL ENGINEERED LOG JAMS WHICH CONSIST OF A WOOD AND GRAVEL MATRIX TO DEVELOP SEMI-STABLE AND COMPLEX RIFFLES. PLACEMENT FOCUSES ON INCREASING BASE FLOW WATER SURFACE ELEVATION AND ACTIVATING SIDE CHANNELS AND FLOODPLAINS.
  - DECREASE SOLAR RADIATION AND BANK EROSION USING ENGINEERED LOG JAMS AND RIPARIAN PLANTING WHERE BANK EROSION ABUTS DEGRADED UPLAND CONDITIONS.
  - IN AREAS WITH HIGH COTTONWOOD REGENERATION POTENTIAL, SELECTIVELY THIN EXISTING VEGETATION AND COMBINATION OF COTTONWOOD SEEDS, LIVE CUTTINGS, AND BARE ROOTS.
  - BROAD FLOODPLAIN AREA DEMONSTRATES POTENTIAL FOR SEASONALLY WET FLOODPLAIN WITH A MOSAIC OF COTTONWOOD GALLERY ISLANDS AND BEAVER COMPLEXES TO RETAIN AND STORE SEDIMENT AND WATER.

**GRAMER FISH SCIENCES**  
 An Employee Owned Consulting Company  
 7525 NE Ambassador Pl, Suite C  
 Portland, OR 97220  
 888.224.1221

SATUS CREEK RM 8.9-13.1  
 & 27.7-31.5 RESTORATION  
 DESIGN  
 YAKIMA COUNTY, WA

SATUS CREEK  
 RM 10.3-11.1

**DRAFT**  
 NOT FOR  
 CONSTRUCTION



DRAWN JTR  
 CHECKED XXX  
 IN CHARGE TKR  
 DATE 01/23/2026  
 SCALE 1" = 150'

**C-04**  
 SHEET 05 OF 12

SATUSCK\_DESIGN\_LOWER.DWG 1/23/2026 10:09 AM