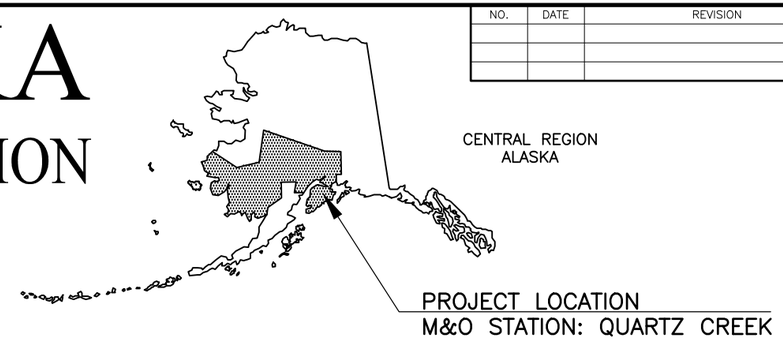
STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	A1	51

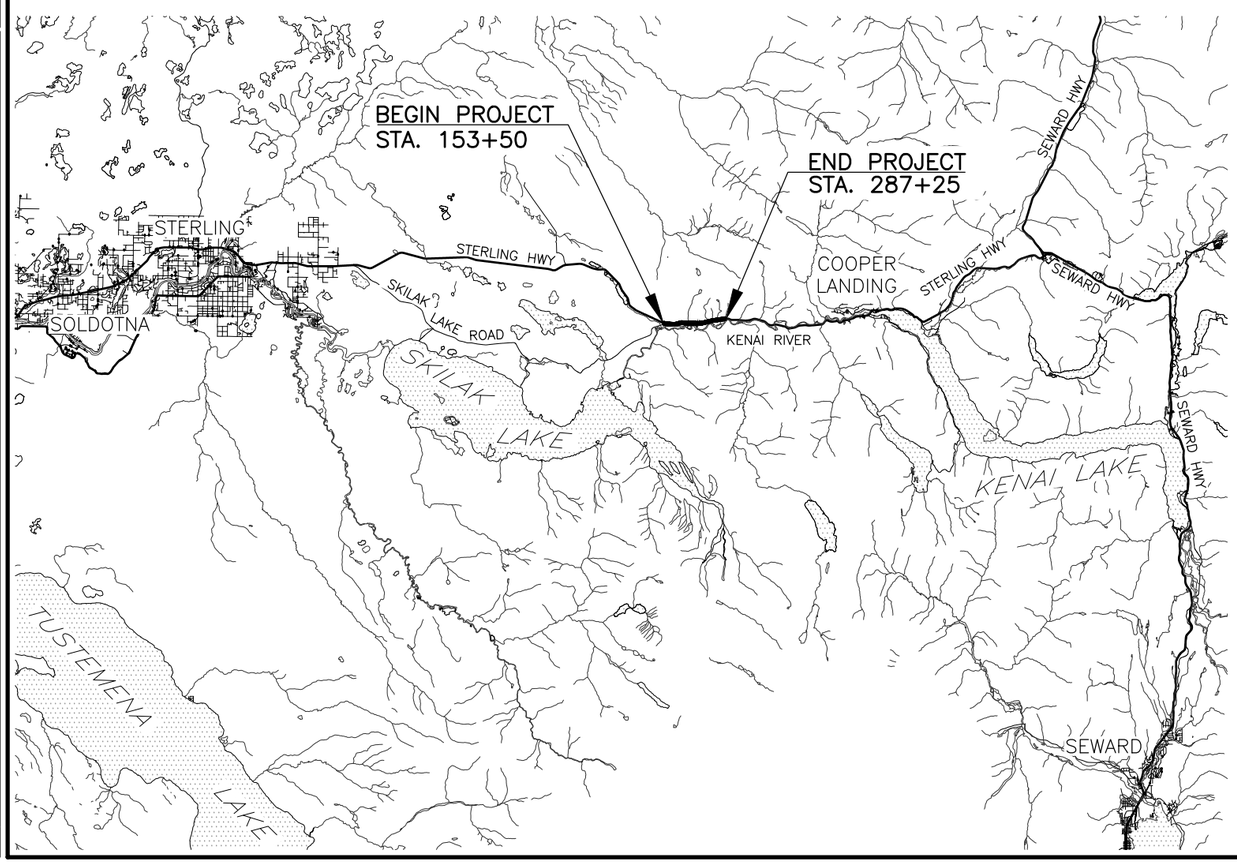
ROUTE ID	1000000X000	MILEPOINT	18.575 – 21.703
LATITUDE	60.485378	LONGITUDE	–150.085894

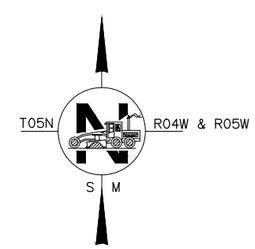


PROPOSED HIGHWAY PROJECT

STERLING HIGHWAY, MP 45-60 SUNRISE TO SKILAK LAKE RD RECONSTRUCTION STAGE 1A PROJECT NO. CFHWY00693

GRADING, DRAINAGE, PAVING, WILDLIFE CROSSINGS, SIGNING, AND STRIPING





REVIEW PS&E
JUNE 2020

PROJECT SUMMARY		
ROADWAY	WIDTH	LENGTH
STERLING HWY MP 56-58	40 FT	2.45 MILES

DESIGN DESIGNATIONS	
	STERLING HIGHWAY
FUNCTIONAL CLASS	RURAL PRINCIPAL ARTERIAL
AADT (2019)	4,450
AADT (2045)	5,764
DESIGN SPEED (V) (MPH)	60 MPH
DHV (2019)	4450
DHV (2045)	--
T-PERCENT COMMERCIAL TRUCKS (%)	7%
D-DIRECTIONAL DISTRIBUTION (%)	60 / 40
ESALs	745,200

PLANS DEVELOPED BY: HDR ENGINEERING INC

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
4111 AVIATION AVENUE, ANCHORAGE, AK 99502
(907)269–0590

APPROVED:

REGIONAL PRE–CONSTRUCTION ENGINEER DATE

CONCUR:

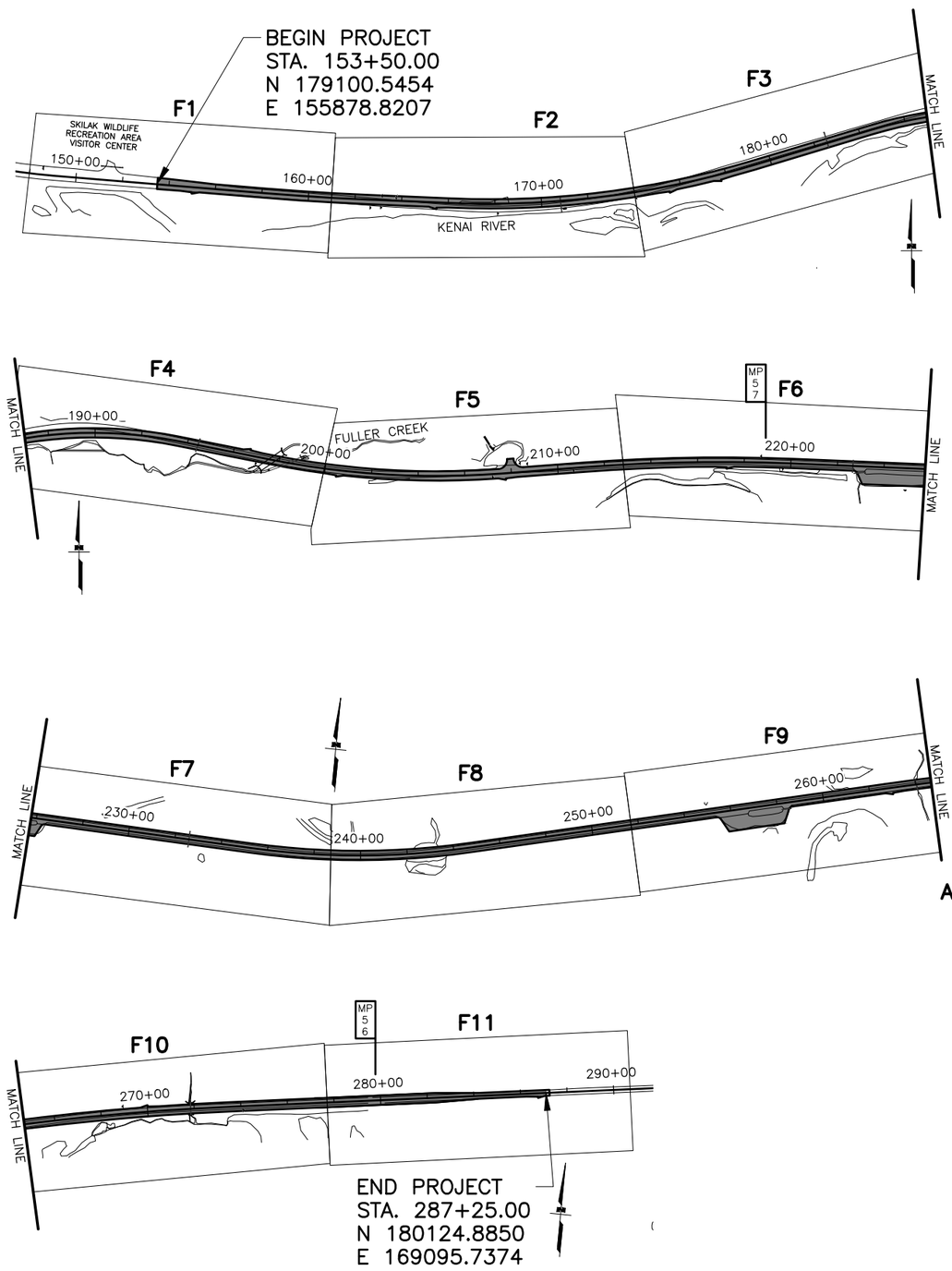
REGIONAL CONSTRUCTION ENGINEER DATE

FILE C:\PWWORKING\WEST01\D1207339\53014_A1-A3_P1A.DWG
DATE/TIME 6/4/2020 7:23 PM LAYOUT A1 DESIGNED -- CHECKED -- DRAFTED --

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	A2	A3

SHEET LAYOUT:



GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE RIGHT-OF-WAY. NO EXCESS MATERIAL SHALL BE DISPOSED OF WITHIN THE RIGHT-OF-WAY, UNLESS SPECIFICALLY CALLED FOR IN THE PLANS OR DIRECTED BY THE ENGINEER.
2. THE ROW LINES SHOWN WERE DEVELOPED BY R&M INC AND ARE DRAWN ON THE PLANS USING INFORMATION FROM DOT&PF, PLATTED SUBDIVISIONS, AND SURVEYED MONUMENTS ON THE GROUND. THE ROW LINES WERE INSERTED USING A COMMON COORDINATE SYSTEM.
3. ALL PAVEMENT CUTS SHALL BE MADE WITH A SAW OR ALTERNATE METHOD APPROVED BY THE ENGINEER.
4. CLEARING LIMITS SHALL BE 10 FEET BEYOND SLOPE CATCH POINTS OR 5 FEET INSIDE THE RIGHT-OF-WAY LINE, WHICHEVER IS LESS. IN WETLAND AREAS, CLEARING LIMITS SHALL BE 5 FEET BEYOND SLOPE CATCH POINTS.
5. PLACE 4" TOPSOIL AND SEED ANY AREAS DISTURBED BY CONSTRUCTION AND AS DIRECTED BY THE ENGINEER.
6. THE EXISTING INFORMATION SHOWN IN THE PLANS IS FROM A COMBINED FIELD AND AERIAL SURVEY. FIELD CONDITIONS MAY NOT BE ACCURATELY REPRESENTED AND/OR MAY HAVE CHANGED. ADJUST INSTALLATIONS AS DIRECTED BY THE ENGINEER.
7. ADJUST ALL PAVEMENT PENETRATIONS TO FINAL GRADE PRIOR TO TOP LIFT OF PAVING.

   IF ANY PAVEMENT PENETRATION REQUIRES GRADE ADJUSTMENT AFTER FINAL LIFT PAVING, AS DETERMINED BY THE ENGINEER, SAW CUT A NEAT LINE ALONG THE PAVEMENT TO BE REMOVED. USE AN INFRARED HEATER TO HEAT THE EXISTING PAVEMENT; EQUIPMENT AND MAXIMUM TEMPERATURE SHALL BE APPROVED BY THE ENGINEER. REPLACE THE REMOVED ASPHALT WITH NEW HOT MIX ASPHALT AND THOROUGHLY COMPACT. SEAL JOINTS, AT LEAST 12 INCHES WIDE CENTERED ON JOINT, USING ASPHALT SYSTEMS GSB-88, OR APPROVED EQUAL, WHILE THE HOT MIX ASPHALT IS CLEAN, FREE OF MOISTURE AND PRIOR TO STRIPING.

   THERE SHALL BE NO PAYMENT FOR ADDITIONAL WORK CAUSED BY FAILURE TO ADJUST PAVEMENT PENETRATIONS TO FINAL GRADE.
8. FOR PARALLEL GUARDRAIL TERMINALS, USE AN END OFFSET OF 2 FEET.
9. CULVERT MARKER POSTS ARE SUBSIDIARY TO 603 PAY ITEMS.
10. STE-1 ASPHALT FOR TACK COAT IS SUBSIDIARY TO 401 PAY ITEMS.

INDEX

SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2	SHEET LAYOUT, INDEX, AND GENERAL NOTES
A3	LEGEND
B1-B2	TYPICAL SECTIONS
C1-C2	ESTIMATE OF QUANTITIES
D0-D2	SUMMARY TABLES
E0-E13	DETAIL SHEETS
F1-F11	PLAN AND PROFILE SHEETS
G1	GRADING PLAN
H1-H9	SIGNING AND STRIPING PLAN
M1-M6	RETAINING WALL SHEETS

ALIGNMENT DESIGNATIONS

PREFIX	DESCRIPTION
"M"	STERLING HIGHWAY
"WC1"	WILDLIFE CROSSING 1
"WC2"	WILDLIFE CROSSING 2

THE FOLLOWING REGIONAL DRAWINGS APPLY TO THIS PROJECT AND WILL BE INCLUDED AS DETAIL SHEETS AT CERTIFICATION:

CR-T-25.10

THE FOLLOWING ALASKA STANDARD PLANS APPLY TO THIS PROJECT:

C-04.12, C-05.20
D-01.02, D-04.21, D-06.10, D-11.01, D-30.11
G-00.04, G-05.11S, G-09.04S, G-10.20, G-14.00, G-16.00, G-20.12
S-00.11, S-05.01
T-05.10, T-20.04, T-21.03, T-22.04

ABBREVIATIONS:

ALASKA RAILROAD CORPORATION	ARRC	MILE POSTS	MP
CUBIC FOOT PER SECOND	CFS	MINIMUM	MIN
CENTERLINE	CL	MONUMENT	MON
CUBIC FOOT	CF	NORTH	N
CUBIC YARD	CY	NORTHBOUND	NB
CURVE LENGTH	L	NOT TO SCALE	NTS
CURVE RADIUS	R	PERFORATED STEEL POST	PST
DIAMETER	DIA	PLASTIC	PL
EACH	EA	POINT	PNT
EAST	E	POINT OF CURVATURE	PC
EASTBOUND	EB	POINT OF COMPOUND CURVATURE	PCC
ELEVATION	ELEV	POINT OF INTERSECTION	PI
EXISTING	EX	POINT OF ROTATION	POR
FOOT	FT	PROFILE GRADE LINE	PGL
GRADE BREAK	GB	SHOULDER	SHLD
INCH	IN	SOUTH	S
LEFT	LT	SOUTHBOUND	SB
MATCH EXISTING	ME	WEST	W
MAXIMUM	MAX	WESTBOUND	WB

SPECIFICATION:

CONSTRUCT THE IMPROVEMENTS COVERED BY THESE PLANS IN ACCORDANCE WITH THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES 2020 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE PROJECT SPECIAL PROVISIONS.

STATE OF ALASKA 49TH REVIEW PS&E JUNE 2020 REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

SHEET LAYOUT, INDEX,
AND GENERAL NOTES

DATE/TIME 6/4/2020 7:23 PM | LAYOUT A2 | DESIGNED -- | CHECKED -- | DRAFTED --
FILE C:\PWWORKING\WEST01\D1207339\53014_A1-A3_P1A.DWG

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	A3	A3

ROADWAY

	EXISTING	PROPOSED
EDGE OF PAVEMENT		
LIMIT OF CUT SLOPE & FILL SLOPE		CUT FILL
GRAVEL EDGE		
SIDEWALK AND PATH/TRAIL		
CONCRETE CURB & GUTTER		
CONCRETE CURB CUT		
PARALLEL CURB RAMP PERPENDICULAR CURB RAMP		
UNIDIRECTIONAL CURB RAMP & MID–BLOCK CURB RAMP		
DETECTABLE WARNING TILE		
BRIDGE		
TUNNEL		
GUARDRAIL		
END & PARALLEL END SECTIONS		
ROADWAY OBLITERATION		
FENCE	— — X — — X —	— — X — — X —
STONE FENCE		
NOISE BARRIER	====X====X	====X====X
RETAINING WALL		
HEADWALL & WINGWALL		
BOTTOM OF DITCH		
SPECIAL DITCH		
FLAT BOTTOM DITCH		
BERM		
RIPRAP		
BOULDER OR BOULDERS		
PRIVATE SIGN, MAILBOX	MB	MB
POST, BOLLARD		

UTILITIES

	EXISTING	PROPOSED
STORM DRAIN	SD	
STORM DRAIN MANHOLE, CLEANOUT	SD CO	SD CO
CURB INLET CATCH BASIN FIELD INLET CATCH BASIN	FI	FI
PIPE CULVERT WITH END SECTION		
SANITARY SEWER	SS	SS
SANITARY SEWER MANHOLE, CLEANOUT	SS CO	SS CO
SEPTIC VENT, SEWER SERVICE CONNECTION	S	
WATER	W	W
FIRE HYDRANT, VALVE OR RISER		
WELL, WATER SERVICE CONNECTION	W	
NATURAL GAS	G	
OIL OR GASOLINE PIPELINE	O	
TANKS (ABOVE GROUND, UNDERGROUND)	U	
ELECTRIC	OE (OVERHEAD) UE (UNDERGROUND) OE&OT (OVERHEAD)	
UTILITY POLE, POLE WITH LUMINAIRE		
GUY POLE, GUY WIRE ANCHOR	GP	
TRANSMISSION TOWER (WOOD, STEEL)		
ELECTRIC PEDESTAL, TRANSFORMER	E	E
ELECTRIC MANHOLE, METER	E	
ELECTRIC OUTLET, LANDSCAPE LIGHT		
TELEPHONE	OT (OVERHEAD) UT (UNDERGROUND) UT&TV (UNDERGROUND)	
TELEPHONE MANHOLE, PEDESTAL	T	T
FIBER OPTIC	FO	
FIBER OPTIC MANHOLE	FO	
CABLE TV	OTV (OVERHEAD) UTV (UNDERGROUND)	
CABLE TV PEDESTAL, SATELLITE DISH		
UNDERGROUND DUCT, UTILIDOR (ELECTRIC, TELEPHONE, FIBER OPTIC)		
VENT		

TOPOGRAPHY

	EXISTING		EXISTING	PROPOSED
LAKE OR POND, WETLANDS	LAKE/POND		CONTOUR, MAJOR OR MINOR	520
TREE (CONIFER/DECIDUOUS) TREELINE (EDGE OF VEGETATION)			DRAINAGE FLOW	
PLANTER	P		CREEK (CENTERLINE)	
BUILDING OR FOUNDATION			RIVER (EDGE OF WATER)	

TRAFFIC

	EXISTING	PROPOSED
LOAD CENTER		
STATE TRAFFIC, MOA TRAFFIC, & BEACON CONTROLLER ARROW INDICATES DOOR LOCATION		
TYPE 1A, II, III, IV JUNCTION BOX	15 26 37 48	60 ## ## ##
FIBER OPTIC VAULT	F/O 59	F/O #
ELECTROLIER	12 99	78 13
HIGHTOWER	HT#	HT#
SIGNAL POLE WITH MASTARM	49	14
PEDESTRIAN PUSH BUTTON & SIGNAL	68 12	
VEHICULAR SIGNAL	44	
VEHICULAR SIGNAL LEFT & RIGHT	65 24	72
OPTICAL, CAMERA, RADAR, AND GPS DETECTOR	CAM A RAD GPS C	CAM A RAD GPS C
LOOP DETECTOR	555	735
COMMUNICATION ANTENNA		
MASTARM BEACON	A R Y	A R Y
RURAL & SCHOOL ZONE BEACON	753 77 774 55	769 65 772 45
LOOP DETECTOR CONDUIT		
SIGNAL CONDUIT	TR	TR
LIGHTING CONDUIT	LTG	LTG
SIGNAL & LIGHTING CONDUIT	T/L	T/L
CONDUIT BORING		
CONDUIT SIZE IN INCHES	2"-3C4	2" 1-3C4 CKT BA12 CKT BA13
INTERCONNECT	I/C	I/C
SIGN POST		22

PAVEMENT MARKINGS

	PROPOSED	
TRAFFIC PROJECT CENTERLINE		
8" & 4" WHITE SOLID STRIPE	8"W	4"W
4" WHITE SKIP STRIPE 10' STRIPES AND 30' SPACES		4"W SKIP
8" WHITE LANE GUIDE SKIP LANE CONTINUATION OR TURN SKIP 1' STRIPES AND 3' SPACES		8"W GUIDE SKIP
8" & 4" YELLOW SOLID STRIPE	8"Y	4"Y
4" YELLOW SKIP STRIPE 10' STRIPES AND 30' SPACES		4"Y SKIP
STRIPING CHANGE STATION INTERVAL	+20	
2' CROSSWALK OR STOPBAR	24"W (TYP)	
LADDER CROSSWALK LAYOUT 2' WIDE RUNGS WITH 2' SPACES ALIGNED TO AVOID TIRE PATHS	10' 12'	(2)-4"Y 3" APART
TYPICAL PAINTED MEDIAN	VARIES	18"Y @ 45°

RIGHT–OF–WAY

	RECOVERED	SET THIS PROJECT
FEDERAL GOV'T SURVEY MONUMENT		
GOV'T CONTROL STATION		
PRIMARY MONUMENT (BRASS/AL CAP)		
MISC SECONDARY CORNER		
PRIMARY CENTERLINE MONUMENT		
SECONDARY CENTERLINE MONUMENT		
RANDOM CONTROL MONUMENT	RCM	
PRIMARY GPS CONTROL POINT	GPS	
HORIZONTAL CONTROL POINT	CP	
SECONDARY CONTROL POINT	SCP	
VERTICAL BENCHMARK	BM	
TEMPORARY BENCHMARK	TBM	
TOWNSHIP AND RANGE LINES	T13N T12N R2W R1W	
SECTION LINE		
1/4 SECTION LINE		
1/16 SECTION LINE		
CORPORATE or CITY LIMITS		
EXISTING RIGHT–OF–WAY		
RIGHT–OF–WAY OR EASEMENT REQUIRED		
PROJECT RIGHT–OF–WAY LINE		
EXISTING RIGHT–OF–WAY EASEMENT		
EXISTING PROPERTY LINE		
CONTROLLED ACCESS LINE		
EXISTING UTILITY EASEMENT		
PROPOSED UTILITY EASEMENT		
EXISTING CENTERLINE		
RAILROAD CENTERLINE		
TEMPORARY CONSTRUCTION EASEMENT		
TEMPORARY CONSTRUCTION PERMIT		

STATE OF ALASKA 49TH REVIEW P,S&E JUNE 2020 REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644–2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45–60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

LEGEND SHEET

FILE C:\PWWORKING\WEST01\D1207339\53014_A1–A3_P1A.DWG
DATE/TIME 6/4/2020 7:23 PM LAYOUT A3 DESIGNED -- CHECKED -- DRAFTED --

NO.	DATE	REVISION

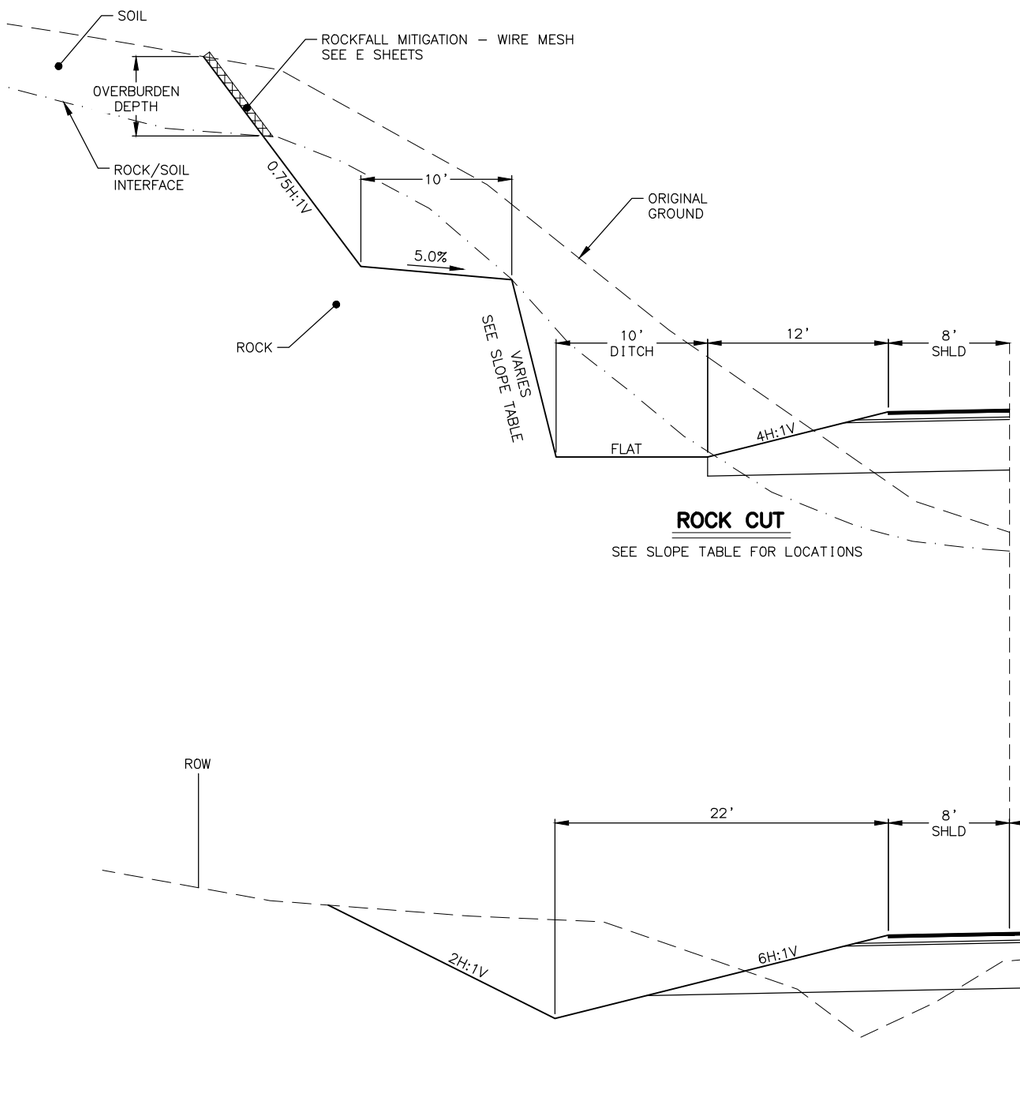
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	B1	B2

SLOPE TABLE

STATION RANGE	SLOPE	ESTIMATED OVERBURDEN DEPTHS
166+50 – 168+50	0.25:1	5'
242+00 – 243+75	0.25:1	5'
255+00 – 264+50	0.5:1	5'

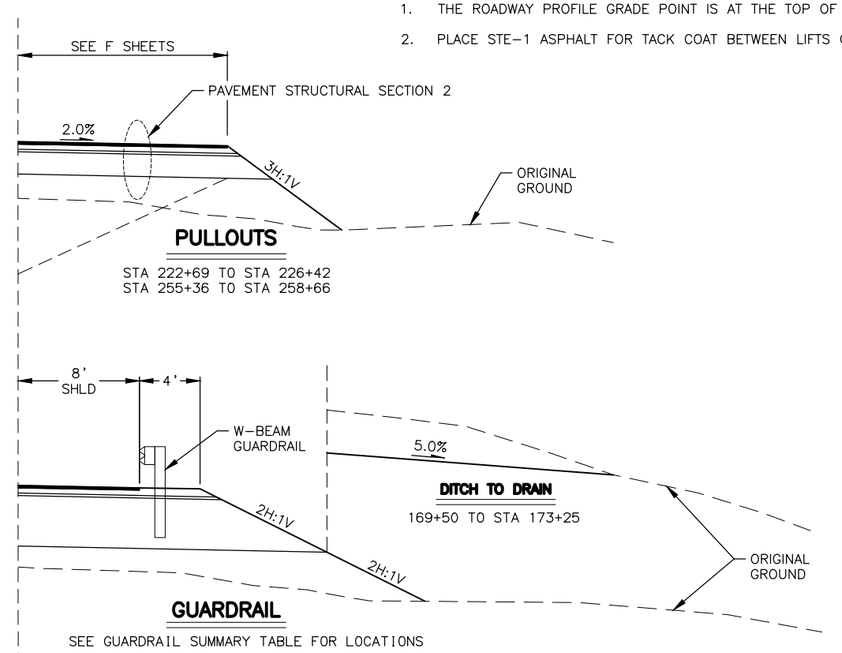
TYPICAL SECTION NOTES:

1. THE ROADWAY PROFILE GRADE POINT IS AT THE TOP OF HMA.
2. PLACE STE–1 ASPHALT FOR TACK COAT BETWEEN LIFTS OF ATB



ROCK CUT

SEE SLOPE TABLE FOR LOCATIONS



PULLOUTS

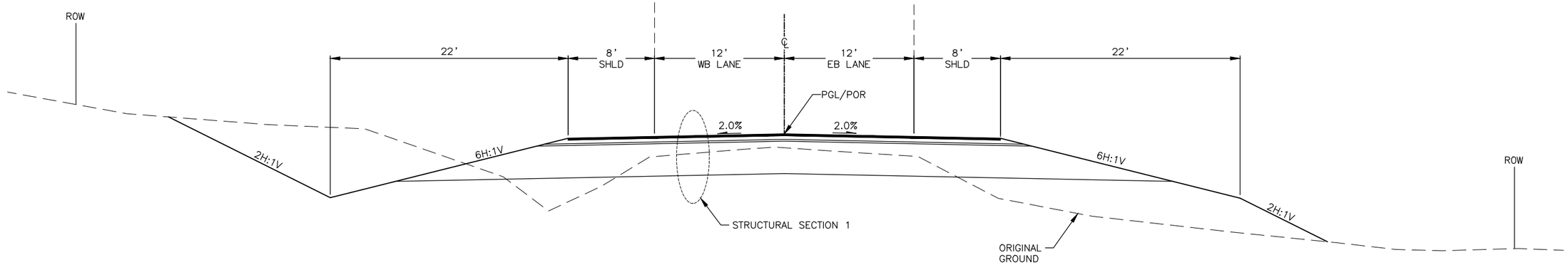
STA 222+69 TO STA 226+42
STA 255+36 TO STA 258+66

DITCH TO DRAIN

169+50 TO STA 173+25

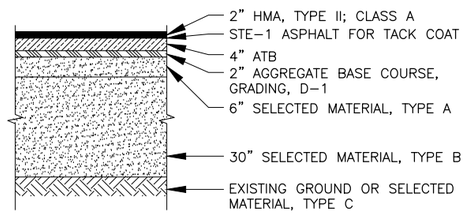
GUARDRAIL

SEE GUARDRAIL SUMMARY TABLE FOR LOCATIONS

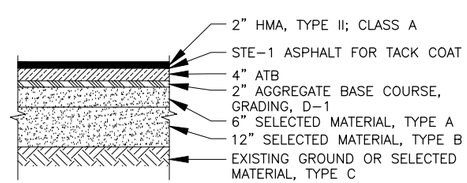


STERLING HIGHWAY

STA 153+50 TO STA 287+25



PAVEMENT STRUCTURAL SECTION 1



PAVEMENT STRUCTURAL SECTION 2

STATE OF ALASKA 49TH REVIEW PS&E JUNE 2020 REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644–2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45–60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

TYPICAL SECTION

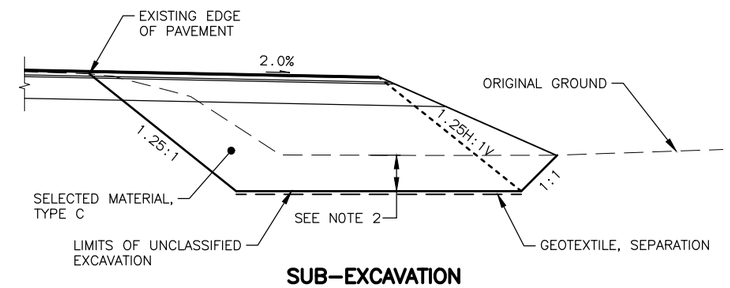
DRAFTED | CHECKED | DESIGNED | B1 | LAYOUT | DATE/TIME 6/4/2020 7:24 PM | FILE C:\PWWORKING\WEST01\D1207339\53014_B_TYP.DWG

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	B2	B2

SUB–EXCAVATION TABLE

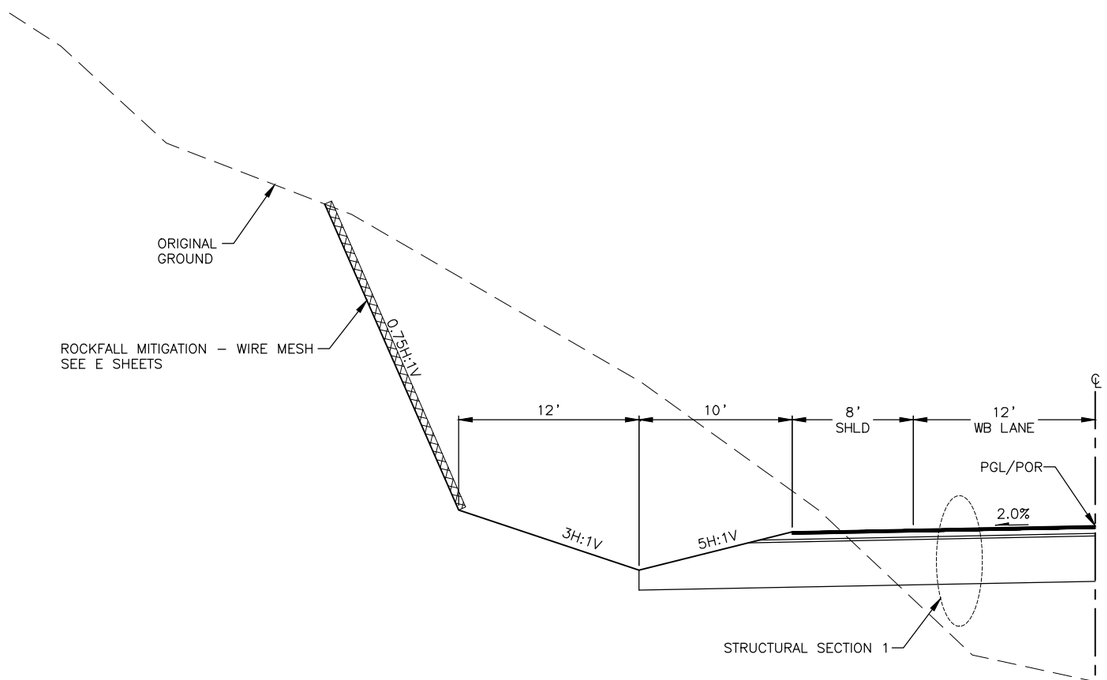
STATION RANGE	DEPTH	OFFSET
232+50 – 238+00	9'	LT/RT
244+00 – 255+00	6'	LT/RT
259+00 – 263+50	6'	RT
267+50 – 285+00	7'	LT



SUB–EXCAVATION

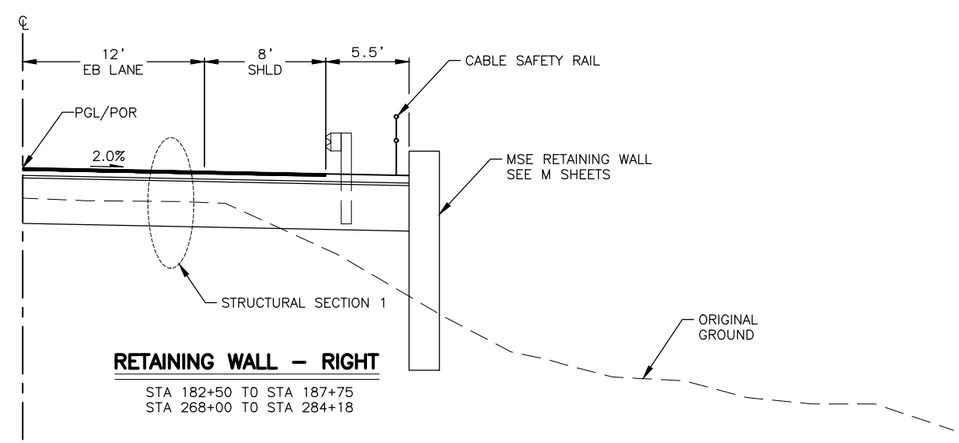
SUB–EXCAVATION NOTES:

1. TRANSITION SELECTED MATERIAL, TYPE C AT A 10:1 LONGITUDINAL SLOPE INTO AND OUT OF STATION RANGES SHOWN ABOVE.
2. SUB–EXCAVATE WITHIN THE STATION RANGES AND TO THE DEPTH SHOWN IN THE TABLE OR AS DIRECTED BY THE ENGINEER.



SLOPE STABILIZATION

STA 165+75 TO STA 169+00
STA 172+25 TO STA 179+00
STA 195+75 TO STA 196+50
STA 222+25 TO STA 223+50
STA 241+75 TO STA 243+25
STA 255+25 TO STA 259+25
STA 260+25 TO STA 263+75
STA 275+75 TO STA 284+25



RETAINING WALL – RIGHT

STA 182+50 TO STA 187+75
STA 268+00 TO STA 284+18

STATE OF ALASKA 49TH REVIEW PS&E JUNE 2020 REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644–2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45–60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

TYPICAL SECTION

DRAFTED | CHECKED | DESIGNED | LAYOUT B2 | DATE/TIME 6/4/2020 7:24 PM
FILE [C:\PWWORKING\WEST01\D1207339\53014_B_TYP.DWG

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	C1	C2

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	PAY UNIT	TOTAL QUANTITY
201.0001.0000	CLEARING	ACRE	34
201.0002.0000	GRUBBING	ACRE	26
202.0002.0000	REMOVAL OF PAVEMENT	S.Y.	37,800
202.0004.0000	REMOVAL OF CULVERT PIPE	L.F.	647
203.0002.0000	ROCK EXCAVATION	C.Y.	19,700
203.0003.0000	UNCLASSIFIED EXCAVATION	C.Y.	125,200
203.0005.000A	BORROW, TYPE A	C.Y.	13,100
203.0005.000B	BORROW, TYPE B	C.Y.	58,300
203.0005.000C	BORROW, TYPE C	C.Y.	104,500
203.0017.0000	ROCKFALL MITIGATION - WIRE MESH	S.Y.	6,410
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	10,200
306.0001.0000	ATB	TON	13,100
306.0002.5240	ASPHALT BINDER, GRADE PG 52-40V	TON	700
306.2001.002A	ATB PRICE ADJUSTMENT, TYPE II; CLASS A	C.S.	ALL REQ'D
401.0001.002A	HMA, TYPE II; CLASS A	TON	7,200
401.0004.5240	ASPHALT BINDER, GRADE PG 52-40V	TON	380
406.0008.0000	RUMBLE STRIPS, SHOULDERS	MILE	5
507.0006.0000	CABLE SAFETY RAILING	L.F.	2,310
511.0001.0000	MECHANICALLY STABILIZED EARTH WALL	S.F.	27,700
602.0001.0000	STRUCTURAL PLATE PIPE 22'-0" X 10'-0", 5 GAUGE	L.F.	122
602.0002.2008	STRUCTURAL PLATE PIPE-ARCH 20'8" SPAN, 13'2" RISE, 5 GAUGE	L.F.	52
603.0020.0036	END SECTION FOR 36 INCH PIPE	EACH	12
603.0020.0048	END SECTION FOR 48 INCH PIPE	EACH	2
603.0021.0036	CORRUGATED POLYETHYLENE PIPE 36 INCH	L.F.	622
603.0021.0048	CORRUGATED POLYETHYLENE PIPE 48 INCH	L.F.	82
606.0001.0000	W-BEAM GUARDRAIL	L.F.	5,762.5
606.0002.0000	THRIE BEAM GUARDRAIL	L.F.	900
606.0006.0000	REMOVING AND DISPOSING OF GUARDRAIL	L.F.	1,000
606.0013.0000	PARALLEL GUARDRAIL TERMINAL	EACH	10
606.0014.0000	BURIED IN BACKSLOPE GUARDRAIL TERMINAL	EACH	2
606.0016.0000	TRANSITION RAIL	EACH	2
611.0001.0001	RIPRAP, CLASS 1	C.Y.	160
615.0001.0000	STANDARD SIGN	S.F.	158.76
616.0002.0075	THAW PIPE 3/4 INCH DIAMETER	EACH	1
618.0001.0000	SEEDING	ACRE	20
618.0003.0000	WATER FOR SEEDING	MGAL	860
620.0001.0000	TOPSOIL	S.Y.	95,500
630.0001.0003	GEOTEXTILE, SEPARATION, CLASS 3	S.Y.	5,400
631.0002.0001	GEOTEXTILE, EROSION CONTROL CLASS 1	S.Y.	580

STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

ESTIMATE OF QUANTITIES

FILE C:\PWWORKING\WEST01\D1207339\53014_C_EST.DWG | DATE/TIME 6/4/2020 7:24 PM | LAYOUT C1 | DESIGNED -- | CHECKED -- | DRAFTED --

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	C2	C2

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	PAY UNIT	TOTAL QUANTITY
639.2000.0000	APPROACH	EACH	1
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	L.S.	ALL REQ'D
640.0004.0000	WORKERS MEALS AND LODGING	L.S.	ALL REQ'D
641.0001.0000	EROSION, SEDIMENT, AND POLLUTION CONTROL ADMINISTRATION	L.S.	ALL REQ'D
641.0005.0000	TEMPORARY EROSION, SEDIMENT, AN POLLUTION CONTROL BY DIRECTIVE	C.S.	ALL REQ'D
641.0006.0000	WITHHOLDING	C.S.	ALL REQ'D
641.0007.0000	SWPPP MANAGER	L.S.	ALL REQ'D
642.0001.0000	CONSTRUCTION SURVEYING	L.S.	ALL REQ'D
642.0003.0000	THREE PERSON SURVEY PARTY	HR	200
642.2006.0000	CONTRACTOR FURNISHED ENGINEERING TOOLS	C.S.	ALL REQ'D
642.2008.0000	PASSING SIGHT DISTANCE MEASUREMENT	STA	130
643.0002.0000	TRAFFIC MAINTENANCE	L.S.	ALL REQ'D
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	L.S.	ALL REQ'D
643.0023.0000	TRAFFIC PRICE ADJUSTMENT	C.S.	ALL REQ'D
643.0025.0000	TRAFFIC CONTROL	C.S.	ALL REQ'D
643.0032.0000	FLAGGING	C.S.	ALL REQ'D
643.2013.0000	PORTABLE CHANGEABLE MESSAGE BOARD SIGNS	EACH	2
644.0001.0000	FIELD OFFICE	L.S.	ALL REQ'D
644.0002.0000	FIELD LABORATORY	C.S.	ALL REQ'D
644.0015.0000	NUCLEAR TESTING EQUIPMENT STORAGE SHED	EACH	1
644.2007.0000	VEHICLE (LT/SUV)	EACH	2
645.0001.0000	TRAINING PROGRAM, 1	L.H.	1,000
646.0001.0000	CPM SCHEDULING	L.S.	ALL REQ'D
646.2000.0000	SCHEDULE PRICE ADJUSTMENT	C.S.	ALL REQ'D
647.2000.0000	WIDE PAD DOZER, 65-HP MINIMUM	C.S.	ALL REQ'D
654.2002.0000	EAGLE MONITORING	C.S.	ALL REQ'D
670.2006.0000	MMA PAVEMENT MARKINGS, LONGITUDINAL INLAID	L.F.	53,500
690.2005.0000	WATERWAY RESTORATION STREAM REALIGNMENT	L.S.	ALL REQ'D

TABLE OF ESTIMATING FACTORS

ITEM NO.	ITEM DESCRIPTION	UNIT
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	144 LB./CF
306.0001.0000	ATB	150 LB./CF
306.0002.5240	ASPHALT BINDER, GRADE PG 52-40V	5.3% OF TOTAL WEIGHT OF 306.0001.0000
401.0001.001A	HMA, TYPE II; CLASS A	151 LB./CF
401.0004.5240	ASPHALT BINDER, GRADE PG 52-40V	5.3% OF TOTAL WEIGHT OF 401.0001.001A
618.0003.0000	WATER FOR SEEDING	1.0 GAL/SF

STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

ESTIMATE OF QUANTITIES

FILE C:\PWWORKING\WEST01\D1207339\53014_C_EST.DWG
DATE/TIME 6/4/2020 7:24 PM
LAYOUT C2
DESIGNED --
CHECKED --
DRAFTED --

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	D0	

FOR REVIEW ONLY.

EARTHWORK SUMMARY

SHEET	STATION FROM	STATION TO	CUT (VOLUME REPORT)	ROCK EXCAVATION (IN PLACE)	ROCK EXCAVATION (SWELL)	FILL (VOLUME REPORT)	REMOVAL OF EXISTING PAVEMENT	GRUBBING CUT	GRUBBING FILL	SUBEXCAVATION CUT	SUBEXCAVATION FILL	RETAINING WALLS CUT	RETAINING WALLS FILL	UNCLASSIFIED EXCAVATION	UNCLASSIFIED EXCAVATION USABLE AS SELECTED MATERIAL, TYPE C	SELECTED MATERIAL, TYPE B	SELECTED MATERIAL, TYPE A	TOTAL EMBANKMENT (SELECTED MATERIAL, TYPE C)	REMARKS
			(CY)	(CY)	(CY)		(CY)	(CY)	(CY)	(CY)	(CY)	(CY)	(CY)	(CY)	(CY)	(CY)	(CY)	(CY)	
			A		B	C	D	E	F	G	H	I	J	K=(A+G+J)-(D+E)	L=0.85*(K-G)+B	M	N	O=C+F+H+J	
F1	155+00	163+00	6,315	0	0	214	160	971	268	0	0	0	0	5,184	4,406	1,700	765	482	
F2	163+00	176+00	24,734	9055	11772	1,012	154	1,944	200	0	0	0	0	22,636	31,012	4,861	1,243	1,212	
F3	176+00	189+00	4,338	0	0	13,197	148	1,301	1,168	0	0	1,000	1,000	3,889	3,306	5,846	1,217	15,365	
F4	189+00	202+00	59	000	0	39,700	147	2,253	2,116	0	0	389	389	0	0	7,473	1,237	42,205	
F5	202+00	215+00	26,502	0	0	1,113	152	2,205	331	0	0	0	0	24,145	20,523	4,497	1,240	1,444	
F6	215+00	228+00	12,388	0	0	1,859	150	2,112	952	0	0	0	0	10,126	8,607	6,188	1,605	2,811	
F7	228+00	241+00	256	0	0	24,301	144	2,115	1,842	14,238	14,238	0	0	12,235	0	6,388	1,254	40,381	
F8	241+00	254+00	1,715	1123	1460	31,950	143	2,546	2,207	15,410	15,410	0	0	14,436	632	8,467	1,246	49,567	
F9	254+00	267+00	7,994	4942	6425	11,658	152	2,871	1,271	2,575	2,575	0	0	7,546	10,650	7,953	1,566	15,504	
F10	267+00	279+00	2,478	0	0	6,234	132	838	314	8,193	8,193	2,926	2,926	12,627	3,769	3,670	1,220	17,667	
F11	279+00	284+50	5,126	0	0	210	92	412	0	4311	4311	3,000	3,000	11,933	6,479	1,232	421	7,521	
SUBTOTAL (CY)			91,905	15,120	19,656	131,448	1,574	19,568	10,669	44,727	44,727	7,315	7,315	125,147	89,715	58,275	13,014	194,159	
LESS USABLE EXCAVATION (CY)																	O-L=	104,444	
ROUNDED PAY ITEM QUANTITY (CY)					19,700									125,200		58,300	13,100	104,500	
TOTAL PAY ITEM QUANTITY (TON)																			

NOTES:

1. USABLE UNCLASSIFIED EXCAVATION = 85% OF UNCLASSIFIED EXCAVATION - SUBEXCAVATION CUT + ROCK EXCAVATION (SWELL)
2. ROCK EXCAVATION (SWELL) = ROCK EXCAVATION (IN PLACE) X 1.30
3. SELECTED MATERIAL, TYPE C = FILL (FROM VOLUME REPORT) + GRUBBING FILL + SUBEXCAVATION FILL - USABLE UNCLASSIFIED EXCAVATION
4. TOTAL EMBANKMENT = SELECTED MATERIAL, TYPE C + SELECTED MATERIAL, TYPE B + SELECTED MATERIAL, TYPE A

THIS SHEET WILL BE REMOVED FOR ADVERTISEMENT UNLESS THE CONSTRUCTION PROJECT MANAGER REQUIRES IT. IF IT'S REQUIRED, THE SHEET NUMBER WILL become **D1**.

STATE OF ALASKA 49TH REVIEW PS&E JUNE 2020 REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

SUMMARY TABLES

DATE/TIME 6/4/2020 7:24 PM | LAYOUT D0 | DESIGNED -- | CHECKED -- | DRAFTED --
FILE C:\PWWORKING\WEST01\D1207339\53014_D_QTY.DWG

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	CFHWY00693	2021	D1	D2

REMOVAL OF CULVERT PIPE - 202.0004.0000

SHEET	STATION	LENGTH (FT)	REMARKS
F2	"M" 171+81	59	
F3	"M" 182+56	65	
F4	"M" 194+45	56	
F4	"M" 198+39	146	FULLER CREEK. 96"
F6	"M" 222+66	53	
F6	"M" 222+96	50	
F7	"M" 232+60	64	
F9	"M" 258+39	40	
F9	"M" 264+04	54	
F10	"M" 271+85	60	
TOTAL: 647			
PAY ITEM QUANTITY: 647			

511.0001.0000 - MECHANICALLY STABILIZED EARTH WALL

SHEET	STATION	OFFSET	AREA (SF)	REMARKS
F3	182+50	RT	7,075	
F4	196+80	RT	435	
F4	198+00	LT	354	
F10-F11	268+00	RT	19,334	
F10	271+65	LT	542	
		TOTAL:	27,740	
		PAY ITEM QUANTITY:	27,750	

203.0017.0000 - ROCKFALL MITIGATION, WIRE MESH

SHEET	FROM		TO		LENGTH (FT)	AREA (SF)	REMARKS
	STATION	OFFSET	STATION	OFFSET			
F2	165+75	LT	169+00	LT	325	1,089	
F2-F3	172+25	LT	179+00	LT	675	1,188	
F4	195+75	LT	196+50	LT	75	40	
F6	222+25	LT	223+50	LT	125	129	
F8	241+75	LT	243+25	LT	150	155	
F9	255+25	LT	259+25	LT	400	1,075	
F9	260+25	LT	263+75	LT	350	1,375	
F10-F11	275+75	LT	284+25	LT	850	1,357	
					TOTAL:	6,407.19	
					PAY ITEM QUANTITY:	6,410	

406.0008.0000 - RUMBLE STRIPS, SHOULDERS

SHEET	STATION		MILE	REMARKS
	FROM	TO		
F1	153+50	163+00	.3	
F2	163+00	176+00	.5	
F3	176+00	189+00	.5	
F4	189+00	202+00	.5	
F5	202+00	215+00	.5	
F6	215+00	228+00	.5	
F7	228+00	241+00	.5	
F8	241+00	254+00	.5	
F9	254+00	267+00	.5	
F10	267+00	279+00	.4	
F11	279+00	287+25	.3	
		TOTAL:	5.0	
		PAY ITEM QUANTITY:	5	

STATE OF ALASKA
49TH
REVIEW P.S.&E
JUNE 2020
HDR PROFESSIONAL, INC.

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

SUMMARY TABLES

FILE C:\PWWORKING\WEST01\D1207339\53014_D_SUM.DWG | DATE/TIME 6/4/2020 7:24 PM | LAYOUT D1 | DESIGNED -- | CHECKED -- | DRAFTED --

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	D2	D2

PIPE SUMMARY - 603 ITEMS

SHEET	PIPE NO.	36 INCH CPP(LF) 603.0021.0036	48 INCH CPP(LF) 603.0021.0048	INLET			OUTLET			END SECTIONS	ENERGY DISSIPATOR	REMARKS
				STATION	OFFSET	ELEV (FT)	STATION	OFFSET	ELEV (FT)			
F2	P2-1	76		170+94.3	41.0' LT	285.9	170+97.0	35.0' RT	284.8	2	X	MANUFACTURE AND INSTALL THE HEADWALL LOCATED AT PIPE OUTLET IN ACCORDANCE WITH STD. PLAN D-30.11.
F3	P3-1	88		182+46.2	53.3' LT	286.6	182+46.3	34.7' RT	289.7	2	X	
F4	P4-1	116		194+02.7	59.7' LT	301.5	194+00.5	56.2' RT	306.6	2	X	
F6	P6-1	76		222+56.2	34.5' LT	301.8	222+53.1	44.4' RT	303.7	2	X	
F7	P7-1	130		233+08.2	65.3' LT	297.2	233+02.2	64.6' RT	297.5	2		
F7	P7-2	136		236+56.9	65.9' LT	317.9	236+57.5	70.1' RT	311.7	2		
F9	P9-1		82	264+10.9	34.0' LT	298.3	264+16.2	47.6' RT	297.8	2	X	THAW PIPE
	TOTAL:											
	PAY ITEM QUANTITY:	622	82									

GUARDRAIL SUMMARY - 606 ITEMS

SHEET	STATION TO STATION			606.0001.0000 W-BEAM GUARDRAIL* (FT)	606.0002.0000 THRIE BEAM GUARDRAIL (FT)	606.0006.0000 REMOVING & DISPOSING OF GUARDRAIL (FT)	606.0013.0000 PARALLEL GUARDRAIL TERMINAL (EACH)	606.0014.0000 BURIED IN BACKSLOPE GUARDRAIL TERMINAL (EACH)	GUARDRAIL FLEXIBLE DELINEATOR	REMARKS
	FROM	TO	OFFSET							
F1	"M" 146+50	"M" 154+50	RT	800		1000				
F2	"M" 166+00	"M" 175+00	RT		900		2			
F3-F4	"M" 178+25	"M" 200+00	RT	2175			2			
F4	"M" 197+25	"M" 199+75	RT	250			2			
F5-F6	"M" 208+25	"M" 216+75	LT	850			1	1		
F9-F11	"M" 263+50	"M" 286+25	RT	2275			2			
F10	"M" 270+50	"M" 272+62.5	LT	212.5			1	1		
			TOTAL	5762.5	900	1000	10	2		
			PAY ITEM QUANTITY	5,762.5	900	1000	10	2		

* INSTALL W31 GUARDRAIL

RIPRAP SUMMARY - 611.0001.0001

SHEET	611.0001.0001 RIPRAP CLASS I (CY)	REMARKS
F2	7.4	ENGERY DISSIPATOR
F3	7.4	ENGERY DISSIPATOR
F4	7.4	ENGERY DISSIPATOR
F6	7.4	ENGERY DISSIPATOR
F9	7.4	ENGERY DISSIPATOR
F10	119	WLC #2
TOTAL:	156	
PAY ITEM QUANTITY:	160	

APPROACH SUMMARY - 639.2000.0000

SHEET	STATION	SKEW ANGLE (90° TYP.)	TYPE			WIDTH (FT)	LENGTH (FT)	RADIUS	REMARKS
			PUB.	RES.	COM.				
F5	"M" 208+09	90°	X			28	40	40'	FULLER LAKES TRAILHEAD. 2% LANDING FOR 30'.
TOTAL: 1									
PAY ITEM QUANTITY: 1									

STATE OF ALASKA
49TH
REVIEW P.S.&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

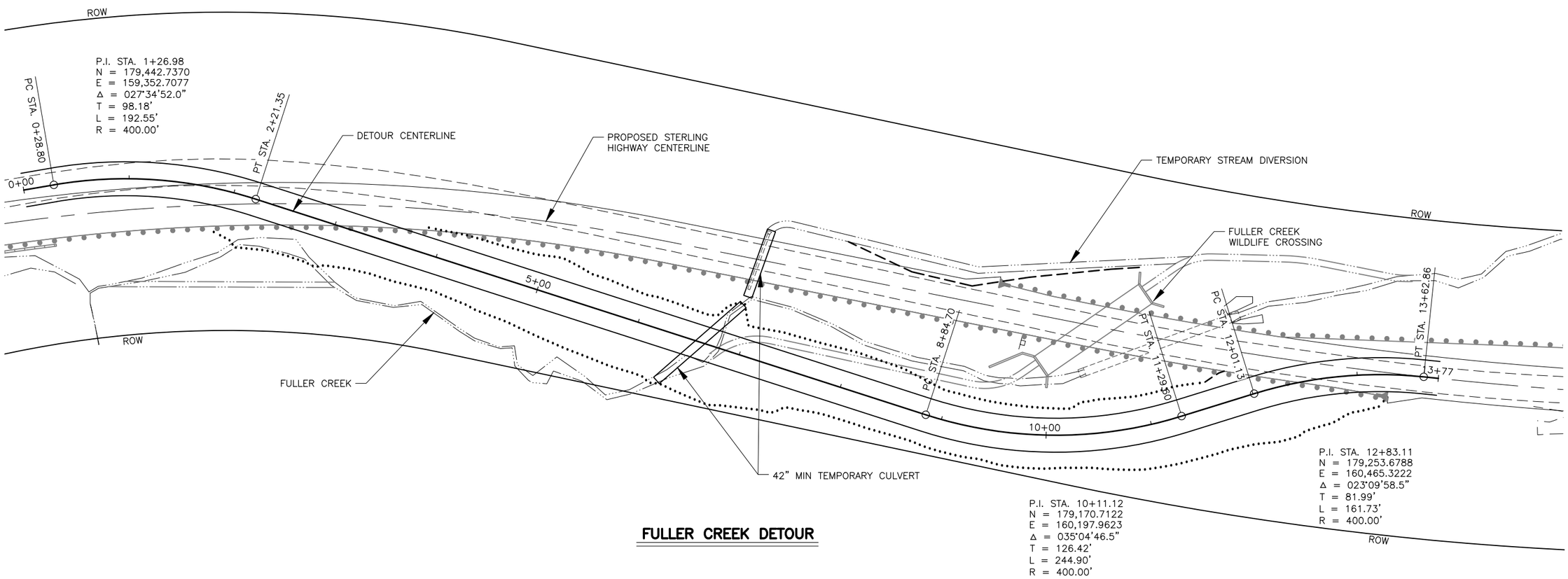
SUMMARY TABLES

FILE C:\PWWORKING\WEST01\D1207339\53014_D_SUM.DWG | DATE/TIME 6/4/2020 7:24 PM | LAYOUT D2 | DESIGNED -- | CHECKED -- | DRAFTED --

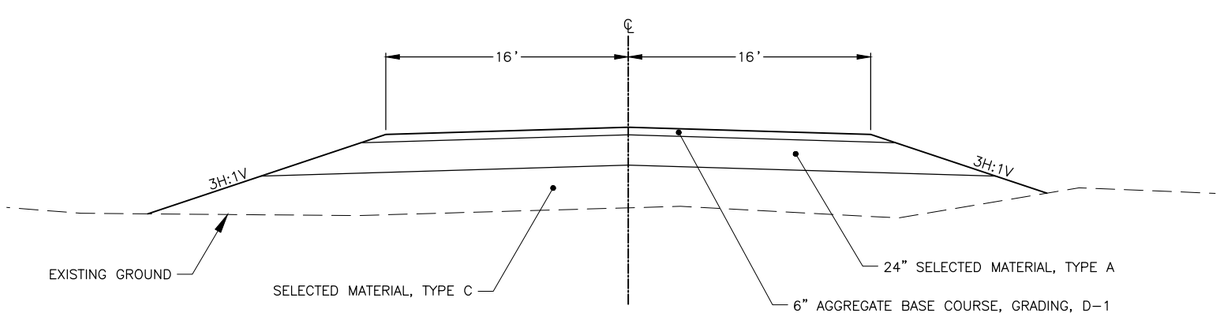
FOR REVIEW ONLY.

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	E0	



FULLER CREEK DETOUR



TYPICAL DETOUR SECTION

STATE OF ALASKA
49TH
REVIEW P.S.&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

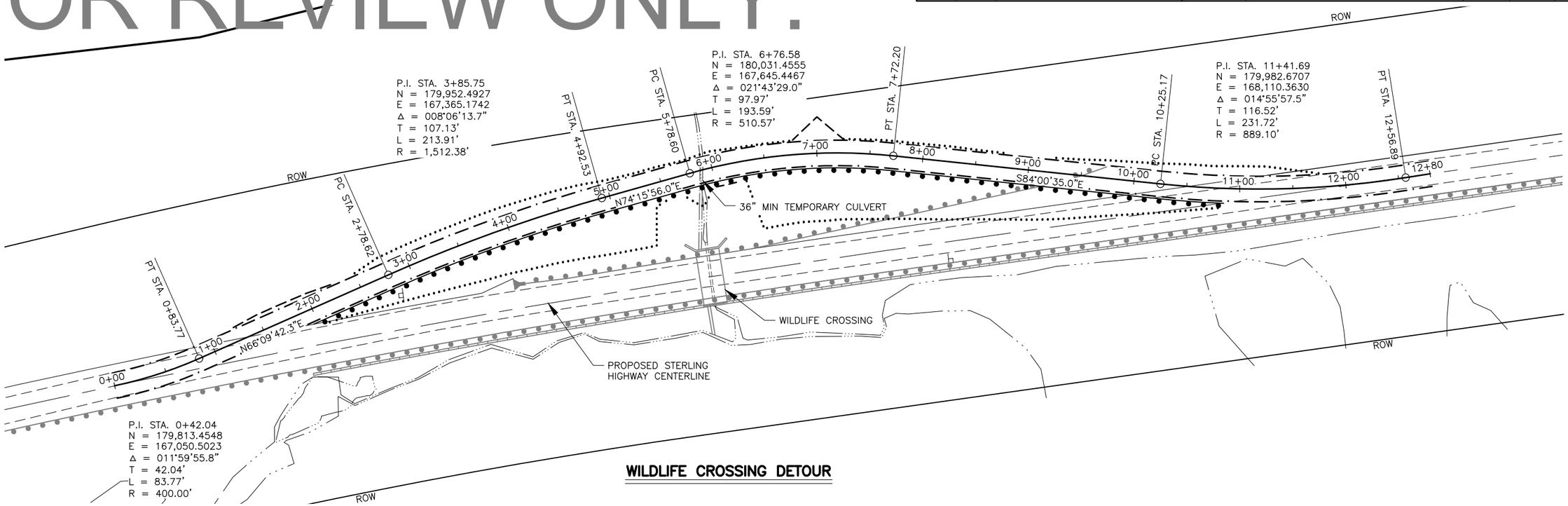
FULLER CREEK DETOUR

FILE C:\PWWORKING\WEST01\D1207339\53014_E_DETOUR.DWG
DATE/TIME 6/4/2020 7:24 PM
LAYOUT E0
DESIGNED --
CHECKED --
DRAFTED --

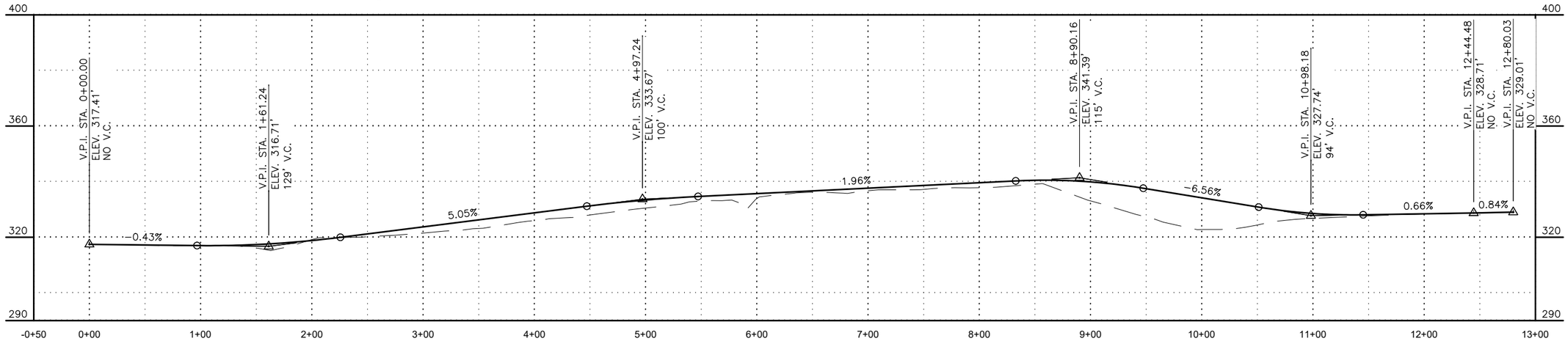
NO.	DATE	REVISION

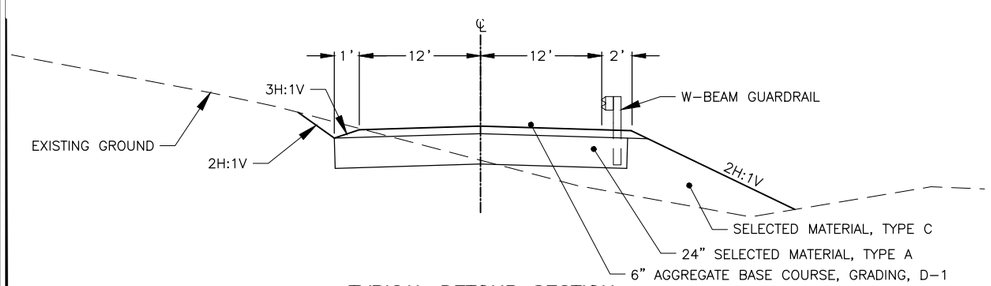
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	E0B	

FOR REVIEW ONLY.



WILDLIFE CROSSING DETOUR





TYPICAL DETOUR SECTION

STATE OF ALASKA
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

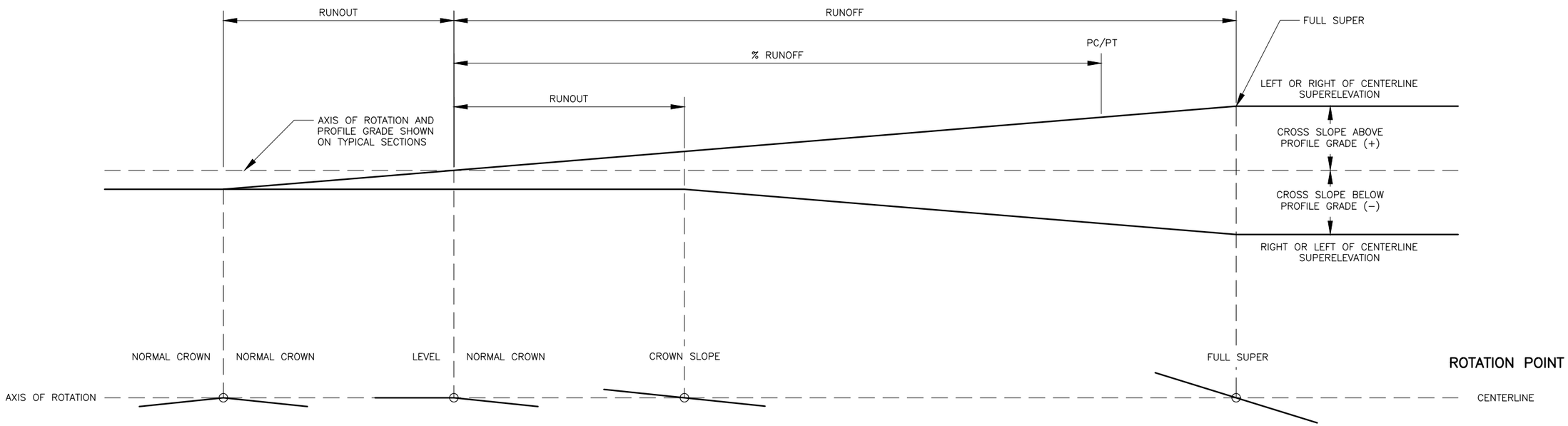
STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

WILDLIFE CROSSING DETOUR

DATE/TIME 6/4/2020 7:24 PM | LAYOUT E0B | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_E_DETOUR.DWG

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	CFHWY00693	2021	E1	E13



SUPERELEVATION TRANSITION

NOTES:

1. BUILD SUPERELEVATION INTO SUBGRADE AND CARRY THROUGH SHOULDERS.
2. % RUNOFF = PORTION OF RUNOFF ON TANGENT.
3. WIDENING FOR GUARDRAIL OR CURVATURE DOES NOT CHANGE THE LOCATION OF THE AXIS OF ROTATION

STATE OF ALASKA 49TH REVIEW P.S.&E JUNE 2020 REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

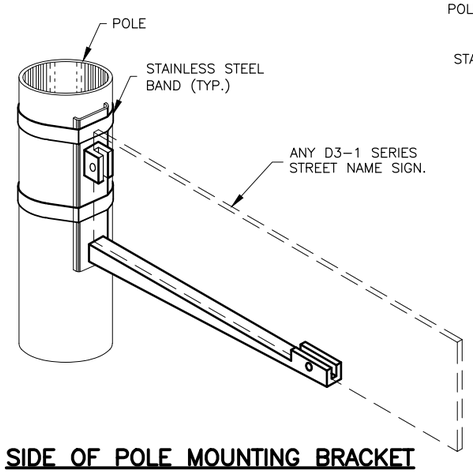
STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

SUPERELEVATION TRANSITION

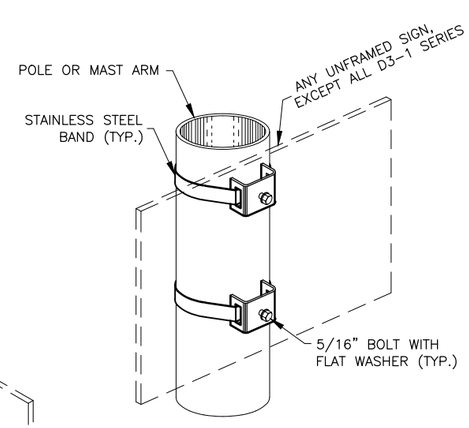
FILE C:\PWWORKING\WEST01\D1207339\53014_E_DETAILS.DWG
DATE/TIME 6/4/2020 7:25 PM | LAYOUT E1 | DESIGNED -- | CHECKED -- | DRAFTED --

NO.	DATE	REVISION

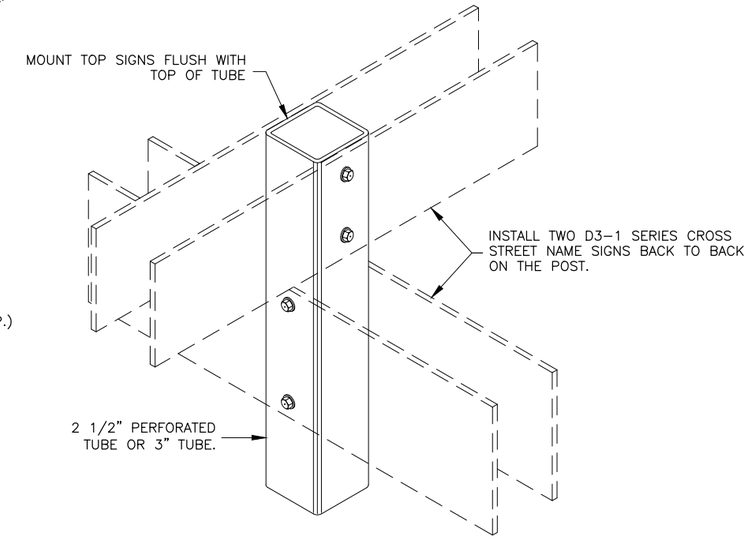
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	E2	E13



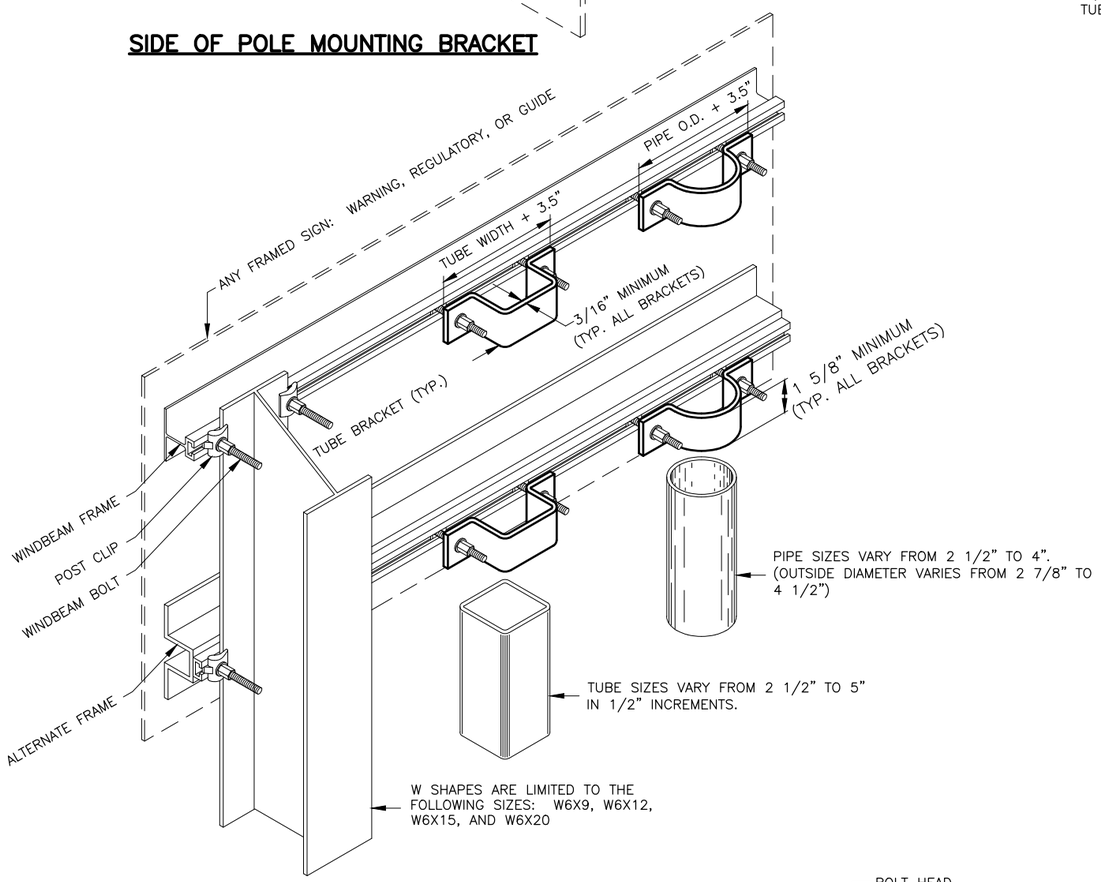
SIDE OF POLE MOUNTING BRACKET



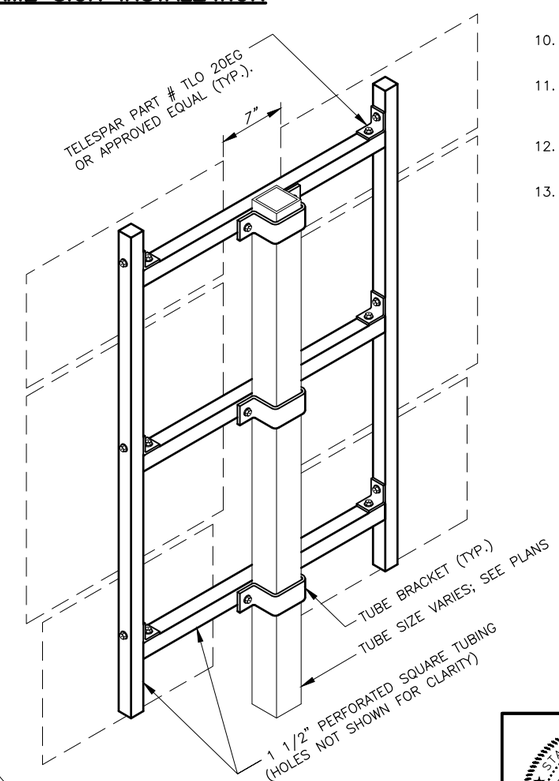
SADDLE BRACKETS



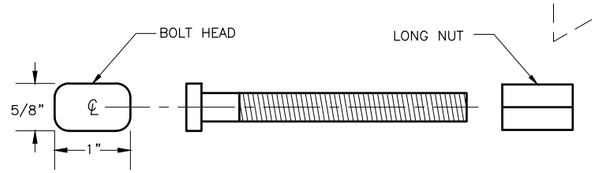
STREET NAME SIGN INSTALLATION



FRAMED SIGN ATTACHMENT BRACKETS



ROUTE MARKER TREE



3/8" WINDBEAM BOLT AND LONG NUT

NOTES:

1. EXCEPT FOR POLES AND MASTARMS, ONLY USE TUBES TO SUPPORT SIGNS MOUNTED ON ONE POST.
2. ATTACH SIGNS, FRAMED AND UNFRAMED TO THEIR SUPPORTS WITH ZINC PLATED 3/8" BOLTS, EXCEPT ATTACH UNFRAMED SIGNS TO PERFORATED TUBES WITH ACCESSORY DRIVE RIVETS AND TO SADDLES WITH 5/16" BOLTS.
3. BOLT UNFRAMED SIGNS DIRECTLY TO TUBES IN TWO LOCATIONS, NEAR TOP AND NEAR BOTTOM OF MATING SURFACE. ATTACH THEM TO POLES AND MASTARMS WITH TWO SADDLES.
4. ATTACH BRACKETS TO POLES AND MASTARMS WITH DOUBLE WRAPS OF 3/4" WIDE BY 0.020" THICK STAINLESS STEEL BANDING MATERIAL. TIGHTEN EACH BAND UNTIL IT STOPS MOVING THROUGH THE BUCKLE.
5. ATTACH FRAMED SIGNS TO POSTS WHEREVER THE FRAMES CROSS THE POSTS. AT EACH CROSSING, ATTACH THE SIGN USING TWO POST CLIPS ON W-SHAPE POSTS, A U-SHAPED BRACKET ON PIPES, AND A BRACKET WITH SQUARE CORNERS ON TUBES.
6. THE TUBE BRACKETS USED ON EVEN INCH SIZE TUBES MAY ALSO BE USED ON TUBES 1/2" SMALLER IN SIZE.
7. ONLY USE THE SPECIAL WINDBEAM BOLTS TO ATTACH SIGNS FRAMED WITH THE WINDBEAM FRAMING MATERIAL.
8. ATTACH FRAMED SIGNS TO POLES AND MASTARMS USING POLE PLATES INSTALLED ACCORDING TO ALASKA STANDARD PLAN S-23.
9. FOR ROUTE MARKER TREES, CUT PERFORATED TUBES TO ENSURE TIGHT FITTING JOINTS. ASSEMBLE THE PIECES WITH ACCESSORY ELL-SHAPED ANGLE BRACKETS.
10. INSTALL THE TOP EDGE OF SIGNS 1" ABOVE THE TOPS OF POSTS, EXCEPT FOR THE D3-1 STREET NAME SIGNS.
11. INSTALL THE TOP EDGE OF SIGNS 3" BELOW THE TOP OF POST, WHENEVER THEY ARE MOUNTED BELOW SIGNS SECURED BY POST TOP MOUNTING BRACKETS.
12. THE BRACKET DETAILS SHOWN INDICATE GENERAL DESIGNS ONLY. DESIGNS MAY VARY BY MANUFACTURER.
13. INSTALL WEATHER TIGHT CAPS ON ALL PIPE AND TUBE POSTS, EXCEPT PERFORATED TUBING.

FASTENER SPECIFICATION TABLE

FASTENERS		STEEL	STAINLESS STEEL
BOLTS		ASTM A 307	ASTM F 593
NUTS	REGULAR	ASTM A 563	ASTM F 594
	LOCK		
WASHERS		ASTM A 36	ASTM A 480
POST CLIPS			

STATE OF ALASKA 49TH REVIEW P,S&E JUNE 2020 REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

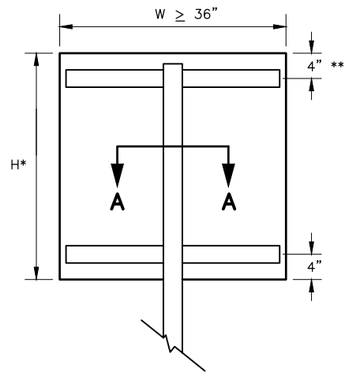
STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

LIGHT SIGN FRAMING AND
ATTACHMENT DETAILS

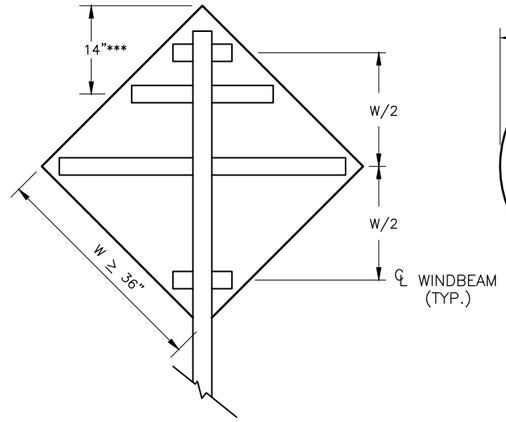
FILE C:\PWWORKING\WEST01\D1207339\53014_E_DETAILS.DWG | DATE/TIME 6/4/2020 7:25 PM | LAYOUT E2 | DESIGNED -- | CHECKED -- | DRAFTED --

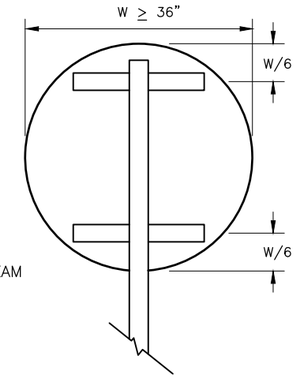
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	E3	E13

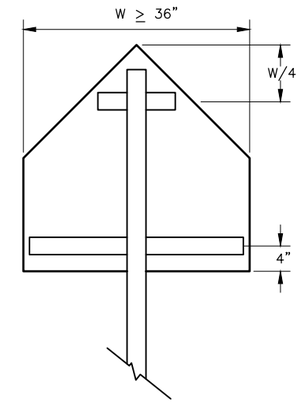


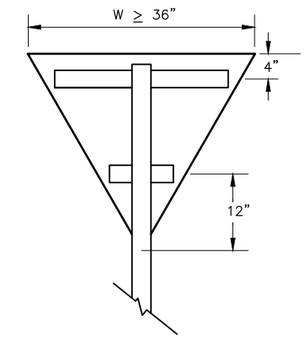
RECTANGLES AND TRAPEZOIDS





ROUNDS AND OCTAGONS





* WHEN H > 42 INCHES, INSTALL A 3RD WINDBEAM CENTERED ON THE SIGN.

** FOR S5-1 SIGNS MOUNTED ON FLASHING BEACON POSTS, USE A 10" OFFSET. OTHERWISE, USE 4".

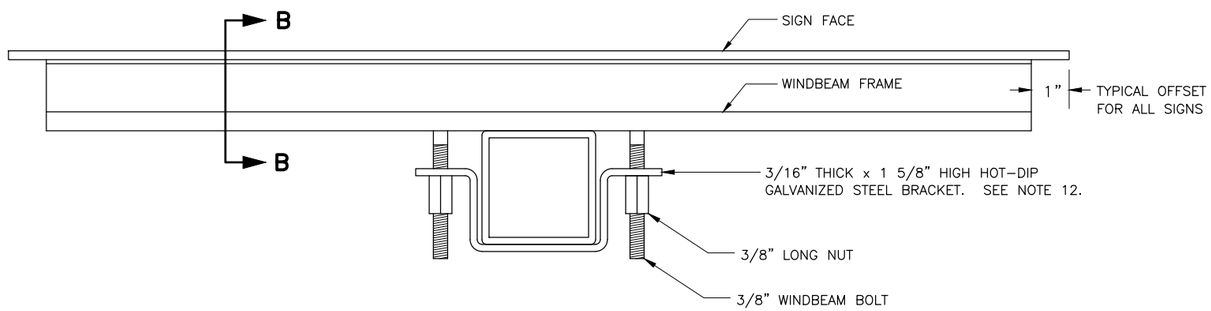
*** FOR WARNING SIGNS MOUNTED ON FLASHING BEACON POSTS, USE THE 14" OFFSET. OTHERWISE, USE W/2.

WINDBEAM LOCATIONS FOR EACH SIGN SHAPE

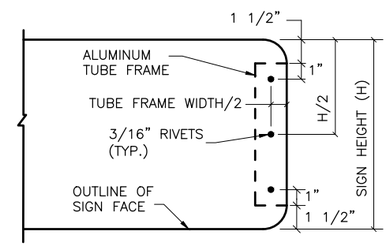
ELEVATION VIEW

NOTES:

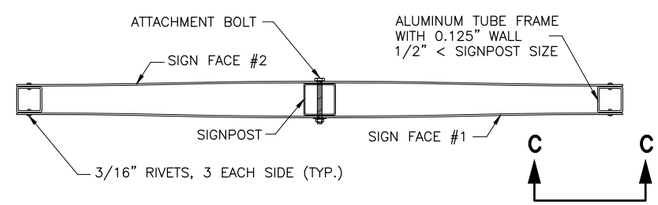
1. EXCEPT FOR POLES AND MAST ARMS, ONLY USE SQUARE STEEL TUBES TO SUPPORT SIGNS MOUNTED ON SINGLE POSTS.
2. INSTALL WINDBEAM OR ZEE SHAPED FRAMING MEMBERS ON DIAMOND SHAPED SIGNS 36 INCHES AND LONGER ON A SIDE AND ON OTHER SIGNS 36 INCHES WIDE AND WIDER.
3. IN HIGH WIND AREAS, THE PLANS MAY REQUIRE SIGNS SMALLER THAN THOSE LISTED IN NOTE 2 BE FRAMED AS SHOWN HERE IN.
4. THIS DRAWING DEPICTS THE WINDBEAM FRAMING AND ATTACHMENT SYSTEM. ATTACH SIGNS FRAMED WITH ZEE SHAPED FRAMING ACCORDING TO REGIONAL DRAWING "SIGN ATTACHMENT DETAILS", USING "U" SHAPED BRACKETS AND TWO BOLTS WITH NUTS.
5. THE ENGINEER MAY APPROVE OTHER FRAMING MEMBERS. SUBMIT DOCUMENTS THAT DETAIL THE FRAME'S CROSS SECTION AND STRENGTH, AND METHOD OF ATTACHING THE FRAME TO A POST.
6. USE FRAMING MEMBERS MADE FROM ALUMINUM ALLOY 6061-T6.
7. EACH FRAMING MEMBER SHALL BE ONE CONTINUOUS PIECE.
8. ATTACH FRAMING MEMBERS TO THE SIGN PANELS WITH RIVETS OR AN ENGINEER APPROVED, DOUBLE SIDED, HIGH STRENGTH, ADHESIVE TAPE.
9. WITH THE ADHESIVE TAPE, INSTALL TWO RIVETS IN BOTH ENDS OF EACH FRAMING MEMBER, AND ATTACH THE FRAMING MEMBERS TO THE SIGN PANELS ACCORDING TO THE TAPE MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING:
   A. THE CLEANING AND HANDLING OF THE SIGN PANELS AND FRAMING MEMBERS.
   B. THE APPLICATION OF THE ADHESIVE TAPE.
10. WHEN RIVETS ARE USED TO ATTACH FRAMING MEMBERS, INSTALL 2 RIVETS IN EACH END AND THE BALANCE ON 8" MAXIMUM CENTERS.
11. USE 3/16" DIAMETER RIVETS CONFORMING TO ALUMINUM ALLOY 6061-T6 FOR COLD DRIVEN RIVETS, OR ALUMINUM ALLOY 6061-T43 FOR HOT DRIVEN RIVETS.
12. THE BRACKETS USED ON EVEN INCH SIZE TUBES MAY ALSO BE USED ON TUBES 1/2" SMALLER IN SIZE.



SECTION A - A TYPICAL SIGN ATTACHMENT DETAILS AT EACH WINDBEAM

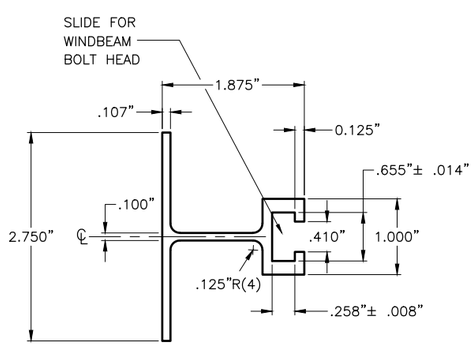


VIEW C - C

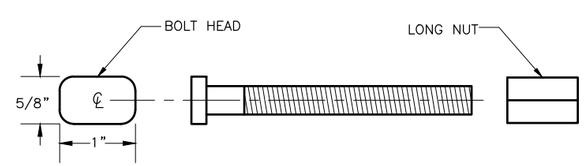


D3-1 STREET NAME SIGN FRAMING DETAIL

PLAN VIEW



SECTION B - B WINDBEAM CROSS SECTION



3/8" WINDBEAM BOLT AND LONG NUT

STATE OF ALASKA 49TH REVIEW PS&E JUNE 2020 REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

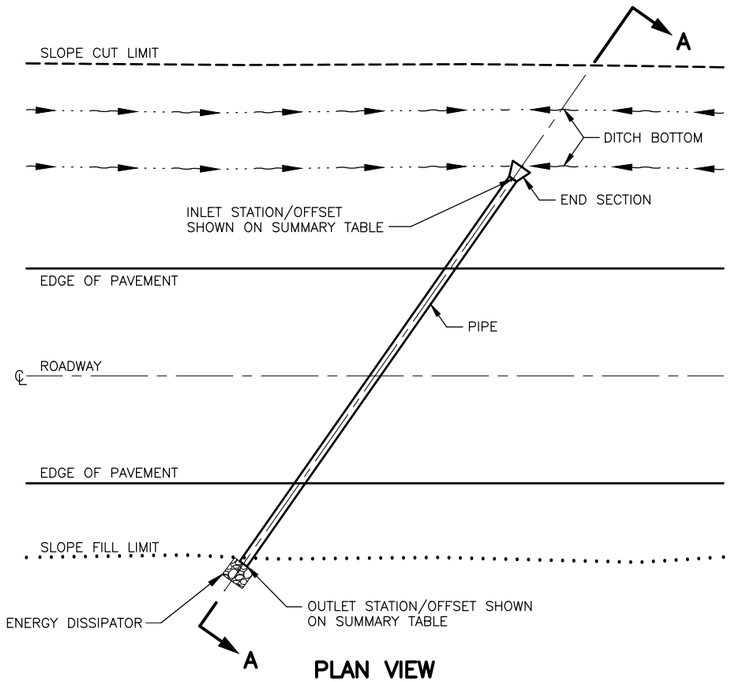
STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK LAKE RD, STAGE 1A

SIGN ATTACHMENT DETAILS

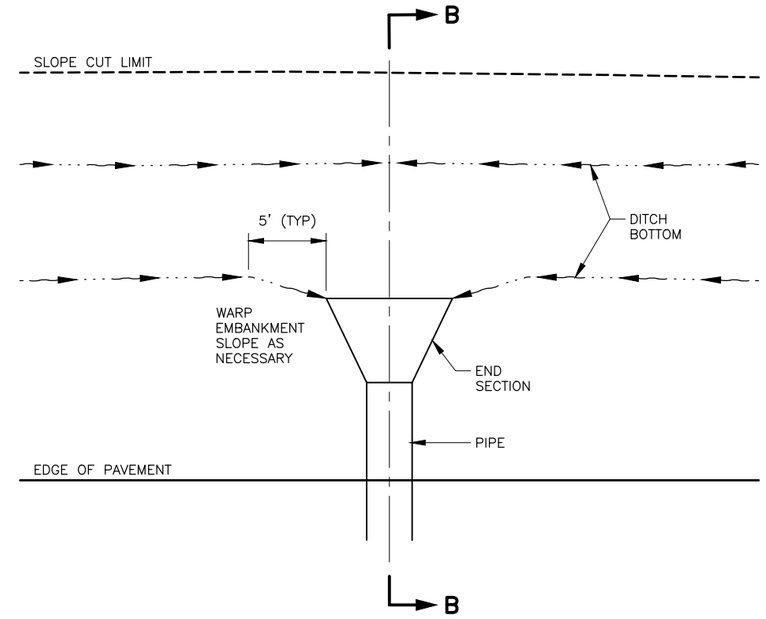
DATE/TIME 6/4/2020 7:25 PM | LAYOUT E3 | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_E_DETAILS.DWG

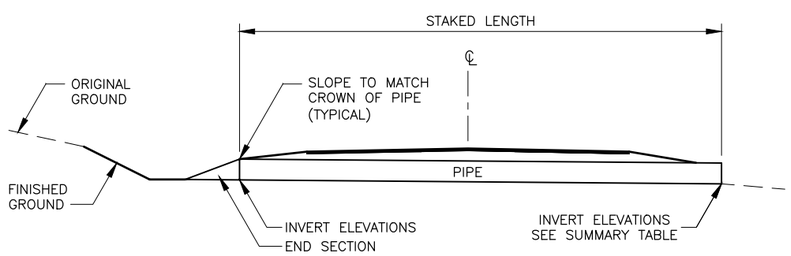
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	CFHWY00693	2021	E4	E13



PLAN VIEW



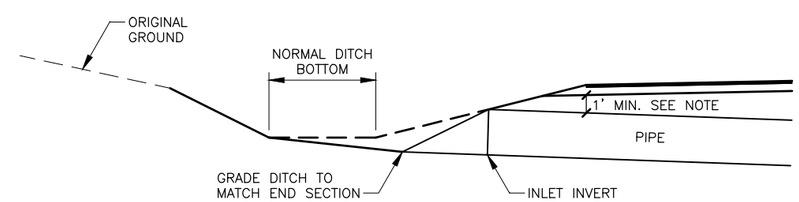
PLAN VIEW



SECTION A–A

PIPE INSTALLATION DETAIL

INSTALL END SECTION AT OUTLET WHERE INDICATED ON SUMMARY TABLE.



SECTION B–B

PIPE INLET DEPRESSION DETAIL

DEPRESS PIPE INLET AS REQUIRED TO ENSURE 1 FOOT MINIMUM COVER PER STD. PLAN. D–04.21

STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644–2000

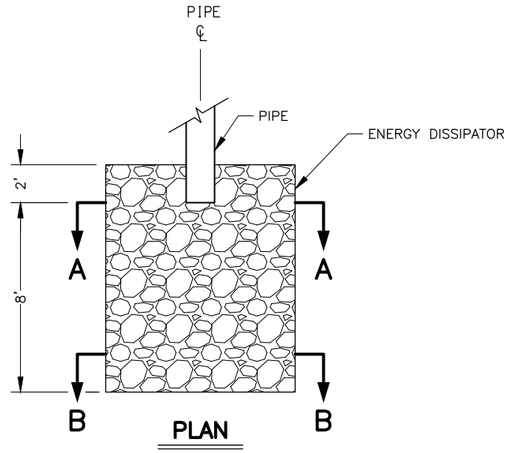
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45–60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

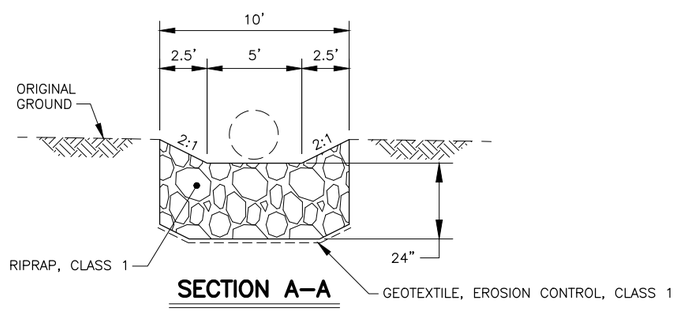
CULVERT INSTALLATION DETAILS

FILE C:\PWWORKING\WEST01\D1207339\53014_E_DETAILS.DWG
DATE/TIME 6/4/2020 7:25 PM | LAYOUT E4 | DESIGNED -- | CHECKED -- | DRAFTED --

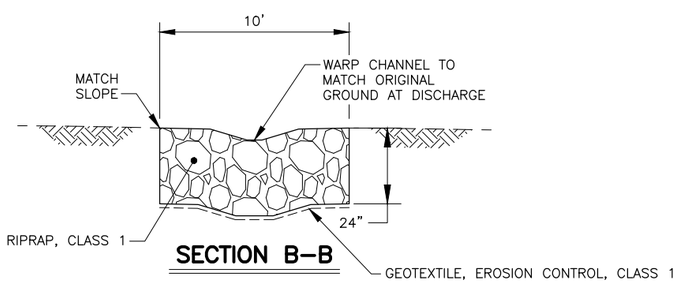
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	CFHWY00693	2021	E5	E13



PLAN



SECTION A–A



SECTION B–B

END TREATMENT TYPE I ENERGY DISSIPATOR

INSTALL ENERGY DISSIPATORS AT LOCATIONS INDICATED IN CULVERT SUMMARY. ENERGY DISSIPATORS ARE PERMANENT FEATURES AND SHALL BE LEFT IN PLACE. ENERGY DISSIPATORS SHALL BE INSTALLED IN CONJUNCTION WITH THE CULVERT INSTALLATION. FILL VOIDS IN RIPRAP WITH STREAM SUBSTRATE FINES.

STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
LICENSED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644–2000

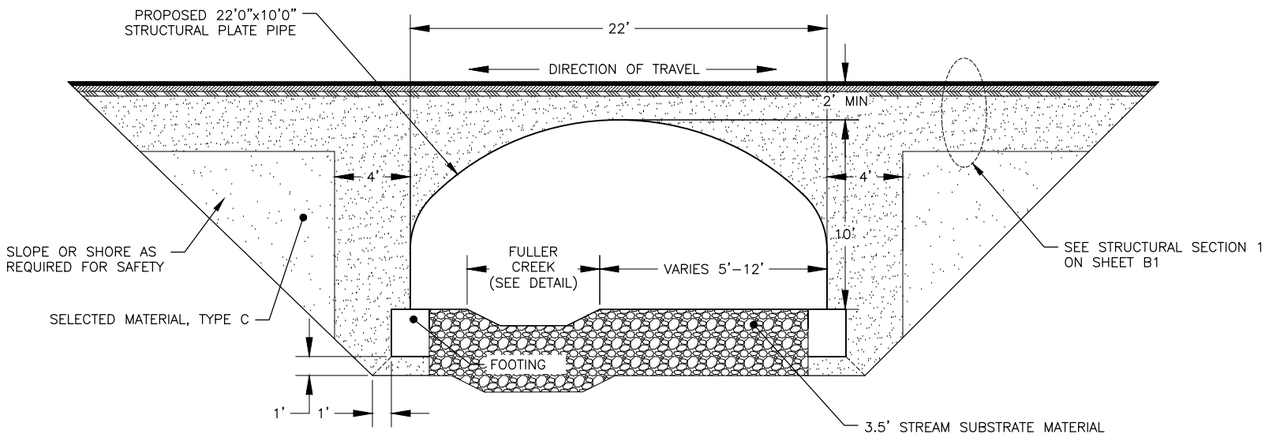
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45–60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

CULVERT INSTALLATION DETAILS
ENERGY DISSIPATORS

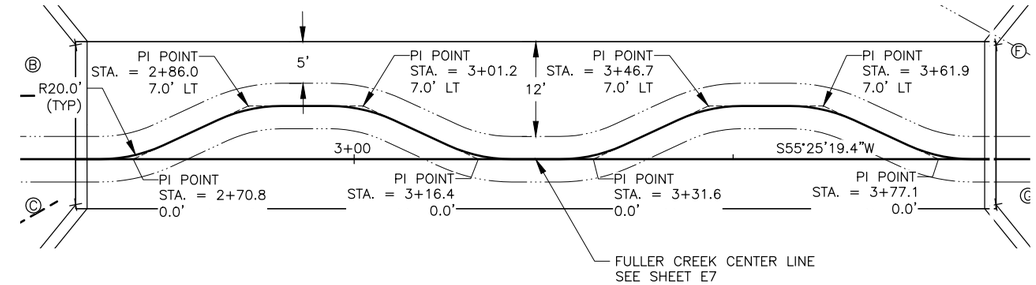
FILE C:\PWWORKING\WESTO1\D1207339\53014_E_DETAILS.DWG
DATE/TIME 6/4/2020 7:25 PM LAYOUT E5 DESIGNED -- CHECKED -- DRAFTED --

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	CFHWY00693	2021	E6	E13

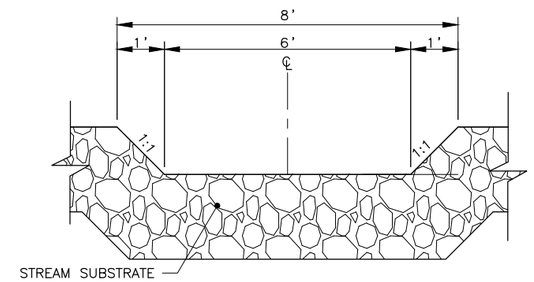


WILDLIFE CROSSING #1

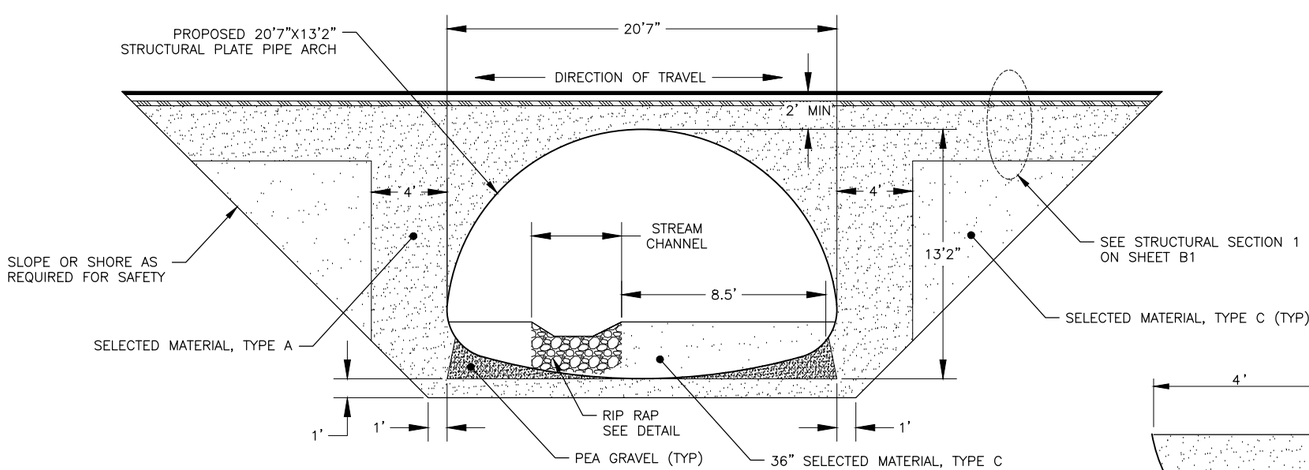
NTS



STREAM MEANDER WITHIN PIPE DETAIL

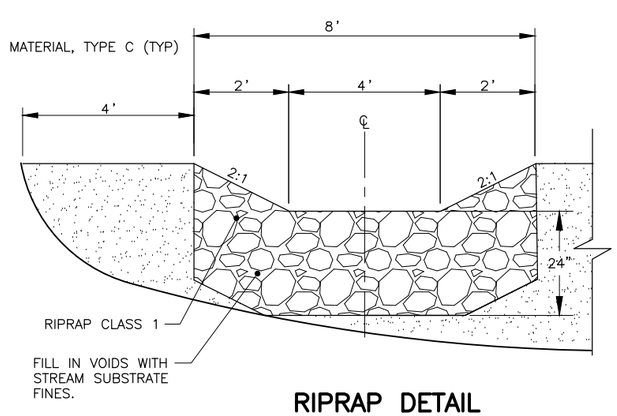


FULLER CREEK DETAIL



WILDLIFE CROSSING #2

NTS



RIPRAP DETAIL

STATE OF ALASKA
★ 49TH ★
REVIEW PS&E
JUNE 2020
LICENSED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644–2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45–60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

WILDLIFE CROSSING DETAILS

FILE C:\PWWORKING\WESTO1\D1207339\53014_E_DETAILS.DWG
DATE/TIME 6/4/2020 7:27 PM
LAYOUT E6
DESIGNED
CHECKED
DRAFTED

SHEET NO.	TOTAL SHEETS
E7	E13
STATE	YEAR
ALASKA	2021

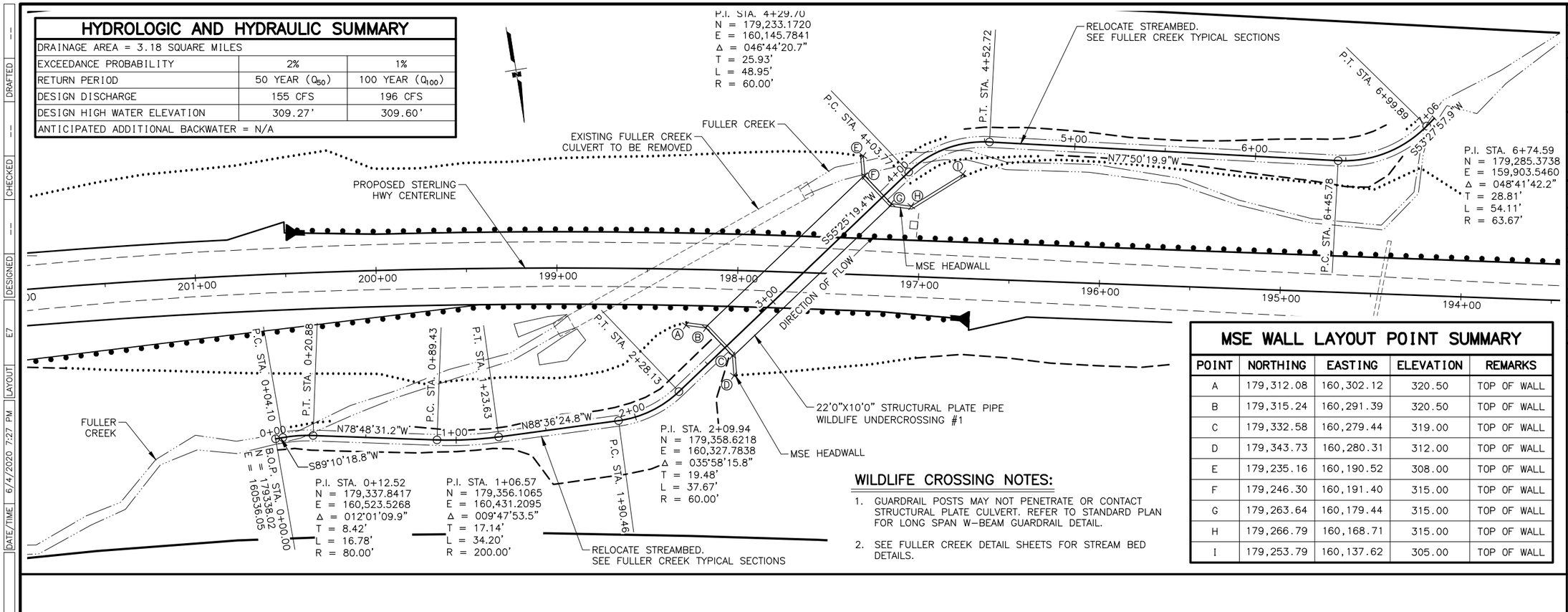
PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

HYDROLOGIC AND HYDRAULIC SUMMARY

DRAINAGE AREA = 3.18 SQUARE MILES		
EXCEEDANCE PROBABILITY	2%	1%
RETURN PERIOD	50 YEAR (Q_{50})	100 YEAR (Q_{100})
DESIGN DISCHARGE	155 CFS	196 CFS
DESIGN HIGH WATER ELEVATION	309.27'	309.60'
ANTICIPATED ADDITIONAL BACKWATER = N/A		

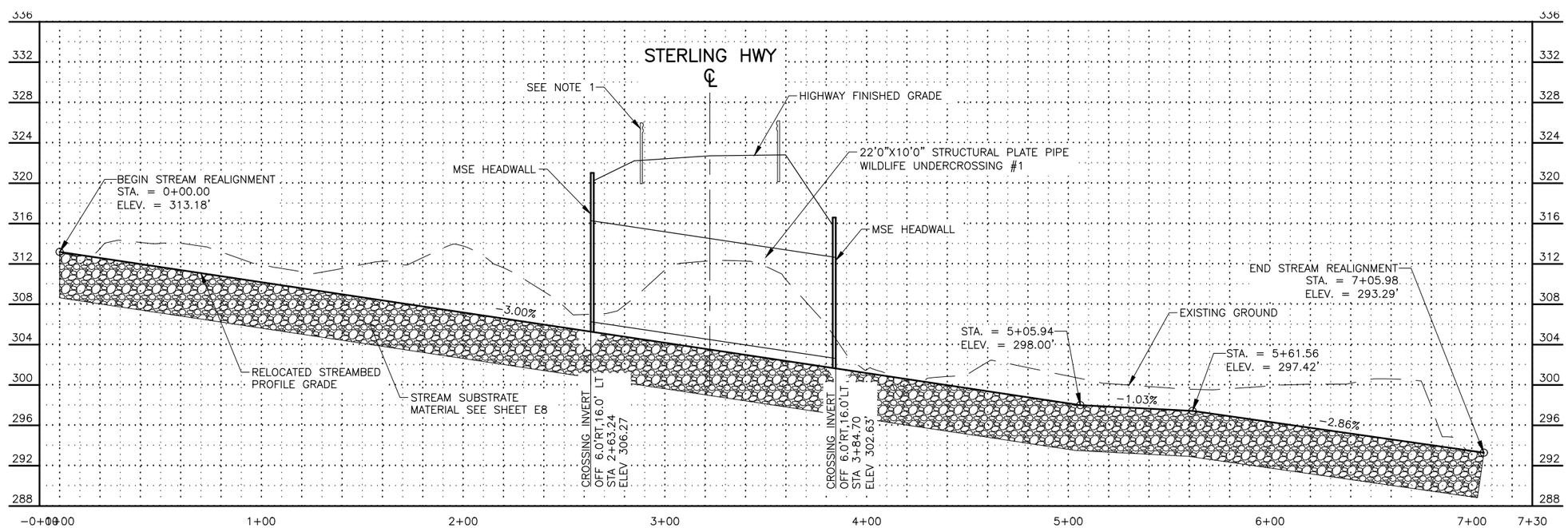


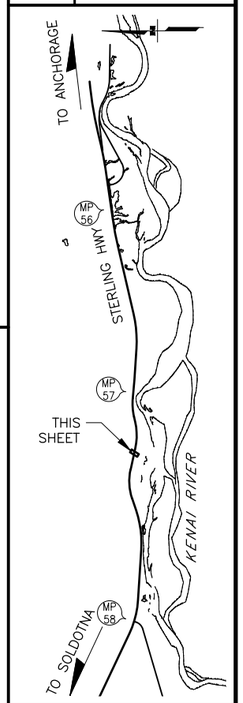
MSE WALL LAYOUT POINT SUMMARY

POINT	NORTHING	EASTING	ELEVATION	REMARKS
A	179,312.08	160,302.12	320.50	TOP OF WALL
B	179,315.24	160,291.39	320.50	TOP OF WALL
C	179,332.58	160,279.44	319.00	TOP OF WALL
D	179,343.73	160,280.31	312.00	TOP OF WALL
E	179,235.16	160,190.52	308.00	TOP OF WALL
F	179,246.30	160,191.40	315.00	TOP OF WALL
G	179,263.64	160,179.44	315.00	TOP OF WALL
H	179,266.79	160,168.71	315.00	TOP OF WALL
I	179,253.79	160,137.62	305.00	TOP OF WALL

WILDLIFE CROSSING NOTES:

1. GUARDRAIL POSTS MAY NOT PENETRATE OR CONTACT STRUCTURAL PLATE CULVERT. REFER TO STANDARD PLAN FOR LONG SPAN W-BEAM GUARDRAIL DETAIL.
2. SEE FULLER CREEK DETAIL SHEETS FOR STREAM BED DETAILS.





STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

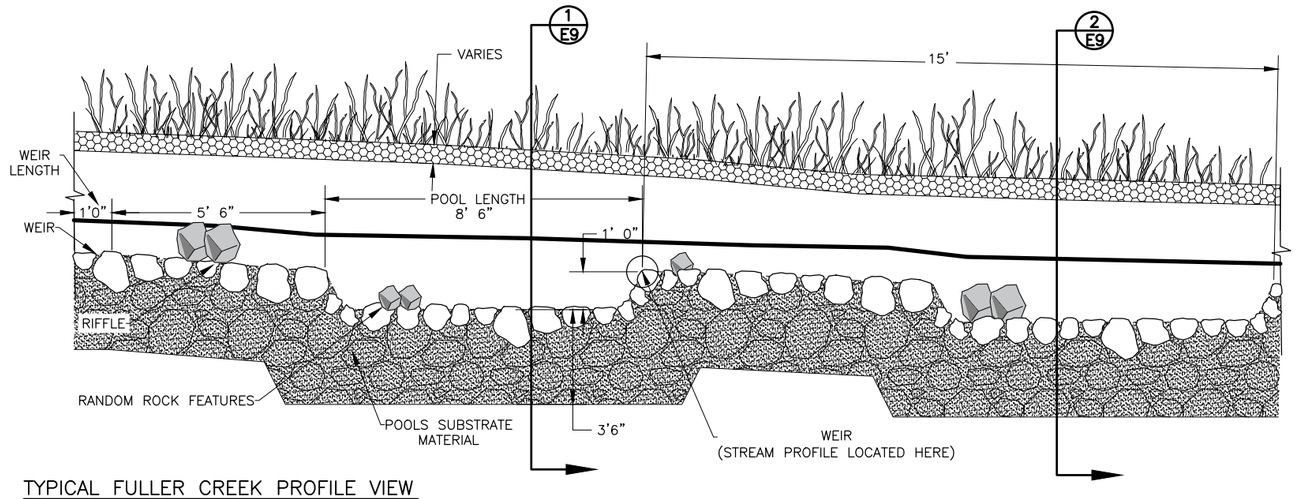
STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

WILDLIFE CROSSING #1

DATE/TIME 6/4/2020 7:27 PM LAYOUT E7 DESIGNED -- CHECKED -- DRAFTED --
FILE C:\PWWORKING\WEST01\D1207339\53014_E_DETAILS.DWG

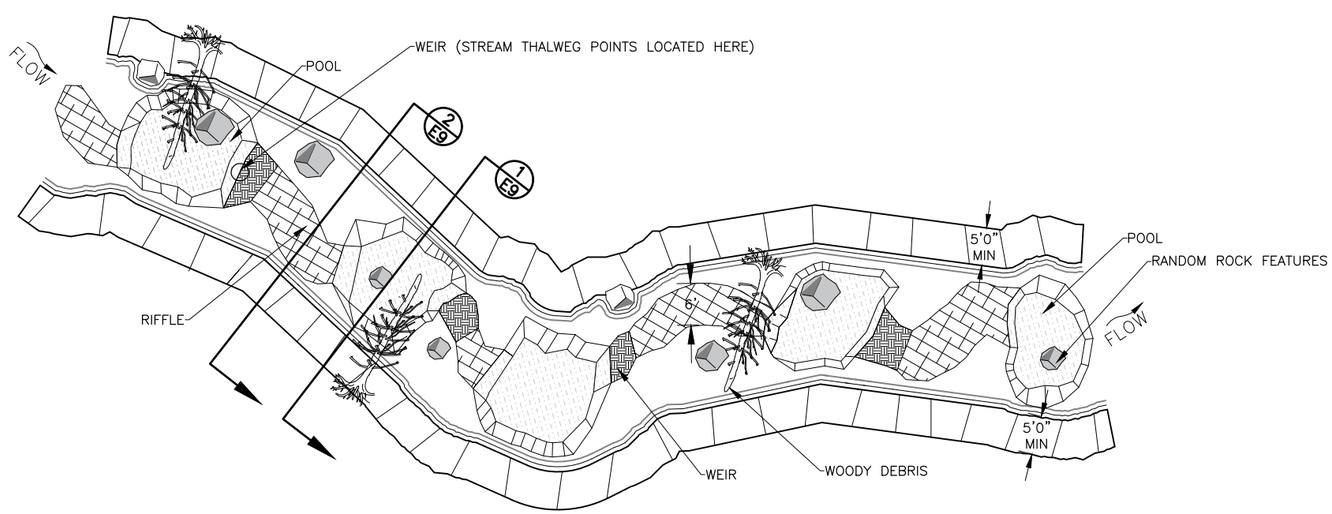
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	E8	E13



TYPICAL FULLER CREEK PROFILE VIEW
NTS

1. REPEAT WEIR, RIFFLE, POOL PATTERN EVERY 15 FEET.



TYPICAL FULLER CREEK PLAN VIEW
NTS

NOTES:

1) CHANNEL EXCAVATION. ORGANIC SOILS AND VEGETATIVE MAT WILL BE STRIPPED OFF THE UNDERLYING SOILS AND STOCKPILED PRIOR TO CHANNEL EXCAVATION. THESE MATERIALS WILL BE REUSED TO REVEGETATE THE RIPARIAN AREAS OF THE RECONSTRUCTED STREAM. THE LARGER GEOMORPHIC FEATURES WILL BE EXCAVATED INTO THE SUBSTRATE FIRST, THESE FEATURES INCLUDE THE GENERAL DIMENSION, GRADIENTS, AND CENTERLINE OF THE FLOOD WAY AND CHANNEL. ANY FILL MATERIALS, POOL SEDIMENTS, AND ROCK FEATURES WILL BE ADDED AFTER THE CHANNEL IS CONSTRUCTED. WATER WILL BE INTRODUCED TO THE CHANNEL AND FLOWS ABOVE THE CONSTRUCTED CHANNEL MEASURED. IF THERE IS A LOSS OF FLOW GREATER THAN 15% THEN THE MORE FINE SOILS ARE TO BE ADDED UNTIL FLOW PONDS ON TOP OF THE CONSTRUCTED CHANNEL. AFTER THE CHANNEL HAS BEEN APPROVED BY THE ENGINEER THE VEG MAT AND WOODY FEATURES WILL BE ADDED TO THE CHANNEL RESTORATION.

2) VEG MAT. SALVAGED VEG MAT FROM CHANNEL EXCAVATION SHALL BE KEPT SEPARATE FROM OTHER EXCAVATION DEBRIS, SOILS AND ORGANICS AND KEPT MOIST FOR THE DURATION OF THE CONSTRUCTION PERIOD UNTIL FINAL ACCEPTANCE OF THE PROJECT. THE VEG MAT WILL BE A MINIMUM OF 12 INCHES THICK AND REPLANTED TIGHTLY TOGETHER TO MINIMIZE GAPS BETWEEN THE MATS. INDIVIDUAL SECTION MAY BE HELD IN PLACE WITH WOODEN STAKES. VEG MAT WILL BE PLACED OVER A MINIMUM OF 12 INCHES OF ORGANIC SOILS.

3) ALL CHANNEL REALIGNMENT AND STREAM RESTORATION WORK IS INCLUDED IN PAY ITEM 690.

STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

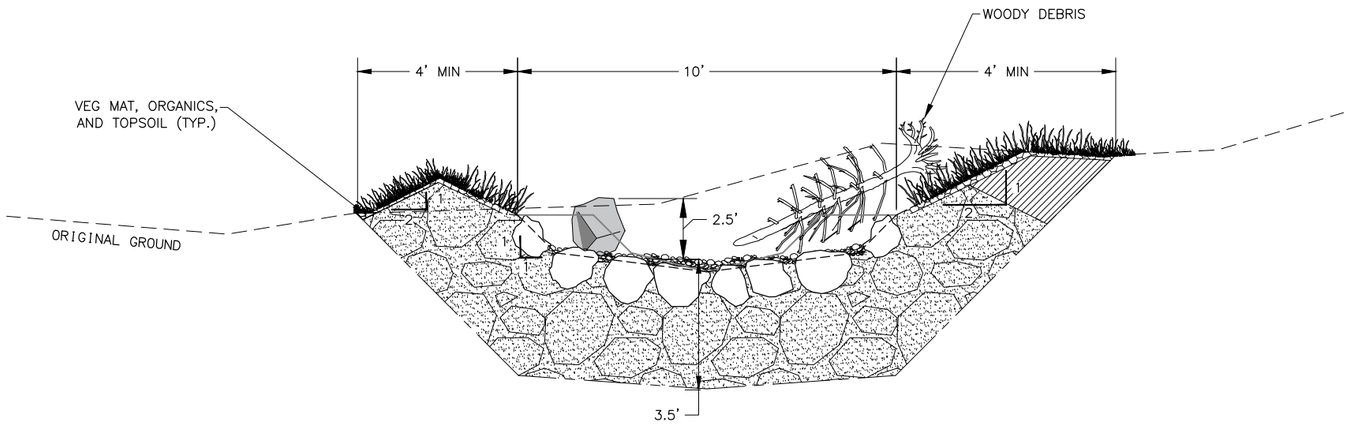
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

FULLER CREEK TYPICAL SECTION – 1

FILE C:\PWWORKING\WESTO1\D1173394\53014_E_DETAILS_WATER.DWG
DATE/TIME 6/4/2020 7:26 PM
LAYOUT E8
DESIGNED
CHECKED
DRAFTED

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	CFHWY00693	2021	E9	E13



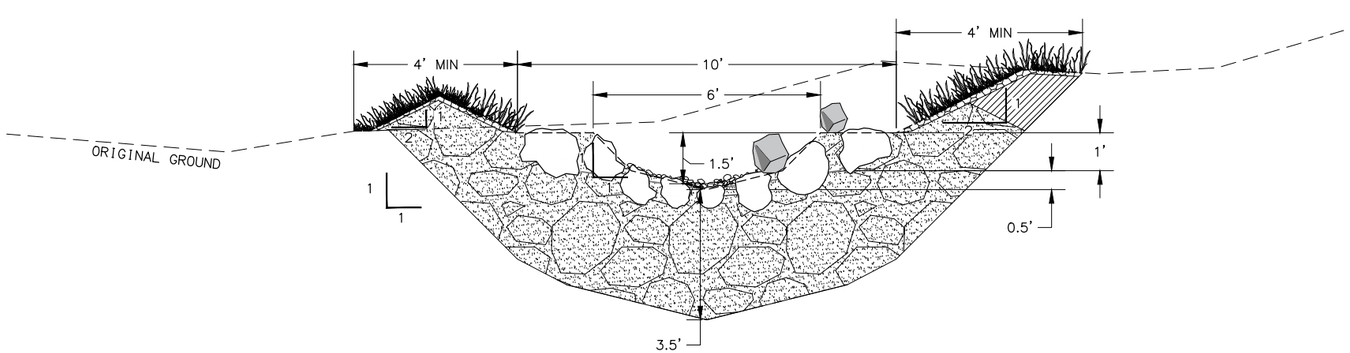
1 / E8 TYPICAL FULLER CREEK POOL SECTION
NTS

NOTES:

1) SMALL WOODY DEBRIS – TREES WITH OR WITHOUT ROOT WADS ATTACHED WITH BOLE DIAMETER OF 6–12 INCHES SPACED 10–15 FEET ALONG THE CENTERLINE OR MINIMUM OF 1 PER WEIR/RIFFLE/POOL SEQUENCE. PLACE ENTIRE STRUCTURE BELOW THE BANK FULL LEVEL IF POSSIBLE, IF NOT POSSIBLE REST ONE END IN CHANNEL WITH OTHER END ON BANK. ANCHOR WITH ONE OR BOTH ENDS ANCHORED WITH ROOT WADS OR ROCK CLUSTERS. PROVIDES IMMEDIATE GRADE CONTROL AND SUBSTRATE FOR AQUATIC INSECTS AND VEGETATION.

2) RANDOM ROCK FEATURES – 18"–24" ROCK, PLACE 3–5 PER WEIR/RIFFLE/POOL SEQUENCE. EMBED 25% INTO POOL SUBSTRATE OR CLUSTER ON AND BELOW WOOD DEBRIS STRUCTURES. PLACE AS DIRECTED BY ENGINEER.

3) ALL CHANNEL REALIGNMENT AND STREAM RESTORATION WORK IS INCLUDED IN PAY ITEM 690.



2 / E8 TYPICAL FULLER CREEK WEIR AND RIFFLE SECTION
NTS

STATE OF ALASKA 49TH REVIEW PS&E JUNE 2020 REGISTERED PROFESSIONAL ENGINEER

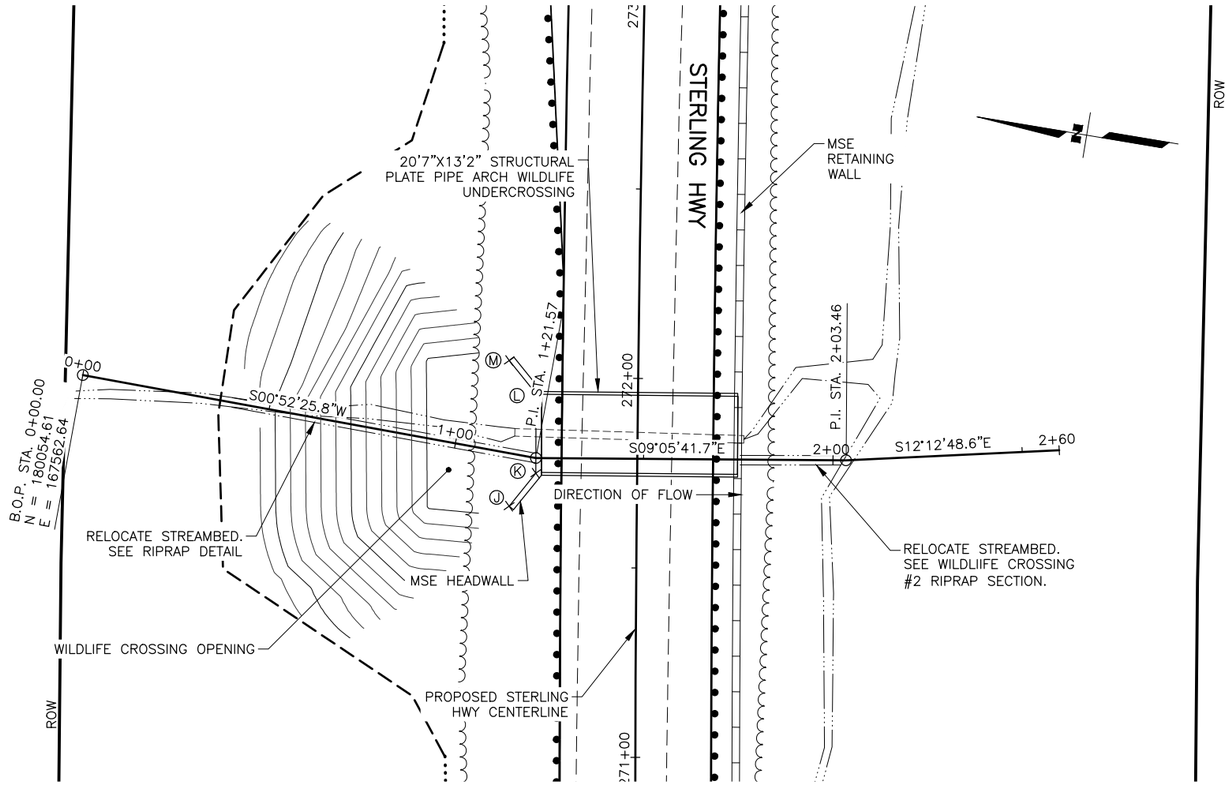
HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644–2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45–60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

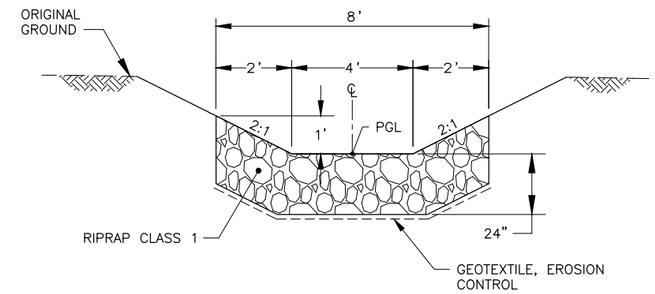
FULLER CREEK TYPICAL SECTION

DRAFTED | CHECKED | DESIGNED | E9 | LAYOUT | 6/4/2020 7:26 PM | DATE/TIME | FILE C:\PWWORKING\WESTO1\D1173394\53014_E_DETAILS_WATER.DWG



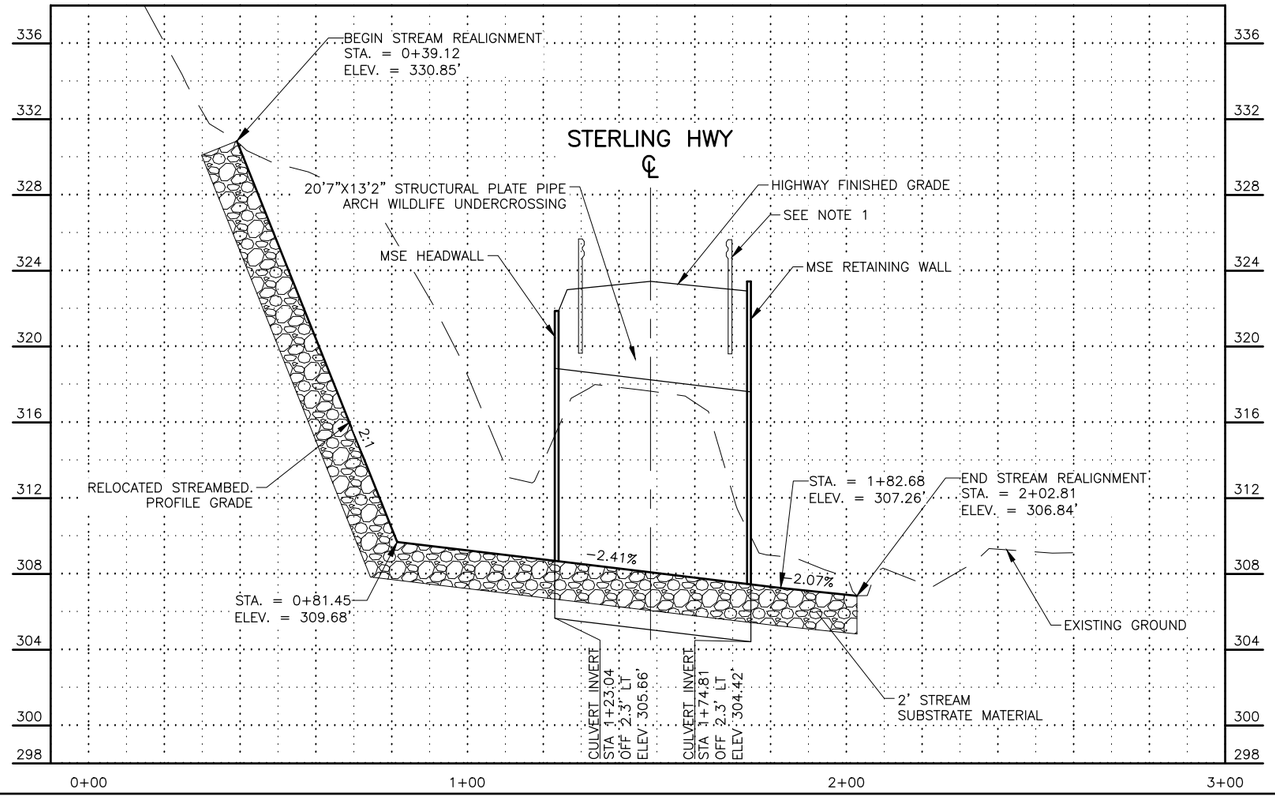
HYDROLOGIC AND HYDRAULIC SUMMARY

DRAINAGE AREA =		
EXCEEDANCE PROBABILITY	2%	1%
RETURN PERIOD	50 YEAR (Q_{50})	100 YEAR (Q_{100})
DESIGN DISCHARGE	49 CFS	70 CFS
DESIGN HIGH WATER ELEVATION	309.67'	309.94'
ANTICIPATED ADDITIONAL BACKWATER = N/A		



WILDLIFE CROSSING #2 RIPRAP SECTION

STA 0+00.00 TO STA 1+23.04
STA 1+74.81 TO STA 2+02.81



WILDLIFE CROSSING NOTES:

1. GUARDRAIL POSTS MAY NOT PENETRATE OR CONTACT STRUCTURAL PLATE CULVERT. REFER TO STANDARD PLAN FOR LONG SPAN W-BEAM GUARDRAIL DETAIL.

MSE WALL LAYOUT POINT SUMMARY

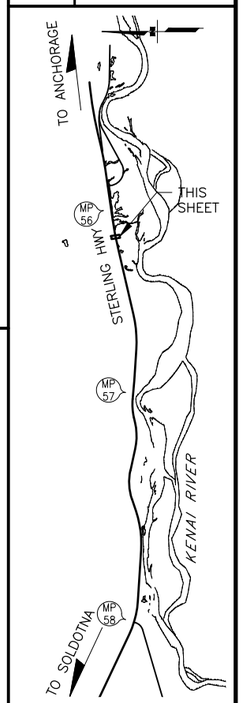
POINT	NORTHING	EASTING	ELEVATION	REMARKS
J	179,937.92	167,547.12	321.50	TOP OF WALL
K	179,932.39	167,556.84	322.50	TOP OF WALL
L	179,935.84	167,577.61	322.50	TOP OF WALL
M	179,944.21	167,585.03	321.50	TOP OF WALL

SHEET NO.	TOTAL SHEETS
E10	E13
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUSTIN C. HANNEFORD
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK LAKE RD, STAGE 1A

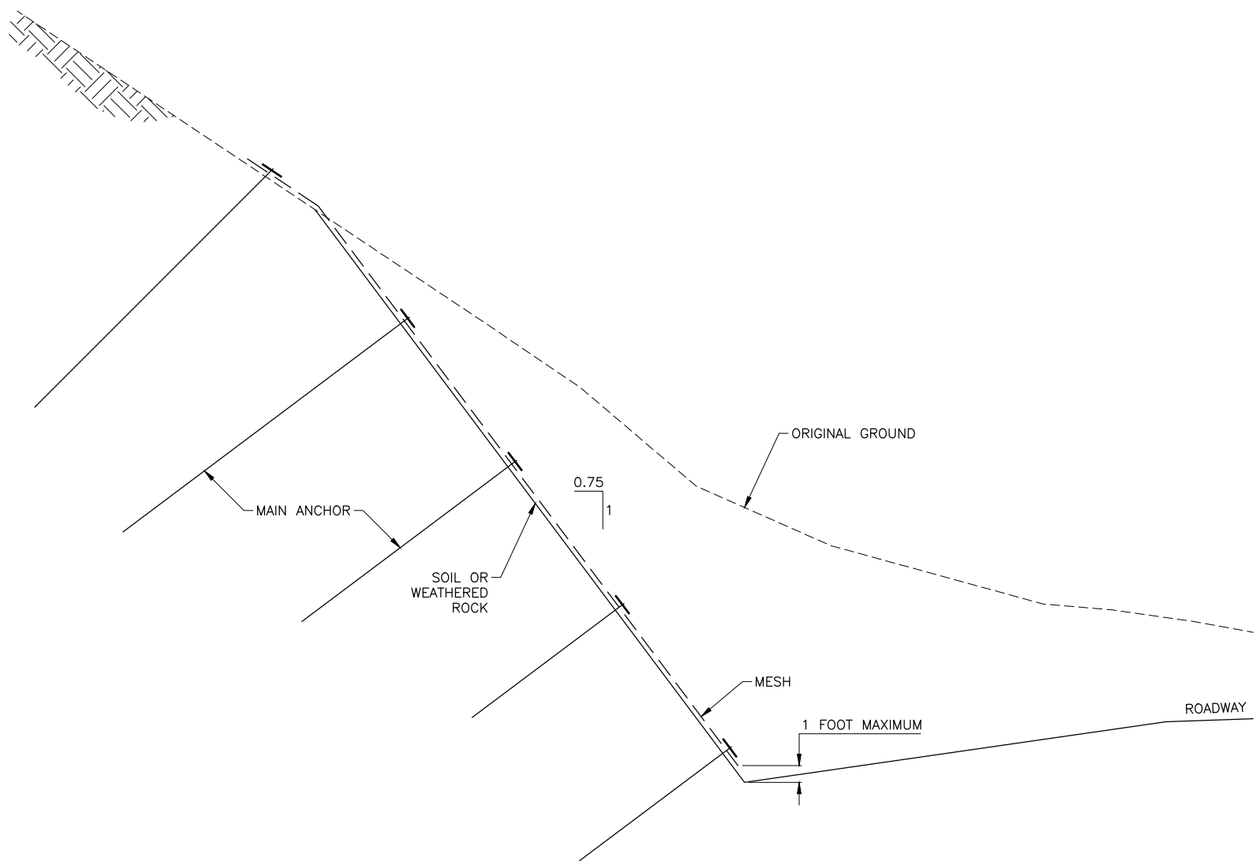
WILDLIFE CROSSING #2

DATE/TIME 6/4/2020 7:28 PM | LAYOUT E10 | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_E_DETAILS.DWG

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	E11	E13



TYPICAL SECTION

NOTES:

GENERAL:

1. ANCHORS AND MESH SHALL BE INSTALLED FROM THE TOP DOWN AS EXCAVATION PROCEEDS. THE EXCAVATION SHALL PROCEED IN STAGES. THE MESH SHALL BE INSTALLED ON THE EXPOSED PORTION OF THE SLOPE PRIOR TO EXCAVATING THE NEXT LEVEL.
2. MESH SHALL BE INSTALLED IN ACCORDANCE WITH THE SLOPE STABILIZATION SYSTEM PRODUCT MANUAL.
3. EROSION CONTROL FABRIC MAY BE INSTALLED ON THE SLOPE UNDER THE MESH AT THE DIRECTION OF THE ENGINEER.

WIRE MESH:

1. SUPPLY HIGH–TENSILE STRENGTH STEEL WIRE MESH USING WIRE WITH A MINIMUM DIAMETER OF 0.079 INCHES AND A MINIMUM TENSILE STRENGTH EXCEEDING 250,000 POUNDS PER SQUARE INCH WITH A ZINC/ALUMINUM GALVANIZING APPLIED AT A MINIMUM WEIGHT OF 0.40 OUNCES PER SQUARE FOOT. PROVIDE A MESH WITH A MINIMUM LONGITUDINAL TENSILE STRENGTH OF 3,600 POUND PER FOOT AND A MAXIMUM MESH WIDTH OF 3.3 INCHES.

MAIN ANCHORS:

1. THE MAIN ANCHORS SHALL BE INSTALLED TO THE MINIMUM LENGTH AS SHOWN ON THE ANCHOR SCHEDULE, AND SHALL HAVE A MINIMUM PULLOUT STRENGTH (DESIGN LOAD) OF 100 kN AS DETERMINED BY PROOF TESTS.

ANCHOR SCHEDULE

ANCHOR ROW	MINIMUM EMBEDMENT LENGTH (FT)
1 (TOP)	25
2	20
3	15
4	15
5 (IF REQUIRED)	10
6 (IF REQUIRED)	10
7 (IF REQUIRED)	10

2. MAIN ANCHORS SHALL BE A MINIMUM 1 INCH DIA. GALVANIZED, CEMENT GROUTED THREAD BAR. ALTERNATIVELY, MINIMUM 1.5 INCH DIA. SELF GROUTING SOIL ANCHORS MAY BE USED.
3. CENTRALIZERS ARE REQUIRED ON ANCHORS AT 5 FEET ON CENTERS. SELF GROUTING ANCHORS DO NOT REQUIRE CENTRALIZERS.
4. ANCHOR HOLES SHALL BE A MINIMUM DIAMETER OF 1.5 INCHES PLUS THE ANCHOR DIAMETER.
5. GROUT MUST BE INJECTED INTO THE BOTTOM OF THE HOLE SO THAT THE ANNULAR SPACE IS FILLED WITH GROUT.
6. THE TOP ROW OF MAIN ANCHORS SHALL BE INSTALLED A MINIMUM OF 3 FEET ABOVE THE TOP OF THE CUT SLOPE, AND SHALL BE INSTALLED AT AN ANGLE OF 45 DEGREES FROM HORIZONTAL. ALL OTHER ANCHORS SHALL BE INSTALLED PERPENDICULAR TO THE SLOPE FACE.

SECONDARY NAILS:

1. SECONDARY NAILS TO BE USED AS DIRECTED BY THE ENGINEER FOR ADDITIONAL ANCHORAGE ALONG BOUNDARIES, AND IN DEPRESSIONS ON THE SLOPE FACE.
2. SECONDARY NAILS SHALL BE A MINIMUM 0.75 INCH DIA. GALVANIZED, CEMENT GROUTED THREAD BAR, AND SHALL HAVE A MINIMUM EMBEDMENT OF 6 FEET.

BOUNDARY ROPES:

1. BOUNDARY ROPES SHALL HAVE A MINIMUM DIAMETER OF 0.5 INCH. THE ROPE SHALL BE 6x12 CONSTRUCTION (OR EQUIVALENT), IWRC AND GALVANIZED, WITH A MINIMUM BREAKING STRENGTH OF 22.5 KIPS.
2. THE MAXIMUM LENGTH OF TOP BOUNDARY ROPE SEGMENTS IS 100 FEET, AND THE MAXIMUM LENGTH FOR BOTTOM BOUNDARY ROPE SEGMENTS IS 200 FEET.
3. BOTH ENDS OF EACH BOUNDARY ROPE SEGMENT SHALL BE ANCHORED WITH A WIRE ROPE ANCHOR INSTALLED AT 45 DEGREES IN–LINE WITH THE ROPE.

STATE OF ALASKA
49TH
REVIEW P.S.&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644–2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

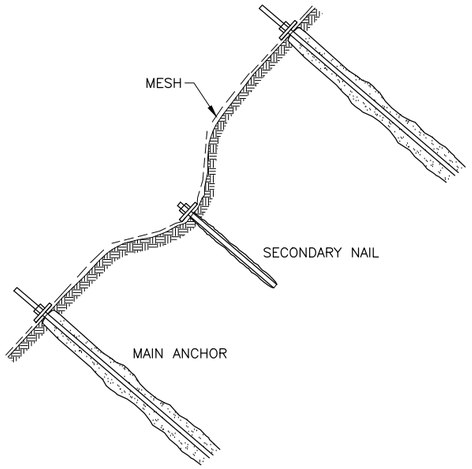
STERLING HIGHWAY
MP 45–60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

SLOPE PROTECTION DETAILS

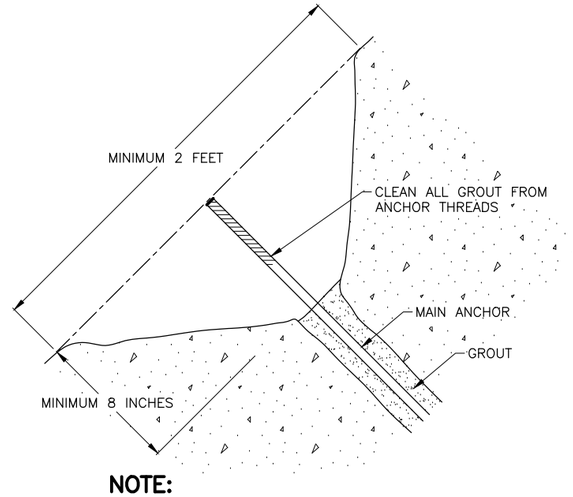
DATE/TIME 6/4/2020 7:28 PM | LAYOUT E11 | DESIGNED | CHECKED | DRAFTED
FILE C:\PWWORKING\WEST01\D1207339\53014_E_DETAILS.DWG

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	E12	E13



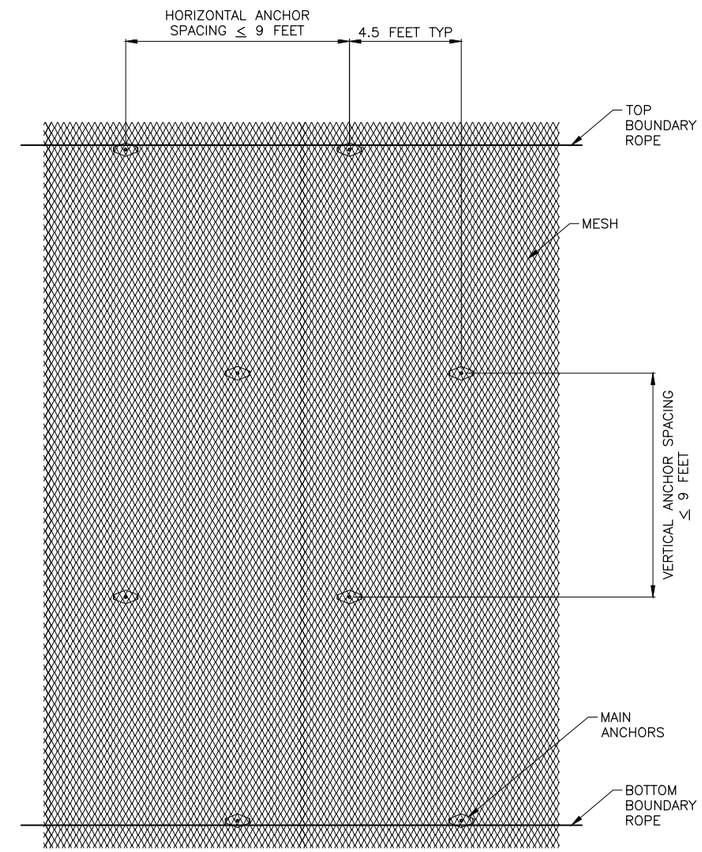
TYP. DEPRESSION W/ SECONDARY NAIL



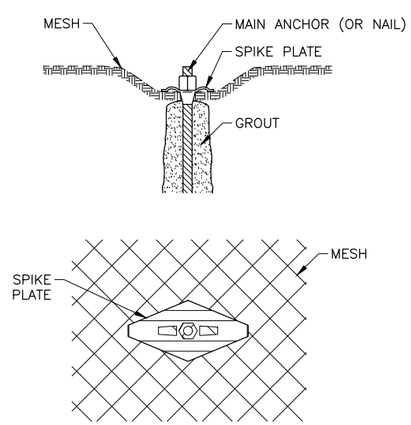
NOTE:

EXCAVATE A DEPRESSION AROUND THE HEAD OF ALL MAIN ANCHORS, BEFORE GROUT HAS SET.

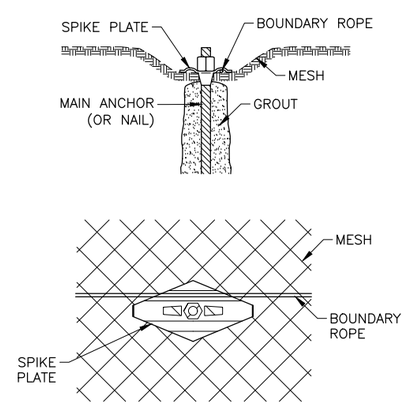
ANCHOR HEAD EXCAVATION DETAIL



MESH DETAIL



NAIL & ANCHOR DETAIL, TYP



NAIL & ANCHOR DETAIL WITH BOUNDARY ROPE

STATE OF ALASKA
49TH
REVIEW P.S.&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

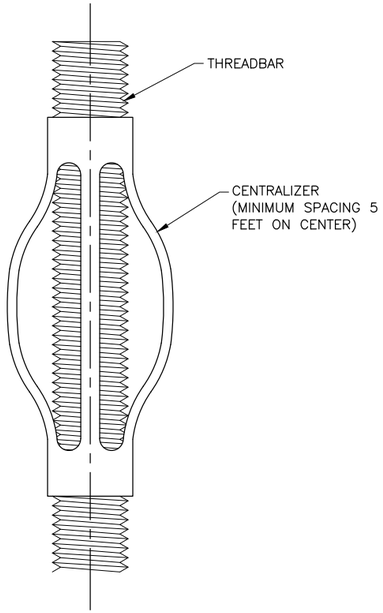
STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

SLOPE PROTECTION DETAILS

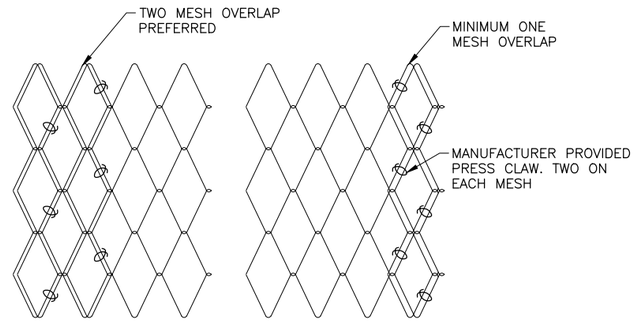
DRAFTED | CHECKED | DESIGNED | LAYOUT E12 | DATE/TIME 6/4/2020 7:28 PM | FILE C:\PWWORKING\WEST01\D1207339\53014_E_DETAILS.DWG

NO.	DATE	REVISION

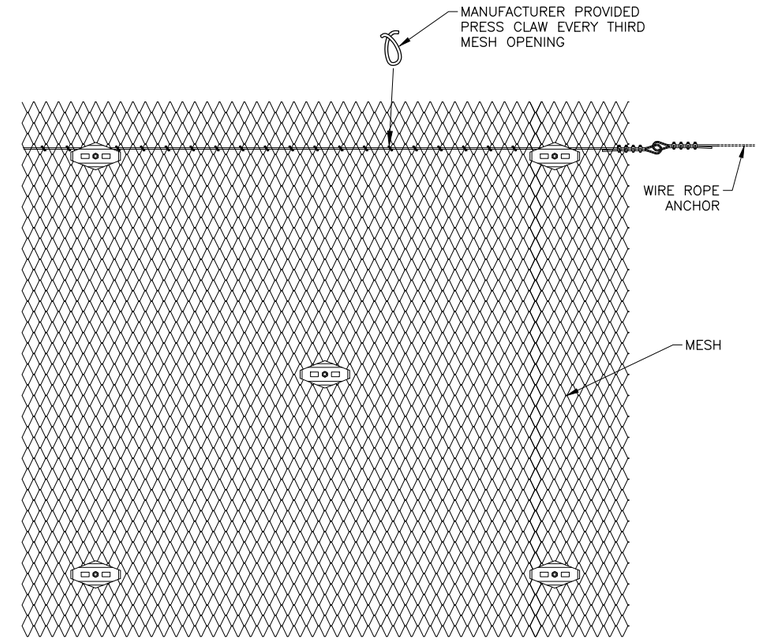
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	E13	E13



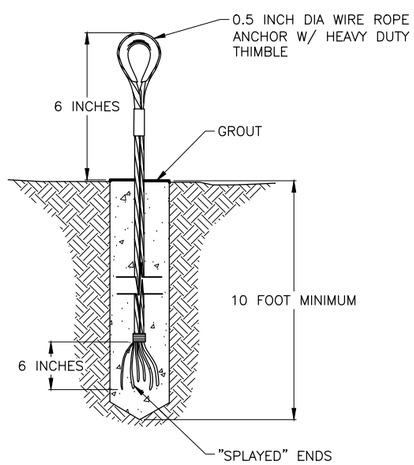
CENTRALIZER DETAIL



VERTICAL CONNECTION OF MESH SHEETS



BOUNDARY ROPE CONNECTION DETAIL



WIRE ROPE ANCHOR DETAIL

REVIEW PS&E
JUNE 2020

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

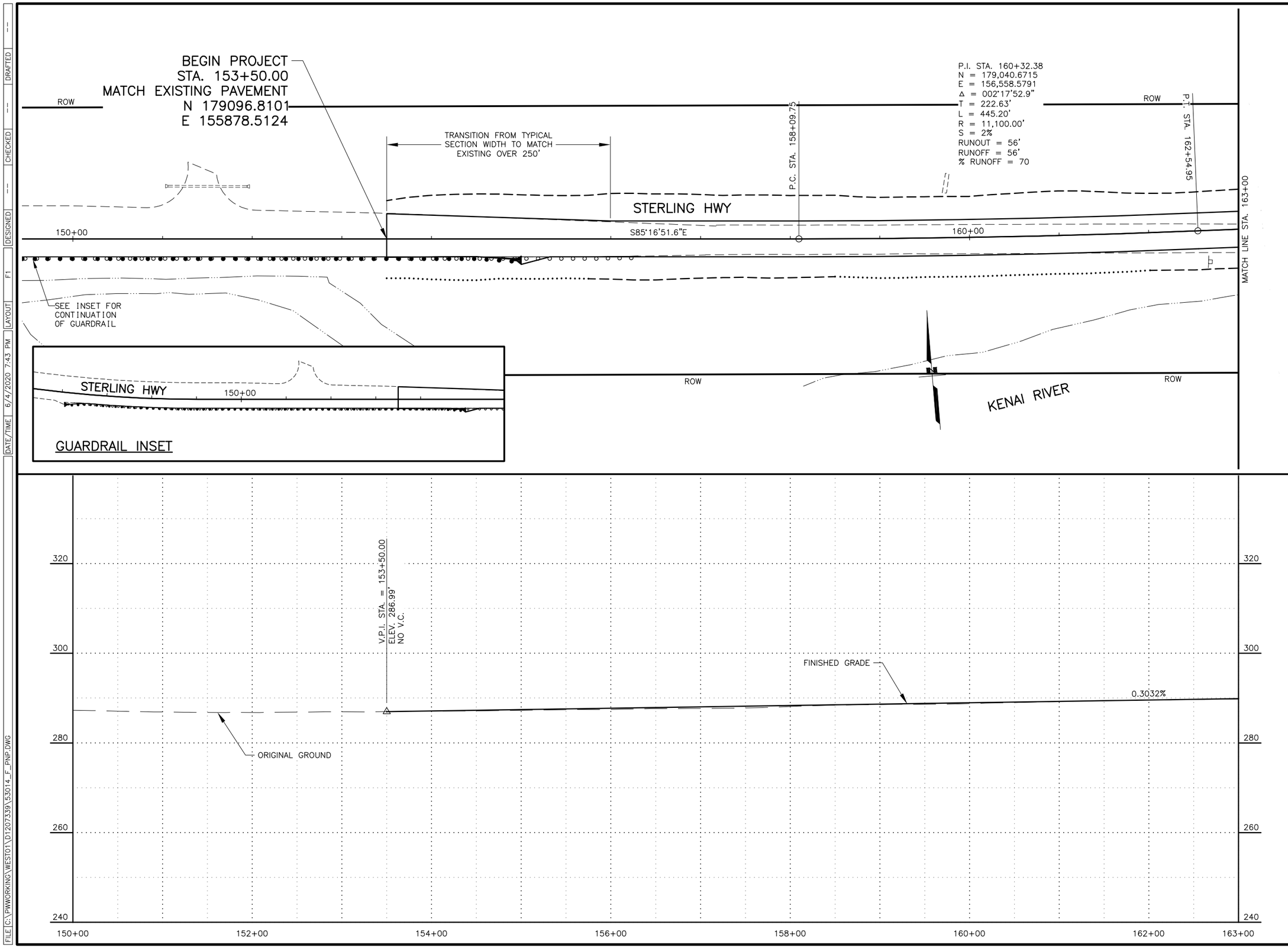
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

SLOPE PROTECTION DETAILS

DATE/TIME 6/4/2020 7:28 PM | LAYOUT E13 | DESIGNED | CHECKED | DRAFTED

FILE C:\PWWORKING\WEST01\D1207339\53014_E_DETAILS.DWG

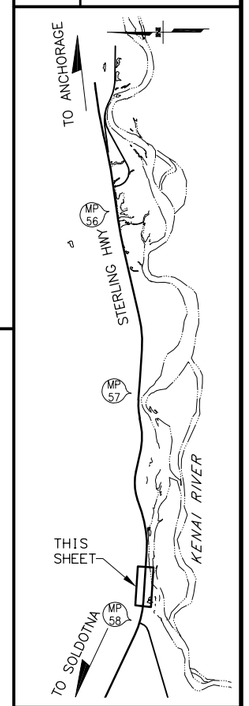


SHEET NO.	TOTAL SHEETS
F1	F11
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

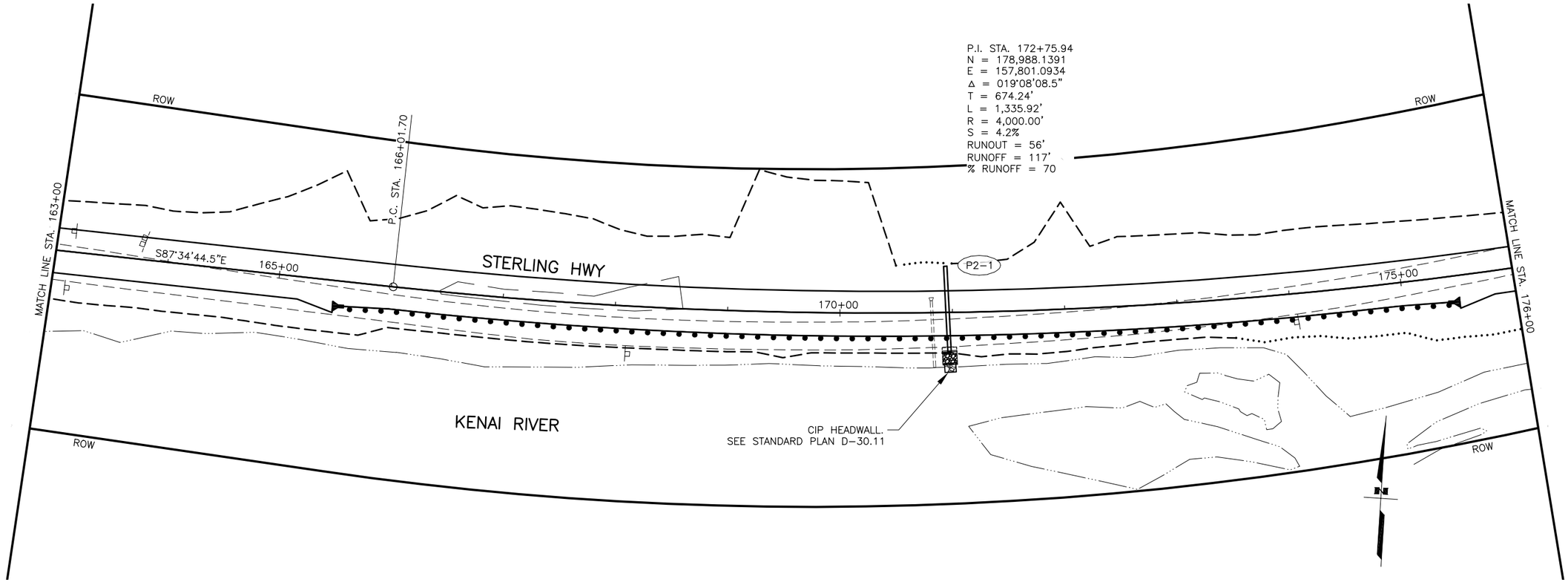
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

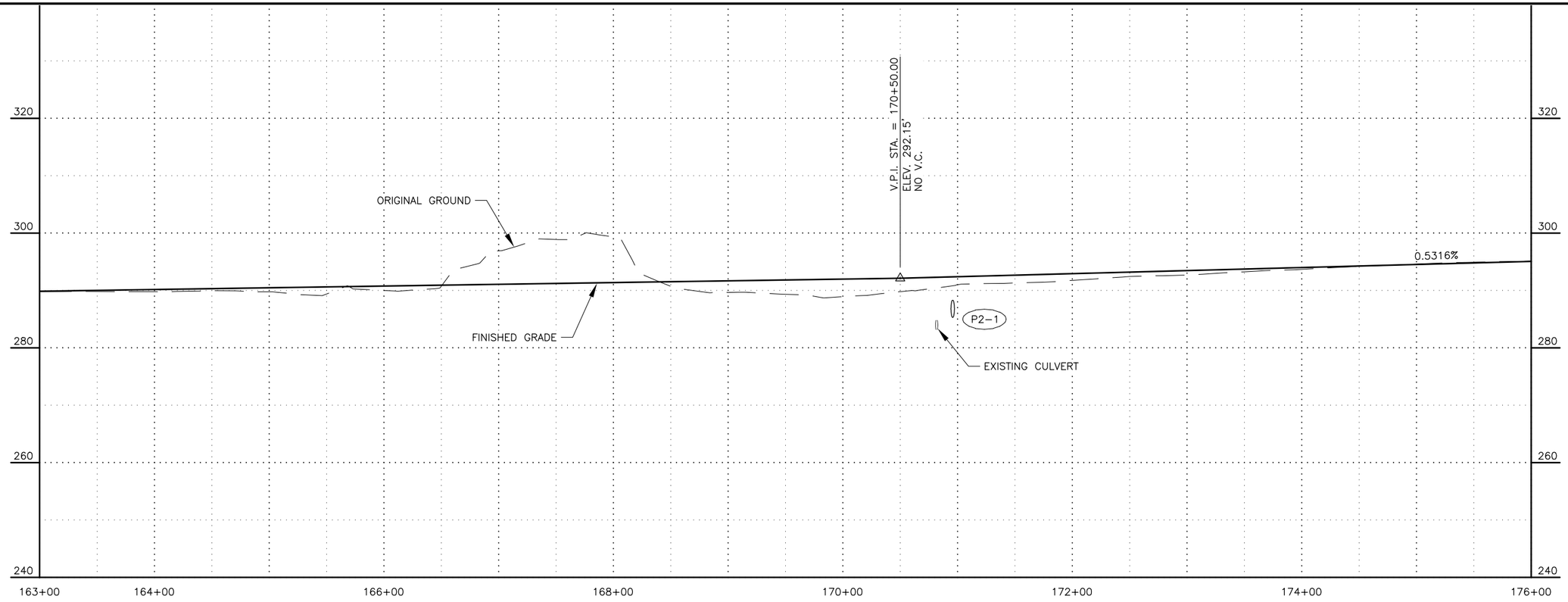
STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

PLAN AND PROFILE
BOP TO 163+00

DATE/TIME 6/4/2020 7:43 PM | LAYOUT F1 | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_F_PNP.DWG



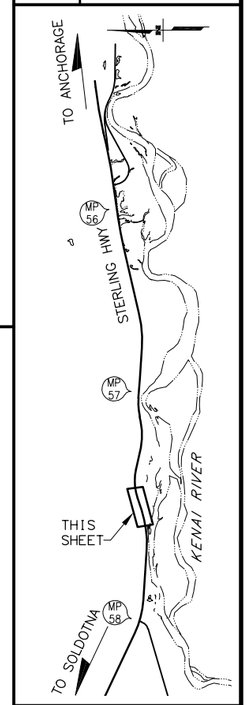


SHEET NO.	TOTAL SHEETS
F2	F11
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

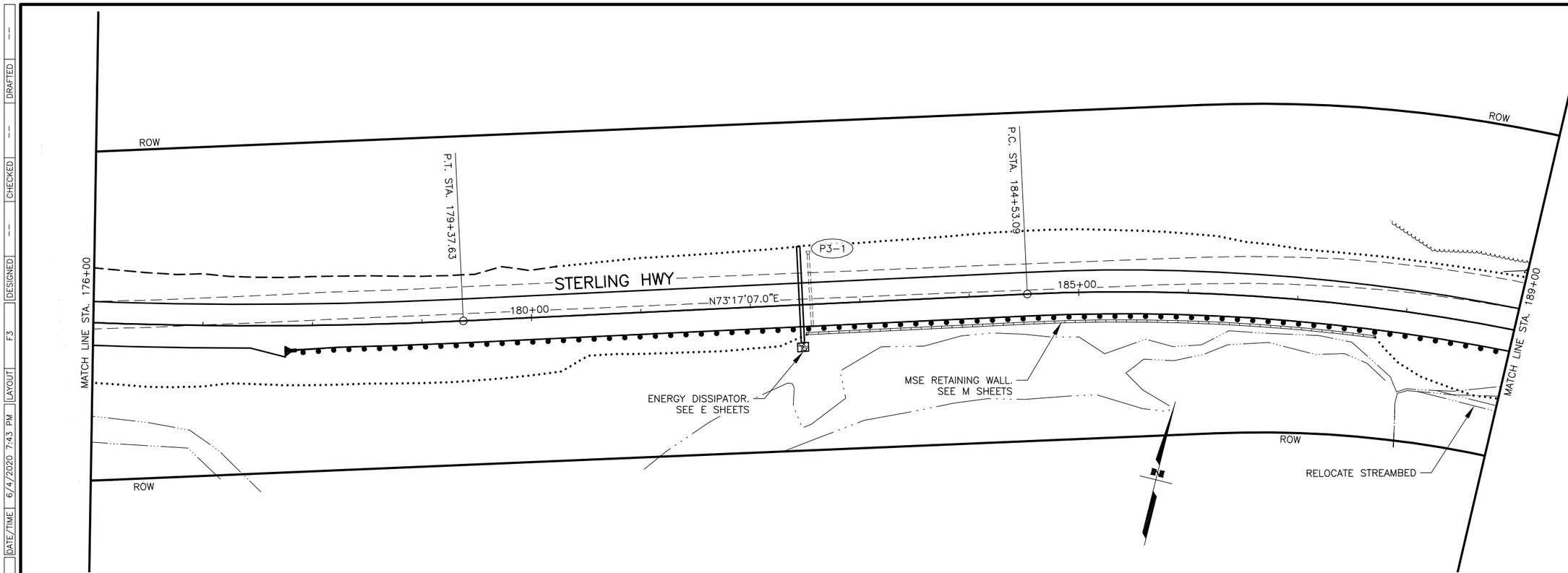
HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

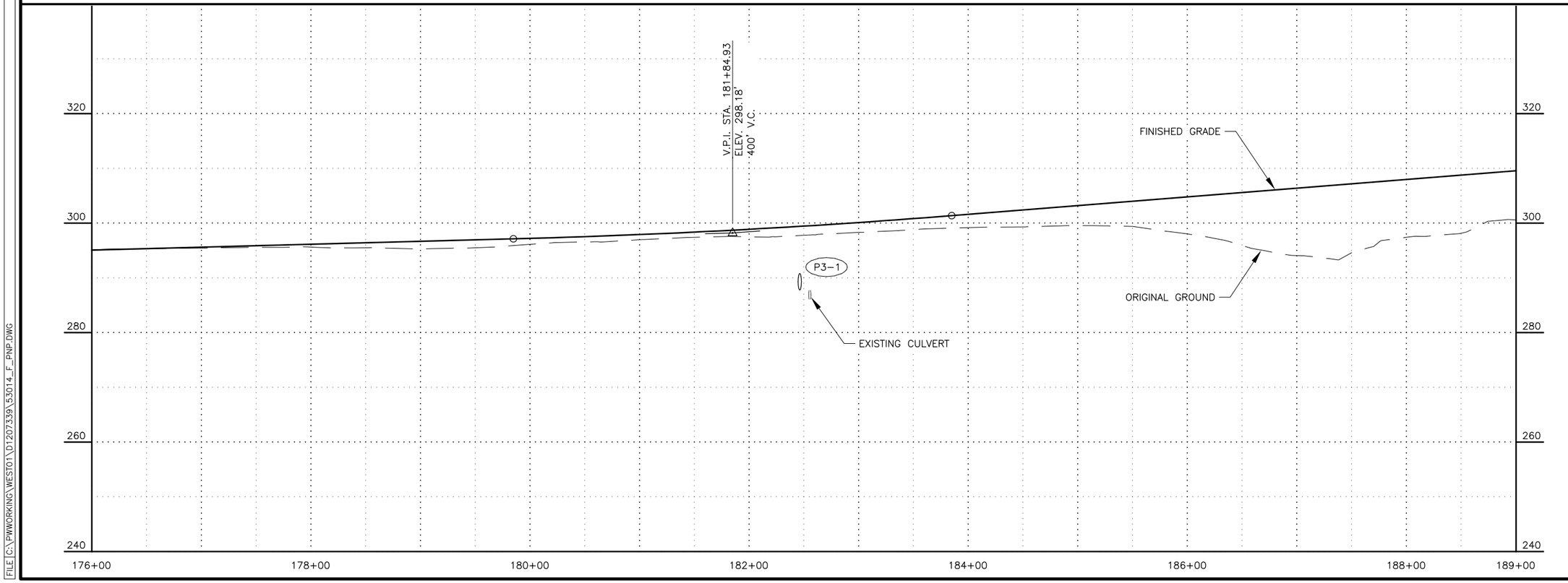
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

PLAN AND PROFILE
STA 163+00 TO 176+00

FILE C:\PWWORKING\WEST01\D1207339\53014_F_PNP.DWG
DATE/TIME 6/4/2020 7:43 PM
LAYOUT F2
DESIGNED --
CHECKED --
DRAFTED --



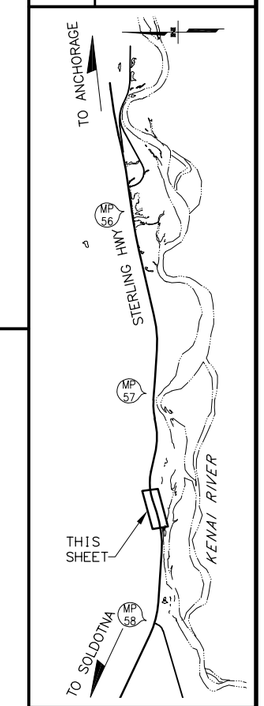


SHEET NO.	TOTAL SHEETS
F3	F11
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

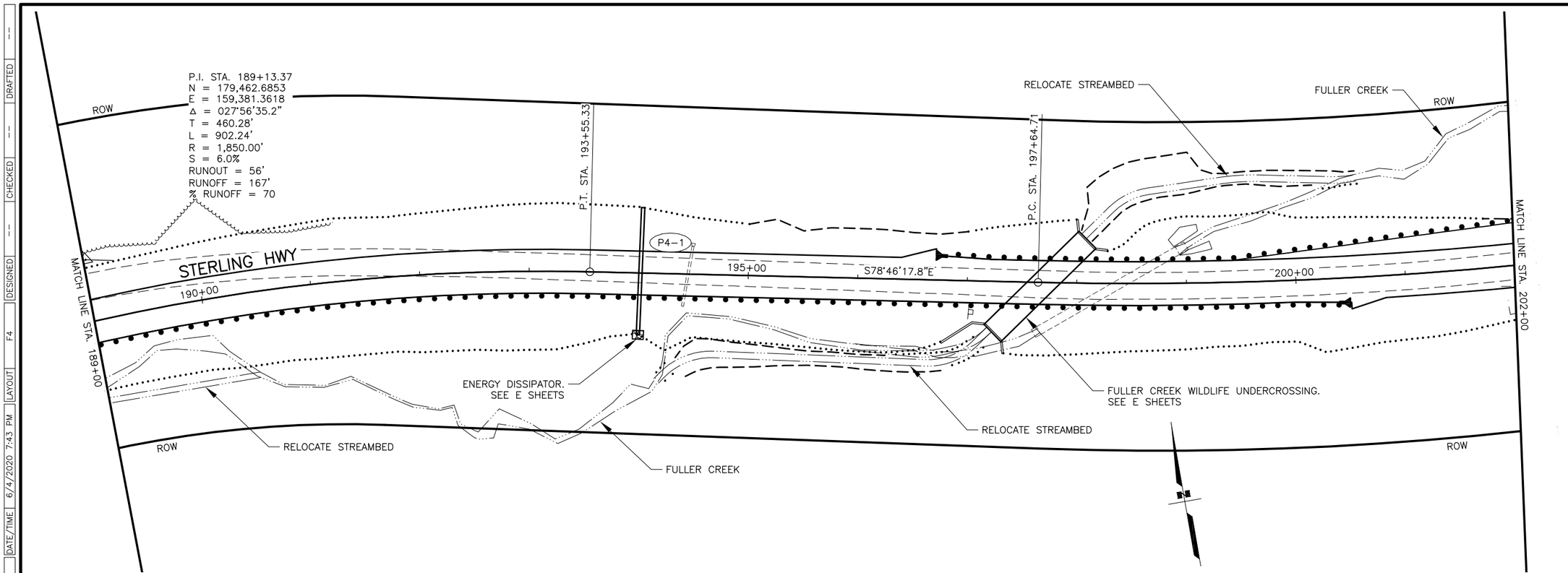
HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

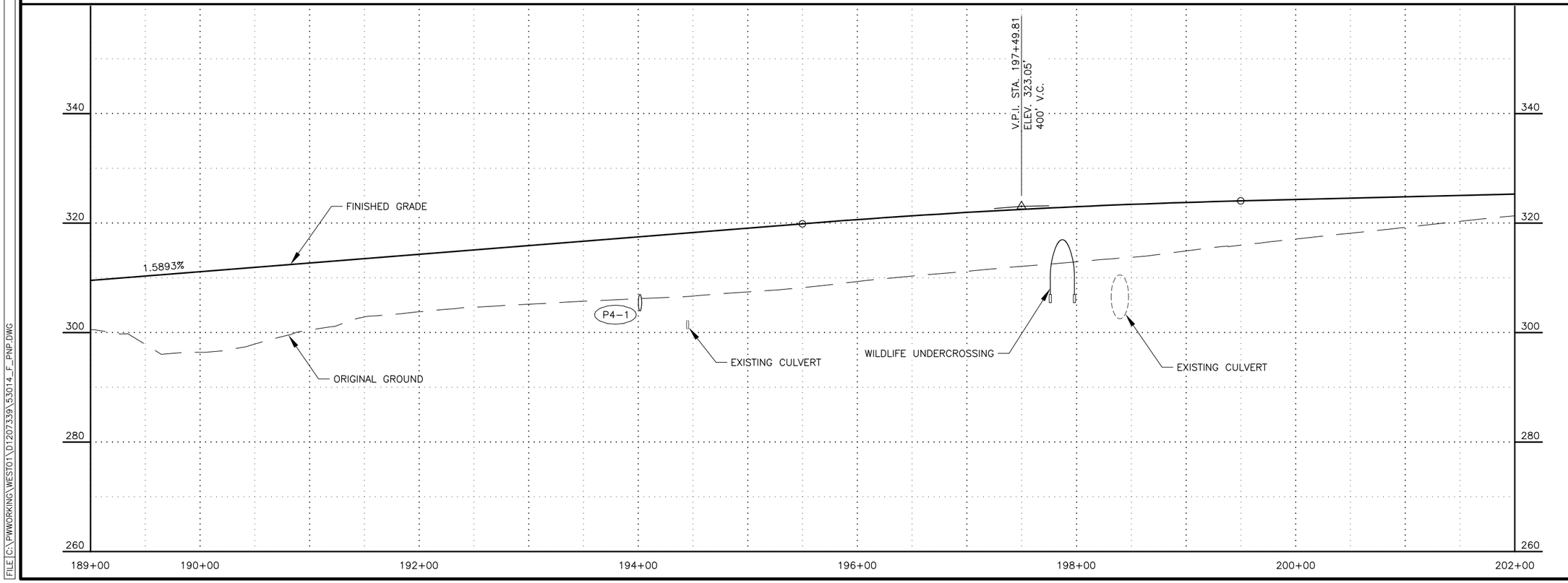
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

PLAN AND PROFILE
STA 176+00 TO 189+00

FILE C:\PWWORKING\WESTO1\D1207339\53014_F_PNP.DWG
DATE/TIME 6/4/2020 7:43 PM | LAYOUT F3 | DESIGNED -- | CHECKED -- | DRAFTED --



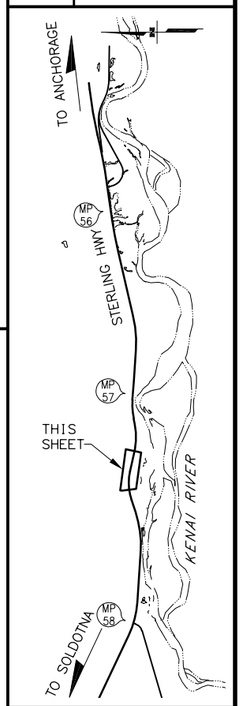


SHEET NO.	TOTAL SHEETS
F4	F11
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

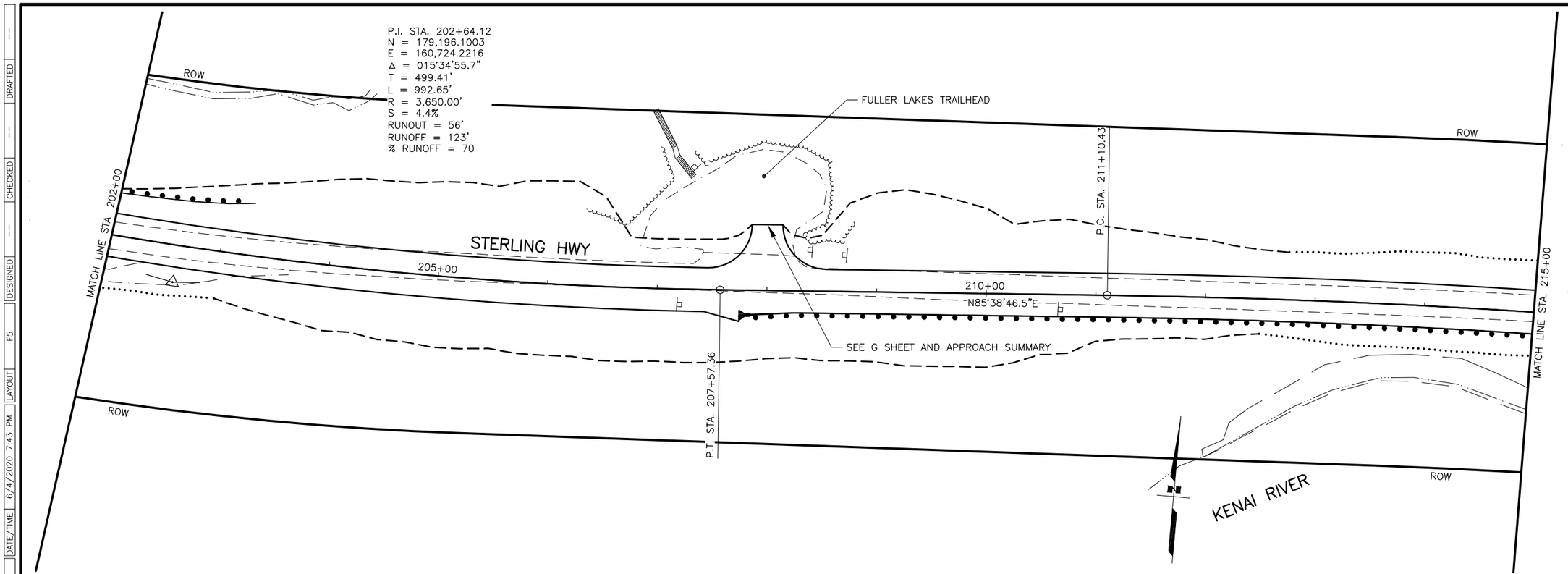
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

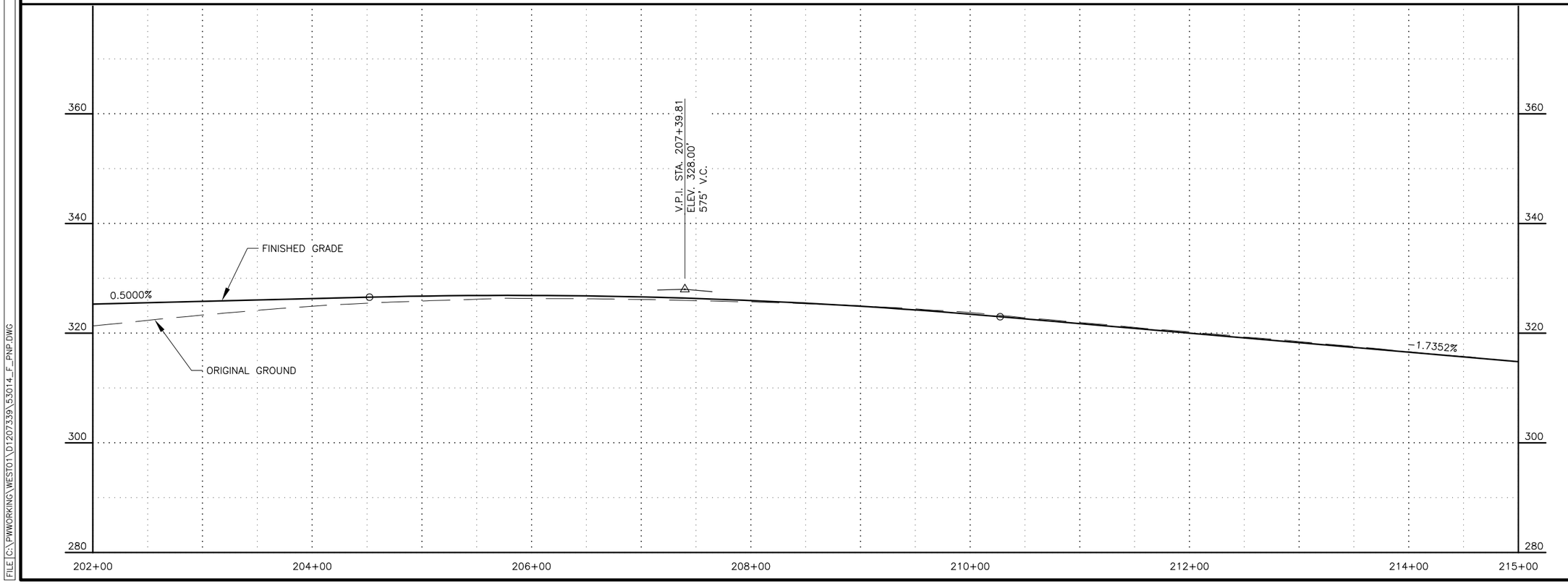
STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

PLAN AND PROFILE
STA 189+00 TO 202+00

DATE/TIME 6/4/2020 7:43 PM | LAYOUT F4 | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_F_PNP.DWG



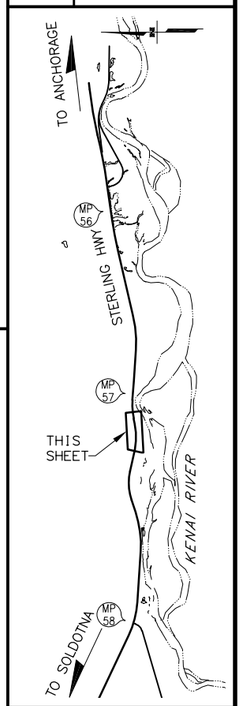


SHEET NO.	TOTAL SHEETS
F5	F11
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

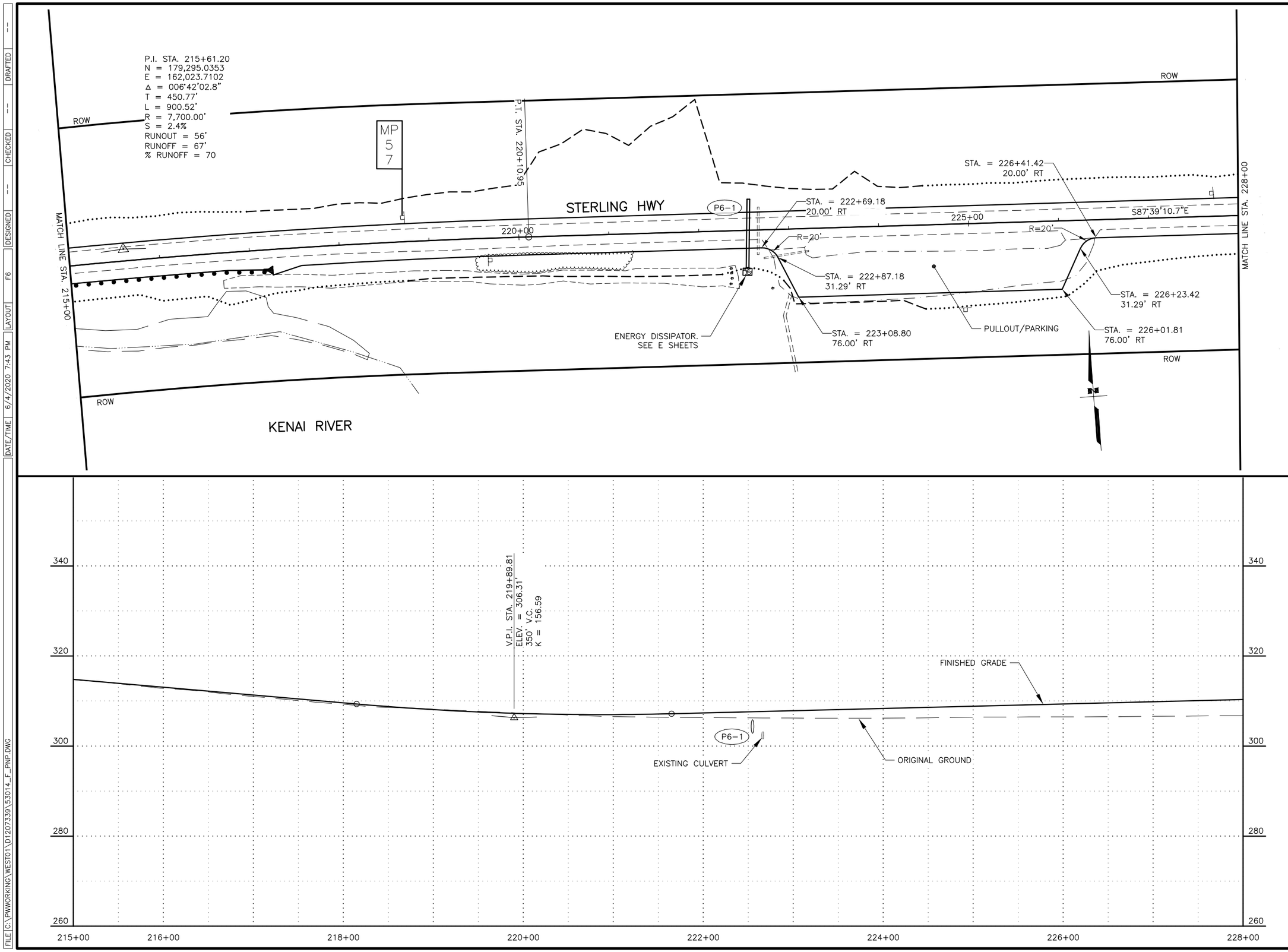
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

PLAN AND PROFILE
STA 202+00 TO 215+00

DATE/TIME 6/4/2020 7:43 PM | LAYOUT F5 | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_F_PNP.DWG

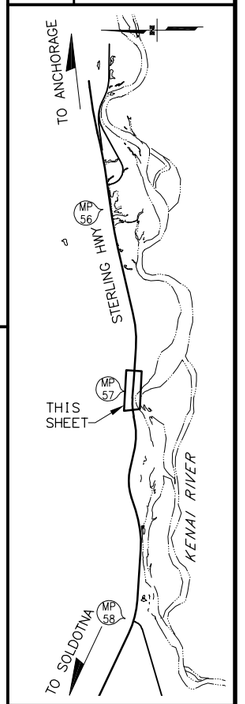


SHEET NO.	TOTAL SHEETS
F6	F11
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

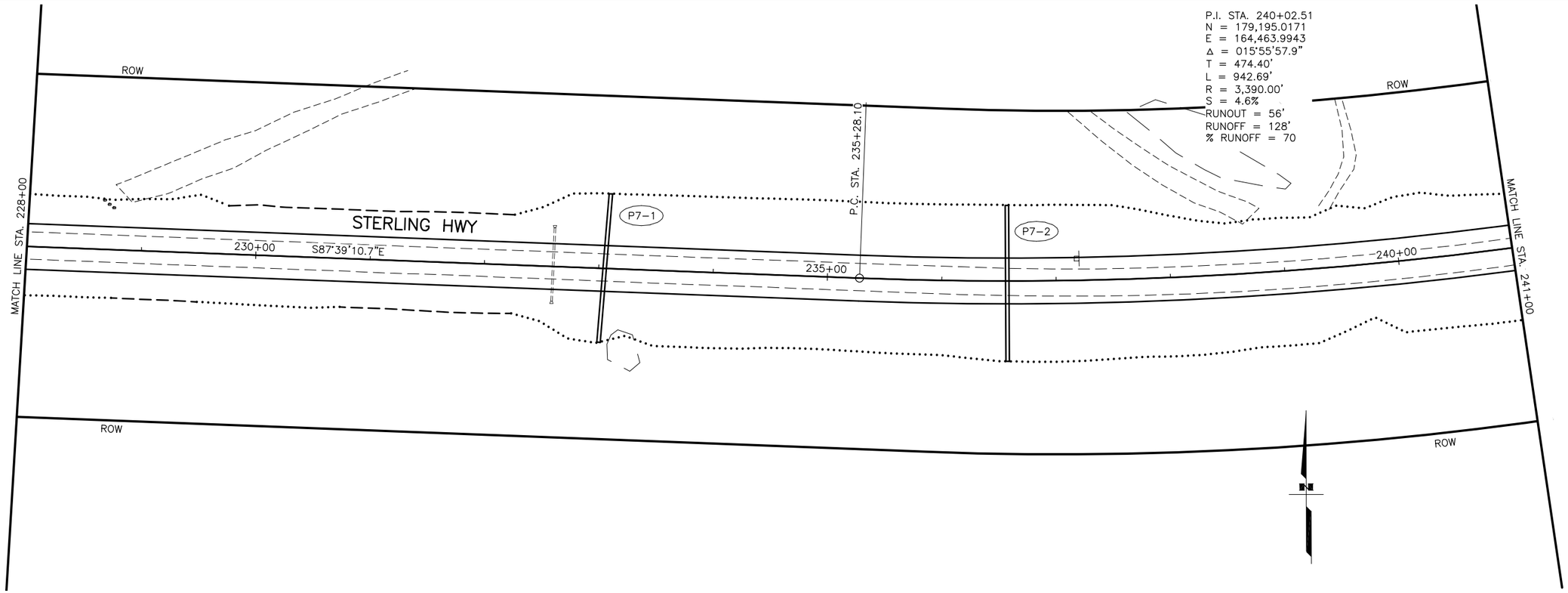
HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

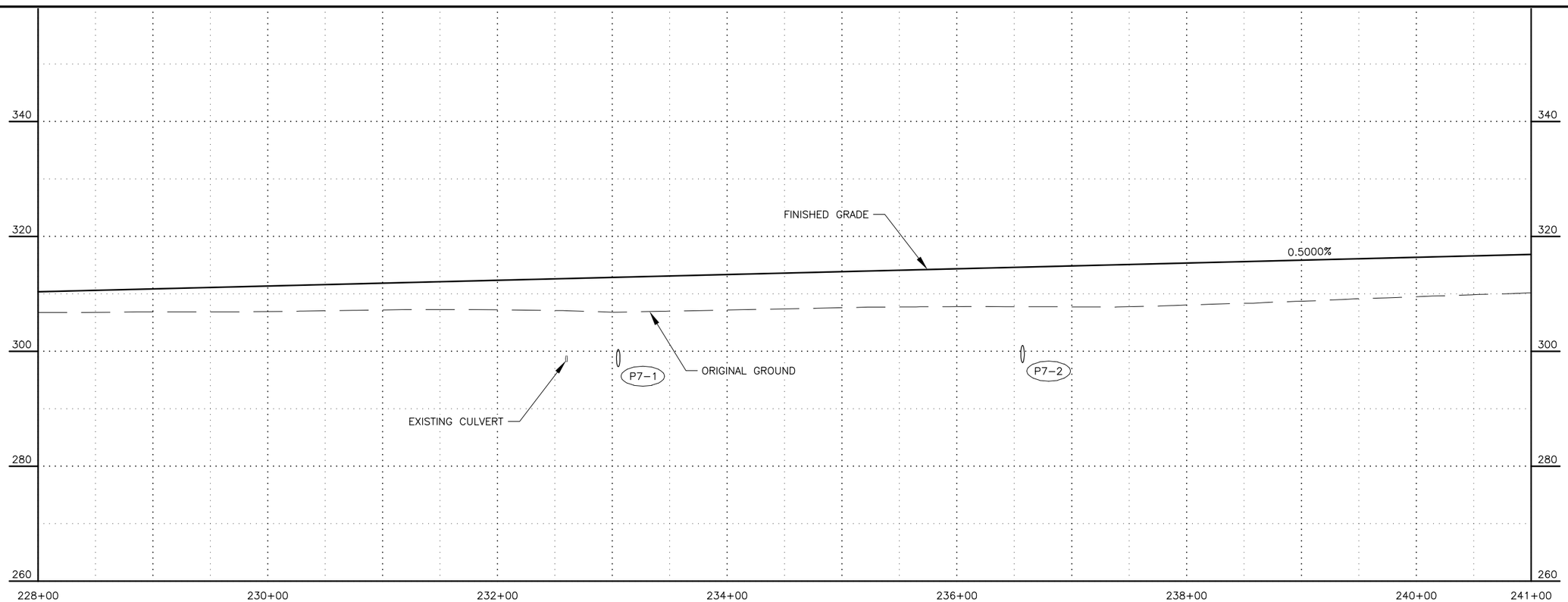
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

PLAN AND PROFILE
STA 215+00 TO 228+00

FILE C:\PWWORKING\WEST01\D1207339\53014_F_PNP.DWG
DATE/TIME 6/4/2020 7:43 PM
LAYOUT F6
DESIGNED --
CHECKED --
DRAFTED --



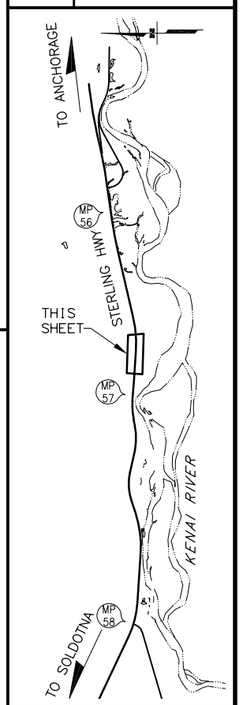


SHEET NO.	TOTAL SHEETS
F7	F11
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

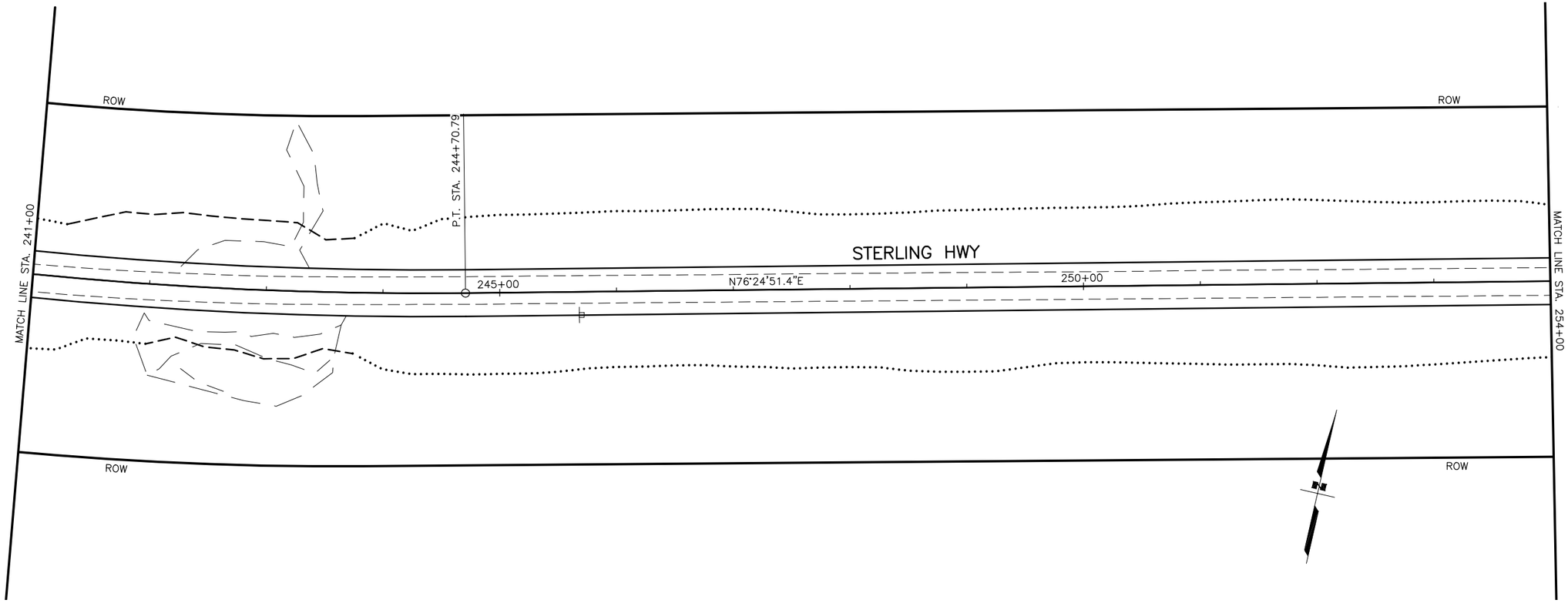
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

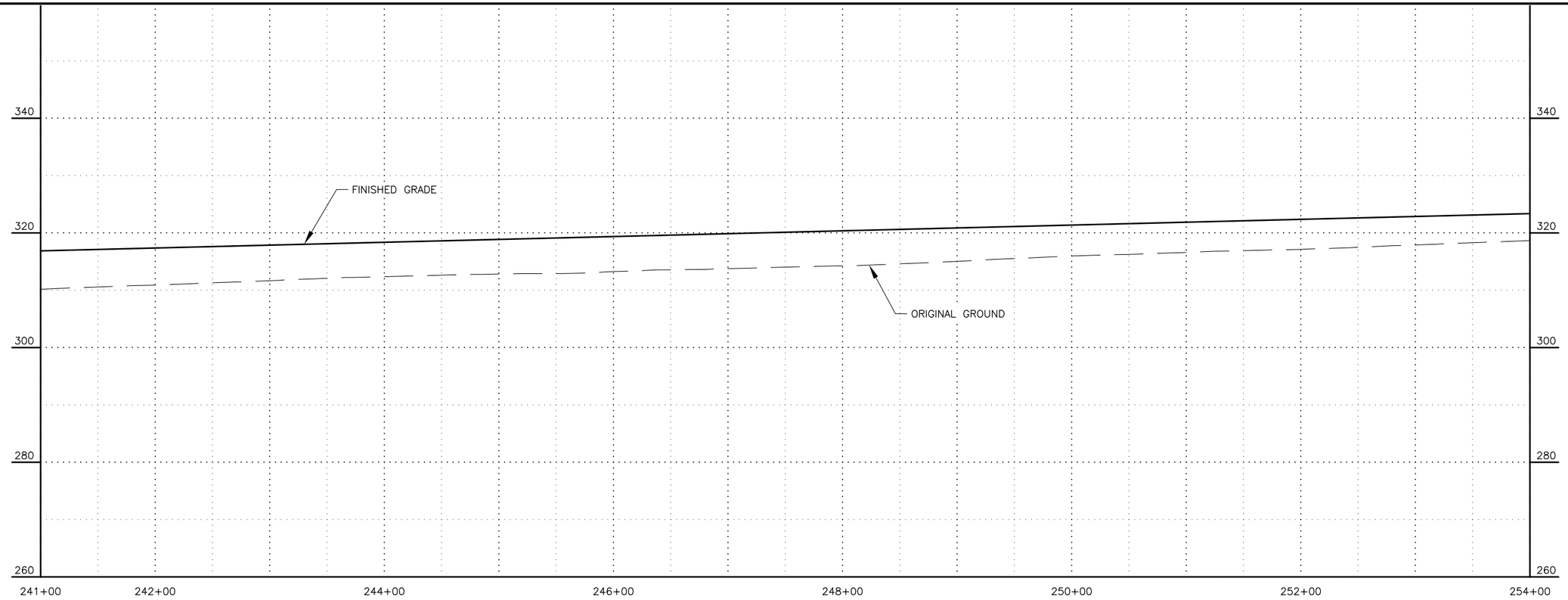
STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

PLAN AND PROFILE
STA 228+00 TO 241+00

DATE/TIME 6/4/2020 7:43 PM | LAYOUT F7 | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_F_PNP.DWG



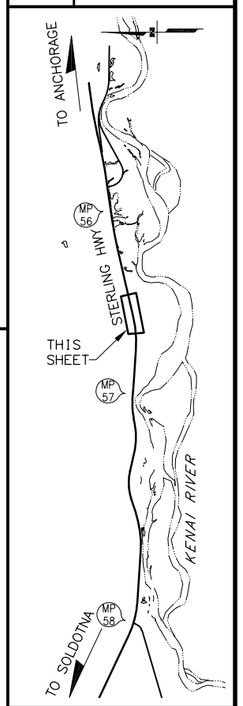


SHEET NO.	TOTAL SHEETS
F8	F11
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

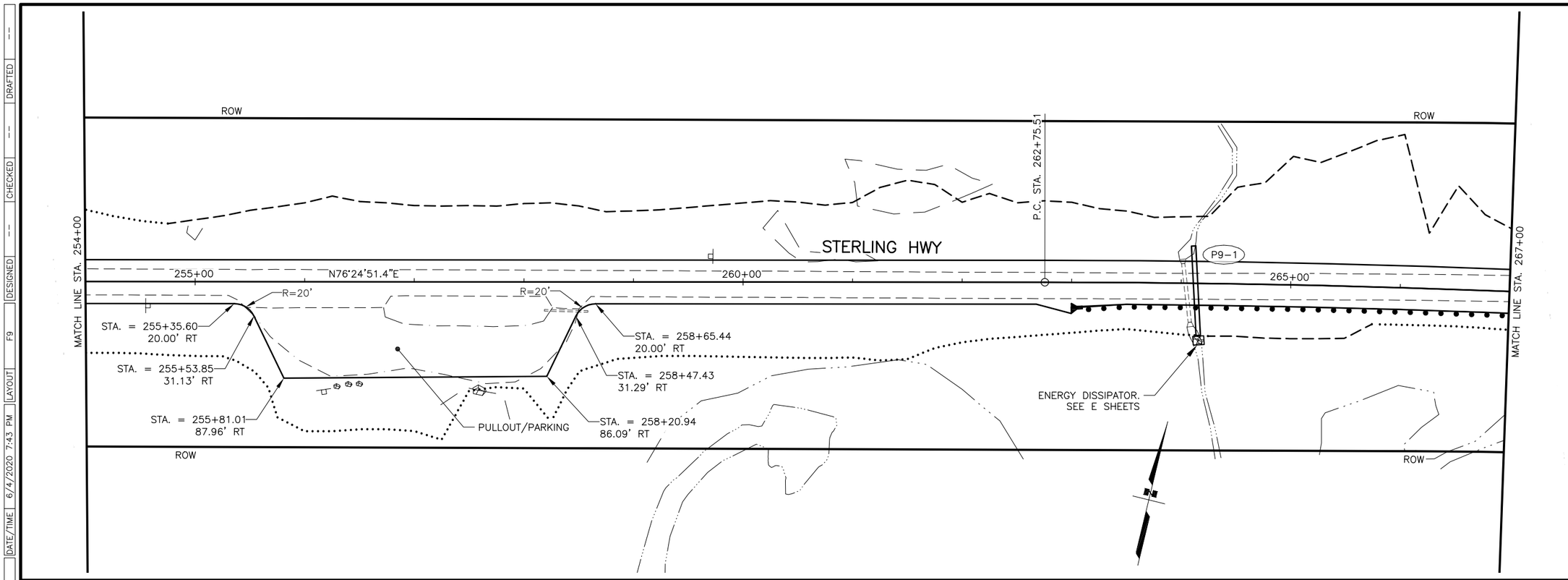
HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

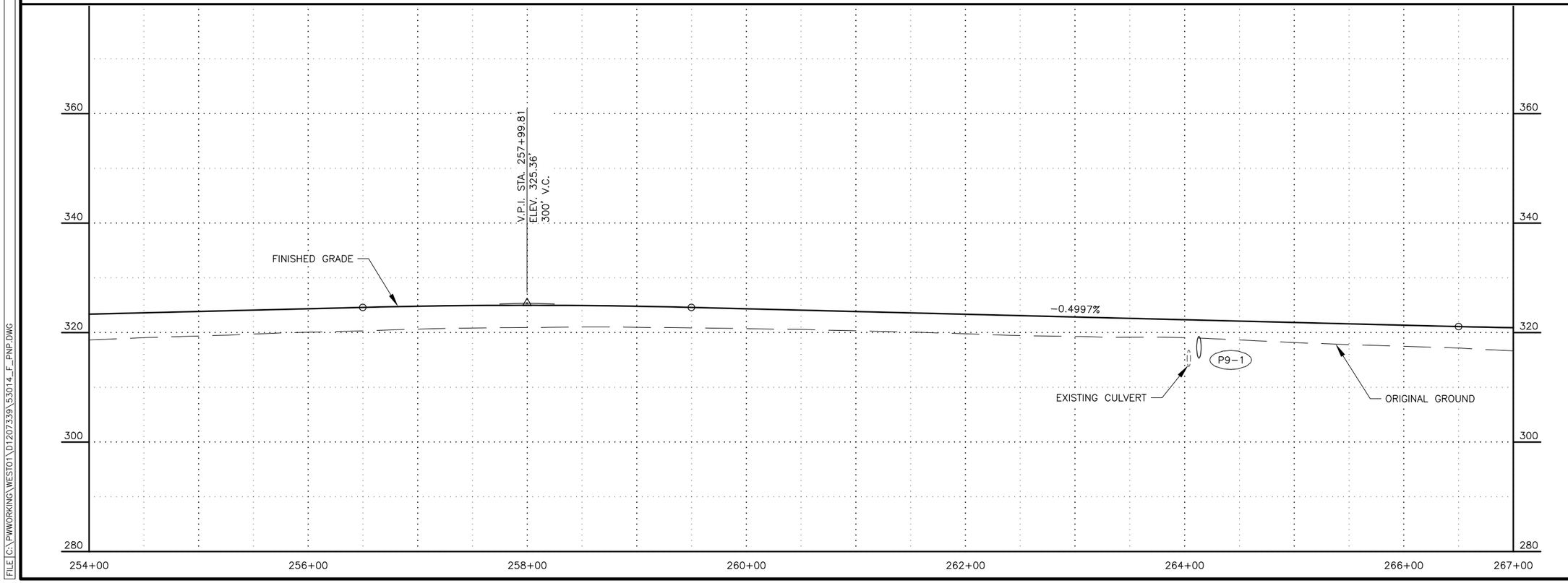
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

PLAN AND PROFILE
STA 241+00 TO 254+00

FILE C:\PWWORKING\WEST01\D1207339\53014_F_PNP.DWG
DATE/TIME 6/4/2020 7:43 PM
LAYOUT F8
DESIGNED --
CHECKED --
DRAFTED --



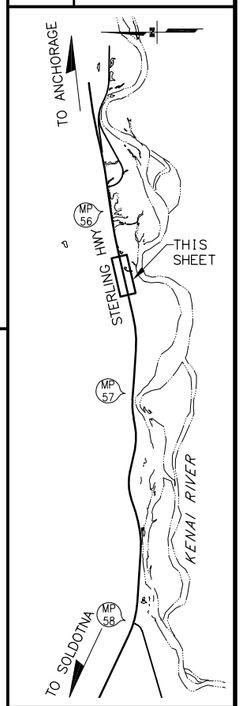


SHEET NO.	TOTAL SHEETS
F9	F11
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

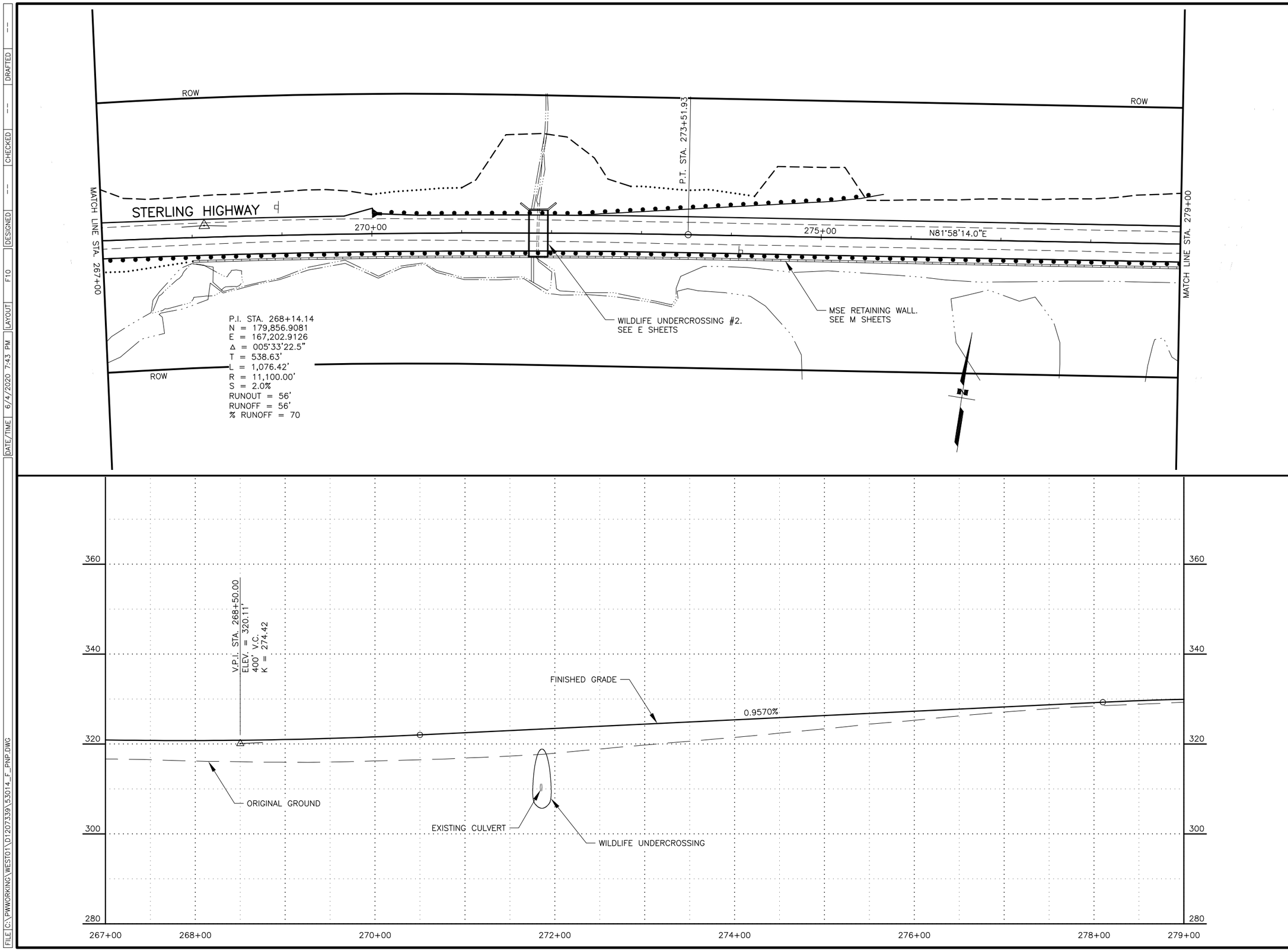
HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

PLAN AND PROFILE
STA 254+00 TO 267+00

FILE C:\PWWORKING\WEST01\D1207339\53014_F_PNP.DWG
DATE/TIME 6/4/2020 7:43 PM
LAYOUT F9
DESIGNED --
CHECKED --
DRAFTED --

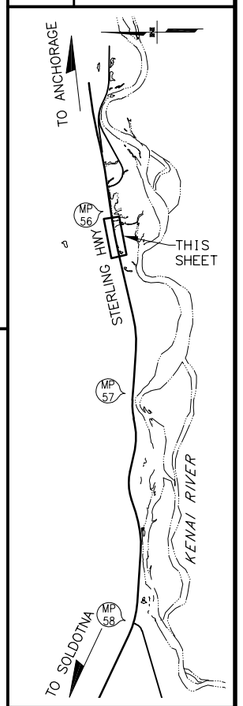


SHEET NO.	TOTAL SHEETS
F10	F11
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

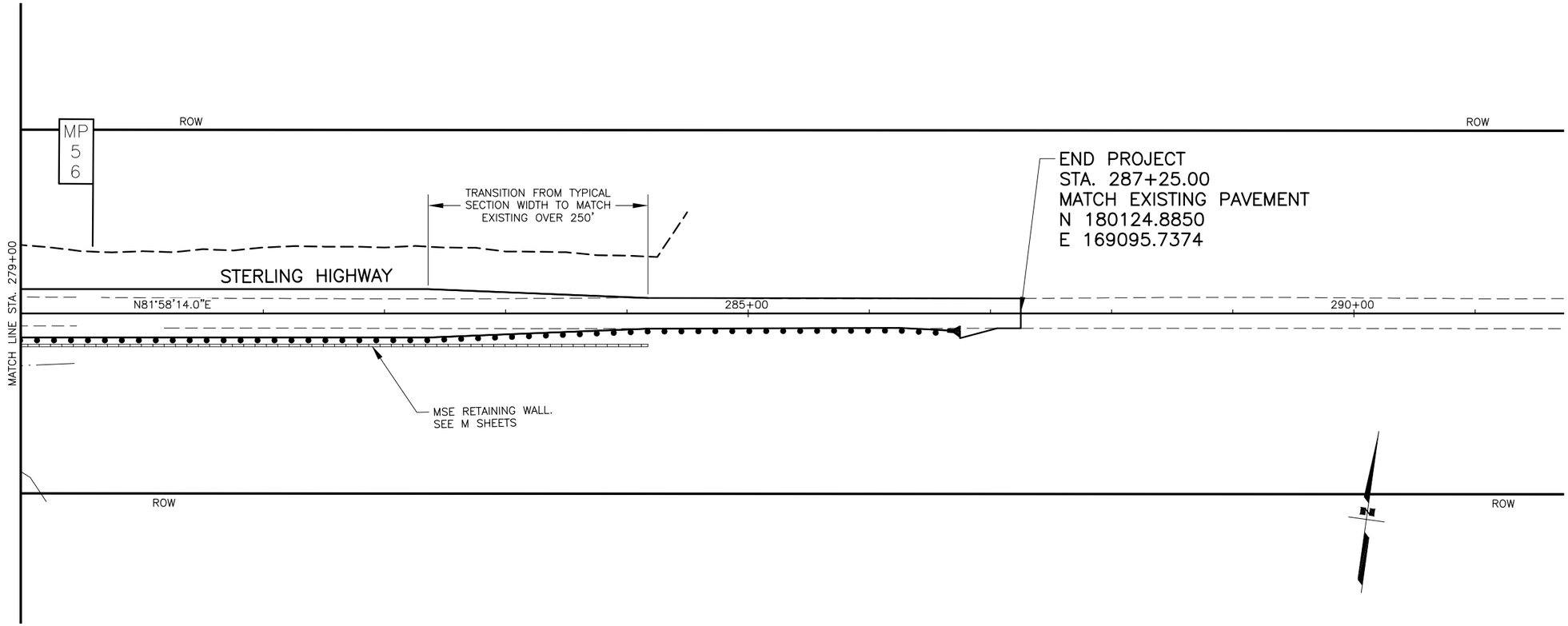
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

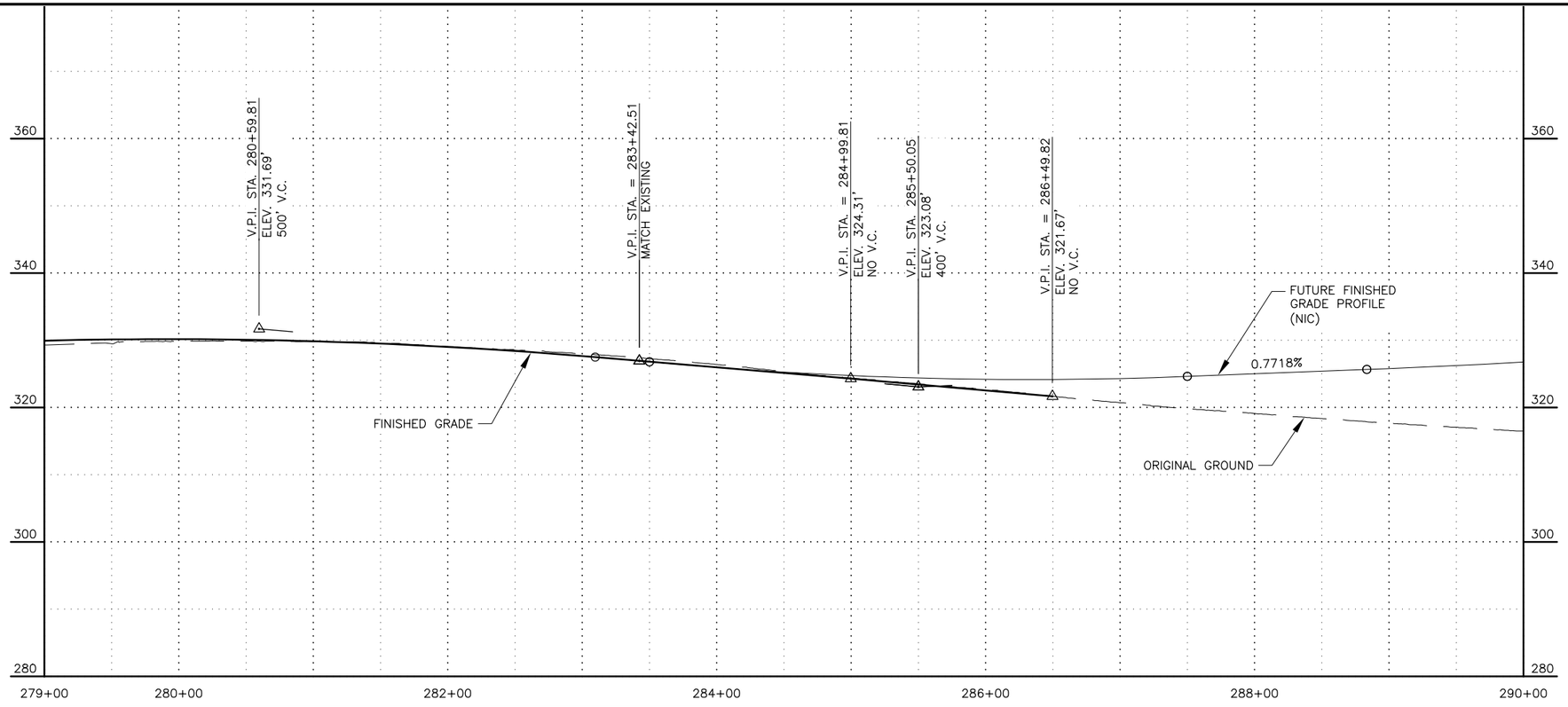
STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

PLAN AND PROFILE
STA 267+00 TO 280+00

DATE/TIME 6/4/2020 7:43 PM | LAYOUT F10 | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_F_PNP.DWG



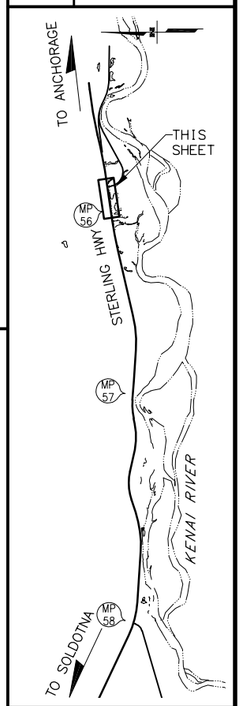


SHEET NO.	TOTAL SHEETS
F11	F11
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

PLAN AND PROFILE
STA 280+00 TO EOP

DATE/TIME 6/4/2020 7:43 PM | LAYOUT F11 | DESIGNED -- | CHECKED -- | DRAFTED --

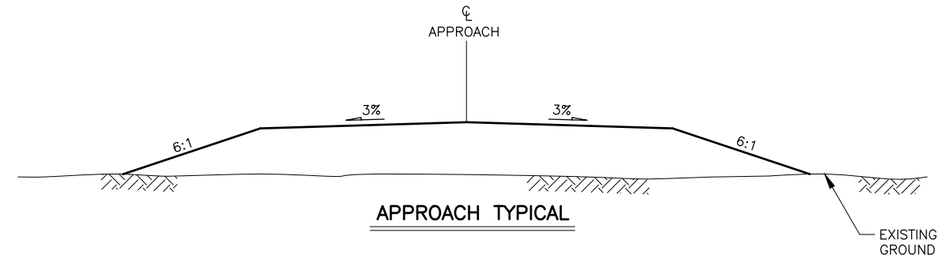
FILE C:\PWWORKING\WEST01\D1207339\53014_F_PNP.DWG

NO.	DATE	REVISION

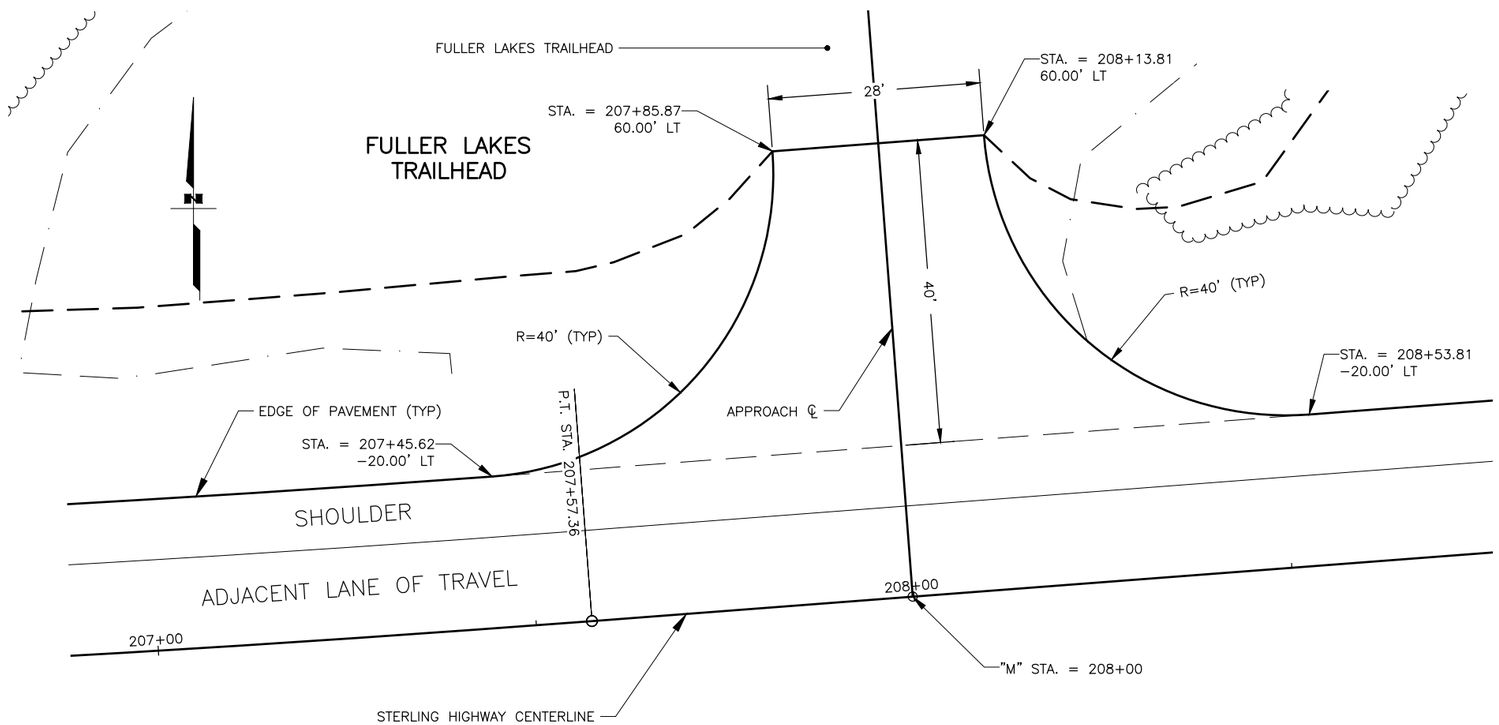
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	G1	G1

NOTES:

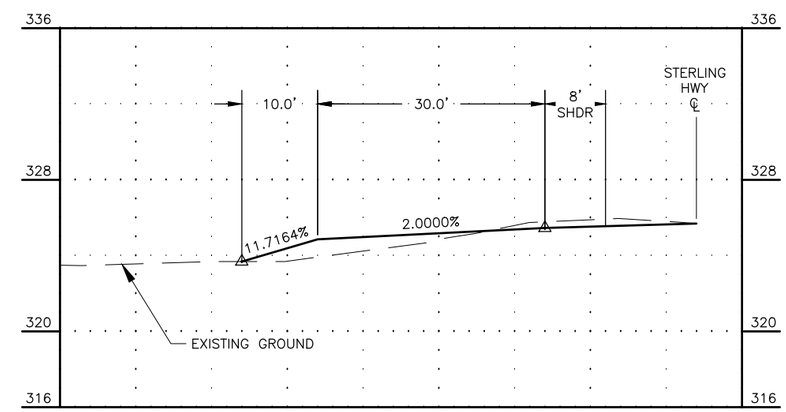
1. THE APPROACH STRUCTURAL SECTION SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS THE ROADWAY STRUCTURAL SECTION.
2. PAVE 30' FROM THE HIGHWAY SHOULDER.
3. APPROACH VERTICAL CURVE REQUIREMENTS:
   CREST – 2 ½ INCH MAXIMUM IN A 10 FOOT CHORD
   SAG – 2 INCH MAXIMUM IN A 10 FOOT CHORD



APPROACH TYPICAL



PLAN



PROFILE

STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45–60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

FULLER LAKES
TRAILHEAD APPROACH

FILE C:\PWWORKING\WEST01\D1207339\53014_G_GRADING.DWG | DATE/TIME 6/4/2020 7:31 PM | LAYOUT G1 | DESIGNED -- | CHECKED -- | DRAFTED --

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	H1	H9

SIGNING & STRIPING NOTES:

1. ALL STATION LOCATIONS FOR SIGN INSTALLATION ARE APPROXIMATE. INSTALL SIGNS AT LOCATIONS AS DIRECTED BY THE ENGINEER.

2. USE THE FOLLOWING DEFINITIONS TO DECIPHER THE ABBREVIATED SIGN POST TYPES IN THE SIGN SUMMARY SHEETS.
   A. PT MEANS A PERFORATED STEEL TUBE.
   B. T MEANS A SQUARE STEEL TUBE.
   C. P MEANS A ROUND STEEL PIPE.
   D. W MEANS A WIDE FLANGE BEAM.
   E. POPL MEANS A POLE PLATE INSTALLED PER ITS ALASKA STANDARD PLAN S-23.

3. FABRICATE ALL SIGNS FROM 0.125" THICK ALUMINUM SHEETING, UNLESS STATED ELSEWHERE.

4. FOR SIGNS SUPPORTED BY MULTIPLE POSTS, FABRICATE THE POSTS WITH THEIR TOPS LEVEL WITH ONE ANOTHER.

5. FOR PERFORATED STEEL TUBE SIGNPOSTS, INSTALL THE CONCRETE FOUNDATION OPTION SHOWN ON STANDARD PLAN S-30. TRIM EACH PT POST TO LIMIT THE LENGTH INSERTED INTO THE FOUNDATION TO 12 INCHES.

6. FABRICATE GUIDE SIGNS ACCORDING TO THE SHOP DRAWINGS INCLUDED IN THE APPENDICES OF PART 4, CONTRACT PROVISIONS AND SPECIAL PROVISIONS. TRIM THE CORNERS OF ALL SIGNS TO THE RADIUS SHOWN ON EACH SHOP DRAWING.

7. ERECT NEW SIGNS BEFORE REMOVAL OF EXISTING SIGNS WITH SIMILAR MESSAGE. NOTIFY THE ENGINEER A MINIMUM OF 14 DAYS PRIOR TO BEGINNING SIGN REMOVAL AND SALVAGE OR DISPOSAL ACTIVITIES.

8. FOR SIGNS SUPPORTED BY MULTIPLE TUBES OR PIPES, LOCATE THE OUTER POSTS ON MAXIMUM SIX FEET CENTERS. INSTALL ADJACENT WIDE FLANGE POSTS ON MINIMUM EIGHT FEET CENTERS.

9. SELECTIVE AND HAND CLEARING SHALL BE PERFORMED AT THE DISCRETION OF THE ENGINEER, IN ACCORDANCE WITH SECTION 201, UPSTREAM OF ALL SIGN INSTALLATION LOCATIONS TO ACHIEVE MINIMUM SIGN VISIBILITY REQUIREMENTS. IF NOT INCLUDED AS A SEPARATE ITEM, THIS WORK SHALL BE SUBSIDIARY TO THE SIGN INSTALLATION ITEMS AND WORK.

10. FOR ALL FINAL PAVEMENT MARKINGS USE METHYLMETHACRYLATE MATERIALS. LONGITUDINAL, TRANSVERSE AND SYMBOL MARKINGS SHALL BE INLAID AND GORE STRIPES SHALL BE SURFACE APPLIED AS SPECIFIED IN SECTION 670 OF THE SPECIFICATIONS.

11. DIMENSIONS REFER TO THE CENTER OF STRIPE AND THE EDGE OF PAVEMENT OR FACE OF CURB WHEN PRESENT.

12. IF THE NEW AND EXISTING PAVEMENT MARKINGS ARE NOT ALIGNED AT MATCH LINE, TRANSITION BETWEEN THE TWO USING A 100:1 TAPER ON THE NEW PAVEMENT.

13. WHERE NEW STRIPING IS TO EXTEND BEYOND PAVING LIMITS, REMOVE EXISTING STRIPING IN ACCORDANCE WITH SUBSECTION 670-3.04 TO THE EXTENT OF STRIPING LIMITS.

CALL BEFORE YOU DIG!

CONTRACTOR SHALL CALL A MINIMUM OF
3 DAYS IN ADVANCE OF CONSTRUCTION

ALASKA DIGLINE....907-278-3121 OR 800-478-3121

CALL OR GO TO WWW.AKONECALL.COM/STATEWIDE.HTM
FOR MEMBER LIST OF WHO WILL BE NOTIFIED

STATE OF ALASKA
49TH
REGISTERED PROFESSIONAL ENGINEER

REVIEW PS&E
JUNE 2020

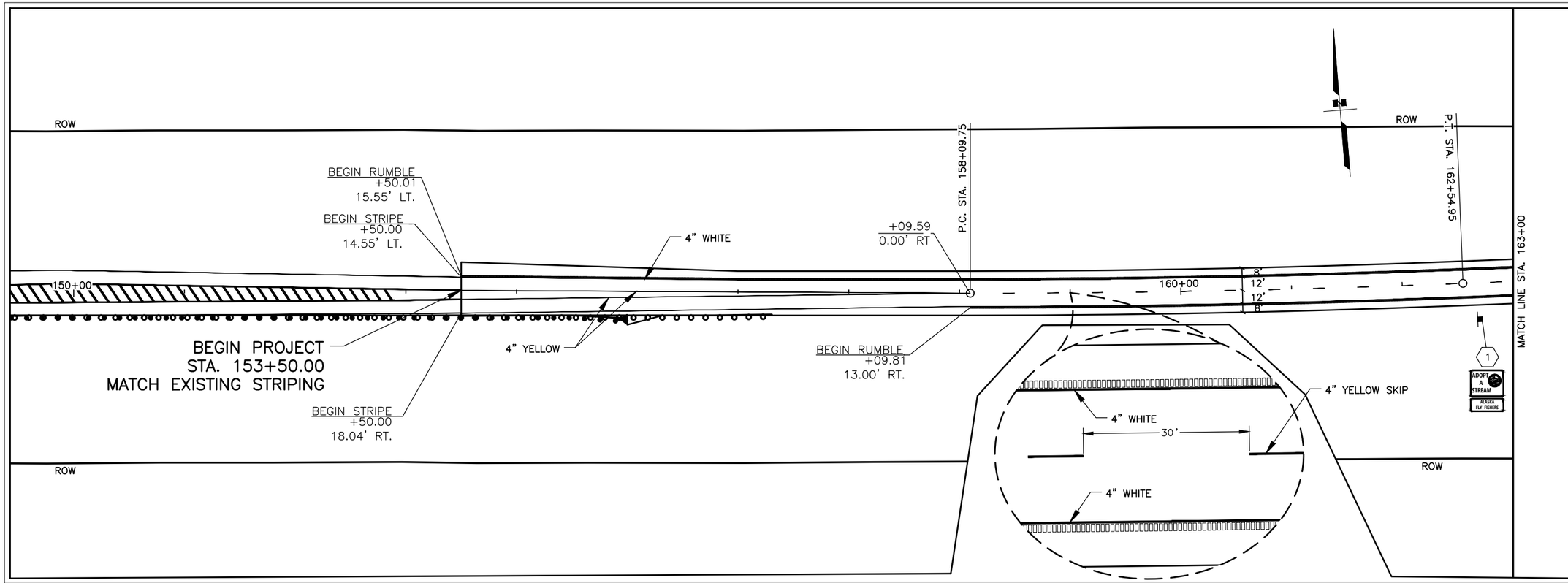
HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

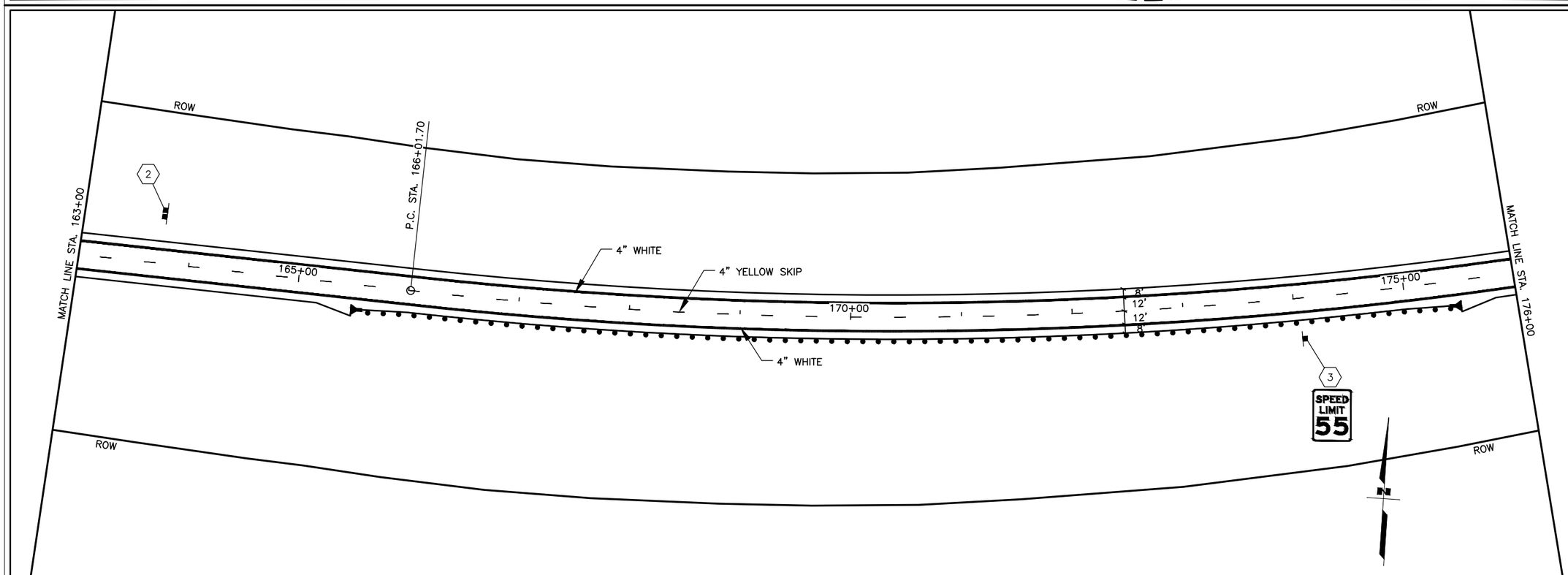
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

TRAFFIC LEGEND AND NOTES

FILE C:\PWWORKING\WEST01\D1207339\53014_H1_LEGEND.DWG
DATE/TIME 6/4/2020 7:49 PM LAYOUT H1 DESIGNED -- CHECKED -- DRAFTED --





SHEET NO.	TOTAL SHEETS
H2	H9
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

STATE OF ALASKA
49TH
REVIEW PS&E
JUSTIN C. HANNEFORD
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

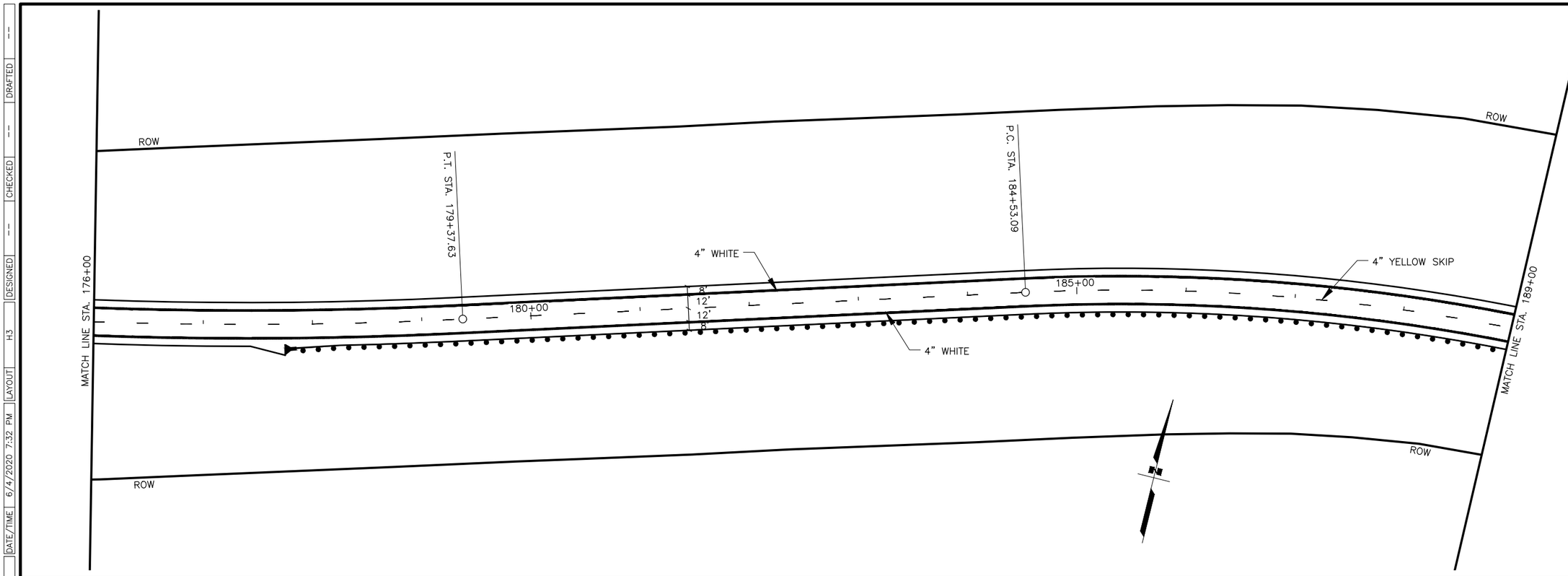
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

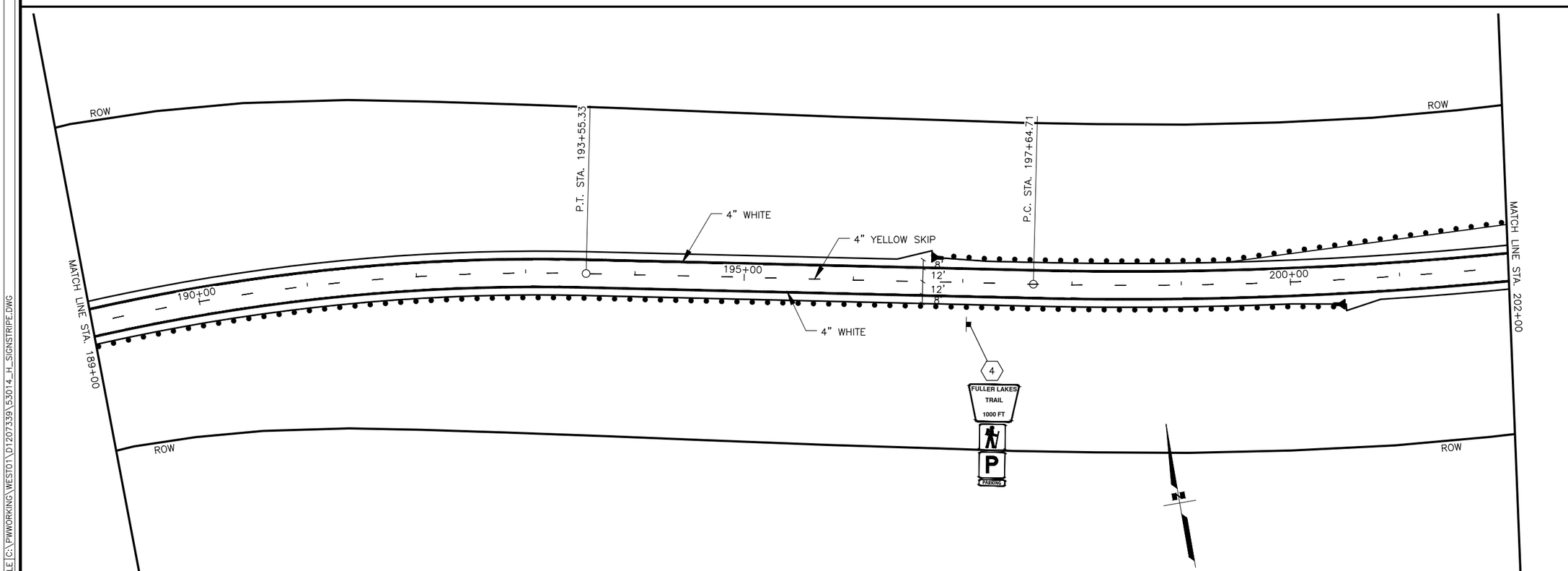
STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

SIGNING AND STRIPING
BOP TO 176+00

DATE/TIME 6/4/2020 7:32 PM | LAYOUT H2 | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_H_SIGNSTRIPE.DWG



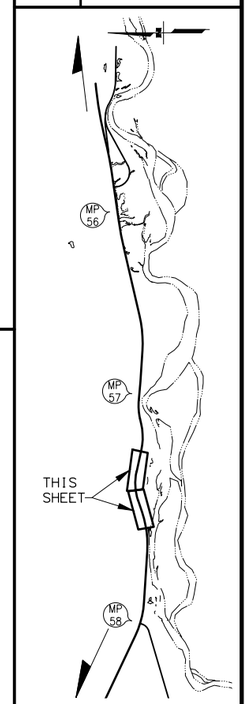


SHEET NO.	TOTAL SHEETS
H3	H9
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUSTIN C. HANNEFORD
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

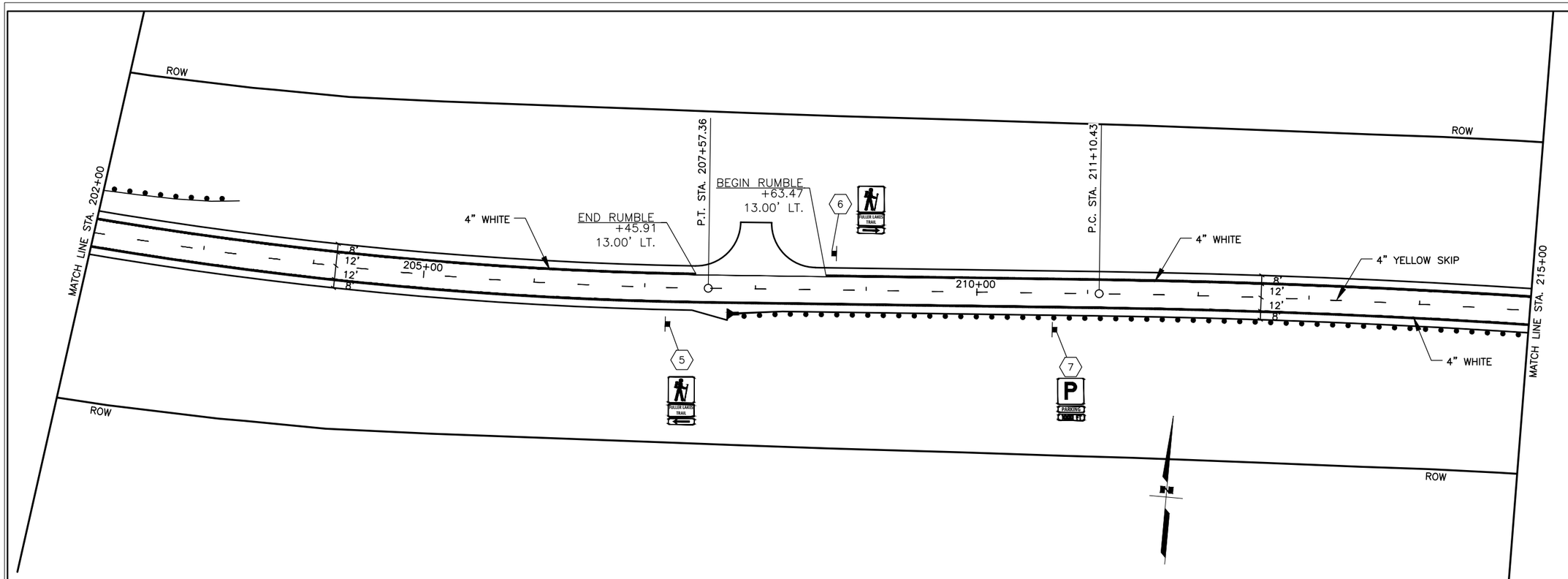
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

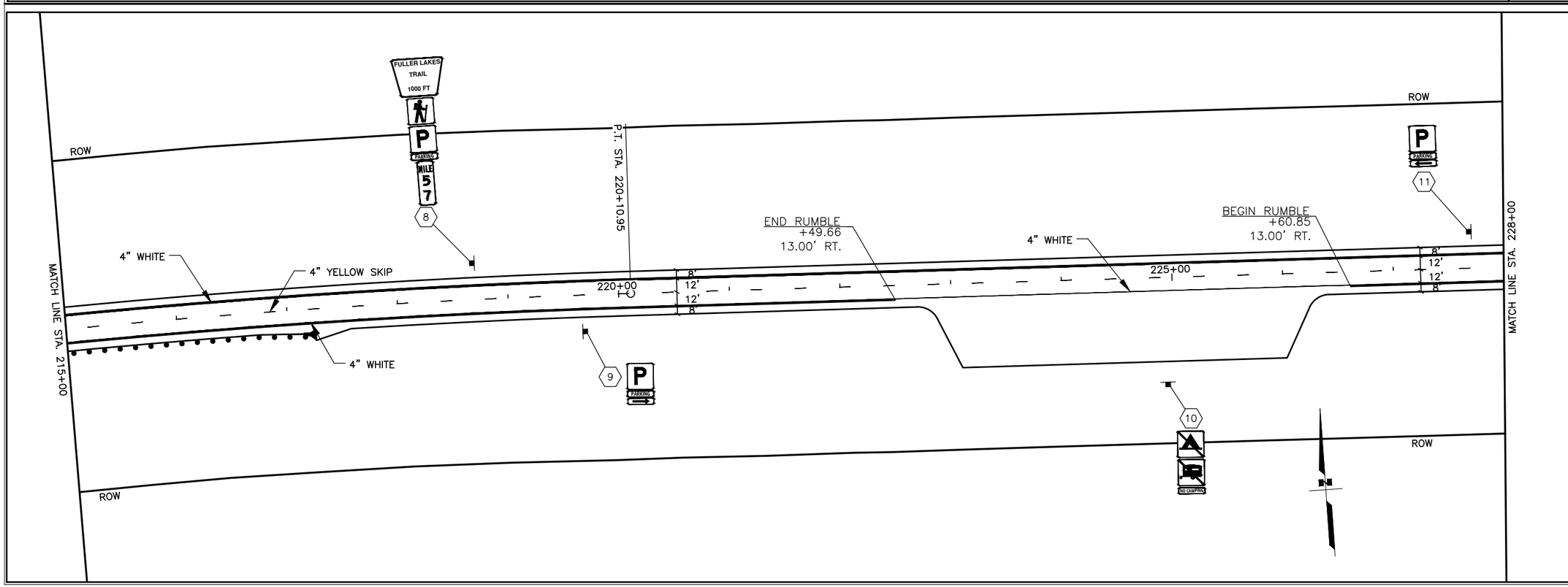
STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

SIGNING AND STRIPING
STA 176+00 TO 202+00

DATE/TIME 6/4/2020 7:32 PM | LAYOUT H3 | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_H_SIGNSTRIPE.DWG



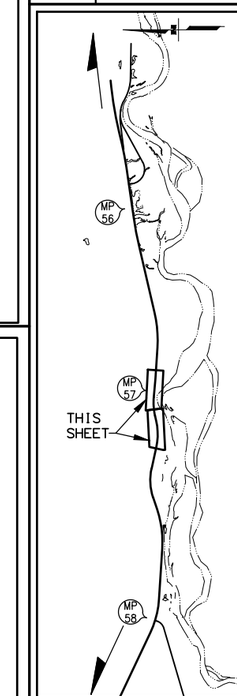


SHEET NO.	TOTAL SHEETS
H4	H9
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

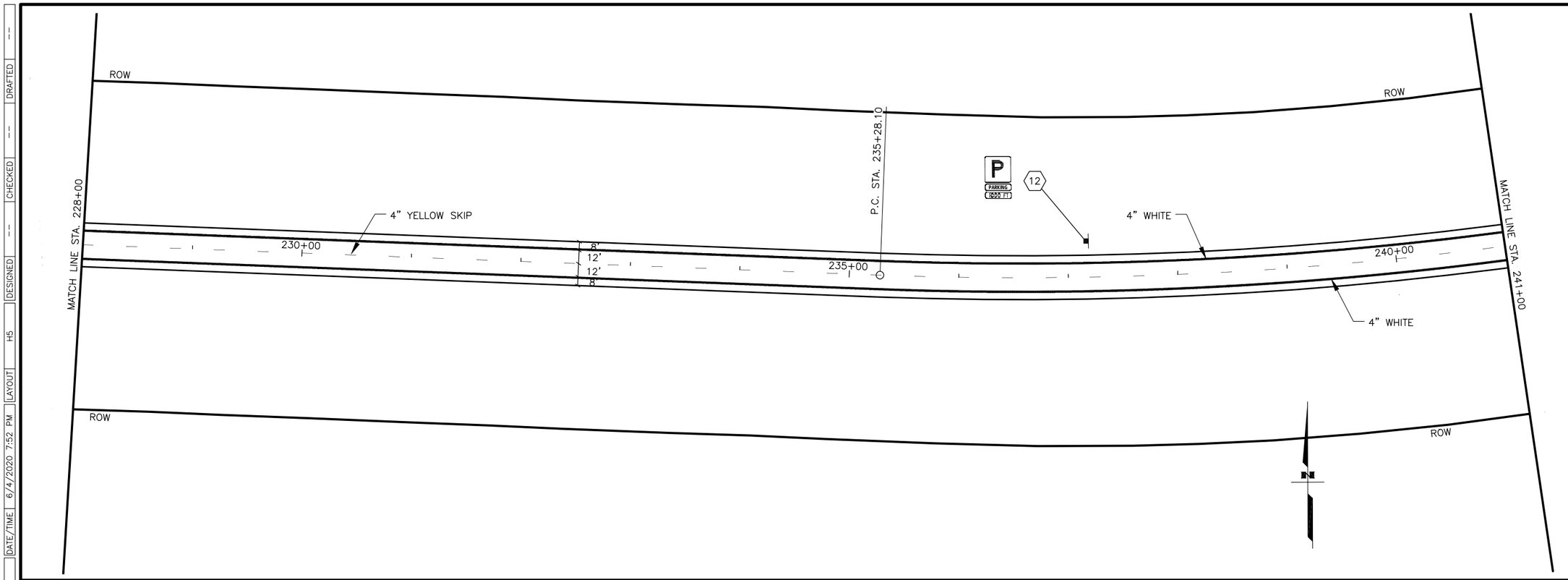
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

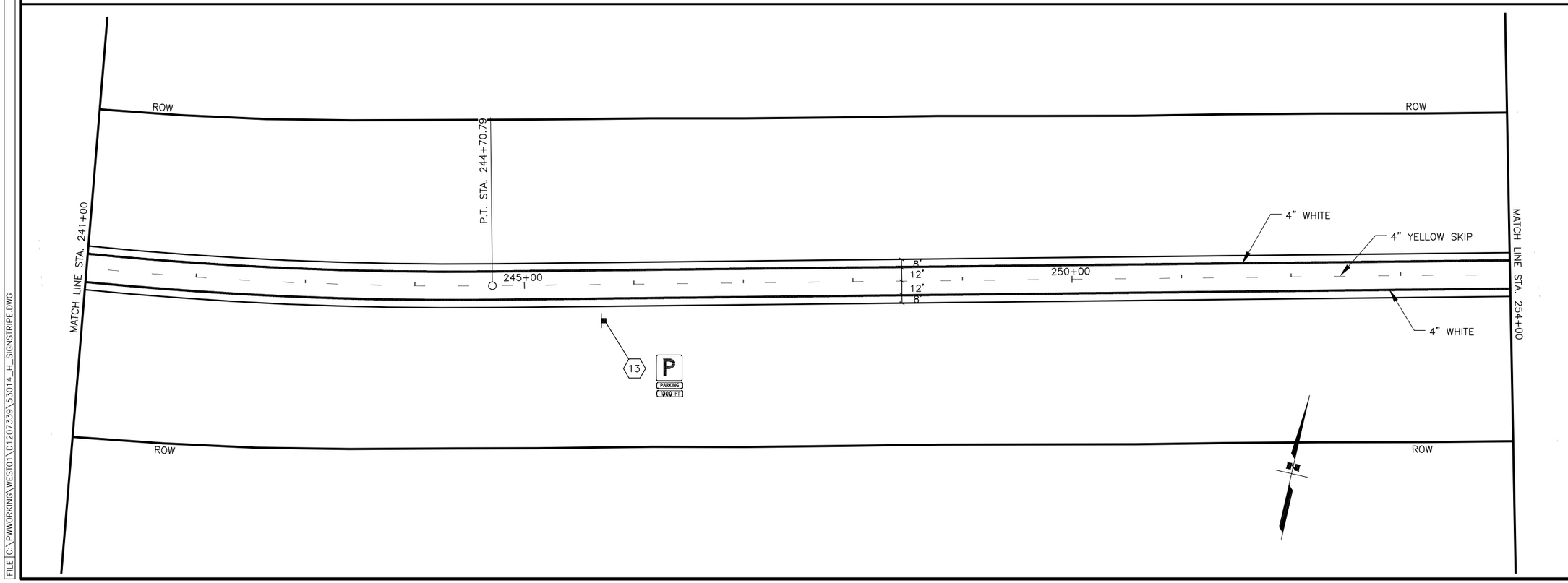
STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

SIGNING AND STRIPING
STA 202+00 TO 228+00

DATE/TIME 6/4/2020 7:33 PM | LAYOUT H4 | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_H_SIGNSTRIPE.DWG



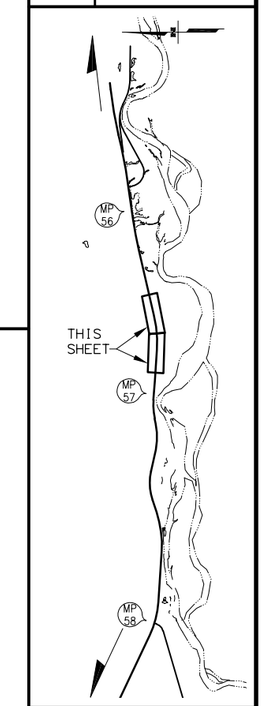


SHEET NO.	TOTAL SHEETS
H5	H9
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUSTIN E. HANNAFORD, P.E.
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

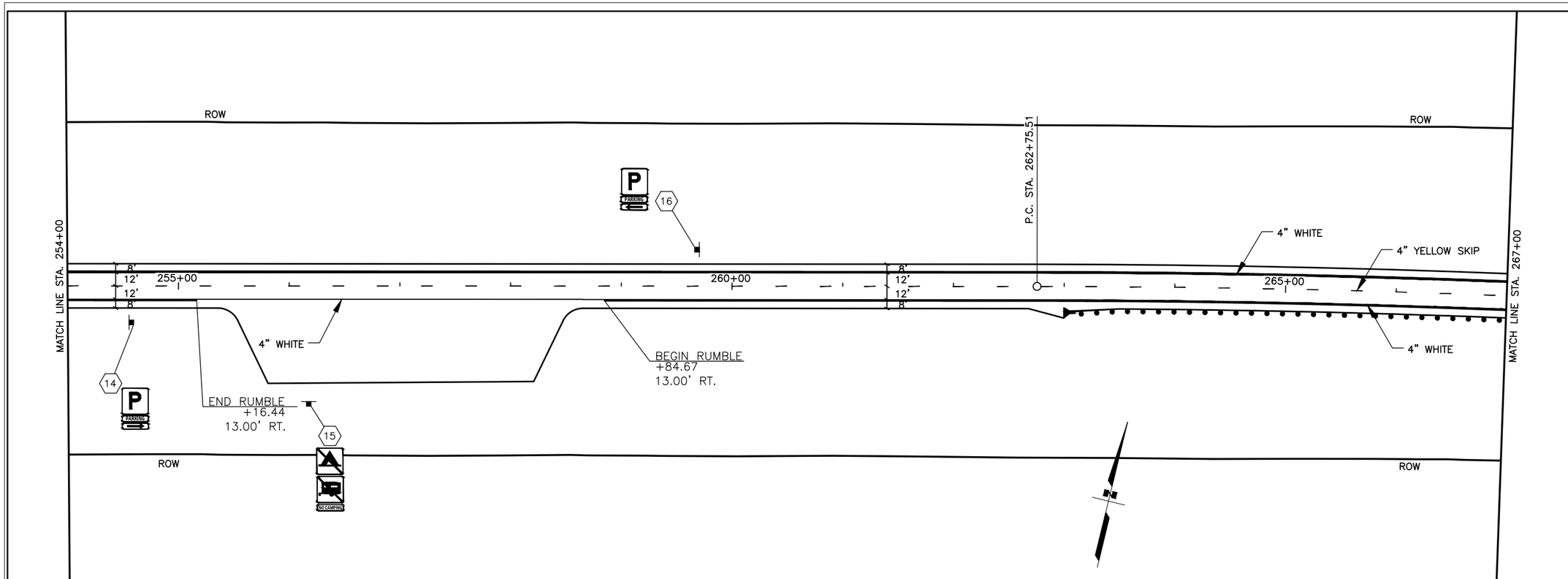
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

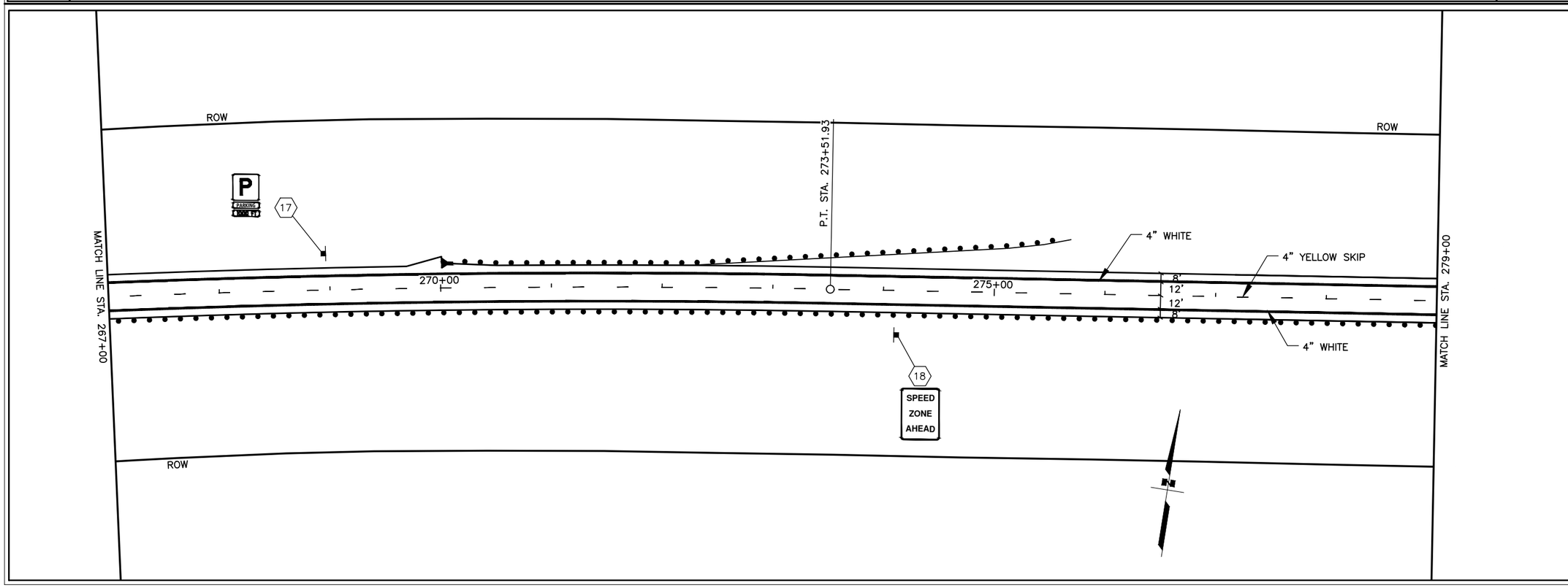
STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

SIGNING AND STRIPING
STA 228+00 TO 254+00

DATE/TIME 6/4/2020 7:52 PM | LAYOUT H5 | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_H_SIGNSTRIPE.DWG



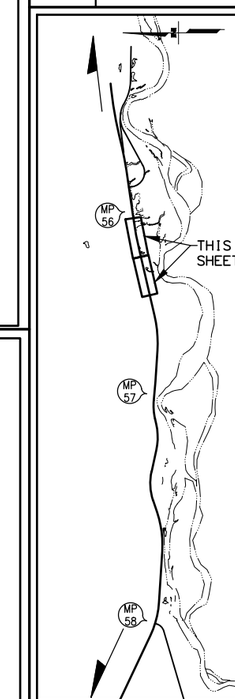


SHEET NO.	TOTAL SHEETS
H6	H9
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

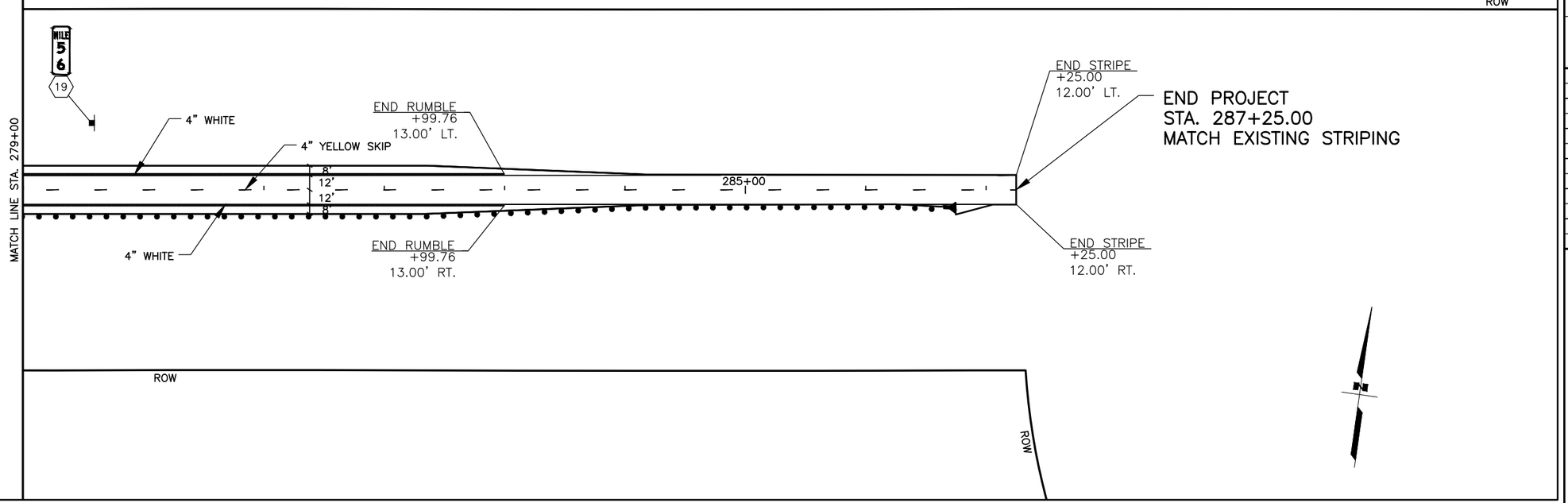
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

SIGNING AND STRIPING
STA 254+00 TO 279+00

DATE/TIME 6/4/2020 7:33 PM | LAYOUT H6 | DESIGNED -- | CHECKED -- | DRAFTED --

FILE C:\PWWORKING\WEST01\D1207339\53014_H_SIGNSTRIPE.DWG



SHEET NO.	TOTAL SHEETS
H7	H9
STATE	YEAR
ALASKA	2021

PROJECT DESIGNATION

CFHWY00693

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO
SKILAK LAKE RD, STAGE 1A

SIGNING AND STRIPING
STA 279+00 TO EOP

FILE C:\PWWORKING\WEST01\D1207339\53014_H_SIGNSTRIPE.DWG
DATE/TIME 6/4/2020 7:33 PM
LAYOUT H7
DESIGNED --
CHECKED --
DRAFTED --

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	H8	H9

SIGNING SUMMARY

SHT. NO.	LOC. NO.	STATION	LOCATION RT.	LOCATION LT.	ASDS CODE	LEGEND	SIZE H X V (INCHES)	AREA (SQ.FT.)	FRAMING/ BRACING FRAMED	FRAMING/ BRACING BRACED	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
H2	1	162+67	X		D14–102	ADOPT A STREAM	30 X 24	5.00		X	W	PST	2.5	1	ADOPT A STREAM
						ALASKA FLY FISHERS	30 X 12	2.50		X					ALASKA FLY FISHERS
	2	163+76		X	(SIGN COVERED IN PLYWOOD)		–	–			E	PST	2.5	2	(SIGN COVERED IN PLYWOOD)
					WELCOME TO YOUR NAT'L WILDLIFE...		–	–							WELCOME TO YOUR NATIONAL WILDLIFE REFUGE SYSTEM
	3	174+05	X		R2–1 55	SPEED LIMIT 55	30 X 36	7.50	X		W	PST	2.5	1	SPEED LIMIT 55
H3	4	197+04	X		D7–105	FULLER LAKES TRAIL 1000 FT	48 X 36	12.00	X		W	PST	2.5	1	FULLER LAKES TRAIL 1000 FT
					RL–100		24 X 24	4.00		X					HIKING
					D9–105	P	24 X 24	4.00		X					PARKING
						PARKING	24 X 6	1.00		X					
H4	5	207+19	X		RL–100		24 X 24	4.00		X	W	PST	2.5	1	HIKING
					FULLER LAKES TRAIL	FULLER LAKES TRAIL	30 X 12	2.50		X					FULLER LAKES TRAIL
					D9–301		24 X 6	1.00		X					BROWN ARROW
	6	208+73		X	RL–100		24 X 24	4.00		X	E	PST	2.5	1	HIKING
					FULLER LAKES TRAIL	FULLER LAKES TRAIL	30 X 12	2.50		X					FULLER LAKES TRAIL
					D9–301		24 X 6	1.00		X					BROWN ARROW
	7	210+69	X		D9–105	P	24 X 24	4.00		X	W	PST	2.5	1	PARKING
						PARKING	24 X 6	1.00		X					
					D9–304	1000 FT	24 X 6	1.00		X					1000 FT
	8	218+71		X	D7–105	FULLER LAKES TRAIL 1000 FT	48 X 36	12.00	X		E	PST	2.5	1	FULLER LAKES TRAIL 1000 FT
					RL–100		24 X 24	4.00		X					HIKING
					D9–105	P	24 X 24	4.00		X					PARKING
						PARKING	24 X 6	1.00		X					
					D10–2 57	MILE 57	10 X 27	1.88		X					MILE POST 57

REVIEW P.S.&E
JUNE 2020
STATE OF ALASKA 49TH
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644–2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45–60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

SIGN SUMMARY TABLE

FILE C:\PWWORKING\WEST01\D1207339\53014_H_SIGNTABLES.DWG | DATE/TIME 6/4/2020 7:33 PM | LAYOUT H8 | DESIGNED -- | CHECKED -- | DRAFTED --

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	H9	H9

SIGNING SUMMARY

SHT. NO.	LOC. NO.	STATION	LOCATION RT.	LOCATION LT.	ASDS CODE	LEGEND	SIZE H X V (INCHES)	AREA (SQ.FT.)	FRAMING/ BRACING FRAMED	FRAMING/ BRACING BRACED	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
H4	9	219+69	X		D9-105	P	24 X 24	4.00		X	W	PST	2.5	1	PARKING
						PARKING	24 X 6	1.00		X					
					D9-301		24 X 6	1.00		X					BLUE ARROW
	10	224+94	X		D9-309		30 X 30	6.25		X	N	PST	2.5	1	NO CAMPING
					D9-400		30 X 30	6.25		X					
						NO CAMPING	30 X 6	1.25		X					
	11	227+71		X	D9-105	P	24 X 24	4.00		X	E	PST	2.5	1	PARKING
						PARKING	24 X 6	1.00		X					
					D9-301		24 X 6	1.00		X					BLUE ARROW
H5	12	237+19		X	D9-105	P	24 X 24	4.00		X	E	PST	2.5	1	PARKING
						PARKING	24 X 6	1.00		X					
					D9-304	1000 FT	24 X 6	1.00		X					1000 FT
	13	245+70	X		D9-105	P	24 X 24	4.00		X	W	PST	2.5	1	PARKING
						PARKING	24 X 6	1.00		X					
					D9-304	1000 FT	24 X 6	1.00		X					1000 FT
H6	14	254+56	X		D9-105	P	24 X 24	4.00		X	W	PST	2.5	1	PARKING
						PARKING	24 X 6	1.00		X					
					D9-301		24 X 6	1.00		X					BLUE ARROW
	15	256+18	X		D9-309		30 X 30	6.25		X	N	PST	2.5	1	NO CAMPING
					D9-400		30 X 30	6.25		X					
						NO CAMPING	30 X 6	1.25		X					
					FIREARMS MAY NOT BE DISCHARGED		–	–							FIREARMS MAY NOT BE DISCHARGED...
	16	259+71		X	D9-105	P	24 X 24	4.00		X	E	PST	2.5	1	PARKING
						PARKING	24 X 6	1.00		X					
					D9-301		24 X 6	1.00		X					BLUE ARROW
	17	268+97		X	D9-105	P	24 X 24	4.00		X	E	PST	2.5	1	PARKING
						PARKING	24 X 6	1.00		X					
					D9-304	1000 FT	24 X 6	1.00		X					1000 FT
	18	274+10	X		R2-5C	SPEED ZONE AHEAD	30 X 36	7.50	X		W	PST	2.5	1	SPEED ZONE AHEAD
H7	19	279+59		X	D10-2 56	MILE 5 6	10 X 27	1.88		X	E	PST	2.5	1	MILE POST 56
							SUBTOTAL=	158.76							

STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

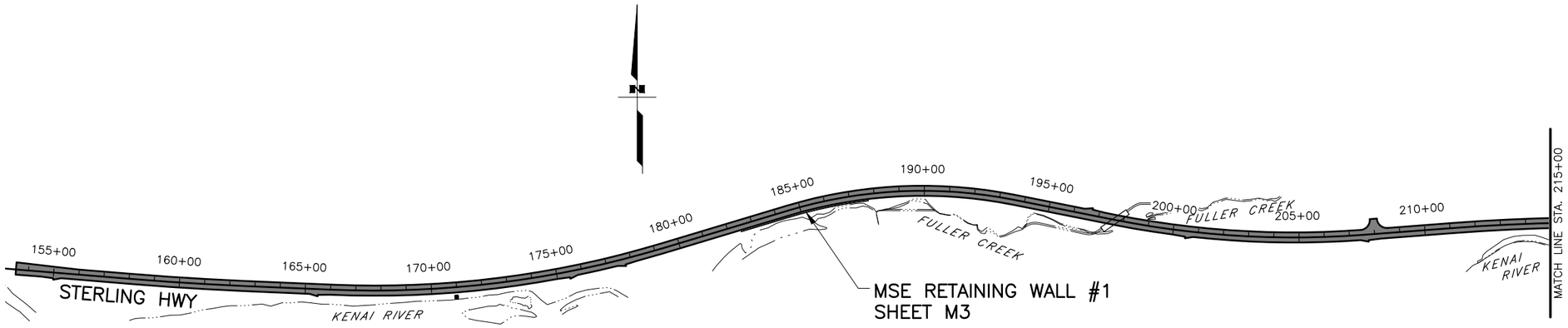
STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

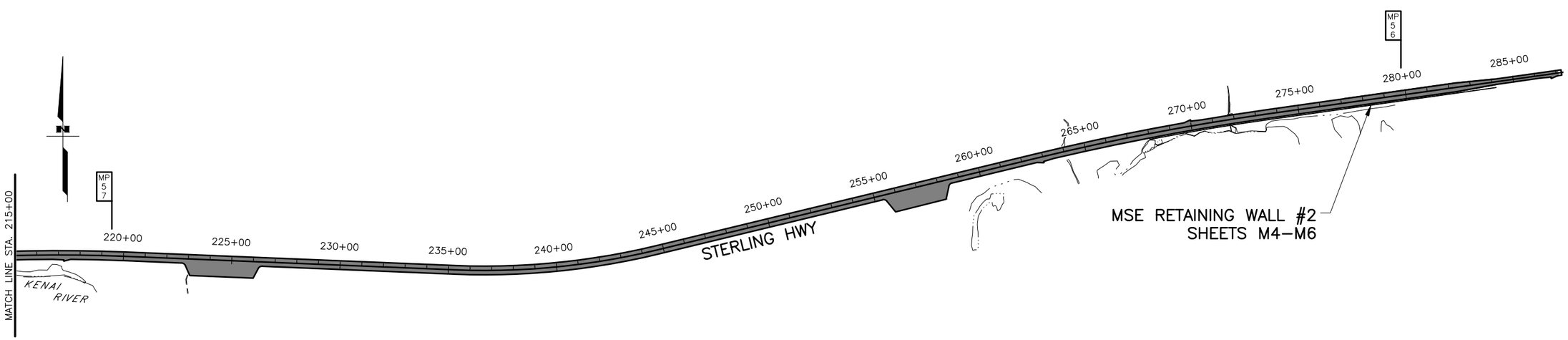
SIGN SUMMARY TABLE

FILE C:\PWWORKING\WEST01\D1207339\53014_H_SIGNTABLES.DWG
DATE/TIME 6/4/2020 7:33 PM LAYOUT H9 DESIGNED -- CHECKED -- DRAFTED --

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	M1	M6





STATE OF ALASKA
★ 49TH ★
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644–2000

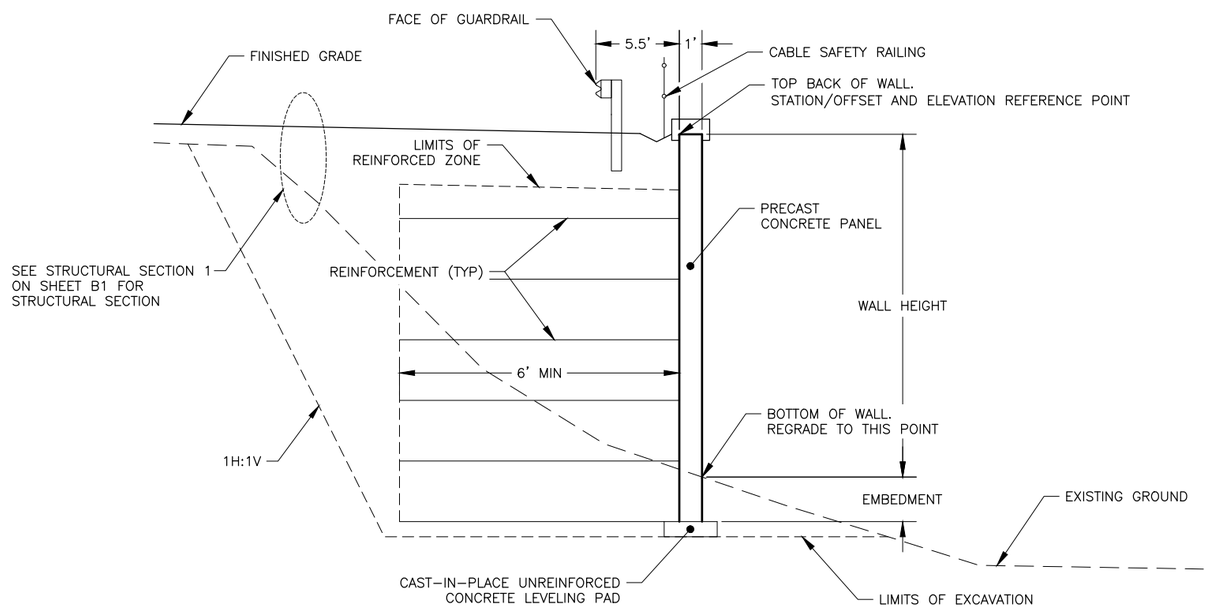
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45–60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

RETAINING WALL
LOCATION PLAN

DRAFTED | CHECKED | DESIGNED | LAYOUT M1 | DATE/TIME 6/4/2020 7:33 PM | FILE C:\PWWORKING\WESTO1\D1207339\53014_M1_TITLE.DWG

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	CFHWY00693	2021	M2	M6



MSE RETAINING WALL

NTS

STATE OF ALASKA
49TH
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

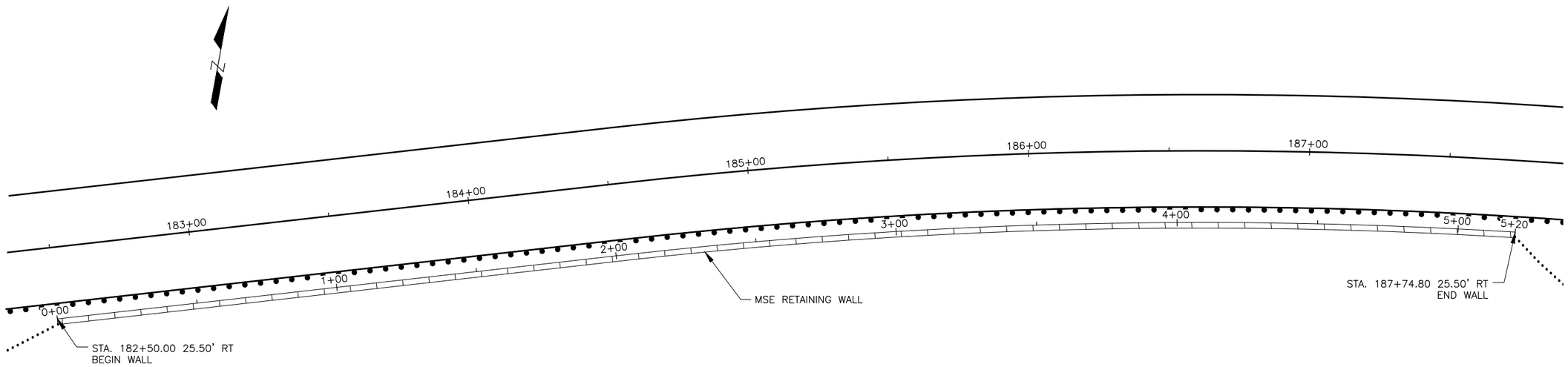
RETAINING WALL
TYPICAL SECTIONS

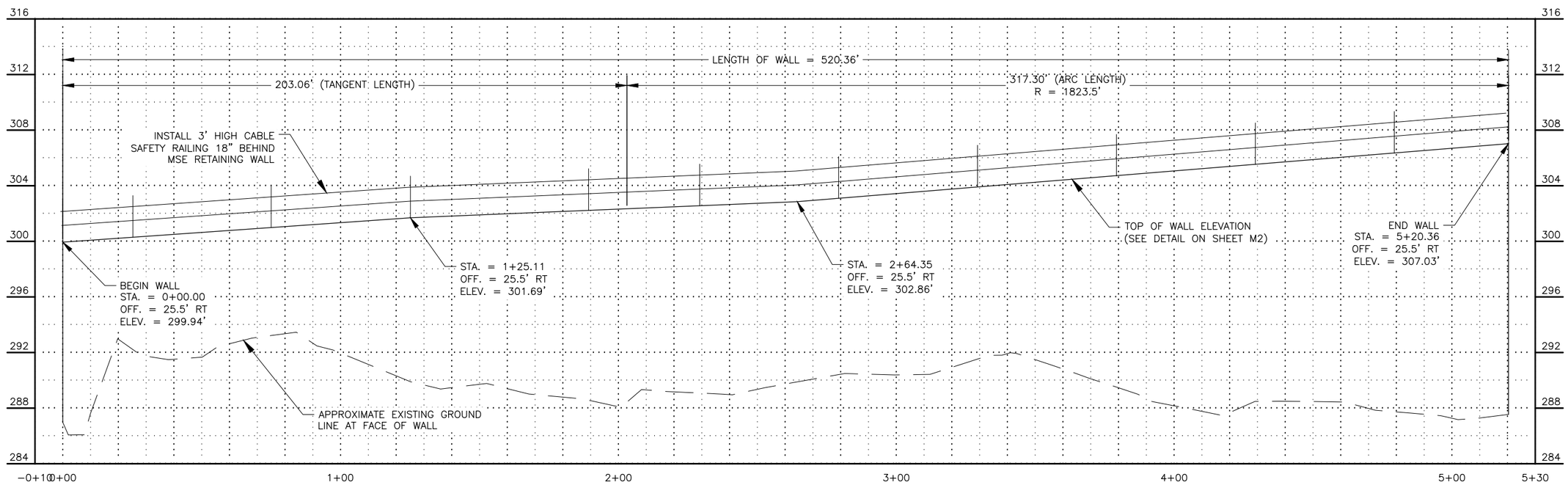
DATE/TIME 6/4/2020 7:34 PM | LAYOUT M2 | DESIGNED | CHECKED | DRAFTED

FILE C:\PWWORKING\WESTO1\D1207339\53014_M_WALLS.DWG

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	M3	M6





NOTE:

1. STATION AND OFFSETS ARE TO TOP FACE OF WALL (TOW). SEE DETAIL ON SHEET M2.

STATE OF ALASKA
49TH
REVIEW P.S.&E
JUNE 2020
AUTHORIZED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

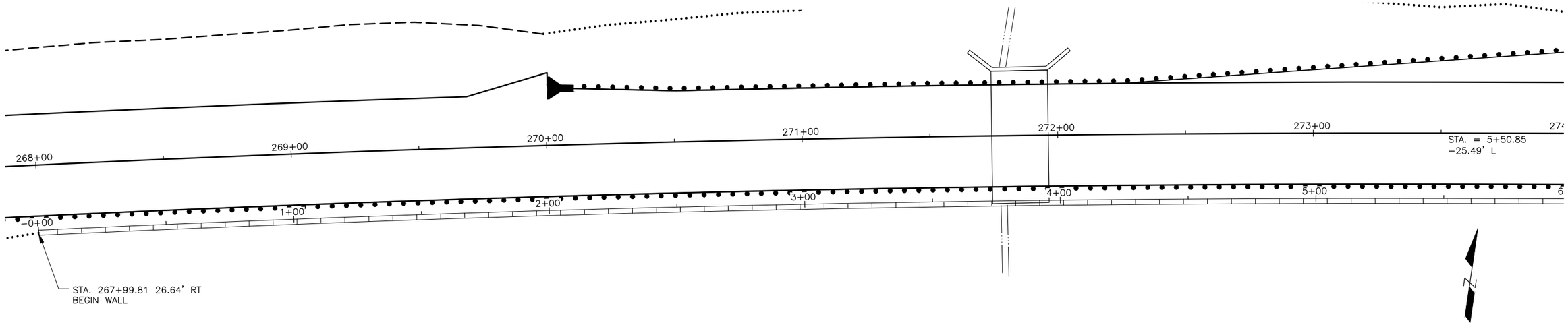
STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

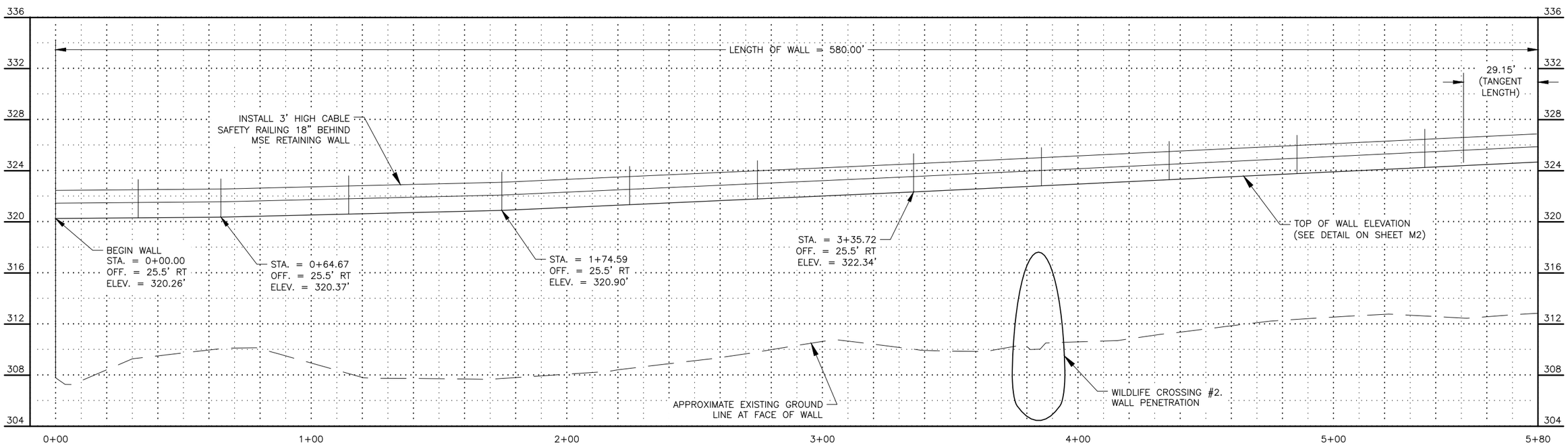
MSE RETAINING WALL 1
PLAN AND PROFILE

FILE C:\PWWORKING\WEST01\D1207339\53014_M_WALLS.DWG
DATE/TIME 6/4/2020 7:34 PM
LAYOUT M3
DESIGNED
CHECKED
DRAFTED

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	M4	M6





NOTE:

1. STATION AND OFFSETS ARE TO TOP FACE OF WALL (TOW). SEE WALL SECTION ON SHEET M2.

STATE OF ALASKA
49TH
REVIEW P.S.&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644–2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

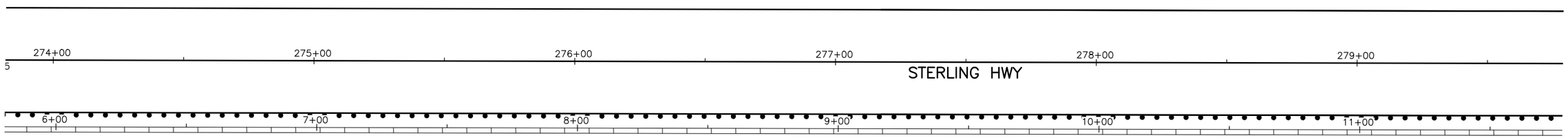
STERLING HIGHWAY
MP 45–60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

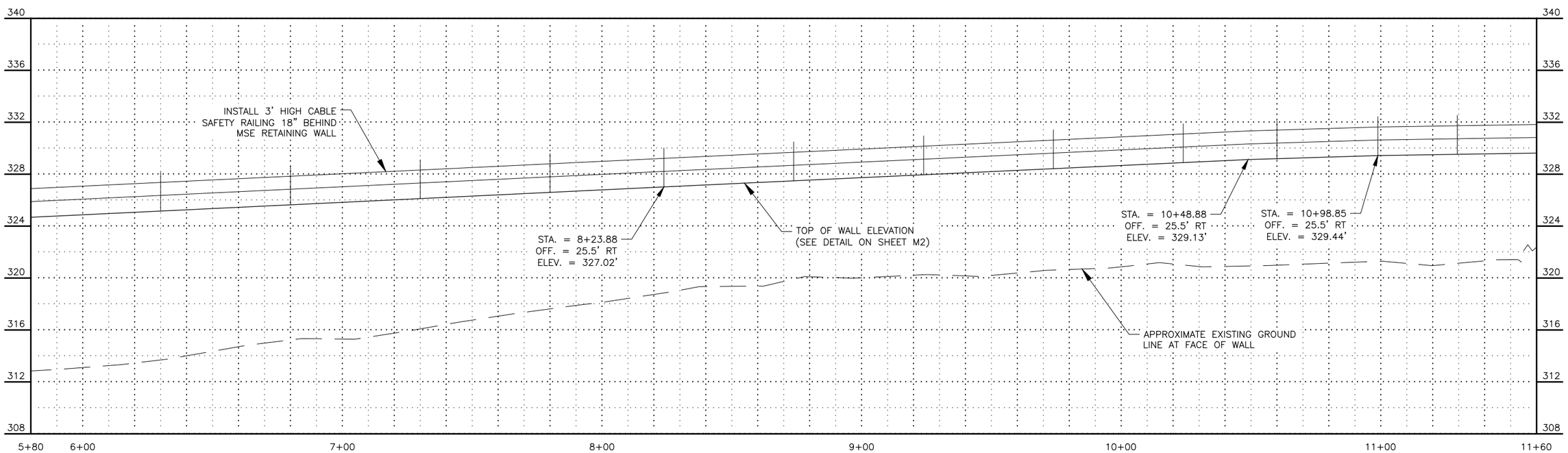
MSE RETAINING WALL 2
PLAN AND PROFILE

DRAFTED | CHECKED | DESIGNED | M4 | LAYOUT | DATE/TIME 6/4/2020 7:34 PM | FILE C:\PWWORKING\WEST01\D1207339\53014_M_WALLS.DWG

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	M5	M6





NOTE:

1. STATION AND OFFSETS ARE TO TOP FACE OF WALL (TOW). SEE WALL SECTION ON SHEET M2.

STATE OF ALASKA
49TH
REVIEW P,S&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

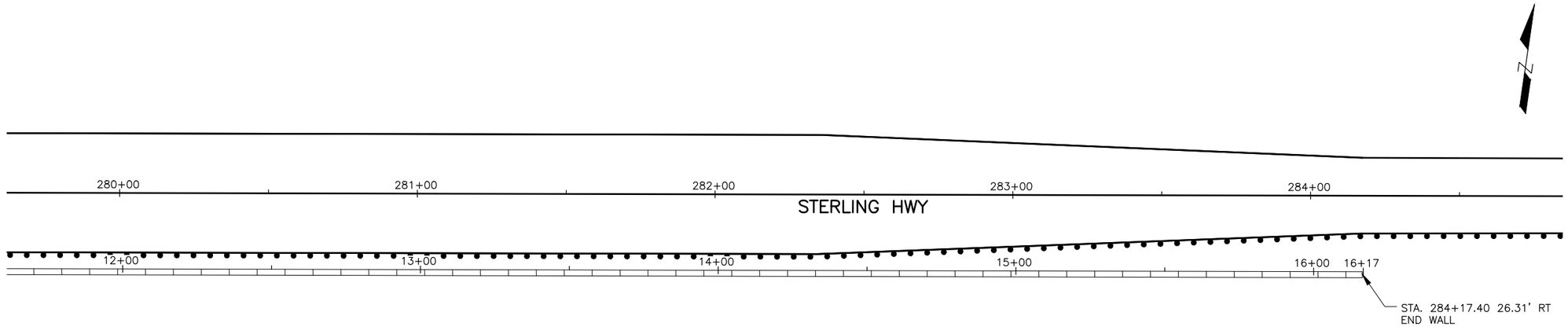
STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

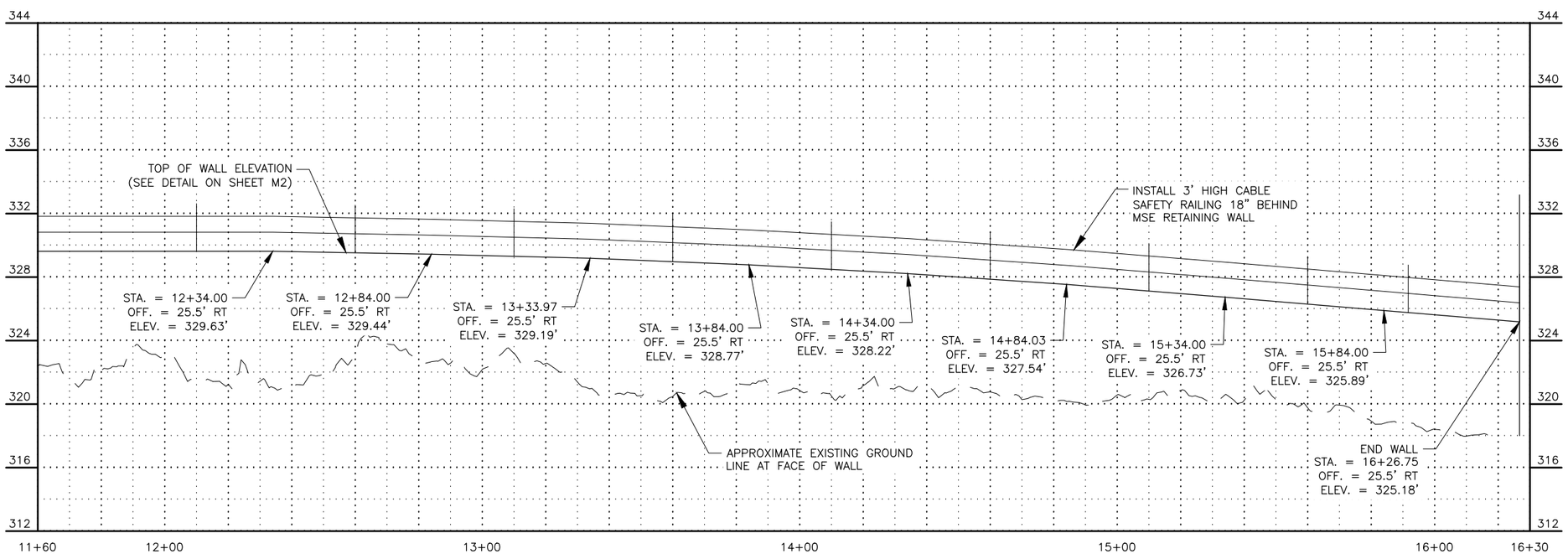
MSE RETAINING WALL 2
PLAN AND PROFILE

DRAFTED | CHECKED | DESIGNED | LAYOUT M5 | DATE/TIME 6/4/2020 7:34 PM | FILE C:\PWWORKING\WESTO1\D1207339\53014_M_WALLS.DWG

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00693	2021	M6	M6





NOTE:

1. STATION AND OFFSETS ARE TO TOP FACE OF WALL (TOW). SEE WALL SECTION ON SHEET M2.

STATE OF ALASKA
★ 49TH ★
REVIEW PS&E
JUNE 2020
REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.
2525 C STREET SUITE 500
ANCHORAGE, AK 99503
(907) 644-2000

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STERLING HIGHWAY
MP 45-60 SUNRISE TO SKILAK
LAKE RD, STAGE 1A

MSE RETAINING WALL 2
PLAN AND PROFILE

FILE C:\PWWORKING\WEST01\D1207339\53014_M_WALLS.DWG
DATE/TIME 6/4/2020 7:34 PM
LAYOUT M6
DESIGNED
CHECKED
DRAFTED