

KITTITAS COUNTY CONSERVATION DISTRICT

CARIBOU CREEK FISH PASSAGE

2016



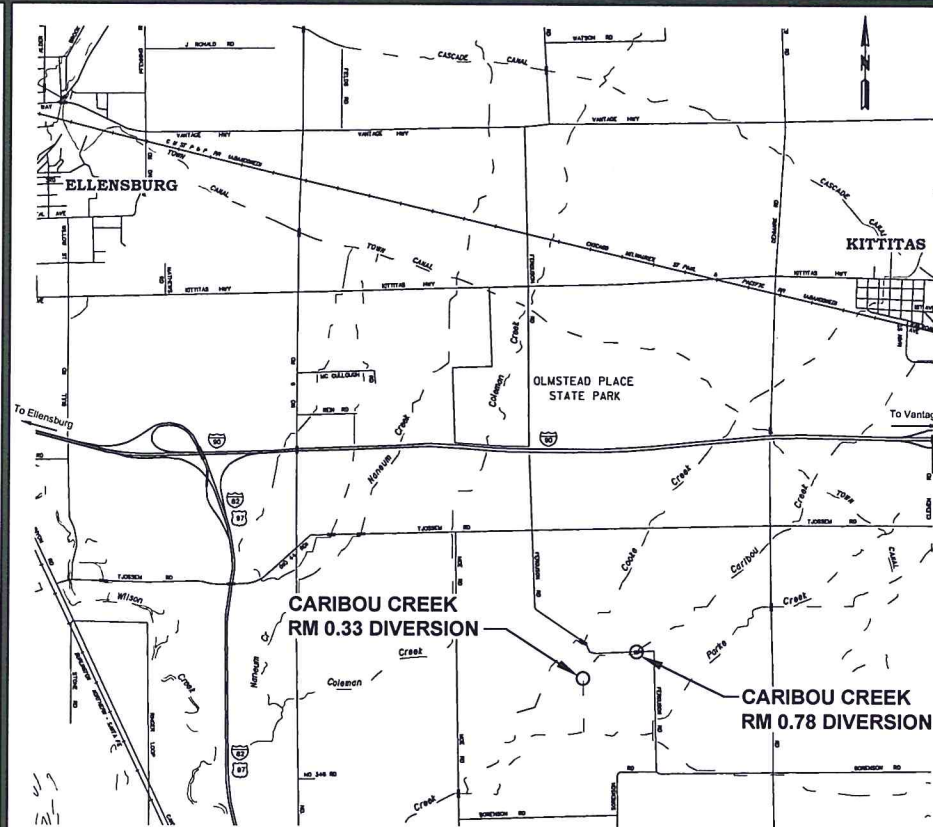
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Kittitas County CDS



VICINITY MAP



CONSERVATION DISTRICT BOARD

MARK MOORE - Chair
LYNN BROWN - Vice Chair
JEFF BRUNSON - Auditor
BILL BOYUM - Member
RON GIBB - Member

CONSERVATION DISTRICT OFFICIALS









ANNA LAEL - District Manager
RYAN ROBERTS - District Engineer
MARK CROWLEY - Resource Technician

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**Anderson
Perry**
& associates, inc.

1901 N. F. Street • LA GRANDE, OR 97030 PH: (541) 963-8329 FAX: (541) 963-5456
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PLAN LEGEND

INDEX CONTOUR	— 750 —	DECIDUOUS TREE	
INTERMEDIATE CONTOUR	— 749 —	PAVED STREET	
EXISTING THALWEG	— — — —	GRAVEL ROAD	
PROPOSED THALWEG	— — — —	WATER SURFACE ELEVATION	
EXISTING FENCE	— — —	NORTH ARROW	
EXISTING ORDINARY HIGH WATER	— — — —	SECTION DESIGNATION	
PROPOSED ORDINARY HIGH WATER	— — — —	SHEET WHERE SECTION WAS TAKEN OR WHERE SECTION IS SHOWN	
IRRIGATION DITCH	— — — —		
EDGE OF PAVED ROAD	— — — —		
PROPOSED UNDERGROUND POWER	— P — P —		
PROPOSED OVERHEAD POWER	— OP —		
EXISTING POWER POLE	○		
PROPOSED POWER POLE	●		
SURVEY CONTROL	⊙		
CUT AREA			

PROJECT OBJECTIVE

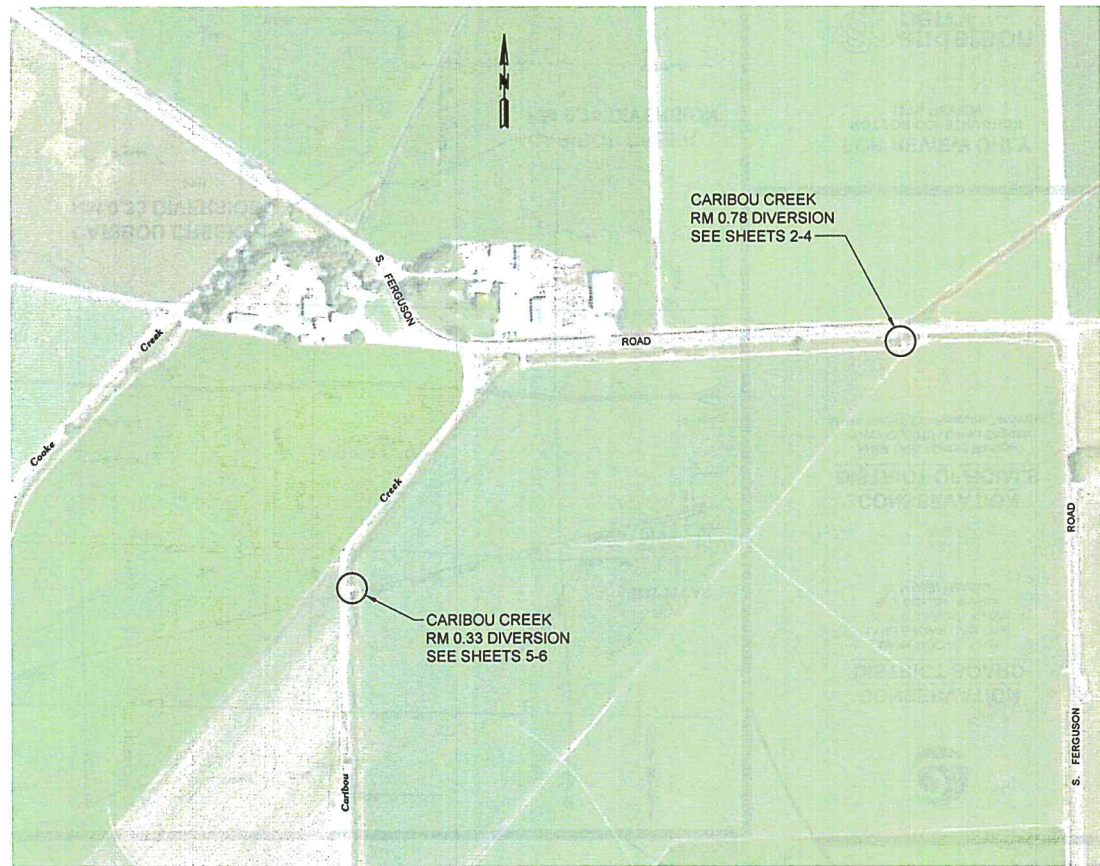
THE OVERALL OBJECTIVE OF THE PROJECT IS TO IMPROVE FISH PASSAGE CONDITIONS AT THESE TWO IRRIGATION DIVERSIONS. IMPROVED FISH PASSAGE CONDITIONS SHALL INCLUDE YEAR-ROUND UPSTREAM AND DOWNSTREAM PASSAGE OF FISH SPECIES.

GENERAL NOTES

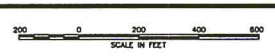
1. ALL DIMENSIONS, STATIONS, AND ELEVATIONS ARE IN FEET UNLESS OTHERWISE NOTED.
2. ALL IN-STREAM WORK SHALL BE PERFORMED WITHIN THE IN-STREAM WORK WINDOW AS DESIGNATED IN THE WASHINGTON STATE DEPARTMENT OF ECOLOGY PERMITS, U.S. ARMY CORPS OF ENGINEERS (USAGE) PERMITS, AND WASHINGTON DEPARTMENT OF FISH AND WILDLIFE PERMITS.
3. ALL WORK, INCLUDING EROSION CONTROL MEASURES, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PERMITS.
4. VERTICAL DATUM: NAVD83
5. HORIZONTAL DATUM: WASHINGTON STATE PLANE COORDINATES - SOUTH ZONE
6. SURVEY DATA WAS GATHERED IN 2014 BY ANDERSON PERRY & ASSOCIATES, INC. CONTRACTOR TO VERIFY ACTUAL TOPOGRAPHY AT THE TIME OF CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
7. FIELD VERIFY LOCATION OF UTILITIES AND CULVERTS.
8. LOCATE AND PROTECT EXISTING UTILITIES. 48-HOUR NOTIFICATIONS SHOULD BE GIVEN. "CALL BEFORE YOU DIG" NUMBER FOR WASHINGTON IS 1-800-424-5555 (OR 811).
9. CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION STAKING.
10. THE CONTRACTOR SHALL COORDINATE WITH THE LANDOWNER TO REDUCE SOIL TRACKING FROM THE SITE. THE STAGING AREA SHALL NOT PROGRESS INTO THE TILLED FARM FIELD. UPON MOBILIZATION, THE CONTRACTOR SHALL PLACE 6 INCHES OF CERTIFIED WEED FREE WHEAT STRAW OR CLEAN HOG FUEL WOOD CHIPS ON ALL TEMPORARY ACCESS ROADS AND THE STAGING AREA AS COORDINATED WITH THE LANDOWNER. THE WHEAT STRAW LAYER SHALL BE REFRESHED WHEN THE ACCESS ROAD SOIL BECOMES VISIBLE.
11. THE CONTRACTOR ACCESS SHALL MINIMIZE TRACKOUT ONTO THE COUNTY ROAD, TO THE EXTENT POSSIBLE. THE COUNTY ROAD ACCESS SHALL BE KEPT CLEAN ON A DAILY BASIS.

DESIGN CRITERIA

95% EXCEEDANCE FLOW	5 CFS
5% EXCEEDANCE FLOW	80 CFS
ORDINARY HIGH WATER FLOW	120 CFS
2-YEAR FLOOD FLOW	180 CFS
5-YEAR FLOOD FLOW	250 CFS
10-YEAR FLOOD FLOW	330 CFS
25-YEAR FLOOD FLOW	430 CFS
50-YEAR FLOOD FLOW	640 CFS
100-YEAR FLOOD FLOW	760 CFS



REVISION	BY	DATE	HORIZ SCALE 1" = 200'	VERT SCALE
DESIGNED BY J. HEKRON			JOB NUMBER 157-03	DATE 2016
DRAWN BY L. WILLHITE			ROAD FILE 157-03-0606-001LGD.dwg	
REVIEWED BY C. HUTCHINS			COPYRIGHT 2016 BY ANDERSON PERRY & ASSOC., INC.	



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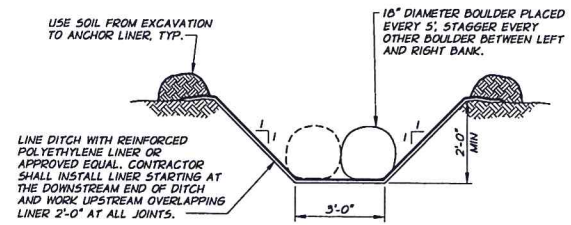
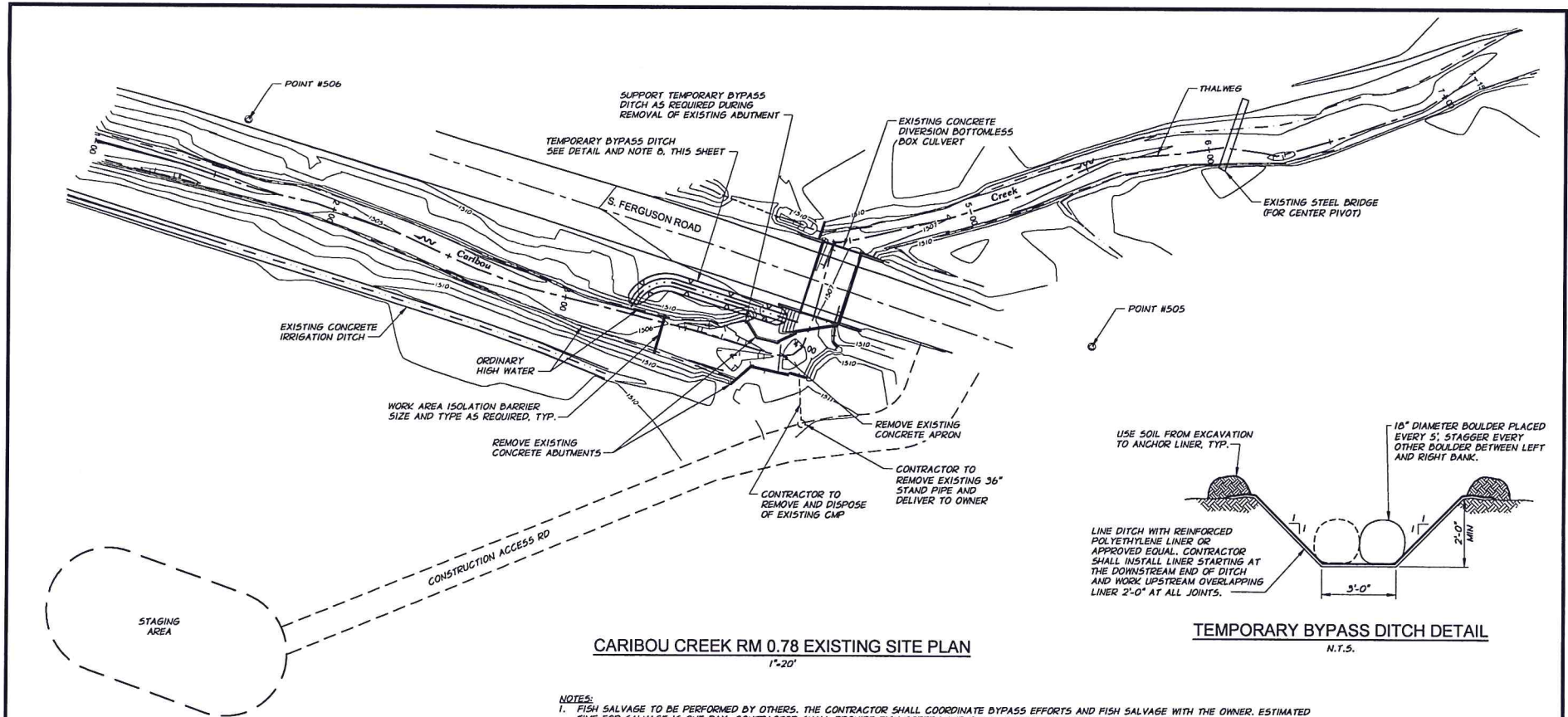
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LA GRANGE, OR. WILLY WALLA WA. PRINEVILLE OR.

KITTITAS COUNTY CONSERVATION DISTRICT
CARIBOU CREEK FISH PASSAGE

LEGEND AND SITE LOCATIONS

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CARIBOU CREEK RM 0.78 EXISTING SITE PLAN
 1"=20'

TEMPORARY BYPASS DITCH DETAIL
 N.T.S.

SURVEY CONTROL POINTS				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
505	590430.81	1652393.44	1511.8600	ORANGE PLASTIC CAP
506	590398.27	1652042.92	1511.0300	MAG AND WASHER
507*	589896.37	1650599.30	1501.2800	ORANGE PLASTIC CAP
508*	589212.72	1650422.93	1498.3000	ORANGE PLASTIC CAP

* CONTROL POINT IS IN THE PROJECT VICINITY BUT NOT SHOWN ON THIS SHEET. COORDINATE WITH ENGINEER FOR LOCATION.

- NOTES:**
- FISH SALVAGE TO BE PERFORMED BY OTHERS. THE CONTRACTOR SHALL COORDINATE BYPASS EFFORTS AND FISH SALVAGE WITH THE OWNER. ESTIMATED TIME FOR SALVAGE IS ONE DAY. CONTRACTOR SHALL PROVIDE FISH SCREEN AND PUMP TO DEWATER ENTIRE ISOLATION AREA.
 - COORDINATE WITH OWNER FOR ACCESS AND STAGING AREAS PRIOR TO MOBILIZING TO THE SITE.
 - ANTICIPATED FLOWS IN CARIBOU CREEK AT THE TIME OF CONSTRUCTION RANGE FROM APPROXIMATELY 5 TO 30 CFS. THE CONTRACTOR SHALL NOT BEGIN WORK ON THE PROJECT SHOULD FLOWS BE GREATER THAN 30 CFS.
 - CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO PRE-PROJECT CONDITIONS OR BETTER PRIOR TO DEMOBILIZING FROM THE SITE.
 - SEED MIXTURE SHOWN IN SPECIFICATIONS SHALL BE APPLIED AT ALL DISTURBED AREAS OUTSIDE THE AGRICULTURAL AREA. AGRICULTURAL AREAS SHALL BE SEED BY OTHERS.
 - LOCATION OF BYPASS DITCH SHOWN IS APPROXIMATE. THE ACTUAL LOCATION SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE ENGINEER.
 - BIODEGRADABLE HYDRAULIC FLUID SHALL BE USED IN ANY EQUIPMENT PERFORMING WORK ADJACENT TO OPEN WATER.
 - CONTRACTOR MAY INSTALL A 36" TEMPORARY BYPASS PIPE IN PLACE OF THE TEMPORARY BYPASS DITCH.
 - REFERENCED DOCUMENTS INCLUDE THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STAND SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION 2018 EDITION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL VEHICULAR TRAFFIC CONTROL INCLUDING ACCESSING THE SITE FROM THE COUNTY ROAD. THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL. ALL TRAFFIC CONTROL SIGNS SHALL COMPLY WITH THE MUTCD.

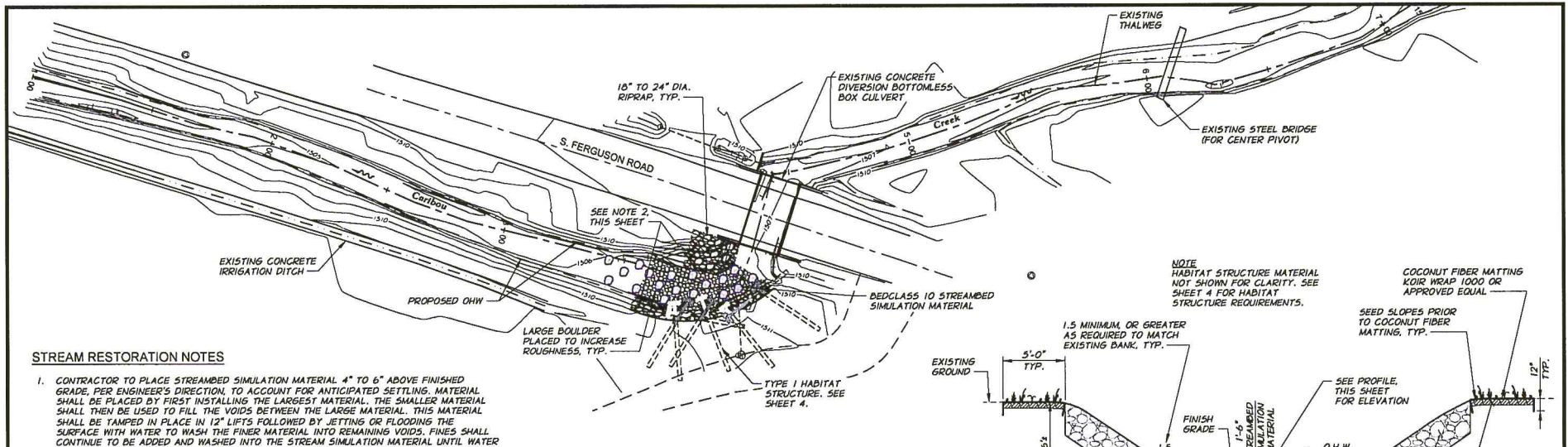
REVISION DESIGNED BY J. HERRON DRAWN BY L. WILLHITE REVIEWED BY C. HUTCHINS	BY DATE	HORIZ. SCALE 1"=20' JOB NUMBER 157-03 ACD FILE 157-03-060C-101EXTG.dwg COPYRIGHT 2018 BY ANDERSON PERRY & ASSOC., INC.	DATE 2016
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**KITTITAS COUNTY
 CONSERVATION DISTRICT**
CARIBOU CREEK FISH PASSAGE
 CARIBOU CREEK RM 0.78
 EXISTING SITE, DEMOLITION, ACCESS, STAGING,
 AND WATER CONTROL PLAN

CAAP WORKBOOK\KITITAS Co ConDot\157-03-Cherry Creek Stream Evaluation\Caribou..._r\Passage\157-03-060C-102PROP.dwg, Layout1, 12/27/2016 1:31:19 PM, willhite



STREAM RESTORATION NOTES

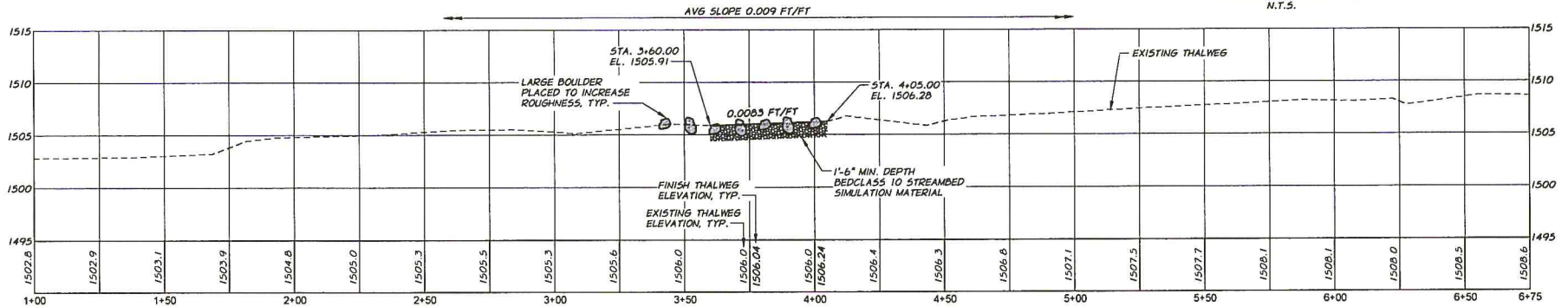
1. CONTRACTOR TO PLACE STREAMBED SIMULATION MATERIAL 4" TO 6" ABOVE FINISHED GRADE, PER ENGINEER'S DIRECTION, TO ACCOUNT FOR ANTICIPATED SETTLING. MATERIAL SHALL BE PLACED BY FIRST INSTALLING THE LARGEST MATERIAL. THE SMALLER MATERIAL SHALL THEN BE USED TO FILL THE VOIDS BETWEEN THE LARGE MATERIAL. THIS MATERIAL SHALL BE TAMPED IN PLACE IN 12" LIFTS FOLLOWED BY JETTING OR FLOODING THE SURFACE WITH WATER TO WASH THE FINER MATERIAL INTO REMAINING VOIDS. FINES SHALL CONTINUE TO BE ADDED AND WASHED INTO THE STREAM SIMULATION MATERIAL UNTIL WATER POOLS ON THE STREAMBED SURFACE.
2. GRADE BANKS AS REQUIRED TO TRANSITION FROM UPSTREAM TO DOWNSTREAM.
3. THE LARGE BOULDERS USED FOR THE TEMPORARY BYPASS DITCH SHALL BE REMOVED FROM THE TEMPORARY BYPASS DITCH AND PLACED NEAR THE SURFACE OF THE STREAMBED AND SHALL BE BURIED APPROXIMATELY 60% TO ACHIEVE LARGE SCALE HYDRAULIC ROUGHNESS AND RESTING LOCATIONS FOR FISH IMMEDIATELY PRIOR TO REMOVING THE WORK AREA ISOLATION BARRIERS. ACTUAL LOCATIONS OF BOULDERS TO BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE ENGINEER. IF A TEMPORARY BYPASS PIPE IS USED IN PLACE OF A TEMPORARY BYPASS DITCH, LARGE BOULDERS RANGING IN SIZE FROM 18" TO 24" SHALL BE PLACED ON AVERAGE APPROXIMATELY 8' O.C. THROUGH OUT, AND APPROXIMATELY 20' DOWNSTREAM OF, THE NEWLY CONSTRUCTED CHANNEL.

CARIBOU CREEK RM 0.78 DIVERSION PLAN

1"=20'

TYPICAL SECTION

N.T.S.



CARIBOU CREEK RM 0.78 DIVERSION PROFILE

1"=20' HORIZ.
1"=5' VERT.

REVISION	BY	DATE
DESIGNED BY	J. HERRON	
DRAWN BY	L. WILLHITE	
REVIEWED BY	C. HUTCHINS	

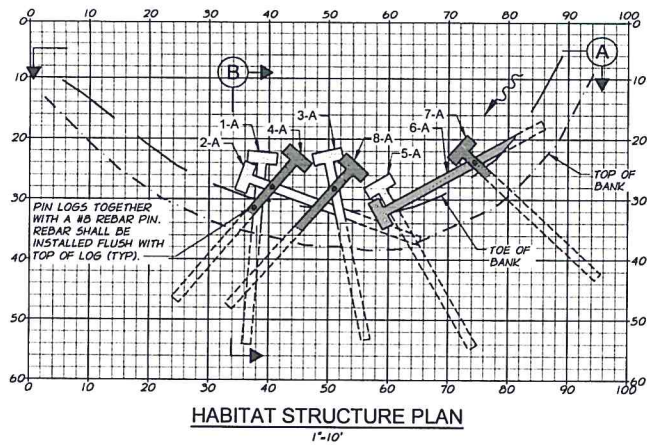
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JOB NUMBER	157-03	DATE	2016
SCALE FILE	157-03-060C-102PROP.dwg		
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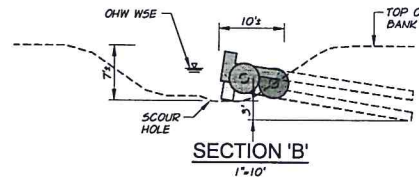
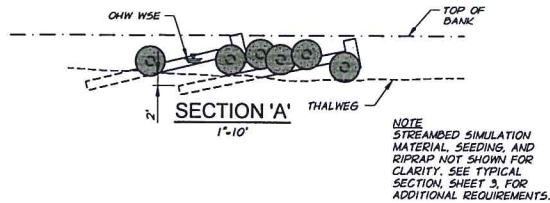
KITITAS COUNTY CONSERVATION DISTRICT
CARIBOU CREEK FISH PASSAGE
 CARIBOU CREEK RM 0.78
 PLAN AND PROFILE

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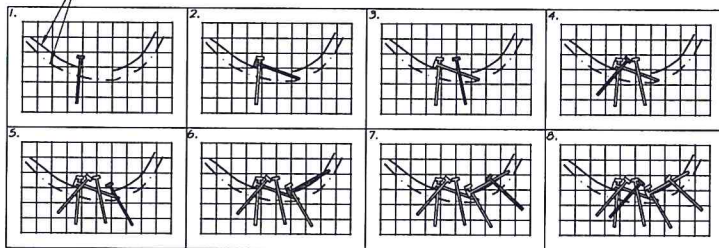


HABITAT STRUCTURE PLAN

1"-10"



TOP OF BANK AND TOE OF BANK, TYP.



HABITAT STRUCTURE LOG PLACEMENT SEQUENCING

1"-40"

HABITAT STRUCTURE MATERIAL SCHEDULE			
	DESCRIPTION	QTY. EA	TOTAL QTY. FOR 1 STRUCTURE(S)
LOG TYPE A	30 FT. X 16"-18" DBH W/ 5' DIA. RW	8	8
RACKING MATERIAL 1	30 FT. X 10"-12" DBH FULL TREE	4*	4

* IN ADDITION TO THE RACKING MATERIAL, THE CONTRACTOR SHALL IMPORT THE TOPS AND LIMBS OF THE LOG TYPE A, AND USE THIS AS SLASH.

CONSTRUCTION NOTES

1. CONTRACTOR SHALL BACKFILL AROUND LOGS WITH A COMBINATION OF GENERAL BACKFILL AND RACKING MATERIAL.
2. PROVIDE RACKING MATERIAL BETWEEN EACH LAYER AS DIRECTED BY THE ENGINEER.
3. CONTRACTOR SHALL APPLY WATER TO THE BACKFILL PERIODICALLY FOR COMPACTION AND TO FORCE MATERIAL INTO VOIDS.
4. FOR ALL LOGS KEYED INTO BANKS, MORE THAN TWO THIRDS OF TREE LENGTH MUST BE BURIED.
5. TOP OF BACKFILL AREA SHALL BE COVERED WITH TOPSOIL WITH A MINIMUM THICKNESS OF 6".
6. FINAL INSTALLATION OF THE TYPE 1 HABITAT STRUCTURE SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
7. AT REBAR PIN LOCATIONS, THE CONTRACTOR SHALL DRILL A PILOT HOLE APPROXIMATELY 7/8" DIAMETER. THE PIN SHALL BE DRIVEN THROUGH THE HOLE FITTING SNUGLY AND LEAVING NO VOID SPACE BETWEEN THE PIN AND THE PILOT HOLE.
8. ALL SAWCUT ENDS OF LOGS SHALL BE CHEWED OR FRAYED PRIOR TO PLACEMENT.

REVISION	BY	DATE	HORIZ. SCALE AS NOTED	VERT. SCALE
DESIGNED BY J. HERRON			JOB NUMBER 157-03	DATE 2016
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REVIEWED BY C. HUTCHINS			COPYRIGHT 2016 BY ANDERSON PERRY & ASSOC. INC	

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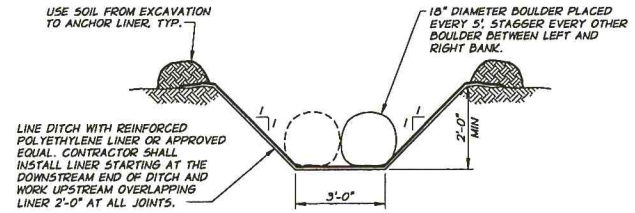
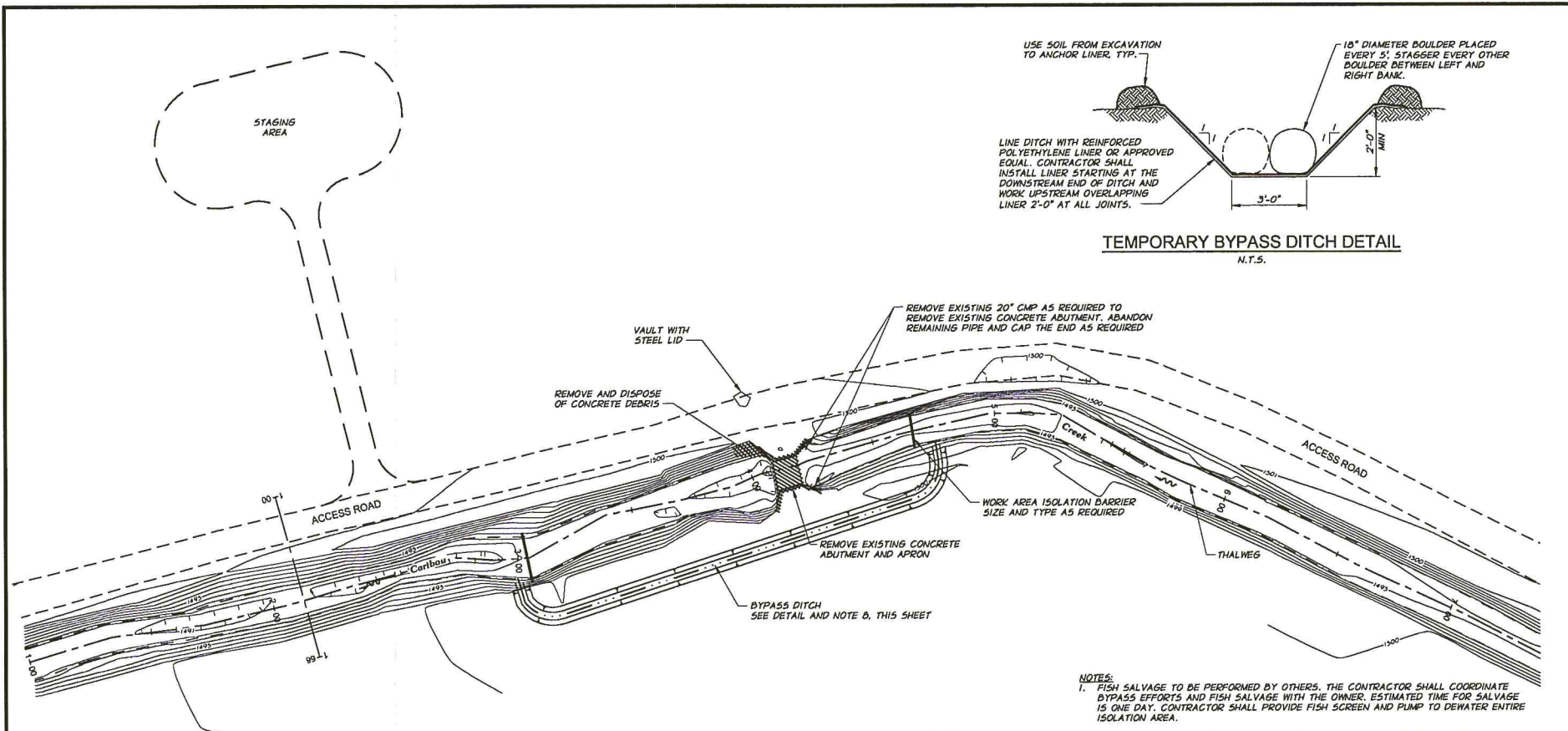
KITITAS COUNTY CONSERVATION DISTRICT
CARIBOU CREEK FISH PASSAGE

CARIBOU CREEK RM 0.78
TYPE 1 HABITAT STRUCTURE

SHEET

4

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TEMPORARY BYPASS DITCH DETAIL
N.T.S.

CARIBOU CREEK RM 0.33 EXISTING SITE PLAN
1"=20'

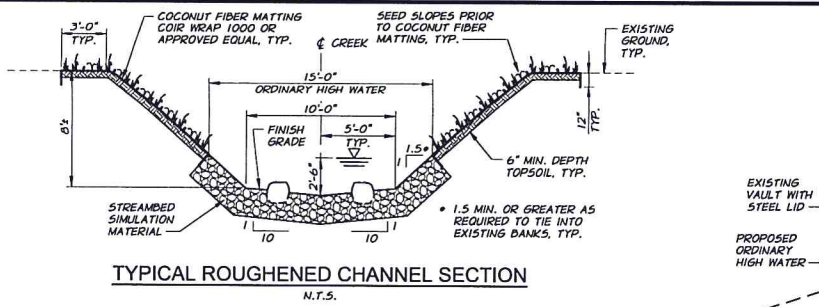
SURVEY CONTROL POINTS				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
505+	590430.61	1652393.44	1511.6600	ORANGE PLASTIC CAP
506+	590396.27	1652042.92	1511.0300	MAG AND WASHER
507+	589896.37	1650599.30	1501.2000	ORANGE PLASTIC CAP
508+	589212.72	1650422.93	1490.3000	ORANGE PLASTIC CAP

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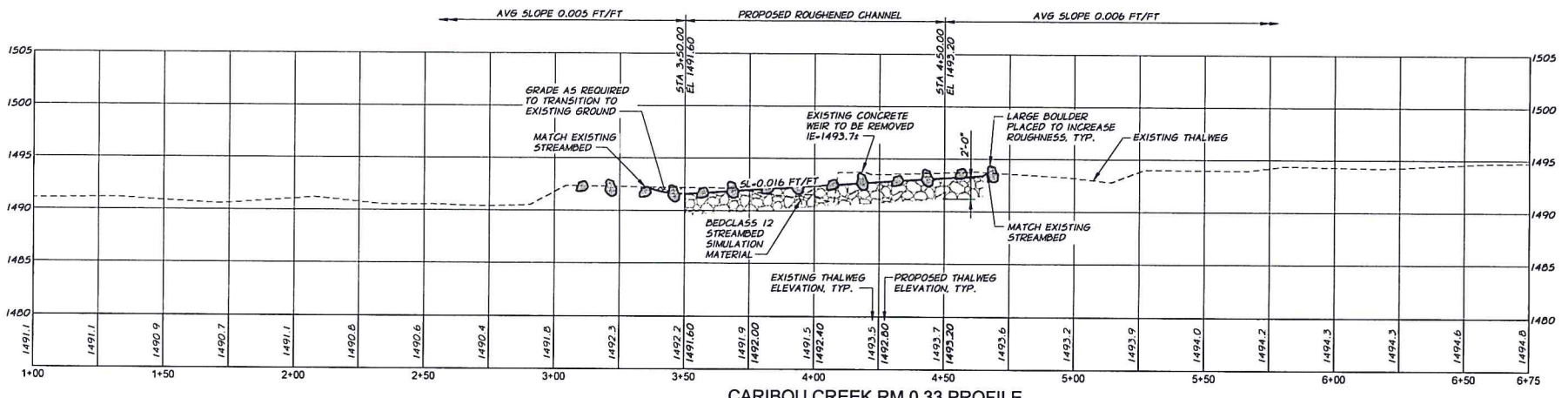
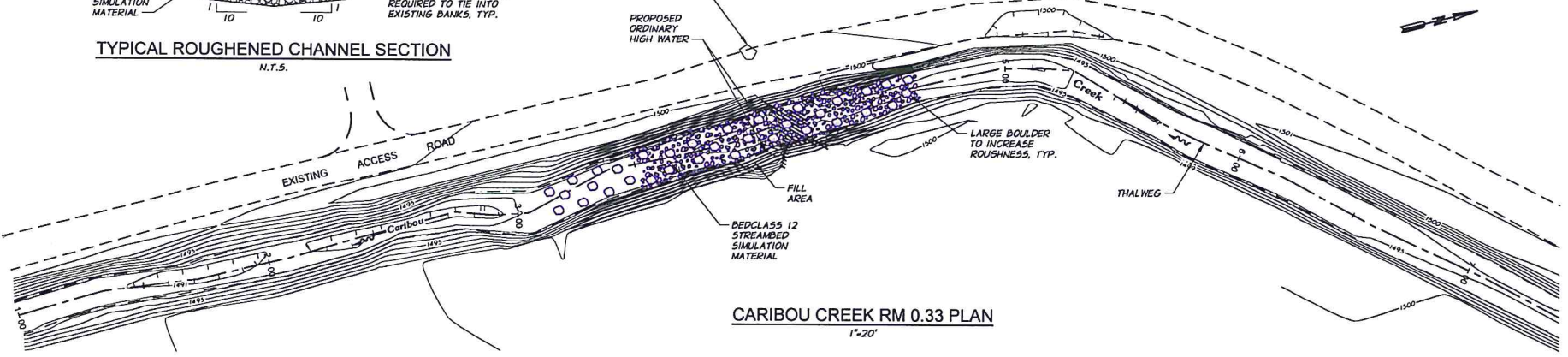
REVISION DESIGNED BY: J. HERRON DRAWN BY: L. WILLHITE REVIEWED BY: C. HUTCHINS		BY: _____ DATE: _____ JOB NUMBER: 157-03 DATE: 2016 AECO FILE: 157-03-060C-111EXTG.dwg COPYRIGHT 2016 BY ANDERSON PERRY & ASSOC., INC.		HORIZ. SCALE 1"=20' VERT. SCALE _____ THIS DRAWING HAS BEEN REDUCED 50% ADJUST SCALE ACCORDINGLY. BARSCALE SHOWN IS ACCURATE. FOR REVIEW ONLY NOT FOR CONSTRUCTION 100% REVIEW		 engineering • surveying • natural resources LE GRAND DR. WALKERDALE, N.C. 27382-1000		KITTITAS COUNTY CONSERVATION DISTRICT CARIBOU CREEK FISH PASSAGE CARIBOU CREEK RM 0.33 EXISTING SITE, DEMOLITION, ACCESS, STAGING, AND WATER CONTROL PLAN		SHEET 5
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STREAM RESTORATION NOTES

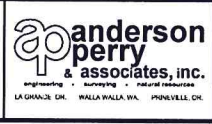
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REVISION	BY	DATE	HORIZ. SCALE 1"=20'	VERT. SCALE 1"=5'
DESIGNED BY J. HERRON			ASB NUMBER 157-03	DATE 2016
DRAWN BY L. WILLHITE			ASB FILE 157-03-060C-112PROP.dwg	
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CARIBOU CREEK FISH PASSAGE

CARIBOU CREEK RM 0.33
PLAN AND PROFILE