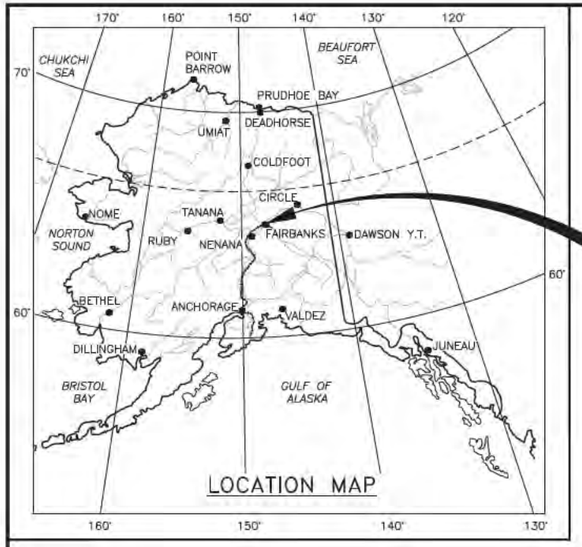
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	A1	87
CDS ROUTE: 176300	MILEPOINT: 3.278 TO 3.420			



PROJECT LOCATION

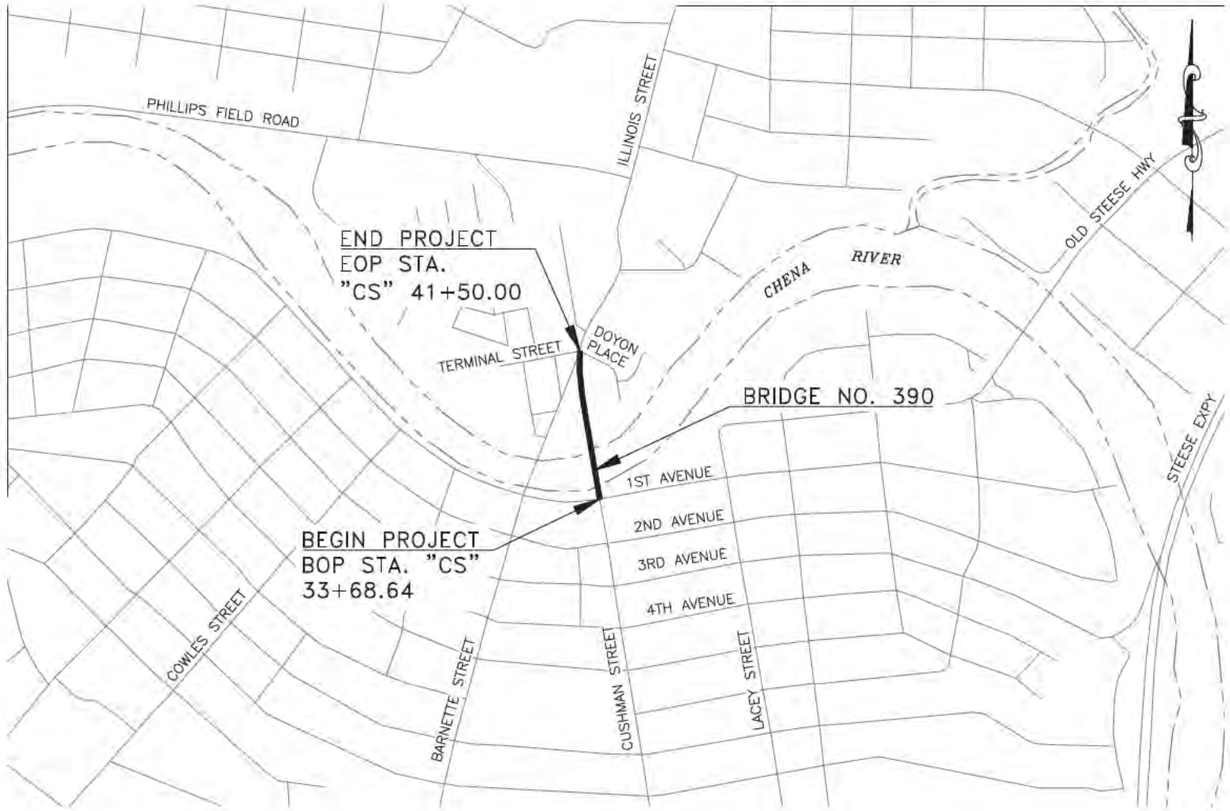
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

0663012/Z622070000

FAIRBANKS CUSHMAN STREET BRIDGE

PAVING, BRIDGE, LIGHTING, SIGNING, SIGNALIZATION



VICINITY MAP
FAIRBANKS

INDEX OF SHEETS

THE FOLLOWING STANDARD PLANS APPLY TO THIS PROJECT:
C–04.12
S–00.12, S–01.02, S–05.02, S–30.05
T–21.04, T–22.04, T–23.01

As-Advertised
November 18, 2021
Northern Region

DESIGN DESIGNATIONS	
ADT (2015)	6,255
ADT (2035)	7,630
DHV (13.5%) (2035)	1,030
PERCENT TRUCKS (T)	4%
DIRECTIONAL SPLIT (D)	N/A
DESIGN SPEED (V)	35 MPH
DESIGN ESALs (2035)	571,665

PROJECT SUMMARY	
WIDTH OF PAVEMENT	36'
LENGTH OF GRADING	350'
LENGTH OF PAVING	415'
LENGTH OF PROJECT	657'

RUSSELL JOHNSON, P.E. – DOT&PF PROJECT MANAGER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED BY: _____ DATE 10/8/2021
for Sarah E. Schacher, P.E.
Preconstruction Engineer, Northern Region

ACCEPTED FOR CONSTRUCTION: _____ DATE 10/8/2021
Sarah E. Schacher, P.E.
Regional Director, Northern Region

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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	A2	A5

	RECOVERED	SET
BLM MONUMENT	✠	
GLO MONUMENT	✠	
USC&GS MONUMENT	▲	
PRIMARY MONUMENT	✠	✠
CENTERLINE MONUMENT IN CASING	⊕	⊕
PRIMARY R.O.W. MONUMENT	⊕	⊕
BEARING OBJECT	✳	
MISCELLANEOUS MONUMENT	⊗	
LINE OF SIGHT MONUMENT		⊕
CONCRETE R.O.W. MONUMENT	■	
BENCHMARK		BM
REBAR AND CAP	⊙	⊙
REBAR	•	•
IRON PIPE	•	
PK NAIL		▽
SPIKE		×
HUB AND TACK		⊡
CONSTRUCTION CENTERLINE	5+00	
MISCELLANEOUS CENTERLINE	10+00	
STATION EQUATION	"L" 48+97.23 POT BK= / "O" 48+97.23 PC AHD	
PROJECT RIGHT-OF-WAY LINE	R/W	
EXISTING RIGHT-OF-WAY LINE		
EXISTING PROPERTY LINE		
CONTROLLED ACCESS LINE	C/A	
EXISTING EASEMENT LINE		
PROPOSED EASEMENT LINE		
PROPOSED CUT SLOPE LIMIT		
PROPOSED FILL SLOPE LIMIT		
GRADE BREAK		
SECTION LINE		
1/4 SECTION LINE		
1/16 SECTION LINE		
TOWNSHIP & RANGE LINE	T. 2 N. / T. 1 N. ; R. 1 E. ; R. 2 E.	
MEANDER LINE	M1 M2 M3	

	EXISTING	PROPOSED
SANITARY SEWER (FLOW DIRECTION →)	SS	SS
FUEL LINE	F	F
GAS LINE	G	G
WATER LINE	W	W
METER, VALVE, FIRE HYDRANT	W	W
EXISTING STORM DRAIN (FLOW DIRECTION →)	SD	
PROPOSED STORM DRAIN	S-10, S-11, P-11, P-10, SD, MH	
FIBER OPTIC LINE	FO	
DIRECT BURIAL TELEPHONE CABLE	T	T
DIRECT BURIAL ELECTRIC CABLE	E	E
ELECTRIC LINE (OVERHEAD)		
POWER POLE LINE		
JOINT USE POWER & TELEPHONE		
TELEPHONE POLE LINE		
POLE ANCHOR		
STUB POLE (POWER OR TELEPHONE)		
TELEPHONE DUCT	T	T
TELEPHONE PEDESTAL		
BURIED CABLE MARKER		
PIPELINE MARKER OR VALVE		
CATCH BASIN OR DROP INLET		
MANHOLE	MH	MH
SANITARY SEWER CLEAN OUT		
RIPRAP, CLASS II		
GRAVEL EDGE		

	EXISTING	PROPOSED
ROADWAY/PAVEMENT EDGE		
FENCE		
CURB AND GUTTER		
DETECTABLE WARNINGS		
GUARDRAIL		
CULVERT PIPE		
SIGN		
MAILBOX	MB	MB
RAILROAD TRACKS		
RAILROAD DEVICES	CROSS-BUCK, FLASHING LIGHT	CANTILEVER, SWITCH
TREE LINE		
WATER BOUNDARY		
ORDINARY HIGH WATER LINE		
FLOW CENTERLINE		
FLOW DIRECTION		
WETLANDS		
EXISTING BUILDINGS	H H = HOUSE G = GARAGE M = MERCHANT/STORE B = BARN S = SHED P = PRIVY SS = SERVICE STATION W = WAREHOUSE	
POST OR BOLLARD		
WELL OR MONITORING WELL	W	
SEPTIC PIPE	S, MW	
FUEL TANK FILL PIPE/VENT	FP	
SATELLITE DISH	SAT DISH	
TEST HOLE	TH	
CONIFER TREE		
DECIDUOUS TREE		
GRAVE		
THERMOSIPHON		
PARKING METER		
VEHICLE PLUG-IN		
DELINEATOR/GUIDE MARKER		

	EXISTING	PROPOSED
LOAD CENTER		
TRAFFIC CONTROLLER	TC	TC
TYPE 1A JUNCTION BOX	##	##
TYPE II JUNCTION BOX	##	##
TYPE III JUNCTION BOX	###	##
TYPE IV JUNCTION BOX	##	##
TYPE I INTERCONNECT VAULT	I/C	I/C
TYPE II INTERCONNECT VAULT	I/C	I/C
INTERCONNECT MANHOLE	IC	IC
ELECTROLIER		
SIGNAL POLE	P#	P#
SIGNAL POLE WITH MASTARM	P#	P#
COUNT STATION CONTROLLER		
LOOP DETECTOR	###	###
LOOP DETECTOR CONDUIT		
RIGID METAL CONDUIT		
INTERCONNECT CONDUIT	I/C	I/C
TRENCHING AND IMPROVEMENTS REMOVAL LIMITS		
PAN, TILT, ZOOM CAMERA	#	
BORED OR JACKED CASING		

LEGEND

STATE OF ALASKA
49 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513— fairbanks cushman bridge\DWGS\C\Sheets\62207_A2_LEGD-A2 Wed, Sep/15/21 01:49pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	A3	A5

LIST OF ABBREVIATIONS/SYMBOLS

@	AT
ø	DIAMETER
A	AMP
ADA	AMERICANS WITH DISABILITIES REGULATIONS
APDES	ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPROX	APPROXIMATELY
A.R.R.C.	ALASKA RAILROAD CORPORATION
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ASP	ALASKA STANDARD PLANS
ATB	ASPHALT TREATED BASE COURSE
ATM	ALASKA TRAFFIC MANUAL
AVC	AUTOMATIC VEHICLE CLASSIFICATION
AVE	AVENUE
AWG	AMERICAN WIRE GAUGE
&	AND
B&B	BALL AND BURLAP
BOP	BEGINNING OF PROJECT
C	CONDUCTOR
C&G	CURB AND GUTTER
CAL	CALIPER
CAT	CATALOG
CD/SQ M	CANDELA PER SQUARE METER
CGP	CONSTRUCTION GENERAL PERMIT
℄	CENTERLINE
CMS	CHANGEABLE MESSAGE BOARD SIGN
CPP	CORRUGATED PLASTIC PIPE
CSP	CORRUGATED STEEL PIPE
CY OR CYD	CUBIC YARD
D	DEGREE OF CURVATURE, DIAMETER
Δ	DELTA ANGLE
DEC	DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DEMO	DEMOLISH
DESC	DESCRIPTION
DIA	DIAMETER
DOT&PF	DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
DRL	DETECTOR REFERENCE LINE
E	EAST, EASTING
EB	EAST BOUND
EOP	END OF PROJECT
ESAL	EQUIVALENT SINGLE AXLE LOAD
ESCP	EROSION AND SEDIMENT CONTROL PLAN
ETC	ETCETERA
EVP	EMERGENCY VEHICLE PREEMPTION
EX	EXISTING
FG	FINISHED GRADE, FIELD GRADE
FO	FIBER OPTIC
FT OR '	FEET
GA	GAUGE
GND	GROUND
GR	GRADE
GVEA	GOLDEN VALLEY ELECTRIC ASSOCIATION
H	HORIZONTAL
HDPE	HIGH DENSITY POLYETHYLENE
HEAD	VEHICULAR SIGNAL HEAD
HMA	HOT MIX ASPHALT
HMCP	HAZARDOUS MATERIAL CONTROL PLAN
HT	HEIGHT
I/C	INTERCONNECT
IN OR "	INCHES
INTX	INTERSECTION
INTX LTG	SIGNALIZED INTERSECTION LIGHTING
KSI	1,000 POUNDS PER SQUARE INCH
L	LENGTH OF CURVE, LENGTH
LBS	POUNDS
LC	LOAD CENTER
LED	LIGHT EMITTING DIODE
LF	LINEAR FOOT
LFNC	LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT
LO	LOCATION
LT	LEFT
LTG	LIGHTING
LVC	LENGTH OF VERTICAL CURVE
MAX	MAXIMUM
ME	MATCH EXISTING
MIL	MILLIMETER
MIN	MINIMUM
MPH	MILE PER HOUR
MTG HT	MOUNTING HEIGHT
N	NORTH, NORTHING
NB	NORTH BOUND
NCHRP	NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM
NE	NORTH EAST
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NO OR #	NUMBER
NOI	NOTICE OF INTENT
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHW	ORDINARY HIGH WATER
OMNI	OMNI DIRECTIONAL ANTENNA
OPC	OPTICAL EMERGENCY VEHICLE PREEMPTION DETECTOR
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OZ	OUNCE
P1	TRAFFIC SIGNAL POLE #
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PE	POLYETHYLENE CONDUIT
PEC	PHOTOELECTRIC CELL
PEDI	PEDESTRIAN SIGNAL HEAD
PED B 28	PEDESTRIAN PUSH BUTTON #
PI	POINT OF INTERSECTION
PPB	PEDESTRIAN PUSH BUTTON
PR	PAIR
PRC	POINT OF REVERSE CURVATURE
PRE 2	PREEMPTION #
PRE CON 2	PREEMPTION CONTROLLER #
PSI	POUNDS PER SQUARE INCH
PST	PERFORATED STEEL TUBE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
R	RADIUS OF CURVATURE, RANGE
REQ'D	REQUIRED
RMC	RIGID METAL CONDUIT
ROW OR R/W	RIGHT-OF-WAY
RT	RIGHT
SB	SOUTH BOUND
SCH	SCHEDULE
SE	SOUTHEAST
SF	SQUARE FOOT
SHLDR	SHOULDER
SIG	SERVICE TO CONTROLLER
SMFO	SINGLE MODE FIBER OPTIC
SPCC	SPILL PREVENTION, CONTROL, AND COUNTERMEASURE
SPT	STANDARD PENETRATION TEST
SS	STAINLESS STEEL
ST	STREET
STD	STANDARD
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
SY	SQUARE YARD
T	TANGENT DISTANCE OR TOWNSHIP
TC	TRAFFIC CONTROLLER
TCP	TRAFFIC CONTROL PLAN
TS	TUBE STEEL
TOC	TOP OF CURB
TOW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UNC	UNIFIED NATIONAL COURSE
USACE	UNITED STATES ARMY CORPS OF ENGINEERS
V	VOLT
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WEST OR WATT
W/	WITH
W/O	WITHOUT
WB	WEST BOUND
WT	WEIGHT
WGU	WIRE GROUNDING UNIT
WSO	WEATHER SERVICE OFFICE
YAGI	DIRECTIONAL ANTENNA

AS-BUILT SUMMARY

PROJECT NAME	NUMBER	YEAR
ILLINOIS STREET RECONSTRUCTION	STP-F-M-00663(4)/63102	2011
BARNETTE BRIDGE CONSTRUCTION	STP-00663(9)/62317	2011
CUSHMAN STREET BRIDGE OVER CHENA RIVER	DUS-0671(2)	1958
CUSHMAN COMPLETE STREETS	FB-15-07/77194	2015
ILLINOIS STREET AND COLLEGE ROAD SIGNAL INTERCONNECT	PENDING/NFHWY00345	2020

GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THEIR OWN STAGING AREA.
2. PROTECT ALL EXISTING IMPROVEMENTS FROM DAMAGE UNLESS OTHERWISE NOTED.
3. TIME VEGETATION CLEARING TO COMPLY WITH THE MIGRATORY BIRD ACT.
4. SAWCUT ALL MATCH LINES WHERE NEW CONSTRUCTION ABUTS EXISTING ASPHALT PAVEMENT. APPLY STE-1 ASPHALT FOR TACK COAT ON THE VERTICAL FACE OF ALL SAW CUT ASPHALT.
5. SAWCUT CONCRETE (SIDEWALK, CURB AND GUTTER, DRIVEWAY, ETC.) AT THE NEAREST JOINT AT OR BEYOND MATCH LIMITS OR AS DIRECTED BY THE ENGINEER.
6. VIBRATORY COMPACTION IS NOT PERMITTED NORTH OF CHENA RIVER. SEE SPECIAL PROVISIONS.
7. RADIUS POINTS REFERENCE TOP BACK OF CURB.
8. APPLY 4-INCHES OF TOPSOIL AND SEED ON ALL AREAS DISTURBED AND NOT COVERED IN ASPHALT, CONCRETE, OR LANDSCAPING MATERIAL, OR WHERE DIRECTED BY THE ENGINEER.
9. TO MEET PROVISIONS OF THE CGP, SEEDING MAY REQUIRE MULTIPLE MOBILIZATIONS. ALL MOBILIZATIONS REQUIRED TO MEET THE CGP ARE SUBSIDIARY TO PAY ITEM 641.0003.0000.
10. VOID CREATED BY THE REMOVAL OF JUNCTION BOXES, POLES/POSTS OR OTHER EXISTING IMPROVEMENTS SHALL IMMEDIATELY BE BACKFILLED AND COMPACTED WITH MATERIALS AND METHODS, AS APPROVED BY THE ENGINEER, TO PREVENT SETTLEMENT.
11. VIBRATORY COMPACTION IS NOT PERMITTED NORTH OF THE CHENA RIVER. USE STATIC COMPACTION TECHNIQUES NORTH OF THE CHENA RIVER. ALL WORK AND RESOURCES FOR STATIC COMPACTION ARE SUBSIDIARY TO THE RESPECTIVE PAY ITEM.

GENERAL UTILITY NOTES:

1. BURIED AND OVERHEAD UTILITIES EXIST THROUGHOUT THE PROJECT CORRIDOR. LOCATIONS (HORIZONTALLY AND VERTICALLY) DEPICTED FOR THE UTILITIES AND OTHER EXISTING FEATURES ARE APPROXIMATE. SOME UTILITIES HAVE BEEN LOCATED FROM RECORD DRAWINGS AND UTILITY COMPANY LOCATES.
2. THE CONTRACTOR IS RESPONSIBLE TO LOCATE AND VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
3. ALL UTILITIES WITHIN, UNDER, AND OVER THE PROJECT SHALL REMAIN IN PLACE AND IN SERVICE DURING CONSTRUCTION. LOCATE ALL UTILITIES (OVERHEAD AND BURIED) TO THE EXTENT THEY ARE KNOWN OR SHOWN ON THE PLANS PRIOR TO CONSTRUCTION. BEFORE CONDUCTING ANY GROUND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL VERIFY LOCATIONS BY CONTACTING THE DIGLINE AT 1-800-478-3121 OR THE UTILITY COMPANY(S). THERE ARE UTILITIES IN THE PROJECT AREA, INCLUDING CITY OF FAIRBANKS, DOT&PF, AND GVEA, THAT DO NOT SUBSCRIBE TO THE DIGLINE.
4. WORK IN CLOSE PROXIMITY TO UNDERGROUND AND OVERHEAD ELECTRICAL SHALL COMPLY WITH APPLICABLE FEDERAL, STATE, AND LOCAL STATUTES, CODES AND GUIDELINES AND THE ELECTRICAL FACILITY CLEARANCE REQUIREMENTS OF THE GOVERNING UTILITY.
5. HAND DIG WITHIN TWO FEET OF BURIED UTILITIES.
6. SUPPORT AND PROTECT UNDERGROUND UTILITIES, CONDUITS, AND STRUCTURES NOT SCHEDULED FOR DEMOLITION OR ABANDONMENT.
7. PROTECT, OR REMOVE AND REPLACE IN SAME LOCATION, EXISTING MARKER POSTS FOR UTILITIES DISTURBED DURING CONSTRUCTION.

ALIGNMENT DESIGNATION:

"CS"	CUSHMAN STREET
"EP"	EAST PATHWAY
"BP"	PATHWAY UNDER BRIDGE

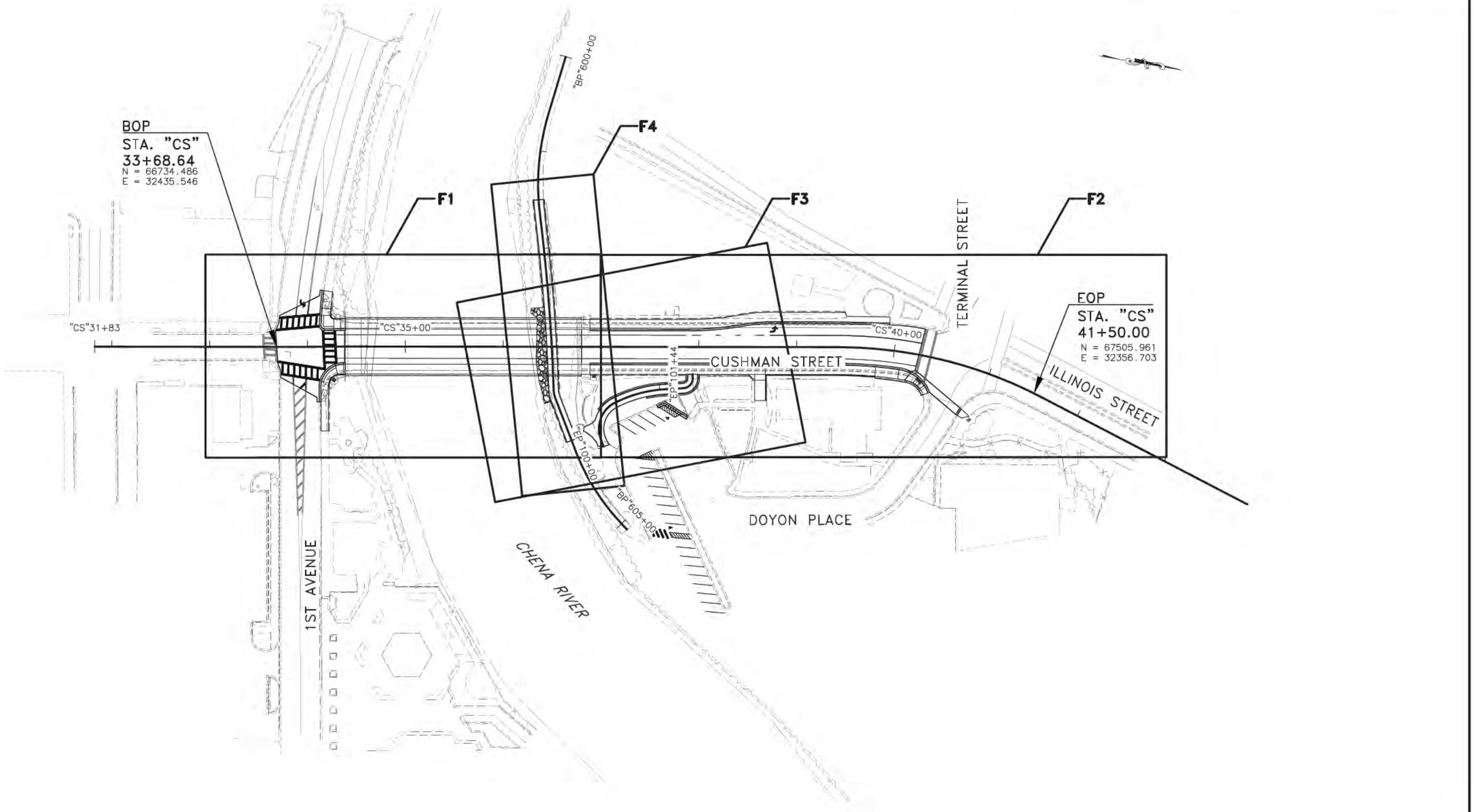
GENERAL NOTES AND ABBREVIATIONS

STATE OF ALASKA
49TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
10/8/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- Fairbanks Cushman Bridge\DWGS\C\Sheets\622070_A3_NOTES ABBRV-A3 Fri, Oct/08/21 09:20am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	A4	A5



SHEET LAYOUT

STATE OF ALASKA
19 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513— fairbanks cushman bridge\DWGS\C\Sheets\62207_A4_SHEET_LAYOUT—A4 Wed, Sep/15/21 01:50pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	A5	A5

BOP
STA. "CS"
33+68.64
N = 66734.486
E = 32435.546

STA. "BP"
601+50.00
N = 66974.190
E = 32243.698

CHENA RIVER

"BP"600+00

L5

"BP"601+14.25 PI
Δ = 23°32'39"
D = 22°52'42"
T = 52.19'
L = 102.91'
R = 250.44'

"BP"602+55.30 PI
Δ = 5°10'15"
D = 2°51'50"
T = 90.34'
L = 180.55'
R = 2000.57'

CUSHMAN STREET

"CS"31+83

"CS"35+00

L1

L2

L3

"BP"603+49.36 PI
Δ = 19°12'27"
D = 252°00'32"
T = 3.85'
L = 7.62'
R = 22.74'

L6

1ST AVENUE

STA. "BP"
604+00.00
N = 67047.408
E = 32480.969

"BP"604+55.93 PI
Δ = 22°12'04"
D = 25°27'53"
T = 44.15'
L = 87.18'
R = 225.00'

"BP"605+00

L7

TERMINAL STREET

"CS"40+52.49 PI
Δ = 27°25'00"
D = 12°43'57"
T = 109.77'
L = 215.33'
R = 450.00'

"CS"40+00

EOP
STA. "CS"
41+50.00
N = 67505.961
E = 32356.703

DOYON PLACE

ILLINOIS STREET

L4

"CS"45+00

"CS"47+59

DESIGN ALIGNMENT – "CS"

No.	STATION START	START COORDINATE	END STATION	END COORDINATE	BEARING	DISTANCE
L1	"CS"31+82.56	N 66550.8394 E 32465.5157	"CS"33+94.38	N 66759.8908 E 32431.4000	N09°16'07"W	211.82'
L2	"CS"33+94.38	N 66759.8908 E 32431.4000	"CS"34+38.17	N 66803.0273 E 32423.8371	N09°56'39"W	43.79'
L3	"CS"34+38.17	N 66803.0273 E 32423.8371	"CS"39+42.72	N 67300.9966 E 32342.6153	N09°15'49"W	504.55'
L4	"CS"41+58.05	N 67513.6371 E 32359.1438	"CS"47+59.21	N 68084.8696 E 32546.4365	N18°09'11"E	601.15'

PROJECT CONTROL NOTES

SEE PROJECT CONTROL BASED ON RECORD OF SURVEY FOR ILLINOIS STREET RECONSTRUCTION, PROJECT STP-F-M-0063(4)/63102, PLAT 2009-46, FAIRBANKS RECORDING DISTRICT.

DESIGN ALIGNMENT – "BP"

No.	STATION START	START COORDINATE	END STATION	END COORDINATE	BEARING	DISTANCE
L5	"BP"600+00.00	N 66977.8117 E 32094.7819	"BP"600+62.06	N 66969.7803 E 32156.3155	S82°33'49"E	62.06'
L6	"BP"603+53.14	N 67023.6872 E 32440.5531	"BP"604+11.79	N 67053.3737 E 32491.1326	N59°35'24"E	58.65'
L7	"BP"604+98.97	N 67110.7941 E 32556.0107	"BP"605+08.24	N 67118.1615 E 32561.6413	N37°23'21"E	9.27'

DESIGN ALIGNMENT – "EP"

No.	STATION START	START COORDINATE	END STATION	END COORDINATE	BEARING	DISTANCE
L8	"EP"100+00.00	N 67080.7609 E 32481.9729	"EP"100+08.30	N 67076.6395 E 32474.7706	S60°13'14"W	8.30'
L9	"EP"101+05.76	N 67133.5425 E 32413.7021	"EP"101+24.20	N 67151.5470 E 32409.7504	N12°22'45"W	18.43'
L10	"EP"101+39.37	N 67159.2706 E 32398.3596	"EP"101+43.78	N 67158.5561 E 32394.0161	S80°39'30"W	4.40'

CUSHMAN STREET

"EP"101+44

"EP"101+00

L9

L10

STA. "EP"
101+43.58
N = 67158.588
E = 32394.213

"EP"101+33.68 PI
Δ = 86°57'45"
D = 572°57'28"
T = 9.48'
L = 15.18'
R = 10.00'

"EP"100+79.29 PI
Δ = 23°54'30"
D = 44°28'52"
T = 27.27'
L = 53.75'
R = 128.81'

"EP"100+35.07 PI
Δ = 83°29'30"
D = 190°59'09"
T = 26.77'
L = 43.72'
R = 30.00'

L8

"EP"100+00

STA. "EP"
100+00.00
N = 67080.761
E = 32481.973

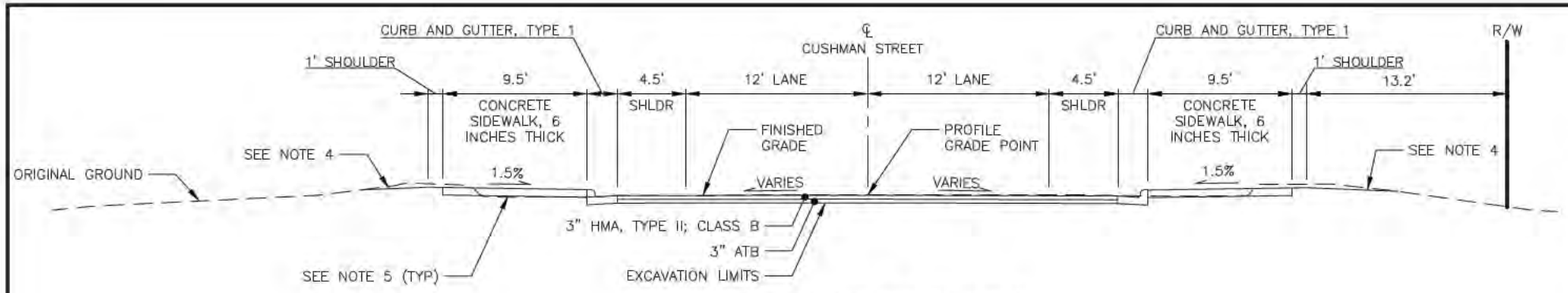
PROJECT LAYOUT

STATE OF ALASKA
19 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_A5_PROJECT_LAYOUT-A5 Wed, Sep/15/21 01:52pm

NO.	DATE	REVISION

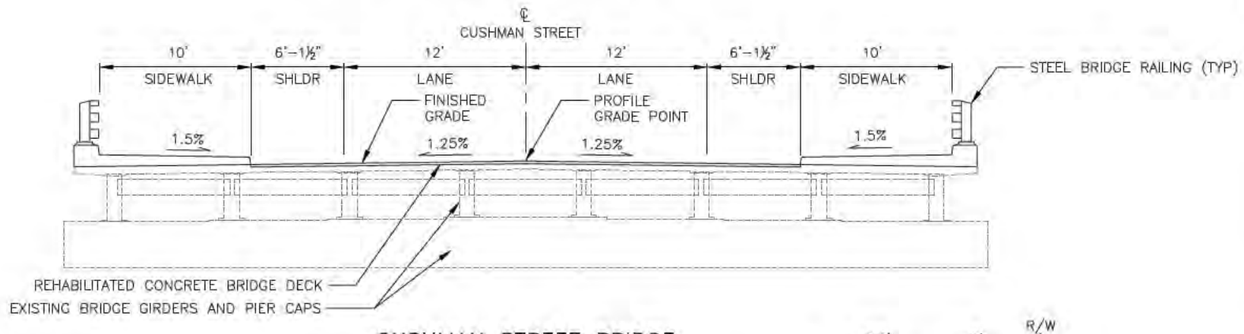
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	B1	B2



CUSHMAN STREET (SOUTH)

NTS

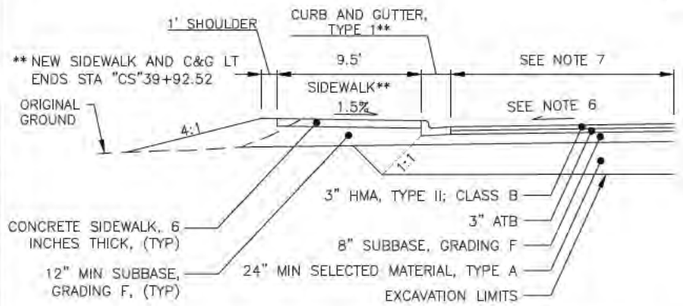
"CS" 33+68.64 (BOP) TO STA "CS"34+38.13



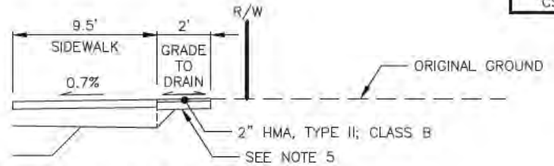
CUSHMAN STREET BRIDGE

NTS

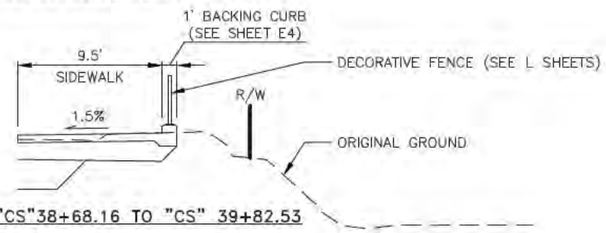
STA "CS"34+38.13 TO STA "CS"36+80.20



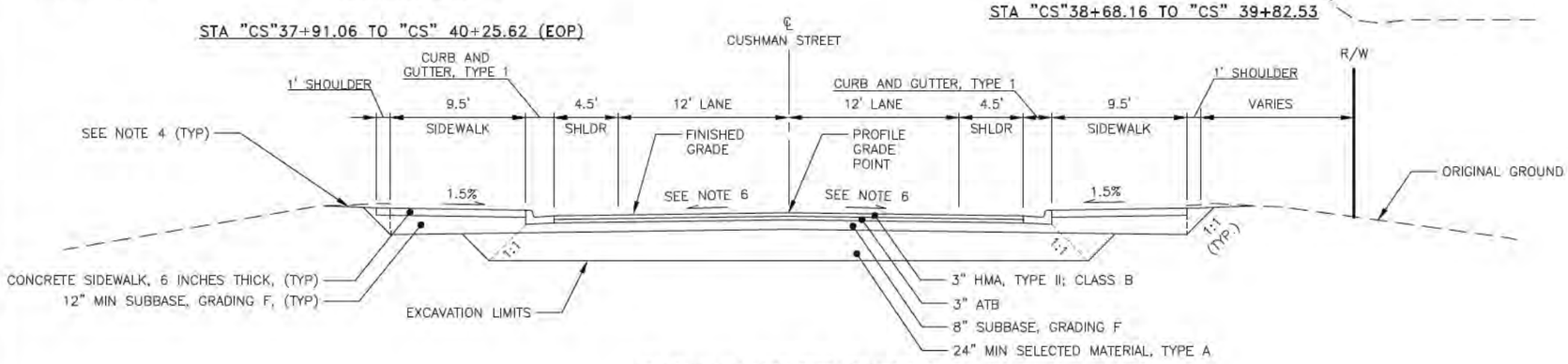
STA "CS"39+82.53 TO "CS" 40+43.04



STA "CS"38+68.16 TO "CS" 39+82.53



STA "CS"37+91.06 TO "CS" 40+25.62 (EOP)



CUSHMAN STREET (NORTH)

NTS

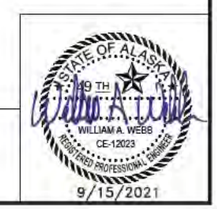
STA "CS"36+80.20 TO "CS" 40+25.62

TYPICAL SECTION NOTES:

1. SEE G SHEETS FOR LAYOUT INFORMATION AT BOP (1ST AVE. AND CUSHMAN ST. INTERSECTION).
2. EDGE OF EXCAVATION SHALL BE SLOPED AT 1:1 WHERE EXCAVATION DEPTH IS LESS THAN 4 FEET.
3. SEE BRIDGE N SHEETS FOR WORK REQUIRED TO CONSTRUCT TYPICAL BRIDGE SECTION.
4. RESTORE DISTURBED GROUND UP TO LIMITS OF EXISTING SIDEWALK REMOVAL AT A MINIMUM AND GRADE TO DRAIN, 4% MIN AND 4:1 MAX.
5. PROVIDE AGGREGATE BASE COURSE, GRADING D-1, BENEATH ASPHALT PAVEMENT OR SIDEWALK, AS NEEDED TO ACHIEVE REQUIRED GRADING.
6. SEE CROSS SLOPE TABLE THIS SHEET FOR TRANSITIONS BETWEEN TYPICAL SECTION CROSS SLOPES. ROTATE CROSS SLOPE ABOUT THE CENTERLINE. TO TRANSITION CROSS SLOPE, CONSTRUCT CONSTANT GRADE ALONG EDGE OF PAVEMENT BETWEEN RANGES DESCRIBED BELOW.
7. 12 FT LANE BEGINS AT STA. "CS"38+72.87. LANE WIDTH BEGINS TO VARY AT STA. "CS"39+42.72. SEE G2 FOR MORE INFORMATION.

CROSS SLOPE TABLE

STATION		LT LANE CROSS SLOPE	RT LANE CROSS SLOPE
"CS"36+80.20	"CS"36+89.62*	1.25%	1.25%
"CS"36+89.62*	"CS"37+10.00*	TRANSITION	TRANSITION
"CS"37+10.00*	"CS"39+19.28	2.00%	2.00%
"CS"39+19.28	"CS"39+92.52	TRANSITION	2.00%
"CS"39+92.52	EOP	MATCH EXISTING	2.00%



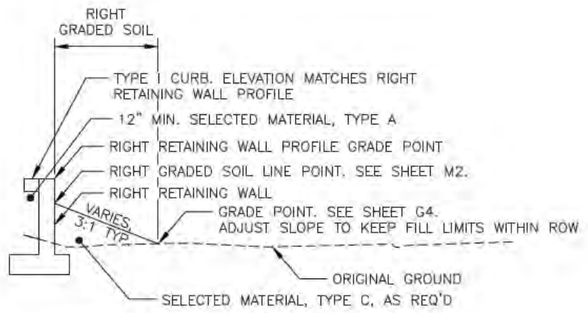
TYPICAL SECTIONS

NO.	DATE	REVISION

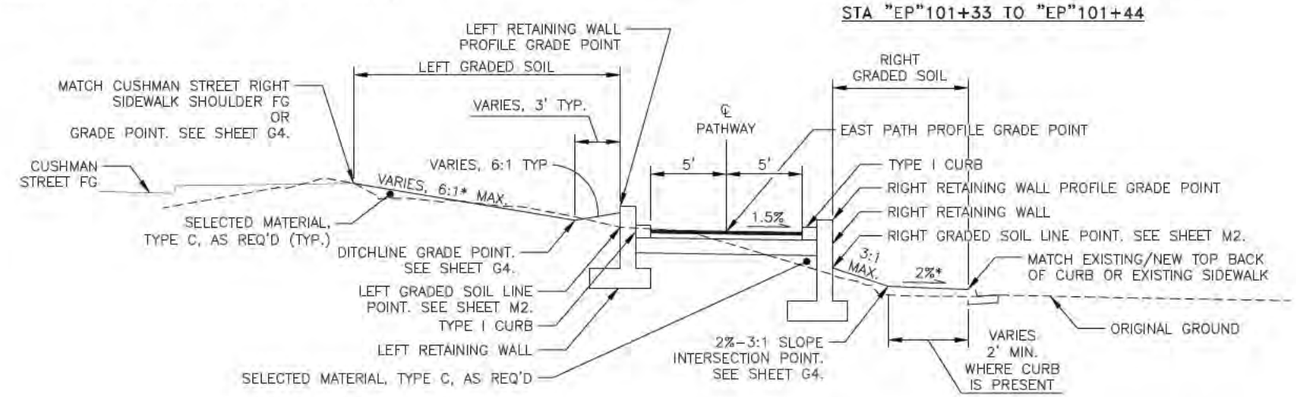
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	B2	B2

NOTES:

1. SEE M SHEETS FOR RETAINING WALL DESIGN.
2. SEE G AND M SHEETS FOR ADDITIONAL GRADED SOIL INFORMATION.
3. INTENT OF GRADING ON RIGHT SIDE OF PATH IS TO DIRECT RUNOFF AWAY FROM RETAINING WALL AND PATHWAY. PROVIDE A MINIMUM 2 FOOT WIDE, 2% BENCH AT TOP BACK OF PARKING LOT CURB TO ACCOMMODATE PARKED CAR OVERHANG.
4. INTENT OF GRADING ON LEFT SIDE OF PATH IS TO DIRECT RUNOFF AWAY FROM THE RETAINING WALL, PATHWAY AND CUSHMAN STREET. GRADE TO PROVIDE MAXIMUM 6:1 SLOPE.
5. SITE GRADING SHALL PROVIDE POSITIVE DRAINAGE AND PREVENT PONDING.
6. ELEVATION OF RIGHT TOP OF TYPE I CURB SHALL MATCH THE RIGHT RETAINING WALL PROFILE GRADE BETWEEN STATION "EP" 101+33 TO "EP" 101+44 (EOP).
7. ELEVATION OF LEFT TOP OF TYPE I CURB SHALL MATCH THE LEFT RETAINING WALL PROFILE GRADE BETWEEN STATION "EP" 101+33 TO "EP" 101+44 (EOP).

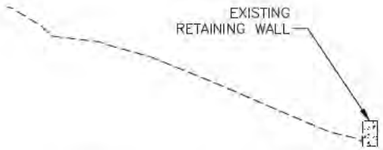


STA "EP"101+33 TO "EP"101+44

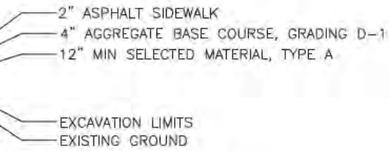


STA "EP"100+36 TO "EP"101+44

STA "EP"100+85 TO "EP"101+33



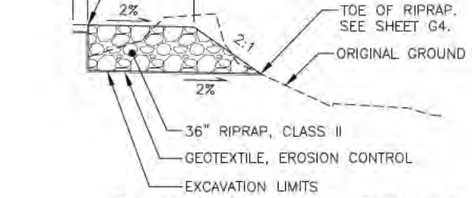
STA. "BP"603+43 TO STA. "BP"604+00



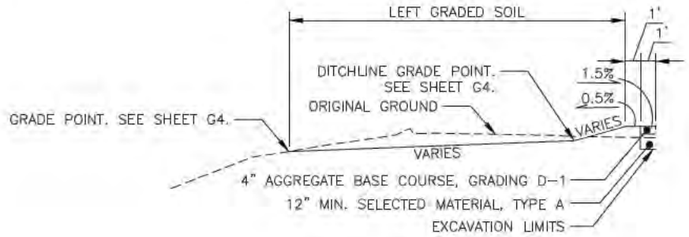
EAST PATH STRUCTURAL SECTION

NTS

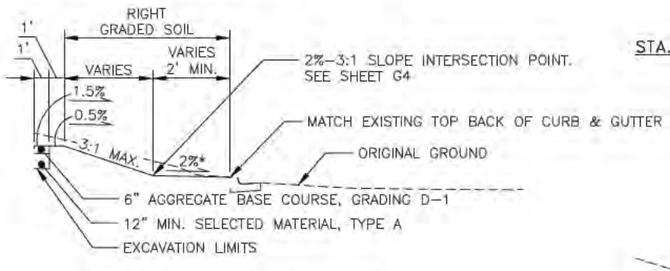
DAYLIGHT SLOPE EXCEPTION TABLE		
STATION		RT DAYLIGHT SLOPE
"BP"603+45	"BP" 603+55	1.75:1
"BP" 603+90	"BP" 604+00	2:1



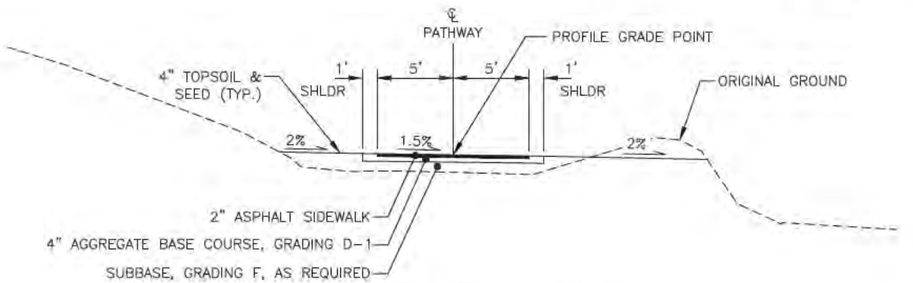
STA. "BP"602+60 TO STA. "BP"603+55



STA "EP"100+20 TO "EP"100+36



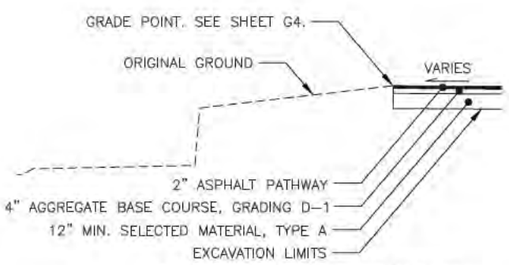
STA "EP"100+25 TO "EP"100+85



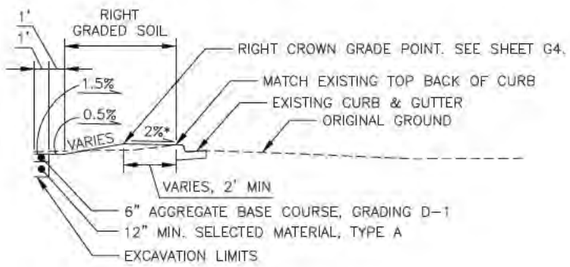
PATHWAY UNDER BRIDGE

NTS

STA. "BP"601+50 TO STA. "BP"604+00



STA "EP"100+00 TO "EP"100+20



STA "EP"100+00 TO "EP"100+25

EAST PATHWAY

NTS

STA. "EP"100+00 TO STA. "EP"101+43.58

* SLOPED PERPENDICULAR TO NEW/EXISTING CURB AND GUTTER OR CUSHMAN STREET SIDEWALK, AS APPLICABLE.

TYPICAL SECTIONS

STATE OF ALASKA — 49 TH — WILLIAM A. WEBB — CE-12023 — REGISTERED PROFESSIONAL ENGINEER

9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_B1-B2_TYP_SECT-B2 Wed, Sep/15/21 01:52pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	C1	C2

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL
201.0009.0000	CLEARING AND GRUBBING	LUMP SUM	ALL REQ'D
202.0001.0000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQ'D
202.0002.0000	REMOVAL OF PAVEMENT	SQUARE YARD	2677
202.0003.0000	REMOVAL OF SIDEWALK	SQUARE YARD	495
202.0008.0000	REMOVAL OF INLET	EACH	1
202.0009.0000	REMOVAL OF CURB AND GUTTER	LINEAR FOOT	822
203.0003.0000	UNCLASSIFIED EXCAVATION	CUBIC YARD	2920
203.0006.0000	BORROW	TON	3160
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	126
304.0001.000F	SUBBASE, GRADING F	TON	7140
306.0001.0000	ATB	TON	340
306.0002.5228	ASPHALT BINDER, GRADE PG 52-28	TON	16
401.0001.002B	HMA, TYPE II; CLASS B	TON	350
401.0004.0000	ASPHALT BINDER, GRADE PG 52E-40	TON	20
401.0009.0000	LONGITUDINAL JOINT DENSITY PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQ'D
401.0015.0000	ASPHALT MATERIAL PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQ'D
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	TON	1
501.0001.0000	CLASS A CONCRETE	LUMP SUM	ALL REQ'D
501.2001.0000	SPALL REPAIR	SQUARE FOOT	290
501.2005.0000	CAST-IN-PLACE CONCRETE RETAINING WALL	LUMP SUM	ALL REQ'D
501.2018.0000	CORING CONCRETE	LINEAR FOOT	312
502.0001.0000	POST-TENSIONING, RODS	LUMP SUM	ALL REQ'D
503.0002.0000	EPOXY-COATED REINFORCING STEEL	LUMP SUM	ALL REQ'D
503.0003.0000	DRILL AND BOND DOWELS	EACH	392
504.2003.0000	BRIDGE JOINT RESTRAINER UNITS	EACH	48
507.0001.0003	STEEL BRIDGE RAILING, 3-TUBE	LINEAR FOOT	502
507.0002.0000	PEDESTRIAN RAILING POWDER COATED	LINEAR FOOT	66
510.0001.0000	REMOVAL OF CONCRETE BRIDGE DECK	SQUARE FOOT	14740
510.2001.0000	BRIDGE DECK REPAIR	CONTINGENT SUM	ALL REQ'D
513.0001.0000	FIELD PAINTING OF STEEL STRUCTURES	LUMP SUM	ALL REQ'D
516.0001.0000	EXPANSION JOINT, SILICONE	LINEAR FOOT	121
516.0001.0004	EXPANSION JOINT, PRECOMPRESSED SILICONE COATED	LINEAR FOOT	49
525.2001.0000	POLYESTER CONCRETE OVERLAY	LUMP SUM	ALL REQ'D
604.0004.0000	ADJUST EXISTING MANHOLE	EACH	2
604.0005.000A	INLET, TYPE A	EACH	1
606.0006.0000	REMOVING AND DISPOSING OF GUARDRAIL	LINEAR FOOT	90
608.0001.0006	CONCRETE SIDEWALK, 6 INCHES THICK	SQUARE YARD	805
608.0002.0000	ASPHALT SIDEWALK	TON	55
608.0006.0000	CURB RAMP	EACH	3
609.0001.0001	CURB, TYPE 1	LINEAR FOOT	172
609.0002.0001	CURB AND GUTTER, TYPE 1	LINEAR FOOT	827
611.0001.0001	RIPRAP, CLASS I	CUBIC YARD	59
611.0001.0002	RIPRAP, CLASS II	CUBIC YARD	70
615.0001.0000	STANDARD SIGN	SQUARE FOOT	41.94
615.0006.0000	SALVAGE SIGN	EACH	7
618.0002.0000	SEEDING	POUND	38
620.0001.0000	TOPSOIL	SQUARE YARD	810
621.0001.0000	TREE, BETULA PAPYRIFERA, 1.5" CALIPER, SINGLE STEM	EACH	13
621.0002.0000	SHRUB, ROSA ACICULARIS, 24" HEIGHT	EACH	226
621.2007.0000	LANDSCAPE EDGING	LINEAR FOOT	50
621.2013.0000	RESET EXISTING RUBBLE	SQUARE YARD	8
622.2005.0000	FLAGPOLE	EACH	50
625.2000.0000	PEDESTRIAN HAND RAIL DECORATIVE	LINEAR FOOT	136

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL
627.0010.0000	ADJUSTMENT OF VALVE BOX	EACH	2
631.0002.0001	GEOTEXTILE, EROSION CONTROL, CLASS 1	SQUARE YARD	150
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQ'D
641.2000.0000	POLLUTION CONTROL	LUMP SUM	ALL REQ'D
642.0001.0000	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQ'D
642.0013.0000	THREE PERSON SURVEY PARTY	CONTINGENT SUM	ALL REQ'D
643.0002.0000	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQ'D
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LUMP SUM	ALL REQ'D
643.0023.0000	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQ'D
643.0025.0000	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQ'D
643.0032.0000	FLAGGING	CONTINGENT SUM	ALL REQ'D
643.2005.0000	PUBLIC INFORMATION PROGRAM	LUMP SUM	ALL REQ'D
644.0001.0000	FIELD OFFICE	LUMP SUM	ALL REQ'D
644.0006.0000	VEHICLE	LUMP SUM	ALL REQ'D
646.0001.0000	CPM SCHEDULING	LUMP SUM	ALL REQ'D
660.0001.000A	TRAFFIC SIGNAL SYSTEM COMPLETE, 1ST AVE / CUSHMAN ST	LUMP SUM	ALL REQ'D
660.0001.000B	TRAFFIC SIGNAL SYSTEM COMPLETE, DOYON PL / CUSHMAN ST	LUMP SUM	ALL REQ'D
660.0003.0000	HIGHWAY LIGHTING SYSTEM COMPLETE, 1ST AVE TO TERMINAL ST	LUMP SUM	ALL REQ'D
662.2003.0002	FIBER OPTIC VAULT, TYPE 2	EACH	2
662.2005.0000	FIBER OPTIC INTERCONNECT	LUMP SUM	ALL REQ'D
669.2007.0000	AUTOMATIC VEHICLE CLASSIFICATION	LUMP SUM	ALL REQ'D
670.0001.0000	PAINTED TRAFFIC MARKINGS	LUMP SUM	ALL REQ'D
670.2002.0000	MMA PAVEMENT MARKINGS, INLAID	LUMP SUM	ALL REQ'D
670.2003.0000	MMA PAVEMENT MARKINGS, LONGITUDINAL SURFACE APPLIED	LINEAR FOOT	570

ESTIMATING FACTORS

ITEM NO.	DESCRIPTION	UNIT
203.0006.0000	BORROW	2.0 TONS / CUBIC YARD
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	148 LBS. / CUBIC FOOT
304.0001.000F	SUBBASE, GRADING F	148 LBS. / CUBIC FOOT
306.0001.0000	ATB	151 LBS. / CUBIC FOOT
306.0002.5228	ASPHALT BINDER, GRADE PG 52-28	4.5% BY WEIGHT OF 306.0001.0000
401.0001.002B	HMA, TYPE II; CLASS B	115 LBS. / S.Y.-INCH
401.0004.0000	ASPHALT BINDER, GRADE 52E-40	5.5% BY WEIGHT OF 401.0001.002B
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	0.11 GAL/SY
618.0002.0000	SEEDING	5 LBS. / 1000 SQUARE FOOT

ESTIMATE OF QUANTITIES

STATE OF ALASKA
49TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
10/8/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_C1-C2_EST_QUAT-C1 Fri, Oct/08/21 10:12am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	C2	C2

ESTIMATED LUMP SUM QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY
201.0009.0000	CLEARING AND GRUBBING	9,500 SF
202.0001.0000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	SEE SHEET E2
501.0001.0000	CLASS A CONCRETE	179.6 CY
501.2005.0000	CAST-IN-PLACE CONCRETE RETAINING WALL	179 LF
502.0001.0000	POST-TENSIONING, RODS	92 EA
503.0002.0000	EPOXY-COATED REINFORCING STEEL	14,800 LBS
513.0001.0000	FIELD PAINTING OF STEEL STRUCTURES	1,070 SF
525.0001.0000	POLYESTER CONCRETE OVERLAY	20.4 CY
660.0001.0000	TRAFFIC SIGNAL SYSTEM COMPLETE, 1ST AVE / CUSHMAN ST	
	RUGGEDCOM RS940G ETHERNET SWTICH (EXISTING)	1 EA
	PTZ CAMERAS	1 EA
	12-FIBER ITS DROP CABLE	1 EA
	LC SMFO PATCH CABLE	6 EA
660.0001.0000	TRAFFIC SIGNAL SYSTEM COMPLETE, DOYON PL / CUSHMAN ST	
	RUGGEDCOM RS940G ETHERNET SWTICH (EXISTING)	1 EA
	12-FIBER ITS DROP CABLE (EXISTING)	1 EA
	LC SMFO PATCH CABLE (EXISTING)	6 EA
	PTZ CAMERAS	2 EA
	ENABLE-IT 824WP ETHERNET EXTENDERS	2 EA
660.0003.0000	HIGHWAY LIGHTING SYSTEM COMPLETE, 1ST AVE TO TERMINAL ST	
	TRENCH AND BACKFILL	200 LF
	STEEL CONDUIT 3-INCH	205 LF
	STEEL CONDUIT 2-INCH	710 LF
	STEEL CONDUIT 1-INCH	140 LF
	1-INCH LFMC	10 LF
	JUNCTION BOX TYPE IA	7 EA
	JUNCTION BOX TYPE II	3 EA
	ABOVE GRADE JUNCTION BOX	4 EA
	ADJUST JUNCTION BOX TO FINISH GRADE	4 EA
	3C#8 CONDUCTOR	1675 LF
	3C#6 CONDUCTOR	505 LF
	1C#8 GROUND CONDUCTOR	665 LF
	1C#6 GROUND CONDUCTOR	505 LF
	REMOVE AND RELOCATE EXISTING LIGHT POLE	1 EA
	CONCRETE LIGHT POLE FOUNDATION	1 EA
	REMOVE AND RELOCATE EXISTING PEDESTRIAN LIGHT POLE	1 EA
	CONCRETE PEDESTRIAN LIGHT POLE FOUNDATION	1 EA
	BRIDGE ELECTROLIER AND LUMINAIRE	2 EA
	PEDESTRIAN ELECTROLIER, LUMINAIRE, AND FOUNDATION	2 EA
	LUMINAIRE FEATURE	2 EA
	UNDER-BRIDGE LUMINAIRE	4 EA

ESTIMATED LUMP SUM QUANTITIES CONTINUED

ITEM NO.	DESCRIPTION	QUANTITY
662.2005.0000 (SEE NOTE 1.)	FIBER OPTIC INTERCONNECT	
	VAULT #2 TO WEST	29 LF
	VAULT #2 TO EXISTING VAULT	6 LF
	EXISTING VAULT TO EXISTING TYPE 3 JUNCTION BOX	18 LF
	UNDER CUSHMAN	65 LF
	NEW VAULT #1 TO EAST	54 LF
	VAULT #1 TO VAULT #3	273 LF
	VAULT #3 TO VAULT #4	398 LF
	VAULT #4 TO EXISTING VAULT	4 LF
669.2007.0000	AUTOMATIC VEHICLE CLASSIFICATION	
	3' X 2' TRENCH AND BACKFILL	85 LF
	2-INCH RMC CONDUIT	25 LF
	1-INCH RMC CONDUIT	60 LF
	1C#6 GROUND CONDUCTOR	260 LF
	JUNCTION BOX TYPE IA	1 EA
	JUNCTION BOX TYPE II	1 EA
	LOOP DETECTOR:	4 EA
	1" PVC TUBE	210 LF
	1C#14 CONDUCTOR	840 LF
	7 PR #18	200 LF
	PIEZOMETRIC SENSOR:	4 EA
	RG58 COAXIAL	860 LF
	VINYL TUBE	860 LF
670.0001.0000	PAINTED TRAFFIC MARKINGS	SEE SHEET H1
670.2002.0000	MMA PAVEMENT MARKINGS, INLAID	SEE SHEET H1

NOTES:

1. DESCRIPTIONS FOR ITEM 662.2005.0000 ARE EXPECTED INTERCONNECT CONDUIT INSTALLATIONS. THESE DO NOT ENCOMPASS THE ENTIRE INTERCONNECT LUMP SUM PAY ITEM AND SUBSIDIARY WORK. NOTE THE MEASUREMENTS LISTED ARE CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND DO NOT INCLUDE:

   A. THE FO CABLE PROVIDED BY THE ILLINOIS STREET AND COLLEGE ROAD INTERCONNECT PROJECT.

   B. THE REQUIRED EXCESS FO CABLE TO BE SUPPLIED AND STORED IN EACH FO VAULT AND SIGNAL CONTROLLER.

   SEE THE J SHEETS AND SECTION 662 OF THE SPECIAL PROVISIONS.

ESTIMATE OF QUANTITIES

STATE OF ALASKA
49 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/21/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- Fairbanks Cushman Bridge\DWGS\C\Sheets\622070_C1-C2_EST_QUAT-C2 Tue, Sep/21/21 02:04pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	D1	D1

401.0001.002B HMA, TYPE II; CLASS B – TON & 401.0004.0000 ASPHALT BINDER, GRADE PG 52E-40 – TON

SHEET	BEGIN STATION	END STATION	THICKNESS (IN)	401.0001.002B QUANTITY (TON)	401.0004.5240 QUANTITY @ 5% OF HMA (TON)	REMARKS
F1	"CS"33+68.6	"CS"34+38.1	3	87	4.8	SOUTH OF BRIDGE
F1–F2	"CS"36+80.2	"CS"40+25.6	3	249	13.7	NORTH OF BRIDGE
F1–F2	"CS"39+82.5	"CS"37+88.0	2	1	0.0	BACK OF SIDEWALK
F2	"CS"40+20.8	"CS"40+84.3	3	7	0.4	ROADWAY
F3	"EP"100+95.1	"EP"101+24.7	2	1	0.0	GORDON WEAR PARKING LOT
			TOTAL:	346	19.0	

604.0004.0000 ADJUST EXISTING MANHOLE – EACH

SHEET	STATION	OFFSET	REMARKS
F1	"CS"33+82.9	5.2' RT	1ST AND CUSHMAN INTERSECTION
F2	"CS"40+57.8	34.6' RT	DOYON AND CUSHMAN INTERSECTION
	TOTAL:	2	

604.0005.000A INLET, TYPE A – EACH

SHEET	STATION	OFFSET	REMARKS
F2	"CS"40+18.9	18.9' RT	SE QUAD DOYON AND CUSHMAN
	TOTAL:	1	

608.0002.0000 ASPHALT SIDEWALK – TON

SHEET	BEGIN STATION	END STATION	THICKNESS	QUANTITY	REMARKS
F3	"EP"100+00	"EP"101+43.6	2	20	EAST PATHWAY
F4	"BP"601+50.0	"BP"604+00.0	2	35	PATHWAY UNDER BRIDGE
			TOTAL:	55	

627.0010.0000 ADJUSTMENT OF VALVE BOX – EACH

SHEET	STATION	OFFSET	REMARKS
F2	"CS"39+64.2	RT	ADJUST TO SIDEWALK FG
F2	"CS"40+22.7	RT	ADJUST TO SIDEWALK FG
	TOTAL:	2	

NOTES:

1. SEE SHEET E2 FOR DEMOLITION SUMMARY TABLES AND SHEET E5 FOR CONCRETE SUMMARY TABLES.

SUMMARY TABLES

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_D1_SUMMARIES-D1 Wed, Sep/15/21 01:53pm

NO.	DATE	REVISION

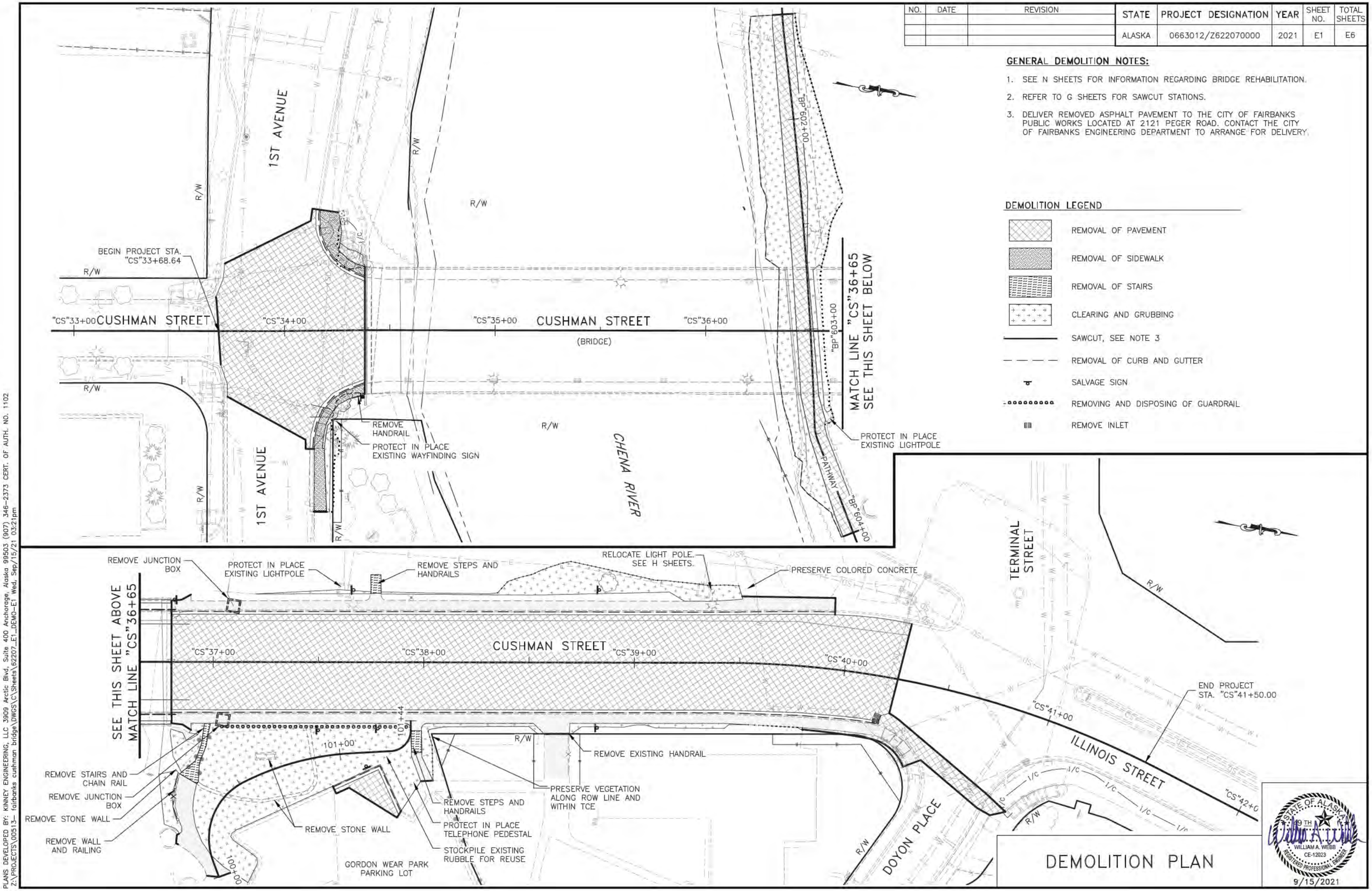
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	E1	E6

GENERAL DEMOLITION NOTES:

1. SEE N SHEETS FOR INFORMATION REGARDING BRIDGE REHABILITATION.
2. REFER TO G SHEETS FOR SAWCUT STATIONS.
3. DELIVER REMOVED ASPHALT PAVEMENT TO THE CITY OF FAIRBANKS PUBLIC WORKS LOCATED AT 2121 PEGER ROAD. CONTACT THE CITY OF FAIRBANKS ENGINEERING DEPARTMENT TO ARRANGE FOR DELIVERY.

DEMOLITION LEGEND

- REMOVAL OF PAVEMENT
- REMOVAL OF SIDEWALK
- REMOVAL OF STAIRS
- CLEARING AND GRUBBING
- SAWCUT, SEE NOTE 3
- REMOVAL OF CURB AND GUTTER
- SALVAGE SIGN
- REMOVING AND DISPOSING OF GUARDRAIL
- REMOVE INLET



DEMOLITION PLAN

STATE OF ALASKA
49 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	E2	E6

202.0001.0000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS – LUMP SUM

SHEET	STATION	OFFSET	REMARKS
E1	"CS"34+34.6	RT	REMOVE HANDRAIL
E1	"CS"36+77.4	RT	REMOVE STONE WALL
E1	"CS"36+83.9	RT	REMOVE WALL AND RAILING
E1	"CS"36+95.7	RT	REMOVE STAIRS AND CHAIN RAIL
E1	"CS"37+04.6	RT	REMOVE JUNCTION BOX
E1	"CS"37+09.6	LT	REMOVE JUNCTION BOX
E1	"CS"37+24.9	RT	REMOVE CENTER STONE WALL
E1	"CS"37+45.2	RT	REMOVE OUTER STONE WALL
E1	"CS"37+77.3	LT	REMOVE STEPS AND HANDRAILS
E1	"CS"37+96.5	RT	REMOVE STEPS AND HANDRAILS
E1	"CS"38+68.7	RT	REMOVE HANDRAIL

202.0002.0000 REMOVAL OF PAVEMENT – SQUARE YARD

SHEET	BEGIN STATION	END STATION	QUANTITY (SY)	REMARKS
E1	"CS"33+68.6	"CS"34+38.1	578	ROADWAY SOUTH OF BRIDGE
E1	"CS"34+17.4	"CS"34+31.3	7	1ST AND CUSHMAN (RT)
E1	"CS"34+26.0	"CS"34+38.4	7	1ST AND CUSHMAN (LT), BEHIND SIDEWALK
E1	"CS"36+80.2	"CS"40+25.6	1755	ROADWAY NORTH OF BRIDGE
E1	"CS"39+82.5	"CS"40+44.8	13	SW QUAD DOYON AND CUSHMAN BACK OF SIDEWALK
E1	"EP"100+95.1	"EP"101+24.7	27	GORDON WEAR PARKING LOT
E1	"BP"601+50.0	"BP"604+00.0	247	PATHWAY UNDER BRIDGE
E1	"CS"40+24.54	"CS"40+82.20	43	ROADWAY
		TOTAL:	2677	

202.0003.0000 REMOVAL OF SIDEWALK – SQUARE YARD

SHEET	BEGIN		END		QUANTITY (SY)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
E1	"CS" 34+13.2	86.0' RT	"CS" 34+38.1	25.5' RT	36	NE QUAD 1ST AND CUSHMAN
E1	"CS" 34+17.7	57.3' LT	"CS" 34+38.1	25.7' LT	26	NW QUAD 1ST AND CUSHMAN
E1	'CS'' 36+80.0	31.8' RT	'CS'' 36+93.0	34.4' RT	3	ADJACENT TO NE WINGWALL
E1	"CS" 36+80.2	24.4' LT	"CS" 39+92.4	27.8' LT	171	NORTH OF BRIDGE
E1	"CS" 36+80.2	24.6' RT	"CS" 40+18.3	23.4' RT	182	NORTH OF BRIDGE
E1	"CS" 36+84.2	53.1' RT	"CS" 37+09.0	99.8' RT	47	EXISTING PATHWAY
E1	"CS" 37+94.2	42.8' RT	"CS" 38+04.5	56.1' RT	8	ADJACENT TO STAIRS
E1	"CS"40+15.2	28.2' RT	"CS"40+44.9	35.4' RT	16	SE QUAD DOYON AND CUSHMAN
E1	"CS" 40+82.3	50.7' RT	"CS" 40+95.1	47.7' RT	6	NE QUAD DOYON AND CUSHMAN
				TOTAL:	495	

202.0008.0000 REMOVAL OF INLET – EACH

SHEET	STATION	OFFSET	REMARKS
E1	"CS"40+18.5	RT	
	TOTAL:	1	

202.0009.0000 REMOVAL OF CURB AND GUTTER – LINEAR FOOT

SHEET	BEGIN		END		QUANTITY (LF)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
E1	"CS"34+12.9	56.1' RT	"CS"34+38.1	24.8' RT	44	NE QUAD 1ST AND CUSHMAN
E1	"CS"34+17.1	57.5' LT	"CS"34+38.1	25.1' LT	43	NW QUAD 1ST AND CUSHMAN
E1	"CS"36+80.2	24.0' LT	"CS"39+92.4	27.1' LT	316	NORTH OF BRIDGE
E1	"CS"36+80.2	24.0' RT	"CS"40+18.6	22.8' RT	335	NORTH OF BRIDGE
E1	"EP"100+94.7	15.1' RT	"EP"101+25.0	28.9' RT	48	GORDON WEAR PARKING LOT
E1	"CS"40+18.6	22.8' RT	"CS"40+43.7	50.7' RT	28	SE QUAD DOYON AND CUSHMAN
E1	"CS"40+82.3	50.7' RT	"CS"40+82.3	42.4' RT	8	NE QUAD DOYON AND CUSHMAN
				TOTAL:	822	

606.0006.0000 REMOVING AND DISPOSING OF GUARDRAIL – LINEAR FOOT

SHEET	BEGIN		END		QUANTITY (LF)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
E1	"CS"37+03.8	RT	"CS"37+93.6	RT	90	NORTH OF BRIDGE
			TOTAL:		90	

DEMOLITION SUMMARY TABLES

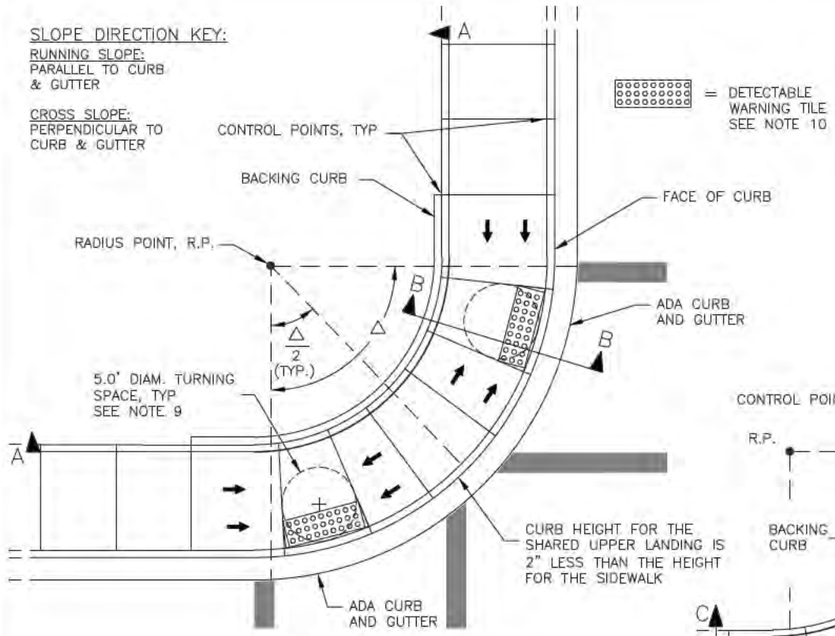
STATE OF ALASKA
49 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/21/2021

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0663012/Z622070000	2021	E3	E6

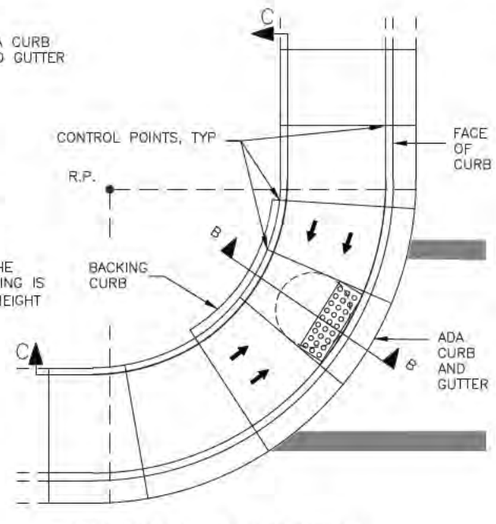
SLOPE DIRECTION KEY:
RUNNING SLOPE:
PARALLEL TO CURB & GUTTER

CROSS SLOPE:
PERPENDICULAR TO CURB & GUTTER

= DETECTABLE WARNING TILE SEE NOTE 10



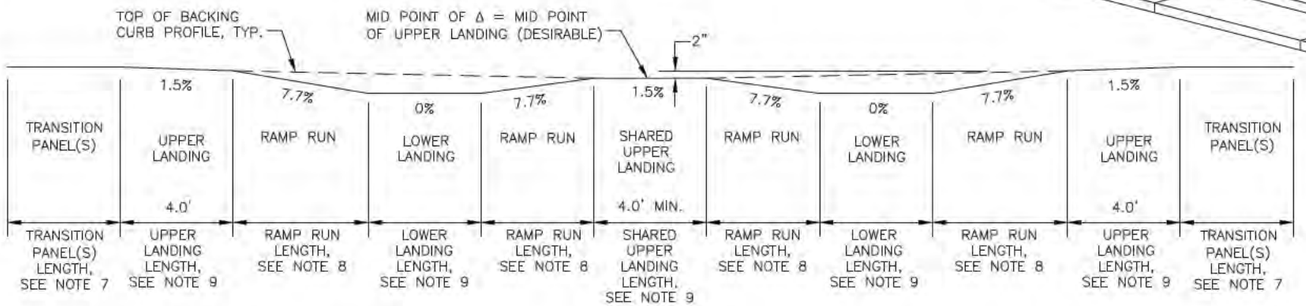
TWO CROSSING DIRECTIONS



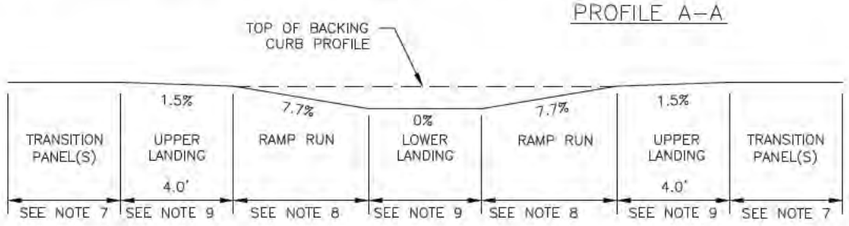
ONE CROSSING DIRECTION

SLOPES GUIDE			
	PREFERRED	MINIMUM	MAXIMUM
UPPER LANDING RUNNING SLOPE	1.5%	1.0%	5.0%
RAMP RUN RUNNING SLOPE	7.7%	N/A	8.3%
LOWER LANDING RUNNING SLOPE	0%	0%	*
CROSS SLOPE	1.5%	1.0%	2.0%

* SLOPE IN ANY DIRECTION (INCLUDING DIAGONAL) MAY NOT EXCEED 2.0%



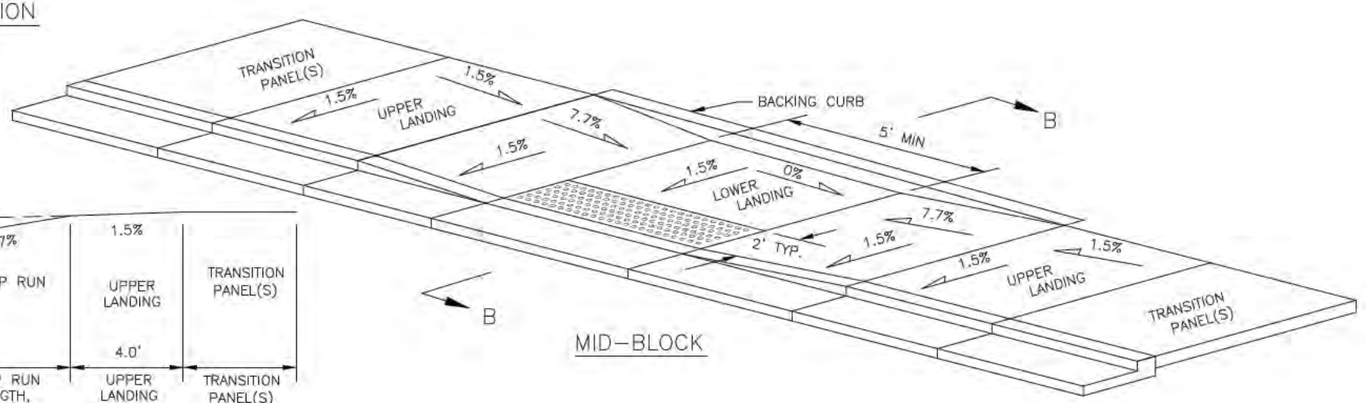
PROFILE A–A



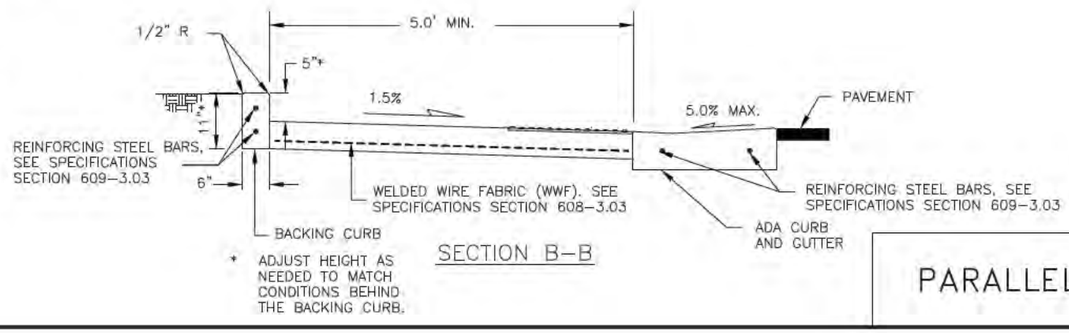
PROFILE C–C

CONSTRUCTION NOTES:

1. USE GRADING SHEETS TO LAYOUT CURB RAMPS. THE CURB RAMP DETAILS ON THIS SHEET SHALL BE USED AS REFERENCE IF FIELD ADJUSTMENTS ARE REQUIRED. ALL CURB RAMP LAYOUTS AND DIMENSIONS IN THIS PLAN SET ARE APPROXIMATE AND MAY NEED TO BE FIELD FIT AND SHALL MEET APPLICABLE 2006 AND 2010 ADA STANDARDS FOR MAXIMUM SLOPES. FINAL LAYOUT TO BE APPROVED BY THE ENGINEER PRIOR TO CONCRETE PLACEMENT.
2. CONSTRUCT RAMP RUN AND BOTH UPPER AND LOWER LANDING OF 6" CONCRETE WITH COARSE BROOM FINISH IN THE DIRECTION OF THE CROSS SLOPE.
3. NOTIFY THE ENGINEER PRIOR TO CONCRETE PLACEMENT IF MAXIMUM OR MINIMUM GRADES CANNOT BE CONSTRUCTED. UNLESS PREVIOUSLY APPROVED BY THE ENGINEER, ANY FEATURE EXCEEDING MINIMUM OR MAXIMUM ALLOWABLE SLOPES WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
4. WHEN ONE PARALLEL CURB RAMP WILL SERVE TWO DIRECTIONS, USE THE ONE CROSSING DIRECTION DETAIL AND REFER TO THE STRIPING PLANS FOR CROSSWALK LAYOUTS.
5. STEEL REINFORCEMENT FOR CURB CUTS AND RAMPS SHALL BE 6" X 6" – W2.9 X W2.9 WWM. FOR TYPICAL SIDEWALK REINFORCEMENT SHALL BE 6" X 6" – W1.4 X W1.4 WWM. ALL STEEL SHALL BE SET ON SPACERS AND PULLED UP AS REQUIRED TO POSITION STEEL 1–1/2" FROM BOTTOM OF SIDEWALK.
6. SAWCUT ALL MATCH LINES WHERE NEW CONSTRUCTION OF PAVEMENT, SIDEWALK, OR CURBING ABUTS EXISTING FEATURES. WORK IS SUBISIDIARY TO 202 PAY ITEMS.
7. TRANSITION PANEL(S): WHEN CONNECTING INTO EXISTING SIDEWALK, REPLACE ADJACENT SIDEWALK PANEL(S) LABELED AS TRANSITION PANEL(S), AS REQUIRED FOR CROSS SLOPE TRANSITION FROM THE EXISTING SIDEWALK TO THE NEW UPPER LANDING TO ENSURE THE UPPER LANDING IS CONSTRUCTED WITH A COMPLIANT CROSS SLOPE.
8. RAMP RUN: SURVEY PRIOR TO CONSTRUCTION OF ADJACENT CURB AND GUTTER TO VERIFY RAMP RUN LENGTHS REQUIRED FOR COMPLIANT RUNNING SLOPES. ADJUST THE RAMP RUN LENGTH AS NEEDED TO ENSURE COMPLIANT RAMP RUN RUNNING SLOPE. THIS SURVEY IS SUBSIDIARY TO 642 PAY ITEMS.
9. UPPER LANDING LENGTH: CONSTRUCT UPPER LANDING LENGTH TO 4.0 FEET. UPPER LANDING LENGTH MAY BE DECREASED TO 3.0 FEET IF APPROVED BY THE ENGINEER.
   SHARED UPPER LANDING LENGTH: CONSTRUCT SHARED UPPER LANDING LENGTH TO 4.0 FEET, SHARED UPPER LANDING LENGTH MAY NOT BE DECREASED.
   UPPER LANDING WIDTH: THE WIDTH OF ALL UPPER LANDINGS SHALL MATCH OR EXCEED THE WIDTH OF THE ADJACENT RAMP RUN.
   LOWER LANDING: ENSURE LOWER LANDING HAS A 5–FT DIAMETER TURNING SPACE.
10. DETECTABLE WARNING TILE: INSTALL 24" DETECTABLE WARNING TILES FOR THE FULL WIDTH OF THE LOWER LANDING. INSTALL CAST IRON DETECTABLE WARNINGS IN THE LANDING OF ALL RAMPS. FINISH SHALL BE NATURAL, UNCOATED CAST IRON. PROVIDE TILES WITH TRUNCATED DOMES MEETING SECTION 705.1 OF THE 2006 ADA STANDARDS FOR TRANSPORTATION FACILITIES. ALIGN TRUNCATED DOME PATTERN IN THE PREDOMINANT DIRECTION OF WHEELCHAIR TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
11. JOINTS: INSTALL CONTINUOUS MINIMUM 6 INCH DEEP 1/2" EXPANSION JOINT AT ALL LOCATIONS WHERE SIDEWALK, CURB RAMP, OR CURB AND GUTTER (ANY TYPE) MEET. SEAL ALL EXPANSION JOINTS WITH HOT POURED ELASTIC TYPE JOINT SEAL CONFORMING TO SPECIFICATIONS 705–2.02 JOINT SEALANT. EXPANSION AND DUMMY JOINTS IN THE SIDEWALK AND CURB RAMP SHALL LINE UP WITH EXPANSION AND DUMMY JOINTS IN THE CURB AND GUTTER.
12. REINFORCEMENT SHALL BE CONTINUOUS BETWEEN EXPANSION JOINTS.



MID–BLOCK



* ADJUST HEIGHT AS NEEDED TO MATCH CONDITIONS BEHIND THE BACKING CURB.

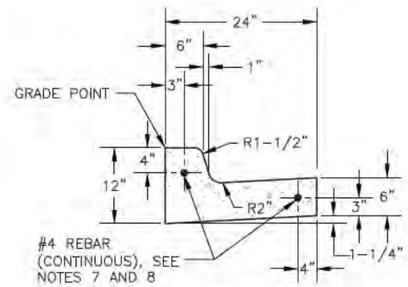
SECTION B–B

PARALLEL CURB RAMP

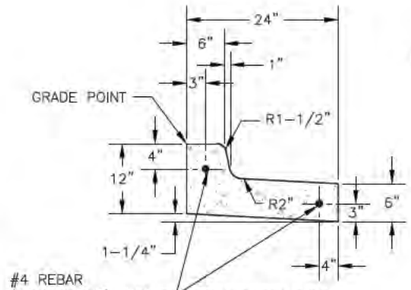
STATE OF ALASKA
49 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513– fairbanks cushman bridge\DWGS\C\Sheets\62207_E3–E4_CONC_DTLS–E3 Wed, Sep/15/21 01:55pm

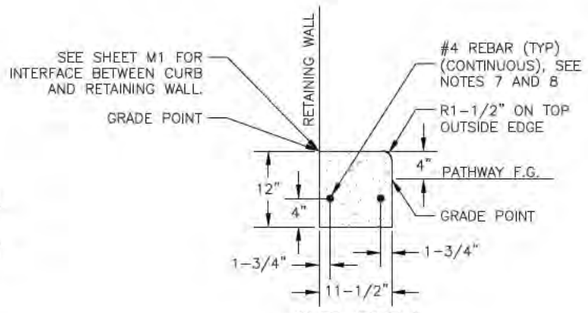
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0663012/Z622070000	2021	E4	E6



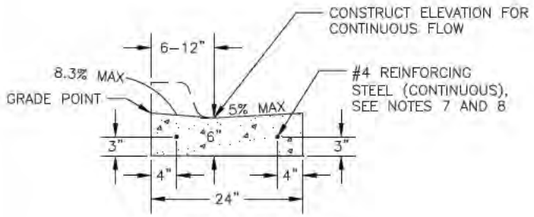
STANDARD C&G
(CATCH)



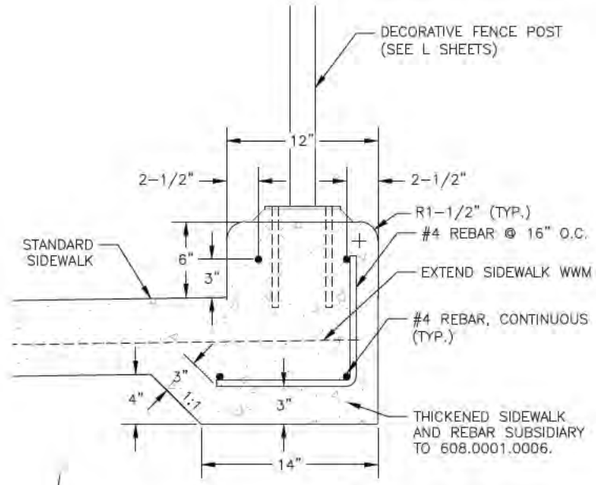
STANDARD C&G
(SPILL)



CURB, TYPE 1



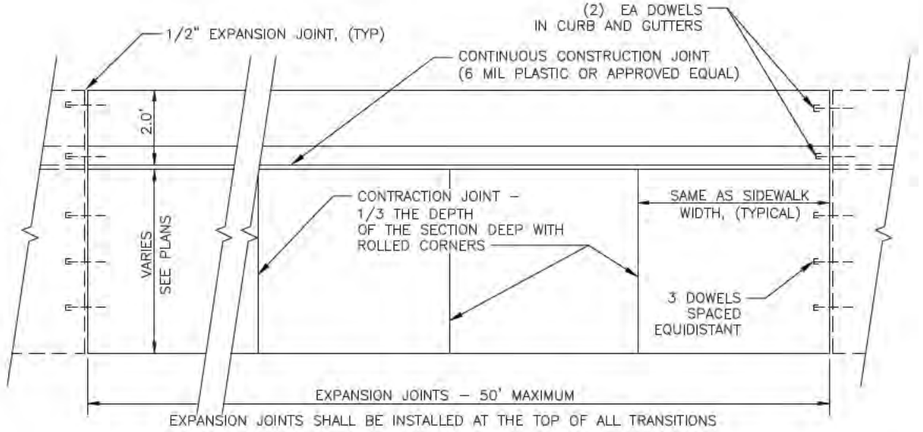
ADA CURB & GUTTER DETAIL
(CATCH)



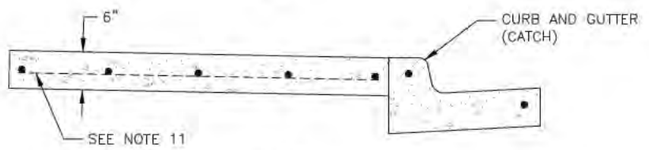
SIDEWALK WITH INTEGRATED BACKING CURB
NTS

NOTES:

1. INSTALL CONTINUOUS FULL DEPTH 1/8" CONSTRUCTION JOINT AT ALL LOCATIONS WHERE SIDEWALK AND CURB (ANY TYPE) MEET. USE CONTINUOUS BOND BREAKER (I.E., 6 MIL PLASTIC OR APPROVED EQUAL) BETWEEN THE SIDEWALK AND THE CURB.
2. PROTECT CONCRETE FROM DAMAGE DURING CURE. REPAIR OR REPLACE CONCRETE DAMAGED DURING CURE AS APPROVED BY THE ENGINEER.
3. EXPANSION AND CONTRACTION JOINTS IN THE CURB & GUTTER SHALL LINE UP WITH EXPANSION AND CONTRACTION JOINTS IN AN ADJACENT SIDEWALK. MAXIMUM SPACING BETWEEN EXPANSION JOINTS IS 50 FT. THE ENGINEER MAY ADJUST THE LOCATION OF EXPANSION OR CONTRACTION JOINTS.
4. CONTRACTION JOINT SPACING FROM EXPANSION JOINTS OR OTHER CONTRACTION JOINTS SHALL BE THE SPECIFIED WIDTH OF THE ADJACENT CONCRETE SIDEWALK. IF NO SIDEWALK IS ADJACENT TO THE CURB AND GUTTER, USE THE SAME SPACING CONSISTENT WITH THE CURB AND GUTTER ADJACENT TO SIDEWALK ELSEWHERE ON THE PROJECT OR AS OTHERWISE APPROVED BY THE ENGINEER.
5. UNLESS OTHERWISE NOTED, EXPANSION AND CONTRACTION JOINTS SHALL BE PERPENDICULAR TO THE CONCRETE CURB FACE.
6. EXPANSION JOINTS SHALL BE INSTALLED AT THE TOP OF ALL TRANSITIONS TO PEDESTRIAN CURB RAMPS.
7. CURB AND GUTTER REINFORCING STEEL SHALL BE PLACED AND SPLICED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 503.
8. CURB AND GUTTER REINFORCING STEEL SHALL BE ASTM A615, GRADE 60; OR ASTM A706, GRADE 60.
9. APPLY JOINT SEALER EVENLY TO COMPLETELY SEAL ALL EXPANSION JOINTS. SEAL ALL EXPANSION JOINTS WITH HOT POURED ELASTIC TYPE JOINT SEAL CONFORMING TO SPECIFICATIONS 705-2.02 JOINT SEALANT. EXPANSION AND DUMMY JOINTS IN THE SIDEWALK AND CURB RAMP SHALL LINE UP WITH EXPANSION AND DUMMY JOINTS IN THE CURB AND GUTTER.
10. APPLY STE-1 TACK COAT BETWEEN CONCRETE SURFACES AND ADJOINING ASPHALT.
11. STEEL REINFORCEMENT FOR CURB CUTS AND RAMPS SHALL BE 6" X 6" – W2.9 X W2.9 WWM. FOR TYPICAL SIDEWALK REINFORCEMENT SHALL BE 6" X 6" – W1.4 X W1.4 WWM. ALL STEEL SHALL BE SET ON SPACERS AND PULLED UP AS REQUIRED TO POSITION STEEL 1-1/2" FROM BOTTOM OF SIDEWALK.
12. SAWCUT ALL MATCH LINES WHERE NEW CONSTRUCTION OF PAVEMENT, SIDEWALK, OR CURBING ABUTS EXISTING FEATURES. WORK IS SUBISIDIARY TO 202 PAY ITEMS.
13. REINFORCEMENT SHALL BE CONTINUOUS BETWEEN EXPANSION JOINTS.
14. DETAILS ON THIS SHEET DO NOT APPLY TO SIDEWALKS ON THE CUSHMAN BRIDGE STRUCTURE. SEE BRIDGE N SHEETS.

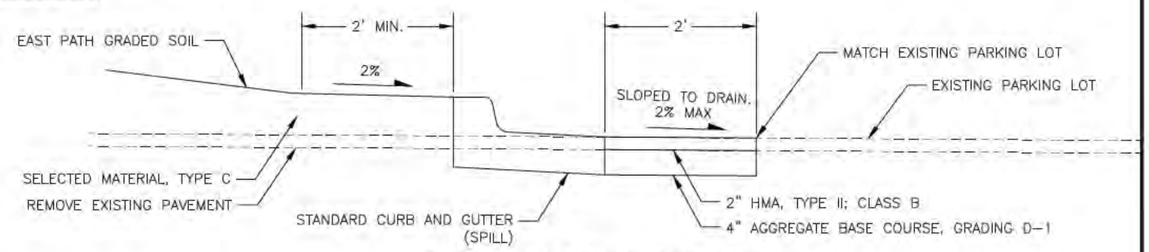


PLAN

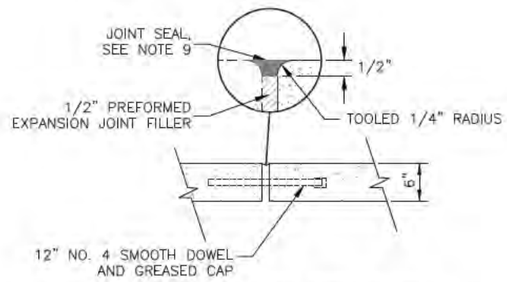


SECTION

STANDARD SIDEWALK, CURB & GUTTER
NTS



GORDON WEAR PARKING LOT SECTION
NTS



EXPANSION JOINT DETAIL
NTS

SIDEWALK AND CURBING

STATE OF ALASKA
49 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_E3-E4_CONC_DTLS-E4 Wed, Sep/15/21 01:55pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	E5	E6

608.0001.0006 CONCRETE SIDEWALK, 6 INCHES THICK – SQUARE YARD

SHEET	BEGIN		END		QUANTITY (SY)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
F1	"CS" 34+13.1	RT	"CS" 34+38.6	RT	66	NE QUAD 1ST AND CUSHMAN
F1	"CS" 34+17.6	LT	"CS" 34+39.0	LT	55	NW QUAD 1ST AND CUSHMAN
F1–F2	"CS" 36+88.7	RT	"CS" 40+43.0	RT	372	NORTH OF BRIDGE
F1–F2	"CS" 36+88.7	LT	"CS" 39+92.4	LT	306	NORTH OF BRIDGE
F2	"CS" 40+82.3	RT	"CS" 40+95.1	RT	6	NE QUAD DOYON AND CUSHMAN
				TOTAL:	805	

608.0006.0000 CURB RAMP – EACH

SHEET	STATION	OFFSET	REMARKS
F1	"CS"34+15.0	LT	PARALLEL
F1	"CS"34+20.0	RT	PARALLEL
F2	"CS"40+30.8	RT	PARALLEL
	TOTAL:	3	

609.0001.0001 CURB, TYPE 1 – LINEAR FOOT

SHEET	BEGIN		END		QUANTITY (LF)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
F3	"EP"100+36	5.0' LT	"EP"101+44	5.0' LT	105	
F3	"EP"100+85	5.0' RT	"EP"101+44	5.0' RT	67	
				TOTAL:	172	

609.0002.0001 CURB AND GUTTER, TYPE 1 – LINEAR FOOT

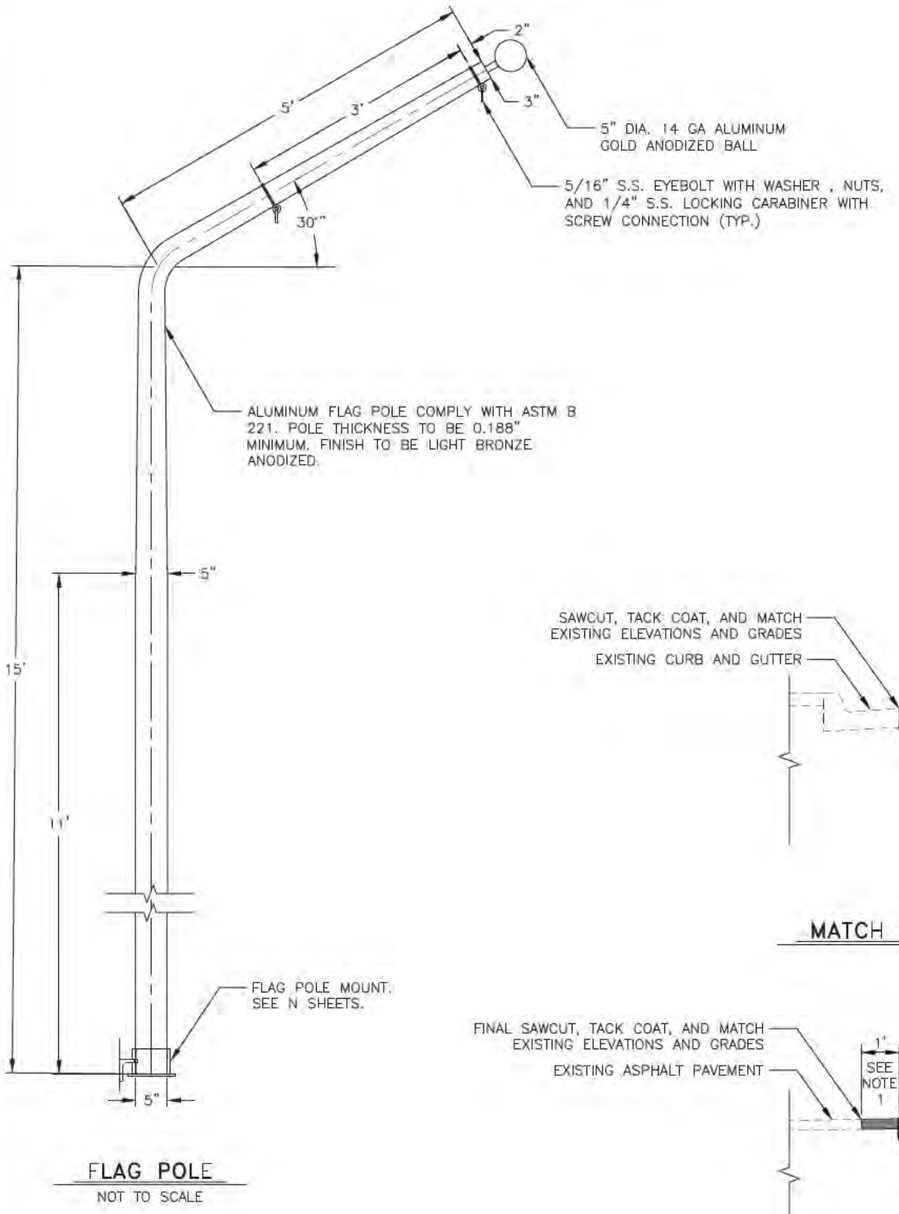
SHEET	BEGIN		END		QUANTITY (LF)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
F1	"CS"34+12.8	56.1' RT	"CS"34+39.0	18.0' RT	54	NE QUAD 1ST AND CUSHMAN
F1	"CS"34+17.3	57.4' LT	"CS"34+39.1	18.5' LT	64	NW QUAD 1ST AND CUSHMAN
F1–F2	"CS"36+88.7	18.0' RT	"CS"40+43.5	36.1' RT	357	NORTH OF BRIDGE
F1–F2	"CS"36+88.7	18.0 LT	"CS"39+92.1	27.3' LT	307	NORTH OF BRIDGE
F2	"CS"37+57.1	59.3' RT	"CS"37+89.1	70.8' RT	37	GORDON WEAR PARKING LOT
F2	"CS"40+81.5	50.4' RT	"CS"40+83.6	42.9' RT	8	NE CORNER OF DOYON AND CUSHMAN
				TOTAL:	827	

CONCRETE SUMMARY TABLES

STATE OF ALASKA
49TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/21/2021

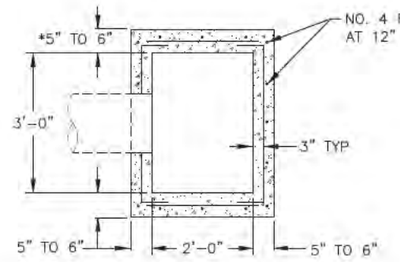
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	E6	E6



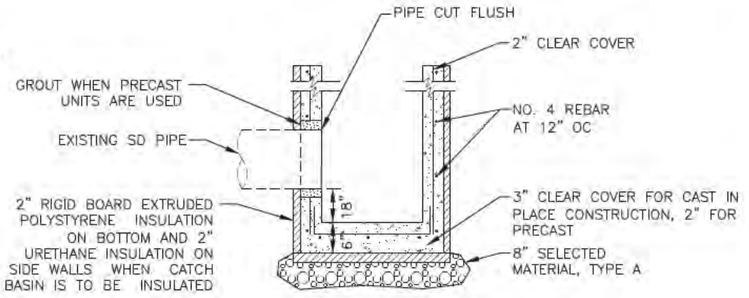
FLAG POLE

NOT TO SCALE



*DIMENSION WHEN PRECAST INLET BOX WITH CONTINUOUS WWF 6X6 4/4 REINFORCEMENT IS USED.

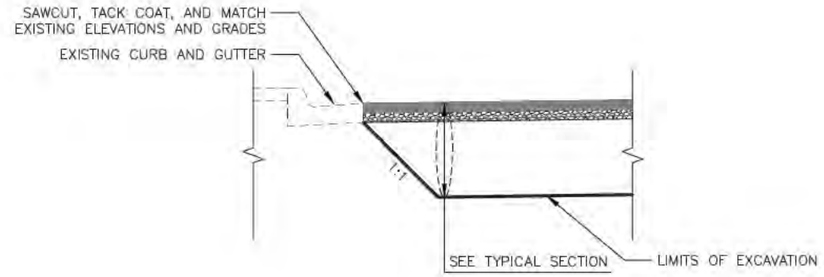
PLAN



PROFILE

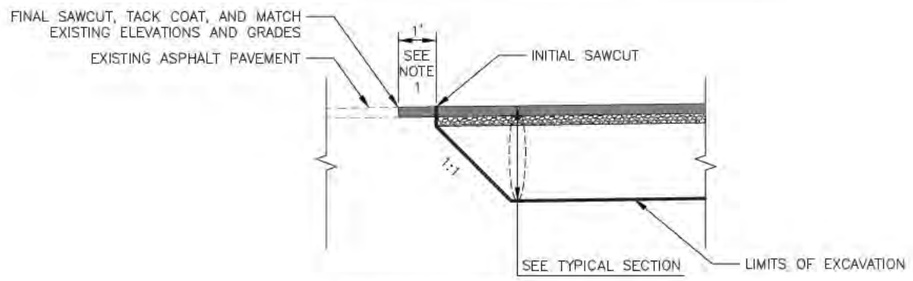
CONCRETE CATCH BASIN

NOT TO SCALE



MATCH EXISTING CURB AND GUTTER

NOT TO SCALE

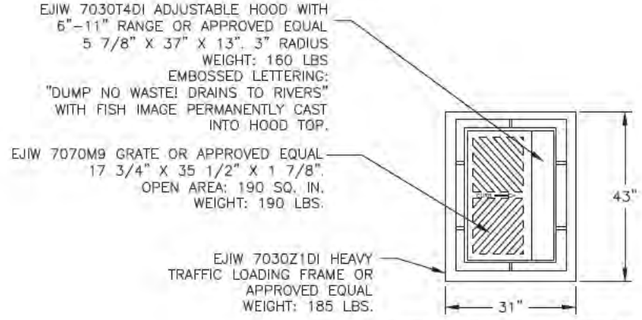


MATCH EXISTING ASPHALT PAVEMENT

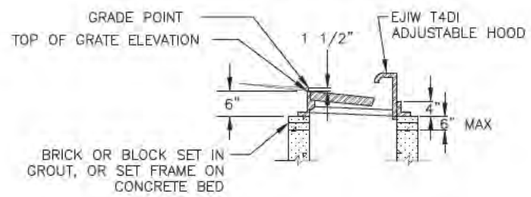
NOT TO SCALE

MATCH EXISTING NOTES:

1. REMOVE 12" OF PAVEMENT JUST PRIOR TO PAVING.
2. SAWCUT LOCATION SHOWN ON PLANS IS FOR FINAL SAWCUT.



TYPICAL CURB INLET GRATE



STANDARD CURB AND GUTTER FRAME

INLET BOX/CATCH BASIN DETAILS

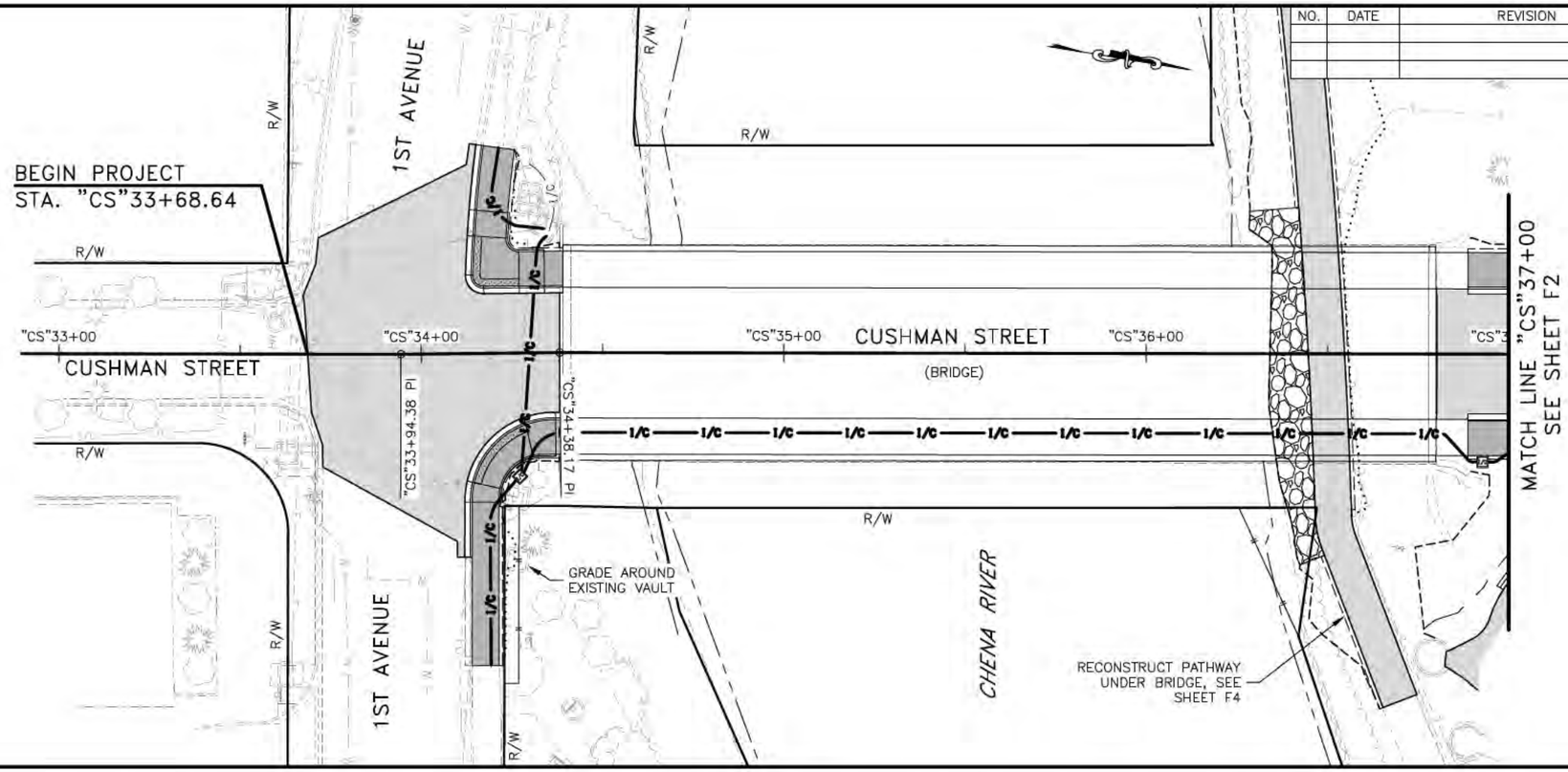
NOT TO SCALE

MISCELLANEOUS DETAILS

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_E3-E4_CONC_DTLS-E5 Wed, Sep/15/21 01:56pm

NO.	DATE	REVISION

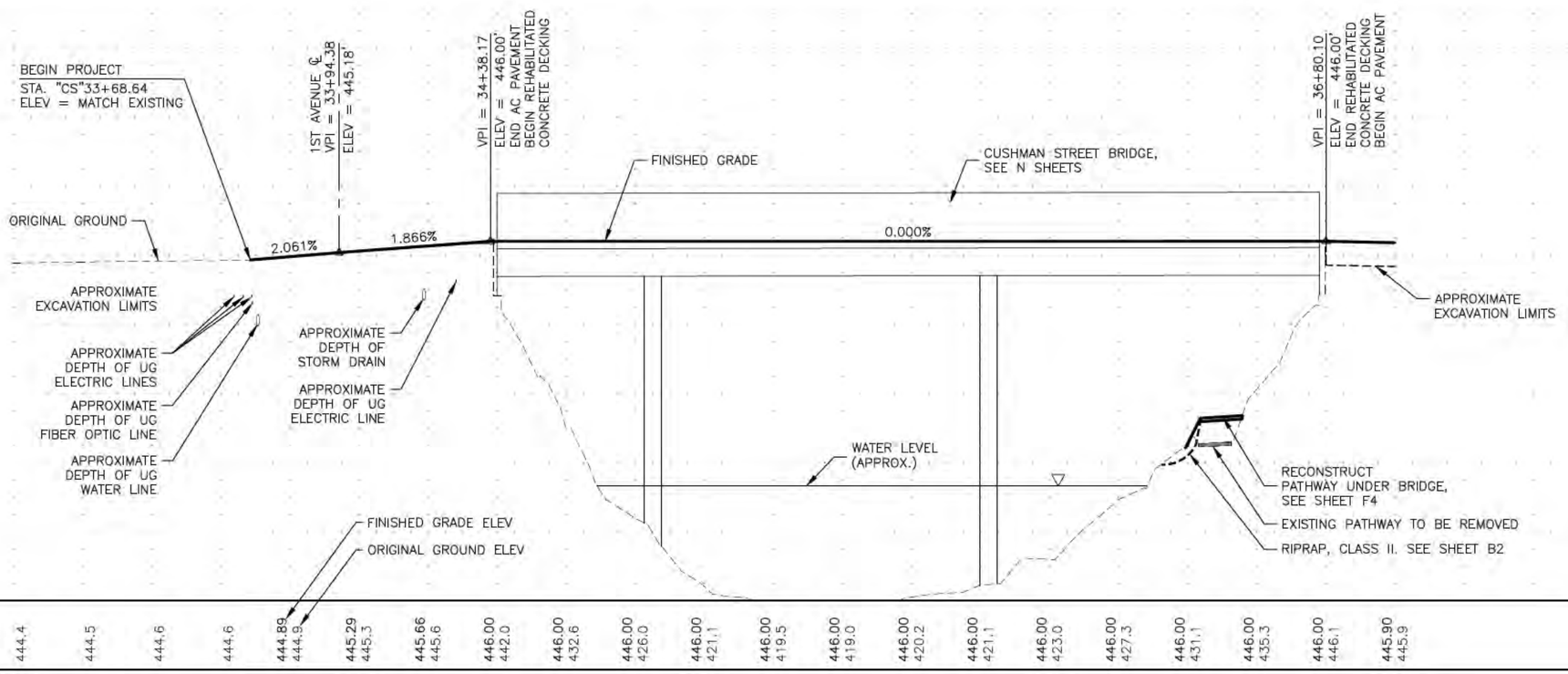
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2022	F1	F4



NOTES:

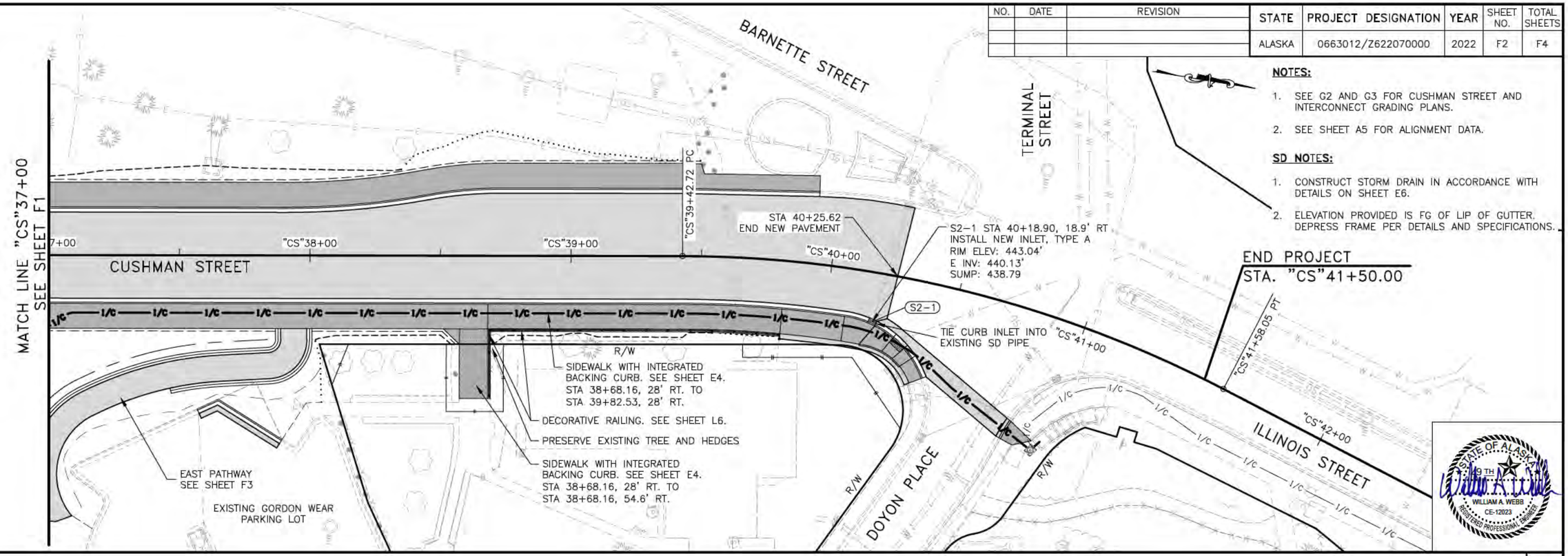
1. SEE SHEET G1 FOR INTERSECTION GRADING PLAN.
2. SEE SHEET A5 FOR ALIGNMENT DATA.
3. SEE L SHEETS FOR LANDSCAPING PLAN AND DETAILS.
4. UNLESS OTHERWISE NOTED ON THE PLANS, PRESERVE AND PROTECT EXISTING STRUCTURES, FENCES AND OTHER OBSTRUCTIONS ON PRIVATE PROPERTY. WHERE SUCH ITEMS CANNOT BE PROTECTED, REMOVE AND REPLACE ITEMS TO THEIR EXISTING, PRE-CONSTRUCTION CONDITION. PAYMENT IS SUBSIDIARY TO 608 SERIES PAY ITEMS.

STATE OF ALASKA
19TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER



NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2022	F2	F4

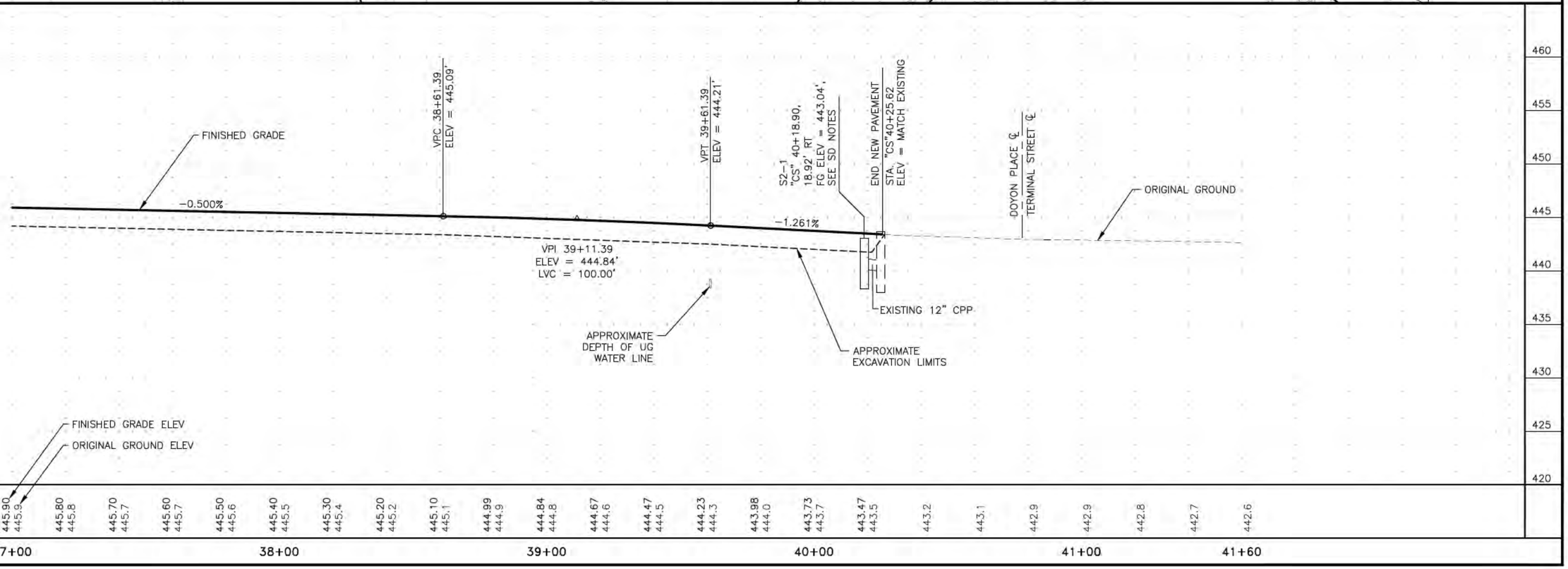


NOTES:

1. SEE G2 AND G3 FOR CUSHMAN STREET AND INTERCONNECT GRADING PLANS.
2. SEE SHEET A5 FOR ALIGNMENT DATA.

SD NOTES:

1. CONSTRUCT STORM DRAIN IN ACCORDANCE WITH DETAILS ON SHEET E6.
2. ELEVATION PROVIDED IS FG OF LIP OF GUTTER. DEPRESS FRAME PER DETAILS AND SPECIFICATIONS.

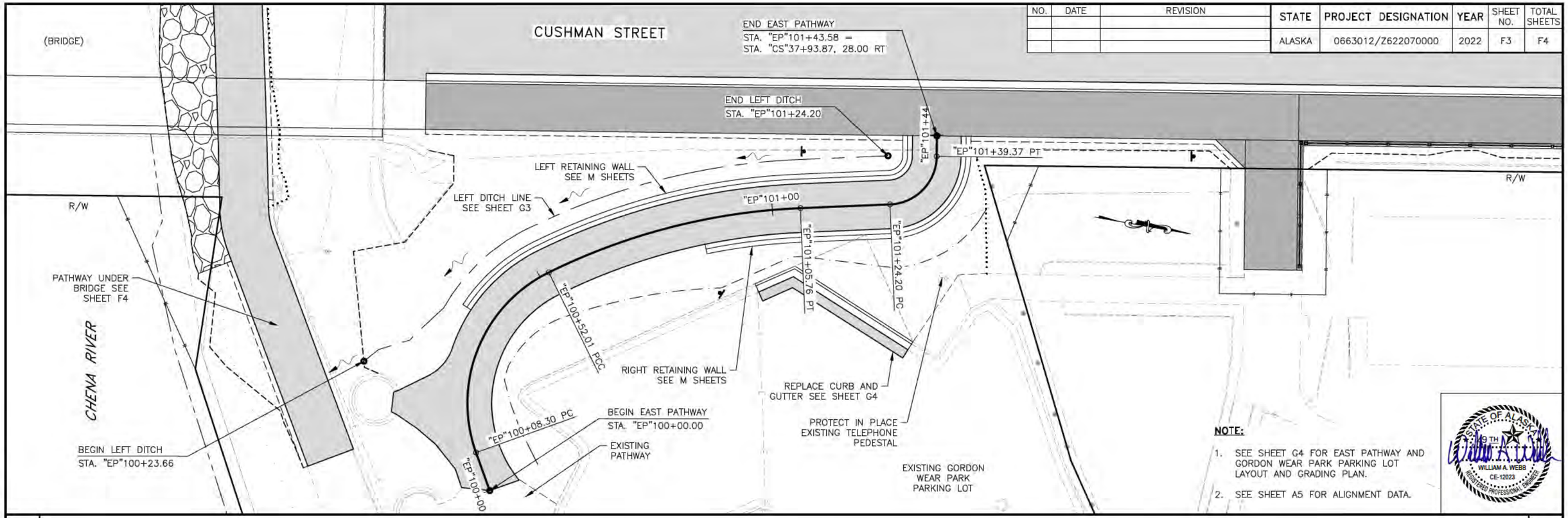


STATE OF ALASKA
39TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_F1-F2_PnP-F2 Wed, Sep/15/21 01:58pm

NO.	DATE	REVISION

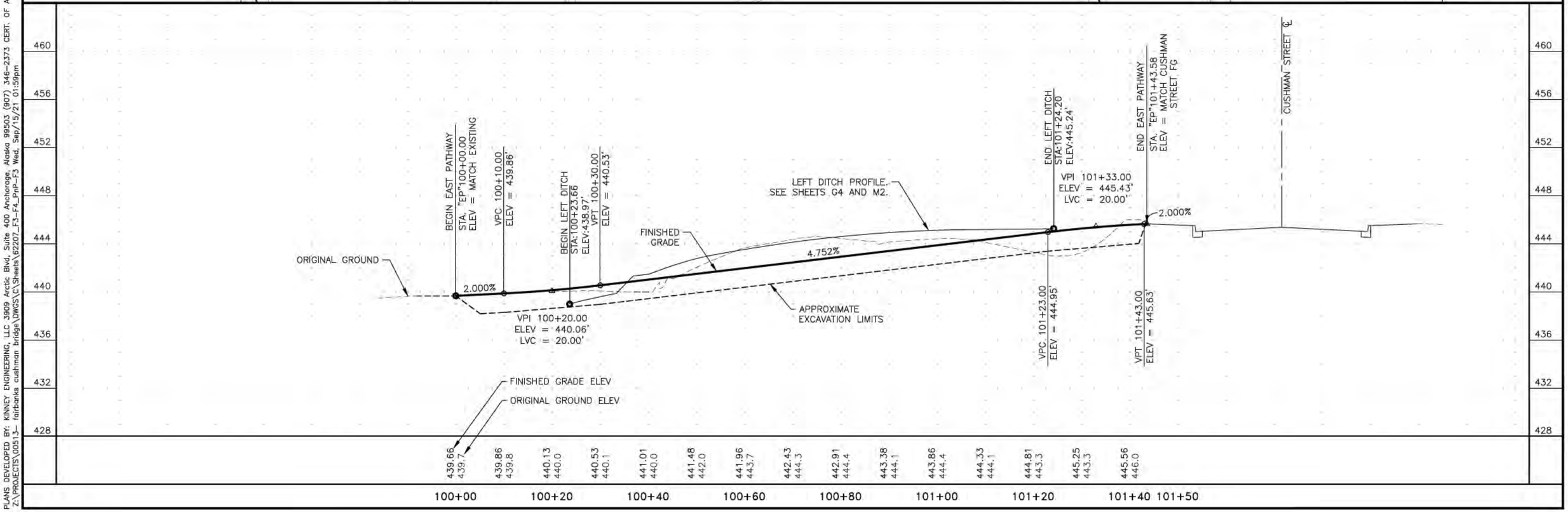
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2022	F3	F4



NOTE:

1. SEE SHEET G4 FOR EAST PATHWAY AND GORDON WEAR PARK PARKING LOT LAYOUT AND GRADING PLAN.
2. SEE SHEET A5 FOR ALIGNMENT DATA.

STATE OF ALASKA
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9TH



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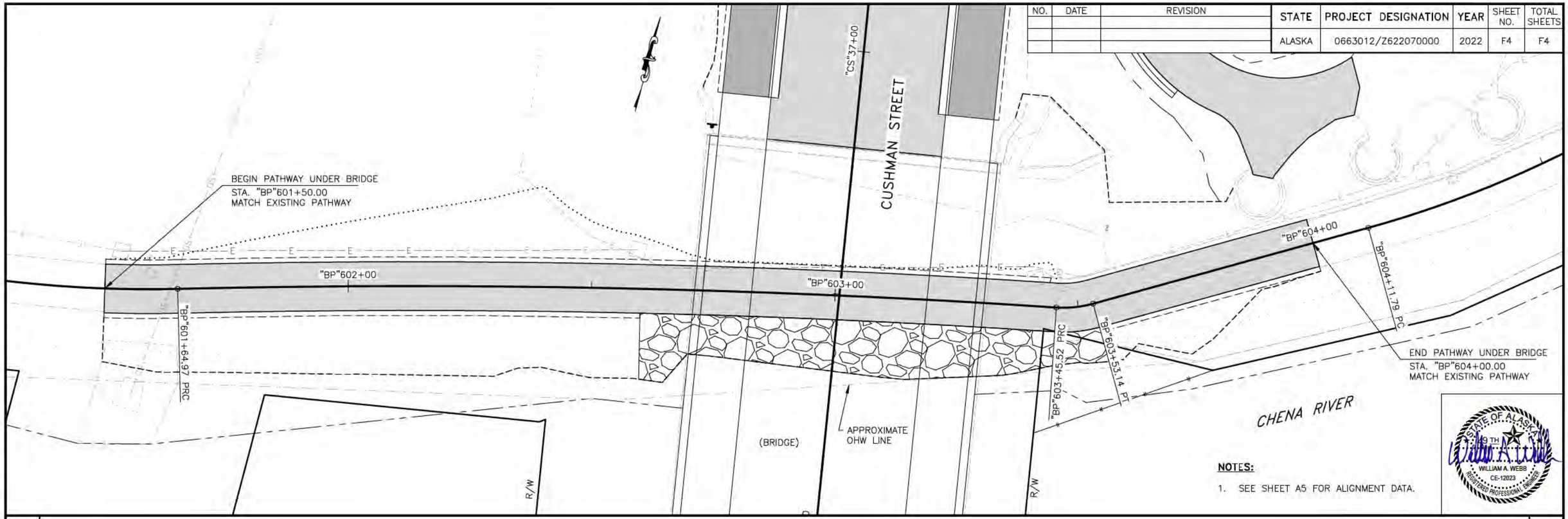
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_F3-F4_Pnp-F3 Wed, Sep/15/21 01:59pm

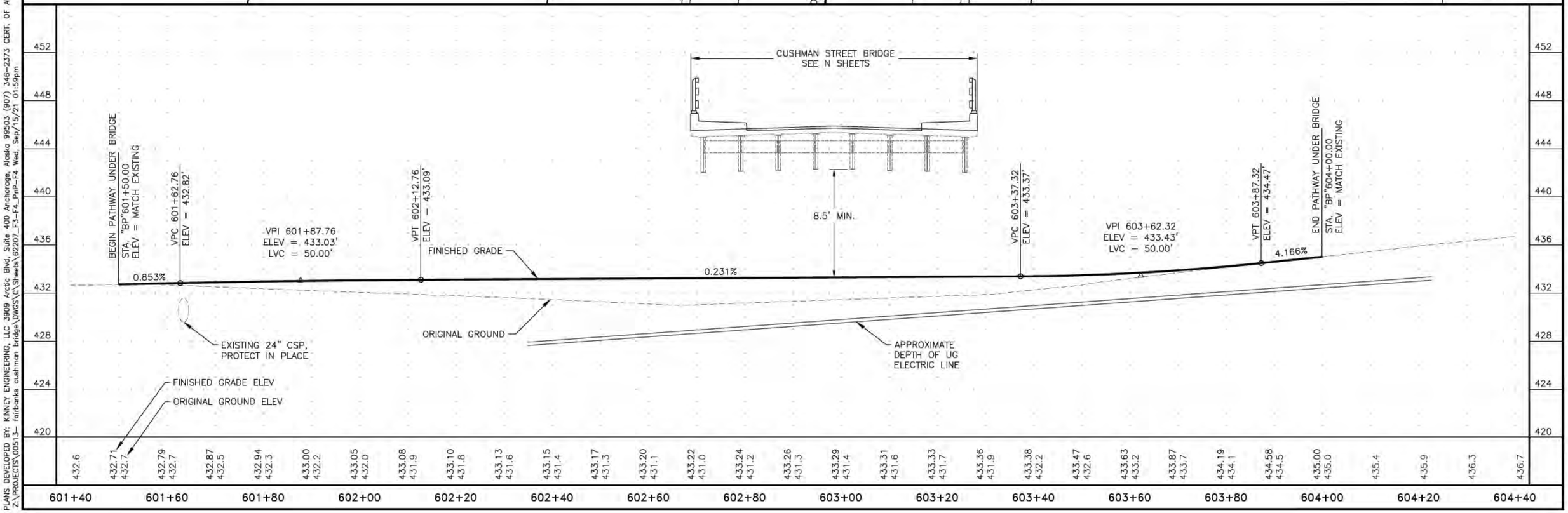
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2022	F4	F4



NOTES:

1. SEE SHEET A5 FOR ALIGNMENT DATA.



NO.	DATE	REVISION

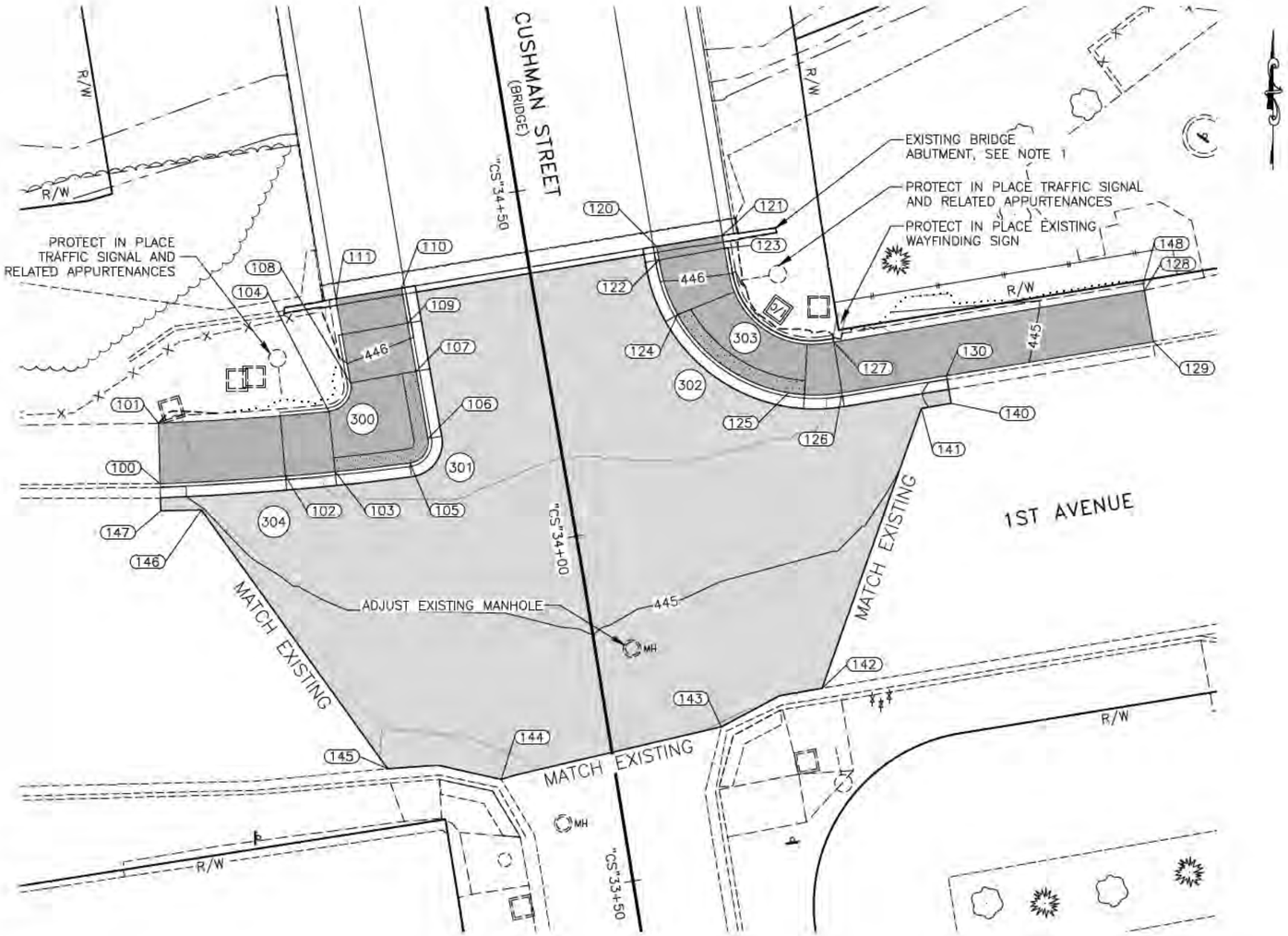
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	G1	G4

GRADING POINT TABLE

PT#	STATION	OFFSET	ELEV	DESCRIPTION
100	"CS"34+17.65	57.33' LT	ME	BEGIN NEW SIDEWALK AND CURB AND GUTTER
101	"CS"34+26.22	56.05' LT	ME	BEGIN NEW SIDEWALK, TOP BACK OF SIDEWALK
102	"CS"34+15.60	39.49' LT	445.77'	BEGIN RAMP
103	"CS"34+15.02	32.38' LT	445.57'	END RAMP, BEGIN LANDING
104	"CS"34+23.66	31.75' LT	445.69'	PC, END RAMP, BEGIN LANDING, TOP BACK OF SIDEWALK
105	"CS"34+14.39	21.63' LT	445.60'	PCC
106	"CS"34+17.39	18.50' LT	445.63'	PT
107	"CS"34+27.15	18.50' LT	445.67'	END LANDING, BEGIN RAMP
108	"CS"34+27.15	28.00' LT	445.80'	PT, END LANDING, BEGIN RAMP, TOP BACK OF SIDEWALK
109	"CS"34+34.15	18.50' LT	446.16'	END RAMP
110	"CS"34+39.01	18.51' LT	445.79'	END SIDEWALK AND CURB AND GUTTER
111	"CS"34+39.02	28.00' LT	446.33'	END SIDEWALK, TOP BACK OF SIDEWALK
120	"CS"34+39.01	18.49' RT	445.79'	END RAMP, SIDEWALK, AND CURB AND GUTTER
121	"CS"34+39.05	28.00' RT	446.33'	END SIDEWALK, TOP BACK OF SIDEWALK
122	"CS"34+36.85	18.50' RT	446.13'	PT
123	"CS"34+36.85	28.00' RT	446.29'	PT, TOP BACK OF SIDEWALK
124	"CS"34+28.67	19.76' RT	445.69'	END LANDING, BEGIN RAMP
125	"CS"34+14.92	33.41' RT	445.48'	END RAMP, BEGIN LANDING
126	"CS"34+13.61	40.99' RT	445.65'	PC, BEGIN RAMP
127	"CS"34+20.97	41.07' RT	445.69'	PC, BEGIN RAMP, TOP BACK OF SIDEWALK
128	"CS"34+20.57	86.13' RT	ME	BEGIN NEW SIDWALK, TOP BACK OF SIDEWALK
129	"CS"34+13.12	86.12' RT	ME	BEGIN NEW SIDEWALK
130	"CS"34+13.44	56.14' RT	ME	BEGIN NEW CURB AND GUTTER
140	"CS"34+09.42	56.11' RT	ME	SAWCUT
141	"CS"34+09.45	51.78' RT	ME	SAWCUT
142	"CS"33+72.85	31.14' RT	ME	SAWCUT
143	"CS"33+69.72	16.03' RT	ME	SAWCUT
144	"CS"33+67.39	16.25' LT	ME	SAWCUT
145	"CS"33+71.51	32.04' LT	ME	SAWCUT
146	"CS"34+12.96	52.16' LT	ME	SAWCUT
147	"CS"34+13.81	57.90' LT	ME	SAWCUT
148	"CS"34+21.57	86.13' RT	ME	END SIDEWALK SHOULDER

RADIUS POINT TABLE

PT#	STATION	OFFSET	RADIUS
300	"CS"34+27.15	31.50' L	3.0'
301	"CS"34+17.39	21.50' L	3.0'
302	"CS"34+36.11	41.00' R	22.5'
303	"CS"34+32.97	39.99' R	12.0'
304	"CS"37+94.05	9.23' L	380.1'



NOTES:

1. THE EXISTING SIDEWALK IS INTEGRAL WITH THE EXISTING BRIDGE ABUTMENT. SEE BRIDGE N SHEETS FOR MODIFICATIONS TO ABUTMENT.
2. POINTS REFERENCE TOP BACK OF CURB UNLESS OTHERWISE NOTED

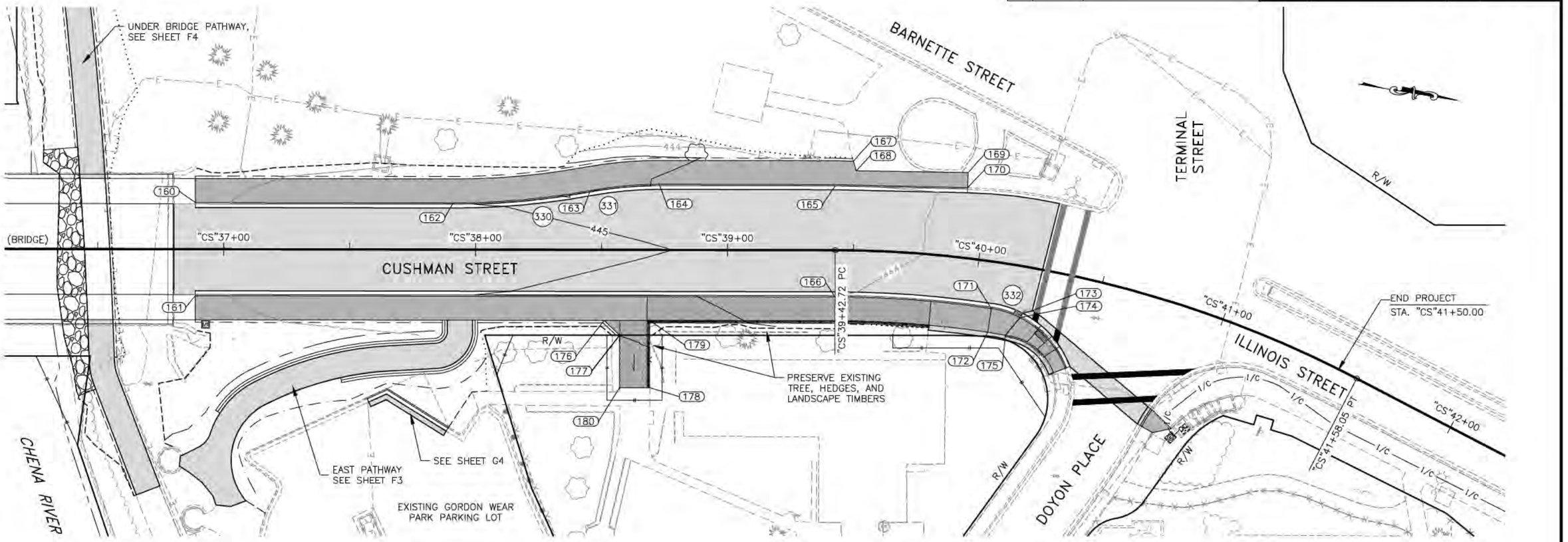
INTERSECTION GRADING PLAN

STATE OF ALASKA
19TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/21/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_G1_INTERSECTION GRADING-G1 Tue, Sep/21/21 11:42am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	G2	G4



GRADING POINT TABLE

PT#	STATION	OFFSET	ELEV	DESCRIPTION
160	"CS"36+88.78	18.50' LT	446.22'	BEGIN SIDEWALK AND CURB AND GUTTER
161	"CS"36+88.78	18.50' RT	446.15'	BEGIN SIDEWALK AND CURB AND GUTTER
162	"CS"37+91.06	18.50' LT	445.59'	PC
163	"CS"38+45.51	23.49' LT	445.22'	PRC
164	"CS"38+72.87	26.00' LT	445.02'	PT
165	"CS"39+42.72	25.47' LT	444.50'	PI, BEGIN TAPER TO MATCH EXISTING
166	"CS"39+42.72	18.50' RT	444.58'	PC
167	"CS"39+49.41	35.40' LT	ME	PI, TOP BACK OF SIDEWALK
168	"CS"39+50.53	31.61' LT	ME	PI, TOP BACK OF SIDEWALK
169	"CS"39+91.89	33.76' LT	ME	END NEW SIDEWALK, TOP BACK OF SIDEWALK
170	"CS"39+92.36	27.80' LT	ME	END TAPER, NEW SIDEWALK, AND CURB AND GUTTER

GRADING POINT TABLE

PT#	STATION	OFFSET	ELEV	DESCRIPTION
171	"CS"40+07.67	18.50' RT	443.70'	PC
172	"CS"40+07.67	28.00' RT	443.76'	PI, TOP BACK OF SIDEWALK
173	"CS"40+24.53	16.71' RT	ME	SAWCUT
174	"CS"40+20.15	20.28' RT	443.36'	BEGIN RAMP
175	"CS"40+15.23	28.16' RT	443.53'	BEGIN RAMP
176	"CS"38+51.12	28.00' RT	445.35'	PI, TOP BACK OF SIDEWALK
177	"CS"38+57.29	33.88' RT	ME	PI, TOP OF SIDEWALK
178	"CS"38+69.16	54.64' RT	ME	END NEW SIDEWALK
179	"CS"38+69.24	28.00' RT	445.26'	PI, TOP BACK OF SIDEWALK
180	"CS"38+69.16	54.64' RT	ME	END NEW SIDEWALK

RADIUS POINT TABLE

PT#	STATION	OFFSET	RADIUS
330	"CS"37+91.06	318.00' L	299.5'
331	"CS"38+72.87	124.50' R	150.5'
332	"CS"40+07.67	55.50' R	37.0'

NOTES:

1. THE EXISTING SIDEWALK IS INTEGRAL WITH THE EXISTING BRIDGE ABUTMENT. SEE BRIDGE N SHEETS FOR MODIFICATIONS TO ABUTMENT.
2. POINTS REFERENCE TOP BACK OF CURB UNLESS OTHERWISE NOTED

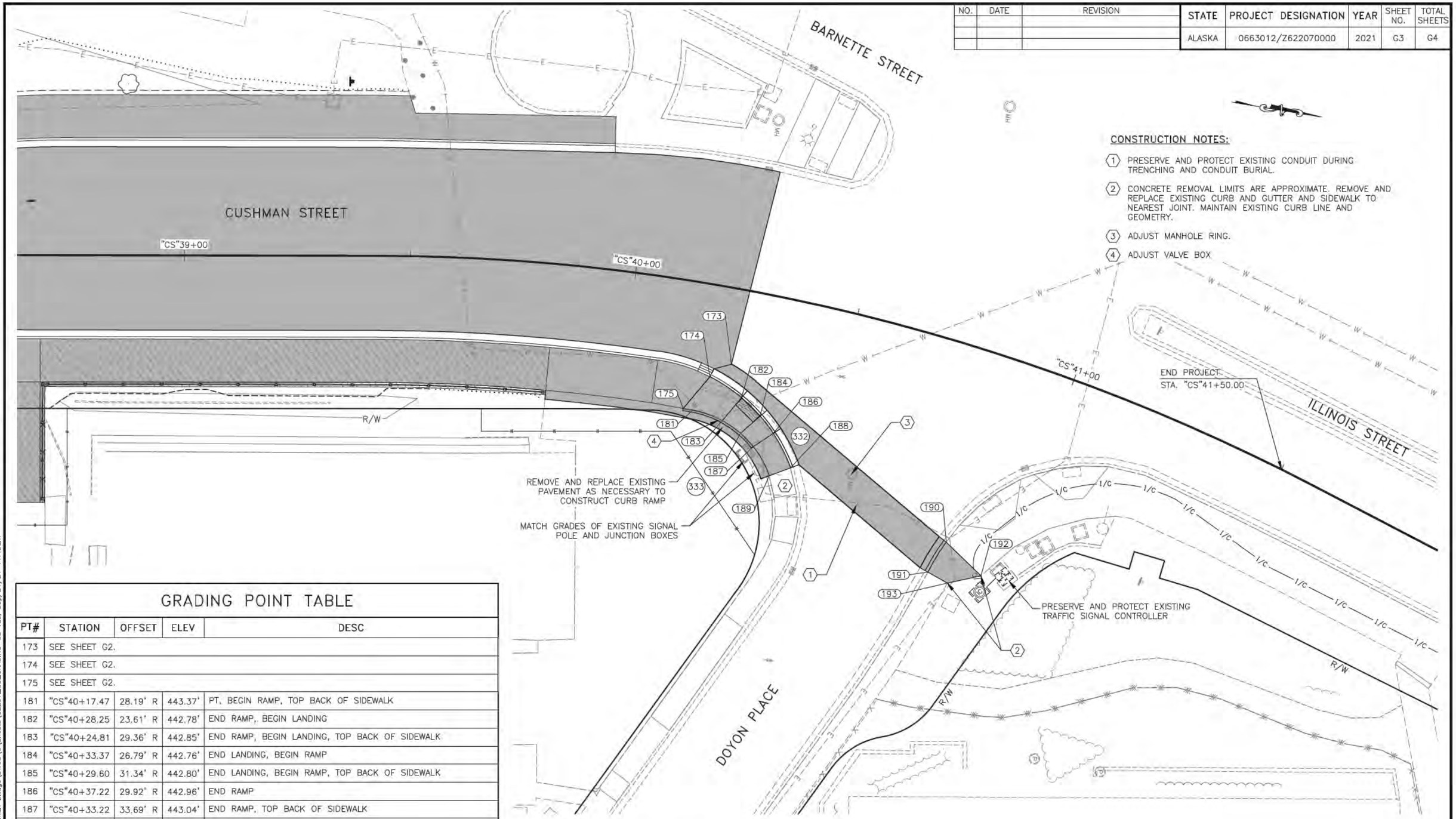
CUSHMAN ST GRADING PLAN

STATE OF ALASKA — WILLIAM A. WEBB — CE-12023 — REGISTERED PROFESSIONAL ENGINEER — 9/21/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_G2_GRADING-G2 Tue, Sep/21/21 11:45am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	G3	G4



CONSTRUCTION NOTES:

1. PRESERVE AND PROTECT EXISTING CONDUIT DURING TRENCHING AND CONDUIT BURIAL.
2. CONCRETE REMOVAL LIMITS ARE APPROXIMATE. REMOVE AND REPLACE EXISTING CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT. MAINTAIN EXISTING CURB LINE AND GEOMETRY.
3. ADJUST MANHOLE RING.
4. ADJUST VALVE BOX

GRADING POINT TABLE

PT#	STATION	OFFSET	ELEV	DESC
173	SEE SHEET G2.			
174	SEE SHEET G2.			
175	SEE SHEET G2.			
181	"CS"40+17.47	28.19' R	443.37'	PT, BEGIN RAMP, TOP BACK OF SIDEWALK
182	"CS"40+28.25	23.61' R	442.78'	END RAMP,. BEGIN LANDING
183	"CS"40+24.81	29.36' R	442.85'	END RAMP, BEGIN LANDING, TOP BACK OF SIDEWALK
184	"CS"40+33.37	26.79' R	442.76'	END LANDING, BEGIN RAMP
185	"CS"40+29.60	31.34' R	442.80'	END LANDING, BEGIN RAMP, TOP BACK OF SIDEWALK
186	"CS"40+37.22	29.92' R	442.96'	END RAMP
187	"CS"40+33.22	33.69' R	443.04'	END RAMP, TOP BACK OF SIDEWALK
188	"CS"40+43.04	36.50' R	ME	SAWCUT
189	"CS"40+38.45	39.21' R	ME	SAWCUT, TOP BACK OF SIDEWALK
190	"CS"40+84.31	43.12' R	ME	SAWCUT
191	"CS"40+82.29	50.68' R	ME	SAWCUT
192	"CS"40+95.07	47.71' R	ME	SAWCUT
193	"CS"40+87.76	51.62' R	ME	SAWCUT

RADIUS POINT TABLE

PT#	STATION	OFFSET	RADIUS	DESCRIPTION
332	SEE SHEET G2.			
333	"CS"40+16.95	50.69' R	22.5'	BACK OF SIDEWALK

CUSHMAN ST GRADING PLAN

STATE OF ALASKA
19TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/21/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_G3_GRADING-G3 Tue, Sep/21/21 11:49am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	G4	G4

GRADING POINT TABLE

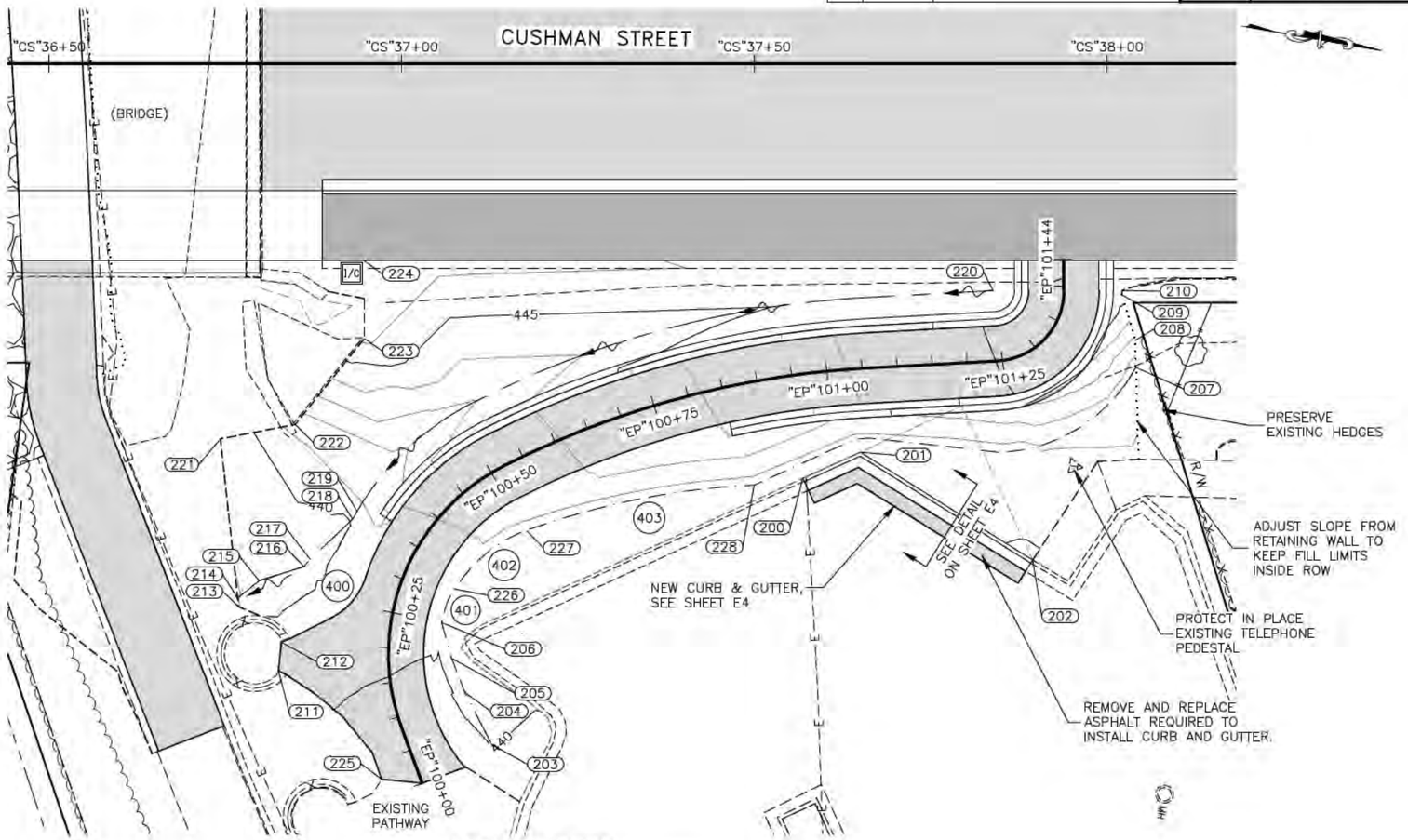
PT#	STATION	OFFSET	ELEV	DESCRIPTION
200	"EP"100+94.52	14.69' R	440.39'	BEGIN NEW CURB AND GUTTER
201	"EP"101+03.99	11.84' R	440.45'	PI
202	"EP"101+25.11	28.61' R	440.11'	END NEW CURB AND GUTTER
203	"EP"100+01.66	11.13' R	440.03'	RT CROWN GRADE PT
204	"EP"100+10.80	10.08' R	440.25'	RT CROWN GRADE PT
205	"EP"100+18.22	8.95' R	440.31'	RT CROWN GRADE PT
206	"EP"100+25.00	7.10' R	440.34'	RT CROWN GRADE PT
207	"EP"101+34.43	13.00' R	ME	GRADE PT
208	"EP"101+36.00	11.35' R	ME	GRADE PT
209	"EP"101+39.04	8.30' R	ME	GRADE PT
210	"EP"101+39.37	8.30' R	ME	GRADE PT
211	"EP"100+17.50	15.65' L	ME	EDGE OF PAVEMENT
212	"EP"100+20.19	15.22' L	ME	EDGE OF PAVEMENT
213	"EP"100+22.96	21.69' L	438.96'	DITCHLINE, BEGIN
214	"EP"100+23.66	22.00' L	438.97'	DITCHLINE
215	"EP"100+25.42	19.46' L	439.17'	DITCHLINE
216	"EP"100+27.68	13.80' L	439.38'	DITCHLINE
217	"EP"100+28.55	13.24' L	439.46'	DITCHLINE
218	"EP"100+34.03	10.00' L	440.15'	DITCHLINE
219	"EP"100+35.00	10.00' L	440.54'	DITCHLINE
220	"EP"101+39.37	10.00' L	445.24'	DITCHLINE, END
221	"EP"100+34.53	31.89' L	ME	GRADE PT
222	"EP"100+38.42	24.15' L	ME	GRADE PT
223	"EP"100+46.94	25.90' L	ME	GRADE PT
224	"EP"100+49.98	35.04' L	MATCH	CUSHMAN ST FG, EDGE OF GRADING
225	"EP"100+02.55	5.22' L	ME	EDGE OF PAVEMENT
226	"EP"100+31.66	7.33' R	440.42'	2% – 3:1 SLOPE INTERCEPT PCC
227	"EP"100+50.06	9.63' R	440.54'	2% – 3:1 SLOPE INTERCEPT PCC
228	"EP"100+86.65	14.45' R	440.60'	2% – 3:1 SLOPE INTERCEPT PT

RADIUS POINT TABLE

PT#	STATION	OFFSET	RADIUS	DESCRIPTION
400	"EP" 100+28.55	15.00' L	10.0'	EDGE OF PAVEMENT
401	"EP" 100+26.95	18.62' R	~11.5'	2% – 3:1 SLOPE INTERCEPT
402	"EP" 100+07.34	26.36' R	~21.0'	2% – 3:1 SLOPE INTERCEPT
403	"CS" 37+54.13	163.88' R	~104.1'	2% – 3:1 SLOPE INTERCEPT

NOTES:

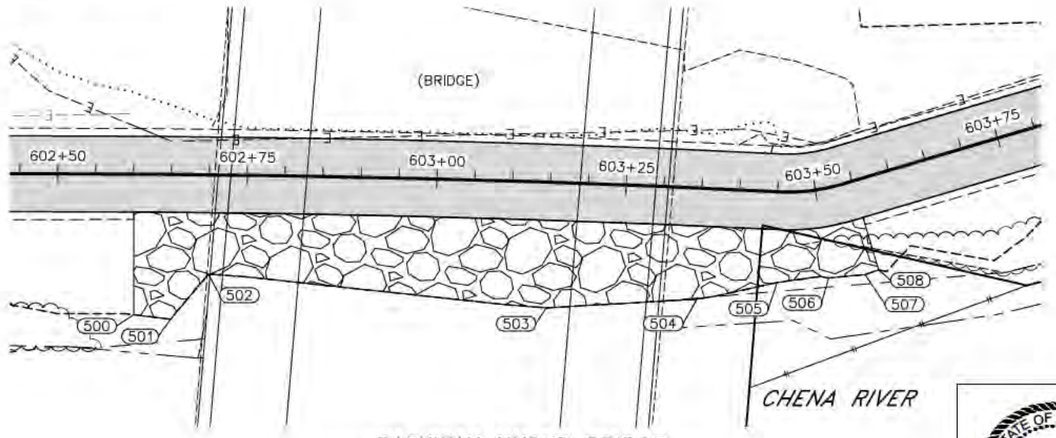
1. INTENT OF GRADING ON RIGHT SIDE OF EAST PATHWAY IS TO DIRECT RUNOFF AWAY FROM RETAINING WALL AND PATHWAY. PROVIDE A MINIMUM 2 FOOT WIDE, 2% BENCH AT TOP BACK OF PARKING LOT CURB TO ACCOMMODATE PARKED CAR OVERHANG.
2. INTENT OF GRADING ON LEFT SIDE OF EAST PATHWAY IS TO DIRECT RUNOFF AWAY FROM THE RETAINING WALL, PATHWAY, AND CUSHMAN STREET. GRADE TO PROVIDE MAXIMUM 6:1 SLOPE.
3. SITE GRADING SHALL PROVIDE POSITIVE DRAINAGE AND PREVENT PONDING.
4. SEE SHEET B2 FOR DEFINITION OF "2%–3:1 SLOPE INTERCEPT".



EAST PATHWAY

GRADING POINT TABLE

PT#	STATION	OFFSET	ELEV	DESCRIPTION
500	"BP"602+60.09	18.54' R	430.11'	TOE OF RIPRAP
501	"BP"602+65.00	19.10' R	430.11'	TOE OF RIPRAP
502	"BP"602+70.00	13.12' R	430.13'	TOE OF RIPRAP
503	"BP"603+15.00	16.57' R	430.23'	TOE OF RIPRAP
504	"BP"603+35.00	14.65' R	430.28'	TOE OF RIPRAP
505	"BP"603+45.52	11.97' R	430.33'	TOE OF RIPRAP
506	"BP"603+50.00	11.71' R	430.38'	TOE OF RIPRAP
507	"BP"603+53.14	12.31' R	430.42'	TOE OF RIPRAP
508	"BP"603+55.05	12.24' R	430.45'	TOE OF RIPRAP



PATHWAY UNDER BRIDGE

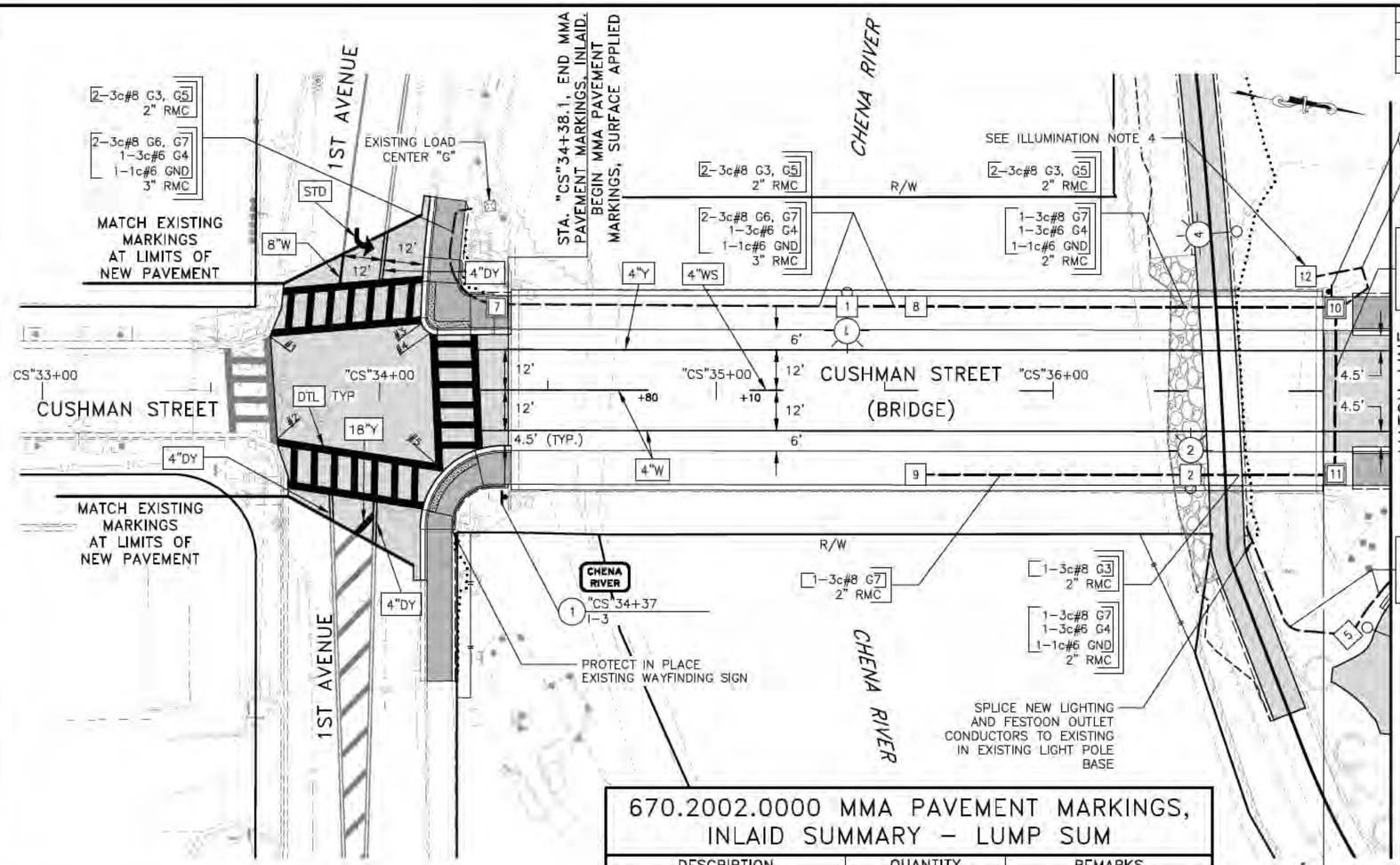
PATHWAYS GRADING PLAN

STATE OF ALASKA
19TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/21/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C:\Sheets\622070_G4_PATHWAY GRADING-G4 Tue, Sep/21/21 11:53am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	H1	H11



TRAFFIC MARKING KEY

4"W	4" WHITE LINE
4"WS	4" WHITE SKIP LINE (10' STRIPE/30' SKIP PATTERN)
4"WD–1	4" WHITE DOTTED LINE (2' STRIPE/6' SKIP PATTERN)
4"Y	4" YELLOW LINE
4"DY	4" DOUBLE YELLOW LINE
4"B	4" BLUE LINE
8"W	8" WHITE LINE
18"Y	18" YELLOW LINE
24"W	24" WHITE LINE
STD	SEE STANDARD PLANS
DTL	SEE DETAIL

670.2002.0000 MMA PAVEMENT MARKINGS, INLAID SUMMARY – LUMP SUM

DESCRIPTION	QUANTITY	REMARKS
4"W	477 LF	
4"WS	200 LF	INCLUDES SKIPS
4"Y	116 LF	
4"DY	35 LF	
8"W	165 LF	
8"WD–1	74 LF	INCLUDES SKIPS
18"Y	12 SF	
24"W	1,076 SF	
TURN ARROW SYMBOLS	3 EA	

670.2003.0000 MMA PAVEMENT MARKINGS, LONGITUDINAL SURFACE APPLIED SUMMARY – LINEAR FOOT

DESCRIPTION	QUANTITY	REMARKS
4"W	284 LF	
4"WS	43 LF	EXCLUDES SKIPS
4"Y	243 LF	

670.0001.0000 PAINTED TRAFFIC MARKINGS SUMMARY – LUMP SUM

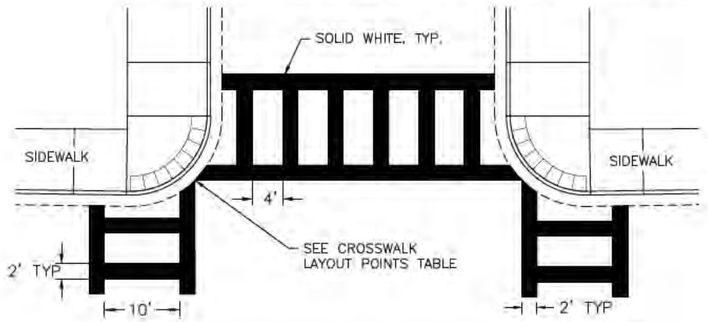
DESCRIPTION	QUANTITY	REMARKS
4"Y	431 LF	
4"B	235 LF	
24"W	80 SF	
ADA SYMBOL	2 EA	

TRAFFIC MARKING NOTES:

1. PROPOSED ROADWAY PAVEMENT MARKINGS IN HMA PAVEMENT SHALL BE INLAID METHYL METHACRYLATE (MMA). PROPOSED ROADWAY PAVEMENT MARKINGS INSTALLED ON CONCRETE BRIDGE DECK SHALL BE SURFACE APPLIED MMA. PAVEMENT MARKINGS INSTALLED IN PARKING LOT SHALL BE PAINTED TRAFFIC MARKINGS.
2. BEGIN PAVEMENT MARKINGS BY INSTALLING THE CROSSWALKS FIRST.
3. TRANSITION NEW PAVEMENT MARKINGS TO MATCH EXISTING MARKINGS AT A 100:1 TAPER.
4. REMOVE ALL EXISTING PAVEMENT MARKINGS NOT COINCIDING WITH THE NEW MARKINGS. THIS WORK IS SUBSIDIARY TO 670 PAY ITEMS.
5. DIMENSIONS REFER TO THE CENTER OF STRIPE, STRIPE GROUP, EDGE OF PAVEMENT OR LIP OF GUTTER WHEN PRESENT.
6. INSTALL TURN ARROWS WHERE SHOWN ACCORDING TO ASP T–21.04 AND T–22.04. STATION CALLOUT IS TO BOTTOM OF ARROW OR "ONLY", WHEN PROVIDED. DO NOT INSTALL "ONLY" MARKINGS UNLESS SHOWN ON THE STRIPING PLAN.
7. STRIPING CONFIGURATIONS IN THIS PLAN SET ARE APPROXIMATE. THE CONTRACTOR SHALL PERFORM PRELIMINARY SPOTTING (RABBIT TRACKING) OF STRIPING AT LEAST 48 HOURS PRIOR TO APPLICATION OF MARKINGS. THE ENGINEER WILL THEN APPROVE THE LAYOUT OR MAKE MODIFICATIONS AS REQUIRED.

ILLUMINATION NOTES:

1. SEE BRIDGE N SHEETS FOR ROUTING CONDUIT IN BRIDGE STRUCTURE. SEE J SHEETS FOR INTERCONNECT PLANS AND DETAILS.
2. UNLESS OTHERWISE NOTED INSTALL 1c#8 GROUND IN ALL CONDUITS.
3. CONDUCTORS CALLED OUT AS EXISTING SHALL REMAIN IN CONDUIT DURING INSTALLATION OF NEW CONDUCTORS. ANY EXISTING CONDUCTOR SCHEDULED TO REMAIN SHALL BE REPLACED AT CONTRACTOR'S EXPENSE IF IMPACTED.
4. UNDER–BRIDGE LIGHTING NOT SHOWN FOR CLARITY. SEE SHEET H3 FOR CONTINUATION OF LIGHTING UNDER BRIDGE.
5. INSTALL JUNCTION BOXES 7, 10, AND 11 ADJACENT TO BRIDGE ABUTMENT. LIGHTING CONDUIT FROM BRIDGE SIDEWALK INTO SIDES OF JUNCTION BOXES.



LADDER CROSSWALK STRIPING DETAIL

CROSSWALK LAYOUT POINTS

POINT	STATION	OFFSET
#1	"CS"33+67.4	16.3' LT
#2	"CS"33+69.6	14.0' RT
#3	"CS"34+12.6	20.0' LT
#4	"CS"34+15.1	17.0' LT
#5	"CS"34+16.4	21.6' RT

SIGNING KEY

(#) STATION
SIGN CODE(S)
SIGN LOCATION #

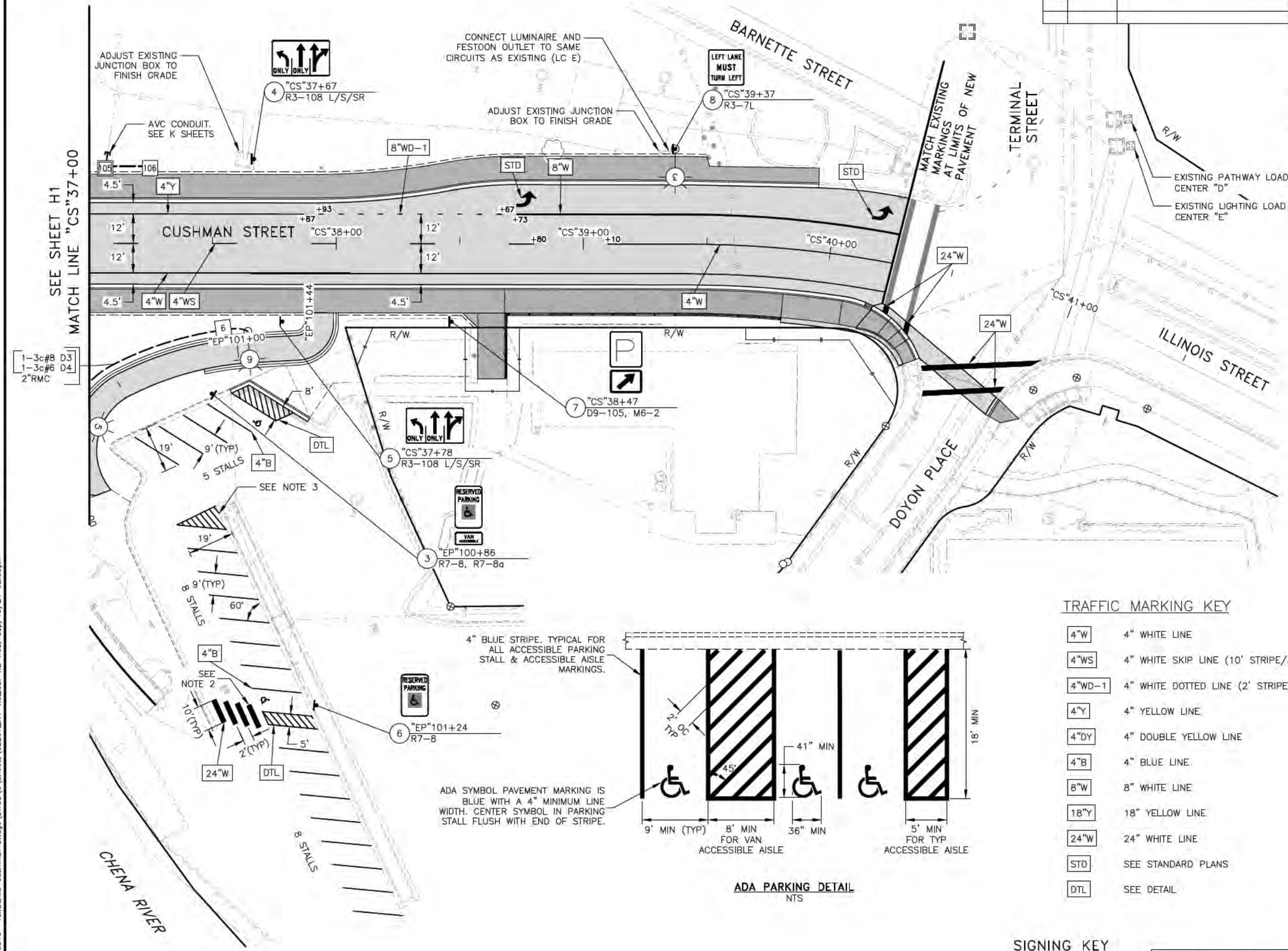
SIGNING, STRIPING AND ILLUMINATION PLANS

STATE OF ALASKA
19 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346–2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513– fairbanks cushman bridge\DWGS\C\Sheets\62207_H1–H3_SSI–H1 Wed, Sep/15/21 02:05pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	H2	H11



PARKING LOT MARKINGS NOTES:

1. UNLESS OTHERWISE NOTED, PAVEMENT MARKINGS IN PARKING LOT SHALL BE 4"Y.
2. ALIGN MIDDLE OF 24" W STRIPE WITH PROJECTION BETWEEN CENTER OF RAMP AND CENTER OF ADA ACCESS AISLE.
3. 4"Y STRIPES IN THIS AREA SHALL MATCH ORIENTATION AND SPACING OF STRIPES IN ACCESSIBLE AISLE.

ADA PARKING DETAIL
NTS

TRAFFIC MARKING KEY

4"W	4" WHITE LINE
4"WS	4" WHITE SKIP LINE (10' STRIPE/30' SKIP PATTERN)
4"WD-1	4" WHITE DOTTED LINE (2' STRIPE/6' SKIP PATTERN)
4"Y	4" YELLOW LINE
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8"W	8" WHITE LINE
18"Y	18" YELLOW LINE
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STD	SEE STANDARD PLANS
DTL	SEE DETAIL

SIGNING KEY

(#) STATION
SIGN CODE(S)
SIGN LOCATION #

SIGNING, STRIPING AND ILLUMINATION PLANS

STATE OF ALASKA
19 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

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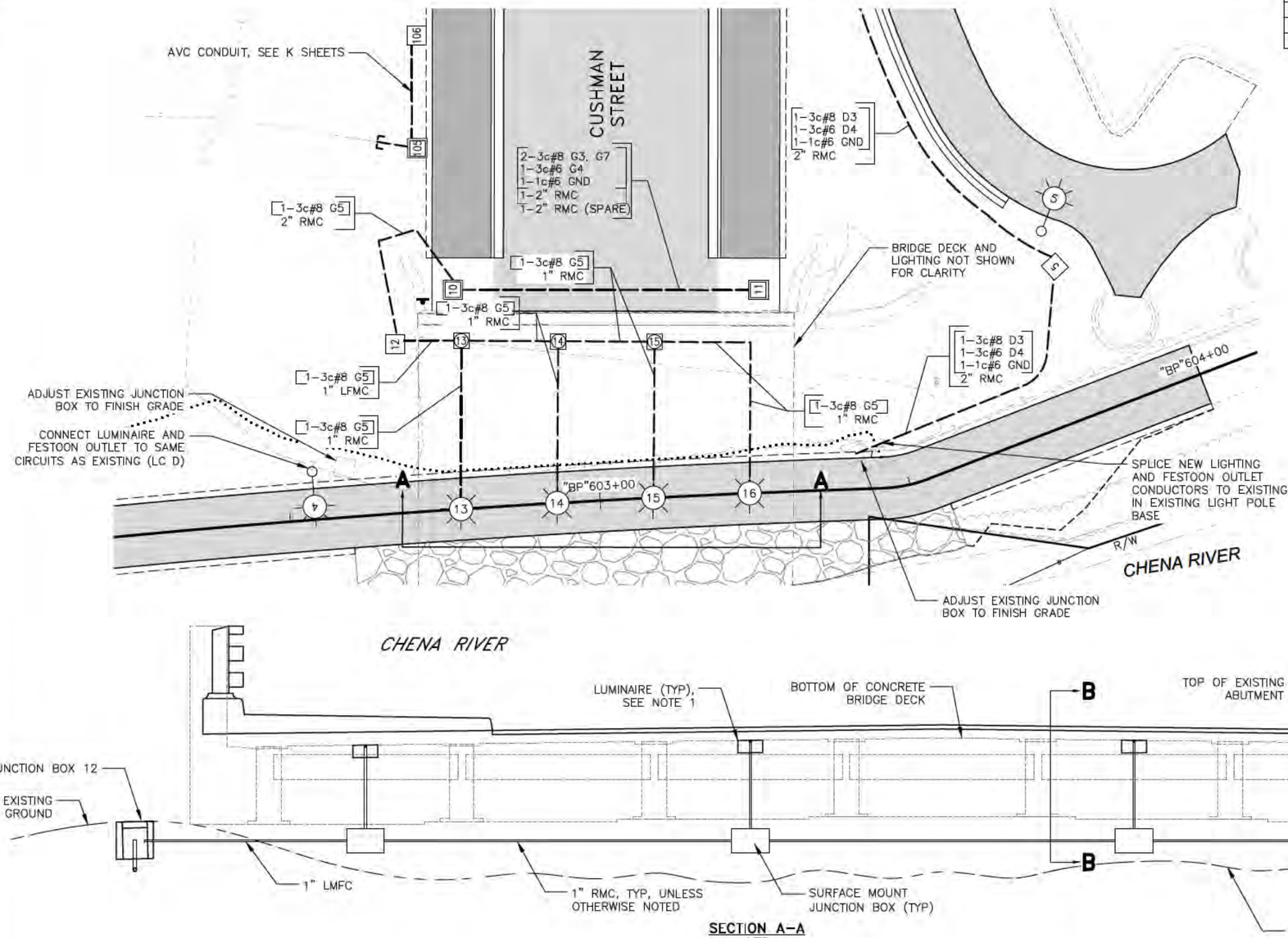
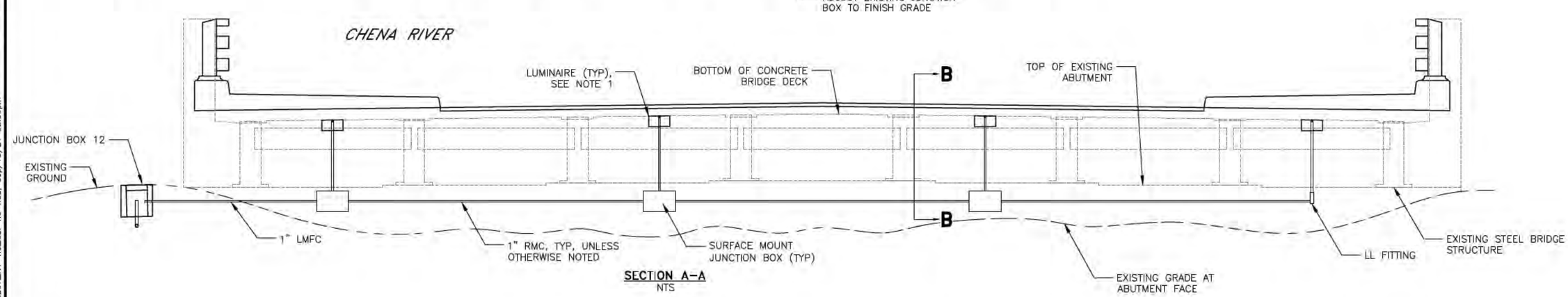
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_H1-H3_SSI-H2 Wed, Sep/15/21 02:05pm

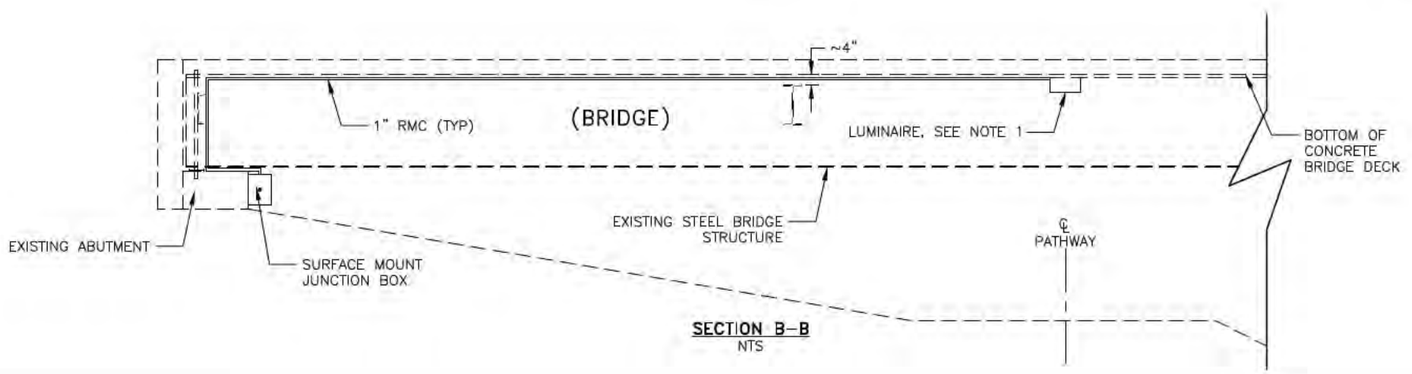
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	H3	H11





SECTION A–A
NTS



SECTION B–B
NTS

ILLUMINATION NOTES:

1. CENTER UNDER–BRIDGE LUMINAIRES BETWEEN EVERY OTHER STEEL GIRDER AND PROJECTION OF PATHWAY CENTERLINE.
2. UNLESS OTHERWISE NOTED INSTALL 1c#8 GROUND IN ALL CONDUITS.
3. SECURE CONDUIT TO BRIDGE STRUCTURE ACCORDING TO NEC AND ANY LOCAL AMENDMENTS. USE TWO HOLE STRAPS. OBTAIN APPROVAL OF ENGINEER BEFORE INSTALLING EQUIPMENT OR CONDUIT STRAPS TO STRUCTURE WITH CONCRETE ANCHORS.

UNDER–BRIDGE ILLUMINATION

STATE OF ALASKA
49TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_H1-H3_SSI-H3 Wed, Sep/15/21 02:06pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	H4	H11

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H (INCHES)	SIZE X	SIZE V (INCHES)	BRACING/FRAMING BRACED	BRACING/FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
1	"CS"34+37		X	I-3	CHENA RIVER	24	X	18		X	3.00		S				MOUNT ON FLAG POLE
2	"CS"36+82	X		I-3	CHENA RIVER	24	X	18		X	3.00		N				MOUNT ON FLAG POLE
3	"EP"100+86		X	R7-8	ADA PARKING	12	X	18			1.50		NE	PST	2.5	1	CENTER POST ON ADA PARKING STALL. OMIT ARROW FROM STD LAYOUT OF R7-8.
				R7-8a	VAN ACCESSIBLE	12	X	6			0.50						
4	"CS"37+78	X		R3-108 L/S/SR	ADVANCE INTERSECTION LANE CONTROL (L/S/SR)	30	X	48		X	10.00		S				MOUNT ON LIGHT POLE
5	"CS"37+67		X	R3-108 L/S/SR	ADVANCE INTERSECTION LANE CONTROL (L/S/SR)	30	X	48	X		10.00		S	PST	2.5	1	
6	"EP"101+24		X	R7-8	ADA PARKING	12	X	18			1.50		S	PST	2.5	1	MOUNT SIGN PER DETAIL ON H4. CENTER POST ON ADA PARKING STALL. OMIT ARROW FROM STD LAYOUT OF R7-8.
7	"CS"38+47		X	D9-105	PARKING (SYMBOL)	24	X	24			4.00		S	PST	2.5	1	WHITE ON BLUE
				M6-2	DIRECTIONAL ARROW (DIAGONAL-RIGHT)	21	X	15			2.19						
8	"CS"39+37	X		R3-7L	LEFT LANE MUST TURN LEFT	30	X	30		X	6.25		S				MOUNT ON LIGHT POLE
										TOTAL:	41.94						

POST TYPE CODING:

TS = SQUARE STRUCTURAL STEEL TUBING
PST = PERFORATED STEEL TUBING

SALVAGE SIGN SUMMARY

STATION	CL REF	ASDS CODE	LEGEND	REMARKS
"CS"36+82	29' LT	I-3	CHENA RIVER	
"CS"37+50	32' RT	SPECIAL	NO PARKING OR STANDING <->	
"CS"37+67	34' LT	W4-100R	THRU TRAFFIC MERGE RIGHT	
"CS"37+73	49' RT	R7-8	ADA PARKING	
"CS"37+78	32' RT	SPECIAL	VISITOR PARKING ->	
"CS"38+82	31' RT	R3-8L/S/SR	ADVANCE INTERSECTION LANE CONTROL (L/S/SR)	
"CS"38+83	34' LT	R3-8L/S/SR	ADVANCE INTERSECTION LANE CONTROL (L/S/SR)	

SIGNING NOTES:

1. REMOVE AND DISPOSE OF ALL EXISTING SIGNS AND SIGN POST FOUNDATIONS WITHIN THE PROJECT LIMITS, EXCEPT SIGNS DESIGNATED FOR REINSTALLATION, SALVAGE, OR OTHERWISE NOTED.
2. MOUNT SIGNS PER ASP S-05.02. SIGNS THAT PROJECT OVER OR WITHIN 2 FEET OF THE SIDEWALK AND PATHWAYS SHALL BE MOUNTED TO A HEIGHT OF 8 FEET.
3. DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
4. UNLESS OTHERWISE NOTED, INSTALL PST POSTS WITH SLEEVE TYPE CONCRETE FOUNDATION PER ASP S-30.05. ATTACH THE SIGN POST USING GALVANIZED 3/8" DIA. BOLT, NUT, SPLIT LOCK WASHER AND TWO FLAT WASHERS.
5. INSTALL "TUBE POST SIGN BRACING" AS SHOWN ON ASP S-1.02 ON ALL SIGNS MOUNTED ON A SINGLE PST POST AND HAVING A HORIZONTAL DIMENSION OF 30 INCHES OR GREATER, EXCEPT D3-100 SERIES SIGNS. INSTALL GALVANIZED SPLIT LOCK WASHERS ON ALL 3/8" BOLTS. STAINLESS STEEL FASTENER HARDWARE MAY BE USED INSTEAD OF GALVANIZED. 1/4" X 1 1/2" ALUMINUM ALLOY 6061-T6 BAR MAY ALSO BE USED TO FABRICATE SIGN BRACES.
6. ATTACH ALL SIGNS TO THEIR SUPPORTS WITH 3/8" DIA. BOLTS, EXCEPT ATTACH UNFRAMED SIGNS TO POSTS WITH ALUMINUM DRIVE RIVETS. WIND WASHERS ARE NOT REQUIRED WITH DRIVE RIVETS. INCLUDE SPLIT LOCK WASHERS WHEN BOLTS ARE USED.
7. ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" ON SHEET H5.
8. SIGNS INSTALLED ON LIGHT POLES MAY REQUIRE TEMPORARY INSTALLATION ON 2-1/2" PST POST UNTIL LIGHT POLES ARE IN PLACE. THIS WORK IS SUBSIDIARY TO PAY ITEM 615.0001.0000.
9. MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
10. LOCATE AND PROTECT ALL NEW AND EXISTING UNDERGROUND UTILITIES PRIOR TO INSTALLING SIGN POSTS. NOT ALL UTILITIES MAY BE SHOWN ON THE SIGNING AND STRIPING PLANS. SEE OTHER PROJECT PLAN SHEETS AND AS-BUILT DRAWINGS FOR ADDITIONAL INFORMATION.
11. CLEAR AS DIRECTED BY THE ENGINEER TO ENSURE ADEQUATE VISIBILITY OF SIGNS. THIS WORK IS SUBSIDIARY TO PAY ITEM 615.0001.0000.
12. PROVIDE WEATHER TIGHT CAPS ON ALL TUBE POSTS, EXCEPT PERFORATED STEEL TUBES.
13. ADJUST SIGN LOCATIONS AT THE DIRECTION OF THE ENGINEER.

SALVAGE SIGN AND DISPOSAL NOTES:

1. DELIVER SALVAGED SIGN PANELS, NOT IDENTIFIED FOR REUSE IN THE SIGNING SUMMARY, TO THE CITY OF FAIRBANKS PUBLIC WORKS LOCATED AT 2121 PEGER ROAD. CONTACT THE CITY OF FAIRBANKS ENGINEERING DEPARTMENT TO ARRANGE FOR DELIVERY MONDAY THROUGH FRIDAY DURING NORMAL BUSINESS HOURS.
2. SALVAGED SIGNS WILL BE PAID PER EACH SIGN PANEL DELIVERED IN ACCEPTABLE CONDITION. SIGN PANELS AND DISMOUNTING FROM BRACING AND POST IS SUBSIDIARY TO PAY ITEM 615.0006.0000 SALVAGE SIGN

STATE OF ALASKA
49 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

SIGN SUMMARY AND SALVAGE SIGN SUMMARY

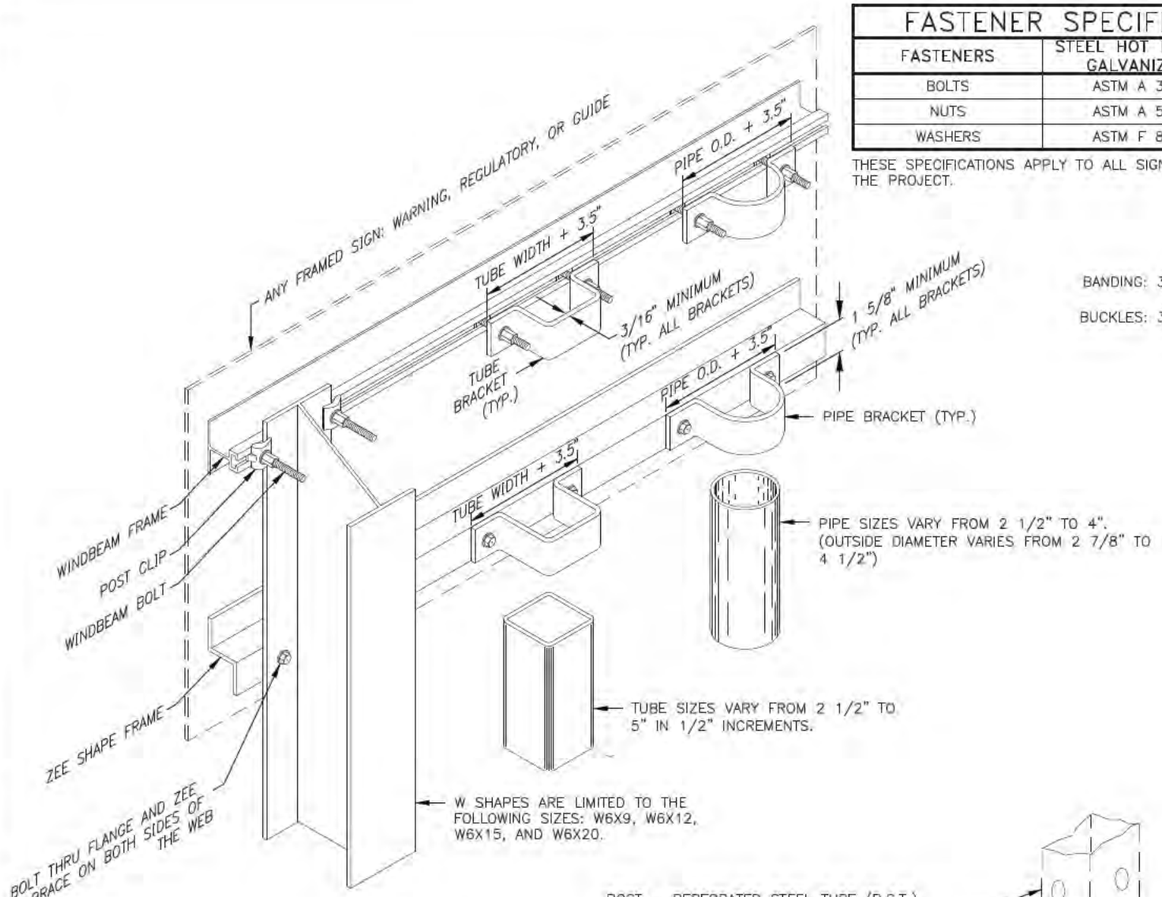
NO.	DATE	REVISION

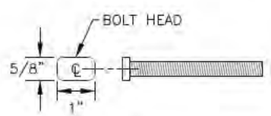
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	H5	H11

FASTENER SPECIFICATION TABLE

FASTENERS	STEEL HOT DIPPED GALVANIZED	STAINLESS STEEL
BOLTS	ASTM A 307	ASTM F 593
NUTS	ASTM A 563	ASTM F 594
WASHERS	ASTM F 844	ASTM A 480

THESE SPECIFICATIONS APPLY TO ALL SIGN FASTENER HARDWARE ON THE PROJECT.





3/8" DIA. WINDBEAM BOLT

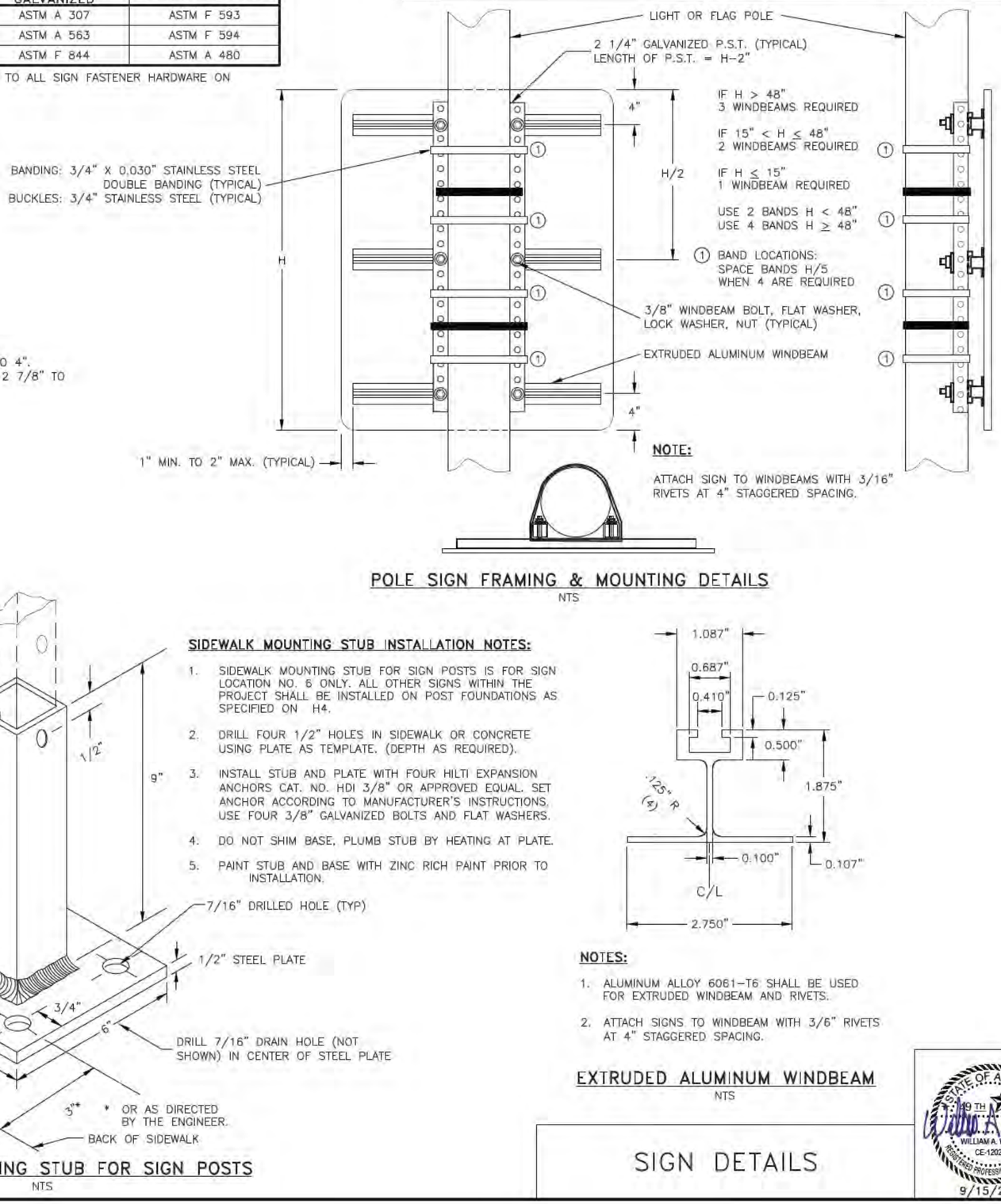
NTS

NOTES:

1. 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 OR A BRACKET WITH SQUARE CORNERS ON TUBES.
2. THE TUBE BRACKETS USED ON EVEN INCH SIZE TUBES MAY ALSO BE USED ON TUBES 1/2" SMALLER IN SIZE.
3. THE BRACKET DETAILS SHOWN INDICATE GENERAL DESIGNS ONLY. DESIGNS MAY VARY BY MANUFACTURER.
4. ALUMINUM ALLOY 6061-T6 SHALL BE USED FOR ZEE SHAPE FRAMING AND RIVETS.

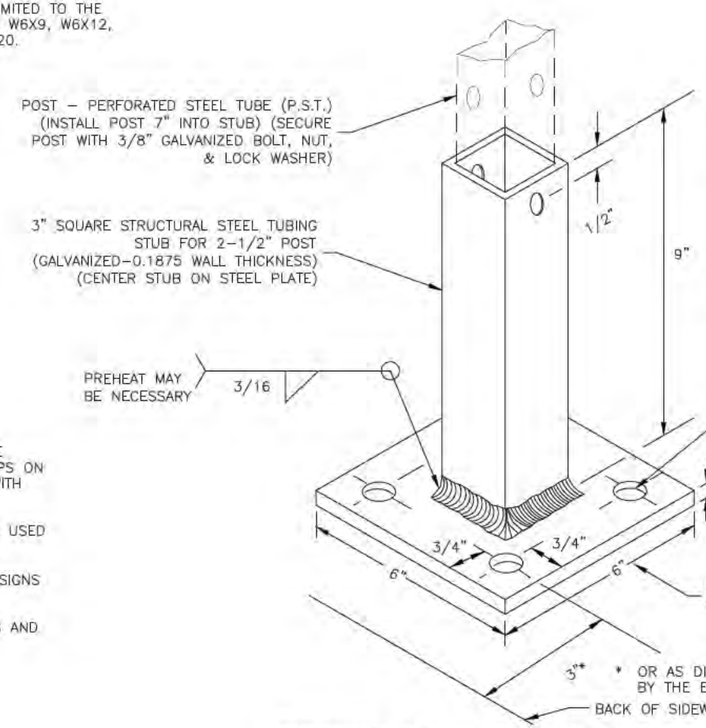
FRAMED SIGN ATTACHMENT BRACKETS

NTS



POLE SIGN FRAMING & MOUNTING DETAILS

NTS



SIDEWALK MOUNTING STUB INSTALLATION NOTES:

1. SIDEWALK MOUNTING STUB FOR SIGN POSTS IS FOR SIGN LOCATION NO. 6 ONLY. ALL OTHER SIGNS WITHIN THE PROJECT SHALL BE INSTALLED ON POST FOUNDATIONS AS SPECIFIED ON H4.
2. DRILL FOUR 1/2" HOLES IN SIDEWALK OR CONCRETE USING PLATE AS TEMPLATE. (DEPTH AS REQUIRED).
3. INSTALL STUB AND PLATE WITH FOUR HILTI EXPANSION ANCHORS CAT. NO. HDI 3/8" OR APPROVED EQUAL. SET ANCHOR ACCORDING TO MANUFACTURER'S INSTRUCTIONS. USE FOUR 3/8" GALVANIZED BOLTS AND FLAT WASHERS.
4. DO NOT SHIM BASE. PLUMB STUB BY HEATING AT PLATE.
5. PAINT STUB AND BASE WITH ZINC RICH PAINT PRIOR TO INSTALLATION.

SIDEWALK MOUNTING STUB FOR SIGN POSTS

NTS

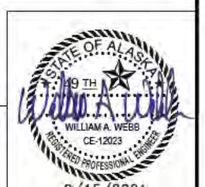
NOTES:

1. ALUMINUM ALLOY 6061-T6 SHALL BE USED FOR EXTRUDED WINDBEAM AND RIVETS.
2. ATTACH SIGNS TO WINDBEAM WITH 3/6" RIVETS AT 4" STAGGERED SPACING.

EXTRUDED ALUMINUM WINDBEAM

NTS

SIGN DETAILS



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Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_H5_SIGN_DETLS-H5 Wed, Sep/15/21 02:06pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	H6	H11

LIGHTING JUNCTION BOX SUMMARY

NO.	STATION	LOCATION LT.	LOCATION RT.	TYPE	REMARKS
1	"CS"35+38.66	24.9		IA	LID ONLY
2	"CS"36+40.66		24.9	IA	LID ONLY
5	"EP"100+27.30	12.2		IA	
6	"EP"100+95.31	10.1		IA	
7	"CS"34+36.98	26.6		II	
8	"CS"35+59.15	24.9		IA	
9	"CS"35+59.15		24.9	IA	
10	"CS"36+81.64	26.6		II	
11	"CS"36+81.70		26.6	II	
12	"CS"36+74.63	34.0		IA	
13	"BP"602+78.57	X		SURFACE	30 CUBIC INCHES MIN. SEE NOTE 1
14	"BP"602+93.81	X		SURFACE	30 CUBIC INCHES MIN. SEE NOTE 1
15	"BP"603+09.02	X		SURFACE	30 CUBIC INCHES MIN. SEE NOTE 1

JUNCTION BOX NOTES:

1. SURFACE MOUNT JUNCTION BOXES SHALL BE HEAVY DUTY GALVANIZED STEEL WITH GASKETED LID. BOXES SHALL BE WEATHER PROOF AND WATER TIGHT MEETING NEMA TYPE 4.

ADJUST EXISTING JUNCTION BOX

STATION	LOCATION LT.	LOCATION RT.	TYPE	REMARKS
"BP" 602+59.38	X		IA	
"BP" 603+40.94	X		IA	
"CS" 37+62.54	X		II	
"CS" 39+32.93	X		II	

ELECTROLIER SUMMARY

LUMINAIRE NO.	STATION	LOCATION	POLE TYPE	BASE TYPE	LUMINARIE TYPE	LUMINARIE VOLTAGE	LUMINARIE WATTAGE	ADJUSTABLE OUTPUT	CIRCUIT	MOUNT HEIGHT	MAST ARM LENGTH	REMARKS
1	"CS"35+39	29 LT	STP	BRIDGE	A	480V	150W		G3	35'	12'	
2	"CS"36+41	29 RT	STP	BRIDGE	A	480V	150W		G3	35'	12'	
3	"CS"39+37	38.5 LT	EX	CIDH	EX	EX	EX		E6	EX	EX	RELOCATE EXISTING POLE TO NEW FOUNDATION
4	"BP"602+54	7.8 LT	EX	PED	EX	EX	EX		D3	EX	EX	RELOCATE EXISTING POLE TO NEW FOUNDATION
5	"EP"100+30	7.5 LT	STP	PED	B	120V	50W		D3	12.5'		NOTE 1
6	"EP"101+05	7.7 LT	STP	PED	B	120V	50W		D3	12.5'		NOTE 1
7–12												NOT USED
13	SEE NOTE 2				C	120V	25W		G5	~14'	N/A	
14	SEE NOTE 2				C	120V	25W		G5	~14'	N/A	
15	SEE NOTE 2				C	120V	25W		G5	~14'	N/A	
16	SEE NOTE 2				C	120V	25W		G5	~14'	N/A	

ELECTROLIER NOTES:

1. PEDESTRIAN ELECTROLIERS AND LUMINAIRES SHALL MATCH THE APPEARANCE OF THE EXISTING PEDESTRIAN POLES AND LIGHTS ALONG THE RIVERFRONT PATH. INCLUDING FESTOON OUTLETS AND EMPLOY LED LIGHT SOURCES.
2. MOUNT TO UNDERSIDE OF BRIDGE DECK, CENTERED OVER PATHWAY AND BETWEEN GIRDERS. SEE SHEET H3.

STREET LIGHTING CRITERIA

ROADWAY CHARACTERISTICS	
ROADWAY LIGHTING STANDARD:	IESNA RP-8-2014
CALCULATION ZONE:	ENTIRE ROADWAY
STREET CLASSIFICATION:	MAJOR
PEDESTRIAN CLASSIFICATION:	HIGH
PAVEMENT CLASSIFICATION:	R3
TRAFFIC FLOW:	ONE-WAY
LANE WIDTH	12 FT.
NO. OF LANES, LEFT / RIGHT:	2
MEDIAN	NONE
LUMINAIRE DEPRECIATION	
LED – TOTAL LIGHT LOSS FACTOR (LFF): 0.85	
ROADWAY LUMINANCE CRITERIA	
AVERAGE MAINTAINED (Lavg):	CD/SQ M
MINIMUM MAINTAINED (Lmin):	0.3 CD/SQ M
Lavg/Lmin RATIO (MAXIMUM):	<= 3.0:1
Lmax/Lmin RATIO (MAXIMUM):	<= 5.0:1
Lvmax/Lavg VEILING LUMINANCE RATIO (MAXIMUM:	<= 0.3:1

LUMINAIRE SCHEDULE

TYPE	MANUFACTURER & MODEL NO.	LIGHT SOURCE	IES TYPE OPTICS	INITIAL LUMENS	COLOR TEMP (CCT)	DRIVER CURRENT	VOLTAGE & WATTS	POWER FACTOR	MOUNTING	REMARKS
A	GULLWING GL18-3-230LA-9680-NW-IS	LED (x48)	TYPE III	14,000	4000K	1050 MA	120V 150W	>0.9	HORIZ. TENON	NOTES 1, 2, 3
B	LUMEC CAN1-40W42LED3K-G2-PC-C -REL3-120	LED (x42)	TYPE III	5,500	4000K	500 MA	120V 50W	>0.9	PENDANT	NOTES 1, 2, 3
C	HOLOPHANE PPSQL2-P10-30K12-FC-T5W	LED (x10)	TYPE 5W	2,500	4000K	200 MA	120V 25W	>0.9	CEILING	NOTES 2, 3

LUMINAIRE NOTES:

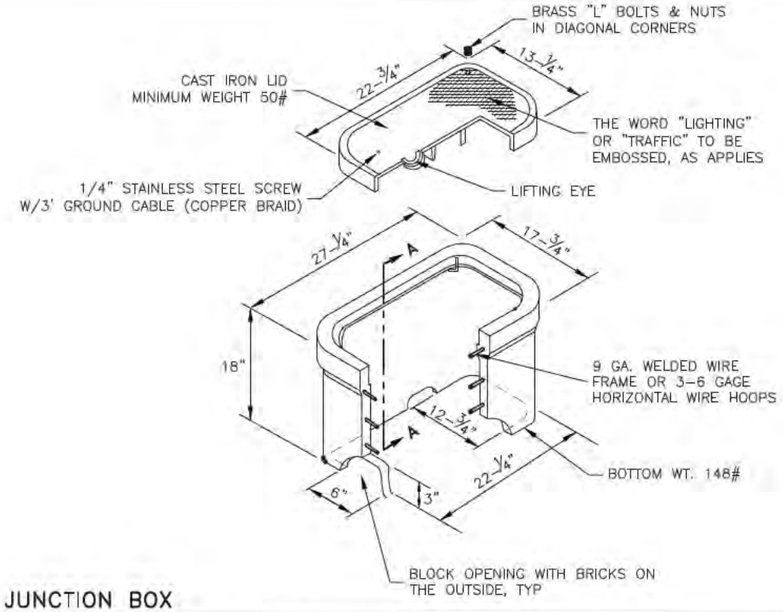
1. MODEL AND MANUFACTURER LISTED ARE BASIS OF DESIGN. PROVIDE SCHEDULED LUMINAIRES OR APPROVED EQUAL. REFER TO SECTION 740 SPECIFICATIONS.
2. ALL LUMINAIRES SHALL BE FURNISHED WITH 0-10V DIMMING BALLAST. LUMINAIRE TYPES A AND B SHALL BE FURNISHED WITH 7-PIN NEMA PHOTOCELL RECEPTACLE AND WIRELESS CONTROL NODE.
3. PROVIDE ALL LUMINAIRES WITH FIELD ADJUSTABLE OUTPUT, ADJUSTABLE IN APPROXIMATELY 10 TO 15% INCREMENTS.

LIGHTING SUMMARY AND DETAILS

STATE OF ALASKA 49TH WILLIAM A. WEBB CE-12023 REGISTERED PROFESSIONAL ENGINEER
9/21/2021

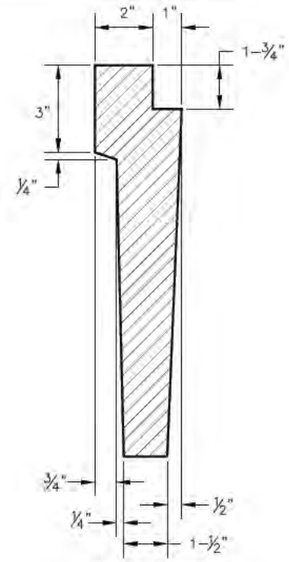
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\622207_H6-H10_LGT SUMRY AND DETLS-H6 Tue, Sep/21/21 11:54am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0663012/Z622070000	2021	H7	H11



TYPE IA JUNCTION BOX

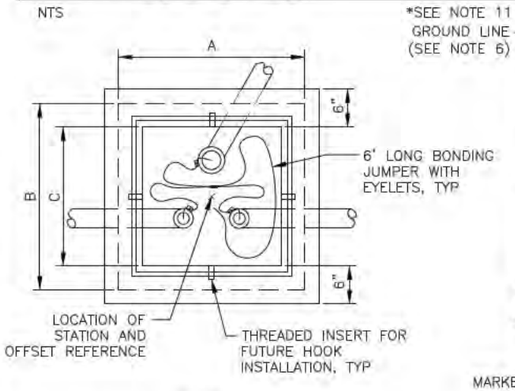
NTS



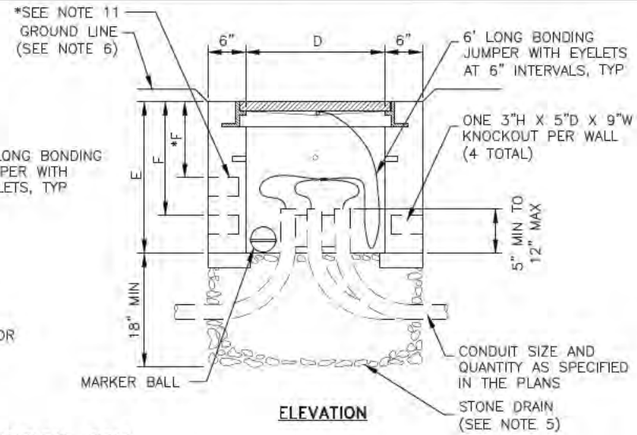
SECTION A-A

NOTES:

1. AVOID INSTALLING TYPE IA JUNCTION BOXES IN DRIVEWAYS OR IN LOCATIONS SUBJECT TO USE BY HEAVY TRUCKS. INSTALL JUNCTION BOXES ONLY AT THE LATERAL LOCATIONS ALLOWED IN SUBSECTION 660-3.04.
2. FURNISH TYPE II, III AND IV JUNCTION BOXES WITH CAST IRON FRAMES AND LIDS THAT WEIGH A MINIMUM OF 210 POUNDS AND ARE RATED FOR HEAVY TRAFFIC LOADS IN COMPLIANCE WITH AASHTO M306. FURNISH TYPE IA JUNCTION BOXES WITH CAST IRON LIDS THAT WEIGH A MINIMUM OF 50 POUNDS.
3. CONSTRUCT JUNCTION BOXES ACCORDING TO SECTION 501 USING CLASS A CONCRETE. REINFORCE TYPE IA JUNCTION BOXES AS SHOWN. SYNTHETIC STRUCTURAL FIBER-REINFORCED CONCRETE THAT MEETS ASTM C 1116 AND CONTAINS FIBER IN PROPORTIONS AS RECOMMENDED BY THE FIBER MANUFACTURER MAY BE ADDED FOR STRENGTH.
4. FOR JUNCTION BOXES THAT CONTAIN ILLUMINATION CONDUCTORS EXCLUSIVELY, FURNISH LIDS WITH THE WORD LIGHTING INSCRIBED INTO THEM. FOR OTHER JUNCTION BOXES, FURNISH LIDS WITH THE WORD TRAFFIC INSCRIBED INTO THEM.
5. UNDER JUNCTION BOXES, INSTALL STONE DRAINS THAT CONSIST OF POROUS BACKFILL MATERIAL CONFORMING TO SUBSECTION 703-2.10.
6. SET THE TOPS OF JUNCTION BOXES WITH THE FOLLOWING DIMENSIONS BELOW THE FINISHED SURROUNDING SURFACE:
   - 1" IN PAVED MEDIANS AND ADJACENT TO PEDESTRIAN FACILITIES
   - 0" to 3/16" IN PEDESTRIAN FACILITIES
   - 2" IN ALL OTHER AREAS
7. BOND JUNCTION BOX LIDS TO THE SYSTEM OF EQUIPMENT GROUNDING CONDUCTORS ACCORDING TO SUBSECTION 660-3.06. ATTACH BONDING JUMPERS TO THE JUNCTION BOX LIDS WITH STAINLESS STEEL HARDWARE.
8. INSTALL A 1/2" THICK PREFORMED BITUMINOUS JOINT MATERIAL AROUND JUNCTION BOXES INSTALLED IN PORTLAND CEMENT CONCRETE WALKWAYS.
9. INSTALL AN ELECTRONIC MARKER BALL IN ALL JUNCTION BOXES PER SUBSECTION 660-3.04.
10. PROVIDE CONDUIT GROUNDING BUSHINGS AND BOND TO 3/4"X10' COPPER CLAD GROUND ROD WITH #8 BARE COPPER BONDING WIRE (AS REQUIRED).
11. WHERE MODIFIED TYPE II JUNCTION BOXES ARE REQUIRED FOR DETECTOR LOOP TAIL INSTALLATIONS, ADD ONE(1) ADDITIONAL 5" DEEP X 3" HIGH X 18" WIDE KNOCKOUT 12" BELOW TOP OF JUNCTION BOX.



PLAN

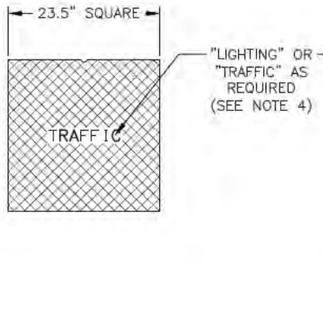


ELEVATION

TYPE II/MODIFIED TYPE II JUNCTION BOX

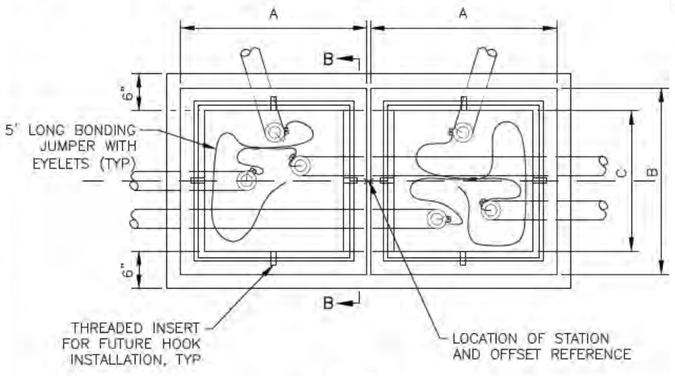
NTS

*=APPLICABLE TO MODIFIED TYPE II JUNCTION BOX



LID FOR TYPE II, MOD. TYPE II & TYPE III J-BOX

NTS



PLAN

TYPE III/IV JUNCTION BOX

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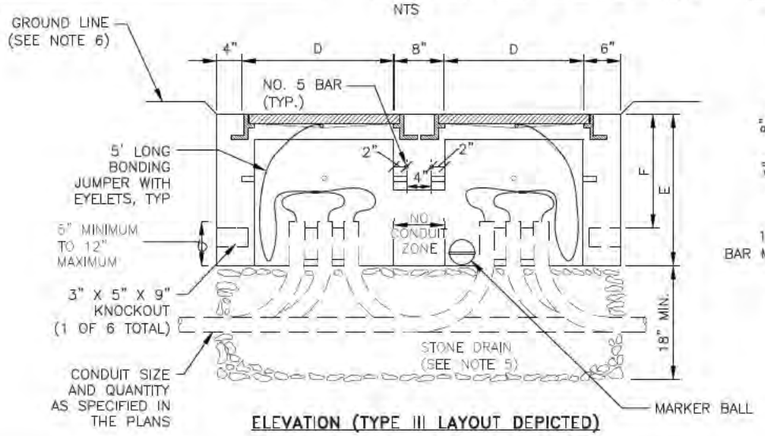
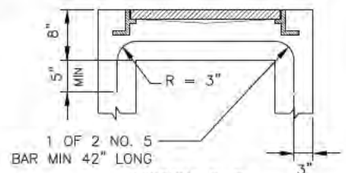


ELEVATION (TYPE III LAYOUT DEPICTED)

LID FOR TYPE IV J-BOX

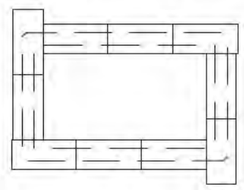
NTS



SECTION B-B

J-BOX DIMENSIONS

J-BOX TYPE	DIMENSIONS A (MAX.)	B (MAX.)	C (MIN.)	D (MIN.)	E (MIN.)	F
II	29 1/2"	29 1/2"	22"	22"	24"	18"
MOD. II	29 1/2"	29 1/2"	22"	22"	24"	12"
III	29 1/2"	29 1/2"	22"	22"	24"	18"
IV	30"	36"	30"	24"	30"	18"



BRICK BASE TYPE IA AND TYPE II ONLY

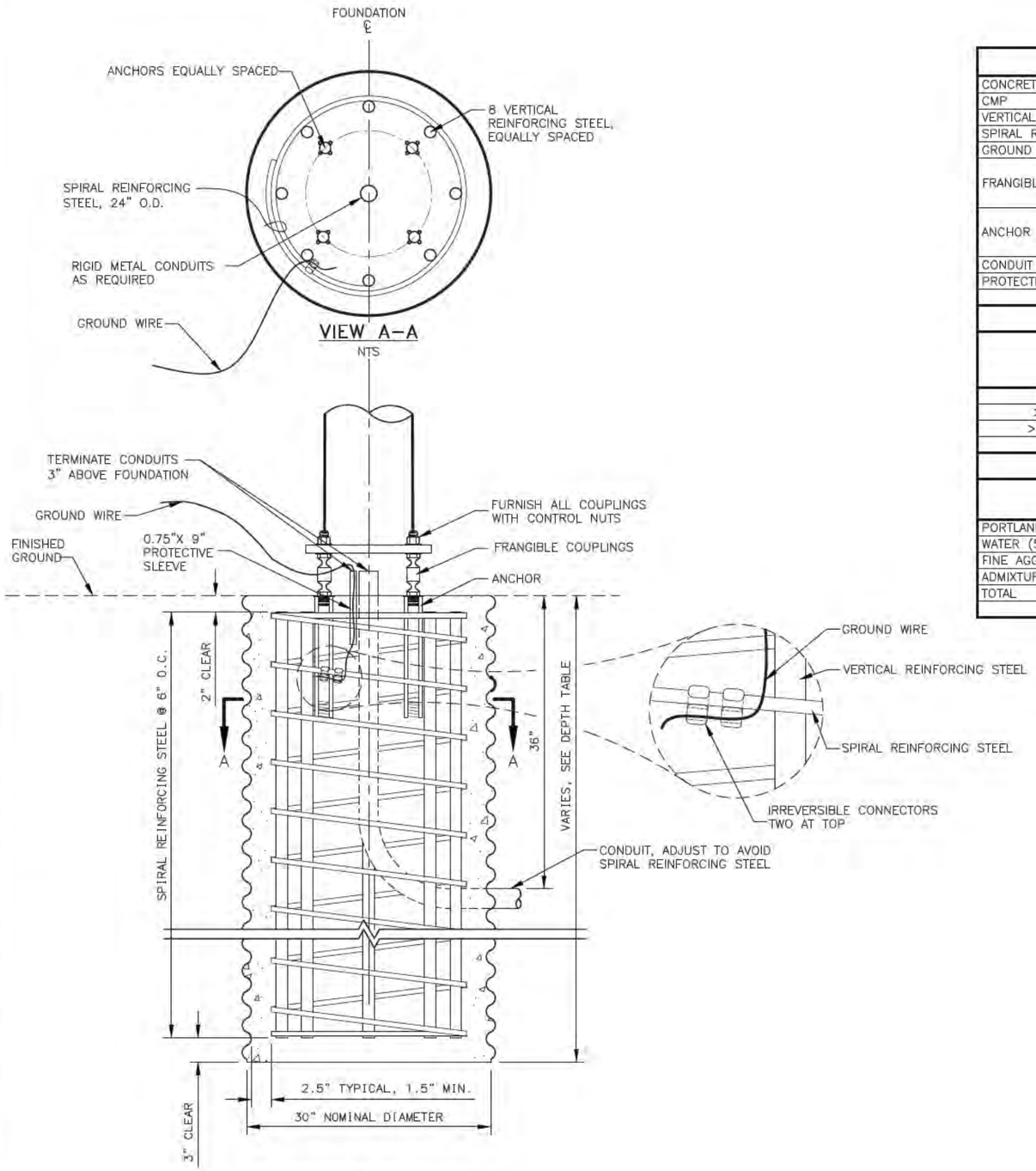
NTS

JUNCTION BOX DETAILS

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_H6-H10_LGT SUMRY AND DETLS-H7 Wed, Sep/15/21 02:07pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	H8	H11



FOUNDATION DETAILS

NTS
(SKIRT OMITTED FOR CLARITY)

MATERIAL REQUIREMENTS

CONCRETE	CLASS A	F'C = 4000 PSI
CMP	AASHTO M218	14 GA.
VERTICAL REINFORCING STEEL	AASHTO M31 #11	GR 60
SPIRAL REINFORCING STEEL	AASHTO M31 #5	GR 60
GROUND WIRE		#4 awg
FRANGIBLE COUPLING	NCHRP 350 TL3 FRANGIBLE COUPLING	VU = 5.5 KIPS TU = 43.2 KIPS
ANCHOR	NCHRP 350 TL3 FRANGIBLE COUPLING ANCHOR	
CONDUIT	SCH 40	RMC
PROTECTIVE SLEEVE	SCH 40	PVC

DEPTH TABLE

GRADE	FOUNDATION DEPTH BY APPLICATION (FT.)	
	ELECTROLIER * SEE NOTE 9	BREAKAWAY TRAFFIC SIGNAL
FLAT TO 6:1	8	6
>=6:1 TO 3:1	9	7
>=3:1 TO 1.5:1	10	8

SAND SLURRY MIX DESIGN

ITEM	BATCHING QUANTITIES PER CYD BATCH (LBS.)	APPLICABLE SPECS.
PORTLAND CEMENT CONCRETE	188	701–2.01
WATER (52.1 GAL.)	435	712–2.01
FINE AGGREGATE SSD	3041	703–2.01
ADMIXTURE: MICROAIR	2.0 OZ.	711–2.02
TOTAL	3664	

BOLT CIRCLE

REGION	DIAMETER
NORTHERN REGION PROJECTS	14.5"

CONFIRM BOLT CIRCLE OF EXISTING POLES BEING RELOCATED PRIOR TO CASTING FOUNDATIONS

DESIGN NOTES:

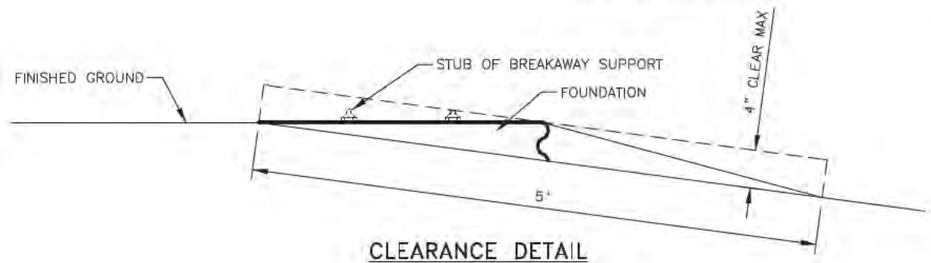
DESIGN STANDARD: 2013 STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS WITH 2019 INTERIM.

DESIGN LOAD: 1,000 LBS AXIAL, 2,000 LBS SHEAR, 50,000 FT–LBS MOMENT.

CONSTRUCTION STANDARD: LATEST EDITION OF THE STATE OF ALASKA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION WITH SPECIAL PROVISIONS.

NOTES:

1. THIS FOUNDATION IS APPROVED FOR ELECTROLIER AND BREAKAWAY TRAFFIC SIGNAL APPLICATIONS IN COHESIONLESS SOILS WITH AN N1–60 VALUE OF 10 OR GREATER PER AASHTO T–206, "STANDARD PENETRATION TEST" (SPT). THIS FOUNDATION SHALL NOT BE USED IF ANY OF THE FOLLOWING ARE ENCOUNTERED; WATER TABLE ABOVE THE BOTTOM OF FOUNDATION, VERY LOOSE SOILS, ORGANIC SOILS, COHESIVE SOILS (CLAY), OR SOILS SUSCEPTIBLE TO FROST JACKING. IF ANY OF THESE CONDITIONS ARE ENCOUNTERED, STOP FOUNDATION WORK AND CONTACT THE ENGINEER.
2. PLACE FOUNDATION IN DRILLED OR EXCAVATED HOLE WITH CENTERLINE OF FOUNDATION LOCATED AT THE STATION, OFFSET, AND ELEVATION SPECIFIED IN PLANS. SET FOUNDATION TO SATISFY THE CONDITIONS DEPICTED IN CLEARANCE DETAIL.
3. FORM THE FOUNDATION IN CORRUGATED METAL PIPE CONFORMING TO SUBSECTION 707–2.01 OF THE SPECIFICATIONS.
4. PROVIDE 1.5 EXTRA TURNS AT EACH END OF THE SPIRAL REINFORCING STEEL. REINFORCING STEEL SHALL NOT BE SPLICED. TIE VERTICAL REINFORCING STEEL TO EACH INTERSECTION OF THE SPIRAL REINFORCING STEEL.
5. CONNECT GROUND WIRE NEAR THE TOP OF SPIRAL REINFORCING STEEL WITH TWO IRREVERSIBLE CONNECTORS AS SHOWN. FASTEN CONNECTORS ACCORDING TO THE MANUFACTURERS' RECOMMENDATIONS INCLUDING THE USE OF MANUFACTURER SPECIFIED TOOLS. THE GROUND WIRE MAY BE BARE SOLID, STRANDED, OR BRAIDED COPPER. PROTECT GROUND WIRE WITH PROTECTIVE SLEEVE AS SHOWN AND FILL WITH SILICON SEALANT.
6. COMPLETE ALL CONCRETE WORK IN CONFORMANCE WITH SECTIONS 501, 503, AND 660 OF THE SPECIFICATIONS. USE A TUBE WITH A HOPPER HEAD OR OTHER APPROVED DEVICE WHEN DROPPING CONCRETE MORE THAN 5 FEET PER SUBSECTION 501–3.05. VIBRATE CONCRETE DURING PLACEMENT BY MECHANICAL VIBRATION PER SUBSECTION 501–3.06. ENSURE ANCHOR THREADS ARE PROTECTED FROM CONTACT WITH CONCRETE DURING POUR.
7. BACKFILL AND COMPACT ACCORDING TO SECTION 205, AND SUBSECTIONS 203–3.04 AND 660–3.01 OF THE SPECIFICATIONS. USE SELECT MATERIAL, TYPE A OR SAND SLURRY AS BACKFILL MATERIAL. ENSURE AREA BELOW FOUNDATION MEETS COMPACTION REQUIREMENTS AND IS FREE OF LOOSE MATERIAL AND DEBRIS PRIOR TO CONCRETE WORK.
8. INSTALL ALL ANCHORS ACCORDING TO THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. ANCHORS SHALL BE INSTALLED PLUMB. ANCHORS GREATER THAN 1:40 OUT–OF–PLUMB WILL RESULT IN FOUNDATION REJECTION.
9. WHEN USED FOR ELECTROLIER REDUCE THE FOUNDATION DEPTH 1 FOOT WHEN THERE IS NO LUMINAIRE ARM OR THE LUMINAIRE ARM IS LESS THAN OR EQUAL TO 12 FEET.
10. GRADE IN DEPTH TABLE REFERS TO FILL SLOPES. IF FOUNDATION IS IN A CUT SLOPE ASSUME FLAT GRADE IN TABLE. TO DETERMINE GRADE IN FILL SLOPES, USE THE MOST SEVERE GRADE FOUND WITHIN AN 8 FOOT RADIUS OF THE CENTER OF THE FOUNDATION. SLOPES STEEPER THAN 1.5:1 REQUIRE ENGINEERED DEPTH CALCULATION.



CLEARANCE DETAIL

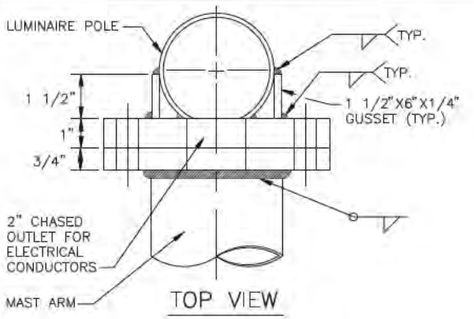
NTS

LIGHT POLE FOUNDATION DETAILS

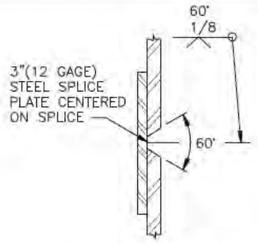
STATE OF ALASKA
49 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346–2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513– fairbanks cushman bridge\DWGS\C\Sheets\62207_H6–H10_LGT SUMRY AND DETLS–H8 Wed, Sep/15/21 02:07pm

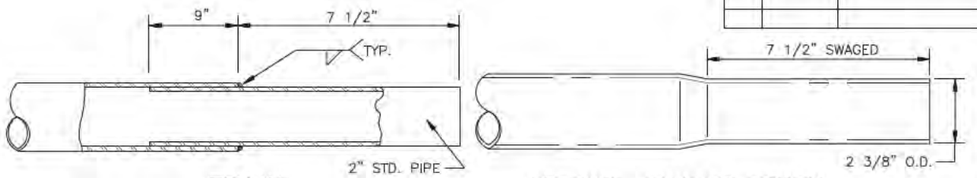
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0663012/Z622070000	2021	H9	H11



TOP VIEW

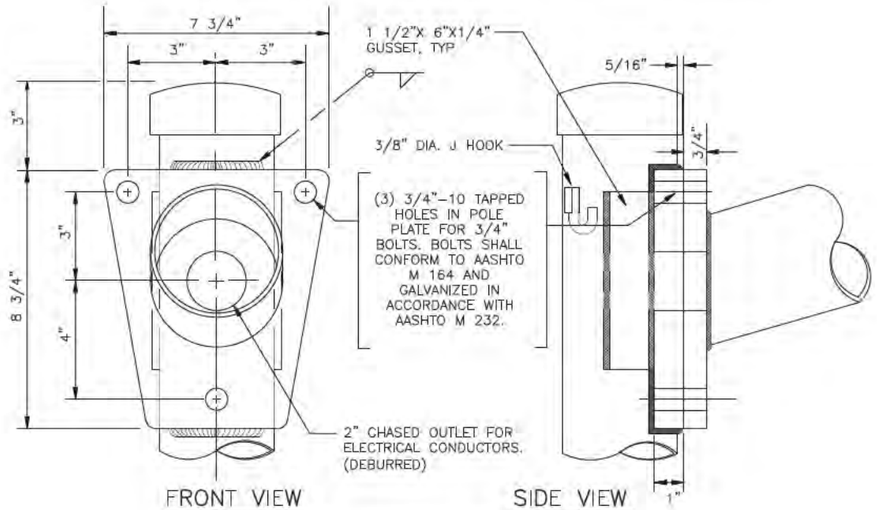


SPLICE DETAILS



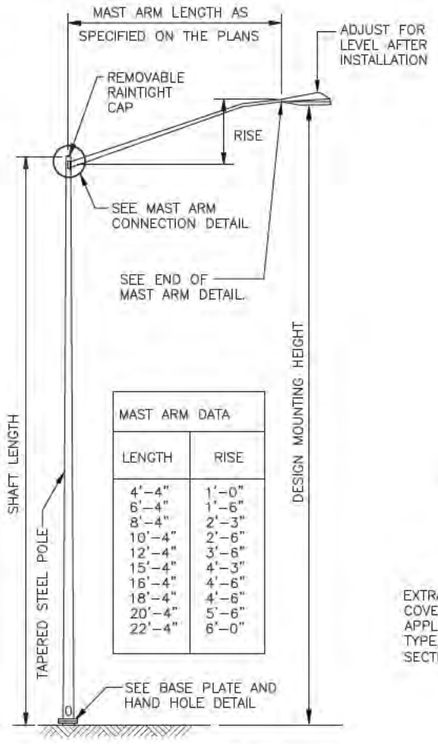
TENON OPTIONAL SWAGED TENON

END OF MAST ARM DETAIL



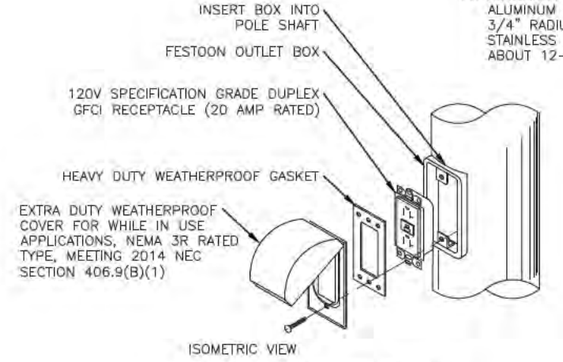
FRONT VIEW SIDE VIEW

MAST ARM CONNECTION DETAIL

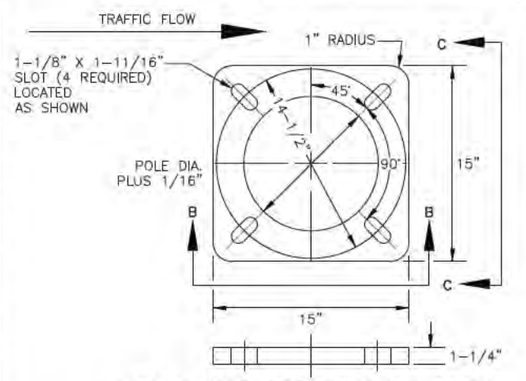


MAST ARM DATA	
LENGTH	RISE
4'-4"	1'-0"
6'-4"	1'-6"
8'-4"	2'-3"
10'-4"	2'-6"
12'-4"	3'-6"
15'-4"	4'-3"
16'-4"	4'-6"
18'-4"	4'-6"
20'-4"	5'-6"
22'-4"	6'-0"

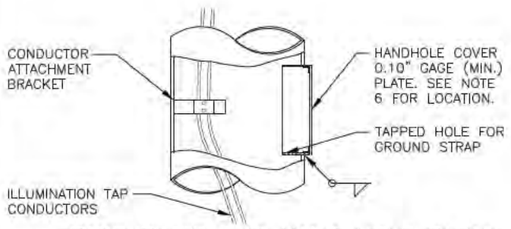
ELECTROLIER ELEVATION COBRA HEAD



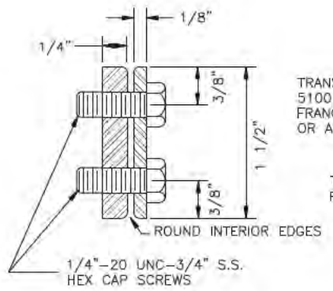
FESTOON OUTLET DETAIL



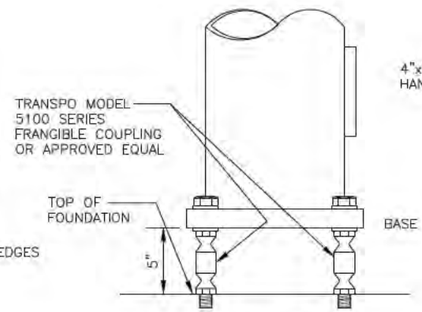
LIGHT POLE BASE FLANGE DETAIL



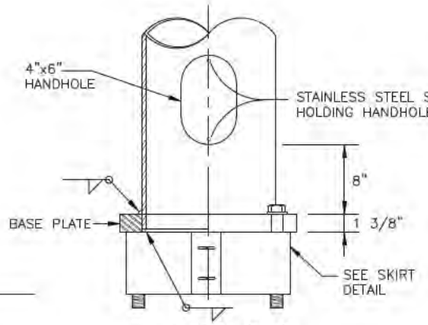
BASE PLATE AND HAND HOLE DETAIL



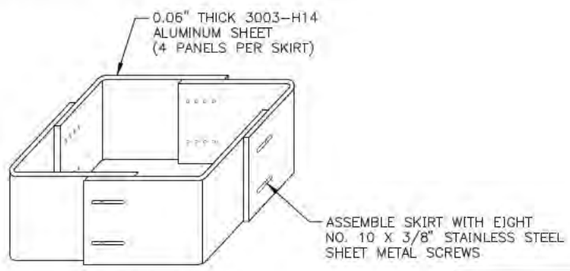
SECTION A-A



VIEW B-B



VIEW C-C



SKIRT DETAIL

GENERAL NOTES:

1. DESIGN AND FABRICATE ALL SHAFTS TO SUPPORT A MAST ARM 22' LONG WITH LUMINAIRE. ASSUME EACH OFFSET FIXTURE WEIGHS 60 LBS. AND HAS AN EFFECTIVE PROJECTED AREA OF 2.8 SF. ASSUME EACH COBRA HEAD WEIGHS 55 LBS. AND HAS AN EFFECTIVE PROJECTED AREA OF 1.2 SQUARE FEET. WITH THIS DEAD LOAD, LIMIT THE ANGULAR ROTATION OF THE POLE TOP TO 1° 40' MAXIMUM.
2. WELD SIZE TO BE DETERMINED BY MANUFACTURER.
3. MOUNTING HEIGHT, IF SPECIFIED IN THE PLANS, REFERS TO THE HEIGHT OF LUMINAIRE ABOVE THE ROADWAY. ADJUST EACH POLE'S SHAFT LENGTH TO MAINTAIN THIS DIFFERENCE IN ELEVATION WHENEVER SLOPE AND/OR OFFSET VARIES.
4. MINIMUM OUTSIDE DIAMETER AT THE TOP OF POLE EQUALS 3-7/8". POLE DIAMETER SHALL TAPER UNIFORMLY FROM THE TOP OF POLE TO THE BASE PLATE, WITH A MAXIMUM TAPER RATE OF 0.15" PER FOOT.
5. MAST ARM RISE MAY VARY ±0.5FT FROM THE VALUES LISTED IN THE TABLE.
6. LOCATE THE HANDHOLE AT 90 DEGREES TO THE MAST ARM ON THE SIDE OF POLE DOWNSTREAM FROM TRAFFIC FLOW.
7. FURNISH ALL POLES WITH A J-HOOK TO SUPPORT THE ILLUMINATION TAP CONDUCTORS. FURNISH ALL MAST ARM POLES WITH A REMOVABLE RAINTIGHT CAP.
8. FRANGIBLE COUPLINGS SHALL BE NCHRP 350, TEST LEVEL 3 COMPLIANT AND HAVE NO MEASURED TORQUE REQUIREMENT.
9. FRANGIBLE COUPLINGS SHALL BE INSTALLED INTO FLUSH MOUNTED FEMALE ANCHORS SO THAT NO FIXED HARDWARE EXTENDS ABOVE THE FOUNDATION TOP.
10. INSTALL ALL COMPONENTS OF THE BREAKAWAY SUPPORT SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
11. FABRICATE THE SKIRT FROM FOUR PIECES OF 0.06" THICK 3003 H-14 ALUMINUM SHEET. BEND EACH PLATE TO PROVIDE CORNERS WITH A 3/4" RADIUS. ASSEMBLE THE SKIRT WITH #10 X 3/8" SELF TAPPING STAINLESS SCREWS OR POP RIVETS. THE ASSEMBLED SKIRT MEASURES ABOUT 12-7/8" SQUARE.

LIGHT POLE DETAILS

STATE OF ALASKA 49TH WILLIAM A. WEBB CE-12023 REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
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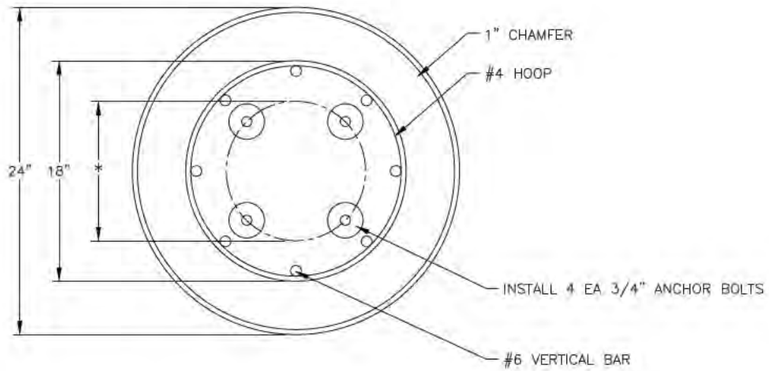
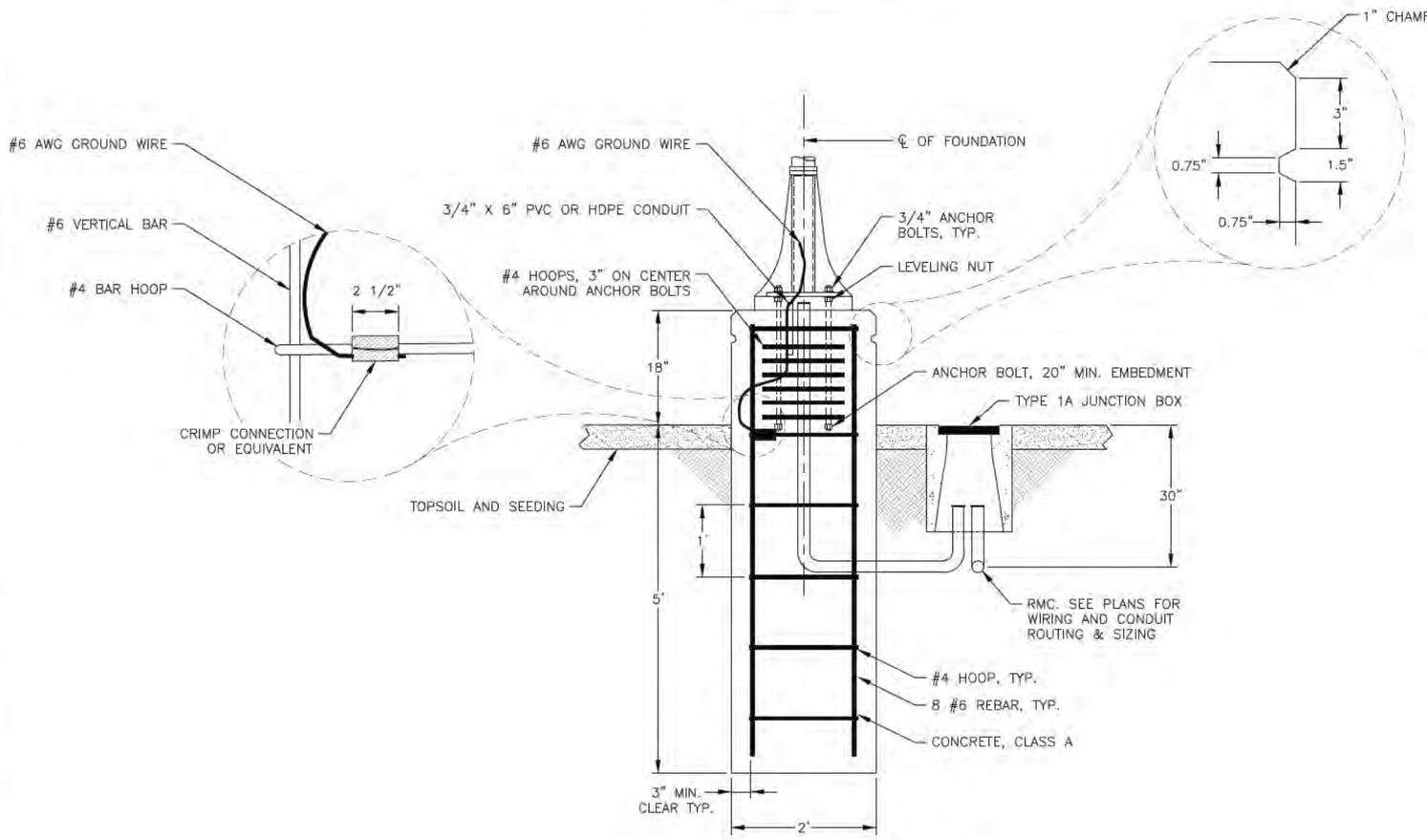
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	H10	H11



*BOLT CIRCLE DIAMETER SHALL MATCH POLE BASE PLATE

PEDESTRIAN ELECTROLIER FOUNDATION
PLAN VIEW



PEDESTRIAN ELECTROLIER FOUNDATION
ELEVATION VIEW

DESIGN NOTES:

DESIGN: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORT FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION, 2001.

WIND LOAD: 100 MPH w/ 1.3 GUST FACTOR.

MATERIAL PROPERTIES		
CONCRETE	CLASS A	FC=4 Ksi
REINFORCING STEEL	ASTM A615M	Fy=60 Ksi

PEDESTRIAN ELECTROLIER FOUNDATION NOTES:

1. CAST PORTLAND CEMENT CONCRETE FOUNDATIONS IN DRILLED HOLES AT THE LOCATIONS INDICATED IN THE PLANS. PRECAST FOUNDATIONS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
2. INSTALL 3/4" GALVANIZED ANCHOR BOLTS WITH A MINIMUM EMBEDMENT OF 20". ANCHOR BOLTS SHALL BE HOOKED OR HAVE A HEX NUT AND 5" ø X 1/4" WASHER INSTALLED ON THE EMBEDDED END.
3. TOP OF FOUNDATION SHALL BE SLIGHTLY MOUNDED TO DRAIN AWAY FROM CENTER OF FOUNDATION.
4. TERMINATE THE SERVICE CONDUIT 3" ABOVE THE TOP OF FOUNDATION.
5. PROVIDE EXPOSED CONCRETE WITH A RUBBED FINISH.
6. CLEAN THE BOTTOM OF DRILLED HOLE OF ANY LOOSE MATERIAL BEFORE PLACING CONCRETE. PLACE CONCRETE IN DIRECT CONTACT WITH THE UNDISTURBED SURFACE OF THE DRILLED HOLE. FORM ONLY THE TOP 2.3–3.0 FOOT OF THE FOUNDATION.
7. ALL CHAMFERS SHALL BE FORMED.

GROUNDING NOTES:

1. USE #6 GROUND CONNECTOR TO #4 HOOP REBAR WITH IRREVERSIBLE CONNECTION 12 INCHES BELOW TOP OF FOUNDATION.
2. PROTECT GROUND WIRE WITH 3/4 INCH PVC OR HDPE CONDUIT TO 6 INCHES BELOW TOP OF FOUNDATION FILLED WITH SILICON SEALANT. FREE GROUND CONDUCTOR ABOVE TOP OF FOUNDATION TO 2 FEET.

STATE OF ALASKA
49TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PEDESTRIAN ELECTROLIER FOUNDATION

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
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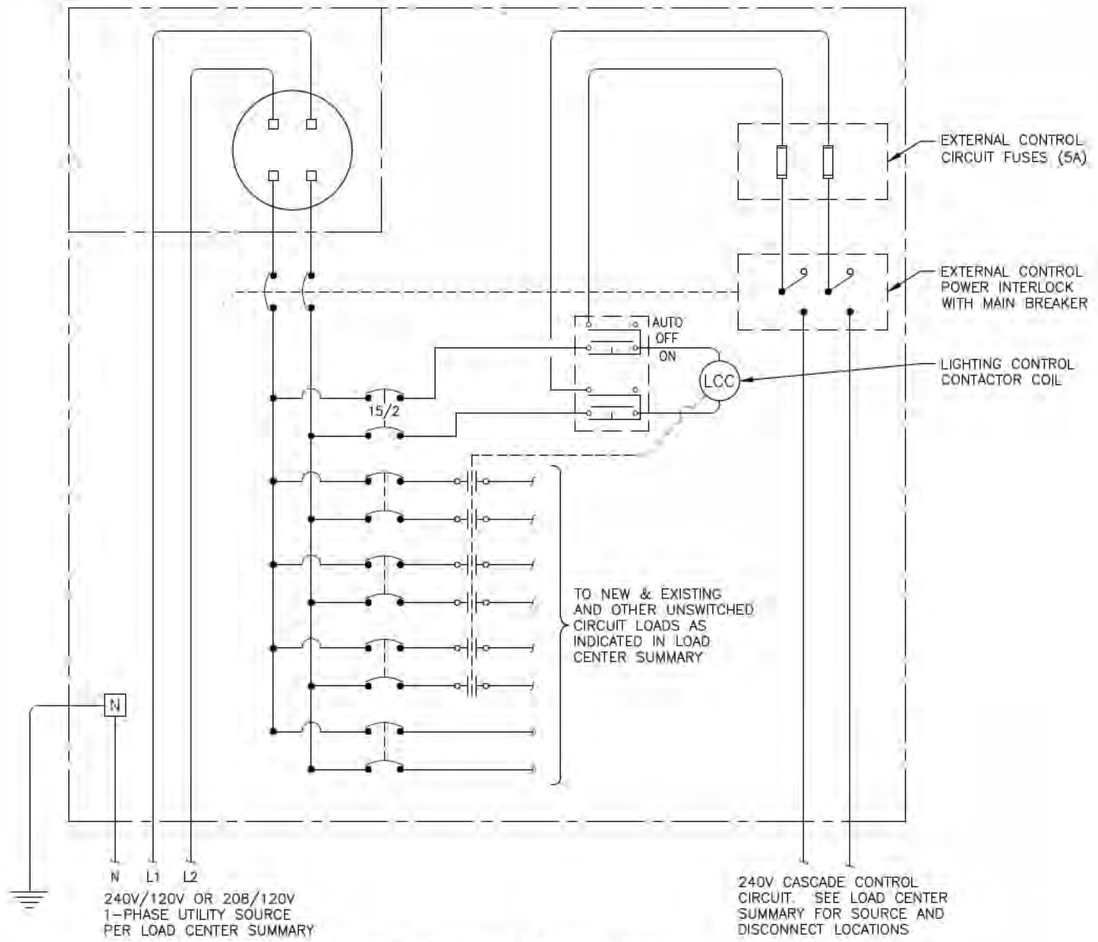
ALASKA	0663012/Z622070000	2021	H11	H11



EXISTING LOAD CENTER WIRING DIAGRAM

EXISTING / REWORK AS NOTED — LOAD CENTER SUMMARY

LOAD CENTER: "D" TYPE: 1A
LOCATION: BARNETTE/ILLINOIS STREET & TERMINAL DRIVE, NW CORNER
REMARKS: INSTALLED 2012, OWNED BY CITY OF FAIRBANKS
UTILITY SOURCE: 25 KVA PAD MOUNT XFMR GVEA METER # N/A
SERVICE: 100 AMP, 240/120 VOLT, 1-PHASE, 3-WIRE
MAX. AVAILABLE FAULT CURRENT: 6,510 AMP

MAIN BREAKER: 100 AMP, 3-POLE, 240/120 VOLT INTERRUPTING RATING: 22,000 AMP

AUXILIARY EQUIPMENT SUMMARY

DESCRIPTION	VOLT	POLES	AMP	REMARKS
AUX CONTACT RELAY INTERLOCK	240	2	5A	EXTERNAL CONTROL POWER DISCONNECT INTERLOCK (SEE NOTE 1)
SELECTOR SWITCH, ON-OFF-AUTO (3-POS)	240	2	10	
LIGHTING CONTACTOR, 240V COIL	240	6	30	CIRUITS 6, 8, 10, 12

PANEL 'A' SCHEDULE — 240/120V VOLT, 1-PHASE, 3-WIRE, 100A MLO INTERRUPTING RATING: 10,000 AMP

CKT. NO.	DESCRIPTION	CKT. BKR.	KVA	KVA / LNE A	KVA / LNE B	CKT NO.	DESCRIPTION	CKT. BKR.	KVA
1	W PATH RECEPT D2	20A/1P	1.1	1.1		2	LIGHTING CONTROL	15A/2P	0.1
3	E PATH RECEPT ** D4	20A/1P	1.1		1.1	4			0.1
5	GATEWAY RECEPT D5	20A/1P	0.8	1.1		6	* W PATH ILLUM D1	20A/2P	0.3
7	SHOREWAY RECEPT D6	20/1P	0.9		1.2	8	(6 EXIST LED)		0.3
9	SPACE	–		0.3		10	* E PATH ILLUM ** D3	20A/2P	0.3
11	SPACE	–			0.3	12	(4 EXIST + 2 NEW LED)		0.3
13	SPACE	–		0.0		14	* SPARE	20A/2P	
15	SPARE	20A/2P			0.0	16			
17				0.0		18	SPACE		
	SERVICE LOAD:	CONNECTED:		2.5	2.6	5.1 KVA	11 AMP		
		DEMAND:				6.4 KVA	13 AMP		

NOTES: LUM = LUMINAIRE
* CIRCUIT SWITCHED BY LIGHTING CONTACTOR. ** ADD NEW ELECTROLIERS / RECEPTS TO EXISTING CIRCUIT.
1. PROVIDE ENGRAVED LABEL ON DEAD FRONT COVER NEAR HOA SWITCH TO IDENTIFY EXTERNAL CONTROL POWER SOURCE DISCONNECT AS FOLLOWS: "CAUTION: 240V REMOTE POWERED CASCADE CONTROL CIRCUIT SUPPLIES THIS LOAD CENTER. REMOTE DISCONNECT FOR CASCADE CONTROL POWER IS LOCATED AT 'LC-R23' NEAR SW CORNER OF 1st AND BARNETTE."

EXISTING / REWORK AS NOTED — LOAD CENTER SUMMARY

LOAD CENTER: "G" TYPE: 1A
LOCATION: 1ST AVE & CUSHMAN ST, NW CORNER
REMARKS: INSTALLED 2015, OWNED BY CITY OF FAIRBANKS
UTILITY SOURCE: XXX KVA 3PH PAD XFMR GVEA METER # 323640
SERVICE: 100 AMP, 208/120 VOLT, 1-PHASE, 3-WIRE, NETWORK
MAX. AVAILABLE FAULT CURRENT: TBD

MAIN BREAKER: 100 AMP, 2-POLE, 208/120 VOLT INTERRUPTING RATING: 10,000 AMP

AUXILIARY EQUIPMENT SUMMARY

DESCRIPTION	VOLT	POLES	AMP	REMARKS
AUX CONTACT RELAY INTERLOCK	240	2	5A	EXTERNAL CONTROL POWER DISCONNECT INTERLOCK (SEE NOTE 1)
SELECTOR SWITCH (ON/OFF/AUTO, 3-POS)	240	2	10	
LIGHTING CONTACTOR	240	10	30	

PANEL 'A' SCHEDULE — 208/120 VOLT, 1-PHASE, 3-WIRE, 100A MLO INTERRUPTING RATING: 10,000 AMP

CKT. NO.	DESCRIPTION	CKT. BKR.	KVA	KVA / LNE A	KVA / LNE B	CKT NO.	DESCRIPTION	CKT. BKR.	KVA
1	SIGNAL CONTROLLER G1	40A/1P		0.4		2	* 1ST & CUSHMAN INT LIGHTING G2	20A/2P	0.4
3	SPACE				0.4	4			0.4
5	* CUSHMAN N.END UNDER BRIDGE LTS G5	20A/2P	0.1	0.3		6	* CUSHMAN BRIDGE LTS/ N OF 1ST ** G3	20A/2P	0.3
7	(SEE NOTE 2)		0.1		0.3	8			0.3
9	* CUSHMAN BRIDGE W BANNER LT G6	20A/2P	0.8	0.8		10	SPARE G4	20A/2P	
11	(SEE NOTE 2)		0.8		0.8	12		–	
13	* CUSHMAN BRIDGE E BANNER LT G7	20A/2P	0.8	0.8		14	LIGHTING CONTROL	15A/2P	0.1
15	(SEE NOTE 2)		0.8		0.8	16		–	0.1
17	SPACE	–		0.0		18	SPACE	–	
	SERVICE LOAD:	CONNECTED:		2.2	2.2	4.5 KVA	21 AMP		
		DEMAND:				5.6 KVA	27 AMP		

NOTES:
* CIRCUIT SWITCHED BY LIGHTING CONTACTOR ** CONNECT NEW LUMINAIRES TO EXISTING CIRCUIT, SWITCHED BY LIGHTING CONTACTOR
1. PROVIDE ENGRAVED LABEL ON DEAD FRONT COVER NEAR HOA SWITCH TO IDENTIFY EXTERNAL CONTROL POWER SOURCE DISCONNECT AS FOLLOWS: "CAUTION: 240V REMOTE POWERED CASCADE CONTROL CIRCUIT SUPPLIES THIS LOAD CENTER. REMOTE DISCONNECT FOR CASCADE CONTROL POWER IS LOCATED AT 'LC-F' NEAR NE CORNER OF 2ND AND CUSHMAN."
2. USE SPARE BREAKER FOR NEW LIGHTING CIRCUIT WIRED THRU LIGHTING CONTACTOR.

GENERAL NOTES:

1. WIRING LEGEND: FIELD WIRING INDICATED BY BROKEN LINE TYPE (– – –); SHOP WIRING INDICATED BY SOLID LINE TYPE.
2. CONTROL PANELS SHALL BE UL-LISTED ASSEMBLIES IN COMPLIANCE WITH UL 508A.
3. LOAD CENTER CIRCUITING IS BASED ON AS-BUILTS AND LIMITED FIELD INVESTIGATIONS. VERIFY CIRCUITS BEFORE COMMENCING WORK.

LOAD CENTER WIRING DIAGRAM AND PANEL SCHEDULES

STATE OF ALASKA 49TH — JAMES H. PARKER EE-7433 REGISTERED PROFESSIONAL ENGINEER — 9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 345-2373 CERT. OF AUTH. NO. 1102
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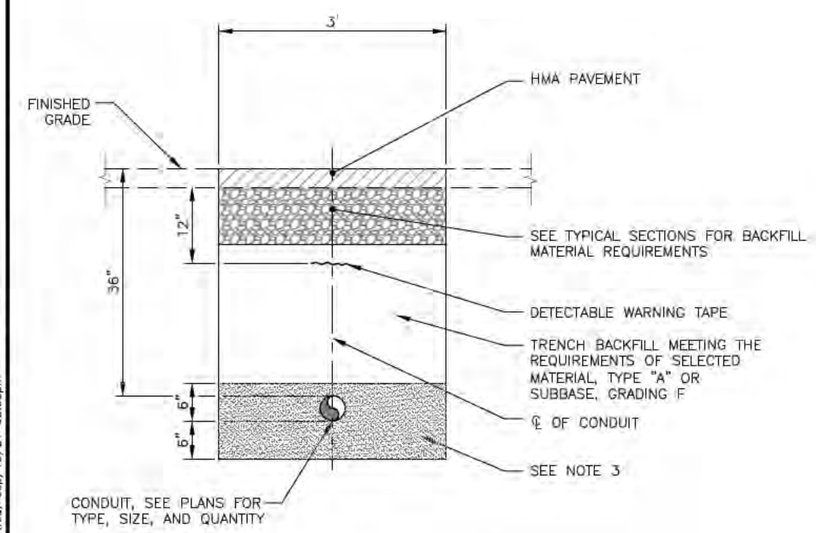
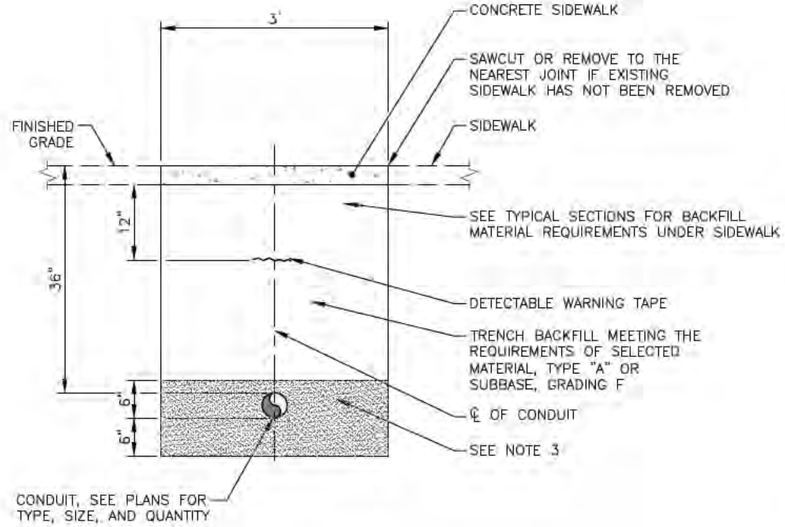
ALASKA	0663012/Z622070000	2021	J1	J11

NOTES:

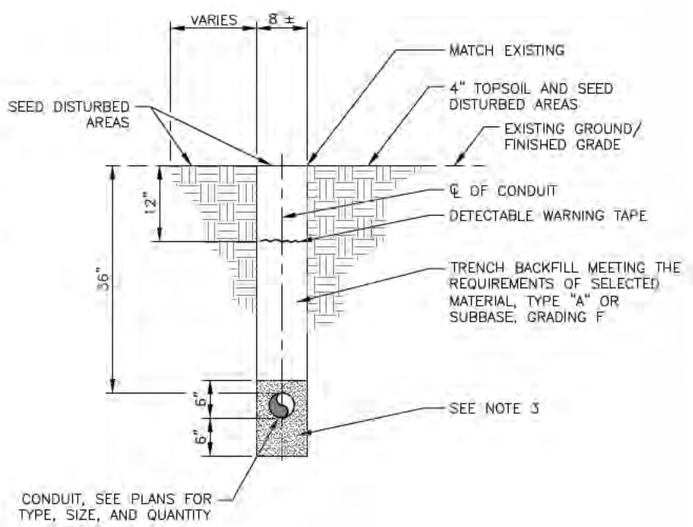
1. ALL ASPHALT PAVEMENT, CURB & GUTTER, OR CONCRETE SIDEWALK SHALL BE SAWCUT PRIOR TO REMOVAL. EXCEPTION: WHERE APPLICABLE, CONCRETE SIDEWALK MAY BE REMOVED TO THE NEAREST CONSTRUCTION JOINT.
2. ALL CONDUIT TRENCH EXCAVATION BENEATH ASPHALT PAVEMENT, SIDEWALK, AND CURB AND GUTTER SHALL BE COMPLETED BEFORE FINAL PAVING OR CONCRETE PLACEMENT.
3. CONDUIT BEDDING SHALL MEET THE REQUIREMENTS FOR SELECTED MATERIAL, TYPE A, 1" MINUS.



CONDUIT TRENCH AND EXCAVATION IN PAVING AREAS



CONDUIT TRENCH AND EXCAVATION IN SIDEWALK AREAS



CONDUIT TRENCH ADJACENT TO ROADWAYS

TRENCH DETAILS
NTS

STATE OF ALASKA 49 TH
Connor T. Dunham
CE 107492
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

STATE OF ALASKA 49 TH
Amar J. Johnson
CE8706
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

FIBER OPTIC INTERCONNECT
TRENCH DETAILS

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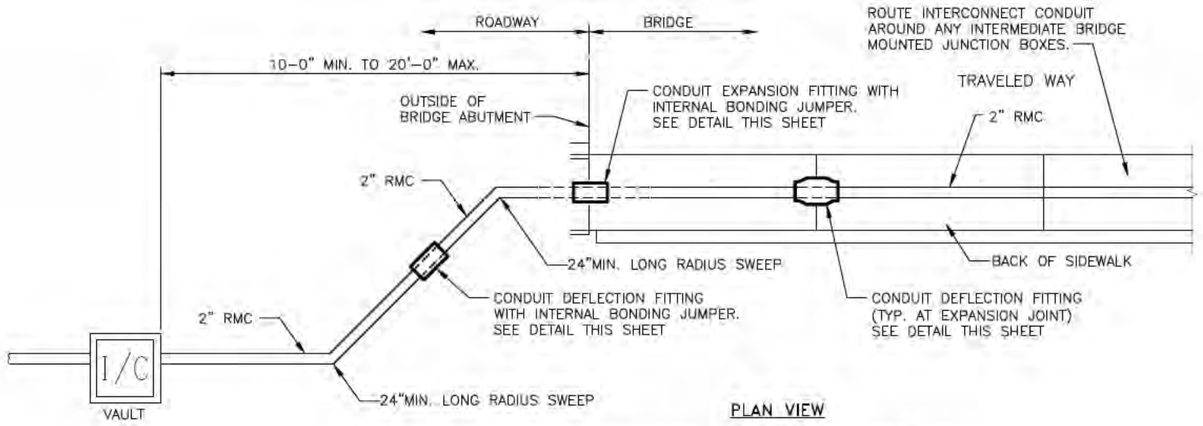
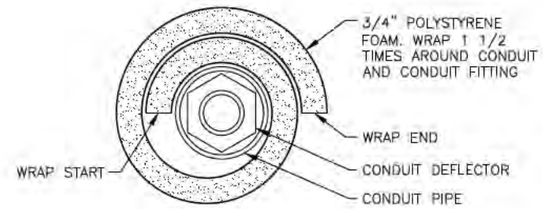
			ALASKA	0663012/Z622070000	2021	J2	J11



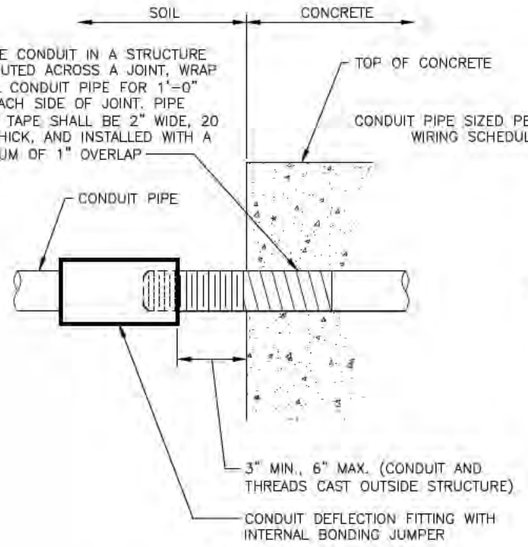
PLAN VIEW

CONDUIT IN BRIDGE SIDEWALK

NTS



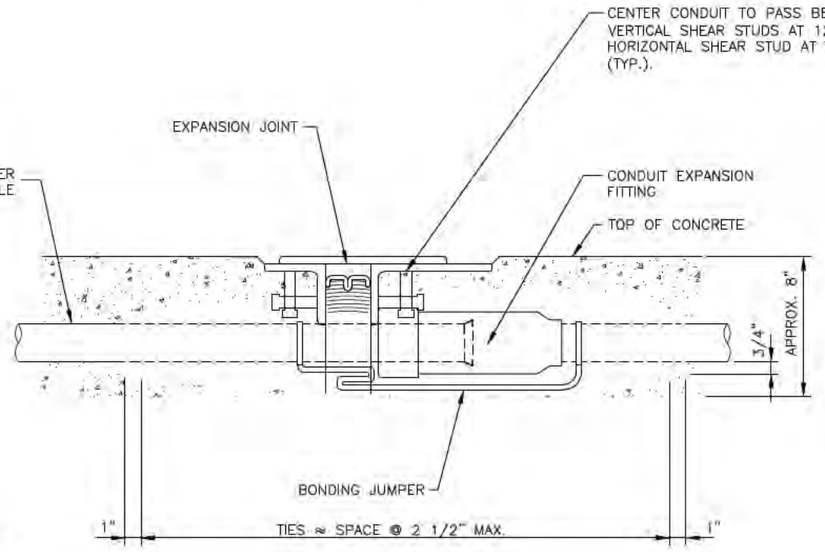
SECTION B–B
NTS



SECTION VIEW

CONDUIT DEFLECTION FITTING IN SOIL/ABUTMENT INTERFACE

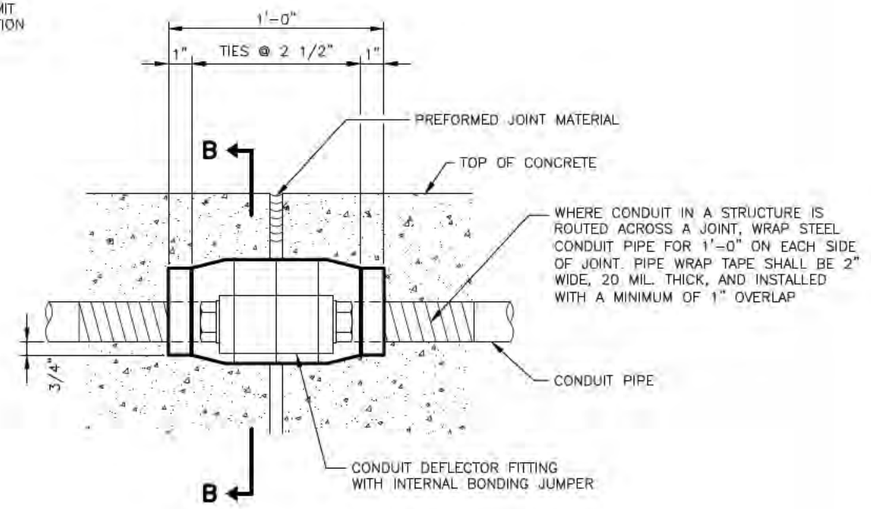
NTS
CONDUIT FITTING – TYPE DX FOR DEFLECTION OF 30° AND 3/4" MOVEMENT. PLACE AT CONDUIT PIPE EXIT FROM STRUCTURE AND SHALL BE IN NEUTRAL STATE AFTER INSTALLATION.



SECTION VIEW

CONDUIT EXPANSION FITTING

NTS
CONDUIT FITTING – (TYPE AX FOR MOVEMENT OF ± 2") AT BRIDGE EXPANSION JOINTS



SECTION VIEW

CONDUIT DEFLECTION FITTING IN EXPANSION JOINT

NTS
CONDUIT FITTING – TYPE DX FOR DEFLECTION OF 30° AND 3/4" MOVEMENT. CONDUIT PIPES PLACED THROUGH RETAINING WALL TRAFFIC BARRIER SHALL BE FITTED WITH DEFLECTION FITTINGS AT A MAXIMUM SPACING OF 120'. THE DEFLECTION FITTINGS SHALL BE PLACED AT THE TRAFFIC BARRIER OPEN JOINT THAT COINCIDES WITH THE RETAINING WALL EXPANSION JOINT.

STATE OF ALASKA 49TH — Connor T. Dunham CE 107492 REGISTERED PROFESSIONAL ENGINEER
9/15/2021

STATE OF ALASKA 49TH — Thor J. Johnson CE8706 REGISTERED PROFESSIONAL ENGINEER
9/15/2021

BRIDGE #390 CROSSING DETAIL

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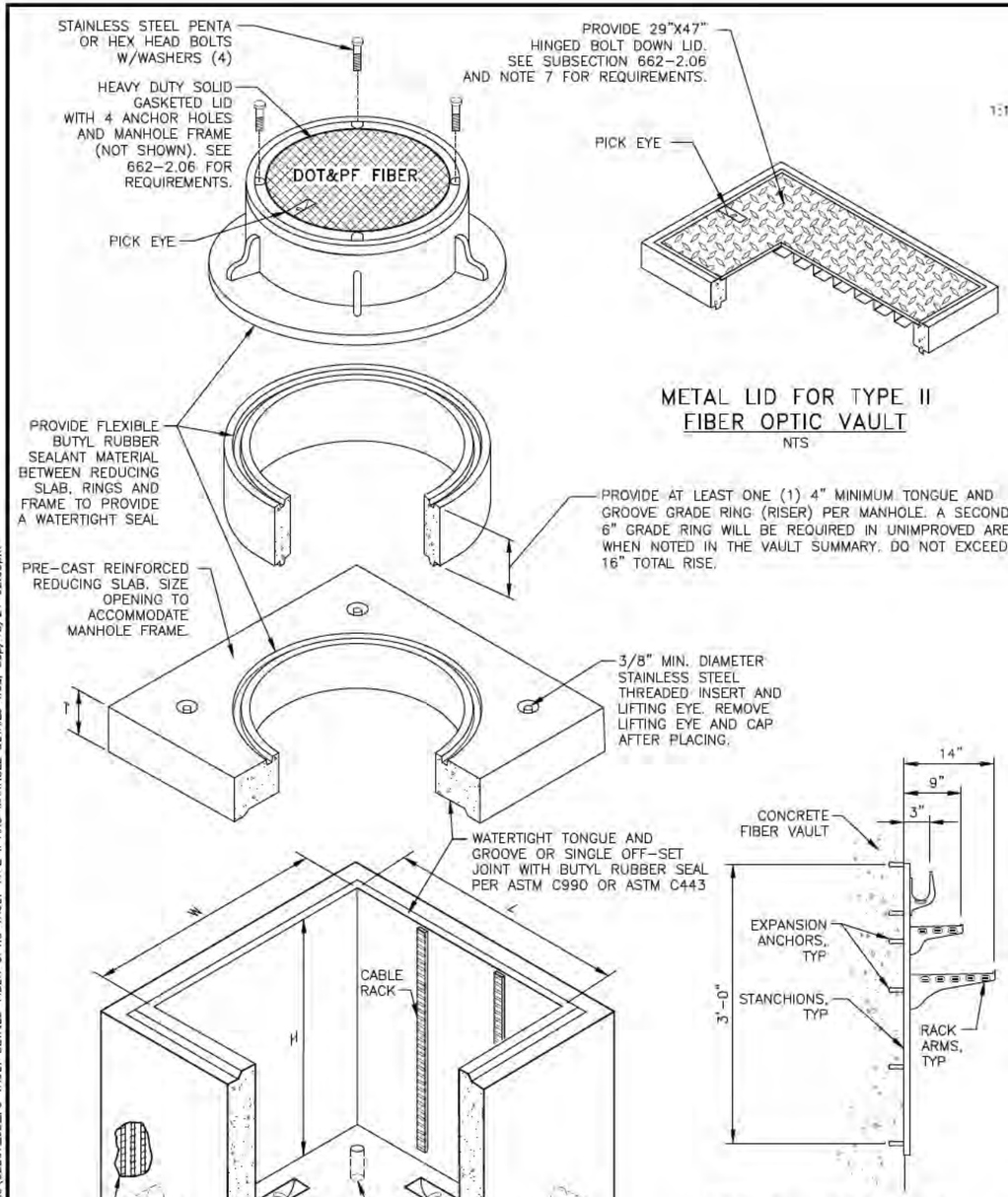
ALASKA	0663012/Z622070000	2021	J3	J11



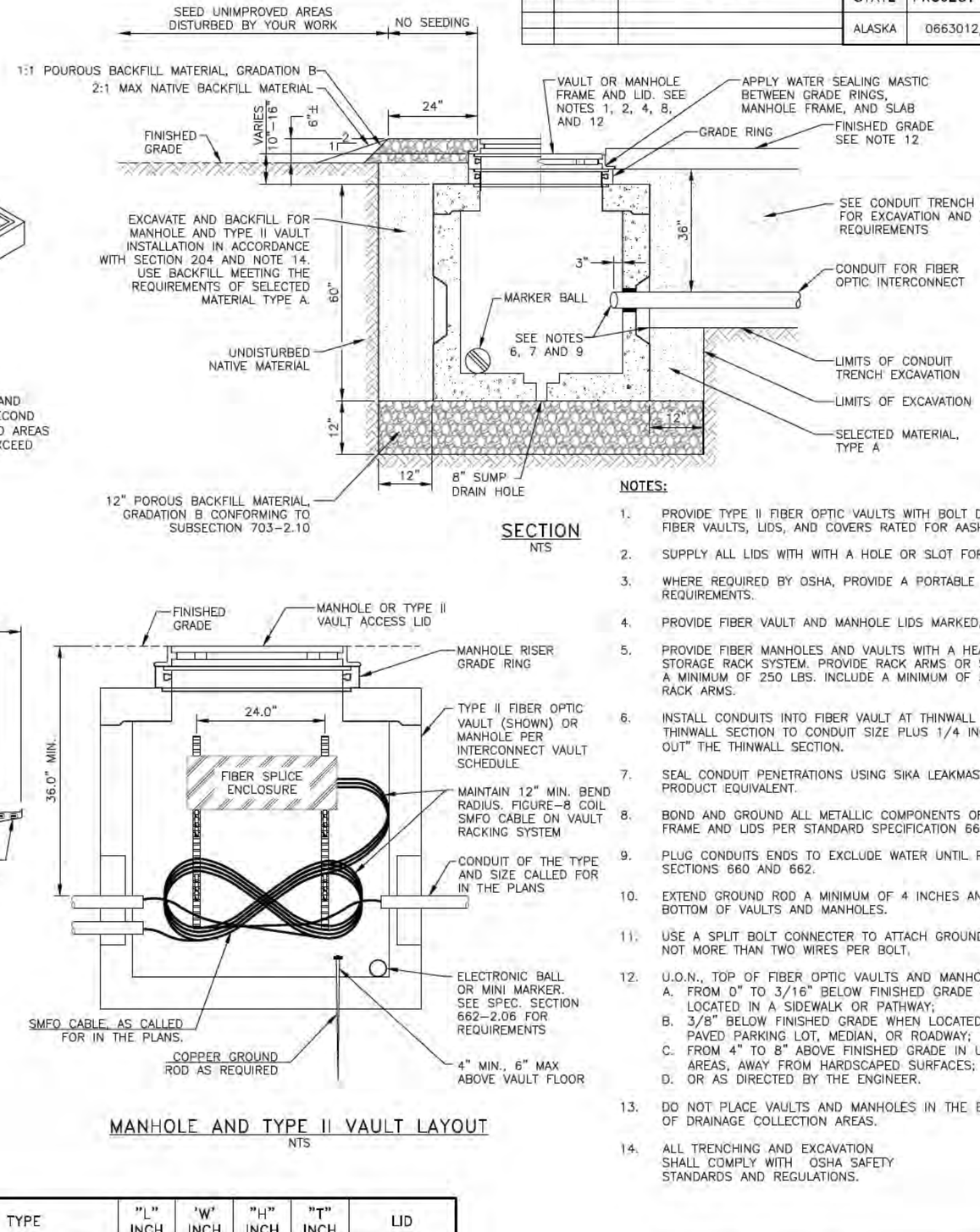
METAL LID FOR TYPE II FIBER OPTIC VAULT
NTS

FIBER OPTIC MANHOLE WITH MANHOLE LID
NTS
(TYPE II FIBER OPTIC VAULT SIMILAR)

TYPICAL CABLE RACK
NTS

MANHOLE AND TYPE II VAULT LAYOUT
NTS

TYPE	"L" INCH	'W' INCH	"H" INCH	"T" INCH	LID
TYPE II FIBER OPTIC VAULT	30	48	48	6 MIN	HINGED METAL
MANHOLE	48	48	48	6 MIN	MANHOLE



SECTION
NTS

NOTES:

1. PROVIDE TYPE II FIBER OPTIC VAULTS WITH BOLT DOWN HINGED METAL LID. SUPPLY FIBER VAULTS, LIDS, AND COVERS RATED FOR AASHTO HS-20-44 LOADING.
2. SUPPLY ALL LIDS WITH WITH A HOLE OR SLOT FOR REMOVAL WITH A LEVER OR HOOK.
3. WHERE REQUIRED BY OSHA, PROVIDE A PORTABLE ENTRY LADDER MEETING OSHA REQUIREMENTS.
4. PROVIDE FIBER VAULT AND MANHOLE LIDS MARKED, "DOT&PF FIBER".
5. PROVIDE FIBER MANHOLES AND VAULTS WITH A HEAVY-DUTY NON-METALLIC CABLE STORAGE RACK SYSTEM. PROVIDE RACK ARMS OR STANCHIONS CAPABLE OF SUPPORTING A MINIMUM OF 250 LBS. INCLUDE A MINIMUM OF 36 INCH RACK STANCHIONS AND 4 RACK ARMS.
6. INSTALL CONDUITS INTO FIBER VAULT AT THINWALL SECTIONS ONLY. CORE DRILL IN THE THINWALL SECTION TO CONDUIT SIZE PLUS 1/4 INCH ALL AROUND. DO NOT "KNOCK OUT" THE THINWALL SECTION.
7. SEAL CONDUIT PENETRATIONS USING SIKA LEAKMASTER LV-1 OR APPROVED ADEKA PRODUCT EQUIVALENT.
8. BOND AND GROUND ALL METALLIC COMPONENTS OF THE FIBER VAULT, INCLUDING RACK, FRAME AND LIDS PER STANDARD SPECIFICATION 660-3.06.
9. PLUG CONDUITS ENDS TO EXCLUDE WATER UNTIL FIBER OPTIC CABLE IS INSTALLED. SEE SECTIONS 660 AND 662.
10. EXTEND GROUND ROD A MINIMUM OF 4 INCHES AND A MAXIMUM OF 6 INCHES ABOVE BOTTOM OF VAULTS AND MANHOLES.
11. USE A SPLIT BOLT CONNECTER TO ATTACH GROUND WIRES TO GROUND ROD. ATTACH NOT MORE THAN TWO WIRES PER BOLT.
12. U.O.N., TOP OF FIBER OPTIC VAULTS AND MANHOLES SHALL BE INSTALLED:
    A. FROM 0" TO 3/16" BELOW FINISHED GRADE WHEN LOCATED IN A SIDEWALK OR PATHWAY;
    B. 3/8" BELOW FINISHED GRADE WHEN LOCATED IN A PAVED PARKING LOT, MEDIAN, OR ROADWAY;
    C. FROM 4" TO 8" ABOVE FINISHED GRADE IN UNIMPROVED AREAS, AWAY FROM HARDSCAPED SURFACES;
    D. OR AS DIRECTED BY THE ENGINEER.
13. DO NOT PLACE VAULTS AND MANHOLES IN THE BOTTOM OF DRAINAGE COLLECTION AREAS.
14. ALL TRENCHING AND EXCAVATION SHALL COMPLY WITH OSHA SAFETY STANDARDS AND REGULATIONS.

STATE OF ALASKA 49TH — Connor T. Dunham CE 107492 REGISTERED PROFESSIONAL ENGINEER
9/15/2021

STATE OF ALASKA 49TH — Arthur J. Johnson CE8706 REGISTERED PROFESSIONAL ENGINEER
9/15/2021

FIBER OPTIC VAULT TYPE II AND MANHOLE DETAILS

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
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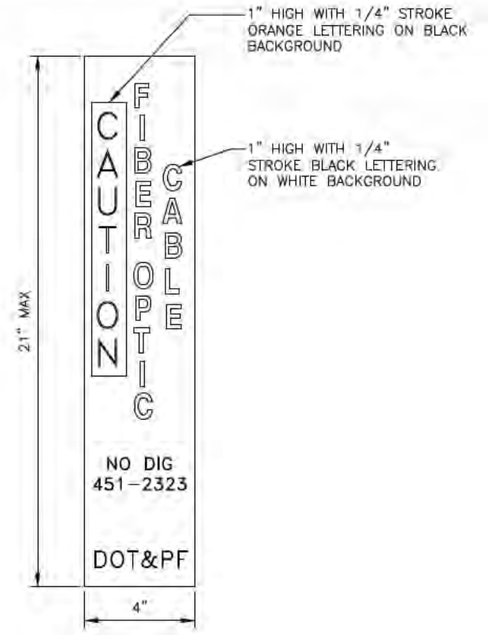
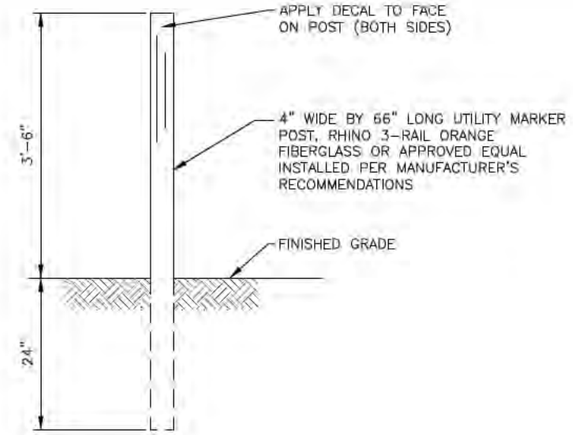
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	J4	J11



DECAL
NTS



FIBER OPTIC MARKER ELEVATION
NTS

TX/RX TRANSMIT DIRECTION ABBREVIATION PER TRANSMIT DIRECTION TABLE
P LETTER P FOR PATCH CORD
FIBER POSITION NUMBER

LABEL BOTH ENDS OF THE PATCH PANEL CORD

LABELING FOR FIBER PATCH CORDS

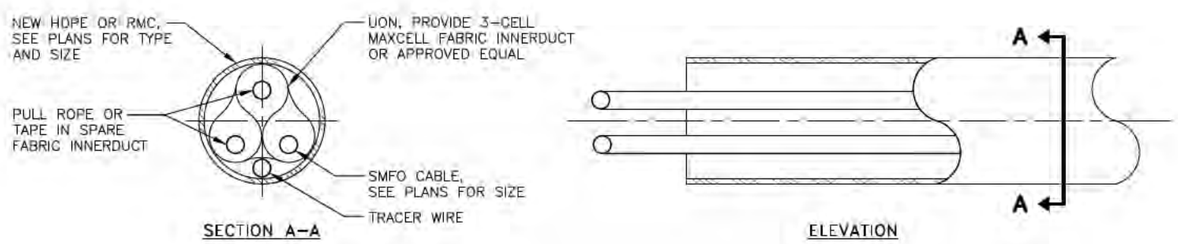
TRANSMIT DIRECTION	ABBREVIATION	
	TRANSMIT	RECEIVE
SOUTH TO NORTH	TX(a)	RX(a)
NORTH TO SOUTH	TX(b)	RX(b)
WEST TO EAST	TX(a)	RX(a)
EAST TO WEST	TX(b)	RX(b)

RD# ROADWAY THE CABLE IS ROUTED FROM THE PATCH PANEL
FLR = FARMERS LOOP RD
AW = AIRPORT WAY
3RD = 3RD STREET
UA = UNIVERSITY AVE
TD = NORTH TANANA DR
BR = BALLAINE RD
AD = ALUMNI DR
CR = COLLEGE RD
1ST = 1ST AVENUE
TS = TERMINAL STREET
IL = ILLINOIS STREET
CS = CUSHMAN STREET

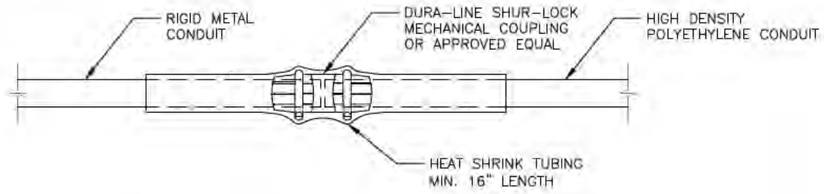
D DIRECTION THE CABLE IS ROUTED FROM THE PATCH PANEL
N = NORTH E = EAST
S = SOUTH W = WEST

NUMBER OF OPTICAL FIBERS PER EIA 359-A-1

LABELING FOR MAINLINE FIBER CABLES



CONDUIT DETAIL
NTS



NOTE:

USE ELECTROFUSION COUPLINGS PER THE HDPE MANUFACTURER'S REQUIREMENTS, WHEN JOINING HDPE TO HDPE.

RMC TO HDPE CONDUIT CONNECTION DETAIL
NTS

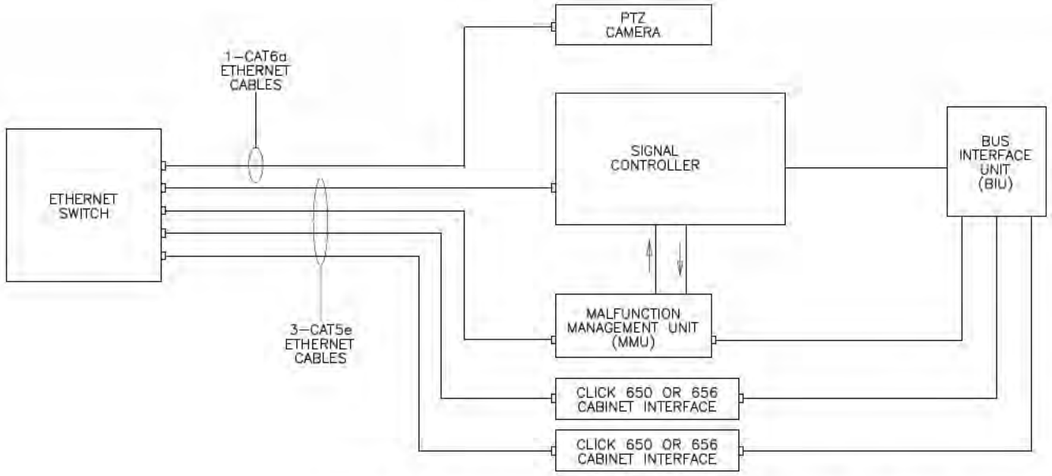
STATE OF ALASKA 49 TH
Connor T. Dunham
CE 107492
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

STATE OF ALASKA 49 TH
Thor J. Johnson
CE8706
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

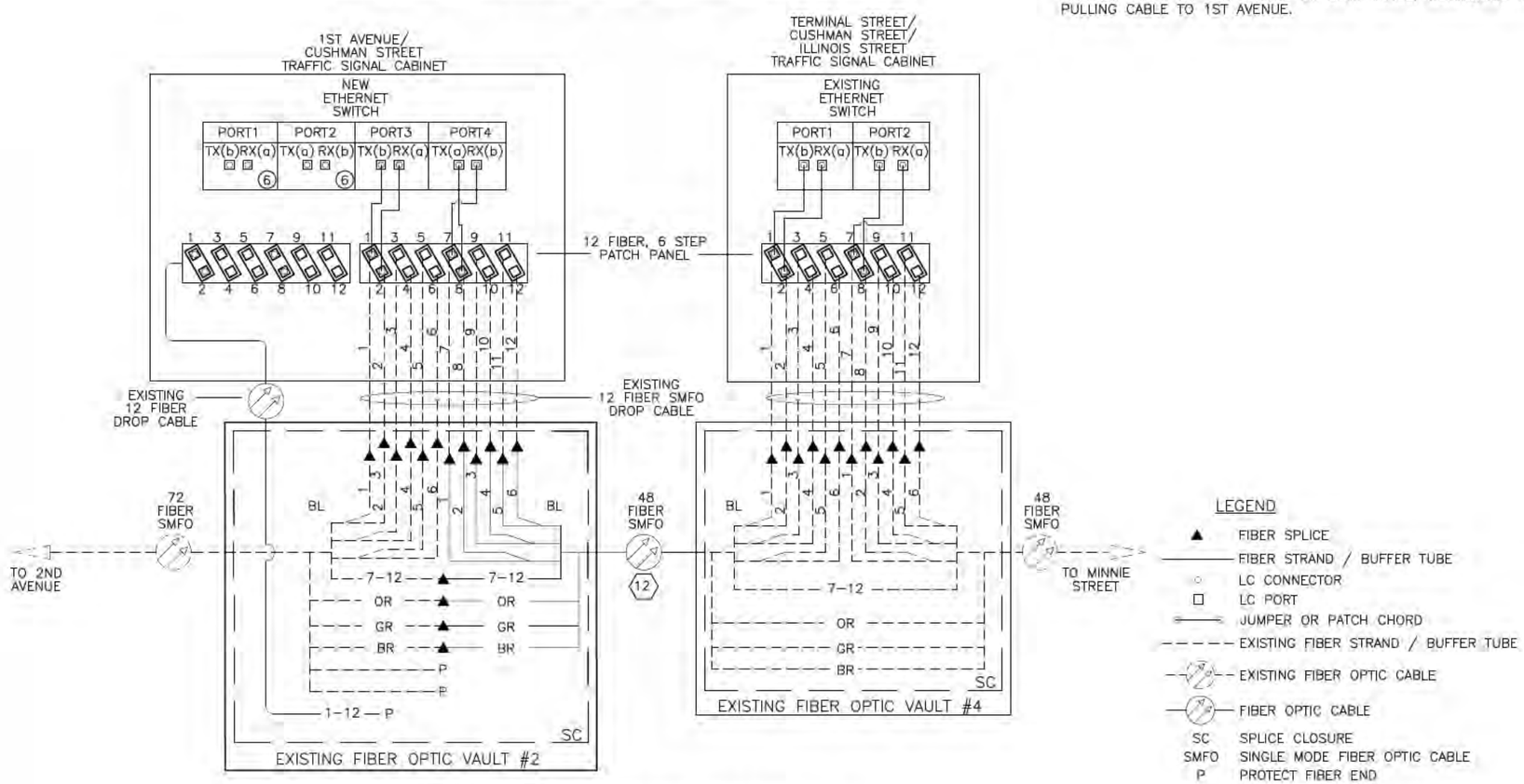
MISCELLANEOUS DETAILS

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	J5	J11



SWITCH COMMUNICATIONS WIRING DIAGRAM



FIBER OPTIC SPLICE DIAGRAM

LEGEND

- ▲ FIBER SPLICE
- FIBER STRAND / BUFFER TUBE
- ○ LC CONNECTOR
- □ LC PORT
- JUMPER OR PATCH CHORD
- EXISTING FIBER STRAND / BUFFER TUBE
- EXISTING FIBER OPTIC CABLE
- FIBER OPTIC CABLE
- SC SPLICE CLOSURE
- SMFO SINGLE MODE FIBER OPTIC CABLE
- P PROTECT FIBER END

NOTES:

1. REFER TO PLANS FOR CABLE ROUTING TO/FROM CABINETS.
2. ALL ETHERNET SWITCHES, ARE SINGLE MODE, OPERATING AT 1310 nm, UNLESS OTHERWISE SPECIFIED.
3. ETHERNET SWITCHES AND TERMINAL SERVERS SHALL INCLUDE POWER ADAPTERS CONVERTING 120 VAC TO APPROPRIATE OPERATING VOLTAGES.
4. ALL SPLICE TRAYS SHALL BE CONTAINED WITHIN ONE CLOSURE PER VAULT.
5. DROP CABLES SHALL BE PRECONNECTORIZED IN THE FACTORY. CONNECTORS INSTALLED IN THE FIELD WILL NOT BE ALLOWED.
6. PORT RESERVED FOR FUTURE INTERCONNECT.
7. COMMUNICATION COMPONENTS ARE SHOWN SCHEMATICALLY. VERIFY TX–RX FIBER PORTS PRIOR TO MAKING FINAL CONNECTIONS.
8. CONNECT ETHERNET SWITCH TO EACH PATCH PANEL WITH TWO SINGLE MODE FIBER PATCH CABLES. THE CABLES SHALL BE OF SUFFICIENT LENGTH TO ALLOW FOR MOVING OF THE ETHERNET SWITCH TO ANY SHELF LOCATION IN THE CABINET ONCE THE PATCH PANEL HAS BEEN INSTALLED. LABEL EACH PATCH CABLE ACCORDING TO THE TRANSMISSION DIRECTION TABLE.
9. PROVIDE THREE (EACH) ETHERNET CABLES OF SIX FOOT LENGTH FOR EACH CABINET RECEIVING AN ETHERNET SWITCH, TO BE CONNECTED TO CABINET COMPONENTS ACCORDING TO THE SWITCH COMMUNICATIONS WIRING DIAGRAM.
10. NO SPLICES ARE PERMITTED EXCEPT WHERE SPECIFICALLY INDICATED IN THE FIBER OPTIC SPLICE DIAGRAM. SPLICE CLOSURES MUST CONFORM TO SECTION 662–3.10 OF THE SPECIFICATIONS
11. MOUNT PATCH PANEL TO CABINET WALL AND IN A LOCATION AS TO NOT INTERFERE WITH OTHER EQUIPMENT AND SUCH THAT IT IS READILY ACCESSIBLE. PROVIDE SUFFICIENT SLACK CABLE IN CABINET TO ALLOW THE PATCH CABLE TO BE RELOCATED AT ANY LOCATION IN THE CABINET.
12. 1000' OF FIBER CABLE IS STORED IN VAULT #4 BY ILLINOIS STREET AND COLLEGE ROAD SIGNAL INTERCONNECT – ADOT&PF PROJECT. VERIFY CABLE INTEGRITY BY TESTING FIBERS 1–6 FROM THE GATOR PATCH INSTALLED AT THE ILLINOIS STREET / TERMINAL STREET TRAFFIC SIGNAL CABINET. TEST BY PERFORMING AN ODTR TRACE, MONITORING FOR LOSS EVENTS GREATER THAN .05 dB. SUBMIT RESULTS BEFORE REMOVING AND PULLING CABLE TO 1ST AVENUE.

TRANSMIT DIRECTION	ABBREVIATION	
	TRANSMIT	RECEIVE
SOUTH TO NORTH	TX(a)	RX(a)
NORTH TO SOUTH	TX(b)	RX(b)
WEST TO EAST	TX(a)	RX(a)
EAST TO WEST	TX(b)	RX(b)

BUFFER COLOR CODING		
FIBER / POSITION NO.	BASE COLOR	ABBREVIATION
1	BLUE	BL
2	ORANGE	OR
3	GREEN	GR
4	BROWN	BR
5	SLATE	SL
6	WHITE	WH
7	RED	RD
8	BLACK	BK
9	YELLOW	YL
10	VIOLET	VI
11	PINK	PK
12	AQUA	AQ

STATE OF ALASKA 49TH Connor T. Dunham CE 107492 REGISTERED PROFESSIONAL ENGINEER
9/15/2021

STATE OF ALASKA 49TH Christopher Johnson CE8706 REGISTERED PROFESSIONAL ENGINEER
9/15/2021

FIBER OPTIC SPLICE AND WIRING DETAILS

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346–2373 CERT. OF AUTH. NO. 1102
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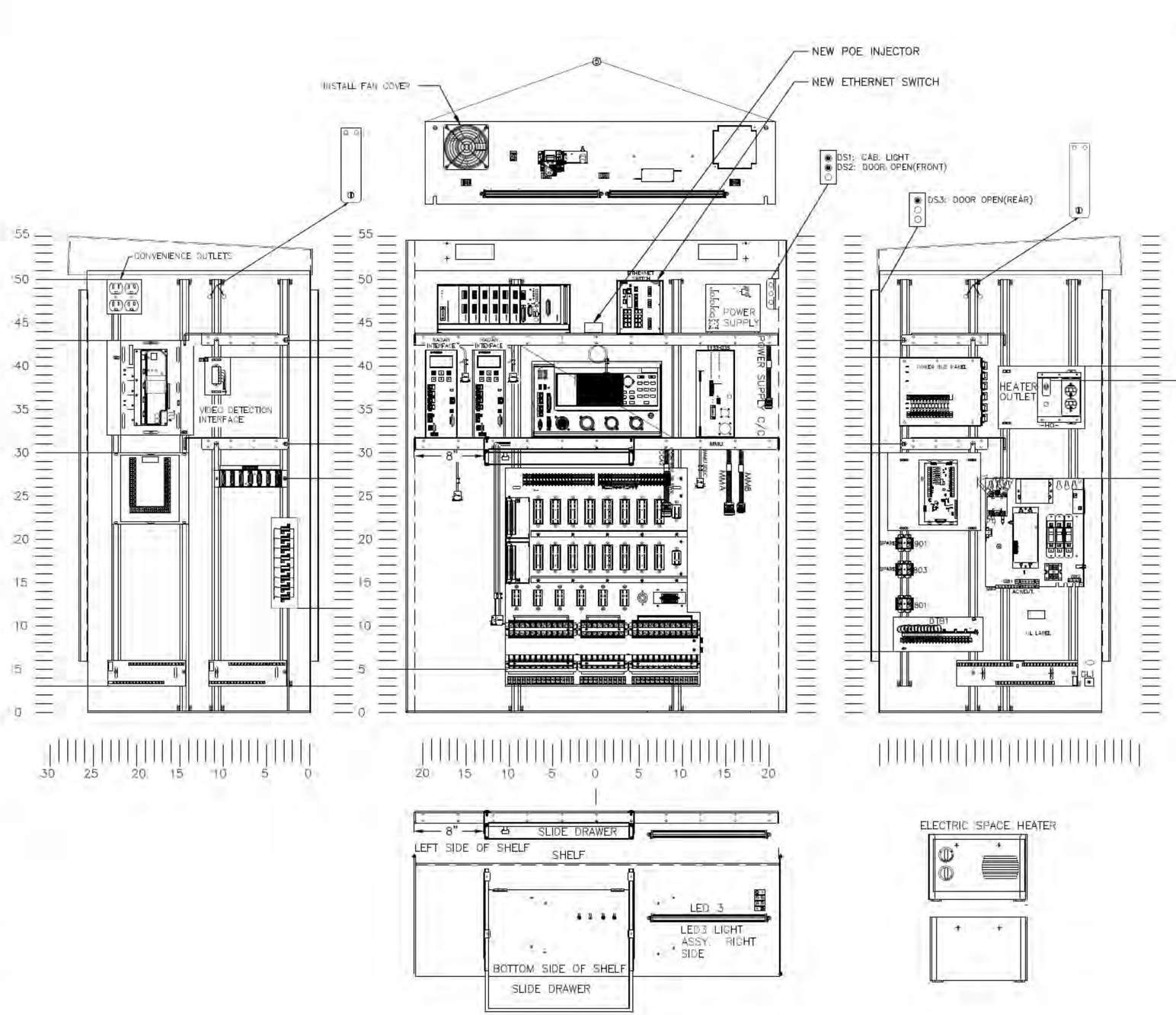
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	J6	J11



NOTES:

1. TYPICAL ECONOLITE CABINET LAYOUT. CABINET LAYOUT AND REQUIRED COMPONENTS VARY BY INTERSECTION.

9/15/2021

9/15/2021

CONTROLLER CABINET LAYOUT

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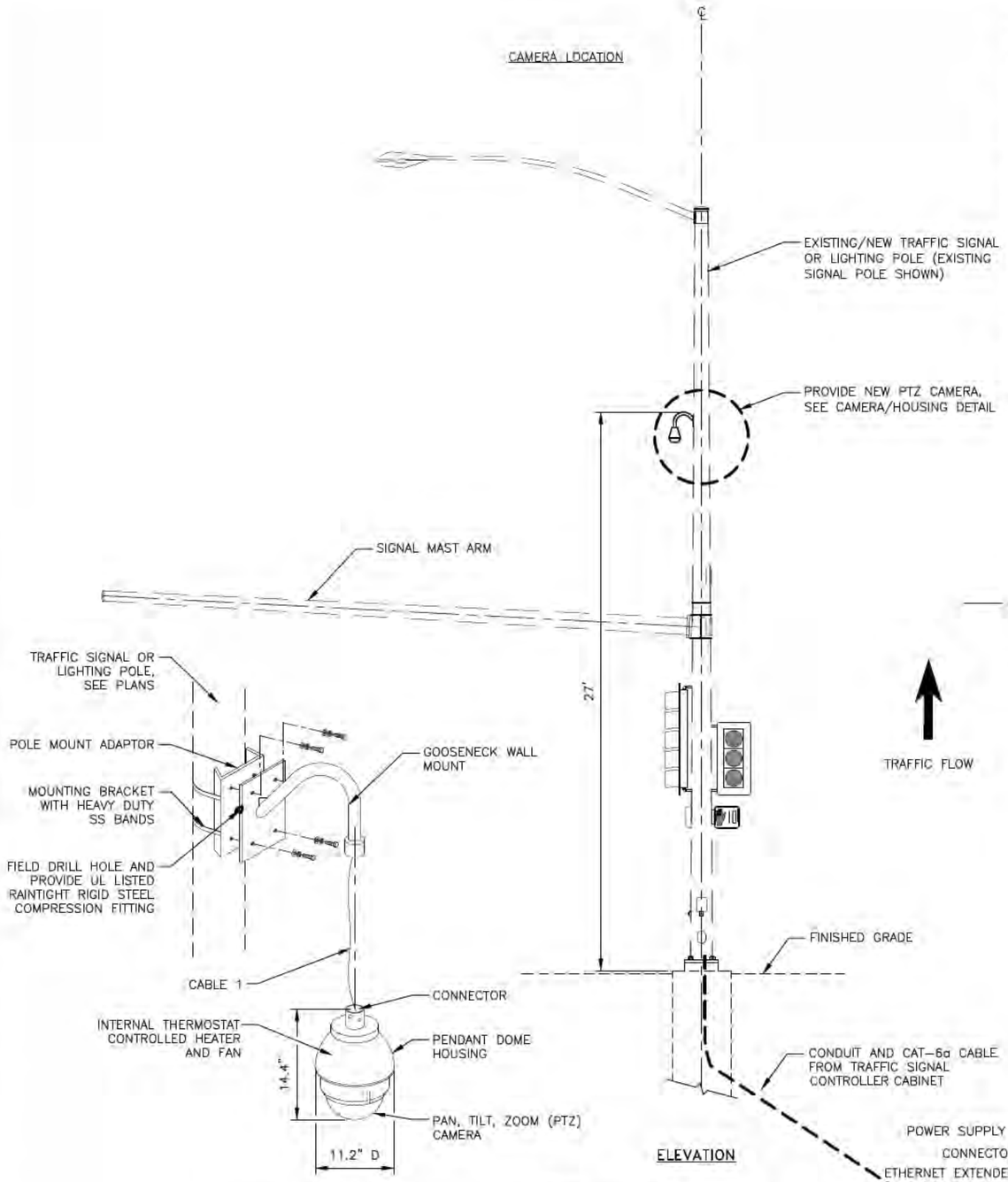
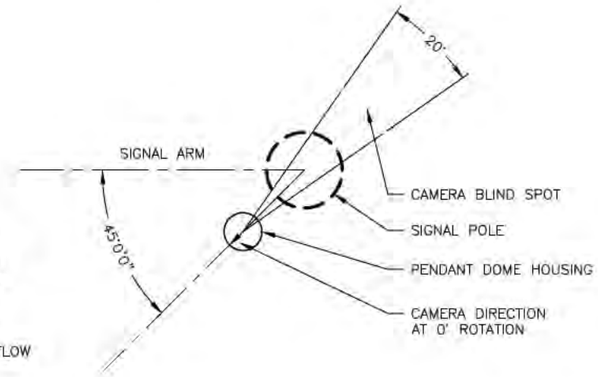
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	J7	J11



CAMERA/HOUSING DETAIL

NOTE:
INTERMEDIATE JUNCTION BOXES AND CONDUIT RUNS NOT SHOWN FOR CLARITY. SEE PLANS FOR ACTUAL CABLE ROUTING.



PLAN

MATERIAL REQUIREMENTS

ALL ASSEMBLIES	
MOUNTING BRACKET	PELCO TRITON BRACKET OR APPROVED EQUAL
POLE MOUNT ADAPTOR	AXIS T91A57 OR APPROVED EQUAL
GOOSENECK WALL MOUNT	AXIS T91G61 OR APPROVED EQUAL
PoE ETHERNET EXTENDER	AXIS AXIS LONG RANGE PoE EXTENDER KIT PN 01857–001 OR APPROVED EQUAL
CABLE 1	CAT–6a, FOILED
POWER SUPPLY (PoE EXT.)	AXIS T8003 PS57 POWER SUPPLY OR APPROVED EQUAL
POWER SUPPLY (PoE)	AXIS T8134 60W OR APPROVED EQUAL
CONNECTOR	ENVIRONMENTALLY HARDENED RJ–45
STRAIN RELIEF	REMKE 2201–013 OR APPROVED EQUAL
CAMERA	
CAMERA	UNLESS OTHERWISE NOTED, PROVIDE AXIS Q6155–E OR APPROVED EQUAL
HOUSING	
PENDANT DOME HOUSING	OUTDOOR, INTEGRATED WITH CAMERA OR APPROVED EQUAL
ETHERNET EXTENDER POLE CABINET	AXIS T98A15–VE NEMA 4X CABINET, POLE MOUNTED, OR APPROVED EQUAL

NOTES:

1. PROTECT CABLE ENDS FROM MOISTURE AT ALL TIMES.
2. PROVIDE CABLE IN ACCORDANCE WITH SECTION 660 OF THE SPECIAL PROVISIONS AND ENSURE THAT THERE IS SUFFICIENT CABLE LENGTH TO REACH THE TOP OF THE CONTROLLER CABINET. CABLE IS TO BE PULLED WITHOUT CONNECTORS ATTACHED. WHEN CABLE HAS BEEN PULLED TO FINAL LOCATIONS INSTALL AND MAKE FINAL CONNECTIONS.
3. CABLE RUN ARE TO BE MADE CONTINUOUS WITHOUT SPLICES EXCEPT FOR IN LOCATION SHOWN IN SPICE DETAIL WITH SPECIFIED CONNECTOR.
4. CABLE WITH DAMAGED INSULATION, OR THAT HAS BEEN CRIMPED OR BENT BEYOND THE MINIMUM BEND RADIUS MUST BE REPLACED AT NO ADDITIONAL COST.
5. THE MIN CABLE BEND RADIUS SHALL NOT EXCEED THE MANUFACTURER'S RECOMMENDATIONS.
6. MOUNT THE PENDENT DOME HOUSING AT A 45° ANGLE AT THE REQUIRED HEIGHT. ANGLE AND HEIGHT MAY BE ADJUSTED BY THE ENGINEER TO AVOID SEAM WELDS, SLIP JOINTS, AND MOUNTED POLE EQUIPMENT; AND TO IMPROVE CAMERA VIEWS.
7. ADJUST CAMERA INSIDE THE PENDENT DOME HOUSING AS SHOWN. ENSURE THAT THE CAMERA IS MOUNTED AT A 0° TILT ANGLE.
8. AT CABLE END CONNECTOR LOCATION PROVIDE A SECURE CONNECTION USING CONNECTOR PARTS SPECIFIED. AFTER CONNECTION IS MADE COVER SPLICE WITH WATER PROOF HEAT SHRINK TUBING. PROVIDE A STRAIN RELIEF CABLE AS NECESSARY.
9. CAT6a TOTAL CABLE LENGTH SHALL NOT EXCEED 325 FEET FROM SWITCH TO PTZ CAMERA.

STATE OF ALASKA 49TH — Connor T. Dunham CE 107492 REGISTERED PROFESSIONAL ENGINEER
9/15/2021

STATE OF ALASKA 49TH — Arthur J. Johnson CE8706 REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PAN, TILT, ZOOM CAMERA DETAILS

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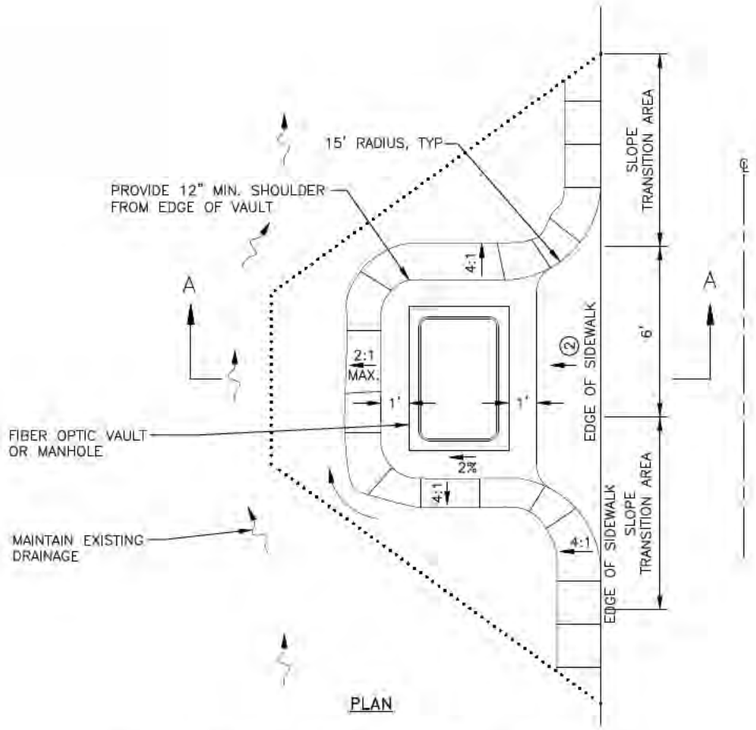
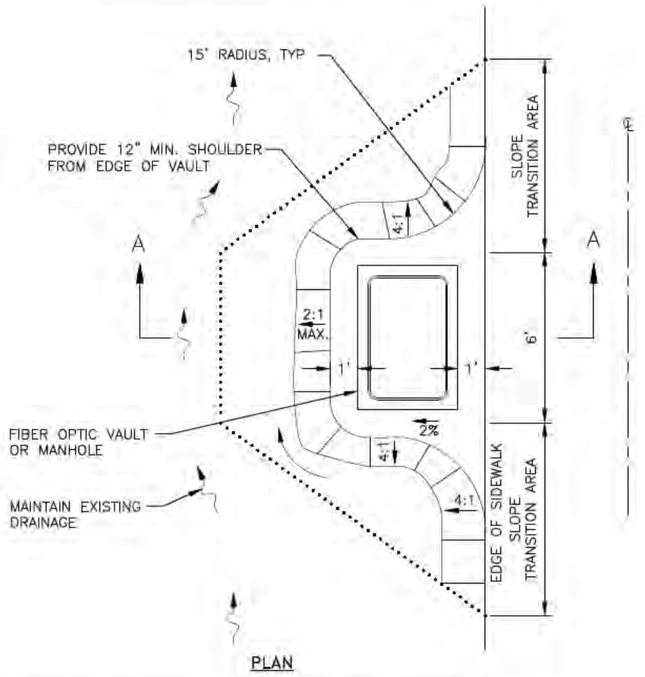
Z:\PROJECTS\00513– fairbanks cushman bridge\DWGS\C\Sheets\62207_J7_CAMERA DETAILS–PAN TILT ZOOM CAMERA DETAILS Wed, Sep/15/21 02:09pm

NO.	DATE	REVISION

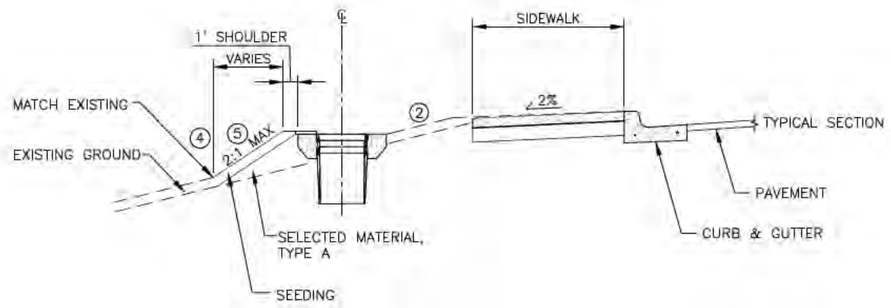
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	J8	J11



VAULT GRADING SEPARATED FROM SIDEWALK

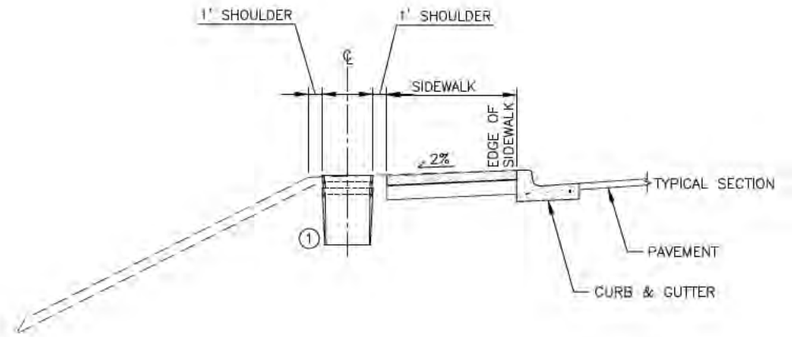


VAULT GRADING ADJACENT TO SIDEWALK



SECTION

VAULT GRADING SEPARATED FROM SIDEWALK



SECTION

VAULT GRADING ADJACENT TO SIDEWALK

NOTES:

1. WHEN VAULT IS LOCATED WITHIN OR ADJACENT TO A SIDEWALK DEPRESS VAULT 0"– 3/16" BELOW FINISH SIDEWALK GRADE.
2. SLOPE AS CALLED FOR IN TYPICAL SECTIONS.
3. SEED DISTURBED AREAS AS DIRECTED BY THE ENGINEER.
4. STEEPEN SLOPES AS NECESSARY TO CONTAIN SLOPE LIMITS WITHIN THE ROW.

STATE OF ALASKA 49TH
Connor T. Dunham
CE 107492
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

STATE OF ALASKA 49TH
Amir J. Johnson
CE8706
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

FIBER OPTIC VAULT GRADING DETAILS

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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	J9	J11

CONSTRUCTION NOTES:

1. REMOVE EXISTING PTZ CAMERA. CONTRACTOR SHALL FURNISH AND INSTALL THE PTZ CAMERA AS INDICATED. EXISTING MOUNTING HARDWARE MAY BE REUSED IF COMPATIBLE.
2. EXISTING INFORMATION SHOWN FOR INTERCONNECT, LIGHTING AND TRAFFIC SYSTEMS ARE FROM A COMBINATION OF SURVEY, AS-BUILT, AND HAS BEEN PARTIALLY FIELD VERIFIED. FIELD CONDITIONS MAY NOT BE ACCURATELY REPRESENTED AND/OR MAY HAVE CHANGED. ADJUST INSTALLATIONS AS DIRECTED B THE ENGINEERS.
3. STUB OUT AND CAP CONDUIT WITH REMOVABLE FITTING TO BE IN INTERCEPTED FOR FUTURE CONNECTION. MARKER BALL TO BE PLACED CONDUIT AT END TO ASSIST FUTURE LOCATE.
4. COORDINATE FIBER OPTIC CONDUIT TRENCH WITH STREET LIGHT CONDUIT INSTALLATION.
5. ALL TRAFFIC SIGNAL FIBER OPTIC INTERCONNECT INFRASTRUCTURE SHALL BE INSTALLED WITHIN THE R/W.
6. SEE BRIDGE SHEETS FOR CONDUIT ROUTING ON STRUCTURE

1ST AVENUE

PRESERVE AND PROTECT EXISTING TRAFFIC SIGNAL CONTROLLER AND LOAD CENTER

[1-12 FIBER DROP CABLE (EX)
1-12 FIBER DROP CABLE
1-3 CELL INNERDUCT (EX)
1-2" RMC (EX)]

PROTECT IN PLACE EXISTING FENCE

[1-CAT6A (PTZ) (EX)]

VAULT #1

[1-72 FIBER SMFO (EX)
1-3 CELL INNERDUCT (EX)
1-2" RMC (EX)]

BEGIN PROJECT
STA. "CS"33+68.64

[1-48 FIBER SMFO
1-3 CELL INNERDUCT
1-2" RMC]

CUSHMAN STREET

34+00

35+00

CUSHMAN STREET
(BRIDGE)

MATCH LINE 36+00
SEE SHEET J10

[1-48 FIBER SMFO
1-3 CELL INNERDUCT
1-2" RMC]

BRIDGE TRANSITION SEE SHEET J2

BRIDGE ABUTMENT

PROTECT FENCE IN PLACE

VAULT #2

[1-2" RMC (FUTURE)]

NEW LIGHTING, SEE SHEET H1

1ST AVENUE

CHENA RIVER

R/W

660.0001.000

INTERSECTION EQUIPMENT SUMMARY

QTY	DESCRIPTION
1	RUGGEDCOM RSG920P ETHERNET SWITCH OR APPROVED EQUAL
1	12-FIBER ITS DROP CABLE
1	CAT6A, FOILED CABLE
6	LC SMFO PATCH CABLE
1	AXIS Q6155-E PTZ NETWORK CAMERA OR APPROVED EQUAL, AND REQUIRED ANCILLARY MATERIALS PER PTZ DETAIL

END TO END LINK ATTENUATION

FIBER OPTIC LINK	DESIGN ATTENUATION
1ST AVE TO TERMINAL ST	1.14 dB

VAULT SCHEDULE

I/C VAULT NO.	LOCATION			TYPE	REMARKS
	ALIGNMENT	STATION	OFFSET		
VAULT 1	"CS"	34+35.6	33.6 LT	VAULT TYPE 2	EXISTING VAULT
VAULT 2	"CS"	34+26.8	34.0 RT	VAULT TYPE 2	

STATE OF ALASKA 49TH
Connor T. Dunham
CE 107492
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

STATE OF ALASKA 49TH
Arthur Johnson
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REGISTERED PROFESSIONAL ENGINEER
9/15/2021

FIBER OPTIC INTERCONNECT PLAN

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	J10	J11

SEE SHEET J9
MATCH LINE 36+00

MATCH LINE 39+00
SEE SHEET J11

36+00

37+00

CUSHMAN STREET

38+00

39+00

(BRIDGE)

R/W

NEW PATHWAY

BRIDGE TRANSITION

12

10

105

106

1-48 FIBER SMFO
1-3 CELL INNERDUCT
1-2" RMC

1-48 FIBER SMFO
1-3 CELL INNERDUCT
1-2" RMC

I/C

NEW LIGHTING,
SEE SHEET H2

VAULT #3

BRIDGE TRANSITION,
SEE SHEET J2

101+44

101+00

NEW PATHWAY

CHENA RIVER

NEW PATHWAY

100+00

R/W

R/W

R/W

VAULT SCHEDULE

I/C VAULT NO.	LOCATION			TYPE	REMARKS
	ALIGNMENT	STATION	OFFSET		
VAULT 3	"CS"	36+92.9	29.8 RT	VAULT TYPE 2	

FIBER OPTIC INTERCONNECT PLAN

STATE OF ALASKA
49 TH
Connor T. Dunham
CE 107492
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

STATE OF ALASKA
49 TH
Christopher J. Johnson
CE8706
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	J11	J11

CONSTRUCTION NOTES:

1. SEE ILLINOIS STREET AND COLLEGE ROAD SIGNAL INTERCONNECT PROJECT NO. PENDING/NFHWY00345 FOR EXISTING VAULT #4 DETAILS.

2. 1000' OF FIBER CABLE IS STORED IN VAULT #4 BY ILLINOIS STREET AND COLLEGE ROAD SIGNAL INTERCONNECT – ADOT&PF PROJECT. VERIFY CABLE INTEGRITY BY TESTING FIBERS 1–6 FROM THE GATOR PATCH INSTALLED AT THE ILLINOIS STREET / TERMINAL STREET TRAFFIC SIGNAL CABINET. TEST BY PERFORMING AN ODTR TRACE, MONITORING FOR LOSS EVENTS GREATER THAN .05 dB. SUBMIT RESULTS AND OBTAIN APPROVAL BY THE ENGINEER BEFORE UNCOILING AND PULLING CABLE TO VAULT #2, NEAR 1ST AVENUE SIGNAL CONTROLLER. NEATLY COIL AND STORE EQUAL AMOUNT OF EXCESS CABLE IN VAULT #1 THROUGH #4.

SEE SHEET J10
MATCH LINE 39+00

CUSHMAN STREET

39+00

40+00

41+00

BARNETTE STREET

TERMINAL STREET

ILLINOIS STREET

DOYON PLACE

R/W

[2–CAT6A (PTZ)
1–3" RMC (EX, SPARE)]

[2–CAT6A (PTZ)
1–2" RMC (EX, SPARE)]

[2–CAT6A (PTZ)
2–5c#14 PED (EX)
2–2c#14 PPB (EX)
1–2" RMC (EX, SPARE)]

[1–48 FIBER SMFO
1–3 CELL INNERDUCT
1–2" RMC]

[2–CAT6A (PTZ)
1–3" RMC (EX, SPARE)]

END PROJECT
STA. "CS"41+50.00

APPROXIMATE TRENCH LIMITS

[2–CAT6A (PTZ)
1–2" RMC (EX, SPARE)]

PRESERVE EXISTING SIGNAL CONTROLLER

[1–12 FIBER DROP CABLE (EX)
1–2" RMC (EX)

[1–48 FIBER DROP CABLE (EX)
1–2" RMC (EX)
INSTALLED BY ILLINOIS STREET AND COLLEGE ROAD SIGNAL INTERCONNECT PROJECT

VAULT #4

660.0001.0000

INTERSECTION EQUIPMENT SUMMARY

QTY	DESCRIPTION
1	RUGGEDCOM RS940G ETHERNET SWITCH (EXISTING)
1	12–FIBER ITS DROP CABLE (EXISTING)
2	CAT6A, FOILED CABLE
6	LC SMFO PATCH CABLE (EXISTING)
2	AXIS Q6155–E PTZ NETWORK CAMERA OR APPROVED EQUAL
2	AXIS LONG RANGE PoE EXTENDER KIT PN 01857–001 OR APPROVED EQUAL
2	AXIS T8003 PS57 POWER SUPPLY OR APPROVED EQUAL
1	AXIS T98A15–VE NEMA 4X CABINET, POLE MOUNTED, OR APPROVED EQUAL

VAULT SCHEDULE

I/C VAULT NO.	LOCATION			TYPE	REMARKS
	ALIGNMENT	STATION	OFFSET		
VAULT 4	"CS"	40+96.1	51.2 RT	MANHOLE	EXISTING VAULT

STATE OF ALASKA 49TH
Connor T. Dunham
CE 107492
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

STATE OF ALASKA 49TH
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9/15/2021

FIBER OPTIC INTERCONNECT PLAN

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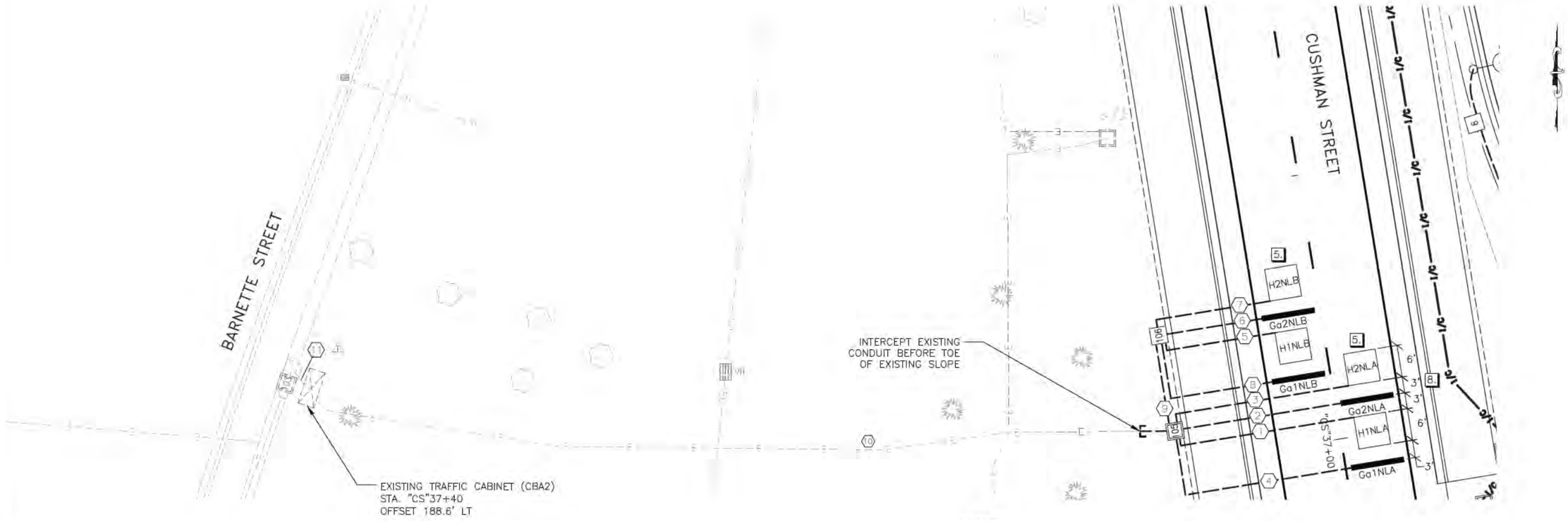
Z:\PROJECTS\00513– fairbanks cushman bridge\DWGS\C\Sheets\62207_J9–J11_PLANS–J11 Wed, Sep/15/21 02:12pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	K1	K5



JUNCTION BOX SUMMARY			
NUMBER	STA.	OFFSET	TYPE
105	"CS"37+06.4	30.4' LT	II
106	"CS"37+24.6	30.5' LT	IA

SENSOR SUMMARY			
NUMBER	STA.	OFFSET	TYPE
Ga1NLA	"CS"36+94.6	6.0' RT	PIEZO
H1NLA	"CS"36+97.6	6.0' RT	LOOP
Ga2NLA	"CS"37+06.6	6.0' RT	PIEZO
H2NLA	"CS"37+09.6	6.0' RT	LOOP
Ga1NLB	"CS"37+12.6	6.0' LT	PIEZO
H1NLB	"CS"37+15.6	6.0' LT	LOOP
Ga2NLB	"CS"37+24.6	6.0' LT	PIEZO
H2NLB	"CS"37+27.6	6.0' LT	LOOP

NOTES:

1. ALL PVC CONDUIT AND FITTINGS SHALL BE 1" DIAMETER SCHEDULE 80.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS BEFORE MAKING MODIFICATIONS. NOTIFY ENGINEER OF ANY DISCREPANCIES.
3. INSTALL PLASTIC SLEEVED GROUNDING BUSHINGS ON ALL CONDUITS BEFORE PULLING ANY WIRE. GROUND WITH A MINIMUM #6 BARE COPPER.
4. INSTALL AND TEST ALL LOOP DETECTORS PRIOR TO OVERLAYING PAVEMENT.
5. CENTER LOOPS AND PIEZO SENSORS IN LANE.
6. MINIMUM SPACING BETWEEN TAIL AND LOOP OR PIEZO IS 1'. SENSOR TAILS SHALL NOT CROSS EACH OTHER.
7. SPLICE LOOP WIRING TO MULTI-PAIR CABLE USING NONREENTERABLE WET LOCATION SPLICE. SEE SHEET K4.
8. DIMENSIONS ARE TYPICAL FOR EACH LOOP AND PIEZOELECTRIC SENSOR LAYOUT. STATION/OFFSET CALLOUTS ARE TO CENTER OF PIEZO AND CENTER OF LEADING EDGE OF LOOPS.
9. COAX CABLE FOR PIEZO SENSORS TO BE RUN WITHOUT SPLICES TO "F" CONNECTOR AT TERMINAL BLOCK IN CABINET.
10. PRESERVE EXISTING EQUIPMENT NOT IMPACTED BY NEW WORK. ANY 'EXISTING TO REMAIN' CONDUCTORS THAT ARE DAMAGED BY THE CONTRACTOR'S WORK SHALL BE REPLACED WITH NEW AT CONTRACTOR'S EXPENSE.

AVC LEGEND

⟨#⟩ CONDUIT REFERENCE NUMBER. SEE SHEET K2 FOR CONDUIT SCHEDULE

AUTOMATED VEHICLE COUNTER PLAN

STATE OF ALASKA
19 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_K1_AUT-VEH-PLAN-K1 Wed, Sep/15/21 02:13pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	K2	K5

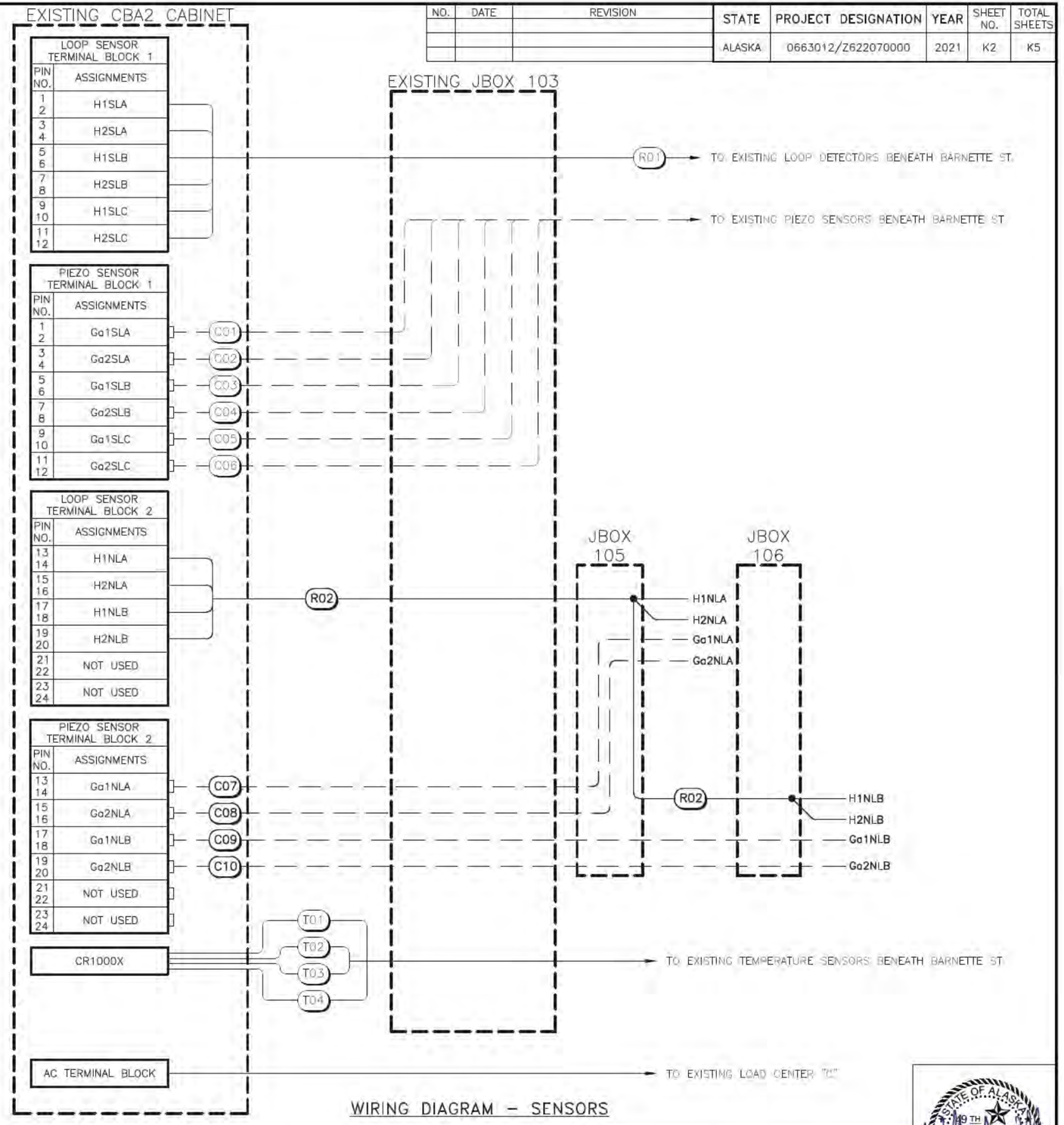
CONDUIT AND CONDUCTOR SCHEDULE

CONDUIT					CABLE		
(#)	QTY	SIZE (INCHES)	FROM	TO	QTY	TYPE	NUMBER
1	1	1	JBOX 105	H1NLA	1	1c#14	R02
2	1	1	JBOX 105	Ga2NLA	1	RG58 COAX	C08
3	1	1	JBOX 105	H2NLA	1	1c#14	R02
4	1	1	JBOX 105	Ga1NLA	1	RG58 COAX	C07
5	1	1	JBOX 106	H1NLB	1	1c#14	R02
6	1	1	JBOX 106	Ga2NLB	1	RG58 COAX	C10
7	1	1	JBOX 106	H2NLB	1	1c#14	R02
8	1	1	JBOX 106	Ga1NLB	1	RG58 COAX	C09
9	1	2	JBOX 106	JBOX 105	1	7pr#18	R02
					2	RG58 COAX	C09–C10
10	1	2	JBOX 105	EXISTING JBOX 103	1	7pr#18	R02
					4	RG58 COAX	C07–C10
11	EXISTING	3	EXISTING JBOX 103	EXISTING CBA2	1	7pr#18	R02
					4	RG58 COAX	C07–C10
					1 (ETR)	7pr#18	R01
					6 (ETR)	RG58 COAX	C01–C6
					1 (ETR)	VERTICAL TEMP. SENSOR	T01
					1 (ETR)	PAVEMENT SENSOR	T02

ETR= EXISTING TO REMAIN

NOTES:

1. NOT ALL CONDUITS AND CONDUCTORS IN EXISTING AVC SYSTEM ARE SHOWN. CONDUITS AND CONDUCTORS NOT IMPACTED BY NEW WORK ARE OMITTED.
2. REMOVE ALL CONDUCTORS NOT SCHEDULED TO REMAIN FROM EXISTING CONDUIT.



WIRING DIAGRAM – SENSORS

AVC WIRING

STATE OF ALASKA
49 TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

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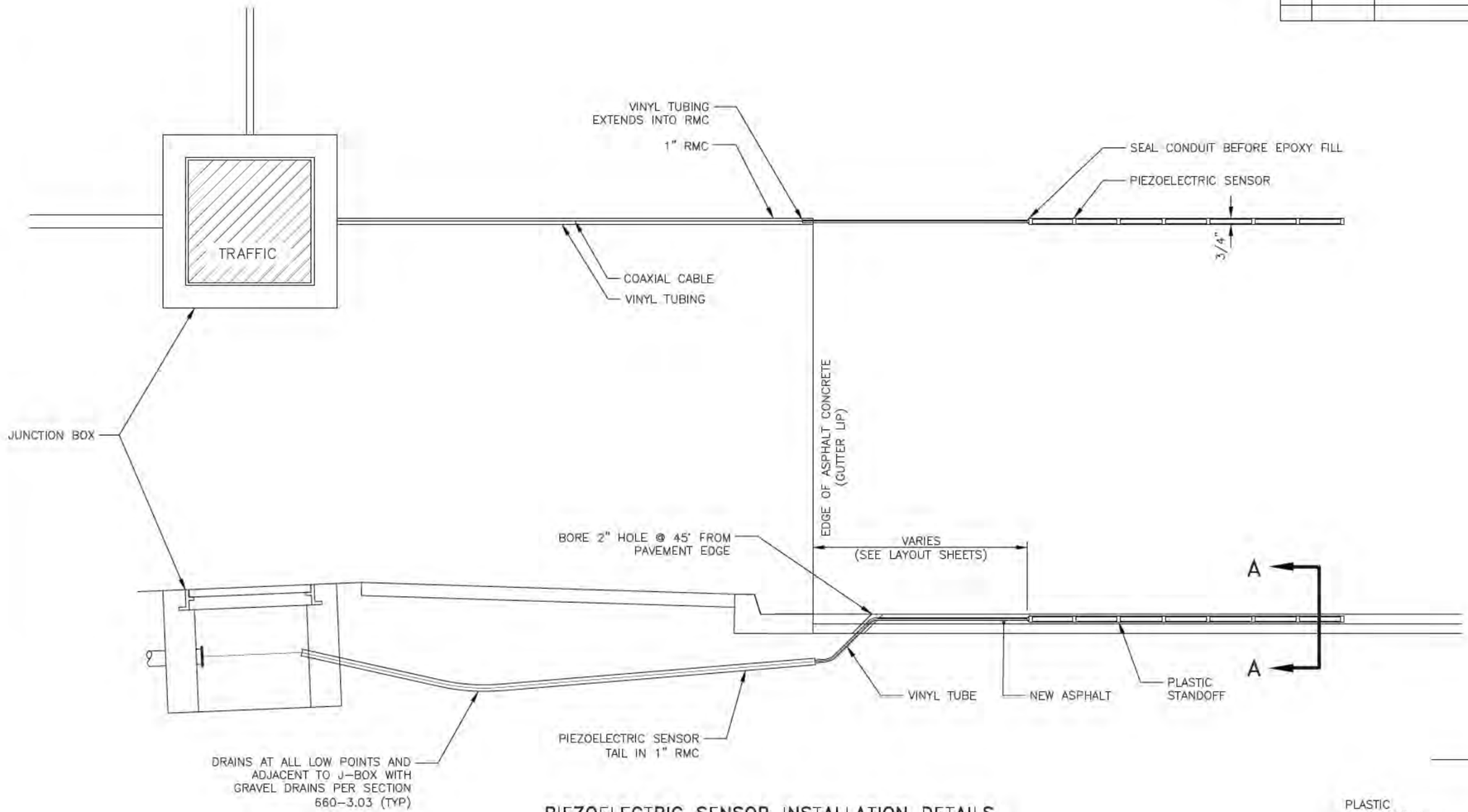
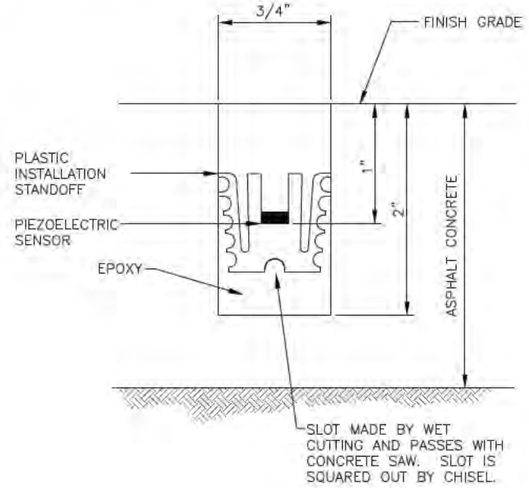
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	K3	K5



PIEZOELECTRIC SENSOR INSTALLATION DETAILS
NTS



SECTION A-A
NTS

SENSOR LAYOUT NOTES:

1. INSTALL PLASTIC SLEEVED GROUNDING BUSHINGS ON STEEL CONDUITS BEFORE PULLING ANY WIRE. GROUND WITH A MINIMUM #6 BARE COPPER.
2. CENTER SENSOR IN ASSIGNED LANE.
3. COAX CABLE FOR PIEZOELECTRIC SENSORS SHALL BE RUN WITHOUT SPLICES TO "F" CONNECTOR AT TERMINAL BLOCK IN CABINET.
4. USE 10' PIEZOELECTRIC SENSORS.

PIEZOELECTRIC SENSOR DETAILS

STATE OF ALASKA
49TH
WILLIAM A. WEBB
CE-12023
REGISTERED PROFESSIONAL ENGINEER
9/15/2021

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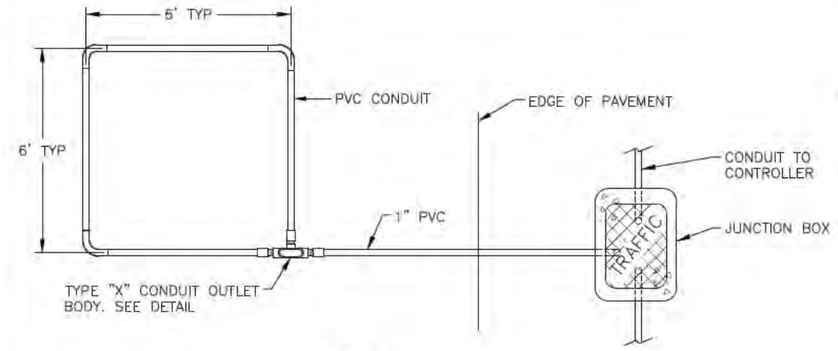
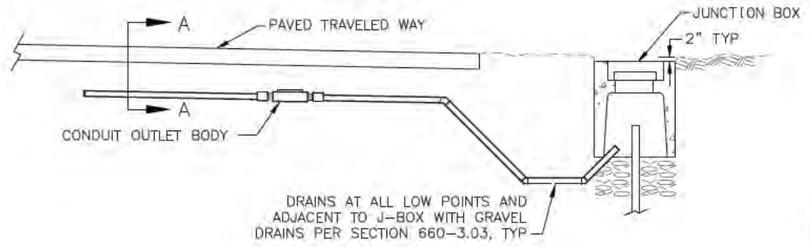
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_K3_PEIZ-SENS_DETLS-K3 Wed, Sep/15/21 02:13pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	K4	K5



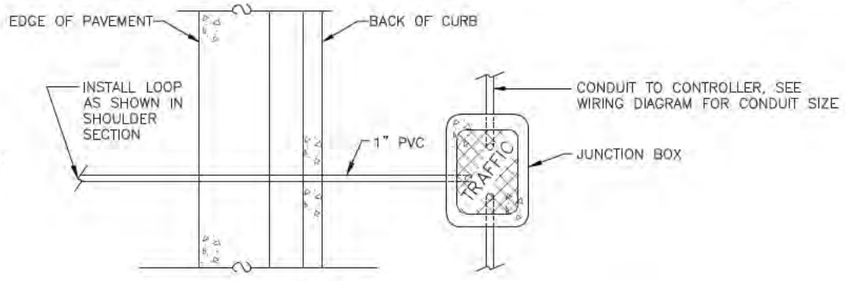
PLAN VIEW



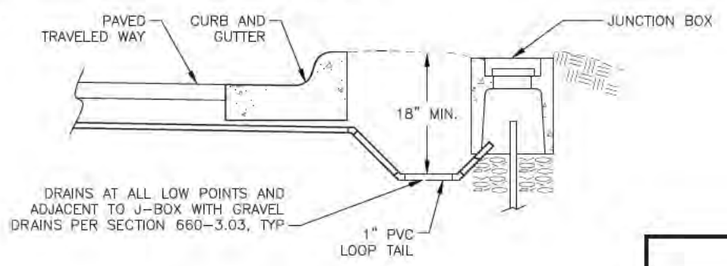
SIDE VIEW

SHOULDER SECTION

NTS



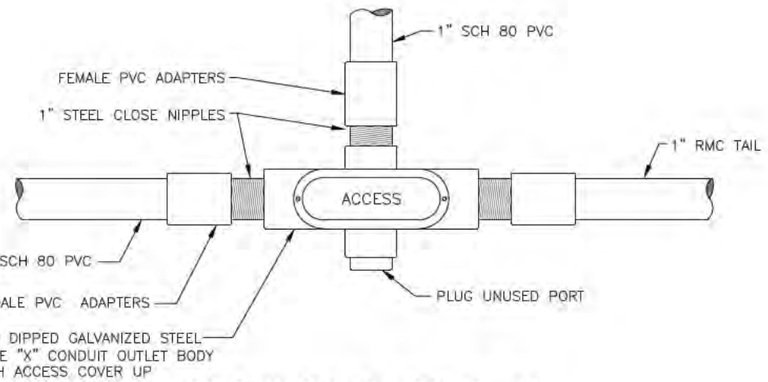
PLAN VIEW



SIDE VIEW

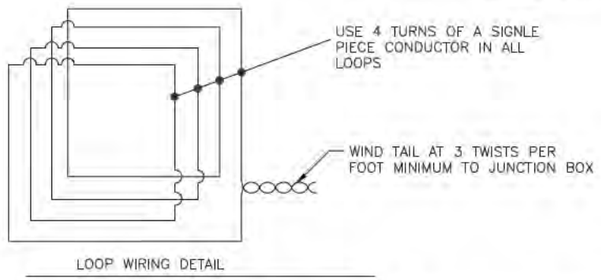
CURB SECTION

NTS



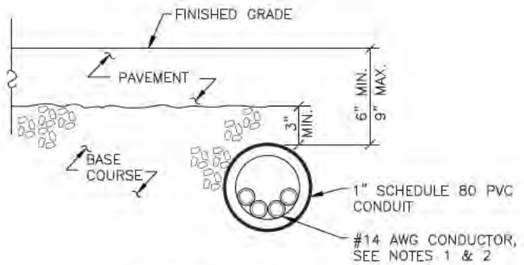
CONDUIT OUTLET BODY DETAIL

NTS



TYPICAL PVC CONDUIT ENCASED LOOP DETECTOR INSTALLATION

NTS

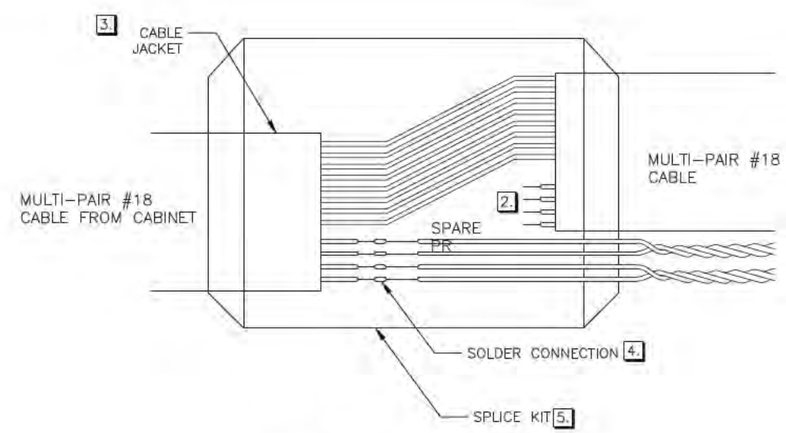


SECTION A-A

NTS

LOOP DETECTOR NOTES:

1. EACH LOOP DETECTOR SHALL CONSIST OF A SINGLE PIECE OF #14 AWG CONDUCTOR INSTALLED IN 1" SCHEDULE 80 PVC CONDUIT. FORM ALL LOOPS 6 FEET SQUARE, UNLESS NOTED OTHERWISE IN DETECTION SCHEDULE. SOLVENT WELD ALL PVC TO PVC JOINTS. USE TYPE X OUTLET BODIES THAT ARE MADE OF HOT DIP GALVANIZED STEEL TO JOIN THE LOOPS AND TAILS.
2. PROVIDE TAILS THAT EXTEND TO THE JUNCTION BOX SPECIFIED ON THE PLANS. USE #14 AWG CONDUCTOR IN A POLYETHYLENE TUBE CONFORMING TO IMSA SPECIFICATION 51-5, WIND THE TAIL CONDUCTORS TOGETHER AT A RATE OF 3 TWISTS PER FOOT.
3. INSTALL ALL LOOP DETECTORS PRIOR TO PAVING NEW ROADWAY.
4. TEST ALL LOOP DETECTORS FOR CONTINUITY, INDUCTANCE, AND INSULATION RESISTANCE PRIOR TO SEALING THE LOOPS UNDER ASPHALT.



TYPICAL SPLICE DETAIL

NTS

SPLICE NOTES:

1. SCHEMATIC SKETCH SHOWS AN EXAMPLE OF TWO PAIRS USED WITH ONE SPARE.
2. TERMINATE ALL SPARES WITHIN THE SPLICE BODY.
3. SPLICE BODY TO ENCLOSE ALL CABLE JACKETS.
4. SOLDER CONNECTIONS. DO NOT USE COMPRESSION CONNECTORS. WRAP CONDUCTORS OVER EACH OTHER BEFORE SOLDERING.
5. USE A NON-REENTERABLE, WET LOCATION, COMMERCIAL SPLICE KIT 3M TYPE 82-A1 OR A2 OR EQUIVALENT AS APPROVED BY THE ENGINEER.
6. COVER ALL EXPOSED CONDUCTORS WITH HEAT SHRINK TUBING, INCLUDING SPARES.

STATE OF ALASKA 19TH WILLIAM A. WEBB CE-12023 REGISTERED PROFESSIONAL ENGINEER
9/15/2021

SPLICE AND PRESENCE LOOP DETAILS

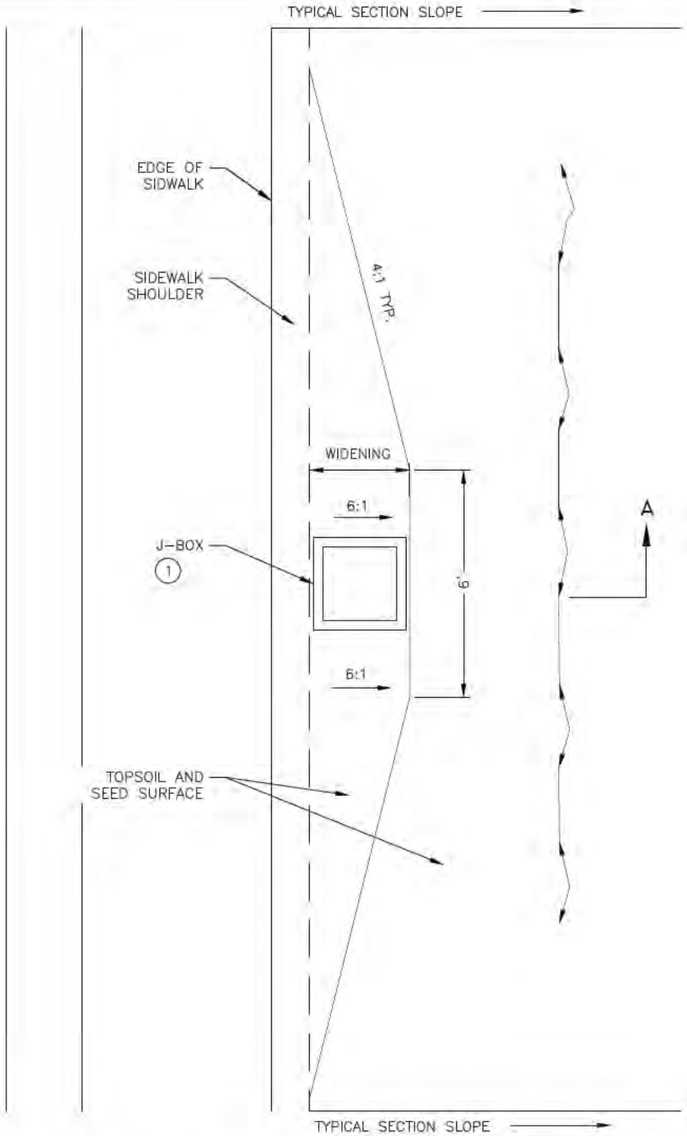
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_K4_SPL_LOOP_DETLS-K4 Wed, Sep/15/21 02:14pm

NO.	DATE	REVISION

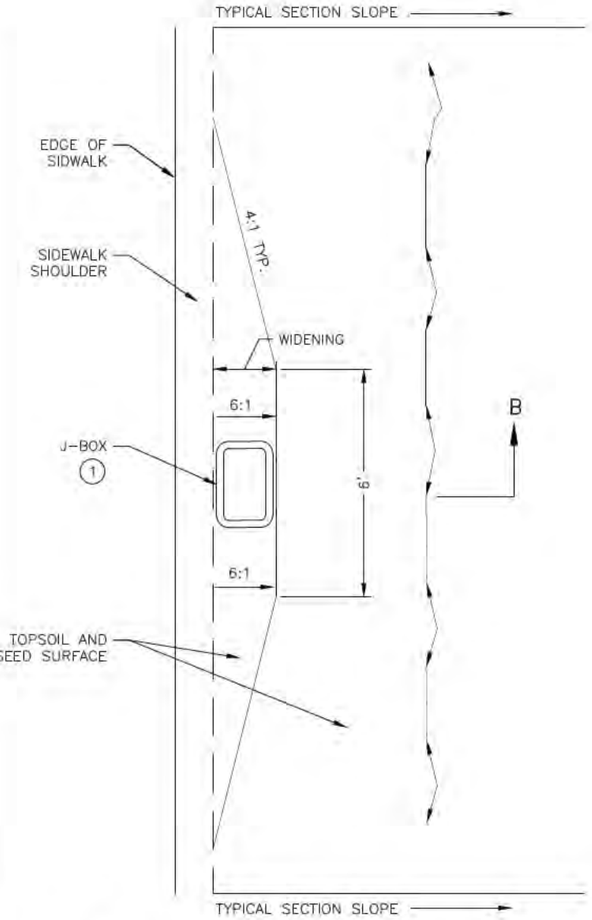
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	K5	K5

JUNCTION BOX WIDENING NOTES:

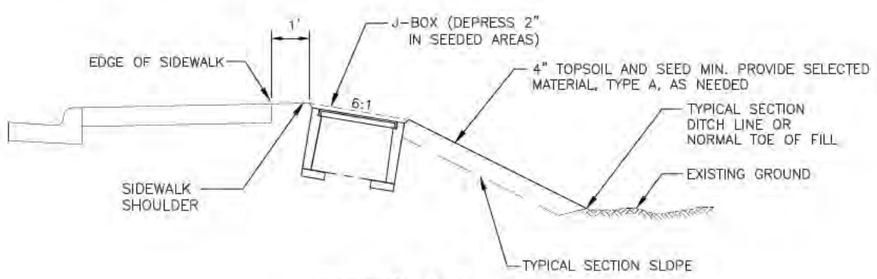
① DEPRESS JUNCTION BOX 1" BELOW SURFACE. DEPRESS 2" IN SEEDED AREAS.



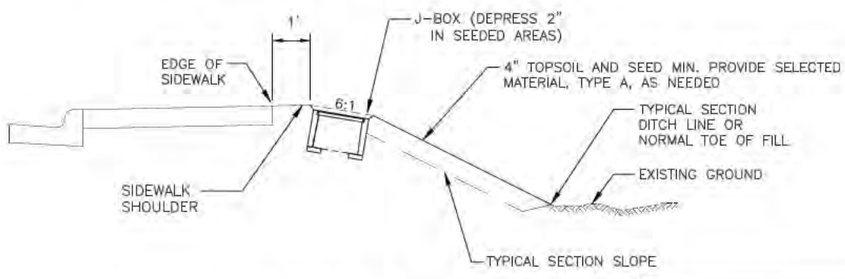
TYPE II JUNCTION BOX WIDENING DETAIL



TYPE IA JUNCTION BOX WIDENING DETAIL



SECTION A-A



SECTION B-B

JUNCTION BOX WIDENING DETAILS

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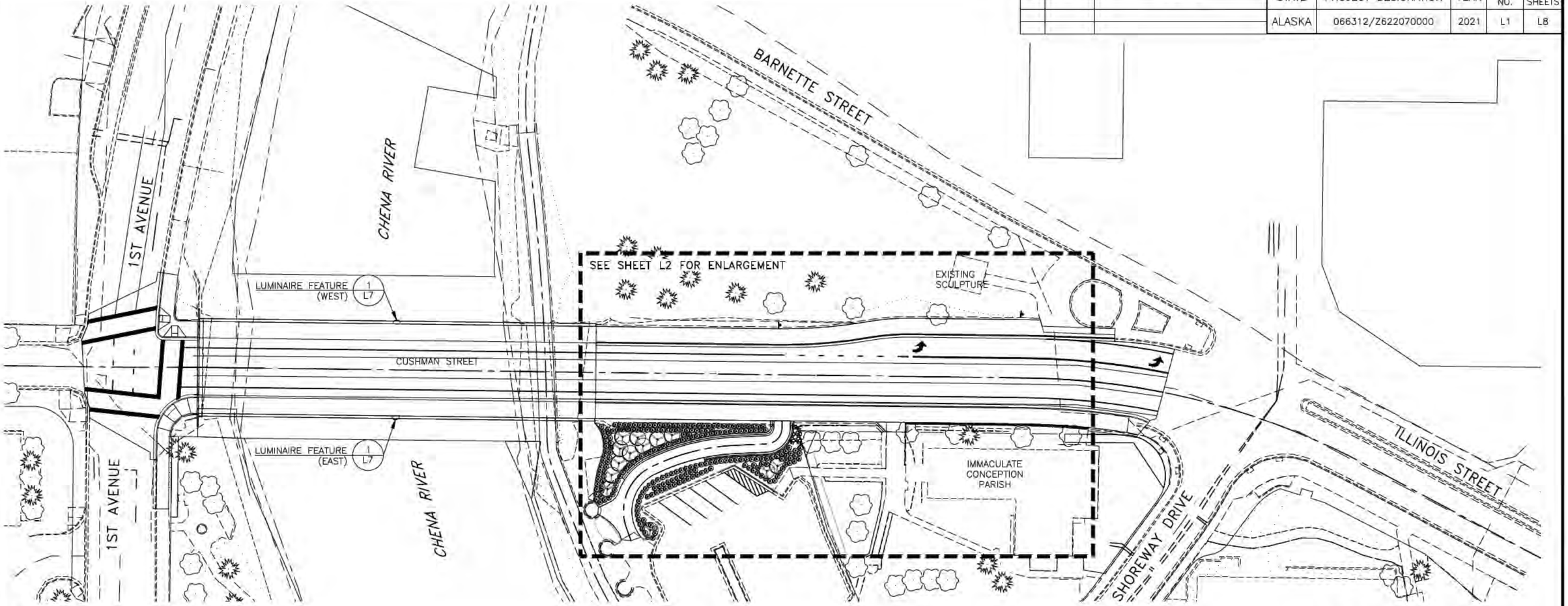
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_K5_JBOX-WIDG_DETLS-K5 Wed, Sep/15/21 02:14pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	066312/Z622070000	2021	L1	L8



1 L1 LANDSCAPE PLAN

PLANT SCHEDULE

DECIDUOUS TREES

QTY.	SYMBOL	ABBR.	LATIN NAME	COMMON NAME	SIZE	FURNISHING	NOTES
13		BP	BETULA PAPYRIFERA	PAPER BIRCH	1.5" CAL	B&B	SINGLE STEM

SHRUBS

QTY.	SYMBOL	ABBR.	LATIN NAME	COMMON NAME	SIZE	FURNISHING	NOTES
226		RA	ROSA ACICULARIS	PRICKLY ROSE	24" HT	POTTED	

MISCELLANEOUS

SYMBOL	DESCRIPTION	NOTES
	LANDSCAPE EDGING	SHOVEL CUT
	PEDESTRIAN RAILING	
	DECORATIVE RAILING	
	4" TOPSOIL AND SEED MIX	TO LIMITS OF DISTURBANCE
	RESET EXISTING RUBBLE	

MISCELLANEOUS

SYMBOL	DESCRIPTION	NOTES
	EXISTING DECIDUOUS TREE	
	EXISTING EVERGREEN TREE	

PLANTING TABLE

POINT #	SPECIES ID (ABBR)	NORTHING	EASTING
315	BP	67160.52	32421.70
316	BP	67154.70	32425.96
317	BP	67091.12	32473.58
318	BP	67065.31	32436.88
319	BP	67071.00	32429.75
320	BP	67077.93	32423.89
321	BP	67085.83	32418.62
378	BP	67062.30	32444.67
379	BP	67064.42	32428.07
380	BP	67073.86	32419.52
381	BP	67094.18	32414.41
382	BP	67064.75	32420.70
383	BP	67061.23	32453.50

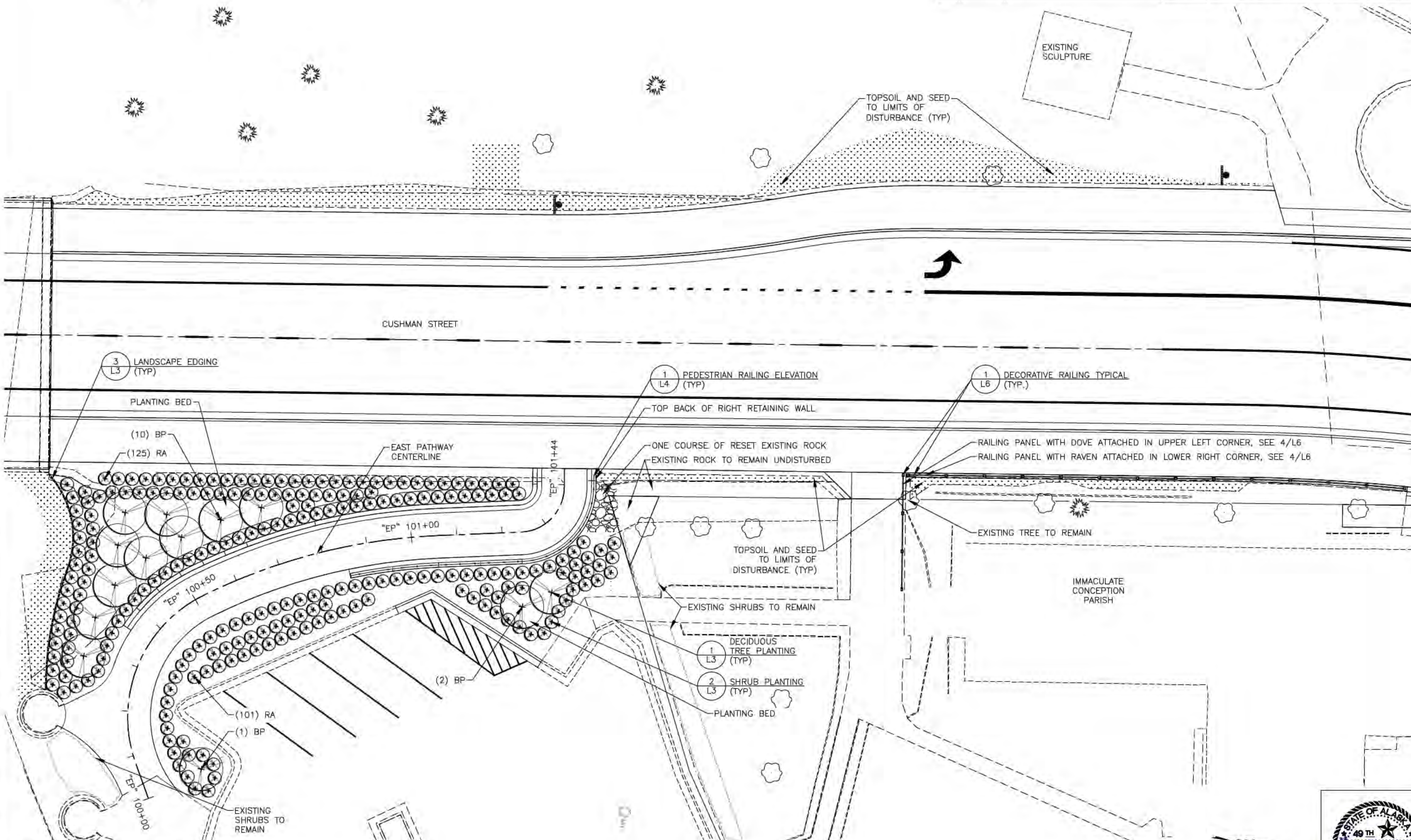
LANDSCAPE NOTES:

1. ALL PLANTS SHALL BE NURSERY GROWN UNLESS OTHERWISE SPECIFIED.
2. ALL PLANTING BEDS SHALL RECEIVE 18" DEPTH TOPSOIL AND ONE COURSE OF CLASS 1 RIPRAP. PLANTING BED LOCATIONS ARE INDICATED ON SHEET L2.
3. REFER TO SHEET L3 FOR LANDSCAPE PLANTING DETAILS.

STATE OF ALASKA 49TH MARY WIMMERER No. 157 REGISTERED LANDSCAPE ARCHITECT 3/21/22

PLANS DEVELOPED BY: BETTISWORTH NORTH ARCHITECTS AND PLANNERS, INC., 2600 DENALI STREET, SUITE 710, ANCHORAGE, ALASKA 99503 (907) 771-4508 CERT. OF AUTH. NO. AECC219
P:\18-175 Cushmon Street Bridge\2-CAD\Drawings\62207_L_Plan-L1 Thu, Sep/23/21 02:17pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	066312/Z622070000	2021	L2	L8

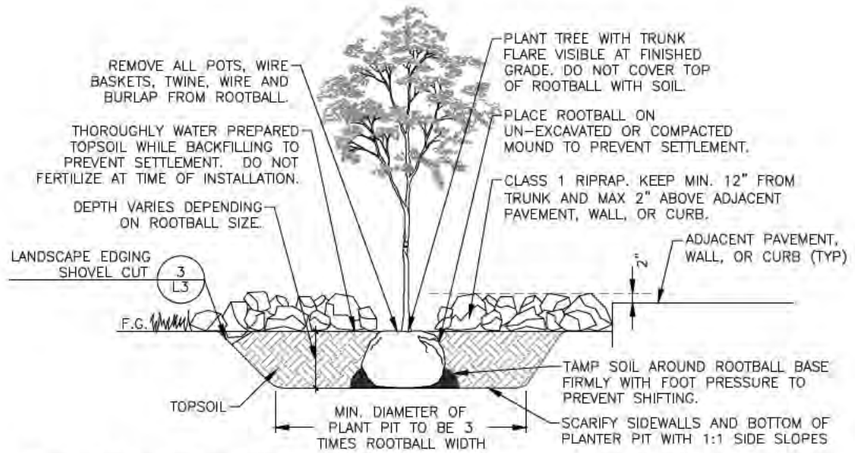


EXISTING SCULPTURE
TOPSOIL AND SEED TO LIMITS OF DISTURBANCE (TYP)
CUSHMAN STREET
3 L3 LANDSCAPE EDGING (TYP)
PLANTING BED
(10) BP
(125) RA
EAST PATHWAY CENTERLINE
"EP" 101+44
"EP" 101+00
"EP" 100+50
"EP" 100+00
1 L4 PEDESTRIAN RAILING ELEVATION (TYP)
TOP BACK OF RIGHT RETAINING WALL
ONE COURSE OF RESET EXISTING ROCK
EXISTING ROCK TO REMAIN UNDISTURBED
1 L6 DECORATIVE RAILING TYPICAL (TYP.)
RAILING PANEL WITH DOVE ATTACHED IN UPPER LEFT CORNER, SEE 4/L6
RAILING PANEL WITH RAVEN ATTACHED IN LOWER RIGHT CORNER, SEE 4/L6
EXISTING TREE TO REMAIN
TOPSOIL AND SEED TO LIMITS OF DISTURBANCE (TYP)
IMMACULATE CONCEPTION PARISH
EXISTING SHRUBS TO REMAIN
1 L3 DECIDUOUS TREE PLANTING (TYP)
2 L3 SHRUB PLANTING (TYP)
PLANTING BED
(2) BP
(101) RA
(1) BP
EXISTING SHRUBS TO REMAIN
0 10 20 FEET

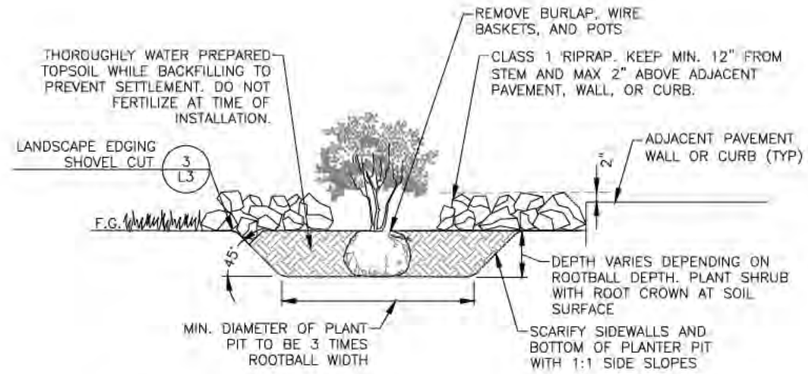
1 L2 LANDSCAPE ENLARGEMENT

PLANS DEVELOPED BY: BETTISWORTH NORTH ARCHITECTS AND PLANNERS, INC., 2600 DENALI STREET, SUITE 710, ANCHORAGE, ALASKA 99503 (907) 771-4508 CERT. OF AUTH. NO. AECC219
P:\18-175 Cushman Street Bridge\2-CAD\Drawings\62207_L_Plan-L2 Thu, Sep/23/21 02:17pm

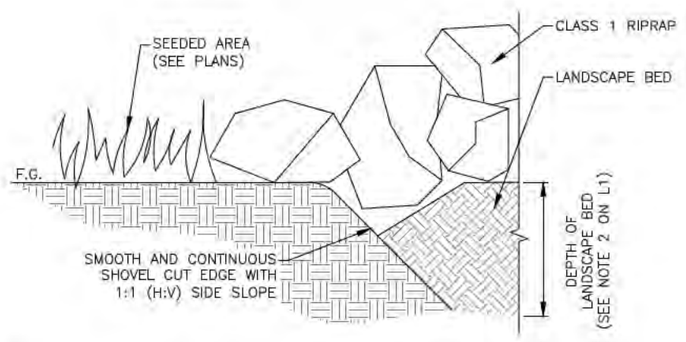
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	066312/Z622070000	2021	L3	L8



1 L3 DECIDUOUS TREE PLANTING
NTS



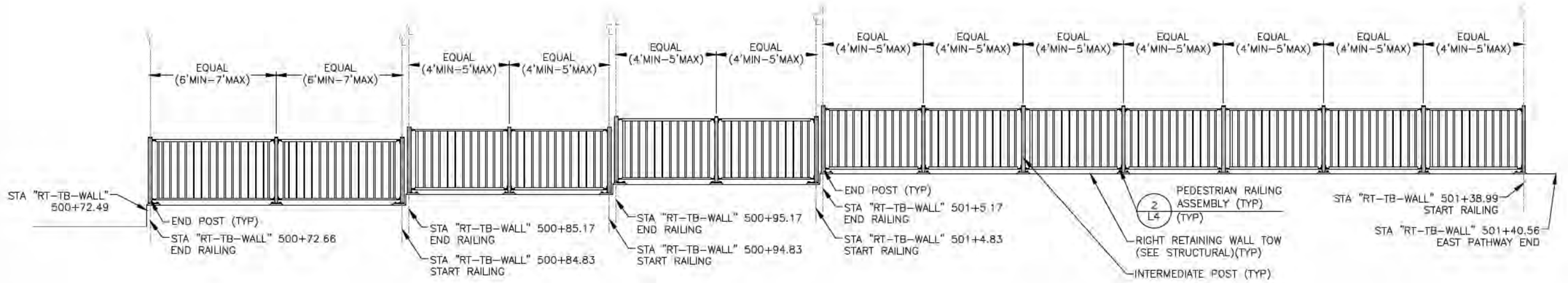
2 L3 SHRUB PLANTING
NTS



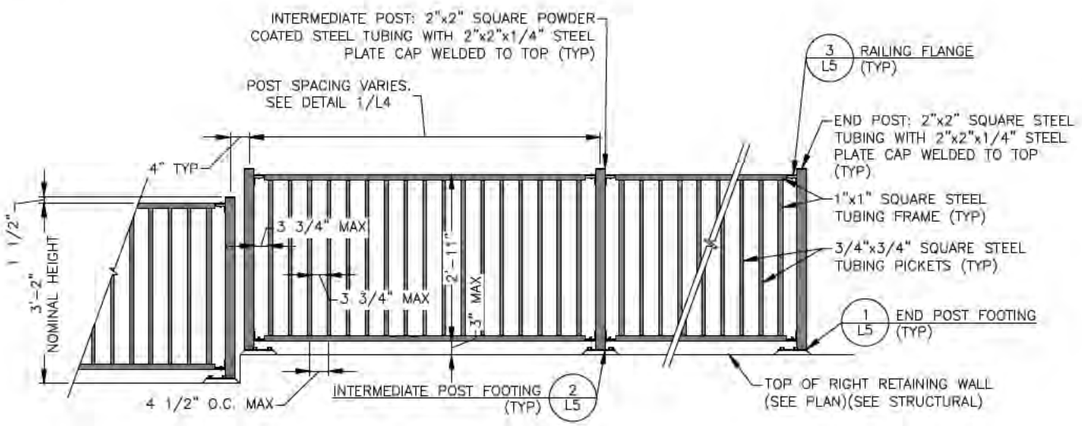
3 L3 LANDSCAPE EDGING, SHOVEL CUT
NTS

LANDSCAPE DETAILS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	066312/Z622070000	2021	L4	L8



1 L4 PEDESTRIAN RAILING ELEVATION
NTS



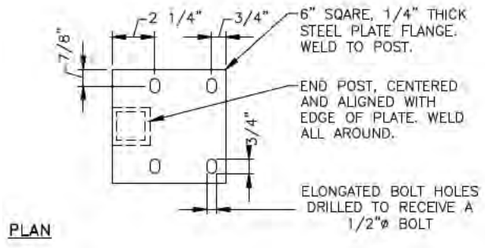
2 L4 PEDESTRIAN RAILING ASSEMBLY (TYP)
NTS

NOTES:
1. ALL DIMENSIONS TO BE FIELD VERIFIED PRIOR TO FABRICATION.
2. STATIONS PROVIDED IN THE RAILING DETAILS ARE FOR THE TOP BACK OF THE RIGHT RETAINING WALL.
3. SEE STRUCTURAL FOR RETAINING WALL DETAILS AND ELEVATIONS.
4. RAILING SHALL BE CENTERED ON TOP OF WALL AND SHALL MATCH RADIUS OF WALL.
6. GRIND SMOOTH ALL EDGES AND CORNERS.
7. WELD ALL JOINTS UNLESS OTHERWISE NOTED.
8. ALL RAILING AND COMPONENTS ARE TO BE POWDER COATED AS SPECIFIED.

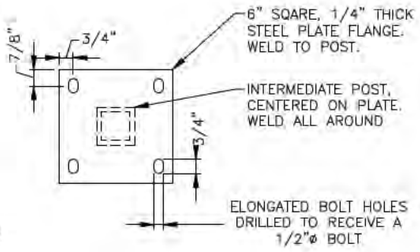
LANDSCAPE DETAILS

PLANS DEVELOPED BY: BETTISWORTH NORTH ARCHITECTS AND PLANNERS, INC., 2600 DENALI STREET, SUITE 710, ANCHORAGE, ALASKA 99503 (907) 771-4508 CERT. OF AUTH. NO. AECC219
P:\18-175 Cushman Street Bridge\2-CAD\Drawings\62207_Detail-L4 Thu, Sep/23/21 02:18pm

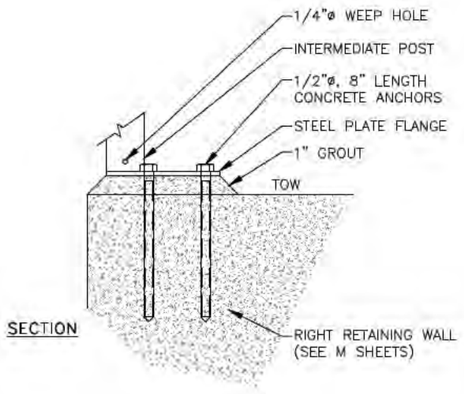
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	066312/Z622070000	2021	L5	L8



PLAN

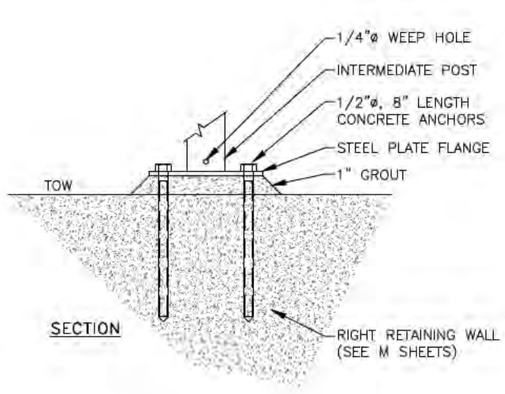


PLAN



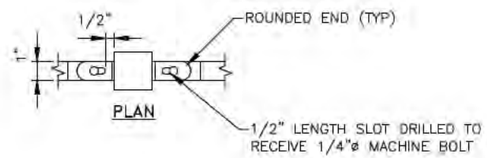
SECTION

1/L5 END POST FOOTING
NTS

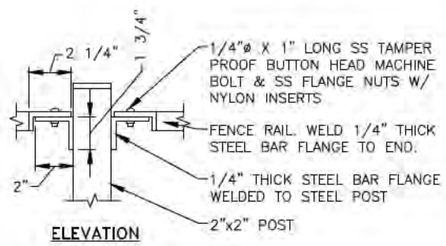


SECTION

2/L5 INTERMEDIATE POST FOOTING
NTS



PLAN



ELEVATION

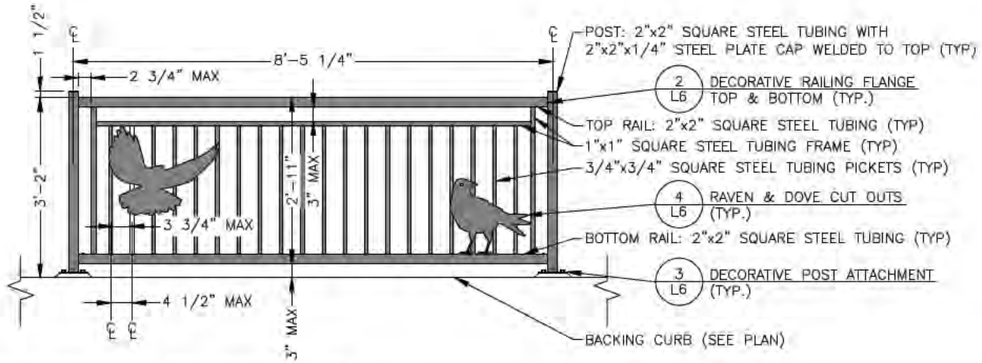
3/L5 RAILING FLANGE
NTS

NOTES:
1. ALL STEEL COMPONENTS ARE TO BE POWDER COATED AS SPECIFIED.
2. GRIND SMOOTH ALL EDGES AND WELDS PRIOR TO POWDER COATING.
3. ALL POSTS AND RAILS TO BE PLUMB AND LEVEL

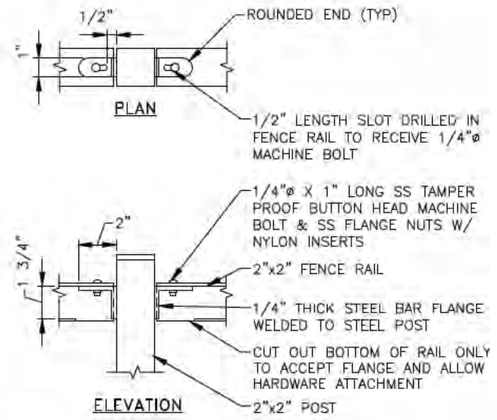
LANDSCAPE DETAILS

PLANS DEVELOPED BY: BETTISWORTH NORTH ARCHITECTS AND PLANNERS, INC., 2600 DENALI STREET, SUITE 710, ANCHORAGE, ALASKA 99503 (907) 771-4508 CERT. OF AUTH. NO. AECC219
P:\18-175 Cushman Street Bridge\2-CAD\Drawings\62207_1_Detail-L5 Thu, Sep/23/21 02:18pm

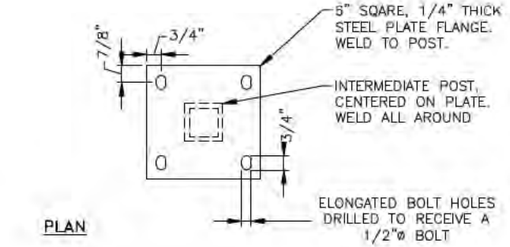
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	066312/Z622070000	2021	L6	L8



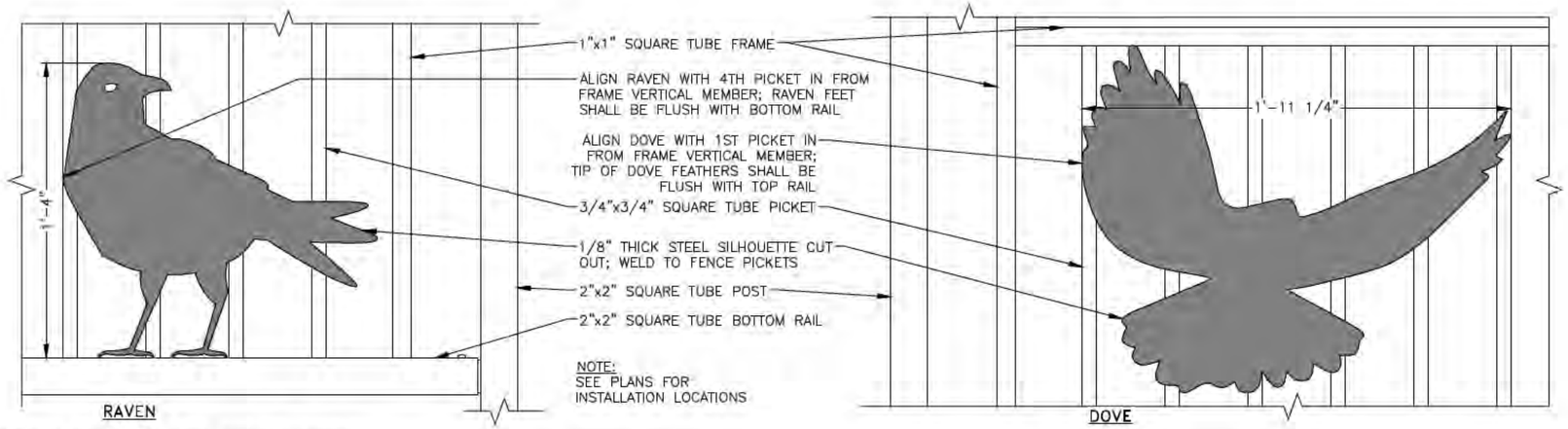
1/L6 DECORATIVE RAILING TYPICAL
NTS



2/L6 DECORATIVE RAILING FLANGE
NTS



3/L6 DECORATIVE POST ATTACHMENT
NTS

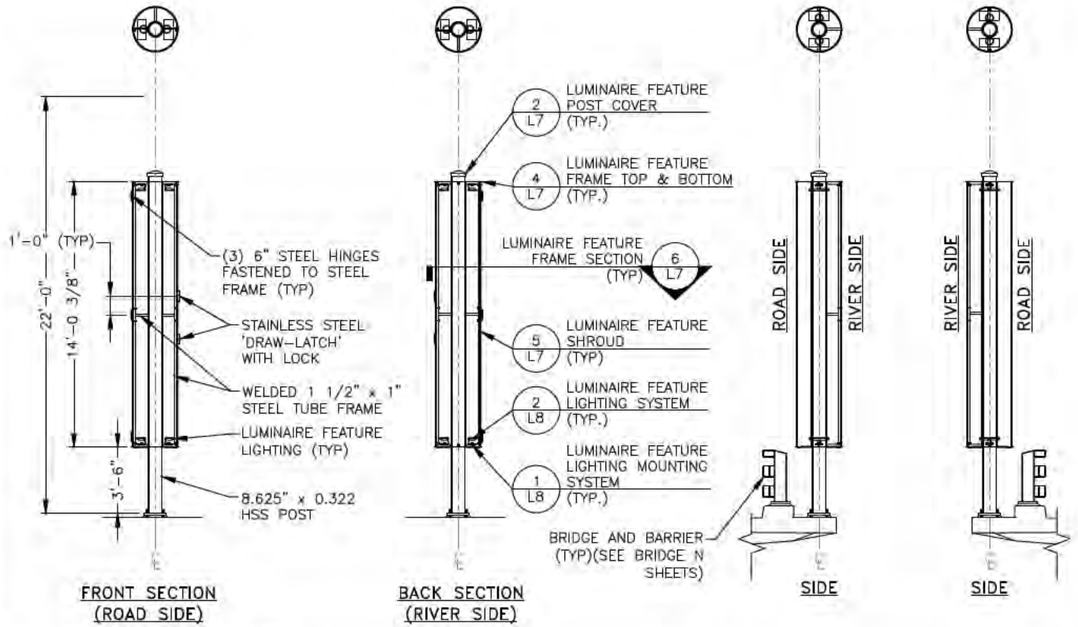


4/L6 RAVEN & DOVE CUT OUTS
NTS

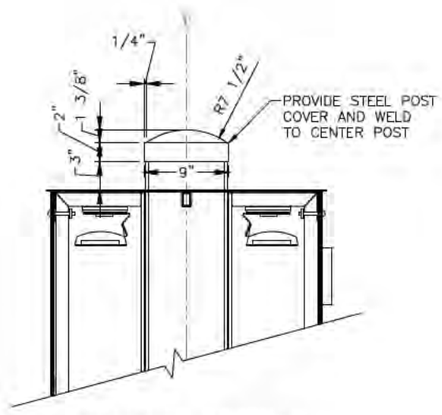
NOTES:
1. ALL DIMENSIONS TO BE FIELD VERIFIED PRIOR TO FABRICATION.
2. WELD ALL JOINTS UNLESS OTHERWISE NOTED.
3. ALL RAILING AND COMPONENTS ARE TO BE POWDER COATED AS SPECIFIED. COLOR TO MATCH RAL 5014 PIGEON BLUE.
4. GRIND SMOOTH ALL EDGES, CORNERS, AND WELDS PRIOR TO POWDER COATING.
5. ALL POSTS AND RAILS TO BE PLUMB AND LEVEL.

LANDSCAPE DETAILS

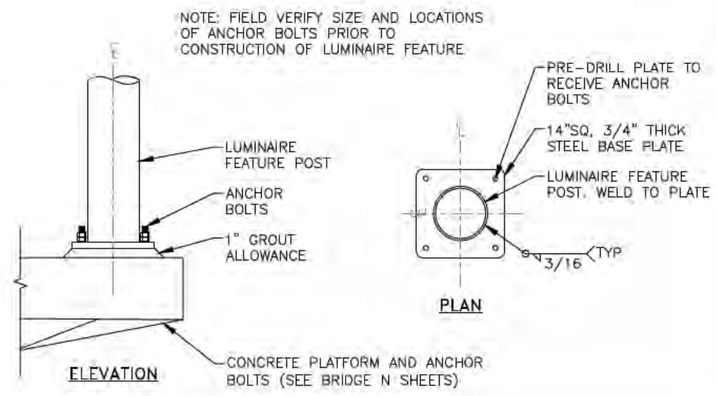
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	066312/Z622070000	2021	L7	L8



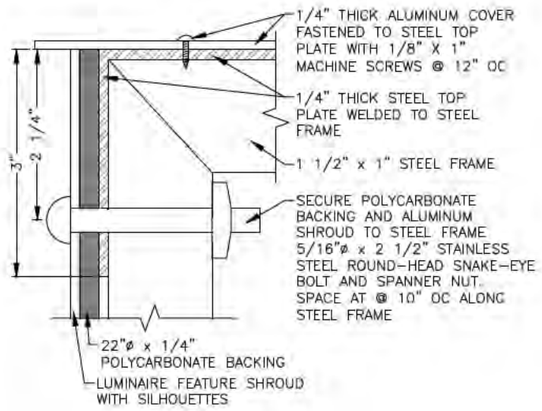
1/L7 LUMINAIRE FEATURE
NTS



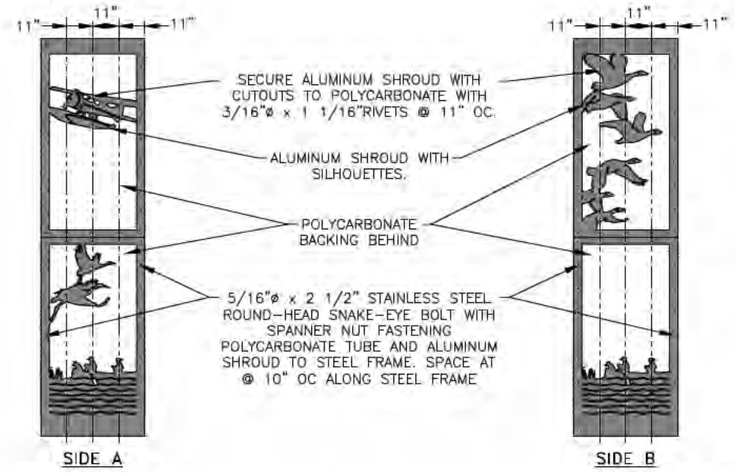
2/L6 LUMINAIRE FEATURE POST COVER
NTS



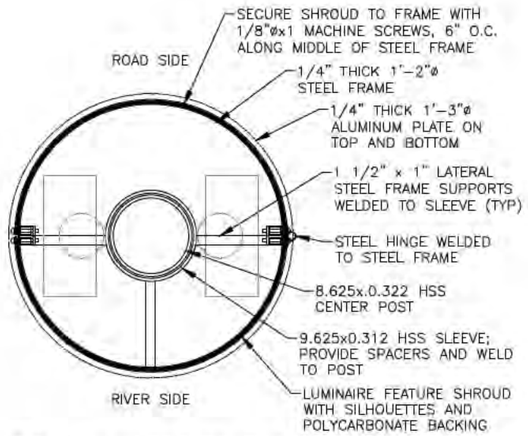
3/L7 LUMINAIRE FEATURE POST MOUNT
NTS



4/L7 LUMINAIRE FEATURE FRAME TOP & BOTTOM
NTS



5/L7 LUMINAIRE FEATURE SHROUD
NTS



6/L7 LUMINAIRE FEATURE FRAME SECTION
NTS

NOTES:
1. GRIND SMOOTH ALL EDGES AND WELDS.
2. ALL STEEL PARTS TO BE POWDER COATED BLACK-BROWN TO MATCH RAL 8022.
3. ALL ALUMINUM PARTS TO BE POWDER COATED BLACK-BROWN TO MATCH RAL 8022.
4. FIELD VERIFY SIZE AND LOCATIONS OF ANCHOR BOLTS PRIOR TO FABRICATION OF LUMINAIRE FEATURE.
5. CAD TEMPLATES FOR LUMINAIRE FEATURE SHROUD TO BE PROVIDED BY ENGINEER.
6. (4) LUMINAIRE FEATURE SHROUDS TO BE PROVIDED – (2) EACH OF SIDE A AND SIDE B AND LOCATED AS FOLLOWS:

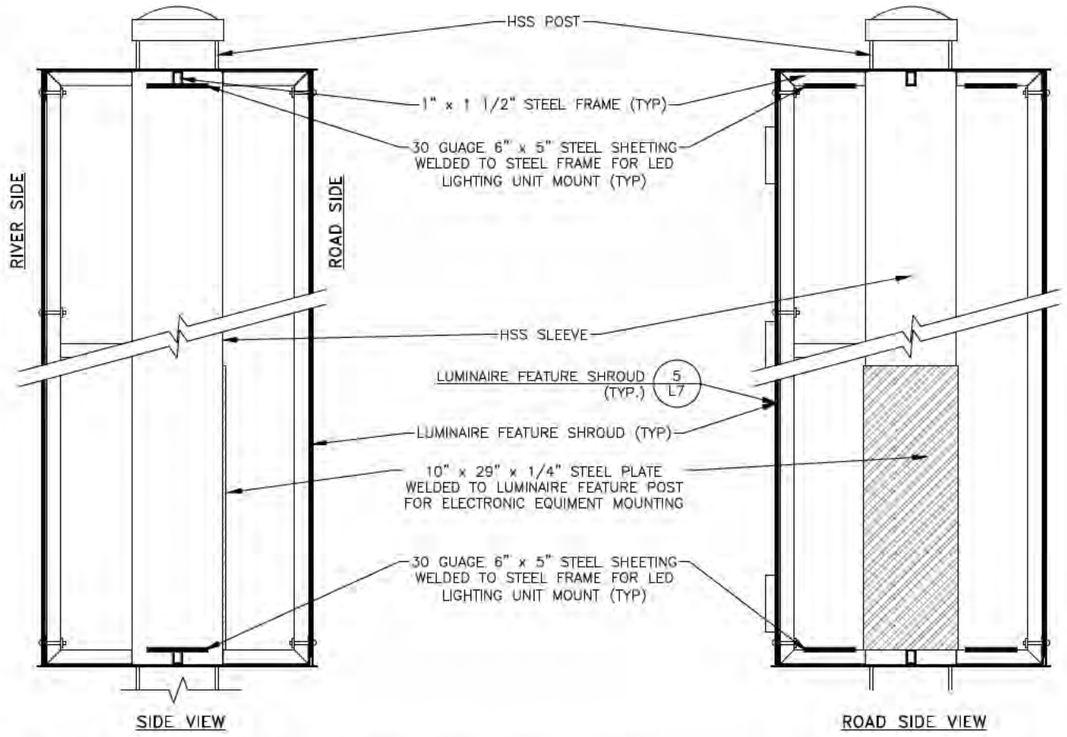
WEST POLE
RIVER SIDE: SIDE A
ROAD SIDE: SIDE B

EAST POLE
RIVER SIDE: SIDE B
ROAD SIDE: SIDE A

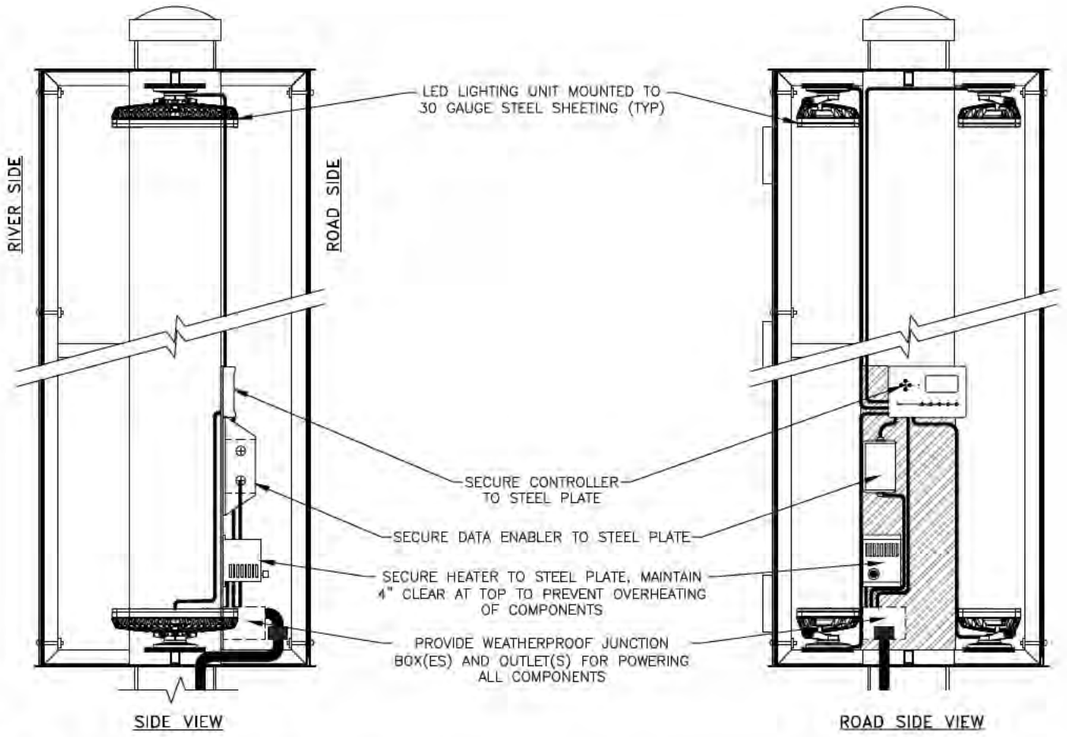
PLANS DEVELOPED BY: BETTISWORTH NORTH ARCHITECTS AND PLANNERS, INC., 2600 DENALI STREET, SUITE 710, ANCHORAGE, ALASKA 99503 (907) 771-4508 CERT. OF AUTH. NO. AECC219
P:\18-175 Cushman Street Bridge\2-CAD\Drawings\62207_L_Detail-L7 Thu, Sep/23/21 02:18pm

LANDSCAPE DETAILS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	066312/Z622070000	2021	L8	L8



1 L7 LUMINAIRE FEATURE LIGHTING MOUNTING SYSTEM
NTS



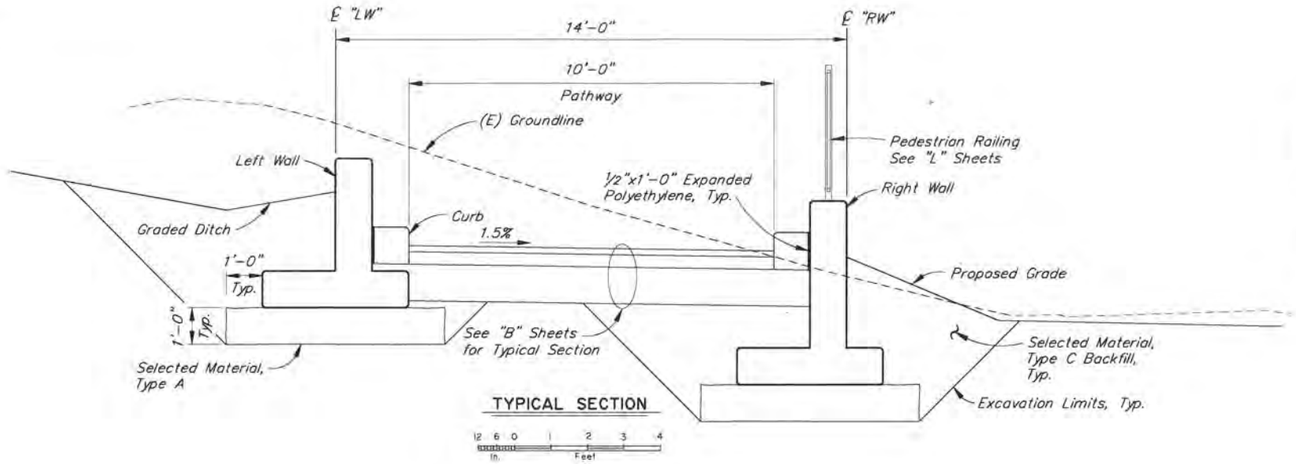
2 L8 LUMINAIRE FEATURE LIGHTING SYSTEM
NTS

NOTES:
1. GRIND SMOOTH ALL EDGES AND WELDS.
2. ALL STEEL PARTS TO BE POWDER COATED BLACK-BROWN TO MATCH RAL 8022.
3. WIRING IS SHOWN FOR REFERENCE ONLY.
4. PROVIDE ALL WIRING, CONNECTIONS, MOUNTING HARDWARE, AND COMPONENTS FOR LED LIGHTING AND HEATER PER MANUFACTURER SPECIFICATIONS.
5. SECURE ALL LOOSE WIRING.

LANDSCAPE DETAILS

PLANS DEVELOPED BY: BETTISWORTH NORTH ARCHITECTS AND PLANNERS, INC., 2600 DENALI STREET, SUITE 710, ANCHORAGE, ALASKA 99503 (907) 771-4508 CERT. OF AUTH. NO. AECC219
P:\18-175 Cushman Street Bridge\2-CAD\Drawings\62207_1_Detail-L8 Thu, Sep/23/21 02:18pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	M1	M3



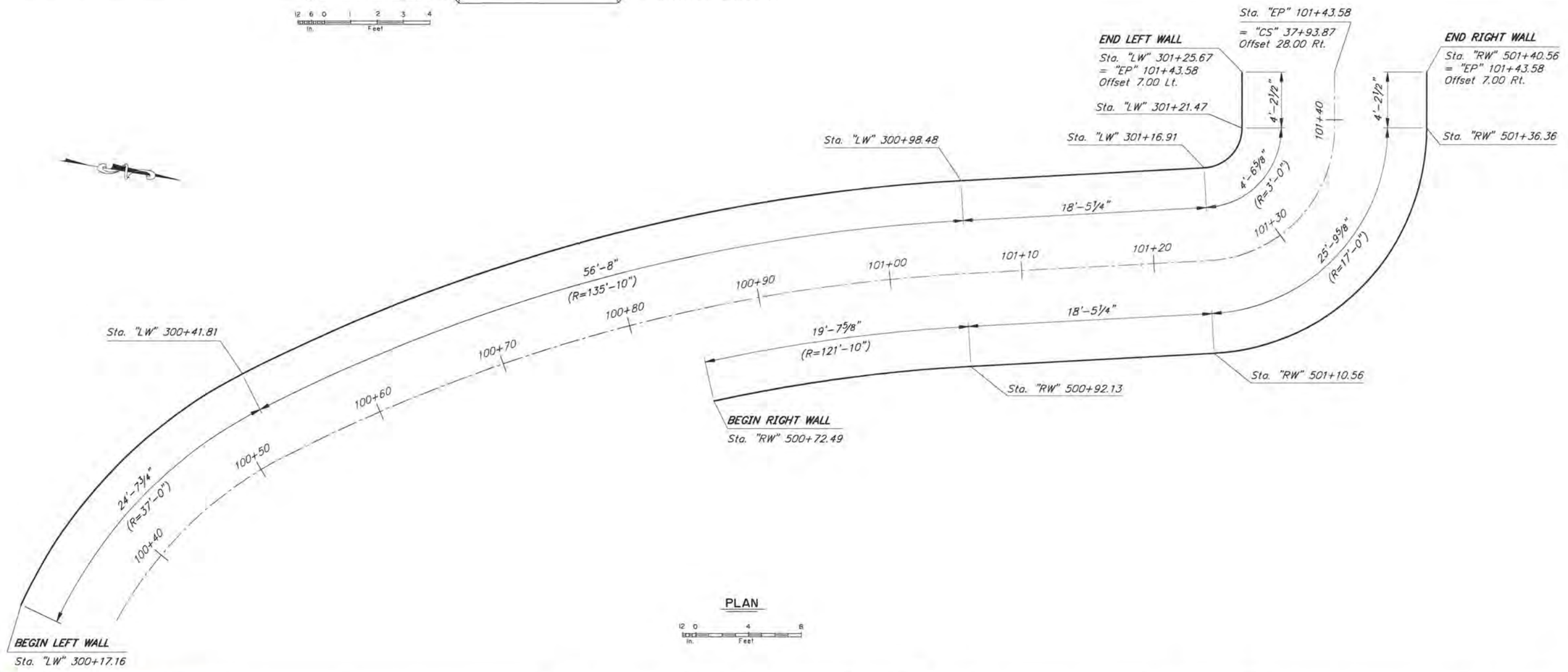
TYPICAL SECTION

12 6 0 1 2 3 4
In. Feet

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	PAY UNIT	ESTIMATING UNIT	TOTAL QUANTITY
501.2005.0000	Cast-In-Place Concrete Retaining Wall	LS	LF	179

Item numbers are for reference only. Quantities shown are not necessarily the pay quantities nor the total quantity of the particular item.



PLAN

12 0 4 8
In. Feet

R:\cad\390\Chena River Wall-LAYOUT Thu, Aug/19/21 01:57pm

DESIGNED BY: Nick Murray	CHECKED: Ben Fetterhoff	
DRAWN BY: Sam Sallie	CHECKED: Nick Murray	
QUANTITIES BY: Nick Murray	CHECKED: Ben Fetterhoff	

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

STATE OF ALASKA 49TH
Nicholas W. Murray
08-19-2021
SE# 119472
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

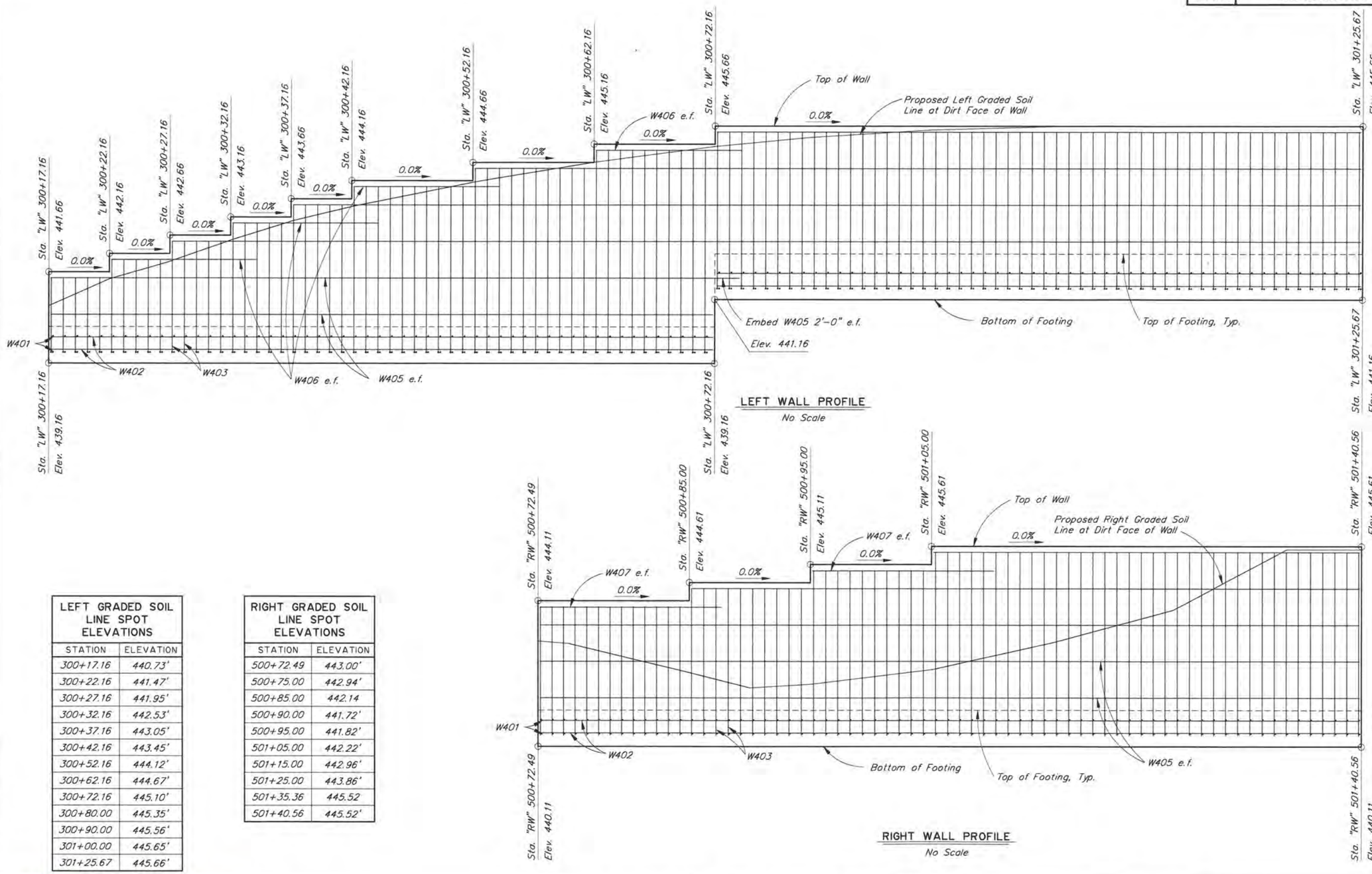
CUSHMAN STREET

RETAINING WALL LAYOUT

BRIDGE NO. 390

DWG. NO. 1

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	M2	M3



LEFT WALL PROFILE
No Scale

RIGHT WALL PROFILE
No Scale

LEFT GRADED SOIL LINE SPOT ELEVATIONS	
STATION	ELEVATION
300+17.16	440.73'
300+22.16	441.47'
300+27.16	441.95'
300+32.16	442.53'
300+37.16	443.05'
300+42.16	443.45'
300+52.16	444.12'
300+62.16	444.67'
300+72.16	445.10'
300+80.00	445.35'
300+90.00	445.56'
301+00.00	445.65'
301+25.67	445.66'

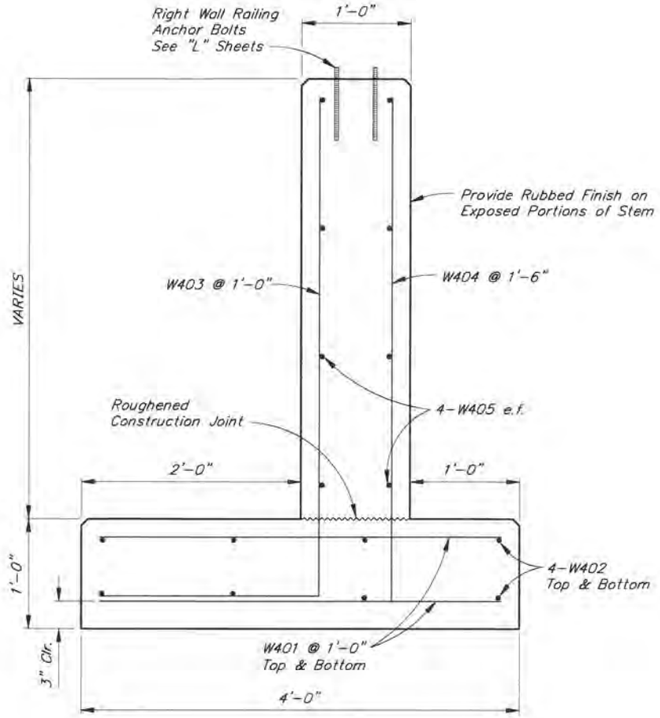
RIGHT GRADED SOIL LINE SPOT ELEVATIONS	
STATION	ELEVATION
500+72.49	443.00'
500+75.00	442.94'
500+85.00	442.14
500+90.00	441.72'
500+95.00	441.82'
501+05.00	442.22'
501+15.00	442.96'
501+25.00	443.86'
501+35.36	445.52
501+40.56	445.52'

DESIGNED BY: Nick Murray	CHECKED: Ben Fetterhoff	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975	CHENA RIVER BRIDGE CUSHMAN STREET PROFILE LINES
DRAWN BY: Sam Sollie	CHECKED: Nick Murray		BRIDGE NO. 390 DWG. NO. 2
QUANTITIES BY: Nick Murray	CHECKED: Ben Fetterhoff		

STATE OF ALASKA 49TH — Nicholas W. Murray 08-19-2021 SEB 119472 REGISTERED STRUCTURAL ENGINEER

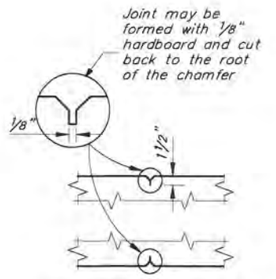
R:\cad\390\Chena River Wall--PROFILE Thu, Aug/19/21 01:57pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	M3	M3



TYPICAL SECTION

12 6 0
In. Feet



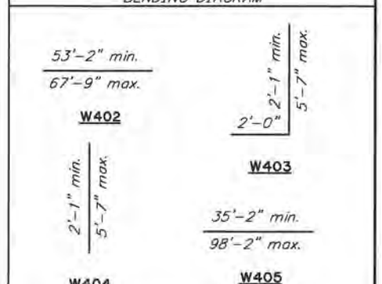
WEAKENED PLANE JOINT

No Scale
Space Joints evenly at 15'-0" max.

REINFORCING STEEL-TWO WALLS

MARK	NOTE	SIZE	NO.	LENGTH	TYPE
W401		4	356	3'-8"	---
W402	L,M	4	24	VARIES	---
W403		4	178	VARIES	BENT
W404		4	119	VARIES	---
W405	L,M	4	22	VARIES	---
W406	M	4	4	12'-0"	---
W407	M	4	4	14'-6"	---

BENDING DIAGRAM



L – Length does not include lap splices
M – Match curvature of wall

DESIGNED BY: Nick Murray	CHECKED: Ben Fetterhoff	
DRAWN BY: Sam Sallie	CHECKED: Nick Murray	
QUANTITIES BY: Nick Murray	CHECKED: Ben Fetterhoff	

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

STATE OF ALASKA 49TH
Nicholas W. Murray
08-19-2021
SE# 119472
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

CUSHMAN STREET

WALL DETAILS

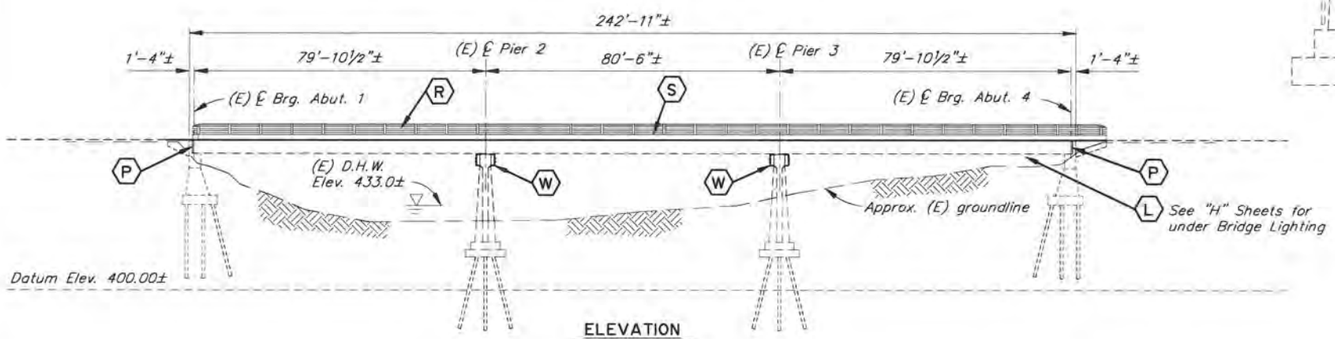
BRIDGE NO. 390
DWG. NO. 3

R:\cad\390\Chena River Wall-WALL DETAILS Thu, Aug/19/21 01:57pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	N1	N11

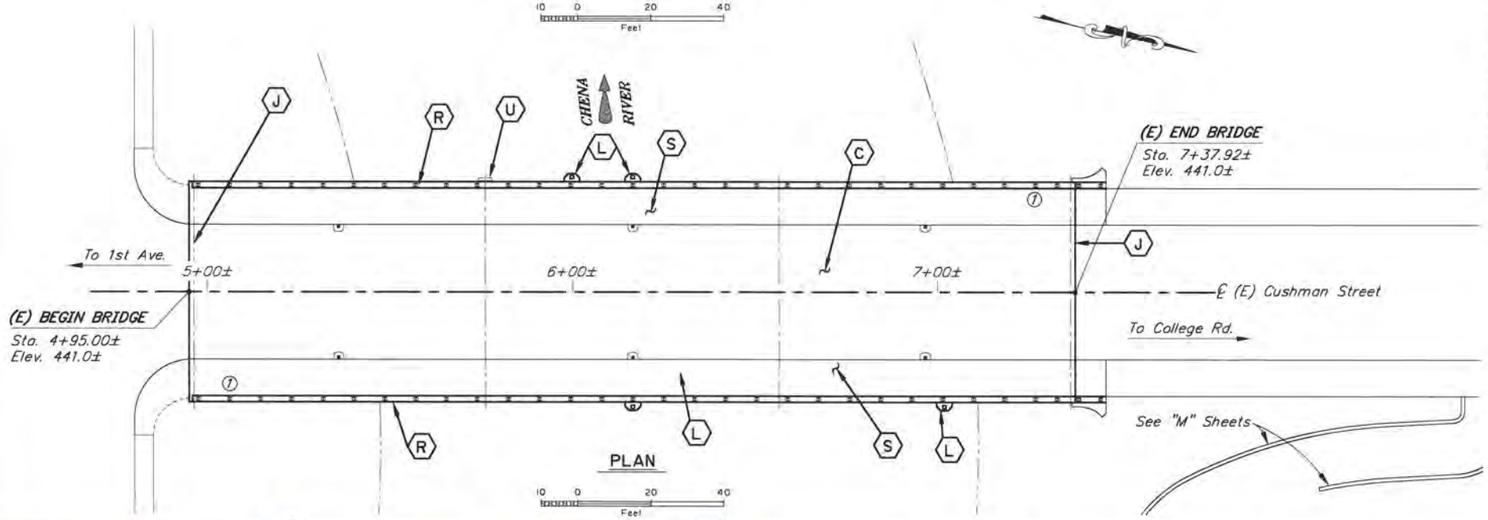
BRIDGE PROFILE GRADE

No Scale



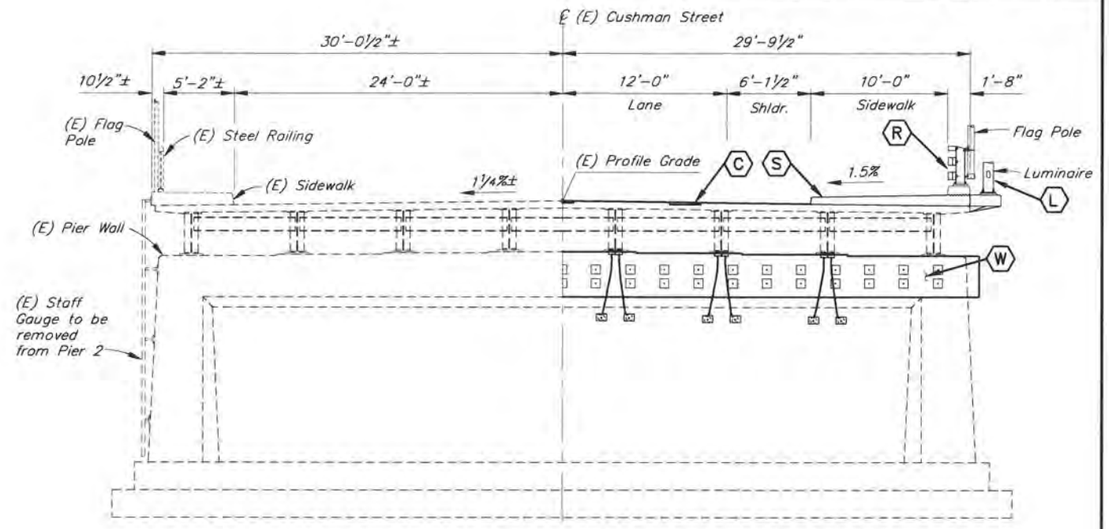
ELEVATION

10 0 20 40 Feet



PLAN

10 0 20 40 Feet



EXISTING PROPOSED

TYPICAL SECTION

12 0 1 2 3 4 in. Feet

BRIDGE DRAWING INDEX

TITLE	DWG. NO.
GENERAL LAYOUT	1
GENERAL NOTES	2
ABUTMENT DETAILS	3
ABUTMENT 4 SIDEWALK	4
PIERS	5
CABLE RESTRAINERS	6
DECK DETAILS	7
SIDEWALK DETAILS	8
MISCELLANEOUS DETAILS	9
DECK LAYOUT	10
STEEL BRIDGE RAILING	11

LEGEND

- (C) – Repair Concrete Deck and Place Polyester Overlay
- (J) – Replace Silicone Joint Sealant
- (L) – Install Luminaries and Lighting
- (P) – Paint Girder Ends
- (R) – Replace Steel Bridge Railing and Flag Posts
- (S) – Remove and Replace Concrete Sidewalks
- (U) – Remove existing Staff Gauge on Downstream End of Pier 2
- (W) – Widen Bearing Seat and Install Cable Restrainers

NOTES:

(E) = Existing

- - - - - - = Existing

——— = Proposed

① Approximate location of Bridge No. Plate.

Bridge stations are approximations and elevations are based on as-built drawings. For project stations and elevations see the Roadway Sheets.

REHABILITATION

DESIGNED BY: Ben Fetterhoff	CHECKED: Nick Murray	LAYOUT BY: Ben Fetterhoff	CHECKED BY: Nick Murray
DRAWN BY: Sam Sollie	CHECKED: Ben Fetterhoff	SPECIFICATIONS BY: Ben Fetterhoff	P S & E COMPARED: Nick Murray
QUANTITIES BY: Ben Fetterhoff	CHECKED: Nick Murray	APPROVAL RECOMMENDED BY: Rich Pratt	

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

STATE OF ALASKA 49TH
Nicholas W. Murray
08-19-2021
SE# 11947
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE
CUSHMAN STREET
GENERAL LAYOUT

BRIDGE NO. 390
DWG. NO. 1

R:\cad\390\390-3R-GENERAL LAYOUT Thu, Aug/19/21 01:53pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	N2	N11

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	PAY UNIT	ESTIMATING UNIT	SUBST.	SUPERST.	TOTAL QUANTITY
501.0001.0000	Class A Concrete	LS	CY	33.3	146.3	179.6
501.2001.0001	Spall Repair	SF	SF	---	290	290
501.2018.0000	Coring Concrete	LF	LF	312	---	312
502.0001.0000	Post-Tensioning, Rods	LS	EA	92	---	92
503.0002.0000	Epoxy-Coated Reinforcing Steel	LS	LBS	5,200	9,600	14,800
503.0003.0000	Drill and Bond Dowels	EA	EA	392	---	392
504.2003.0000	Bridge Joint Restrainer Units	EA	EA	---	48	48
507.0001.0003	Steel Bridge Railing, 3-Tube	LF	LF	---	502	502
510.0001.0000	Removal of Concrete Bridge Deck	SF	SF	---	14,740	14,740
510.2001.0000	Bridge Deck Repair	CS	SF	---	175	175
513.0001.0000	Field Painting of Steel Structures	LS	SF	---	1,070	1,070
516.0001.0000	Expansion Joint, Silicone	LF	LF	---	121	121
516.0001.0004	Expansion Joint, Precompressed Silicone Coated	LF	LF	---	49	49
525.2001.0000	Polyester Concrete Overlay	LS	CY	---	20.4	20.4

Item numbers are for reference only. Quantities shown are not necessarily the pay quantities nor the total quantity of the particular item.

BRIDGE AND RETAINING WALL GENERAL NOTES

DESIGN:..... FHWA Seismic Retrofitting Manual for Highway Bridges, 1995.

AASHTO LRFD Bridge Design Specifications, 9th Edition, with latest interim specifications.

SEISMIC PARAMETERS:..... PGA = 0.28
Ss = 0.65
S1 = 0.21
Site Class = D
Liquefaction Potential = High

LIVE LOAD:..... See "AS-BUILT DRAWINGS"

REINFORCEMENT:..... ASTM A706, Grade 60, Fy = 60,000 psi.

CONCRETE:..... Class A Concrete unless otherwise noted, f'c = 4,000 psi.

STRUCTURAL STEEL:..... ASTM A709, Grade 50T3, Fy = 50,000 psi unless otherwise noted. Galvanize all structural steel in accordance with AASHTO M111 and M232 unless otherwise noted.

POST-TENSIONING RODS:.. AASHTO M275, TYPE II, Galvanized, Fu = 150,000 psi.

HIGH STRENGTH BOLTS:..... Galvanized ASTM F3125 Grade A325 or F1852, Fu = 120,000 psi. Exclude threads from shear plane. Do not use punched holes.

"As-Built" drawings, fabrication shop drawings or other documentation for the existing bridges note significant changes from the original contract plans but do not necessarily show normal construction tolerances and variances. These documents are for informational use only and the Department neither warrants nor represents that these documents accurately depict the configuration of the existing bridges. Where dimensions of the proposed work in this Contract are dependent on the dimensions of the existing bridge, adjust dimensions of the work to fit existing conditions.

BRIDGE AND RETAINING WALL ABBREVIATIONS

℄	= centerline	ft.	= feet
℗	= plate	f.f.	= front/air face
&	= and	f'c	= specified concrete compressive strength
@	= at		
ø	= diameter	Fy	= yield stress
±	= approximate	Galv.	= galvanize
AASHTO	= American Association of State Highway and Transportation Officials	Hwy.	= highway
		ksf	= 1000 pounds per square foot
		LB	= pound
ASTM	= American Society for Testing and Materials	LF	= linear foot
		LS	= lump sum
Abut.	= abutment	Lt.	= left
Approx.	= approximate	max.	= maximum
b.f.	= back/dirt face	min.	= minimum
bot.	= bottom	n.f.	= near face
Br.	= bridge	No.	= number
btwn.	= between	o.c.	= on center
Brg.	= Bearings	O.D.	= outside diameter
C.I.P.	= cast in place	O.H.W.	= ordinary high water
Clr.	= clear, clearance	pcf	= pounds per cubic foot
CY	= cubic yard	psf	= pounds per square foot
D.H.W.	= design high water	psi	= pounds per square inch
dia.	= diameter	R.O.W.	= right of way
Dwg.	= drawing	Rt.	= right
E	= expansion	Rd.	= road
(E)	= existing	spc.	= space, spaces
EA	= each	Sta.	= station
Elev.	= elevation	SF	= square feet
e.f.	= each face	Symm.	= symmetric
e.w.	= each way	Typ.	= typical
F	= fixed	w/	= with

R:\ed\390\390_3R-General Notes Thu, Aug/19/21 01:53pm

DESIGNED BY: Ben Fetterhoff	CHECKED: Nick Murray	**REHABILITATION**	STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES** BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975
DRAWN BY: Sam Sollie	CHECKED: Ben Fetterhoff		
QUANTITIES BY: Ben Fetterhoff	CHECKED: Nick Murray		

STATE OF ALASKA 49TH — Nicholas W. Murray 08-19-2021 SE# 119472 REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

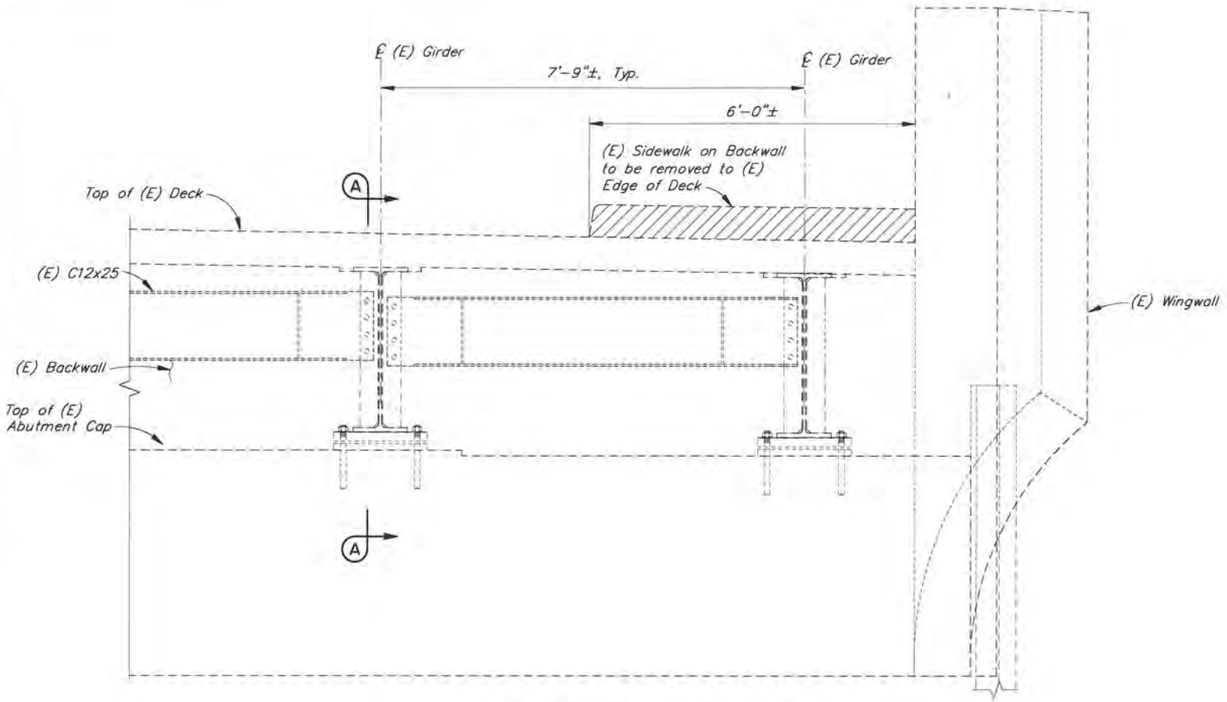
CUSHMAN STREET

GENERAL NOTES

BRIDGE NO. 390

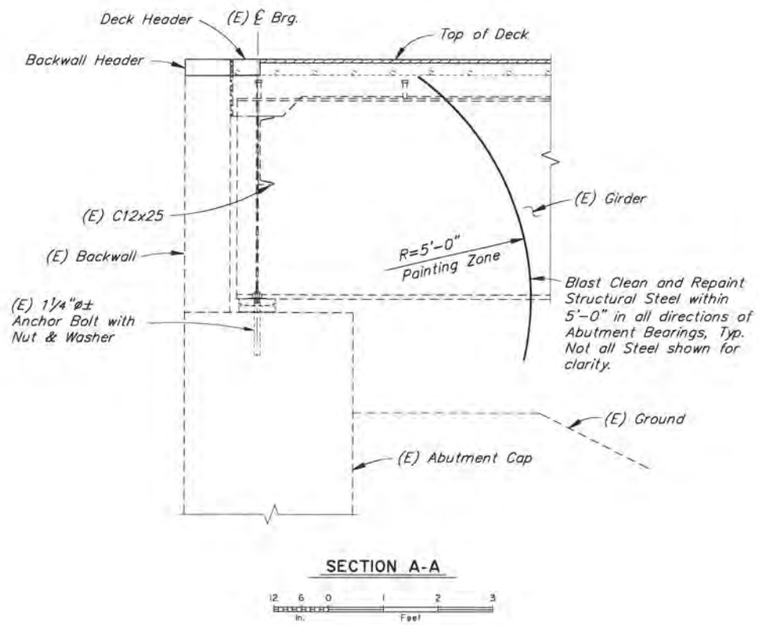
DWG. NO. 2

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	N3	N11



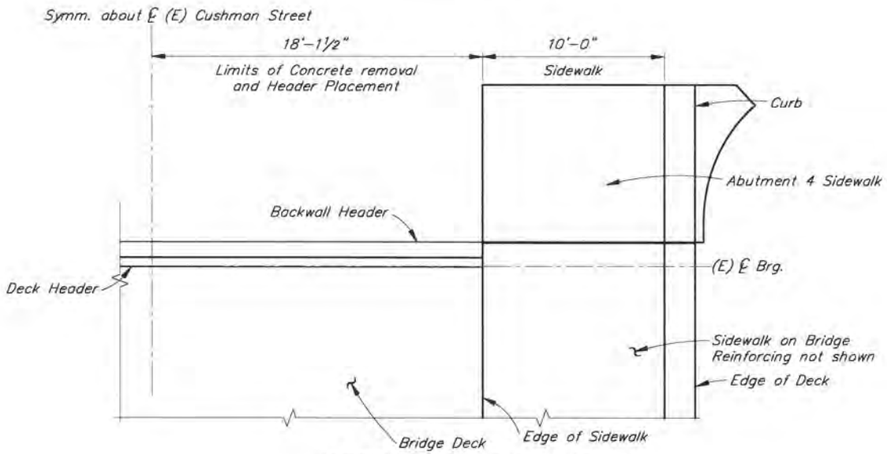
PARTIAL ABUTMENT ELEVATION

12 6 0 1 2 3
In. Feet



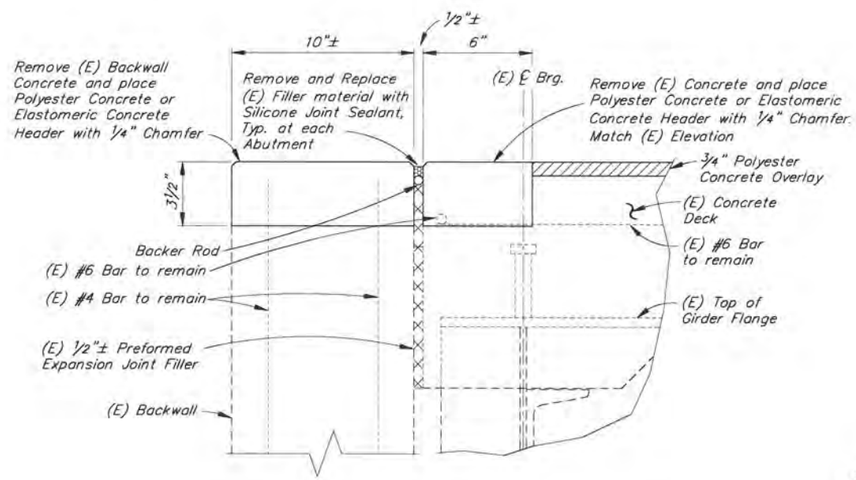
SECTION A-A

12 6 0 1 2 3
In. Feet



ABUTMENT JOINT PLAN VIEW

12 0 4 8
In. Feet



ABUTMENT JOINT DETAIL

6 3 0 1
In. Feet

NOTES:

(E) = Existing
- - - - - = Existing
——— = Proposed

DESIGNED BY: Ben Fetterhoff	CHECKED: Nick Murray	
DRAWN BY: Sam Sollie	CHECKED: Ben Fetterhoff	**REHABILITATION**
QUANTITIES BY: Ben Fetterhoff	CHECKED: Nick Murray	

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

STATE OF ALASKA 49TH
Nicholas W. Murray
08-19-2021
SE# 11947
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

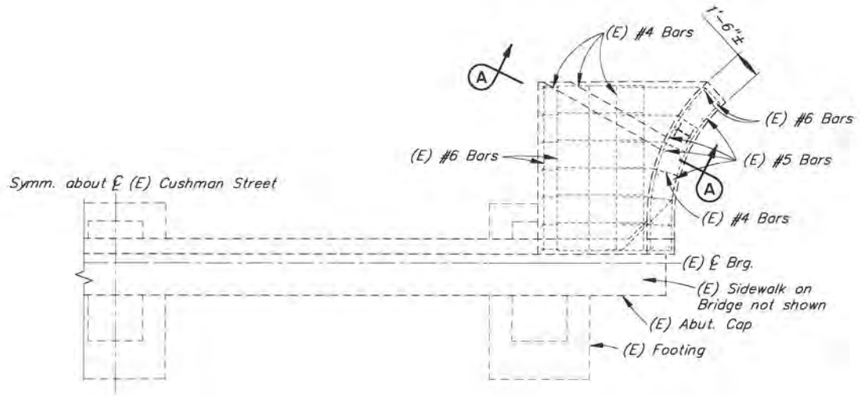
CUSHMAN STREET

ABUTMENT DETAILS

BRIDGE NO. 390
DWG. NO. 3

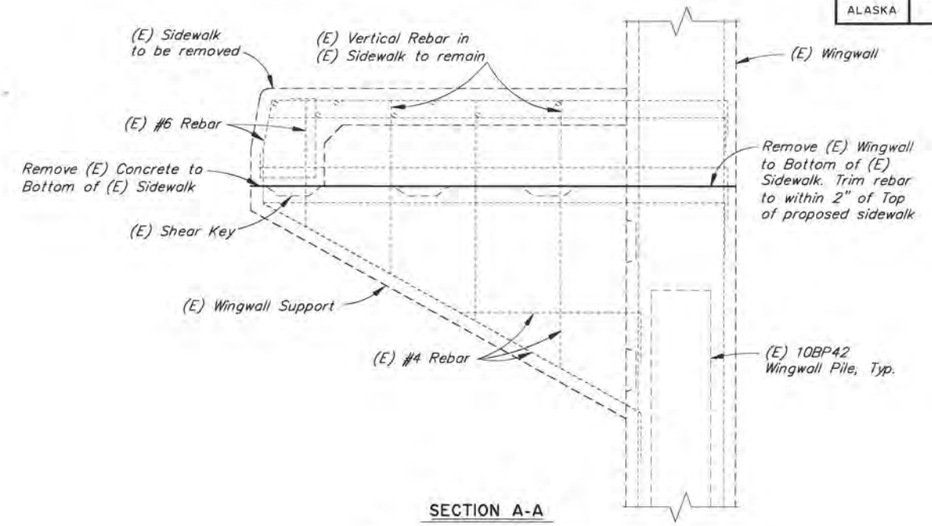
R:\cad\390\390-3R-ABUTMENTS Thu, Aug/19/21 01:33pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	N4	N11



EXISTING ABUTMENT 4 SIDEWALK PLAN

12 0 4 8 In. Feet



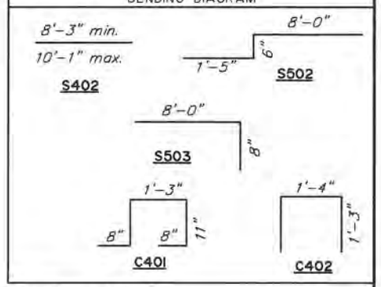
SECTION A-A

12 6 0 1 2 In. Feet

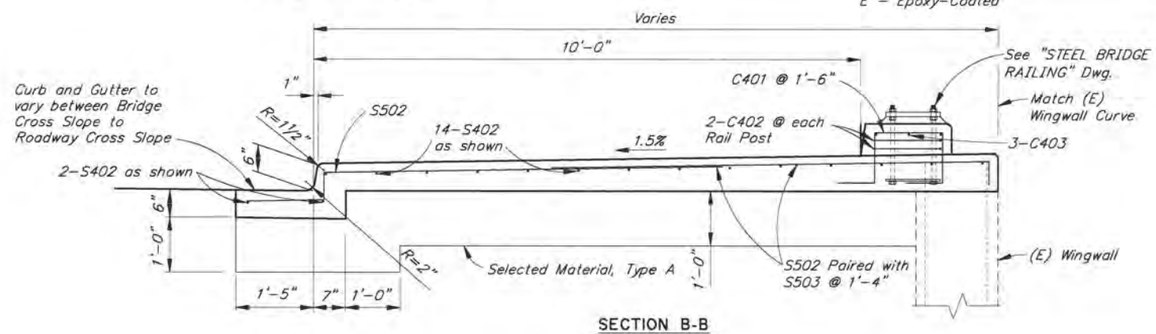
REINFORCING STEEL - ONE SIDEWALK

MARK	NOTE	SIZE	NO.	LENGTH	TYPE
S402	E	4	16	VARIES	---
S502	E	5	7	9'-11"	BENT
S503	E	5	7	8'-8"	BENT
C401	E	4	7	4'-5"	BENT
C402	E	4	4	3'-10"	BENT
C403	E	4	3	8'-3"	---

BENDING DIAGRAM

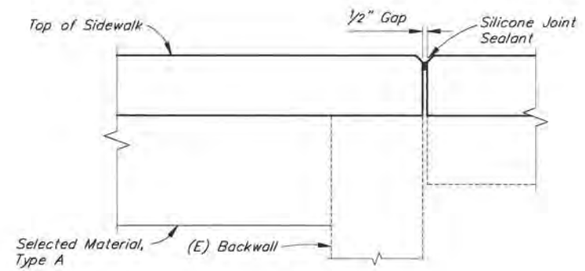


E = Epoxy-Coated



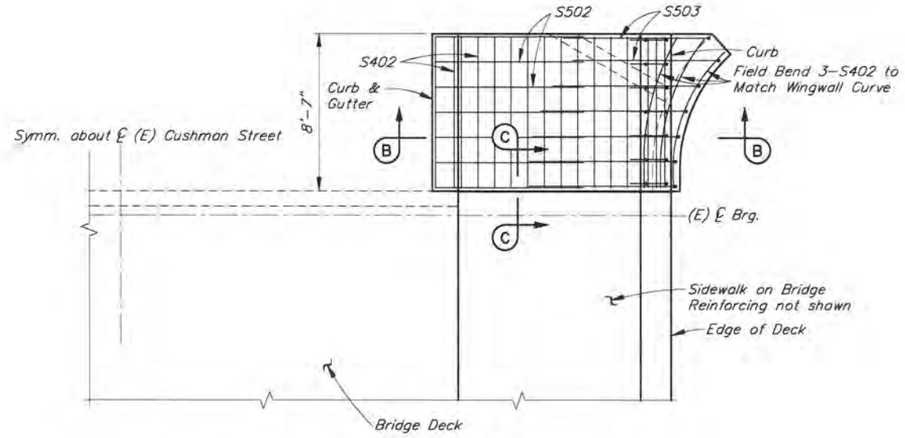
SECTION B-B

12 6 0 1 2 3 In. Feet



SECTION C-C

12 6 0 1 In. Feet



PROPOSED ABUTMENT 4 SIDEWALK PLAN

12 0 4 8 In. Feet

NOTES:

(E) = Existing

----- = Existing

——— = Proposed

DESIGNED BY: Ben Fetterhoff	CHECKED: Nick Murray	**REHABILITATION**
DRAWN BY: Sam Sollie	CHECKED: Ben Fetterhoff	
QUANTITIES BY: Ben Fetterhoff	CHECKED: Nick Murray	

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

STATE OF ALASKA 49TH
Nicholas W. Murray
08-19-2021
SEAL 115472
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

CUSHMAN STREET

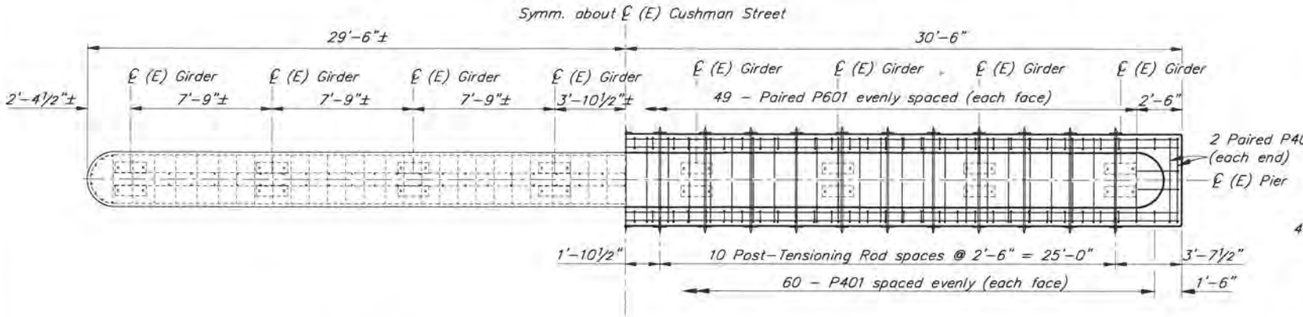
ABUTMENT 4 SIDEWALK

BRIDGE NO. 390

DWG. NO. 4

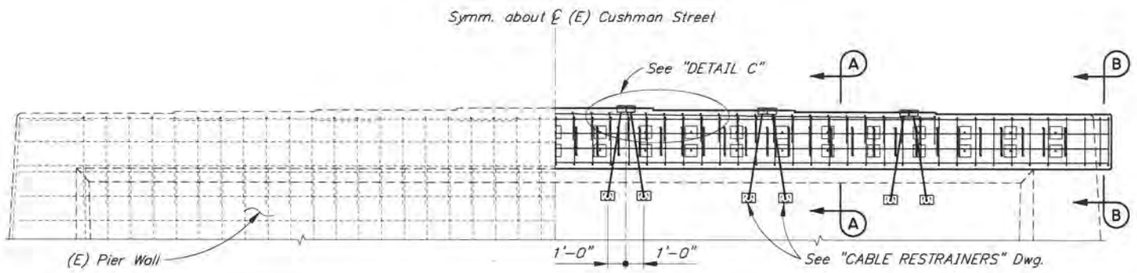
R:\cor\390\390_3R-ABUTMENTS (2) Thu, Aug/19/21 01:53pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	N5	N11



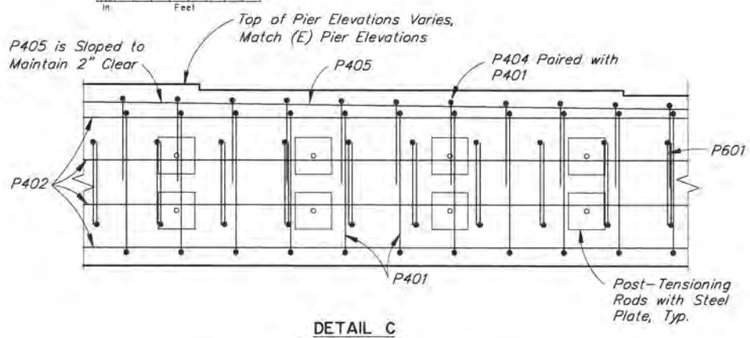
EXISTING PROPOSED

PLAN

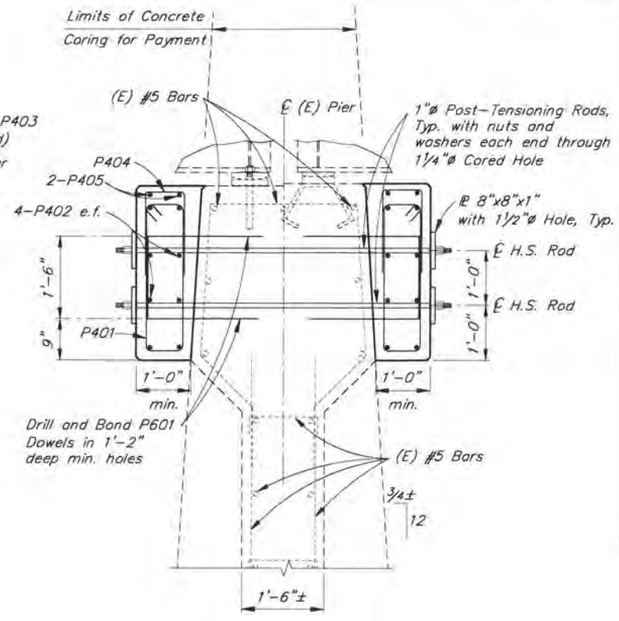


EXISTING PROPOSED

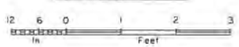
ELEVATION

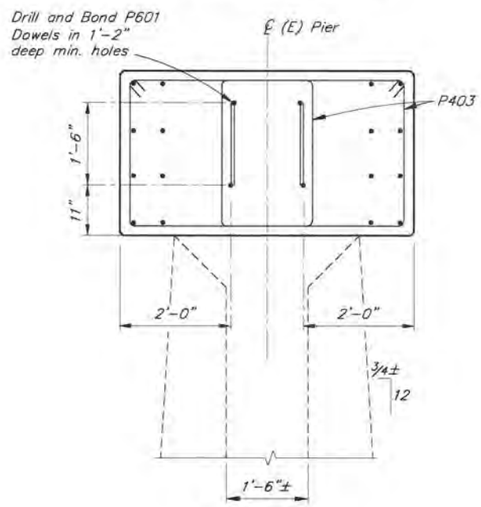


DETAIL C



SECTION A-A



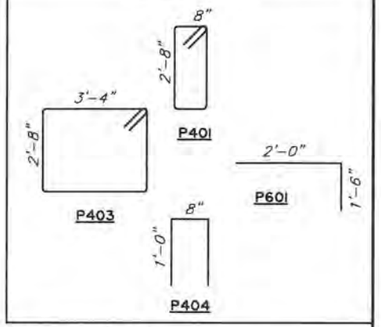


SECTION B-B

REINFORCING STEEL - ONE PIER

MARK	NOTE	SIZE	NO.	LENGTH	TYPE
P401	E	4	120	7'-5"	STIRRUP
P402	E,S	4	16	60'-8"	---
P403	E	4	8	12'-9"	STIRRUP
P404	E	4	86	2'-8"	BENT
P405	E,M	4	4	38'-9"	---
P601	E	6	196	3'-6"	BENT

BENDING DIAGRAM



E – Epoxy-Coated
M – Field bend to match cross slope
S – Splice permitted. Length does not include splices.

NOTES:
(E) = Existing
- - - - - = Existing
——— = Proposed

DESIGNED BY: Ben Fetterhoff	CHECKED: Nick Murray	**REHABILITATION**	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975
DRAWN BY: Sam Sollie	CHECKED: Ben Fetterhoff		
QUANTITIES BY: Ben Fetterhoff	CHECKED: Nick Murray		

STATE OF ALASKA 49TH – Nicholas W. Murray 08-19-2021 SE#119472 REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

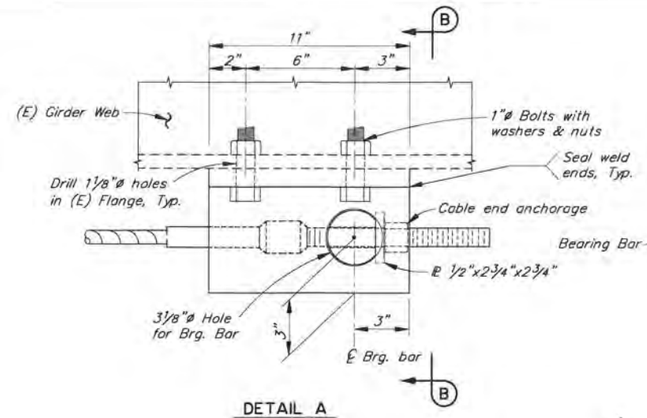
CUSHMAN STREET

PIERS

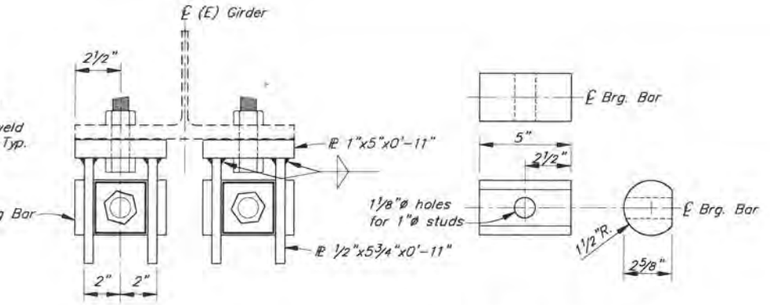
BRIDGE NO. 390
DWG. NO. 5

R:\cad\390\390_SH-PIERS Thu, Aug/19/21 01:54pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	N6	N11

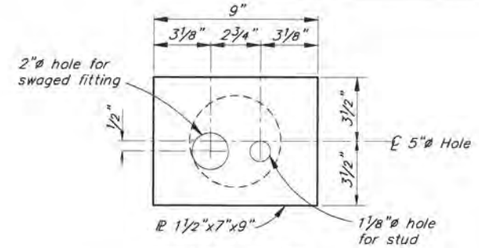


DETAIL A

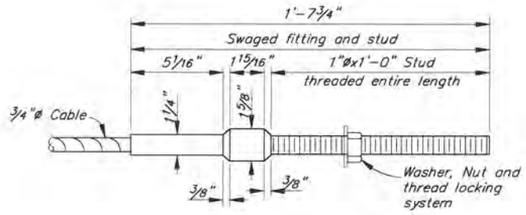


SECTION B-B

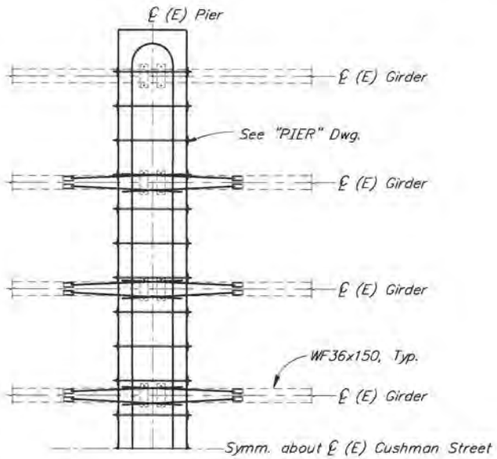
BEARING BAR DETAIL



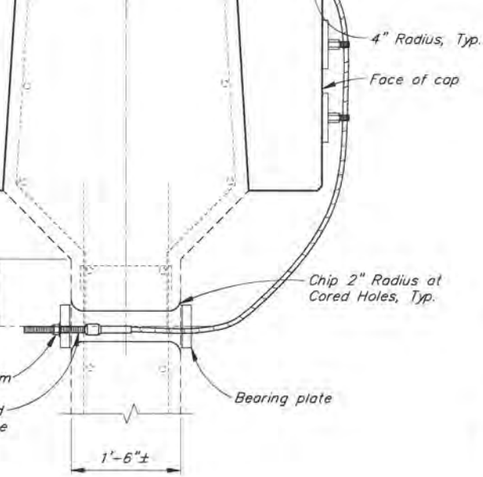
BEARING PLATE



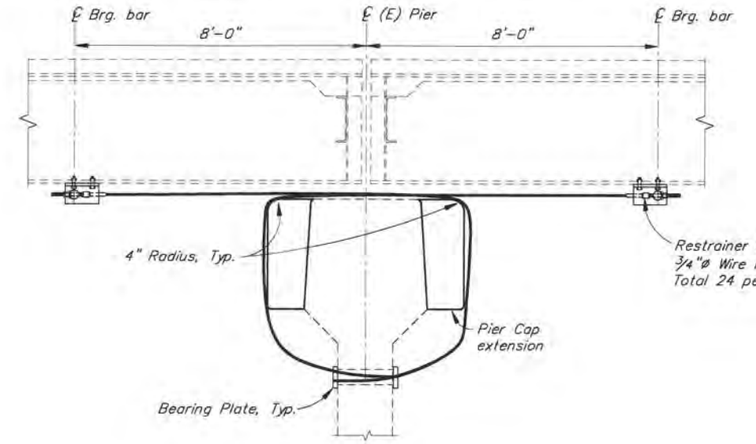
CABLE END ANCHORAGE



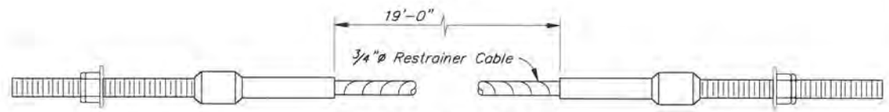
PLAN - CABLE LAYOUT



CABLE END ANCHORAGE DETAIL



ELEVATION



RESTRAINER CABLE DETAIL

ANCHORING PROCEDURE AT RESTRAINER ENDS

1. Locate and secure cable to pier.
2. Locate and secure cable to girder.
3. Tighten nuts to remove slack in cable, 20 ft.-lbs. min.
4. Back off nut at girder end to provide 3" clearance between washer and bearing bar.
5. Place thread locking system in accordance with Special Provisions and manufacturer's instructions.

NOTES:

(E) = Existing
----- = Existing
——— = Proposed

DESIGNED BY: Ben Fetterhoff	CHECKED: Nick Murray	**REHABILITATION**	STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES** BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975
DRAWN BY: Sam Sollie	CHECKED: Ben Fetterhoff		
QUANTITIES BY: Ben Fetterhoff	CHECKED: Nick Murray		

STATE OF ALASKA 49TH — Nicholas W. Murray 08-19-2021 SE# 119472 REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

CUSHMAN STREET

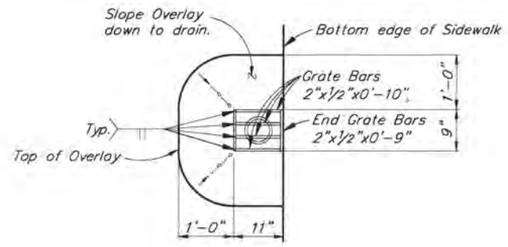
CABLE RESTRAINERS

BRIDGE NO. 390

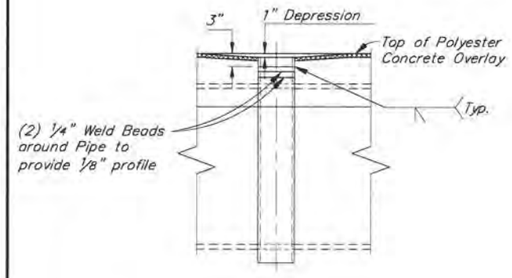
DWG. NO. 6

R:\cad\390\390_36-cable restrainers Thu, Aug/19/21 01:54pm

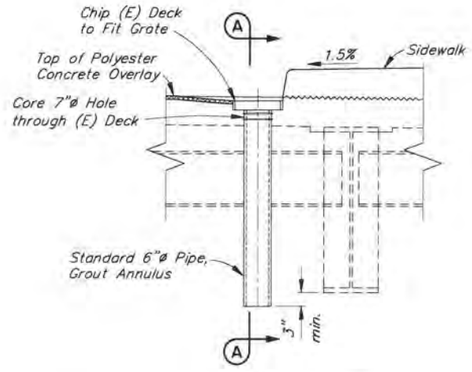
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	N7	N11



PLAN

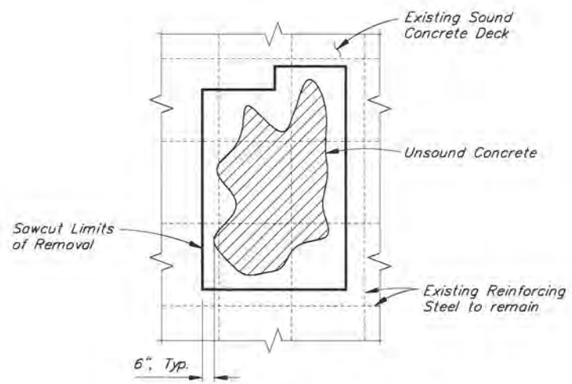


SECTION A-A



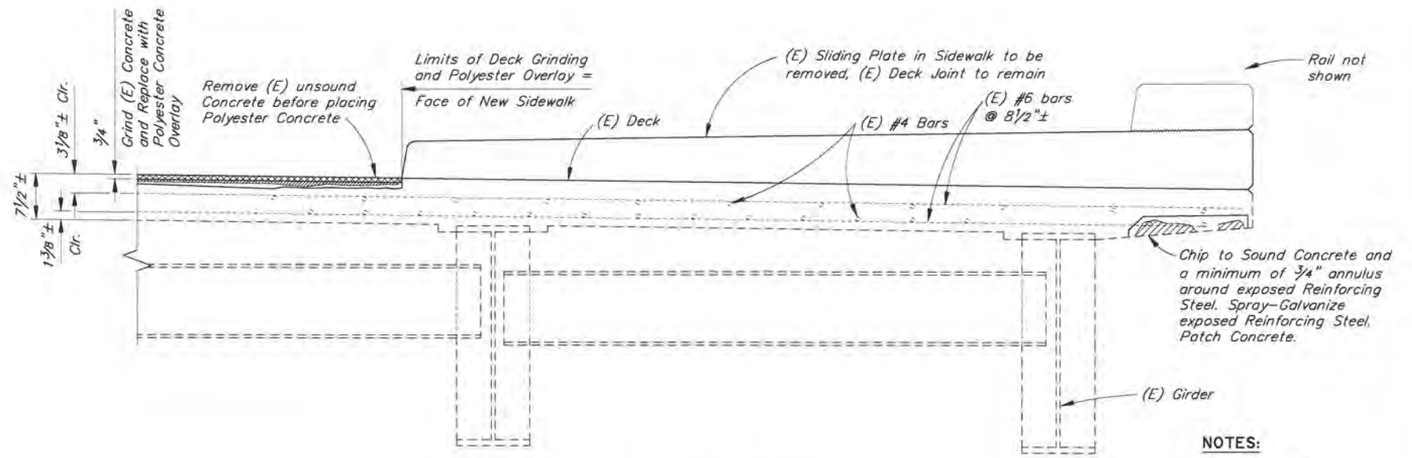
DRAIN DETAILS

DECK DETAILS



CONCRETE REPAIR - PLAN VIEW

No Scale



TYPICAL PATCHING DETAIL

NOTES:

(E) = Existing
----- = Existing
——— = Proposed
▨ = Approximate areas of unsound concrete.

R:\cad\390\390-SR-DECK Thu, Aug/19/21 01:54pm

DESIGNED BY: Ben Fetterhoff	CHECKED: Nick Murray
DRAWN BY: Sam Sollie	CHECKED: Ben Fetterhoff
QUANTITIES BY: Ben Fetterhoff	CHECKED: Nick Murray

REHABILITATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

STATE OF ALASKA 49TH
Nicholas W. Murray
08-19-2021
SE# 119472
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

CUSHMAN STREET

DECK DETAILS

BRIDGE NO. 390

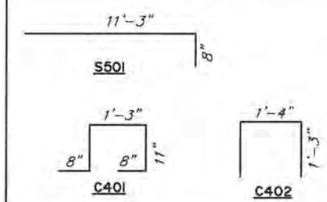
DWG. NO. 7

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	N8	N11

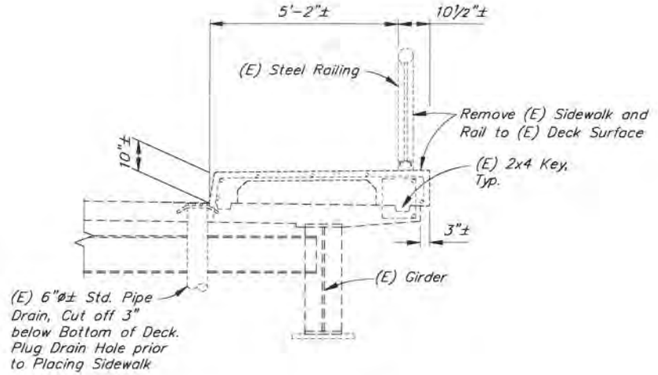
REINFORCING STEEL - ONE SIDEWALK

MARK	NOTE	SIZE	NO.	LENGTH	TYPE
S401	E,S	4	12	242'-7"	---
S501	E	5	183	11'-11"	BENT
C401	E	4	163	4'-5"	BENT
C402	E	4	58	3'-10"	BENT
C403	E,S	4	3	242'-7"	---

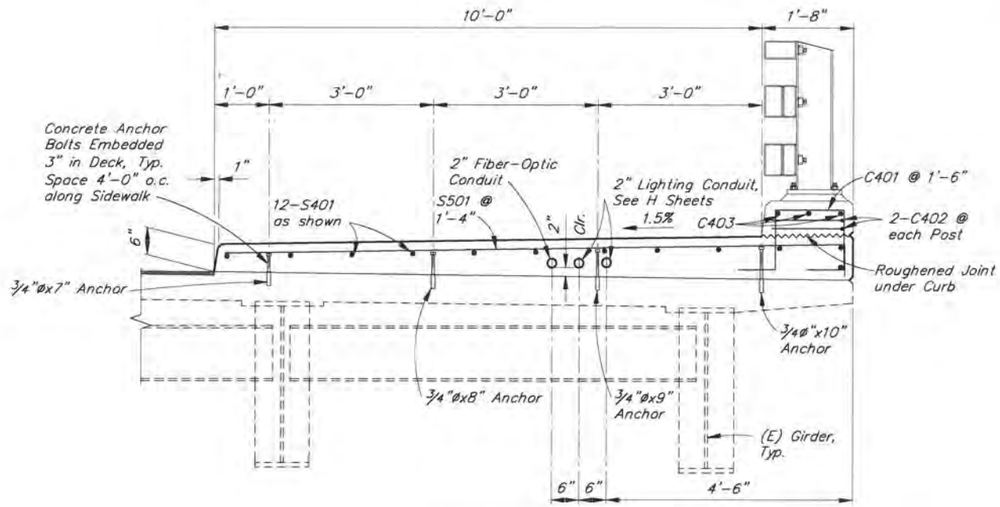
BENDING DIAGRAM



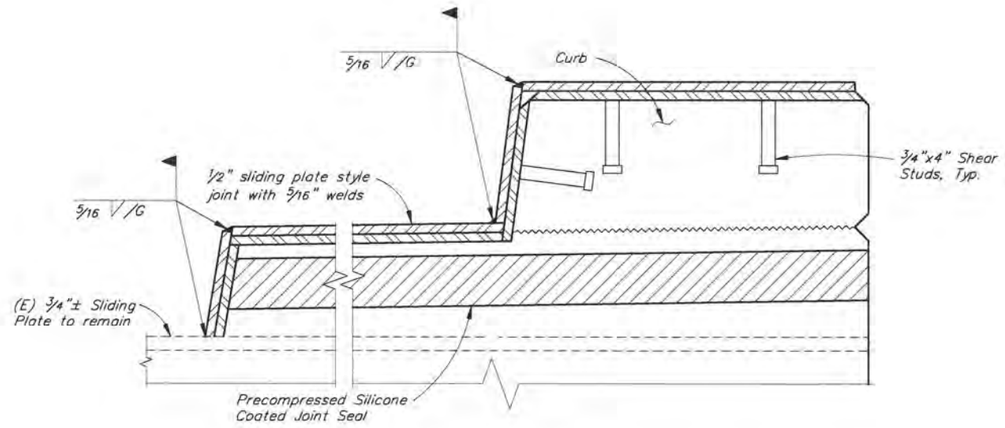
E = Epoxy-Coated
S = Splice permitted. Length does not include splices



EXISTING SIDEWALK

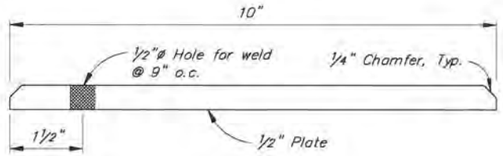


PROPOSED SIDEWALK



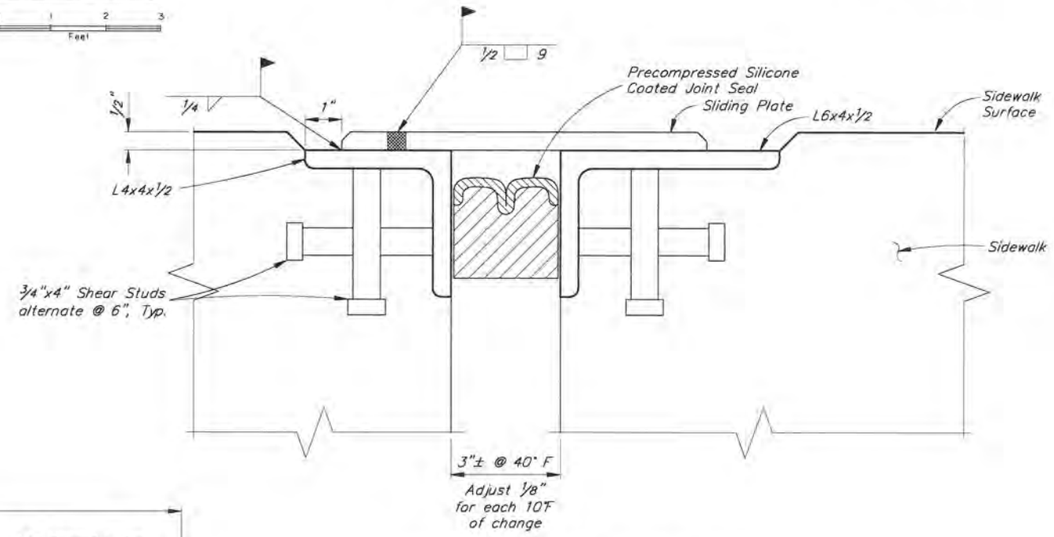
SLIDING PLATE SECTION

No Scale



SLIDING PLATE DETAIL

No Scale



SIDEWALK EXPANSION JOINT DETAIL

No Scale

NOTES:

(E) = Existing
----- = Existing
——— = Proposed

DESIGNED BY: Ben Fetterhoff	CHECKED: Nick Murray	REHABILITATION
DRAWN BY: Sam Sollie	CHECKED: Ben Fetterhoff	
QUANTITIES BY: Ben Fetterhoff	CHECKED: Nick Murray	

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

STATE OF ALASKA 49TH
Nicholas W. Murray
08-19-2021
SEB 119472
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

CUSHMAN STREET

SIDEWALK DETAILS

BRIDGE NO. 390
DWG. NO. 8

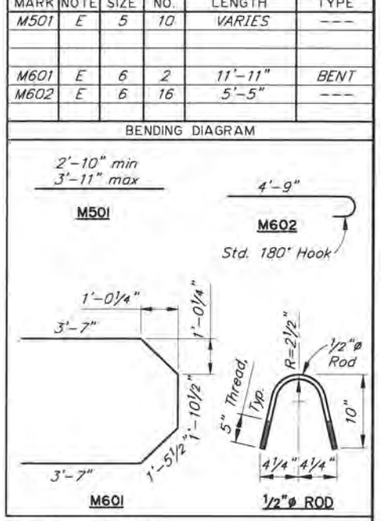
R:\cad\390\390-3R-SIDEWALK DETAILS Thu, Aug/19/21 01:54pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	N9	N11

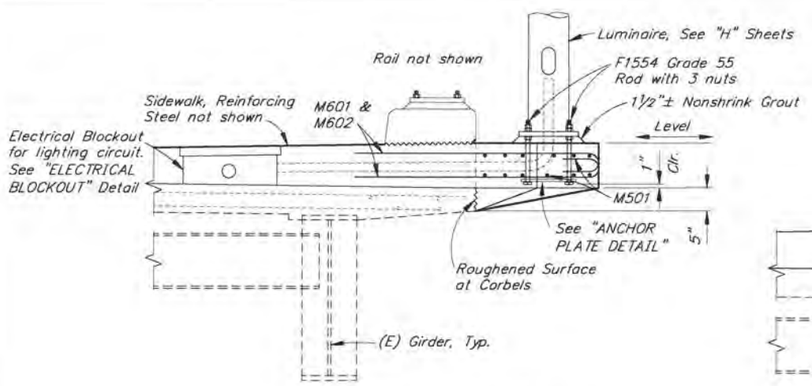
REINFORCING STEEL-ONE CORBEL

MARK	NOTE	SIZE	NO.	LENGTH	TYPE
M501	E	5	10	VARIES	---
M601	E	6	2	11'-11"	BENT
M602	E	6	16	5'-5"	---

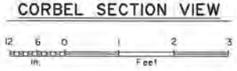
BENDING DIAGRAM

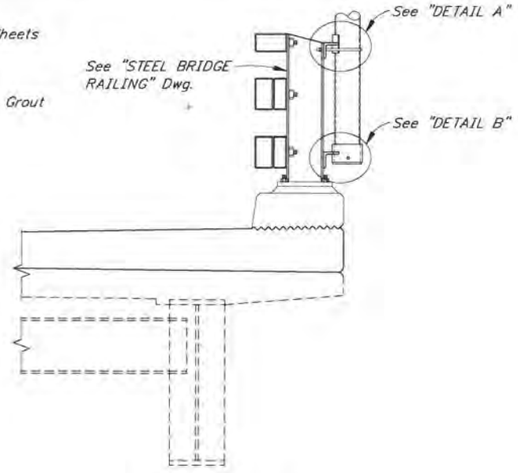


E - Epoxy-Coated

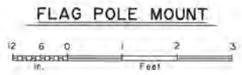


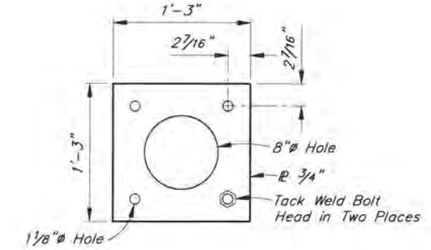
CORBEL SECTION VIEW





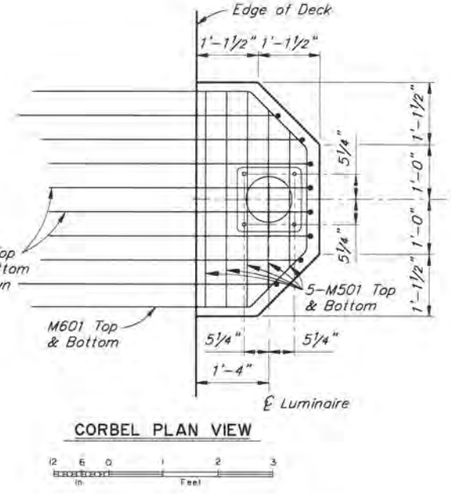
FLAG POLE MOUNT



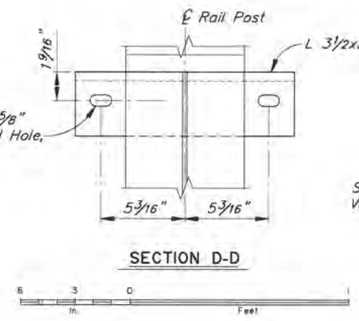


ANCHOR PLATE DETAIL

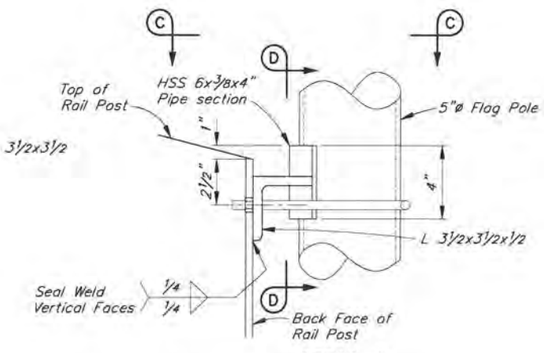
(Verify anchor plate compatibility prior to placing)



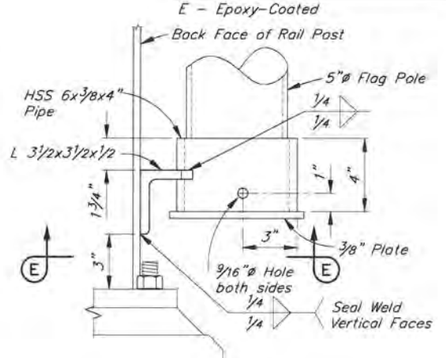
CORBEL PLAN VIEW



SECTION D-D



DETAIL A



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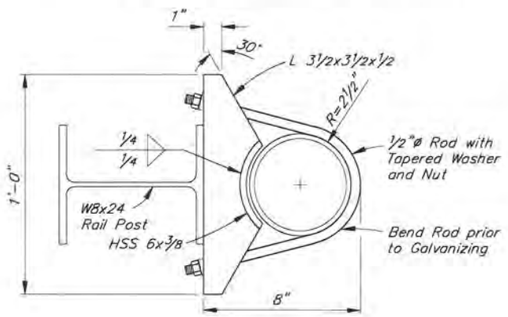

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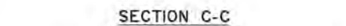

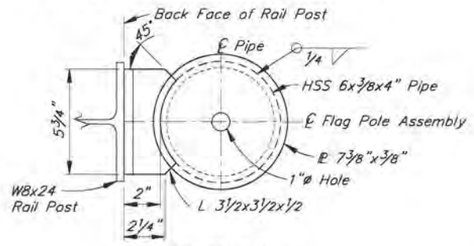

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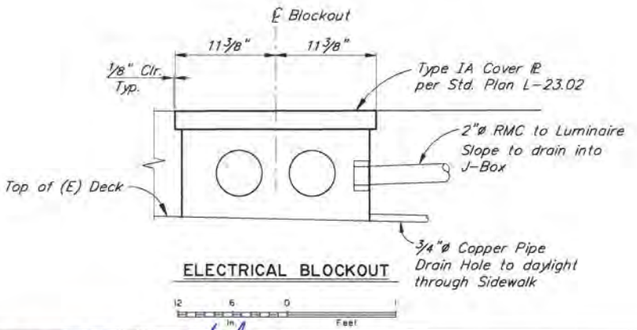


ELECTRICAL BLOCKOUT

DESIGNED BY: Ben Fetterhoff	CHECKED: Nick Murray
DRAWN BY: Sam Sollie	CHECKED: Ben Fetterhoff
QUANTITIES BY: Ben Fetterhoff	CHECKED: Nick Murray

REHABILITATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

STATE OF ALASKA 49TH
Nicholas W. Murray
08-19-2021
SE# 119472
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

CUSHMAN STREET

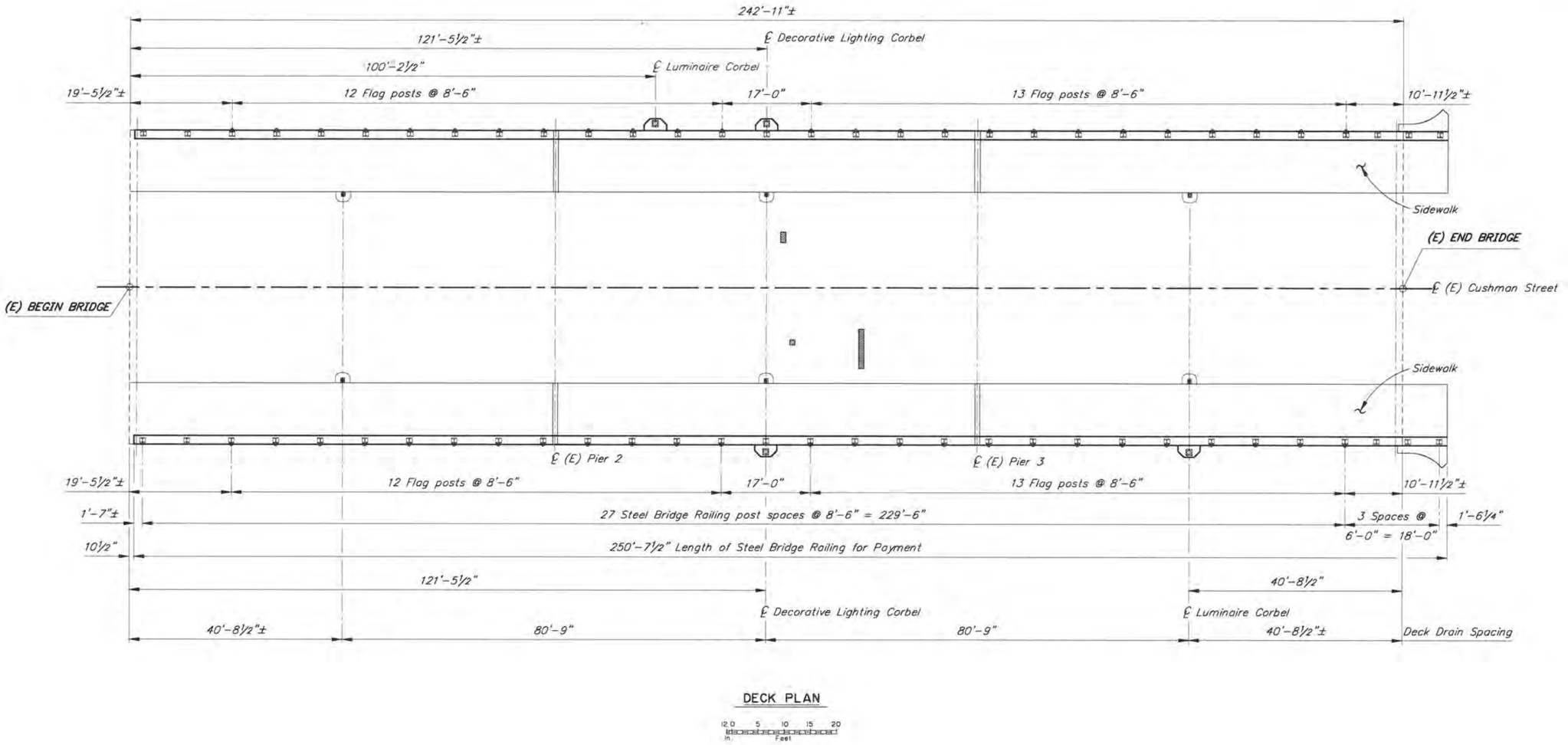
MISCELLANEOUS DETAILS

BRIDGE NO. 390

DWG. NO. 9

R:\cad\390\390-SR-MISC DETAILS Thu, Aug/19/21 01:54pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	N10	N11



DECK PLAN

12.0 5 10 15 20
In. Feet

NOTES:

▨ = Approximate areas of unsound concrete.

DESIGNED BY: Ben Fetterhoff	CHECKED: Nick Murray
DRAWN BY: Sam Sollie	CHECKED: Ben Fetterhoff
QUANTITIES BY: Ben Fetterhoff	CHECKED: Nick Murray

REHABILITATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

STATE OF ALASKA 49 TH
Nicholas W. Murray
08-19-2021
SE# 119472
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

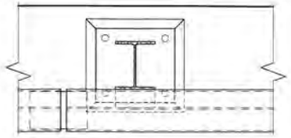
CUSHMAN STREET

DECK LAYOUT

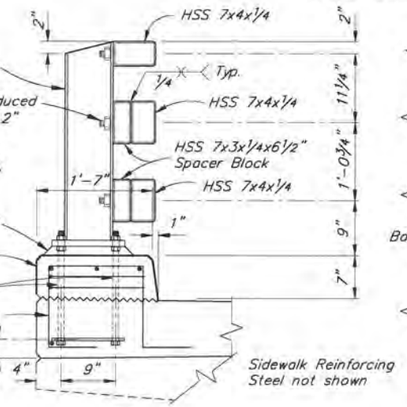
BRIDGE NO. 390
DWG. NO. 10

R:\cad\390\390-3R-LAYOUT Thu, Aug/19/21 01:54pm

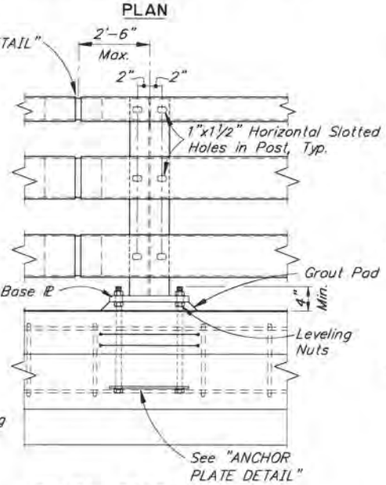
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	N11	N11



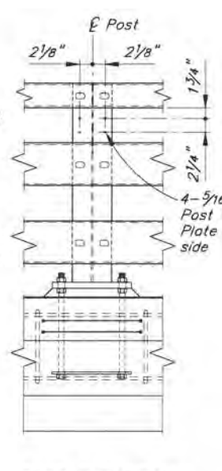
PLAN



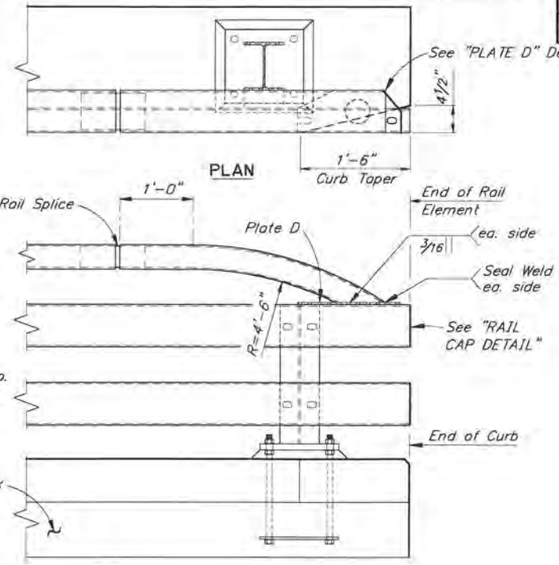
TYPICAL SECTION



TYPICAL POST ELEVATION

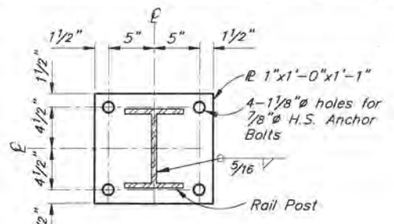


POST ELEVATION

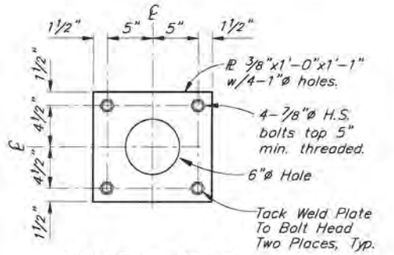


PLAN

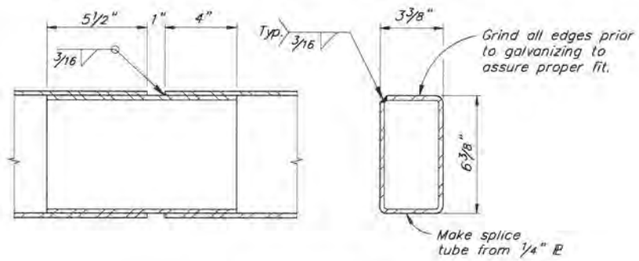
END POST - ELEVATION



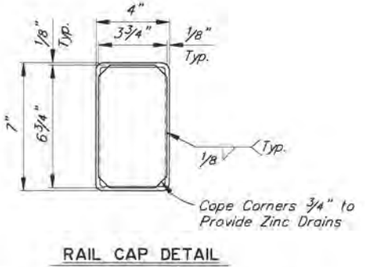
BASE PLATE DETAIL



ANCHOR PLATE DETAIL



RAIL SPLICE DETAIL



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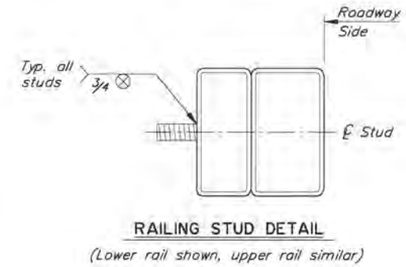
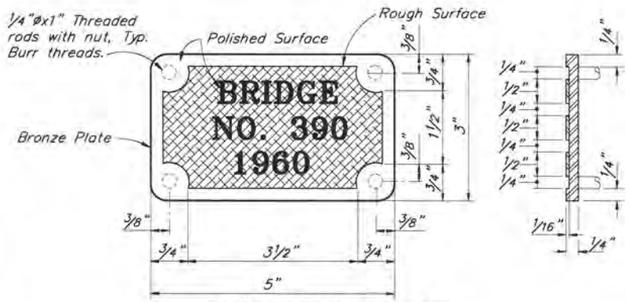


RAILING STUD DETAIL

(Lower rail shown, upper rail similar)
No Scale



BRONZE BRIDGE NO. PLATE
No Scale

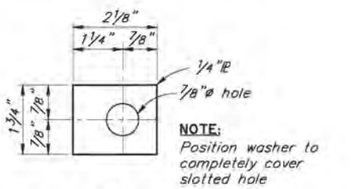


PLATE WASHER C
No Scale

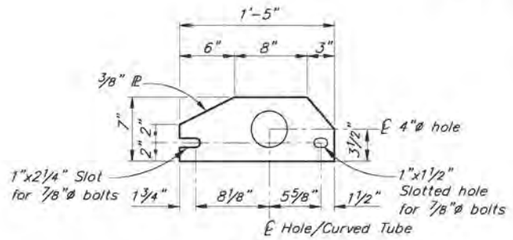


PLATE D

NOTES:

1. Locate bridge number plates as shown (2 total) on "GENERAL LAYOUT" Dwg.
2. Furnish bridge number plates. Use bronze with "Century" type style lettering. Use studs and nuts that conform to UNS C65100 or C65500. Braze 1/4"ø threaded rod to back of plate with nut — 4 required. Use locking nuts or lock washers on all machine bolts.
3. Provide railing expansion joints at 50'-0" max. intervals. Provide a minimum of 2 rail posts between railing expansion joints. Railing expansion joints are required in rail panels that span bridge expansion joints.
4. Install posts plumb.
5. Use grout with a minimum 24-hour f'c of 3,000 psi.
6. See "DECK LAYOUT" Dwg. for rail post spacing.

DESIGNED BY: Ben Fetterhoff	CHECKED: Nick Murray
DRAWN BY: Sam Sollie	CHECKED: Ben Fetterhoff
QUANTITIES BY: Ben Fetterhoff	CHECKED: Nick Murray

REHABILITATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

STATE OF ALASKA 49TH
Nicholas W. Murray
08-19-2021
SEAL 119472
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

CUSHMAN STREET

STEEL BRIDGE RAILING

BRIDGE NO. 390
DWG. NO. 11

R:\cad\390\390-36-RAILING Thu, Aug/19/21 01:54pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	Q1	Q3

SITE INFORMATION:

1. FOR GENERAL LOCATION MAP SEE VICINITY MAP ON SHEET A1 AND USGS FAIRBANKS (D-2) SE QUADRANGLE, T1S, R1W, SECTION 10, FAIRBANKS MERIDIAN.
2. SITE FUNCTION: ROAD.
3. AVERAGE ANNUAL PRECIPITATION: 10.53 INCHES (SOURCE: WESTERN REGIONAL CLIMATE CENTER) FOR FAIRBANKS WSO AIRPORT.
4. 2-YEAR, 24-HOUR RAINFALL EVENT: 1.09 INCHES (SOURCE: HTTP://HDCS.NWS.NOAA.GOV/HDSC/PFDS/PFDS_MAP_AK.HTML) FOR FAIRBANKS
5. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING LOCATIONS FOR STOCKPILING MATERIAL AND STAGING AND STORING EQUIPMENT. STAGING AND STOCKPILE AREAS MUST COMPLY WITH CGP, SECTION 641, AND ALL PERMITS.
6. PROJECT AREAS ARE LISTED BELOW (MATERIAL SITES NOT INCLUDED):

PROJECT INFORMATION TABLE	
PROJECT AREA (ACRE)	1.26
DISTURBED AREA (ACRE)	0.93
PRE-CONSTRUCTION IMPERVIOUS AREA	80%
POST-CONSTRUCTION IMPERVIOUS AREA	83%
PRE-CONSTRUCTION RUNOFF COEFFICIENT	0.94
POST-CONSTRUCTION RUNOFF COEFFICIENT	0.96

7. LANDSCAPE TOPOGRAPHY: ROADWAY IS RAISED ABOVE THE FLAT SURROUNDING URBANIZED COMMERCIAL AREA. SLOPES FROM BACK OF SIDEWALK VARY FROM 2:1 TO 4:1. THE CHENA RIVER BANK SLOPES ARE STEEP AND HEAVILY VEGETATED.
8. DRAINAGE PATTERNS: ROADWAY RUNOFF IS COLLECTED INTO A PIPED STORM DRAIN SYSTEM THAT OUTFALLS INTO THE CHENA RIVER. BRIDGE RUNOFF DRAINS THROUGH EXISTING SCUPPERS THAT OUTFALL DIRECTLY INTO THE CHENA RIVER.
9. SOILS: POORLY GRADED ALLUVIAL SAND AND GRAVEL OVERLAIN WITH SILT AND ORGANIC SILT.
10. EXISTING VEGETATION: PROJECT AREA IS COMMERCIAL WITH LIMITED LAWNS, SHRUBS, AND TREES.
11. APPROXIMATE GROWING SEASON: MAY 3 THROUGH OCTOBER 3 (SOURCE: USACE WETLANDS DELINEATION MANUAL: ALASKA REGION (VERSION 2)

ENVIRONMENTAL INFORMATION:

1. RECEIVING WATERS: CHENA RIVER/CITY OF FAIRBANKS MS4
2. IMPAIRED WATERS: CHENA RIVER
3. TOTAL MAXIMUM DAILY LOADS (TMDL): NONE
4. STORM SEWER/DRAINAGE SYSTEMS: CITY OF FAIRBANKS MS4 CONSISTING OF PIPED AND SURFACE WATER DRAINAGE NETWORK AND DISCHARGES TO THE CHENA RIVER. THIS PROJECT DOES NOT MODIFY THE EXISTING SYSTEM.
5. THREATENED AND ENDANGERED SPECIES: NONE
6. HISTORICAL & CULTURAL RESOURCE PRESENCE: IMMACULATE CONCEPTION CATHOLIC CHURCH. STATIC COMPACTION WILL BE USED DURING CONSTRUCTION NORTH OF THE CUSHMAN STREET BRIDGE TO MINIMIZE THE EFFECTS OF VIBRATIONS TO THE IMMACULATE CONCEPTION CATHOLIC CHURCH, A NRHP LISTED PROPERTY WITHIN THE PROJECT AREA.
7. TIME VEGETATION CLEARING TO COMPLY WITH THE MIGRATORY BIRD ACT. VEGETATION CLEARING WILL NOT BE ALLOWED DURING THE BIRD NESTING WINDOW, TYPICALLY MAY 1 – JULY 15, UNLESS A NEST SURVEY IS COMPLETED AND CONFIRMED THAT NO NESTS OR BIRDS WILL BE TAKEN.
8. EXISTING PUBLIC WATER SYSTEM (PWS) DRINKING WATER PROTECTION AREAS:
   - PWSID: AK2310730
   - WATER SYSTEM NAME: GOLDEN HEART UTILITIES
   - PWS CONTACT INFORMATION:
     BERNIE STACK
     (907) 455-0117
     BERNIE@AKWATER.COM
     P.O. BOX 80370, FAIRBANKS, AK 99708
9. DEWATERING OF GROUNDWATER AND/OR STORMWATER THAT ACCUMULATES IN AN EXCAVATION AREA WITHIN 1,500 FT OF A DEC-IDENTIFIED CONTAMINATED SITE REQUIRES AN EXCAVATION DEWATERING PERMIT FROM DEC.
10. A PORTION OF THIS PROJECT IS WITHIN A SPECIAL FLOOD HAZARD AREA. A FNSB FLOODPLAIN DEVELOPMENT PERMIT (FP 2021-0054) HAS BEEN ACQUIRED. A CERTIFICATE OF COMPLIANCE APPLICATION SHALL BE SUBMITTED TO THE FNSB WITHIN 60 DAYS AFTER CONSTRUCTION IS COMPLETE.

THE FOLLOWING DEC IDENTIFIED CONTAMINATED SITES ARE LOCATED WITHIN 1,500 FEET OF THE PROJECT AREA:

- HAZARD ID 2918, FILE NUMBER 102.38.088 (STATUS: CLEANUP COMPLETE – INSTITUTIONAL CONTROLS)
- HAZARD ID 24952, FILE NUMBER 102.26.114 (STATUS: CLEANUP COMPLETE – INSTITUTIONAL CONTROLS)
- HAZARD ID 3223, FILE NUMBER 102.38.114 (STATUS: CLEANUP COMPLETE – INSTITUTIONAL CONTROLS)
- HAZARD ID 733, FILE NUMBER 102.38.004 (STATUS: ACTIVE)
- HAZARD ID 24153, FILE NUMBER 102.26.009 (STATUS: CLEANUP COMPLETE – INSTITUTIONAL CONTROLS)
- HAZARD ID 24139, FILE NUMBER 102.26.013 (STATUS: CLEANUP COMPLETE – INSTITUTIONAL CONTROLS)
- HAZARD ID 26689, FILE NUMBER 102.38.196 (STATUS: ACTIVE)
- HAZARD ID 1591, FILE NUMBER 102.38.121 (STATUS: ACTIVE)
- HAZARD ID 3821, FILE NUMBER 102.38.116 (STATUS: ACTIVE)
- HAZARD ID 4654, FILE NUMBER 102.38.151 (STATUS: CLEANUP COMPLETE – INSTITUTIONAL CONTROLS)
- HAZARD ID 1927, FILE NUMBER 102.38.072 (STATUS: ACTIVE)
- HAZARD ID 24896, FILE NUMBER 102.26.153 (STATUS: ACTIVE)
- HAZARD ID 26466, FILE NUMBER 102.38.192 (STATUS: ACTIVE)
- HAZARD ID 23786, FILE NUMBER 102.26.001 (STATUS: ACTIVE)
- HAZARD ID 3955, FILE NUMBER 102.38.119 (STATUS: CLEANUP COMPLETE – INSTITUTIONAL CONTROLS)

ESCP NOTES:

1. THE PROJECT'S DISTURBED AREA IS UNDER 1 ACRE AND DOES NOT REQUIRE A SWPPP TO BE DEVELOPED OR A NOI SUBMITTED TO DEC.
2. READ AND COMPLY WITH SECTION 641 OF THE PROJECT SPECIFICATIONS.
3. THIS EROSION SEDIMENT CONTROL PLAN (ESCP) IS GENERAL IN NATURE AND IS PROVIDED AS GUIDANCE FOR THE DEVELOPMENT OF THE:
   - HAZARDOUS MATERIAL CONTROL PLAN (HMCP)
   - SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC) PLAN IF APPLICABLE
4. INITIATE EROSION AND SEDIMENT CONTROLS PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
5. SELECT AND APPLY APPROPRIATE CONTROLS TO PREVENT SEDIMENT AND OTHER POLLUTANTS FROM ENTERING THE PIPED STORM DRAIN SYSTEM.
6. EROSION AND SEDIMENT CONTROL FEATURES MUST BE BASED ON THE DOT&PF ALASKA STORM WATER POLLUTION PREVENTION PLAN GUIDE (FEBRUARY 2011 OR LATEST VERSION) AND LATEST BMPS.
7. AT A MINIMUM, PROVIDE INLET PROTECTION (I.E., FILTER BAGS PLACED UNDER THE INLET GRATE) AT ALL INLETS WITHIN AND IMMEDIATELY ADJACENT TO THE PROJECT LIMITS.
8. PROVIDE VEHICLE CLEANING EQUIPMENT, OR OTHER APPROVED CONTROLS, TO PREVENT TRACKING DIRT AND GRAVEL ONTO PAVED SURFACES.
9. ENSURE LOADS ARE STABLE AND COVERED SO THAT NO MATERIAL ESCAPES DURING HAULING ACTIVITIES.
10. SWEEP STREET SURFACES ADJACENT TO THE WORK AREA DAILY TO COLLECT ANY SEDIMENT OR OTHER CONSTRUCTION DEBRIS TRACKED OFFSITE.
11. DESIGNATE A CONCRETE WASHOUT AREA ONSITE, AS NECESSARY, TO CONTAIN THE WASHOUT WATER AND RESIDUALS DURING CONCRETE WORK.
12. HAVE A SPILL KIT AVAILABLE AT EACH WORK AREA WHEN HEAVY EQUIPMENT IS BEING UTILIZED.
13. RECLAIM STOCKPILE AND STAGING LOCATIONS TO THEIR ORIGINAL CONDITION. STOCKPILES AND/OR STAGING AREAS ARE NOT ALLOWED IN WETLANDS.
14. PERMANENTLY STABILIZE ALL DISTURBED GROUND.
15. WHEN CLEARING TO PLACE PERIMETER CONTROL BMPS, MINIMIZE DISTURBANCE ACTIVITIES TO PRESERVE EXISTING VEGETATION TO THE MAXIMUM EXTENT POSSIBLE. RESTORE DISTURBED VEGETATIVE BUFFER TO PRE-CONSTRUCTION CONDITIONS.
16. INSTALL PERIMETER CONTROL BMPS WHEN WORKING WITHIN 25 FEET OF SURFACE WATERS AND ALONG WETLANDS WHERE A 25-FOOT VEGETATIVE BUFFER IS NOT RETAINED.
17. ISOLATE ALL IN WATER WORK FROM FLOWING WATERS.
18. FOR BRIDGE REHABILITATION WORK PROVIDE CONTAINMENT APPARATUS THAT PREVENTS DUST, SEDIMENT, OR OTHER OBJECTS, FROM ENTERING THE CHENA RIVER OR PIPED STORM DRAIN SYSTEM. ENSURE THE FLOW FROM THE SCUPPER OUTFALLS IS FREE OF SEDIMENT OR OTHER CONTAMINANTS.

ESCP LEGEND:

PERIMETER CONTROL

APPROXIMATE LIMITS OF GROUND DISTURBANCE

INLET PROTECTION

FLOW DIRECTION

VEHICLE TRACKING ENTRANCE/EXIT

ESCP NOTES

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	Q2	Q3

EXISTING OUTFALL

EXISTING OUTFALL

1ST AVENUE

CHENA RIVER

PATHWAY

"CS"33+00

"CS"34+00

"CS"35+00

CUSHMAN STREET

"CS"36+00

"CS"37+00

CUSHMAN STREET

"CS"38+00

MATCH LINE "CS"38+25
SEE SHEET Q3

1ST AVENUE

CHENA RIVER

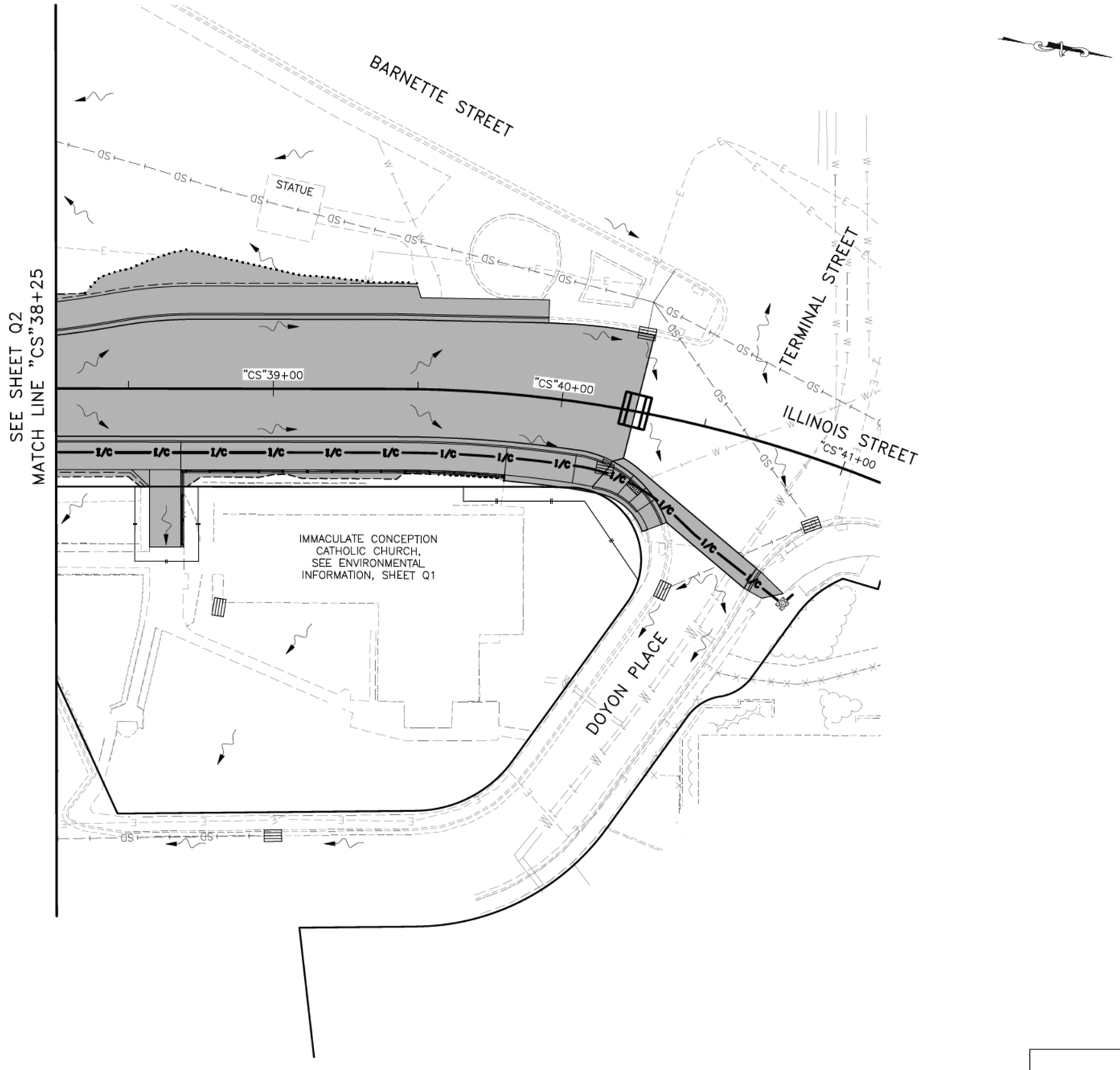
EXISTING OUTFALL

ESCP
1 OF 2

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_02-03_ESCP-02 Wed, Sep/15/21 02:15pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	Q3	Q3

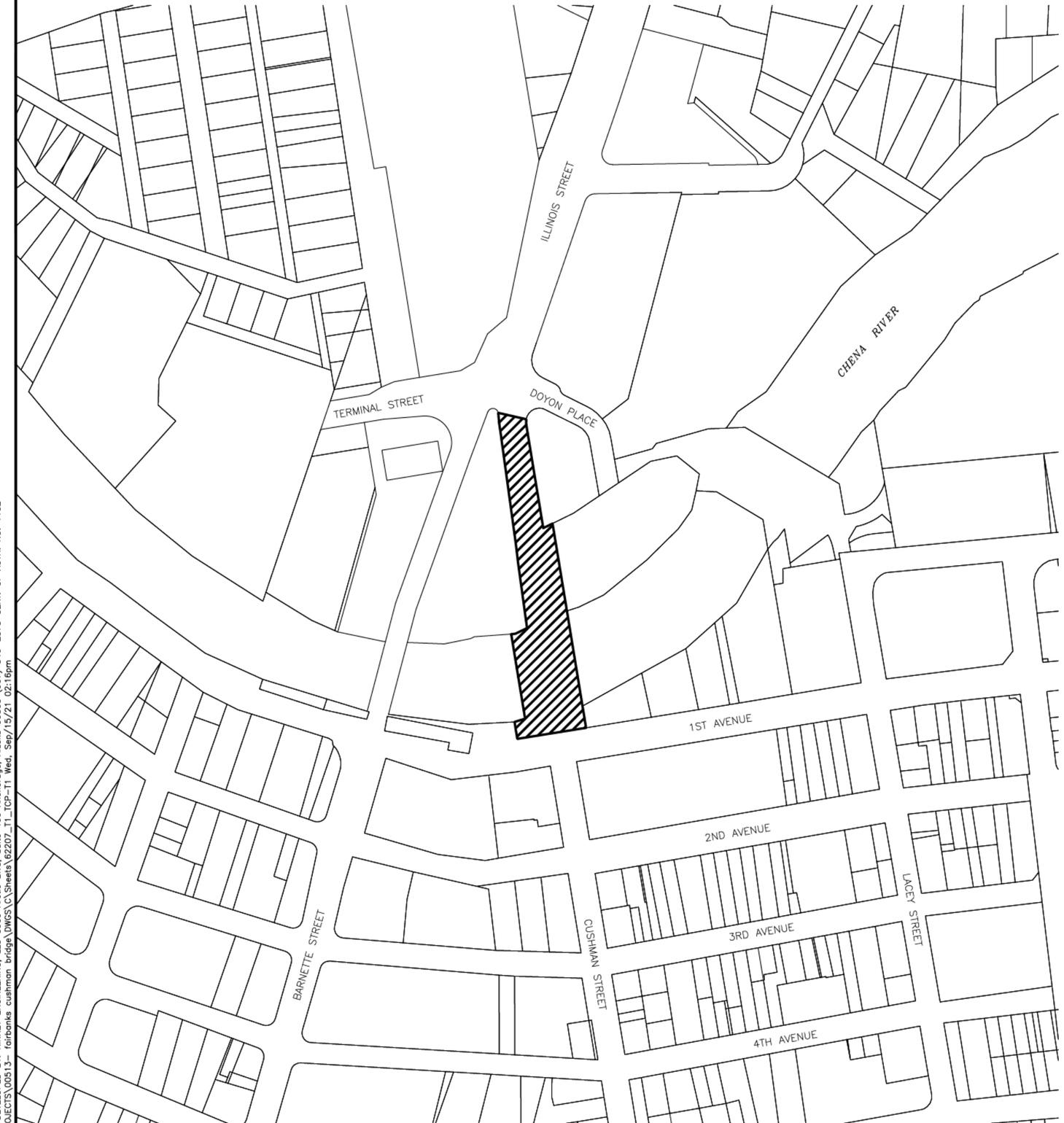


ESCP
2 OF 2

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\62207_02-Q3_ESCP-Q3 Wed, Sep/15/21 02:15pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	T1	T3



GENERAL TRAFFIC CONTROL PLAN NOTES

1. THIS IS A GENERALIZED TRAFFIC CONTROL PLAN (TCP) TO SHOW ALLOWABLE LANE CLOSURES, ROAD CLOSURES, AND DETOUR ROUTES, AND LOCATIONS FOR PORTABLE CHANGEABLE MESSAGE BOARD SIGNS (CMS). DEVELOP AN APPROVED TCP AND AN APPROVED CONSTRUCTION PHASING PLAN IN ACCORDANCE WITH THIS PLAN AND SECTION 643 OF THE PROJECT SPECIFICATIONS.
2. PROVIDE ACCESS TO COMMERCIAL PROPERTIES DURING THEIR BUSINESS HOURS. CONTACT ALL BUSINESSES IN THE PROJECT AREA TO COORDINATE AND ENSURE ACCESS.
3. MAINTAIN ONE LANE OF TRAFFIC AND ONE ACCESSIBLE PEDESTRIAN ROUTE THROUGH THE PROJECT AREA AT ALL TIMES.
4. DRIVEWAYS ADJACENT TO AN EXCAVATION SHALL BE RAMPED TO PROVIDE ACCESS.
5. TCPS WHICH REQUEST CLOSURE OF ANY RESIDENTIAL OR COMMERCIAL ACCESS SHALL BE SUBMITTED FOR APPROVAL IN ACCORDANCE WITH SECTION 643. ANY ACCESS CLOSURE SHALL NOT OCCUR WITHOUT WRITTEN APPROVAL OF THE ENGINEER. COORDINATE CLOSURE PLANS WITH THE AFFECTED PROPERTY OCCUPANT AND/OR OWNER. NOTIFY THE AFFECTED PROPERTY A MINIMUM OF 48 HOURS PRIOR TO IMPLEMENTATION OF AN APPROVED ACCESS CLOSURE.
6. PROVIDE ACCESS THROUGH THE PROJECT FOR EMERGENCY VEHICLES.
7. MAINTAIN ACCESS OF CROSS STREETS AS SHOWN.
8. MAINTAIN WATERCRAFT ACCESS ALONG THE CHENA RIVER IN BOTH DIRECTIONS AT ALL TIMES DURING CONSTRUCTION.
9. COORDINATE, THROUGH THE ENGINEER, WITH THE PROPER AUTHORITIES HAVING JURISDICTION TO ASSESS NEED OF PLACING ADVANCE WARNING SIGNAGE IN THE RIVER WAY.
10. PROVIDE PUBLIC NOTICE OF DETOURS AND CLOSURES IN ACCORDANCE WITH SECTION 643.
11. BEFORE BEGINNING WORK WITHIN THE PROJECT LIMITS, ERECT TRAFFIC CONTROL DEVICES REQUIRED BY THE APPROVED TCP.
12. PROVIDE TRAFFIC CONTROL DEVICES MEETING THE REQUIREMENTS OF SECTION 643.
13. EXISTING SIGNS WHICH CONFLICT WITH CONSTRUCTION SIGNS SHALL BE COVERED. COORDINATE REMOVAL WITH CITY OF FAIRBANKS PUBLIC WORKS.
14. CONSTRUCTION SIGNS MAY NOT BE PLACED ON PORTABLE SIGN SUPPORTS FOR MORE THAN THREE CONSECUTIVE CALENDAR DAYS. SIGNS REQUIRED LONGER THAN THIS PERIOD SHALL BE MOUNTED ON A PERMANENT SIGN POST WITH THE EXCEPTION OF PEDESTRIAN TRAFFIC CONTROL SIGNS AND SIGNS MOUNTED ON A TYPE III BARRICADE WHICH MAY BE INSTALLED ON PORTABLE SIGN SUPPORTS FOR THE DURATION OF THEIR INSTALLATION.
15. SPECIAL CONSTRUCTION SIGNS SHALL BE FABRICATED OF MATERIALS CONFORMING TO SECTION 615 OF THE SPECIFICATIONS AND SHALL HAVE A BLACK LEGEND ON ORANGE BACKGROUND.
16. ALL SIGNS SHALL BE SUPPLEMENTED WITH HIGH LEVEL WARNING DEVICES.
17. ALL BARRICADES SHALL HAVE ONE OPERABLE FLASHING LIGHT FOR EACH 10 FEET OF BARRICADE, WITH A MINIMUM OF TWO LIGHTS PER TYPE III BARRICADE EXCEPT IN A TAPER WHERE ONLY THE FIRST TWO LIGHTS SHALL FLASH (TYPE "A") AND THE REMAINDER SHALL BE STEADY BURN (TYPE "C").
18. TYPE A FLASHING WARNING LIGHTS SHALL BE USED TO MARK THE TYPE III BARRICADES, ROAD CLOSURES, AND ADVANCE DETOUR SIGNING AT NIGHT.
19. DEVICE SPACING (IN FEET) ON TAPERS AND TANGENTS SHALL BE ONE (1) X THE POSTED SPEED LIMIT (IN MPH).
20. TWO (2) PORTABLE CMS WILL BE SUBSIDIARY TO 643.0002.0000 TRAFFIC MAINTENANCE. ANY ADDITIONAL PORTABLE CMS WILL BE PAID FOR UNDER 643.0025.0000 AT THE TRAFFIC CONTROL RATE SCHEDULE.
21. TEMPORARY STRIPING SHALL BE EITHER TEMPORARY RAISED PAVEMENT MARKERS OR PREFORMED PAVEMENT MARKING TAPE.
22. ADDITIONAL ROAD CLOSURES, LANE REASSIGNMENT, AND DETOURS WILL BE PERMITTED IN ACCORDANCE WITH 643-3.02 AND THE NOTES ON THIS SHEET.

TRAFFIC CONTROL PLAN LEGEND

HALF-WIDTH CLOSURE

MAINTAIN A SINGLE NORTHBOUND LANE ROADWAY WITH BIKE/PED ACCESS AS SHOWN IN DETAIL ON SHEET T3.

TRAFFIC CONTROL PLAN
1 OF 3

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
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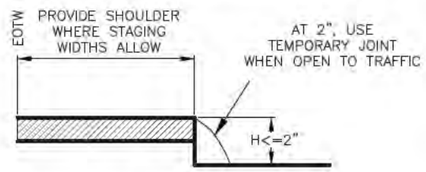
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	T2	T3

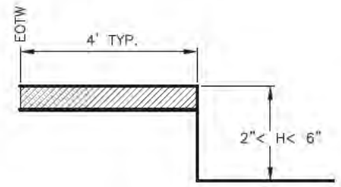
VERTICAL DROP-OFFS



CASE A

DROP-OFFS ≤2 INCHES
(PAVED SURFACES ONLY)

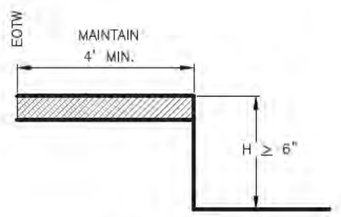
1. USE "UNEVEN LANES" (CW8-11) SIGNS FOR ALL DROP-OFFS IN BETWEEN TRAFFIC LANES.
2. LEAVE NO DROP-OFFS > 1.5" IN THE TRAFFIC LANE OR ACTIVE WHEEL TRACK.



CASE B

2"< DROP-OFFS < 6"
(ALL ROADWAY SURFACES)

1. PLACE CONES OR CANDLES FOR DROP-OFFS ≥ 4 FEET AND ≤ 30 FEET FROM THE EOTW.
2. USE DRUMS OR TYPE II BARRICADES FOR DROP-OFFS < 4 FEET FROM THE EOTW.

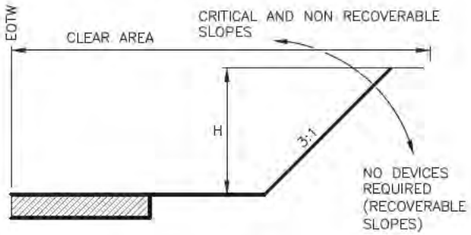


CASE C

DROP-OFFS ≥6"
(ALL ROADWAY SURFACES AND ROADSIDE SLOPES)

1. PLACE DRUMS OR TYPE II BARRICADES FOR DROP-OFFS ≤ 24" WITHIN THE CLEAR AREA.
2. PROVIDE PORTABLE CONCRETE BARRIER FOR DROP-OFFS >24" WITHIN 15 FEET OF THE EOTW. USE DRUMS OR TYPE II BARRICADES IF BEYOND 15 FEET.

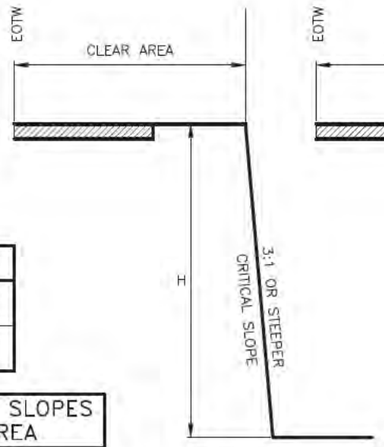
CUT SLOPES



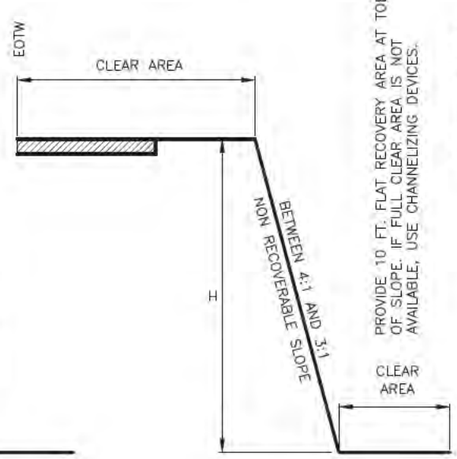
EOTW = EDGE OF TRAVELED WAY

FILL SLOPES

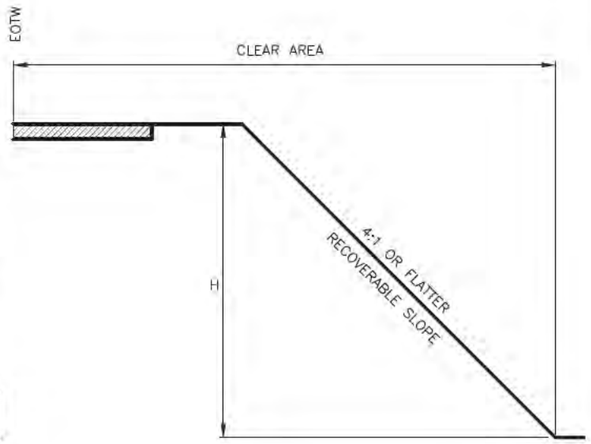
STEEPER THAN OR EQUAL TO 3:1



BETWEEN 4:1 AND 3:1



FLATTER THAN OR EQUAL TO 4:1



CLEAR AREA REQUIREMENTS	
	LOW SPEED < = 35 MPH
URBAN	2' BEHIND CURB 10' WITH NO CURB

CHANNELIZING DEVICE REQUIREMENTS FOR SLOPES 3:1 OR STEEPER WITHIN THE CLEAR AREA	
	H <= 15'
> 2000 VPD	TYPE II BARRICADE OR DRUMS

TRAFFIC CONTROL NOTES:

1. USE THE EXISTING CROSS-SECTION (PRIOR TO CONSTRUCTION) AS A BASIS FOR DETERMINING WHEN CHANNELIZING DEVICES ARE NEEDED.
2. INSTALL CHANNELIZING DEVICES WHEN THE HORIZONTAL OR VERTICAL CURVATURE IS MADE MORE SEVERE.
3. INSTALL FLEXIBLE DELINEATORS WHEN ALL VEGETATION OVER 4 FEET HIGH IS CLEARED FROM FILL SLOPES THAT ARE 3:1 OR STEEPER IN THE CLEAR AREA.
4. USE PORTABLE CONCRETE BARRIER FOR WARRANTING CONDITIONS WHICH LAST LONGER THAN 3 DAYS. FOR CONDITIONS LASTING LESS THAN 3 DAYS, OTHER CHANNELIZING DEVICES MAY BE INSTALLED.

EQUIPMENT NOTES:

1. WHEN THERE IS ACTIVE, NONMOBILE CONSTRUCTION EQUIPMENT WITHIN THE CLEAR AREA, DELINEATE THE ROADSIDE WITH TRAFFIC CONES.
2. SEPARATE PROCEDURES ARE REQUIRED FOR MOBILE WORK ZONE OPERATIONS AND SHORT DURATION WORK OF LESS THAN 12 HOURS.

WINTER SHUTDOWN NOTES:

1. WHEN REQUIRED, USE CHANNELIZING DEVICES WHICH CAN BE MAINTAINED OVER WINTER.
2. NO CHANNELIZING DEVICES ARE REQUIRED IF:
   A) CONSTRUCTION SLOPES ARE RECOVERABLE, AND
   B) SLOPES ARE SMOOTH AND COMPACTED, AND
   C) REQUIRED CLEAR AREA IS PROVIDED

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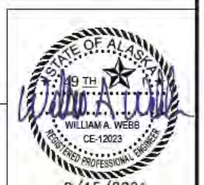
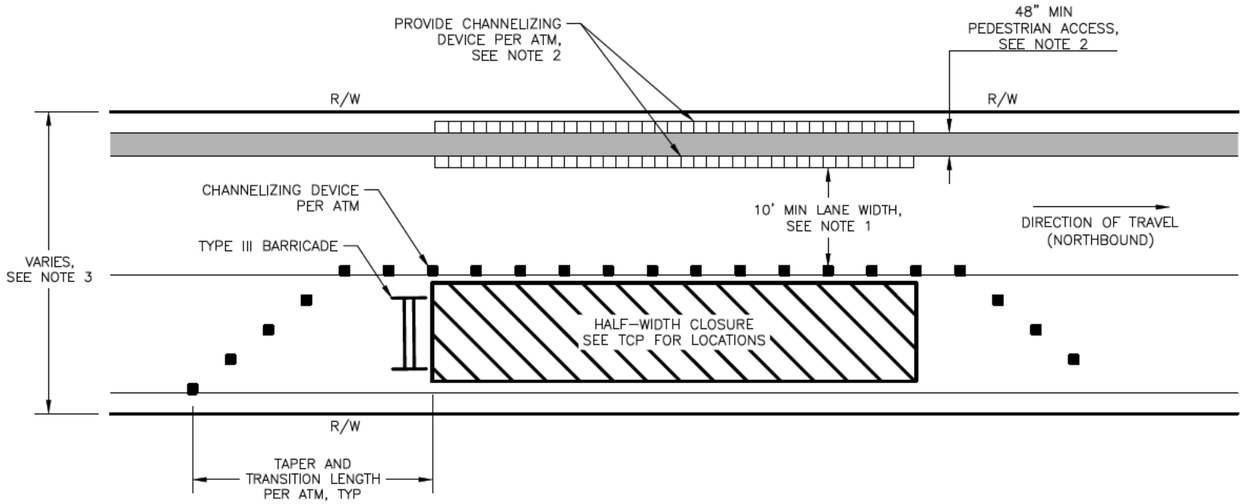


TRAFFIC CONTROL PLAN
2 OF 3

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	T3	T3



HALF-WIDTH CLOSURE DETAIL

HALF-WIDTH CLOSURE NOTES:

1. PROVIDE MINIMUM 10' LANE WIDTH AS MEASURED FROM NEAR FACE OF CHANNELIZING DEVICE TO NEAR FACE OF CHANNELIZING DEVICE OR CURB FACE.
2. WHEN POSSIBLE, ROUTE PEDESTRIANS ON EXISTING OR NEWLY CONSTRUCTED SIDEWALK. OTHERWISE, DELINEATE TEMPORARY PEDESTRIAN ACCESS USING CHANNELIZING DEVICES PER MUTCD. TEMPORARY PEDESTRIAN ACCESS SHALL BE A MINIMUM 48" WIDTH AS MEASURED FROM NEAR FACE OF CHANNELIZING DEVICE TO NEAR FACE OF CHANNELIZING DEVICE WITH AN ADA-COMPLIANT SMOOTH SURFACE. PROVIDE ADA COMPLIANT WHEELCHAIR RAMPS AT LOCATIONS WHERE PEDESTRIANS ARE ROUTED FROM THE SIDEWALK INTO THE STREET.
3. SEE F SHEETS FOR RIGHT-OF-WAY LIMITS. LOCATE TEMPORARY TRAFFIC CONTROL WITHIN LIMITS OF RIGHT-OF-WAY.

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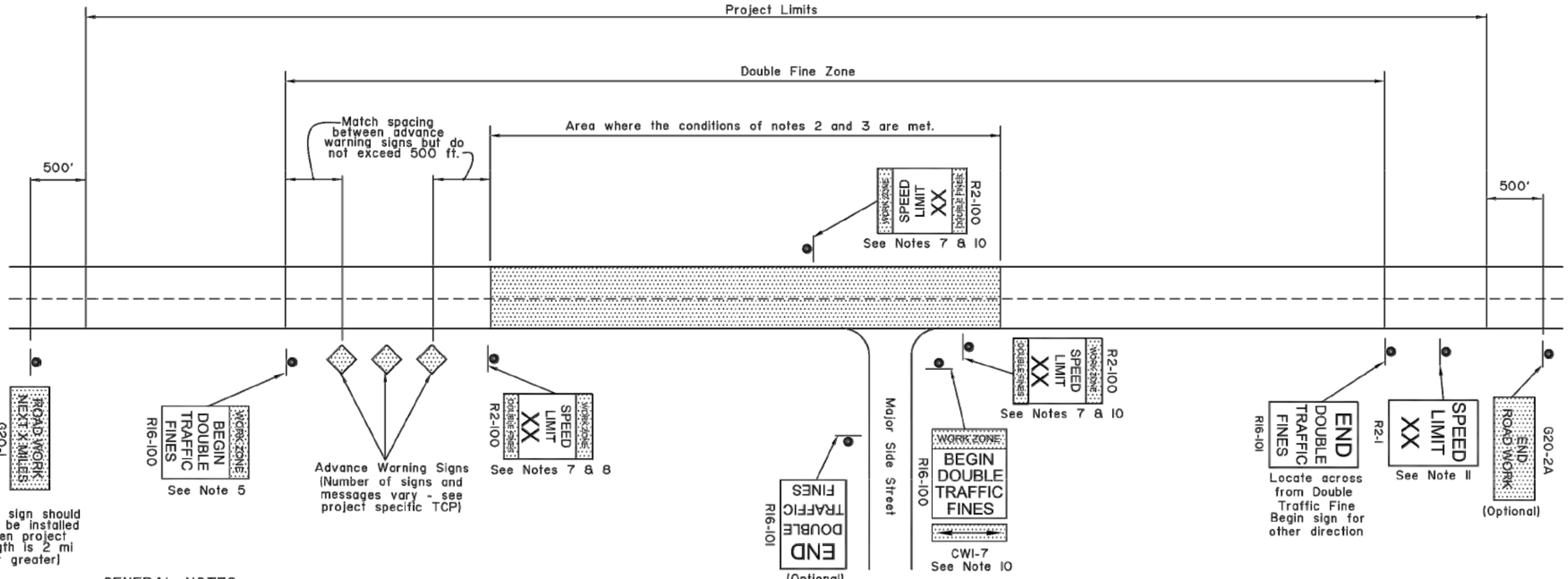
TRAFFIC CONTROL PLAN
3 OF 3

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	V1	V8

C-04.12

SHEET 1 of 1



GENERAL NOTES

1. Signs are shown for one direction only (with one exception). Signs for the other direction mirror those shown.
2. Double fine signs shall be used only where one or more of the following conditions exist:
   a. Active work areas (where road workers and/or machines are presently working on or adjacent to a road)
   b. Detours on new temporary roads built for that purpose (this does not include detours on existing streets)
   c. Sections of paved roads where pavement has been removed.
   d. Roads being paved where unmatched asphalt lifts result in a vertical lip between lanes.
3. Double fine signs shall be confined to the areas where the above conditions exist, with the following exceptions:
   a. If the project is 2 miles or shorter in length, the entire project may be posted for double fines when the above conditions exist on any part of the project.
   b. When the above conditions exist at multiple locations separated by less than 2 miles, the locations and the intervening segments may be posted as a single double fine zone.
4. Double fine signs shall be removed or covered when work activity ceases for more than two days and conditions b, c, or d of note 2 are not met.
5. The R16-100 "BEGIN" sign may be used in place of the first advance warning sign. However, when this is done, the appropriate advance warning sign must be reinstalled when the double fine sign is taken down or covered.
6. When a double fine zone is longer than 2 miles, work zone speed limit signs shall be posted at spacings not greater than 2 miles within the double fine zone.
7. "Work zone speed limit signs", as used here, refer either to 1) R2-100 signs or 2) standard R2-1 regulatory speed limit signs with CW20-102 "DOUBLE FINES" plates mounted below.
8. The limit shown on work zone speed limit signs shall be either the existing limit before construction or, if a work zone speed limit order has been approved in accordance with ADOT&PF Procedure 05.05.020 PDR, a reduced limit.
9. All existing regulatory speed limit signs within double fine zones shall either be replaced with R2-100 signs or supplemented with CW20-102 plates.
10. Signs shall be installed at major intersections within the double fine zone to warn entering drivers of double fines. This may be done with a R16-100 sign with a CWI-7 arrow panel on the side street or with two work zone speed limit signs on the main street on either side of the intersection. Use of R16-100 signs on side streets eliminates the need for "Road Work Ahead" signs on those streets. If the speed limit has been reduced, the two work zone speed limit signs are mandatory.
11. At the end of each double fine zone, install an R2-1 sign showing the speed limit for the road beyond the double fine zone.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

LOCATION OF DOUBLE TRAFFIC FINE SIGNS

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher, P.E. Chief Engineer

Adoption Date: 02/08/2019

Last Code and Stds. Review By: Date:

Next Code and Standards Review date: 02/08/2029

C-04.12

STANDARD PLAN
C-04.12

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	V2	V8

S-00.12

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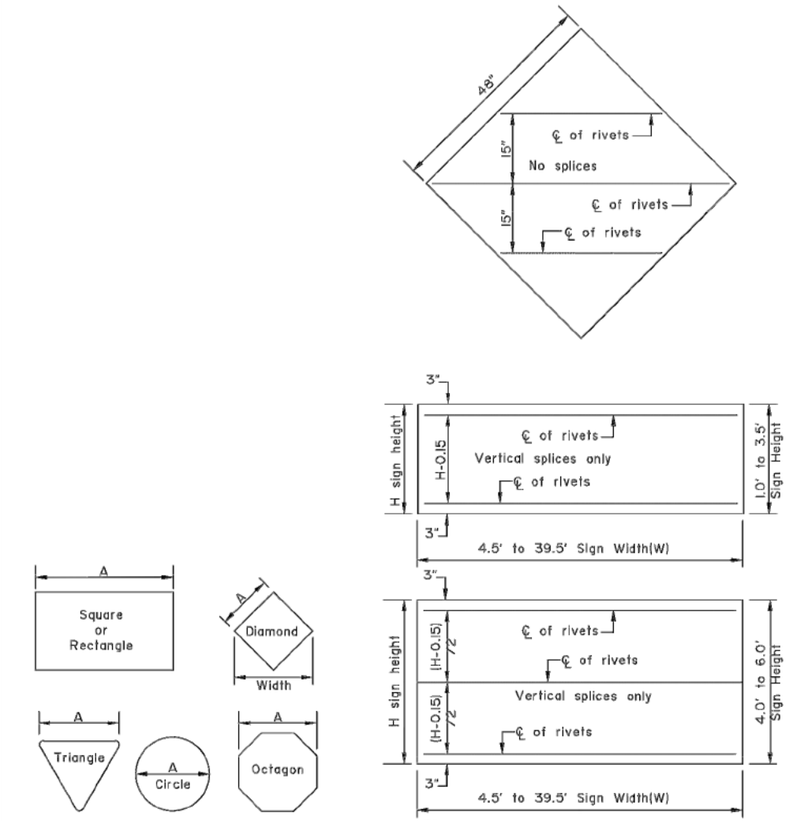
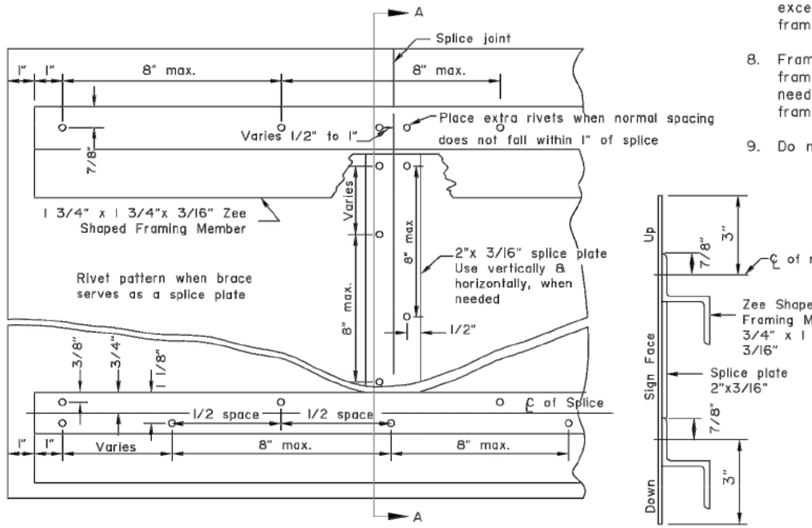


Maximum size unframed signs using 0.125" thick aluminum sheeting.	
Sign Shape	A
Squares, Shields, and Route Markers	48"
Rectangles	48"
Diamonds	48"
Triangles	48"
Rounds and Octagons	48"

Install wind framing on all signs that exceed the dimensions listed.

LIGHT SIGNS

WIND FRAMING LOCATIONS



RIVET DETAIL FOR ZEE SHAPED WIND FRAMING & SPLICE PLATE

SECTION A-A

Note: Drawing not to scale

GENERAL NOTES

1. See the standard specifications for the aluminum alloys that you may use for sign sheeting and wind framing members.
2. Fabricate all signs from 0.125" thick aluminum sheeting.
3. Sign fabricators may use alternates to the zee shaped framing member with approval of the engineer, if the frame manufacturer certifies their design equals or exceeds the strength of the zee shaped design.
4. Install one piece wind framing members on all signs up to 23.5' wide. Use one splice in each wind frame on all signs wider than 23.5'. Locate splices at least 18" from all posts and panel edges. Stagger splices in adjacent framing members at least 8.0' apart.
5. Attach wind framing members with rivets or with an engineer approved, double sided, high strength, adhesive tape. Clean and handle sheeting and framing members and apply tape in accordance with the tape manufacturer's written instructions. Install two rivets in both ends of each framing member.
6. Use 3/16" diameter rivets conforming to aluminum alloy 6061-T6 for cold driven rivets, or aluminum alloy 6061-T43 for hot driven rivets.
7. Sign fabricators may use sign panels extruded with integral framing with approval of the engineer, if the manufacturer certifies their design equals or exceeds the strength of the 0.125" thick panel with framing attached to it.
8. Frame all signs taller than 8.0' with five wind framing members located (H-0.15)/4 spaces. If needed, make a horizontal splice at the middle wind frame.
9. Do not use round pipes for sign supports.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SIGN FRAMING

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

Last Code and Stds. Review By: WTH Date: 7/8/2020

Next Code and Standards Review date: 7/8/2030

S-00.12

STANDARD PLAN
S-00.12

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
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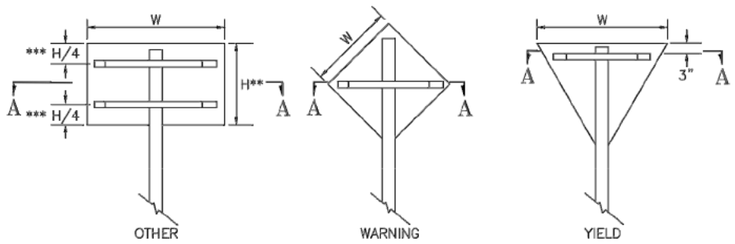
ALASKA	0663012/Z622070000	2021	V3	V8

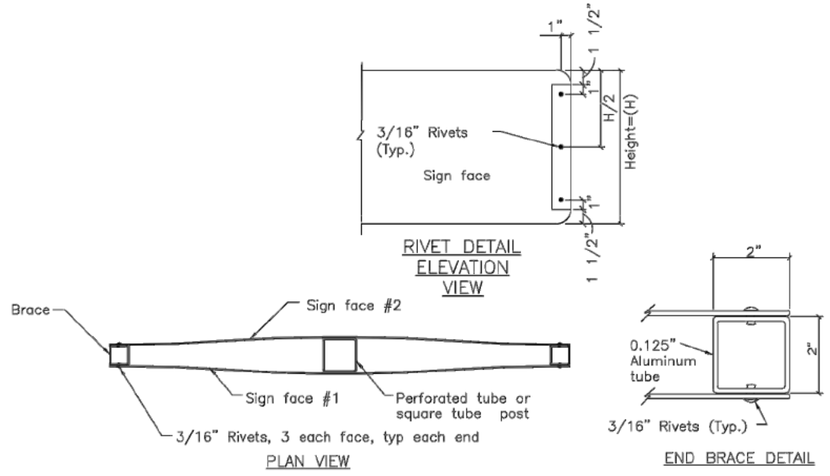
S-01.02 SHEET | of |



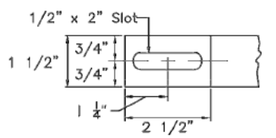
*** Use one brace when H ≤ 18"
Use two braces when 18"< H < 48"
Use three braces when H ≥ 48"

** Position of brace may be varied to match Predrilled mounting holes in panel

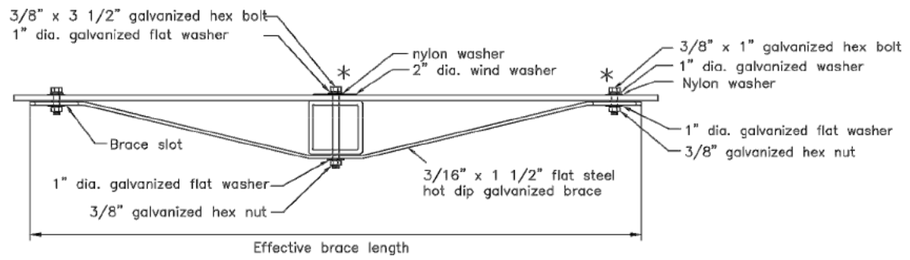
SIGN BRACING PLACEMENT



SMALL STREET NAME SIGN (D3-1, D3-1A, D3-1D) BRACING DETAILS



DETAIL OF BRACE SLOT
Elevation view



TUBE POST SIGN BRACING SECTION A-A
Plan view

* Adjust location of bracing so that bolts and washers will miss the sign legend

Sign Width(W)	Effective Brace Length		
	Warning	Yield	Other
30"	36"	24"	24"
36"	42"	30"	30"
42"	48"	–	36"
48"	Two posts	36"	42"

< 30" No bracing required and use square tube

Note: Drawing not to scale

State of Alaska DOT&PF
ALASKA STANDARD PLAN

BRACING FOR SIGNS MOUNTED ON SINGLE POST

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

Last Code and Stds. Review
By: WTH Date: 7/8/2020

Next Code and Standards Review date: 7/8/2030

S-01.02

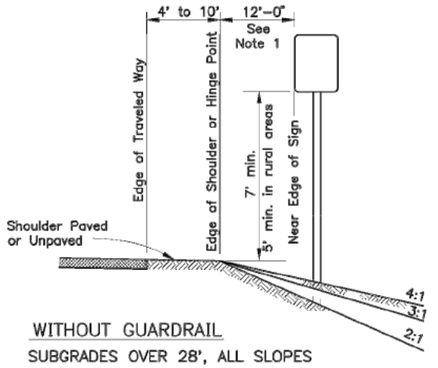
STANDARD PLAN
S-01.02

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	V4	V8

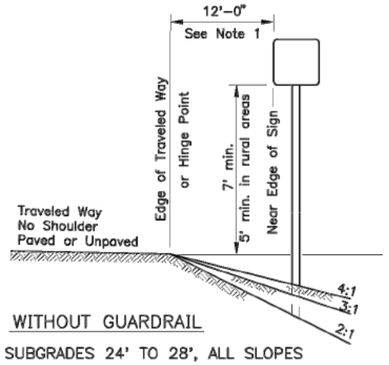
S-05.02

SHEET 1 of 1



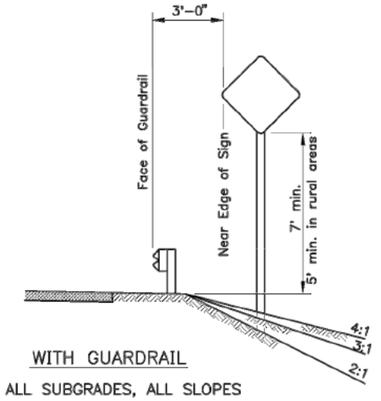
WITHOUT GUARDRAIL

SUBGRADES OVER 28', ALL SLOPES



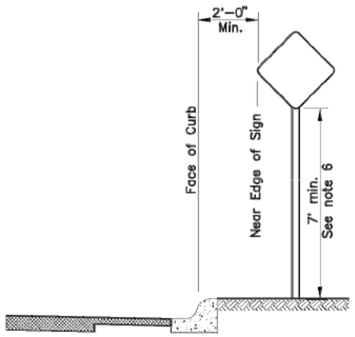
WITHOUT GUARDRAIL

SUBGRADES 24' TO 28', ALL SLOPES

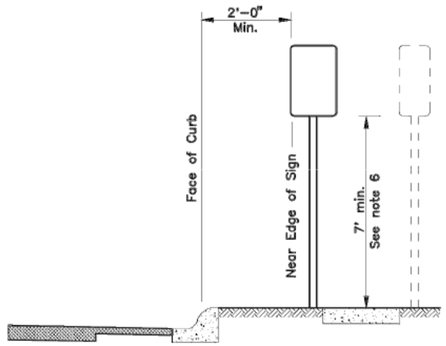


WITH GUARDRAIL

ALL SUBGRADES, ALL SLOPES

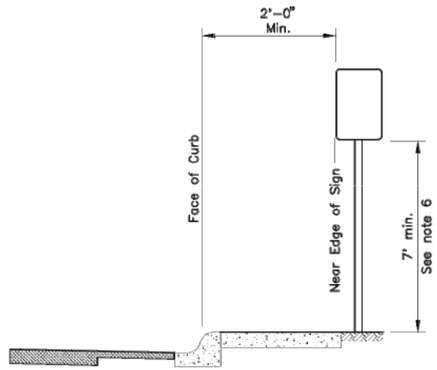


CURB WITHOUT SIDEWALK

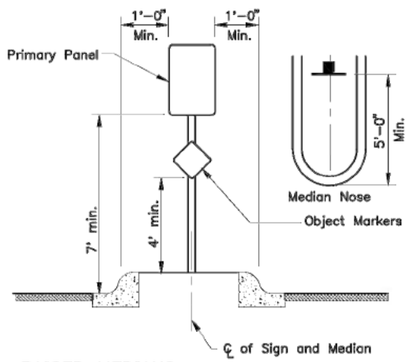


CURB WITH PARKWAY AND SIDEWALK

(If R/W width permits, signs should be placed behind sidewalk.)

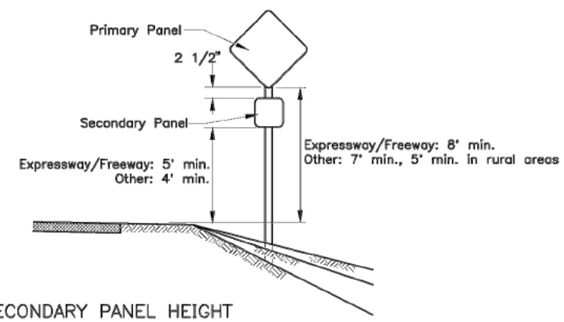


CURB WITH SIDEWALK WITHOUT PARKWAY



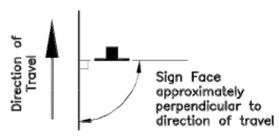
RAISED MEDIANS

Minimum 4' Width for Signing



SECONDARY PANEL HEIGHT

ALL TWO PANEL MOUNTING



SIGN POSITIONING

GENERAL NOTES

1. Unless shown otherwise on the plans, the standard sign offset is 12'. The minimum is 6' where shoulder width is 6' or greater.
2. Add 6" to mounting height on unpaved roads.
3. If signs extend over bike paths, the minimum vertical clearance is 8' 0".
4. When signs are placed 30' or more from the edge of traveled way, mount them with the bottom of the sign at least 5' above the road surface at the near edge of the road.
5. When multiple hinged sign supports are used, mount hinges at least 7' above the ground.
6. Minimum mounting height is 7'-0" where parking or pedestrian movements are likely to occur, or where sings extend over sidewalks.
7. For construction signs in rural areas, mounting height shall be 7' minimum.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

POST MOUNTED SIGN
OFFSET AND HEIGHT

Adopted as an Alaska Standard Plan by: *Carolyn Morehouse*
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

Last Code and Stds. Review
By:KLK Date: 7/8/2020

Next Code and Standards Review Date: 7/8/2030

S-05.02

STANDARD PLAN
S-05.02

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
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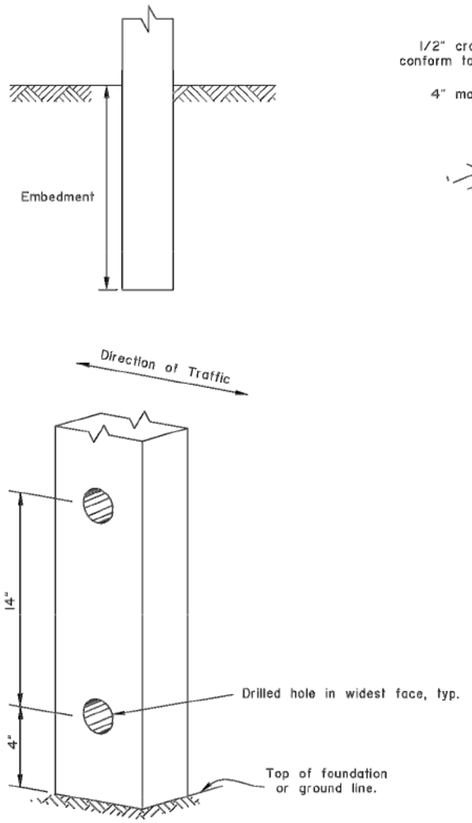
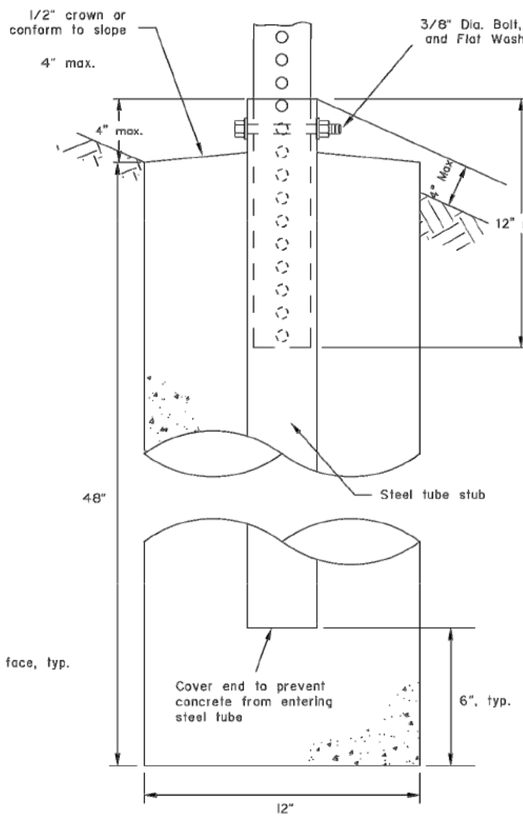
ALASKA	0663012/Z622070000	2021	V5	V8

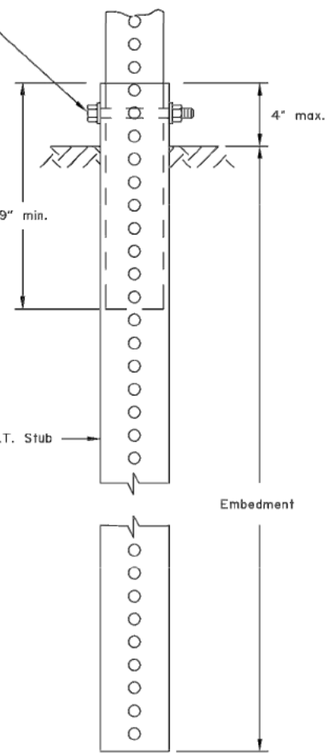
S-30.05

SHEET 1 of 1





SLEEVE TYPE
CONCRETE FOUNDATION



SLEEVE TYPE*
SOIL EMBEDMENT

GENERAL NOTES:

1. Sign shall be placed symmetrically around posts and refer to Standard Plan S-00 for sign framing details.
2. See plans for type of post, size and embedment type.
3. To maintain crashworthiness, install no more than the number of P.S.T.s or wood posts specified in the tables within 7' of each other.
4. Concrete shall be class B.
5. Do not use the supports on this drawing for multiple support signs if supports are separated by more than 7 feet.
6. Treat all field cuts and field drilled holes in wood posts in accordance with Section 730-2.04 of the Standard Specifications.

SIGN POST SPACING NOTES:

1. Install sign support in accordance with the table below, unless otherwise required by plans or specifications.
2. Exceptions:
   a. Use one post for all E5-1 gore signs, regardless of width.
   b. Use one 2.5" P.S.T. for all STOP signs, with or without street name signs.
3. Supports placed within 7' of each other must be acceptable for that use. See tables below for the sizes of wood posts and P.S.T.s that may be used within 7'. See Manufacturer's documentation for breakaway couplings and tubes that may be used within 7'.
4. See Standard Plan S-31 for frangible couplings, hinges, and foundations for tube and W-shape sign supports.

WOOD SIGN POSTS			
SIZE	HOLE DIA.	EMBEDMENT*	NO. OF POSTS WITHIN 7 Ft. PATH
4"x4"	NONE	4'-1"	2
4"x6"	1 1/2"	5'-3"	2
6"x6"	1 1/2"	4'-9"	1
6"x8"	3"	4'-9"	1

* Embedment depth applies in both strong and weak soil.

WOOD POSTS

PERFORATED STEEL TUBES (P.S.T.)		
POST SIZE	Embedment Depth	No. of P.S.T.s permitted within 7 ft path
1 1/2" x 1 1/2"	4'-8"	2
1 3/4" x 1 3/4"	4'-6"	2
2" x 2"	4'-3"	2
2 1/4" x 2 1/4"	5'-0"	1
2 1/2" x 2 1/2"	4'-6"	1

* Use 3"x3"x3/16" Stub for 2 1/2"x2 1/2" PST Applications.

PERFORATED STEEL TUBE (PST) POSTS

TUBE SIGN POST SPACING								
Sign Width (feet)	No. of Posts	Distance Between Posts	Sign Overhang	Post Type				Notes
				P.S.T.	Wood	Steel Tube	W-Shape	
0.5 to 4.0	1	-	0.5W	X	X	X		See Note 2.
4.5 to 10.0	2	0.6W	0.2W	X	X	X		See Note 3.
10.5 to 11.0	2	6	Varies	X	X	X		See Note 3.
11.5 to 13.0	2	8	Varies				X	
13.5 to 20.0	2	0.6W	0.2W				X	
20.5 to 22.5	3	8	Varies				X	
23.0 to 29.5	3	0.35W	0.15W				X	
30.0 to 31.5	4	8	Varies				X	
32.0 to 40.0	4	0.25W	0.125W				X	

TUBE SIGN POST SPACING

Note: Drawing not to scale

State of Alaska DOT&PF
ALASKA STANDARD PLAN

LIGHT SIGN STRUCTURE
POST EMBEDMENT

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

Last Code and Stds. Review
By: WTH Date: 7/8/2020

Next Code and Standards Review date: 7/8/2030

S-30.05

STANDARD PLAN
S-30.05

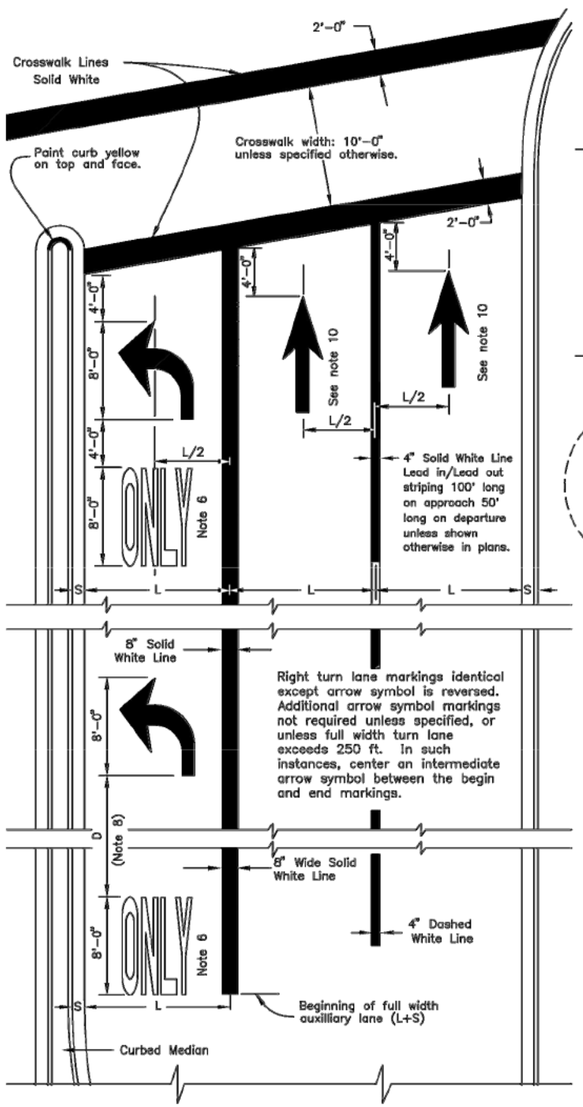
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\STANDARD DRAWINGS\62207_s3005_NR-S3005 Wed, Sep/15/21 02:17pm

NO.	DATE	REVISION

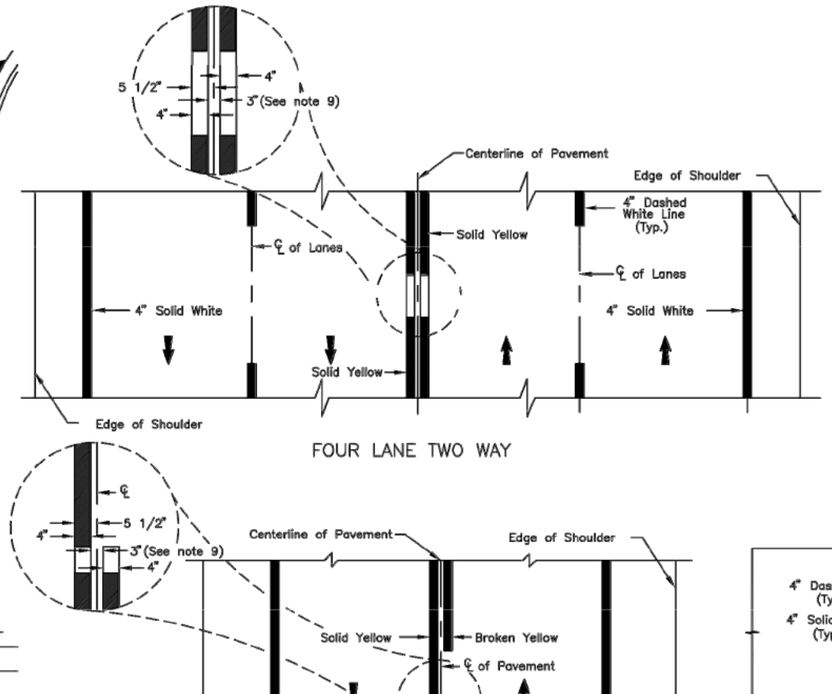
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	V6	V8

T-21.04

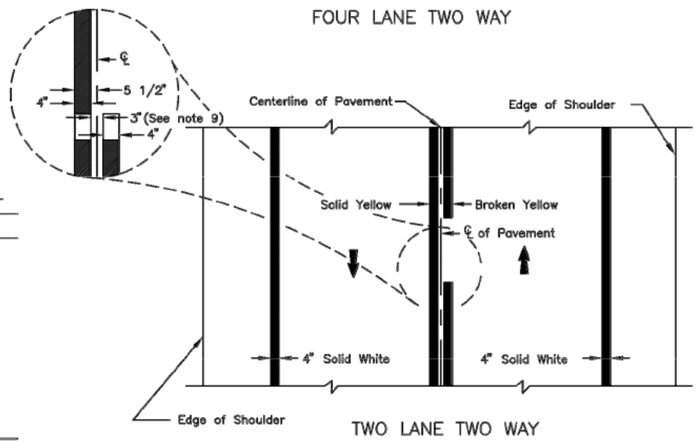
SHEET 1 of 1



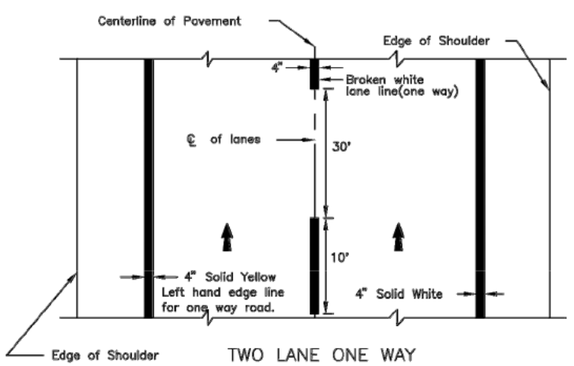
APPROACH TO INTERSECTION



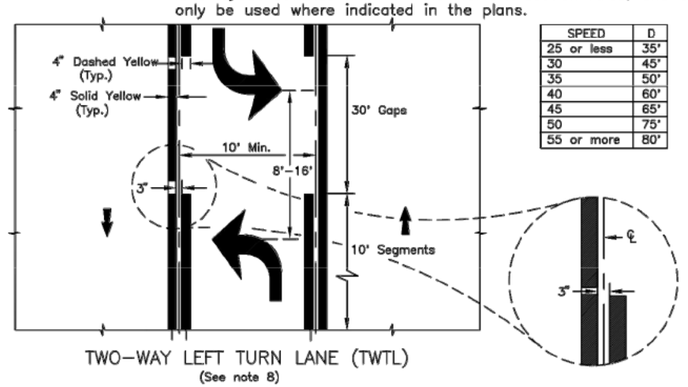
FOUR LANE TWO WAY



TWO LANE TWO WAY

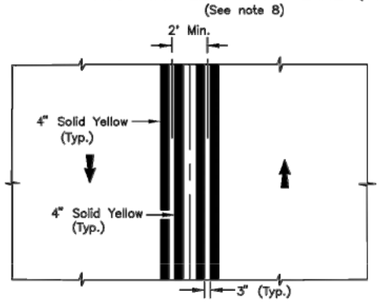


TWO LANE ONE WAY



TWO-WAY LEFT TURN LANE (TWTL)
(See note 8)

SPEED	D
25 or less	35'
30	45'
35	50'
40	60'
45	65'
50	75'
55 or more	80'



STRIPED MEDIAN

GENERAL NOTES:

1. All markings white unless indicated otherwise.
2. Lengths of stripe and gap for lane and center lines identical.
3. Lane lines for auxiliary lanes are unbroken solid lines.
4. "L" = driving lane width.
5. "S" = shy distance as shown on plans, otherwise 1 to 2 feet.
6. ONLY markings are required where through lanes change to turn lanes. In other cases, apply ONLY markings as indicated on plans.
7. See ALASKA TRAFFIC MANUAL for additional instruction on the use of TRAFFIC CONTROL DEVICES.
8. Adjust distance D between ONLY and Turn Arrow based on SPEED vs. D table. Table may be used for spacing between pairs of TWLT markings.
9. Adjust centerline spacing from 3" up to 5" where recessed pavement markers are required.
10. Arrows and symbols are used for through lanes only when the lane layout deviates from the normal intersection rules, and shall only be used where indicated in the plans.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PAVEMENT MARKING APPLICATIONS

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

Last Code and Stds. Review By:KLK Date: 7/8/2020

Next Code and Standards Review Date: 7/8/2030

T-21.04

STANDARD PLAN
T-21.04

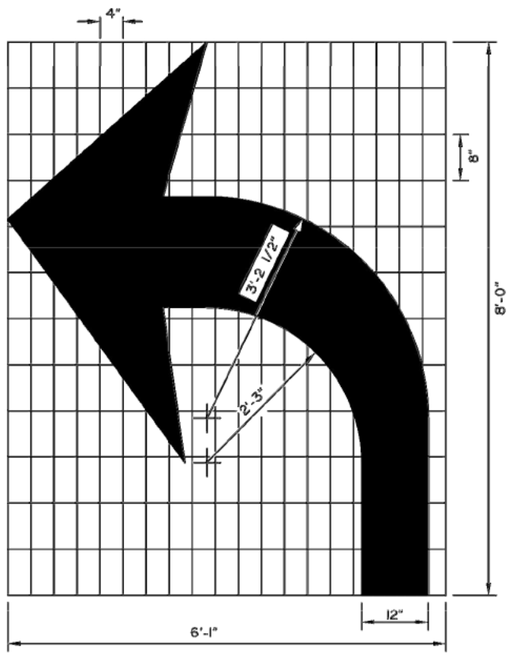
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
Z:\PROJECTS\00513- fairbanks cushman bridge\DWGS\C\Sheets\STANDARD DRAWINGS\62207_t2104_NR-T2104 Wed, Sep/15/21 02:17pm

NO.	DATE	REVISION

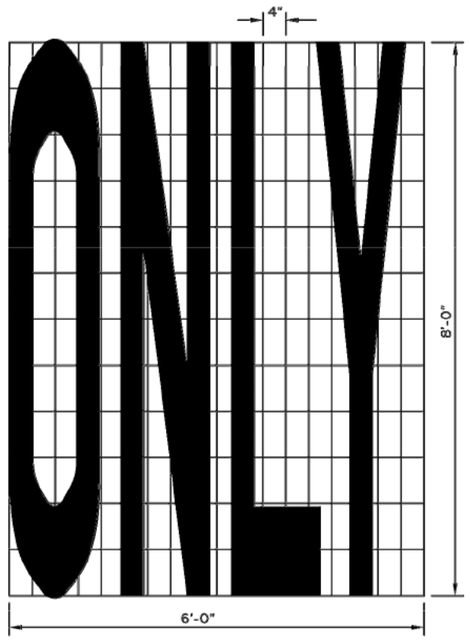
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	V7	V8

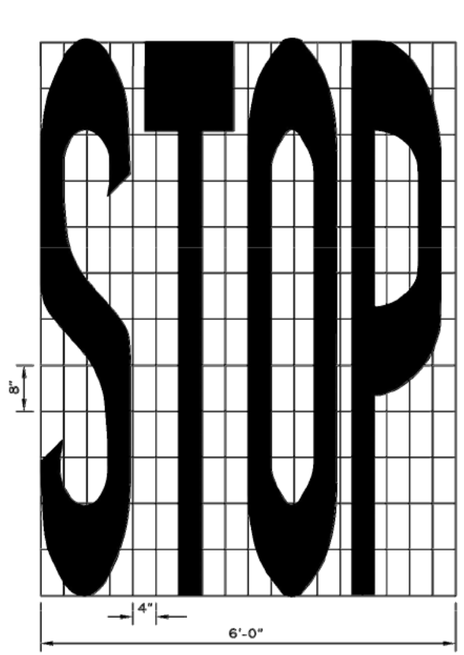
T-22.04

SHEET 1 of 1

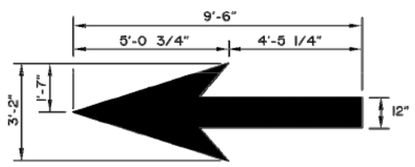


Right turn auxilliary lane usage markings identical except arrow symbol is reversed.

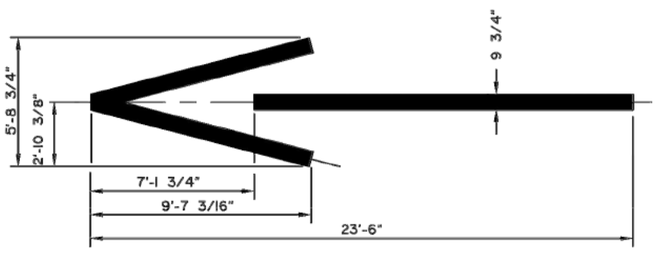




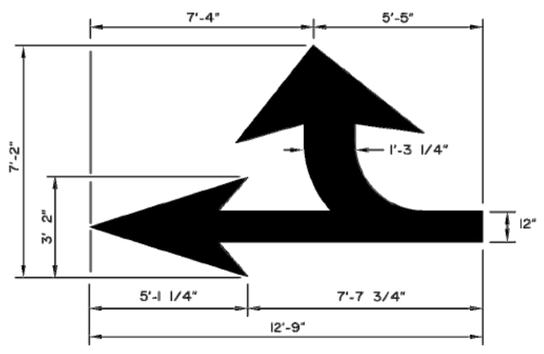
LAYOUT TEMPLATES FOR STENCILS



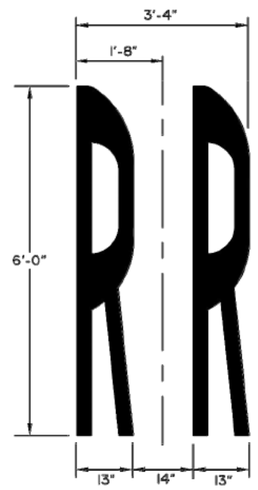
STRAIGHT AHEAD ARROW



WRONG WAY ARROW



COMBINATION ARROW



RAILROAD SYMBOL

GENERAL NOTES:

1. All symbols shown shall be white and reflectorized in accordance with the Special Provisions.
2. See the Alaska Sign Design Specifications (ASDS) for lettering and symbols for pavement marking details not provided on this drawing.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PAVEMENT MARKING SYMBOL DIMENSIONS

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher, P.E. Chief Engineer

Adoption Date: 02/08/2019

Last Code and Stds. Review By: Date:

Next Code and Standards Review date: 02/08/2029

T-22.04

STANDARD PLAN
T-22.04

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102
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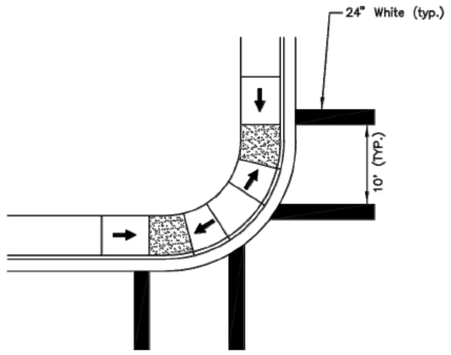
NO.	DATE	REVISION

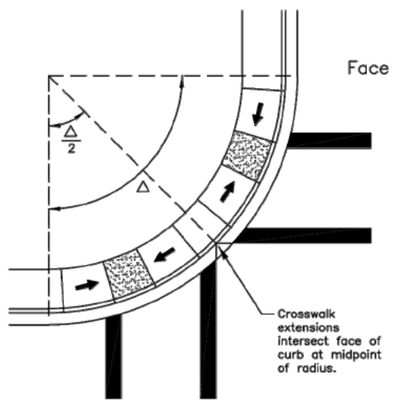
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0663012/Z622070000	2021	V8	V8

T-23.01 SHEET 1 of 1



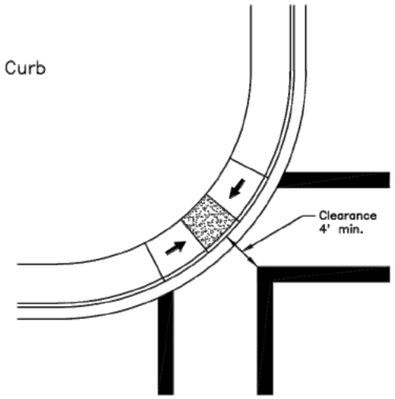
CASE 1

Dual Curb Ramps
Radius ≦ 25'



CASE 2

Dual Curb Ramps
25' < Radius ≦ 50'



CASE 3

Single Central Curb Ramp
25' ≦ Radius ≦ 50'
(Not Recommended)

GENERAL NOTES

1. The crosswalk locations shown assume a 90–degree intersection – adjust as necessary on skewed intersections to ensure that crosswalk landings (for parallel curb ramps) or ramp runs (for perpendicular curb ramps) fall within the inner edges of crosswalk stripes. If Case 3 (not recommended) is used, the layout should also be adjusted to provide at least the minimum clearance while maximizing the offset.
2. If only one crosswalk connects with a curb radius, it should be located as if there were two connecting crosswalks.
3. These details apply to parallel (shown) as well as perpendicular curb ramps.
4. Case 3, the layout for a single central curb ramp, should be used only when installing two ramps is not feasible. It should not be used for radii under 25 feet. See plans for ramp layout at particular locations.
5. Radius is measured to the face of curb.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

CROSSWALK LOCATION AT SIGNALIZED INTERSECTIONS

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

Last Code and Stds. Review
By: KLK Date: 7/8/2020

Next Code and Standards Review Date: 7/8/2030

T-23.01

STANDARD PLAN
T-23.01