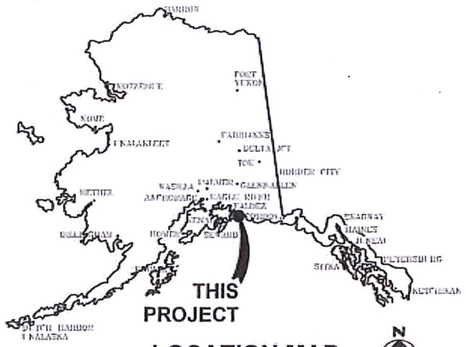
Contract Drawings For

CORDOVA FISH PASSAGE IMPROVEMENT PROJECTS
COPPER RIVER HIGHWAY - MP 18.7
18 MILE CREEK CROSSING - COP 25
U.S. FISH AND WILDLIFE SERVICE

SECTION 30, TOWNSHIP 16 SOUTH, RANGE 1 EAST, COPPER RIVER MERIDIAN, ALASKA
DECEMBER 2020



LOCATION MAP

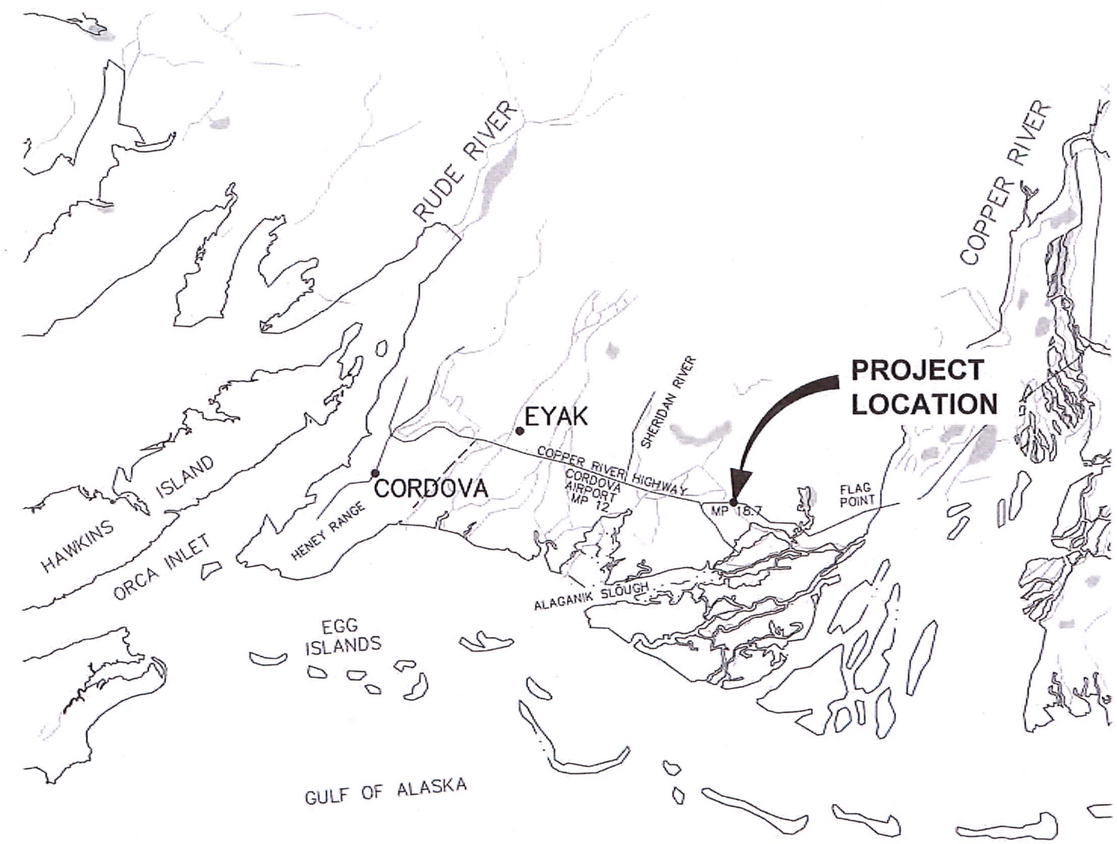
PROJECT LOCATION		
ADF&G SITE NO.	CRWP ID	COPPER RIVER HWY MP
20100491	COP 25	18.7

DESIGN DESIGNATIONS	
AADT 2015	244

AS-BUILT PLANS

Project Engineer: Forrester Cook; DOWL
CONTRACTOR: WILSON CONSTRUCTION, INC.
SUPERINTENDENT: JOHN BAENEN
BEGIN DATE OF WORK: MAY 20, 2021
END DAY OF WORK: AUGUST 7, 2021

STATE OF ALASKA
49 TH
MICHAEL R KELLER
LS - 10684
REGISTERED PROFESSIONAL LAND SURVEYOR



VICINITY MAP
NTS

DRAWING INDEX

C1	COVER SHEET
C2	GENERAL NOTES AND QUANTITIES
C3-C4	SURVEY CONTROL
C5	EXISTING STREAM PLAN AND PROFILE
C6	STREAM PLAN AND PROFILE
C7	ROADWAY PLAN AND PROFILE
C8	STREAM DESIGN DETAILS
C9	STREAM SECTIONS AND DETAILS
C10	ESCP, STREAM DIVERSION & ROADWAY DIVERSION PLAN
C11	REVEGETATION PLAN

PREPARED BY: DOWL

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	PAY UNIT	QUANTITY
201(9)	CLEARING AND GRUBBING	LUMP SUM	ALL REQUIRED
202(4)	REMOVAL OF CULVERT PIPE	LINEAR FOOT	121
203(3)	UNCLASSIFIED EXCAVATION	CUBIC YARD	1254
203(5A)	BORROW, SELECTED MATERIAL, TYPE A	CUBIC YARD	1331
203(5B)	SUBBASE, GRADING F	CUBIC YARD	583
301(4)	AGGREGATE SURFACE COURSE, GRADING E-1	CUBIC YARD	55
603(10)	CORRUGATED ALUMINUM PIPE ARCH, 71" SPAN, 47" RISE	LINEAR FOOT	70
602(4)	~~STRUCTURAL PLATE ALUMINUM BOX CULVERT, 29'-0" SPAN, 8'-3" RISE~~	LINEAR FOOT	76
611(1A)	RIPRAP, CLASS I	CUBIC YARD	143
611(1B)	RIPRAP, CLASS II	CUBIC YARD	154
613(2)	CULVERT MARKER POST	EACH	4
618(2)	SEEDING	POUND	2
620(1)	TOPSOIL (4")	SQUARE YARD	220
630(3B)	GEOTEXTILE, REINFORCEMENT, TYPE 2	SQUARE YARD	1080
631(2)	GEOTEXTILE, EROSION CONTROL, CLASS 1	SQUARE YARD	117
640(1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
641(3)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	LUMP SUM	ALL REQUIRED
642(1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
642(14)	AS-BUILT PLANS	LUMP SUM	ALL REQUIRED
643(2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
644(15)	NUCLEAR TESTING EQUIPMENT STORAGE SHED	LUMP SUM	ALL REQUIRED
672(1)	STREAM DIVERSION & DEWATERING	LUMP SUM	ALL REQUIRED
690(10)	WATERWAY BED FILL	LINEAR FOOT	125
690(12)	WATERWAY BANK REVEGETATION AND PROTECTION	LUMP SUM	ALL REQUIRED
~~690(13)~~	~~ROUNDED RIVER ROCK~~	~~CUBIC YARD~~	~~99~~

2

1

1

ABBREVIATIONS

ALCAP	ALUMINUM CAP
AVASP	AS VERTICAL AS SAFELY POSSIBLE
BFW	BANKFULL WIDTH
BOF	BOTTOM OF FOOTING
CFS	CUBIC FEET PER SECOND
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CRH	COPPER RIVER HIGHWAY
ELEV	ELEVATION
ESCP	EROSION AND SEDIMENT CONTROL PLAN
HW/D	HEADWATER TO DEPTH RATIO
INV	INVERT ELEVATION
MIN	MINIMUM
MP	MILEPOST
NTS	NOT TO SCALE
OHW	ORDINARY HIGH WATER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
Q	FLOW
ROW	RIGHT-OF-WAY
STA	STATION
TYP	TYPICAL
VAP	VERTICAL ADJUSTMENT POTENTIAL

GENERAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL SITE FEATURES. IF THE CONTRACTOR DISCOVERS CONDITIONS OTHER THAN THOSE SHOWN ON THE PLANS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE.
2. COORDINATE CONSTRUCTION STAGING AND MOBILIZATION AREAS AND ACTIVITIES WITH OWNER'S REPRESENTATIVE.
3. COORDINATE WITH OTHER CONTRACTORS WHO MAY BE PRESENT.
4. EXERCISE CAUTION AND COMPLY WITH ALL APPLICABLE OSHA REQUIREMENTS FOR WORKING IN CONFINED AREAS.
5. STATIONING IS ALONG CENTERLINE OF STREAM OR ROADWAY.
6. VERIFY ELEVATIONS OF ALL PROPOSED STRUCTURES PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES FROM PLANS IMMEDIATELY TO OWNER'S REPRESENTATIVE.
7. CULVERT DESIGN LOAD: AASHTO LOADING HL-93, MINIMUM SOIL BEARING CAPACITY: 3,900 PSF.
8. EXCAVATION AND COMPACTION:
   - A. REMOVE AND DISPOSE OF ALL ORGANIC OR OVER SATURATED SOFT MATERIAL, WHICH CANNOT BE COMPACTED.
   - B. BACKFILL SHALL BE PLACED AND COMPACTED WITH CARE AND SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY ON BOTH SIDES OF PIPE. MATERIAL TO BE COMPACTED TO 95% MAXIMUM DENSITY.
9. CULVERT INSTALLATION:
   - A. CULVERT JOINTS SHALL NOT LEAK.
   - B. CULVERT INFILL MATERIAL SHALL BE INSTALLED IN PIPE ACCORDING TO PLANS. MANUAL INSTALLATION IS REQUIRED.
10. ALL VEGETATION IN THE AREAS NOT AFFECTED BY WORK SHALL BE PRESERVED AND PROTECTED BY THE CONTRACTOR. RESEED ALL DISTURBED AREAS.
11. TWO CULVERT MARKERS WILL BE INSTALLED AT EACH CULVERT PER STD D-09.00.

TABLE 1

COARSE MATERIAL: RIPRAP, CLASS I

APPROX. SIZE	MASS (LBS)	% PASSING
10"	50	100
8"	25	50

TABLE 2

FINE MATERIAL: POROUS BACKFILL

SIZE/SIEVE	% PASSING
3"	100
1"	65
0.75"	50
#4	25
#10	15

TABLE 3

WATERWAY BED FILL

SIZE/SIEVE	% PASSING
12"	100
10"	95
8"	73
5"	56
3"	51
1"	29
0.75"	23
#4	11
#10	7

1

~~TABLE 4~~

~~ROUNDED RIVER ROCK~~

~~SIZE/SIEVE~~	~~% PASSING~~
~~12"~~	~~100~~
~~9"~~	~~75~~
~~6"~~	~~30~~
~~3"~~	~~15~~
~~1"~~	~~10~~
~~0.75"~~	~~5~~
~~#4~~	~~0~~
~~#10~~	~~0~~

1

THE FOLLOWING DOT&PF STANDARD DRAWING APPLIES TO THIS PROJECT:
D-09.00 CULVERT MARKER POST

LEGEND

	DESCRIPTION
	APPROXIMATE RIGHT-OF-WAY
	CONTROL POINT
	ORDINARY HIGH WATER
	EXISTING CULVERT
	EDGE OF PAVEMENT
	EDGE OF GRAVEL/SHOULDER
	EDGE OF VEGETATION
	EXISTING THALWEG
	TOP OF BANK
	TOE OF SLOPE
	PROPOSED CULVERT
	WATERWAY BED FILL
	WATERWAY BANK REVEGETATION AND PROTECTION
	RIPRAP
	~~ROUNDED RIVER ROCK~~ 1
	AGGREGATE SURFACE COURSE, E-1
	SELECTED MATERIAL, TYPE A
	SUBBASE, GRADING F
	SEED
	BULK BAG COFFERDAM

REVISIONS

REV	DATE	DESCRIPTION	BY
1	1/21/21	ADDENDUM #1	
2	1/22/21	ADDENDUM #2	

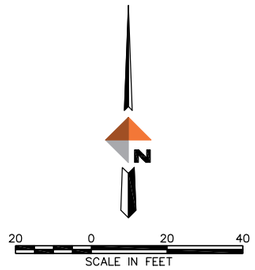
STATE OF ALASKA 49TH PROFESSIONAL ENGINEER Bradley M. Meiseck CE 11098 REGISTERED 01/22/2021

DOWL WWW.DOWL.COM

CORDOVA FISH PASSAGE IMPROVEMENTS
EAST FORK 18 MILE CREEK - COP 25
GENERAL NOTES AND QUANTITIES
CORDOVA, ALASKA

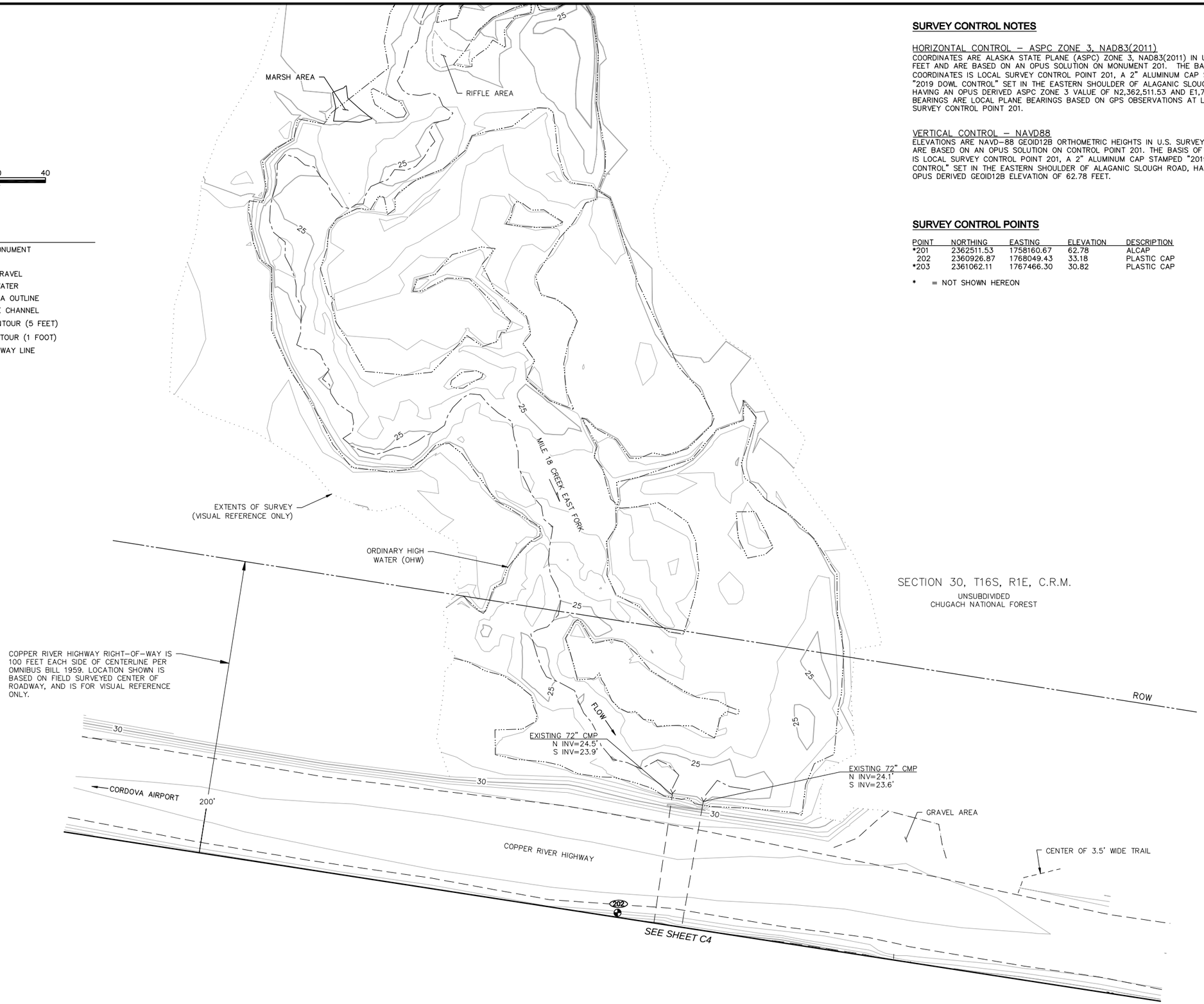
PROJECT 1136.63087.01
DATE DECEMBER 2020

SHEET
C2 OF C11



LEGEND

- SURVEY MONUMENT
- CULVERT
- EDGE OF GRAVEL
- EDGE OF WATER
- RIFFLE AREA OUTLINE
- CENTERLINE CHANNEL
- MAJOR CONTOUR (5 FEET)
- MINOR CONTOUR (1 FOOT)
- RIGHT-OF-WAY LINE



SURVEY CONTROL NOTES

HORIZONTAL CONTROL – ASPC ZONE 3, NAD83(2011)
COORDINATES ARE ALASKA STATE PLANE (ASPC) ZONE 3, NAD83(2011) IN U.S. SURVEY FEET AND ARE BASED ON AN OPUS SOLUTION ON MONUMENT 201. THE BASIS OF COORDINATES IS LOCAL SURVEY CONTROL POINT 201, A 2" ALUMINUM CAP STAMPED "2019 DOWL CONTROL" SET IN THE EASTERN SHOULDER OF ALAGANIC SLOUGH ROAD, HAVING AN OPUS DERIVED ASPC ZONE 3 VALUE OF N2,362,511.53 AND E1,758,160.67. BEARINGS ARE LOCAL PLANE BEARINGS BASED ON GPS OBSERVATIONS AT LOCAL SURVEY CONTROL POINT 201.

VERTICAL CONTROL – NAVD88
ELEVATIONS ARE NAVD-88 GEOID12B ORTHOMETRIC HEIGHTS IN U.S. SURVEY FEET AND ARE BASED ON AN OPUS SOLUTION ON CONTROL POINT 201. THE BASIS OF ELEVATIONS IS LOCAL SURVEY CONTROL POINT 201, A 2" ALUMINUM CAP STAMPED "2019 DOWL CONTROL" SET IN THE EASTERN SHOULDER OF ALAGANIC SLOUGH ROAD, HAVING AN OPUS DERIVED GEOID12B ELEVATION OF 62.78 FEET.

SURVEY CONTROL POINTS

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
*201	2362511.53	1758160.67	62.78	ALCAP
202	2360926.87	1768049.43	33.18	PLASTIC CAP
*203	2361062.11	1767466.30	30.82	PLASTIC CAP

* = NOT SHOWN HEREON

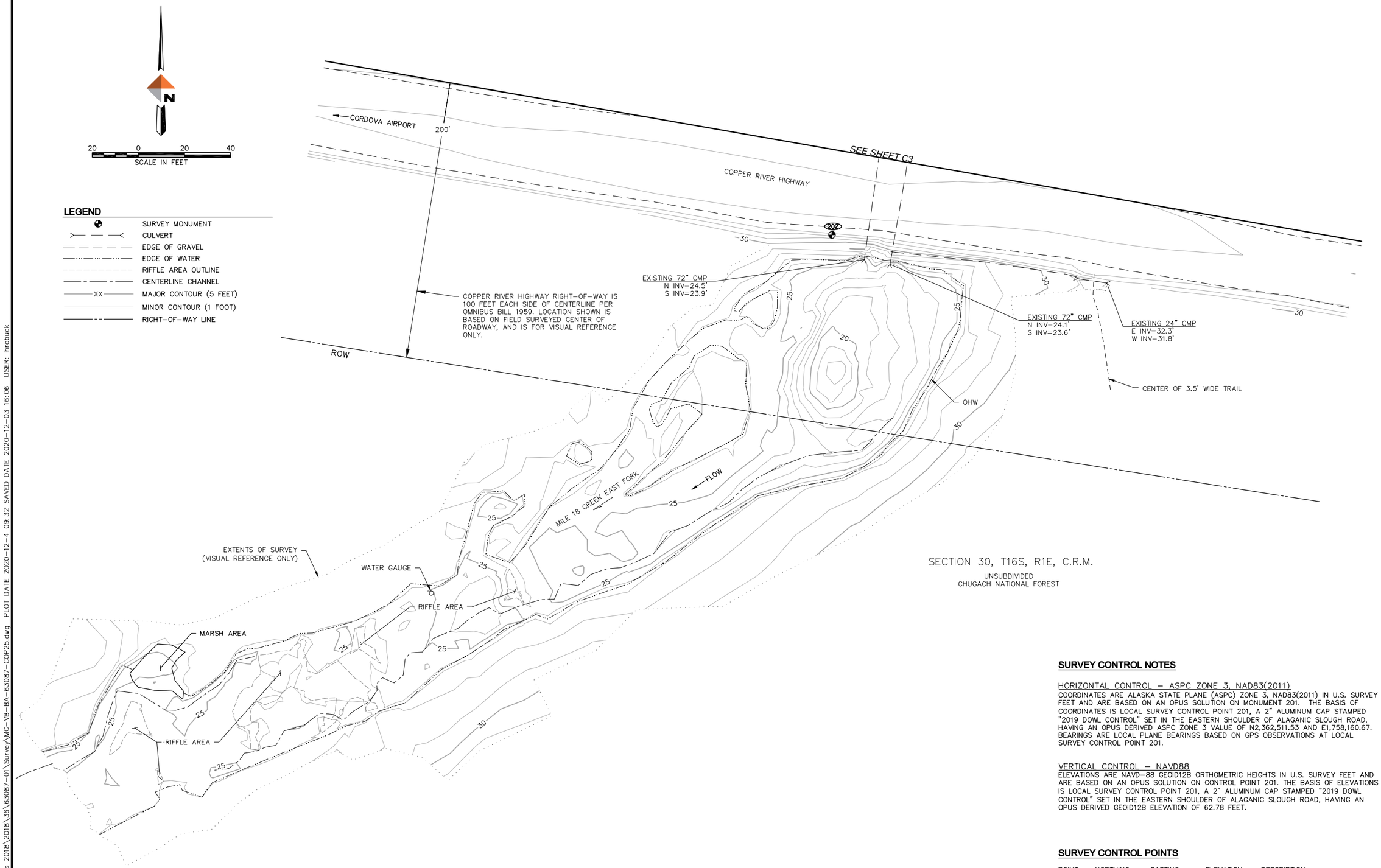
REV	DATE	REVISIONS DESCRIPTION	BY

CORDOVA FISH PASSAGE IMPROVEMENTS
EAST FORK 18 MILE CREEK – COP 25
SURVEY CONTROL

SECTION 30, T16S, R1E, C.R.M. ALASKA
CORDOVA RECORDING DISTRICT, ALASKA

PROJECT 1136.63087.01
DATE DECEMBER 2020

SHEET
C3 OF C11



LEGEND

- SURVEY MONUMENT
- CULVERT
- EDGE OF GRAVEL
- EDGE OF WATER
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- CENTERLINE CHANNEL
- XX MAJOR CONTOUR (5 FEET)
- MINOR CONTOUR (1 FOOT)
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* = NOT SHOWN HEREON

REVISIONS

REV	DATE	DESCRIPTION	BY

STATE OF ALASKA 49TH A. WILLIAM STOLL 12-3-2020 REGISTERED PROFESSIONAL ENGINEER

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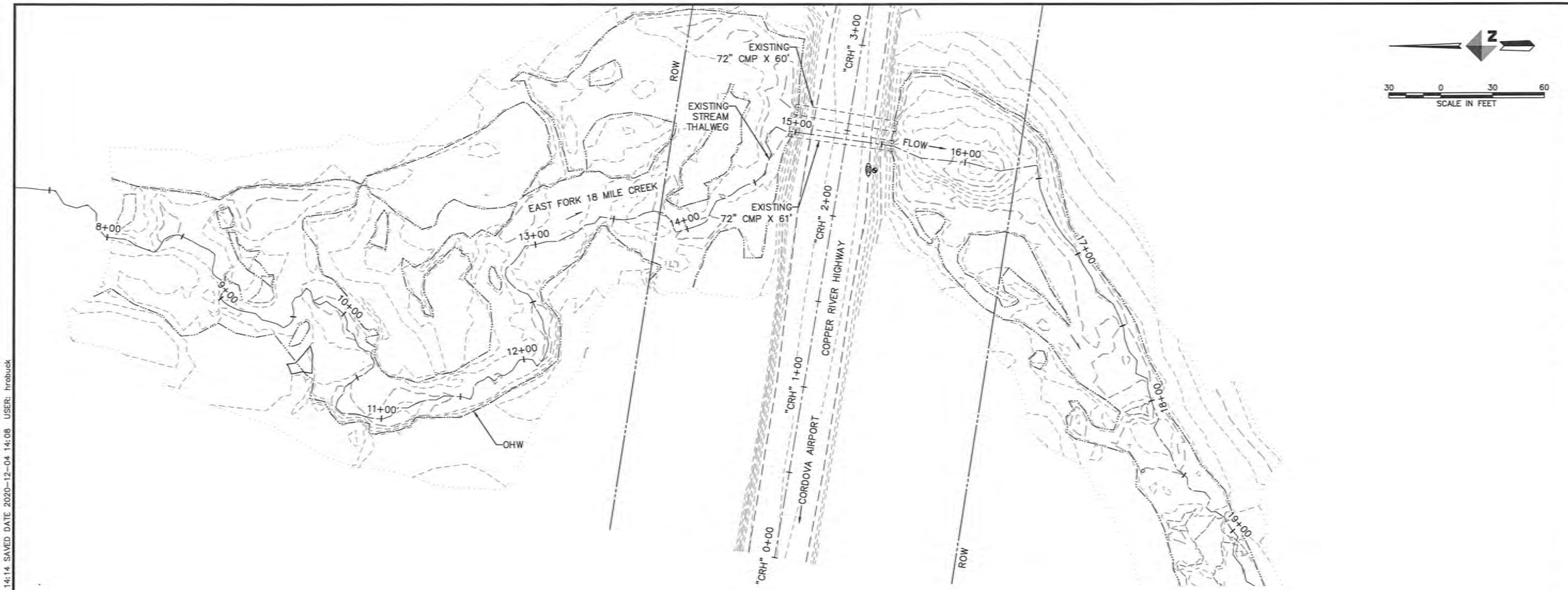
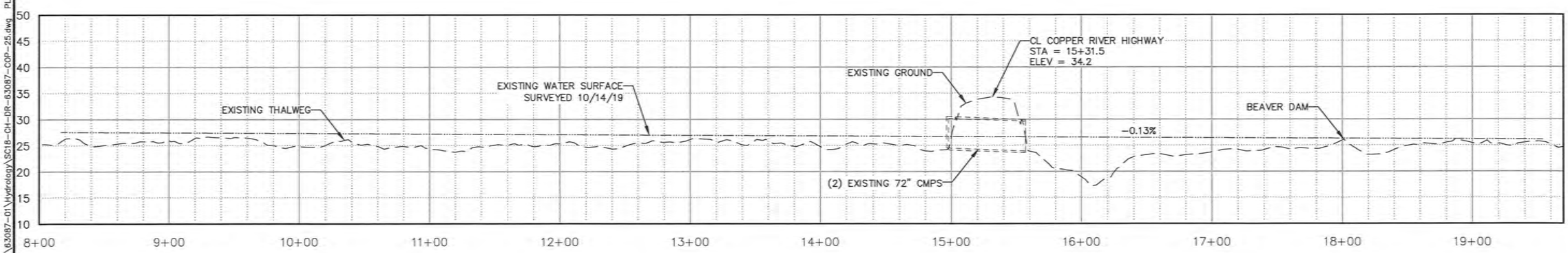
CORDOVA FISH PASSAGE IMPROVEMENTS
EAST FORK 18 MILE CREEK – COP 25
SURVEY CONTROL
SECTION 30, T16S, R1E, C.R.M. ALASKA
CORDOVA RECORDING DISTRICT, ALASKA

PROJECT 1136.63087.01
DATE DECEMBER 2020

SHEET
C4 OF C11





REV	DATE	REVISIONS DESCRIPTION	BY

STATE OF ALASKA 4971 REGISTERED PROFESSIONAL ENGINEER Bradley V. Hrabuck

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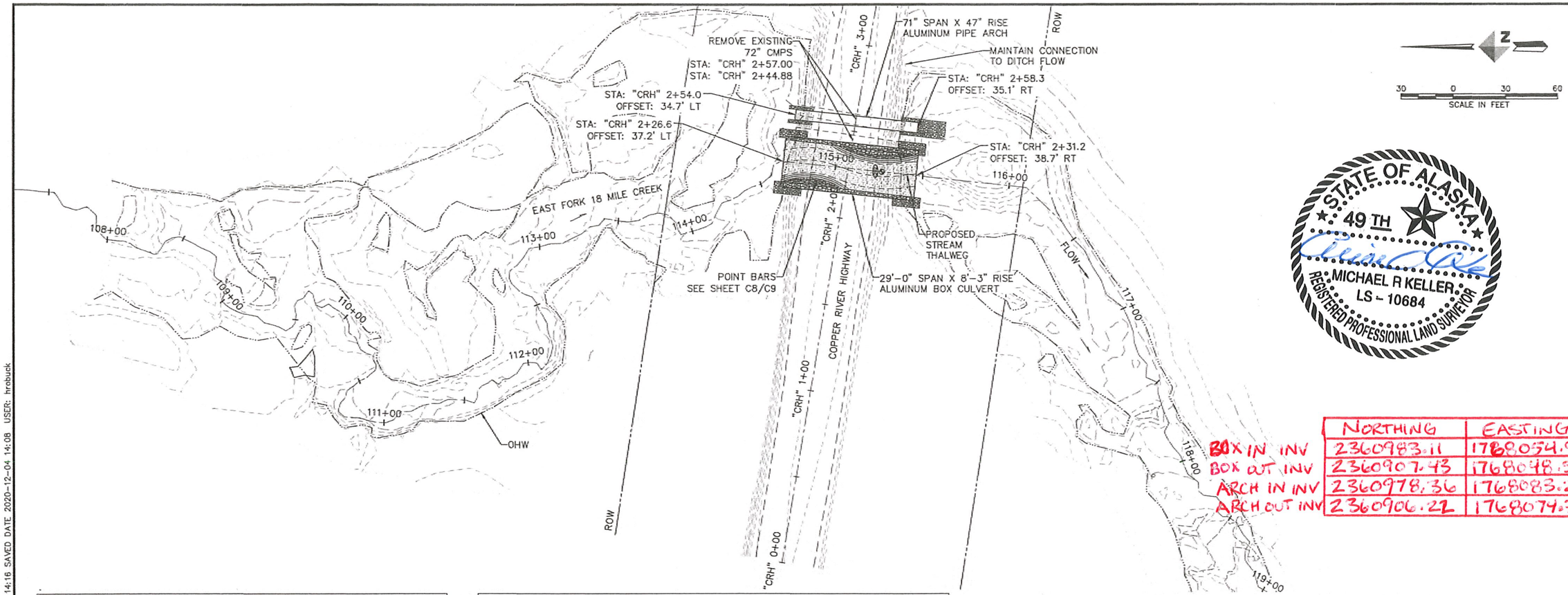
CORDOVA FISH PASSAGE IMPROVEMENTS
EAST FORK 18 MILE CREEK – COP 25
EXISTING STREAM PLAN AND PROFILE
CORDOVA, ALASKA

PROJECT 1136.63087.01
DATE DECEMBER 2020

SHEET
C5 OF C11



STATE OF ALASKA 49TH MICHAEL R KELLER LS-10684 REGISTERED PROFESSIONAL LAND SURVEYOR

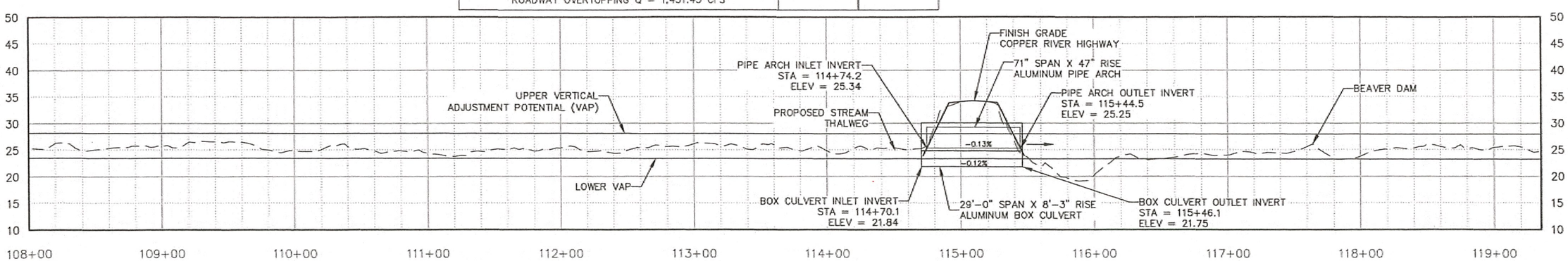
	NORTHING	EASTING
BOX IN INV	2360983.11	1768054.95
BOX OUT INV	2360907.43	1768048.53
ARCH IN INV	2360978.36	1768083.21
ARCH OUT INV	2360906.22	1768074.30

CULVERT SUMMARY SCHEDULE		
SIZE	29'-0" SPAN X 8'-3" RISE BOX CULVERT	71" SPAN X 47" RISE PIPE ARCH
LENGTH	76'	70'
SLOPE	0.12%	0.13%
CORRUGATION	9" X 2.5"	3" X 1"
MATERIAL	ALUMINUM	ALUMINUM
LOADING	HL-93	HL-93
"CRH" CL STATION	2+28.85	2+56.15

HYDROLOGIC & HYDRAULIC SUMMARY					
EXCEEDANCE PROBABILITY	RETURN PERIOD	DESIGN DISCHARGE	DESIGN HIGH WATER ELEVATION	REGULATORY FLOOD	HW/D
	(YEAR)	(CFS)	(FT)		
50%	2	705	29.60	N/A	0.91
2%	50	962	30.56	N/A	1.09
1%	100	1002	30.68	N/A	1.11
DRAINAGE AREA = 2.5 SQUARE MILES					
ANTICIPATED ADDITIONAL BACKWATER = 0 FEET					
ROADWAY OVERTOPPING Q = 1,451.43 CFS					

CULVERT COORDINATE TABLE						
SIZE	POINT	NORTHING	EASTING	ELEVATION	INV	TOP
29'-0" SPAN X 8'-3" RISE BOX CULVERT	INLET INV.	2360982.86	1768055.52	21.84	22.06	30.69
	OUTLET INV.	2360907.31	1768047.35	21.75	21.75	30.36
71" SPAN X 47" RISE PIPE ARCH	INLET INV.	2360975.86	1768082.17	25.34	25.69	
	OUTLET INV.	2360906.26	1768074.65	25.25	25.20	

* INVERT ELEVATIONS PROVIDED BY GRADECHECKER



REVISIONS

REV	DATE	DESCRIPTION	BY

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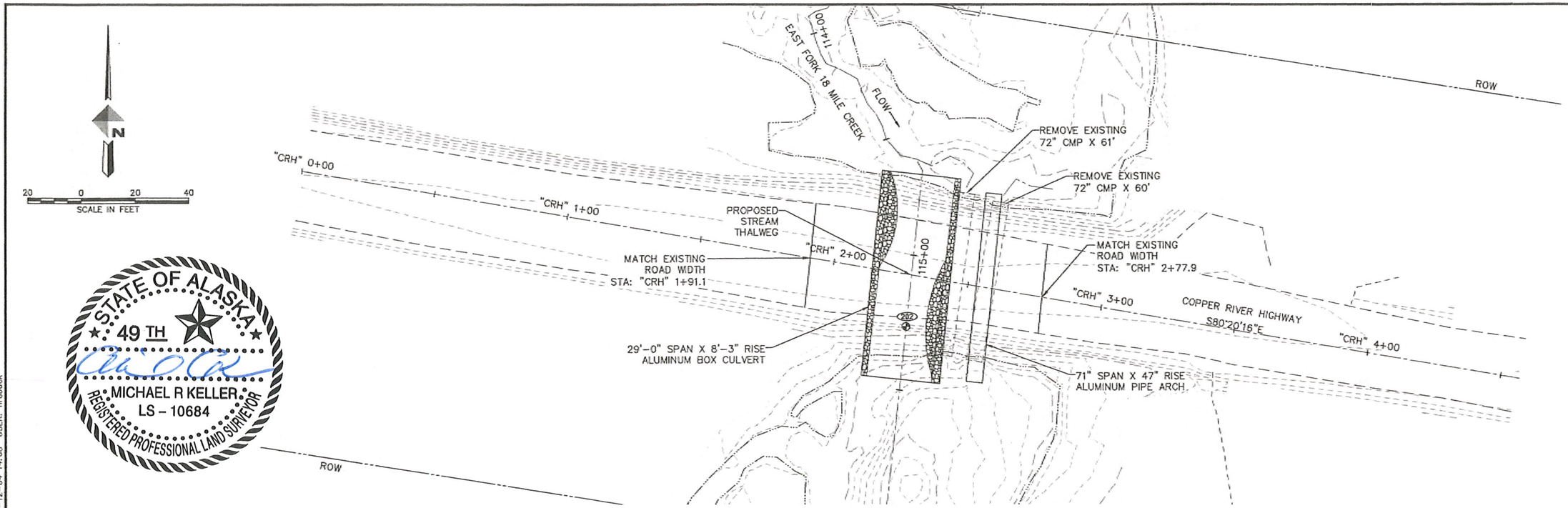
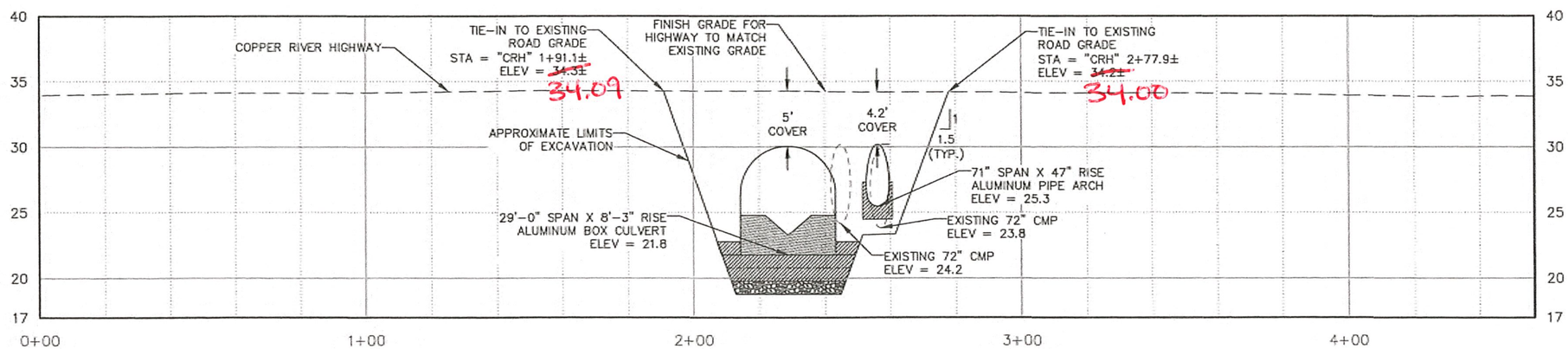
CORDOVA FISH PASSAGE IMPROVEMENTS
EAST FORK 18 MILE CREEK - COP 25
STREAM PLAN AND PROFILE
CORDOVA, ALASKA

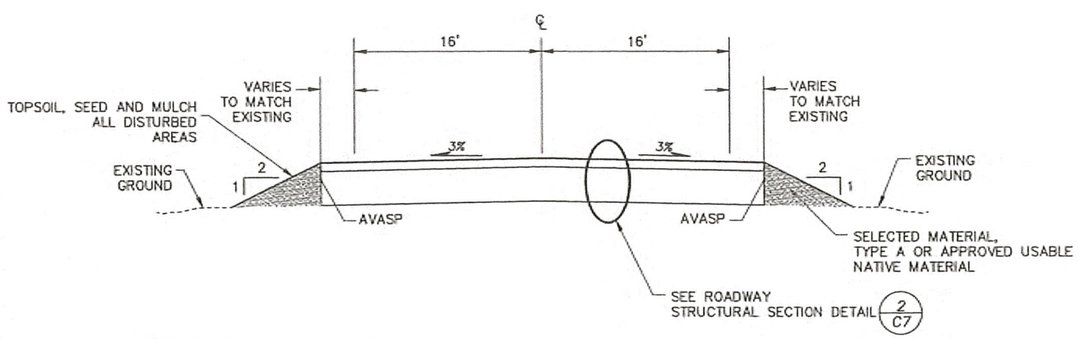
PROJECT 1136.63087.01
DATE DECEMBER 2020

SHEET
C6 OF C11

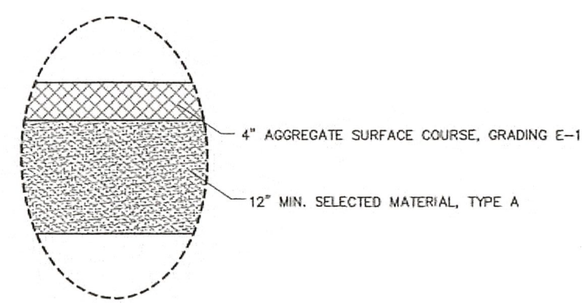


STATE OF ALASKA
49 TH
MICHAEL R KELLER
LS - 10684
REGISTERED PROFESSIONAL LAND SURVEYOR





1/C7 ROADWAY SECTION
NTS



2/C7 ROADWAY STRUCTURAL SECTION
NTS

REV	DATE	REVISIONS DESCRIPTION	BY

STATE OF ALASKA 49TH Bradley N. Hanson REGISTERED PROFESSIONAL ENGINEER

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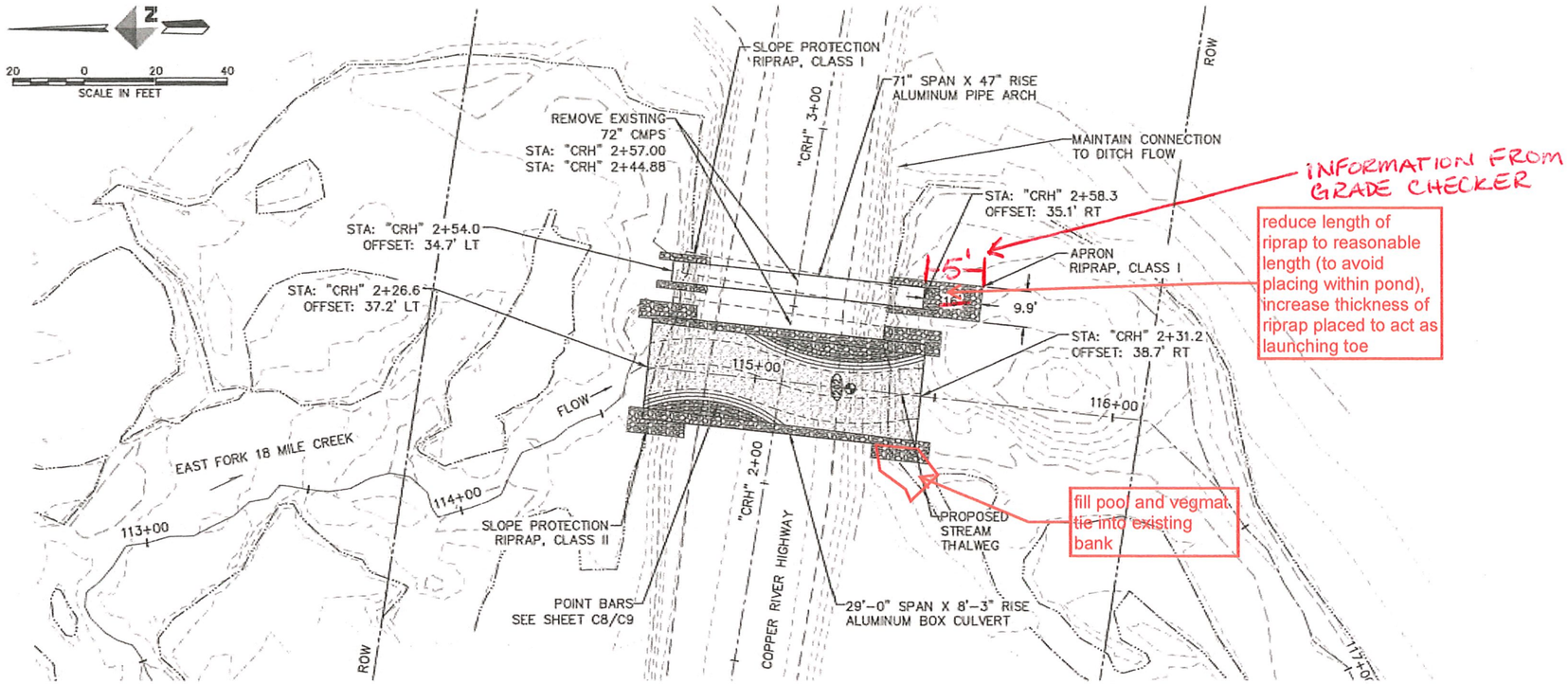
CORDOVA FISH PASSAGE IMPROVEMENTS
EAST FORK 18 MILE CREEK – COP 25
ROADWAY PLAN AND PROFILE
CORDOVA, ALASKA

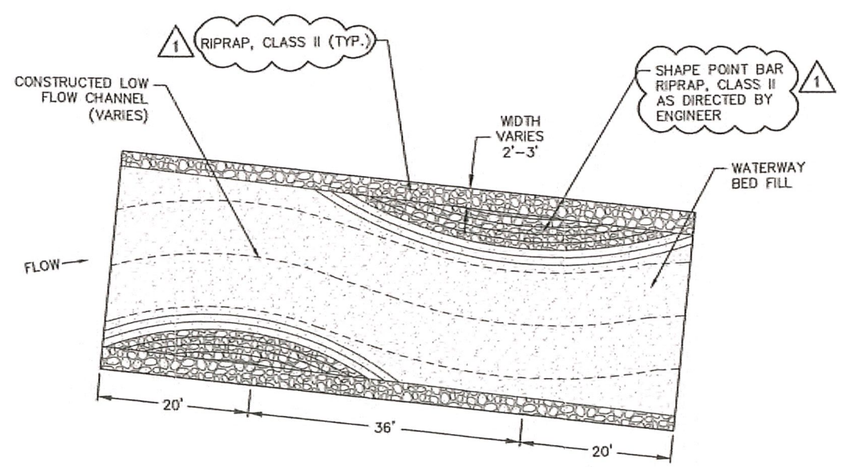
PROJECT 1136.63087.01
DATE DECEMBER 2020

SHEET
C7 OF C11

7/15/2021



1 / C8 STREAM SIMULATION DETAIL - PLAN VIEW



2 / C8 CULVERT STREAM DETAIL

REV	DATE	DESCRIPTION	BY
1	1/21/21	ADDENDUM #1	

REVISIONS

DOWL
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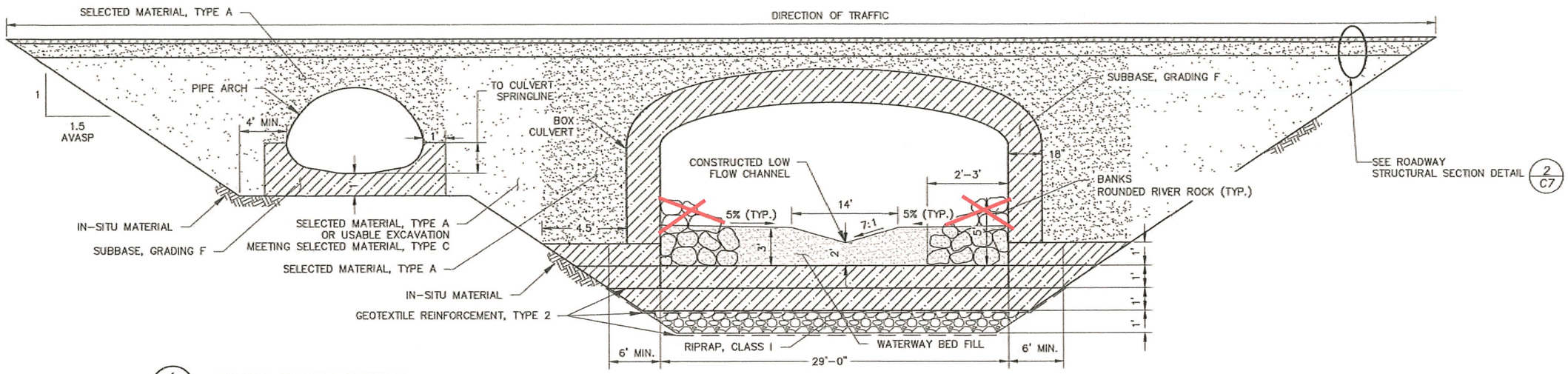
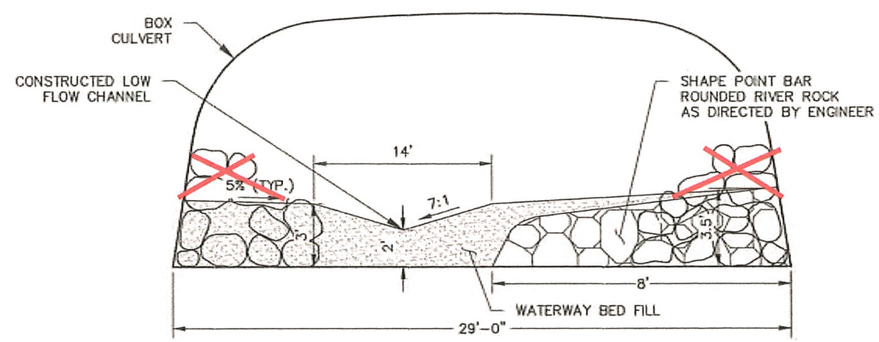
CORDOVA FISH PASSAGE IMPROVEMENTS
EAST FORK 18 MILE CREEK – COP 25
STREAM DESIGN DETAILS
CORDOVA, ALASKA

PROJECT 1136.63087.01
DATE DECEMBER 2020

SHEET
C8 OF C11



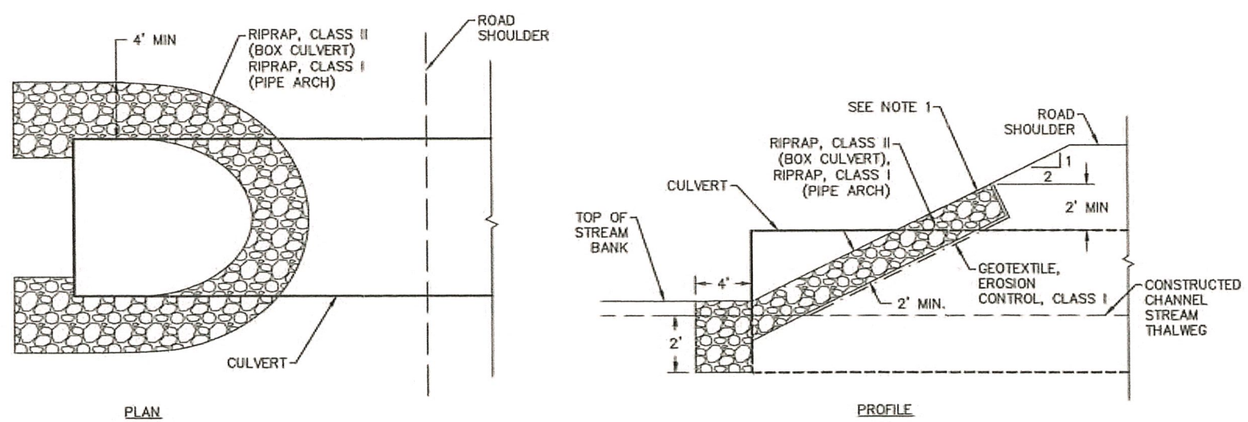
1/C9 TYPICAL CULVERT SECTION
NTS



2/C9 CULVERT SECTION AT ROCK CLUSTER
NTS

NOTES:

1. GEOTEXTILE REINFORCEMENT, TYPE 2 SHALL BE PLACED BETWEEN IN-SITU MATERIAL AND RIPRAP, CLASS I, PLACED BETWEEN RIPRAP, CLASS I AND SUBBASE, GRADING F, AND PLACED BETWEEN EACH ONE-FOOT LAYER OF SUBBASE, GRADING F.
2. FILL VOIDS IN RIPRAP. MIX RIPRAP WITH FINES PRIOR TO PLACEMENT AND WASH FINES IN AFTER PLACEMENT.



3/C9 RIPRAP SLOPE PROTECTION SECTION
NTS

NOTES:

1. FILL VOIDS IN RIPRAP WITH SELECTED MATERIAL, TYPE A OR USABLE EXCAVATION MEETING SELECTED MATERIAL, TYPE C AND PLACE SALVAGED ORGANIC TOPSOIL AND SEED.

REVISIONS

REV	DATE	DESCRIPTION	BY

STATE OF ALASKA 49TH Bradley W. Weldon 11048 REGISTERED PROFESSIONAL ENGINEER

DOWL
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CORDOVA FISH PASSAGE IMPROVEMENTS
EAST FORK 18 MILE CREEK - COP 25
STREAM SECTIONS AND DETAILS
CORDOVA, ALASKA

PROJECT 1136.63087.01
DATE DECEMBER 2020

SHEET
C9 OF C11

ROADWAY DIVERSION NOTES:

REFER TO SPECIFICATIONS FOR ROAD CLOSURE AND TRAFFIC CONTROL INFORMATION.

STREAM DIVERSION NOTES:

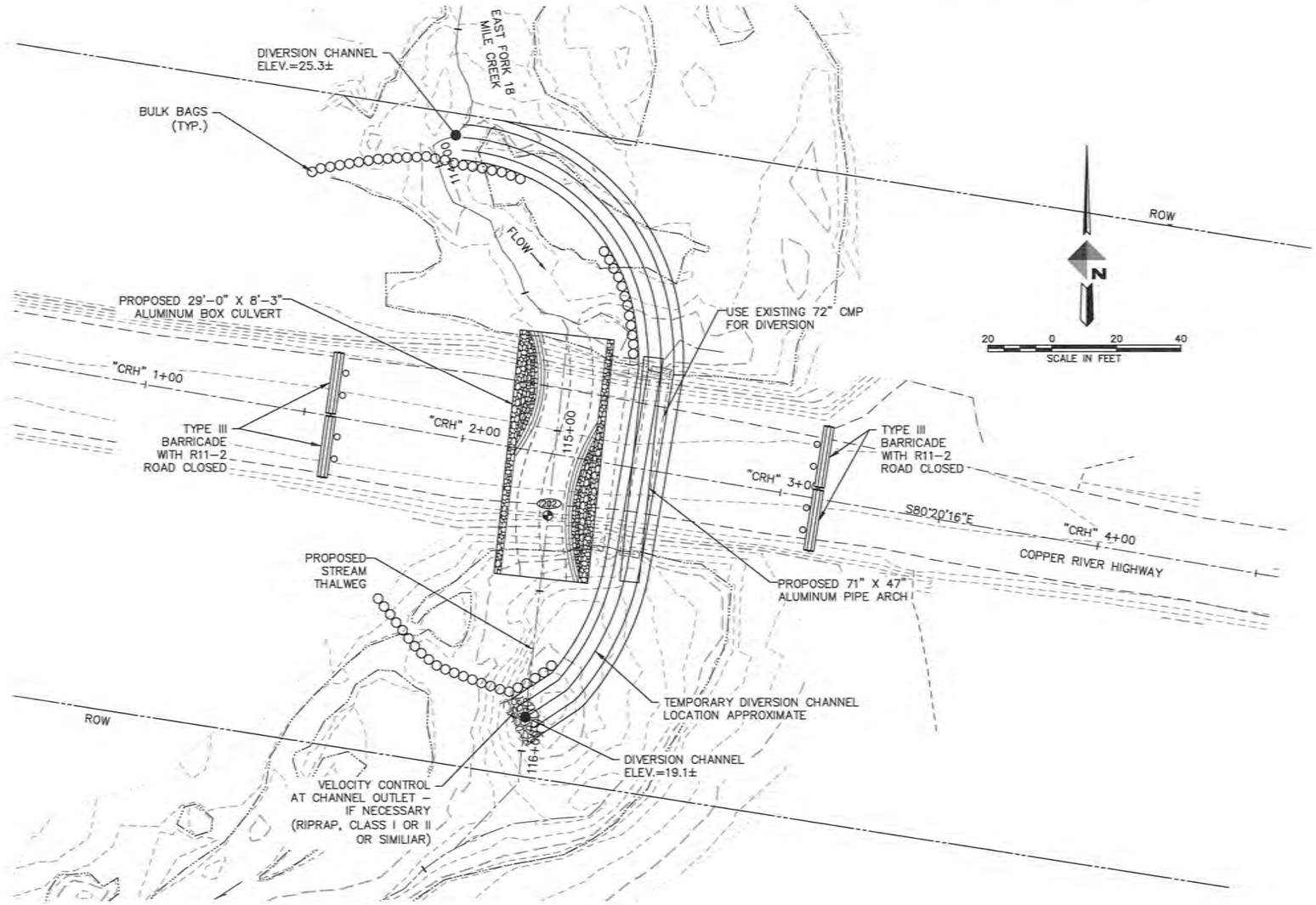
DUE TO PERMISSIVITY OF GRAVELS IN THE 18 MILE AREA, A COFFERDAM MADE OF SHEET PILE MAY BE NEEDED TO REDUCE GROUNDWATER FLOW INTO EXCAVATED AREA. TEMPORARY DIKES OR BERMS MAY BE USED TO ISOLATE THE WORK AREA FROM WATERS OF THE SURROUNDING AREA. THIS WORK MAY REQUIRE A DIVERSION OF STREAM WATER. THE DESIGNERS RECOGNIZE THAT DIFFERENT CONTRACTORS WILL HAVE VARIOUS APPROACHES FOR CONTROLLING WATER AND CONSTRUCTION SEQUENCING. THIS DIVERSION PLAN HAS BEEN DEVELOPED TO CHECK FOR CONSTRUCTABILITY AND AS A STARTING POINT FOR A CONTRACTOR-GENERATED PLAN. CONTRACTOR MUST SUBMIT DIVERSION PLANS TO ENGINEER FOR APPROVAL PRIOR TO IMPLEMENTATION.

DIVERSION PLAN:

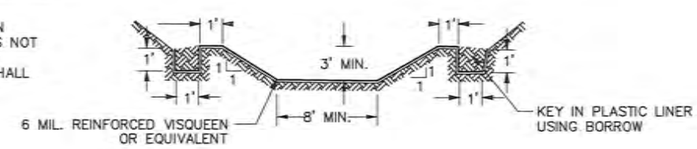
1. PLACE BARRICADES, SIGNS, AND TEMPORARY ROAD DETOUR IN COMPLIANCE WITH SPECIFICATIONS, ADOT&PF, AND MUTCD. COORDINATE WITH OTHER CONTRACTORS WHO MAY BE PRESENT.
2. CONSTRUCT VISQUEEN LINED DIVERSION CHANNEL.
3. USE EXISTING EAST 72" CMP IN DIVERSION CHANNEL TO PROVIDE VEHICULAR ACCESS. CONSTRUCT DIVERSION CHANNEL BANKS TO BE MINIMUM 1' HIGHER THAN THE TOP OF THE DIVERSION PIPE, IF USED.
4. USE BULK BAGS (SUPERSACKS) TO DIVERT STREAM FLOW THROUGH DIVERSION CHANNEL. LOCATION OF DIVERSION CHANNEL IS APPROXIMATE AND SUBJECT TO SITE CONDITIONS.
5. EXCAVATE ROADWAY TO REMOVE EXISTING WEST 72" CULVERT.
6. CONSTRUCT THE NEW ALUMINUM BOX CULVERT.
7. INFILL CULVERT AND RECONSTRUCT CREEK CHANNEL AS SHOWN IN PLANS.
8. DIVERT CREEK FLOW THROUGH THE NEW ALUMINUM BOX CULVERT.
9. REMOVE EXISTING EAST 72" CULVERT.
10. CONSTRUCT THE NEW ALUMINUM PIPE ARCH OVERFLOW CULVERT. FILL DIVERSION CHANNEL.
11. RECONSTRUCT CREEK CHANNEL AND BANKS AS SHOWN IN PLANS.
12. RECONSTRUCT COPPER RIVER HIGHWAY OVER THE NEWLY INSTALLED CULVERTS.
13. STABILIZE AND REVEGETATE ALL REMAINING DISTURBED AREAS.
14. RETURN VEHICULAR TRAFFIC TO COPPER RIVER HIGHWAY.

ESCP AND DEWATERING NOTES:

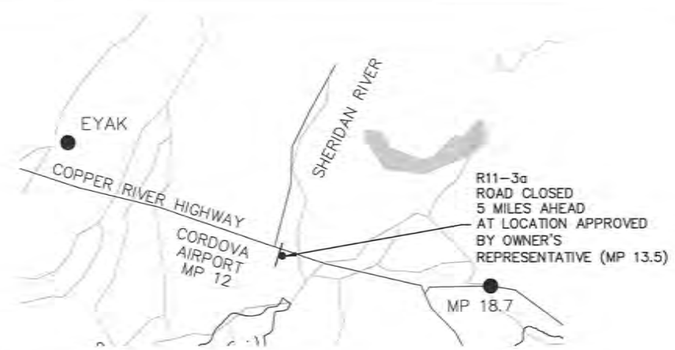
1. DEWATER TRENCH AND WORK AREA WITH PUMP HOSE IF REQUIRED.
2. ALL DISCHARGE POINTS REQUIRE PERMANENT OR TEMPORARY VELOCITY CONTROLS.
3. PROVIDE FOR SEDIMENT REMOVAL FOR ALL DEWATERING ACTIVITY PRIOR TO DISCHARGE FROM THE PROJECT INTO ANY WATER OF THE U.S.
4. PROVIDE SPARE (EXTRA) PUMPS FOR BOTH THE STREAM BYPASS PUMP AND DETWATERING PUMP.
5. EXISTING RIPARIAN VEGETATION SHOULD BE PROTECTED TO MINIMIZE DISTURBANCE.
6. SILT FENCING TO BE USED TO PREVENT DISTURBED SEDIMENT FROM ENTERING THE WATERBODY. ADJUST LOCATION AS NECESSARY AND AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION.
7. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSPECTED AND MAINTAINED ON A DAILY BASIS. MAINTENANCE SHALL INCLUDE REMOVAL AND DISPOSAL OF ACCUMULATED SEDIMENT, CLEANING AND REPAIR OF DAMAGED SEDIMENT CONTROL DEVICES.
8. ALL DISTURBED GROUND CAPABLE OF SUPPORTING VEGETATION SHALL BE REVEGETATED FOR FINAL STABILIZATION. ALL AREAS NOT REVEGETATED SHALL BE 100% COVERED BY ROCK OR OTHER PERMANENT NON-ERODIBLE MATERIAL. FINAL STABILIZATION SHALL BE AS APPROVED BY THE ENGINEER.



1 / C10 ESCP, STREAM DIVERSION & ROADWAY DIVERSION PLAN



2 / C10 DIVERSION CHANNEL
NTS



3 / C10 ROADWAY DIVERSION SIGNS
NTS

REV	DATE	DESCRIPTION	BY

REVISIONS

STATE OF ALASKA 49th Brady A. Mader REGISTERED PROFESSIONAL ENGINEER

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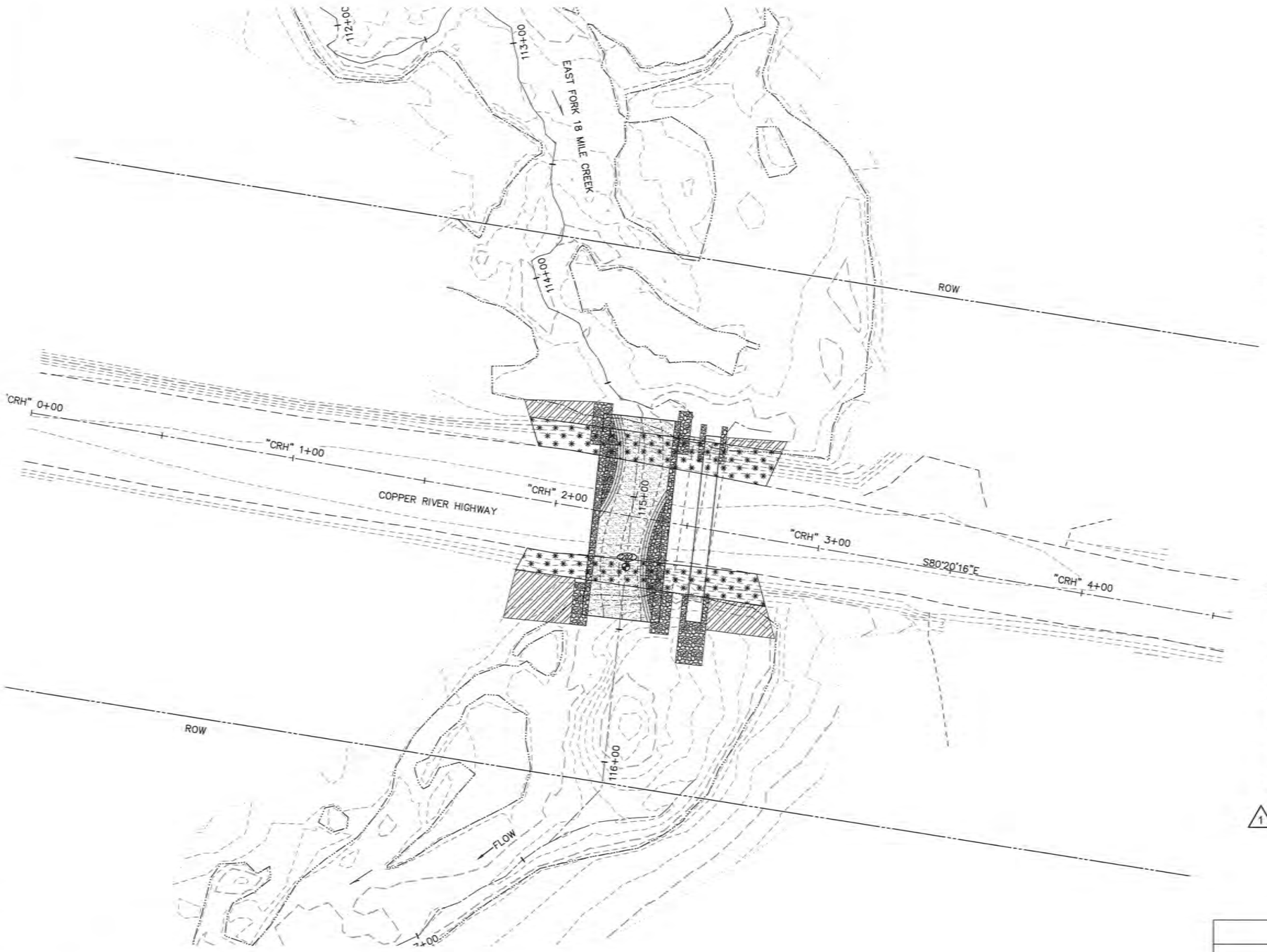
CORDOVA FISH PASSAGE IMPROVEMENTS
EAST FORK 18 MILE CREEK - COP 25
ESCP, STREAM DIVERSION & ROADWAY DIVERSION PLAN
CORDOVA, ALASKA

PROJECT 1136.63087.01
DATE DECEMBER 2020

SHEET
C10 OF C11



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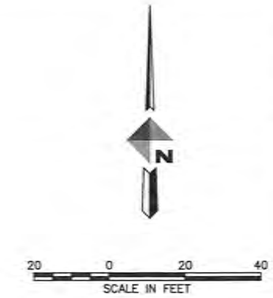
C11
REVEGETATION PLAN



NOTES:

1. VEGETATIVE MAT SHALL BE PLACED ON ALL DISTURBED AREAS OUTSIDE OF THE EMBANKMENT SLOPES.
2. SALVAGED VEGETATIVE MAT MUST HAVE A MINIMUM THICKNESS OF 12 INCHES AND BE SOURCED FROM THE DISTURBED AREA OR LOCAL AREA AS DIRECTED BY THE ENGINEER.

SITE REVEGETATION

- SEED, FERTILIZER, AND MULCH
- VEGETATIVE MAT
- CONSTRUCTED STREAM CHANNEL WATERWAY BED FILL
- RIPRAP
- 1 ~~ROUNDED RIVER ROCK~~

SEED	
NAME	PROPORTION BY WEIGHT
NORTAN TUFTED HAIR GRASS, DESCHAMPISA CAESPITOSIA	20%
ARCTARED' RED FESCUE, FESTUCA RUBRA	60%
CALAMANGROTIS CANADENSIS	20%

REV	DATE	REVISIONS DESCRIPTION	BY
1	1/21/21	ADDENDUM #1	

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER Bradley M. Hedrick

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CORDOVA FISH PASSAGE IMPROVEMENTS
EAST FORK 18 MILE CREEK – COP 25
REVEGETATION PLAN
CORDOVA, ALASKA

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SHEET
C11 OF C11