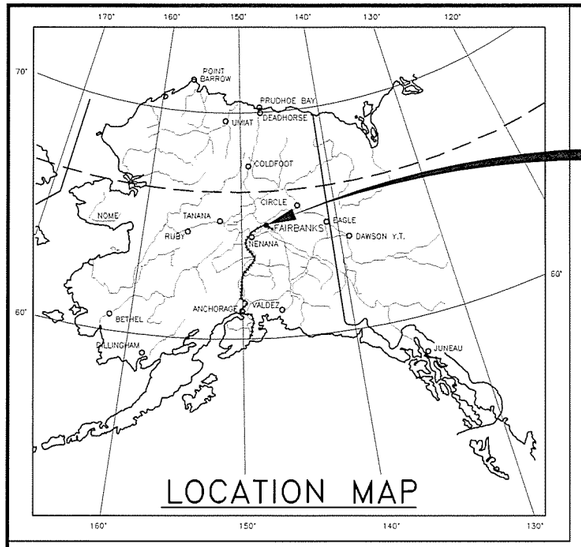
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	A1	238
CDS ROUTE: 175900	MILEPOINT: 3.884 TO 4.483			



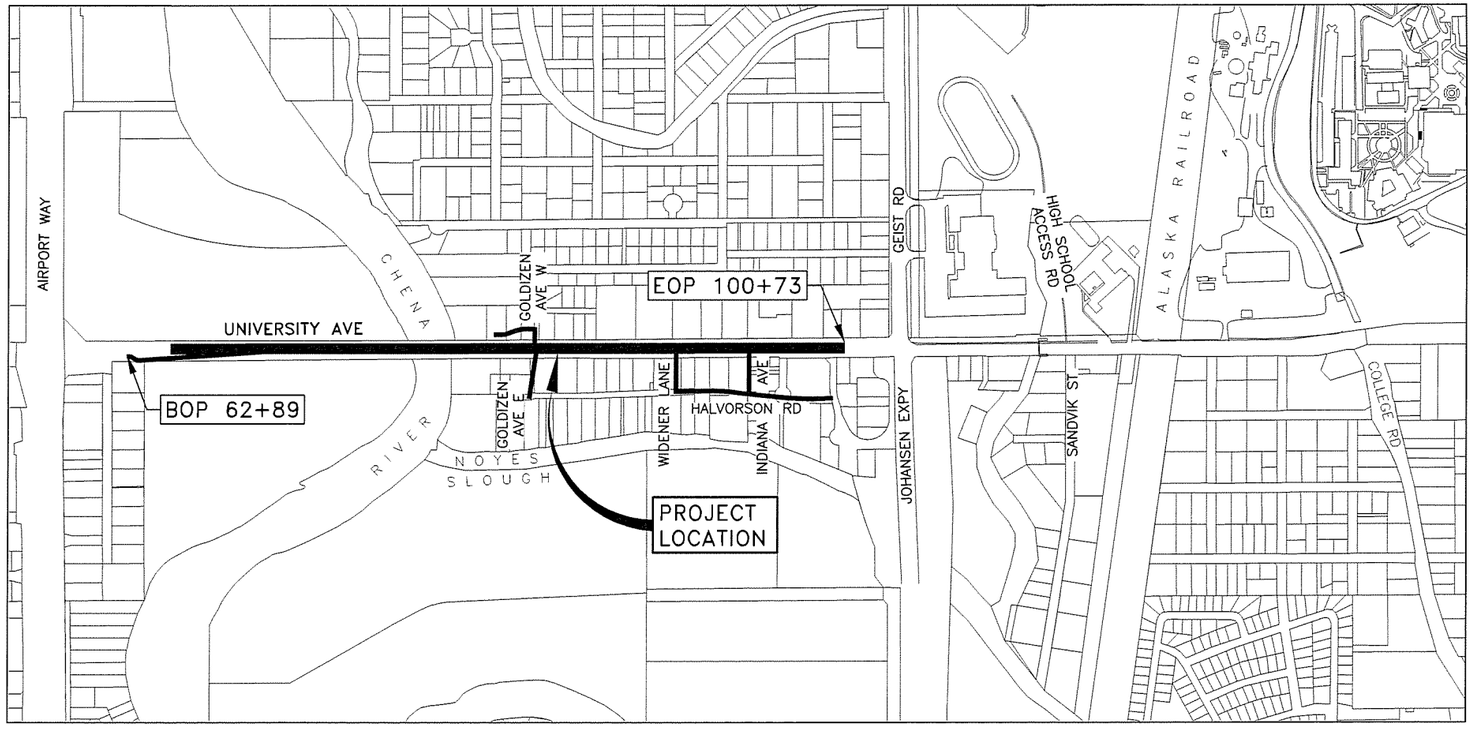
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

0617003/NFHWY00270

UNIVERSITY AVENUE REHABILITATION & WIDENING SEGMENT 1

GRADING, DRAINAGE, PAVING, ILLUMINATION



VICINITY MAP

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2–A3	LEGEND & GENERAL NOTES
A4	VICINITY MAP
A5–A7	SURVEY CONTROL
A8–A10	ALIGNMENT CONTROL PLAN
B1–B4	TYPICAL SECTIONS
C1–C3	ESTIMATE OF QUANTITIES
E1–E4	DETAILS
E5–E20	DEMOLITION PLAN
F1–F14	PLANS
F15–F21	PROFILES
G1–G17	GRADING PLAN
G18–G25	APPROACH SUMMARY & DETAILS
H1–H14	SIGNING & STRIPING
H15–H44	ILLUMINATION & INTERCONNECT PLANS
K1–K9	AVC LAYOUT & DETAIL SHEETS
L1–L10	LANDSCAPING PLANS AND DETAILS
N1–N21	BRIDGE PLANS
Q1–Q3	EROSION SEDIMENT CONTROL PLANS
U–100–U–110	WATER AND SEWER UTILITY PLAN AND PROFILES
U–200–U–209	STORM DRAIN PLAN AND PROFILES
U–300–U–303	DUCT BANK LAYOUT AND TRENCH SECTIONS
U–304	DUCT BANK DETAILS
U–305–U–310	DUCT BANK PLAN AND PROFILES
V1–V36	STANDARD DRAWINGS

THE FOLLOWING STANDARD DRAWINGS APPLY TO THIS PROJECT:
C–04.12, C–05.20
D–01.02, D–04.21, D–06.10, D–20.05, D–22.01, D–23.01, D–24.00, D–26.04
F–01.03
G–00.04, G–05.11S, G–10.20, G–14.00, G–20.12, G–31.01
I–20.20
L–03.10, L–24.00
M–13.01, M16.01
S–00.11, S–01.01, S–05.01, S–30.04, S–31.01
T–20.04, T–21.03, T–22.04,

DESIGN DESIGNATIONS

	UNIVERSITY AVE
ADT (2018)	17,725
ADT (2040)	21,000
DHV (2030)	10%
PERCENT TRUCKS (T)	3%
DIRECTIONAL SPLIT (D)	45/55
DESIGN SPEED (V)	40 MPH
DESIGN EAL'S (2038)	740,000

Preliminary PS&E
October 15, 2019
Northern Region

PROJECT SUMMARY

	UNIVERSITY AVE	GOLDIZEN AVE (WEST)	GOLDIZEN AVE (EAST)	HALVORSON RD	WIDENER LANE	INDIANA AVE
WIDTH OF PAVEMENT	57 FT	18 FT	20 FT	22 FT	20 FT	22 FT
LENGTH OF GRADING	0.70 MI	0.01 MI	0.04 MI	0.10 MI	0.02 MI	0.03 MI
LENGTH OF PAVING	0.70 MI	0.01 MI	0.04 MI	0.10 MI	0.02 MI	0.03 MI
LENGTH OF PROJECT	0.70 MI	0.01 MI	0.04 MI	0.10 MI	0.02 MI	0.03 MI

LAUREN LITTLE, P.E., PROJECT MANAGER
HEATHER D. ESTABROOK, P.E., DESIGN ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED BY:

_____ DATE _____

Sarah E. Schacher, P.E.
Preconstruction Engineer, Northern Region

ACCEPTED FOR CONSTRUCTION:

_____ DATE _____

Ryan F. Anderson, P.E.
Regional Director, Northern Region

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0001cnst111147.01FB_1D-Cover Sat, Aug/17/19 05:56am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	A2	A10

	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= "0"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		
SECTION LINE		
1/4 SECTION LINE		
1/16 SECTION LINE		
TOWNSHIP & RANGE LINE	T. 2 N. / T. 1 N. ; T. 1 E. ; T. 2 E.	
MEANDER LINE	M1 M2 M3	

	EXISTING	PROPOSED
SANITARY SEWER (FLOW DIRECTION →)	SS	SS
SANITARY SEWER (FORCE MAIN)	FM	FM
FUEL LINE	F	F
GAS LINE	G	G
WATER LINE	W	W; (1) W
METER, VALVE, FIRE HYDRANT	W	W; (1) W
EXISTING STORM DRAIN (FLOW DIRECTION →)	SD	
PROPOSED STORM DRAIN		S-10, S-11, P-11, SD, P-10
FIBER OPTIC LINE	FO	
DIRECT BURIAL TELEPHONE CABLE	T	T
GPR DATA RECENTLY COLLECTED	GPR	
DIRECT BURIAL ELECTRIC CABLE	E	E
ELECTRIC LINE (OVERHEAD)	BY OTHERS	(2)
POWER POLE LINE		(2)
JOINT USE POWER & TELEPHONE		(2)
TELEPHONE POLE LINE		(2)
POLE ANCHOR		
STUB POLE (POWER OR TELEPHONE)		
TELEPHONE DUCT		ACS; (2); GCI
TELEPHONE PEDESTAL		T
BURIED CABLE MARKER		
PIPELINE MARKER OR VALVE		
CATCH BASIN OR DROP INLET		
MANHOLE	MH	SEWER MH; STORM DRAIN MH; COMM MH
SANITARY SEWER CLEAN OUT		©

NOTES:

(1) UTILITIES INSTALLED WITH 2019 CONSTRUCTION.

(2) UTILITIES INSTALLED BY OTHERS

	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		
RIPRAP		
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	MW
SEPTIC PIPE	S	
FUEL TANK FILL PIPE/VENT	F	
SATELLITE DISH	SAT DISH	
TEST HOLE	TH	
CONIFER TREE		
DECIDUOUS TREE		
GRAVE		
THERMOSIPHON		
PARKING METER		
VEHICLE PLUG-IN		
DELINEATOR/GUIDE MARKER		

	EXISTING	PROPOSED
JUNCTION BOX, TYPE IA		5
JUNCTION BOX, TYPE II		6
JUNCTION BOX, TYPE III		3
JUNCTION BOX, ABOVE GRADE		7
SIGNAL FACE, VEHICULAR	4 2	4 2
SIGNAL FACE, BACKPLATE	4 2	4 2
SIGNAL FACE, LEFT TURN, BACKPLATE	4 3	4 3
SIGNAL FACE, PEDESTRIAN		
LOOP DETECTOR	33	
VIDEO DETECTOR	2 3 3	2
RADAR DETECTOR	4	4A
OPTICOM DETECTOR	1	1
PAN, TILT, ZOOM CAMERA	1	1
PEDESTRIAN PUSH BUTTON	1	
SIGNAL POST W/O MAST ARM	1	1
SIGNAL POLE W/MAST ARM		1
INTERCONNECT VAULT	I/C	I/C
INTERCONNECT MANHOLE	IC	IC
SIGNAL CONTROLLER		SC
LOAD CENTER	LC	LC
POST MOUNTED TRANSFORMER AND DISCONNECT SWITCH		
LUMINAIRE	E	2
RIGID METAL CONDUIT		
TRAFFIC SIGNAL INTERCONNECT	I/C	I/C
BORING/ENCASED CONDUITS		

LEGEND AND NOTES

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 501, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0002cnst111147.01FB_1D-A2 Thu, Aug/22/19 04:48pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	A3	A10

GENERAL NOTES

1. APPROACH LOCATIONS; LENGTHS AND LOCATIONS OF CULVERTS, STORM DRAINS, AND DUCT BANKS SHOWN ON THESE PLANS ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER. ALL DISTANCES SHOWN IN THE PLAN VIEW ARE HORIZONTAL MEASUREMENTS.
2. CLEARING, GRUBBING AND SEEDING LIMITS SHALL BE AS SHOWN ON THE PLANS AND SHALL BE AS DIRECTED BY THE ENGINEER. RESTORE ALL DISTURBED AREAS DUE TO CONTRACTORS WORK OUTSIDE THE CLEARING AND GRUBBING LIMITS SHOWN ON THE PLANS. PAYMENT FOR THIS WORK SHALL BE SUBSIDIARY TO THE RESPECTIVE BID ITEM.
3. DEWATERING, IF REQUIRED, WILL NOT BE PAID FOR SEPARATELY BUT WILL BE CONSIDERED SUBSIDIARY TO THE RESPECTIVE BID ITEM FOR WHICH THE DEWATERING IS NECESSARY.
4. SAWCUT ALL MATCH LINES WHERE NEW CONSTRUCTION ABUTS EXISTING ASPHALT. APPLY STE-1 ASPHALT FOR TACK COAT ON THE VERTICAL FACE OF ALL SAWCUTS. SAWCUT EXISTING SIDEWALKS OR GO BACK TO NEAREST JOINT.
5. REFERENCE GRADING PLAN SHEETS FOR INTERSECTION TRANSITION LAYOUTS.
6. WORK IN PUE'S IS FOR UTILITY PURPOSES. PUE'S ARE NOT AVAILABLE FOR STAGING, ETC. FOR OTHER WORK ITEMS.

UTILITY NOTES

1. NUMEROUS UNDERGROUND UTILITIES EXIST WITHIN THE PROJECT CORRIDOR. CONTACT UTILITY OWNERS AND GET LOCATES PRIOR TO ANY EXCAVATION.
2. THE DEPTH OF EXISTING UTILITIES SHOWN ON THE PLANS ARE BASED ON AVAILABLE INFORMATION FROM AS BUILT DRAWINGS AND ARE APPROXIMATE ONLY. DETERMINE ACTUAL DEPTH PRIOR TO INSTALLING NEW UTILITIES.
3. PROTECT, OR REMOVE AND REPLACE IN SAME LOCATION OR TO THE SIDE OF ROADWAY, EXISTING MARKER POSTS FOR UTILITIES THAT ARE DISTURBED DURING CONSTRUCTION. THIS IS SUBSIDIARY TO OTHER ITEMS OF WORK.
4. INSULATING PIPES, INLETS, MANHOLES, FITTINGS, APPURTENANCES AND CROSSING UTILITIES AS INDICATED ON THE PLANS WILL NOT BE MEASURED FOR PAYMENT. THIS WORK IS SUBSIDIARY TO ALL UTILITY AND STORM DRAIN INSTALLATIONS.
5. SEE INDIVIDUAL U SERIES SHEETS FOR ADDITIONAL NOTES.
6. CONTRACTOR MUST RESTORE PUE'S AFTER UTILITY CONSTRUCTION, IN ACCORDANCE WITH PUE REQUIREMENTS.
7. CONTRACTOR SHALL PROVIDE SWPPP FOR THE CONCURRENT UTILITY RELOCATIONS. THIS WORK IS SUBSIDIARY TO 641 PAY ITEMS.
8. UTILITY COMPANIES WILL BE WORKING CONCURRENTLY WITH THE CONTRACTOR TO COMPLETE THE WORK IN THIS SECTION. THIS WORK MAY INCLUDE, BUT IS NOT LIMITED TO INSTALLING CABLE, SPLICING CABLE, INSTALLING OTHER EQUIPMENT AND CONNECTING SERVICES. THE CONTRACTOR SHALL COOPERATE AND SUPPORT THIS WORK, INCLUDING PROVIDING ANY NECESSARY TRAFFIC CONTROL. TRAFFIC CONTROL FOR UTILITY COMPANY WORK WILL BE PAID UNDER 643 PAY ITEMS.

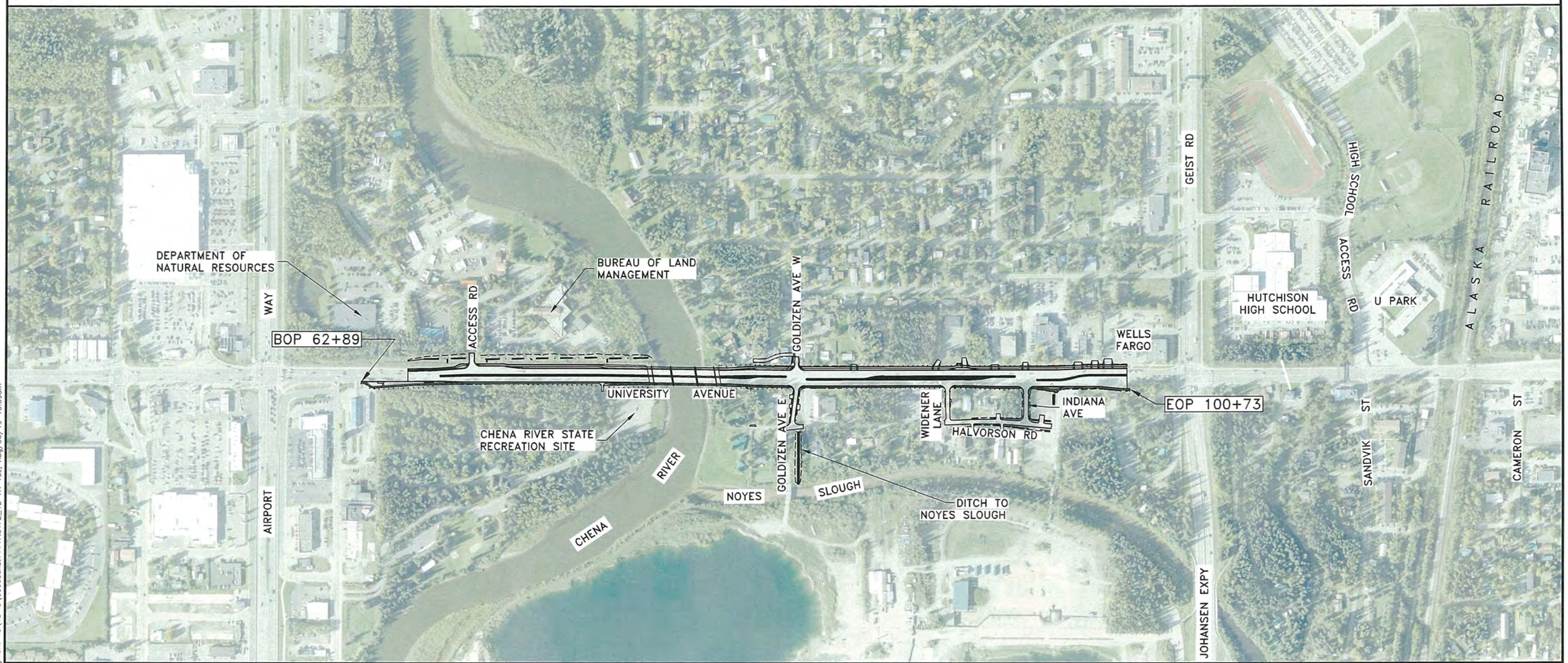
ABBREVIATIONS

ACS	ALASKA COMMUNICATION SYSTEMS
ADA	AMERICAN WITH DISABILITIES ACT
ARRC	ALASKA RAILROAD CORPORATION
ATB	ASPHALT TREATED BASE
AVE	AVENUE
BLM	THE BUREAU OF LAND MANAGEMENT
BOP	BEGINNING OF PROJECT
BP	BEGIN POINT
BV	BUTTERFLY VALVE
C/A	ACCESS CONTROL
℄, CL	CENTERLINE
C	CENTER
CB	CATCH BASIN
CGP	CONSTRUTION GENERAL PERMIT
CMP	CORRUGATED METAL PIPE
COM	COMMERCIAL
COMM	COMMUNICATIONS
CON	CONCRETE
CPM	CRITICAL PATH METHOD
CSP	CORRUGATED STEEL PIPE
DEMO	DEMOLITION
DIP	DUCTILE IRON PIPE
DOT	DEPARTMENT OF TRANSPORTATION
DNR	DEPARTMENT OF NATURAL RESOURCES
DR	DRIVE
DRWY	DRIVEWAY
DWT	DETECTABLE WARNING TILE
E	EASTING
EA	EACH
EG	EXISTING GROUND
ELEV, EL	ELEVATION
EOP	END OF PROJECT
EP	END POINT, END OF PAVEMENT
EXPY, EXP	EXPRESSWAY
EXP	EXPANSION JOINT
EX	EXISTING
FG	FINISHED GRADE
FL	FLOW LINE
FLG	FLANGE
FM	FORCE MAIN
FNG	FAIRBANKS NATURAL GAS
FT	FEET
GALV	GALVANIZE
GB	GRADE BREAK
GCI	GENERAL COMMUNICATIONS INCORPORATED
GPR	GROUND PENETRATING RADAR
GV	GATE VALVE
GVEA	GOLDEN VALLEY ELECTRIC ASSOCIATION
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HMCP	HAZARDOUS MATERIAL CONTROL PLAN
INT	INTERSECTION
INV	INVERT
LHF	LEFT HAND FORWARD
LN	LANE
LOC	LIP OF CURB
LP	LOW POINT
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MMA	METHYL METHACRYLATE
NO./#	NUMBER
N	NORTHING
NFL	NORMAL FLOW LINE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE / POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
R	RADIUS
RES	RESIDENTIAL
REHAB	REHABILITATION
RHF	RIGHT HAND FORWARD
RD	ROAD
ROW, R/W, R.O.W.	RIGHT OF WAY
RP	RADIAL POINT
RT	RIGHT
SC	STRUCTURE CENTER
SD	STORM DRAIN
SDWK	SIDEWALK
SHLDR	SHOULDER
SS	SANITARY SEWER
ST	STREET
STD	STANDARD
STA	STATION
SW	SIDEWALK
SWR	SEWER
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TBC	TOP BACK OF CURB
TCE	TEMPORARY CONSTRUCTION EASEMENT
TCP	TEMPORARY CONSTRUCTION PERMIT
THK	THICK
TOC	TOP OF CASTING
TYP	TYPICAL
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W/	WITH
W, WTR	WATER
WWM	WELDED WIRE MESH

GENERAL NOTES

NO.	DATE	REVISION

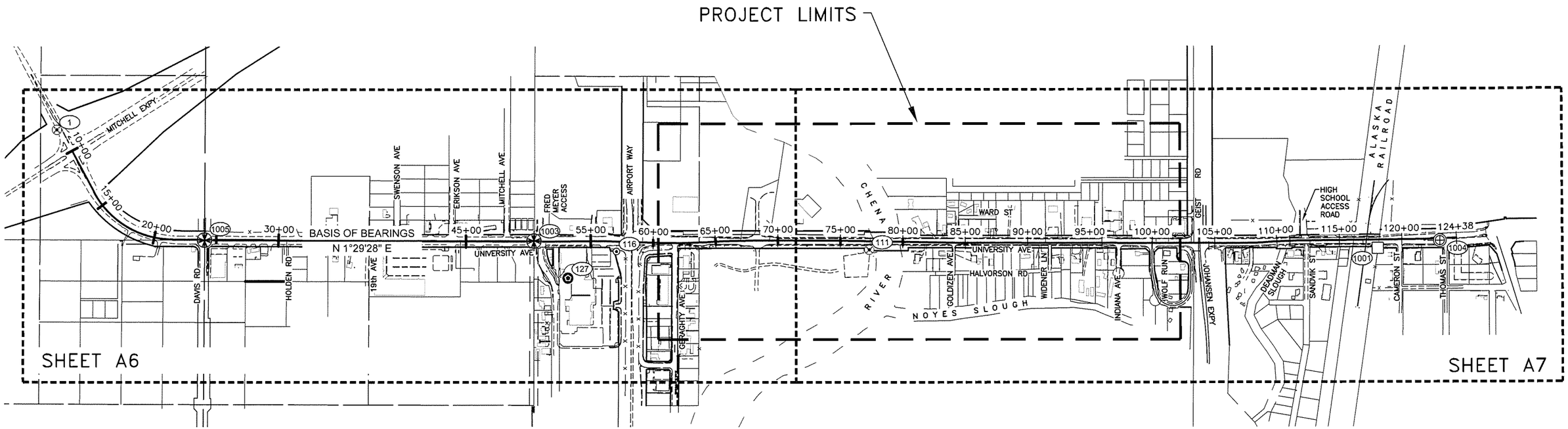
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	A4	A10



VICINITY MAP

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	A5	A10



NOTES:

1. FIELD WORK FOR THIS CONTROL SURVEY WAS CONDUCTED FROM AUGUST THROUGH NOVEMBER 2012.
2. THE BASIS OF HORIZONTAL COORDINATES IS PDC CONTROL POINT #1005, A 3 ½" ALUMINUM CAP STAMPED "RESET 2012 7621S" SET ON A 5/8" REBAR IN A CASING NEAR THE INTERSECTION OF UNIVERSITY AVENUE AND DAVIS ROAD. THIS MONUMENT MARKS THE POSITION OF THE ¼ CORNER COMMON TO SECTIONS 17 AND 18. IT IS ADOT POINT # 1 ON THE ADOT RECORD OF SURVEY "CONTROL DRAWING OF UNIVERSITY AVENUE 63213" STAMPED AND DATED 4/21/2010 AND RECORDED AS PLAT 2010–112 IN THE FAIRBANKS RECORDING DISTRICT. THE LOCAL PROJECT COORDINATES FOR POINT #1005 ARE 61,145.76 NORTH, 18,085.340 EAST, US FEET.
3. THE BASIS OF BEARING IS THE LINE BETWEEN THE BASIS OF COORDINATES (PDC POINT #1005) AND PDC POINT #1003, THE SECTION CORNER COMMON TO SECTIONS 7, 8, 17, AND 18, MARKED BY A 3 ½" ALUMINUM CAP ON A 5/8" REBAR STAMPED "RESET 2012, 7621S" IN A CASING NEAR THE INTERSECTION OF UNIVERSITY AVENUE AND REWAK DRIVE. THIS IS ADOT POINT #2 ON THE ADOT RECORD OF SURVEY "CONTROL DRAWING OF UNIVERSITY AVENUE 63213" STAMPED AND DATED 4/21/2010. THE LOCAL PROJECT BEARING IS N 1°29'28" E.
4. THIS PROJECT IS IN A LOCAL GROUND COORDINATE SYSTEM. UNITS ARE U.S. SURVEY FEET.
5. CONTROL MONUMENTS DEPICTED WITH POINT NUMBERS AND SHOWN IN THE CONTROL TABLES ARE LIMITED TO THOSE SURVEYED BY PDC, INC IN 2012. ALL OTHER MONUMENTS WERE SURVEYED BY R&M CONSULTANTS AND ADOT&PF AND ARE SHOWN GRAPHICALLY ON THESE SHEETS FOR INFORMATIONAL PURPOSES ONLY. CONTROL COORDINATES FOR R&M/ADOT&PF MONUMENTS ARE LISTED ON THE FOLLOWING DOCUMENTS: THE ADOT RECORD OF SURVEY "CONTROL DRAWING OF UNIVERSITY AVENUE 63213" STAMPED AND DATED 4/21/2010 AND RECORDED AS PLAT 2010–112 IN THE FAIRBANKS RECORDING DISTRICT, AND THE UNRECORDED RIGHT OF WAY MAP FOR THIS PROJECT, LAST REVISION DATE 8–9–2016, ON FILE AT THE ALASKA DEPARTMENT OF TRANSPORTATION.
6. THE BASIS OF ELEVATION IS ADOT BENCHMARK "NOYES", A 3 ¼" BRASS CAP MOUNTED ON THE TOP OF THE SOUTH WEST WING WALL IN THE NOYES SLOUGH BRIDGE NEAR THE JOHANSEN EXPRESSWAY. THE CAP IS STAMPED "SOA DOT/PF NOYES 1993 ELEV. 433.59 NAVD 1988".

LEGEND:

	RECOVERED	SET
BLM MONUMENT	✠	
GLO MONUMENT	✠	
USC&GS MONUMENT	⛬	
PRIMARY MONUMENT	✠	✠
CENTERLINE MONUMENT IN CASING	⊕	⊕
PRIMARY R.O.W. MONUMENT	⊕	◕
MISCELLANEOUS MONUMENT	⊗	
CONCRETE R.O.W. MONUMENT	□	
SURVEY PANEL POINT		
REBAR AND CAP	⊙	◎
REBAR	⊖	•
IRON PIPE	●	
SPIKE		⊗

400 200 0 400 800 1200
SCALE IN FEET

CONTROL TABLE

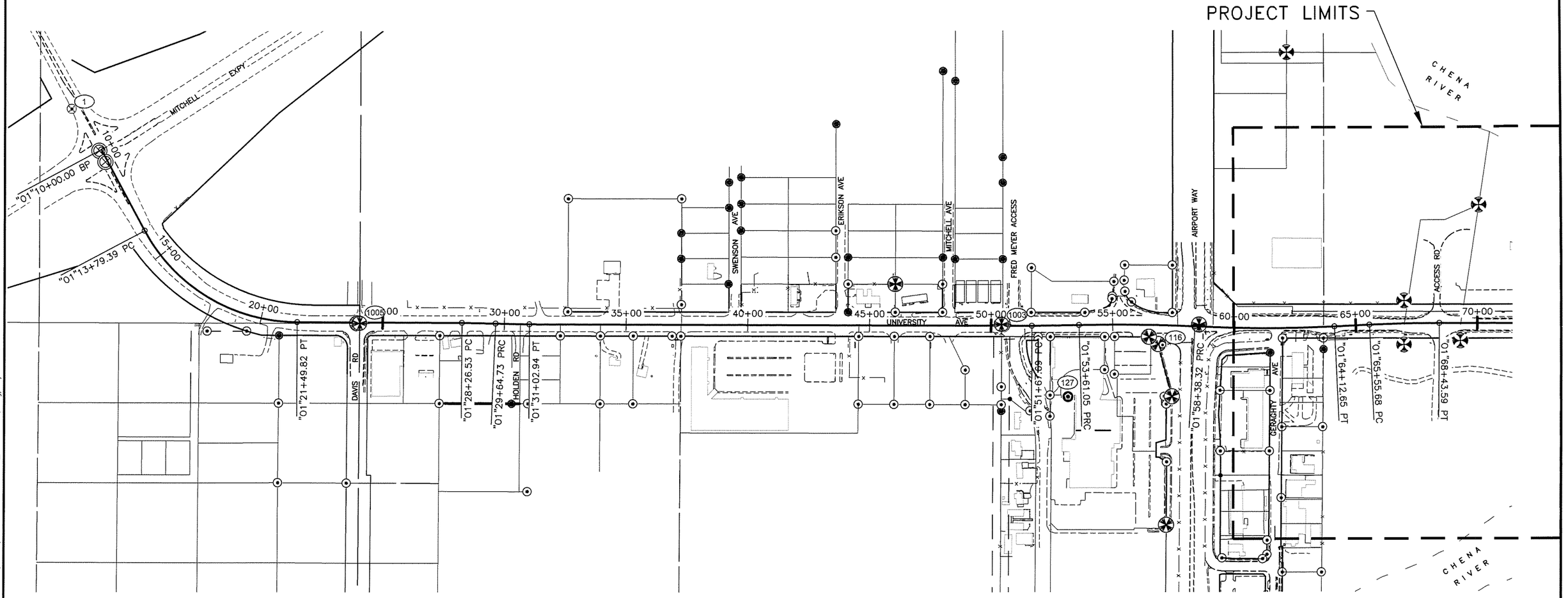
POINT#	NORTHING	EASTING	STATION	OFFSET	DESCRIPTION
1	59979.81	17171.67	--	--	6" SPIKE SET THIS SURVEY
111	66468.05	18290.42	77+33.38	68.72'	6" SPIKE SET THIS SURVEY
116	64442.60	18254.44	57+08.26	81.64'	2" ALUMINUM CAP RECOVERED
127	64048.61	18458.69	53+10.32	294.26'	2" ALUMINUM CAP ON 5/8" REBAR SET THIS SURVEY
1001	70541.48	18377.83	118+06.37	67.21'	RECOVERED CONCRETE ROW MONUMENT
1003	63782.45	18153.97	50+43.20	-4.90'	3.25" ALUMINUM CAP IN CASING RECOVERED THIS SURVEY
1004	71042.43	18330.72	123+06.24	16.35'	2.5" BRASS CAP IN CASING RECOVERED THIS SURVEY
1005	61145.76	18085.34	24+05.56	3.95'	3.25" ALUMINUM CAP IN CASING RECOVERED THIS SURVEY

THE MONUMENTS IN THIS TABLE ARE LIMITED TO THOSE SURVEYED BY PDC, INC. ALL OTHER MONUMENTS DEPICTED ON THESE SHEETS WERE SURVEYED BY R&M CONSULTANTS AND ADOT&PF AND ARE SHOWN GRAPHICALLY FOR INFORMATIONAL PURPOSES ONLY.
SEE NOTE 5.

SURVEY CONTROL

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	A6	A10



200 100 0 200 400 600
SCALE IN FEET

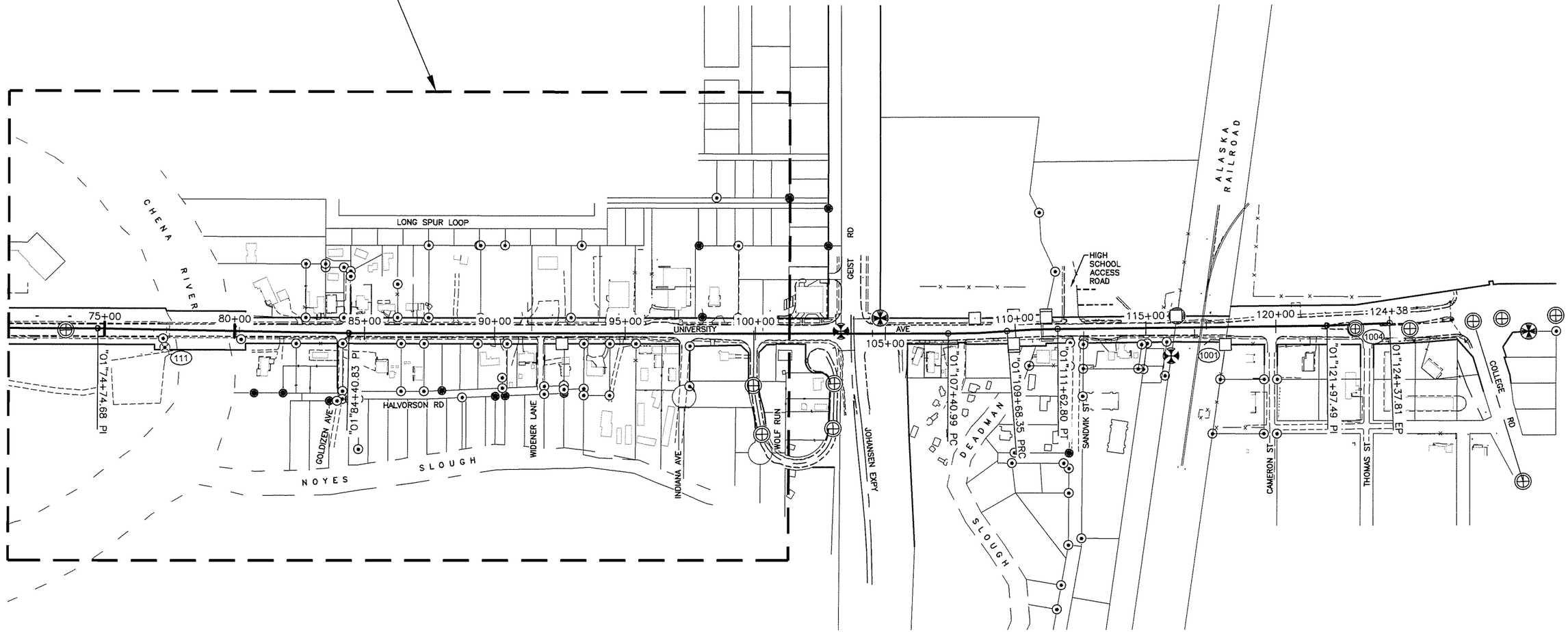
SURVEY CONTROL
(1 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0004cnst111147.01FB_1D-A6 Tue, Aug/06/19 10:10am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	A7	A10

PROJECT LIMITS

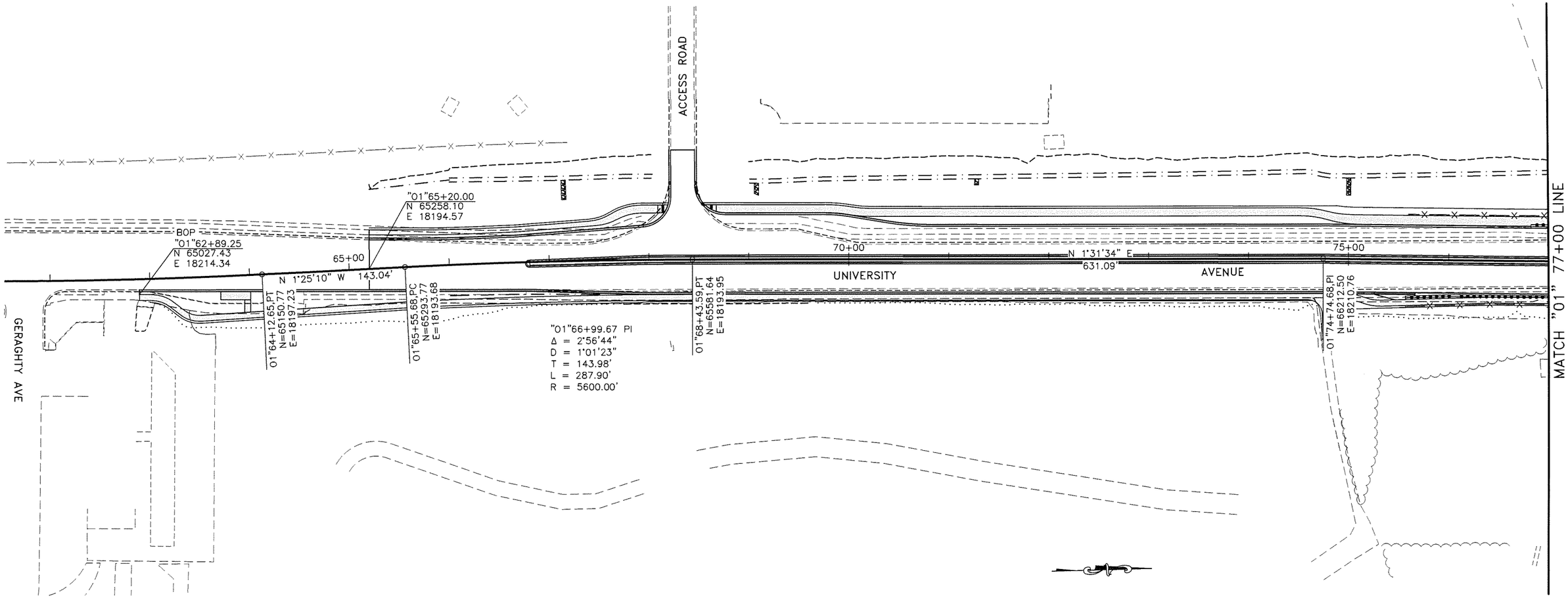


200 100 0 200 400 600
SCALE IN FEET

SURVEY CONTROL
(2 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0004cnst11147.01FB_1D-A7 Tue, Aug/06/19 10:10am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	A8	A10



PROJECT CONTROL NOTES:

FOR SURVEY CONTROL INFORMATION, INCLUDING BASIS OF COORDINATES, BASIS OF BEARINGS AND BASIS OF VERTICAL CONTROL. SEE SHEETS A5–A7

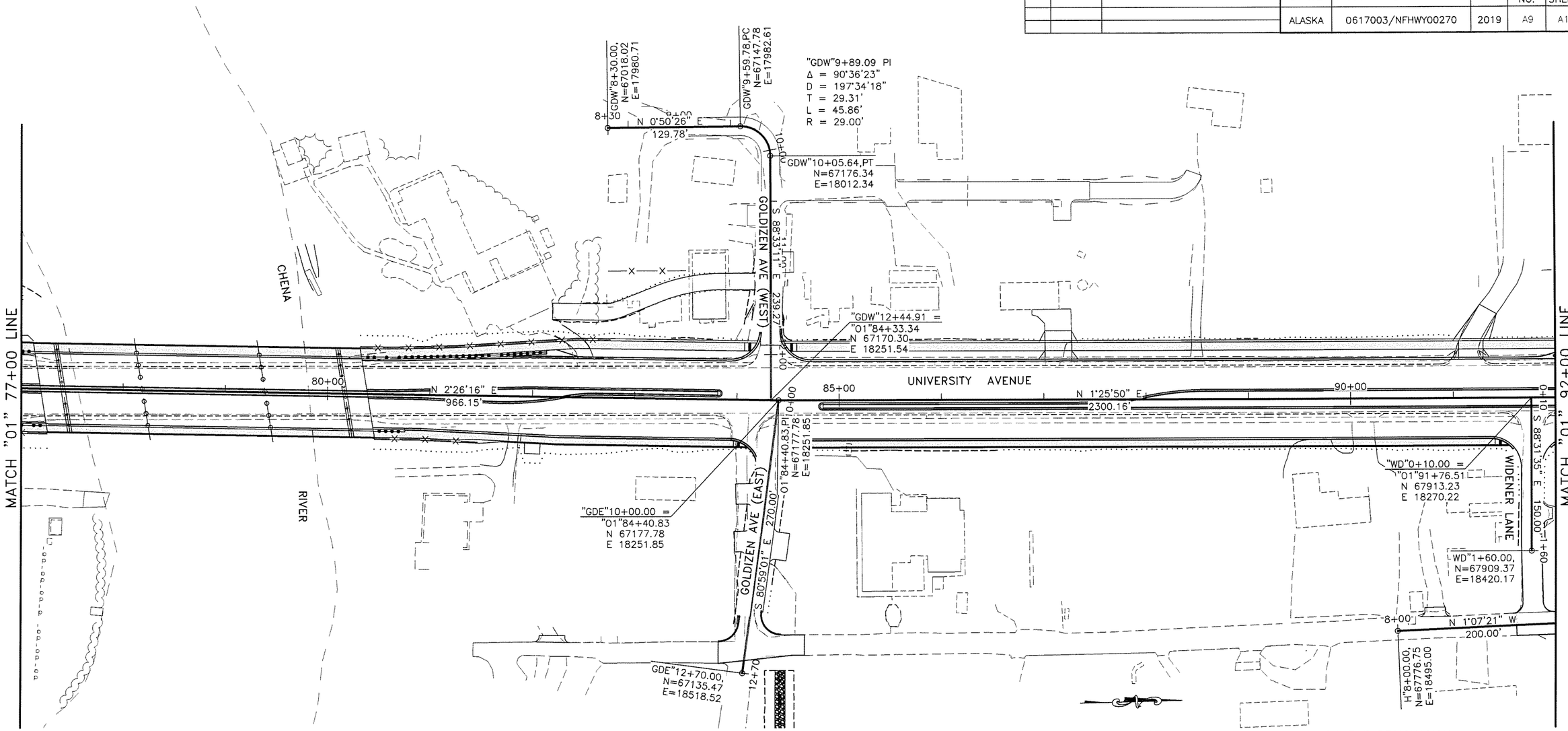
ALIGNMENT DESIGNATION

"01"	UNIVERSITY AVENUE
"GDW"	GOLDIZEN AVENUE (WEST)
"GDE"	GOLDIZEN AVENUE (EAST)
"H"	HALVORSON ROAD
"I"	INDIANA AVENUE
"WD"	WIDENER LANE

ALIGNMENT CONTROL PLAN (1 OF 3)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0005cnst11147.01FB_1D-A8 Fri, Aug/23/19 08:23am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	A9	A10



PROJECT CONTROL NOTES:

FOR SURVEY CONTROL INFORMATION, INCLUDING BASIS OF COORDINATES, BASIS OF BEARINGS AND BASIS OF VERTICAL CONTROL. SEE SHEETS A5–A7.

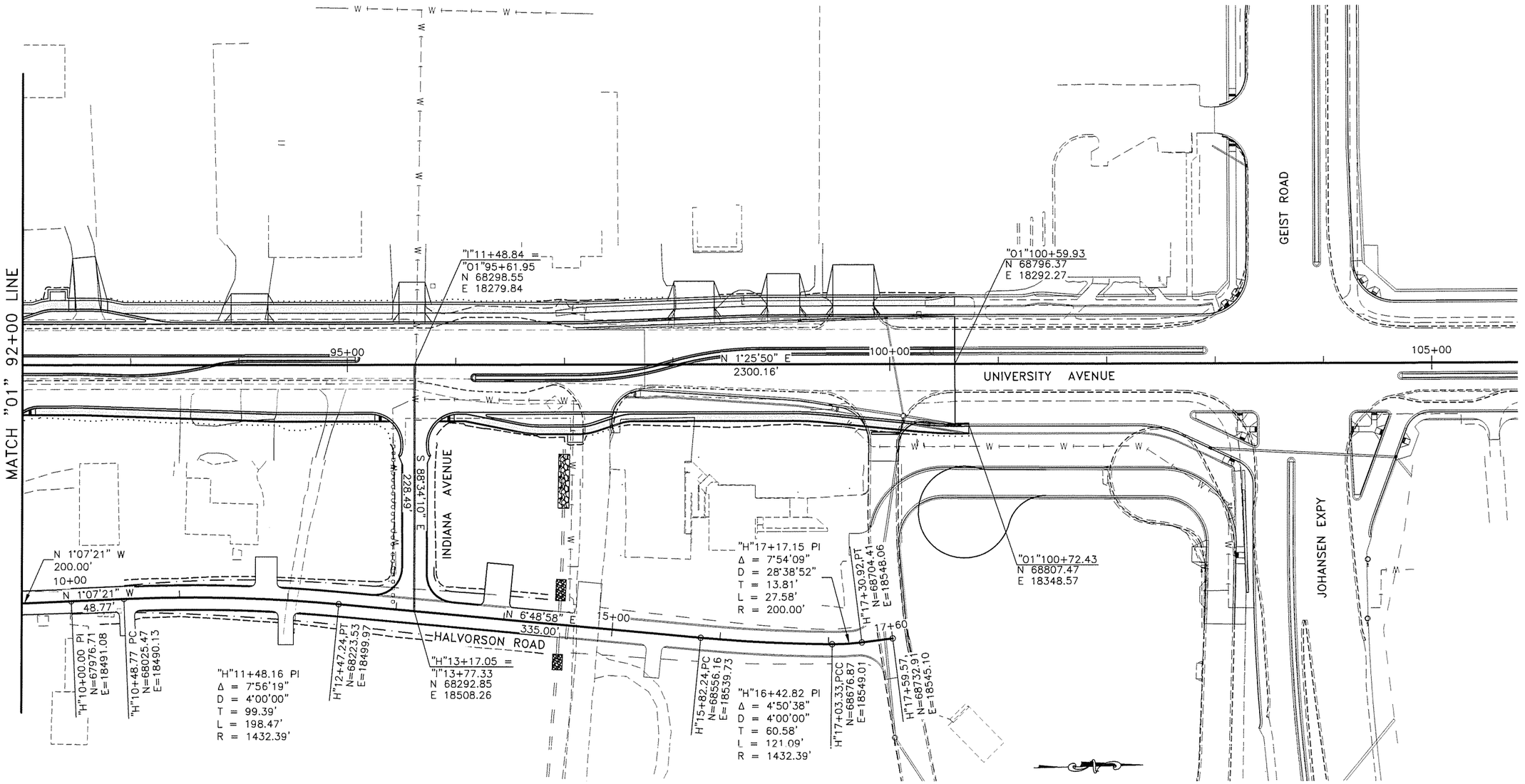
ALIGNMENT DESIGNATION

"01"	UNIVERSITY AVENUE
"GDW"	GOLDIZEN AVENUE (WEST)
"GDE"	GOLDIZEN AVENUE (EAST)
"H"	HALVORSON ROAD
"I"	INDIANA AVENUE
"WD"	WIDENER LANE

ALIGNMENT CONTROL PLAN (2 OF 3)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0005snst11147.01FB_1D-A9 Fri, Aug/23/19 08:24am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	A10	A10



PROJECT CONTROL NOTES:

FOR SURVEY CONTROL INFORMATION, INCLUDING BASIS OF COORDINATES, BASIS OF BEARINGS AND BASIS OF VERTICAL CONTROL. SEE SHEETS A5–A7

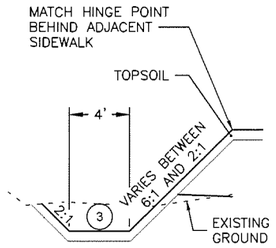
ALIGNMENT DESIGNATION

"01"	UNIVERSITY AVENUE
"GDW"	GOLDIZEN AVENUE (WEST)
"GDE"	GOLDIZEN AVENUE (EAST)
"H"	HALVORSON ROAD
"I"	INDIANA AVENUE
"WD"	WIDENER LANE

ALIGNMENT CONTROL PLAN (3 OF 3)

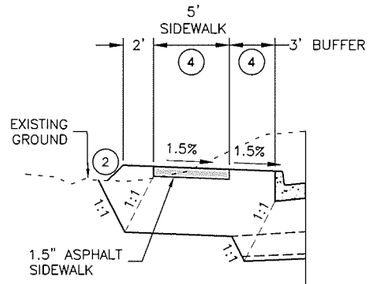
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\10-C\C0005cnst111147.01FB_1D-A10 Fri, Aug/23/19 08:25am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	B1	B4



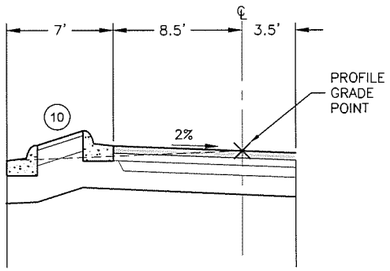
DITCH TYPICAL

"01 65+24 TO "01" 77+00



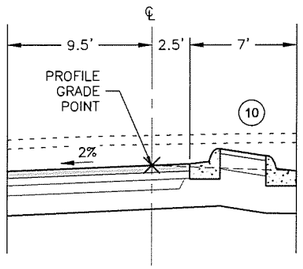
SIDEWALK TYPICAL C

"01"65+21 TO "01" 68+40



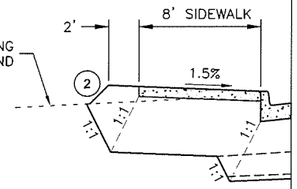
MEDIAN – OFFSET LEFT TURN LANE B

"01" 98+00 TO "01" 100+60



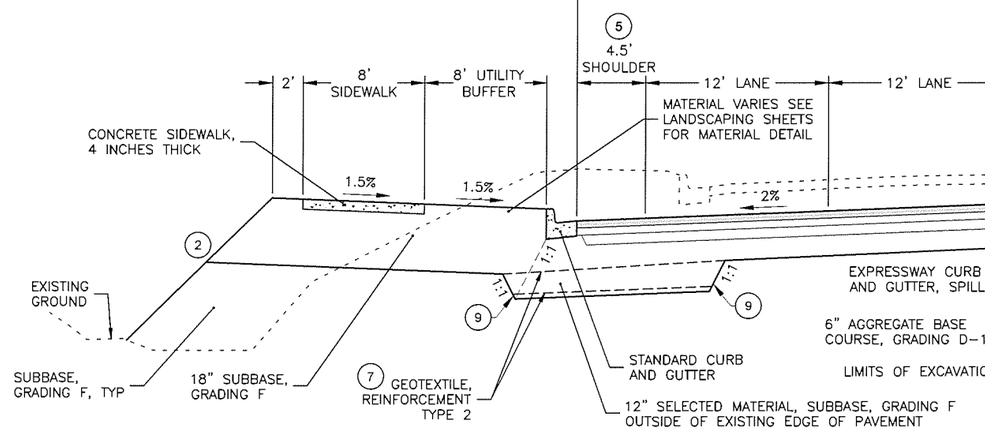
MEDIAN – OFFSET LEFT TURN LANE A

"01" 82+40 TO "01" 84+40 SECTION REVERSED
"01" 84+40 TO "01" 87+57
"01" 94+10 TO "01" 95+62 SECTION REVERSED
"01" 95+62 TO "01" 98+00



SIDEWALK TYPICAL B

"01" 68+40 TO "01" 70+06
"01" 92+10 TO "01" 92+93



SIDEWALK TYPICAL A

"01" 70+06 TO "01" 75+00
"01" 82+44 TO "01" 92+10
"01" 92+93 TO "01" 100+60

UNIVERSITY AVENUE TYPICAL

"01" 65+20 TO "01" 75+00
"01" 87+57 TO "01" 94+10

SIDEWALK TYPICAL D

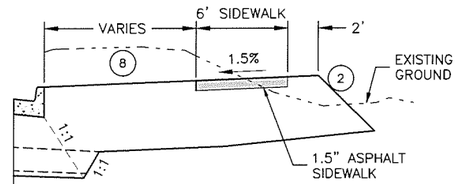
"01" 68+00 TO "01" 75+00
"01" 82+44 TO "01" 100+73

TYPICAL SECTION NOTES:

1. LAYOUT VARIES FROM "01" 65+20 TO "01" 68+00 SEE GRADING G2 SHEET FOR CLARIFICATION. THE MEDIAN WIDTH FROM CENTERLINE TO LIP OF CURB IS 4.5' FROM "01" 68+00 TO "01" 80+67.
2. UNLESS OTHERWISE CONTROLLED BY A DITCH TYPICAL SECTION CATCH TO EXISTING GROUND AT 2:1 IN BOTH A CUT AND FILL CONDITION.
3. SEE GRADING SHEETS FOR DITCH CONTROL. FROM "01" 65+24 TO "01" 66+04 DITCH WIDTH IS ZERO FEET WIDE.
4. FROM "01" 67+41 TO "01" 68+40SIDEWALK AND BUFFER WIDTH VARY, SEE GRADING SHEETS FOR LAYOUT CONTROL.
5. ROADWAY SHOULDER WIDTH VARIES FROM "01" 65+20 TO "01" 68+00, SEE GRADING SHEETS FOR LAYOUT CONTROL.
6. RIGHT TURN LANE AND SHOULDER CONFIGURATION ARE AS SHOWN. SEE SIDEWALK TYPICAL B FOR SIDEWALK AND SLOPE LAYOUT DETAILS IN REVERSED SECTION.
7. 2 LAYERS OF GEOTEXTILE, REINFORCEMENT– TYPE 2, WITH A MINIMUM OF 12" OF SUBBASE, GRADING F IN BETWEEN AND AS DIRECTED BY THE ENGINEER.
8. SLOPE VARIES, SPECIAL DITCHING AND LAYOUT ARE REQUIRED, SEE GRADING SHEET G3 AND G4 FOR MORE INFORMATION.
9. BENCH SLOPES PER SPECIFICATION SECTION 203.
10. MEDIAN SLOPE VARIES. CONTROLLED BY MEDIAN WIDTH AND HORIZONTAL LOCATION OF MEDIAN WITH RESPECT TO CL.
11. ALL DISTURBED GROUND NOT TO BE COVERED IN ASPHALT, CONCRETE, OR LANDSCAPING MATERIAL SHALL BE SEEDED.
12. PROOFROLL AND COMPACT BELOW SUBBASE, GRADING F MATERIAL. SEE SPEC SECTION 203–3.06.
13. EXPRESSWAY CURB AND GUTTER IN THE MEDIANS SHALL BE SPILL. SEE SHEET G23 FOR CURB AND GUTTER DETAILS.

RIGHT TURN LANE

6 "01" 68+75 TO "01" 69+76 SECTION REVERSED
"01" 100+60 TO "01" 100+73



SIDEWALK TYPICAL E

"01" 62+89 TO "01" 68+00

TYPICAL SECTIONS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0006cnst11147.01FB_1D-B1 Fri, Aug/23/19 02:17pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	B2	B4

(16) TYPICAL SECTION NOTES:

(1) INSTALL 2' WIDE GUARDRAIL CURB AND GUTTER "01" 75+26 TO "01" 75+67.

(2) UNLESS OTHERWISE CONTROLLED BY A DITCH TYPICAL SECTION CATCH TO EXISTING GROUND AT 2:1 IN BOTH A CUT AND FILL CONDITION.

(3) WIDTH VARIES FROM SIDEWALK TO TBC FROM "01" 75+00 TO "01" 76+45 FOR GUARDRAIL PAVEMENT WIDENING AND END TERMINAL INSTALL. SEE GRADING SHEETS FOR LAYOUT CONTROL.

(4) EMBANKMENT FORESLOPE VARIES 1.5:1 TO 2:1 TO THE ROW LINE FROM "01" 74+85 TO "01" 77+25.

(5) WIDTH VARIES FOR GUARDRAIL PAVEMENT WIDENING AND END TERMINAL INSTALL. SEE GRADING SHEETS FOR LAYOUT CONTROL.

(6) GUARDRAIL TERMINATES AT "01" 82+13. WIDTH VARIES FROM SIDEWALK TO TBC. SEE GRADING SHEETS FOR LAYOUT CONTROL.

(7) MATERIAL VARIES SEE LANDSCAPING SHEETS FOR MATERIAL DETAIL

(8) 2 LAYERS OF GEOTEXTILE, REINFORCEMENT– TYPE 2, WITH A MINIMUM OF 12" OF SUBBASE, GRADING F IN BETWEEN AND AS DIRECTED BY THE ENGINEER.

(9) BENCH SLOPES PER SPECIFICATION SECTION 203.

(10) MEDIAN WIDTH VARIES "01" 80+67 TO "01" 82+40, SEE GRADING SHEETS FOR LAYOUT CONTROL.

11. ALL DISTURBED GROUND NOT TO BE COVERED IN ASPHALT, CONCRETE, OR LANDSCAPING MATERIAL SHALL BE SEEDED.

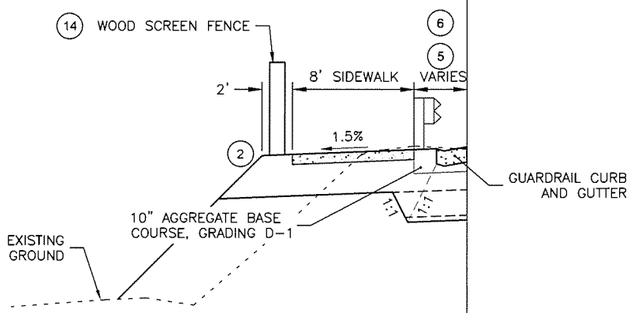
12. PROOFROLL AND COMPACT BELOW SUBBASE, GRADING F MATERIAL. SEE SPEC SECTION 203–3.06.

13. EXPRESSWAY CURB AND GUTTER IN THE MEDIANS SHALL BE SPILL. SEE SHEET G23 FOR CURB AND GUTTER DETAILS.

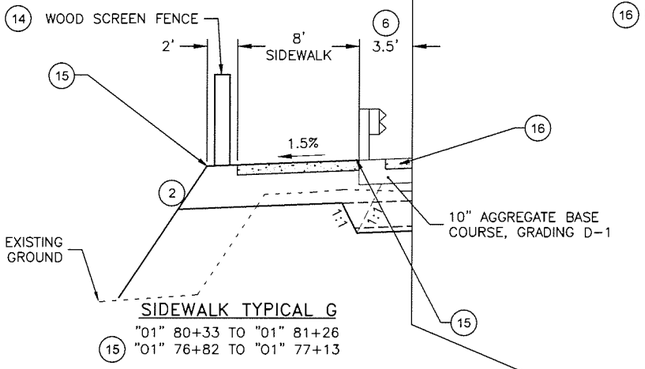
(14) WOOD SCREEN FENCE TO BE FIELD FIT. SEE SHEET E2 FOR APPROXIMATE FENCE INSTALL BEGIN AND END TERMINATION STATION RANGES.

(15) WIDEN AN ADDITIONAL 7.5' FOR A UTILITY BUFFER WITH SAME GRADE AS ADJACENT, SEE TYPICAL SIDEWALK F FOR EXAMPLE ON DEPTH.

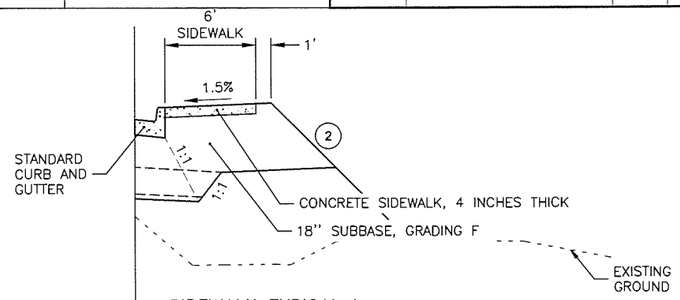
(16) INSTALL GUARDRAIL POSTS AND MATCH TYPICAL 3" HMA, 3" ATB AND PAVE UP TO FACE OF GUARDRAIL.



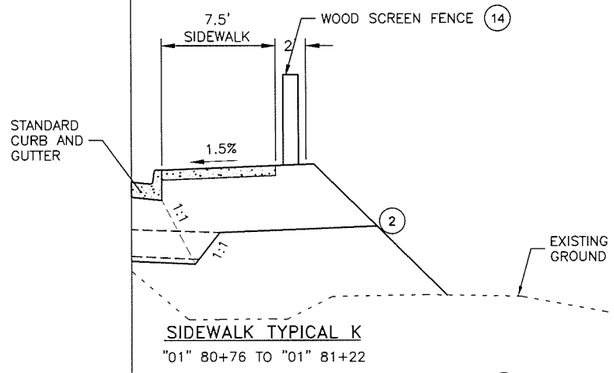
SIDEWALK TYPICAL H
"01" 81+26 TO "01" 82+44



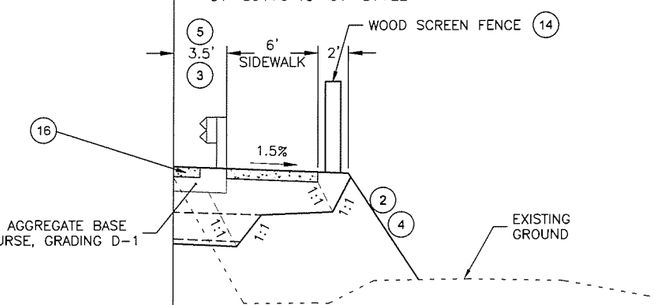
SIDEWALK TYPICAL G
"01" 80+33 TO "01" 81+26
(15) "01" 76+82 TO "01" 77+13



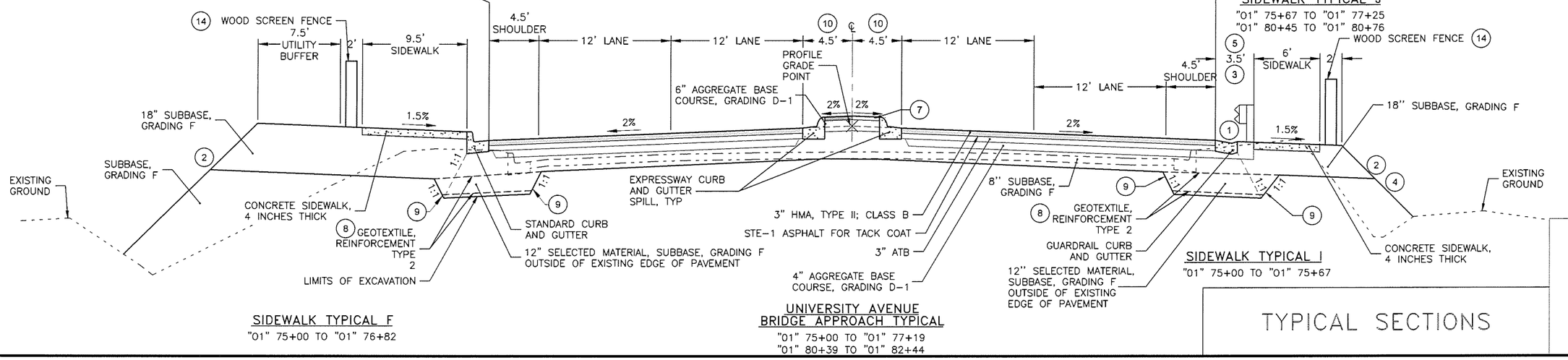
SIDEWALK TYPICAL L
"01" 81+22 TO "01" 82+44



SIDEWALK TYPICAL K
"01" 80+76 TO "01" 81+22



SIDEWALK TYPICAL J
"01" 75+67 TO "01" 77+25
"01" 80+45 TO "01" 80+76



SIDEWALK TYPICAL F
"01" 75+00 TO "01" 76+82

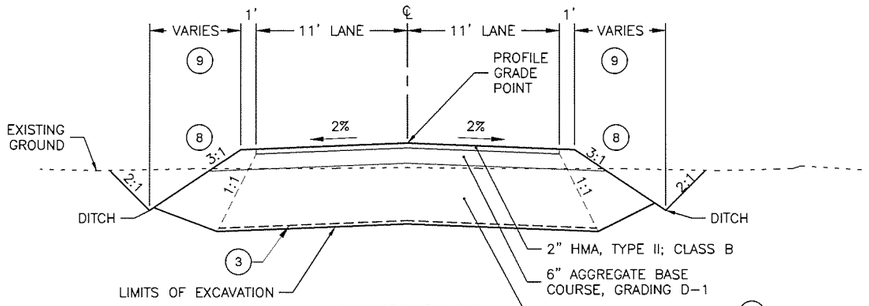
UNIVERSITY AVENUE BRIDGE APPROACH TYPICAL
"01" 75+00 TO "01" 77+19
"01" 80+39 TO "01" 82+44

SIDEWALK TYPICAL I
"01" 75+00 TO "01" 75+67

TYPICAL SECTIONS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743–3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D–C\C0006cnst11147.01FB_1D–B2 Fri, Aug/23/19 02:18pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	B3	B4



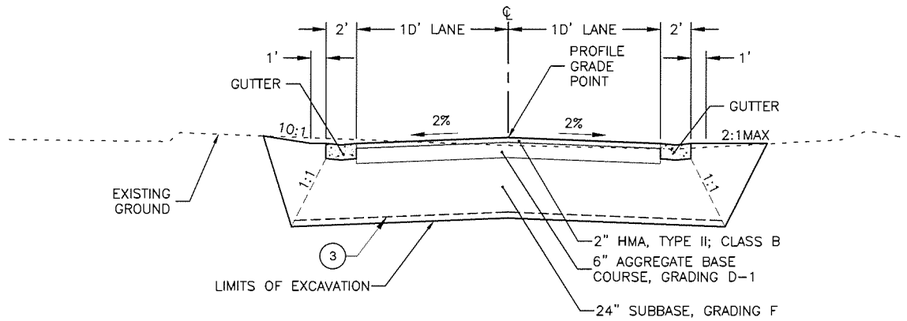
HALVORSON RD

"H" 9+16 TO "H" 14+44

(7) FROM "H" 9+16 TO "H" 10+00 REPLACE WITH HMA AND AGGREGATE BASE COURSE, OMIT SUBBASE LAYER FOR SEWER INSTALL.

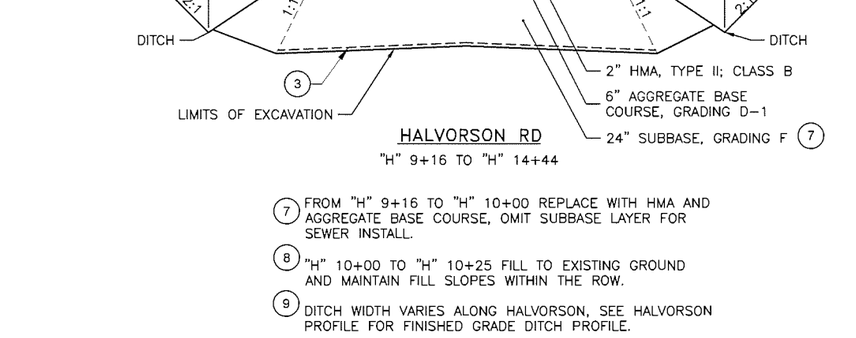
(8) "H" 10+00 TO "H" 10+25 FILL TO EXISTING GROUND AND MAINTAIN FILL SLOPES WITHIN THE ROW.

(9) DITCH WIDTH VARIES ALONG HALVORSON, SEE HALVORSON PROFILE FOR FINISHED GRADE DITCH PROFILE.



GOLDIZEN AVE (EAST)

"GDE" 10+63 TO "GDE" 12+20



INDIANA AVE

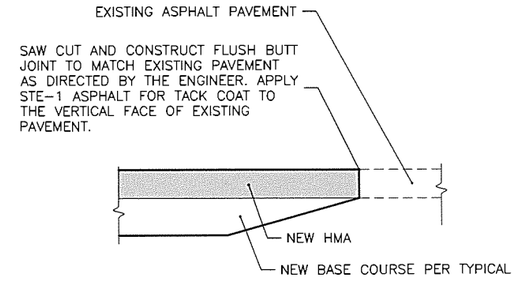
"I" 12+22 TO "I" 13+45

(4) WIDTH VARIES FROM "I" 13+37 TO "I" 13+54 RT AND "I" 13+37 TO "I" 13+60 LT . SEE INDIANA PROFILE FOR FINISHED GRADE DITCH PROFILES AND GRADING SHEET G13 FOR ADDITIONAL CONTROL LAYOUT INFORMATION.

TYPICAL SECTION NOTES:

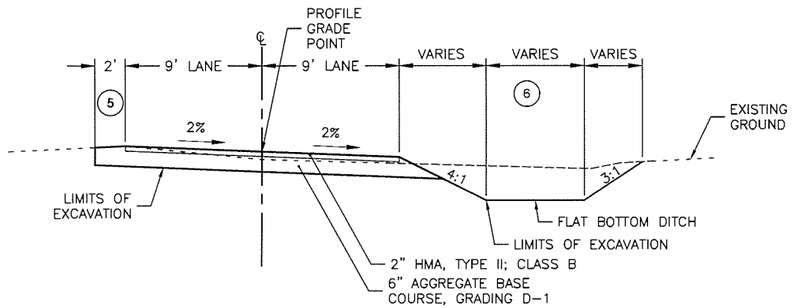
1. ALL DISTURBED GROUND NOT TO BE COVERED IN ASPHALT, CONCRETE, OR LANDSCAPING MATERIAL SHALL BE SEEDED.
2. PROOFROLL AND COMPACT BELOW SUBBASE, GRADING F MATERIAL. SEE SPEC SECTION 203-3.06.

(3) GEOTEXTILE, STABILIZATION IS TO BE PLACED WHEN SILT IS ENCOUNTERED AT THE BOTTOM OF EXCAVATION, AS DIRECTED BY THE ENGINEER.



MATCH EXISTING PAVEMENT DETAIL

BOP, EOP, GOLDIZEN AVE (WEST) AND (EAST), WIDENER LN, INDIANA AVE, HALVORSON RD, AND APPROACHES.

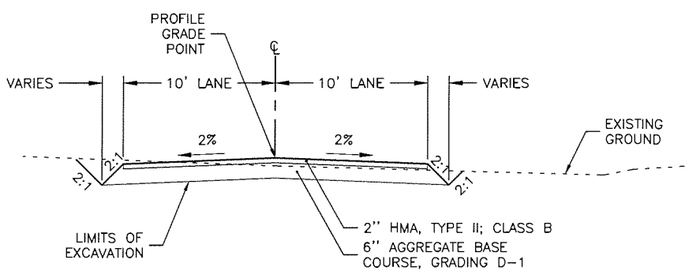


GOLDIZEN AVE (WEST)

"GDW" 11+40 TO "GDW" 11+80

(5) GRADE TO MATCH EXISTING GROUND AT 4:1 MAX.

(6) DITCH WIDTH VARIES ALONG GOLDIZEN AVE (WEST) SEE PROFILE FOR FINISHED GRADE DITCH PROFILE. SEE GRADING SHEETS G10 FOR FLAT BOTTOM DITCH CONTROL POINTS FOR LAYOUT.



WIDENER LN

"WD" 0+78 TO "WD" 1+55
"WD" 1+55 TO EOP OF HALVORSON RD

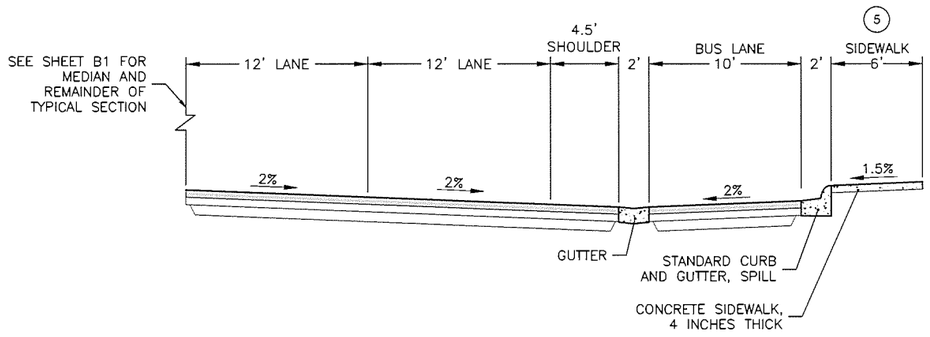
10. SEE GRADING SHEET G14 FOR LAYOUT CONTROL AND EXTENDING WIDENER LN TO HALVORSON RD.

TYPICAL SECTIONS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0006cnst111147.01FB_1D-B3 Fri, Aug/23/19 02:19pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	B4	B4



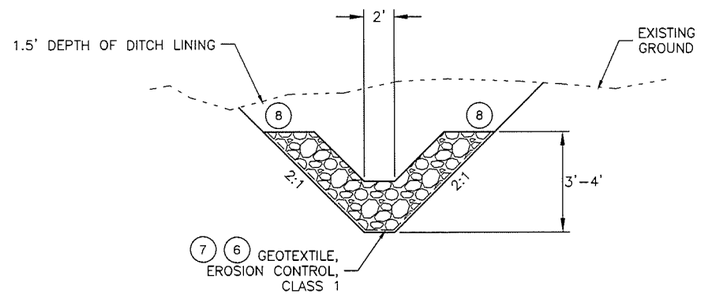
BUS PULLOUT

"01" 91+78 TO "01" 93+38 SECTION REVERSED
"01" 96+09 TO "01" 97+65

3. SEE UNIVERSITY AVENUE TYPICAL ON B1 AND GRADING SHEET G8 AND G9 FOR LAYOUT AND ADDITIONAL INFORMATION.

4. MATCH UNIVERSITY AVENUE TYPICAL MATERIAL SECTION ON SHEET B1 FOR MATERIALS AT BUS PULLOUT AND SIDEWALK.

(5) "01" 91+78 TO "01" 93+38 SECTION REVERSED AND SIDEWALK IS 8' WIDE.



NOYES SLOUGH DITCH TYPICAL

"01" 84+35 RT
"01" 97+00 RT

(6) SEE SHEETS G11 AND G16 FOR 84+35 DITCH CONTROL POINTS.

(7) SEE SHEETS G8 AND G16 FOR 97+00 DITCH CONTROL POINTS.

(8) DISTURBED GROUND FOR DITCH CONSTRUCTION, NOT COVERED IN DITCH LINING, SHALL BE SEEDED.

TYPICAL SECTION NOTES:

1. ALL DISTURBED GROUND NOT TO BE COVERED IN ASPHALT, CONCRETE, OR LANDSCAPING MATERIAL SHALL BE SEEDED.

2. PROOFROLL AND COMPACT BELOW SUBBASE, GRADING F MATERIAL. SEE SPEC SECTION 203-3.06.

TYPICAL SECTIONS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 CAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0006cnst111147.01FB_1D-B4 Fri, Aug/23/19 02:20pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	C1	C3

ESTIMATE OF QUANTITIES

ITEM NO.	SSHC 2017 ITEM NO.	DESCRIPTION	UNIT	TOTAL
201.0007.0000	201(1B)	CLEARING	LUMP SUM	ALL REQUIRED
201.0008.0000	201(2B)	GRUBBING	LUMP SUM	ALL REQUIRED
202.0001.0000	202(1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQUIRED
202.0002.0000	202(2)	REMOVAL OF PAVEMENT	SQUARE YARD	26,040
202.0003.0000	202(3)	REMOVAL OF SIDEWALK	SQUARE YARD	3,885
202.0009.0000	202(9)	REMOVAL OF CURB AND GUTTER	LINEAR FOOT	7,403
202.0023.0000	202(23)	REMOVAL OF BRIDGE	LUMP SUM	ALL REQUIRED
203.0003.0000	203(3)	UNCLASSIFIED EXCAVATION	CUBIC YARD	36,000
205.0006.0000	205(6)	STRUCTURAL FILL	CUBIC YARD	2,845
301.0001.00D1	301(1)	AGGREGATE BASE COURSE, GRADING D-1	TON	7,650
304.0001.000F	304(1)	SUBBASE, GRADING F	TON	67,000
306.0001.0000	306(1)	ATB	TON	4,000
306.0002.5228	306(102)	ASPHALT BINDER, GRADE PG 52-28	TON	180
401.0001.002B	401(1B)	HMA, TYPE II; CLASS B	TON	5,150
401.0004.5240	401(4)	ASPHALT BINDER, GRADE PG 52-40	TON	285
401.0008.002B	401(8B)	HMA PRICE ADJUSTMENT, TYPE II; CLASS B	CONTINGENT SUM	ALL REQUIRED
401.0015.0000	401(15)	ASPHALT MATERIAL PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
402.0001.STE1	402(1)	STE-1 ASPHALT FOR TACK COAT	TON	9
501.0001.0000	501(1)	CLASS A CONCRETE	LUMP SUM	ALL REQUIRED
501.0007.0000	501(7A)	PRECAST CONCRETE MEMBER, 116'-0" DECKED BULB-TEE	EACH	14
501.0007.0000	501(7B)	PRECAST CONCRETE MEMBER, 78'-0" DECKED BULB-TEE	EACH	22
501.0007.0000		PRECAST CONCRETE MEMBER, ADDITIONAL TRANSPORTATION	EACH	36
503.0001.0000	503(1)	REINFORCING STEEL	LUMP SUM	ALL REQUIRED
503.0002.0000	503(2)	EPOXY-COATED REINFORCING STEEL	LUMP SUM	ALL REQUIRED
505.0005.1805	505(5A)	FURNISH STRUCTURAL STEEL PILES, 1'-6" DIA. X 1/2" PIPE	LINEAR FOOT	1,210
505.0005.4810	505(5B)	FURNISH STRUCTURAL STEEL PILES, 4'-0" DIA X 1" PIPE	LINEAR FOOT	1,545
505.0006.1805	505(6A)	DRIVE STRUCTURAL STEEL PILES, 1'-6" DIA. X 1/2" PIPE	EACH	22
505.0006.4810	505(6B)	DRIVE STRUCTURAL STEEL PILES, 4'-0" DIA X 1" PIPE	EACH	14
507.0001.0003	507(1)	STEEL BRIDGE RAILING, 3-TUBE	LINEAR FOOT	640
507.0002.0000	507(2)	PEDESTRIAN RAILING	LINEAR FOOT	700
508.0001.0000		WATERPROOFING MEMBRANE, SPRAY-APPLIED	LUMP SUM	ALL REQUIRED
520.0001.0000	520(1)	TEMPORARY CROSSINGS	LUMP SUM	ALL REQUIRED
540.2000.0000		WORK TRESTLE	LUMP SUM	ALL REQUIRED
603.0001.0012	603(1)-12	CSP 12 INCH	LINEAR FOOT	78
603.0001.0018	603(1)-18	CSP 18 INCH	LINEAR FOOT	36
603.0001.0024	603(1)-24	CSP 24 INCH	LINEAR FOOT	134
603.0001.0036	603(1)-36	CSP 36 INCH	LINEAR FOOT	100
603.0003.0012	603(20)-12	END SECTION FOR CSP 12 INCH	EACH	6
603.0003.0018	603(20)-18	END SECTION FOR CSP 18 INCH	EACH	2
603.0003.0024	603(20)-24	END SECTION FOR CSP 24 INCH	EACH	4
603.0021.0018	603(21)-18	CORRUGATED POLYETHYLENE PIPE 18 INCH	LINEAR FOOT	2,622
603.0021.0024	603(21)-24	CORRUGATED POLYETHYLENE PIPE 24 INCH	LINEAR FOOT	373

ESTIMATE OF QUANTITIES

ITEM NO.	SSHC 2017 ITEM NO.	DESCRIPTION	UNIT	TOTAL
604.0001.0000	604(1)	STORM SEWER MANHOLE	EACH	11
604.0002.0000	604(2)	SANITARY SEWER MANHOLE	EACH	4
604.0003.0000	604(3)	RECONSTRUCT EXISTING MANHOLE	EACH	1
604.0005.000A	604(5)	INLET, TYPE A	EACH	27
606.0001.0000	606(1)	W-BEAM GUARDRAIL	LINEAR FOOT	212.5
606.0013.0000	606(13)	PARALLEL GUARDRAIL TERMINAL	EACH	2
606.0016.0000	606(16)	TRANSITION RAIL	EACH	4
606.2011.0000	606(300)	DOWNSTREAM END ANCHOR	EACH	2
607.0003.0000	607(3)	CHAIN LINK FENCE	LINEAR FOOT	76
607.2012.0000	607(7)	WOOD FENCE	LINEAR FOOT	668
608.0001.0004	608(1A)	CONCRETE SIDEWALK, 4 INCHES THICK	SQUARE YARD	4,155
608.0001.0006	608(1B)	CONCRETE SIDEWALK, 6 INCHES THICK	SQUARE YARD	300
608.0002.0000	608(2)	ASPHALT SIDEWALK	TON	100
608.0006.0000	608(6)	CURB RAMP	EACH	10
608.2013.0005		CONCRETE SLABS, COLORED & PATTERN IMPRINTED, 4 INCHES THICK	SQUARE YARD	2,250
609.0001.0004	609(1)	CURB, TYPE 4	LINEAR FOOT	2,911
609.0002.0001	609(2)	CURB AND GUTTER, TYPE 1	LINEAR FOOT	13,440
609.2000.0000	609(101)	CURB, DRAIN	EACH	2
610.0004.0000	610(101)	DITCH LINING	LUMP SUM	ALL REQUIRED
611.0003.0001	611(102)-1	RIPRAP, CLASS I	LUMP SUM	ALL REQUIRED
611.0003.0002	611(102)-2	RIPRAP, CLASS II	LUMP SUM	ALL REQUIRED
613.0002.0000	613(2)	CULVERT MARKER POST	EACH	4
615.0001.0000	615(1)	STANDARD SIGN	SQUARE FOOT	288
615.0006.0000	615(6)	SALVAGE SIGN	EACH	52
618.0002.0000	618(2)	SEEDING	POUND	650
620.0001.0000	620(1)	TOPSOIL	SQUARE YARD	370
621.0001.0000	621(1)-A	TREE, COL. ASPEN (POPULUS TREMULA ERECTA), 2" CALIPER	EACH	23
621.0002.0000	621(2)-A	SHRUB, DWARF KOREAN LILAC (SYRINGA MEYERI 'PALIBIN'), 24" HT.	EACH	99
621.0002.0000	621(2)-B	SHRUB, ROSE (ROSA ACICULARIS), 24" HT.	EACH	165
621.0002.0000	621(2)-C	SHRUB, SPIREA (SPIREA BEAUVERDIANA), 24" HT.	EACH	326
621.2004.0000	621(104)-A	PERENNIAL, NATIVE IRIS (IRIS SETOSA), 1 GAL.	EACH	106
621.2004.0000	621(104)-B	PERENNIAL, YARROW (ACHILLEA MILLEFOLIUM 'RED PEPPER'), 1 GAL.	EACH	369
621.2016.0000	621(110)	PLANT MAINTENANCE AND REPLACEMENT	CONTINGENT SUM	ALL REQUIRED

ESTIMATE OF QUANTITIES

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	C2	C3

ESTIMATE OF QUANTITIES

ITEM NO.	SSHC 2017 ITEM NO.	DESCRIPTION	UNIT	TOTAL
626.0001.0004	626(1)–4	SANITARY SEWER CONDUIT, 4 INCH	LINEAR FOOT	68
626.0001.0008	626(1)–8	SANITARY SEWER CONDUIT, 8 INCH	LINEAR FOOT	318
626.0001.0014	626(1)–14	SANITARY SEWER CONDUIT, 14 INCH	LINEAR FOOT	168
626.0002.0000	626(2)	SANITARY SEWER SERVICE CONNECTION	EACH	2
626.2009.0000	626(106)–1	SANITARY SEWER PIPE CASING, 24 INCH, CSP	LINEAR FOOT	43
626.2009.0000	626(106)–2	SANITARY SEWER PIPE CASING, 24 INCH, STEEL, SCHEDULE 20	LINEAR FOOT	90
627.0001.0004	627(1)–4	DUCTILE IRON WATER CONDUIT, 4 INCH, CLASS 350	LINEAR FOOT	118
627.0001.0008	627(1)–8	DUCTILE IRON WATER CONDUIT, 8 INCH, CLASS 350	LINEAR FOOT	105
627.0001.0014	627(1)–14	DUCTILE IRON WATER CONDUIT, 14 INCH, CLASS 350	LINEAR FOOT	1161
627.0005.0000	627(5)	FIRE HYDRANT INSTALLATION	EACH	5
627.0008.0000	627(8)	WATER SERVICE CONNECTION	EACH	3
627.0009.0004	627(9)–4	GATE VALVE, 4 INCH	EACH	2
627.0009.0008	627(9)–8	GATE VALVE, 8 INCH	EACH	2
627.0010.0000	627(10)	ADJUSTMENT OF VALVE BOX	EACH	4
627.2003.0001	627(103)–1	COPPER WATER CONDUIT, 1 INCH	LINEAR FOOT	262
627.2003.0075	627(103)–3/4	COPPER WATER CONDUIT, 3/4 INCH	LINEAR FOOT	100
627.2009.0000	627(110)	INSTALL BUTTERFLY VALVE, 14 INCH	EACH	7
627.2021.0000	627(108)–24	WATER PIPE CASING, 24 INCH, CMP	LINEAR FOOT	319
627.2030.0000	627(HDPE)	HDPE BORE, 18 INCH	LINEAR FOOT	608
630.0002.0001	630(2)	GEOTEXTILE, STABILIZATION, CLASS 1	SQUARE YARD	2,200
630.0003.0002	630(3B)	GEOTEXTILE, REINFORCEMENT – TYPE 2	SQUARE YARD	27,900
631.0002.0001	631(2)	GEOTEXTILE, EROSION CONTROL, CLASS 1	SQUARE YARD	2,188
639.2000.0000	639(101)	APPROACH	EACH	21
640.0001.0000	640(1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
640.2005.0000		STORAGE, GIRDER	CALENDAR DAY	300
641.0001.0000	641(1)	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQUIRED
641.0003.0000	641(3)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	LUMP SUM	ALL REQUIRED
641.0005.0000	641(5)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL BY DIRECTIVE	CONTINGENT SUM	ALL REQUIRED
641.0006.0000	641(6)	WITHHOLDING	CONTINGENT SUM	ALL REQUIRED
641.0007.0000	641(7)	SWPPP MANAGER	LUMP SUM	ALL REQUIRED
642.0001.0000	642(1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
642.0003.0000	642(3)	THREE PERSON SURVEY PARTY	HOUR	90
643.0002.0000	643(2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
643.0003.0000	643(3)	PERMANENT CONSTRUCTION SIGNS	LUMP SUM	ALL REQUIRED
643.0023.0000	643(23)	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
643.0025.0000	643(25)	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQUIRED
643.2005.0000	643(117)	PUBLIC INFORMATION PROGRAM	LUMP SUM	ALL REQUIRED
643.2016.0000	643(102)	ROAD CLOSURE	LUMP SUM	ALL REQUIRED
644.0001.0000	644(1)	FIELD OFFICE	LUMP SUM	ALL REQUIRED
644.0002.0000	644(2)	FIELD LABORATORY	LUMP SUM	ALL REQUIRED
644.0006.0000	644(6)	VEHICLE	LUMP SUM	ALL REQUIRED
645.0001.0000	645(1)	TRAINING PROGRAM, 2 TRAINEES / APPRENTICES	LABOR HOUR	2,000

ESTIMATE OF QUANTITIES

ITEM NO.	SSHC 2017 ITEM NO.	DESCRIPTION	UNIT	TOTAL
646.0001.0000	646(1)	CPM SCHEDULING	LUMP SUM	ALL REQUIRED
660.0003.0000	660(3)	HIGHWAY LIGHTING SYSTEM COMPLETE, UNIVERSITY AVENUE	LUMP SUM	ALL REQUIRED
661.0001.0000	661(1)	LOAD CENTER, TYPE 1	EACH	1
661.0005.0000	661(5)	MODIFY LOAD CENTER	EACH	1
661.0006.0000	661(6)	TRANSFORMER, 5 KVA	EACH	1
662.2005.0000	662(122)	FIBER OPTIC INTERCONNECT INFRASTRUCTURE	LUMP SUM	ALL REQUIRED
669.2007.0000	669(104)	AUTOMATIC VEHICLE CLASSIFICATION	LUMP SUM	ALL REQUIRED
670.2006.0000	670(104)	MMA PAVEMENT MARKINGS, LONGITUDINAL INLAID	LINEAR FOOT	11,659
670.2007.0000	670(109)	MMA PAVEMENT MARKINGS, SYMBOLS AND ARROW(S) INLAID	EACH	13
670.2010.0000	670(107)	MMA PAVEMENT MARKINGS, TRANSVERSE AND GORE INLAID	SQUARE FOOT	417
680.2001.0000		TELECOMMUNICATIONS VAULT, DUCTBANK, AND CONDUIT SYSTEM	LUMP SUM	ALL REQUIRED

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\c0007cnst111147.01fb_1d-C2 Tue, Oct/08/19 04:42pm

ESTIMATE OF QUANTITIES

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	C3	C3

ESTIMATED LUMP SUM QUANTITIES

ITEM NO.	SSHC 2017 ITEM NO.	DESCRIPTION	QUANTITY
201.0007.0000	201(1B)	CLEARING	1.3 ACRE
201.0008.0000	201(2B)	GRUBBING	5.5 ACRE
202.0001.0000	202(1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	
		LIGHTING LOAD CENTER	2 EACH
		SD PIPE	882 LINEAR FOOT
		SD MANHOLE	3 EACH
		SD CATCH BASIN	12 EACH
		WATER VALVE	5 EACH
		WATER HYDRANT	4 EACH
		WATER PIPE	1070 LINEAR FOOT
		SEWER MANHOLE	3 EACH
		SEWER PIPE	175 LINEAR FOOT
		BUS SHELTER	2 EACH
		ACS DUCT BANK	4,613 LINEAR FOOT
		ACS PEDESTAL	7 EACH
		ACS MANHOLE	16 EACH
		FENCE	663 LINEAR FOOT
		CULVERT PIPE	395 LINEAR FOOT
		GUARDRAIL	156 LINEAR FOOT
202.0023.0000	202(23)	REMOVAL OF BRIDGE	15,486 SQUARE FOOT
501.0001.0000	501(1)	CLASS A CONCRETE	1,296 CUBIC YARD
503.0001.0000	503(1)	REINFORCING STEEL	173,530 POUNDS
503.0002.0000	503(2)	EPOXY-COATED REINFORCING STEEL	77,895 POUNDS
508.0001.0000		WATERPROOFING MEMBRANE, SPRAY-APPLIED	26,640 SQUARE FOOT
520.0001.0000	520(1)	TEMPORARY CROSSINGS	3,840 SQUARE FOOT
540.2000.0000		WORK TRESTLE	12,000 SQUARE FOOT
610.0004.0000	610(101)	DITCH LINING	180 CUBIC YARD
611.0003.0001	611(102)-1	RIPRAP, CLASS I	15 CUBIC YARD
611.0003.0002	611(102)-2	RIPRAP, CLASS II	2,650 CUBIC YARD
680.2001.0000		TELECOMMUNICATIONS VAULT, DUCTBANK, AND CONDUIT SYSTEM	
		ACS CONDUIT	2,559 LINEAR FOOT
		ACS PED	4 EACH
		ACS HANDHOLE	1 EACH

ESTIMATING FACTORS

ITEM NO.	SSHC 2017 ITEM NO.	DESCRIPTION	FACTOR
301.0001.00D1	301(1)	AGGREGATE BASE COURSE, GRADING D-1	1.96 TONS/CUBIC YARD
304.0001.000F	304(1)	SUBBASE, GRADING F	2 TONS/CUBIC YARD
306.0001.0000	306(1)	ATB	1.96 TONS/CUBIC YARD
306.0002.5228	306(102)	ASPHALT BINDER, GRADE PG 52-28	4.5%/TON
401.0001.002B	401(1B)	HMA, TYPE II; CLASS B	1.96 TONS/CUBIC YARD
401.0004.5240	401(4)	ASPHALT BINDER, GRADE PG 52-40	5.5%/TON
402.0001.STE1	402(1)	STE-1 ASPHALT FOR TACK COAT	0.0003 TONS/SQUARE YARD
608.0002.0000	608(2)	ASPHALT SIDEWALK	1.96 TONS/CUBIC YARD
618.0002.0000	618(2)	SEEDING	4.0 LBS/1,000 SQUARE FEET

NOTES:

1. SEE SIGNING AND STRIPING SHEETS H1-H58 FOR SIGNING AND STRIPING SUMMARY SHEETS.

ESTIMATE OF QUANTITIES

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\c0007cnst11147.01fb_1d-C3 Tue, Oct/08/19 04:40pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E1	E20

GUARDRAIL NOTES:

1. FOR PARALLEL GUARDRAIL TERMINAL, CONSTRUCT THE GUARDRAIL TERMINAL WIDENING IN ACCORDANCE WITH THE "STANDARD DETAIL" ON STANDARD DRAWING G-20. THE END OFFSET (X) SHALL BE 2 FEET.

606- GUARDRAIL SUMMARY

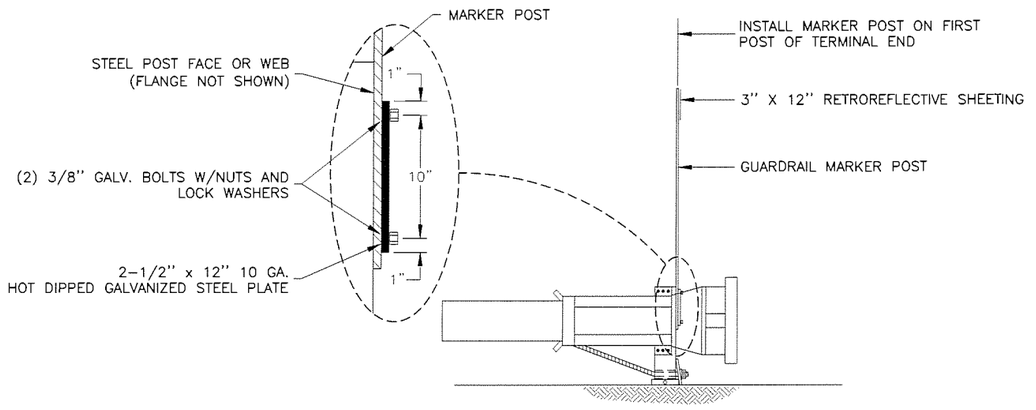
ALIGNMENT	TOTAL GUARDRAIL SYSTEM			606(1) W-BEAM GUARDRAIL				606 (13) PARALLEL GUARDRAIL TERMINAL (EACH)	606 (16) TRANSITION RAIL (EACH)	606 (300) DOWNSTREAM END ANCHOR (EACH)	REMARKS
	BEGIN STATION	END STATION	OFFSET	BEGIN STATION	END STATION	OFFSET	LENGTH (LINEAR FOOT)				
"01"	75+57.12	77+25.08	RT	76+07.08	77+07.08	RT	100.00	1	1	–	SOUTHEAST BRIDGE QUADRANT
"01"	76+82.27	77+12.92	LT	–	–	–	–	–	1	1	SOUTHWEST BRIDGE QUADRANT
"01"	80+32.92	82+13.20	LT	80+50.92	81+63.35	LT	112.50	1	1	–	NORTHWEST BRIDGE QUADRANT
"01"	80+45.08	80+76.08	RT	–	–	–	–	–	1	1	NORTHEAST BRIDGE QUADRANT
PAY ITEM TOTALS							212.50	2	4	2	

GUARDRAIL MARKER NOTES:

1. GUARDRAIL MARKER POSTS SHALL BE YELLOW, 3" MINIMUM TO 4" MAXIMUM WIDTH AND AT LEAST 78" LONG. POSTS SHALL BE CARSONITE CIB-380, TRAFFICWORKS TW-375, DAVIDSON FLEXI-GUIDE FG 500 FLEXIBLE MARKERS, OR APPROVED EQUAL
2. AT THE TOP OF THE MARKER POST, INSTALL 3" X 12" RETROREFLECTIVE SHEETING MEETING ASTM D4956 REQUIREMENTS FOR TYPE VII OR IX, AT THE TOP OF THE GUARDRAIL MARKER POST. ALTERNATIVELY, USE 3M DIAMOND GRADE DG3 OR APPROVED EQUAL. COLOR OF SHEETING SHALL MATCH COLOR OF ADJACENT EDGE LINE STRIPE. PLACE SHEETING ON SIDE OF MARKER POST FACING TRAFFIC IN ADJACENT LANE.
3. DRILL ALL BOLT HOLES. COAT HOLES WITH ZINC RICH PAINT. FLAME CUTTING SHALL NOT BE PERMITTED.
4. ALL WORK AND MATERIAL REQUIRED TO INSTALL GUARDRAIL MARKER POSTS IS SUBSIDIARY TO 606 PAY ITEMS.

607(3) CHAIN LINK FENCE

ALIGNMENT	START		PI/PC/PT		END		LENGTH	REMARKS
	STATION	OFFSET	STATION	OFFSET	STATION	OFFSET	(FT)	
"01"	82+72.43	124.17' LT			83+48.18	125.68' LT	75.77	
					PAY ITEM TOTALS		75.77	

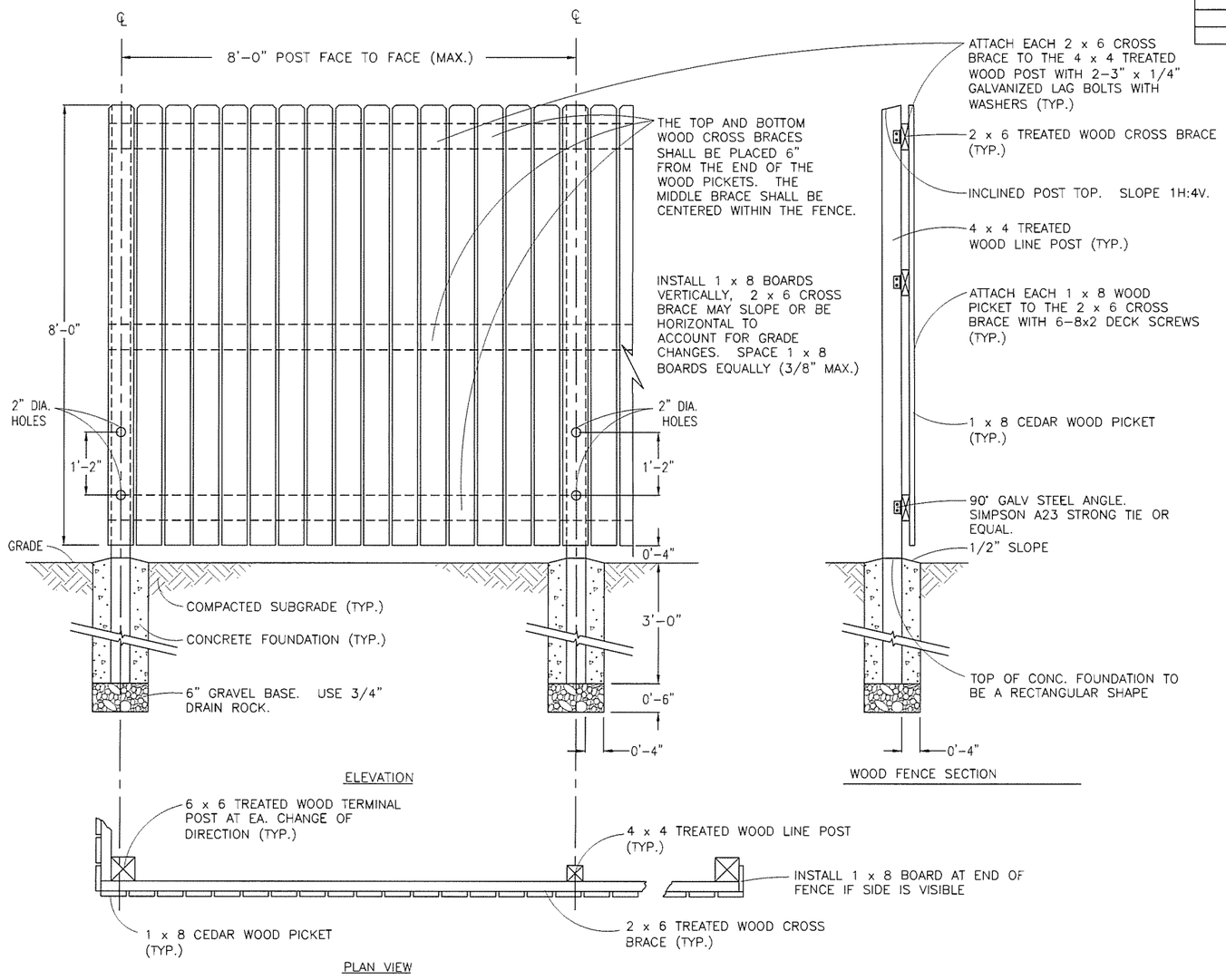


GUARDRAIL MARKER POST ATTACHMENT DETAIL
PARALLEL GUARDRAIL TERMINAL

DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\10-C\C0008cnst111147.01FB_1D-E1 Thu, Aug/15/19 05:12pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	E2	E20



WOOD FENCE DETAIL
SCALE: NTS

GENERAL NOTES

1. GRADE OF LUMBER SHALL CONFORM TO INDUSTRIAL CLEAR S4S AS SPECIFIED IN STANDARD GRADING RULES, NO. 16 FOR WEST COAST LUMBER.
2. TIMBER TREATMENT SHALL CONFORM TO AWPA STANDARD P5-69 FOR WATER-BORN PRESERVATIVE.
3. ALL FERROUS METALS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.
4. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST NATIONAL DESIGN SPECIFICATION FOR STRESS GRADE LUMBER AND ITS FASTENINGS.
5. FENCE POSTS SHALL NOT PRESENT A RIGID, UNYIELDING IMPACT RESISTANT HAZARD TO ROAD TRAFFIC, BUT SHALL BE FLEXIBLE AND YIELDING TO VEHICULAR IMPACT. INSTALL CRASHWORTHY SUPPORTS IN ACCORDANCE WITH THIS DETAIL.
6. PLACE POSTS AND CANTILEVER WOOD FENCE PANEL SO AS TO NOT EXCEED THE MAXIMUM 6" SPHERICAL SPACE BETWEEN THE END OF THE FENCE AND START OF THE BRIDGE PED RAILING.
7. PAINT CUT ENDS OF ALL PRESSURE TREATED WOOD WITH PRESERVATIVE. PLACE UNCUT END OF PRESSURE TREATED POSTS IN THE GROUND.

607(7) WOOD FENCE

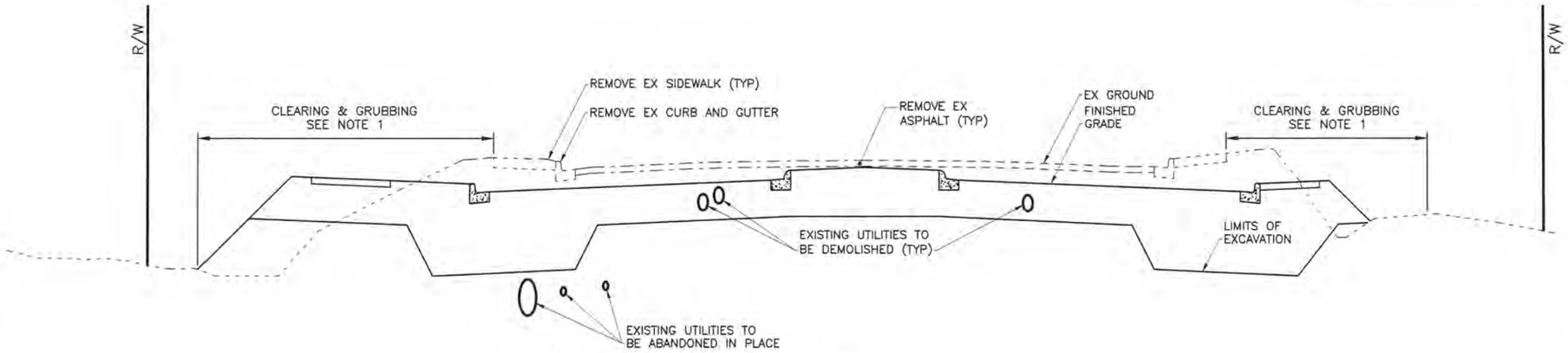
ALIGNMENT	START		PI/PC/PT		END		LENGTH	REMARKS
	STATION	OFFSET	STATION	OFFSET	STATION	OFFSET	(FT)	
"01"	75+56.84	47.02' RT	PI 76+44.77	43.50' RT	77+26.37	43.50' RT	169.60	
"01"	75+59.30	45.50' LT			77+11.30	45.50' LT	152.00	
"01"	80+31.21	45.50' LT	PI 80+63.21	45.50' LT				
			PI 81+25.24	47.83' LT				
			PI 82+43.40	57.00' LT	82+75.40	57.00' LT	244.59	
"01"	80+45.23	43.50' RT	PI 80+91.23	43.50' RT	81+47.19	45.60' RT	102.00	
					PAY ITEM TOTALS		668.19	

WOOD FENCE DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0008cnst11147.01FB_1D-E2 Thu, Aug/15/19 05:13pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E3	E20



ROADWAY DEMOLITION TYPICAL

NTS

GENERAL DEMOLITION NOTES:

1. CLEARING AND GRUBBING TO OCCUR IN LOCATIONS SHOWN IN THE DEMOLITION PLANS. DO NOT CLEAR BEYOND THE RIGHT OF WAY.
2. ALL UTILITIES MUST BE TEMPORARILY OR PERMANENTLY RELOCATED PRIOR TO DEMOLITION. SEE SPECIFICATIONS FOR ALLOWABLE OUTAGES AND OTHER REQUIREMENTS.
3. SUPPORT AND PROTECT OTHER UNDERGROUND UTILITIES, CONDUITS, AND STRUCTURES WHICH ARE NOT SCHEDULED FOR DEMOLITION OR ABANDONMENT.
4. ABANDON IN PLACE EXISTING UNDERGROUND UTILITIES WHICH ARE NOT BEING INCORPORATED INTO NEW SYSTEMS UNLESS THEY ARE IN CONFLICT WITH THE INSTALLATION OF A NEW UNDERGROUND UTILITY SYSTEM. CRUSH OR PLUG PIPE ENDS OF UTILITIES TO BE ABANDONED WITHIN THE STRUCTURAL SECTIONS WITH 12" NON SHRINK GROUT TO PREVENT UNDERMINING OF THE ROADWAY STRUCTURE.
5. REMOVE PORTIONS OF ABANDONED UNDERGROUND UTILITIES THAT ARE IN CONFLICT WITH THE INSTALLATION OF NEW UNDERGROUND UTILITY SYSTEMS, WITHIN 4' OF CROSSING, OR WITHIN THE EXCAVATION LIMITS SHOWN.
6. EXISTING ACS DUCT BANK IS TO REMAIN IN PLACE UNTIL FULL RELOCATION CAN OCCUR. PROTECT ACS DUCT BANK AND STRUCTURES DURING CONSTRUCTION.

DEMOLITION INDEX:

- SANITARY SEWER DEMO
- SANITARY SEWER ABANDON IN PLACE
- WATER DEMO WATER ABANDON IN PLACE
- STORM DRAIN DEMO
- STORM DRAIN ABANDON IN PLACE
- ACS DUCT BANK DEMO
- ACS DUCT BANK ABANDON IN PLACE
- GCI DEMO
- GCI ABANDON IN PLACE
- LIGHTING DEMO
- FORCE MAIN DEMO
- FORCE MAIN ABANDON IN PLACE
- GAS LINE DEMO
- GAS LINE ABANDON IN PLACE
- CULVERT DEMO
- CULVERT ABANDON IN PLACE
- STRUCTURES
- FENCE
- GUARDRAIL
- BUS SHELTER
- GUY ANCHOR
- SIGNS
- MAILBOX
- GUY ANCHOR & OVERHEAD UTILITY POLE

- CLEARING
- GRUBBING
- REMOVAL OF PAVEMENT, CONCRETE, CURB & GUTTER

CAUTION: 2019 UTILITIES TO REMAIN

- WATER TO REMAIN
- WATER STRUCTURES TO REMAIN
- OVERHEAD UTILITIES TO REMAIN
- ACS DUCT BANK TO REMAIN

DEMOLITION DETAILS
(1 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0008cnst11147.01FB_1D-E3 Fri, Aug/23/19 03:01pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	D617003/NFHWY00270	2019	E4	E20

REMOVAL BY OWNERS

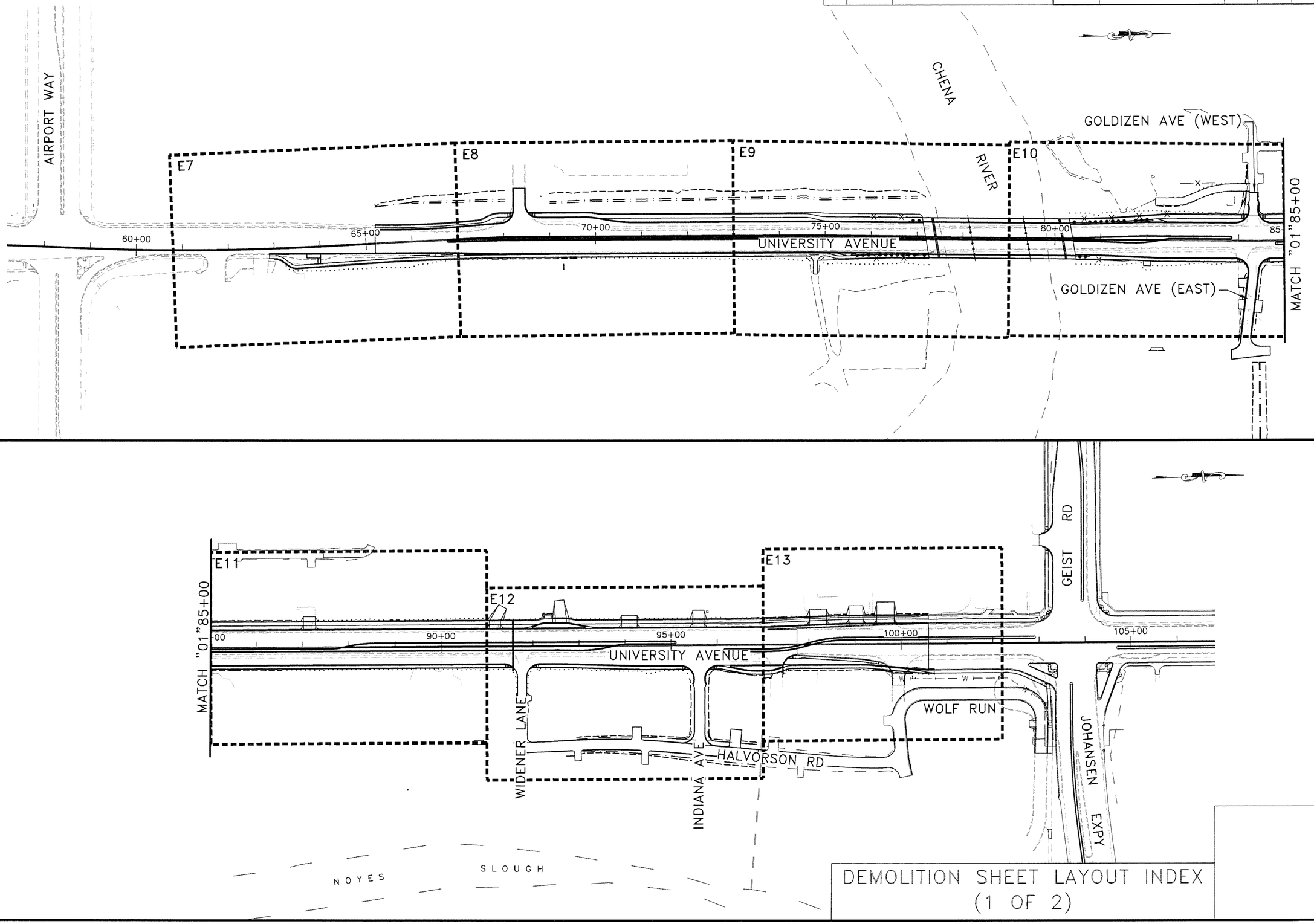
ALIGNMENT	BEGIN	OFFSET	END	OFFSET	QUANTITY	UNIT	REMARKS
"01"	82+40	62 RT	82+75	44 RT	53	FT	CHAIN LINK FENCE
"01"	82+42	222 RT	84+00	213 RT	152	FT	CHAIN LINK FENCE
"GDE"	~11+10 RT	--	--	--	1	EA	MAILBOX (FIELD VERIFY LOCATION)
"GDE"	~11+50 RT	--	--	--	1	EA	MAILBOX (FIELD VERIFY LOCATION)
"GDE"	~12+30 RT	--	--	--	3	EA	MAILBOXES (FIELD VERIFY LOCATION)
"01"	83+10	43 RT	83+98	62 RT	108	FT	CHAIN LINK FENCE
"01"	85+09	54 RT	--	--	1	EA	CENTRAL MISSION CHURCH SIGN (SIGN UP ON BRICKS)
"01"	85+88	52 RT	--	--	1	EA	CENTRAL MISSION CHURCH SIGN (2 POST)
"01"	89+96	39 RT	--	--	1	EA	BUILDING ADDRESS SIGN
"01"	90+29	40 RT	--	--	1	EA	UNITED WAY OF THE TANANA VALLEY SIGN (MULTIPLE BUSINESS SIGN)
"H"	10+35	10 RT	--	--	4	EA	CONNEXES AND RECREATIONAL VEHICLES
"01"	94+38	51 RT	--	--	1	EA	GOLDEN HEART VETERINARY SERVICES SIGN

DEMOLITION DETAILS
(2 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0008cnst11147.01FB_1D-E4 Thu, Aug/22/19 02:34pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E5	E20

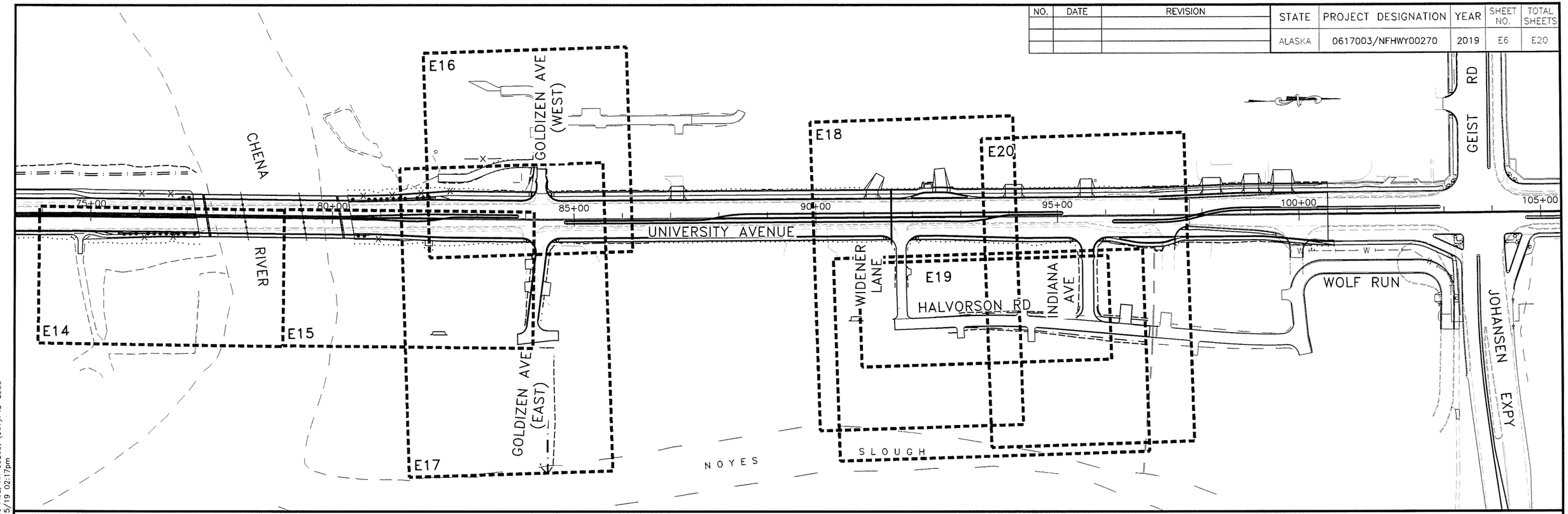


DEMOLITION SHEET LAYOUT INDEX
(1 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC6005, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0009cnst111147.01FB_1D-E5 Demo Index Thu, Aug/15/19 02:16pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E6	E20



DEMOLITION SHEET LAYOUT INDEX
(2 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0009cnst111147.01FB_1D-E6 Demo Index Thu, Aug/15/19 02:17pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E7	E20

R/W
R/W
R/W
TCE
61+00
62+00
63+00
64+00
65+00
66+00
67
UNIVERSITY AVENUE
"01" 64+12.65 PT
"01" 65+55.68 PC
MATCH "01" 67+00 LINE
R/W
TCE
TCP
R/W
TCP
COORDINATE WITH FAIRBANKS NORTH STAR BOROUGH (FNSB) ON THE REMOVAL AND DISPOSAL OF THE EXISTING BUS SHELTER

UNIVERSITY AVENUE DEMOLITION PLAN (1 OF 9)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E8	E20

IF NOT RELOCATED WITH 2019 CONSTRUCTION, RELOCATE PRIVATE LIGHT POLE. COORDINATE WITH THE DEPARTMENT OF NATURAL RESOURCES (DNR) ON NEW LIGHT POLE LOCATION

ACCESS ROAD

COMMUNICATIONS EASEMENT

R/W

MATCH "01" 67+00 LINE

MATCH "01" 73+00 LINE

68+00

69+00

70+00

71+00

72+00

"01"68+43.59 PT

UNIVERSITY AVENUE

TCP

UNIVERSITY AVENUE DEMOLITION PLAN (2 OF 9)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst111147.01FB_1D-E8 67+00-73+00 Thu, Aug/15/19 02:21pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E9	E20

MATCH "01" 73+00 LINE

MATCH "01" 79+00 LINE

CHENA RIVER

COMMUNICATIONS EASEMENT

R/W

UNIVERSITY AVENUE

"01" 74+74.68 PI

74+00 75+00 76+00 77+00 78+00

SD

W

TCP

UNIVERSITY AVENUE DEMOLITION PLAN (3 OF 9)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst11147.01FB_1D-E9 73+00-79+00 Thu, Aug/15/19 02:23pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E10	E20

CHENA RIVER

TCE

R/W

PUE

R/W

TCP

R/W

TCE

R/W

TCP

11+00

GOLDIZEN AVE (WEST)

TCP

"01" STA 84+33.34 =
"GDW" STA 12+44.91

MATCH "01" 79+00 LINE

80+00

81+00

82+00

83+00

84+00

MATCH "01" 85+00 LINE

UNIVERSITY AVENUE

PRIVATE FENCE TO BE REMOVED AND RELOCATED BY PROPERTY OWNER

"01"84+40.83 =
"GDE"10+00

SD

W

E

R/W

TCE

TCE

R/W

R/W

11+00

PRIVATE MAILBOXES TO BE REMOVED AND RELOCATED BY PROPERTY OWNER. NOT SURVEYED, APPROXIMATE LOCATIONS

GOLDIZEN AVE (EAST)

TCP

R/W

TCP

UNIVERSITY AVENUE DEMOLITION PLAN (4 OF 9)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst111147.01FB_1D-E10 79+00-85+00 Thu, Aug/15/19 02:24pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E11	E20

WARD ST

R/W

TCP

MATCH "01" 85+00 LINE

MATCH "01" 91+00 LINE

86+00

87+00

88+00

89+00

90+00

UNIVERSITY AVENUE

SD

TCE

PUE

PRIVATE SIGNS TO BE REMOVED AND RELOCATED BY PROPERTY OWNER

UNIVERSITY AVENUE DEMOLITION PLAN (5 OF 9)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst111147.01FB_1D-E11 85+00-91+00 Thu, Aug/15/19 02:25pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E12	E20

MATCH "01" 91+00 LINE

MATCH "01" 97+00 LINE

"WD" STA 0+10.00 =
"01" STA 91+76.51

UNIVERSITY AVENUE

PRIVATE SIGN TO BE REMOVED AND RELOCATED BY PROPERTY OWNER

COORDINATE WITH FAIRBANKS NORTH STAR BOROUGH (FNSB) ON THE REMOVAL AND DISPOSAL OF THE EXISTING BUS SHELTER

"I" STA 11+48.84 =
"01" STA 95+61.95

WIDENER LANE

"WD"1+60.00 POT

INDIANA AVE

DRAINAGE EASEMENT

HALVORSON ROAD

"H" STA 13+17.05 =
"I" STA 13+77.33

"H"10+00.00 PI

"H"10+48.77 PC

"H"12+47.24 PT

CONNEX TRAILER AND RECREATIONAL VEHICLES REMOVED BY OWNER

TCP

TCE

R/W

PUE

SS

W

FM

C/A

DGE

BW

UNIVERSITY AVENUE DEMOLITION PLAN (6 OF 9)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 CAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst11147.01FB_1D-E12 91+00-97+00 Thu, Aug/15/19 02:26pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E13	E20

MATCH "01" 97+00 LINE

97+00 98+00 99+00 100+00 101+00 102+00

UNIVERSITY AVENUE

TCP TCP TCP TCP

R/W PUE R/W TCE R/W

SD SD

C/A C/A C/A

R/W

EXISTING 10" DIP WATER FOUND IN FIELD. APPROX. TOP OF PIPE IS 432.7' AND WILL NEED TO BE DEMOLISHED FOR PROPOSED STORM DRAIN INSTALLATION.

DRAINAGE EASEMENT

PLUG END OF EXIST STORM DRAIN PIPE THAT WILL BE ABANDONED IN PLACE

WOLF RUN

R/W R/W

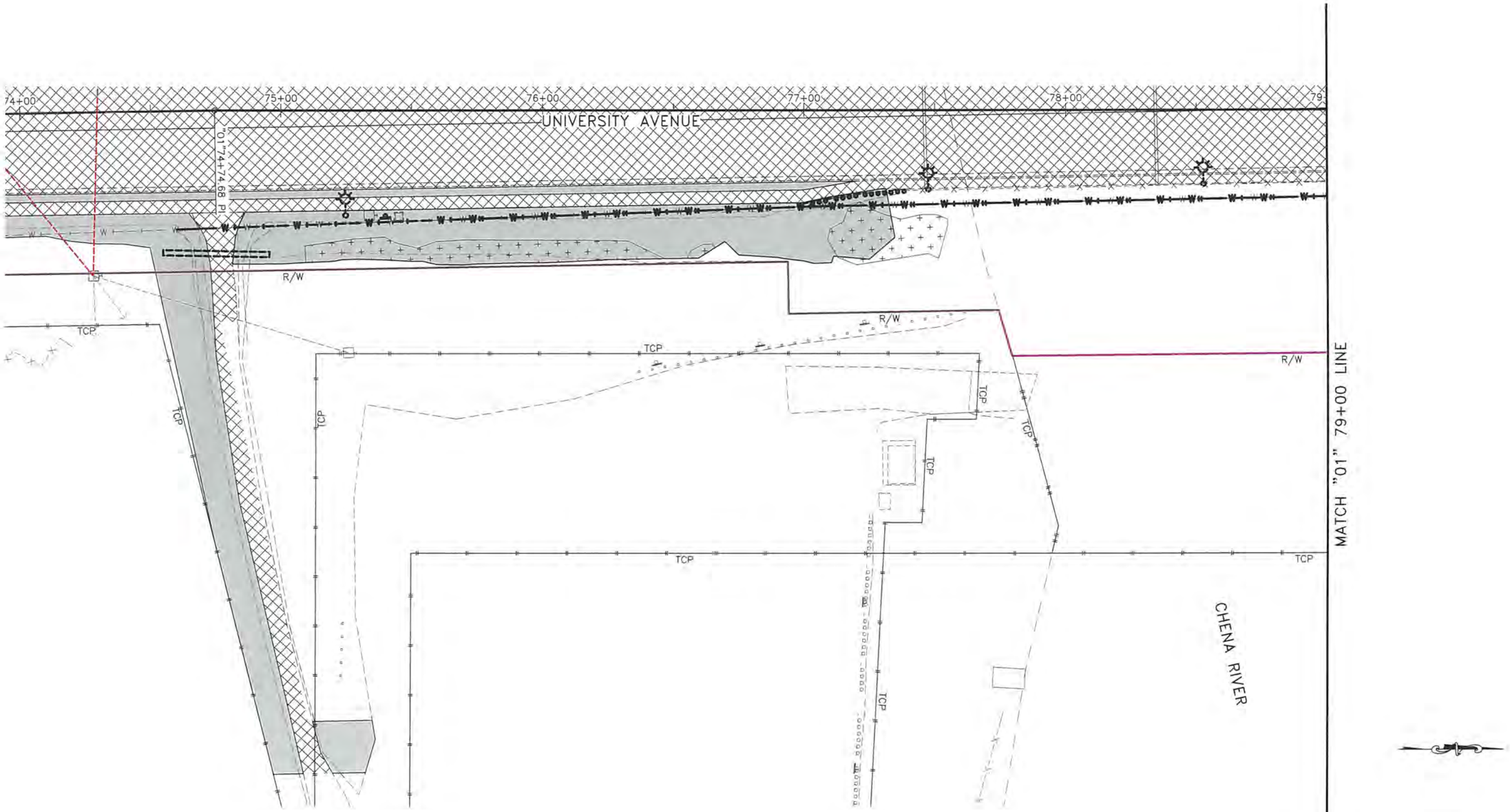
TCP TCP

UNIVERSITY AVENUE
DEMOLITION PLAN (7 OF 9)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst111147.01FB_1D-E13 97+00-101+00 Thu, Aug/15/19 02:28pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E14	E20

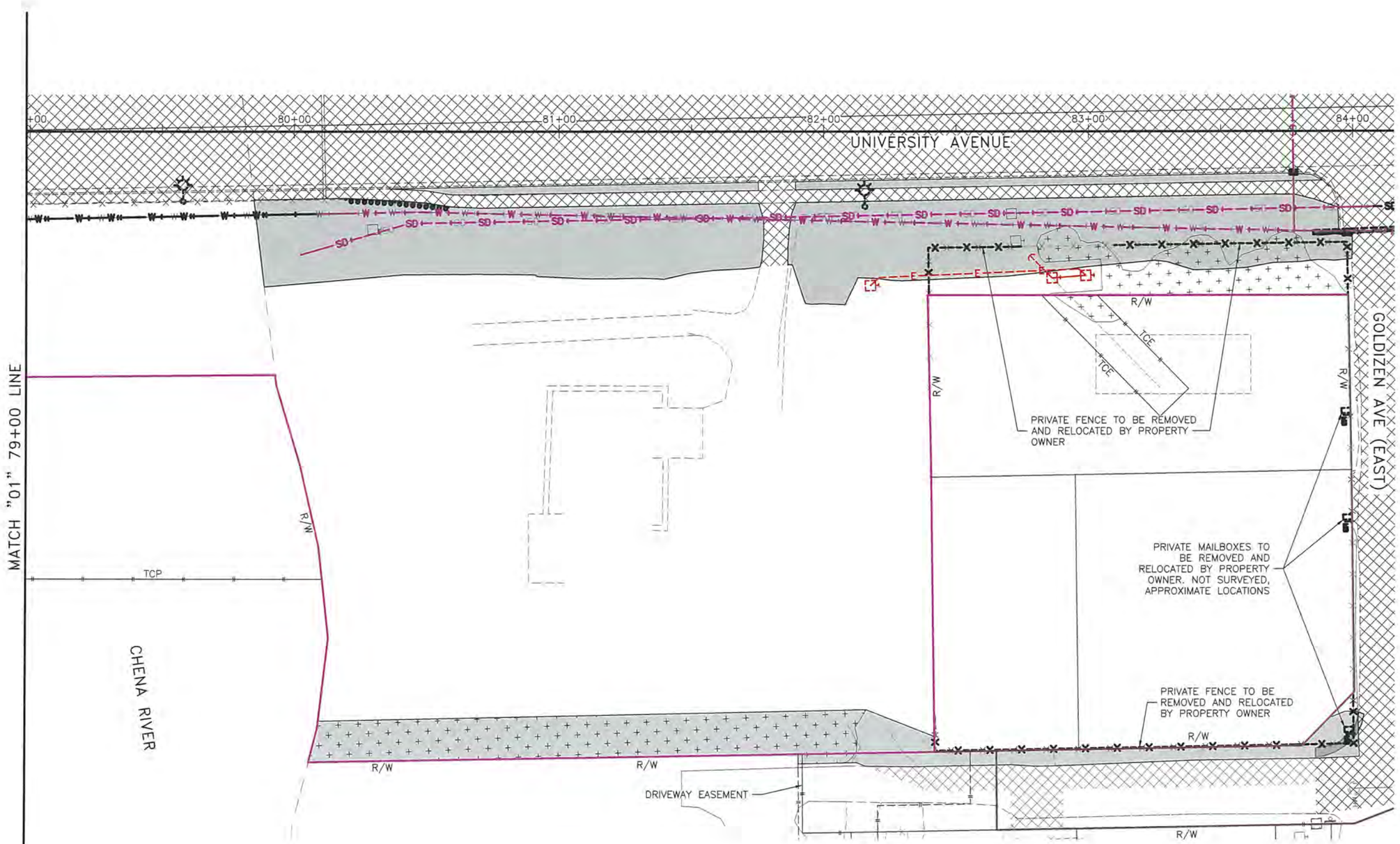


UNIVERSITY AVENUE
DEMOLITION PLAN (8 OF 9)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\111147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst111147.01FB_1D-E14 Thu, Aug/15/19 02:29pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E15	E20



UNIVERSITY AVENUE DEMOLITION PLAN (8 OF 9)

PLANS DEVELOPED BY: PDC INC. ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst11147.01FB_1D-E15 Thu, Aug/15/19 02:30pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E16	E20

WARD ST

GOLDIZEN AVE (WEST)

UNIVERSITY AVENUE

"GDW"9+59.78 PC

"GDW"10+05.64 PT

"GDW"8+30.00 POT

"01"84+40.83 = "GDE"10+00

"GDW" STA 12+44.91 = "01" STA 84+33.34

PRIVATE SIGNS TO BE REMOVED AND RELOCATED BY PROPERTY OWNER

PRIVATE FENCE TO BE REMOVED AND RELOCATED BY PROPERTY OWNER

R/W

TCP

TCE

SD

8+00

9+00

10+00

11+00

83+00

84+00

85+00

86+00

GOLDIZEN AVENUE (WEST) DEMOLITION PLAN

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst111147.01FB_1D-E16 Thu, Aug/15/19 02:31pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E17	E20

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst111147.01FB_1D-E17 Thu, Aug/15/19 02:33pm

GOLDIZEN AVE (WEST)

GOLDIZEN AVE (EAST)

HALVORSON ROAD

UNIVERSITY AVENUE

"O1" 84+40.83 = "GDE" 10+00

"GDW" STA 12+44.91 = "O1" STA 84+33.34

"GDE" 12+70.00 POT

PRIVATE SIGN TO BE REMOVED AND RELOCATED BY PROPERTY OWNER

PRIVATE MAILBOXES TO BE REMOVED AND RELOCATED BY PROPERTY OWNER. NOT SURVEYED, APPROXIMATE LOCATIONS

PRIVATE FENCE TO BE REMOVED AND RELOCATED BY PROPERTY OWNER

PRIVATE FENCE TO BE REMOVED AND RELOCATED BY PROPERTY OWNER

DRAINAGE EASEMENT

DRIVEWAY EASEMENT

PUE

TCE

TCP

R/W

SD

W

E

85+00

84+00

83+00

82+00

11+00

12+00

12+70

GOLDIZEN AVENUE (EAST) DEMOLITION PLAN

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E18	E20

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst111147.01FB_1D-E18 Thu, Aug/15/19 02:34pm

UNIVERSITY AVENUE

HALVORSON ROAD

WIDENER LANE

"H"10+48.77 PC

"H"10+00.00 PI

"H"8+00.00 POT

"WD" STA 0+10.00 = "O" STA 91+76.51

"WD"1+60.00 POT

CONNEX TRAILER AND RECREATIONAL VEHICLES REMOVED BY OWNER

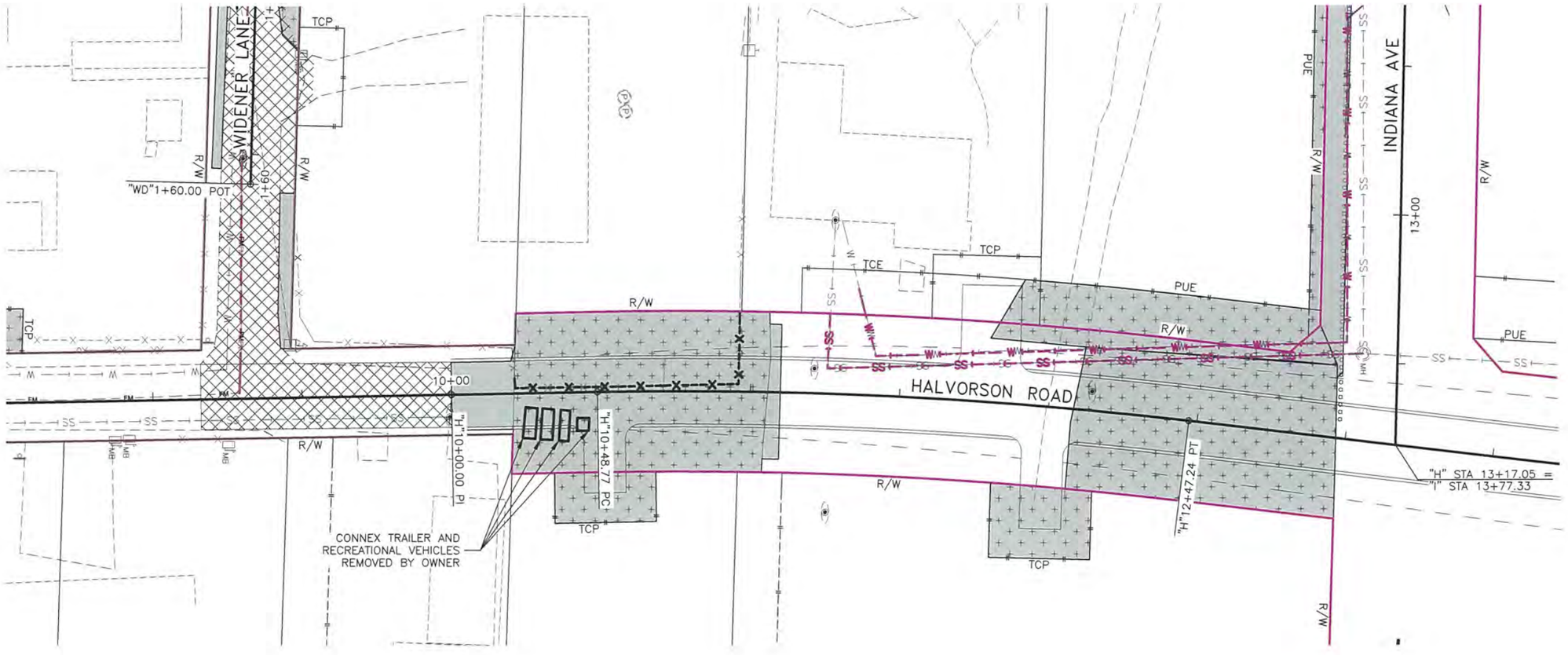
EXISTING CSP CULVERT OR STORM DRAIN RUNNING NORTH/SOUTH ACROSS WIDENER LN, NOT SURVEYED AND TO BE REMOVED.

PRIVATE SIGN TO BE REMOVED AND RELOCATED BY PROPERTY OWNER

WIDENER LANE DEMOLITION PLAN

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E19	E20



HALVORSON ROAD DEMOLITION PLAN

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\111147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst111147.01FB_1D-E19 Thu, Aug/15/19 02:35pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	E20	E20

15+00

97+00

96+00

95+00

94+00

12+00

13+00

R/W

C/A

TCP

PUE

COORDINATE WITH FAIRBANKS NORTH STAR BOROUGH (FNSB) ON THE REMOVAL AND DISPOSAL OF THE EXISTING BUS SHELTER

DRAINAGE EASEMENT

"I" STA 11+48.84 =
"01" STA 95+61.95

"H" STA 13+17.05 =
"I" STA 13+77.33

"H"12+47.24 PT

INDIANA AVE

UNIVERSITY AVENUE

HALVORSON ROAD

PRIVATE SIGN TO BE REMOVED AND RELOCATED BY PROPERTY OWNER

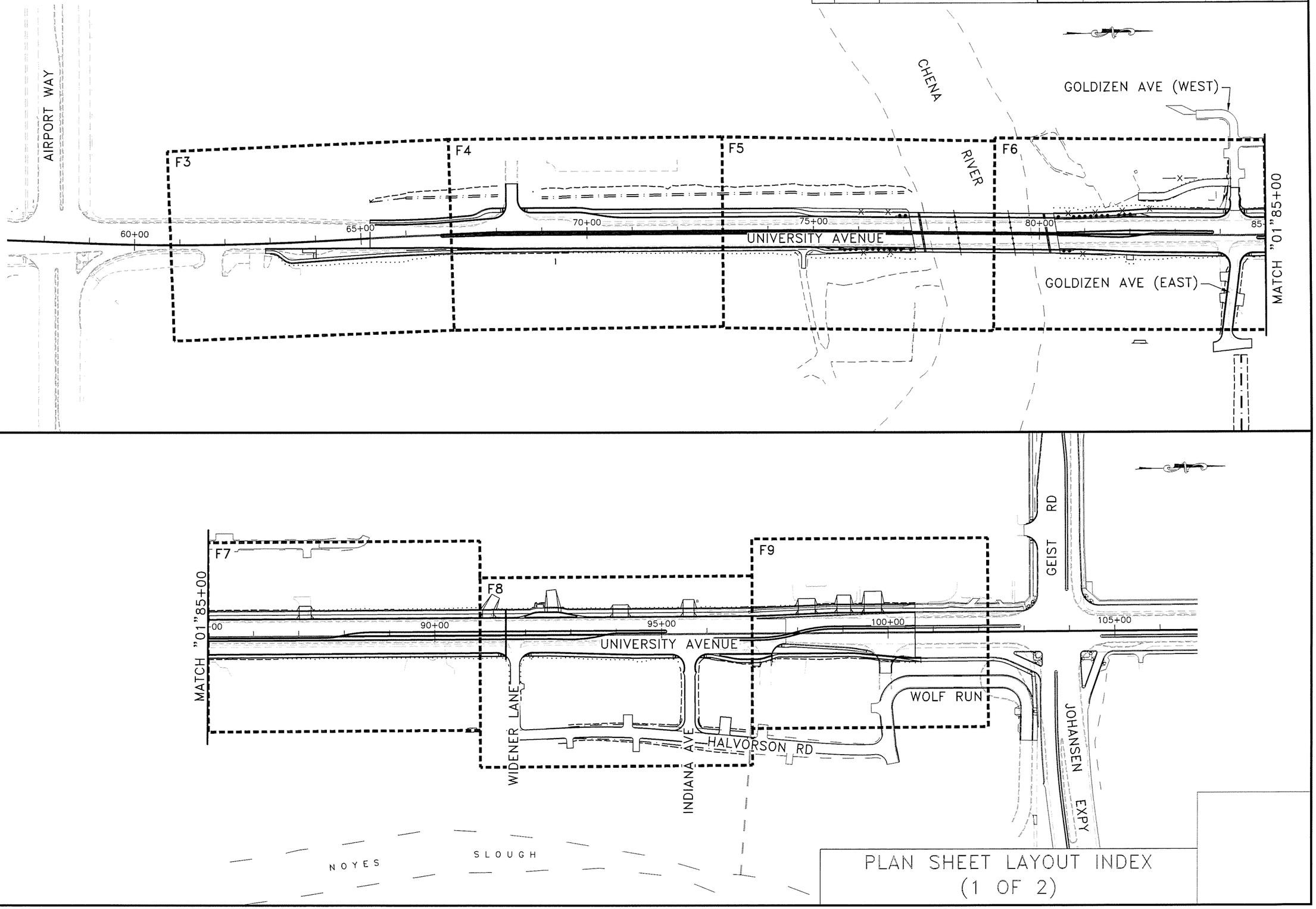
TCE

INDIANA AVENUE DEMOLITION PLAN

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1001cnst11147.01FB_1D-E20 Thu, Aug/15/19 02:36pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F1	F21

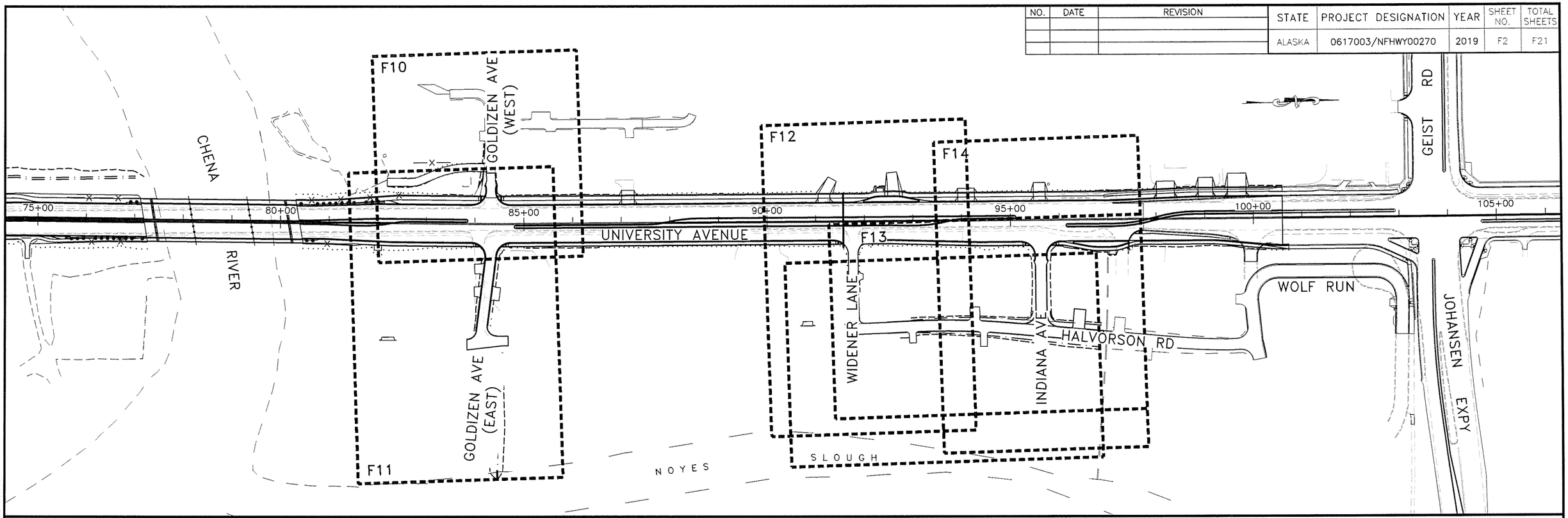


PLAN SHEET LAYOUT INDEX
(1 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0009cnst111147.01FB_1D-F1 Plan Index Fri, Aug/23/19 08:54am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F2	F21



PLAN SHEET LAYOUT INDEX
(2 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0009cnst11147.01FB_1D-F2 Plan Index Fri, Aug/23/19 08:55am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F3	F21

"01"61+25.74 PI
Δ = 5°56'37"
D = 1°02'06"
T = 287.42'
L = 574.33'
R = 5536.50'

"01"61+25.74 PI
NORTHING: 64863.44
EASTING: 18204.35

61+00 62+00 63+00 64+00 65+00 66+00 67+00

MATCH EXISTING

N 1°25'10" W
143.04'

"01"64+12.65 PT

"01"66+55.68 PC

30' X 8' X 6" THICK CONCRETE PAD FOR BUS STOP LOADING

100' TRANSITION TO MATCH EXISTING CROWN

MATCH "01" 67+00 LINE

TCE

R/W

TCP

SIDEWALK C

SIDEWALK E

UNIVERSITY AVENUE

RAMP TO SIDEWALK

SS SD W MH

UNIVERSITY AVENUE PLAN (1 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1002cnst111147.01FB_1D-F3 61+00-67+00 Fri, Aug/23/19 08:59am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F4	F21

ACCESS ROAD

COMMUNICATIONS EASEMENT

R/W

R/W

R/W

CURB DRAIN (2)
SEE G24

SIDEWALK B

SIDEWALK A

SIDEWALK C

RT TURN LANE

MATCH "01" 67+00 LINE

68+00

69+00

70+00

71+00

72+00

73+00

"01"66+99.67 PI
NORTHING: 65437.71
EASTING: 18190.12

"01"68+43.59 PT

UNIVERSITY AVENUE

SIDEWALK E

SIDEWALK D

R/W

TCP

MATCH "01" 73+00 LINE

UNIVERSITY AVENUE PLAN
(2 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1002cnst111147.01FB_1D-F4 67+00-73+00 Fri, Aug/23/19 09:00am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F5	F21

MATCH "01" 73+00 LINE

MATCH "01" 79+00 LINE

CHENA RIVER

R/W

COMMUNICATIONS EASEMENT

CHENA RIVER BORE DESIGN AND INSTALLATION BY OTHERS

SIDEWALK A

SIDEWALK F

SIDEWALK G

74+00 75+00 76+00 77+00 78+00

BRIDGE APPROACH

BRIDGE

UNIVERSITY AVENUE

"01" 74+74.68 PI

SIDEWALK D

SIDEWALK I

SIDEWALK J

TCP

UNIVERSITY AVENUE PLAN
(3 OF 7)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F6	F21

CHENA RIVER

NOTE TO REVIEWERS:
PROPERTY OWNER WILL CONSTRUCT
DRIVEWAY ON HIS PROPERTY

CHENA RIVER BORE DESIGN AND INSTALLATION BY OTHERS

TCE

PUE

R/W

TCP

SIDEWALK G

SIDEWALK H

SIDEWALK A

GOLDIZEN AVENUE (WEST)

MATCH "01" 79+00 LINE

UNIVERSITY AVENUE

"GDW" STA 12+44.91 =
"01" STA 84+33.34

BRIDGE

BRIDGE APPROACH

MEDIAN LT TURN A

"GDE" STA 10+00.00 =
"01" STA 84+40.85

MATCH "01" 85+00 LINE

SIDEWALK J

SIDEWALK K

SIDEWALK L

SIDEWALK D

GOLDIZEN AVENUE (EAST)

TOP

UNIVERSITY AVENUE PLAN
(4 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1002cnst111147.01FB_1D-F6 79+00-85+00 Fri, Aug/23/19 09:02am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F7	F21

R/W

TCP

MB

TCP

R/W

MB

TCP

TCP

R/W

R/W

SIDEWALK A

UNIVERSITY AVENUE

MATCH "01" 85+00 LINE

86+00

MEDIAN LT TURN A

87+00

88+00

89+00

90+00

19' MEDIAN

MATCH "01" 91+00 LINE

SD

SIDEWALK D

TCE

TCE

TCE

R/W

PUE

R/W

PUE

UNIVERSITY AVENUE PLAN
(5 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1002cnst11147.01FB_1D-F7 85+00-91+00 Fri, Aug/23/19 09:03am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F8	F21

MATCH "01" 91+00 LINE

MATCH "01" 97+00 LINE

SIDEWALK A

SIDEWALK B

SIDEWALK A

"WD" STA 0+10.00 =
"01" STA 91+76.51

UNIVERSITY AVENUE

"I" STA 11+48.84 =
"01" STA 95+61.95

"WD"0+10.00

19' MEDIAN

MEDIAN LT TURN A

MEDIAN LT TURN A

SIDEWALK D

SIDEWALK D

SIDEWALK D

EXISTING 24" CSP CULVERT OR STORM DRAIN
RUNNING NORTH/SOUTH ACROSS WIDENER LN,
NOT SURVEYED AND TO BE REMOVED.

WIDENER LANE 1+00

"WD"1+60.00

INDIANA AVENUE

DRAINAGE EASEMENT

"H" STA 13+17.05 =
"I" STA 13+77.33

TCE

PUE

PUE

N 1°07'21" W
200.00'

N 1°07'21" W
48.77'

HALVORSON ROAD

N 6°48'58" E
335.00'

"H" 10+00.00 PI

"H" 10+48.77 PC

"H" 12+47.24 PT

"I" 13+77.33

TCP

R/W

C/A

UNIVERSITY AVENUE PLAN
(6 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1002cnst111147.01FB_1D-F8 91+00-97+00 Fri, Aug/23/19 09:04am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F9	F21

MATCH "01" 97+00 LINE

97+00 98+00 99+00 100+00 101+00 102+00

MEDIAN LT TURN B

UNIVERSITY AVENUE

RT TURN LANE

SIDEWALK A

SIDEWALK D

C/A

R/W

PUE

TCE

TCP

DRAINAGE EASEMENT

WOLF RUN

UNIVERSITY AVENUE PLAN
(7 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1002cnst11147.01FB_1D-F9 97+00-101+00 Fri, Aug/23/19 09:05am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F10	F21

"GDW"9+89.09 PI
NORTHING: 67177.08
EASTING: 17983.04

"GDW"10+05.64 PT

"GDW"9+59.78 PC

"GDW"8+30.00

"GDW" STA 12+44.91 =
"01" STA 84+33.34

"GDE" STA 10+00.00 =
"01" STA 84+40.85

GOLDIZEN AVENUE (WEST)

GOLDIZEN AVENUE (EAST)

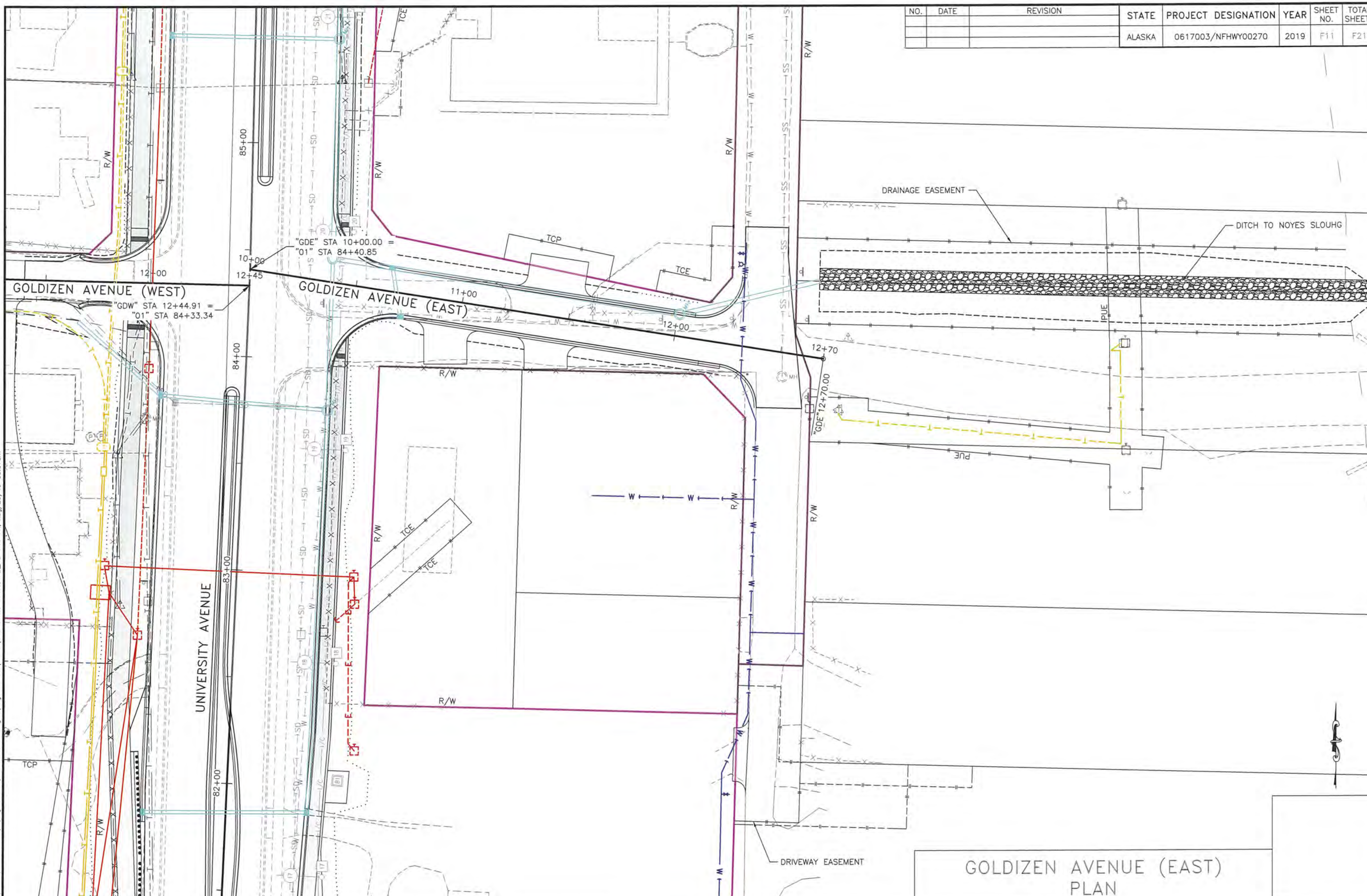
UNIVERSITY AVENUE

10+00
11+00
12+00
12+45
9+00
8+00
86+00
85+00
84+00
83+00

R/W
TCP
TCE
SD
MB

GOLDIZEN AVENUE (WEST)
PLAN

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1002cnst111147.01FB_1D-F10 Fri, Aug/23/19 09:06am



NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	F11	F21

GOLDIZEN AVENUE (EAST) PLAN

PLANS DEVELOPED BY: PDC INC. ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1002cnst11147.01FB_1D-F11 Fri, Aug/23/19 09:07am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F12	F21

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1002cnst11147.01FB_1D-F12 Fri, Aug/23/19 09:08am

HALVORSON LOOP

"H"10+48.77 PC

"H"10+00.00 PI

"H"8+00.00

N 10°27'21" W 1,000.00'

N 10°27'21" W 200.00'

48.77'

"WD" STA 0+10.00 = "01" STA 91+76.51

1+00 WIDENER LANE 1+60

"WD"0+10.00

"WD"1+60.00

94+00

93+00

92+00

91+00

90+00

11+00

9+00

8+00

0+10

R/W

TCP

TCE

WIDENER AVENUE PLAN

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F13	F21

UNIVERSITY AVENUE

STA 91+76.51

"WD"0+10.00

92+00 93+00 94+00 95+00 96+00 97+00

WIDENER LANE

"WD"1+60.00

R/W

NOTE TO REVIEWERS: THESE PROPERTIES ARE STILL IN NEGOTIATIONS

INDIANA AVENUE

DRAINAGE EASEMENT

"H" STA 13+17.05 =
"I" STA 13+77.33

PUE

TCP

TCE

HALVORSON ROAD

N 1°07'21" W
200.00'

N 1°07'21" W
48.77'

N 6°48'58" E
335.00'

"H"10+48.77 PC

"H"10+00.00 PI

"H"12+47.24 PT

"I"13+77.33

9+00 10+00 11+00 12+00 13+00 14+00 15+00

INSET A: HALVORSON APPROACH PLAN

8+00

"H" 8+00.00

"H" 10+00.00 PI

NOTE:
FOR LAYOUT SEE GRADING SHEET G14 FOR GRADING CONTROL POINTS AND G22 FOR APPROACH SUMMARY AND ADDITIONAL INFORMATION

HALVORSON ROAD PLAN

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1002cnst11147.01FB_1D-F13 Fri, Aug/23/19 09:09am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F14	F21

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1002cnst111147.01FB_1D-F14 Fri, Aug/23/19 09:10am

EXTEND DITCH FROM EXISTING TO STORM DRAIN END

DRAINAGE EASEMENT

"H" STA 13+17.05 = "I" STA 13+77.33

"I" STA 11+48.84 = "01" STA 95+61.95

INDIANA AVENUE

UNIVERSITY AVENUE

HALVORSON ROAD

"I" 13+77.33

"H" 12+47.24 PT

ICE N 6°48'58" E 335.00'

R/W

PUE

TCP

ICE

13+00

14+00

15+00

12+00

97+00

96+00

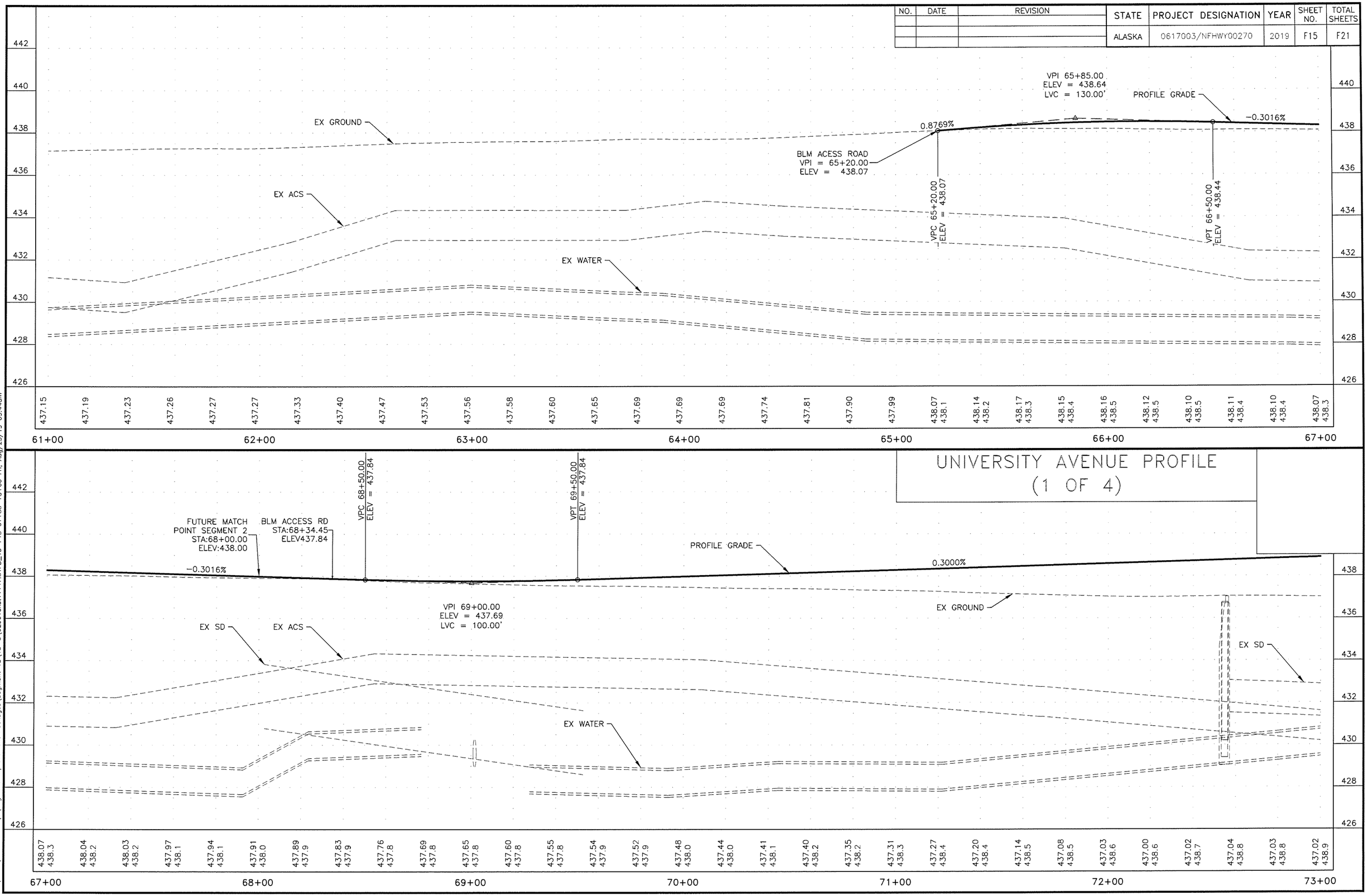
95+00

94+00

INDIANA AVENUE PLAN

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F15	F21



UNIVERSITY AVENUE PROFILE
(1 OF 4)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 CAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C2001cnst11147.01FB_1D-F15 61+00-73+00 Fri, Aug/23/19 09:44am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F16	F21

VPC 73+00.00
ELEV = 438.89

VPT 76+00.00
ELEV = 441.17

1.2222%

PROFILE GRADE

0.3000%

BEGIN APPROACH SLAB
77+19

BEGIN BRIDGE
77+39

STA:77+39.25
ELEV:442.83

VPC 77+50.00
ELEV = 443.01

SEE N SHEETS FOR BRIDGE DESIGN

EX GROUND

VPI 74+50.00
ELEV = 439.34
LVC = 300.00'

EX ACS

EX WATER

EX SD

444 442 440 438 436 434 432 430 428

437.02 438.9 | 437.07 439.0 | 437.13 439.0 | 437.17 439.1 | 437.20 439.2 | 437.27 439.3 | 437.39 439.5 | 437.52 439.6 | 437.67 439.8 | 437.86 439.9 | 438.08 440.1 | 438.31 440.3 | 438.57 440.5 | 438.81 440.7 | 439.06 440.9 | 439.33 441.2 | 439.59 441.4 | 439.86 441.7 | 440.11 441.9 | 440.36 442.2 | 440.64 442.4 | 440.91 442.6 | 441.24 442.9 | 425.04 443.1 | 422.74 443.3 | 420.16 443.5 | 417.73 443.6 | 415.80 443.7 | 413.49 443.7 | 412.77 443.7 | 412.91 443.7

73+00 74+00 75+00 76+00 77+00 78+00 79+00

UNIVERSITY AVENUE PROFILE
(2 OF 4)

VPI 79+00.00
ELEV = 444.84
LVC = 300.00'

SEE N SHEETS FOR BRIDGE DESIGN

END BRIDGE
80+19

END APPROACH SLAB
80+39

VPT 80+50.00
ELEV = 442.00

PROFILE GRADE

-1.8955%

EX GROUND

VPI = 81+79.60
ELEV = 439.54

-1.6292%

VPC 83+50.00
ELEV = 436.76

GOLDIZEN AVE (WEST)
STA:12+44.91
UNIVERSITY AVE
STA:84+33.33
ELEV:435.64

GOLDIZEN AVE (EAST)
STA:10+00.00
UNIVERSITY AVE
STA:84+40.83
ELEV:435.57

EX ACS

EX WATER

EX SD

VPI 85+00.00
ELEV = 434.32
LVC = 300.00'

EX SD

EX ACS

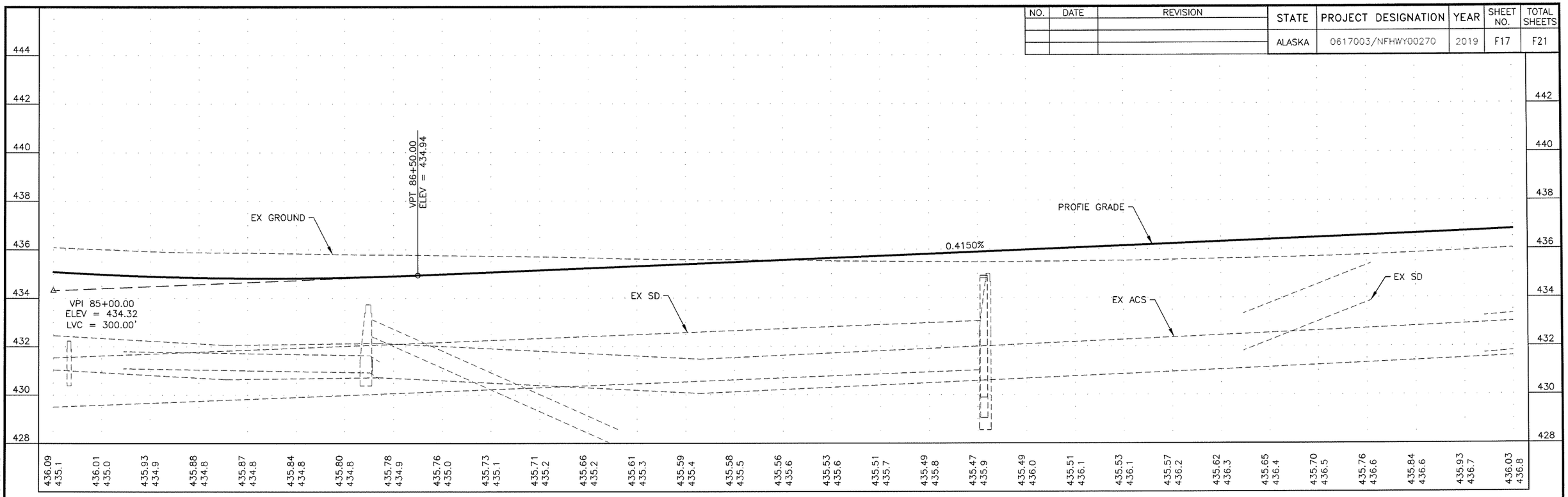
442 440 438 436 434 432 430 428

412.91 443.7 | 414.64 443.6 | 418.98 443.5 | 421.85 443.3 | 424.61 443.1 | 441.30 442.8 | 441.23 442.5 | 440.96 442.2 | 440.69 441.8 | 440.43 441.4 | 440.18 441.0 | 439.93 440.7 | 439.67 440.3 | 439.38 439.9 | 439.09 439.5 | 438.82 439.2 | 438.56 438.9 | 438.30 438.6 | 438.05 438.2 | 437.81 437.9 | 437.56 437.6 | 437.32 437.3 | 437.10 436.9 | 436.90 436.6 | 436.72 436.3 | 436.56 436.0 | 436.43 435.8 | 436.34 435.6 | 436.26 435.4 | 436.19 435.2 | 436.09 435.1

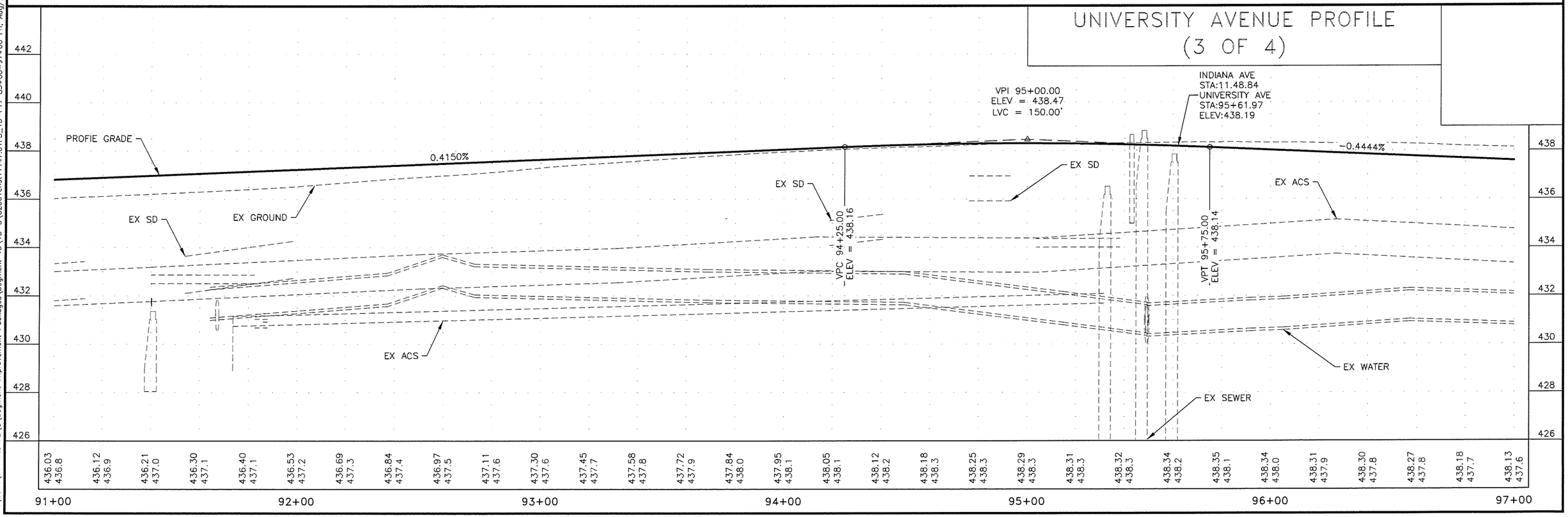
79+00 80+00 81+00 82+00 83+00 84+00 85+00

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F17	F21



UNIVERSITY AVENUE PROFILE
(3 OF 4)

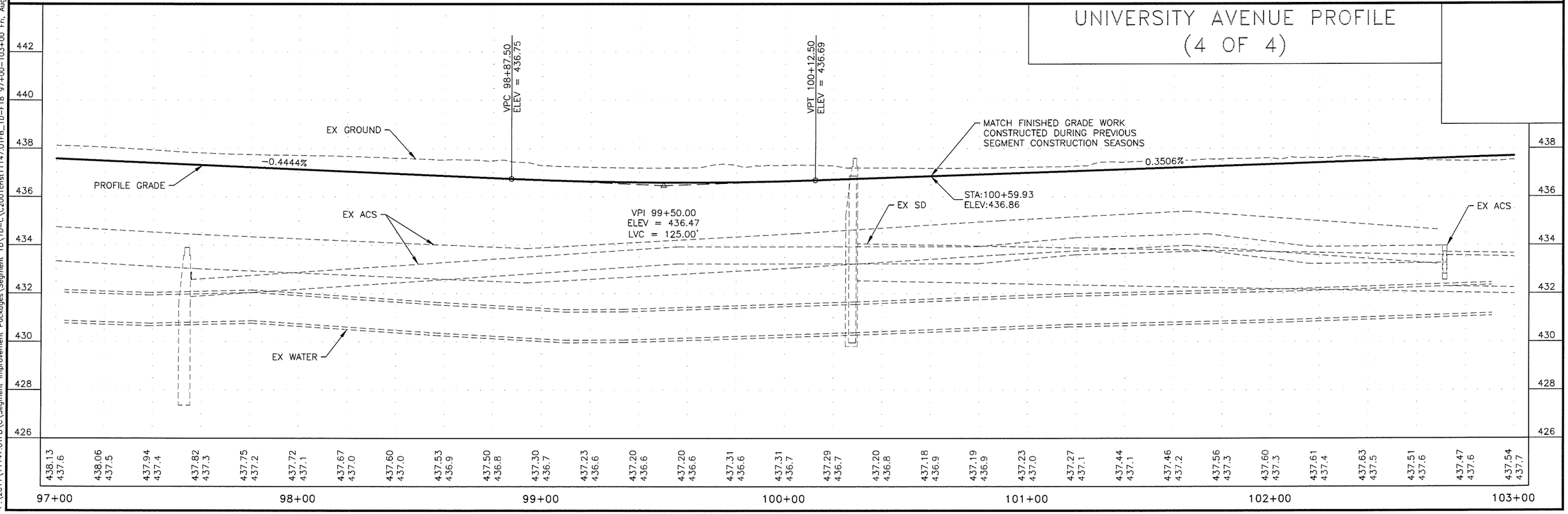


PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C2001cnst11147.01FB_1D-F17 85+00-97+00 Fri, Aug/23/19 09:47am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	F18	F21

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C2001cnst11147.01FB_1D-F18 97+00-103+00 Fri, Aug/23/19 09:48am

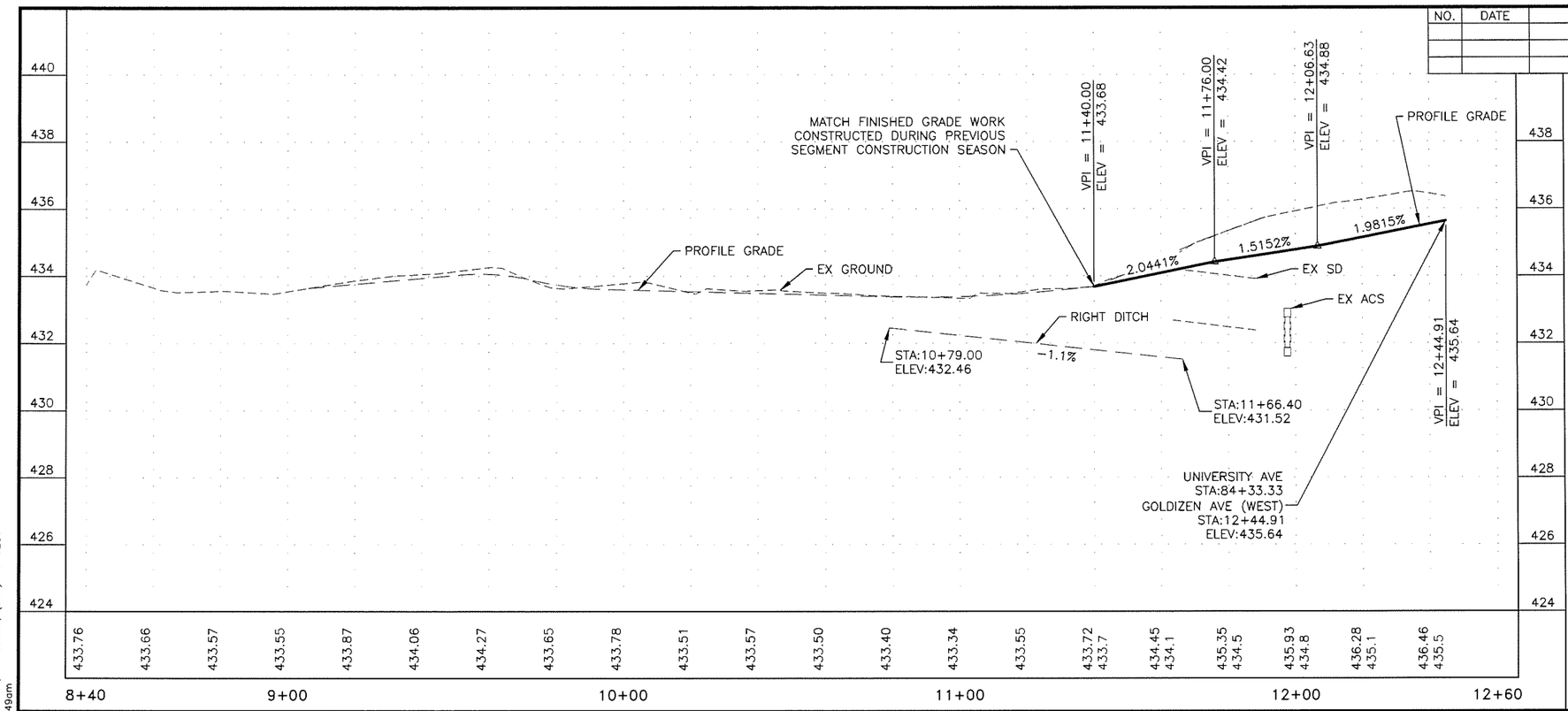
UNIVERSITY AVENUE PROFILE
(4 OF 4)



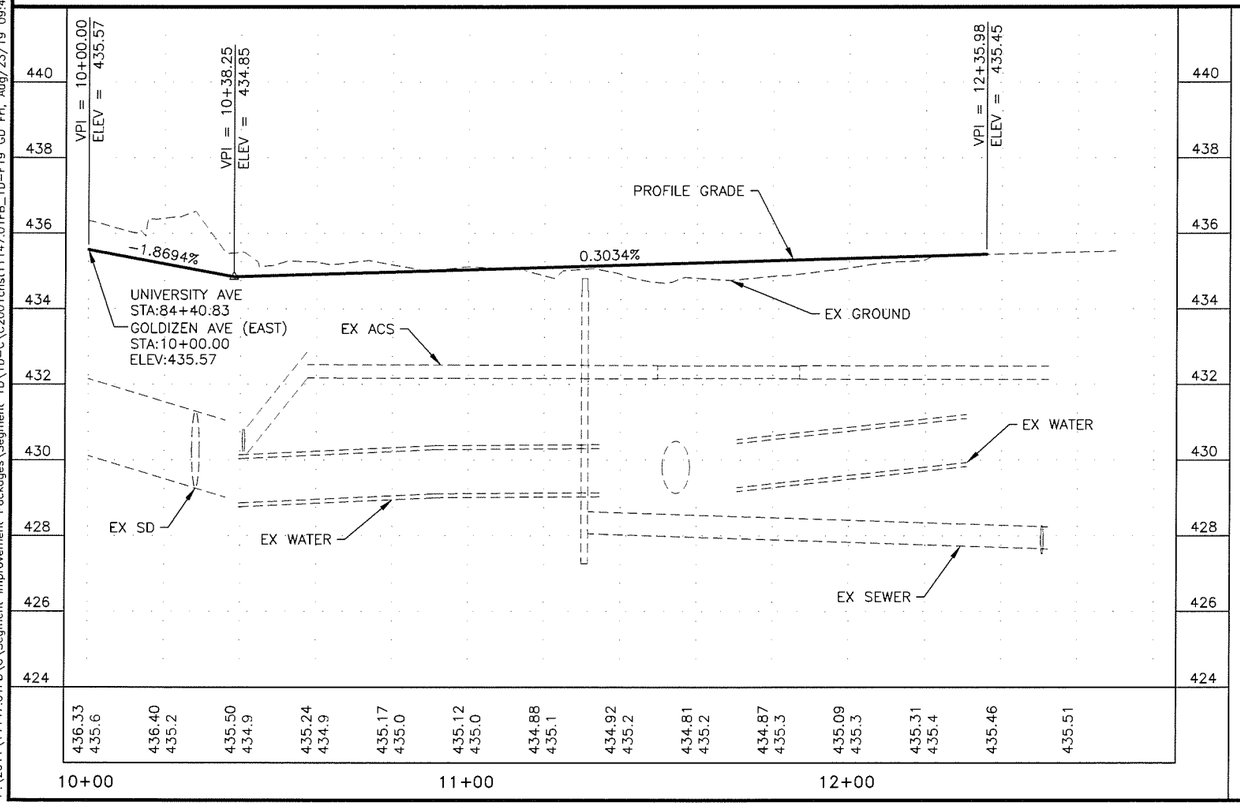
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F19	F21

GOLDIZEN AVENUE (WEST) PROFILE



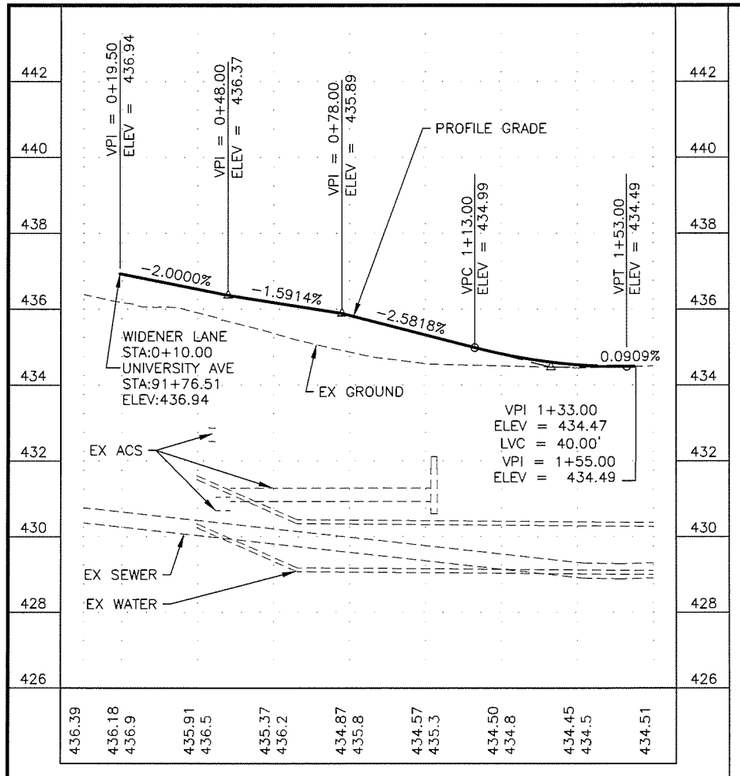
GOLDIZEN AVENUE (EAST) PROFILE



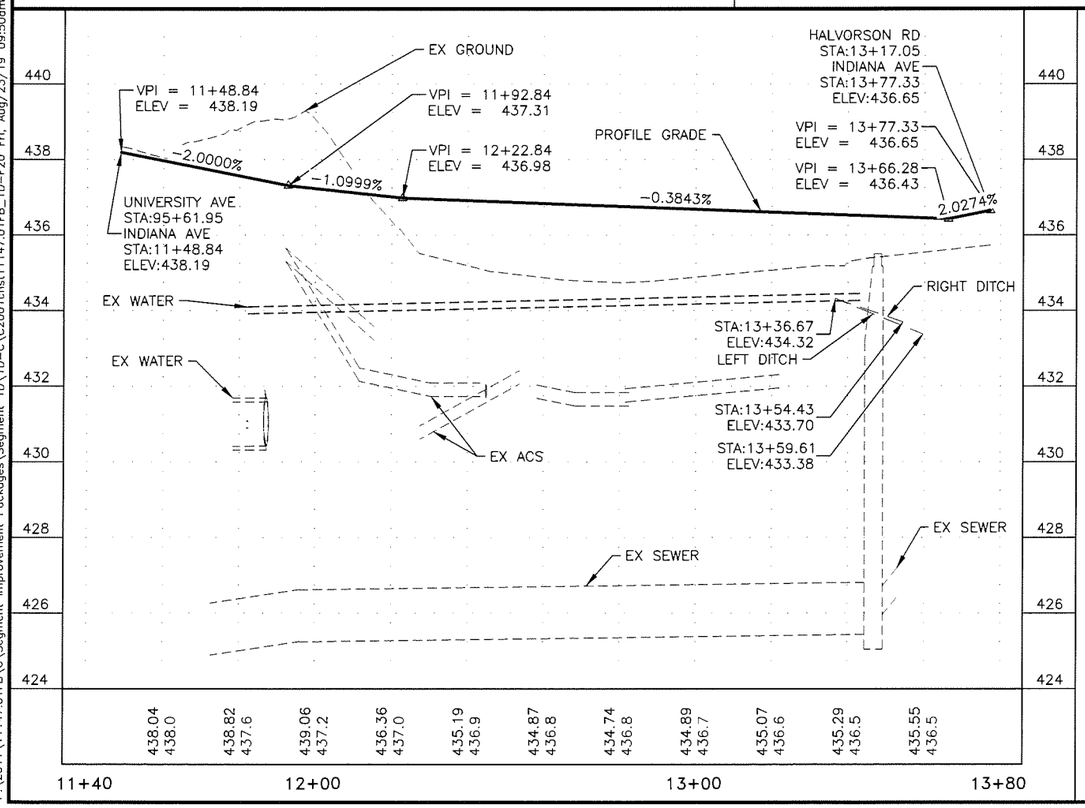
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C2001cnst11147.01FB_1D-F19 GD Fri, Aug/23/19 09:49am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	F20	F21

WIDENER LANE PROFILE



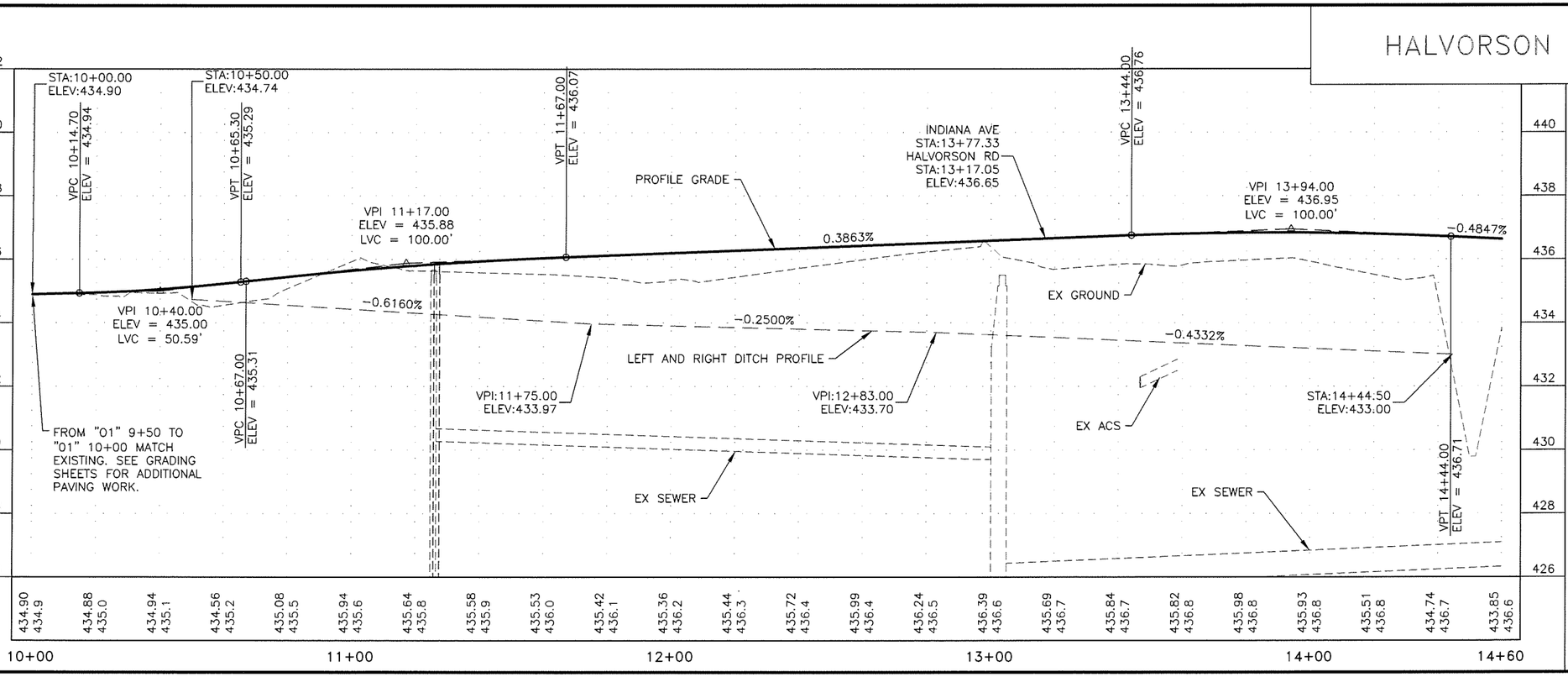
INDIANA AVENUE PROFILE



NO.	DATE	REVISION

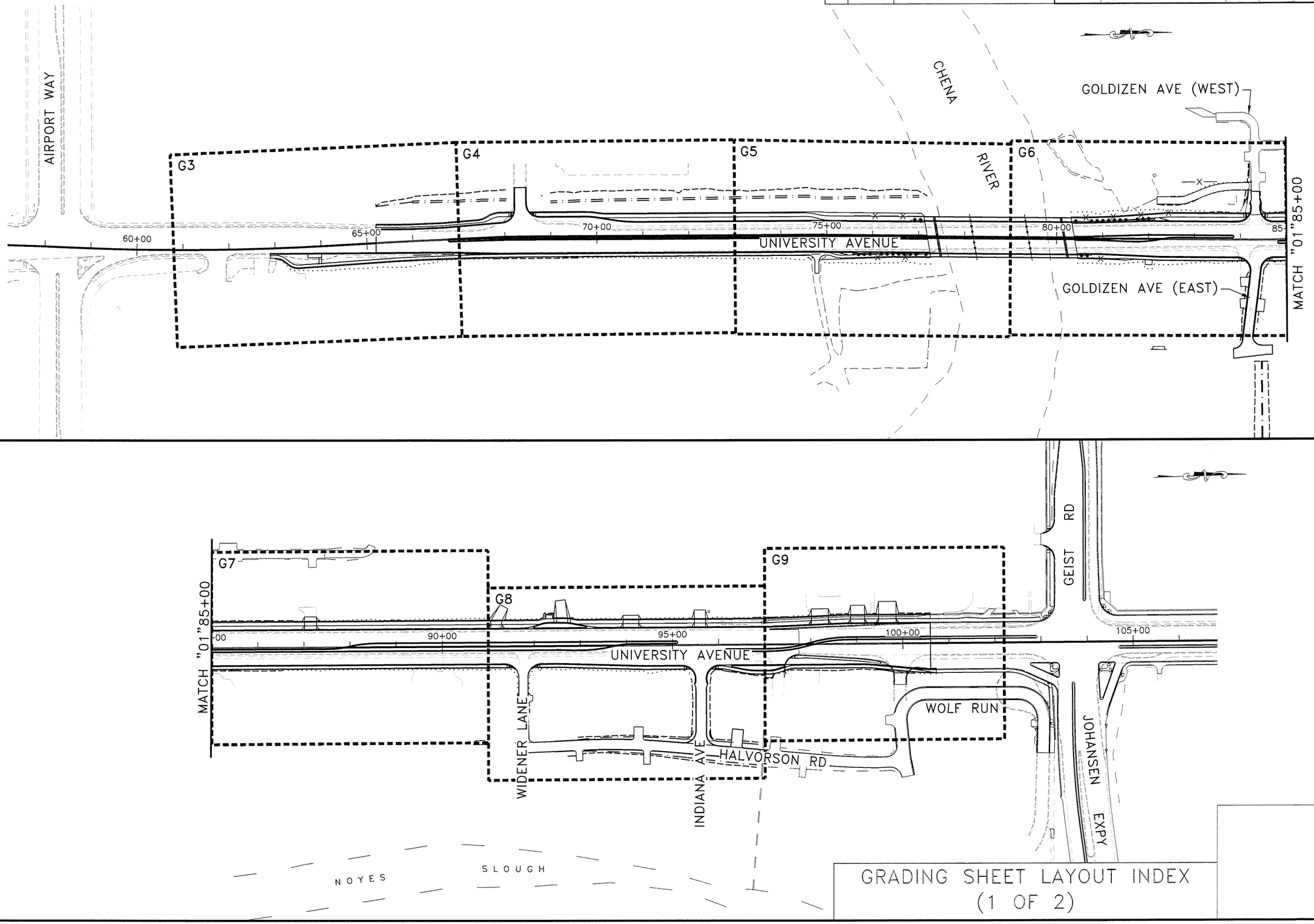
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	F21	F21

HALVORSON ROAD PROFILE



NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G1	G25

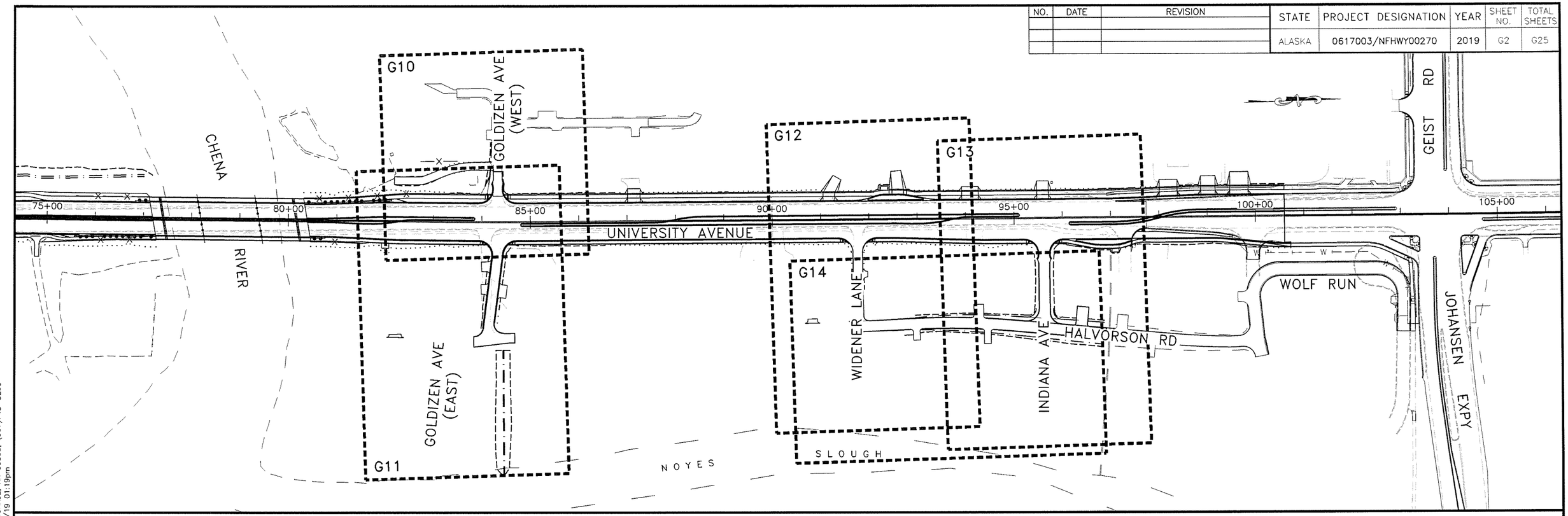


GRADING SHEET LAYOUT INDEX
(1 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0009cnst11147.01FB_1D-G1 Plan Index Fri, Aug/23/19 01:18pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G2	G25

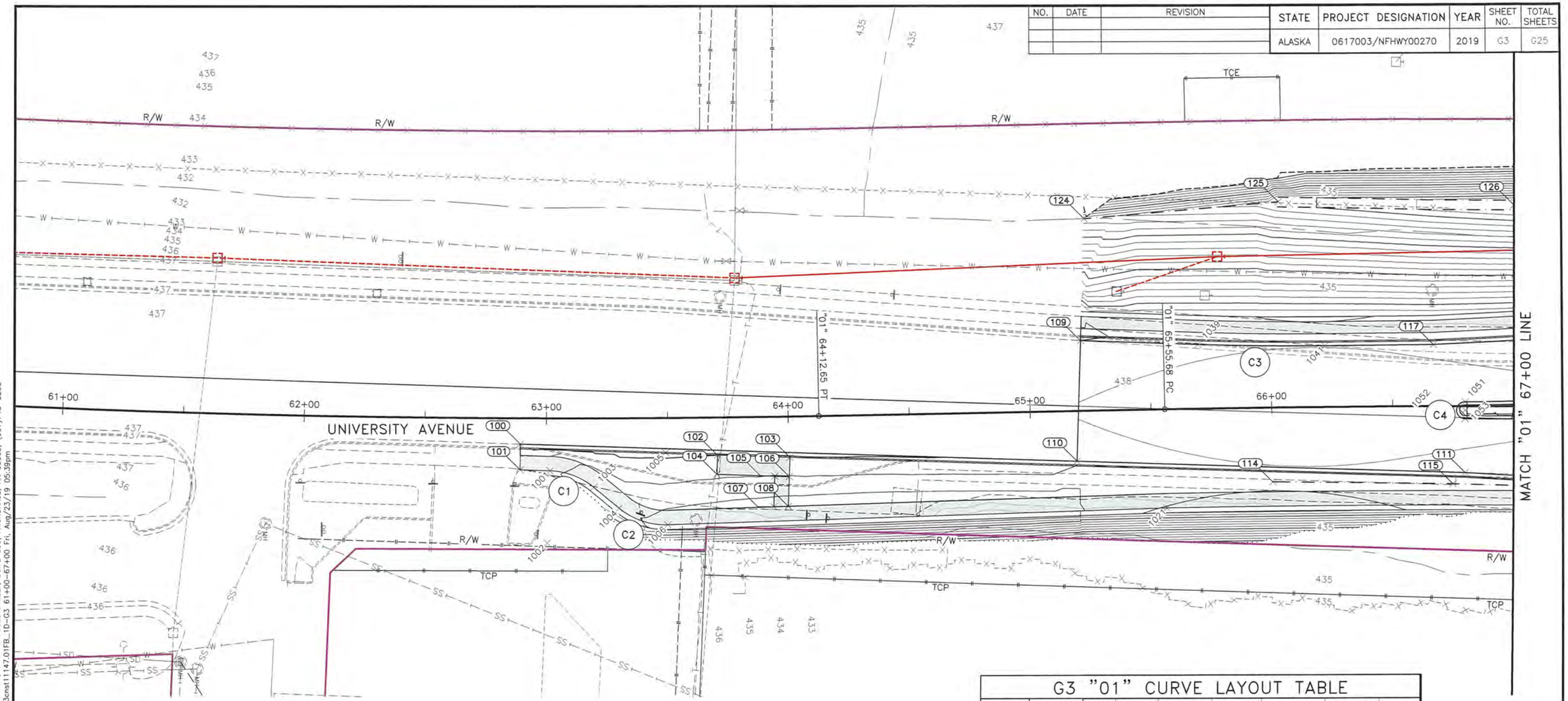


GRADING SHEET LAYOUT INDEX
(2 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0009cnst11147.01FB_1D-G2 Plan Index Fri, Aug/23/19 01:19pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G3	G25



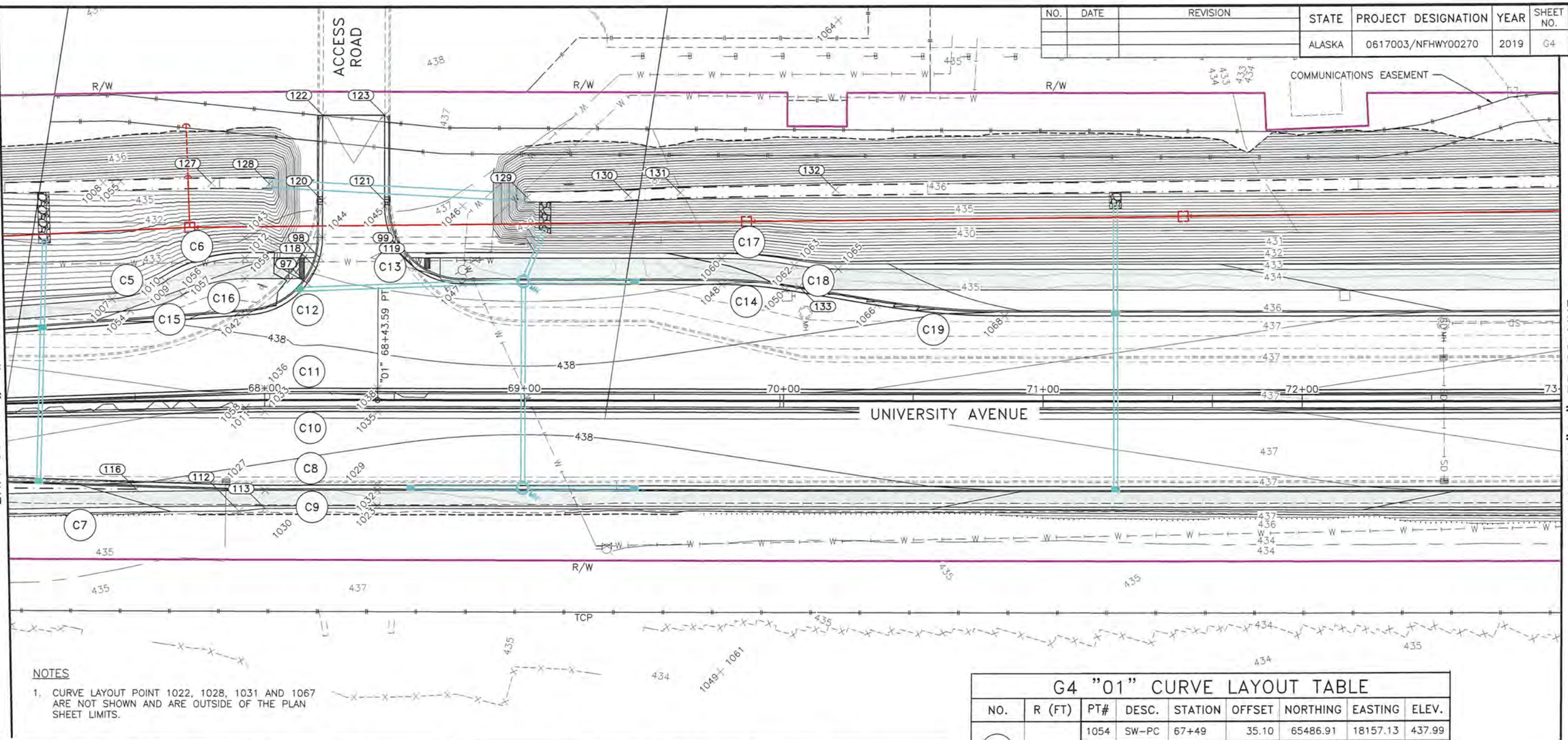
G3 "01" CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C1	30	1001	SW-PC	63+01	21.82	65039.74	18220.68	439.71
		1002	SW-RP	63+01	51.80	65038.91	18250.67	
		1003	SW-PT	63+20	28.68	65057.88	18227.43	439.24
C2	30	1004	SW-PC	63+30	37.40	65068.45	18236.06	438.97
		1005	SW-RP	63+49	14.38	65087.42	18212.81	437.40
		1006	SW-PT	63+50	44.37	65088.60	18242.79	438.62
C3	1,225	1039	EP-PC	65+70	26.68	65307.45	18166.67	437.86
		1040	EP-RP	66+21	1251.39	65342.21	16941.17	
		1041	EP-PT	66+22	25.40	65359.94	18167.04	437.98
C4	3.5	1051	EP-PC	66+80	1.78	65418.01	18190.20	438.32
		1052	EP-RP	66+80	1.72	65418.06	18193.70	
		1053	EP-PT	66+80	5.22	65418.05	18197.20	438.25

UNIVERSITY AVENUE GRADING PLAN (1 OF 7)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G4	G25



NOTES

1. CURVE LAYOUT POINT 1022, 1028, 1031 AND 1067 ARE NOT SHOWN AND ARE OUTSIDE OF THE PLAN SHEET LIMITS.

G4 "01" CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C5	45	1007	SW-PC	67+41	39.68	65479.90	18152.48	438.09
		1008	SW-RP	67+39	84.60	65477.56	18107.54	
		1009	SW-PRC	67+62	46.26	65500.75	18146.11	438.08
C6	58	1010	SW-PRC	67+62	46.26	65500.75	18146.11	438.08
		1011	SW-RP	67+93	3.00	65530.62	18195.83	
		1012	SW-PT	67+93	55.00	65531.64	18137.84	438.05
C7	5,565	1021	SW-PC	65+56	41.00	65294.82	18234.67	438.51
		1022	SW-RP	65+56	5600.00	65432.49	23791.97	
		1023	SW-PT	68+44	41.00	65580.55	18234.94	437.69
C8	5,567	1027	EP-PC	67+94	33.00	65531.48	18225.85	437.35
		1028	EP-RP	65+56	5600.00	65432.49	23791.97	
		1029	EP-PT	68+44	33.00	65580.76	18226.94	437.20
C9	5,565	1030	TBC-PC	68+00	35.00	65537.40	18227.95	437.73
		1031	TBC-RP	65+56	5600.00	65432.49	23791.97	
		1032	TBC-PT	68+44	35.00	65580.71	18228.94	437.60

G4 "01" CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C10	5,595.5	1033	EP-PC	68+00	4.50	65537.98	18197.46	437.90
		1034	EP-RP	65+56	5600.00	65432.49	23791.97	
		1035	EP-PT	68+44	4.50	65581.52	18198.45	437.77
C11	5,604.5	1036	EP-PC	68+00	4.50	65538.15	18188.46	437.90
		1037	EP-RP	65+56	5600.00	65432.49	23791.97	
		1038	EP-PT	68+44	4.50	65581.76	18189.45	437.77
C12	30	1042	EP-PC	67+93	33.00	65531.25	18159.83	437.35
		1043	EP-RP	67+93	63.00	65531.78	18129.84	
		1044	EP-PT	68+22	62.86	65561.77	18130.58	436.87
C13	30	1045	EP-PC	68+46	74.95	65586.06	18119.09	436.78
		1046	EP-RP	68+76	75.00	65616.06	18119.84	
		1047	EP-PT	68+76	45.00	65615.26	18149.83	436.88
C14	150	1048	EP-PC	69+76	45.00	65715.20	18152.49	437.02
		1049	EP-RP	69+76	105.00	65711.21	18302.44	
		1050	EP-PT	70+01	42.97	65739.75	18155.18	437.13

G4 "01" CURVE LAYOUT TABLE

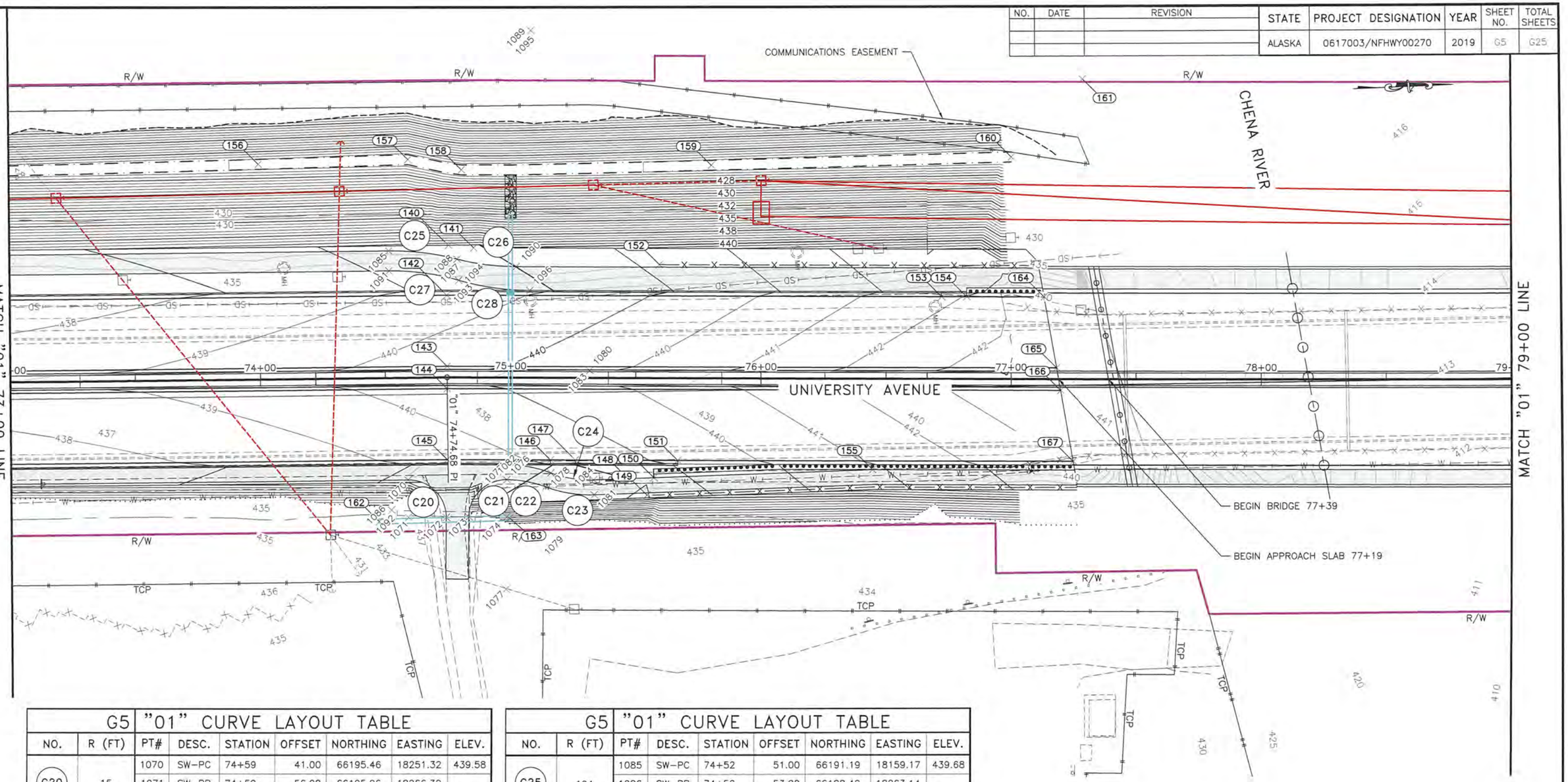
NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C15	50	1054	SW-PC	67+49	35.10	65486.91	18157.13	437.99
		1055	SW-RP	67+45	85.01	65484.32	18107.19	
		1056	SW-PRC	67+69	40.95	65507.47	18151.51	437.97
C16	50	1057	SW-PRC	67+69	40.95	65507.47	18151.51	437.97
		1058	SW-RP	67+93	3.00	65530.62	18195.83	
		1059	SW-PT	67+93	47.00	65531.50	18145.83	437.93
C17	160	1060	SW-PC	69+76	55.00	65715.47	18142.50	437.53
		1061	SW-RP	69+76	105.00	65711.21	18302.44	
		1062	SW-PRC	70+04	52.50	65743.56	18145.75	437.67
C18	104	1063	SW-PRC	70+04	52.50	65743.56	18145.75	437.67
		1064	SW-RP	70+21	147.00	65762.98	18051.73	
		1065	SW-PT	70+21	51.00	65760.42	18147.70	437.80
C19	300	1066	EP-PC	70+36	37.07	65775.04	18162.02	437.36
		1067	EP-RP	70+85	333.00	65832.14	17867.51	
		1068	EP-PT	70+85	33.00	65824.15	18167.40	437.59

UNIVERSITY AVENUE GRADING PLAN (2 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1003cnst11147.01FB_1D-G4 67+00-73+00 Fri, Aug/23/19 01:24pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G5	G25



G5 "01" CURVE LAYOUT TABLE								
NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C20	15	1070	SW-PC	74+59	41.00	66195.46	18251.32	439.58
		1071	SW-RP	74+59	56.00	66195.06	18266.32	
		1072	SW-PT	74+74	56.24	66210.05	18266.95	
C21	15	1073	SW-PC	74+84	56.00	66219.05	18267.09	
		1074	SW-RP	74+99	56.00	66234.04	18267.73	
		1075	SW-PCC	74+99	41.00	66234.67	18252.74	439.92
C22	44	1076	SW-PCC	74+99	41.00	66234.67	18252.74	439.92
		1077	SW-RP	74+99	85.00	66232.80	18296.70	
		1078	SW-PRC	75+14	43.80	66249.99	18256.20	440.10
C23	50	1079	SW-PRC	75+14	43.80	66249.99	18256.20	440.10
		1080	SW-RP	75+32	3.01	66269.53	18210.17	
		1081	SW-PT	75+34	46.95	66269.40	18260.17	440.34
C24	44	1082	SW-PRC	75+16	38.18	66252.34	18250.68	440.04
		1083	SW-RP	75+32	3.01	66269.53	18210.17	
		1084	SW-PT	75+33	40.95	66269.42	18254.17	440.25

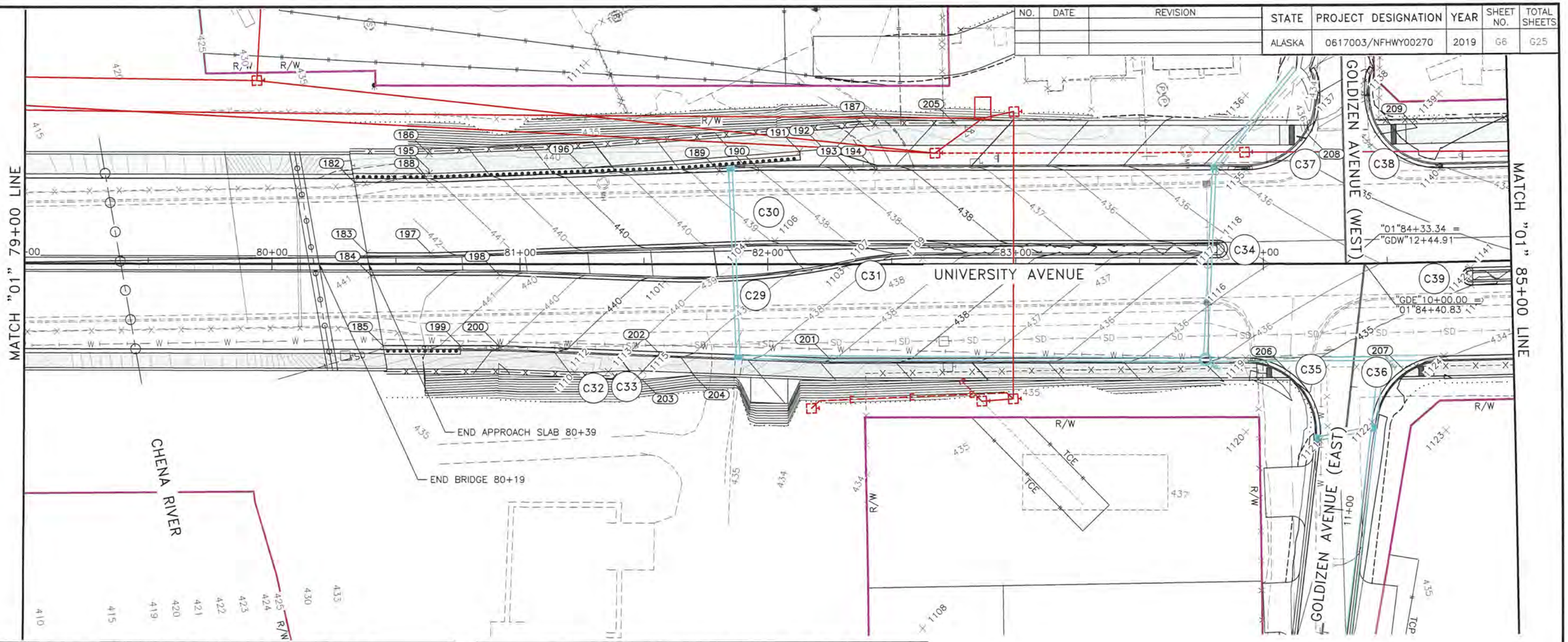
G5 "01" CURVE LAYOUT TABLE								
NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C25	104	1085	SW-PC	74+52	51.00	66191.19	18159.17	439.68
		1086	SW-RP	74+52	53.00	66188.42	18263.14	
		1087	SW-PRC	74+78	47.45	66218.27	18163.51	439.84
C26	96	1088	SW-PRC	74+78	47.45	66218.27	18163.51	439.84
		1089	SW-RP	75+08	139.00	66251.32	18073.29	
		1090	SW-PT	75+02	44.50	66241.74	18167.46	440.00
C27	96	1091	SW-PC	74+52	43.00	66190.98	18167.17	439.56
		1092	SW-RP	74+52	53.00	66188.42	18263.14	
		1093	SW-PRC	74+79	38.98	66218.62	18172.01	439.72
C28	104	1094	SW-PRC	74+79	38.98	66218.62	18172.01	439.72
		1095	SW-RP	75+08	139.00	66251.32	18073.29	
		1096	SW-PT	75+08	35.00	66246.90	18177.19	439.91

UNIVERSITY AVENUE GRADING PLAN (3 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1003cnst111147.01FB_1D-05 73+00-79+00 Fri, Aug/23/19 05:40pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G6	G25



G6 "01" CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C29	300	1101	EP-PC	81+58	6.99	66895.28	18246.82	439.80
		1102	EP-RP	81+70	292.80	66919.26	17947.78	
		1103	EP-PRC	82+32	0.73	66968.68	18243.69	438.68
C30	300	1104	EP-PC	81+92	9.29	66929.28	18231.98	439.16
		1105	EP-RP	82+03	290.50	66927.76	18531.97	
		1106	EP-PT	82+03	9.50	66940.52	18232.24	438.97
C31	150	1107	EP-PRC	82+32	0.73	66968.68	18243.69	438.68
		1108	EP-RP	82+63	147.50	66993.38	18391.64	
		1109	EP-PT	82+63	2.50	66999.76	18241.77	438.24
C32	125	1110	SW-PC	81+22	43.65	66857.38	18281.91	440.46
		1111	SW-RP	81+27	81.26	66867.37	18157.31	
		1112	SW-PRC	81+36	43.42	66871.07	18282.25	440.18
C33	125	1113	SW-PRC	81+36	43.42	66871.07	18282.25	440.18
		1114	SW-RP	81+45	168.09	66874.76	18407.20	
		1115	SW-PT	81+49	43.18	66884.76	18282.60	439.90
C34	3.5	1116	EP-PT	83+82	2.50	67119.11	18246.85	436.33
		1117	EP-RP	83+82	6.00	67119.26	18243.36	
		1118	EP-PC	83+82	9.50	67119.41	18239.86	436.09

G6 "01" CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C35	30	1119	EP-PC	83+93	38.00	67128.10	18287.77	435.37
		1120	EP-RP	83+93	68.00	67126.83	18317.75	
		1121	EP-PT	84+23	71.44	67156.46	18322.45	434.76
C36	30	1122	EP-PC	84+42	64.04	67177.74	18315.91	434.73
		1123	EP-RP	84+72	68.00	67207.37	18320.61	
		1124	EP-PT	84+72	38.00	67208.12	18290.62	434.52
C37	30	1135	EP-PC	83+93	38.00	67131.77	18211.86	435.36
		1136	EP-RP	83+93	68.00	67133.05	18181.89	
		1137	EP-PT	84+23	68.52	67163.04	18182.65	434.58
C38	30	1138	EP-PC	84+42	68.81	67181.03	18183.10	434.27
		1139	EP-RP	84+72	68.00	67211.00	18184.66	
		1140	EP-PT	84+72	38.00	67210.25	18214.65	434.52
C39	3.5	1141	EP-PC	84+84	2.50	67220.48	18255.42	435.26
		1142	EP-RP	84+84	6.00	67220.39	18258.92	
		1143	EP-PT	84+84	9.50	67220.31	18262.42	435.01

NOTES

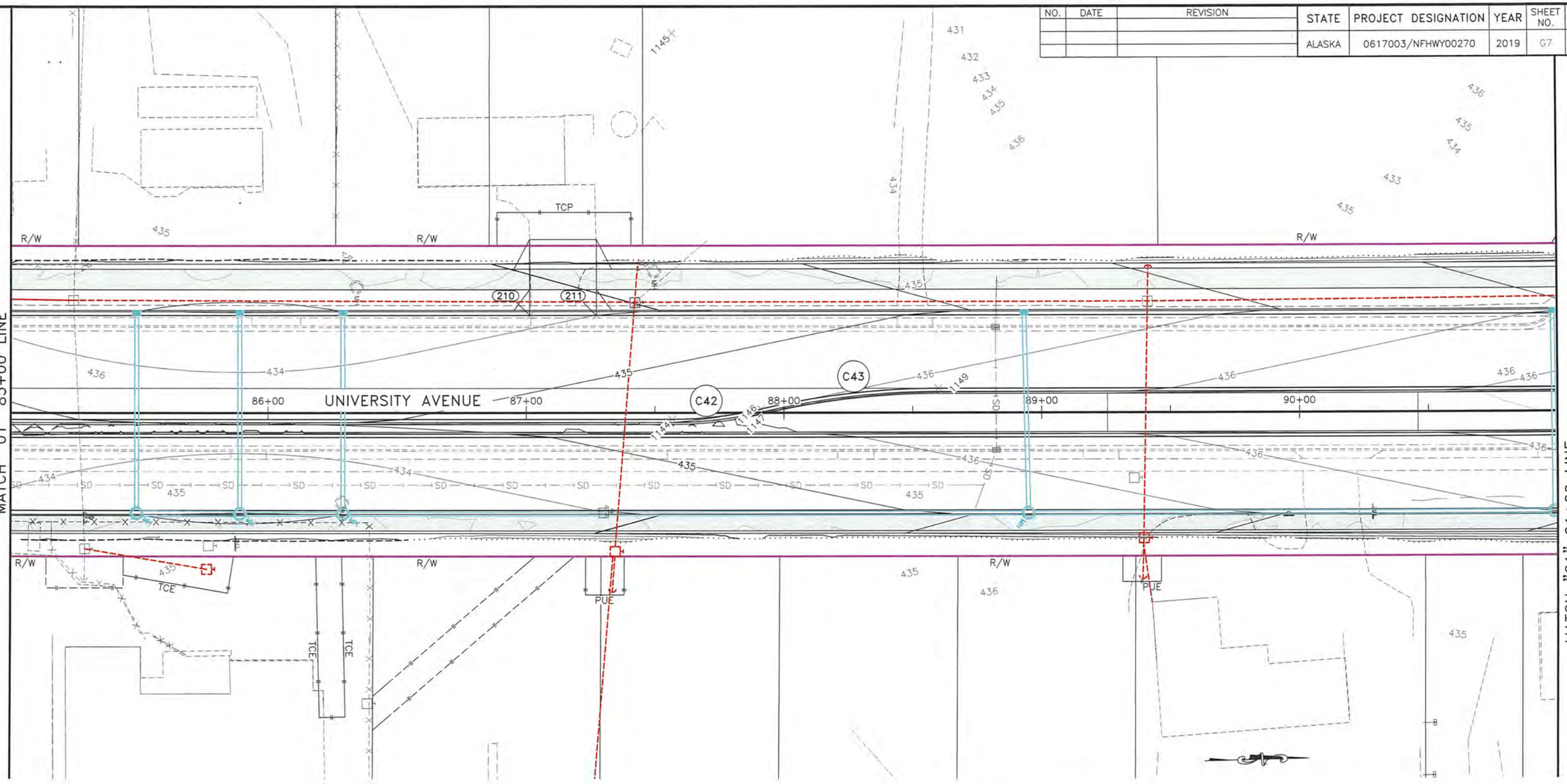
1. CURVE LAYOUT POINTS 1102, 1105, 1108, 1114 ARE NOT SHOWN AND ARE OUTSIDE OF THE PLAN SHEET LIMITS.

UNIVERSITY AVENUE GRADING PLAN (4 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 10\1D-C\C1003const11147.01FB_1D-G6 79+00-85+00 Fri, Aug/23/19 05:41pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G7	G25



NOTES

1. CURVE LAYOUT POINT 1148 IS NOT SHOWN AND IS OUTSIDE OF THE PLAN SHEET LIMITS.

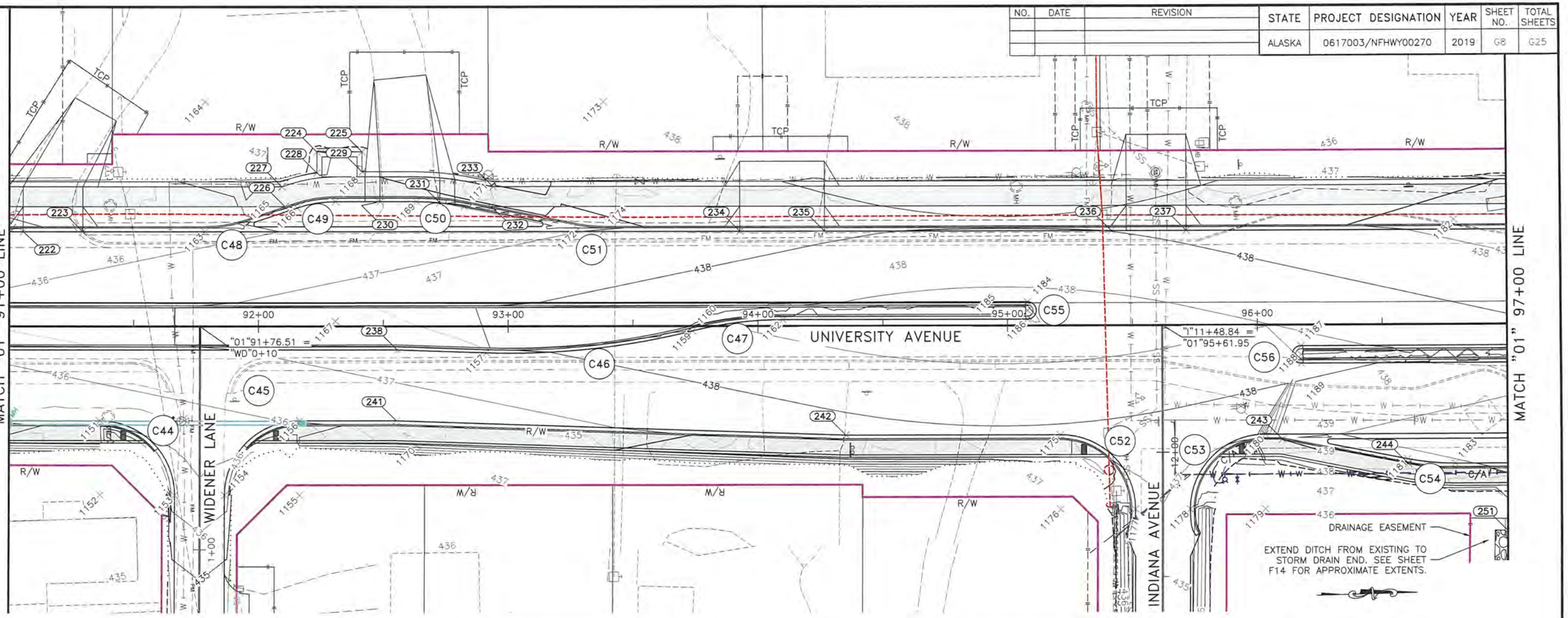
G7 "01" CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C42	150	1144	EP-PC	87+57	2.50	67493.56	18262.24	435.44
		1145	EP-RP	87+57	147.50	67497.31	18112.29	
		1146	EP-PRC	87+91	1.50	67528.06	18259.10	435.50
C43	300	1147	EP-PRC	87+91	1.50	67528.06	18259.10	435.50
		1148	EP-RP	88+60	290.50	67589.57	18552.73	
		1149	EP-PT	88+60	9.50	67597.06	18252.82	435.62

UNIVERSITY AVENUE GRADING PLAN (5 OF 7)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G8	G25



G8 "01" CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C44	30	1151	EP–PC	91+36	38.00	67872.24	18307.21	436.20
		1152	EP–RP	91+37	68.00	67871.57	18337.20	
		1153	EP–PT	91+66	68.02	67901.48	18337.97	435.69
C45	30	1154	EP–PC	91+86	67.98	67921.48	18338.42	435.69
		1155	EP–RP	92+17	68.00	67951.54	18339.20	
		1156	EP–PT	92+17	38.00	67952.29	18309.21	436.53
C46	300	1157	EP–PC	92+91	10.69	68027.62	18283.77	437.39
		1158	EP–RP	93+01	289.15	68045.09	17984.28	
		1159	EP–PRC	93+74	1.95	68110.34	18277.09	437.91
C47	150	1160	EP–PRC	93+74	1.95	68110.34	18277.09	437.91
		1161	EP–RP	94+10	147.50	68142.97	18423.50	
		1162	EP–PT	94+10	2.50	68146.71	18273.55	438.15
C48	52	1163	EP–PC	91+79	38.00	67916.19	18232.28	436.38
		1164	EP–RP	91+79	90.00	67917.53	18180.30	
		1165	EP–PT	91+95	40.67	67932.74	18230.03	436.50

G8 "01" CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C49	48	1166	EP–PC	92+16	47.54	67953.51	18223.67	436.72
		1167	EP–RP	92+31	2.00	67967.54	18269.58	
		1168	EP–PT	92+31	50.00	67968.74	18221.59	436.83
C50	98	1169	EP–PC	92+63	50.00	68001.24	18222.40	436.97
		1170	EP–RP	92+63	48.00	67998.79	18320.37	
		1171	EP–PT	92+83	48.10	68020.40	18224.78	437.01
C51	52	1172	EP–PC	93+28	39.01	68065.60	18235.00	436.94
		1173	EP–RP	93+38	90.00	68077.07	18184.28	
		1174	EP–PT	93+38	38.00	68075.77	18236.27	437.04
C52	30	1175	EP–PC	95+21	44.00	68256.47	18322.80	437.41
		1176	EP–RP	95+21	74.00	68255.72	18352.80	
		1177	EP–PT	95+51	74.00	68285.71	18353.54	436.76
C53	30	1178	EP–PC	95+73	74.00	68307.70	18354.09	436.76
		1179	EP–RP	96+03	74.00	68337.69	18354.84	
		1180	EP–PT	96+03	44.00	68338.44	18324.85	437.13

G8 "01" CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C54	98	1181	EP–PC	96+60	54.14	68395.07	18336.40	437.08
		1182	EP–RP	96+79	42.00	68416.49	18240.77	
		1183	EP–PT	96+79	56.00	68414.04	18338.74	437.04
C55	3.5	1184	EP–PC	95+08	9.50	68244.86	18269.00	438.12
		1185	EP–RP	95+08	6.00	68244.77	18272.50	
		1186	EP–PT	95+08	2.50	68244.68	18276.00	438.36
C56	3.5	1187	EP–PC	96+17	8.50	68353.87	18289.73	438.14
		1188	EP–RP	96+17	12.00	68353.78	18293.22	
		1189	EP–PT	96+17	15.50	68353.70	18296.72	437.64

NOTES

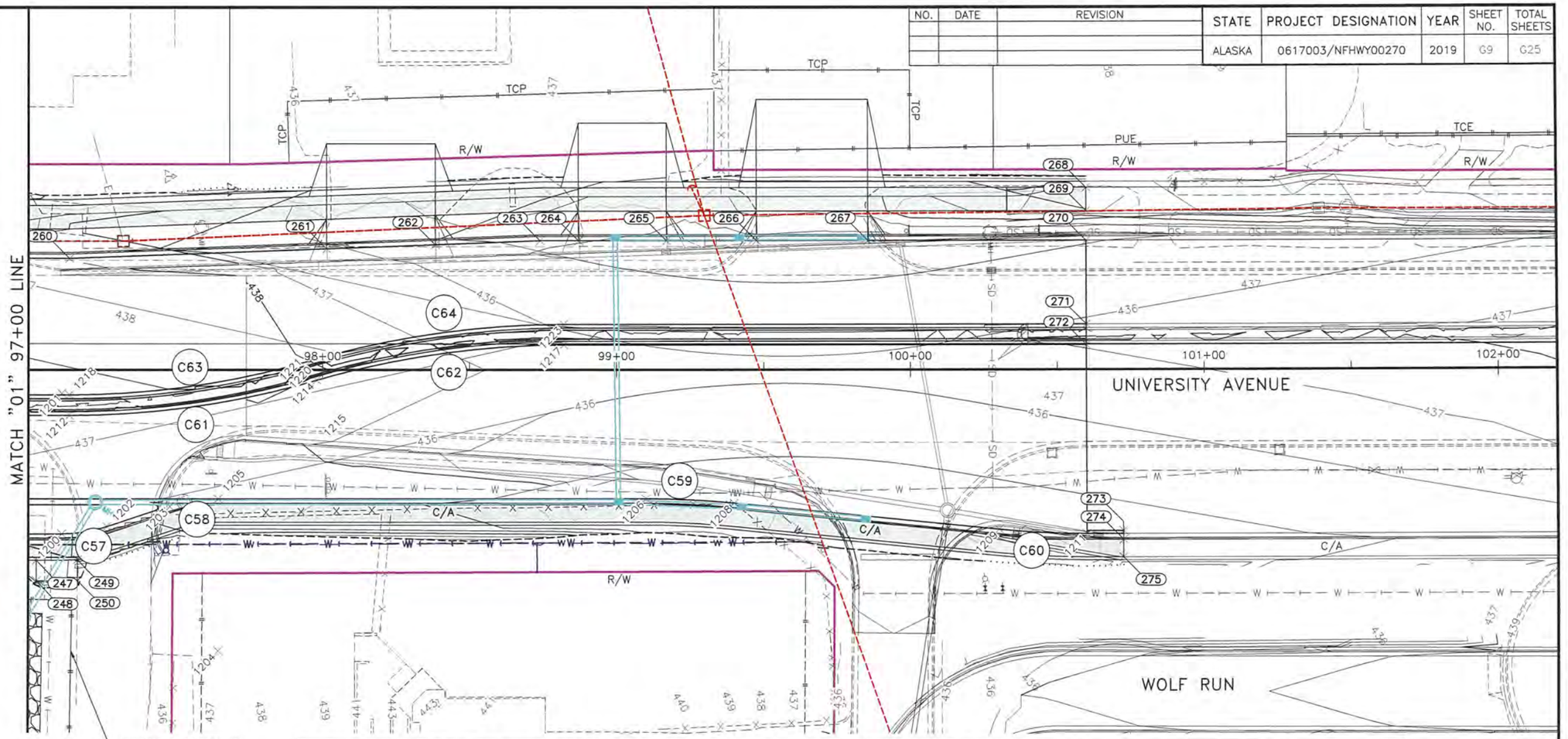
1. CURVE LAYOUT POINT 1158, 1161 IS NOT SHOWN AND IS OUTSIDE OF THE PLAN SHEET LIMITS.

UNIVERSITY AVENUE GRADING PLAN (6 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1003cnst11147.01FB_1D-G8 91+00-97+00 Fri, Aug/23/19 01:29pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G9	G25



G9 "01" CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C57	48	1200	EP-PC	97+11	56.00	68446.59	18339.56	436.89
		1201	EP-RP	97+11	8.00	68447.79	18291.57	
		1202	EP-PT	97+27	53.50	68461.94	18337.44	436.77
C58	52	1203	EP-PC	97+48	46.67	68483.37	18331.14	436.85
		1204	EP-RP	97+64	96.00	68498.58	18380.87	
		1205	EP-PT	97+64	44.00	68499.88	18328.88	436.41
C59	300	1206	EP-PC	99+10	44.00	68645.39	18332.52	435.78
		1207	EP-RP	99+10	344.00	68637.91	18632.42	
		1208	EP-PT	99+40	45.49	68675.20	18334.75	435.69
C60	300	1209	EP-PC	100+30	54.51	68765.17	18346.02	435.66
		1210	EP-RP	100+60	244.00	68802.46	18048.35	
		1211	EP-PT	100+60	56.00	68794.97	18348.26	
C61	300	1212	EP-PC	97+14	15.50	68450.17	18299.13	437.21
		1213	EP-RP	97+14	284.50	68457.66	17999.23	
		1214	EP-PRC	97+98	3.50	68534.44	18289.23	437.08

G9 "01" CURVE LAYOUT TABLE

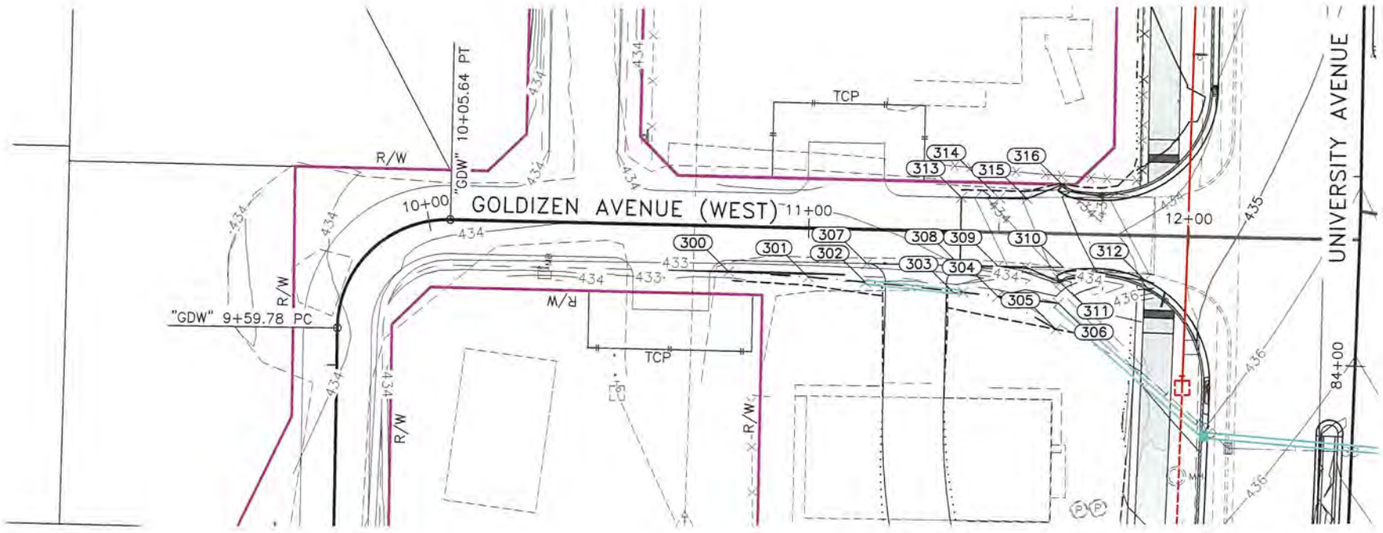
NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C62	300	1215	EP-PRC	97+98	3.50	68534.44	18289.23	437.08
		1216	EP-RP	98+82	291.50	68611.22	18579.24	
		1217	EP-PT	98+82	8.50	68618.71	18279.33	436.94
C63	293	1218	EP-PC	97+14	8.50	68450.34	18292.13	437.69
		1219	EP-RP	97+14	284.50	68457.66	17999.23	
		1220	EP-PRC	97+96	3.22	68532.65	18282.47	437.09
C64	307	1221	EP-PRC	97+96	3.22	68532.65	18282.47	437.09
		1222	EP-RP	98+82	291.50	68611.22	18579.24	
		1223	EP-PT	98+82	15.50	68618.89	18272.34	436.46

NOTES

1. CURVE LAYOUT POINT 1207, 1210, 1213, 1216, 1219, 1222 ARE NOT SHOWN AND ARE OUTSIDE OF THE PLAN SHEET LIMITS.

UNIVERSITY AVENUE GRADING PLAN (7 OF 7)

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	G10	G25

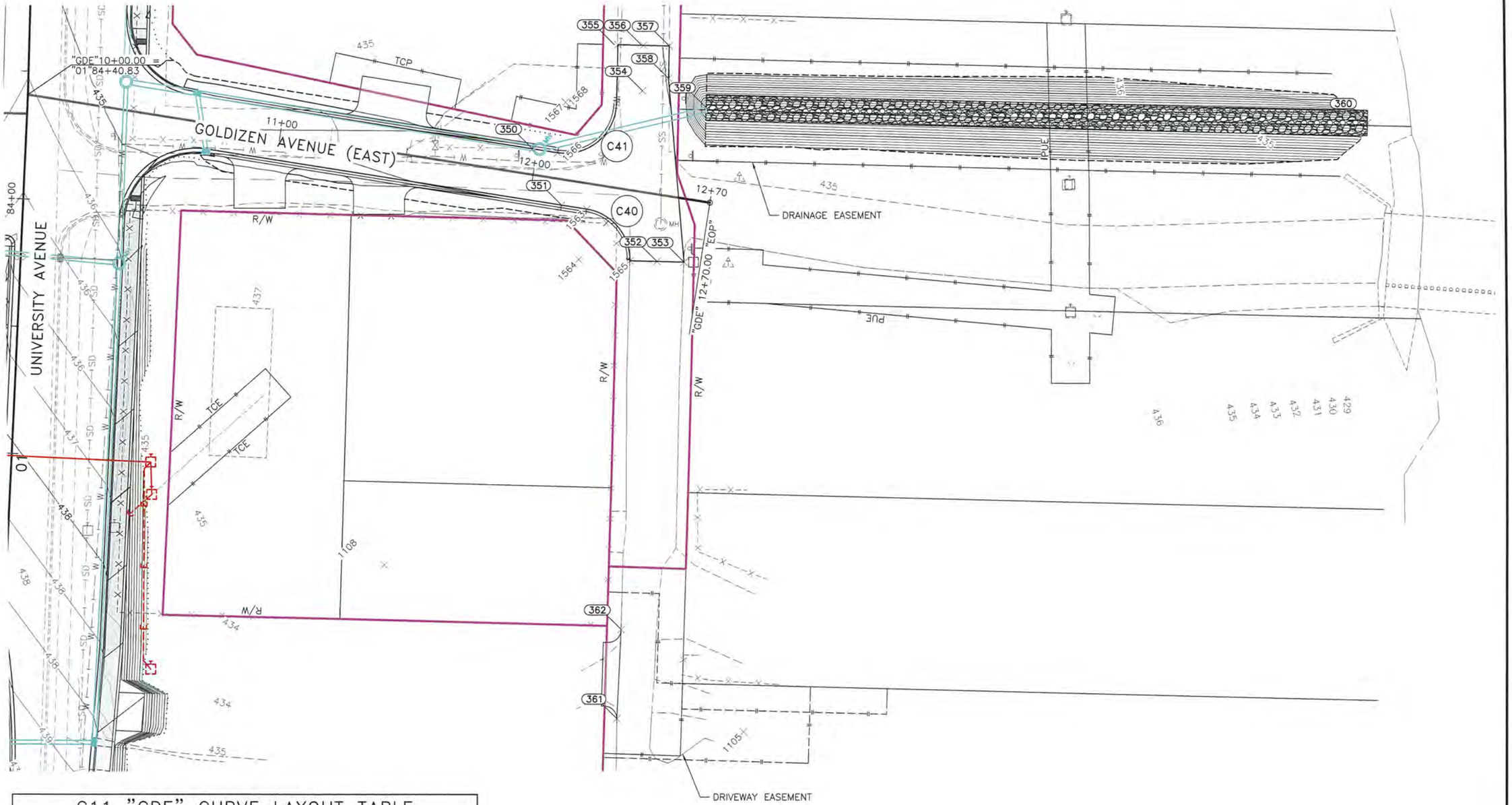


GOLDIZEN AVENUE (WEST)
GRADING PLAN

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1003cnst11147.01FB_1D-G10 GDW Fri, Aug/23/19 01:30pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G11	G25



G11 "GDE" CURVE LAYOUT TABLE

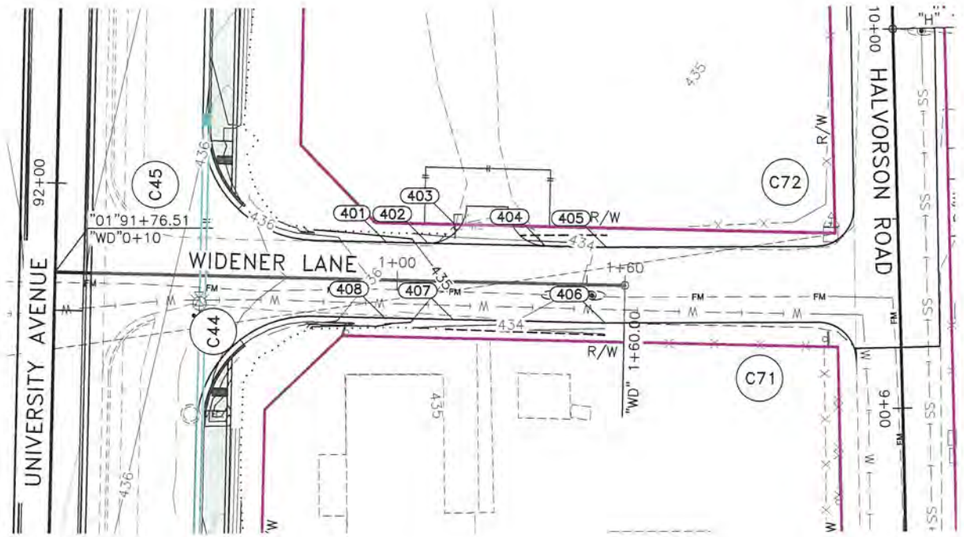
NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C40	20	1563	EP-PC	12+23	10.00	67132.98	18470.38	435.21
		1564	EP-RP	12+23	30.00	67113.23	18467.24	
		1565	EP-PT	12+43	27.37	67112.72	18487.23	
C41	20	1566	EP-PC	12+08	10.00	67155.03	18459.02	435.17
		1567	EP-RP	12+08	30.00	67174.79	18462.15	
		1568	EP-PT	12+28	32.63	67174.28	18482.15	435.15

GOLDIZEN AVENUE (EAST) GRADING PLAN

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1003cnst11147.01FB_1D-G11 GDE Fri, Aug/23/19 01:32pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G12	G25



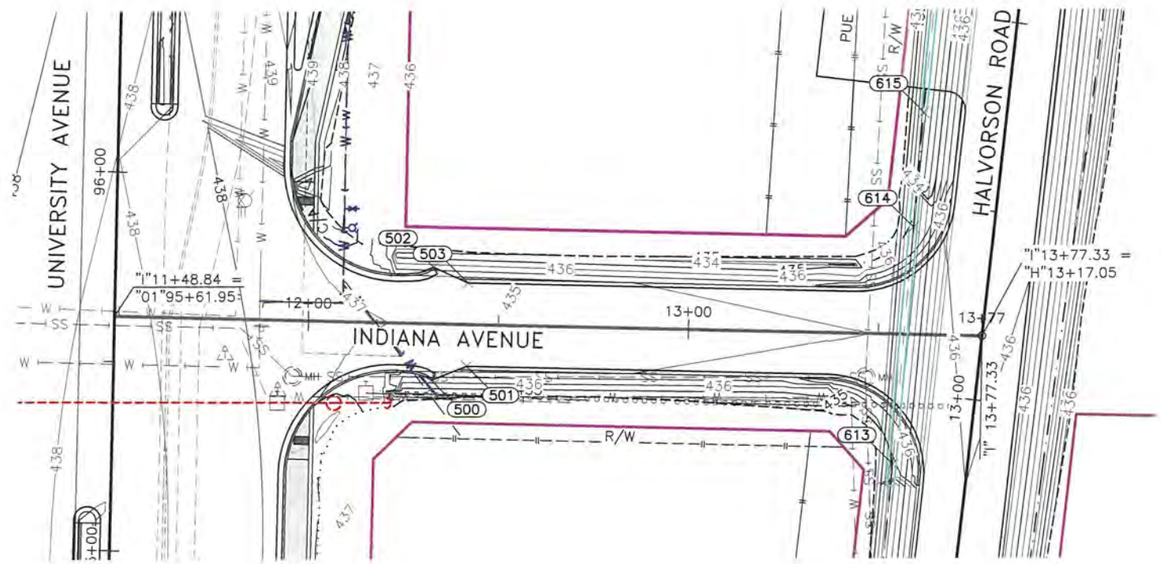
G12 "WD" CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C71	10	1580	EP-PC			67899.50	18470.91	
		1581	EP-RP			67889.50	18470.91	
		1582	EP-PT			67889.60	18480.91	
C72	10	1583	EP-PC			67919.50	18470.53	
		1584	EP-RP			67929.50	18470.53	
		1585	EP-PT			67929.59	18480.53	

WIDENER LANE
GRADING PLAN

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G13	G25

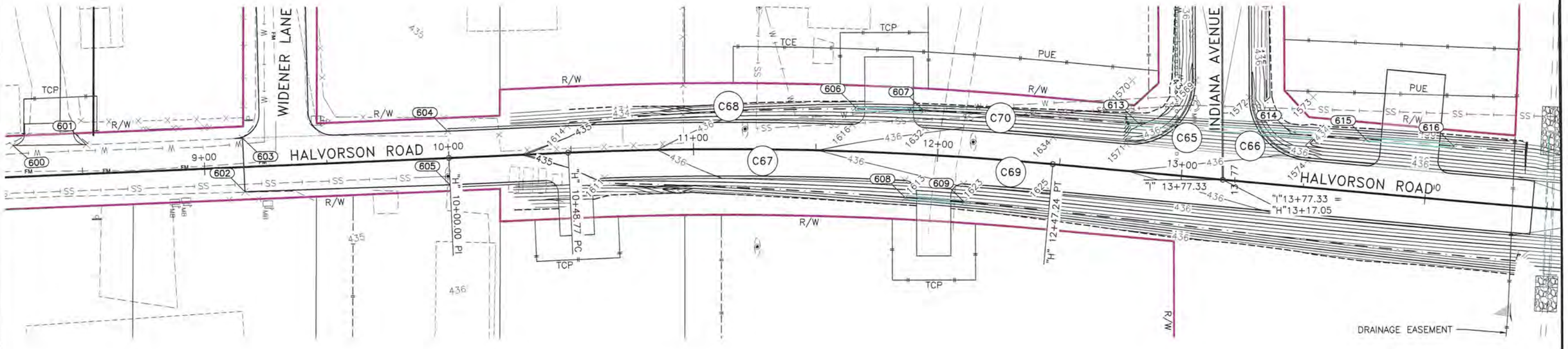


INDIANA AVENUE
GRADING PLAN

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1003cns111147.01FB_1D-G13 | Fri, Aug/23/19 01:33pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G14	G25



NOTES

1. CURVE LAYOUT POINT 1612, 1615, 1624, 1633 ARE NOT SHOWN AND ARE OUTSIDE OF THE PLAN SHEET LIMITS.

G14 "H" CURVE LAYOUT TABLE

NO.	R (FT)	PT#	DESC.	STATION	OFFSET	NORTHING	EASTING	ELEV.
C65	26	1569	EP-PC	13+02	39.44	68282.87	18467.35	436.32
		1570	EP-RP	12+76	37.00	68256.87	18466.70	
		1571	EP_PT	12+76	11.00	68253.79	18492.51	436.28
C66	26	1572	EP-PC	13+25	34.56	68304.68	18474.87	436.30
		1573	EP-RP	13+51	37.00	68330.68	18475.52	
		1574	EP-PT	13+51	11.00	68327.59	18501.33	436.56
C67	1421.39	1611	EP-PC	10+63	11.00	68039.94	18500.92	435.05
		1612	EP-RP	10+49	1432.39	68053.53	19922.24	
		1613	EP-PCC	11+87	11.00	68162.82	18505.06	435.93
C68	1443.39	1614	EP-PC	10+49	11.00	68025.25	18479.13	434.90
		1615	EP-RP	10+49	1432.39	68053.53	19922.24	
		1616	EP-PRC	11+65	11.00	68141.84	18481.55	435.84
	1421.39	1623	EP-PRC	12+11	11.00	68186.86	18507.12	436.02
		1624	EP-RP	10+49	1432.39	68053.53	19922.24	
		1625	EP-PT	12+47	11.00	68222.23	18510.90	436.16
C70	1443.39	1632	EP-PRC	11+94	11.00	68171.69	18483.70	435.96
		1633	EP-RP	10+49	1432.39	68053.53	19922.24	
		1634	EP-PRC	12+46	11.00	68223.88	18488.94	436.16

HALVORSON ROAD GRADING PLAN

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G15	G25

SHEET G3 CONTROL POINT TABLE

PT#	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESC.
100	62+89	10.73	65027.42	18209.64		EP
101	62+89	21.43	65027.44	18220.34	439.96	SW
102	63+71	15.62	65108.97	18213.73	437.50	TBC
103	64+00	16.94	65138.96	18214.45	437.54	TBC
104	63+70	23.61	65108.77	18221.72	437.91	SW
105	63+94	24.67	65132.76	18222.32	438.02	SW
106	64+00	24.96	65138.76	18222.47	438.02	SW
107	63+94	37.40	65132.45	18235.06	438.73	SW
108	63+99	37.29	65138.45	18234.82	438.75	SW
109	65+21	29.25	65258.82	18165.29	437.50	EP
110	65+19	20.85	65257.58	18215.44	437.64	EP
111	66+80	27.55	65418.14	18219.54	437.80	EP
114	66+00	30.87	65338.59	18223.63	438.44	FL
115	66+75	32.21	65413.18	18224.21	438.26	FL
117	66+67	25.65	65404.94	18166.39	437.88	EP
124	65+24	79.70	65260.07	18114.79	431.16	FL
125	66+04	85.31	65340.55	18107.40	430.19	FL
126	67+00	83.37	65438.15	18108.60	429.02	FL

SHEET G4 CONTROL POINT TABLE

PT#	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESC.
97	68+16	45.03	65555.44	18148.28	437.04	EP
98	68+21	55.02	65560.53	18138.40	436.94	EP
99	68+54	55.02	65593.15	18139.21	437.08	EP
112	67+90	43.00	65527.30	18235.77	437.88	SW–SHLDR
113	68+00	42.00	65537.27	18234.95	437.83	SW–SHLDR
116	67+50	34.09	65487.73	18226.33	437.93	FL
118	68+20	51.00	65559.03	18142.38		RAMP
119	68+58	51.00	65597.43	18143.36		RAMP
120	68+22	77.01	65562.12	18116.43	436.75	CURB DRAIN
121	68+46	77.01	65586.12	18117.03	436.75	CURB DRAIN
122	68+22	110.01	65562.95	18083.44		EP
123	68+46	110.01	65586.94	18084.04		EP
127	67+80	83.94	65519.35	18108.69	428.04	FL
128	68+02	83.59	65541.71	18109.43	427.75	FL
129	69+01	78.39	65641.00	18117.12	427.47	FL
130	69+40	79.36	65680.13	18117.19	427.35	FL
131	69+60	80.32	65700.15	18116.76	427.29	FL
132	70+20	81.52	65760.16	18117.16	427.11	FL
133	70+06	44.10	65745.14	18154.19	437.56	TBC

SHEET G5 CONTROL POINT TABLE

PT#	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESC.
140	74+75	53.01	66215.08	18157.81	439.89	SW–SHLDR
141	74+85	52.00	66225.03	18159.25	439.96	SW– SHLDR
142	74+75	4.50	66213.65	18177.78	439.22	EP
143	74+75	4.50	66212.66	18206.26	439.79	EP
144	74+75	4.50	66212.35	18215.26	439.79	EP
145	74+74	33.00	66211.36	18243.74	439.22	EP
146	75+16	33.00	66252.38	18245.49	439.60	EP CURB TRANS
147	75+26	33.00	66262.38	18245.91	439.69	EP CURB TRANS
148	75+47	40.40	66283.17	18254.20	440.39	EP
149	75+55	46.99	66290.35	18261.11	440.55	FENCE
150	75+57	40.00	66293.31	18254.23	440.41	EP
151	75+67	33.00	66303.15	18247.65	440.12	END CURB
152	75+59	45.50	66298.98	18168.90	440.59	FENCE
153	76+72	33.00	66411.32	18186.19	441.40	CURB TRANS
154	76+82	33.00	66421.31	18186.62	441.52	END CURB
155	76+45	36.50	66380.75	18254.46	441.43	SW
156	74+00	86.26	66140.15	18122.55	425.96	FL
157	74+60	87.45	66200.16	18122.95	425.78	FL
158	74+80	83.18	66221.36	18127.88	425.72	FL
159	75+80	85.31	66321.36	18130.00	425.42	FL
160	77+00	88.95	66441.40	18131.48	425.06	FL
161	77+29	120.18	66471.33	18101.49		FL
162	74+47	57.61	66183.28	18267.61	433.46	FL
163	75+00	56.42	66235.27	18268.21	433.46	FL
164	77+13	33.00	66452.19	18187.93		EP
165	77+18	4.50	66456.00	18216.62		EP
166	77+20	4.50	66457.21	18225.68		EP
167	77+25	33.00	66461.01	18254.37		EP

SHEET G6 CONTROL POINT TABLE

PT#	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESC.
182	80+33	33.00	66771.90	18201.55		EP
183	80+38	4.50	66775.71	18230.23		EP
184	80+40	4.50	66776.92	18239.29		EP
185	80+45	33.00	66780.72	18267.98		EP
186	80+63	44.50	66802.41	18191.33	441.34	SW
187	82+43	56.00	66982.95	18187.51	438.38	SW
188	80+63	33.00	66802.14	18202.83	441.08	EP
189	81+81	37.39	66919.35	18203.43	438.77	BEGIN CURB
190	81+97	38.00	66935.58	18203.51	438.50	EP
191	82+13	45.61	66952.02	18196.59	438.72	EP
192	82+23	46.38	66962.02	18196.25	438.57	EP
193	82+34	38.00	66972.65	18205.09	437.90	EP CURB TRANS
194	82+44	38.00	66982.64	18205.51	437.73	EP CURB TRANS
195	80+63	36.50	66802.22	18199.33	441.46	SW
196	81+26	38.84	66864.65	18199.65	440.23	SW
197	80+64	4.50	66801.46	18231.33	441.64	EP
198	80+92	4.50	66829.03	18241.51	441.11	EP
199	80+76	33.00	66811.96	18269.31	440.84	CURB TRANS
200	80+91	33.00	66827.29	18269.96	440.55	CURB END
201	82+25	38.00	66960.30	18280.63	438.04	EP
202	81+47	45.60	66882.46	18284.92	439.98	FENCE
203	81+49	46.68	66884.48	18286.09	439.95	SW SHLDR
204	81+70	44.95	66905.28	18285.25	439.50	SW SHLDR
205	82+75	57.00	67014.92	18187.87	0.00	FENCE
206	84+09	43.00	67144.46	18293.47		RAMP
207	84+56	43.00	67191.42	18295.21		RAMP
208	84+19	52.00	67157.72	18198.95		RAMP
209	84+47	52.00	67185.23	18200.02		RAMP

SHEET G7 CONTROL POINT TABLE

PT#	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESC.
210	87+01	38.00	67439.25	18220.37	434.40	DRWY
211	87+27	38.00	67465.04	18221.02	434.50	DRWY

GRADING PLAN CONTROL TABLES
(1 OF 2)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G16	G25

SHEET G8 CONTROL POINT TABLE

PT#	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESC.
222	91+06	38.00	67843.26	18230.46	436.07	DRWY
223	91+30	38.00	67867.26	18231.06	436.17	DRWY
224	92+23	70.00	67961.88	18201.41	436.99	SW-SHLDR
225	92+41	70.00	67979.88	18201.86	437.07	SW-SHLDR
226	92+11	48.00	67948.58	18223.09	437.14	SW
227	92+09	56.00	67947.49	18215.06	437.18	SW
228	92+23	61.58	67961.67	18209.83	437.11	SW-SHLDR
229	92+41	62.00	67979.68	18209.86	437.20	SW-SHLDR
230	92+49	50.00	67986.59	18222.04	436.91	DRWY
231	92+73	49.55	68010.57	18223.08	437.00	DRWY
232	92+93	48.00	68031.08	18225.15	437.49	SW
233	92+94	56.00	68032.07	18217.17	437.57	SW
234	93+93	38.00	68130.38	18237.63	437.27	SW
235	94+27	38.00	68164.37	18238.48	437.41	DRWY
236	95+42	38.00	68279.24	18241.34	437.49	DRWY
237	95+72	38.00	68309.23	18242.09	437.39	DRWY
238	92+56	9.50	67992.06	18281.69	437.27	EP
239	91+53	43.00	67888.77	18312.62		RAMP
240	92+00	43.00	67935.59	18313.79		RAMP
241	92+55	38.00	67990.87	18310.17	436.69	EP
242	94+35	44.00	68170.67	18320.66	437.32	EP
243	96+10	46.00	68345.24	18327.02	437.50	TBC
244	96+60	56.06	68395.26	18338.33	437.61	TBC
245	95+38	49.00	68272.92	18328.22		RAMP
246	95+86	49.00	68321.74	18329.44		RAMP
251	97+00	83.10	68434.26	18366.36		RIPRAP

SHEET G9 CONTROL POINT TABLE

PT#	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESC.
247	97+03	65.00	68437.69	18348.34	437.35	SW-SHLDR
248	97+03	72.00	68437.51	18355.33	437.24	SW-SHLDR
249	97+17	64.82	68451.69	18348.50	437.28	SW-SHLDR
250	97+17	72.00	68451.51	18355.68	437.17	SW-SHLDR
260	97+14	38.00	68451.50	18245.65	436.76	EP
261	98+01	41.28	68538.95	18244.55	436.30	DRWY
262	98+38	42.66	68575.95	18244.09	436.11	DRWY
263	98+74	44.00	68611.60	18243.65	435.93	EP
264	98+87	44.00	68624.68	18243.97	435.87	DRWY
265	99+17	44.00	68654.67	18244.72	435.77	DRWY
266	99+48	43.99	68685.20	18245.49	435.72	DRWY
267	99+86	44.01	68723.19	18246.43	435.74	DRWY
268	100+60	62.00	68797.92	18230.29		SW
269	100+60	54.00	68797.72	18238.29		SW
270	100+60	44.00	68797.47	18248.29		EP
271	100+60	15.50	68796.76	18276.78		EP
272	100+60	8.50	68796.58	18283.78		EP
273	100+72	55.00	68807.50	18347.57		EP
274	100+72	58.00	68807.42	18350.57		TBC
275	100+72	64.00	68807.27	18356.57		SW

SHEET G10 CONTROL POINT TABLE

PT#	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESC.
300	10+79	12.00	67162.49	18085.46	432.46	FL
301	11+00	12.91	67161.05	18106.43	432.23	FL
302	11+15	13.92	67159.66	18121.49	431.24	FL
303	11+41	16.04	67156.90	18147.11	431.14	FL
304	11+50	16.89	67155.81	18156.31	431.70	FL
305	11+66	25.23	67147.09	18171.60	431.52	FL
306	11+66	18.37	67153.93	18172.25	431.52	FL
307	11+16	9.00	67164.57	18121.95		EP
308	11+40	9.00	67163.95	18146.43		EP
309	11+50	9.00	67163.70	18156.43	433.71	EP
310	11+57	9.00	67163.52	18163.71	433.95	EP
311	11+66	12.93	67159.35	18172.80		EP
313	11+40	9.00	67181.95	18146.88		EP
314	11+50	9.00	67181.70	18156.88	434.07	EP
315	11+57	9.00	67181.51	18164.16	434.12	EP
316	11+66	12.93	67185.21	18173.45		EP

SHEET G11 CONTROL POINT TABLE

PT#	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESC.
350	11+98	10.00	67156.60	18449.14	435.14	EP
351	12+13	10.00	67134.55	18460.50	435.10	EP
352	12+53	25.98	67112.45	18497.79		EP
353	12+64	24.59	67112.18	18508.35		EP
354	12+37	39.08	67179.20	18492.28	435.38	GRADE BREAK
355	12+25	55.43	67197.27	18482.73		EP
356	12+35	56.74	67197.01	18492.73		EP
357	12+45	58.06	67196.76	18502.73		EP
358	12+46	45.53	67184.13	18502.41		EP
359	12+63	36.59	67172.74	18517.10	428.46	FL
360			67165.93	18775.74	427.94	FL
361	12+66	205.62	66932.99	18482.49		DRWY
362	12+62	170.84	66967.96	18484.06		DRWY

SHEET G12 CONTROL POINT TABLE

PT#	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESC.
400	0+60	15.69	67927.62	18321.00	436.06	EP
401	0+97	10.00	67920.99	18357.36	435.20	EP
402	1+08	10.00	67920.71	18368.31	434.91	EP
403	1+15	10.00	67920.53	18375.44	434.73	EP
404	1+39	10.00	67919.91	18399.30	434.58	EP
405	1+55	10.00	67919.50	18415.43		EP
406	1+55	10.01	67899.50	18414.91		EP
407	1+15	10.00	67900.53	18374.93	434.73	EP
408	0+97	10.00	67901.00	18356.91	435.20	EP

SHEET G13 CONTROL POINT TABLE

PT#	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESC.
500	12+33	14.93	68281.53	18363.19	436.68	TBC
501	12+42	11.00	68285.23	18372.48	436.69	EP
502	12+33	14.93	68311.39	18363.94	436.68	TBC
503	12+42	11.00	68307.23	18373.03	436.69	EP

SHEET G14 CONTROL POINT TABLE

PT#	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESC.
600	8+22	12.96	67798.37	18481.61	434.84	EP
601	8+52	11.99	67828.44	18481.99	434.86	EP
602	9+16	10.15	67893.01	18502.87		EP
603	9+16	11.85	67892.57	18480.88		EP
604	10+00	11.00	67976.49	18480.08		EP
605	10+00	11.00	67976.92	18502.08		EP
606	11+66	17.99	68143.41	18474.65	434.03	FL
607	11+93	18.00	68171.34	18476.64	433.92	FL
608	11+88	18.03	68162.78	18512.11	433.94	FL
609	12+12	18.39	68186.75	18514.53	433.88	FL
613	12+81	19.70	68259.12	18484.39	433.71	FL
614	13+43	21.23	68321.59	18490.31	433.44	FL
615	13+74	21.84	68351.80	18493.31	433.31	FL
616	14+10	22.27	68387.79	18497.18	433.15	FL

GRADING PLAN CONTROL TABLES (2 OF 2)

NO.	DATE	REVISION

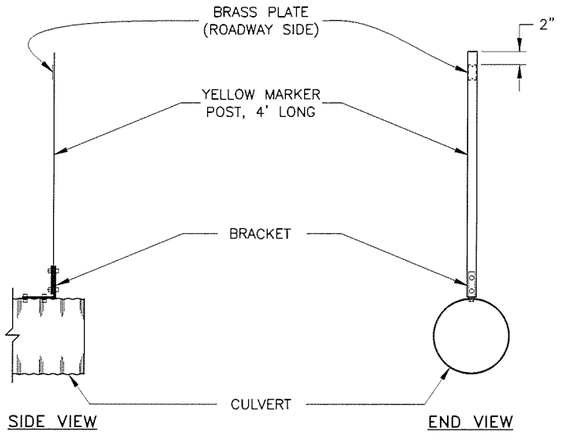
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G17	G25

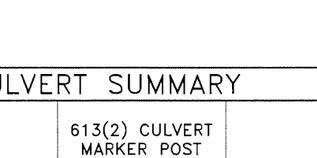
CULVERT SUMMARY

STATION	LT/C/RT	603(1)-12	603(1)-18	603(1)-24	603(1)-36	INVERT		613(2) CULVERT MARKER POST	END SECTION			SKEW ANGLE	REMARKS
		12"	18"	24"	36"	IN	OUT		603(20)-12 (EA)	603(20)-18 (EA)	603(20)-24 (EA)		
"01" 68+51	LT				100	427.75	427.47	2				2°53'44" RHF	APPROACH LT
"01" 74+73	RT			52		433.46	433.46				2	0°52'49" LHF	APPROACH RT
"GDW" 11+28	RT	26				431.24	431.14		2			4°43'0" RHF	APPROACH RT (1)
"I" 13+59	C			82		433.7	433.38	2			2	1°23'22" LHF	INDIANA/HALVORSON APPROACH INTERSECTION
"H" 11+79.48	LT	28				434.03	433.92		2				APPROACH LT
"H" 11+99.79	RT	24				433.91	433.88		2				APPROACH RT
"H" 13+92.00	LT		36			433.31	433.15			2			APPROACH LT
	PAY ITEM TOTALS:	78	36	134	100			4	6	2	4		

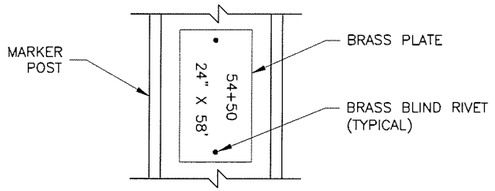
SHEET NOTES:

1. PROPERTY OWNER IS IN NEGOTIATIONS AND WANTS TO BUILD DRIVEWAY WITHIN THEIR OWN PROPERTY. CONTRACTOR TO BUILD CULVERT AND PORTION OF DRIVEWAY UP TO PROPERTY LINE.



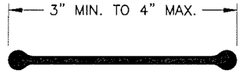


CULVERT MARKER POST DETAIL
NTS



STAMP STATION AND PIPE SIZE, USING 3/8" HIGH MINIMUM LETTERS INTO A 2"X4"X 0.064" THICK BRASS PLATE. FASTEN PLATE TO THE SIDE FACING THE ROADWAY WITH TWO 1/8" BRASS BLIND RIVETS.

BRASS PLATE DETAIL
NTS

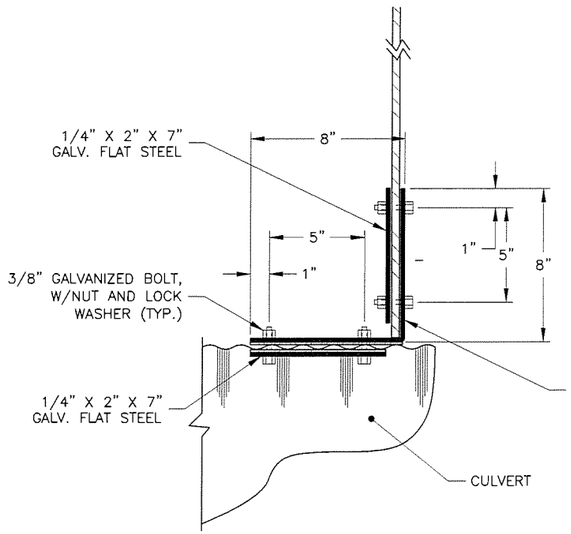


POST DETAIL
NTS

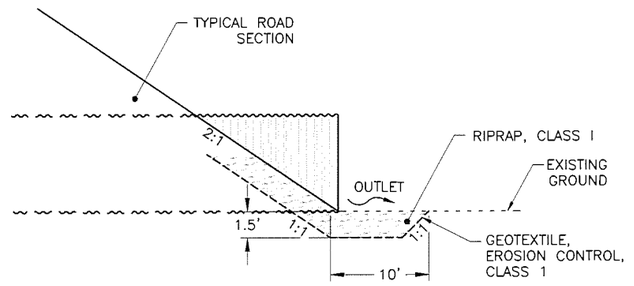
CULVERT MARKER POST DETAILS

CULVERT MARKER POST NOTES:

1. MARKER POSTS ARE TO BE INSTALLED ON CROSS CULVERTS ONLY.
2. IF CULVERTS ARE CLOSELY SPACED, MARK ONLY THE FIRST AND LAST CULVERT IN SERIES AS APPROVED BY THE ENGINEER.
3. DRILL AT BOLT HOLES. COAT HOLES WITH ZINC RICH PAINT. FLAME CUTTING SHALL NOT BE PERMITTED.
4. GASKET MATERIAL SHALL BE PLACED BETWEEN DISSIMILAR METALS. GASKET MATERIAL SHALL BE APPROVED PRIOR TO INSTALLATION.



BRACKET DETAIL
NTS



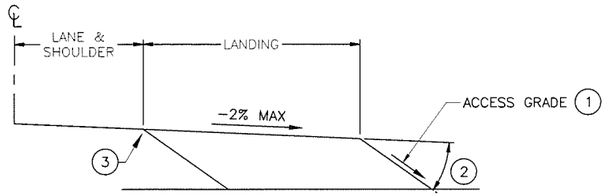
RIPRAP OUTLET AT STORM DRAIN OUTLET
NTS

1. INSTALL RIPRAP TO A WIDTH OF THREE TIMES CULVERT DIAMETER.
2. INSTALL RIPRAP UP FILL SLOPE TO CULVERT SPRING LINE.
3. SEE STORM DRAIN PIPE SUMMARY FOR RIPRAP OUTLET LOCATIONS.

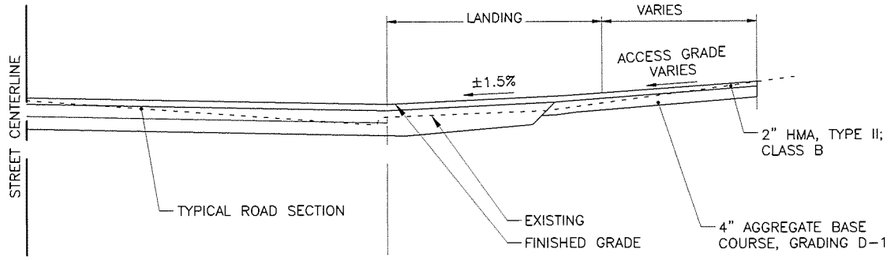
CULVERT DETAILS

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G18	G25

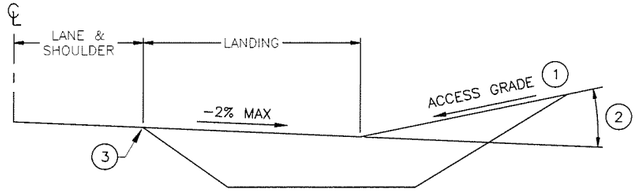


IN FILL



APPROACH PLAN TYPE 1 SECTION DETAIL

NTS

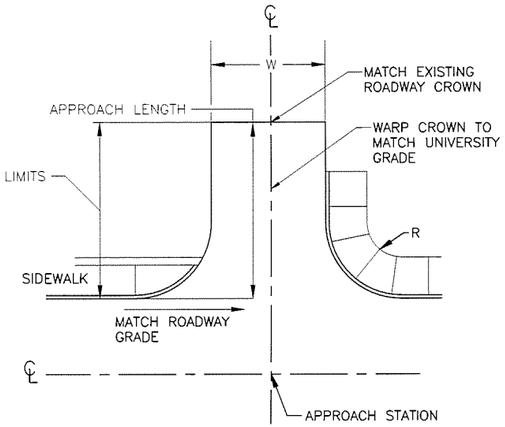


IN CUT

(1) MAX RESIDENTIAL ACCESS GRADE IS 15%.

(2) MAX ALGEBRAIC DIFFERENCE FOR COMMERCIAL ACCESS GRADE: 8%
RESIDENTIAL: NONE

(3) FOR OTHER APPROACH PLAN TYPES FOLLOW THESE CUT AND FILL DETAILS FROM LANDING POINT FOR ACCESS GRADE. THE LANE SHOULDER AND LANDING CONFIGURATION IS DIFFERENT FOR APPROACH TYPE PLAN 2, 3, & 4. SEE SECTION DETAIL FOR SPECIFIC LAYOUT FROM ROADWAY EDGE THROUGH LANDING



APPROACH PLAN TYPE 1 PLAN DETAIL

NTS

APPROACH NOTES:

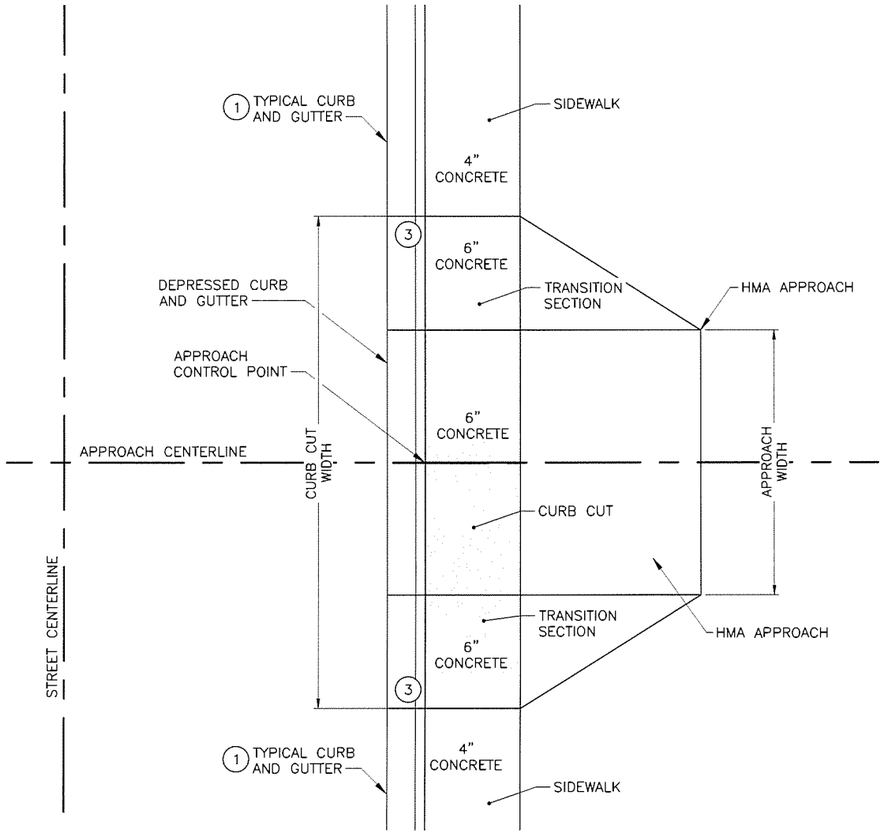
1. MATERIAL FOR CONSTRUCTION OF APPROACH IS PAID FOR UNDER THE RESPECTIVE PAY ITEM.

APPROACHES (1 OF 4)

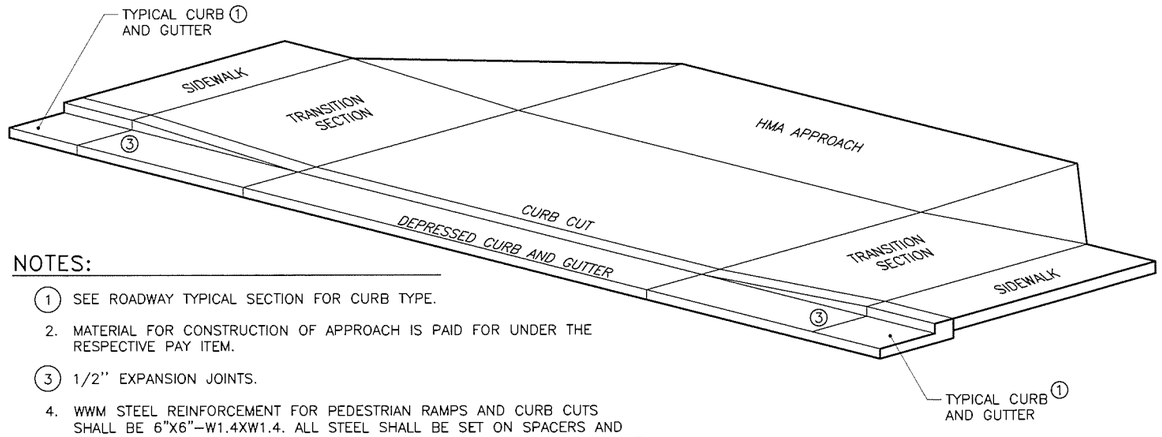
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1004cnst111147.01FR_1D-G18 Fri, Aug/23/19 01:39pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G19	G25



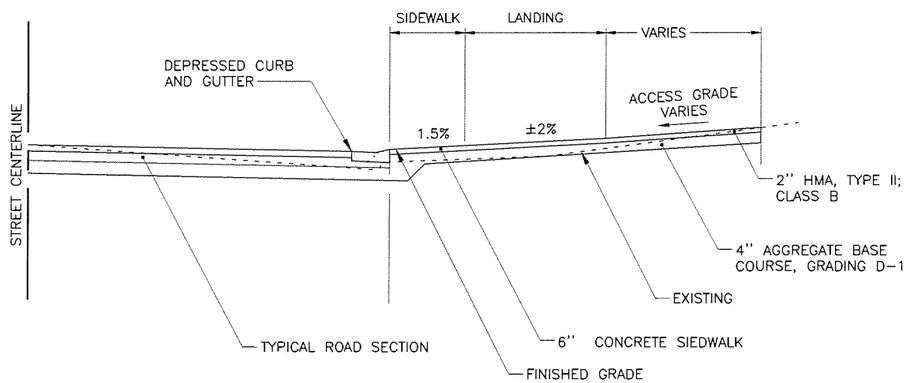
APPROACH PLAN TYPE 2 PLAN DETAIL
NTS



NOTES:

1. SEE ROADWAY TYPICAL SECTION FOR CURB TYPE.
2. MATERIAL FOR CONSTRUCTION OF APPROACH IS PAID FOR UNDER THE RESPECTIVE PAY ITEM.
3. 1/2'' EXPANSION JOINTS.
4. WWM STEEL REINFORCEMENT FOR PEDESTRIAN RAMPS AND CURB CUTS SHALL BE 6"X6"–W1.4XW1.4. ALL STEEL SHALL BE SET ON SPACERS AND PULLED UP AS REQUIRED TO POSITION STEEL 1 1/2" UP FROM BOTTOM OF SIDEWALK.
5. FOR SIDEWALK REINFORCEMENT, POSITION STEEL 1 1/2" UP FROM BOTTOM OF SIDEWALK.
6. SEE SHEET G24 FOR EXPANSION SIDEWALK & CURB AND GUTTER JOINT DETAIL.

APPROACH PLAN TYPE 2 DETAIL
NTS

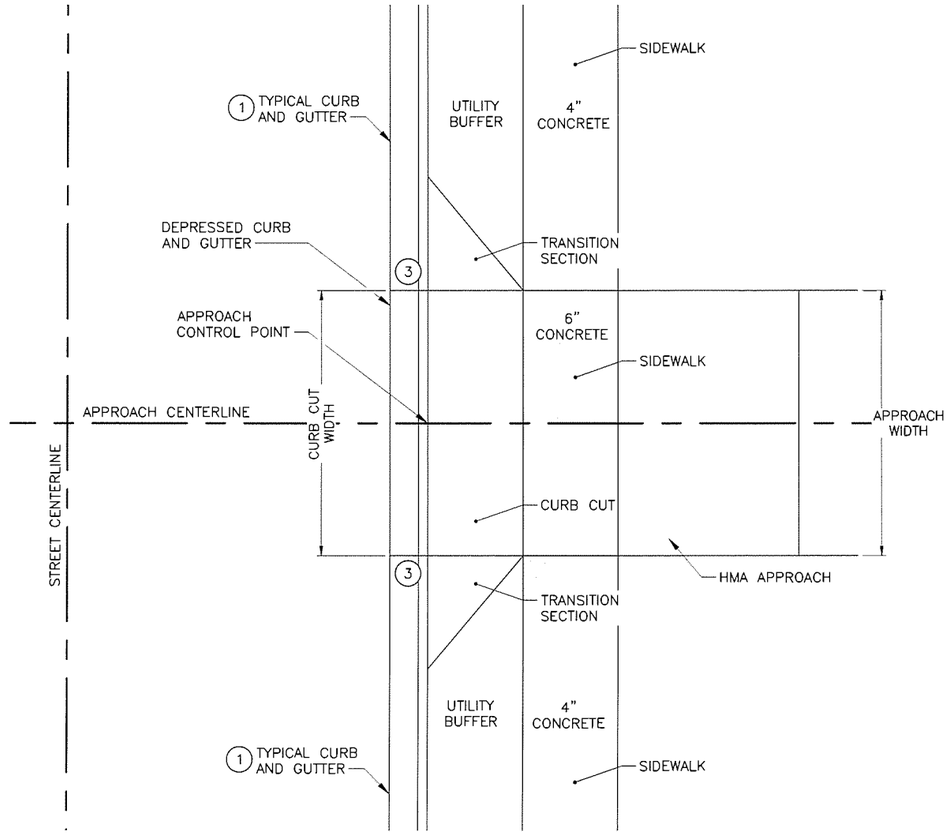


APPROACH PLAN TYPE 2 SECTION DETAIL
NTS

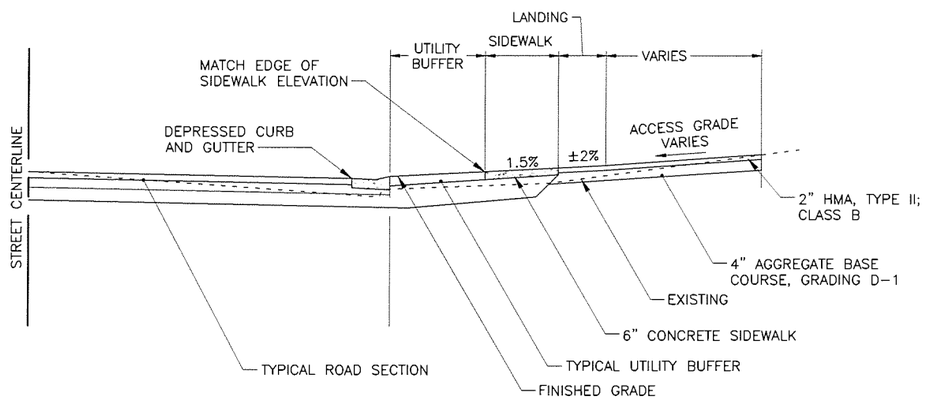
APPROACHES (2 OF 4)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1004cnst11147.01FB_1D-G19 Fri, Aug/23/19 01:40pm

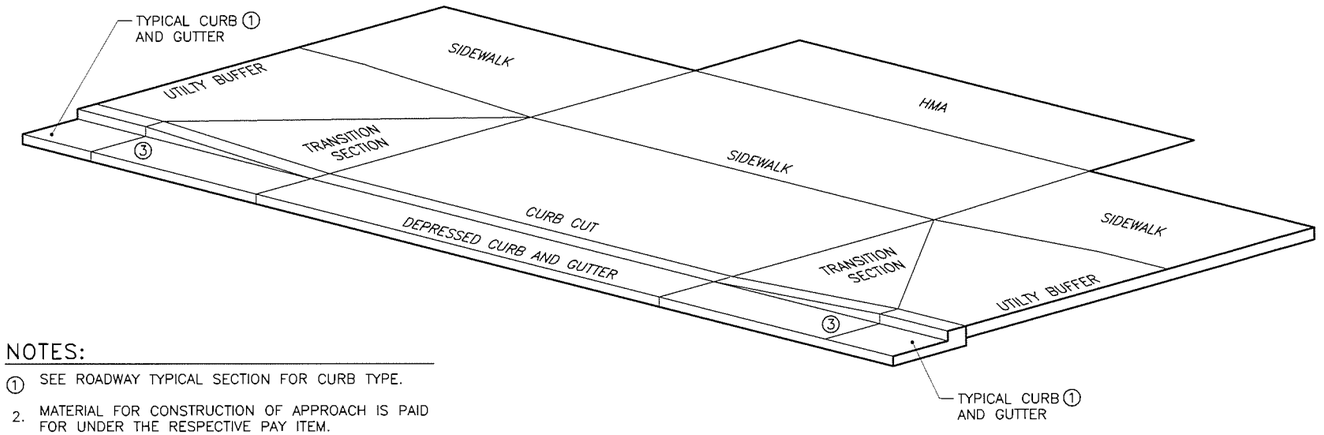
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	G20	G25



APPROACH PLAN TYPE 3 PLAN DETAIL
NTS



APPROACH PLAN TYPE 3 SECTION DETAIL
NTS



APPROACH PLAN TYPE 3 DETAIL
NTS

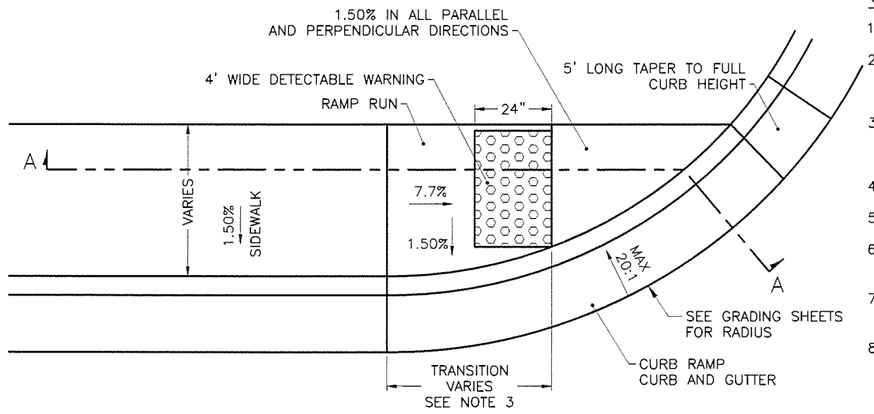
NOTES:

1. SEE ROADWAY TYPICAL SECTION FOR CURB TYPE.
2. MATERIAL FOR CONSTRUCTION OF APPROACH IS PAID FOR UNDER THE RESPECTIVE PAY ITEM.
3. 1/2" EXPANSION JOINTS.
4. WWM STEEL REINFORCEMENT FOR PEDESTRIAN RAMPS AND CURB CUTS SHALL BE 6"X6"-W1.4XW1.4. ALL STEEL SHALL BE SET ON SPACERS AND PULLED UP AS REQUIRED TO POSITION STEEL 1 1/2" UP FROM BOTTOM OF SIDEWALK.
5. FOR SIDEWALK REINFORCEMENT, POSITION STEEL 1 1/2" UP FROM BOTTOM OF SIDEWALK.
6. SEE SHEET G24 FOR EXPANSION SIDEWALK & CURB AND GUTTER JOINT DETAIL.

APPROACHES (3 OF 4)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1004cnst111147.01FB_1D-G20 Fri, Aug/23/19 01:40pm

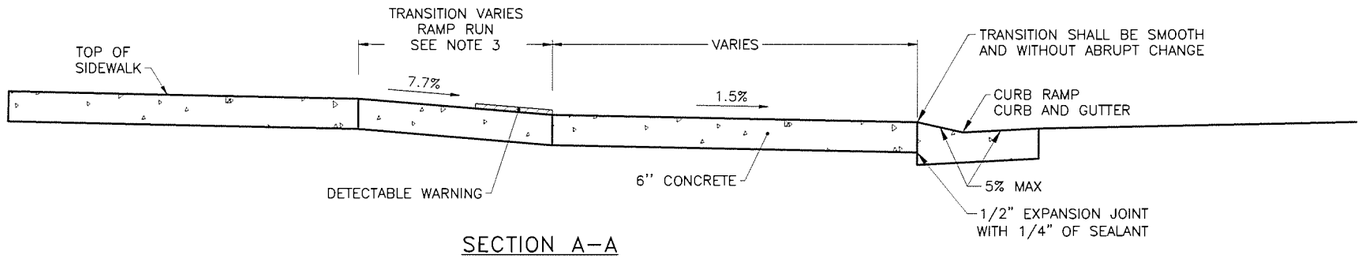
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	G21	G25



PLAN
NTS

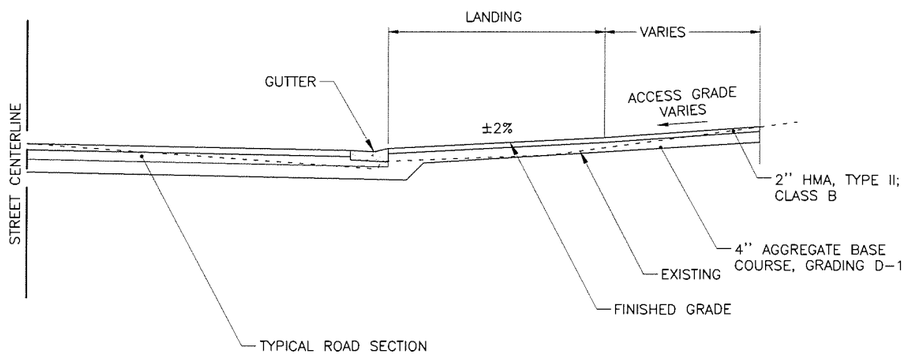
UNDIRECTIONAL CURB RAMP NOTES:

1. CONSTRUCT 6 INCH THICK RAMP AND LANDING OF CONCRETE.
2. CONCRETE SHALL RECEIVE A COARSE BROOMED FINISH RUNNING PERPENDICULAR TO THE CURB ON RAMP RUNS AND UPPER LANDINGS AND PARALLEL TO THE DIRECTION OF TRAVEL ON LOWER LANDINGS.
3. TRANSITION FROM STANDARD CURB AND GUTTER WHERE SIDEWALK SLOPE MAKES IT NECESSARY TO LENGTHEN A RAMP RUN TO AVOID EXCEEDING THE ALLOWABLE RAMP SLOPE.
4. INSTALL FEDERAL YELLOW CAST IRON DETECTABLE WARNINGS IN THE RAMP RUN.
5. SEE CURB RAMP SUMMARY FOR INSTALLATION LOCATIONS.
6. CONSTRUCT RAMP SLOPES AT A NOMINAL 7.7% GRADE, OR FLATTER. RAMP SLOPES MAY BE INCREASED TO A MAXIMUM OF 8.3% WHEN SITE CONDITIONS WARRANT IT.
7. CONSTRUCT LANDING AND SIDEWALK CROSS SLOPES AT A NOMINAL 1.5% (1% MIN., 2% MAX) DO NOT CONSTRUCT LANDING AND SIDEWALK CROSS SLOPES STEEPER THAN 2%.
8. WWM STEEL REINFORCEMENT FOR PEDESTRIAN RAMPS AND CURB CUTS SHALL BE 6"x6"–W2.9 WWM. FOR NORMAL SIDEWALK REINFORCEMENT SHALL BE 6"x6"–W1.4XW1.4. ALL STEEL SHALL BE SET ON SPACERS AND PULLED UP AS REQUIRED TO POSITION STEEL 1 1/2" UP FROM BOTTOM OF SIDEWALK.
9. FOR SIDEWALK REINFORCEMENT, POSITION STEEL 1 1/2" UP FROM BOTTOM OF SIDEWALK.
10. ALL CURB RAMP LAYOUTS AND DIMENSIONS IN THIS PLAN SET ARE APPROXIMATE AND NEED TO BE FIELD FIT AND SHALL MEET 2006 ADA STANDARDS FOR MAXIMUM SLOPES. FINAL LAYOUT TO BE APPROVED BY THE ENGINEER PRIOR TO CONCRETE POUR.
11. SEE SHEET G24 FOR EXPANSION SIDEWALK AND CURB AND GUTTER JOINT DETAIL.

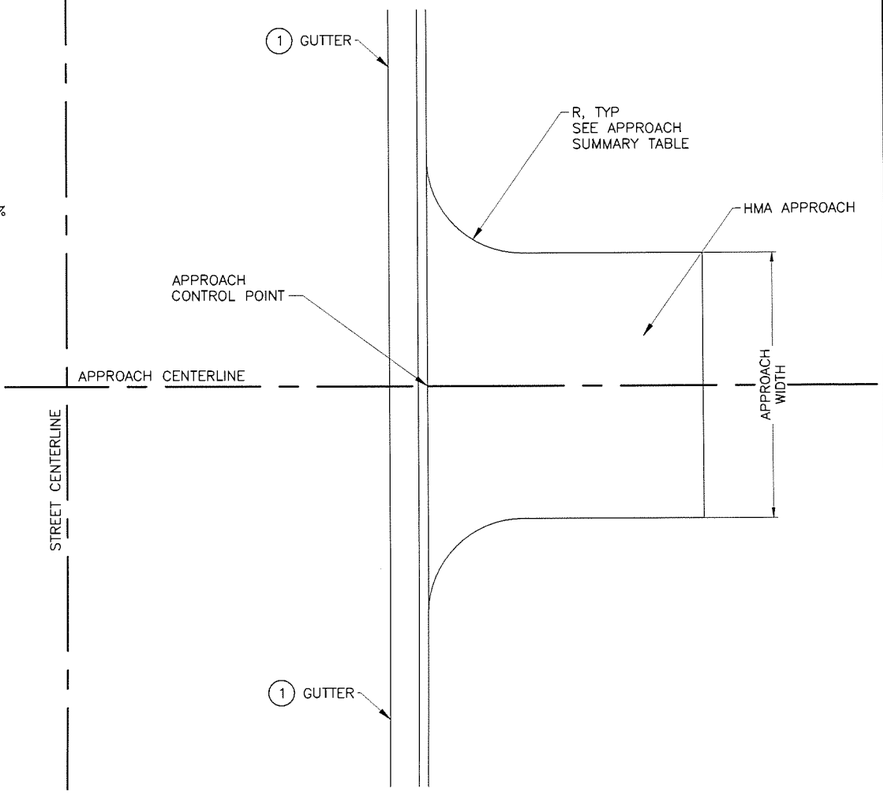


SECTION A–A
NTS

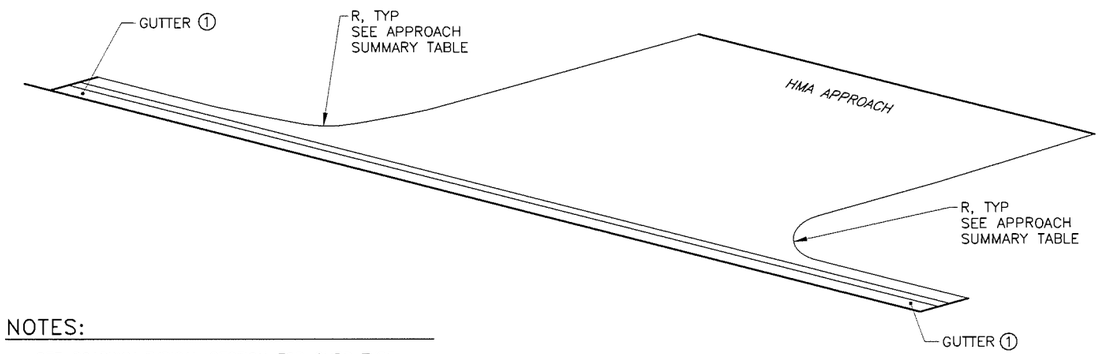
UNIDIRECTIONAL CURB RAMP DETAILS



APPROACH PLAN TYPE 4 SECTION DETAIL
NTS



APPROACH PLAN TYPE 4 PLAN DETAIL
NTS



NOTES:

1. SEE ROADWAY TYPICAL SECTION FOR CURB TYPE.
2. MATERIAL FOR CONSTRUCTION OF APPROACH IS PAID FOR UNDER THE RESPECTIVE PAY ITEM.
3. SEE SHEET G24 FOR EXPANSION SIDEWALK & CURB AND GUTTER JOINT DETAIL.

APPROACH PLAN TYPE 4 DETAIL
NTS

APPROACHES (4 OF 4)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1004cnst111147.01FB_1D-G21 Fri, Aug/23/19 01:41pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G22	G25

639(101) APPROACH

STATION	OFFSET	SKEW ANGLE (90° TYP.)	(1) APPROACH PLAN TYPE	WIDTH (FT)	LENGTH (FT)	RADIUS (FT)	LANDING LENGTH (FT)	REMARKS
"01" 68+34.15	LT	90°	1	24	65	30	30	ACCESS RD
"01" 74+79.12	RT	90°	2	9	40	15	10	(5) CHENA WAYSIDE BIKE PATH
"01" 82+23.37	RT	89°58'48"	1	25	6.5	5	10(2)	ACCESS OFF OF HALVORSON
"01" 87+14.33	LT	90°	3	26	27.5	–	10	K&P WEAVER
"01" 91+17.57	LT	90°	3	24/19	51.5	–	30	UNIVERSITY DENTAL
"01" 92+60.63	LT	90° & 84°19'48"	2	24/21	48	–	30	UNIVERSITY DENTAL
"01" 94+09.78	LT	90°	3	34	26	–	30 (2)	US DEPARTMENT OF AGRICULTURE
"01" 95+59.67	LT	90°	3	24	36.5	–	30 (2)	US DEPARTMENT OF AGRICULTURE
"01" 98+19.88	LT	90°	3	37	33	–	30 (2)	OASIS RESTAURANT AND LOUNGE
"01" 99+02.08	LT	90°	3	30	38	–	30 (2)	OASIS RESTAURANT AND LOUNGE
"01" 99+66.62	LT	90°	3	38	46	–	30	WELLS FARGO
"GDE" 10+91.93	RT	80°58'48"	4	20	17.85	5	10	(3) L. GROSS
"GDE" 11+39.16	RT	80°58'48"	4	20	12.85	5	10	(3) L. GROSS
"GDE" 11+41.72	LT	90°	4	27	15.75	5	10	(3) CENTRAL MISSION CHURCH ACCESS
"GDW" 11+28.51	RT	90°	1	16	154.31	5	10	(4) STANTON ACCESS
"WD" 1+23.37	LT	90°	1	11	10	10	10	MAY CLINIC INC.
"H" 8+37.05	LT	90°	1	20	8.93	5	8.93 (2)	(LOT 3 & 4) HALVORSON RD
"H" 10+51.00	RT	90°	1	14	23	5	10	(LOT 11)
"H" 11+78.35	LT	90°	1	20	28.25	5	10	MAY CLINIC INC.
"H" 12+01.03	RT	90°	1	14	30.25	5	10	ALASKA RIVER WAYS INC.
"H" 13+92.00	LT	90°	1	24	40	5	30	(SEE NOTE 6)
PAY ITEM TOTALS			21					

APPROACH NOTES:

(1) SEE DETAILS ON G18–G21 FOR APPROACH PLAN TYPE.

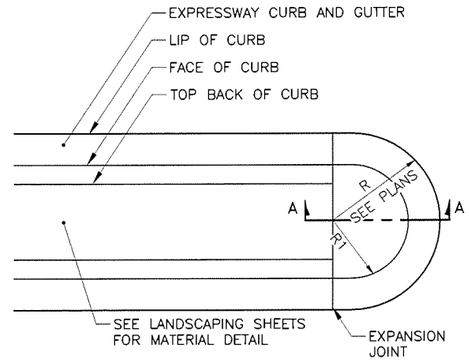
(2) APPROACH LENGTH TIES INTO EXISTING CONDITIONS PRIOR TO FULL LANDING LENGTH.

(3) EXTEND THE GUTTER STYLE CURB AND GUTTER THROUGH THE DRIVEWAY TO CONTINUE DRAINAGE TO THE STORM DRAIN INLETS ALONG GOLDIZEN AVENUE (EAST).

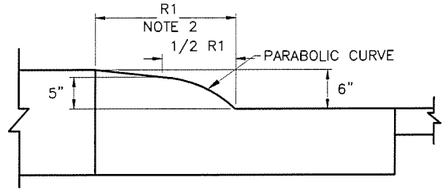
(4) PROPERTY OWNER IS IN NEGOTIATIONS AND WANTS TO BUILD DRIVEWAY WITHIN THEIR OWN PROPERTY. CONTRACTOR TO BUILD CULVERT AND PORTION OF DRIVEWAY UP TO PROPERTY LINE.

(5) UTILIZE STANDARD CURB AND GUTTER SHAPE AND REMAIN AT FULL HEIGHT, DO NOT TRANSITION DOWN TO DEPRESSED C&G FOR THIS PATHWAY APPROACH. CONSTRUCT 1.5% GRADED SIDEWALK SECTION WITH 4 INCH CONCRETE SIDEWALK MATERIAL.

(6) FINAL REPLACEMENT TO BE COORDINATED WITH PROPERTY OWNER. CORNER CLEARANCE SHALL BE CHECKED AND APPROVED BY THE ENGINEER PRIOR TO REPLACEMENT IN ACCORDANCE WITH AKDOT&PF PCM TABLE 1190–4.



RAMPED MEDIAN NOSE DETAIL
NTS



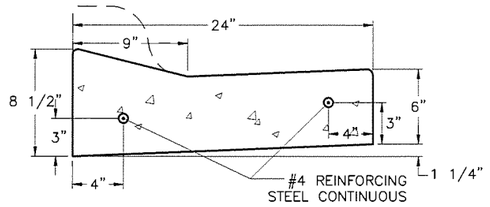
SECTION A – A
NTS

RAMPED MEDIAN NOSE NOTES:

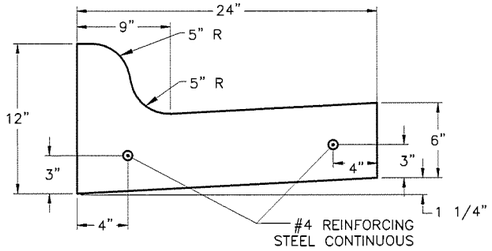
1. CONSTRUCT RAMP MEDIAN NOSE TO RADIUS POINT "R1" OR 3 FEET WHICHEVER IS GREATER.
2. RAMPED MEDIAN NOSE SHALL BE 6" PORTLAND CEMENT CONCRETE POURED INTEGRAL WITH CURB AND GUTTER AND IS SUBSIDIARY TO PAY ITEM 609(2) CURB AND GUTTER TYPE 1.
3. RAMPED MEDIAN NOSE PAINTING IS SUBSIDIARY TO RESPECTIVE STRIPING PAY ITEMS, FOR MORE DETAILS AND INFORMATION ON PAINTING REFER TO SIGNING AND STRIPING PLAN SHEETS AND SPECS.

APPROACH SUMMARY AND RAMP NOSE DETAIL

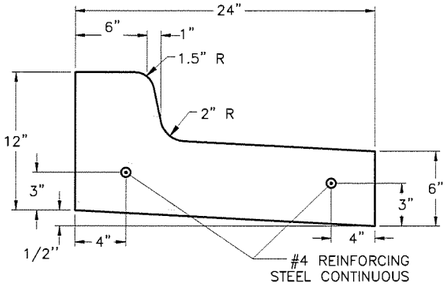
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	G23	G25



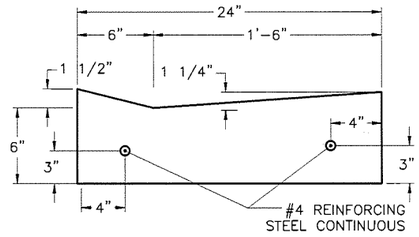
DEPRESSED CURB AND GUTTER



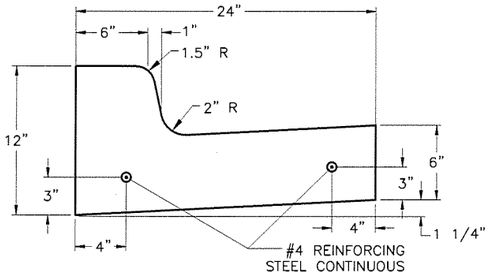
MOUNTABLE CURB AND GUTTER



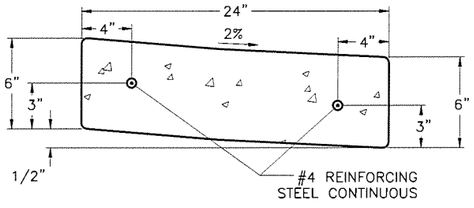
STANDARD CURB AND GUTTER
SPILL



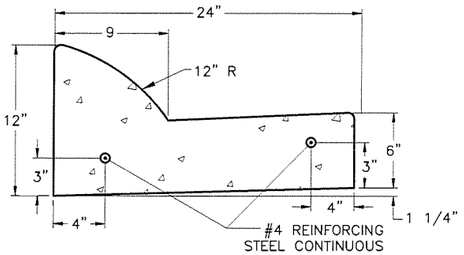
GUARDRAIL CURB AND GUTTER



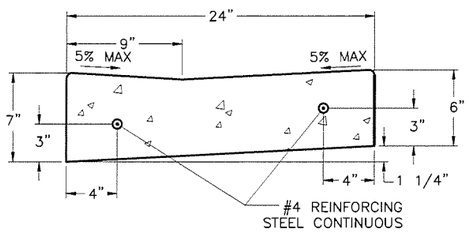
STANDARD CURB AND GUTTER
CATCH



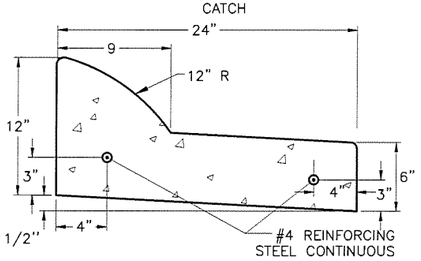
CURB RAMP CURB AND GUTTER
SPILL



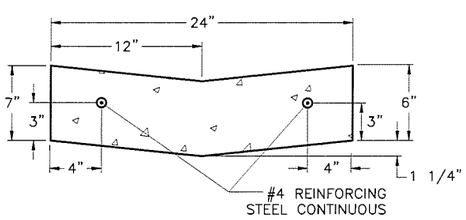
EXPRESSWAY CURB AND GUTTER
CATCH



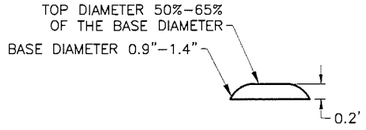
CURB RAMP CURB AND GUTTER
CATCH

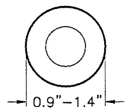


EXPRESSWAY CURB AND GUTTER
SPILL



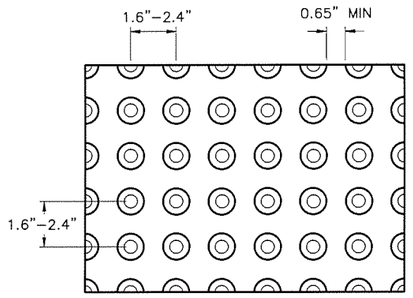
GUTTER



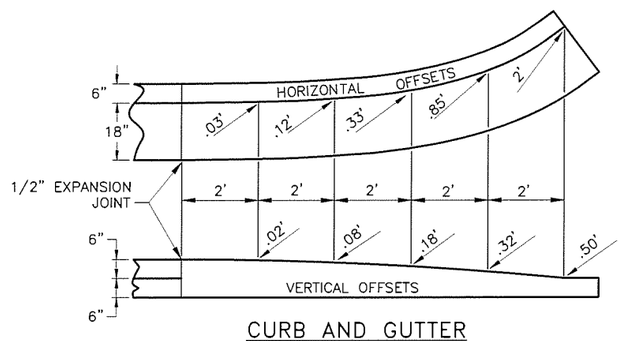


= TRUNCATED
DOME SURFACE
(SEE NOTE 7)

TRUNCATED DOME DETAILS



TRUNCATED PATTERN DETAIL



CURB AND GUTTER
TERMINATION TRANSITIONS

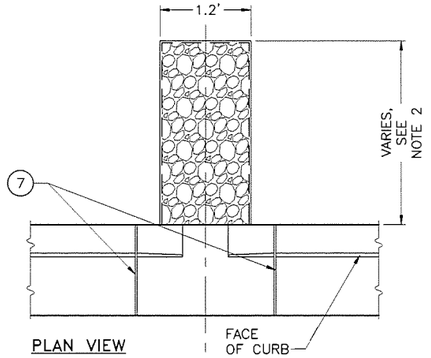
GENERAL NOTES:

1. USE THE TYPE OF CURB AND GUTTER SPECIFIED ON THE PLANS.
2. CONSTRUCT RAMP RUNS AND LANDINGS OF CONCRETE REGARDLESS OF WHETHER THE SIDEWALK IS ASPHALT OR CONCRETE.
3. CONSTRUCT RAMP SLOPES AT A 7.7% NOMINAL GRADE, OR FLATTER. RAMP SLOPES MAY BE INCREASED TO A MAXIMUM OF 8.3% WHEN SITE CONDITIONS WARRANT IT.
4. CONSTRUCT FLARE SLOPES AT 8.3% (MEASURED PARALLEL TO THE CURB LINE) OR FLATTER, SIDEWALK CROSS SLOPES AT 1.5% NOMINAL (1.0% MIN. AND 2.0% MAX) AND CURB RAMP CURB AND GUTTER PAN SLOPES AT 4.7% NOMINAL. CONSTRUCT GRADE BREAKS PERPENDICULAR TO RAMP RUNS.
5. DO NOT CONSTRUCT FLARE SLOPES STEEPER THAN 10.0%, SIDEWALK CROSS SLOPES STEEPER THAN 2.0% AND CURB RAMP CURB CURB AND GUTTER GUTTER PAN SLOPES STEEPER THAN 5.0%. THESE ARE THE STEEPEST SLOPES ALLOWED UNDER THE 2006 ADA STANDARDS FOR TRANSPORTATION FACILITIES.
6. PROVIDE A COARSE BROOMED FINISH ON RAMP RUNS PERPENDICULAR TO THE RAMP SLOPE.
7. INSTALL 24" WIDE DETECTABLE WARNING TILES FOR THE FULL WIDTH OF THE RAMP. 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.
8. STANDARD CURB AND GUTTER, EXPRESSWAY CURB AND GUTTER, DEPRESSED CURB AND GUTTER, GUTTER, CURB RAMP CURB AND GUTTER, AND CURB AND GUTTER TERMINATION TRANSITIONS, AND TRANSITION CURB AND GUTTER OFFSETS SHALL ALL BE MEASURED AND PAID FOR UNDER ITEM 609(2).
9. CURB AND GUTTER REINFORCING BARS TO BE SPLICED SHALL BE LAPPED AT LEAST 20 BAR DIAMETERS AND DOUBLE TIED. THE INNER AND OUTER BAR SPLICES SHALL BE OFFSET FROM EACH OTHER BY AT LEAST SIX INCHES.
10. ALL DETECTABLE WARNINGS TO BE FEDERAL YELLOW AND CAST IRON. PROJECT ENGINEER TO APPROVE COLOR PRIOR TO PLACEMENT.
11. ALL CURB RAMP LAYOUTS AND DIMENSIONS IN THIS PLAN SET ARE APPROXIMATE AND NEED TO BE FIELD FIT AND SHALL MEET 2006 ADA STANDARDS FOR MAXIMUM SLOPES. FINAL LAYOUT TO BE APPROVED BY THE ENGINEER PRIOR TO CONCRETE POUR.

CURB AND GUTTER, AND ADA DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1004cnst111147.D1FB_1D-G23 Fri, Aug/23/19 01:43pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	G24	G25



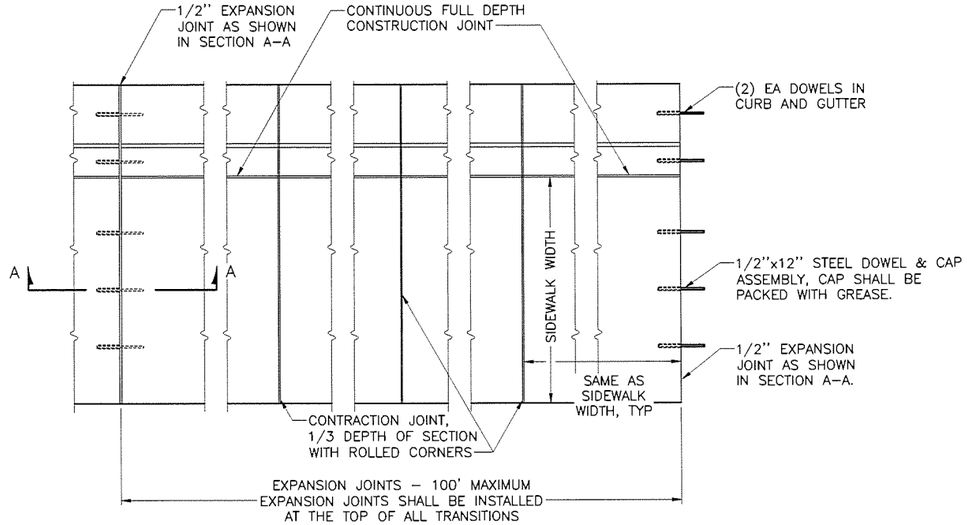
DETAIL NOTES:

1. CURB DRAINS SHALL BE ADJUSTED AS NEEDED BY THE ENGINEER.
2. DITCH LINING SHALL EXTEND FROM BACK OF CURB TO THE TOE OF DITCH AS APPROVED BY THE ENGINEER.
3. DITCH LINING SHALL CONSIST OF STONES THAT ARE SOUND, DURABLE, AND SIZED 3" TO 6" IN DIAMETER AS APPROVED BY THE ENGINEER.
4. DITCH LINING SHALL NOT BE PLACED MORE THAN 1" ABOVE CONCRETE GUTTER EDGE.
5. CONCRETE CURB DRAIN AND DITCH LINING GEOMETRY MAY VARY BASED ON ACTUAL FIELD CONDITIONS AND MAY BE ADJUSTED AS APPROVED BY THE ENGINEER.
6. SIGNS SHALL NOT BE PLACED WITHIN DITCH LINING MATERIAL.

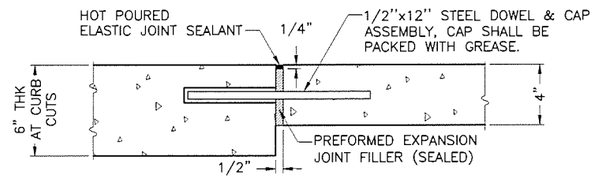
(7) INSTALL CURB AND GUTTER TERMINATION TRANSITION ON EITHER SIDE OF THE CURB DRAIN. SEE DETAIL ON SHEET G23.

CURB DRAIN DETAIL

609(101) CURB DRAIN				
ALIGNMENT	STATION	OFFSET	QUANTITY (EACH)	REMARKS
"01"	68+22.31	LT	1	ACCESS ROAD
"01"	68+46.02	LT	1	ACCESS ROAD
PAY ITEM TOTALS			2	



PLAN VIEW
NTS



PARTIAL SECTION VIEW A - A
NTS

EXPANSION SIDEWALK & CURB AND GUTTER JOINT DETAIL

EXPANSION JOINT NOTES:

1. INSTALL CONTINUOUS FULL DEPTH 1/8" CONSTRUCTION JOINT AT ALL LOCATIONS WHERE SIDEWALK AND CURB (ANY TYPE) MEET.
2. PROTECT CONCRETE DURING CURE.
3. SEAL ALL EXPANSION JOINTS WITH HOT POURED ELASTIC TYPE JOINT SEAL CONFORMING TO AASHTO DESIGNATION M173-60.
4. FOR SIDEWALKS LARGER OR DIFFERENTLY CONFIGURED THAN SHOWN, PLACE EXPANSION AND CONTRACTION JOINTS AS ENGINEER DIRECTS.
5. EXPANSION AND CONTRACTION JOINTS IN THE SIDEWALK SHALL LINE UP WITH EXPANSION AND CONTRACTION JOINTS IN THE CURB.

CURB DRAIN AND EXPANSION JOINT DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1004cnst111147.01FB_1D-G24 Fri, Aug/23/19 05:43pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	G25	G25

608(1A) CONCRETE SIDEWALK, 4 INCHES THICK

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (SQUARE YARD)	REMARKS
"01"	68+00.00	77+26.35	RT	783.24	
"01"	68+67.60	76+11.30	LT	617.57	
"01"	80+31.30	84+06.76	LT	333.59	
"01"	80+46.35	83+97.12	RT	241.50	
"01"	84+58.77	87+01.33	LT	215.61	
"01"	84+67.74	91+40.85	RT	448.63	
"01"	87+27.33	91+05.57	LT	336.21	
"01"	92+12.06	95+25.34	RT	208.81	
"01"	91+29.57	92+42.63	LT	100.94	
"01"	92+78.63	93+92.78	LT	101.71	
"01"	94+26.78	95+47.67	LT	107.46	
"01"	95+71.67	98+01.38	LT	204.24	
"01"	95+98.56	100+72.43	RT	318.08	
"01"	98+38.38	98+87.08	LT	43.31	
"01"	99+17.08	99+47.62	LT	27.15	
"01"	99+85.62	100+59.93	LT	66.05	
PAY ITEM TOTALS				4,154.10	

608(1B) CONCRETE SIDEWALK, 6 INCHES THICK

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (SQUARE YARD)	REMARKS
"01"	63+70.57	64+00.45	RT	26.75	BUS STOP LOADING
"01"	68+56.42	68+67.60	LT	4.90	
"01"	83+97.12	84+10.04	RT	5.01	
"01"	84+06.76	84+18.46	LT	8.18	
"01"	84+47.07	84+58.77	LT	8.18	
"01"	84+54.81	84+67.74	RT	5.01	
"01"	87+01.33	87+27.33	LT	23.11	
"01"	91+05.57	91+29.57	LT	21.33	
"01"	91+40.85	91+53.78	RT	5.01	
"01"	91+99.21	92+12.06	RT	5.01	
"01"	92+42.63	92+78.63	LT	32.05	
"01"	93+92.78	94+26.78	LT	30.22	
"01"	95+25.34	95+38.27	RT	5.01	
"01"	95+47.67	95+71.67	LT	21.33	
"01"	95+85.63	95+98.56	RT	5.01	
"01"	98+01.38	98+38.38	LT	32.91	
"01"	98+87.08	99+17.08	LT	26.67	
"01"	99+47.62	99+85.62	LT	33.78	
PAY ITEM TOTALS				299.48	

608(2) ASPHALT SIDEWALK

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (TONS)	REMARKS
"01"	62+89.25	68+00.00	RT	29.00	1.5" HMA
"01"	63+70.57	64+00.45	RT	3.00	1.5" HMA
"01"	65+21.70	68+19.17	LT	16.00	1.5" HMA
"01"	77+11.30	80+31.30	LT	31.00	2" HMA– BRIDGE
"01"	77+26.35	80+46.46	RT	24.00	2" HMA– BRIDGE
			PAY ITEM TOTALS	103.00	

608(6) CURB RAMP

ALIGNMENT	STATION	OFFSET	QUANTITY (EACH)	REMARKS	
"01"	68+19.83	LT	1	UNIDIRECTIONAL	
"01"	68+58.03	LT	1	UNIDIRECTIONAL	
"01"	84+09.31	RT	1	UNIDIRECTIONAL	
"01"	84+18.54	LT	1	UNIDIRECTIONAL	
"01"	84+46.99	LT	1	UNIDIRECTIONAL	
"01"	84+55.54	RT	1	UNIDIRECTIONAL	
"01"	91+53.11	RT	1	UNIDIRECTIONAL	
"01"	91+99.87	RT	1	UNIDIRECTIONAL	
"01"	95+37.53	RT	1	UNIDIRECTIONAL	
"01"	95+86.37	RT	1	UNIDIRECTIONAL	
PAY ITEM TOTALS			10		

609(2) CURB AND GUTTER, TYPE I

ALIGNMENT	BEGIN STATION	END STATION	OFFSET	QUANTITY (LINEAR FOOT)	SHAPE	REMARKS
"01"	62+89.25	75+13.01	RT	1,222.48	STANDARD	
"01"	75+13.01	75+66.81	RT	53.81	GUARDRAIL GUTTER	
"01"	65+21.53	68+20.80	LT	364.34	STANDARD	
"01"	66+77.74	83+84.25	LT/RT	3,418.97	EXPRESSWAY	MEDIAN
"01"	68+47.52	76+82.27	LT	887.40	STANDARD	
"01"	80+76.08	84+21.04	RT	364.77	STANDARD	
"01"	84+43.88	91+58.60	RT	730.68	STANDARD	
"01"	81+80.53	82+43.90	LT	63.38	GUARDRAIL GUTTER	
"01"	82+43.90	84+19.49	LT	204.91	STANDARD	
"01"	84+45.87	100+59.93	LT	1,646.40	STANDARD	
"01"	84+81.36	95+10.25	LT/RT	2,065.00	EXPRESSWAY	MEDIAN
"01"	91+78.56	93+38.15	LT	159.59	GUTTER	BUS PULLOUT
"01"	91+95.35	95+47.45	RT	383.51	STANDARD	
"01"	95+76.45	100+72.43	RT	527.97	STANDARD	
"01"	96+09.85	97+64.44	RT	154.59	GUTTER	BUS PULLOUT
"01"	96+15.25	100+59.93	LT/RT	896.47	EXPRESSWAY	MEDIAN
"GDE"	10+73.06	12+22.84	RT	149.80	GUTTER	
"GDE"	10+63.27	12+08.17	LT	144.91	GUTTER	
PAY ITEM TOTALS				13,438.99		

SUMMARY TABLES

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C1005csns111147.01FB_1D-G25 Fri, Aug/23/19 01:45pm

ABBREVIATIONS

ABBREVIATIONS APPLY TO H AND K SHEETS ONLY.

AAWF	ACTIVE ADVANCE WARNING FLASHER
ADT	AVERAGE DAILY TRAFFIC
AH	AHEAD
ARRC	ALASKA RAILROAD CORPORATION
ASDS	ALASKA SIGN DESIGN GUIDE
ATM	ALASKA TRAFFIC MANUAL
AVC	AUTOMATED VEHICLE COUNTER
BMP	BEST MANAGEMENT PRACTICE
C/A	CONTROL ACCESS
CF	CUBIC FOOT
CGP	CONSTRUCTION GENERAL PERMIT
CKT	ELECTRICAL CIRCUIT
CRT	CONTROLLED RELEASE TERMINAL
DIA	DIAMETER
DIR	DIRECTION
DOT&PF	DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
EA	EACH
EB	EASTBOUND
EGC	EQUIPMENT GROUND CONDUCTOR
GA	GAUGE
GVEA	GOLDEN VALLEY ELECTRIC ASSOCIATION
H	HORIZONTAL
HDG	HOT DIPPED GALVANIZING
HGT	HEIGHT
I/C	INTERCONNECT
IN OR "	INCH
JBOX, J-BOX	JUNCTION BOX
LBS	POUNDS
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
LF	LINEAR FOOT
L.O.C.	LIP OF CURB
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
MTG	MOUNTING
NB	NORTHBOUND
NE	NORTHEAST
NO.	NUMBER
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
NW	NORTHWEST
PTZ	PAN, TILT, ZOOM CAMERA
PHB	PEDESTRIAN HYBRID BEACON
PST	PERFORATED SQUARE TUBE
PVC	POLYVINYL CHLORIDE
RP	REFERENCE POINT
SB	SOUTHBOUND
SE	SOUTHEAST
SQ	SQUARE
SF	SQUARE FOOT
SMFO	SINGLE MODE FIBER OPTIC
SW	SOUTHWEST
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
SY	SQUARE YARD
TS	TUBE STEEL
TYP.	TYPICAL
USACE	UNITED STATES ARMY CORPS OF ENGINEERS
V	VERTICAL
WB	WESTBOUND
W/	WITH
W/O	WITHOUT

TRAFFIC LEGEND

LEGEND APPLIES TO H AND K SHEETS ONLY.

	EXISTING	PROPOSED
JUNCTION BOX, TYPE IA		
JUNCTION BOX, TYPE II		
JUNCTION BOX, TYPE III		
JUNCTION BOX, ABOVE GRADE		
SIGNAL FACE, VEHICULAR		
SIGNAL FACE, BACKPLATE		
SIGNAL FACE, LEFT TURN, BACKPLATE		
SIGNAL FACE, PEDESTRIAN		
LOOP DETECTOR		
VIDEO DETECTOR		
RADAR DETECTOR		
OPTICOM DETECTOR		
PAN, TILT, ZOOM CAMERA		
PEDESTRIAN PUSH BUTTON		
SIGNAL POST W/O MAST ARM		
SIGNAL POLE W/MAST ARM		
INTERCONNECT VAULT		
INTERCONNECT MANHOLE		
TRAFFIC CONTROLLER		
AVC CONTROLLER		
LOAD CENTER		
POST MOUNTED TRANSFORMER AND DISCONNECT SWITCH		
LUMINAIRE		
LUMINAIRE, LED REPLACEMENT		
RIGID METAL CONDUIT		
TRAFFIC SIGNAL INTERCONNECT	I/C	
BORING/ENCASED CONDUITS		
GROUND PENETRATING RADAR		GPR

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H1	H44

INDEX OF SHEETS

TRAFFIC MARKINGS SUMMARY

DESCRIPTION	QUANTITY	REMARKS
4"W	6,145 LF	
4"WS	6,760 LF	INCLUDES SKIPS
4"WD-1	625 LF	INCLUDES SKIPS
4"DY	320 LF	
8"W	1,520 LF	
24"W	135 SF	INCLUDES STOP BARS
12" WHITE CHEVRONS	170 SF	
18" YELLOW DIAGONALS	120 SF	
TURN ARROW SYMBOLS	13 EA	

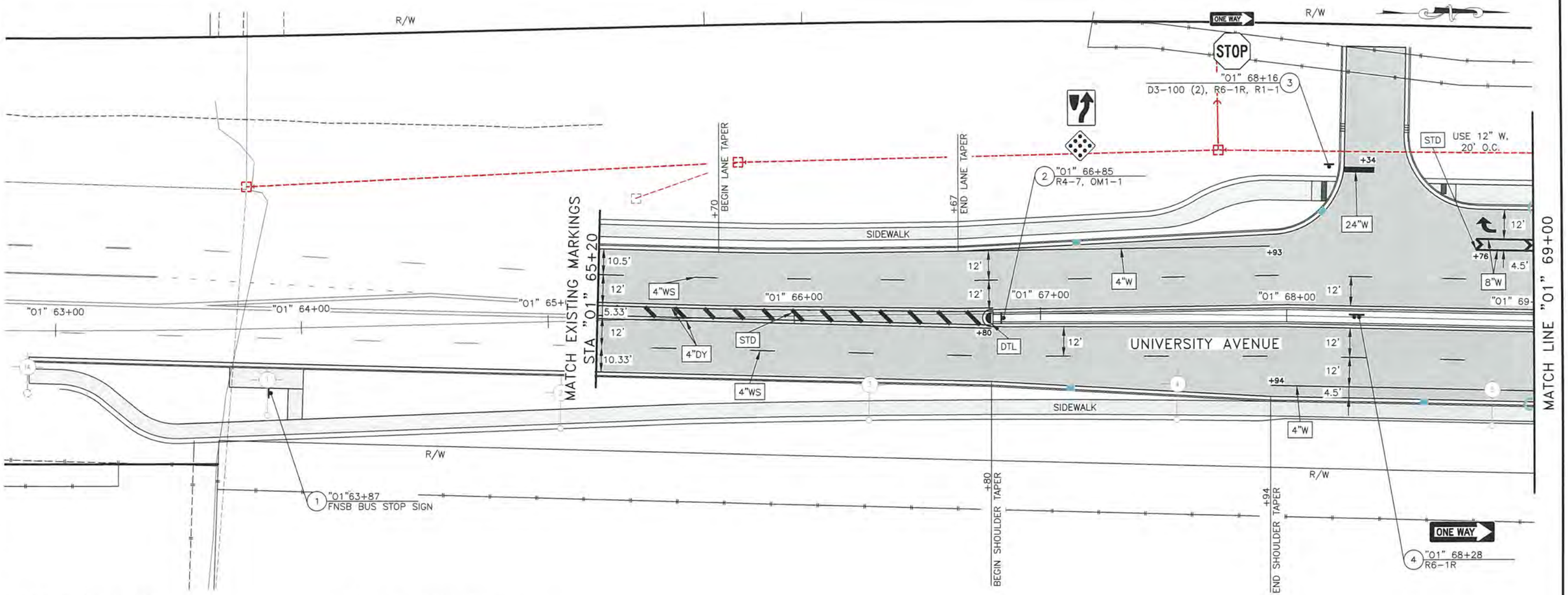
TRAFFIC LEGEND, NOTES AND SHEET INDEX

STATE OF ALASKA 49 REVIEW PS&E JASON 14131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_H1_LEGD-H1 Thu, Aug/22/19 10:36am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H2	H44



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"WD-2	4" WHITE DOTTED LINE (3' STRIPE/9' SKIP PATTERN)
4"Y	4" YELLOW LINE
4"YS	4" YELLOW SKIP LINE (10' STRIPE/30' SKIP PATTERN)
4"DY	4" DOUBLE YELLOW LINE
8"W	8" WHITE LINE
8"WD-1	8" WHITE WIDE DOTTED LINE (2' STRIPE/4' SKIP PATTERN)
8"WD-2	8" WHITE WIDE DOTTED LINE (3' STRIPE/9' SKIP PATTERN)
24"W	24" WHITE LINE
STD	SEE STANDARD DRAWING
DTL	SEE DETAILS

TRAFFIC MARKING NOTES:

1. ALL PROPOSED PAVEMENT MARKINGS SHALL BE INLAID METHYL METHACRYLATE (MMA).
2. SEE SECTION 670 OF THE SPECIAL PROVISIONS FOR DEPTH OF INLAID MARKINGS.
3. BEGIN PAVEMENT MARKINGS BY INSTALLING THE INTERSECTION CROSSWALKS FIRST. LAYOUT THE CROSSWALKS IN ACCORDANCE WITH STD. DWG. T-23.00. FOR SKEWED INTERSECTIONS AND WHERE CURB RAMPS ARE LOCATED IN NON-STANDARD LOCATIONS, CENTER THE CROSSWALK PAVEMENT MARKINGS ON THE CURB RAMP.
4. "LADDER" STYLE CROSSWALK PAVEMENT MARKINGS SHALL BE COMPRISED OF 24"W LINES THAT ARE 10-FT LONG WITH 2-FT GAPS. CENTER THE 24"W 10-FT LONG PAVEMENT MARKINGS ON THE CURB RAMP. ALIGN THE 24"W PAVEMENT MARKINGS WITH THE VEHICLE TRAVEL DIRECTION AND CENTER THE 2-FT GAP ON THE WHEEL PATH.
5. TRANSITION NEW PAVEMENT MARKINGS TO MATCH EXISTING MARKINGS AT A 100:1 TAPER.
6. REMOVE ALL EXISTING PAVEMENT MARKINGS NOT COINCIDING WITH THE NEW INLAID MARKINGS. THIS WORK IS SUBSIDIARY TO 670 PAY ITEMS.
7. DIMENSIONS REFER TO THE CENTER OF STRIPE, STRIPE GROUP, EDGE OF PAVEMENT OR LIP OF GUTTER WHEN PRESENT.
8. ALL LANES ARE 12-FT WIDE UNLESS OTHERWISE NOTED.
9. AT MINOR SIDE STREETS, BREAK 4"W FOG LINE PAVEMENT MARKINGS AT APPROACH RADII. DO NOT BREAK FOG LINE AT DRIVEWAYS.
10. BREAK CENTERLINE STRIPING FOR DEDICATED LEFT TURN BAYS. CONTINUE CENTERLINE STRIPING FOR CENTER TWO-WAY LEFT TURN LANES AND WHEN THERE ARE NO LEFT TURN LANES.
11. INSTALL THE "APPROACH TO OBSTRUCTIONS" PAVEMENT MARKINGS IN ACCORDANCE WITH STANDARD DRAWING T-20.04 OR AS SHOWN ON THESE PLANS.
12. INSTALL TURN ARROWS WHERE SHOWN AND ACCORDING TO STD. DWG. T-21.03. DO NOT INSTALL "ONLY" MARKINGS UNLESS SHOWN ON THE STRIPING PLAN.
13. COAT THE TOP AND FACE OF ALL RAMPED MEDIAN NOSES AND THE CURB AND GUTTER ISLAND NOSES WITH 20 MILS OF SURFACE APPLIED YELLOW METHYL METHACRYLATE TRAFFIC PAINT. THIS WORK IS SUBSIDIARY TO 670 PAY ITEMS.
14. LOCATE STOP BARS A MINIMUM OF EITHER 4' FROM BACK OF SIDEWALK OR 10' FROM FACE OF CURB, WHICHEVER PROVIDES THE GREATER OFFSET FROM BACK OF SIDEWALK.
15. STRIPING CONFIGURATIONS IN THIS PLAN SET ARE APPROXIMATE. THE CONTRACTOR SHALL PERFORM PRELIMINARY SPOTTING (RABBIT TRACKING) OF STRIPING AT LEAST 48 HOURS PRIOR TO FINAL MILLING AND APPLICATION OF MARKINGS. THE ENGINEER WILL THEN APPROVE THE LAYOUT OR MAKE MODIFICATIONS AS REQUIRED.

SIGNING KEY

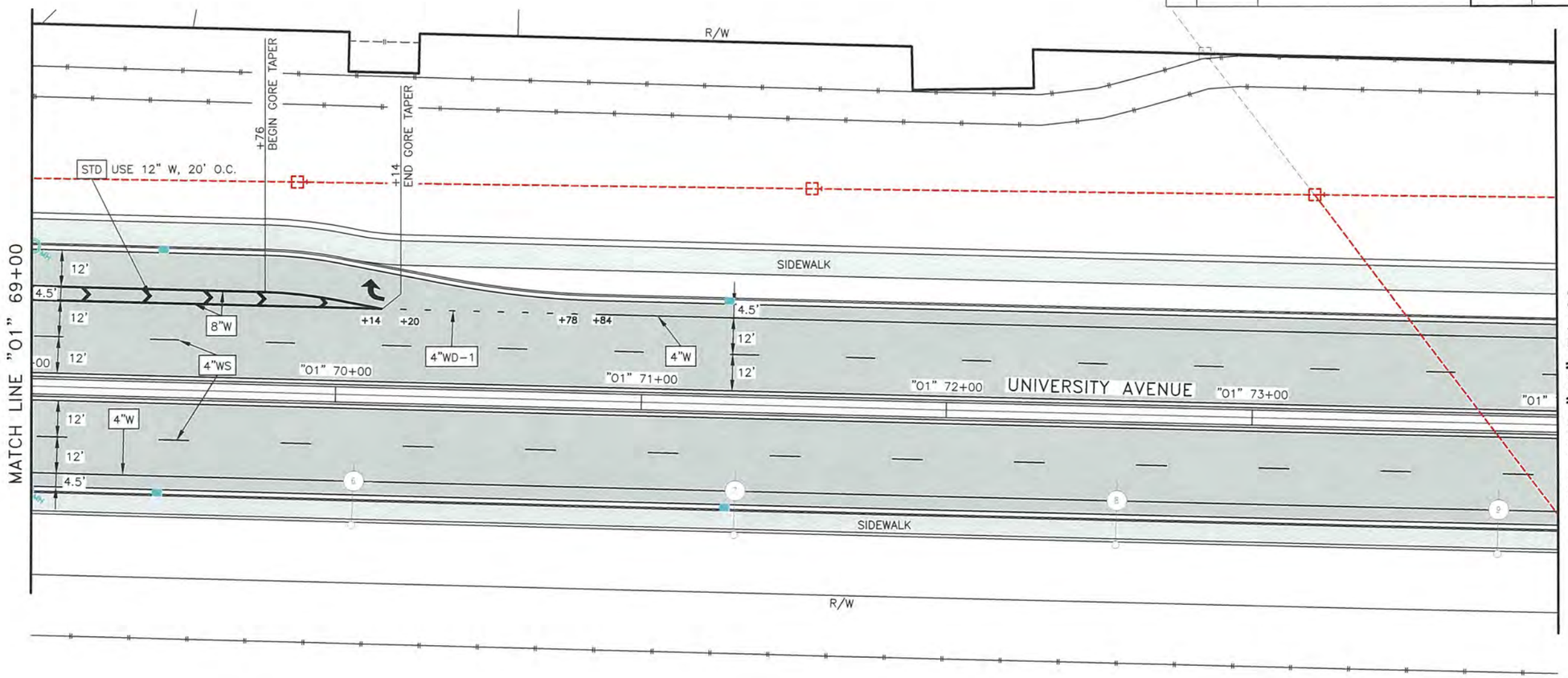
(#) STATION
SIGN CODE(S)
SIGN LOCATION #

SIGNING AND STRIPING PLANS 1 OF 7

STATE OF ALASKA 49 REVIEW PS&E JASON J. J131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H3	H44



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"WD-2	4" WHITE DOTTED LINE (3' STRIPE/9' SKIP PATTERN)
4"Y	4" YELLOW LINE
4"YS	4" YELLOW SKIP LINE (10' STRIPE/30' SKIP PATTERN)
4"DY	4" DOUBLE YELLOW LINE
8"W	8" WHITE LINE
8"WD-1	8" WHITE WIDE DOTTED LINE (2' STRIPE/4' SKIP PATTERN)
8"WD-2	8" WHITE WIDE DOTTED LINE (3' STRIPE/9' SKIP PATTERN)
24"W	24" WHITE LINE
STD	SEE STANDARD DRAWING
DTL	SEE DETAILS

SIGNING KEY

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

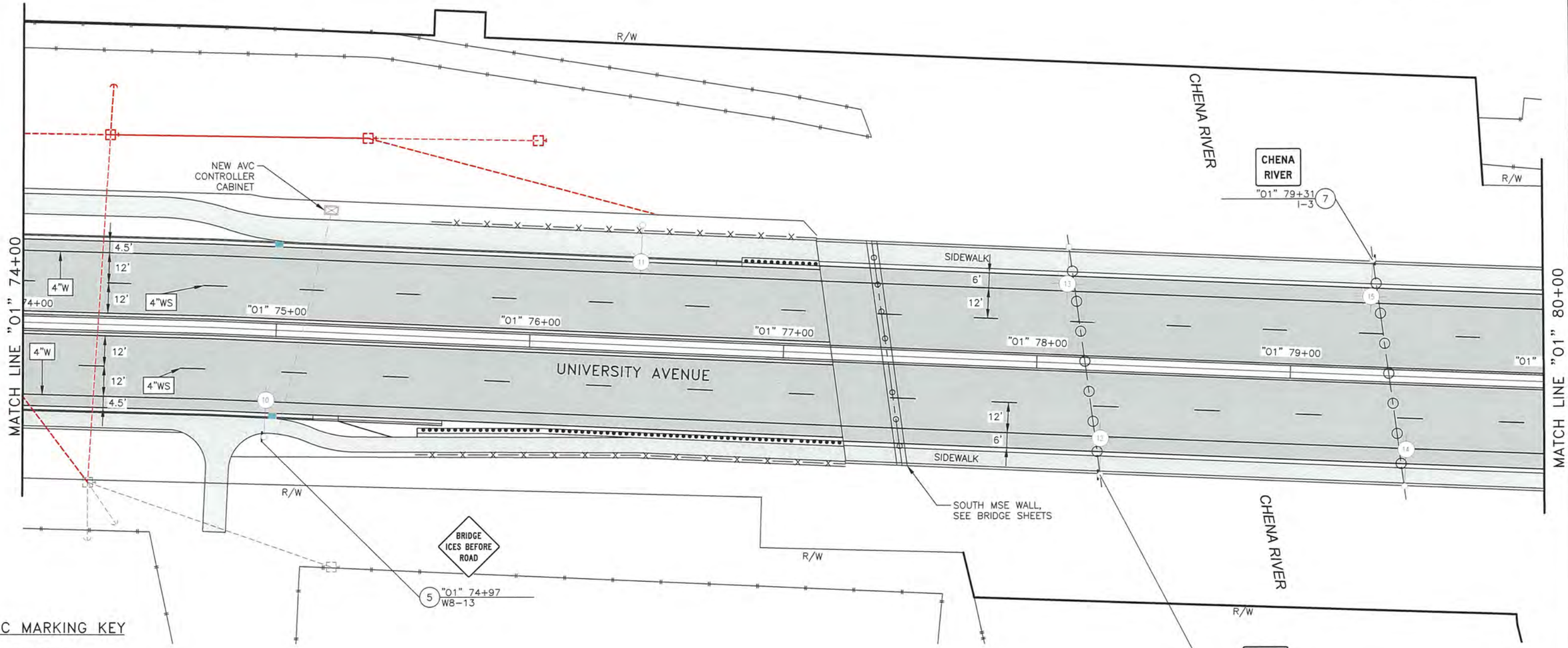
SIGNING AND STRIPING PLANS 2 OF 7

STATE OF ALASKA 49 REVIEW PS&E KSON 13131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_H2-H7_Sign&Strip-H3 Thu, Aug/22/19 10:37am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H4	H44



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24"W	24" WHITE LINE
STD	SEE STANDARD DRAWING
DTL	SEE DETAILS

SIGNING KEY

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

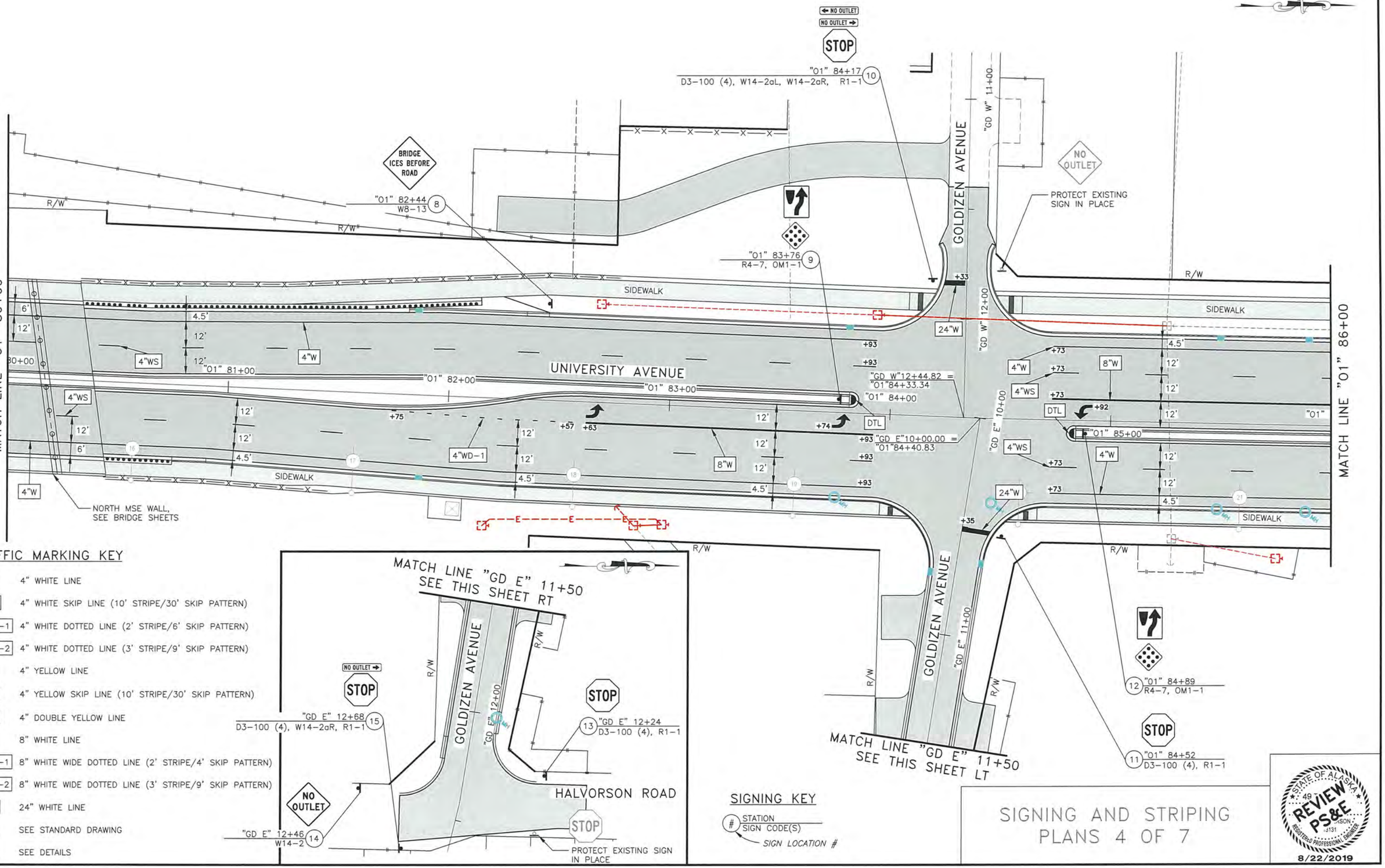
SIGNING AND STRIPING PLANS 3 OF 7

STATE OF ALASKA
49
REVIEW
PS&E
REGISTERED PROFESSIONAL ENGINEER
8/22/2019

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_H2-H7_Sign&Strip-H4 Thu, Aug/22/19 10:37am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H5	H44



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24"W	24" WHITE LINE
STD	SEE STANDARD DRAWING
DTL	SEE DETAILS

SIGNING KEY

(#) STATION
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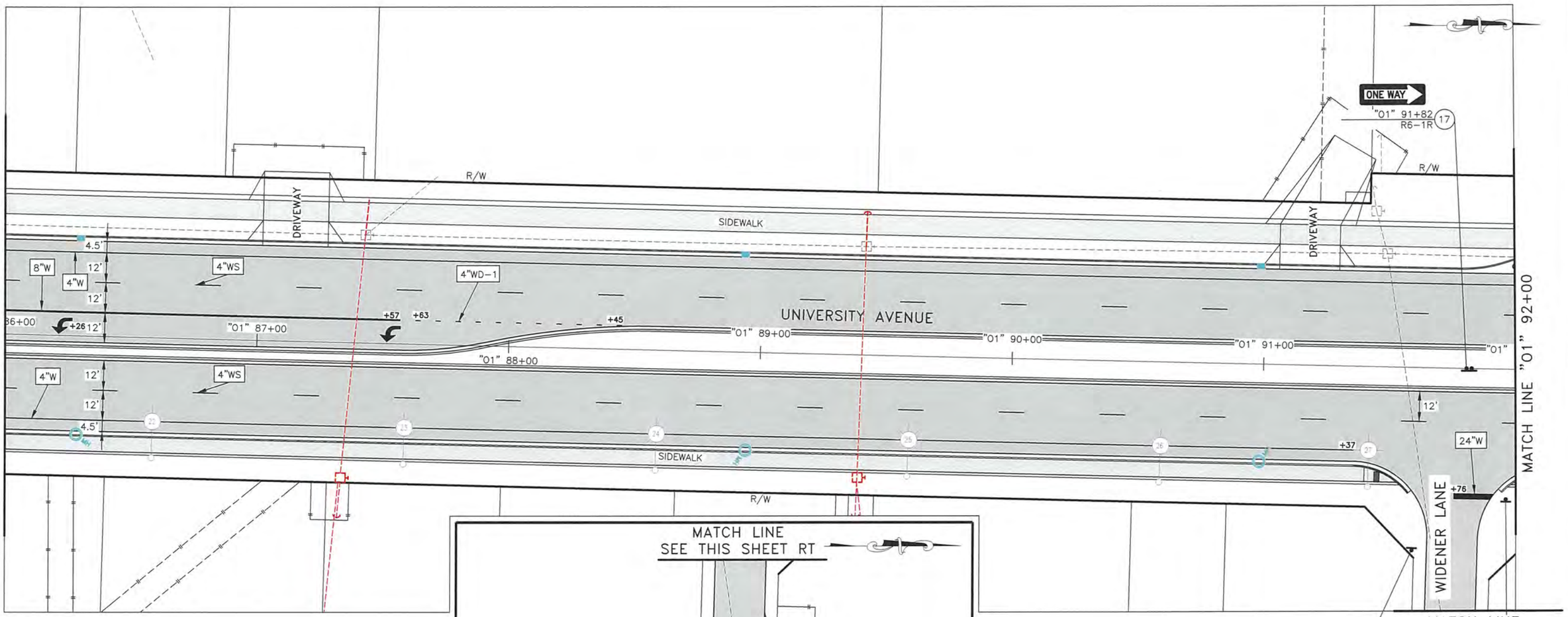
SIGN LOCATION #

SIGNING AND STRIPING PLANS 4 OF 7

STATE OF ALASKA 49 REVIEW PS&E JASON 13131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H6	H44



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24"W	24" WHITE LINE
STD	SEE STANDARD DRAWING
DTL	SEE DETAILS

SIGNING KEY

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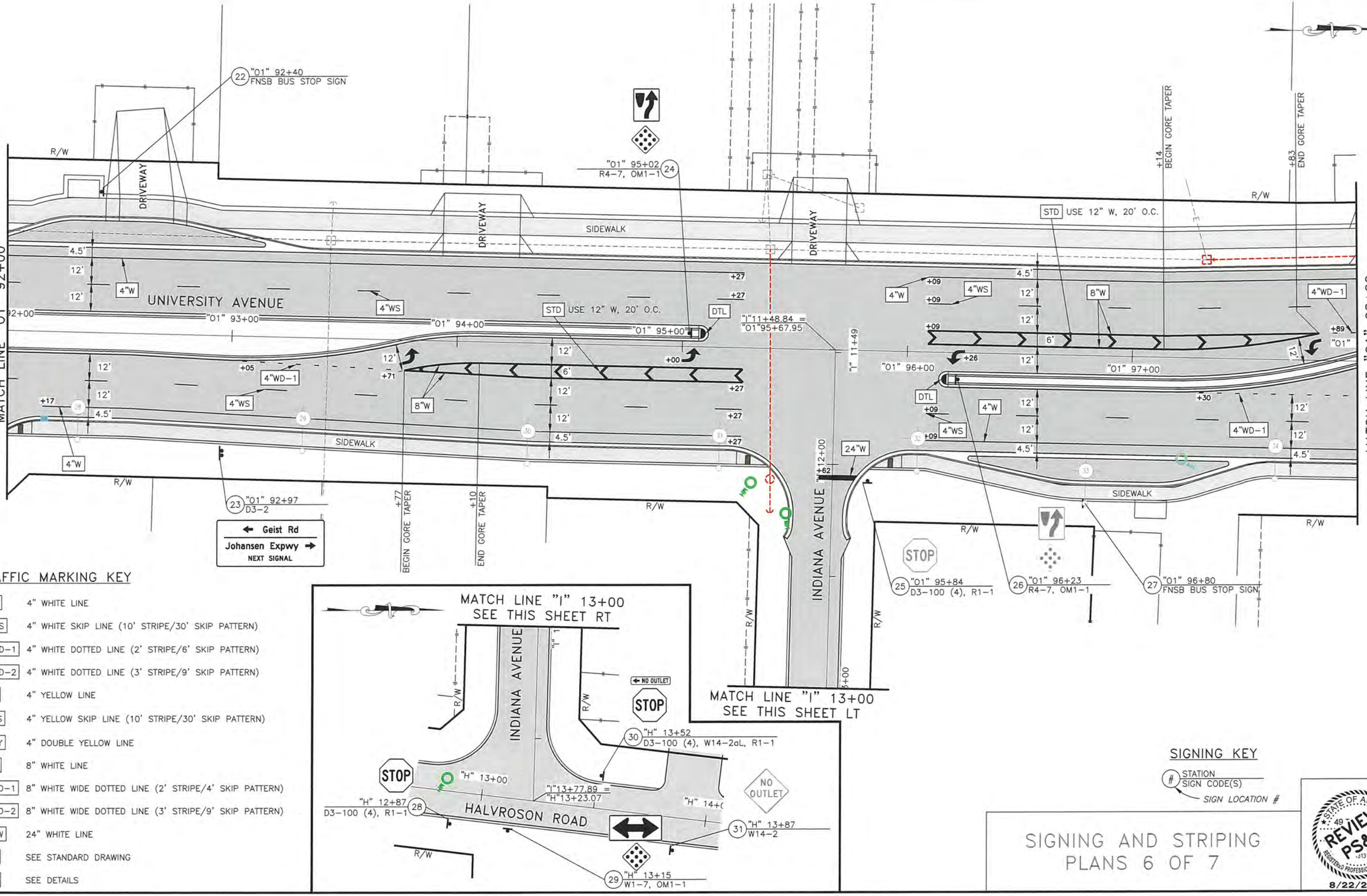
SIGN CODE(S)
SIGN LOCATION #

SIGNING AND STRIPING PLANS 5 OF 7

STATE OF ALASKA
49
REVIEW
PS&E
JASON
J.J131
REGISTERED PROFESSIONAL ENGINEER
8/22/2019

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H7	H44



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24"W	24" WHITE LINE
STD	SEE STANDARD DRAWING
DTL	SEE DETAILS

SIGNING KEY

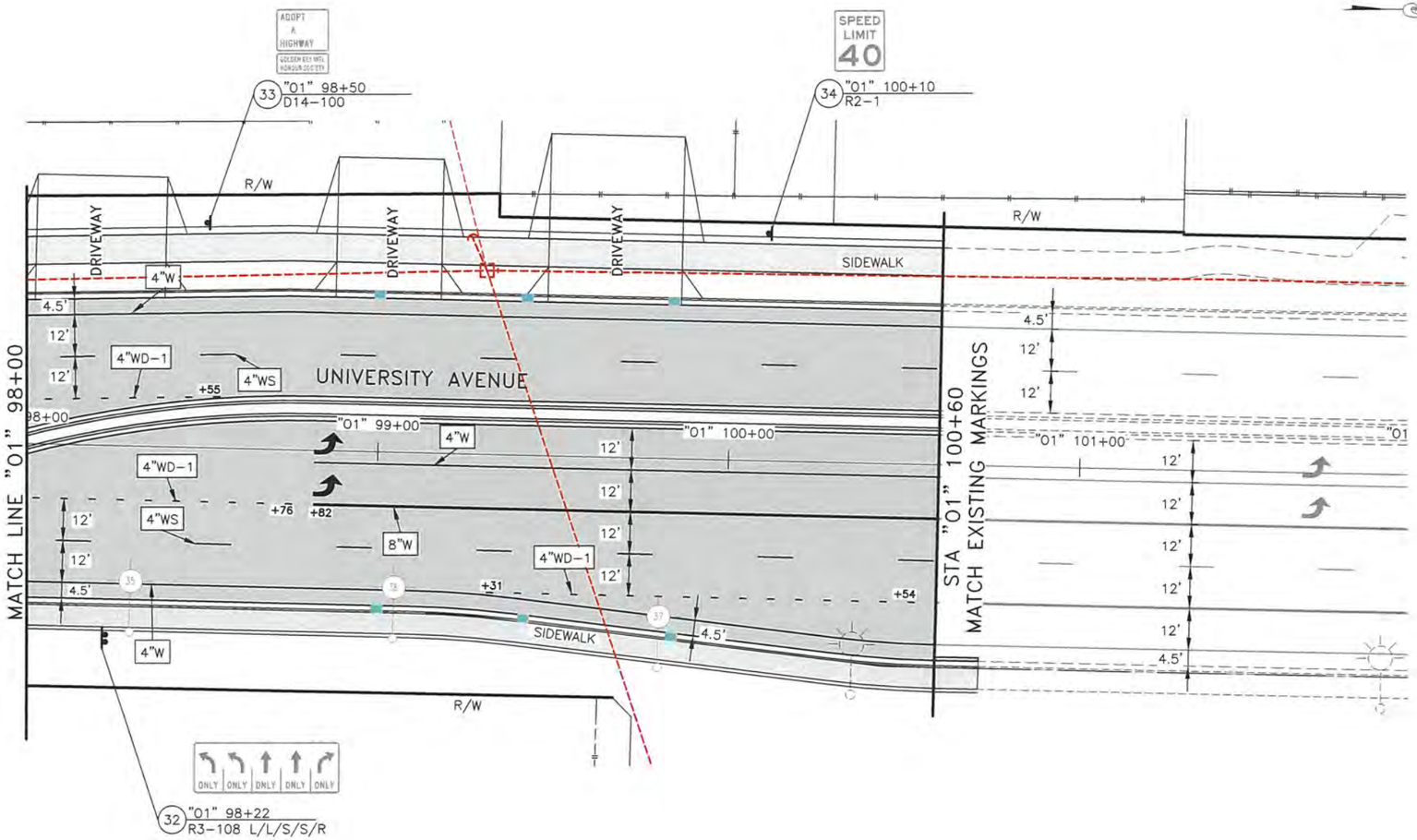
(#) STATION
SIGN CODE(S)
SIGN LOCATION #

SIGNING AND STRIPING PLANS 6 OF 7

STATE OF ALASKA
49
REVIEW PS&E
TYSON J. JOHNSON
REGISTERED PROFESSIONAL ENGINEER
8/22/2019

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H8	H44



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STD	SEE STANDARD DRAWING
DTL	SEE DETAILS

SIGNING KEY

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

SIGNING AND STRIPING PLANS 7 OF 7

STATE OF ALASKA 49 REVIEW PS&E REGISTERED PROFESSIONAL ENGINEER
8/22/2019

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd. Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_H2-H7_SignStrip-H8 Thu, Aug/22/19 10:37am

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/ FRAMING BRACED	BRACING/ FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
1	"01"63+87		X		FSNB BUS STOP SIGN						S	PST	2.5	1	REINSTALL EXISTING SIGN. SEE NOTE 21
2	"01"66+85		X	R4-7	KEEP RIGHT	24 X 30			5.00		S	PST	2.5	1	
				OM1-1	OBJECT MARKER	18 X 18			2.25						
3	"01"68+16	X		D3-100(2)	University Ave	36 X 8	X		4.00		E/W	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H13
				R6-1R	ONE WAY (RIGHT) ARROW	36 X 12	X		3.00		W				
				R1-1	STOP	30 X 30	X		6.25		W				
4	"01"68+28	X		R6-1R	ONE WAY (RIGHT) ARROW	54 X 18		X	6.75		W	TS	3	2	SEE NOTES 19 & 20
5	"01"74+97		X	W8-13	BRIDGE ICES BEFORE ROAD	36 X 36		X	9.00		S				MOUNT ON LIGHT POLE. SEE INSTALLATION DETAIL H14
6	"01"78+27		X	I-3	CHENA RIVER	30 X 18		X	3.75		S				MOUNT ON LIGHT POLE. SEE INSTALLATION DETAIL H14
7	"01"79+31	X		I-3	CHENA RIVER	30 X 18		X	3.75		N				MOUNT ON LIGHT POLE. SEE INSTALLATION DETAIL H14
8	"01"82+44	X		W8-13	BRIDGE ICES BEFORE ROAD	36 X 36	X		9.00		N	PST	2.5	1	
9	"01"83+76	X		R4-7	KEEP RIGHT	24 X 30			5.00		N	PST	2.5	1	
				OM1-1	OBJECT MARKER	18 X 18			2.25						
10	"01"84+17	X		D3-100(2)	University Ave	36 X 8	X		4.00		E/W	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H13
				D3-100(2)	Goldizen Ave	48 X 12	X		8.00		N/S				
				W14-2aL	(LEFT) ARROW NO OUTLET	36 X 8	X		2.00		S				
				W14-2aR	NO OUTLET (RIGHT) ARROW	36 X 8	X		2.00		N				
				R1-1	STOP	30 X 30	X		6.25		W				
11	"01"84+52		X	D3-100(2)	University Ave	36 X 8	X		4.00		E/W	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H13
				D3-100(2)	Goldizen Ave	48 X 12	X		8.00		N/S				
				R1-1	STOP	30 X 30	X		6.25		E				
12	"01"84+89		X	R4-7	KEEP RIGHT	24 X 30			5.00		S	PST	2.5	1	
				OM1-1	OBJECT MARKER	18 X 18			2.25						
13	"GD E"12+24	X		D3-100(2)	Halvorson Rd	36 X 8	X		4.00		E/W	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H13
				D3-100(2)	Goldizen Ave	36 X 8	X		4.00		N/S				
				R1-1	STOP	30 X 30	X		6.25		N				
14	"GD E"12+46		X	W14-2	NO OUTLET	30 X 30	X		6.25		N	PST	2.5	1	
15	"GD E"12+68		X	D3-100(2)	Halvorson Rd	36 X 8	X		4.00		E/W	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H13
				D3-100(2)	Goldizen Ave	36 X 8	X		4.00		N/S				
				W14-2aR	NO OUTLET (RIGHT) ARROW	36 X 8	X		2.00		W				
				R1-1	STOP	30 X 30	X		6.25		S				
16	"01"91+62		X	R5-2	NO LARGE TRUCKS	24 X 24			4.00		W	PST	2.5	1	
17	"01"91+82	X		R6-1R	ONE WAY (RIGHT) ARROW	54 X 18		X	6.75		E	TS	3	2	SEE NOTES 19 & 20
18	"01"91+97		X	D3-100(2)	University Ave	36 X 8	X		4.00		E/W	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H13
				D3-100(2)	Widener Ln	42 X 12	X		7.00		N/S				
				R6-1R	ONE WAY (RIGHT) ARROW	36 X 12	X		3.00		E				
				R1-1	STOP	30 X 30	X		6.25		E				
19	"H"9+03		X	D3-100(2)	Halvorson Rd	36 X 8	X		4.00		E/W	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H13
				D3-100(2)	Widener Ln	30 X 8	X		3.33		N/S				
				R1-1	STOP	30 X 30	X		6.25		S				

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H9	H44

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. OFFSET DISTANCES FOR STOP SIGN ASSEMBLIES AND SIGNS MOUNTED ON LIGHT POLES OR POSTS IN THE MEDIAN ARE FROM DESIGN CENTERLINE TO CENTER OF POST. ALL OTHER OFFSET DISTANCES ARE FROM DESIGN CENTERLINE TO NEAR EDGE OF SIGN.
3. MOUNT SIGNS PER STANDARD DRAWING S-05.D1. SIGNS THAT PROJECT OVER OR WITHIN 2 FEET OF THE SIDEWALK AND PATHWAYS SHALL BE MOUNTED TO A HEIGHT OF 8 FEET.
4. DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
5. INSTALL POSTS WITH SLEEVE TYPE CONCRETE FOUNDATIONS PER STANDARD DRAWING S-30.04. ATTACH THE SIGN POST USING GALVANIZED 3/8" DIA. BOLT, NUT, SPLIT LOCK WASHER AND TWO FLAT WASHERS.
6. PROVIDE "TUBE POST BRACING" AS SHOWN ON STANDARD DRAWING S-01.01 FOR ALL SIGNS MOUNTED ON A SINGLE POST AND HAVING A HORIZONTAL DIMENSION OF 30 INCHES OR GREATER, EXCEPT D3-100 SERIES SIGNS. INSTEAD OF 5/8" DIA. GALVANIZED BOLTS AND NYLON LOCKING NUTS SHOWN ON STANDARD DRAWING S-01.01, USE GALVANIZED 3/8" DIA. BOLTS, SPLIT LOCK WASHERS AND NUTS. 1/4" T X 1-1/2" W ALUMINUM ALLOY 6061-T6 BAR MAY ALSO BE USED TO FABRICATE SIGN BRACES.
7. 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.
8. ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" ON SHEET H13.
9. 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.
10. STOP (R1-1) AND YIELD (R1-2) SIGN LOCATIONS, ESPECIALLY THOSE LOCATED AT LARGE RADIUS INTERSECTIONS, MAY NEED ADJUSTMENT IN THE FIELD. THE ENGINEER WILL APPROVE FINAL LOCATIONS.
11. WHERE TWO DIFFERENT D3-100 SERIES SIGNS ARE TO BE LOCATED ON THE SAME POST, INSTALL THE CROSS-STREET PANEL IN THE LOWER POSITION. SEE SHEET H13 FOR DETAIL.
12. D3-100(2) INDICATES TWO SEPARATE SINGLE SIDED SIGN PANELS; AND D3-100 INDICATES ONE SINGLE SIDED SIGN PANEL. PROVIDE SIGN BRACING AS INDICATED ON SHEET H13 AND STANDARD DRAWING S-01.01.
13. MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
14. ALL SIGNS NOTED FOR REMOVAL AND REINSTALLATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE IF THEY ARE DAMAGED DURING THE RELOCATION EFFORT.
15. USE SERIES C LETTERS FOR D3-100 SERIES SIGNS UNLESS OTHERWISE NOTED. USE 4.5-INCH FOR DIMENSION "E" FOR 12-INCH D3-100 SIGNS. THE LETTERING INDICATING THE TYPE OF STREET (SUCH AS St, Ave, OR Rd) SHALL BE UPPER CASE AND LOWER CASE. THIS MODIFIES THE ASDS.
16. 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.
17. CLEARING AS DIRECTED BY THE ENGINEER MAY BE REQUIRED TO ENSURE ADEQUATE VISIBILITY OF SIGNS. THIS WORK IS SUBSIDIARY TO PAY ITEM 615.0001.0000.
18. PROVIDE WEATHER TIGHT CAPS ON ALL TUBE POSTS, EXCEPT PERFORATED STEEL TUBES.
19. PROVIDE FRANGIBLE COUPLING SYSTEMS IN ACCORDANCE WITH STANDARD DRAWING S-31.01.
20. HINGED JOINTS WITH FRANGIBLE FUSE PLATE ARE REQUIRED ON ALL MULTIPLE POST SIGNS WITH FRANGIBLE COUPLING SYSTEMS. THE HINGE LOCATION ON ALL POSTS SHALL BE THE SAME DISTANCE BELOW THE SIGNS, INSTEAD OF THE 6 INCH MINIMUM SHOWN ON STANDARD DRAWING S-31.01. SEE MANUFACTURER'S SPECIFICATION FOR HINGE LOCATION BELOW SIGN.
21. UNLESS OTHERWISE NOTED, RELOCATE EXISTING (SALVAGED) SIGNS TO LOCATIONS IDENTIFIED IN THE SIGNING SUMMARY USING NEW POSTS. FOUNDATIONS, BRACING/FRAMING, MOUNTING BRACKETS, AND FASTENERS. THIS WORK SHALL BE SUBSIDIARY TO PAY ITEM 615.0001.0000 STANDARD SIGN.

POST TYPE CODING:

TS = SQUARE STRUCTURAL STEEL TUBING
PST = PERFORATED STEEL TUBING

SIGN SUMMARY
1 OF 2

STATE OF ALASKA 49 REVIEW PS&E JASON J131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H10	H44

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/ FRAMING BRACED	BRACING/ FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
20	"H"9+32		X	W1-7	LARGE ARROW (TWO-DIRECTIONS)	48 X 24	X		8.00		W	PST	2.5	1	
				OM1-1	OBJECT MARKER	18 X 18			2.25						
21	"H"9+64	X		D3-100(2)	Halvorson Rd	36 X 8	X		4.00		E/W	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H13
				D3-100(2)	Widener Ln	30 X 8	X		3.33		N/S				
				R1-1	STOP	30 X 30	X		6.25		N				
22	"01"92+40	X			FSNB BUS STOP SIGN						N	PST	2.5	1	REINSTALL EXISTING SIGN. SEE NOTE 21
23	"01"92+97		X	D3-2	Geist Rd (LEFT) ARROW, Johansen Expwy (RIGHT) ARROW, NEXT SIGNAL	96 X 42		X	28.00		S	TS	3	2	SEE NOTES 19 & 20
24	"01"95+02	X		R4-7	KEEP RIGHT	24 X 30			5.00		N	PST	2.5	1	
				OM1-1	OBJECT MARKER	18 X 18			2.25						
25	"01"95+84		X	D3-100(2)	University Ave	36 X 8	X				E/W	PST	2.5	1	REINSTALL EXISTING SIGN ASSEMBLY. SEE NOTE 21. SEE INSTALLATION DETAIL ON SHEET H13
				D3-100(2)	Indiana Ave	42 X 12	X				N/S				
				R1-1	STOP	30 X 30	X				E				
26	"01"96+23		X	R4-7	KEEP RIGHT	24 X 30					S	PST	2.5	1	REINSTALL EXISTING SIGN PANELS. SEE NOTE 21
				OM1-1	OBJECT MARKER	18 X 18									
27	"01"96+80		X		FNSB BUS STOP SIGN			X			S				REINSTALL EXISTING SIGN. SEE NOTE 21. MOUNT ON LIGHT POLE. SEE INSTALLATION DETAIL H14
28	"H"12+87		X	D3-100(2)	Halvorson Rd	36 X 8	X		4.00		E/W	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H13
				D3-100(2)	Indiana Ave	30 X 8	X		3.33		N/S				
				R1-1	STOP	30 X 30	X		6.25		S				
29	"H"13+15		X	W1-7	LARGE ARROW (TWO-DIRECTIONS)	48 X 24	X		8.00		W	PST	2.5	1	
				OM1-1	OBJECT MARKER	18 X 18			2.25						
30	"H"13+52	X		D3-100(2)	Halvorson Rd	36 X 8	X		4.00		E/W	PST	2.5	1	SEE INSTALLATION DETAIL ON SHEET H13
				D3-100(2)	Indiana Ave	30 X 8	X		3.33		N/S				
				W14-2aL	(LEFT) ARROW NO OUTLET	36 X 8	X		2.00		W				
				R1-1	STOP	30 X 30	X		6.25		N				
31	"H"13+87		X	W14-2	NO OUTLET	30 X 30	X				S	PST	2.5	1	REINSTALL EXISTING SIGN. SEE NOTE 21
32	"01"98+22		X	R3-108 L/L/S/S/R	(LEFT) ARROW ONLY, (LEFT) ARROW ONLY, (THRU) ARROW ONLY, (THRU) ARROW ONLY, (RIGHT) ARROW ONLY	84 X 30		X			S	TS	3	2	SEE NOTES 19-21. REINSTALL EXISTING SIGN. CAUTION! WATERLINE ADJCENT TO SIGN FOUNDATION. LOCATE WATERLINE PRIOR TO INSTALLING SIGN POST FOUNDATIONS. ADJUST SIGN LOCATION AT THE ENGINEER'S DIRECTION.
33	"01"98+50	X		D14-100	ADOPT A HWY	30 X 24	X				N	PST	2.5	1	REINSTALL EXISTING PANELS. SEE NOTE 21.
					SPONSOR NAME PLATE	30 X 12									
34	"01"100+10	X		R2-1	40 MPH SPEED LIMIT	30 X 36	X				N	PST	2.5	1	REINSTALL EXISTING SIGN. SEE NOTE 21.
								SUBTOTAL =	287.58						
								SIGNAL SIGN SUBTOTAL =	0.00						
								TOTAL SIGN AREA =	287.58						

SIGN SUMMARY
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STATE OF ALASKA
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STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H11	H44

SALVAGE SIGN SUMMARY

ALIGNMENT	STATION	CL REF	ASDS CODE	LEGEND	REMARKS
01	67+99	43.5' LT	R1-1	STOP	
01	68+17	84.0' LT	R3-2	NO ARROW (LEFT) TURN	
01	68+71	43.1' LT	R5-1	DO NOT ENTER	
01	73+13	41.0 RT	SPECIAL	BRIDGE MAY BE ICY	FOLDABLE WARNING SIGN
01	77+42	32.5' RT	D3-2	CHENA RIVER	
			SPECIAL	ADOPT A WATERWAY	
01	78+53	28.2' RT	D11-1	BIKE (SYMBOL) ROUTE	MOUNTED ON LIGHT POLE
			D11-1bP	USE SIDEWALK	
01	83+92	43.1' LT	R107-7A	BUS STOP (SYMBOL)	STORE SIGN UNTIL IT CAN BE RELOCATED TO NEW LOCATION
GD W	11+83	RT	D3-101(2)	UNIVERSITY AVE	
			D3-1	GOLDIZEN AVE	
			W14-2aL	(LEFT) ARROW NO OUTLET	
			W14-2aR	NO OUTLET (RIGHT) ARROW	
			R1-1	STOP	
01	84+26	34.0' RT	D3-1	GOLDIZEN AVE	
			R1-1	STOP	
01	84+81	43.0' RT	SPECIAL	BRIDGE MAY BE ICY	FOLDABLE WARNING SIGN
01	84+85	24.3' RT	D11-1	BIKE (SYMBOL) ROUTE	
			D11-1bP	USE SIDEWALK	
01	84+91	24.2' RT	R107-7A	BUS STOP (SYMBOL)	STORE SIGN UNTIL IT CAN BE RELOCATED TO NEW LOCATION
01	91+62	77.0' RT	R5-2	NO LARGE TRUCKS	
			SPECIAL	LOCAL TRUCKS ONLY	
01	91+90	29.3' RT	D3-1	WIDENER LN	
			R1-1	STOP	
01	94+43	27.4' RT	SPECIAL	ADOPT A WATERWAY	
01	96+61	56.0' LT	D11-1	BIKE (SYMBOL) ROUTE	
			D11-1bP	USE SIDEWALK	
01	96+63	38.5' RT	R107-7A	BUS STOP (SYMBOL)	STORE SIGN UNTIL IT CAN BE RELOCATED TO NEW LOCATION
01	97+52	RT	D3-100(2)	UNIVERSITY AVE	STORE SIGNS UNTIL THEY CAN BE RELOCATED TO NEW LOCATION
			D3-100(2)	INDIANA AVE	
			R1-1	STOP	
H	14+60	RT	OM1-1(2)	OBJECT MARKER	
H	14+62	LT	W14-1	NO OUTLET	STORE SIGN UNTIL IT CAN BE RELOCATED TO NEW LOCATION
H	14+62	LT	W1-1L	LT TURN	
H	14+93	LT	W1-1R	RT TURN	
01	98+75	RT	R3-108	LANE USE	STORE SIGN UNTIL IT CAN BE RELOCATED TO NEW LOCATION
01	99+75	RT	W14-1	DEAD END	
01	100+10	LT	D14-100	ADOPT A HWY	STORE SIGNS UNTIL THEY CAN BE RELOCATED TO NEW LOCATION
				SPONSOR NAME PLATE	
01	100+18	RT	D3-100(2)	UNIVERSITY AVE	
			D3-100(2)	WOLF RUN	
			W14-1aR	DEAD END (RIGHT) ARROW	
			R1-1	STOP	
01	100+45	LT	R4-7	KEEP RIGHT	STORE SIGNS UNTIL THEY CAN BE RELOCATED TO NEW LOCATION
			OM1-1	OBJECT MARKER	
01	100+93	LT	R2-1	40 MPH SPEED LIMIT	STORE SIGN UNTIL IT CAN BE RELOCATED TO NEW LOCATION

SIGN SALVAGE AND DISPOSAL NOTES:

1. DELIVER SALVAGED SIGN PANELS, NOT IDENTIFIED FOR REUSE IN THE SIGNING SUMMARY, TO THE DOT&PF FAIRBANKS MAINTENANCE YARD LOCATED AT 2301 PEGER ROAD.

   CONTACT DANIEL SCHACHER (907) 451-5276 TO ARRANGE FOR DELIVERY.

2. SALVAGED SIGNS WILL BE PAID PER EACH SIGN PANEL DELIVERED IN ACCEPTABLE CONDITION.

SALVAGE SIGN SUMMARY

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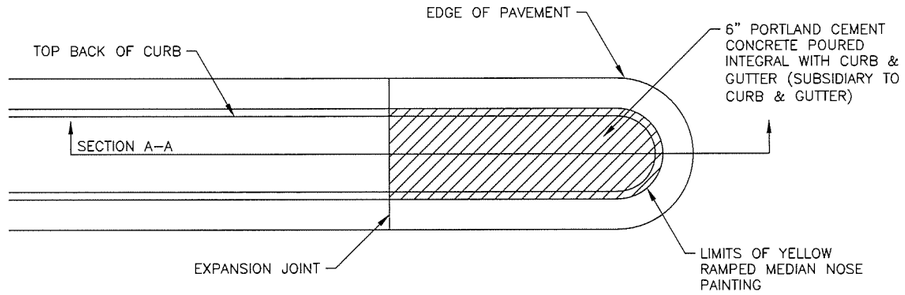
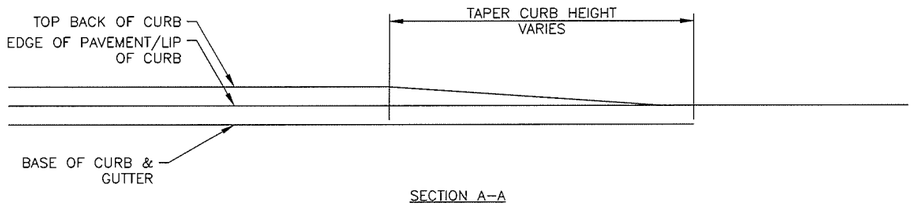
ALASKA	0617012/NFHWY00270	2019	H12	H44





SECTION A–A

RAMPED MEDIAN NOSE DETAIL

N.T.S.

MARKING DETAIL

STATE OF ALASKA 49 REVIEW PS&E JASON J131 REGISTERED PROFESSIONAL ENGINEER
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PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
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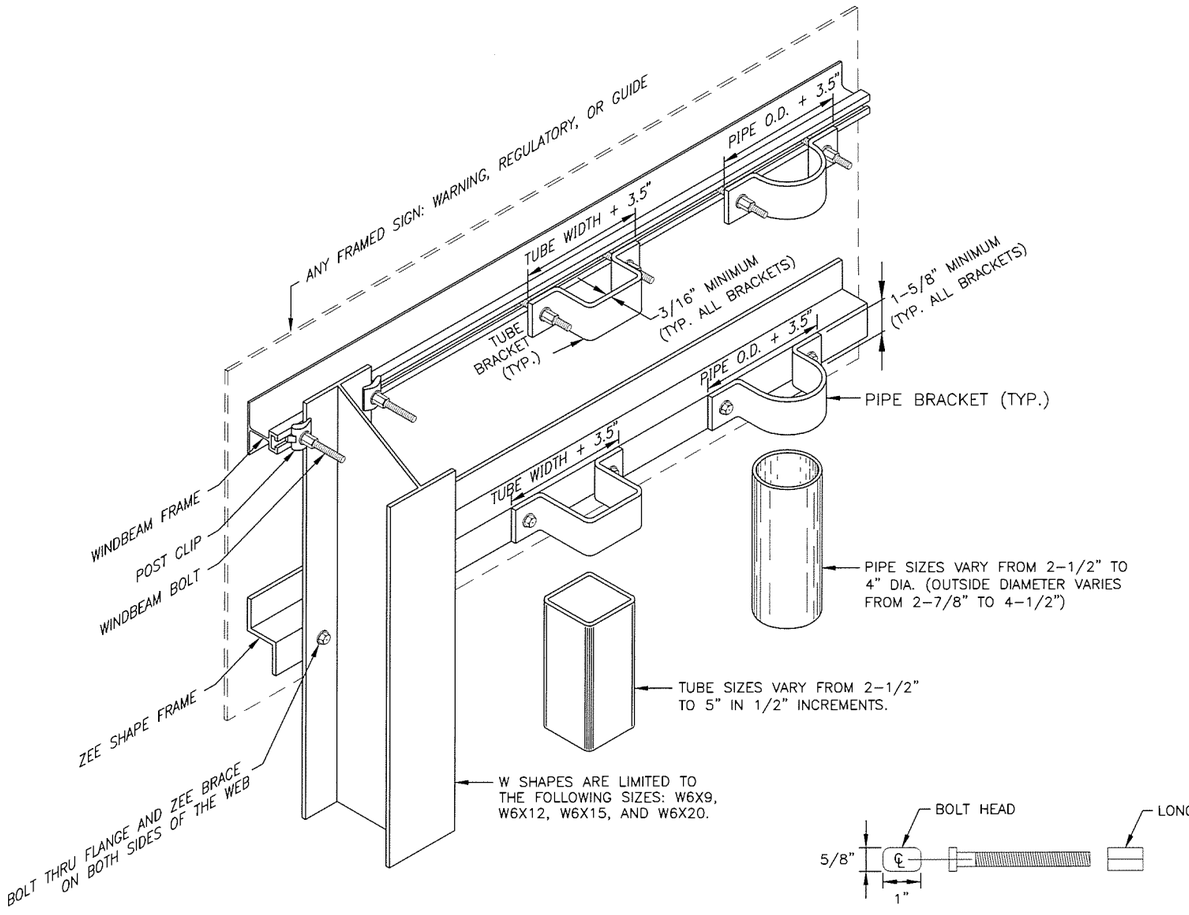
			ALASKA	0617012/NFHWY00270	2019	H13	H44

FRAMED SIGN & BRACKET DETAIL 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.

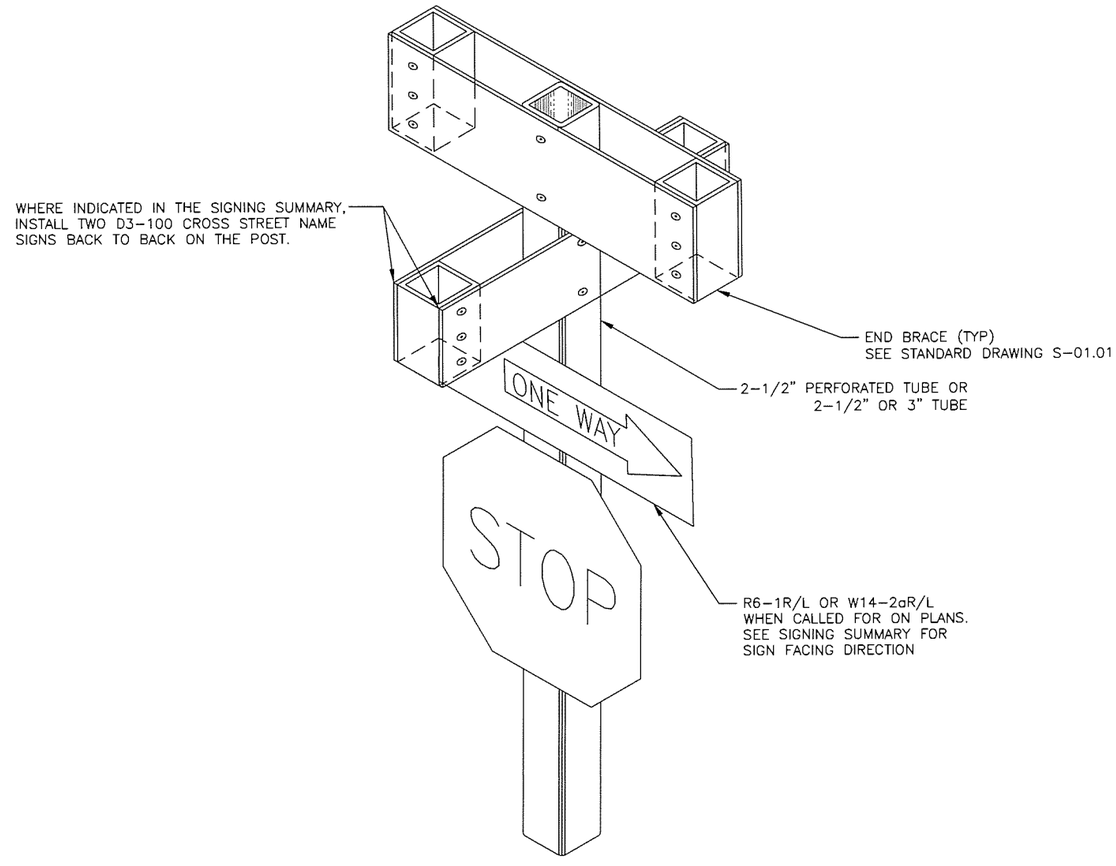
FASTENER SPECIFICATION TABLE		
FASTENERS	STEEL	STAINLESS STEEL
BOLTS	ASTM A 307	ASTM F 593
NUTS	ASTM A 563	ASTM F 594
WASHERS	ASTM F 844	ASTM A 480

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



FRAMED SIGN ATTACHMENT BRACKETS

3/8" DIA. WINDBEAM BOLT AND LONG NUT



STREET NAME SIGN NOTES:

1. VERTICALLY SEPARATE MULTIPLE SIGNS MOUNTED ON THE SAME POST BY 2 1/2 INCHES.
2. WHERE CALLED FOR INSTALL W14-2aL AND W14-2aR SIGN BACK TO BACK USING END BRACING PER STANDARD DRAWING S-01.01. MOUNT BELOW THE CROSS STREET NAME SIGNS.
3. WHERE A SINGLE SIGN THAT IS NOT MOUNTED BACK TO BACK IS CALLED FOR IN THE SIGNING SUMMARY, INSTALL USING FLAT GALVANIZED STEEL BRACE(S) IN ACCORDANCE WITH STANDARD DRAWING S-01.01.

STREET NAME SIGN

SIGN DETAILS
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STATE OF ALASKA 49 REVIEW PS&E JASON 13131 REGISTERED PROFESSIONAL ENGINEER
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BANDING: ¾" x 0.030 STAINLESS STEEL DOUBLE BANDING (TYPICAL)
BUCKLES: ¾" STAINLESS STEEL (TYPICAL)

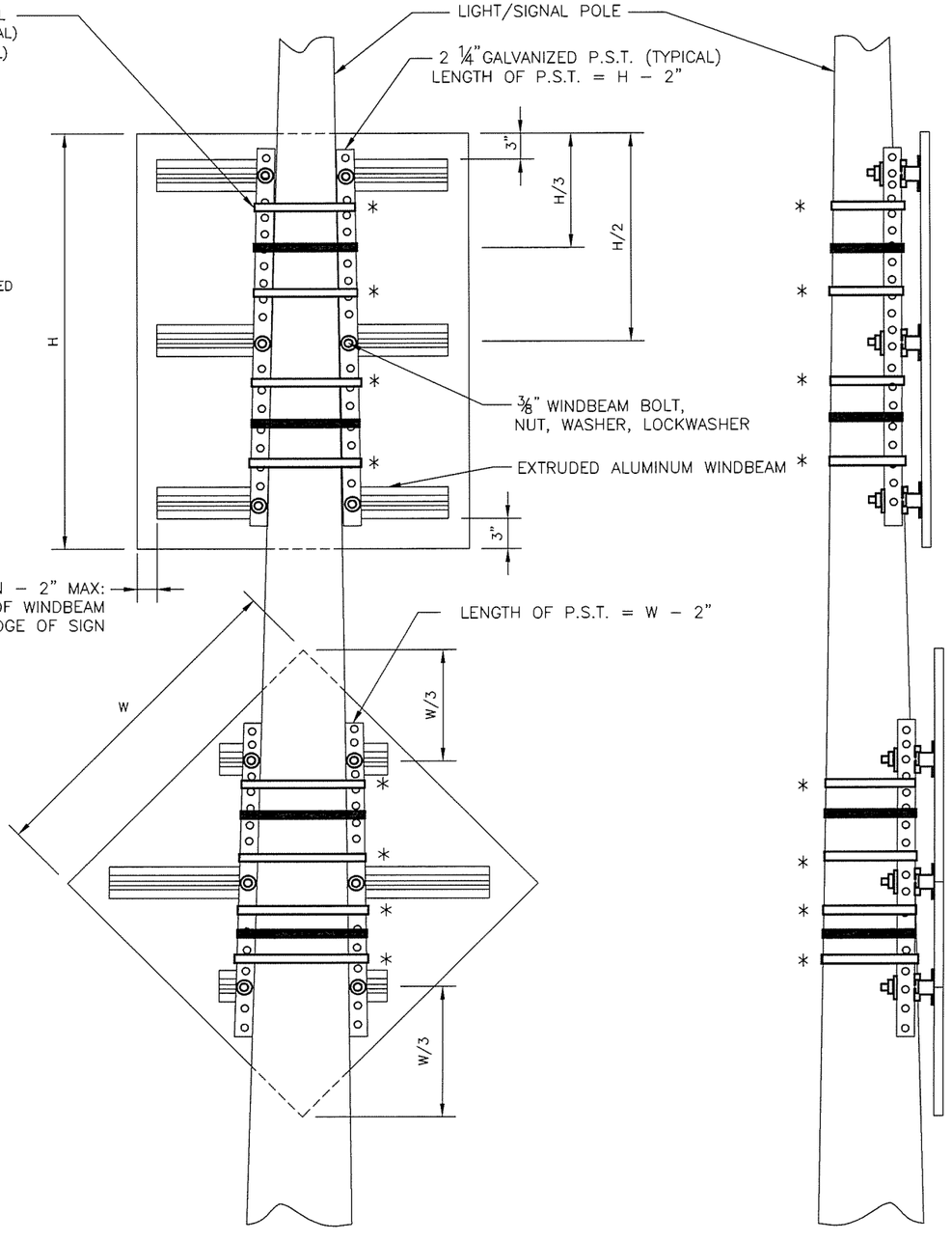
IF H > 48" 3 WINDBEAMS ARE REQUIRED

IF 15" < H ≤ 48" USE 2 WINDBEAMS

IF H ≤ 15" USE 1 WINDBEAM

USE 4 BANDS H ≥ 48"
USE 2 BANDS H < 48"

BAND LOCATIONS
SPACE BANDS H/5
WHEN 4 ARE REQUIRED



IF W ≥ 36"
3 WINDBEAMS ARE REQUIRED

IF W < 36"
USE 2 WINDBEAMS

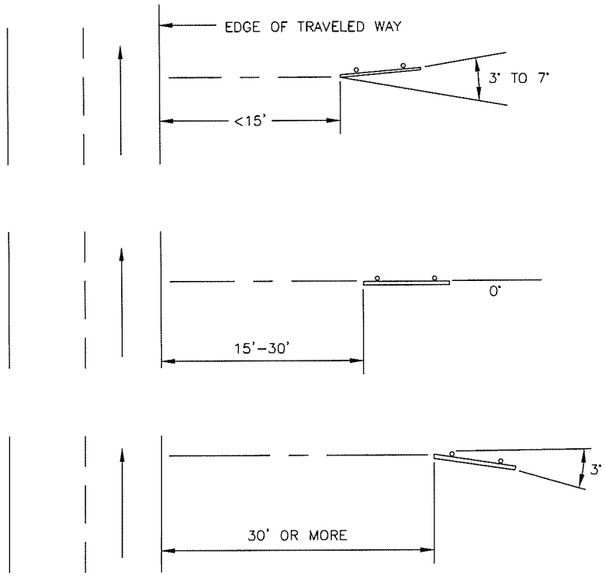
USE 4 BANDS W ≥ 48"
USE 2 BANDS W < 48"

BAND LOCATIONS
SPACE BANDS W/5
WHEN 4 ARE REQUIRED

NOTE:

1. ATTACH SIGN TO WINDBEAMS WITH 3/16" RIVETS AT 4" STAGGERED SPACING.

LIGHT/SIGNAL POLE SIGN FRAMING & MOUNTING DETAILS



SIGN INSTALLATION ANGLES

SIGN DETAILS
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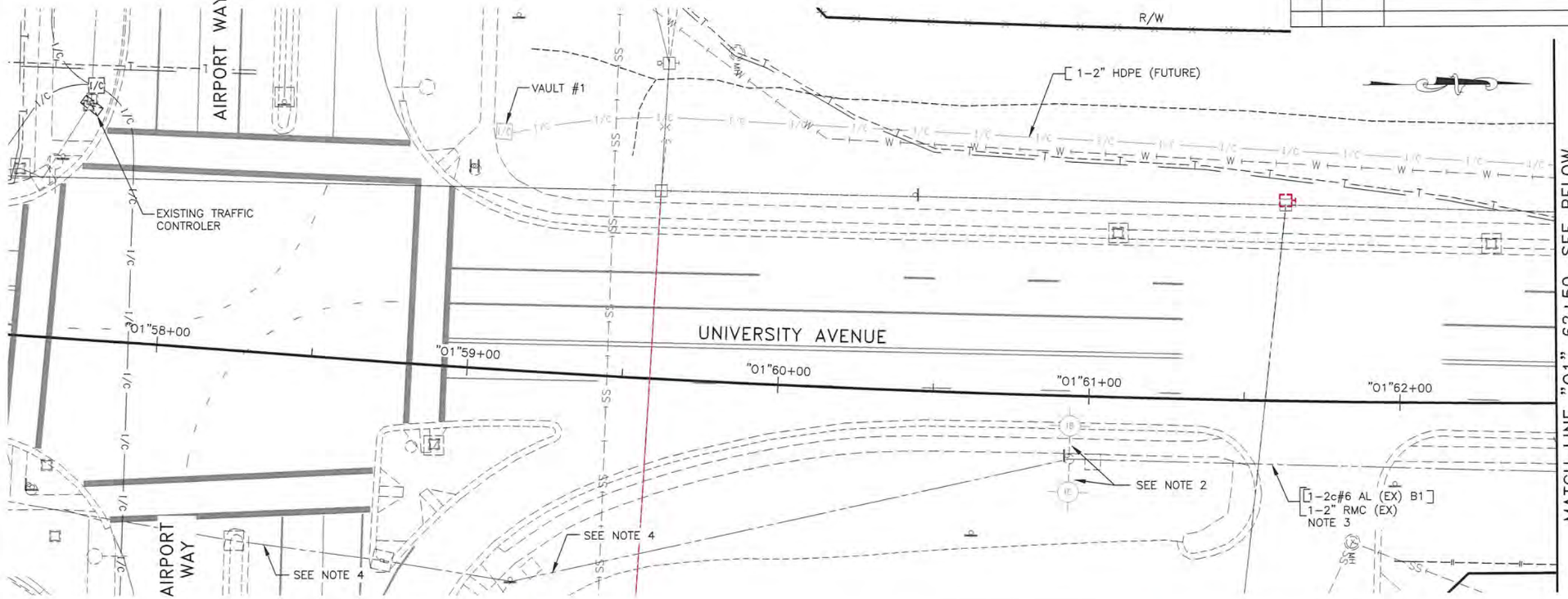
ALASKA	0617012/NFHWY00270	2019	H15	H44

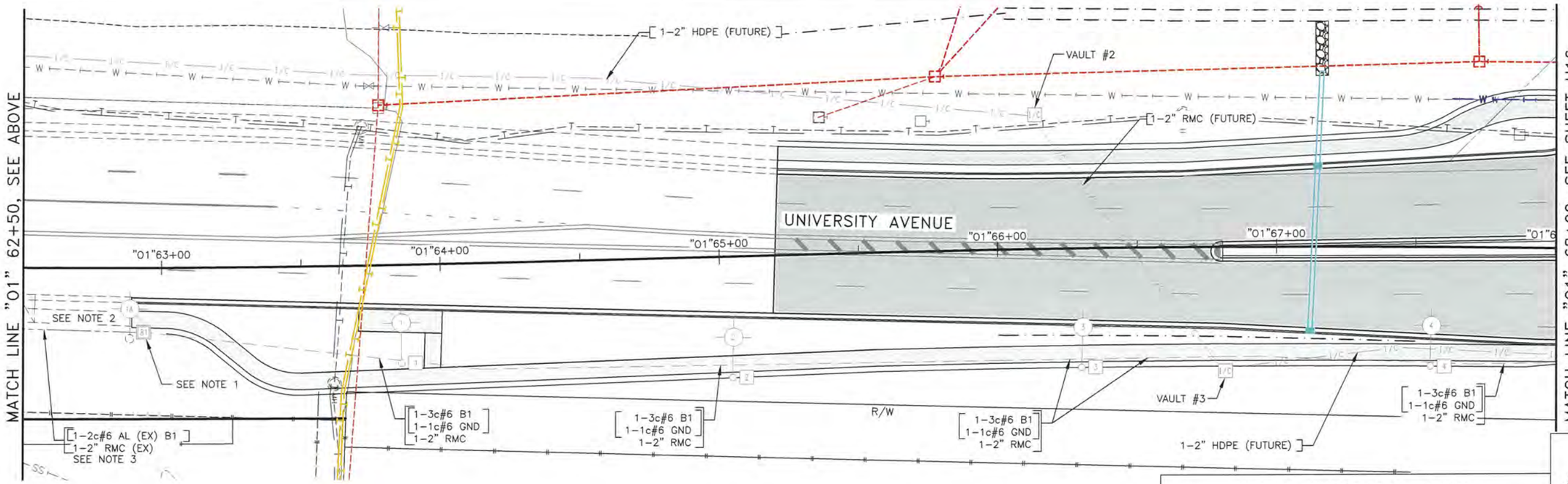


GENERAL NOTES (APPLY TO ILLUMINATION & INTERCONNECT PLANS, SHEETS H15 TO H23):

1. EQUIPMENT GROUND CONDUCTORS (EGC) ARE NOT INDICATED ON PLANS FOR CLARITY; PROVIDE 1-#8 BARE COPPER EQUIPMENT GROUND CONDUCTOR IN ALL CONDUITS PER SPEC SECTION 660, WITH THE FOLLOWING EXCEPTIONS:
   - WHERE ANOTHER GROUND CONDUCTOR SIZE IS SPECIFIED.
   - NOT REQUIRED FOR SPARE CONDUITS.
   - NOT REQUIRED IN CONDUITS CONTAINING ONLY FIBER CABLE.
2. REFER TO ELECTROLIER SUMMARY ON SHEET H24. ELECTROLIER FOUNDATIONS AND ASSOCIATED JUNCTION BOXES SHALL BE LOCATED PER DETAILS ON SHEET H26 UNLESS OTHERWISE NOTED.

SHEET NOTES:

1. INTERCEPT EXISTING LIGHTING CIRCUIT IN RMC WITH ELBOW UP INTO NEW J-BOX NEAR BASE OF EXISTING ELECTROLIER. SPLICE NEW LIGHTING CIRCUIT TO EXISTING CONDUCTORS TO SUPPLY ELECTROLIERS 1A, 1B, AND 1C (DISCONNECTED BY DEMOLITION).
2. PROVIDE NEW LUMINAIRE PER SCHEDULE ON EXISTING LIGHTING STANDARD. RECONNECT TO EXISTING CONDUCTORS.
3. EXISTING ALUMINUM (AL) LIGHTING CIRCUIT CONDUCTORS SHALL BE RECONNECTED TO NEW LOAD CENTER CIRCUIT AS INDICATED.
4. EXISTING/ABANDONED CIRCUITS OF RECORD DRAWINGS ORIGIN NOT VERIFIED. ISOLATE ANY UNUSED LIVE CIRCUITS AS REQUIRED.



ILLUMINATION AND INTRCONNECT PLANS
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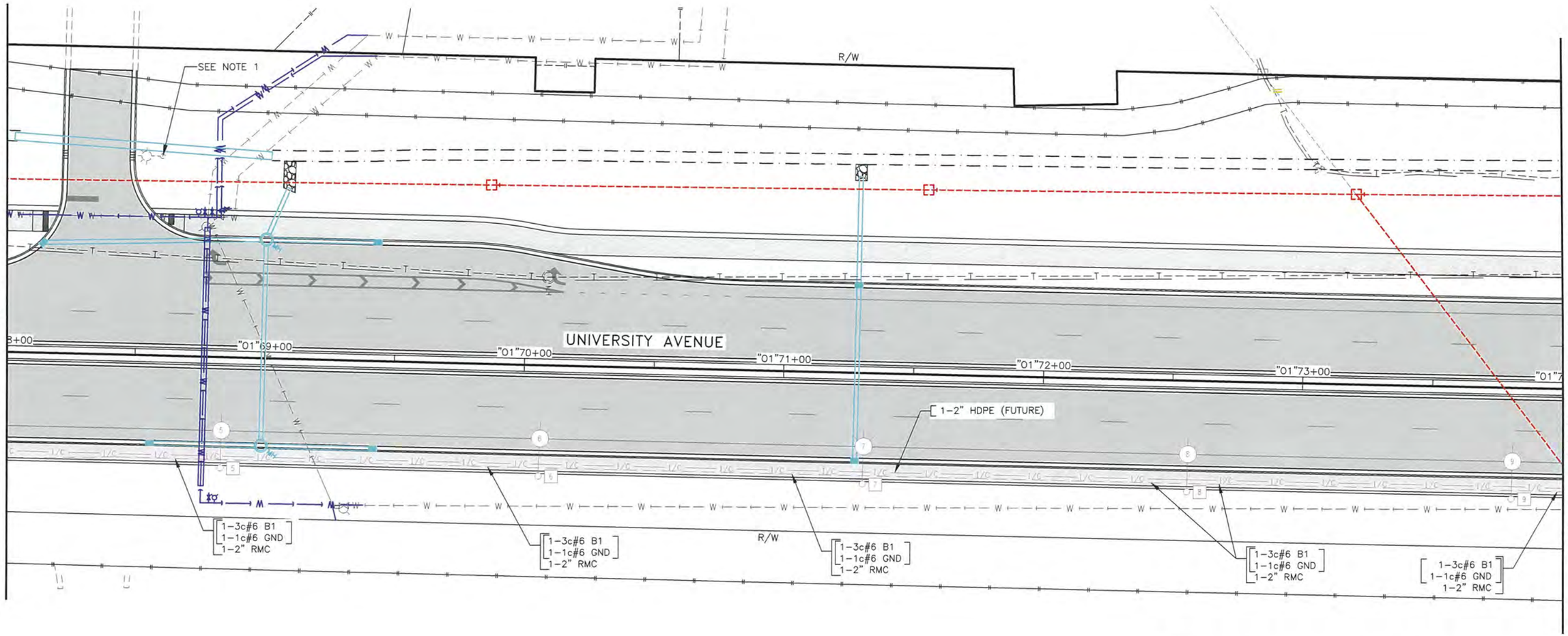
ALASKA	0617012/NFHWY00270	2019	H16	H44



NOTE:
1. RELOCATE EXISTING PRIVATE LIGHT POLE TO PROVIDE 2 FT OF HORIZONTAL SEPARATION BETWEEN FOUNDATION AND NEW SD PIPE. REINSTALL LIGHT POLE ON NEW CIDH FOUNDATION PER DETAIL ON SHEET H35. MATCH EXISTING ANCHOR BOLT LAYOUT.

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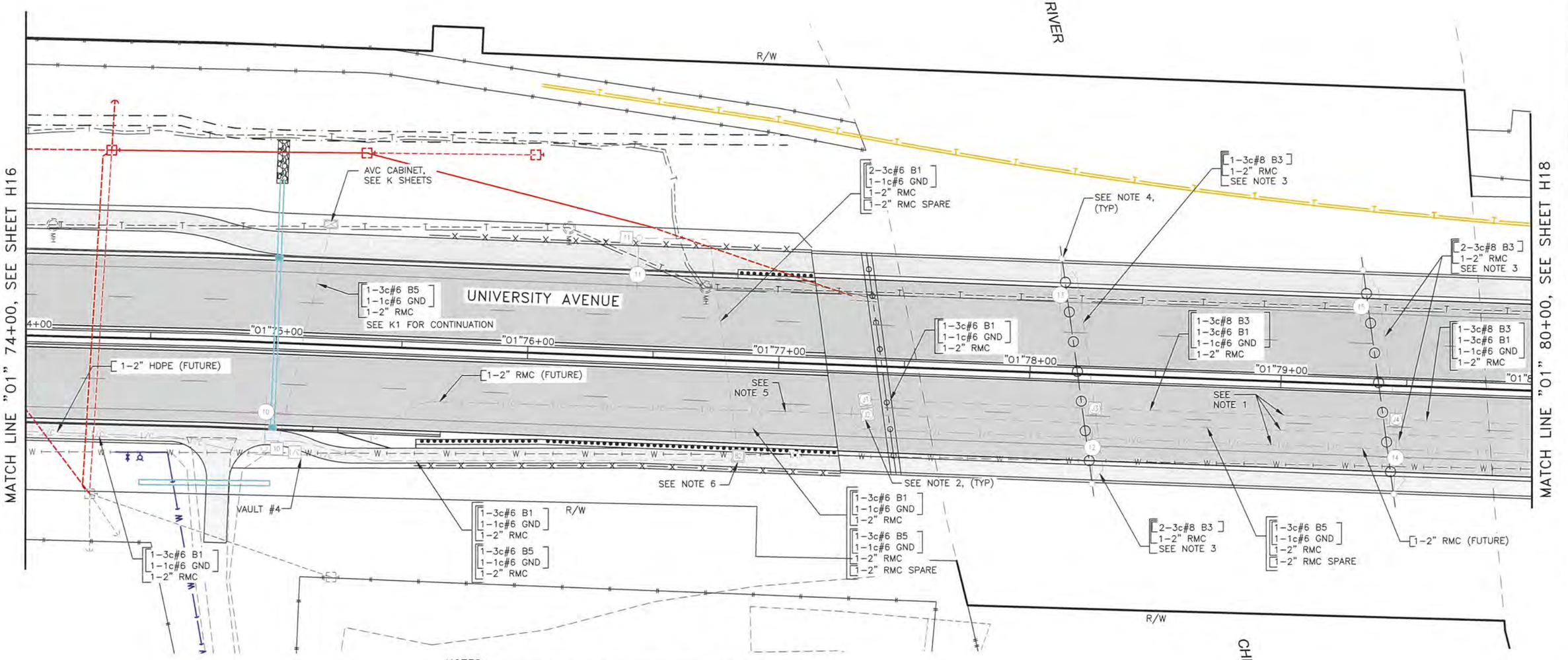
			ALASKA	0617012/NFHWY00270	2019	H17	H44



NOTES:

1. ROUTE CONDUITS IN UTILITY RACK BETWEEN GIRDERS WITH SLEEVED PENETRATIONS THRU CIP DIAPHRAGMS. SEE SHEET H33 AND H34 FOR DETAILS.
2. SEE SHEET H26 FOR JUNCTION BOX SCHEDULE AND SHEET H34 FOR INSTALLATION DETAILS UNDER BRIDGE.
3. CAST RMC EXTENSIONS FOR BRIDGE ELECTROLIERS INTO PIER DIAPHRAGMS.
4. MOUNT ELECTROLIER ON CORBEL FOUNDATION AS DETAILED IN BRIDGE STRUCTURAL PLANS. SUPPLY POLE BASE ANCHOR BOLTS, SAME AS REQUIRED FOR STANDARD CIDH FOUNDATION.
5. ROUTE CONDUITS IN UTILIDUCT AT APPROACH TO BRIDGE ABUTMENT. REFER TO BRIDGE PLANS FOR UTILIDUCT PROVISIONS.
6. PRIOR TO INSTALLING CONDUITS AND JUNCTION BOX LOCATE GUARDRAIL POSTS. ADJUST CONDUIT AND JUNCTION BOX TO AVOID GUARDRAIL POSTS

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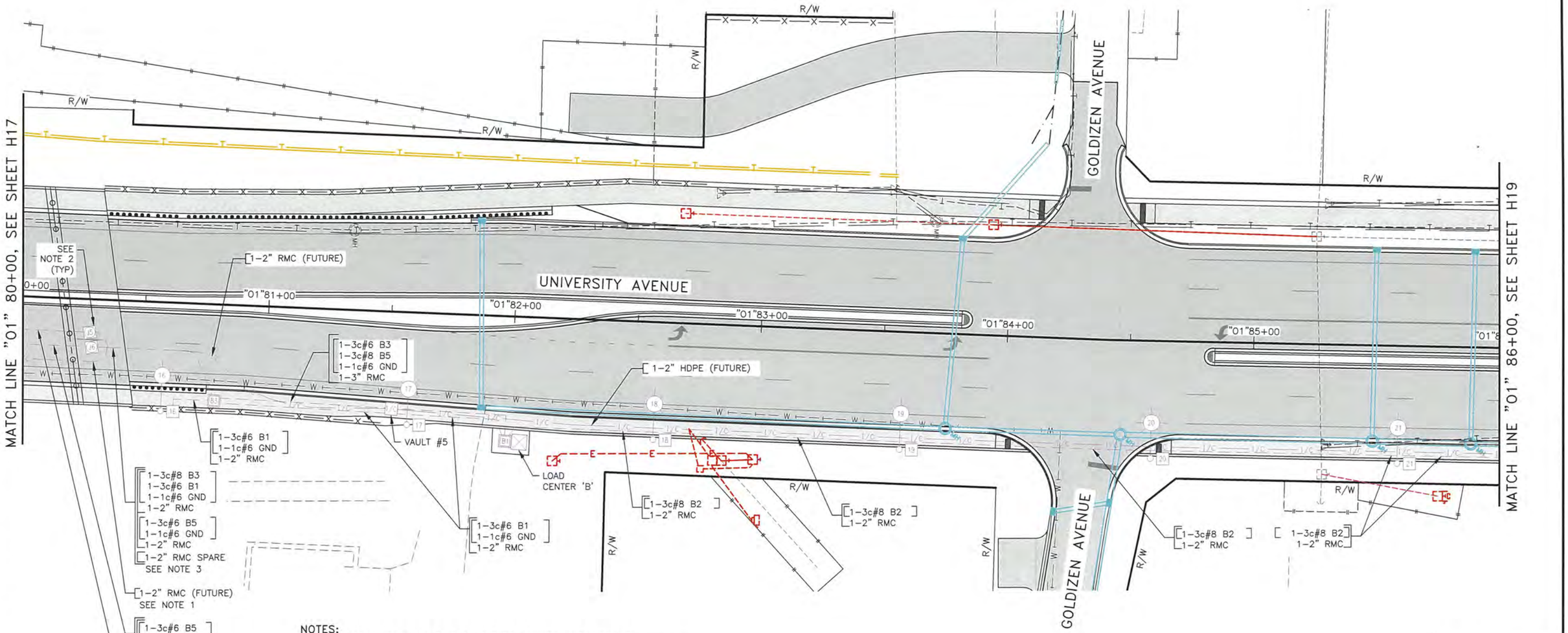
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H18	H44



NOTES:

1. ROUTE CONDUITS IN UTILITY RACK BETWEEN GIRDERS WITH SLEEVED PENETRATIONS THRU CIP DIAPHRAGMS. SEE SHEET H33 AND H34 FOR DETAILS.
2. SEE SHEET H26 FOR JUNCTION BOX SCHEDULE AND SHEET H34 FOR INSTALLATION DETAILS UNDER BRIDGE.
3. ROUTE CONDUITS IN UTILIDUCT AT APPROACH TO BRIDGE ABUTMENT. REFER TO BRIDGE PLANS FOR UTILIDUCT PROVISIONS.

ILLUMINATION AND INTRCONNECT PLANS
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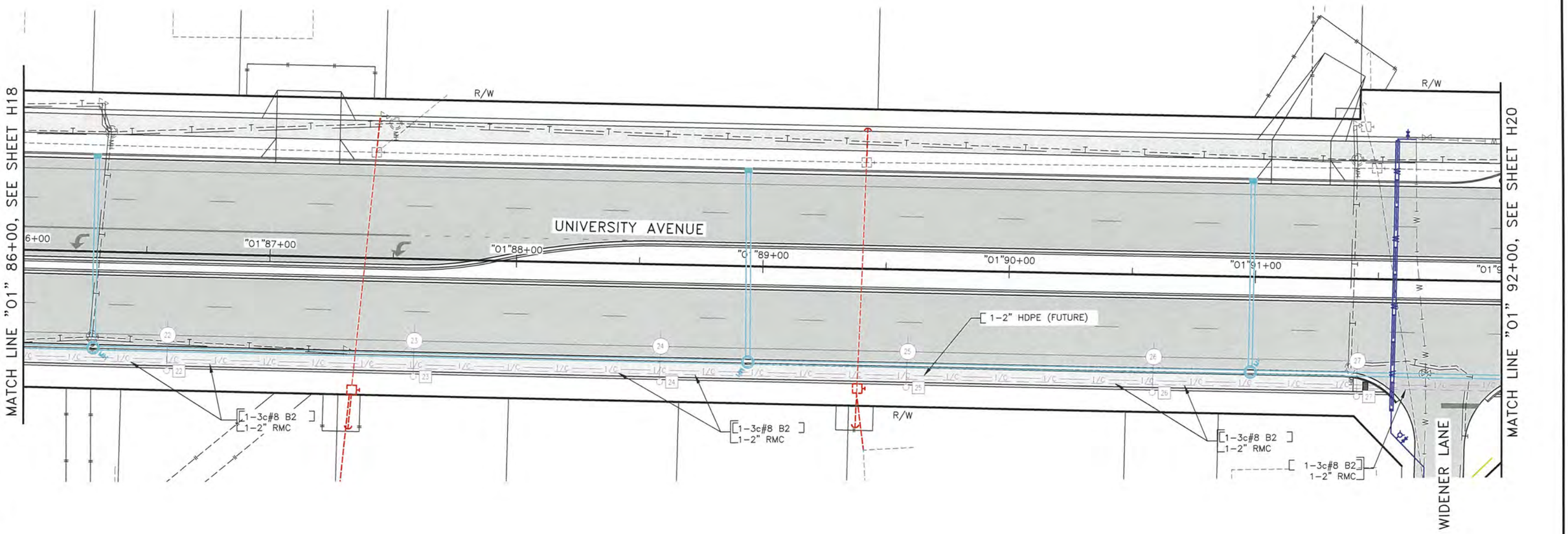
ALASKA	0617012/NFHWY00270	2019	H19	H44



ILLUMINATION AND
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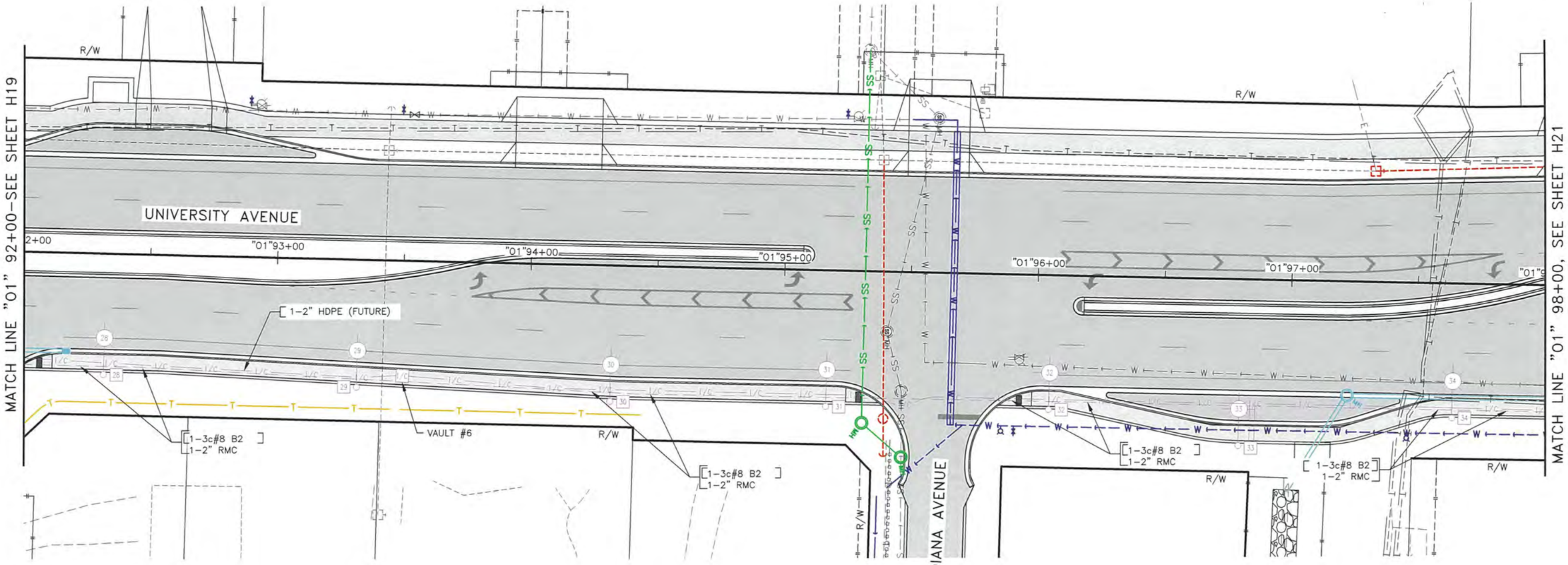
ALASKA	0617012/NFHWY00270	2019	H20	H44



ILLUMINATION AND
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STATE OF ALASKA
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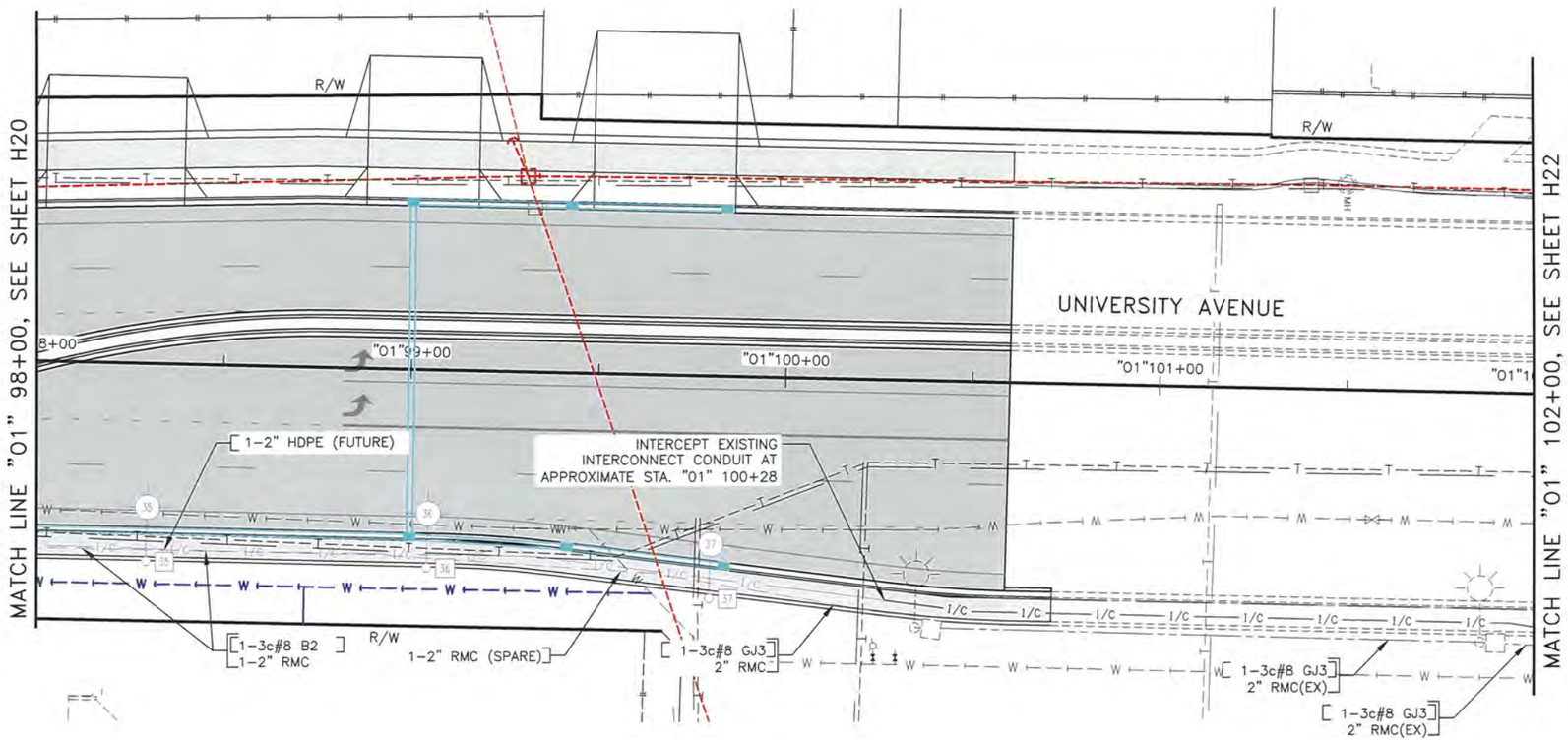
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H21	H44



ILLUMINATION AND INTRCONNECT PLANS
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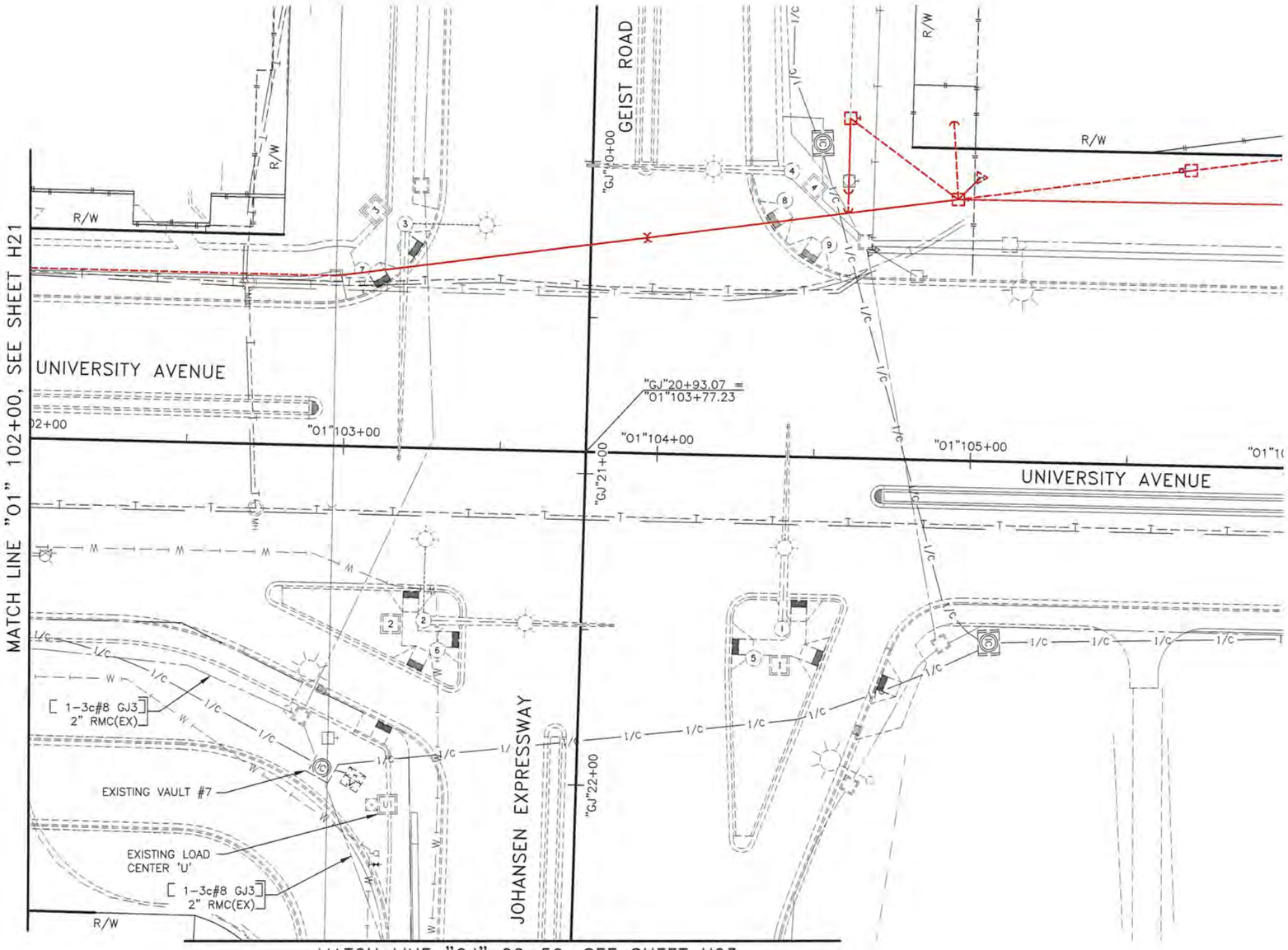
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H22	H44



ILLUMINATION AND
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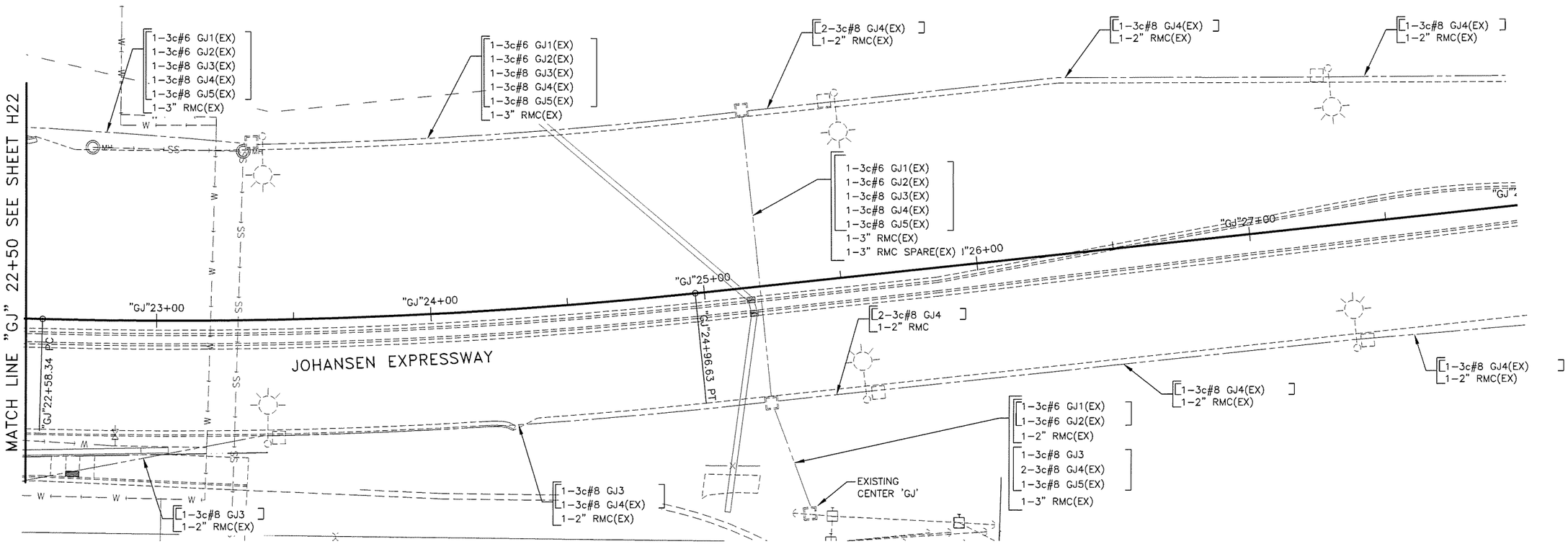
REGISTERED PROFESSIONAL ENGINEER
8/22/2019

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd. Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_H15-H23_ILLUM&INTERC-H22 Thu, Aug/22/19 10:39am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H23	H44



ILLUMINATION AND INTRCONNECT PLANS 9 OF 9

STATE OF ALASKA
49
REVIEW
PS&E
JASON
13131
REGISTERED PROFESSIONAL ENGINEER
8/22/2019

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

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H24	H44

ELECTROLIER SUMMARY

LUMINAIRE No.	ALIGN.	STATION	OFFSET	POLE TYPE	BASE TYPE	LUMINAIRE			ADJUSTABLE OUTPUT (NOTE 10)	CIRCUIT	MOUNT HEIGHT	MAST ARM LENGTH	REMARKS
						TYPE	VOLTAGE	WATTAGE					
1C	"01"	60+94	RT	STP (EX)	EXISTING	A	480V	240W		B1	40' (EX)	12' (EX)	NOTE 5, EAST MAST ARM
1B	"01"	60+94	RT	STP (EX)	EXISTING	A	480V	240W		B1	40' (EX)	12' (EX)	NOTE 5, WEST MAST ARM
1A	"01"	62+89	RT	STP (EX)	EXISTING	A	480V	240W		B1	40' (EX)	15' (EX)	NOTE 5
1	"01"	63+86	RT	STP	CIDH	A	480V	240W		B1	40'	22'	
2	"01"	65+04	RT	STP	CIDH	A	480V	240W		B1	40'	22'	
3	"01"	66+30	RT	STP	CIDH	A	480V	240W		B1	40'	22'	
4	"01"	67+56	RT	STP	CIDH	A	480V	24DW		B1	40'	22'	
5	"01"	68+84	RT	STP	CIDH	A	480V	240W		B1	40'	22'	
6	"01"	70+06	RT	STP	CIDH	A	480V	240W		B1	40'	22'	
7	"01"	71+31	RT	STP	CIDH	A	480V	240W		B1	40'	22'	
8	"01"	72+56	RT	STP	CIDH	A	480V	240W		B1	40'	22'	
9	"01"	73+81	RT	STP	CIDH	A	480V	240W		B1	40'	22'	
10	"01"	74+97	RT	STP	CIDH	A	480V	240W		B1	40'	22'	
11	"01"	76+42	LT	STP (EX)	CIDH	EXISTING	480V	268W		B1	40' (EX)	12' (EX)	RELOCATED ELECTROLIER
13	"01"	78+11	LT	STP	–	B	480V	220W	70%	B3	30'	10'	CORBEL POLE BASE ON BRIDGE; SEE PLANS
12	"01"	78+27	RT	STP	–	B	480V	220W	70%	B3	30'	10'	CORBEL POLE BASE ON BRIDGE; SEE PLANS
15	"01"	79+31	LT	STP	–	B	480V	220W	70%	B3	30'	10'	CORBEL POLE BASE ON BRIDGE; SEE PLANS
14	"01"	79+47	RT	STP	–	B	480V	220W	70%	B3	30'	10'	CORBEL POLE BASE ON BRIDGE; SEE PLANS
16	"01"	80+58	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
17	"01"	81+58	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
18	"01"	82+58	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
19	"01"	83+58	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
20	"01"	84+59	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
21	"01"	85+59	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
22	"01"	86+59	RT	STP	DPP	A	480V	240W		B2	45'	22'	
23	"01"	87+59	RT	STP	DPP	A	480V	240W		B2	45'	22'	
24	"01"	88+59	RT	STP	DPP	A	480V	240W		B2	45'	22'	
25	"01"	89+59	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
26	"01"	90+59	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
27	"01"	91+42	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
28	"01"	92+32	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
29	"01"	93+32	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
30	"01"	94+32	RT	STP	DPP	A	480V	240W		B2	45'	22'	
31	"01"	95+17	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
32	"01"	96+05	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
33	"01"	96+80	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
34	"01"	97+64	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
35	"01"	98+30	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
36	"01"	99+05	RT	STP	CIDH	A	480V	240W		B2	45'	22'	
37	"01"	99+81	RT	STP	CIDH	A	480V	240W		GJ3	45'	22'	

ELECTROLIER SUMMARY NOTES:

1. LUMINAIRES FOR CONTINUOUS STREET LIGHTING SHALL BE SUITABLE FOR 480V SUPPLY, AND COMPLY WITH SPECIAL PROVISIONS OF SECTION 740–2.18. LUMINAIRES SHALL PROVIDE THE AVERAGE INITIAL LUMINANCE, ILLUMINANCE, AND UNIFORMITIES SPECIFIED IN THE PERFORMANCE CRITERIA SCHEDULES. PROVIDE LIGHTING CALCULATIONS USING THE MANUFACTURER'S CURRENT PUBLISHED PHOTOMETRIC DATA IN ACCORDANCE WITH SPECIAL PROVISIONS OF SECTION 740–2.18 FOR LED ROADWAY LUMINAIRES.
2. PRIOR TO INSTALLATION, CONTRACTOR SHALL REQUEST LOCATES FOR EXISTING UNDERGROUND UTILITIES, AND RECEIVE WRITTEN CONFIRMATION THAT ALL FACILITIES HAVE BEEN IDENTIFIED.
3. POLE LOCATIONS SHALL BE STAKED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ADJUST POLE LOCATIONS AS DIRECTED BY THE ENGINEER. MINOR RELOCATIONS OF FOUNDATIONS, CONDUIT, AND JUNCTION BOXES SHALL BE CONSIDERED SUBSIDIARY TO THE SECTION 660(3) PAY ITEM.
4. JUNCTION BOXES AND CONDUIT RUNS SHOWN IN PLANS FOR THE LIGHTING SYSTEM ARE CONSIDERED SUBSIDIARY TO THE 660(3) HIGHWAY LIGHTING SYSTEM PAY ITEM.
5. PROVIDE NEW LUMINAIRES ON EXISTING LIGHTING STANDARDS WHERE INDICATED IN THE PLANS. RE–USE EXISTING CONDUCTORS WITHIN POLE UNLESS OTHERWISE NOTED.
6. DESIGN MOUNTING HEIGHT AS SCHEDULED SHALL BE MEASURED FROM THE FINISHED ROAD SURFACE TO THE LUMINAIRE. ALL LUMINAIRES SHALL BE CUTOFF TYPE MOUNTED HORIZONTAL WITH ZERO TILT UNLESS OTHERWISE NOTED.
7. PROVIDE LIGHTING STANDARDS IN ACCORDANCE WITH STANDARD DRAWING L–03.10. SEE SHEET H36 FOR CIDH LIGHT POLE FOUNDATION DETAIL.
8. ORIENT POLE WITH LUMINAIRE MAST ARMS AS INDICATED ON THE PLANS, TYPICALLY PERPENDICULAR TO THE ROADWAY CENTERLINE, UNLESS A SPECIFIC ORIENTATION IS OTHERWISE NOTED.
9. ALL LUMINAIRES SHALL BE FURNISHED WITH A 0–10V DIMMING BALLAST, 7–PIN NEMA PHOTOCELL TWIST–LOCK RECEPTACLE AND WIRELESS CONTROL NODE.
10. PROVIDE LUMINAIRES WITH ADJUSTABLE ARM FITTING AND SUITABLE POLE TOP TENON ADAPTER WHERE SCHEDULED WITHOUT MASTARM.
11. WHERE INDICTED ON SCHEDULE PROVIDE FIELD ADJUSTABLE OUTPUT, SETTING AS NOTED,

ABBREVIATIONS:

(EX) EXISTING
CIDH CAST IN DRILLED HOLE – SEE SHEET H36
DPP DRIVEN PIPE PILE – SEE SHEET H37

ELECTROLIER SUMMARY
1 OF 2

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NO.	DATE	REVISION

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STREET LIGHTING CRITERIA

ROADWAY CHARACTERISTICS	
ROADWAY LIGHTING STANDARD:	IESNA RP-8-2014
CALCULATION ZONE:	ENTIRE ROADWAY
ROADWAY CLASSIFICATION:	OTHER PRINCIPAL ARTERIAL
LAND USE:	INTERMEDIATE
PAVEMENT CLASSIFICATION:	R3
TRAFFIC FLOW:	2-WAY
LANE WIDTH:	12 FT.
NO. OF LANES, LEFT / RIGHT:	2
MEDIAN:	VARIES
LUMINAIRE DEPRECIATION	
LED - TOTAL LIGHT LOSS FACTOR (LLF):	0.85
ROADWAY LUMINANCE CRITERIA	
AVERAGE MAINTAINED (Lavg):	0.9 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 & VA/ WATTS	POWER FACTOR	MOUNTING	REMARKS
A	CREE RSWX-A-3ME	LED	TYPE III MED.	28,800	3000K	HIGH OUTPUT	480V 347VA/240W	>0.9	HORIZ. TENON	
B	CREE RSWX-A-3ME	LED	TYPE III MED.	23,800	3000K	HIGH OUTPUT	480V 347VA/220W	>0.9	HORIZ. TENON	

NOTES:

1. ALL LUMINAIRES SHALL BE FURNISHED WITH 0-10V DIMMING BALLAST, 7-PIN NEMA PHOTOCELL RECEPTACLE, AND WIRELESS CONTROL NODE.
2. PROVIDE LUMINAIRES WITH FIELD ADJUSTABLE OUTPUT (FAO) AS SCHEDULED IN ELECTROLIER SUMMARY.

ELECTROLIER SUMMARY
2 OF 2

REVIEW PS&E

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LUMINAIRE JUNCTION BOX SUMMARY

JUNCTION BOX No.	ALIGN.	STATION	OFFSET	TYPE	CIRCUIT	REMARKS
81	"01"	62+94	RT	1-A	B1	
1	"01"	63+91	RT	1-A	B1	
2	"01"	65+09	RT	1-A	B1	
3	"01"	66+35	RT	1-A	B1	
4	"01"	67+61	RT	1-A	B1	
5	"01"	68+89	RT	1-A	B1	
6	"01"	70+11	RT	1-A	B1	
7	"01"	71+36	RT	1-A	B1	
8	"01"	72+61	RT	1-A	B1	
9	"01"	73+86	RT	1-A	B1	
10	"01"	75+02	RT	1-A	B1, B5	
11	"01"	76+37	LT	1-A	B1	
82	"01"	76+86	RT	II	B1, B5	
J1	"01"	77+35	RT	4X	B1	16" X 12" X 6", NOTE 1, 2
J2	"01"	77+36	RT	4X	B5	16" X 12" X 6", NOTE 1, 2
J3	"01"	78+26	RT	4X	B1, B3	16" X 12" X 6", NOTE 1
J4	"01"	79+46	RT	4X	B1, B3	16" X 12" X 6", NOTE 1
J5	"01"	80+28	RT	4X	B1, B3	16" X 12" X 6", NOTE 1, 2
J6	"01"	80+29	RT	4X	B5	16" X 12" X 6", NOTE 1, 2
16	"01"	80+63	RT	1-A	B1	
83	"01"	80+79	RT	II	B1, B3, B5	
17	"01"	81+63	RT	1-A	B1	
B1	"01"	81+99	RT	II	B1-B3, B5	INSTALL ADJACENT TO LOAD CENTER "B"
18	"01"	82+63	RT	1-A	B2	
19	"01"	83+63	RT	1-A	B2	
20	"01"	84+64	RT	1-A	B2	
21	"01"	85+64	RT	1-A	B2	
22	"01"	86+64	RT	1-A	B2	
23	"01"	87+64	RT	1-A	B2	
24	"01"	88+64	RT	1-A	B2	
25	"01"	89+64	RT	1-A	B2	
26	"01"	90+64	RT	1-A	B2	
27	"01"	91+47	RT	1-A	B2	
28	"01"	92+38	RT	1-A	B2	
29	"01"	93+27	RT	1-A	B2	
30	"01"	94+38	RT	1-A	B2	
31	"01"	95+23	RT	1-A	B2	
32	"01"	96+10	RT	1-A	B2	
33	"01"	96+85	RT	1-A	B2	
34	"01"	97+69	RT	1-A	B2	
35	"01"	98+35	RT	1-A	B2	
36	"01"	99+10	RT	1-A	B2	
37	"01"	99+86	RT	1-A	GJ3	

NOTES:

1. PROVIDE ENCLOSURE WITH CONTINUOUS HINGED COVER WITH CLAMPS, 14 GA BODY & 16 GA COVER, WITH DIMENSIONS SHOWN AS A MINIMUM.
2. INCLUDE HEAVY-DUTY PAD-LOCK HASP ON COVER.

LUMINARIE JUNCTION BOX SUMMARY

REVIEW PS&E

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ELECTROLIER DEMOLITION SUMMARY

ALIGN.	STATION	OFFSET	REMARKS
"01"	64+55	29.23 RT	
"01"	66+58	38.53 RT	
"01"	68+59	77.23 LT	RELOCATE PRIVATE LIGHT POLE
"01"	69+45	41.07 RT	
"01"	72+30	41.02 RT	
"01"	75+25	40.13 RT	
"01"	77+47	30.24 RT	
"01"	77+99	27.07 LT	
"01"	78+53	28.21 RT	
"01"	79+04	28.62 LT	
"01"	79+58	26.47 RT	
"01"	80+09	30.49 LT	
"01"	82+16	28.40 RT	
"01"	84+85	24.34 RT	
"01"	87+62	24.63 RT	
"01"	90+26	24.78 RT	
"01"	92+90	24.26 RT	
"01"	95+55	24.22 RT	
"01"	98+23	31.99 RT	
"01"	98+99	43.00 RT	RELOCATE ELECTROLIER TO LUMINAIRE NO. 11 LOCATION

ELECTROLIER
DEMOLITION SUMMARY

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FIBER-OPTIC INTERCONNECT VAULT SCHEDULE

I/C VAULT NO.	LOCATION			NOTES
	ALIGNMENT	STATION	OFFSET	
VAULT 1	"01"	59+07.2	75.4 LT	VAULT TYPE 1
VAULT 2	"01"	66+13.9	48.5 LT	VAULT TYPE 1
VAULT 3	"01"	66+81.8	43.6 RT	VAULT TYPE 1
VAULT 4	"01"	76+08.1	42.5 RT	VAULT TYPE 1
VAULT 5	"01"	81+51.5	39.8 RT	VAULT TYPE 1
VAULT 6	"01"	93+50.5	45.7 RT	VAULT TYPE 1
VAULT 7	"01"	102+31.2	67.1 RT	EXISTING MANHOLE TYPE 1

INTERCONNECT VAULT SCHEDULE

REVIEW PS&E

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LOAD CENTER "B"

TYPE 1 LOAD CENTER LOCATION "U" 82+00.5, 51.1' RT.
SERVICE LOCATION "U" 82+20, 58.4' RT. APPROX. DISTANCE: 22'
PANEL A: 240/480V SINGLE PHASE SERVICE, 4-JAW METER
100 AMP MAIN BREAKER,10,000 AIC MIN.

CIRCUIT	BRANCH BREAKER	PURPOSE	CONTACTOR	LOAD
B1	20 AMP, 2P, 480V	LIGHTING	30 AMP	7.3 AMPS
B2	20 AMP, 2P, 480V	LIGHTING	30 AMP	7 AMPS
B3	20 AMP, 2P, 480V	LIGHTING	30 AMP	1.7 AMPS
B4	15 AMP, 1P, 240V	LIGHTING CONTACTOR	N/A	0.1 AMPS
B5	15 AMP, 2P, 480V	AVC TRANSFORMER	N/A	6.3 AMPS
B6	20 AMP, 2P, 480V	FUTURE LIGHTING	30 AMP	
B7	20 AMP, 2P, 480V	FUTURE LIGHTING	30 AMP	
TOTAL LOAD				22.4 AMPS
NEC TOTAL LOAD(125%)				28 AMPS
DEMAND				13.4 KVA

LOAD CENTER "GJ" (EXISTING)

TYPE 1 LOAD CENTER, LOCATION: "GJ" STA. 25+29, 90' RT.
SERVICE LOCATION: "GJ" STA. 25+38, 87' RT. APPROX. DISTANCE: 10'
240/480V SINGLE PHASE SERVICE
100 AMP MAIN BREAKER, 10,000 AIC MIN.

CIRCUIT	BRANCH BREAKER	PURPOSE	CONTACTOR	LOAD
GJ1	20 AMP, 2P, 480V	LIGHTING	30 AMP	4.8 AMPS
GJ2	20 AMP, 2P, 480V	LIGHTING	30 AMP	5.6 AMPS
GJ3	20 AMP, 2P, 480V	LIGHTING	30 AMP	7.0 AMPS
GJ4	20 AMP, 2P, 480V	LIGHTING	30 AMP	7.1 AMPS
GJ5	30 AMP, 2P, 480V	LIGHTING, TRAFFIC CTRL	N/A	7.4 AMPS
GJ6	15 AMP, 2P, 480V	SPD FEEDBACK SIGN	N/A	2.1 AMPS
GJ7	15 AMP, 1P, 240V	LIGHTING CONTACTOR	N/A	0.1 AMPS
GJ8	20 AMP, 2P, 480V	SPARE	30 AMP	
GJ9	20 AMP, 2P, 480V	EXISTING HPS LIGHTING	30 AMP	6.3 AMPS
GJ10	15 AMP, 1P, 240V	LIGHTING CONTACTOR	N/A	0.1 AMPS
TOTAL LOAD				40.7 AMPS
NEC TOTAL LOAD (125%)				50.9 AMPS
DEMAND				24.4 KVA

LOAD CENTER "GJ" (REVISED)

TYPE 1 LOAD CENTER, LOCATION: "GJ" STA. 25+29, 90' RT.
SERVICE LOCATION: "GJ" STA. 25+38, 87' RT. APPROX. DISTANCE: 10'
240/480V SINGLE PHASE SERVICE
100 AMP MAIN BREAKER, 10,000 AIC MIN.

CIRCUIT	BRANCH BREAKER	PURPOSE	CONTACTOR	LOAD
GJ1	20 AMP, 2P, 480V	LIGHTING	30 AMP	4.8 AMPS
GJ2	20 AMP, 2P, 480V	LIGHTING	30 AMP	5.6 AMPS
GJ3	20 AMP, 2P, 480V	LIGHTING	30 AMP	7.0 AMPS
GJ4	20 AMP, 2P, 480V	LIGHTING	30 AMP	7.1 AMPS
GJ5	30 AMP, 2P, 480V	LIGHTING, TRAFFIC CTRL	N/A	7.4 AMPS
GJ6	15 AMP, 2P, 480V	SPD FEEDBACK SIGN	N/A	2.1 AMPS
GJ7	15 AMP, 1P, 240V	LIGHTING CONTACTOR	N/A	0.1 AMPS
GJ8	20 AMP, 2P, 480V	SPARE	30 AMP	
GJ9	20 AMP, 2P, 480V	SPARE	30 AMP	
GJ10	15 AMP, 1P, 240V	SPARE	N/A	
TOTAL LOAD				34.2 AMPS
NEC TOTAL LOAD (125%)				42.7 AMPS
DEMAND				20.5 KVA
SEE NOTE 6 AND NOTE 7				

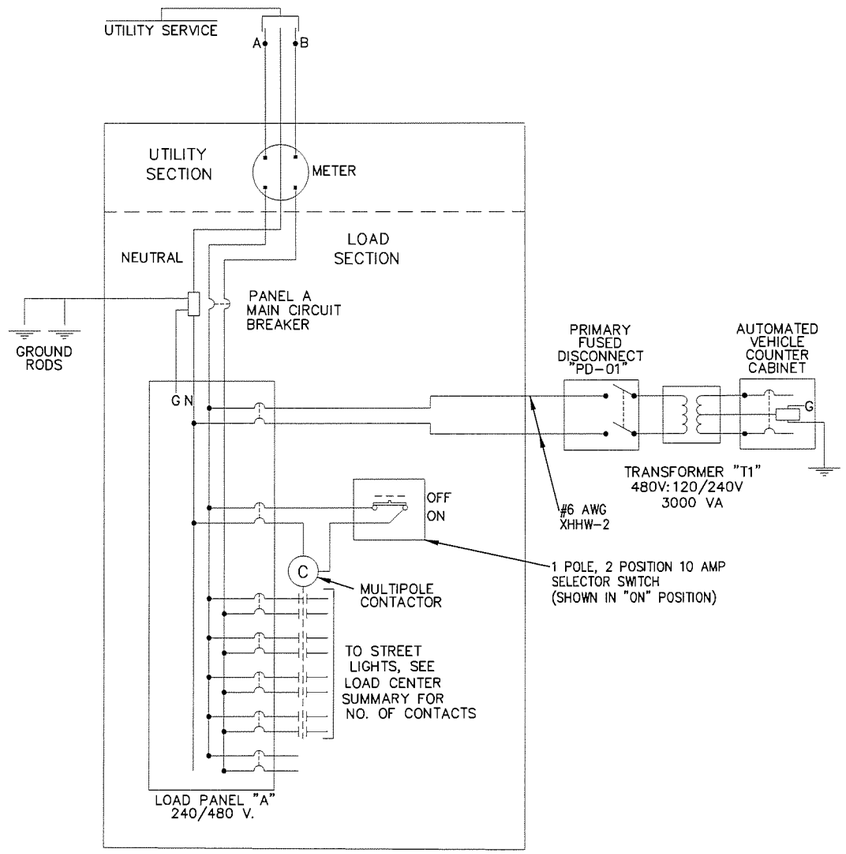
NOTES:

1. SERVING UTILITY IS GOLDEN VALLEY ELECTRIC ASSOCIATION LOCATED IN FAIRBANKS, ALASKA.
2. COORDINATE INSTALLATION OF SERVICE TO LOAD CENTERS WITH GVEA. CONTACT GVEA FOR SERVICE REQUIREMENTS AND SPECIFICATIONS.
3. SERVICE CONDUCTORS ARE TO BE COPPER, TYPE XHHW.
4. PROVIDE EQUIPMENT GROUNDING CONDUCTORS WITH ALL FEEDERS AND BRANCH CIRCUITS. TERMINATE EACH END OF SUITABLE LUG, BUS OR BUSHING. SIZE EQUIPMENT GROUNDING CONDUCTORS IN ACCORDANCE WITH NEC AND ADOT PROJECT SPECIFICATION SECTION 660 AND 661, UNLESS OTHERWISE INDICATED, BUT NOT SMALLER THAN NO. 8 AWG.
5. LOAD CENTER GJ PROVIDED UNDER PHASE 1A PROJECT AND IS ASSUMED TO BE EXISTING. REVISE THE LOAD CENTER AS INDICATED.
6. DEMOLISH CIRCUITS GJ9 AND GJ10. UPDATE AND REPLACE EXISTING CIRCUIT DIRECTORY.
7. CIRCUIT GJ9: EXISTING HPS LIGHTING ARE TO BE DEMOLISHED, AS INDICATED IN ILLUMINATION AND INTERCONNECT PLANS. DEMOLISH EXISTING CIRCUIT GJ9 BACK TO LOAD CENTER BRANCH CIRCUIT BREAKER.
8. CIRCUIT GJ10: DEMOLISH EXISTING LIGHTING CONTACTOR, SEE SHEET H31 FOR ADDITIONAL INFORMATION.

LOAD CENTER
FOUNDATION DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\E\Segment 1D\Seg 1Dpnsh11147.01-H29 Fri, Jul/26/19 09:49am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	H30	H44



LOAD CENTER "B"
WIRING DIAGRAM AND
SELECTOR SWITCH WIRING

LOAD CENTER "B"
ONE-LINE DIAGRAM

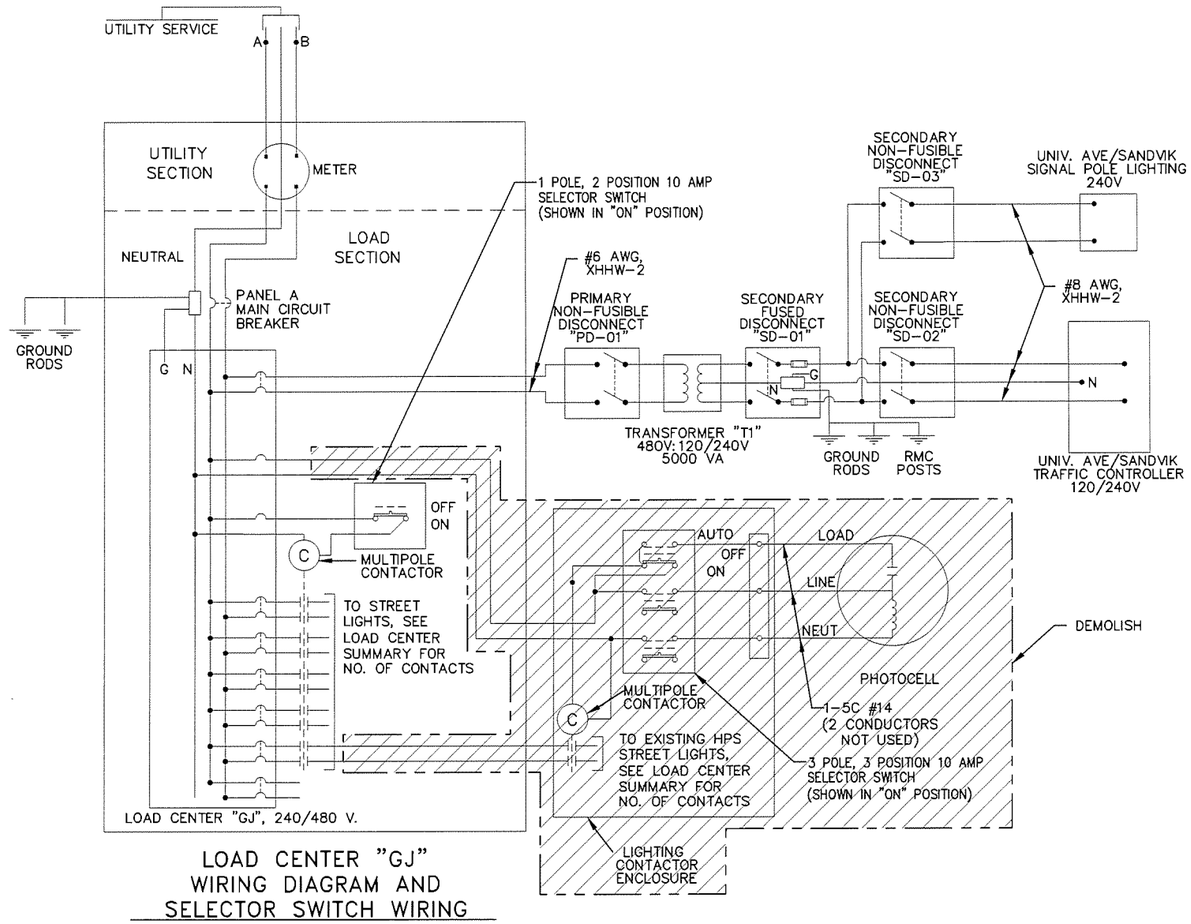
WIRING NOTES – FOR LOAD CENTER "B":

1. FURNISH ALL EQUIPMENT NOTED IN THE LOAD CENTER SUMMARY, PLUS TWO 20-AMP 2-POLE SPARE CIRCUIT BREAKERS, AND SPACE FOR A MINIMUM OF TWO ADDITIONAL 2-POLE CIRCUIT BREAKERS IN EACH LOAD PANEL. SEE THE LOAD CENTER SUMMARY FOR THE LOAD PANEL VOLTAGES, CURRENT RATINGS, SHORT CIRCUIT INTERRUPTING RATINGS, AND THE NAME OF THE SERVING UTILITY.
2. SIZE THE LOAD CENTER CABINETS TO HOLD THE EQUIPMENT SHOWN IN THE WIRING DIAGRAM AND DETAILED IN EACH LOAD CENTER SUMMARY, ALLOWING SPACE FOR WIRING PER THE NATIONAL ELECTRICAL CODE. INSTALLING A METER BASE AND MAIN BREAKER IN A SEPARATE ENCLOSURE IS ALLOWABLE.
3. LABEL ALL CIRCUIT BREAKERS AS TO LOAD SUPPLIED. LABEL THE SELECTOR SWITCH "LIGHTING" AND ITS POSITIONS "ON-OFF".
4. STORE A SCHEMATIC DIAGRAM, A CIRCUIT DIRECTORY AND A MATERIALS LIST THAT INCLUDES THE MANUFACTURER'S NAME AND PART/CATALOG NUMBERS, ALL LAMINATED IN PLASTIC IN A METAL POCKET ATTACHED TO THE INSIDE OF THE LOAD CENTER. INSTALL THE POCKET ON THE LOAD CENTER DOOR, PROVIDING DRAIN HOLES TO PREVENT WATER ACCUMULATION.
5. THE LENGTH AND TYPE OF SERVICE CONDUIT INSTALLED BY THE CONTRACTOR VARIES BY UTILITY AND LOAD CENTER LOCATION.
6. SEE THE LOAD CENTER SUMMARIES AND PLANS FOR THE STATION AND OFFSET OF THE LOAD CENTER AND POWER SOURCE, AND THE APPROXIMATE DISTANCE BETWEEN THE LOAD CENTER AND THE POWER SOURCE.
7. SEE ILLUMINATION AND INTERCONNECT PLANS FOR ROUTING OF UNDERGROUND SERVICE LATERAL.
8. SEE THE LOAD CENTER SUMMARIES FOR FEATURES AND OTHER OVERCURRENT PROTECTIVE DEVICES NOT INDICATED ON ELECTRICAL ONE-LINE DIAGRAM.
9. PRIMARY NON-FUSIBLE DISCONNECT "PD-01" SHALL BE "HEAVY DUTY" TYPE, RATED FOR 30 AMPS, 600V AND NEMA TYPE 3R ENCLOSURE.
10. SEE AUTOMATED VEHICLE COUNTER DESIGN STARTING ON SHEET K1 FOR ADDITIONAL INFORMATION.

LOAD CENTER DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\E\Segment 1D\Seg 1D\d011147.01-H30 Fri, Jul/26/19 09:58am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	H31	H44



LOAD CENTER "GJ"
WIRING DIAGRAM AND
SELECTOR SWITCH WIRING

WIRING NOTES – FOR LOAD CENTER "GJ":

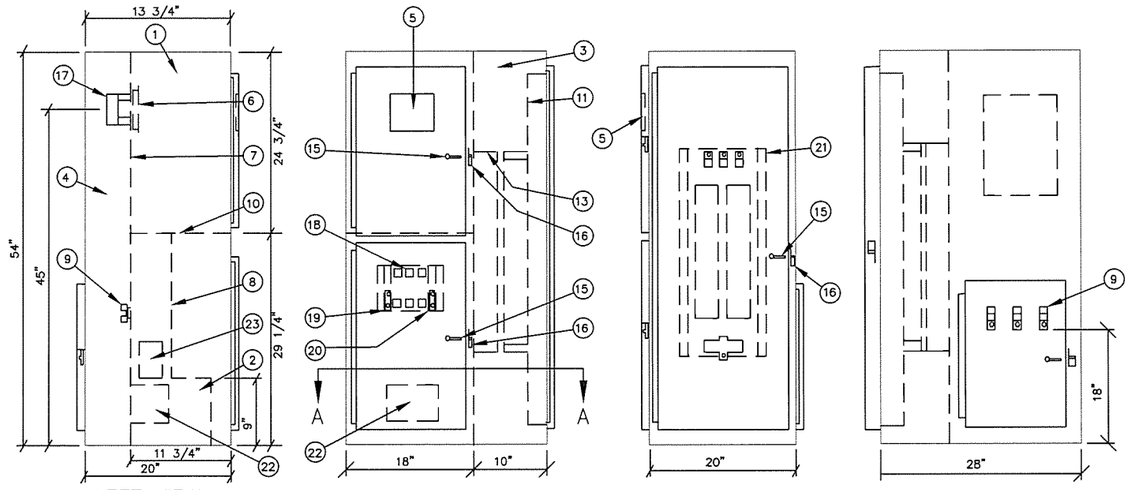
1. THIS DRAWING SHOWS EXISTING CONDITIONS, UNLESS OTHERWISE INDICATED.
2. DEMOLISH ELECTRICAL EQUIPMENT SHOWN HATCHED AND ALL ASSOCIATED CONDUCTORS AND RACEWAY, UNLESS OTHERWISE INDICATED.
3. SEE THE LOAD CENTER SUMMARIES AND PLANS FOR THE STATION AND OFFSET OF THE LOAD CENTER AND POWER SOURCE.
4. SEAL PENETRATION IN LOAD CENTER ENCLOSURE REMAINING FROM DEMOLITION OF EXTERIOR LIGHTING CONTACTOR.

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\E\Segment 10\Seg 10dl02111447.01-H31 Fri, Jul/26/19 09:50am

LOAD CENTER DETAILS

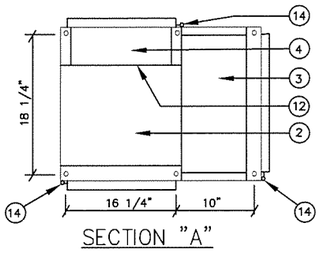
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\E\Segment 10\Seg 10dt03111147.01-H32 Fri, Jul/26/19 09:50am

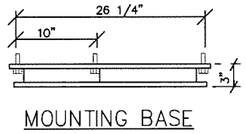
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	H32	H44



EQUIPMENT LEGEND

1. METER SECTION
2. LOAD SECTION (MAIN)
3. LOAD SECTION (DISTRIBUTION)
4. SERVICE PULL SECTION
5. METER READING WINDOW
6. METER SOCKET COVER
7. TEST SECTION COVER
8. DEAD FRONT
9. UTILITY LANDING LUGS
10. METER SECTION BARRIER
11. PANEL BOARD DEADFRONT
12. EQUIPMENT CHASSIS
13. MOUNTING PAN
14. STAINLESS STEEL PIN HINGE
15. COIN LATCH
16. HASP FOR PADLOCK
17. METER SOCKET KIT ASS'Y.
18. MAIN BREAKER(S)
19. NEUTRAL BAR
20. GROUND BAR
21. PANEL BOARD INTERIOR
22. ALTERNATE CONTACTOR LOCATION
23. CABLE OPENING

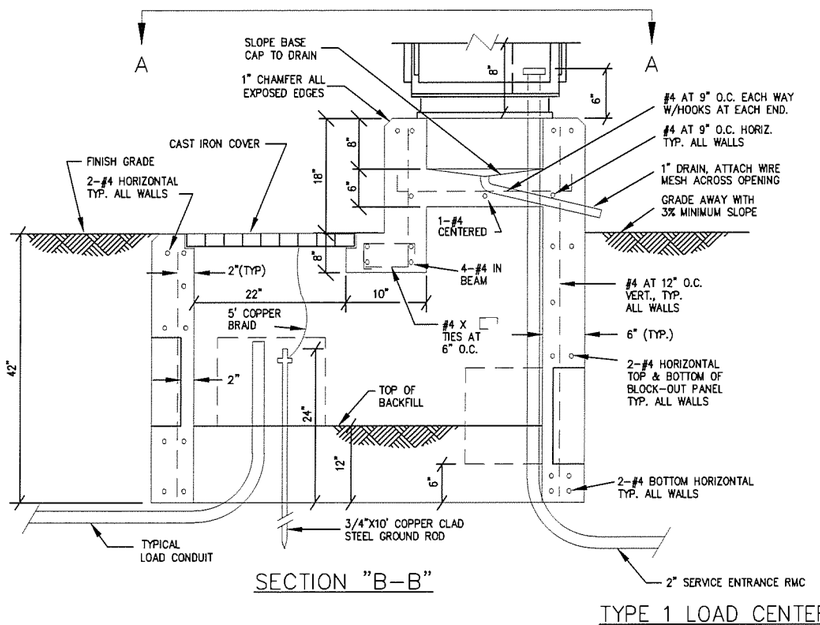




TYPE 1 LOAD CENTER CABINET SECTION / ELEVATION

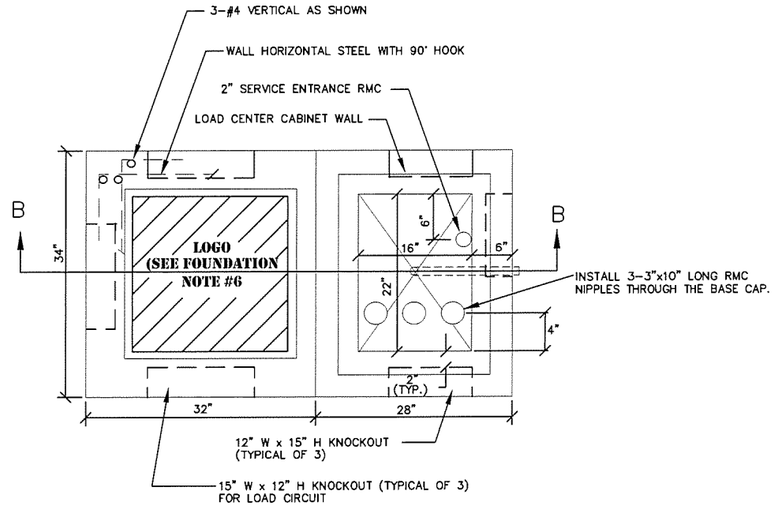
FOUNDATION NOTES:

1. INSTALL THE SURFACE WITH CAST IRON COVER FLUSH WITH THE PAVEMENT, SIDEWALK, OR FINISHED GRADE. GRADE AWAY FROM THE BASE WITH A MINIMUM SLOPE OF 3%. USE A PRE-MOULDED BITUMINOUS JOINT BETWEEN THE BASE AND CONCRETE SIDEWALK OR PAVING.
2. WHEN INSTALLING THE BASE, EXCAVATE TO 60" BELOW FINISHED GRADE AND INSTALL A DRAIN CONSISTING OF 18" OF COARSE CONCRETE AGGREGATE APPROVED BY THE ENGINEER. BACKFILL AROUND THE BASE IN 6" LIFTS WITH SELECTED MATERIAL TYPE "A".
3. BACKFILL INSIDE THE FOUNDATION TO WITHIN 30" OF THE LID AFTER ALL CONDUITS ARE INSTALLED, USING COARSE AGGREGATE. TERMINATE THE ENDS OF ALL LOAD CONDUITS A MINIMUM OF 6" ABOVE THE COARSE CONCRETE AGGREGATE BACKFILL AND A MINIMUM OF 12" BELOW THE LID.
4. PROVIDE ANCHOR BOLTS OR EXPANSION ANCHORS IN THE BASE FOR MOUNTING THE CABINET PER THE MANUFACTURER'S SHOP DRAWINGS. ANCHOR BOLTS, NUTS, AND WASHERS SHALL CONFORM TO EITHER ASTM A307 OR A449 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.
5. USE GRADE 60 REINFORCING STEEL CONFORMING TO ASTM 615 AND CLASS "A" CONCRETE CONFORMING TO SECTION 501 OF THE SPECIFICATIONS WHEN CASTING THE BASE.
6. FINISH THE BASE ACCESS OPENING WITH A 24" SQUARE IRON FRAME AND COVER, WEIGHING APPROXIMATELY 280 LBS. PROVIDE COVERS INSCRIBED WITH THE LEGEND "LIGHTING" FOR THOSE LOAD CENTERS WITH STREET LIGHTING CIRCUITS ONLY, AND "TRAFFIC" FOR THOSE LOAD CENTERS WITH A TRAFFIC SIGNAL CIRCUIT.
7. IF THE BASE IS PRECAST, INSTALL TWO 3/4" FERRULE LOOP INSERTS IN TWO SIDES OPPOSITE ONE ANOTHER FOR LIFTING.



TYPE 1 LOAD CENTER BASE

NOTE: STOP HORIZONTAL & VERTICAL STEEL AT BLOCK-OUT PANELS & OPTIONAL JOINT USING 90° HOOK. INSTALL 2 EXTRA #4 HORIZONTAL & VERTICAL BARS ON ALL SIDES OF EACH KNOCKOUT.

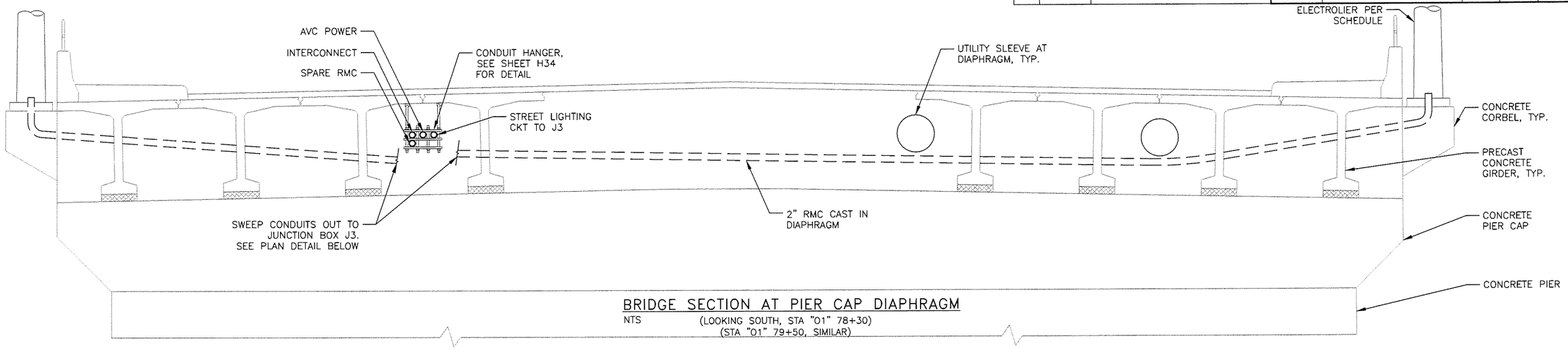


VIEW "A-A"
(PLAN VIEW)

LOAD CENTER FOUNDATION DETAILS

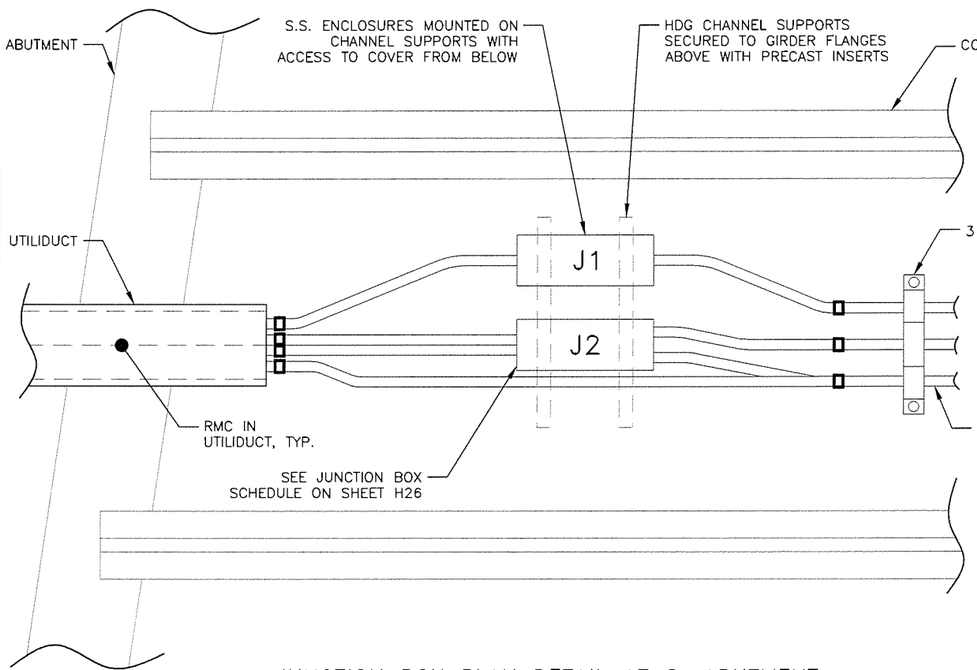
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H33	H44



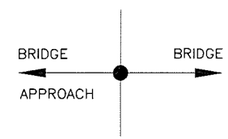
BRIDGE SECTION AT PIER CAP DIAPHRAGM

NTS (LOOKING SOUTH, STA "01" 78+30)
(STA "01" 79+50, SIMILAR)

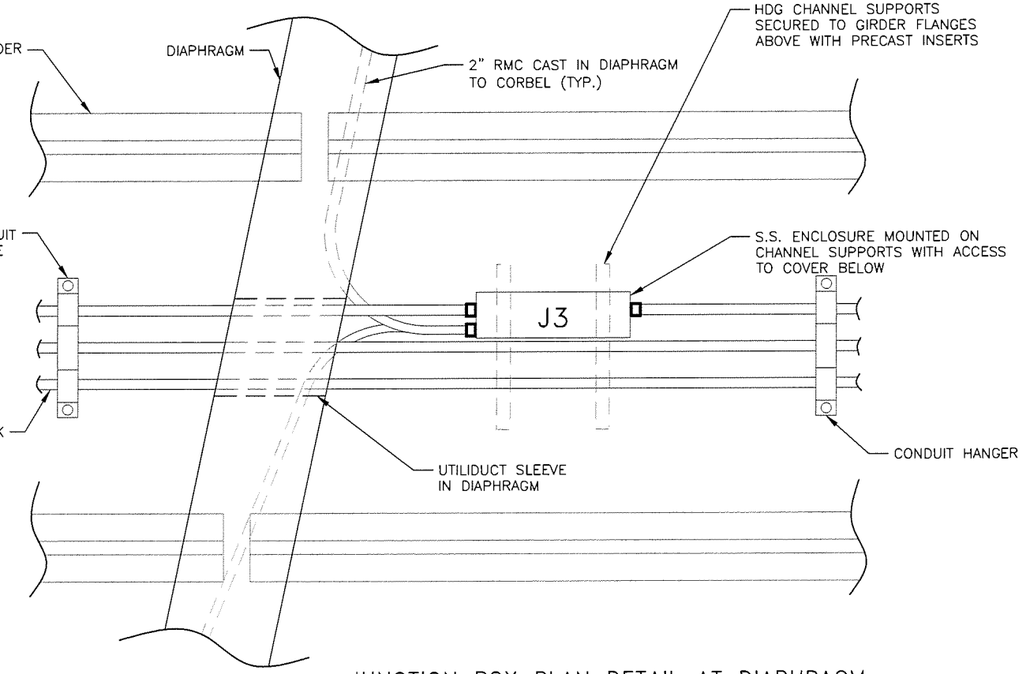


JUNCTION BOX PLAN DETAIL AT S. ABUTMENT

NTS



NOTE:
PROVIDE SIMILAR ARRANGEMENT FOR J5 AND J6 AT NORTH ABUTMENT.



JUNCTION BOX PLAN DETAIL AT DIAPHRAGM

NTS

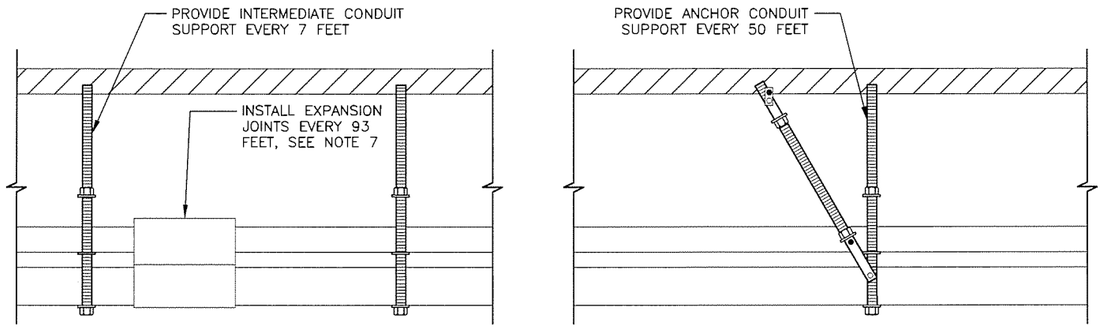
NOTE:
PROVIDE SIMILAR ARRANGEMENT FOR J4.

BRIDGE CROSSING CONDUIT DETAILS 1 OF 2

REVIEW PS&E

NO.	DATE	REVISION

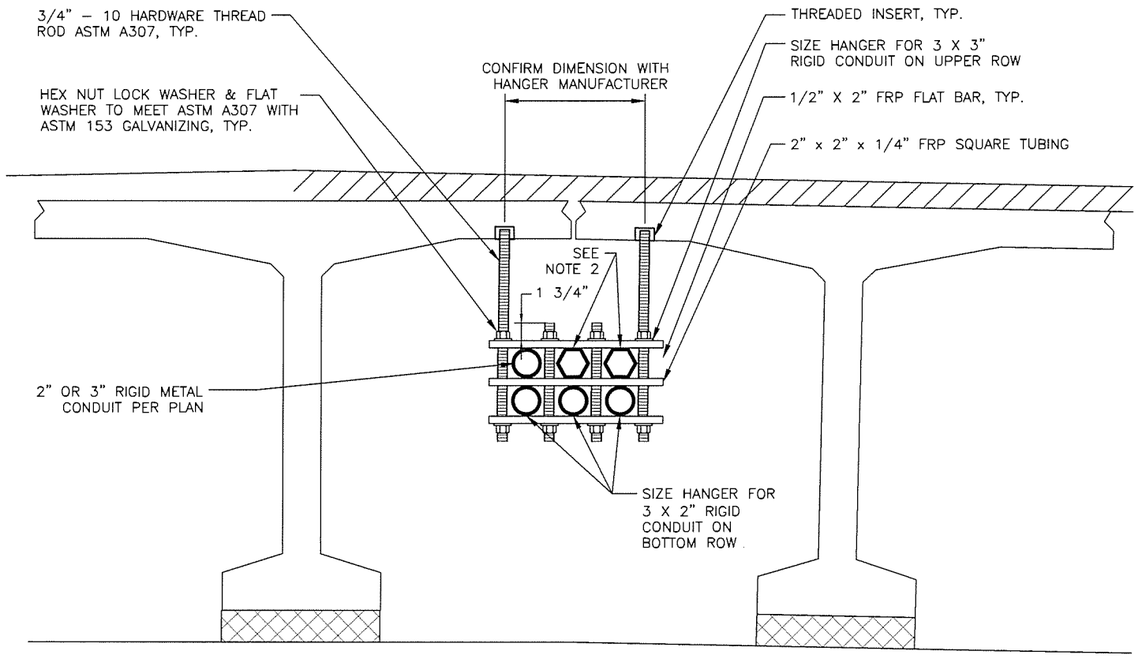
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H34	H44



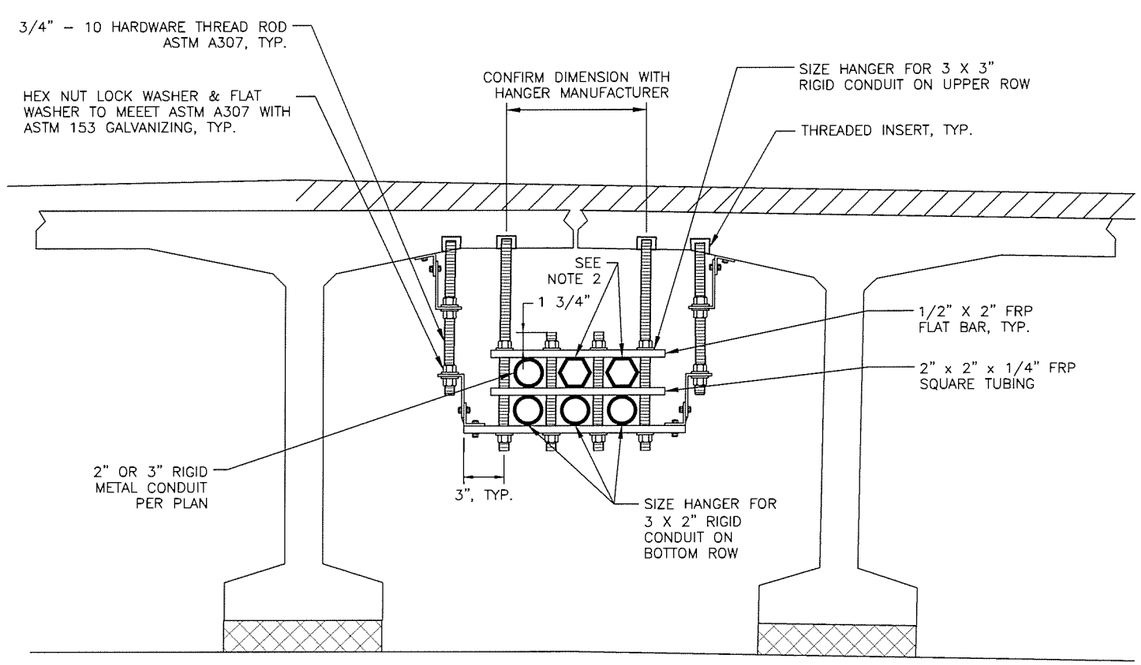
ANCHOR/SEISMIC RESTRAINT ELEVATION
NTS

NOTES:

1. THE BRACE AND SUPPORT SYSTEM SHOWN HEREIN IS REPRESENTATIVE OF PROJECT REQUIREMENTS BASED ON AVAILABLE MANUFACTURER INFORMATION (OSBURN ASSOCIATES). INSTALLATION IS SUBJECT TO CHANGE BASED ON MANUFACTURER'S DETAILED INFORMATION.
2. PROVIDE SUITABLE SPACER BLOCKS FOR SPARE CELLS IN HANGERS.
3. PROVIDE CONDUIT SUPPORT AND BRACING SHOP DRAWINGS, DETAILING CONDUIT SUPPORT LOCATION AND CONSTRUCTION (PER MANUFACTURER DETAILED INFORMATION). PROVIDE BACKUP CATALOG INFORMATION WITH SHOP DRAWING, AND COMPLETE SEISMIC AND DEAD LOAD CALCULATION SEALED BY A LICENSED STRUCTURAL ENGINEER REGISTERED IN THE STATE OF ALASKA CERTIFYING THAT THE PROPOSED SYSTEM MEETS APPLICABLE REQUIREMENTS. (MANUFACTURER OSBORN ASSOCIATES OR EQUAL).
4. LOCATE INSERTS FOR PIPE HANGERS AND ANCHOR BRACING PER CONDUIT HANGER MANUFACTURER'S RECOMMENDATIONS AND DIMENSION.
5. BOLTED CONNECTIONS TO THE CONCRETE SHALL BE ACCOMPLISHED USING CAST-IN-PLACE INSERTS. COORDINATE WITH BRIDGE SUPPLIER TO ASSURE INSERTS ARE PROVIDED WHERE REQUIRED, AND SIZED TO WITHSTAND DESIGN LOADS.
6. INSTALL INTERMEDIATE HANGERS SPACED 7 FEET, ANCHOR HANGERS SHALL BE INSTALLED EVERY 50 FEET.
7. INSTALL EXPANSION JOINTS EVERY 93 FEET, EXPANSION JOINTS SHOULD BE LOCATED 2 FEET FROM INTERMEDIATE HANGER.
8. THE SUPPORT RODS, INTERMEDIATE RODS, AND ALL METALLIC HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL AND SHALL MEET ASTM A307 WITH ASTM 153 GALVANIZING.
9. FIELD VERIFY CONDUIT ELEVATIONS WITH FINAL BRIDGE INSTALLATION. ALIGN CONDUIT RUNS WITH UTILITY OPENING ALONG BRIDGE. SLOPE CONDUIT WITH BRIDGE CONTOUR.



INTERMEDIATE BRIDGE CONDUIT HANGER
NTS



ANCHOR CONDUIT HANGER WITH ADJUSTABLE SIDE BRACKET
NTS

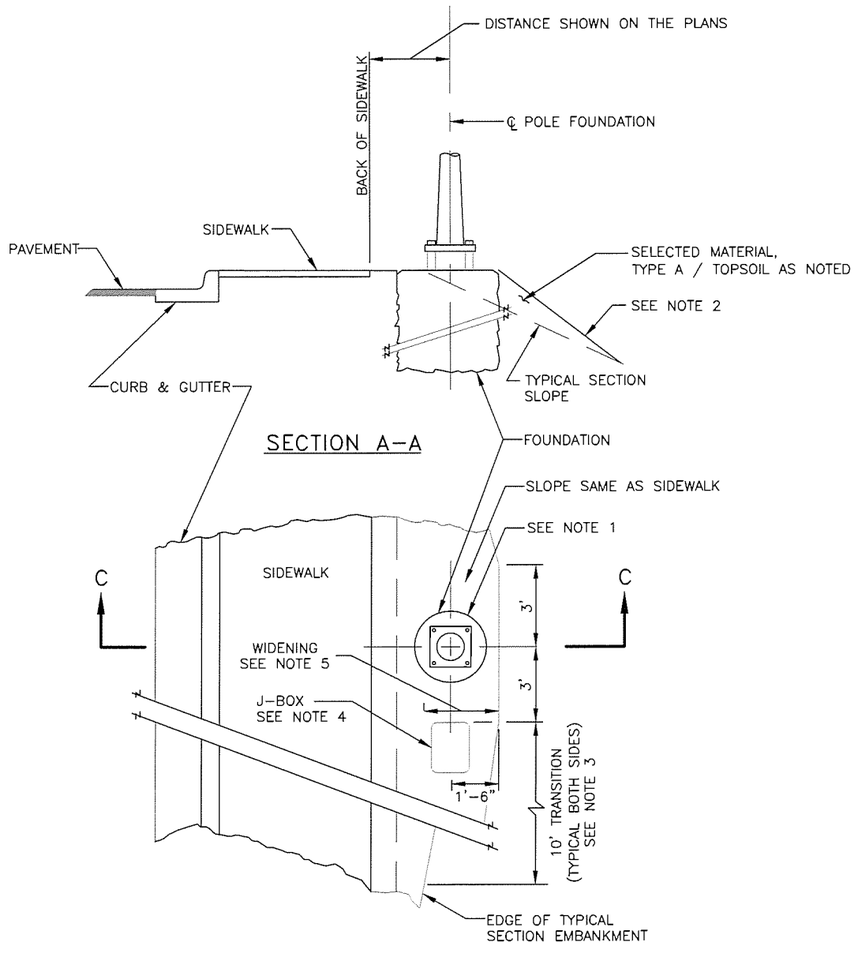
BRIDGE CROSSING CONDUIT DETAILS 2 OF 2

REVIEW PS&E

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_H33-H34_Bdg Cnd Dets-H34 Thu, Aug/22/19 10:39am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H35	H44

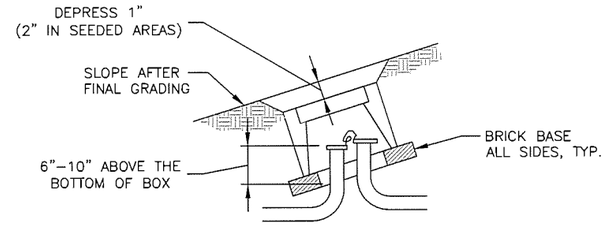


SECTION A–A

PLAN VIEW

LIGHT POLE WIDENING DETAIL "A"

(USE WHEN POLE IS LOCATED OFF BACK OF SIDEWALK)



TYPE IA J–BOX INSTALLATION ON SLOPE

LIGHT POLE WIDENING NOTES:

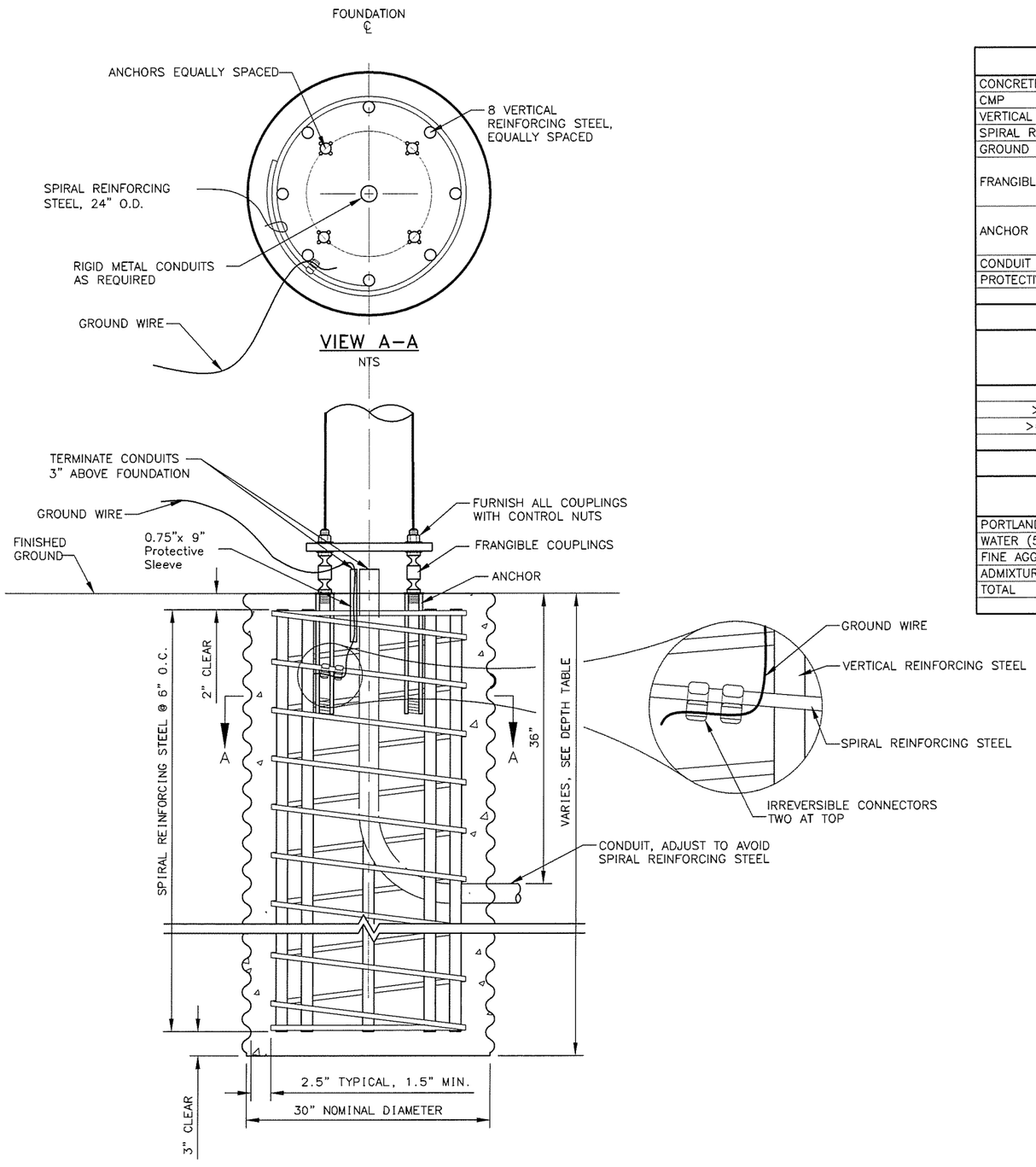
1. WARP SLOPE TO TOP CIRCUMFERENCE OF POLE FOUNDATION.
2. SLOPE FROM TOP EDGE OF POLE FOUNDATION TO TYPICAL SECTION DITCHLINE OR NORMAL TOE OF FILL. NO STEEPER THAN 2:1.
3. WHEN THE TYPICAL SECTION SLOPE IS STEEPER THAN 2:1 USE 35' FOR THE SLOPE TRANSITION AREA.
4. DEPRESS JUNCTION BOX 1" BELOW SURFACE. DEPRESS 2" IN SEEDED AREAS.
5. WIDENING SHALL BE CONSTRUCTED PRIOR TO POURING FOUNDATION.

LIGHTING AND JUNCTION BOX DETAILS

STATE OF ALASKA 49 REVIEW PS&E JASON 13131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H36	H44



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"

DESIGN NOTES:

DESIGN STANDARD: SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, LFRD 1ST EDITION, AASHTO, 2015, WITH 2017 AND 2018 INTERIM REVISIONS.

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 501–3.08. VIBRATE CONCRETE DURING PLACEMENT BY MECHANICAL VIBRATION PER SUBSECTION 501–3.08. 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 1:4D 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.

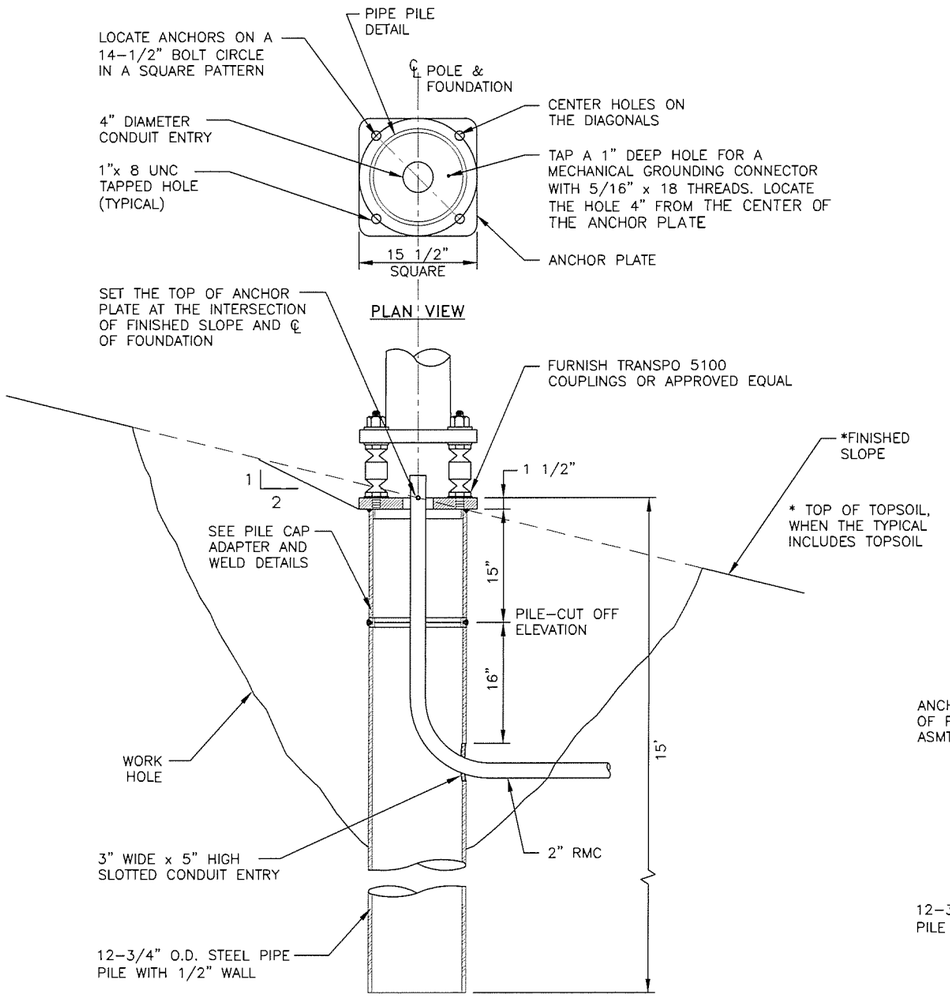
CIDH LIGHT POLE FOUNDATION DETAIL

STATE OF ALASKA 49 REVIEW PS&E JASON J131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd. Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_H35-H43_Lgt Dsits-H36 Thu, Aug/22/19 10:40am

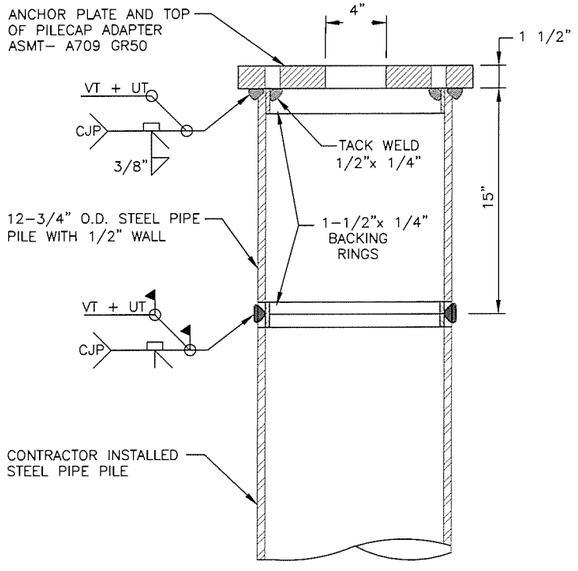
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H37	H44



PIPE PILE FOUNDATION

(SHOWN WITH FRANGIBLE COUPLINGS)



PILECAP ADAPTER DETAIL

NOT TO SCALE

DESIGN NOTES:

DESIGN STANDARD: SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, LFRD 1ST EDITION, AASHTO, 2015, WITH 2017 AND 2018 INTERIM REVISIONS.

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.

MATERIAL REQUIREMENTS		
STRUCTURAL STEEL PLATE	ASTM A709 GRADE 50	Fy = 50 ksi
STEEL PIPE PILE	ASTM A709, GRADE 50 T3	Fy = 50 ksi
	API 5L GRADE X 42	Fy = 42 ksi

NOTES:

1. IN LIEU OF CIDH LIGHT POLE FOUNDATION SHOWN IN PLANS, THE CONTRACTOR MAY PROVIDE STEEL PIPE PILE LIGHT POLE FOUNDATIONS IN ACCORDANCE WITH THIS DRAWING AND PROJECT SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE OF ALASKA.
2. FURNISH STEEL PIPE PILES THAT CONFORM TO THE MATERIAL REQUIREMENTS AND SECTION 660, 715 AND 740 OF THE SPECIFICATIONS. NO SPLICES ARE ALLOWED BELOW THE PILECAP ADAPTER.
3. DRIVE PILES OPEN ENDED. COMPLETE PILE WORK ACCORDING TO SECTIONS 505, 660 AND 715 OF THE SPECIFICATIONS. REMOVE AND REINSTALL PILES OUT OF PLUMB MORE THAN 1:40.
4. FRESH HEAD THE TOP OF PILES IN A LEVEL PLANE AND CUT THE CONDUIT ENTRANCE HOLE AFTER DRIVING THE PILE. NOTE; ONLY MECHANICAL OR PLASMA CUTTER MEANS ARE PERMITTED. OXY–FUEL CUTTING IS PROHIBITED.
5. FURNISH ONLY SHOP FABRICATED PILECAP ADAPTERS. INCLUDE STAMPED ENGINEERING CALCULATIONS, DRAWINGS, MILL CERTIFICATIONS AND WELDING PLANS FOR PILECAP ADAPTERS AND THE PILECAP ADAPTER TO PILE WELD. WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE AWS D1.1, STRUCTURAL WELDING CODE–STEEL AND THE SPECIFICATIONS.
6. WAIT AT LEAST 3 DAYS AFTER BACKFILLING THE WORK HOLE BEFORE ERECTING THE LUMINAIRE POLE.
7. TERMINATE CONDUIT(S) 3" ABOVE THE TOP OF THE ANCHOR PLATE. INSTALL A GROUNDING BUSHING ON THE END OF THE RIGID METAL CONDUIT AND ESTABLISH A BOND WITH THE ANCHOR PLATE.

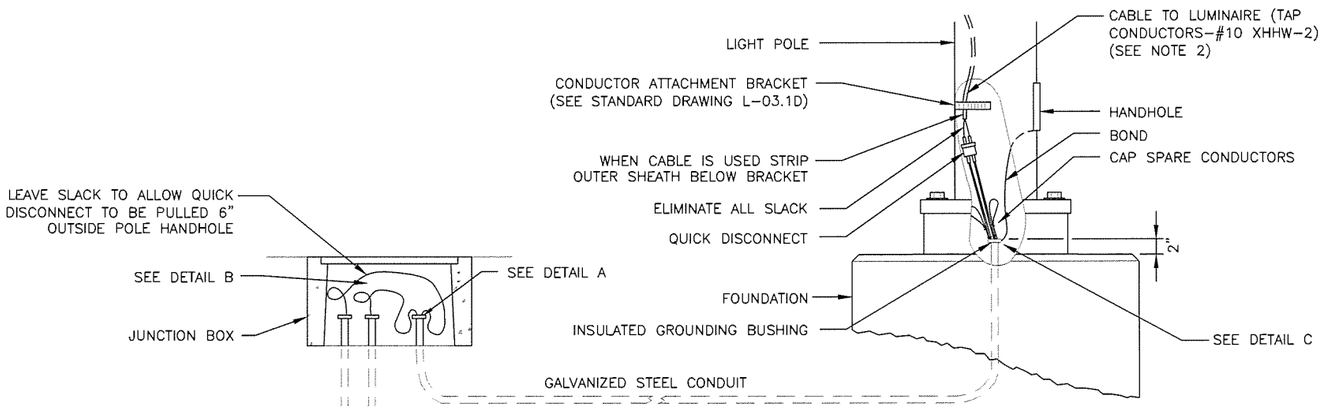
DPP LIGHT POLE FOUNDATION DETAILS

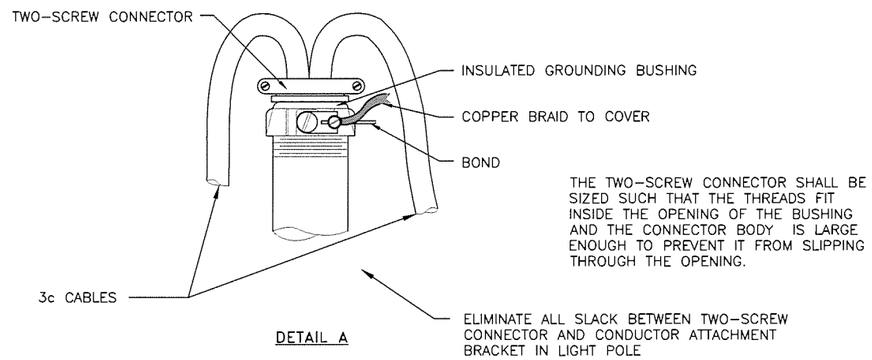
STATE OF ALASKA 49 REVIEW PS&E JASON J131 REGISTERED PROFESSIONAL ENGINEER

8/22/2019

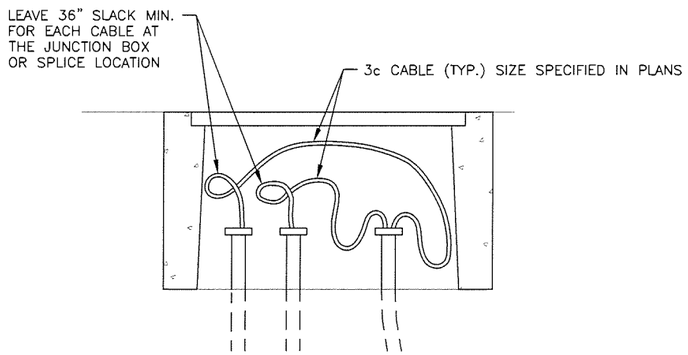
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H38	H44

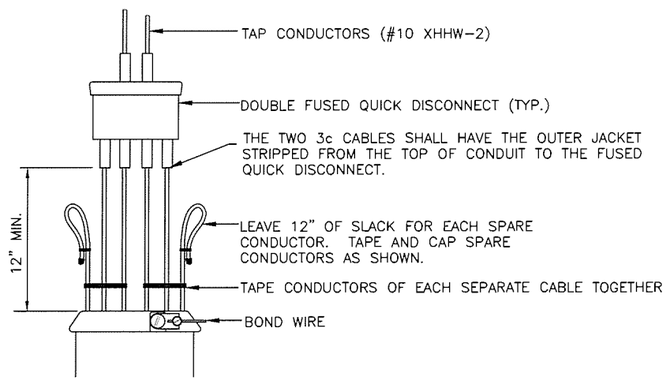




DETAIL A



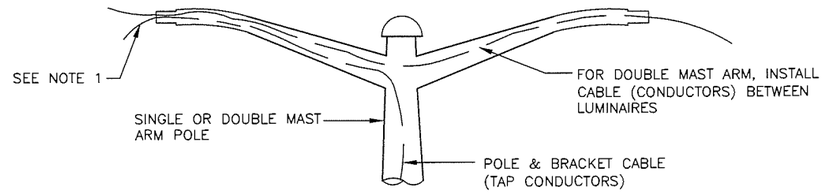
DETAIL B



DETAIL C

LIGHTING SYSTEM POLE AND J-BOX WIRING DETAILS

NTS



LIGHT STANDARD MAST ARM WIRING DETAIL

NTS

NOTE:

1. INSTALL 2" X 1" REDUCING WASHER AND 1" CONNECTOR TO SECURE CONDUCTORS AT THE END OF THE MAST ARM.

NOTES:

1. LABEL ALL CABLES AND CONDUCTORS IN POLE BASE AND J-BOX.
2. LEAVE ENOUGH SLACK ABOVE THE CONDUCTOR ATTACHMENT BRACKET TO ALLOW THE QUICK DISCONNECT TO BE PULLED 6" OUTSIDE OF HANDHOLE.
3. NOT ALL GROUNDING CONDUCTORS, AS REQUIRED BY SECTION 660-3.06, ARE SHOWN IN THESE DETAILS.

LIGHTING SYSTEM POLE AND J-BOX DETAILS

STATE OF ALASKA 49 REVIEWED PS&E NELSON J131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

NO.	DATE	REVISION

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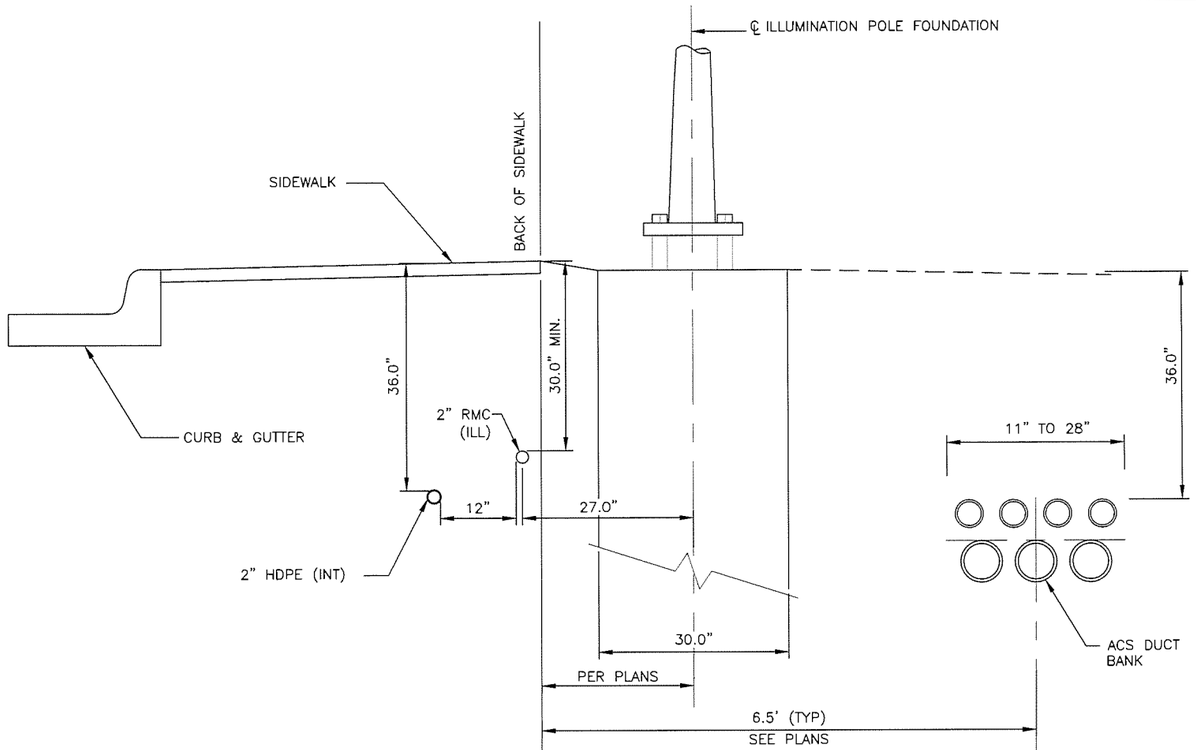
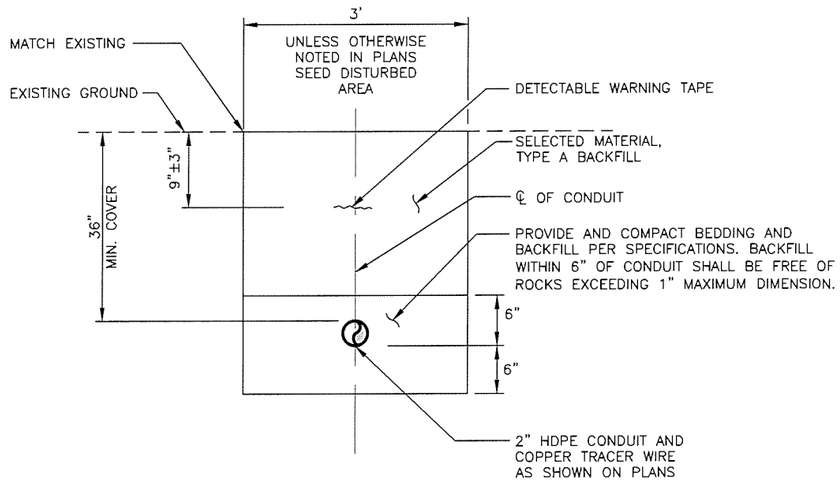


TYPICAL PLACEMENT ADJACENT TO CIDH LIGHT POLE FOUNDATIONS

UTILITY PLACEMENT DETAILS

NTS



TYPICAL INTERCONNECT CONDUIT TRENCH ADJACENT TO ROADWAYS

TRENCH DETAILS

NTS

TRENCH DETAILS

STATE OF ALASKA 49 REVIEW PS&E JASON J131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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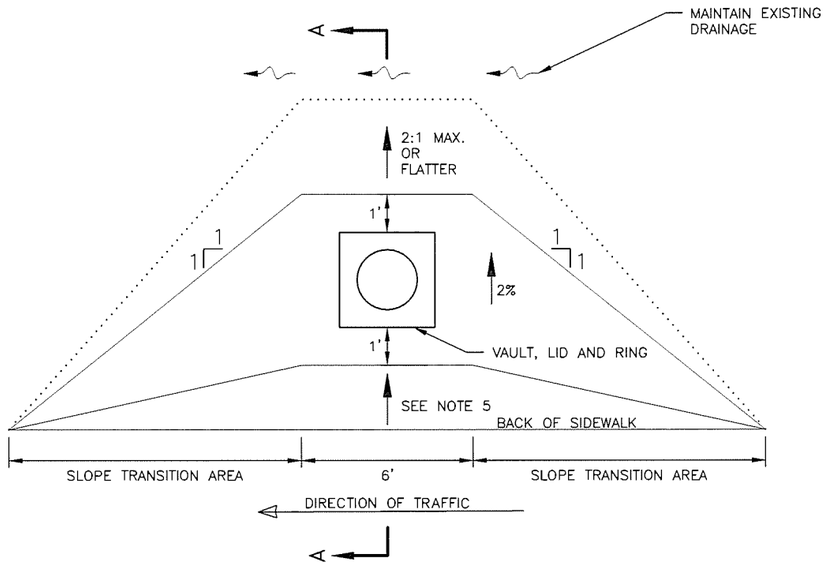
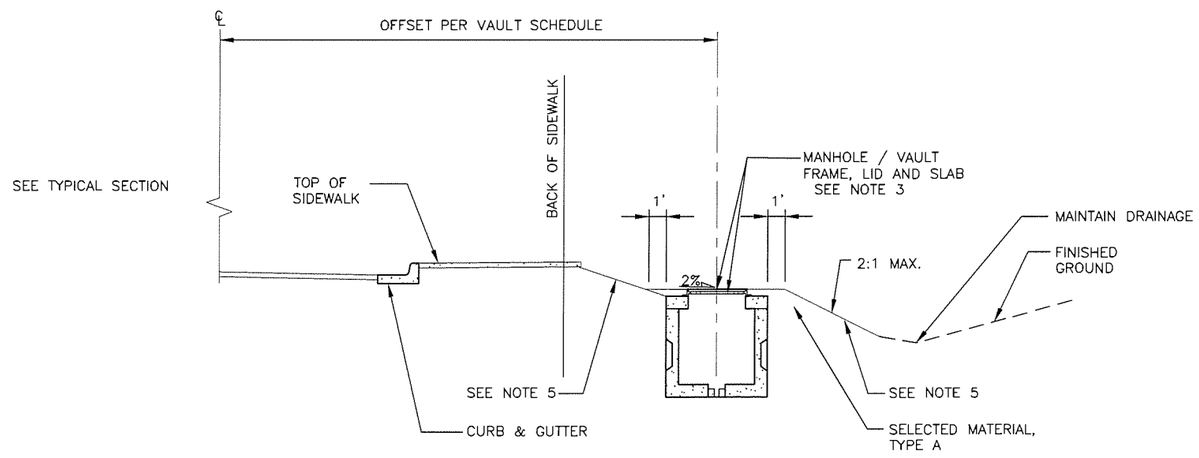


PLAN VIEW VAULT GRADING



SECTION A–A VAULT GRADING

FIBER OPTIC MANHOLE/VAULT WIDENING NOTES:

1. WARP SLOPE TO 1' OFFSET FROM TOP OF VAULT.
2. SLOPE FROM TOP EDGE OF 1' OFFSET TO INTERCEPT ROADWAY SLOPE. FILL AT 2:1 USING OFFSET SHOWN.
3. DEPRESS MANHOLE OR VAULT 1" BELOW SURFACE. DEPRESS 2" IN SEEDED AREAS.
4. WIDENING SHALL BE CONSTRUCTED PRIOR TO POURING CONCRETE COLLAR WHERE CALLED FOR.
5. SLOPE AS CALLED FOR IN TYPICAL SECTIONS, 4:1 TYPICAL.
6. SEED DISTURBED AREAS AS DIRECTED BY THE ENGINEER.

VAULT GRADING DETAIL

STATE OF ALASKA 49 REVIEW PS&E JASON 13121 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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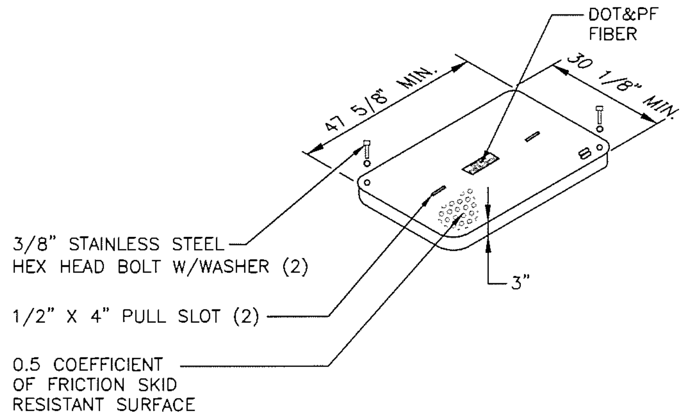
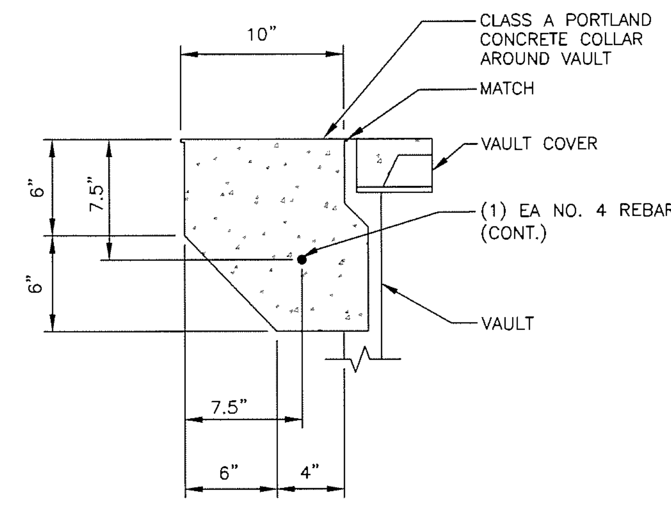


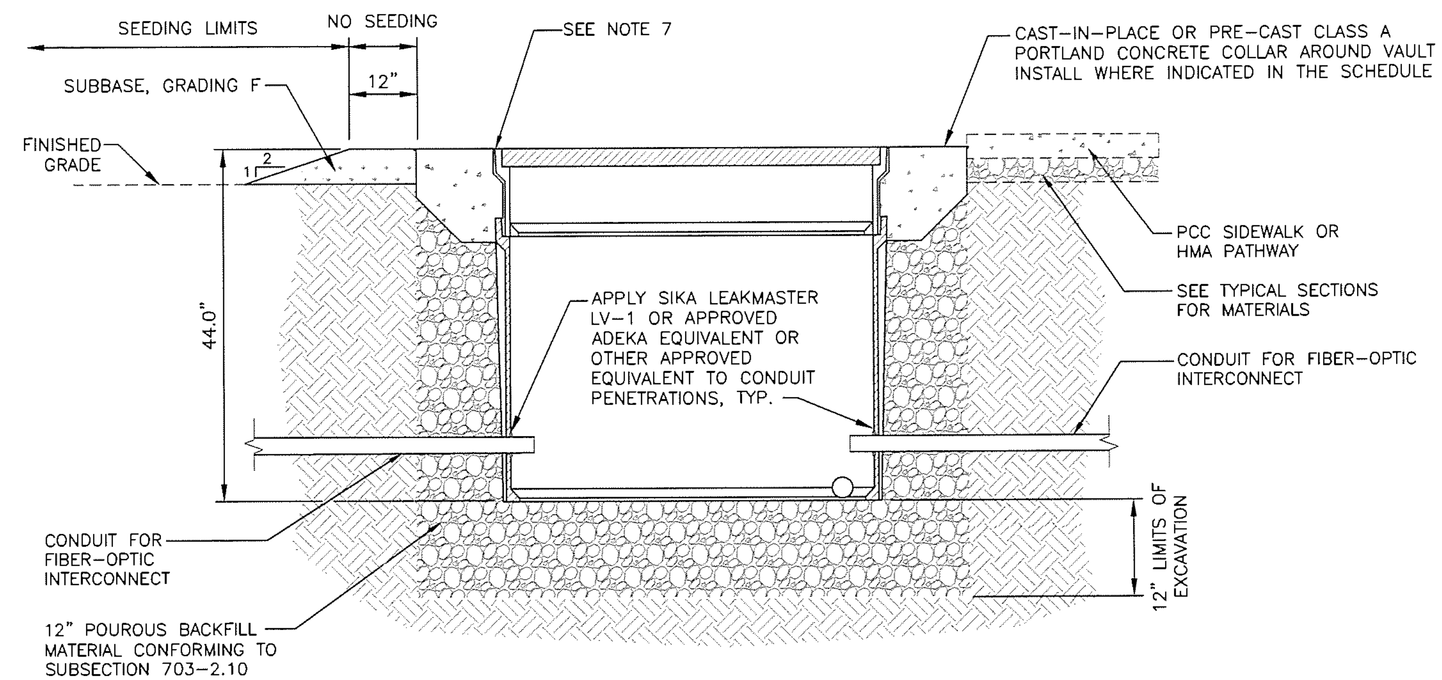
COVER

HUBBELL QUAZITE NO. PG3048HH00
OR APPROVED EQUIVALENT

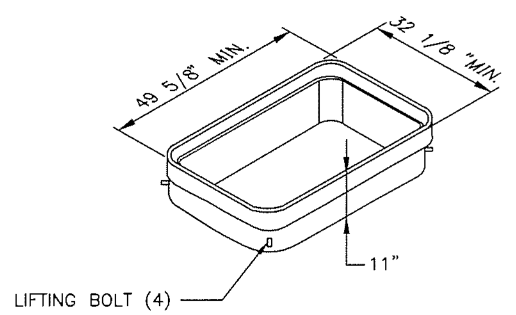


CONCRETE COLLAR DETAIL

NTS

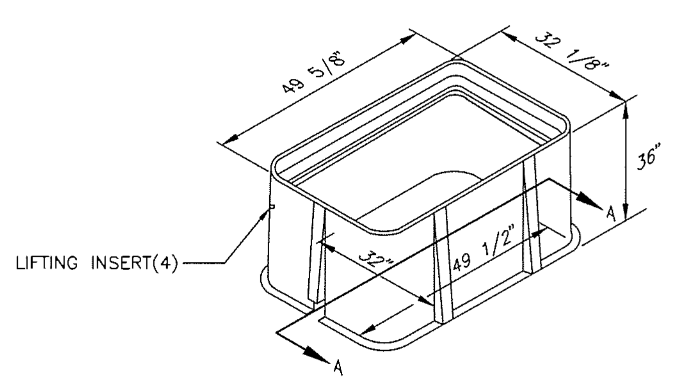


SECTION A–A



TOP EXTENSION

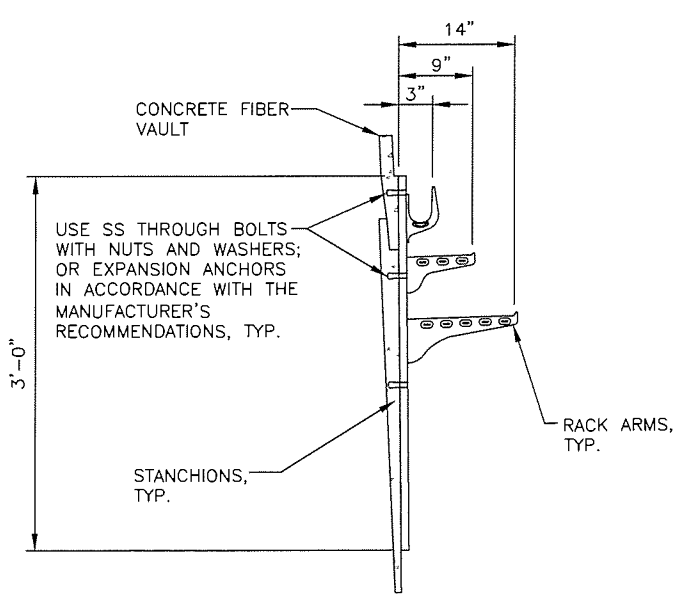
HUBBELL QUAZITE NO. PG3048EA11
OR APPROVED EQUIVALENT



BOTTOM

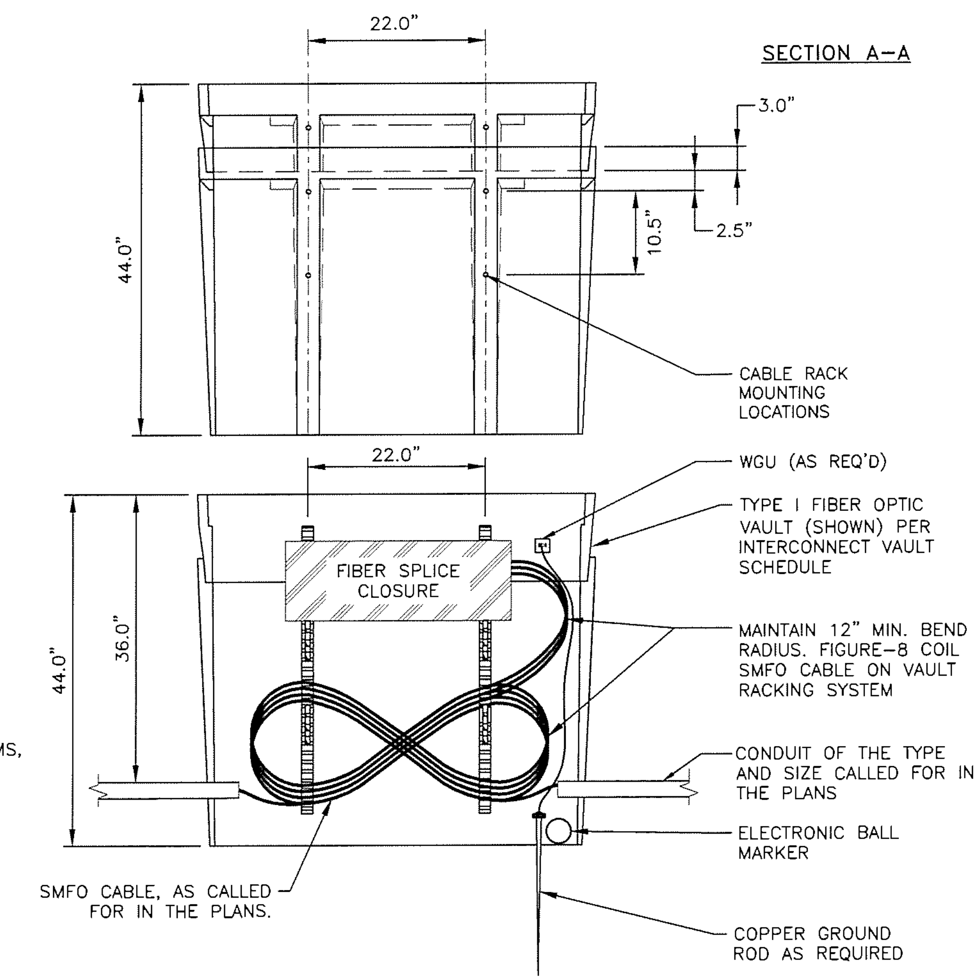
INTERCONNET VAULT, TYPE I

HUBBELL QUAZITE NO. PG3048BA36
OR APPROVED EQUIVALENT



TYPICAL CABLE RACK

NTS



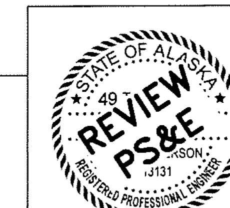
VAULT EQUIPMENT LAYOUT

NTS

NOTES:

1. FIBER-OPTIC INTERCONNECT VAULTS SHALL BE PRECAST, POLYMER CONCRETE, OPEN BOTTOM, W/FLARED BASE UNLESS OTHERWISE NOTED IN THE PLANS AND CONTRACT SPECIFICATIONS.
2. THE STANDARD FIBER-OPTIC INTERCONNECT VAULT NOMINAL DIMENSIONS SHALL BE AS SHOWN.
3. THE DESIGN/TEST LOAD STRENGTH OF THE BOX SHALL BE MINIMUM OF 22,500/33,750 LBS.
4. THE STANDARD COVER (LID) SHALL HAVE NOMINAL DIMENSIONS OF 30 1/8 in. WIDE X 47 5/8 in. LONG X 3 in. DEEP.
5. THE DESIGN/TEST LOAD STRENGTH OF THE COVER SHALL BE A MINIMUM OF 22,500/33,750 LBS.
6. THE COVER SHALL BE CAPABLE OF BEING SECURED TO THE BOX WITH TWO BOLTS, AND EMBOSSED WITH: "DOT&PF FIBER".
7. UNLESS OTHERWISE NOTED, FIBER-OPTIC INTERCONNECT VAULTS SHALL BE INSTALLED FLUSH WITH ADJACENT SIDEWALK, DRIVEWAY, OR 1.5 INCHES ABOVE FINISHED SOD GRADE.
8. FIBER-OPTIC INTERCONNECT VAULTS SHALL NOT INCLUDE ELECTRICAL CONDUIT OR CONDUCTORS.
9. COMPLY WITH SECTIONS 501, 503, AND 662.

FIBER OPTIC VAULT, TYPE I DETAILS

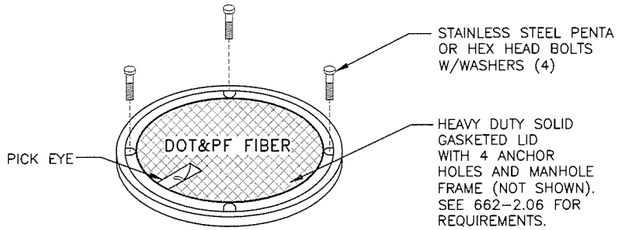


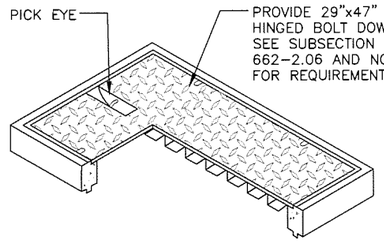
8/22/2019

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_H35-H43_Lgt Detls-H41 Thu, Aug/22/19 10:40am

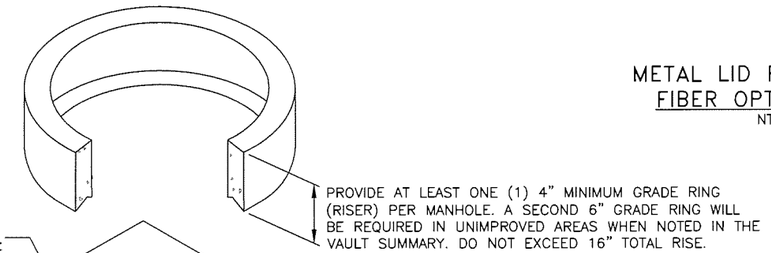
NO.	DATE	REVISION

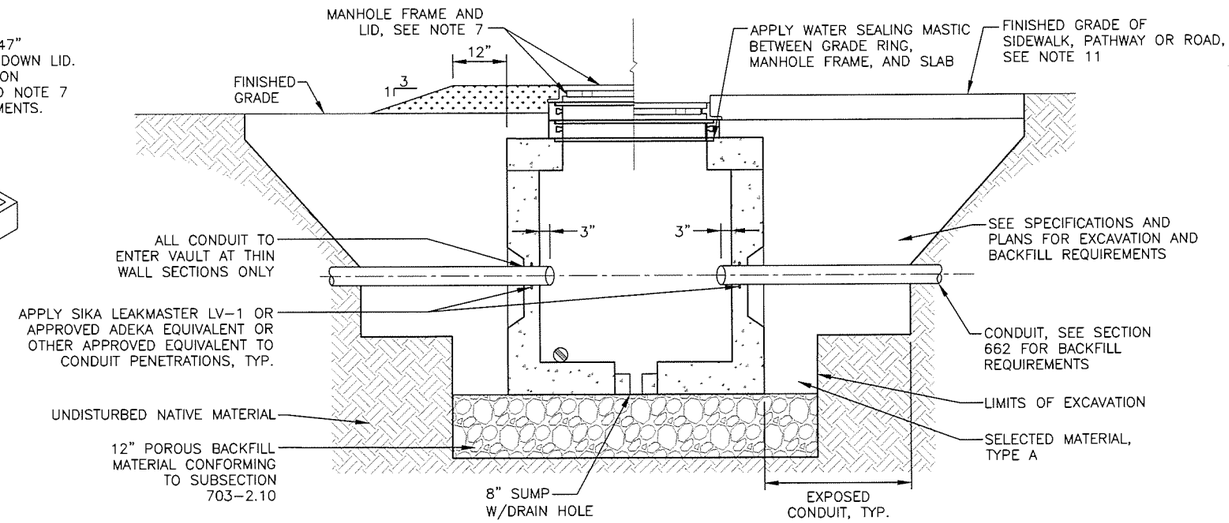
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	H42	H44





METAL LID FOR TYPE II FIBER OPTIC VAULT
NTS

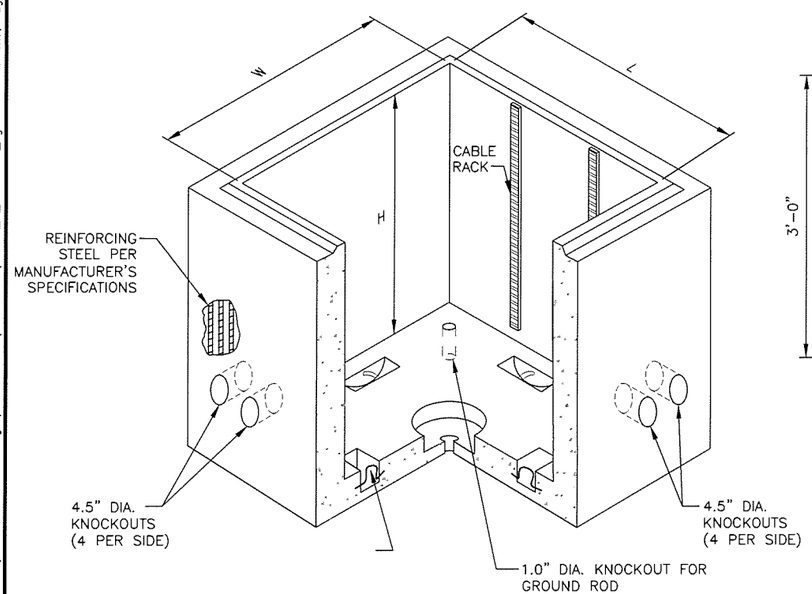




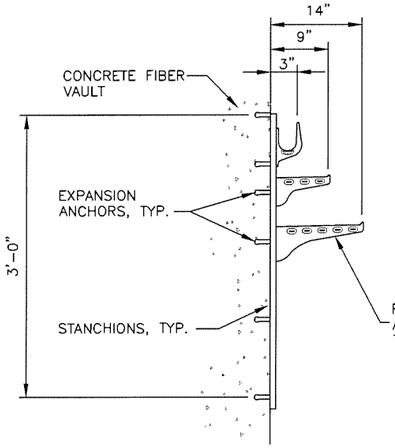
CONDUIT PENETRATION DETAIL
NTS

NOTES:

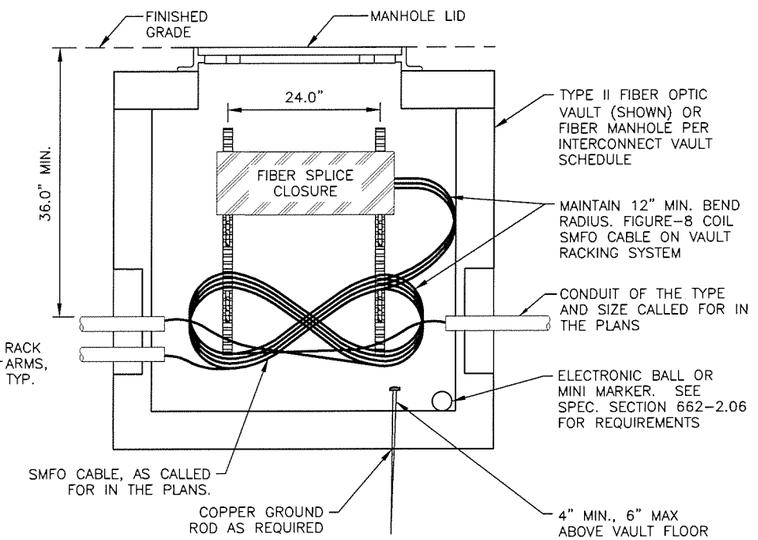
1. SUPPLY TYPE II FIBER OPTIC VAULTS WITH BOLT DOWN HINGED METAL LID. SUPPLY FIBER VAULTS, LIDS, AND COVERS RATED FOR AASHTO HS-20-44 LOADING.
2. SUPPLY ALL LIDS WITH WITH A HOLE OR SLOT FOR REMOVAL WITH A LEVER OR HOOK.
3. SUPPLY VAULTS AND MANHOLES WITH A PERMANENT INTERNAL LADDER. COMPLY WITH OSHA 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. ENTER 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. BOND AND GROUND ALL METALLIC COMPONENTS OF THE FIBER VAULT, INCLUDING RACK, FRAME AND LIDS PER STANDARD SPECIFICATION 660-3.06.
8. INSTALL CONDUIT PLUGS PER SECTIONS 660 AND 662.
9. EXTEND GROUND ROD A MINIMUM OF 4 INCHES AND A MAXIMUM OF 6 INCHES ABOVE BOTTOM OF FIBER VAULT.
10. USE A SPLIT BOLT CONNECTER TO ATTACH GROUND WIRES TO GROUND ROD. ATTACH NOT MORE THAN TWO WIRES PER BOLT.
11. UNLESS OTHERWISE NOTED, TOP OF FIBER OPTIC VAULT / MANHOLE LIDS SHALL BE INSTALLED 0"-3/16" BELOW FINISHED GRADE WHEN IN SIDEWALK OR PATHWAY; 3/8" BELOW FINISHED GRADE WHEN LOCATED IN PAVED PARKING LOT, MEDIAN, OR ROADWAY; AND 4"-8" ABOVE FINISHED GRADE IN UNIMPROVED AREAS, AWAY FROM HARDSCAPED SURFACES; OR AS DIRECTED BY THE ENGINEER. DO NOT PLACE IN BOTTOM OR DRAINAGE COLLECTION AREAS.



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



TYPICAL CABLE RACK
NTS



VAULT EQUIPMENT 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

TYPE II FIBER OPTIC VAULT AND FIBER OPTIC MANHOLE DETAILS

STATE OF ALASKA 49 REVIEWED PS&E JASON J. J131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

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

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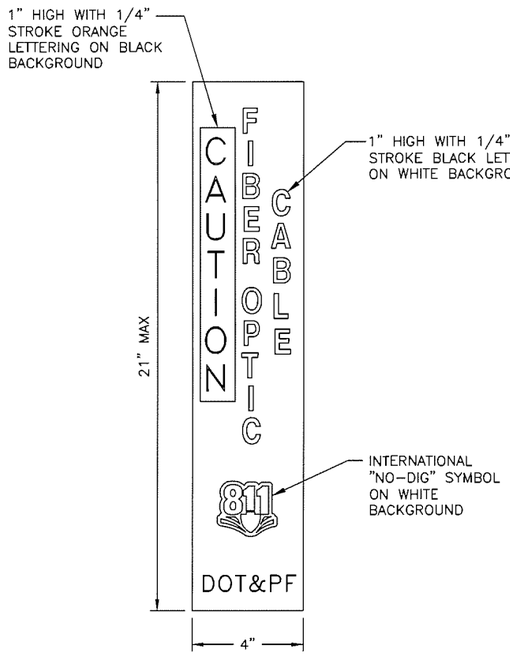
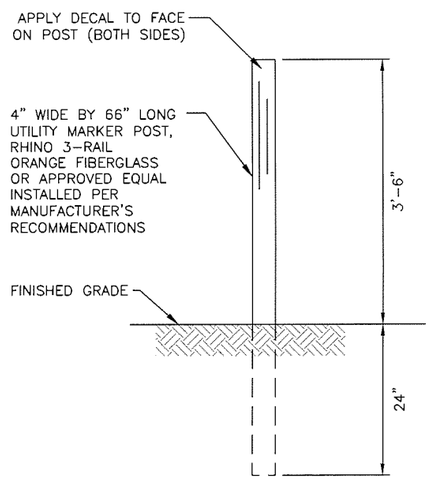
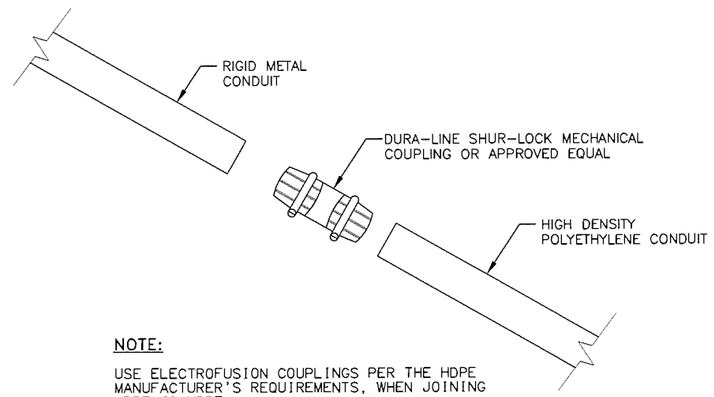
ALASKA	0617012/NFHWY00270	2019	H43	H44



DECAL
NTS



FIBER OPTIC MARKER ELEVATION
NTS



NOTE:

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

RMC TO HDPE CONDUIT CONNECTION DETAIL
NTS

FIBER OPTIC DETAILS

STATE OF ALASKA
49
REVIEW
PS&E
JASON
J131
REGISTERED PROFESSIONAL ENGINEER
8/22/2019

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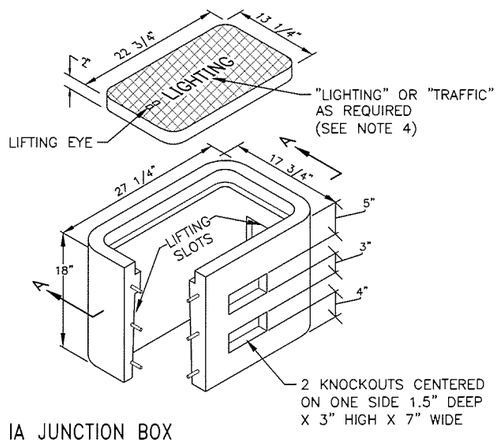
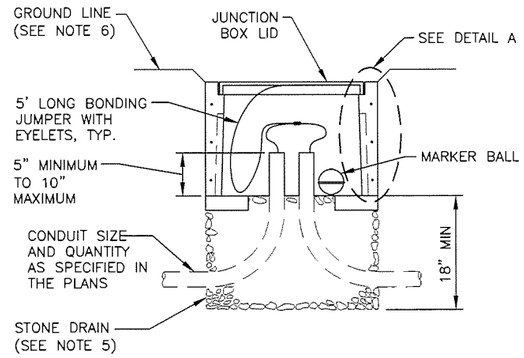
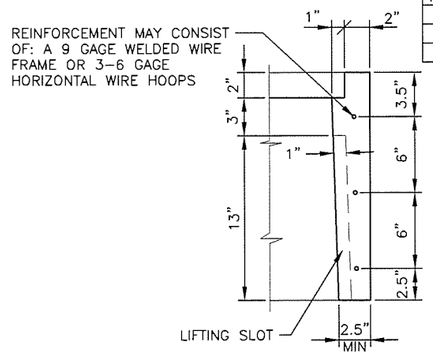


TYPE IA JUNCTION BOX



SECTION A–A

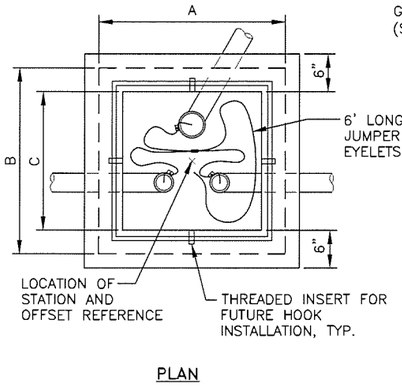


DETAIL A

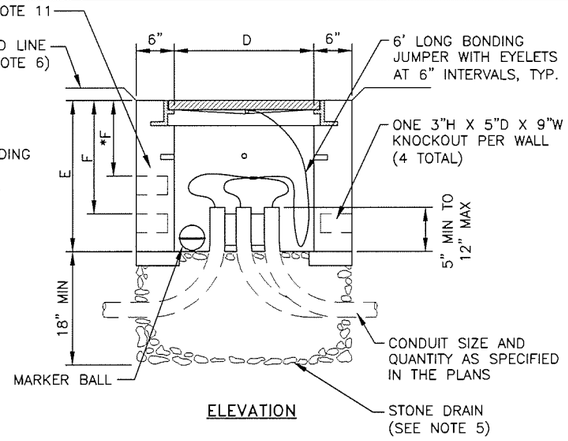
NOTES:

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
   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.

NTS

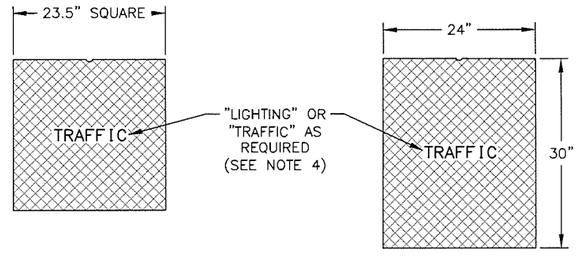


PLAN



ELEVATION

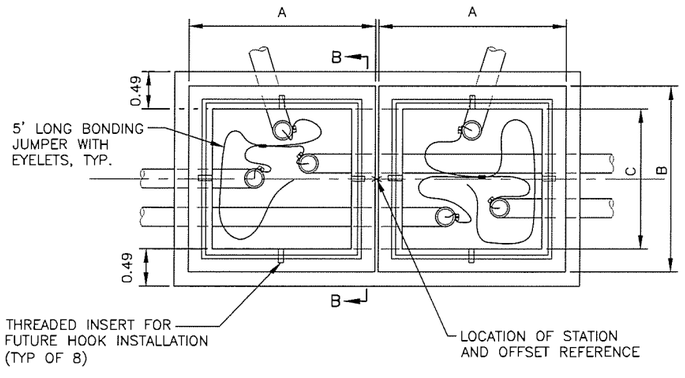
TYPE IA JUNCTION BOX



TYPE II/MODIFIED TYPE II JUNCTION BOX

NTS

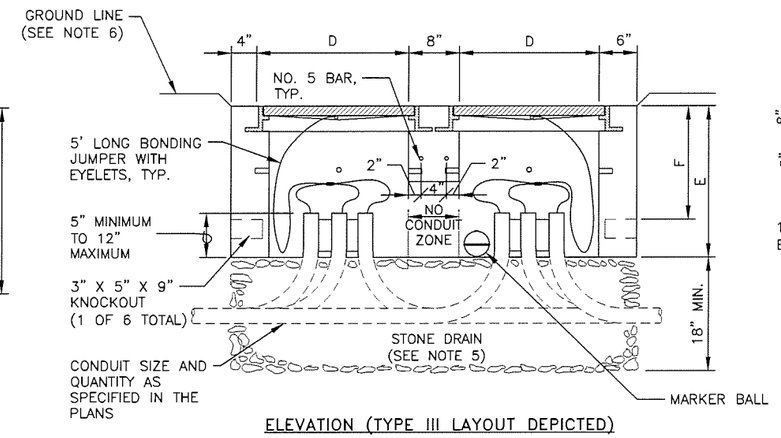
*=APPLICABLE TO MODIFIED TYPE II JUNCTION BOX



PLAN

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

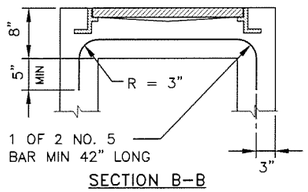
NTS



ELEVATION (TYPE III LAYOUT DEPICTED)

LID FOR TYPE IV J–BOX

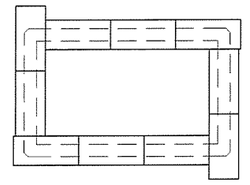
NTS



SECTION B–B

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"

J–BOX DIMENSIONS



BRICK BASE TYPE IA AND TYPE II ONLY

NTS

TYPE III/IV JUNCTION BOX

NTS

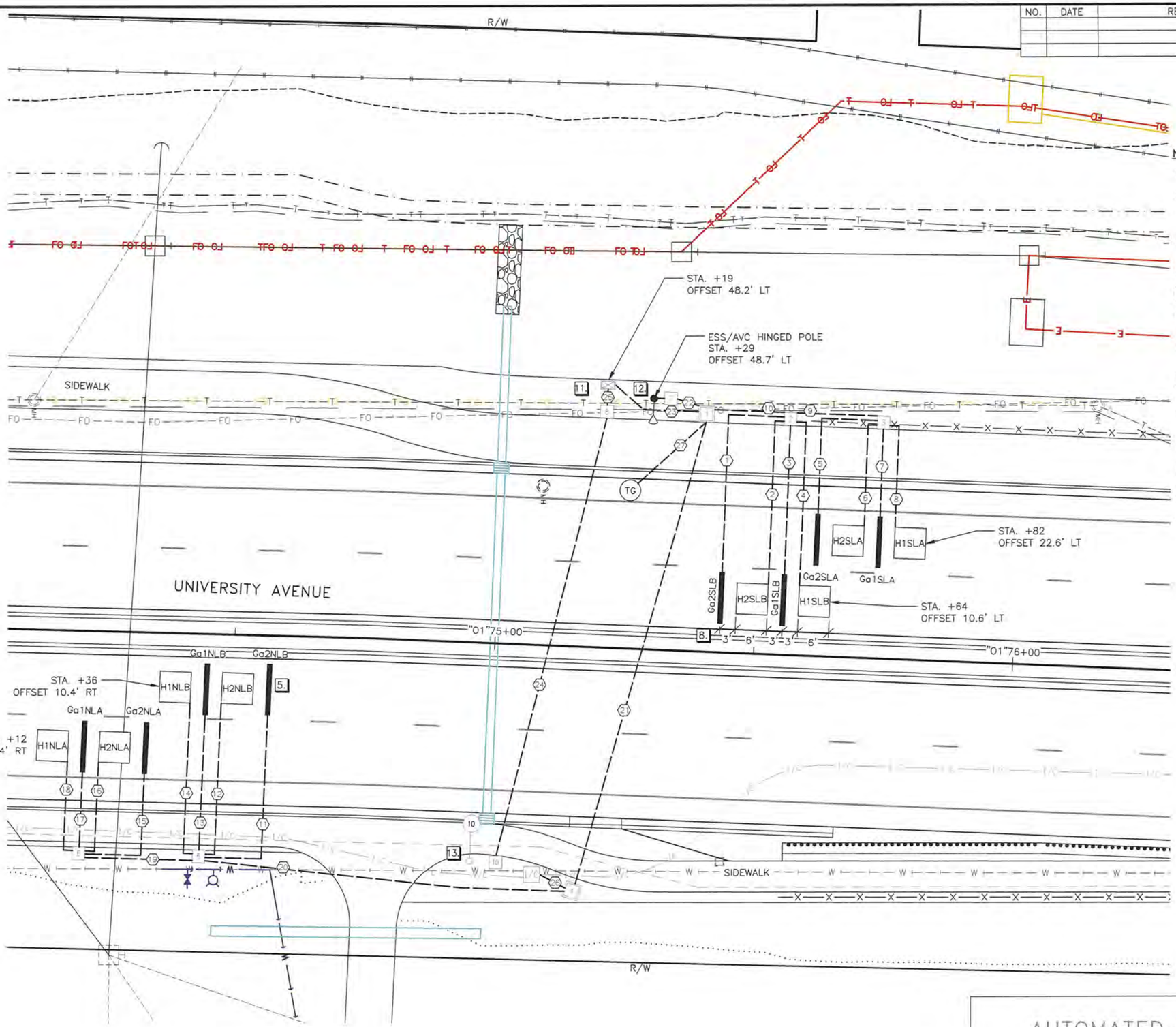
JUNCTION BOX DETAILS

STATE OF ALASKA 49 REVIEWED PS&E JSON 13131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_H44_J-Box Detls-H44 Thu, Aug/22/19 10:40am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	K1	K9



NOTES:

1. ALL PVC CONDUIT AND FITTINGS SHALL BE ONE INCH SCHEDULE 80.
2. INSTALL 1/2 INCH PREFORMED BITUMINOUS JOINT MATERIAL BETWEEN JBOX AND PAVEMENT WHEN JBOXES ARE LOCATED IMMEDIATELY ADJACENT TO A SIDEWALK OR ROAD SURFACE.
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 IN LANE.
6. MINIMUM SPACING BETWEEN TAIL AND LOOP OR PIEZO IS ONE FOOT. SENSOR TAILS SHALL NOT CROSS EACH OTHER.
7. SPLICE LOOP WIRING TO MULTI-PAIR CABLE USING NONREENTERABLE WET LOCATION SPLICE. SEE SHEET K6.
8. DIMENSIONS ARE TYPICAL FOR EACH LOOP AND PIEZOELECTRIC SENSOR LAYOUT.
9. COAX CABLE FOR PIEZO SENSORS TO BE RUN WITHOUT SPLICES TO "F" CONNECTOR AT TERMINAL BLOCK IN CABINET.
10. ESS/AVC CABINET DOOR TO OPEN AWAY FROM ROADWAY.
11. LOCATE THE ESS/AVC CABINET PER THE DETAILS AND NOTES ON SHEET K4.
12. INSTALL HINGED POLE PER DETAIL ON SHEET K8, POLE SHALL TIP DOWN TO THE NORTH.
13. ILLUMINATION JUNCTION BOX NUMBER 10 WILL BE INSTALLED AS PART OF THE LIGHTING PLANS, SEE SHEETS H26 FOR LOCATIONS. SEE SHEETS H17-H18 FOR AVC POWER ROUTING TO LOAD CENTER "B".

JUNCTION BOX SUMMARY

NUMBER	STA.	OFFSET	TYPE
1	75+39	45.9' LT	II
2	75+55	45.2' LT	IA
3	75+73	45.2' LT	IA
4	75+17	47.3' RT	II
5	74+44	42.7' RT	IA
6	74+21	42.7' RT	IA
7	75+32	48.8' LT	IA
8	75+20	45.2' LT	IA

AUTOMATED VEHICLE COUNTER PLANS

STATE OF ALASKA 49 REVIEW PS&E WILLIAM J. J7492 REGISTERED PROFESSIONAL ENGINEER 8/22/2019

STATE OF ALASKA 49 REVIEW PS&E JASON J. J3131 REGISTERED PROFESSIONAL ENGINEER 8/22/2019

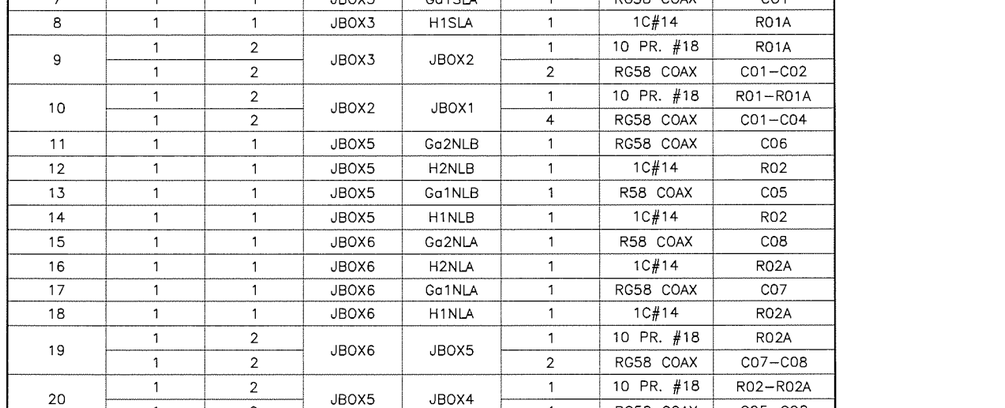
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_K1_ATR-K1 Thu, Aug/22/19 10:43am

NO.	DATE	REVISION

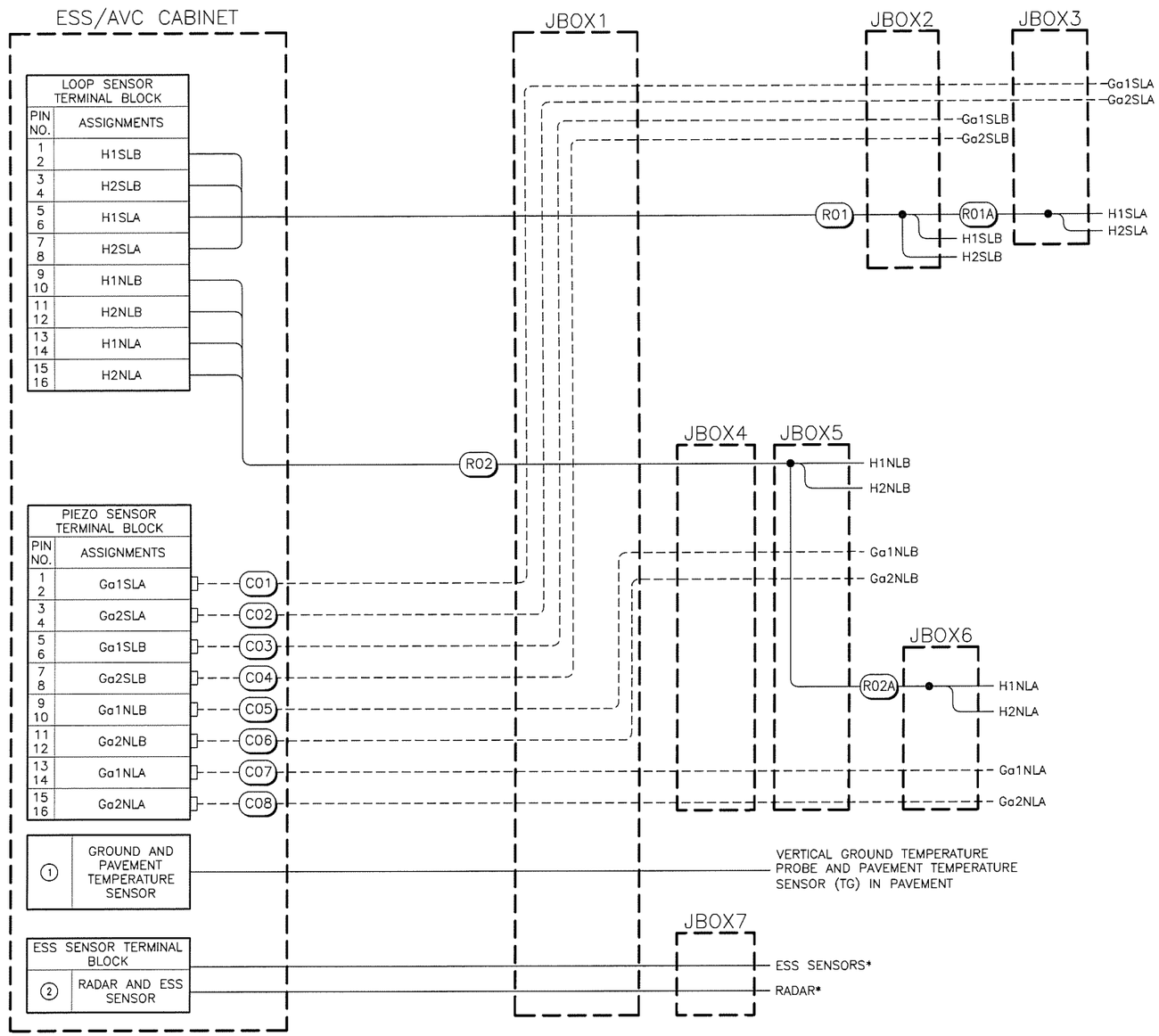
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	K2	K9

CONDUIT AND CONDUCTOR SCHEDULE

CONDUIT					CABLE		
⑭	QTY	SIZE (INCHES)	FROM	TO	QTY	TYPE	NUMBER
1	1	1	JBOX2	Ga2SLB	1	RG58 COAX	C04
2	1	1	JBOX2	H2SLB	1	1C#14	R01
3	1	1	JBOX2	Ga1SLB	1	RG58 COAX	C03
4	1	1	JBOX2	H1SLB	1	1C#14	R01
5	1	1	JBOX3	Ga2SLA	1	RG58 COAX	C02
6	1	1	JBOX3	H2SLA	1	1C#14	R01A
7	1	1	JBOX3	Ga1SLA	1	RG58 COAX	C01
8	1	1	JBOX3	H1SLA	1	1C#14	R01A
9	1	2	JBOX3	JBOX2	1	10 PR. #18	R01A
	1	2			2	RG58 COAX	C01–C02
10	1	2	JBOX2	JBOX1	1	10 PR. #18	R01–R01A
	1	2			4	RG58 COAX	C01–C04
11	1	1	JBOX5	Ga2NLB	1	RG58 COAX	C06
12	1	1	JBOX5	H2NLB	1	1C#14	R02
13	1	1	JBOX5	Ga1NLB	1	R58 COAX	C05
14	1	1	JBOX5	H1NLB	1	1C#14	R02
15	1	1	JBOX6	Ga2NLA	1	R58 COAX	C08
16	1	1	JBOX6	H2NLA	1	1C#14	R02A
17	1	1	JBOX6	Ga1NLA	1	RG58 COAX	C07
18	1	1	JBOX6	H1NLA	1	1C#14	R02A
19	1	2	JBOX6	JBOX5	1	10 PR. #18	R02A
	1	2			2	RG58 COAX	C07–C08
20	1	2	JBOX5	JBOX4	1	10 PR. #18	R02–R02A
	1	2			4	RG58 COAX	C05–C08
21	1	2	JBOX4	JBOX1	1	10 PR. #18	R02–R02A
	1	3			4	RG58 COAX	C05–C08
	1	2			1	FUTURE	FUTURE
22	2	2	JBOX7	JBOX1	1	VARIES	RADAR AND ESS SENSORS
23	1	3	JBOX1	CABINET	2	10 PR. #18	R01–R02
	1	3			8	RG58 COAX	C01–C08
	2	2			1	VARIES	RADAR AND ESS SENSORS
24	1	2	ILL JBOX7	JBOX8	1	3C#6	POWER
25	1	2	JBOX8	CABINET	1	3C#6	POWER
26	1	2	I/C VAULT	JBOX4	1	FUTURE	FUTURE
27	1	2	JBOX1	TG	1	MFG SUPPLIED	GROUND AND PAVEMENT TEMPERATURE SENSOR



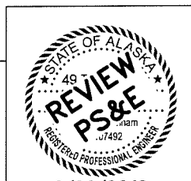
LINE DIAGRAM – DATA/COMMUNICATION CIRCUITS
NTS



* FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR RADAR AND ESS SENSOR CONNECTIONS BETWEEN RADAR AND ESS SENSOR TERMINALS.

WIRING DIAGRAM – SENSORS
NTS

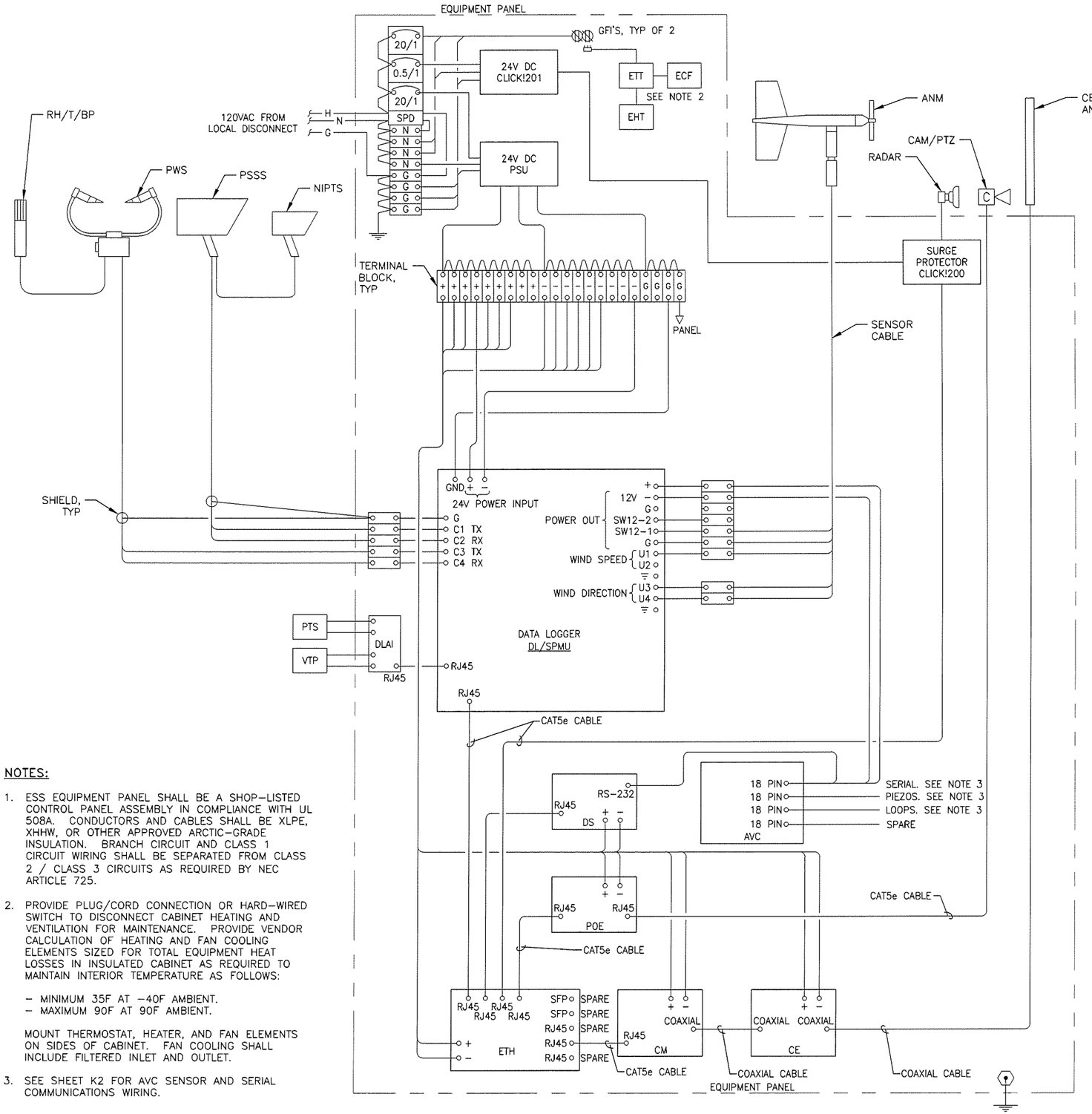
AVC WIRING



PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_K2_AVC WIRE-K2_AVC WIRING Thu, Aug/22/19 10:43am

NO.	DATE	REVISION

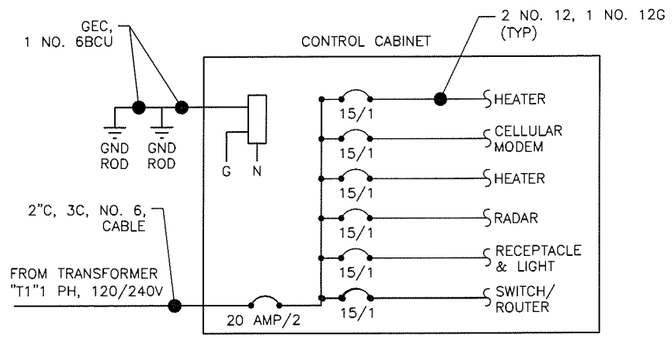
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	K3	K9



WIRING DIAGRAM – EQUIPMENT PANEL
NTS

ESS EQUIPMENT SCHEDULE

TAG	ITEM	MANUFACTURER /MODEL	QUANTITY	LOAD (MAX) VDC	LOAD (MAX) mA
DL	DATA LOGGER	VAISALA DMU703	1	24	250
SPMU	SENSOR POWER MANAGEMENT UNIT	VAISALA PMU701	1	24	10000 (MAX)
DLAI	DATA LOGGER ANALOG INTERFACE	VAISALA DR1701	1	24	43
ESS/BPA	ESS BACKPLATE ASSEMBLY	RWS200/NO ENCLOSURE	1	0	0
AVC	AUTMATED VEHICLE CLASSIFIER	IRD TRS PLUS	1	12	3000
ANMIO	ANEMOMETER INTERFACE	R.M. YOUNG MODEL 05603C	1	12	5
ANM	ANEMOMETER	R.M. YOUNG MODEL 05106	1	8–30	40
RH/T/P/BP	RH/T SENSOR	VAISALA WXT535/WXT534	1	12	815
	PRECIPITATION SENSOR		1		
	BAROMETRIC PRESSURE		1		
PWS	PRESENT WEATHER SENSOR	VAISALA PWD12	1	24	2550
PSSS	PAVEMENT SURFACE STATE SENSOR	VAISALA DSC111	1	12	333
NIPTS	NON-INTRUSIVE PAVEMENT TEMPERATURE SENSOR	VAISALA DST111	1	24	2.1
VTP	VERTICAL TEMPERATURE PROBE (DOT FURNISHED)	MRC TP101	1	0	0
PTS	PAVEMENT SURFACE TEMPERATURE SENSOR	MRC TP101	1	0	0
CM	CELLULAR MODEM WITH REMOTE DIRECTIONAL ANTENNA	SIERRA WIRELESS RV50	1	12	300
CE	CELL EXTENDER	CLEAR RF WRE5500-S	1	13.5	500
DL/ENC	DATA LOGGER CABINET ENCLOSURE	HOFFMAN A36H42CLP	1	0	0
CAM/PTZ	PTZ CAMERA	AXIS Q6155-E PTZ	1	48 (PoE)	1542
POE	POE INJECTOR	AXIS T8144 DC 60W	1	0	0
CLICK!201	24V DIN POWER SUPPLY	WAVETRONICS CLICK!201	1	24	0–1000
CLICK!200	DIN SURGE PROTECTOR	WAVETRONICS CLICK!200	1	0	0
RADAR	RADAR DETECTOR	WAVETRONICS SMARTSENSOR HD	1	24	316
DS	DEVICE SERVER	RUGGEDCOM RMC30	1	12	75
ETH	ETHERNET SWITCH	RUGGEDCOM RS940G	1	12	367
T/BLK	DATA LOGGER CABINET SECTIONAL TERMINAL BLOCKS	SCHNEIDER LINERGY TR NYSTRV352	AS REQUIRED	0	0
T/BLK/G	DATA LOGGER CABINET SECTIONAL TERMINAL BLOCKS (GROUNDING)	SCHNEIDER LINERGY TR NYSTRV352PE	AS REQUIRED	0	0
20CB	20A CIRCUIT BREAKER	EATON FAZ-C20-1-NA	2	0	0
10CB	10A CIRCUIT BREAKER	EATON FAZ-C10-1-NA	0	0	0
0.5CB	0.5A CIRCUIT BREAKER	WAVETRONICS CLICK!210	1	0	0
GFI	GFI DUPLEX RECEPTACLE	GENERIC / UL LISTED	2	0	0
ETT	ENCLOSURE THERMOSTAT	GENERIC / UL LISTED	1	0	0
EHT	ENCLOSURE HEATER	GENERIC / UL LISTED	1	120V AC	8000 (MAX)
ECF	ENCLOSURE COOLING FAN	GENERIC / UL LISTED	1	120V AC	1000 (MAX)
BKBT	BACKUP BATTERY	VAISALA 2472257SP	1	0	0
SPD	SURGE PROTECTIVE DEVICE	TRANSTECTOR #1104-15-000	1	0	0
PSU	POWER SUPPLY UNIT	24V DC GENERIC / UL LISTED 10W MIN.	1	24	10000 MIN.



SINGLE LINE DIAGRAM – CBA2 SERVICE PANEL
NTS

NOTES:

1. ESS EQUIPMENT PANEL SHALL BE A SHOP-LISTED CONTROL PANEL ASSEMBLY IN COMPLIANCE WITH UL 508A. CONDUCTORS AND CABLES SHALL BE XLPE, XHHW, OR OTHER APPROVED ARCTIC-GRADE INSULATION. BRANCH CIRCUIT AND CLASS 1 CIRCUIT WIRING SHALL BE SEPARATED FROM CLASS 2 / CLASS 3 CIRCUITS AS REQUIRED BY NEC ARTICLE 725.

2. PROVIDE PLUG/CORD CONNECTION OR HARD-WIRED SWITCH TO DISCONNECT CABINET HEATING AND VENTILATION FOR MAINTENANCE. PROVIDE VENDOR CALCULATION OF HEATING AND FAN COOLING ELEMENTS SIZED FOR TOTAL EQUIPMENT HEAT LOSSES IN INSULATED CABINET AS REQUIRED TO MAINTAIN INTERIOR TEMPERATURE AS FOLLOWS:

   - MINIMUM 35F AT -40F AMBIENT.
   - MAXIMUM 90F AT 90F AMBIENT.

   MOUNT THERMOSTAT, HEATER, AND FAN ELEMENTS ON SIDES OF CABINET. FAN COOLING SHALL INCLUDE FILTERED INLET AND OUTLET.

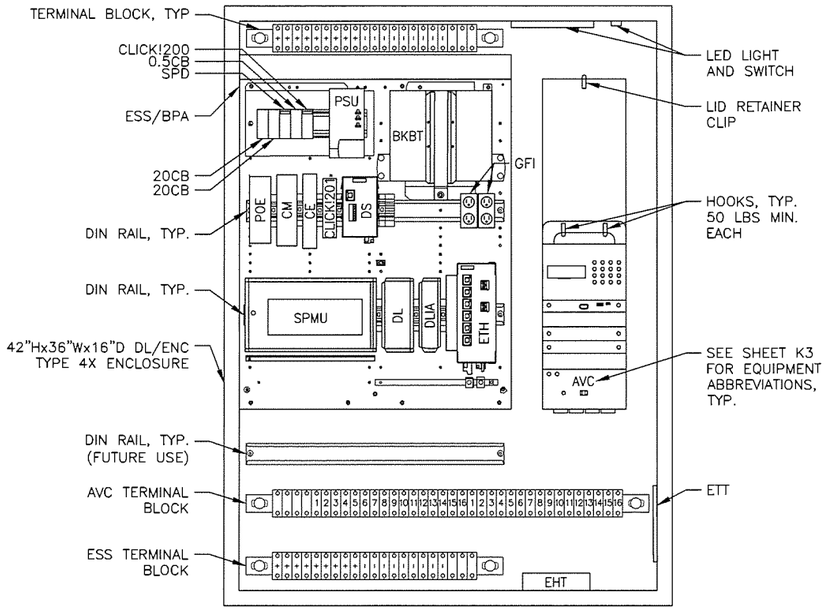
3. SEE SHEET K2 FOR AVC SENSOR AND SERIAL COMMUNICATIONS WIRING.

WIRING DIAGRAM AND EQUIPMENT LIST

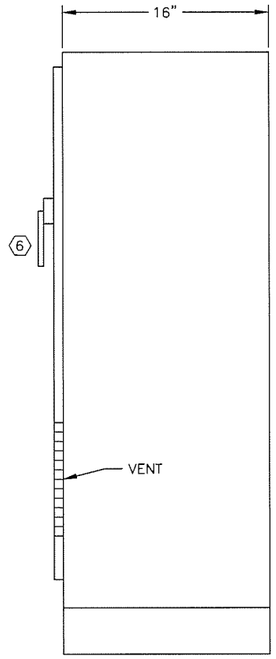
STATE OF ALASKA REVIEW PS&E REGISTERED PROFESSIONAL ENGINEER 49 J7492 8/22/2019

STATE OF ALASKA REVIEW PS&E REGISTERED PROFESSIONAL ENGINEER 49 J7131 8/22/2019

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	K4	K9



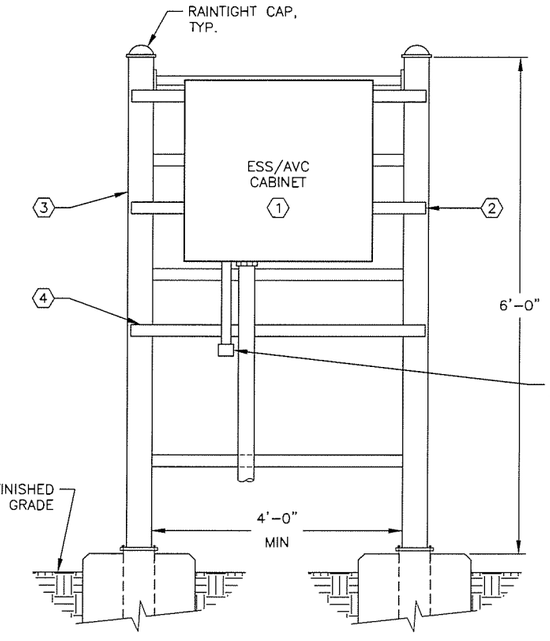
FRONT VIEW



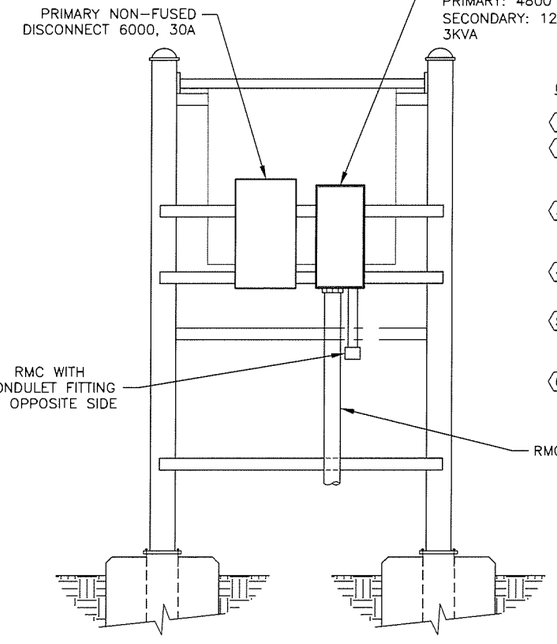
SIDE VIEW

ESS/AVC EQUIPMENT RACK ELEVATIONS AND CABINET DETAILS

NTS



FRONT ELEVATION



BACK ELEVATION

APPLIES TO RWIS SITE 5 ONLY

ESS/AVC EQUIPMENT RACK ELEVATION

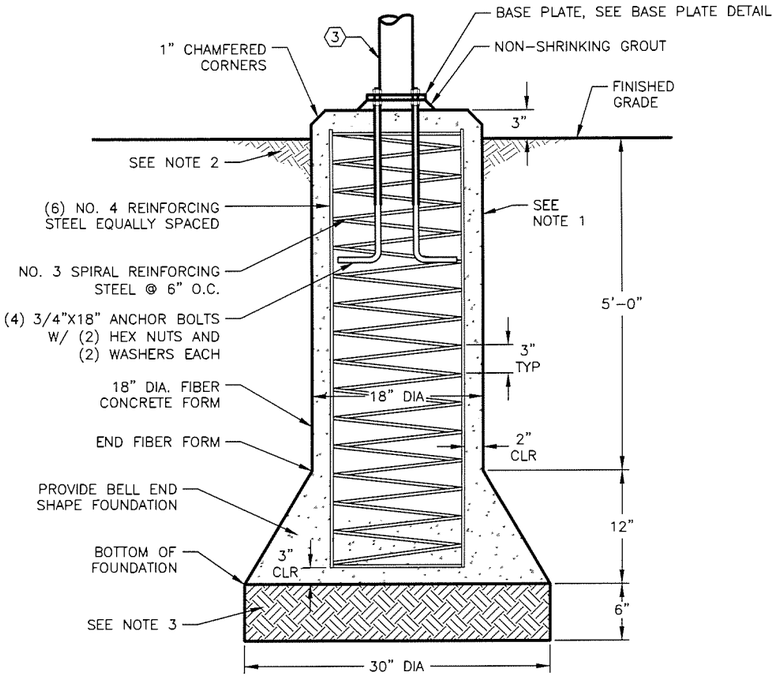
NTS

CABINET NOTES:

1. PROVIDE ESS/AVC CABINET. SEE DETAIL THIS SHEET.
2. ALL EXTERIOR CHANNELS, BRACKETS, BRACES, CLAMPS, HARDWARE, AND FASTENERS SHALL BE HDG IN ACCORDANCE WITH ASTM A123 OR A153.
3. PROVIDE STEEL BACKPLATE WITH TOP AND SIDE SHIELDS FOR THE POWER SUPPLY ENCLOSURE(S). USE 1/4-INCH MILD STEEL PLATE; HDG AFTER FABRICATION.
4. RACK VERTICAL SUPPORTS SHALL BE 4" SCHEDULE 40 HDG STEEL PIPE.
5. RACK HORIZONTAL SUPPORTS SHALL BE 1-5/8" 12 GA HDG STRUT AT 12" MAX SPACING, QUANTITY AS REQUIRED TO SUPPORT EQUIPMENT.
6. CABINET DOOR SHALL FACE AWAY FROM ROADWAY.

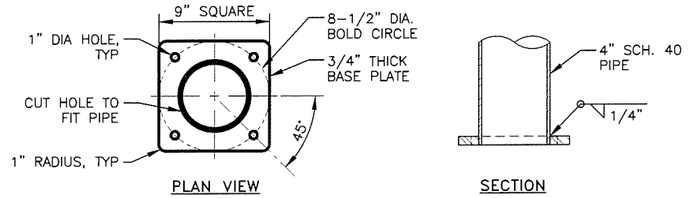
NOTES:

1. PROVIDE CLASS A CONCRETE FOUNDATION. COMPLETE ALL CONCRETE WORK IN CONFORMANCE WITH SECTIONS 501, 503, AND 660 OF THE SPECIFICATIONS. VIBRATE CONCRETE DURING PLACEMENT BY MECHANICAL VIBRATION PER SUBSECTION 501-3.08. ENSURE UPPER ANCHOR ROD THREADS ARE PROTECTED FROM CONTACT WITH CONCRETE DURING POUR.
2. 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.
3. PROVIDE AND COMPACT POUROUS BACKFILL MATERIAL THAT MEETS THE REQUIREMENTS OF SSHC 703-2.10 UNDER CONCRETE FOUNDATION.
4. FOR EACH NEW ESS EQUIPMENT RACK INSTALLATION, PROVIDE (2) 3/4"X10 FEET COPPER CLAD GROUND RODS SPACED 6 FEET MINIMUM APART. SEE GROUNDING DIAGRAM ON SHEET E6.
5. PROVIDE 1.5 EXTRA TURNS AT EACH END OF THE SPIRAL REINFORCING STEEL. REINFORCING STEEL SHALL NOT BE SPLICED. TIE VERTICAL REINFORCING STEEL TO INTERSECTION OF THE SPIRAL REINFORCING STEEL.



ESS/AVC EQUIPMENT RACK FOUNDATION

NTS



PLAN VIEW

SECTION

ESS/AVC FOUNDATION BASE PLATE

NTS

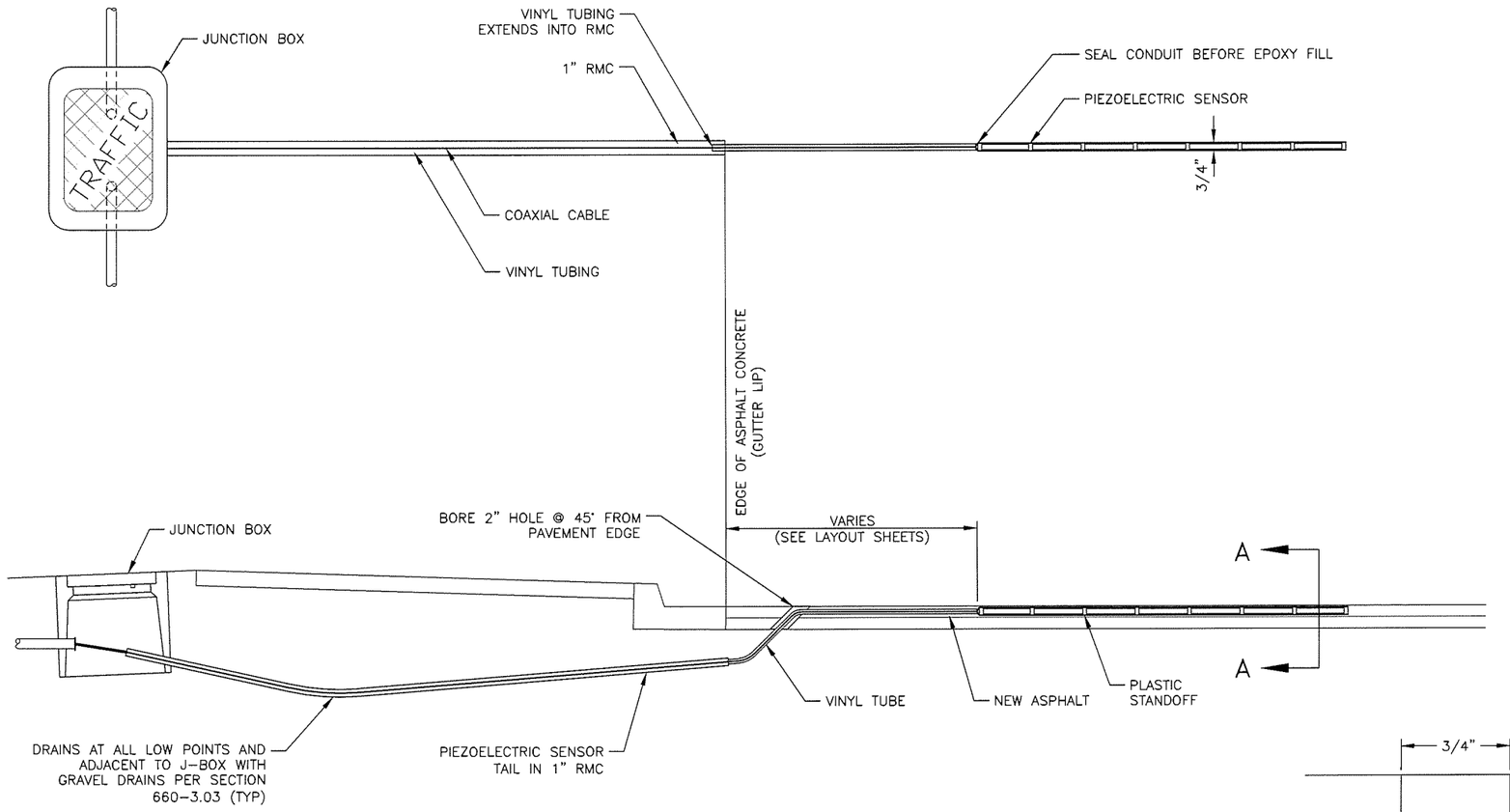
ESS/AVC CABINET AND FOUNDATION DETAILS

STATE OF ALASKA
REVIEW PS&E
Adam
07492
REGISTERED PROFESSIONAL ENGINEER
8/22/2019

STATE OF ALASKA
REVIEW PS&E
JASON
13131
REGISTERED PROFESSIONAL ENGINEER
8/22/2019

NO.	DATE	REVISION

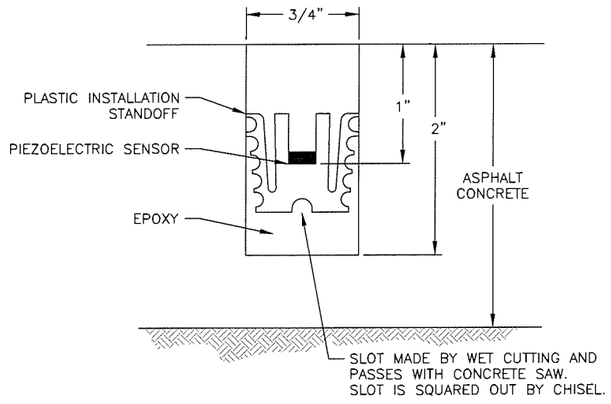
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	K5	K9



PIEZOELECTRIC SENSOR INSTALLATION DETAILS
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.



SECTION A-A
NTS

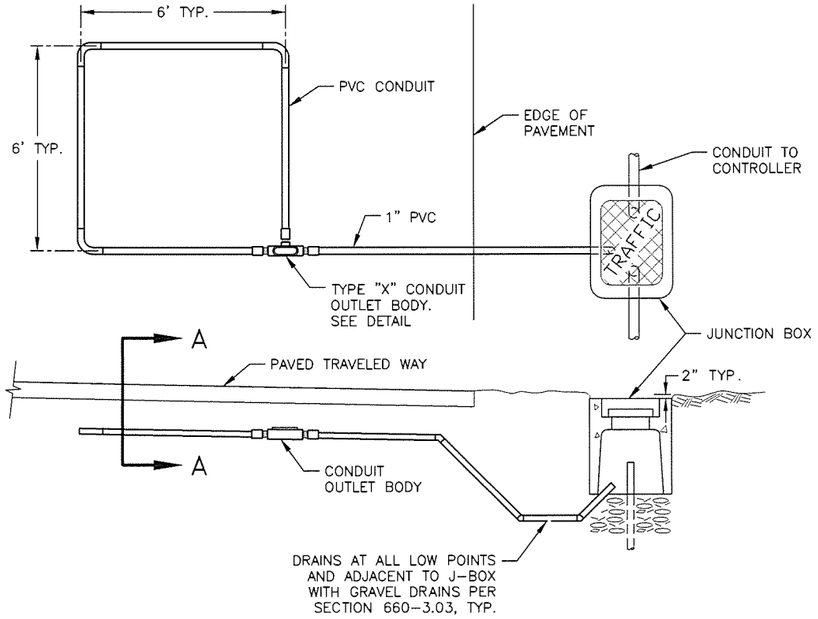
PIEZOELECTRIC SENSOR DETAILS

STATE OF ALASKA REVIEW PS&E REGISTERED PROFESSIONAL ENGINEER 8/22/2019

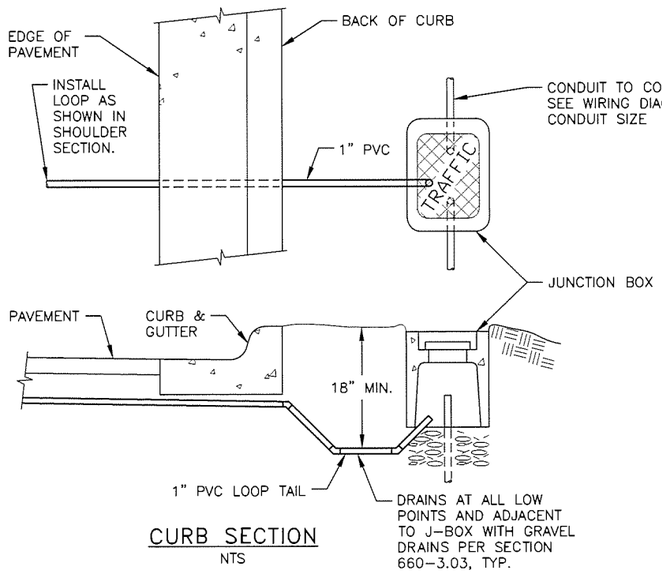
STATE OF ALASKA REVIEW PS&E REGISTERED PROFESSIONAL ENGINEER 8/22/2019

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_K5_PIEZO_DETLS-K5_PIEZO_DETLS Thu, Aug/22/19 10:43am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	K6	K9



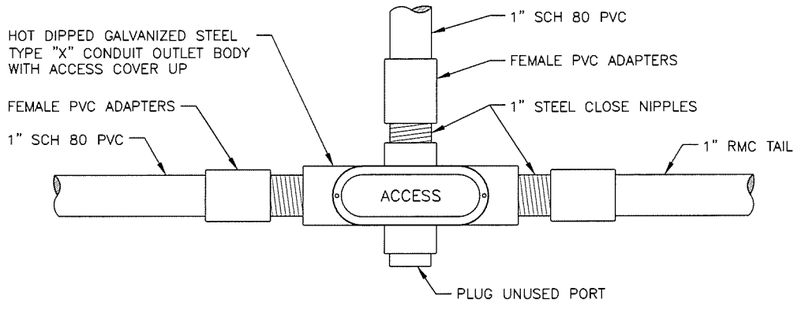
SHOULDER SECTION
NTS



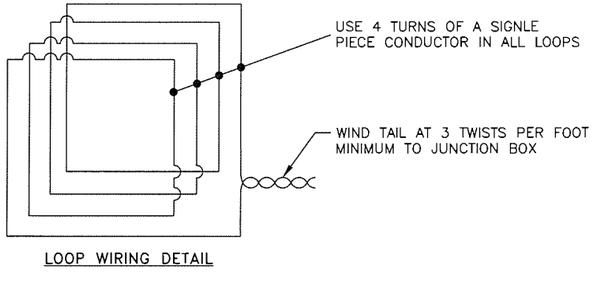
CURB SECTION
NTS

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.

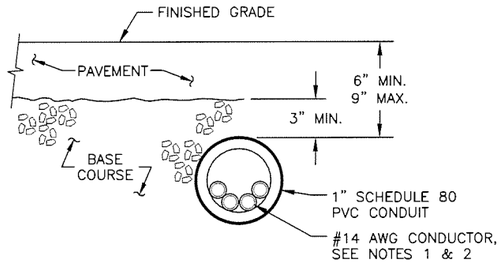


CONDUIT OUTLET BODY DETAIL
NTS

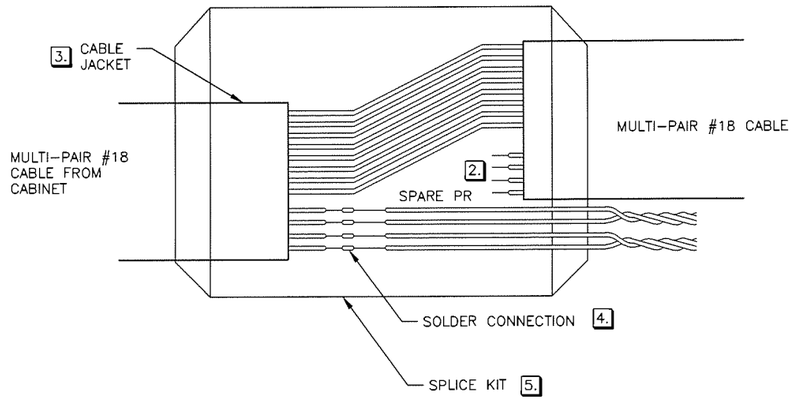


LOOP WIRING DETAIL

TYPICAL PVC CONDUIT ENCASED LOOP DETECTOR INSTALLATION
NTS



SECTION A-A
NTS



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.

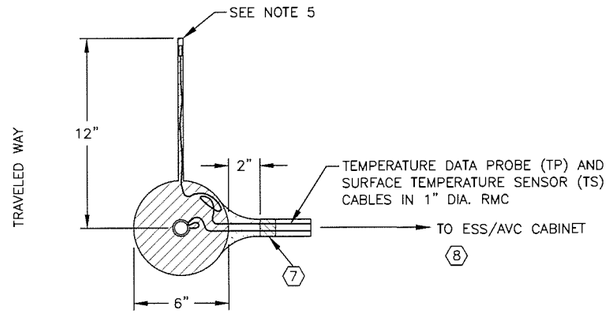
SPLICE AND PRESENCE LOOP DETAILS

STATE OF ALASKA 49 REVIEW PS&E ...liam ...07492 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

STATE OF ALASKA 49 REVIEW PS&E ...KSON... ...13131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_K6_LP DETLS-K6_SPLICE & PRESENCE LOOP DETLS Thu, Aug/22/19 10:44am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	K7	K9



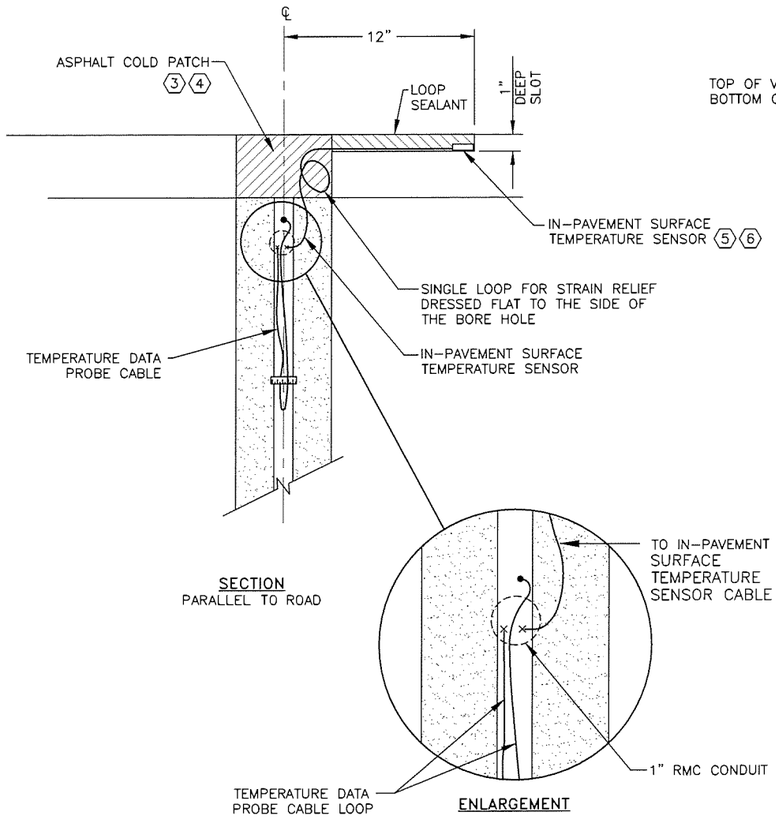
PLAN VIEW

GROUND TEMPERATURE SENSOR

NTS

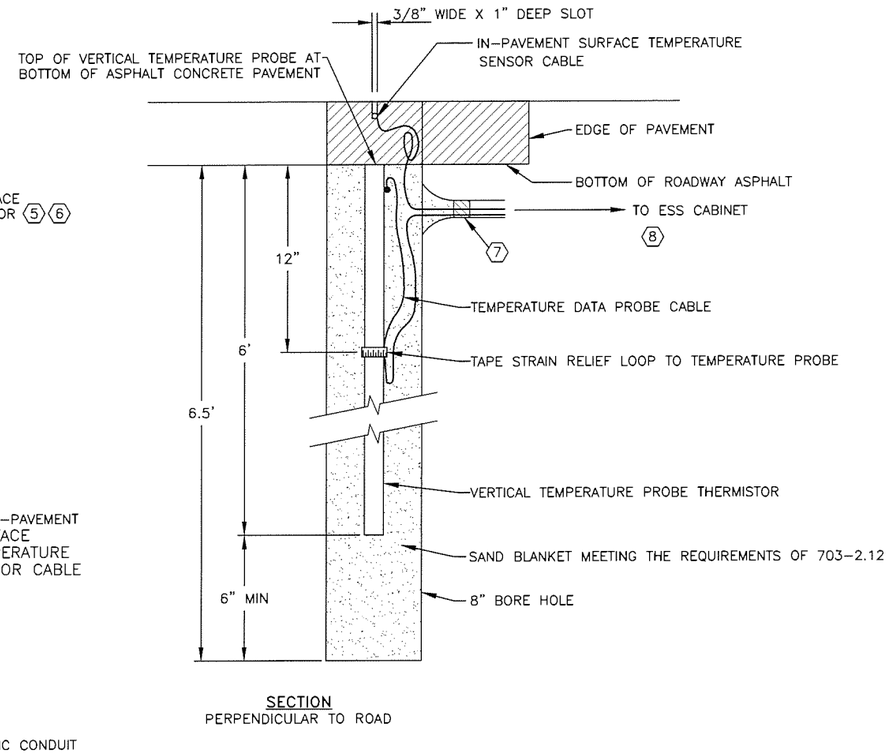
NOTES:

1. INSTALLATION OF EQUIPMENT AND MATERIALS SHALL CONFORM TO APPLICABLE REQUIREMENTS OF THE CURRENT NATIONAL ELECTRICAL CODE, ALASKA DOT&PF STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND LOCAL AMENDMENTS.
2. EVERY EFFORT HAS BEEN MADE TO MAKE THE INFORMATION CONTAINED IN THESE DOCUMENTS COMPLETE AND ACCURATE. HOWEVER, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS AND DIMENSIONS.
3. ASPHALT COLD PATCH SHALL BE HEATED BEFORE PLACEMENT. DO NOT APPLY HEAT TO THE COLD PATCH AFTER PLACEMENT IN THE 8" BORE HOLE.
4. APPLY ASPHALT TACK COAT TO EXISTING ASPHALT SURFACE INSIDE BORE HOLE BEFORE PLACING ASPHALT COLD PATCH.
5. ALL PVC CONDUIT AND FITTINGS SHALL BE 1 INCH SCHEDULE 80.
6. 3/8" WIDE X 1" DEEP SLOT FOR IN-PAVEMENT SURFACE TEMPERATURE SENSORS SHALL BE PARALLEL TO THE DIRECTION OF TRAVELED WAY.
7. INSTALL TEMPERATURE DATA PROBE, SURFACE TEMPERATURE SENSORS, AND ASSOCIATED HARDWARE AS SHOWN.
8. SEAL END OF 1" RMC WITH 3M TYPE LOOP SEALANT OR EQUIVALENT AS APPROVED BY THE ENGINEER.
9. RUN IN-PAVEMENT SURFACE TEMPERATURE SENSOR (TS) AND TEMPERATURE DATA PROBE (TP) CABLES UNSPLICED TO ESS/AVC CABINET IN RMC FOR CONNECTION TO DATA LOGGER.



SECTION
PARALLEL TO ROAD

ENLARGEMENT



SECTION
PERPENDICULAR TO ROAD

GROUND TEMPERATURE SENSOR DETAILS

NTS

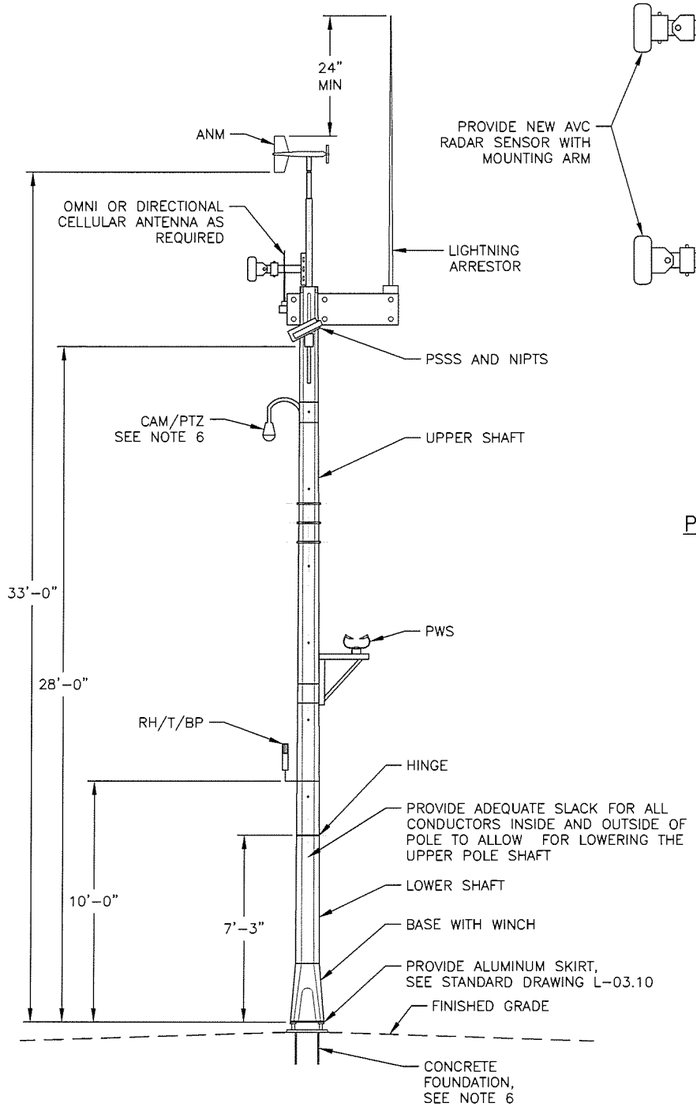
GROUND TEMPERATURE SENSOR DETAILS

STATE OF ALASKA 49 REVIEW PS&E ...liam... 17492 REGISTERED PROFESSIONAL ENGINEER 8/22/2019

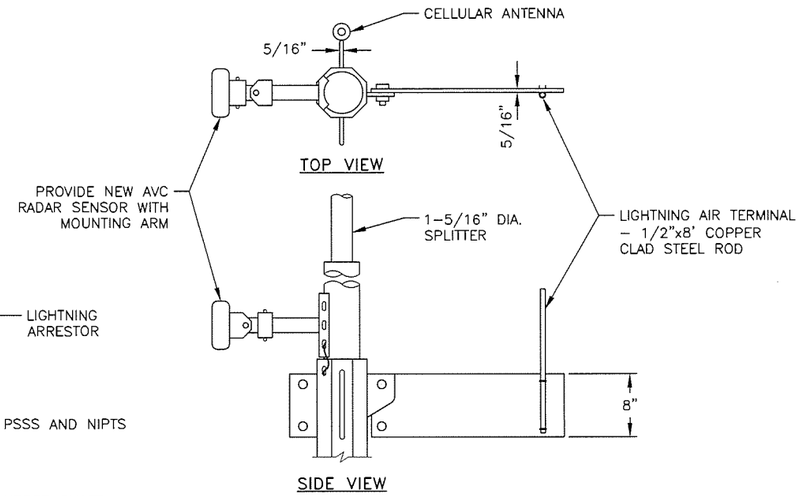
STATE OF ALASKA 49 REVIEW PS&E ...KSON... 13131 REGISTERED PROFESSIONAL ENGINEER 8/22/2019

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_R_K7_HNED PL DTLS-K7 Thu, Aug/22/19 10:44am

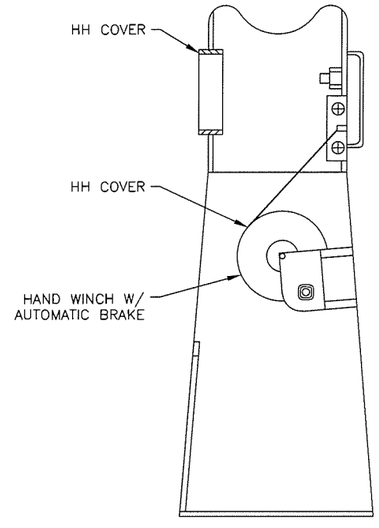
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	K8	K9



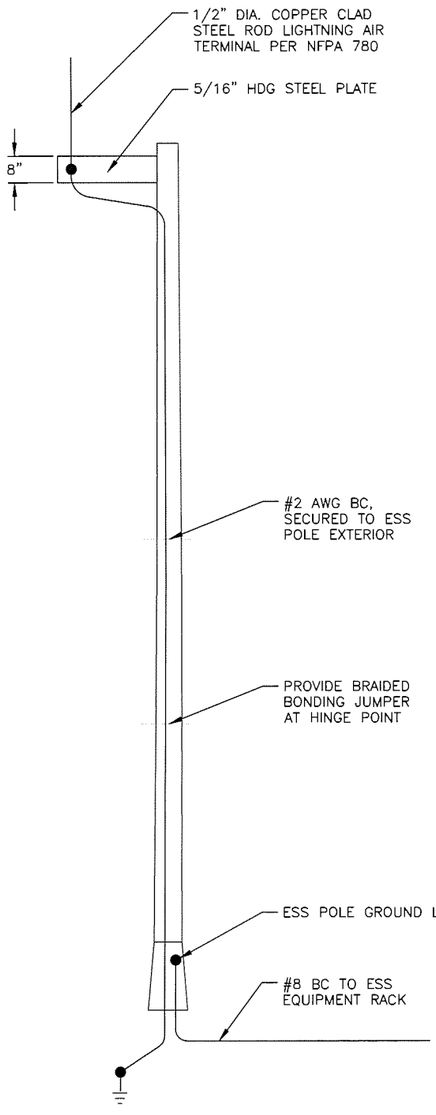
ESS/AVC POLE EQUIPMENT DETAIL
NTS



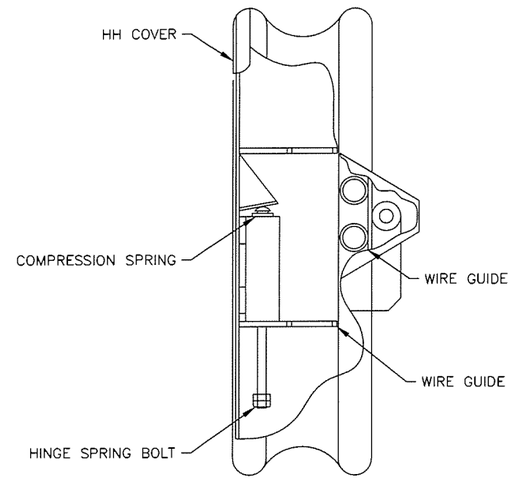
POLE TOP DETAIL
NTS



WINCH DETAIL
NTS



ESS/AVC POLE GROUNDING DETAIL
NTS



HINGE DETAIL
NTS

ESS/AVC HINGED POLE NOTES:

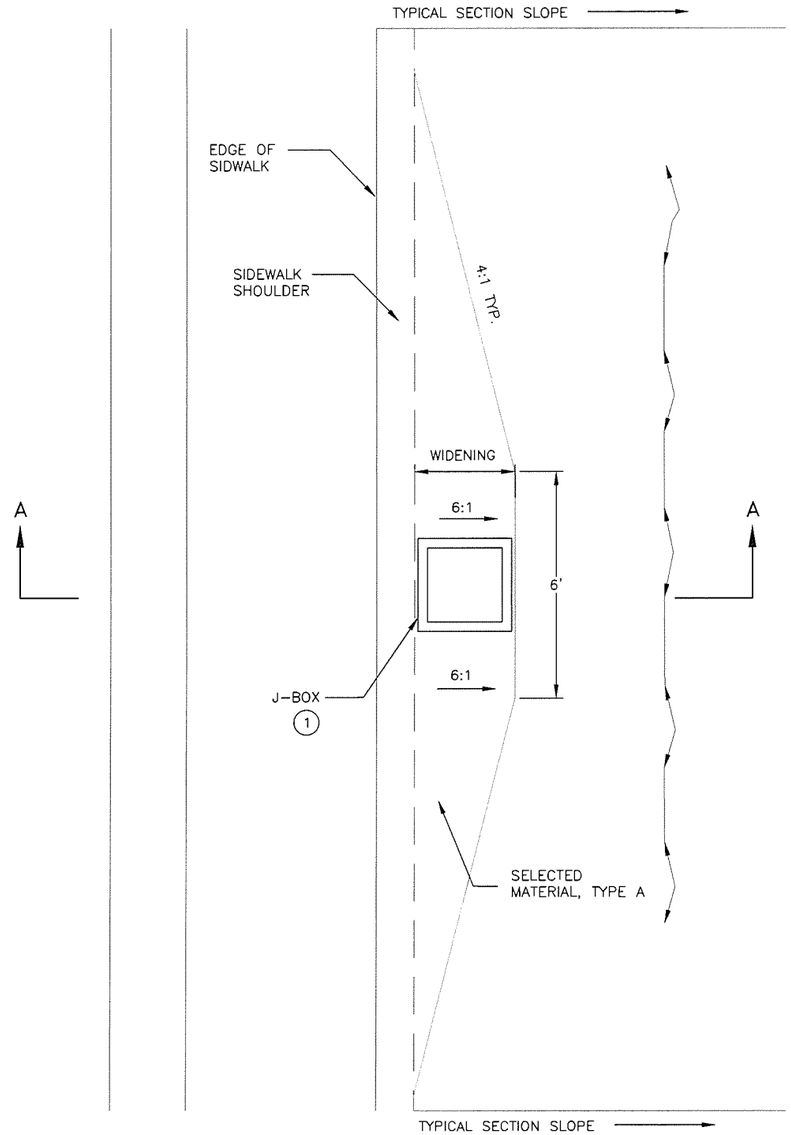
1. POLE LOCATION SHALL BE STAKED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ADJUST POLE LOCATION AS DIRECTED BY THE ENGINEER. MINOR RELOCATIONS OF FOUNDATIONS, CONDUIT AND JUNCTION BOXES SHALL BE CONSIDERED SUBSIDIARY TO THE AVC/RWIS PAY ITEM.
2. POLE MATERIAL: HIGH STRENGTH LOW ALLOY STEEL, 50,000 PSI MIN. YIELD PER ASTM A572 OR A607.
3. POLE FINISH: HOT DIPPED GALVANIZED (HDG).
4. PROVIDE A POLE THAT CAN BE LOWERED TO AND RAISED FROM THE SERVICE HEIGHT WITHOUT SPECIAL EQUIPMENT, UNLESS EQUIPMENT CAN BE STORED ON SITE.
5. ORIENT POLE AS INDICATED BY THE ESS POLE LAYDOWN SHADOW ON THE PLANS. CONTRACTOR SHALL ENSURE THAT THE POLE AND MOUNTED EQUIPMENT DOES EXTEND BEYOND EDGE OF ROADWAY PAVEMENT FOR NAMED ROADWAYS WHEN UPPER POLE SHAFT IS LOWERED.
6. PROVIDE ESS/AVE EQUIPMENT TRANCK FOUNDATION, SEE DETAIL K4, OR WITH APPROVAL BY THE ENGINEER, CONTRACTOR MAY PROVIDE A REINFORCED CONCRETE FOUNDATION IN ACCORDANCE WITH H36 AT NO ADDITIONAL COST TO THE OWNER. DO NOT USE IF SITE CONDITIONS INDICATED IN H36 NOTE 1 ARE ENCOUNTERED. IF USED, TREAT THE HINGED ESS POLE AS AN ELECTROLIER WITH A LUMINAIRE ARM MORE THAN 12 FEET IN THE DEPTH TABLE.

ESS/AVC HINGED POLE DETAILS

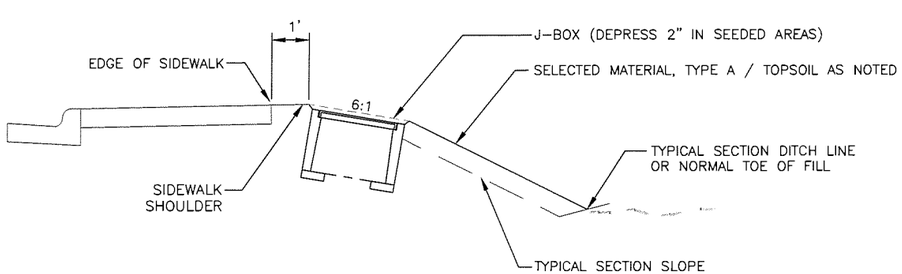
STATE OF ALASKA REVIEW PS&E REGISTERED PROFESSIONAL ENGINEER 8/22/2019

STATE OF ALASKA REVIEW PS&E REGISTERED PROFESSIONAL ENGINEER 8/22/2019

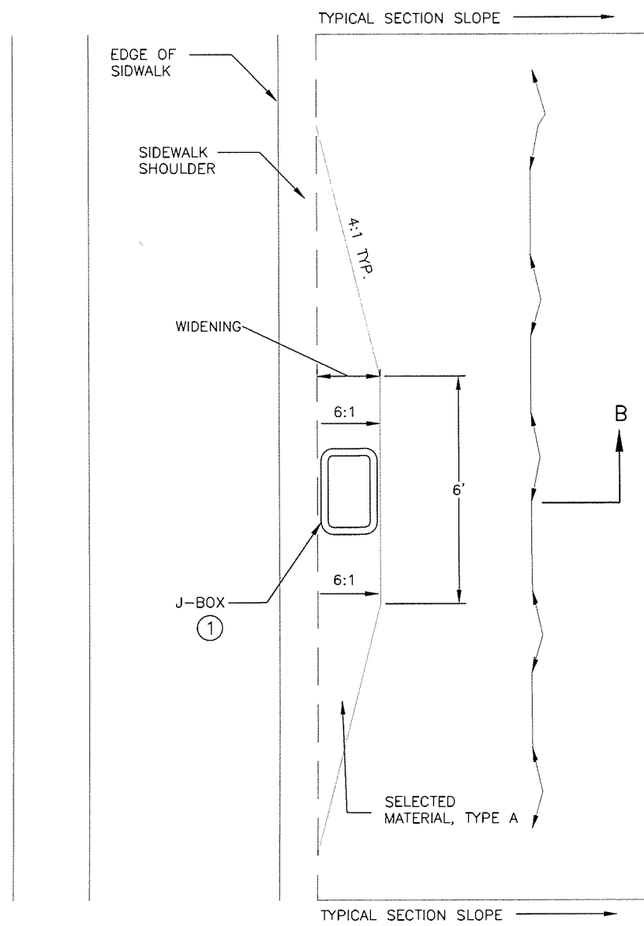
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	K9	K9



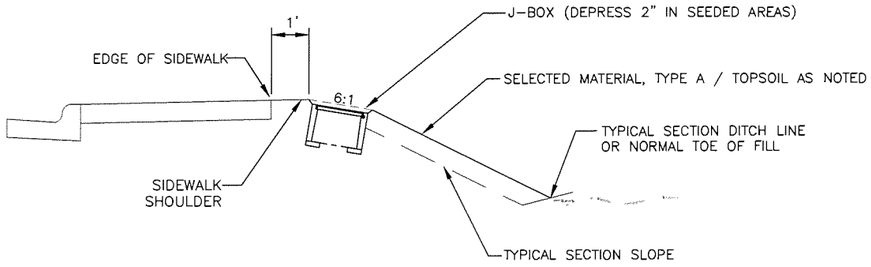
TYPE II JUNCTION BOX WIDENING DETAIL



SECTION A-A



TYPE IA JUNCTION BOX WIDENING DETAIL



SECTION B-B

JUNCTION BOX WIDENING NOTES:

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

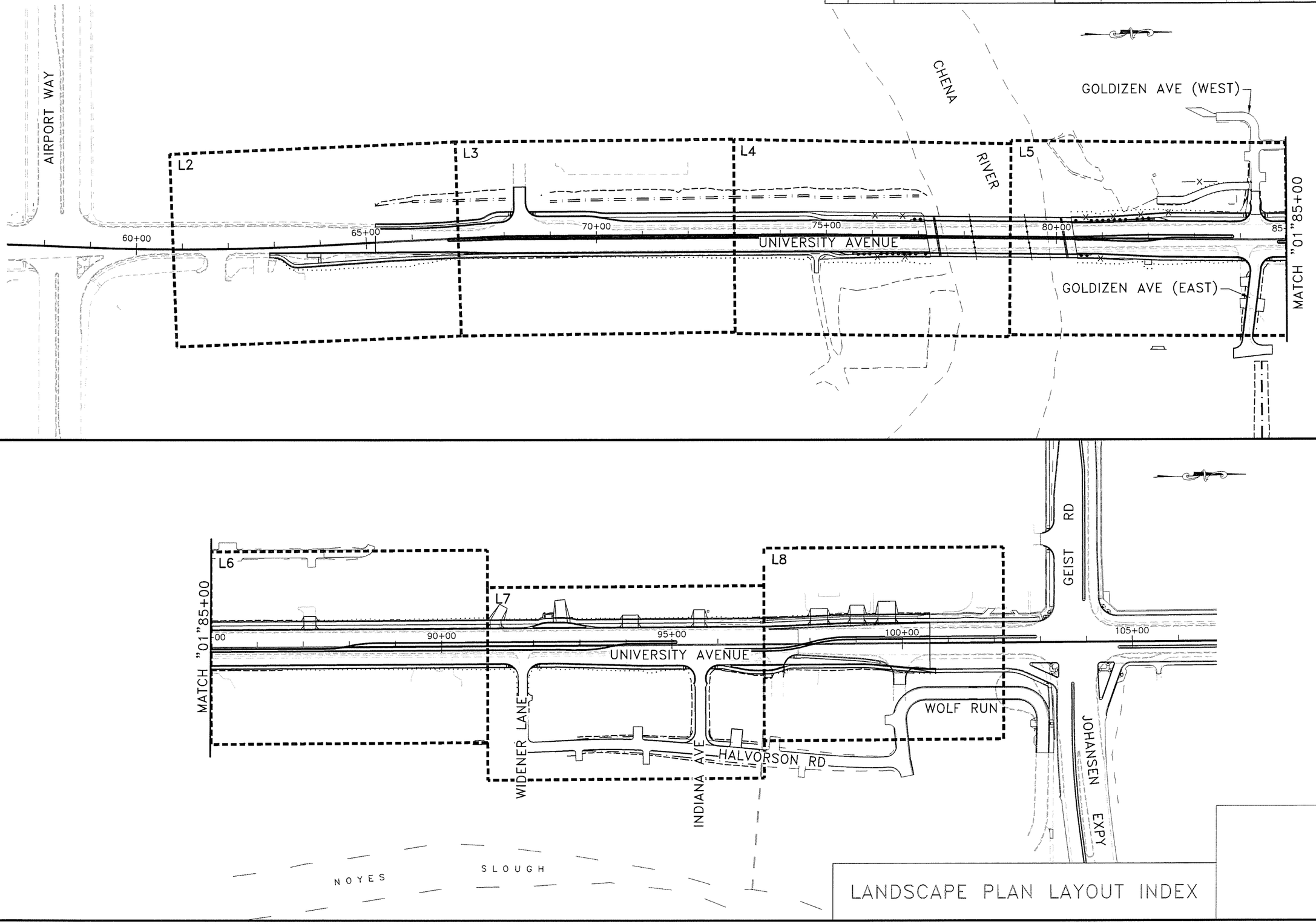
JUNCTION BOX WIDENING DETAILS

REVIEW PS&E

STATE OF ALASKA 49 REVIEW PS&E JASON J. 4131 REGISTERED PROFESSIONAL ENGINEER
8/22/2019

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	L1	L10



LANDSCAPE PLAN LAYOUT INDEX

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0009cnst11147.01FB_1D-L1 Plan Index Fri, Aug/23/19 03:14pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	L2	L10

R/W

R/W

TCE

SEEDING
SEE CIVIL

"01"61+25.74 PI
Δ = 5°56'37"
D = 1°02'06"
T = 287.42'
L = 574.33'
R = 5536.50'

61+00 62+00 63+00 64+00 UNIVERSITY AVENUE 65+00 66+00 67+00

MATCH EXISTING

MATCH "01" 67+00 LINE

SEEDING
SEE CIVIL

MATCH EXISTING

"01"64+12.65 PT

SEEDING
SEE CIVIL

"01"65+55.68 PC

2" HMA, TYPE II; CLASS B

R/W

TCP

R/W

TCP

R/W

TCP

R/W

LANDSCAPE PLAN (1 OF 7)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	L3	L10

ACCESS ROAD

COMMUNICATIONS EASEMENT

R/W

R/W

R/W

WOODS

3 L9 COLORED TEXTURED CONCRETE, 4 INCHES THICK

SEEDING SEE CIVIL

(54) YARROW

(26) SPIREA

(35) ROSE

3 L9 LANDSCAPE CURB

SEEDING SEE CIVIL

MATCH "01" 67+00 LINE

68+00

69+00

70+00

71+00

72+00

73+00

MATCH "01" 73+00 LINE

2" HMA, TYPE II; CLASS B

2 L9 BEGIN COLORED TEXTURED CONCRETE, 4 INCHES THICK

"01" 68+43.59 PT

UNIVERSITY AVENUE

2 L9 COLORED TEXTURED CONCRETE, 4 INCHES THICK

R/W

TCP

LANDSCAPE PLAN (2 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC; CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\201\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C3001cnst11147.01FB_1D-67+00-73+00 Fri, Aug/23/19 03:18pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	L4	L10

MATCH "01" 73+00 LINE

MATCH "01" 79+00 LINE

CHENA RIVER

COMMUNICATIONS EASEMENT

R/W

3 L9 LANDSCAPE CURB

3 L9 COLORED TEXTURED CONCRETE, 4 INCHES THICK

(15) ROSE

(26) SPIREA

(55) YARROW

SEEDING SEE CIVIL

74+00 75+00 76+00 77+00 78+00 79+

"01" 74+74.68 PI

2 L9 COLORED TEXTURED CONCRETE, 4 INCHES THICK

UNIVERSITY AVENUE

TCP

SD

W

LANDSCAPE PLAN (3 OF 7)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	L5	L10

CHENA RIVER

MATCH "01" 79+00 LINE

MATCH "01" 85+00 LINE

UNIVERSITY AVENUE

GOLDIZEN AVENUE (WEST)

GOLDIZEN AVENUE (EAST)

TCE

PUE

R/W

TCP

3 L9 COLORED TEXTURED CONCRETE, 4 INCHES THICK

3 L10 COLORED TEXTURED CONCRETE, 4 INCHES THICK

COLORED TEXTURED CONCRETE, 4 INCHES THICK, 5' WIDTH

1 L10 LANDSCAPE CURB

2 L9 COLORED TEXTURED CONCRETE, 4 INCHES THICK

(8) SPIREA

(10) SPIREA

(12) SPIREA

(13) DWARF LILAC

(21) ROSE

(30) YARROW

(35) YARROW

79+00 80+00 81+00 83+00 83+00 84+00 85+00

LANDSCAPE PLAN (4 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C3001cnst111147.01FB_1D-L5 79+00-85+00 Fri, Aug/23/19 03:20pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	L6	L10

MATCH "01" 85+00 LINE

MATCH "01" 91+00 LINE

R/W

TCP

MB

3 L9 LANDSCAPE CURB

3 L9 COLORED TEXTURED CONCRETE, 4 INCHES THICK

COLORED TEXTURED CONCRETE, 4 INCHES THICK, 5' WIDTH

2 L9 COLORED TEXTURED CONCRETE, 4 INCHES THICK

1 L10 COLORED TEXTURED CONCRETE, 4 INCHES THICK

1 L10 LANDSCAPE CURB

(8) SPIREA

(25) ROSE

(16) SPIREA

(39) YARROW

(27) YARROW

(31) SPIREA

(23) ROSE

(11) ROSE

(49) IRIS

(12) DWARF LILAC

(72) DWARF LILAC

(12) COL. ASPEN

UNIVERSITY AVENUE

86+00

87+00

88+00

89+00

90+00

91

SD

I/C

TCE

PUE

LIFT STATIO

LANDSCAPE PLAN (5 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C3001cnst111147.01FB_1D-L6 85+00-91+00 Fri, Aug/23/19 03:21pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	L7	L10

MATCH "01" 91+00 LINE

3 L9 LANDSCAPE CURB

3 L9 COLORED TEXTURED CONCRETE, 4 INCHES THICK

(21) YARROW

(12) SPIREA

(18) YARROW

(60) SPIREA

COLORED TEXTURED CONCRETE, 4 INCHES THICK, 5' WIDTH

1 L10 COLORED TEXTURED CONCRETE, 4 INCHES THICK

(13) SPIREA

(30) YARROW

(14) SPIREA

COLORED TEXTURED CONCRETE, 4 INCHES THICK, 5' WIDTH

(10) ROSE

(9) SPIREA

(18) SPIREA

(17) ROSE

92+00

93+00

94+00

95+00

96+00

97+

UNIVERSITY AVENUE

(57) IRIS

(11) COL. ASPEN

1 L10 LANDSCAPE CURB

R/W

WIDENER LANE

INDIANA AVENUE

DRAINAGE EASEMENT

MATCH "01" 97+00 LINE

LANDSCAPE PLAN (6 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C3001cnst111147.01FB_1D-L7 91+00-97+00 Fri, Aug/23/19 03:22pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	L8	L10

MATCH "01" 97+00 LINE

3 L9 COLORED TEXTURED CONCRETE, 4 INCHES THICK

TCP

R/W

(8) ROSE

(21) SPIREA

3 L9 LANDSCAPE CURB

1 L9 COLORED TEXTURED CONCRETE, 4 INCHES THICK

COLORED TEXTURED CONCRETE, 4 INCHES THICK

SEEDING SEE CIVIL

PUE

TCE

98+00

99+00

100+00

101+00

102+00

UNIVERSITY AVENUE

C/A

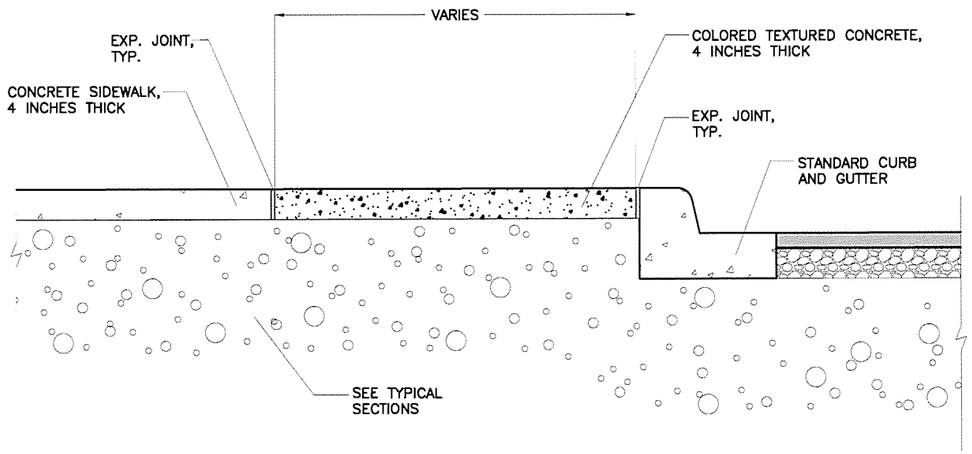
DRAINAGE EASEMENT

WOLF RUN

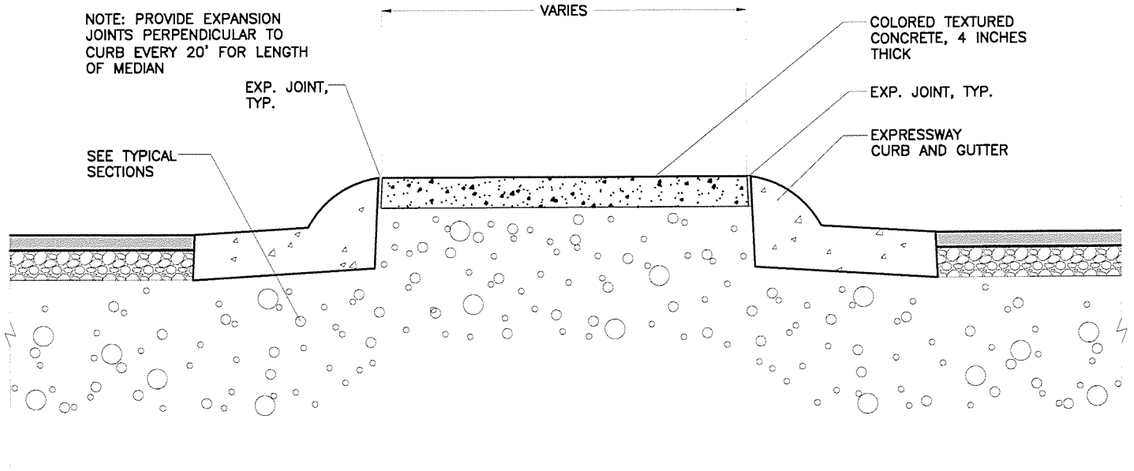
LANDSCAPE PLAN (7 OF 7)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C3001cnst11147.01FB_1D-L8 97+00-101+00 Fri, Aug/23/19 03:23pm

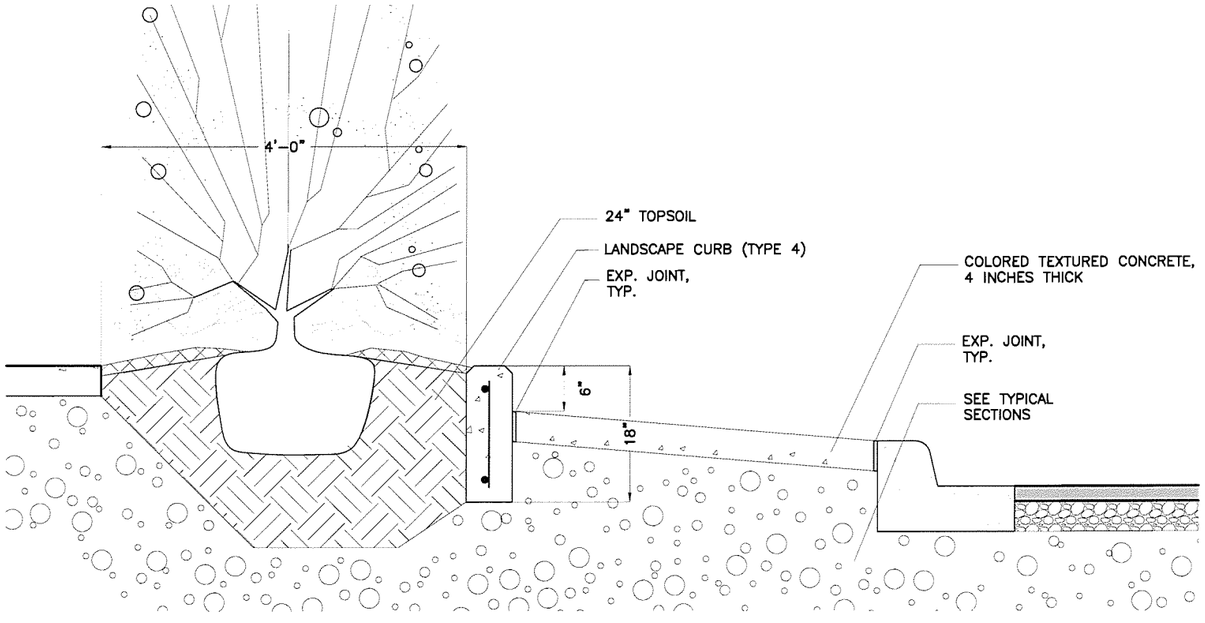
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00332	2019	L9	L10



① ROADSIDE APRON AT SEPARATED PATHWAY



② MEDIAN TREATMENT–NARROW



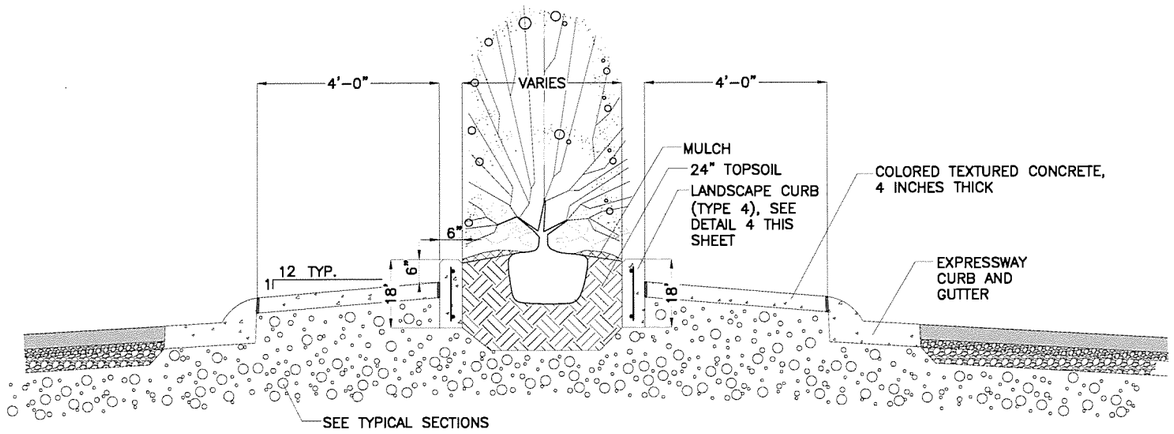
③ ROADSIDE APRON W/ PANTINGS AT SEPARATED PATHWAY

LANDSCAPING TYPICAL SECTIONS

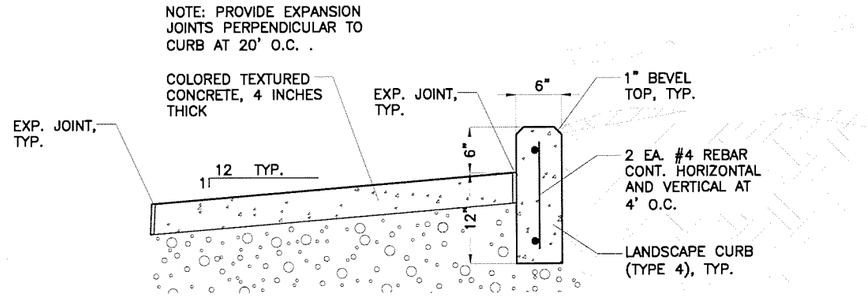
STATE OF ALASKA 49TH
M. ELISE HUGGINS
LA#10435
Date:
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT

PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL1007, 729 N STREET, ANCHORAGE, AK 99501, (907)279-2688
S:\1Projects\University Avenue\University Ave Segment x\Landscape - Univ\L2 Univer Ave-95.1-Layout1 Tue, Jul/30/19 12:29pm

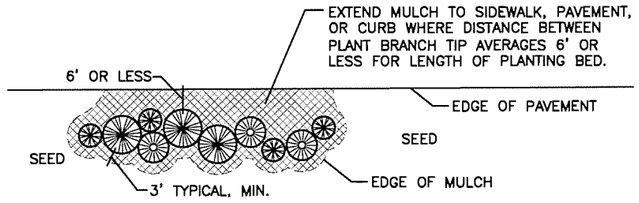
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00332	2019	L10	L10



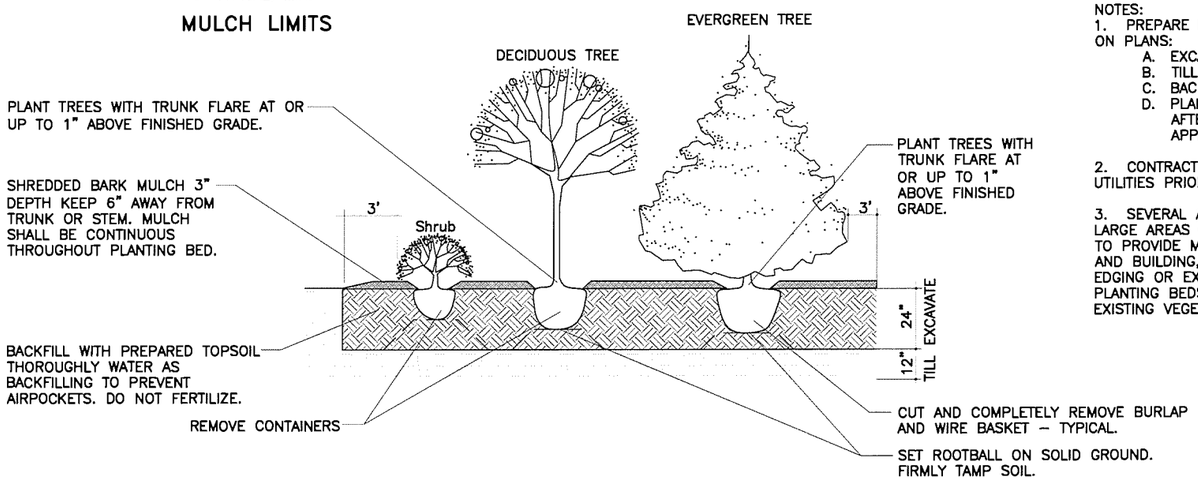
① MEDIAN TREATMENT–WIDE



② MEDIAN SECTION ENLARGEMENT



MULCH LIMITS



③ PLANTING BED

NOTES:
1. PREPARE PLANTING BED AS SHOWN ON PLANS:
   - A. EXCAVATE AND REMOVE SOIL
   - B. TILL SUBGRADE
   - C. BACKFILL WITH TOPSOIL
   - D. PLANT TREES AND SHRUBS AFTER ENGINEER HAS APPROVED STAKED LOCATIONS

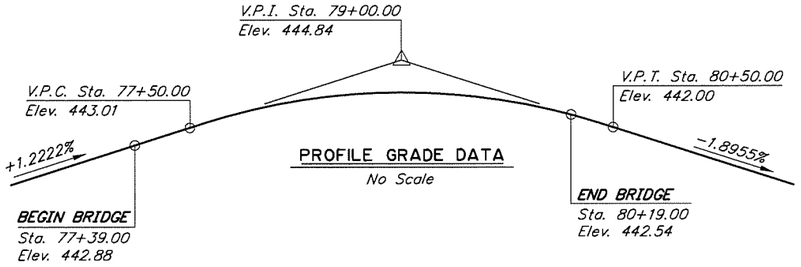
2. CONTRACTOR TO VERIFY LOCATION OF UTILITIES PRIOR TO EXCAVATION.

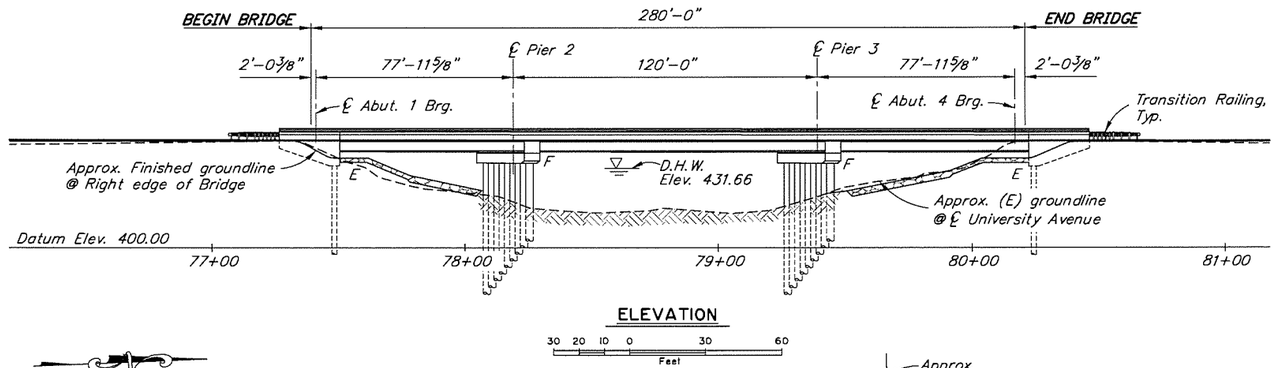
3. SEVERAL AREAS ON PLANS REQUIRE LARGE AREAS OF MULCH. CONTRACTOR TO PROVIDE MULCH BETWEEN PLANTINGS AND BUILDING, UP TO PROPERTY LINE, EDGING OR EXISTING VEGETATION, WHERE PLANTING BEDS ARE ADJACENT TO EXISTING VEGETATION.

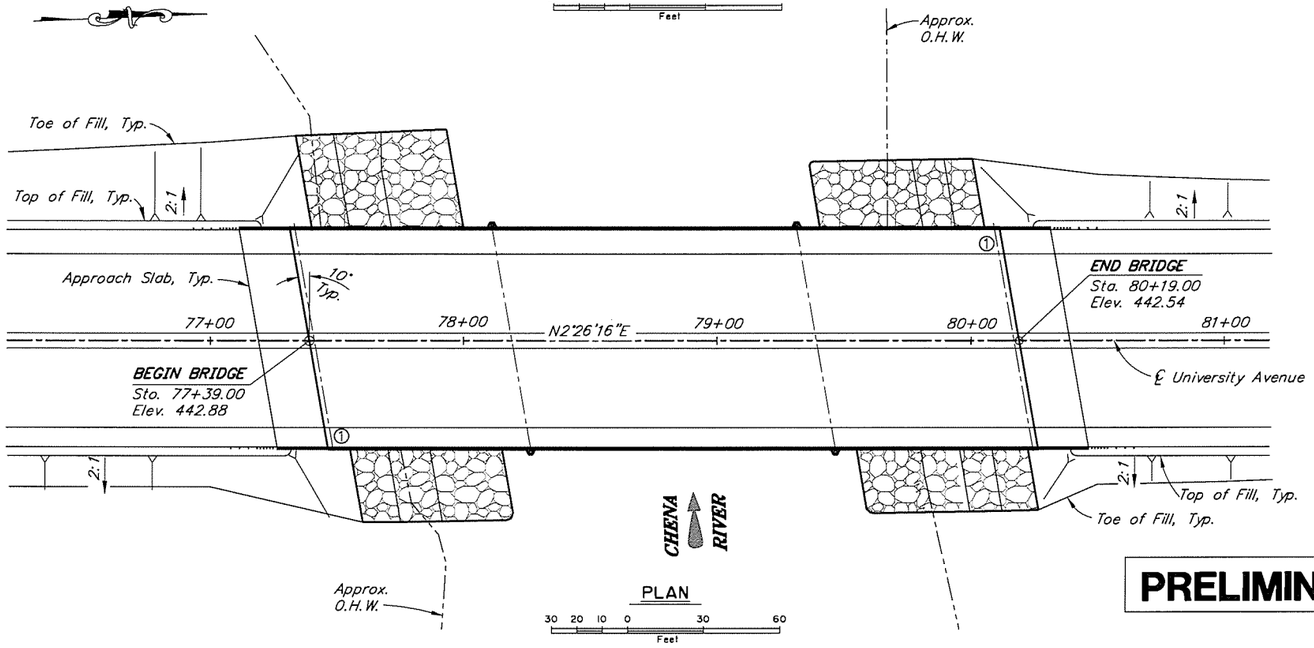
LANDSCAPING TYPICAL SECTIONS

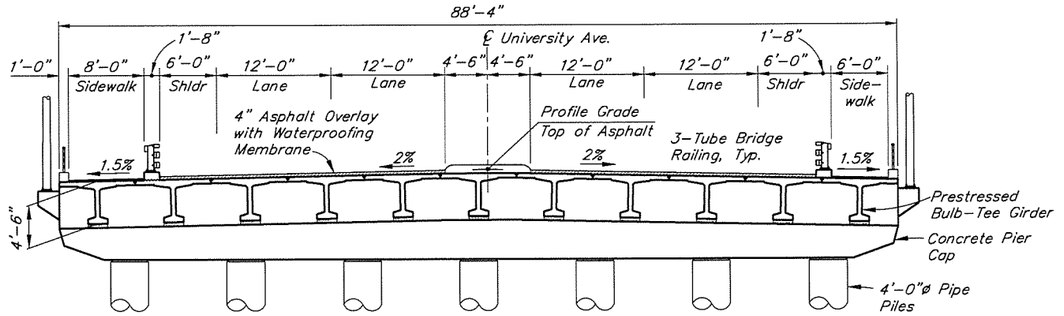
PLANS DEVELOPED BY: EARTHSCAPE, LLC, CERT. OF AUTHORIZATION NO.: AECL1007, 729 N STREET, ANCHORAGE, AK 99501, (907)279-2688
S:\1Projects\University Avenue\University Ave Segment x\Landscape - Univ\L2 Univer Ave-95.1-Layout1 Tue, Jul/30/19 12:30pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N1	



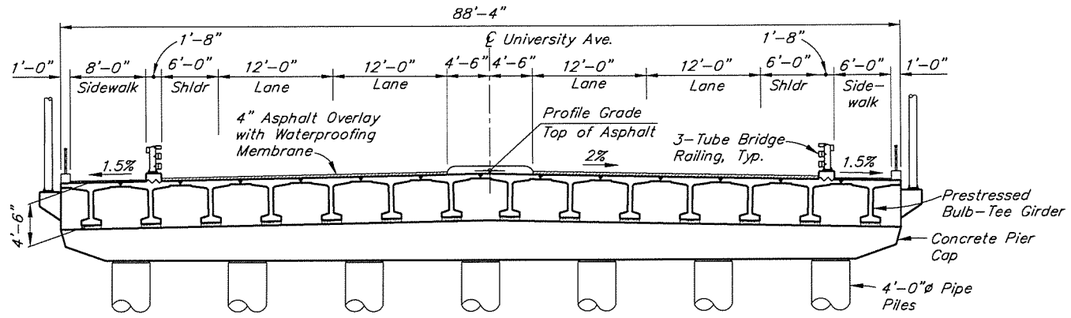






SPANS 1 AND 3 TYPICAL SECTION

12 0 4 8 12
In. Feet



SPAN 2 TYPICAL SECTION

12 0 4 8 12
In. Feet

BRIDGE DRAWING INDEX

TITLE	DWG. NO.
GENERAL LAYOUT	1
SITE PLAN	2
RIPRAP LAYOUT	3
ABUTMENT 1	4
ABUTMENT 4	5
ABUTMENT DETAILS	6
WINGWALLS	7
PIER 2	8
PIER 3	9
PIER DETAILS 1	10
PIER DETAILS 2	11
FRAMING PLAN	12
TYPICAL SECTION	13
GIRDERS - SPANS 1 AND 3	14
GIRDERS - SPAN 2	15
GIRDER DETAILS	16
APPROACH SLABS	17
MISCELLANEOUS DETAILS	18
STEEL BRIDGE RAIL, 3-TUBE BARRIER	19
TRANSITION RAIL, 3-TUBE	20
PEDESTRIAN RAILING	21
LOG OF TEST BORINGS	22-

PRELIMINARY PLAN

① – Approximate location of Bridge Number Plate.

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	LAYOUT BY: Jesse Escamilla III	CHECKED BY: Checker
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III	SPECIFICATIONS BY: Jesse Escamilla III	P S & E COMPARED: Checker
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker	APPROVAL RECOMMENDED BY: Rich Pratt	

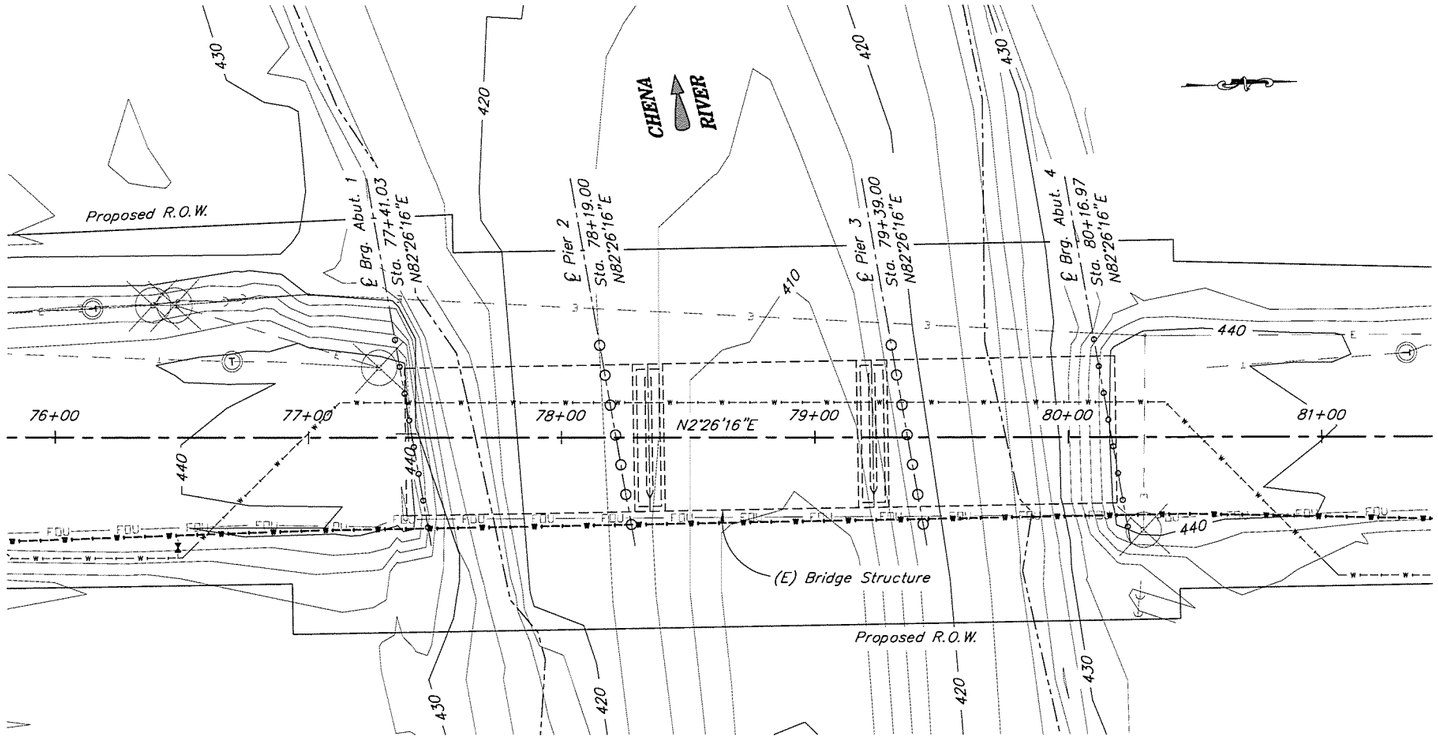
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

CHENA RIVER BRIDGE
UNIVERSITY AVE.
GENERAL LAYOUT

BRIDGE NO. 263
DWG. NO. 1

R:\cad\263\263-GEN Wed, Jul/31/19 02:38pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N2	



SITE PLAN

30 20 10 0 30 60
Feet

GENERAL NOTES

DESIGN: .....AASHTO LRFD Bridge Design Specifications, Seventh Edition, 2014, with latest interim revisions

Seismic design per AASHTO Guide Specifications for LRFD Seismic Bridge design, 2011 with latest interim revisions.

LIVE LOAD:.....HL-93

DEAD LOAD:.....Includes 50 psf for all wearing surfacing.

SEISMIC PARAMETERS:.....PGA = 0.28
Ss = 0.65
S1 = 0.21
Site Class = D
Liquefaction Potential = High
AASHTO 7% probability of exceedance in 75 years.

REINFORCING STEEL.....ASTM A706, Grade 60, Fy = 60,000 psi
ASTM A970 Headed bars, Class HA.
Space reinforcement evenly unless otherwise noted.

PRESTRESSED CONCRETE:.....See "GIRDER" Dwg.

CONCRETE:.....Class A Concrete unless otherwise noted, f'c = 4000 psi

STRUCTURAL STEEL:.....ASTM A709, Grade 36T3. Fy=36,000 psi. Galvanize structural steel in accordance with AASHTO M111 unless shown otherwise.

STRUCTURAL STEEL PILING:...API 5L X52 PSL2, Fy = 52,000 psi for Pipe Piles.
ASTM A709 GR50T3, Fy = 50,000 psi for H-Piles.
Pile Tip reinforcing is required.

PRELIMINARY PLAN

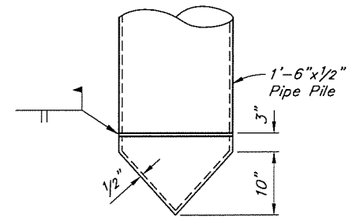
PILE DATA TABLE

LOCATION	PILE TYPE	DRIVING CRITERIA: MINIMUM PENETRATION (ft)	DRIVING CRITERIA: ESTIMATED PILE TIP ELEVATION (ft)	DRIVING CRITERIA: DRIVING RESISTANCE (K)	DESIGN DATA: STRENGTH I FACTORED LOAD (K)	DESIGN DATA: NOMINAL RESISTANCE (K)	DESIGN DATA: RESISTANCE FACTOR, ϕ
Abutment 1	1'-6"øx½" Pipe	35	377	326	212	326	0.65
Pier 2	4'-0"øx1" Pipe	70	320	1073	698	1073	0.65
Pier 3	4'-0"øx1" Pipe	70	326	1073	698	1073	0.65
Abutment 4	1'-6"øx½" Pipe	35	377	326	212	326	0.65

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	PAY UNIT	ESTIMATING UNIT	SUBST.	SUPERST.	TOTAL QUANTITY
202.0023.0000	Removal of Bridge	LS	SF	---	15,486	15,486
205.0006.0000	Structural Fill	CY	CY	2,845	---	2,845
501.0001.0000	Class A Concrete	LS	CY	810.5	520.8	1,331.3
501.0007.XXXX	Precast Concrete Member (Extra Trip)	EA	EA	---	36	36
501.0007.0000	Precast Concrete Member, 78'-0" Decked Bulb-Tee	EA	EA	---	22	22
501.0007.0000	Precast Concrete Member, 118'-6" Decked Bulb-Tee	EA	EA	---	14	14
503.0001.0000	Reinforcing Steel	LS	LBS	173,530	0	173,530
503.0002.0000	Epoxy-Coated Reinforcing Steel	LS	LBS	19,480	58,415	77,895
505.0005.1805	Furnish Structural Steel Piles, 1'-6" Dia. x ½" Pipe	LF	LF	1,210	---	1,210
505.0005.4810	Furnish Structural Steel Piles, 4'-0" Dia. x 1" Pipe	LF	LF	1,545	---	1,545
505.0006.1805	Drive Structural Steel Piles, 1'-6" Dia. x ½" Pipe	EA	EA	22	---	22
505.0006.4810	Drive Structural Steel Piles, 4'-0" Dia. x 1" Pipe	EA	EA	14	---	14
505.0011.0000	Pile Restrike	DAY	DAY	---	6	6
507.0001.0003	Steel Bridge Railing, 3-Tube	LF	LF	---	640	640
507.0002.0000	Pedestrian Railing	LF	LF	---	700	700
508.0001.0000	Waterproofing Membrane, Spray Applied	LS	SF	---	26,640	26,640
512.XXXX.XXXX	Temporary Work Structure (To be removed and dist to other items later)	LS	SF	---	12,000	12,000
512.XXXX.XXXX	Temporary Pedestrian Bridge	LS	SF	---	3,840	3,840
606.0016.0000	Transition Rail	EA	EA	---	4	4
611.0001.0002	Riprap, Class II	CY	CY	---	---	---
631.0002.0001	Geotextile, Erosion Control, Class 1	SY	SY	---	---	---

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



PILE TIP DRIVING POINT - 1'-6" DIA. PILES

12 6 0 1 2
In. Feet

ABBREVIATIONS:

℄	= centerline	f.f.	= front/air foce
℗	= plate	-FOU-	= fiber optic cable
&	= and	HS	= high strength
@	= at	Hwy.	= highwoy
ø	= diameter	ksf	= 1000 pounds per square foat
±	= plus or minus	LB	= pound
Abut.	= abutment	LF	= lineor foot
A.R.R.	= Alaska Railroad	LS	= lump sum
Approx.	= approximate	Lt.	= left
b.f.	= back/dirt face	max.	= maximum
bot.	= bottom	min.	= minimum
Br.	= bridge	NB	= northbound
btwn.	= between	n.f.	= neor foce
Brg.	= Bearings	No.	= number
C.I.P.	= cast in place	o.c.	= on center
Clr.	= clear, clearance	O.H.W.	= ordinary high woter
CY	= cubic yard	PVC	= point of vertical curve
dia.	= diameter	PVI	= point of vertical intersection
Dwg.	= drawing	PVT	= point of vertical tongent
D.H.W.	= design high water	R.O.W.	= right of way
E	= exponsion	Rt.	= right
(E)	= existing	Rd.	= road
EA	= each	SB	= southbound
Elev.	= elevation	S.I.P.	= stay in place
e.f.	= each face	spc.	= space, spaces
e.w.	= each way	Sta.	= stotion
- E -	= overhead electrical	SF	= square feet
F	= fixed	Symm.	= symmetric
		Typ.	= typical

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	HYDRAULICS BY: Engineer	CHECKED BY: Engineer	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: Jesse Escamilla III	FOUNDATIONS REVIEWED BY: Engineer		
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker			

CHENA RIVER BRIDGE

UNIVERSITY AVE.

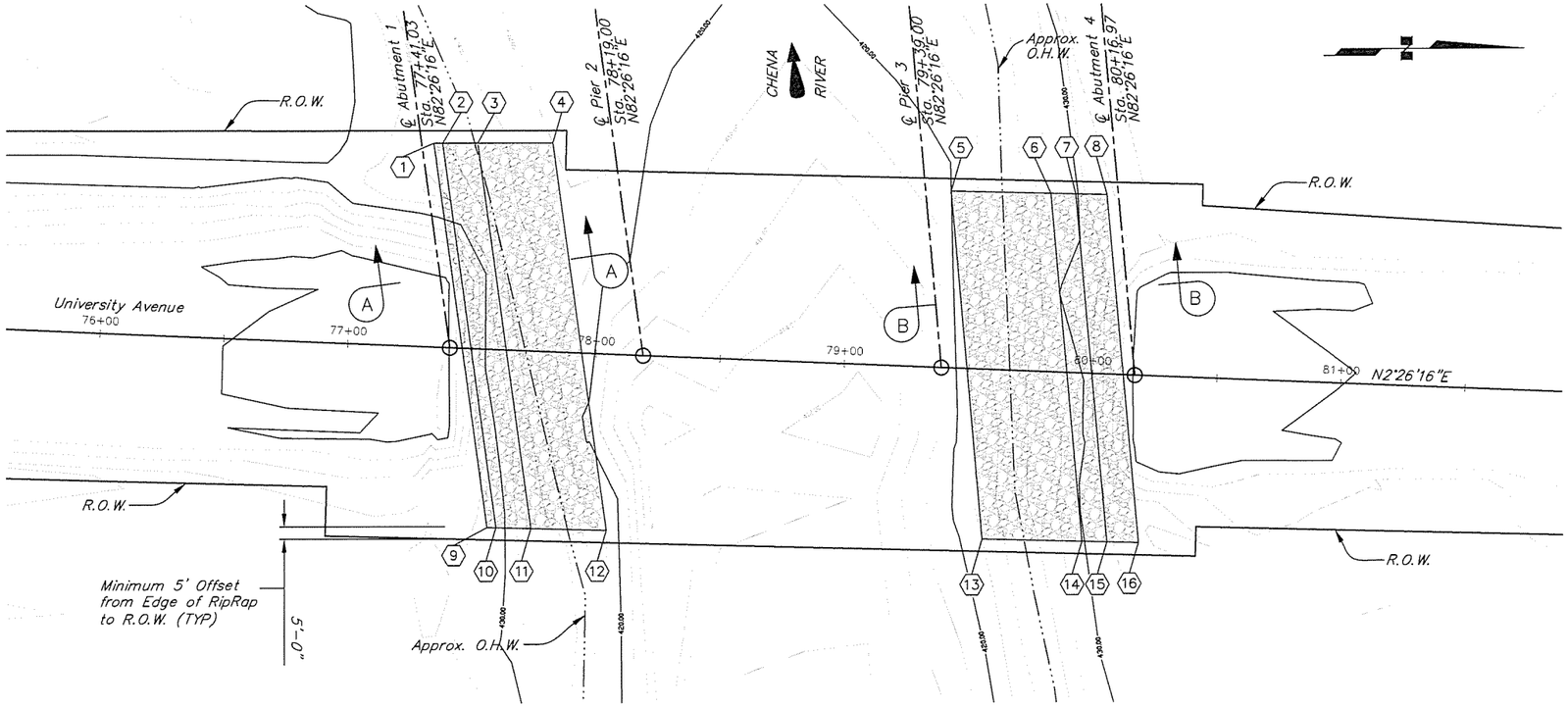
SITE PLAN

BRIDGE NO. 263

DWG. NO. 2

R:\cad\263\263-SITE PLAN Wed, Jul/31/19 02:38pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N3	–



RIPRAP LAYOUT

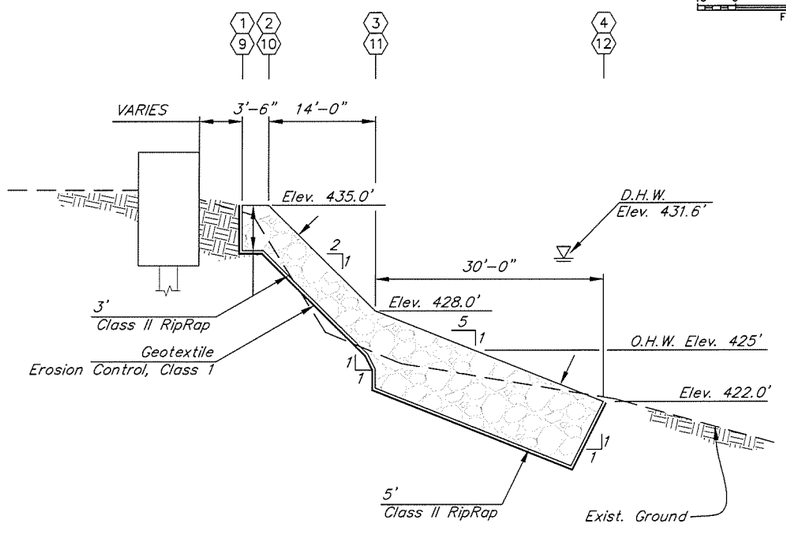
15 0 30 60
Feet

SUBJECT TO REVISION

RIPRAP TABLE		
POINT	STATION	OFFSET
1	77+31.24	82.1' Left
2	77+33.22	82.2' Left
3	77+52.02	82.8' Left
4	77+77.84	84.1' Left
5	79+39.21	71.2' Left
6	79+79.08	71.9' Left
7	79+91.82	72.1' Left
8	80+03.12	72.3' Left
9	77+58.91	71.9' Right
10	77+60.37	71.8' Right
11	77+76.89	71.6' Right
12	78+04.08	71.1' Right
13	79+63.10	68.5' Right
14	80+02.54	67.8' Right
15	80+15.28	67.7' Right
16	80+20.99	67.4' Right

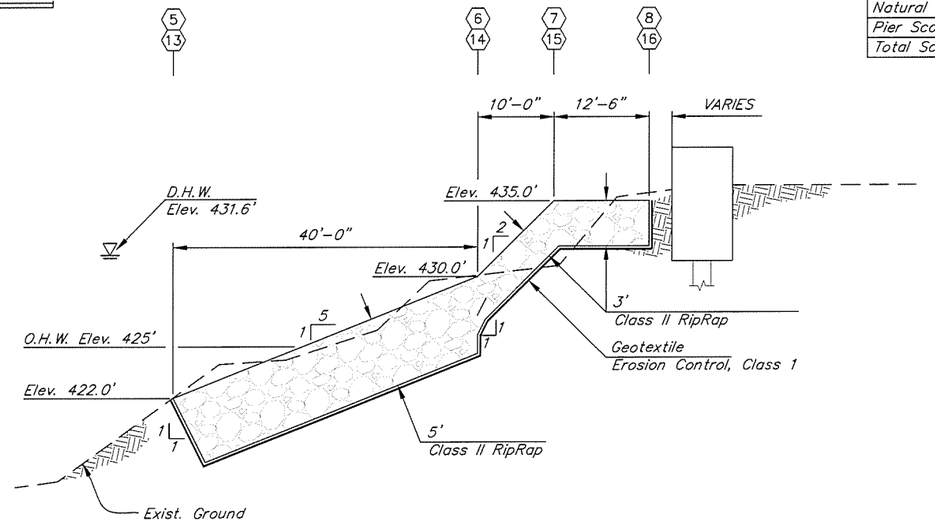
HYDRAULIC & HYDROLOGIC SUMMARY, BRIDGE NO. 263		
Flood Frequency (Yr.)	100	500
Exceedance Probability (%)	1	0.2
Discharge (cfs)	12,000	17,500
Velocity (ft/sec)	4.84	5.68
High Water Elevation (ft, NAVD88)	431.46	434.28
Anticipated Additional Backwater (ft)	0	0
Contraction Scour (ft)	0	0
Natural Channel Scour (ft)	3.4	4.0
Pier Scour (ft)	6.3	7.0
Total Scour (ft)	12.2	14.2

Notes:
1. All elevations based on NAVD88.
2. Section views are scaled 1H:2V.



SECTION A–A

0 5 10 15
Feet



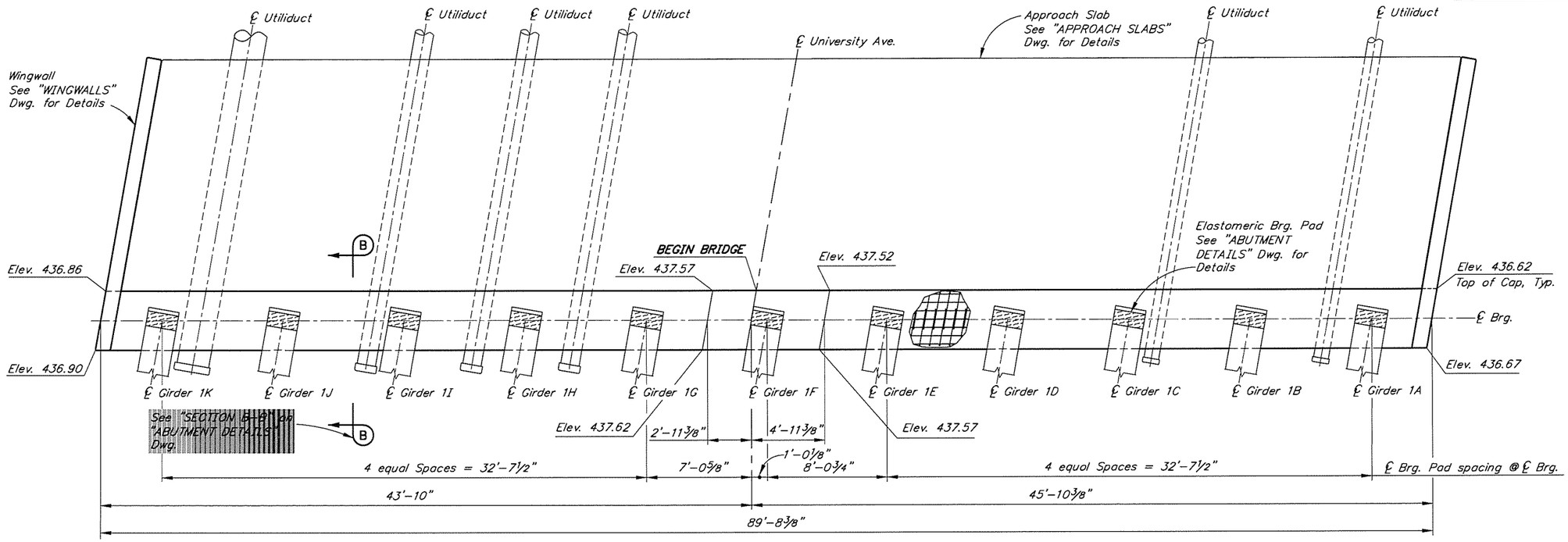
SECTION B–B

0 5 10 15
Feet

DESIGNED BY: Alaina Smith	CHECKED: Garret Yager	PRELIMINARY PLAN	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION		CHENA RIVER BRIDGE UNIVERSITY AVENUE RIPRAP LAYOUT
DRAWN BY: RaeAnne Hebnes	CHECKED: Derek Christianson				BRIDGE NO. 263 DWG. NO. 3
QUANTITIES BY: Alaina Smith	CHECKED: Derek Christianson				

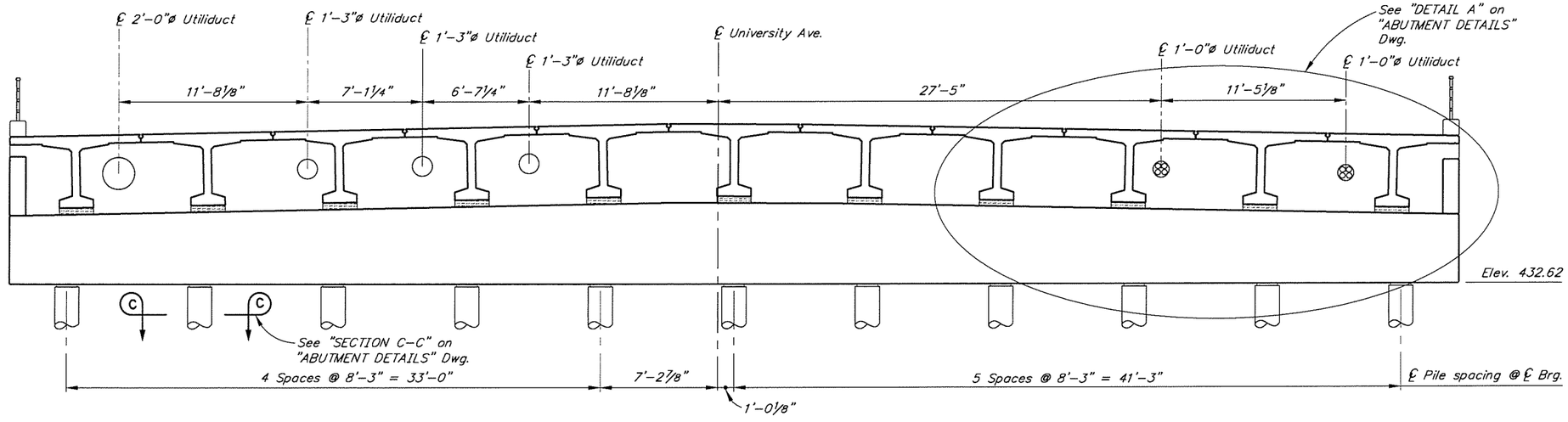
File Path: \\ANCHFS1\Projects\AKDOT\135298 - DOT&PF Univ Ave H&H\04 CADD\Working\CRB263_SECS_20190801.dwg -- Date: Aug 01, 2019 1:28pm -- Craig.Lematta

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N4	TtlShts



PLAN

12 0 4 8
In. Feet



ELEVATION

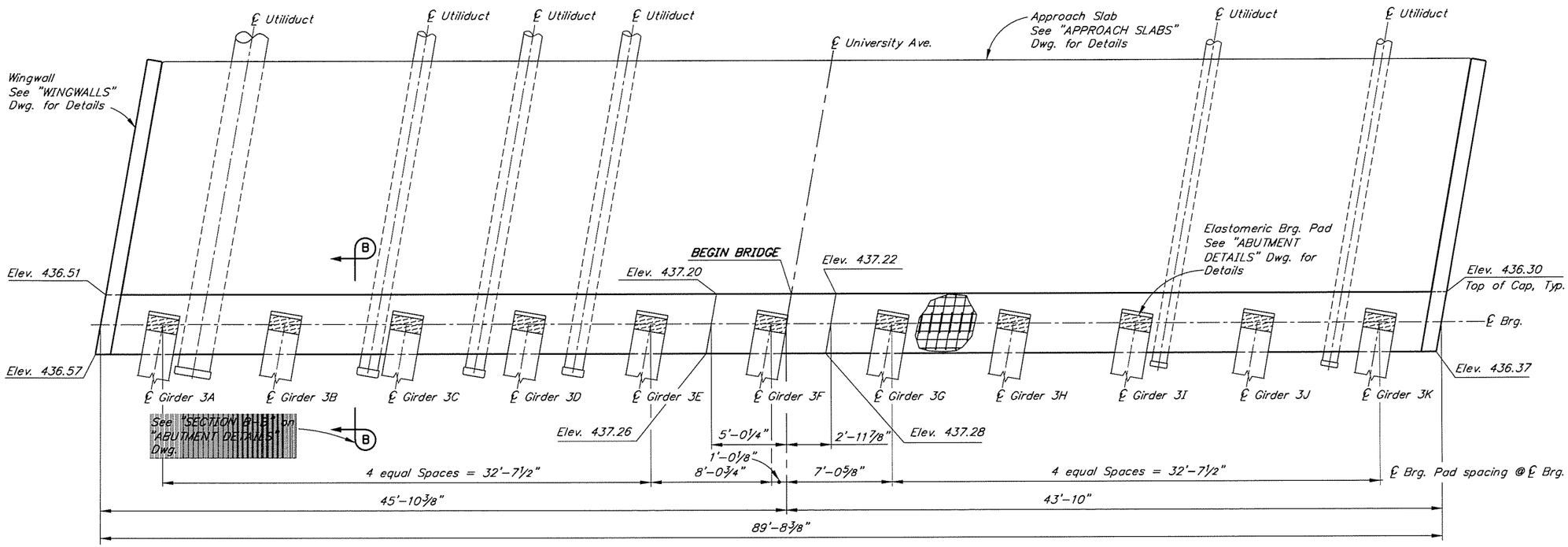
(Looking Back on Station)

12 0 4 8
In. Feet

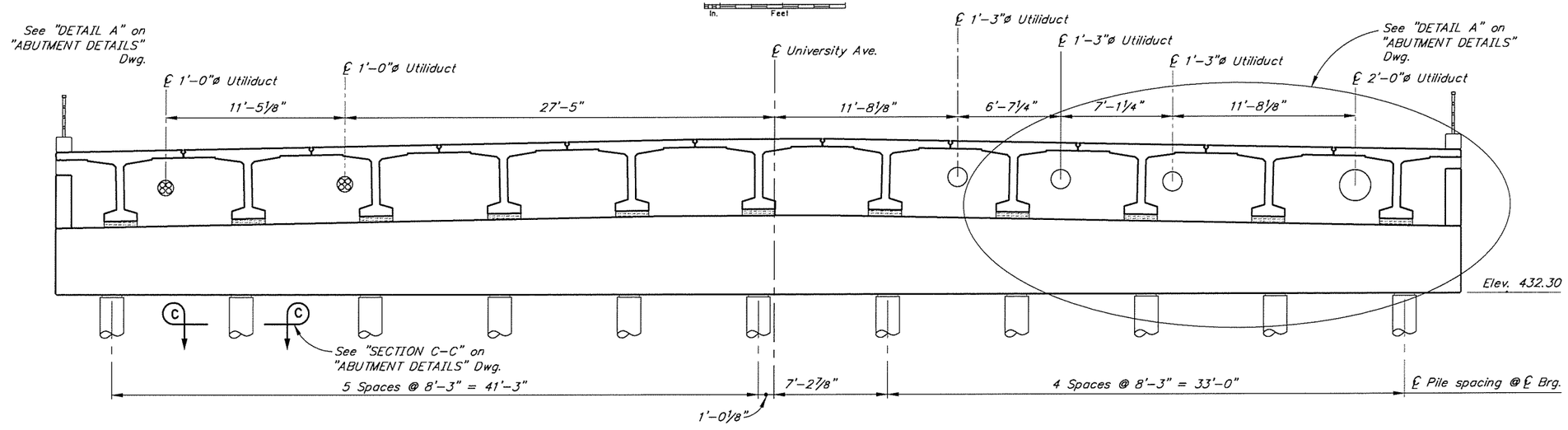
DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES** BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975	**CHENA RIVER BRIDGE** UNIVERSITY AVE. **ABUTMENT 1**
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III		BRIDGE NO. 263 DWG. NO. 4
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker		

R:\cad\263\263-1-ABUTMENT 1 Wed, Jul/31/19 02:42pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N5	TtlShts



PLAN



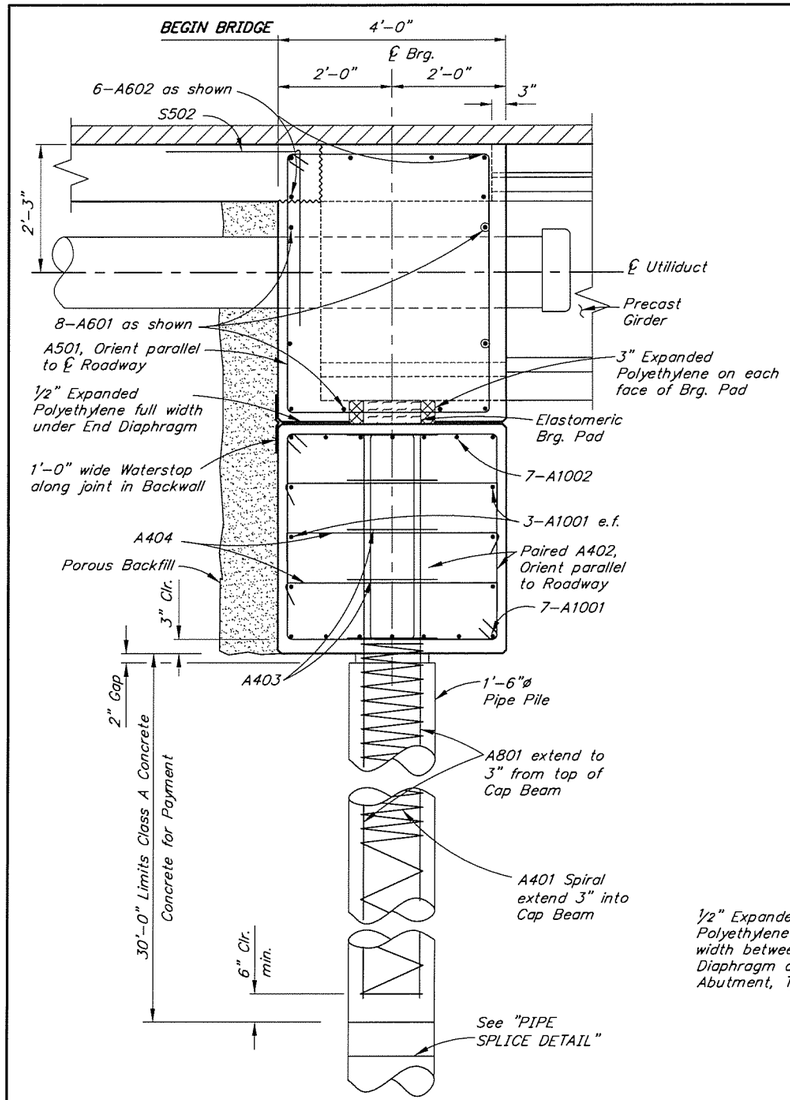
ELEVATION

(Looking Ahead on Station)

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES** BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975	**CHENA RIVER BRIDGE** UNIVERSITY AVE. **ABUTMENT 4**
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III		BRIDGE NO. 263 DWG. NO. 5
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker		

R:\cad\263\263-1-ABUTMENT 4 Wed, Jul/31/19 02:42pm

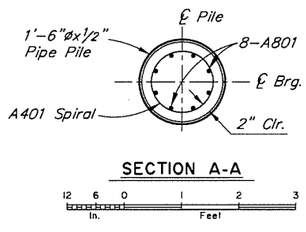
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N6	TtlShts



SECTION B-B

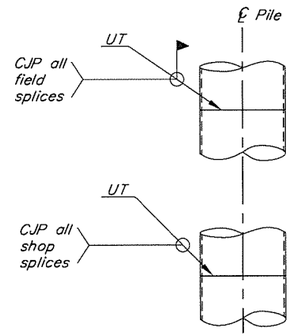
(Abutment 1 shown, Abutment 4 similar)

12 6 0 1 2 3 In. Feet



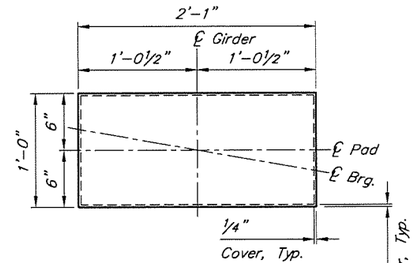
SECTION A-A

12 6 0 1 2 3 In. Feet

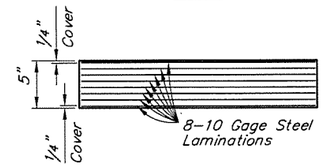


PIPE SPLICE DETAIL

No Scale



PLAN



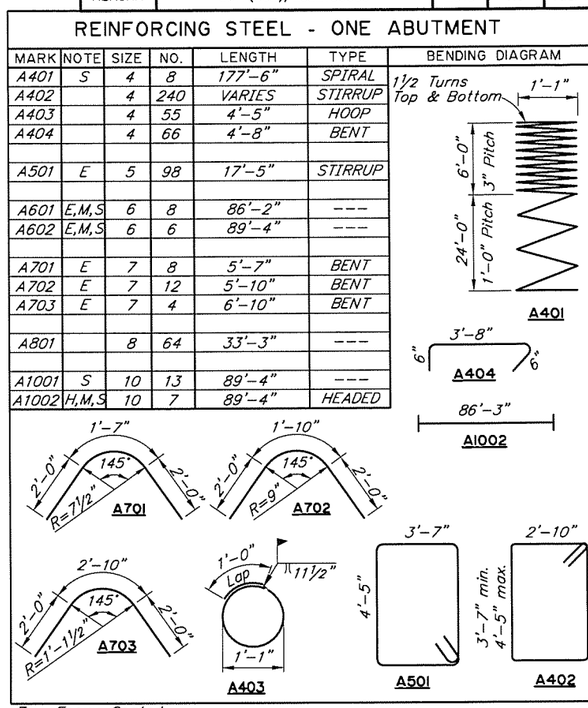
ELEVATION

ELASTOMERIC BEARING PAD

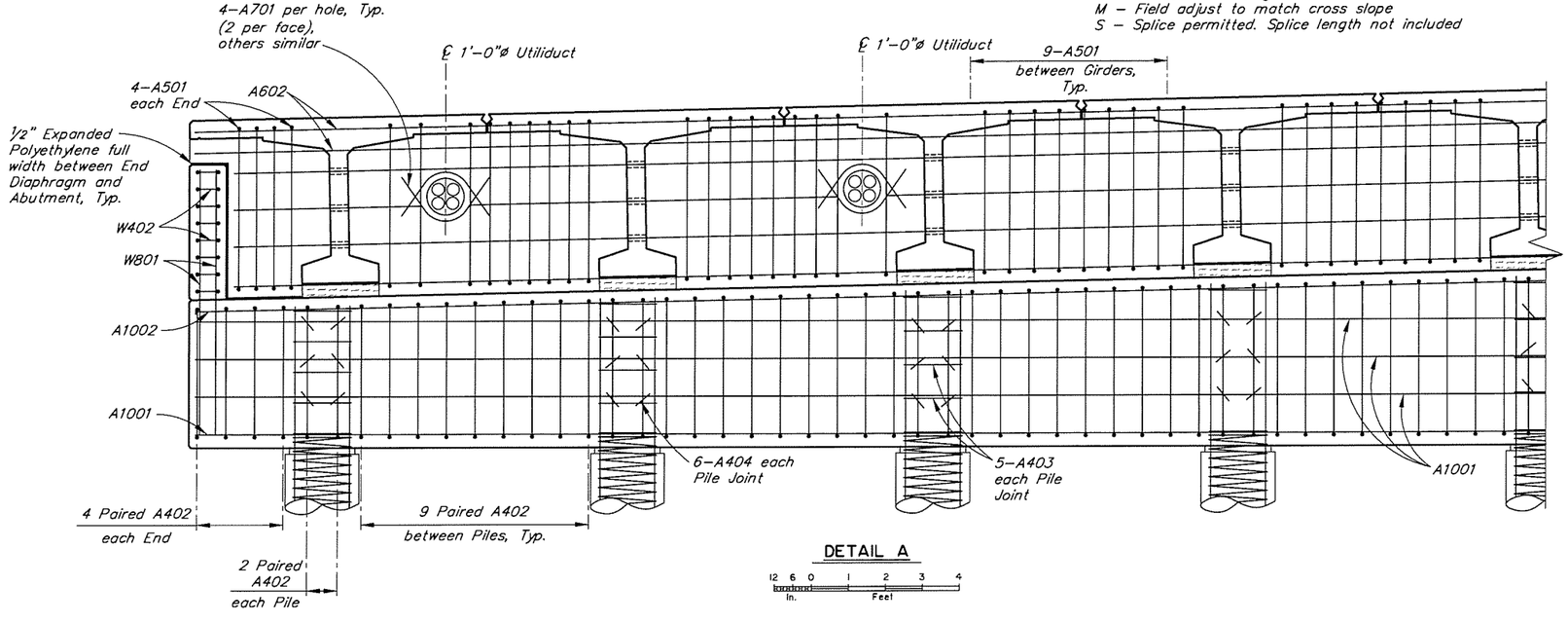
	Span 1 & 3	Span 2
Grade 5		
Max. Unfactored Dead Load =	85k	86k
Max. Unfactored Live Load No Impact =	93k	90k
Shear Modulus =	115 psi	115 psi

REINFORCING STEEL - ONE ABUTMENT

MARK	NOTE	SIZE	NO.	LENGTH	TYPE
A401	S	4	8	177'-6"	SPIRAL
A402		4	240	VARIES	STIRRUP
A403		4	55	4'-5"	HOOP
A404		4	66	4'-8"	BENT
A501	E	5	98	17'-5"	STIRRUP
A601	E,M,S	6	8	86'-2"	---
A602	E,M,S	6	6	89'-4"	---
A701	E	7	8	5'-7"	BENT
A702	E	7	12	5'-10"	BENT
A703	E	7	4	6'-10"	BENT
A801		8	64	33'-3"	---
A1001	S	10	13	89'-4"	---
A1002	H,M,S	10	7	89'-4"	HEADED



E – Epoxy-Coated
H – Headed reinforcing steel
M – Field adjust to match cross slope
S – Splice permitted. Splice length not included



DETAIL A

12 6 0 1 2 3 4 In. Feet

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker

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

CHENA RIVER BRIDGE

UNIVERSITY AVE.

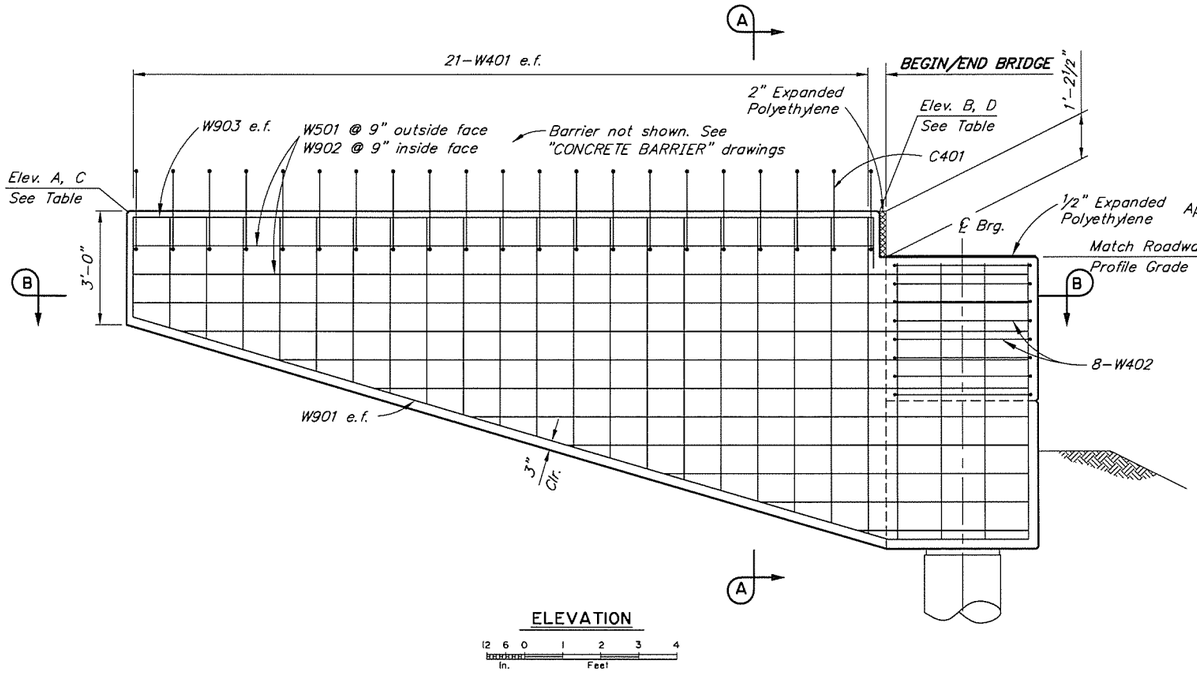
ABUTMENT DETAILS

BRIDGE NO. 263

DWG. NO. 6

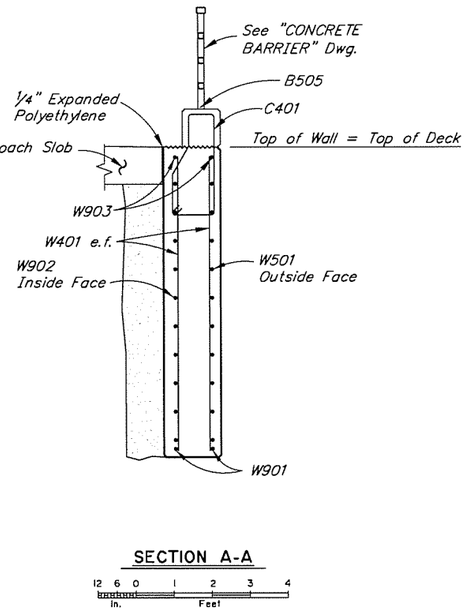
R:\cad\263\263-1-ABUTMENT DETAILS Wed, Jul/31/19 02:42pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N7	TtlShts



ELEVATION

12 6 0 1 2 3 4 In. Feet

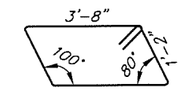


SECTION A-A

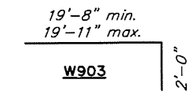
12 6 0 1 2 3 4 In. Feet

REINFORCING STEEL - ONE ABUTMENT

MARK	NOTE	SIZE	NO.	LENGTH	TYPE	BENDING DIAGRAM
W401		4	84	VARIES	---	
W402		4	16	10'–5"	STIRRUP	
W501		5	22	VARIES	---	
W801		8	16	7'–2"	---	
W901		9	4	24'–8"	BENT	
W902		9	22	VARIES	---	
W903		9	4	VARIES	BENT	
C401	E	4	42	7'–6"	STIRRUP	



W402



W903

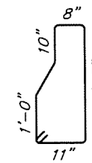
19'–8" min. 19'–11" max.

B507

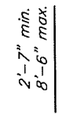
7'–4" min. 23'–11" max.

W501, W902

W901

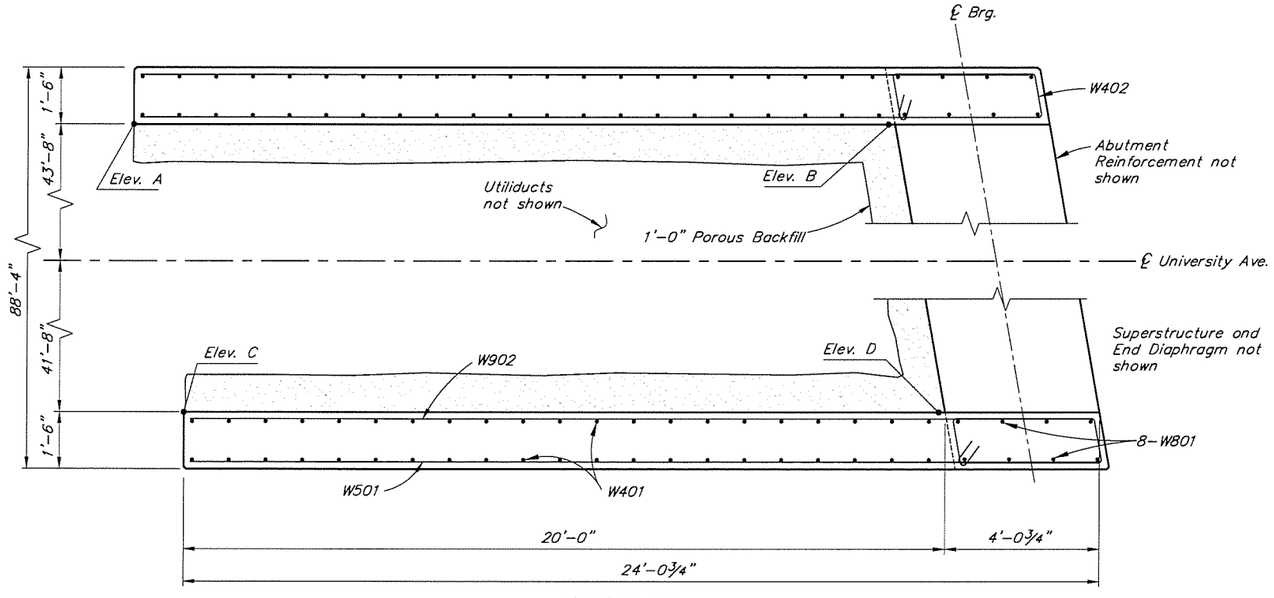


C401



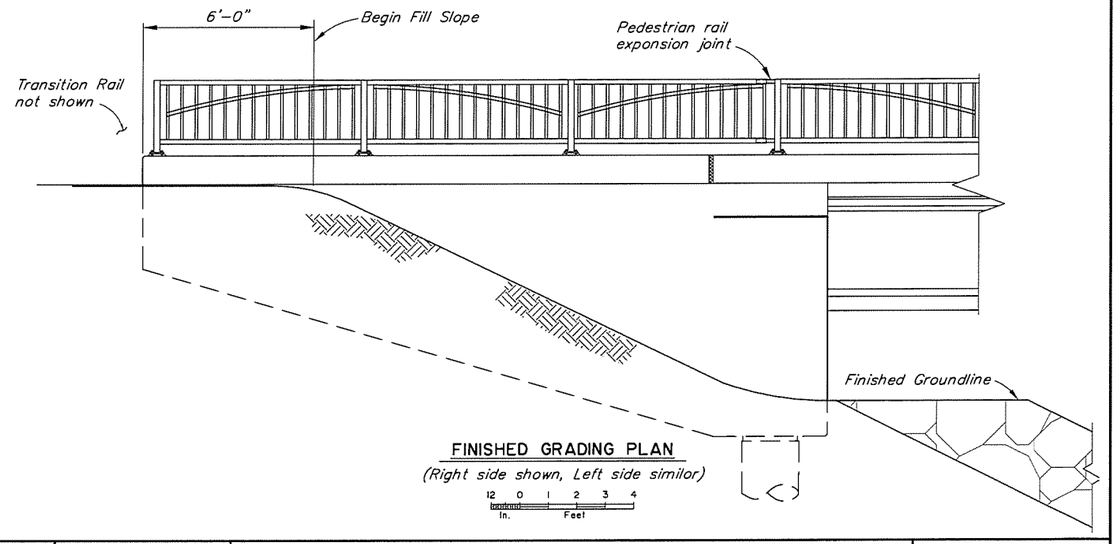
W401

TOP OF WALL ELEVATION TABLE (FT)				
LOCATION	A LEFT	B LEFT	C RIGHT	D RIGHT
ABUTMENT 1	441.33	441.57	441.53	441.80
ABUTMENT 4	441.13	441.45	440.90	441.25



SECTION B-B

12 6 0 1 2 3 4 In. Feet



FINISHED GRADING PLAN

(Right side shown, Left side similor)

12 0 1 2 3 4 In. Feet

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III	
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker	

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

CHENA RIVER BRIDGE

UNIVERSITY AVE.

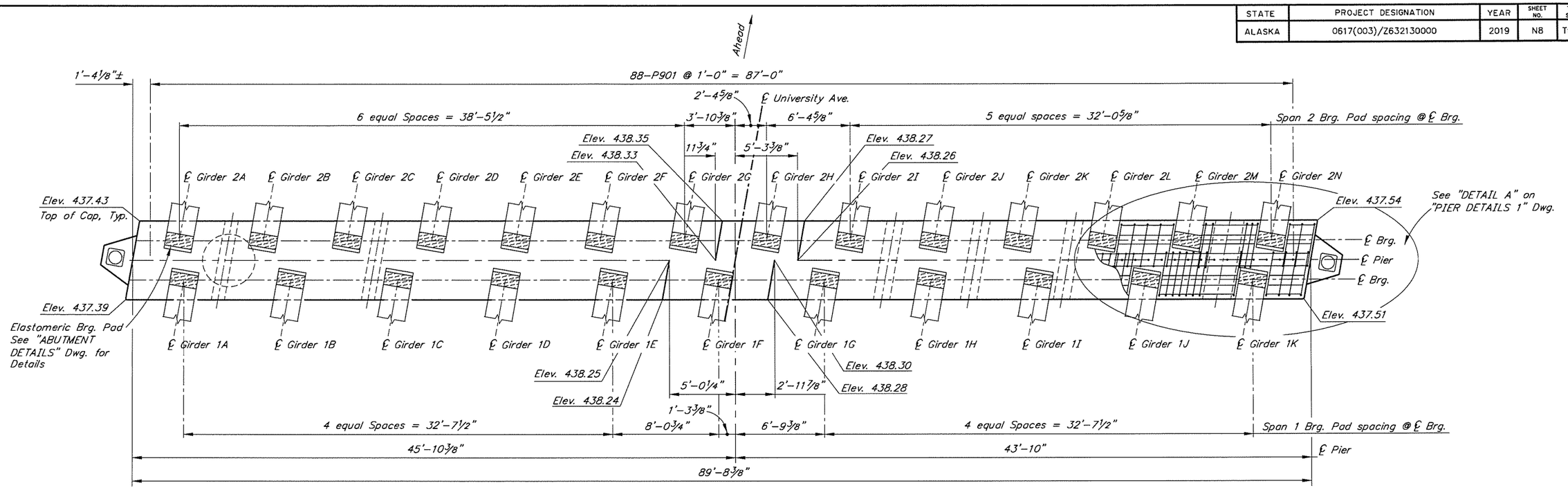
WINGWALLS

BRIDGE NO. 263

DWG. NO. 7

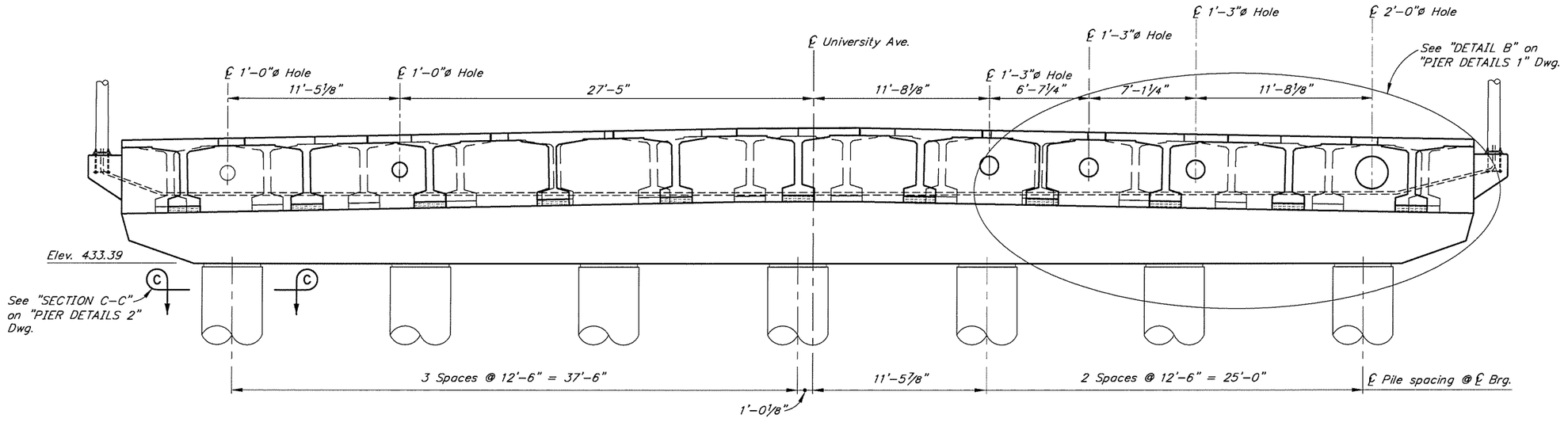
R:\cad\263\263-1-WINGWALLS Wed, Jul/31/19 02:42pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N8	TtlShts



PLAN

12 0 4 8
In. Feet



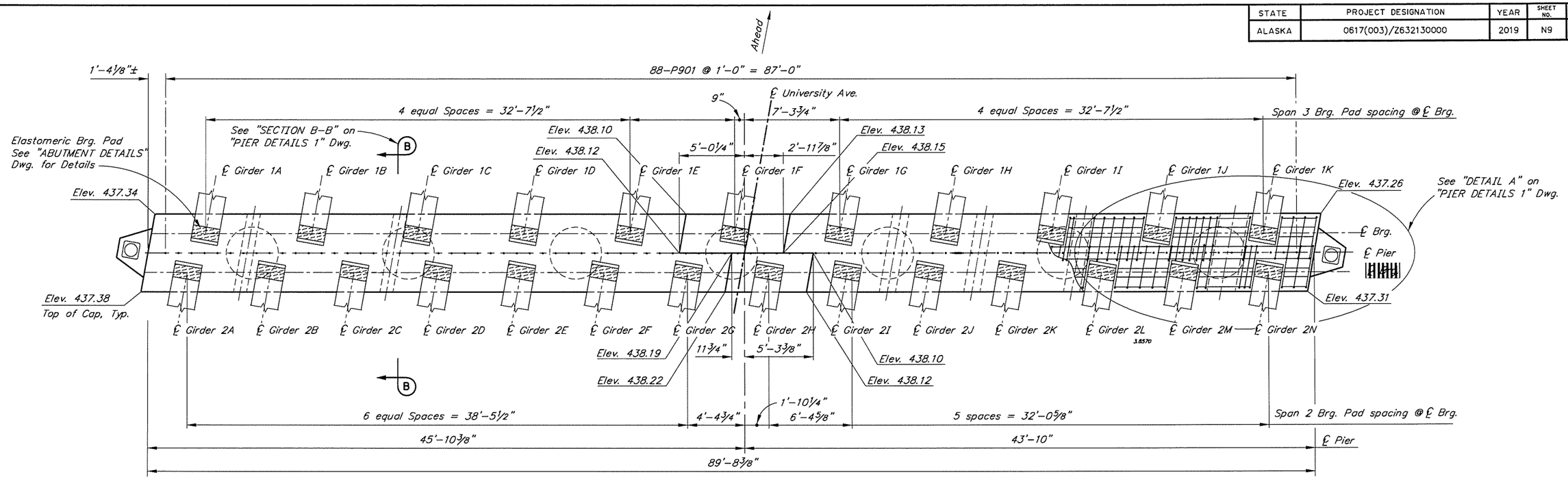
ELEVATION

12 0 4 8
In. Feet

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES** BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975	**CHENA RIVER BRIDGE** UNIVERSITY AVE. **PIER 2**
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III		BRIDGE NO. 263 DWG. NO. 8
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker		

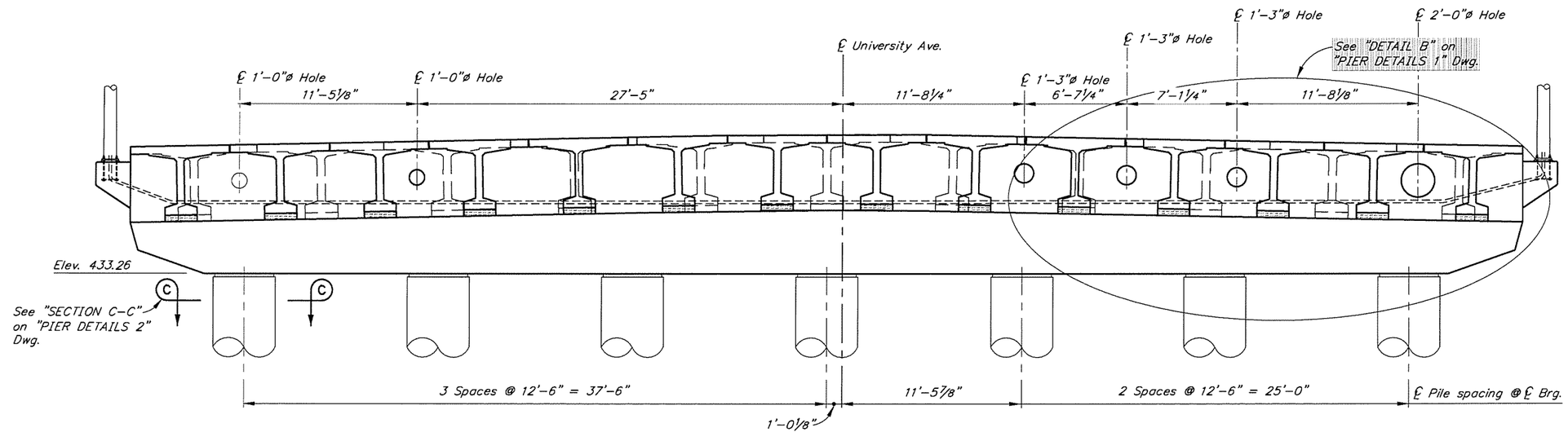
R:\cad\263\263-1-PIER 2 Wed, Jul/31/19 02:42pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N9	TtlShts



PLAN

12 0 4 8
In. Feet



ELEVATION

12 0 4 8
In. Feet

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III	
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker	

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

CHENA RIVER BRIDGE

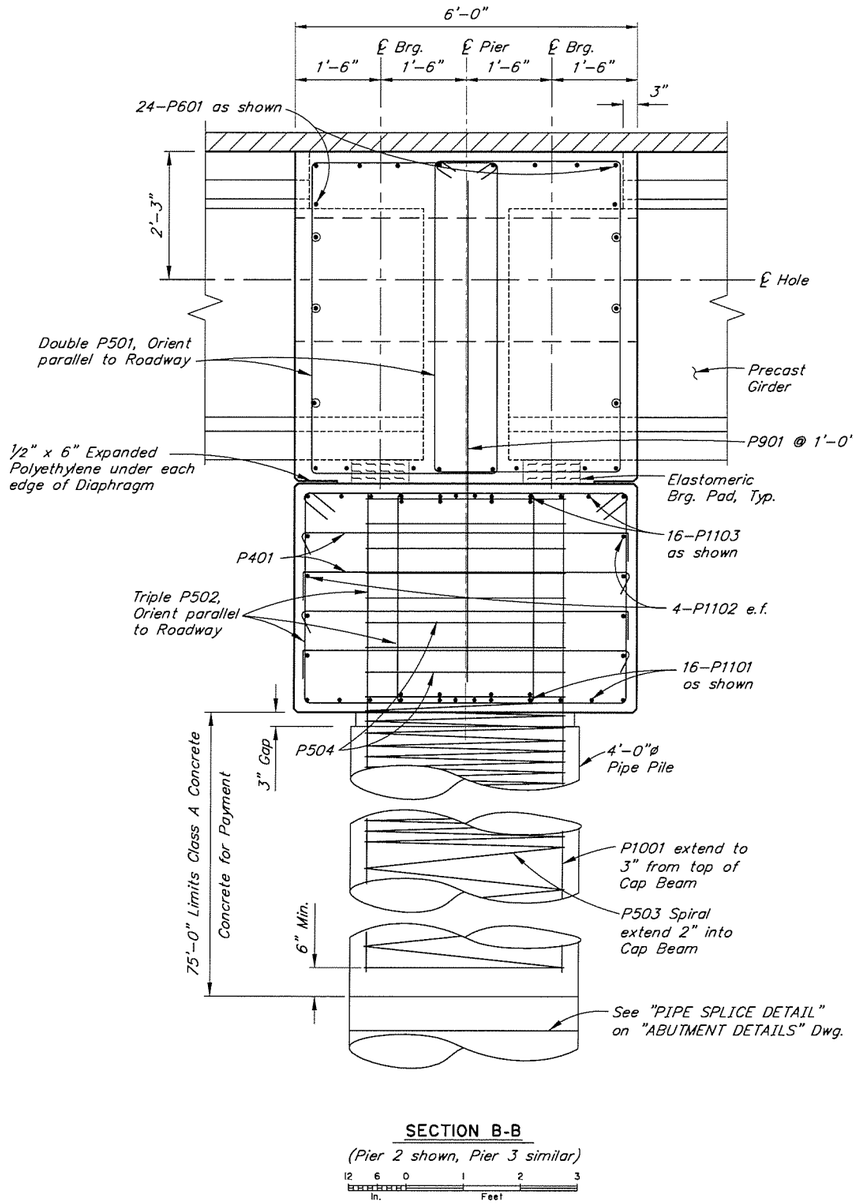
UNIVERSITY AVE.

PIER 3

BRIDGE NO. 263
DWG. NO. 9

R:\cad\263\263-1-PIER 3 Wed, Jul/31/19 02:42pm

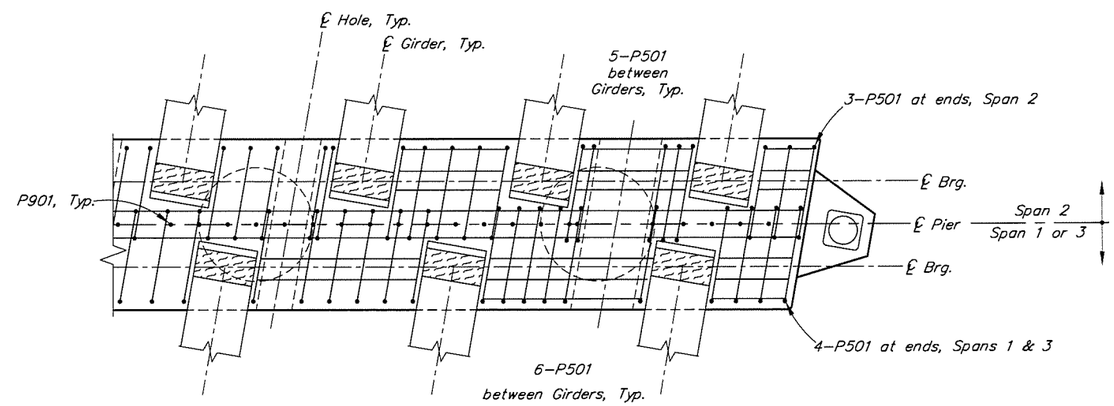
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N10	TtlShts



SECTION B-B

(Pier 2 shown, Pier 3 similar)

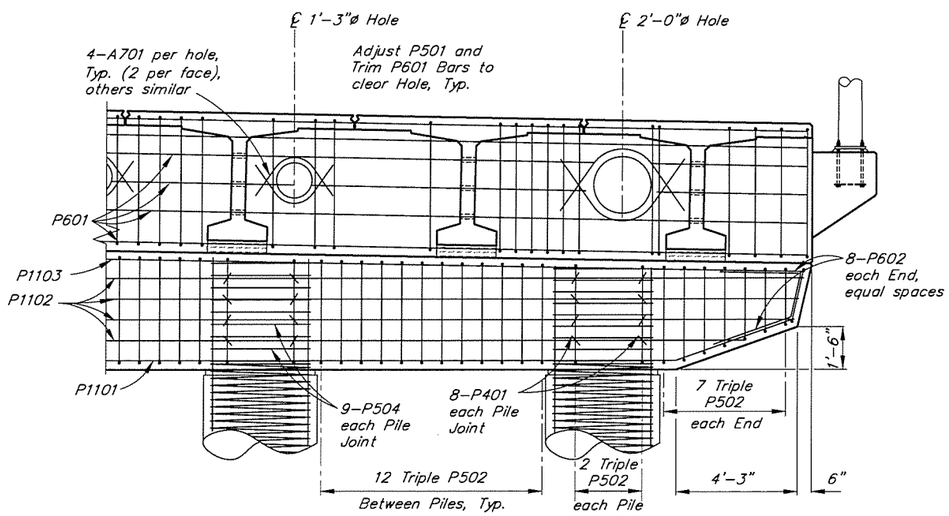
12 6 0 1 2 3
In. Feet



DETAIL A

(Pier 2 shown, Pier 3 similar)

12 0 1 2 3 4
In. Feet



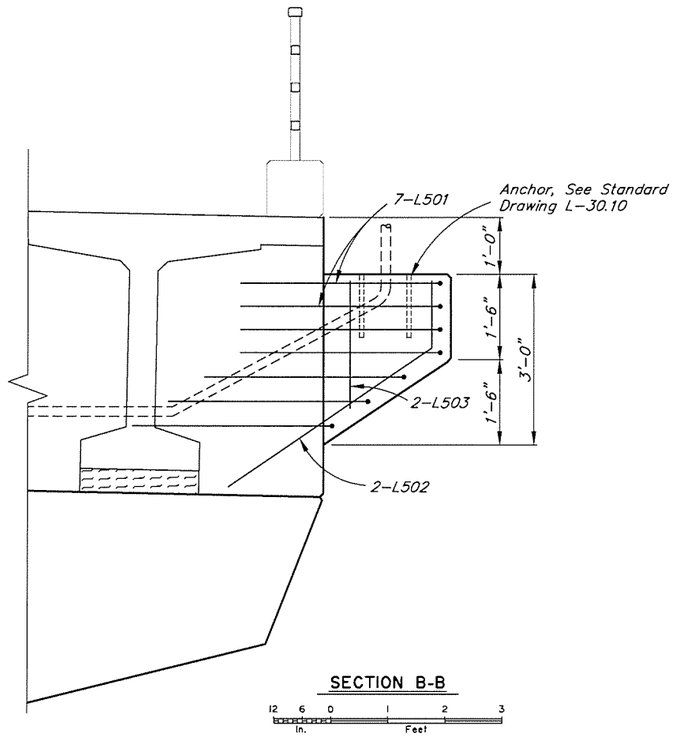
DETAIL B

12 0 1 2 3 4
In. Feet

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975	CHENA RIVER BRIDGE UNIVERSITY AVE. PIER DETAILS 1
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III		BRIDGE NO. 263 DWG. NO. 10
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker		

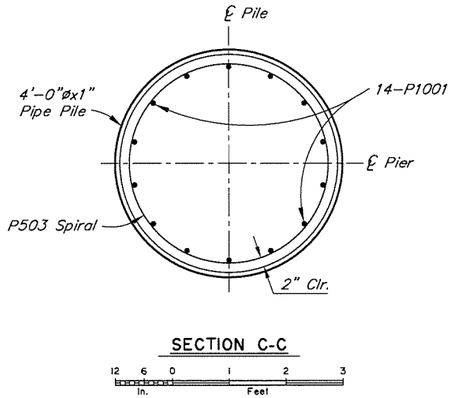
R:\ced\263\263-1-PIER DETAILS 1 Wed, Jul/31/19 02:42pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N11	TtlShts



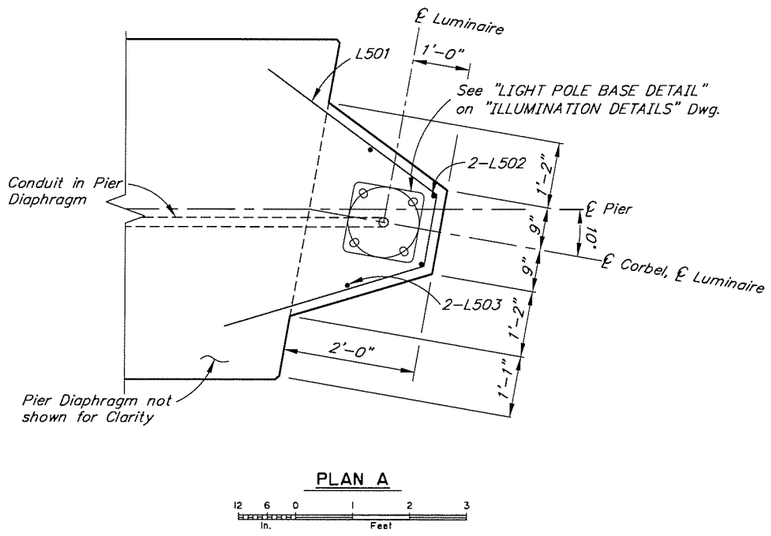
SECTION B-B

12 6 0 1 2 3
In. Feet



SECTION C-C

12 6 0 1 2 3
In. Feet



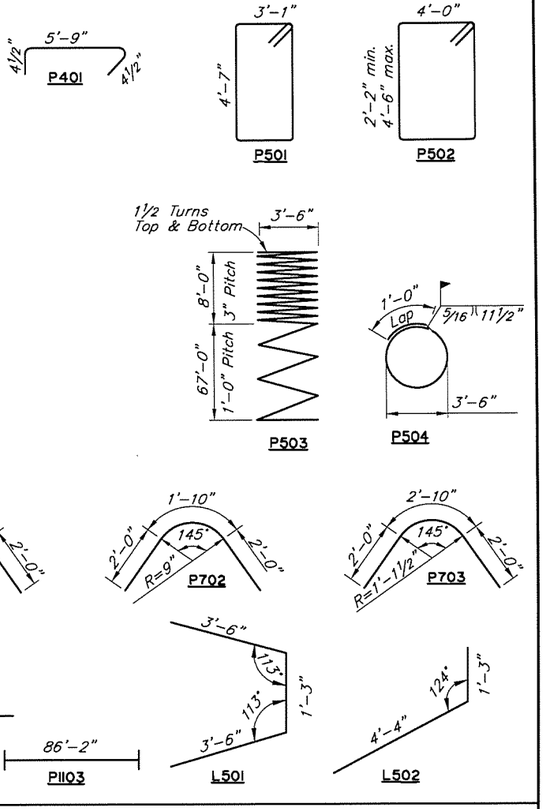
PLAN A

12 6 0 1 2 3
In. Feet

REINFORCING STEEL - ONE PIER

MARK	NOTE	SIZE	NO.	LENGTH	TYPE
P401		4	56	6'–6"	BENT
P501	E	5	139	16'–3"	STIRRUP
P502		5	342	VARIES	STIRRUP
P503	S	5	7	1,124'–9"	SPIRAL
P504		5	63	12'–0"	HOOP
P601	E,M,S	6	24	89'–4"	---
P602	M	6	16	8'–3"	BENT
P701	E	7	8	5'–7"	BENT
P702	E	7	12	5'–10"	BENT
P703	E	7	4	6'–10"	BENT
P901	E	9	90	7'–6"	---
P1001	S	10	98	78'–3"	---
P1101	M,S	11	16	88'–5"	---
P1102	S	11	8	VARIES	---
P1103	S,H	11	16	89'–2"	HEADED
L501	E	5	14	8'–3"	BENT
L502	E	5	4	5'–7"	BENT
L503	E	5	4	2'–2"	---

BENDING DIAGRAM



E – Epoxy-Coated
H – Headed reinforcing steel
M – Field adjust to match cross slope
S – Splices permitted. Splice length not included

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker		
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III		
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker		

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

CHENA RIVER BRIDGE

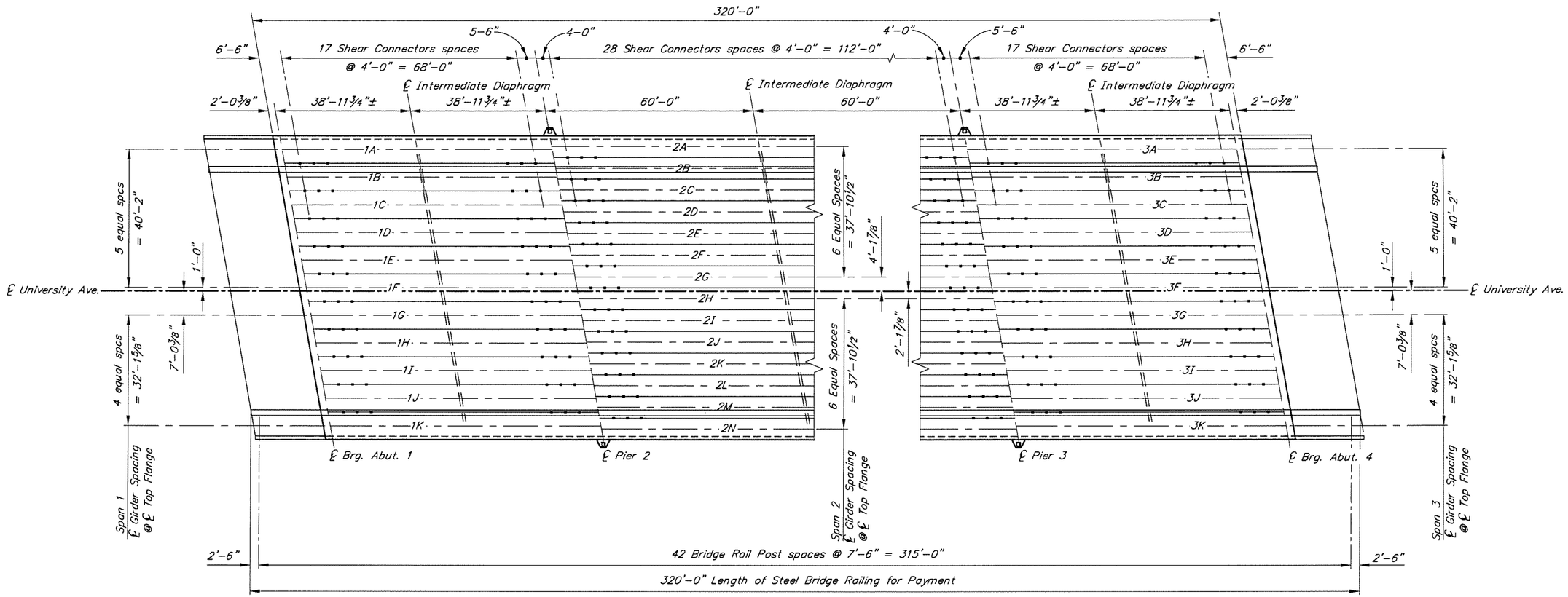
UNIVERSITY AVE.

PIER DETAILS 2

BRIDGE NO. 263
DWG. NO. 11

R:\cad\263\263-1-PIERS DETAILS 2 Wed, Jul/31/19 02:42pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N12	TtlShts



FRAMING PLAN

24 0 4 8 12 16 20 24
In. Feet

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III	
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker	

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

CHENA RIVER BRIDGE

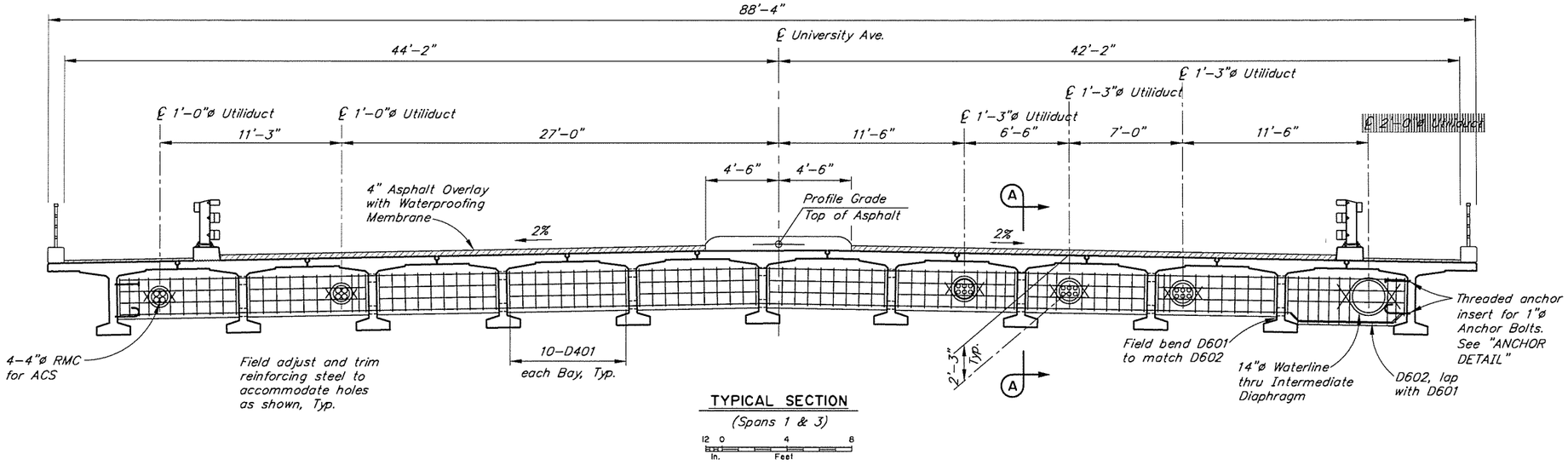
UNIVERSITY AVE.

FRAMING PLAN

BRIDGE NO. 263
DWG. NO. 12

R:\cad\263\263-1-FRAMING PLAN Wed, Jul/31/19 02:42pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N13	TtlShts



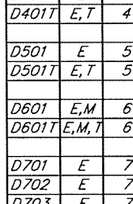
TYPICAL SECTION

(Spans 1 & 3)

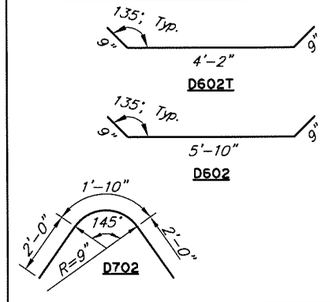
12 0 4 8
In. Feet

REINFORCING STEEL - ONE INTERIOR DIAPHRAGM

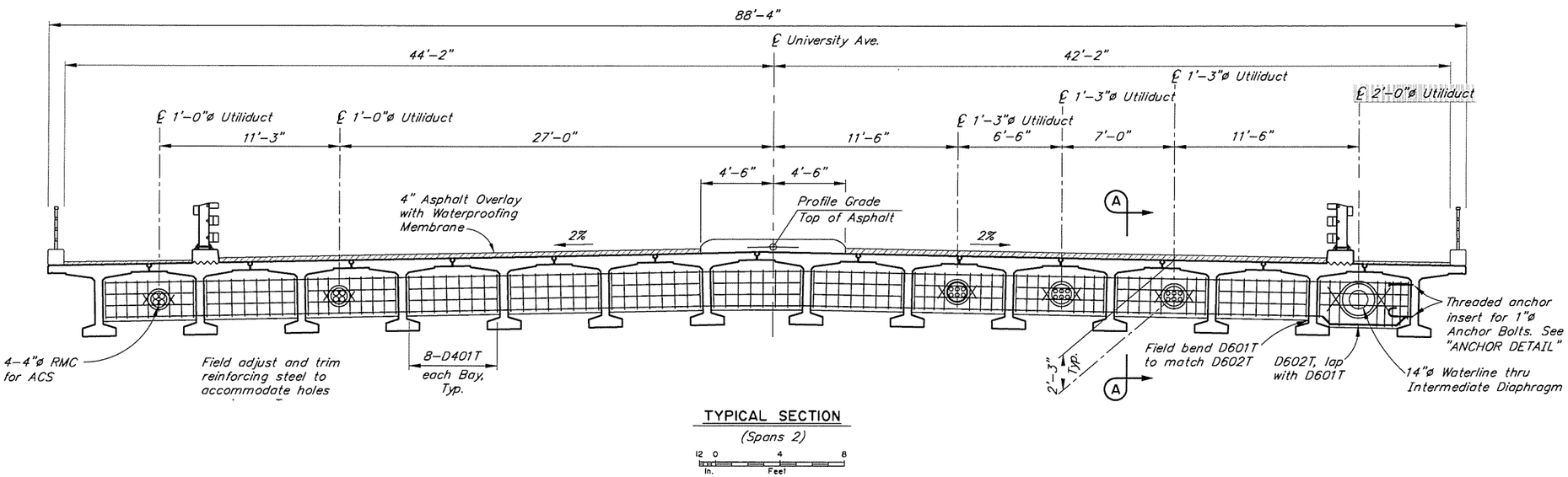
MARK	NOTE	SIZE	NO.	LENGTH	TYPE	BENDING DIAGRAM
D401	E	4	100	6'-3"	STIRRUP	
D401T	E,T	4	104	6'-3"	STIRRUP	
D501	E	5	4	79'-4"	---	
D501T	E,T	5	4	81'-1"	---	
D601	E,M	6	4	79'-4"	---	
D601T	E,M,T	6	4	81'-1"	---	
D701	E	7	8	5'-7"	BENT	
D702	E	7	12	5'-10"	BENT	
D703	E	7	4	6'-10"	BENT	



D401



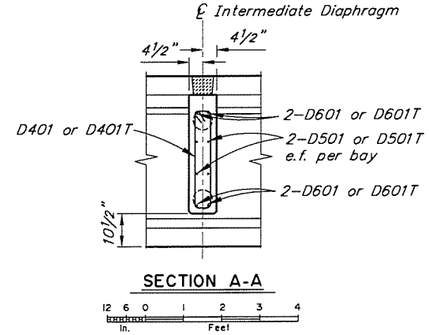
E – Epoxy-Coated reinforcing steel
M – Field adjust to match cross slope
S – Splices permitted. Length does not include splices
T – Span 2 only



TYPICAL SECTION

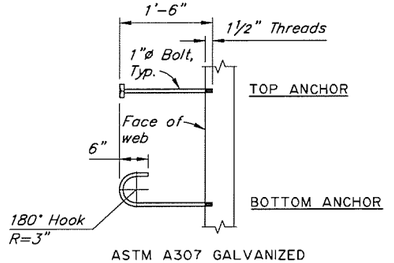
(Spans 2)

12 0 4 8
In. Feet



SECTION A-A

12 6 0 1 2 3 4
In. Feet



ASTM A307 GALVANIZED

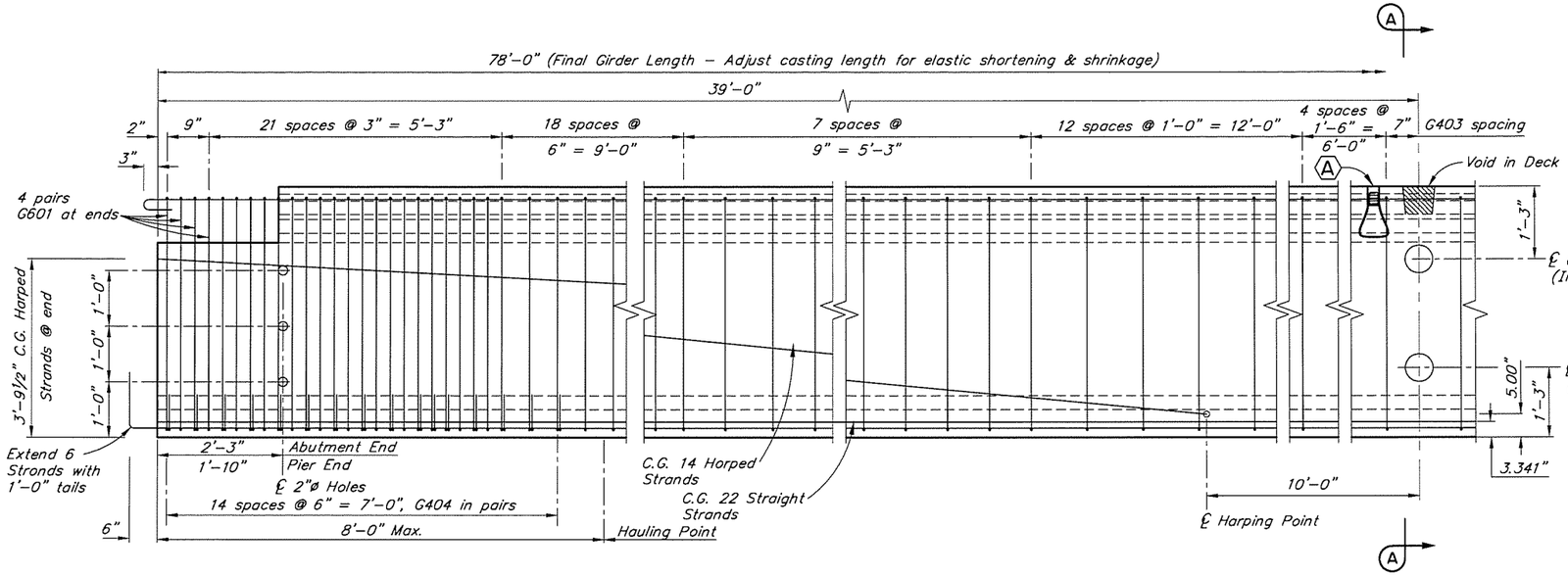
ANCHOR DETAIL

12 6 0 1 2 3
In. Feet

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975	CHENA RIVER BRIDGE UNIVERSITY AVE. TYPICAL SECTION
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III		
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker		BRIDGE NO. 263 DWG. NO. 13

R:\ccd\263\263--1--TYPICAL SECTION Wed, Jul/31/19 02:42pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N14	TtlShts

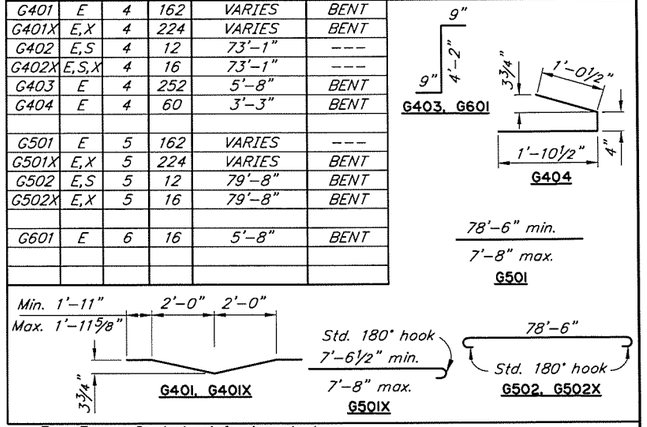


ELEVATION

REINFORCING STEEL - ONE GIRDER

MARK	NOTE	SIZE	NO.	LENGTH	TYPE
G401	E	4	162	VARIES	BENT
G401X	E,X	4	224	VARIES	BENT
G402	E,S	4	12	73'-1"	---
G402X	E,S,X	4	16	73'-1"	---
G403	E	4	252	5'-8"	BENT
G404	E	4	60	3'-3"	BENT
G501	E	5	162	VARIES	---
G501X	E,X	5	224	VARIES	BENT
G502	E,S	5	12	79'-8"	BENT
G502X	E,X	5	16	79'-8"	BENT
G601	E	6	16	5'-8"	BENT

BENDING DIAGRAM



E – Epoxy-Coated reinforcing steel
L – Ship 5 loose per exterior girder
S – Splices permitted. Length does not include splices
X – Exterior girders only

GIRDER NOTES:

Class P Concrete: at Stress Transfer.....f'ci = 5,500 psi
at 28 Days.....f'c = 6,500 psi

½"ø low-relaxation prestressing strands with an ultimate strength of 270 ksi and a cross sectional area of 0.153 in².

Steel stresses: Pretensioning – Jacking Stress 189 ksi
After initial losses 173 ksi
After all lasses 142 ksi

One inch clear cover on reinforcing steel unless otherwise noted.

See "FRAMING PLAN" Dwg. for Shear Connector spacing.

Deflect forms to compensate for camber.

Galvanize structural steel embedded in girders except for shear connectors.

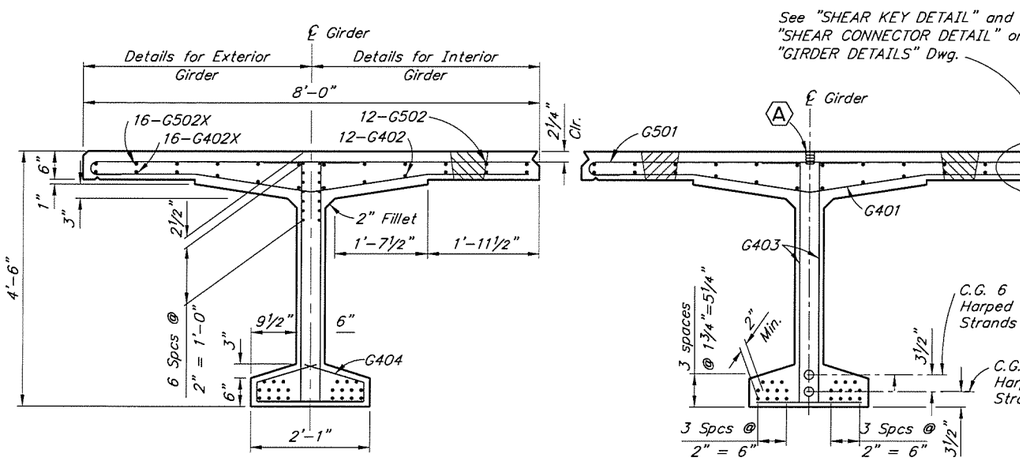
A 1"X1'-0" Coil Anchor Insert for vertical adjustment of girders. Recess 2". Prevent concrete from filling hole.

Omit Shear Key, Shear Key Connector and Deck Void in exterior face of exterior girders.

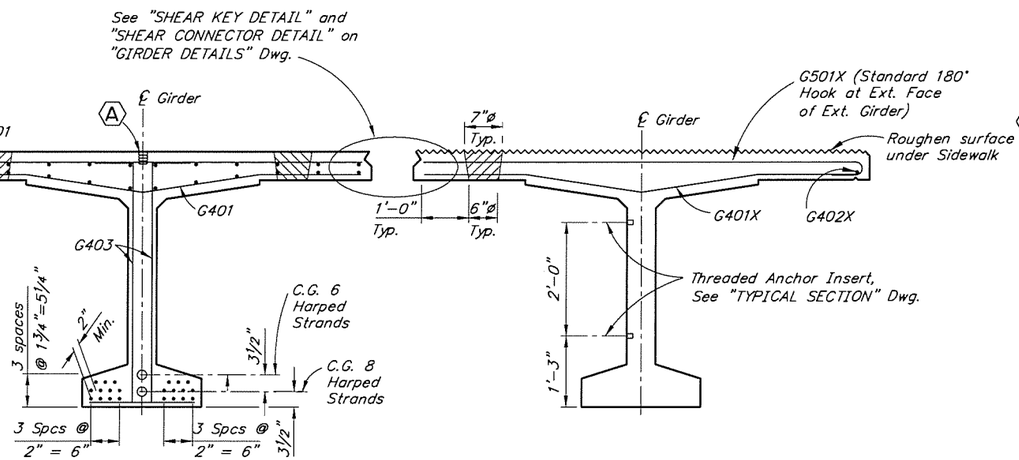
Cast ends of girders plumb with respect to roadway grade. Install web holes and web anchor inserts parallel to ℄ bearing.

Finish top flange with magnesium float. Roughen surface under the concrete barrier and sidewalk.

See "SIDEWALK DETAILS" Dwg. for embedments and concrete barrier reinforcing.



END VIEW



SECTION A-A

EXTERIOR MIDSPAN SECTION
(Unrelated reinforcing not shown)

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III	
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker	

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

CHENA RIVER BRIDGE

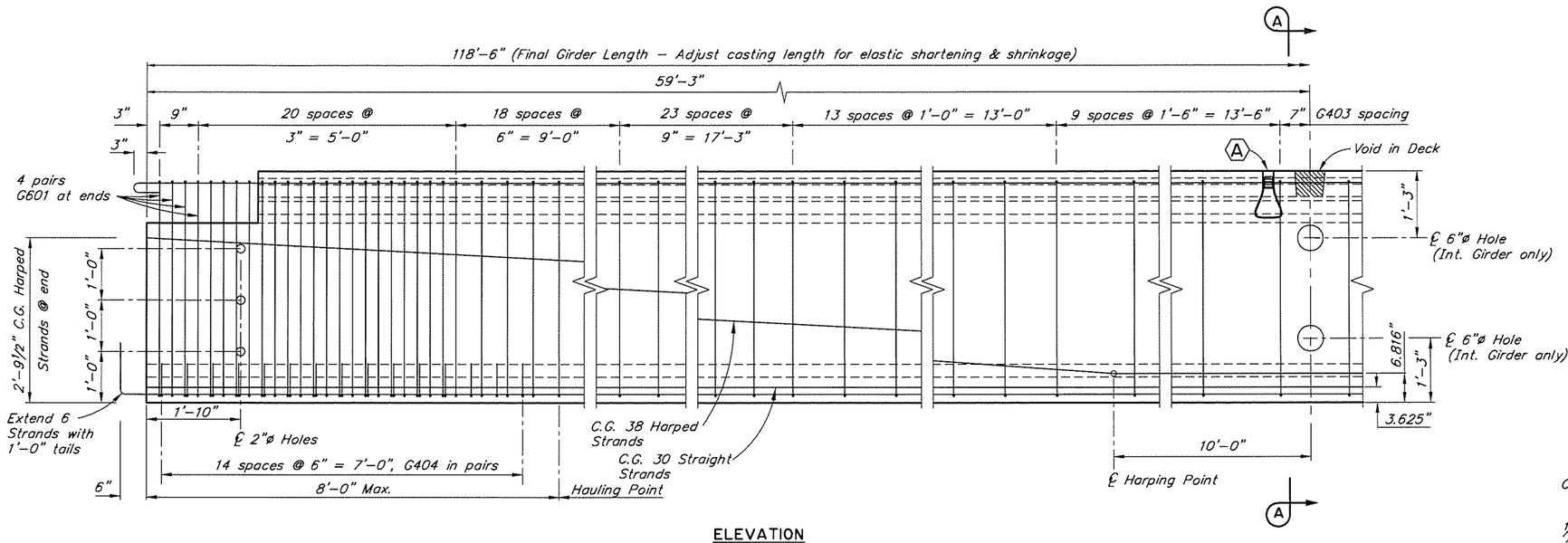
UNIVERSITY AVE.

GIRDERS – SPANS 1 AND 3

BRIDGE NO. 263
DWG. NO. 14

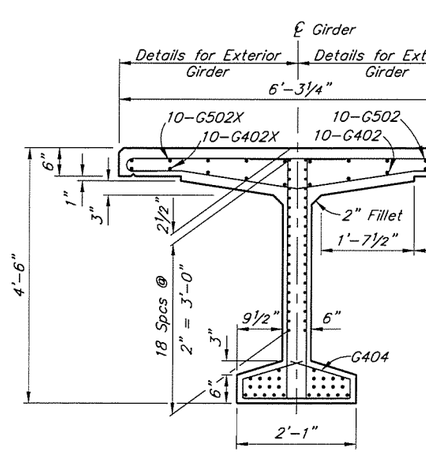
R:\cad\263\263-1-GIRDER 1 & 3 Wed, Jul/31/19 02:42pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N15	TtlShts



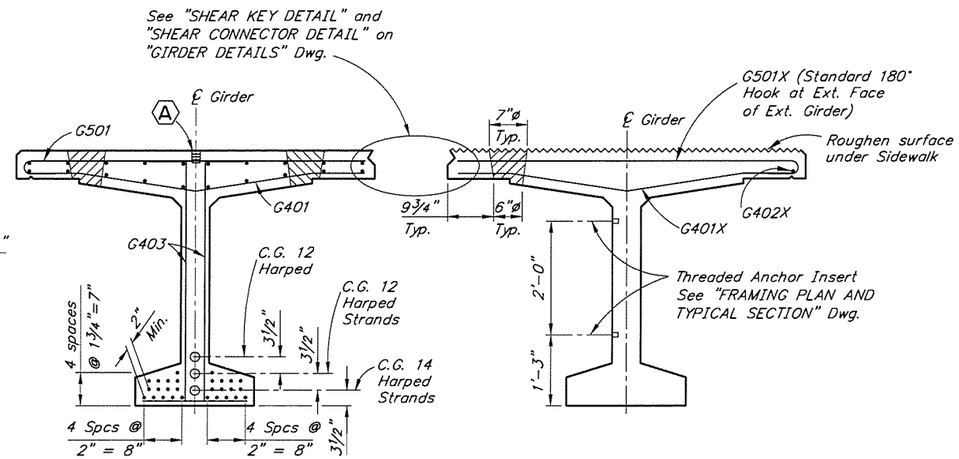
ELEVATION

12 6 0 1 2 3 In. Feet



END VIEW

12 6 0 1 2 3 In. Feet



SECTION A-A

12 6 0 1 2 3 In. Feet

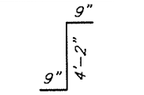
EXTERIOR MIDSPAN SECTION

(Unrelated reinforcing not shown)

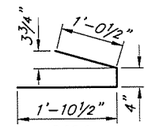
12 6 0 1 2 3 In. Feet

REINFORCING STEEL - ONE GIRDER

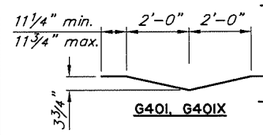
MARK	NOTE	SIZE	NO.	LENGTH	TYPE	BENDING DIAGRAM
G401	E	4	198	VARIES	BENT	
G401X	E,X	4	232	VARIES	BENT	
G402	E,S	4	10	114'-3"	---	
G402X	E,S,X	4	10	114'-3"	---	
G403	E	4	332	5'-8"	BENT	
G404	E	4	60	3'-3"	BENT	
G501	E	5	198	VARIES	---	
G501X	E,X	5	232	VARIES	BENT	
G502	E,S	5	10	120'-2"	BENT	
G502X	E,X	5	10	120'-2"	BENT	
G601	E	6	16	5'-8"	BENT	



G403, G601



G404



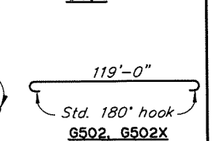
G401, G401X

5'-10½" min.
5'-11¾" max.

G501

Std. 180° hook
5'-10½" min.
5'-11¾" max.

G501X



G502, G502X

E – Epoxy-Coated reinforcing steel
L – Ship 5 loose per exterior girder
S – Splices permitted. Length does not include splices
X – Exterior girders only

GIRDER NOTES:

Class P Concrete: at Stress Transfer.....f'ci = 7,250 psi
at 28 Days.....f'c = 8,250 psi

½"ø low-relaxation prestressing strands with an ultimate strength of 270 ksi and a cross sectional area of 0.153 in².

Steel stresses: Pretensioning – Jacking Stress 189 ksi
After initial losses 167 ksi
After all losses 138 ksi

One inch clear cover on reinforcing steel unless otherwise noted.

See "FRAMING PLAN" Dwg. for Shear Connector spacing.

Deflect forms to compensate for camber.

Galvanize structural steel embedded in girders except for shear connectors.

(A) 1"X1'-0" Coil Anchor Insert for vertical adjustment of girders. Recess 2". Prevent concrete from filling hole.

Omit Shear Key, Shear Key Connector and Deck Void in exterior face of exterior girders.

Cast ends of girders plumb with respect to roadway grade. Install web holes and web anchor inserts parallel to ℄ bearing.

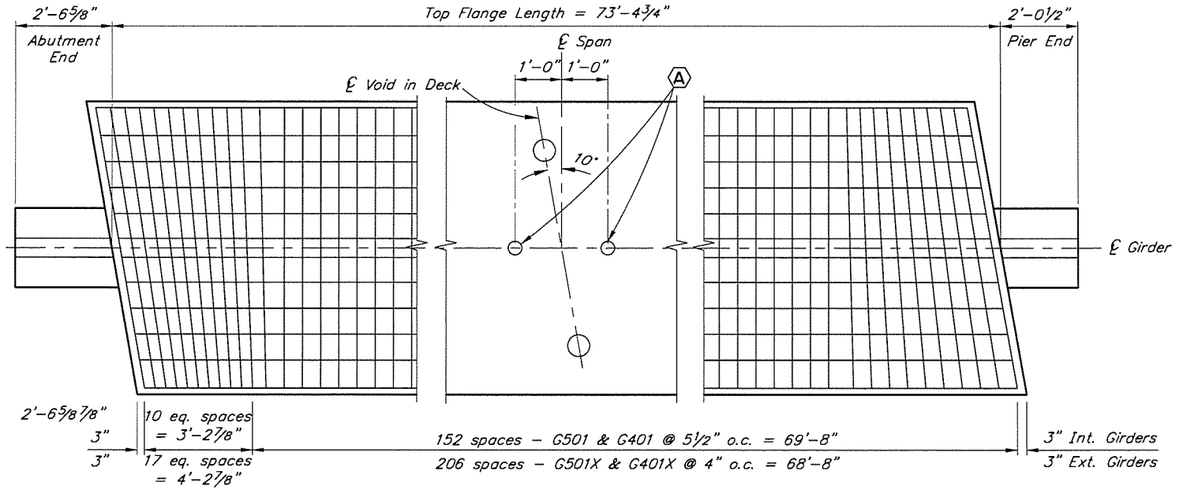
Finish top flange with magnesium float. Roughen surface under the concrete barrier and sidewalk.

See "SIDEWALK DETAILS" Dwg. for embedments and concrete barrier reinforcing.

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975	CHENA RIVER BRIDGE UNIVERSITY AVE. GIRDERS – SPAN 2
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III		BRIDGE NO. 263 DWG. NO. 15
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker		

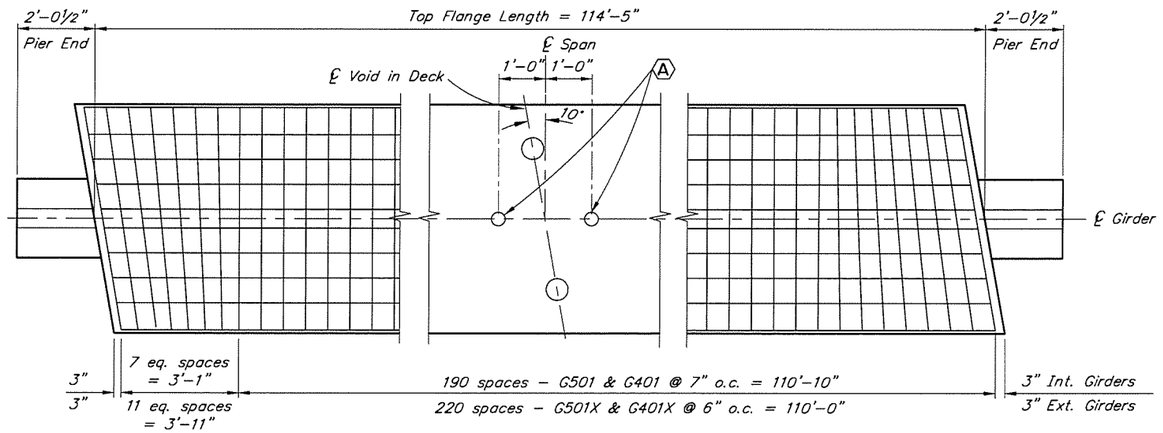
R:\cad\263\263-1-GIRDER 2 Wed, Jul/31/19 02:42pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N16	TtlShts



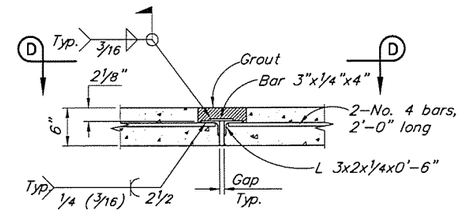
PLAN VIEW - SPANS 1 AND 3

12 6 0 1 2 3 4
In. Feet



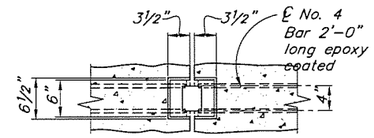
PLAN VIEW - SPAN 2

12 6 0 1 2 3 4
In. Feet



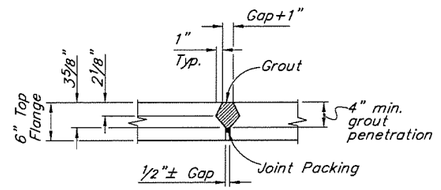
SHEAR CONNECTOR DETAIL

12 6 0 1 2
In. Feet



VIEW D-D

12 6 0 1 2
In. Feet



SHEAR KEY DETAIL

12 6 0 1 2
In. Feet

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker		
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III		
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker		

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

CHENA RIVER BRIDGE

UNIVERSITY AVE.

GIRDER DETAILS

BRIDGE NO. 263
DWG. NO. 16

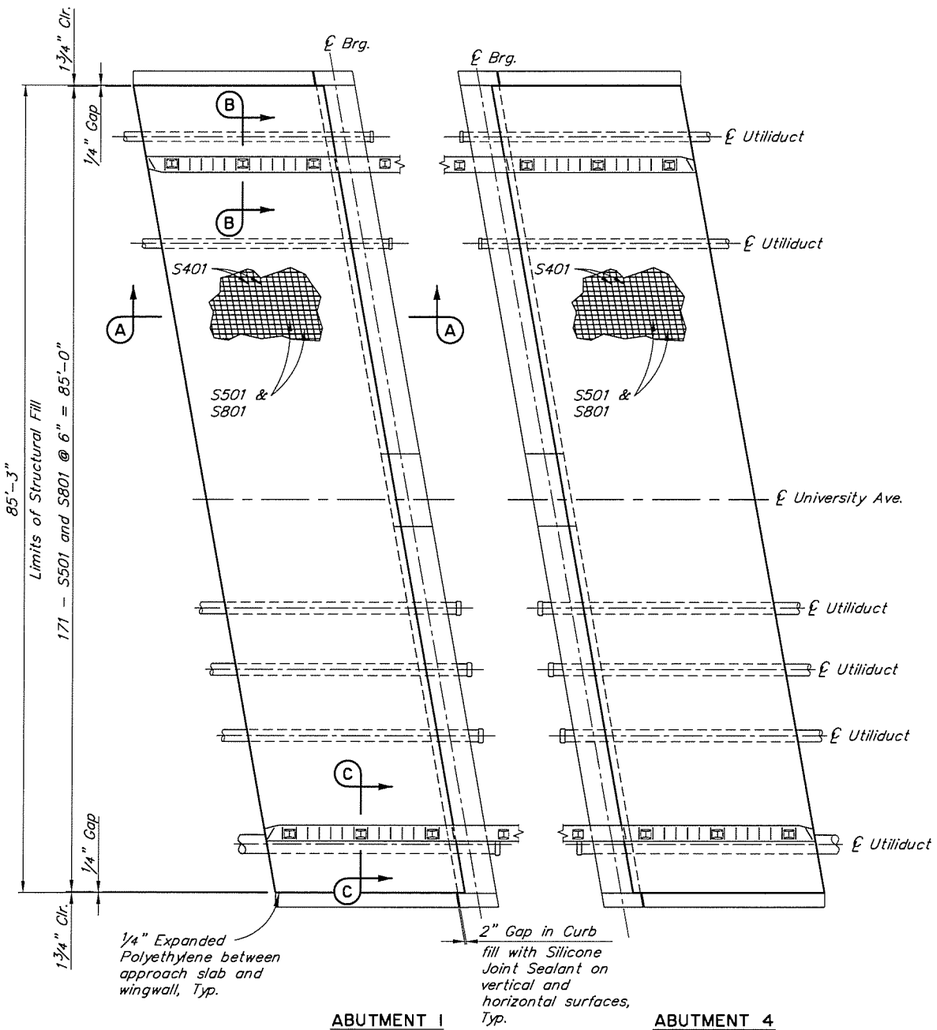
R:\cad\263\263-1-GIRDER DETAILS Wed, Jul/31/19 02:42pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N17	TtlShts

REINFORCING STEEL - ONE SLAB

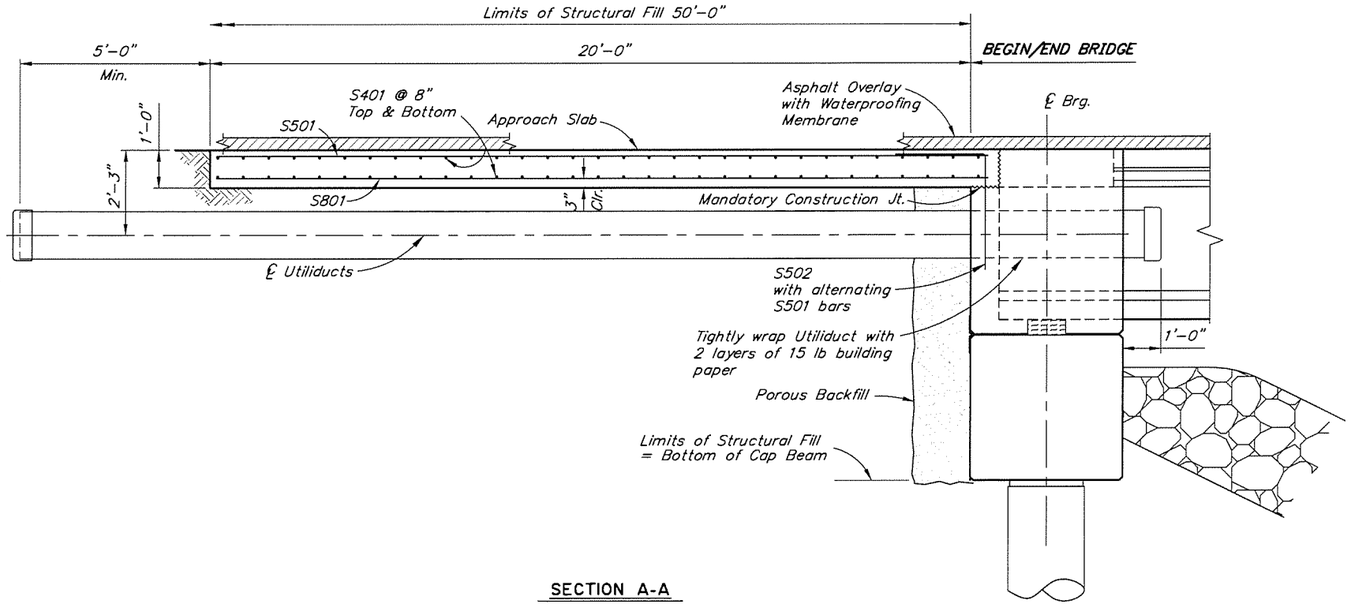
MARK	NOTE	SIZE	NO.	LENGTH	TYPE	BENDING DIAGRAM
S401	E,M,S	4	62	86'-3"	---	
S501	E	5	171	20'-5"	---	
S502	E,T	5	86	5'-0"	BENT	2'-0", 3'-0" — S502
S801	E	8	171	20'-5"	---	

E – Epoxy-Coated reinforcing steel
M – Field adjust to match cross slope
S – Splice permitted. Splice length not included
T – Field trim bars to accommodate utility hole.



PLAN

12 0 4 8 12
In. Feet



SECTION A-A

12 6 0 1 2 3 4
In. Feet

R:\cad\263\263-1-APPROACH SLABS Wed, Jul/31/19 02:42pm

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker

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

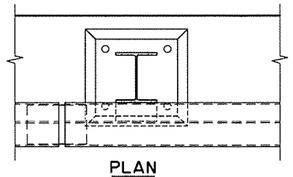
CHENA RIVER BRIDGE

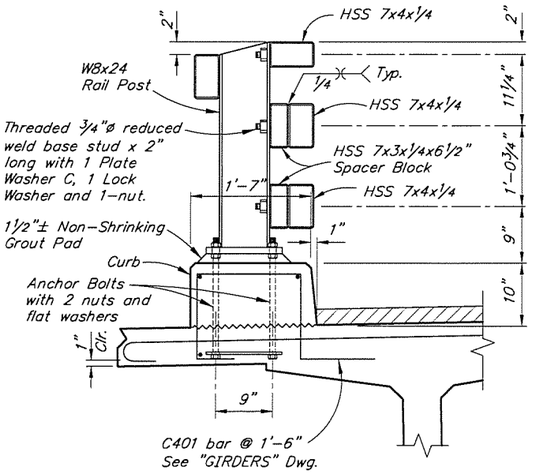
UNIVERSITY AVE.

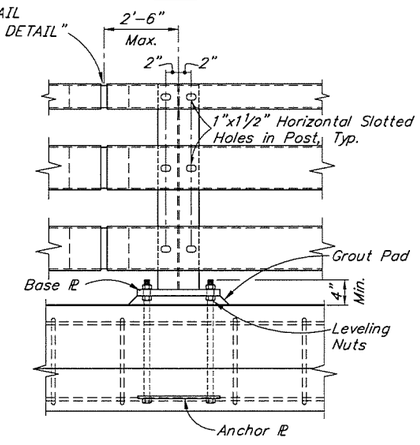
APPROACH SLABS

BRIDGE NO. 263
DWG. NO. 17

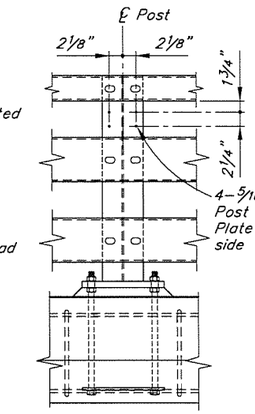
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N18	TtlShts



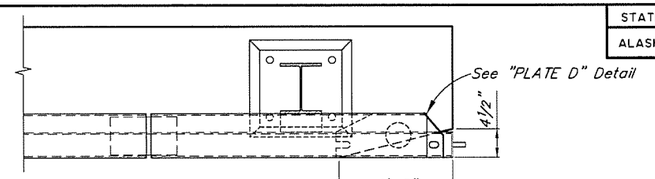




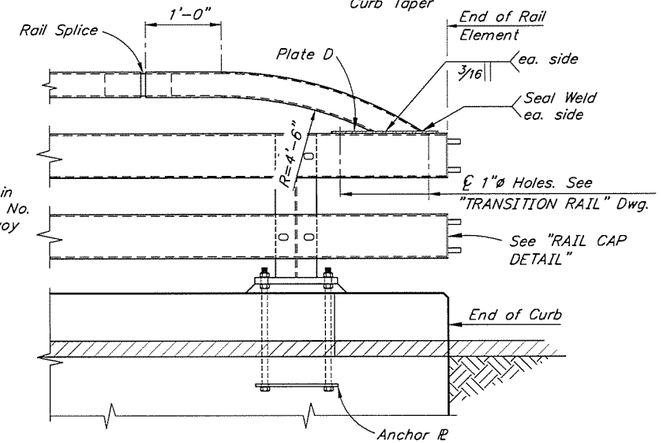
TYPICAL POST ELEVATION



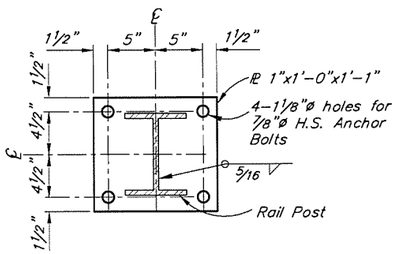
POST ELEVATION



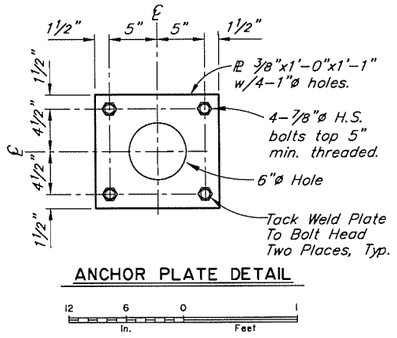
PLAN



END POST - ELEVATION

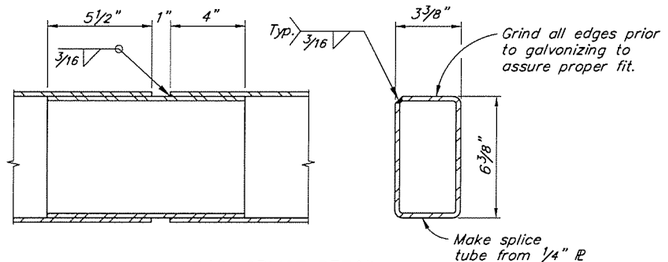


BASE PLATE DETAIL

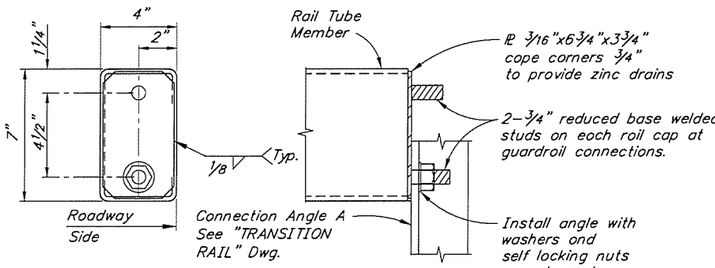


ANCHOR PLATE DETAIL

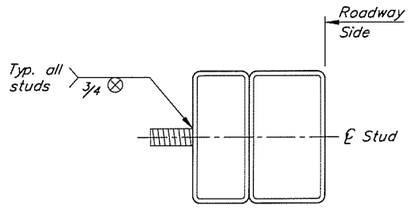
TYPICAL SECTION



RAIL SPLICE DETAIL

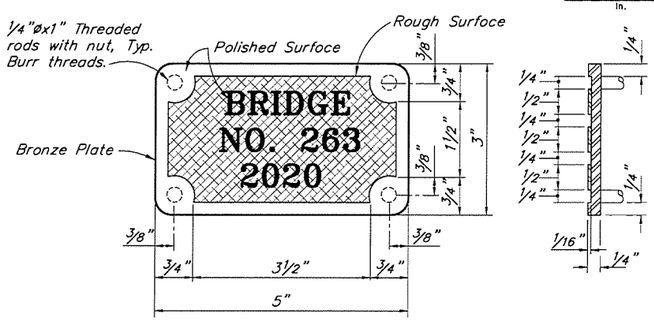


RAIL CAP DETAIL

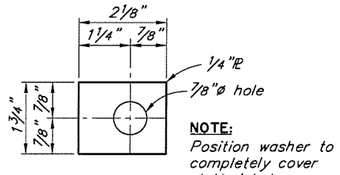


RAILING STUD DETAIL

(Lower rail shown, upper rail similar)
No Scale



BRONZE BRIDGE NO. PLATE
No Scale



NOTE:
Position washer to completely cover slotted hole

PLATE WASHER C
No Scale

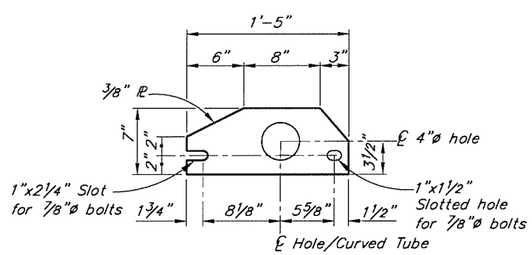


PLATE D

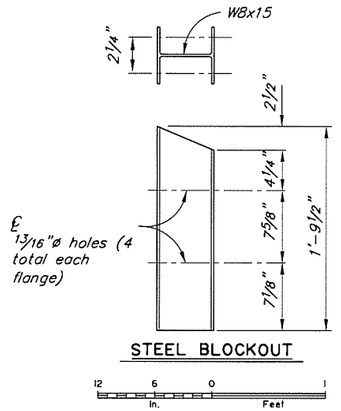
NOTES:

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 roil panels that spon bridge expansion joints.
4. Install posts plumb.
5. Use grout with a minimum 24-hour f'c of 3,000 psi.
6. See "FRAMING PLAN AND TYPICAL SECTION" Dwg. for rail post spacing.

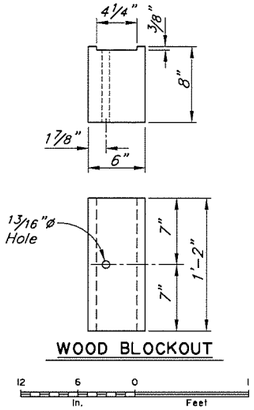
DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975	CHENA RIVER BRIDGE UNIVERSITY AVE. STEEL BRIDGE RAIL, 3-TUBE
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III		BRIDGE NO. 263 DWG. NO. 18
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker		

R:\cad\263\263-1--BRIDGE RAIL Wed, Jul/31/19 02:42pm

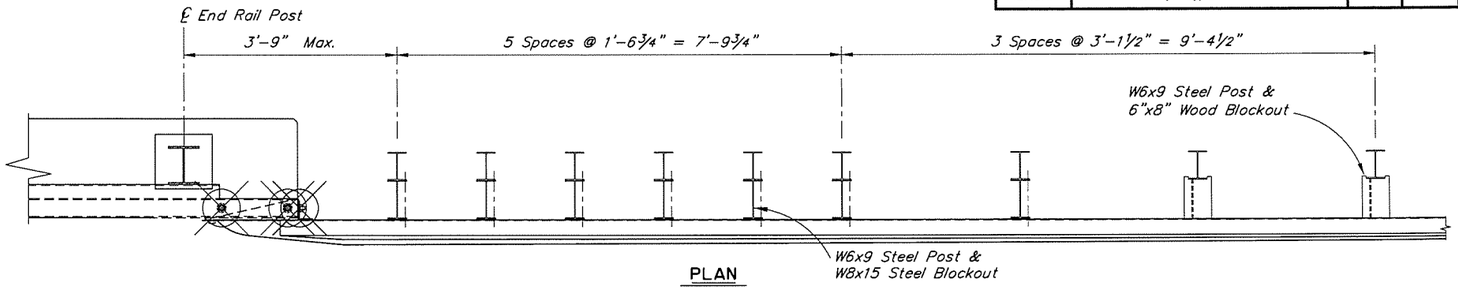
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N19	TtlShts



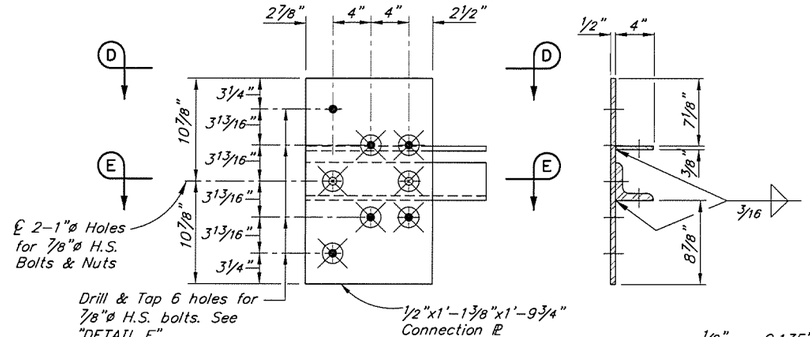
STEEL BLOCKOUT



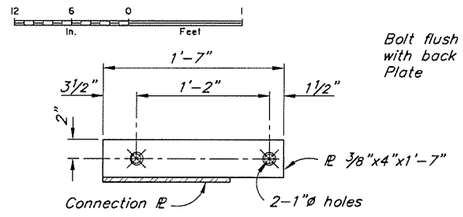
WOOD BLOCKOUT



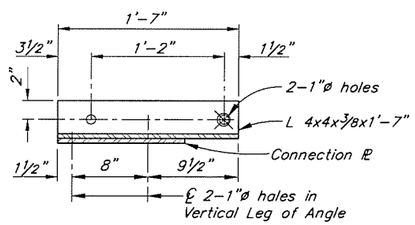
PLAN



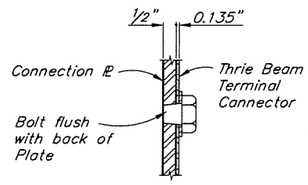
GUARDRAIL CONNECTION PLATE DETAILS



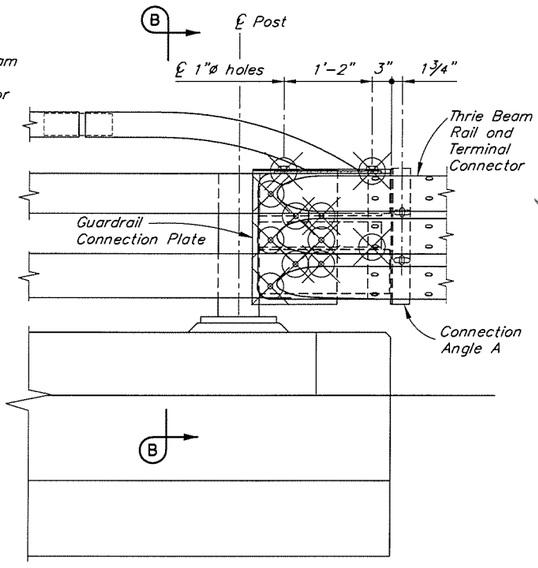
VIEW D-D



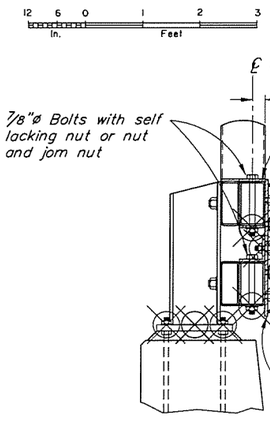
SECTION E-E



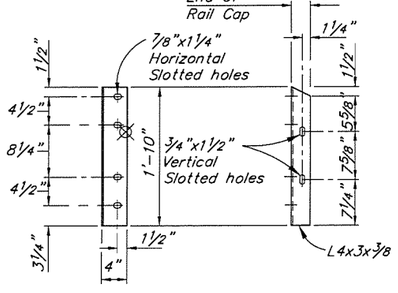
DETAIL F
No Scale



THRIE BEAM CONNECTION



SECTION B-B



CONNECTION ANGLE A

NOTES:

1. Conform to G-00, G-04S and G-10 for all guardrail details not shown.
2. Lap approach guardrail to prevent snags from oncoming traffic.
3. Provide 4½" horizontal slots in approach guardrail. Adjust guardrail bolts for sliding fit.

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III	
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker	

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

CHENA RIVER BRIDGE

UNIVERSITY AVE.

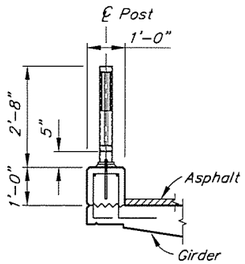
TRANSITION RAIL, 3-TUBE

BRIDGE NO. 263

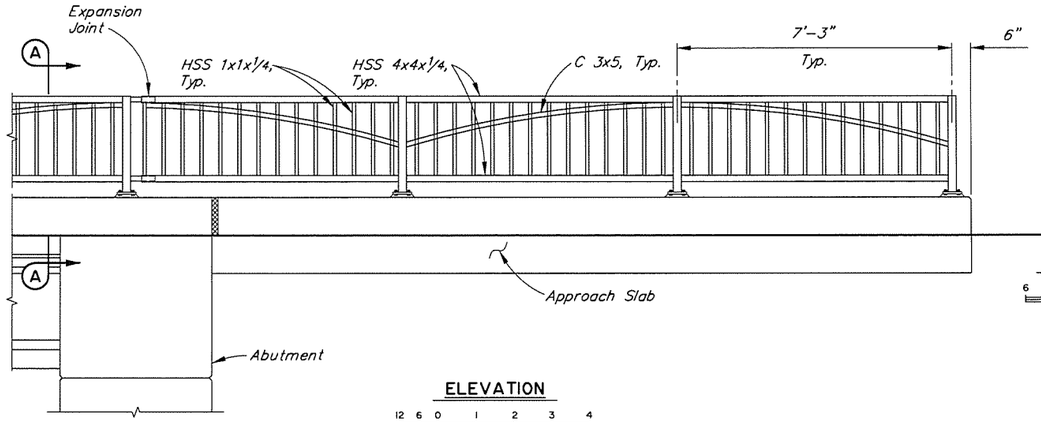
DWG. NO. 19

R:\cad\263\263-1-TRANSITION Wed, Jul/31/19 02:42pm

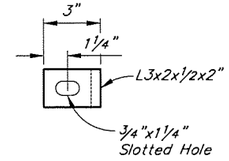
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N20	TtlShts



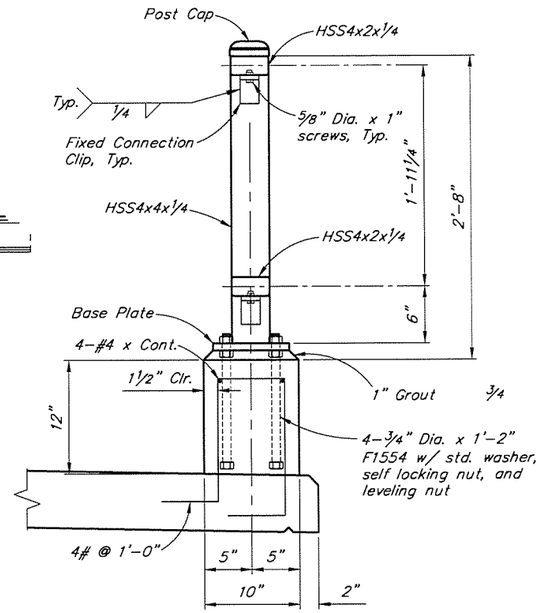
SECTION A-A



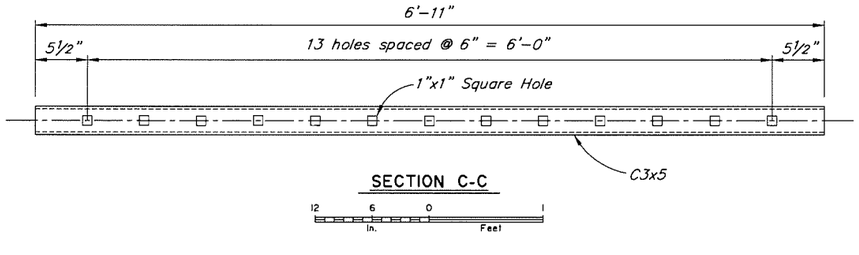
ELEVATION



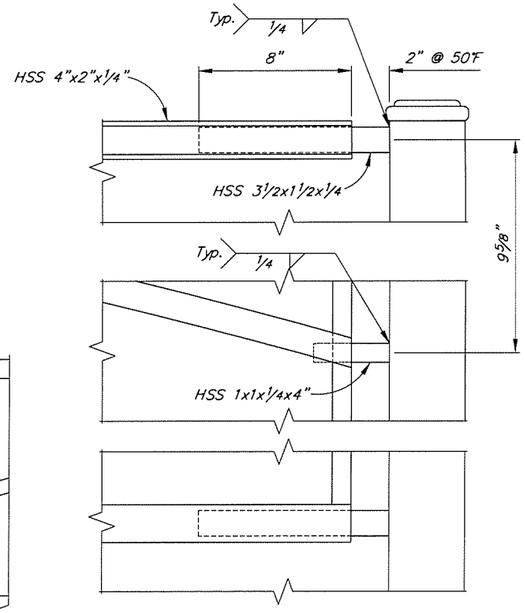
FIXED CONNECTION CLIP DETAIL



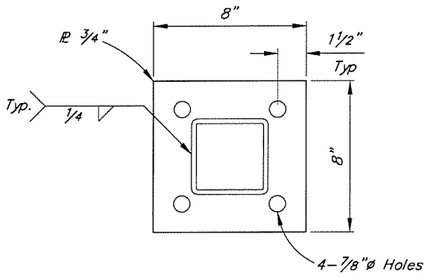
SECTION B-B



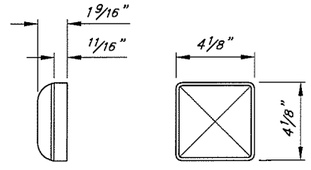
SECTION C-C



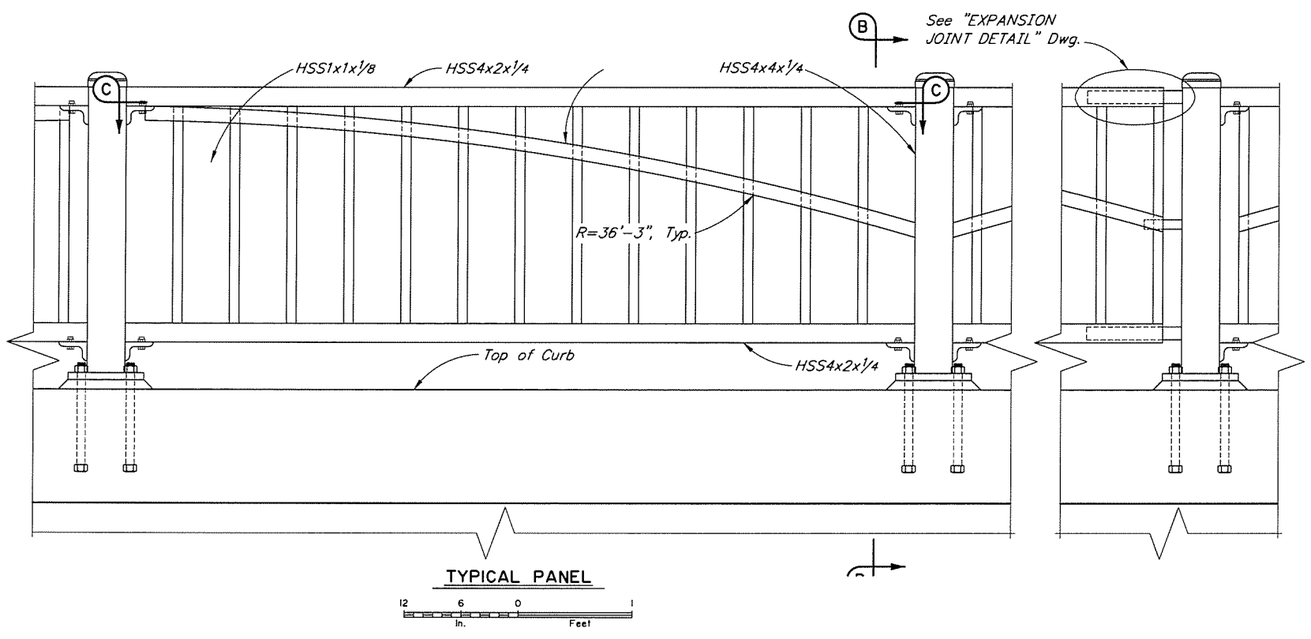
EXPANSION JOINT DETAIL



BASE PLATE DETAIL



POST CAP DETAIL

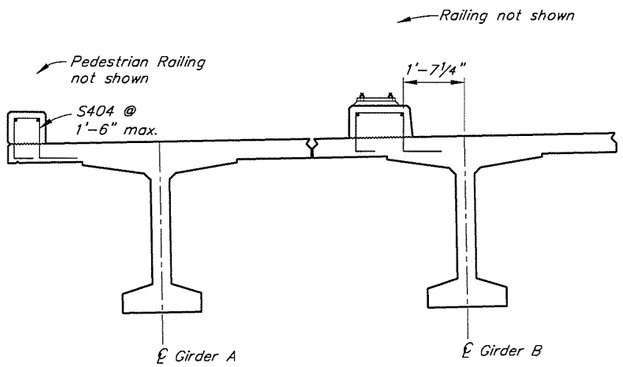


TYPICAL PANEL

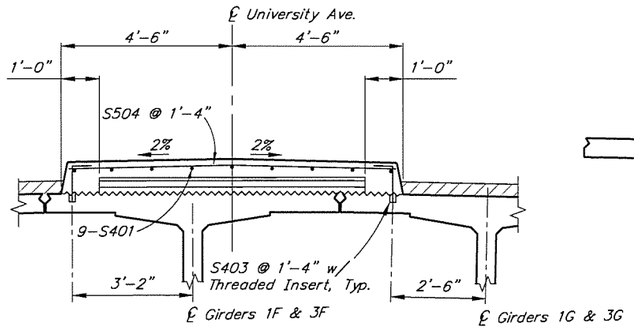
DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES** BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975	# CHENA RIVER BRIDGE UNIVERSITY AVE. ## PEDESTRIAN RAILING
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III		BRIDGE NO. 263 DWG. NO. 20
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker		

R:\cad\263\263-1-PED RAIL Wed, Jul/31/19 02:42pm

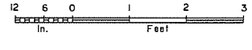
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617(003)/Z632130000	2019	N21	TtlShts

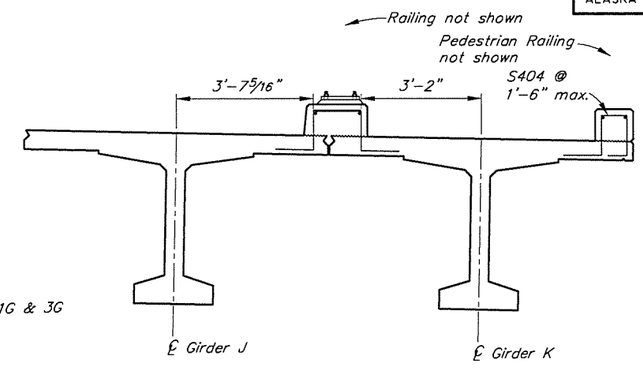


LEFT CURB SECTION - SPANS 1 & 3

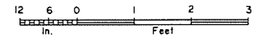


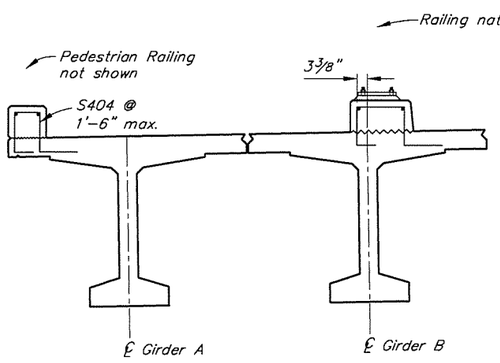
MEDIAN SECTION - SPANS 1 & 3



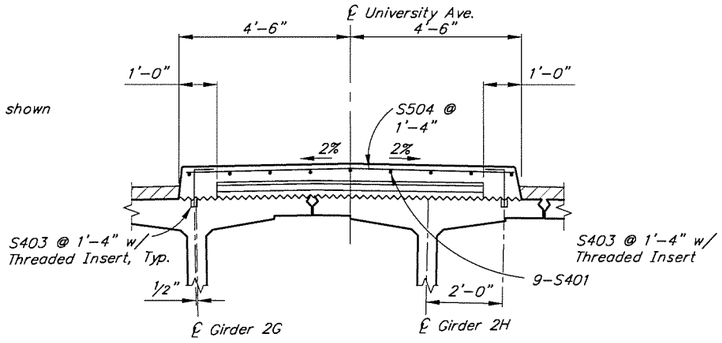


RIGHT CURB SECTION - SPANS 1 & 3

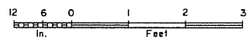


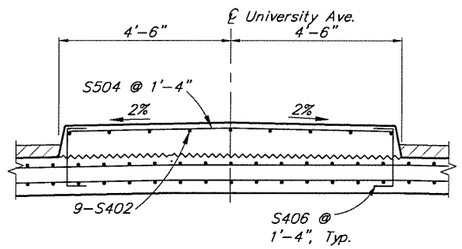


LEFT CURB SECTION - SPAN 2

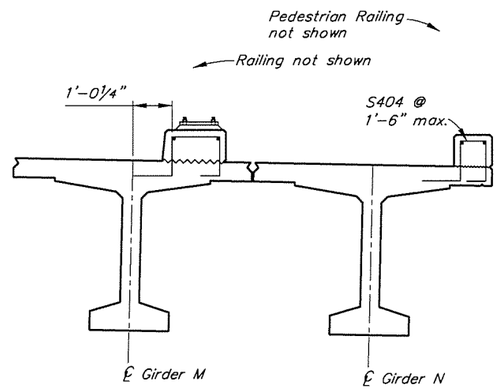


MEDIAN SECTION - SPAN 2





MEDIAN SECTION - APPROACH SLAB

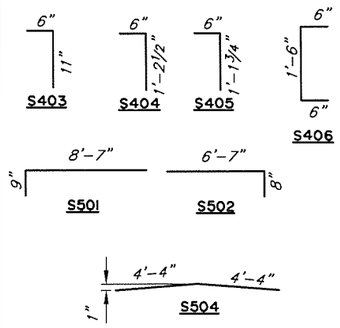


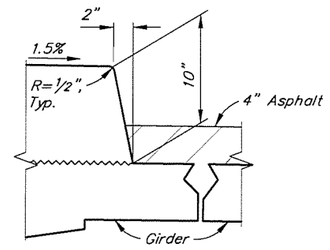
RIGHT CURB SECTION - SPAN 2

REINFORCING STEEL

MARK	NOTE	SIZE	NO.	LENGTH	TYPE
S401	E	4	24	309'-8"	---
S402	E	4	46	20'-5"	---
S403	E	4	936	1'-5"	BENT
S404	E	4	234	1'-2½"	BENT
S405	E	4	234	1'-9¾"	BENT
S406	E	4	192	2'-6"	BENT
S501	E	5	234	9'-4"	BENT
S502	E	5	234	7'-3	BENT
S503	E	5	32	7'-6"	---
S504	E	5	265	8'-8"	BENT
S505	E	5	32	5'-6"	---

BENDING DIAGRAM





DETAIL A

DESIGNED BY: Jesse Escamilla III	CHECKED: Checker	
DRAWN BY: Sam Sollie	CHECKED: Jesse Escamilla III	
QUANTITIES BY: Jesse Escamilla III	CHECKED: Checker	

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

CHENA RIVER BRIDGE

UNIVERSITY AVE.

SIDEWALK DETAILS

BRIDGE NO. 263
DWG. NO. 21

R:\cad\263\263-1-SIDEWALK DETAILS (2) Wed, Jul/31/19 02:42pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	01	03

SITE INFORMATION

1. SITE FUNCTION: ROAD
2. 2-YEAR, 24-HOUR RAINFALL EVENT: 1.08 INCHES (SOURCE: http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_ak.html) FOR FAIRBANKS
3. AVERAGE ANNUAL PRECIPITATION: 10.53 INCHES (SOURCE: WESTERN REGIONAL CLIMATE CENTER) FOR FAIRBANKS WSO AIRPORT
4. STAGING AND STOCKPILE AREAS: LOCATIONS OF THESE ELEMENTS ARE TO BE DETERMINED BY THE CONTRACTOR AND MUST COMPLY WITH THE CGP, SWPPP, SECTION 641, AND ALL PERMITS.
5. PROJECT AREAS ARE LISTED BELOW (MATERIAL SITES NOT INCLUDED):

PROJECT INFORMATION TABLE

PROJECT AREA (ACRE)	21 AC
DISTURBED AREA (ACRE)	12.8 AC
PRE-CONSTRUCTION IMPERVIOUS AREA (%)	42%
POST-CONSTRUCTION IMPERVIOUS AREA (%)	54%
PRE-CONSTRUCTION RUNOFF COEFFICIENT	0.52
POST-CONSTRUCTION RUNOFF COEFFICIENT	0.60

6. LANDSCAPE TOPOGRAPHY: RELATIVELY FLAT AND URBANIZED WITH RESIDENTIAL AND COMMERCIAL DEVELOPMENT ALONG THE PROJECT CORRIDOR.
7. DRAINAGE PATTERNS: SURFACE DRAINAGE VIA DITCHES AND STORM DRAINS FLOW TO NOYES SLOUGH AND CHENA RIVER.
8. SOILS: ALLUVIAL SAND AND GRAVEL OVERLAIN BY SILT AND ORGANIC SILT.
9. EXISTING VEGETATION: PROJECT AREA IS A MIX OF RESIDENTIAL AND COMMERCIAL WITH LAWNS, SHRUBS AND TREES.
10. APPROXIMATE GROWING SEASON: MAY 3 THROUGH OCTOBER 3 (SOURCE: USACE WETLANDS DELINEATION MANUAL: ALASKA REGION (VERSION 2))
11. HISTORIC SITE CONTAMINATION: KNOWN SITES HAVE BEEN OR ARE BEING REMEDIATED. PROBABLITY OF ENCOUNTERING HAZARDOUS MATERIALS DURING CONSTRUCTION IS LOW.

ENVIRONMENTAL INFORMATION

1. RECEIVING WATERS: CHENA RIVER, NOYES SLOUGH
2. IMPAIRED WATER BODIES: CHENA RIVER, NOYES SLOUGH
3. TOTAL MAXIMUM DAILY LOAD (TMDL): NONE
4. STORM SEWER/DRAINAGE SYSTEMS: FAIRBANKS NORTH STAR BOROUGH MS4 CONSISTING OF PIPED AND SURFACE WATER DRAINAGE NETWORK.
5. THREATENED AND ENDANGERED SPECIES: NONE
6. HISTORICAL & CULTURAL RESOURCE PRESENCE: NONE AFFECTED
7. FISH & WILDLIFE HABITAT PRESENCE: CHENA RIVER
8. WETLANDS: NONE
9. CONTACT THE PROJECT ENGINEER WITH QUESTIONS/CONCERNS REGARDING ENVIRONMENTAL ISSUES OR PERMIT INFORMATION.
10. KNOWN CONTAMINATION AREAS ARE PRESENT IN THE PROJECT AREA AS FOLLOWS: DEC HAZARD 26489 – 655 UNIVERSITY AVENUE (FORMER HOLIDAY HOUSE APARTMENTS), DEC HAZARD ID 4103 – 685 INDIANA AVENUE, RESIDENCE.
11. NO EXISTING PUBLIC WATER SYSTEM (PWS) DRINKING WATER PROTECTION AREAS (DWPA) INTERSECT THE BOUNDARY OF THE PROPOSED PROJECT. (SOURCE:ADEC DRINKING WATER PROTECTION MAP)
12. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE MIGRATORY BIRD TREATY ACT TO PREVENT THE KILLING OR TAKING OF MIGRATORY BIRDS OR ANY PART, NEST OR EGGS. SEE THE US FISH AND WILDLIFE SERVICES "LAND CLEARING TIMING GUIDANCE FOR ALASKA" FOR MORE INFORMATION.

GENERAL NOTES

1. READ AND COMPLY WITH THE CONSTRUCTION GENERAL PERMIT (CGP) AND SECTION 641 OF THE PROJECT SPECIFICATIONS.
2. A SWPPP AND HMCP ARE REQUIRED FOR THIS PROJECT.
3. EROSION AND SEDIMENT CONTROL FEATURES MUST BE BASED ON THE DOT&PF MANUAL ALASKA STORM WATER POLLUTION PREVENTION PLAN GUIDE (OCTOBER 2016 OR LATEST VERSION) AND LATEST BMPs.
4. INITIATE EROSION AND SEDIMENT CONTROLS PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
5. DEVICES MAY NEED TO BE REMOVED AND REINSTALLED TO ALLOW CONSTRUCTION ACTIVITIES TO PROCEED. MAINTAIN ALL DEVICES DAILY INCLUDING, BUT NOT LIMITED TO REMOVAL AND DISPOSAL OF ACCUMULATED SOILS, CLEANING DEVICES AND REPLACEMENT OF DAMAGED DEVICES.
6. STOCKPILE AND STAGING LOCATIONS MUST BE RECLAIMED TO THEIR ORIGINAL CONDITION. STOCKPILES AND/OR STAGING AREAS ARE NOT ALLOWED IN WETLANDS.
7. ENSURE LOADS ARE STABLE OR COVERED SO THAT NO MATERIAL ESCAPES DURING HAULING ACTIVITIES.
8. PROVIDE CONCRETE WASHOUT FACILITIES.
9. PROVIDE VEHICLE CLEANING EQUIPMENT OR OTHER APPROVED CONTROLS TO PREVENT TRACKING OF DIRT AND GRAVEL ONTO PAVED SURFACES.
10. PROVIDE INLET PROTECTION AT ALL INLETS IN AND ADJACENT TO WORK AREAS (SEE BMP 25.00 – 29.00 DOT&PF SWPPP GUIDE).
11. AVOID UNNECESSARY GROUND DISTURBANCE AND MAINTAIN NATIVE VEGETATION WHERE PRACTICABLE THROUGH THE USE OF BMPs AND DOT&PF REVIEW OF PROPOSED SWPPP.
12. FOLLOW BMPs, SOPs, AND THE SWPPP TO AVOID IMPACTS TO A CONTAMINATED SITE IF THE AREA MUST BE USED FOR CONSTRUCTION STAGING. DEVELOP A CONTINGENCY PLAN IN THE EVENT THAT CONTAMINATION IS UNEXPECTEDLY ENCOUNTERED, AND PHASE UNDERGROUND CONSTRUCTION WORK IN KNOWN GROUNDWATER-CONTAMINATED AREAS DURING PERIODS OF LOW GROUNDWATER.
13. VEGETATIVE BUFFERS IS THE PREFERRED METHOD OF PERIMETER CONTROL FOR THIS PROJECT. WHERE VEGETATION IS NOT 25 FEET WIDE, THEN A BMP MUST BE INSTALLED FOR PERIMETER CONTROL.
14. SWEEP CLEAN STABILIZED CONSTRUCTION EXITS EACH SHIFT OR AS DIRECTED BY ENGINEER.

ESCP LEGEND:

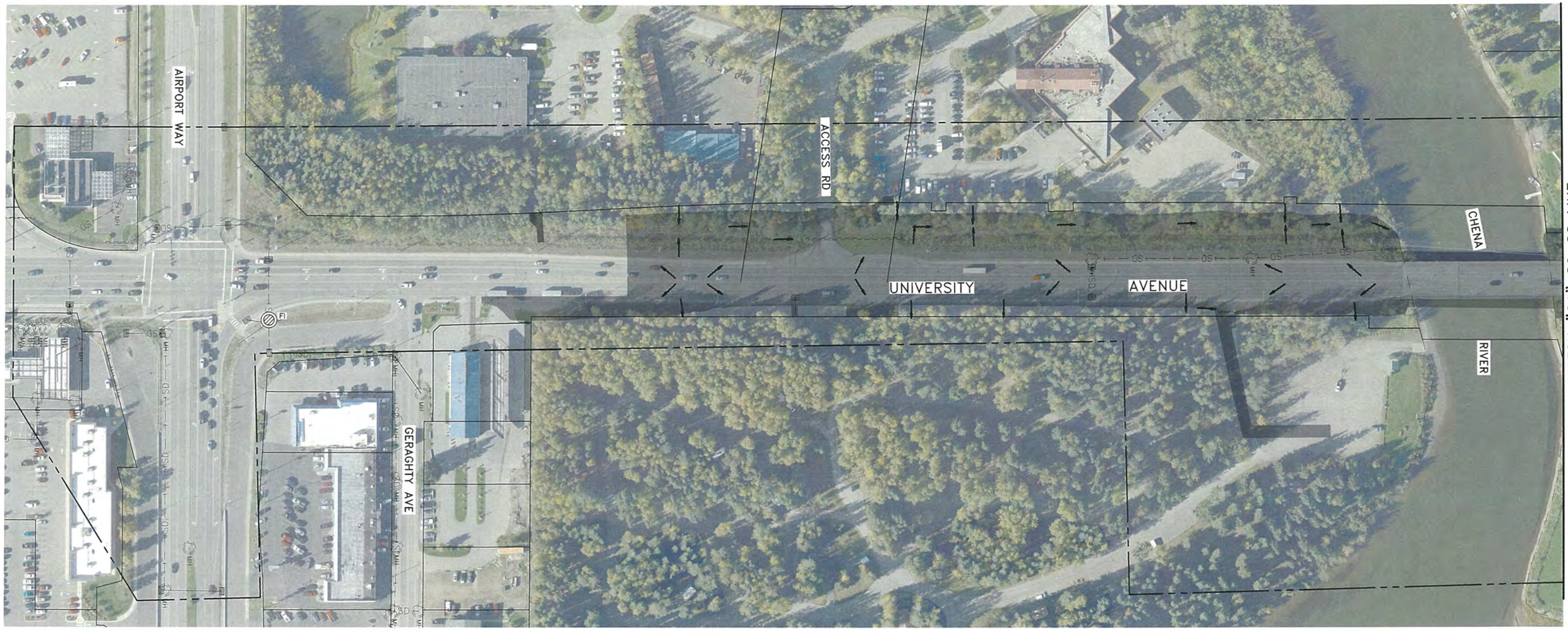
- PARCEL BOUNDARY
- SURFACE WATER FLOW DIRECTION
- CULVERT INLET PROTECTION (SEE BMP 08.00 DOT&PF SWPPP GUIDE)
- VELOCITY DISSIPATOR (RIPRAP CLASS II OR FUNCTIONAL EQUIVALENT)
- WETLANDS
- UPLANDS
- TEMPORARY CHECK DAM (SEE BMP 31.00-33.00 DOT&PF SWPPP GUIDE)
- DITCH LINE
- EXISTING EMBANKMENT CATCHLINE (CUT OR FILL)
- SD — EXISTING STORM DRAIN (FLOW DIRECTION →)
- MH STORM DRAIN MANHOLE
- FI STORM DRAIN FIELD INLET
- STORM DRAIN CATCH BASIN
- CATCH BASIN PROTECTION AREA
- EXISTING CULVERT PIPE
- TEMPORARY CULVERT INLET SEDIMENT TRAP
- APPROXIMATE LIMITS OF EARTH DISTURBANCE

EROSION AND SEDIMENT CONTROL NOTES

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 10\10-C\C4001cnst11147.01FB_10-01 Mon, Aug/05/19 03:05pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	Q2	Q3



80 40 0 80 160 240
SCALE IN FEET

EROSION AND SEDIMENT CONTROL PLAN (1 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C4002cnst111147.01FB_1D-Q2 Mon, Aug/05/19 03:09pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	Q3	Q3

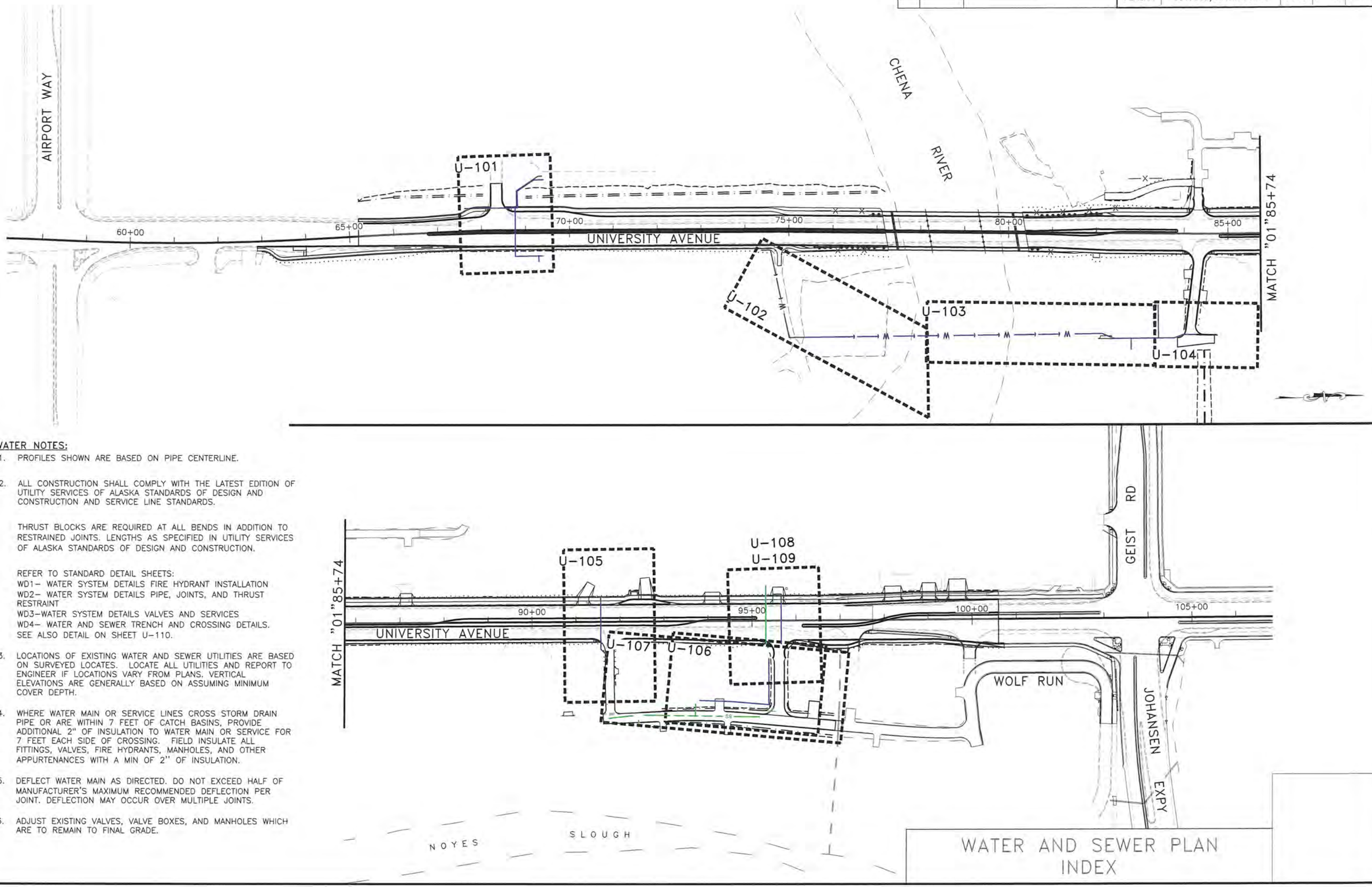
80 40 0 80 160 240
SCALE IN FEET

EROSION AND SEDIMENT CONTROL PLAN (2 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C4002cnst111147.01FB_1D-Q3 Mon, Aug/05/19 03:10pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-100	U-110



WATER NOTES:

1. PROFILES SHOWN ARE BASED ON PIPE CENTERLINE.
2. ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST EDITION OF UTILITY SERVICES OF ALASKA STANDARDS OF DESIGN AND CONSTRUCTION AND SERVICE LINE STANDARDS.

   THRUST BLOCKS ARE REQUIRED AT ALL BENDS IN ADDITION TO RESTRAINED JOINTS. LENGTHS AS SPECIFIED IN UTILITY SERVICES OF ALASKA STANDARDS OF DESIGN AND CONSTRUCTION.

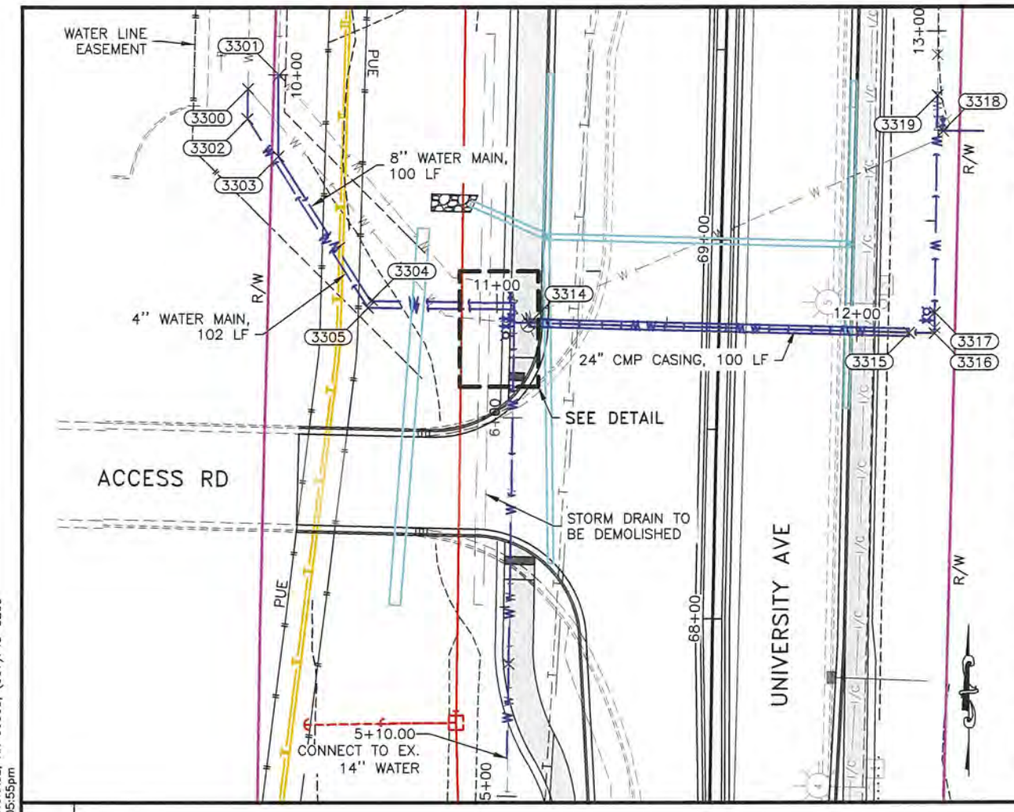
   REFER TO STANDARD DETAIL SHEETS:
   WD1– WATER SYSTEM DETAILS FIRE HYDRANT INSTALLATION
   WD2– WATER SYSTEM DETAILS PIPE, JOINTS, AND THRUST RESTRAINT
   WD3–WATER SYSTEM DETAILS VALVES AND SERVICES
   WD4– WATER AND SEWER TRENCH AND CROSSING DETAILS.
   SEE ALSO DETAIL ON SHEET U-110.
3. LOCATIONS OF EXISTING WATER AND SEWER UTILITIES ARE BASED ON SURVEYED LOCATES. LOCATE ALL UTILITIES AND REPORT TO ENGINEER IF LOCATIONS VARY FROM PLANS. VERTICAL ELEVATIONS ARE GENERALLY BASED ON ASSUMING MINIMUM COVER DEPTH.
4. WHERE WATER MAIN OR SERVICE LINES CROSS STORM DRAIN PIPE OR ARE WITHIN 7 FEET OF CATCH BASINS, PROVIDE ADDITIONAL 2" OF INSULATION TO WATER MAIN OR SERVICE FOR 7 FEET EACH SIDE OF CROSSING. FIELD INSULATE ALL FITTINGS, VALVES, FIRE HYDRANTS, MANHOLES, AND OTHER APPURTENANCES WITH A MIN OF 2" OF INSULATION.
5. DEFLECT WATER MAIN AS DIRECTED. DO NOT EXCEED HALF OF MANUFACTURER'S MAXIMUM RECOMMENDED DEFLECTION PER JOINT. DEFLECTION MAY OCCUR OVER MULTIPLE JOINTS.
6. ADJUST EXISTING VALVES, VALVE BOXES, AND MANHOLES WHICH ARE TO REMAIN TO FINAL GRADE.

WATER AND SEWER PLAN INDEX

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 10\1D-C\C0009cnst11147.01FB_1D-U-100 Water Index Mon, Aug/26/19 03:55pm

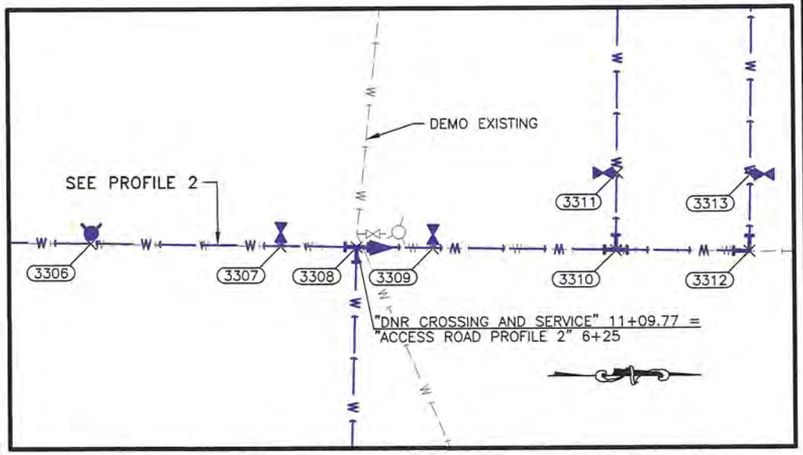
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-101	U-110



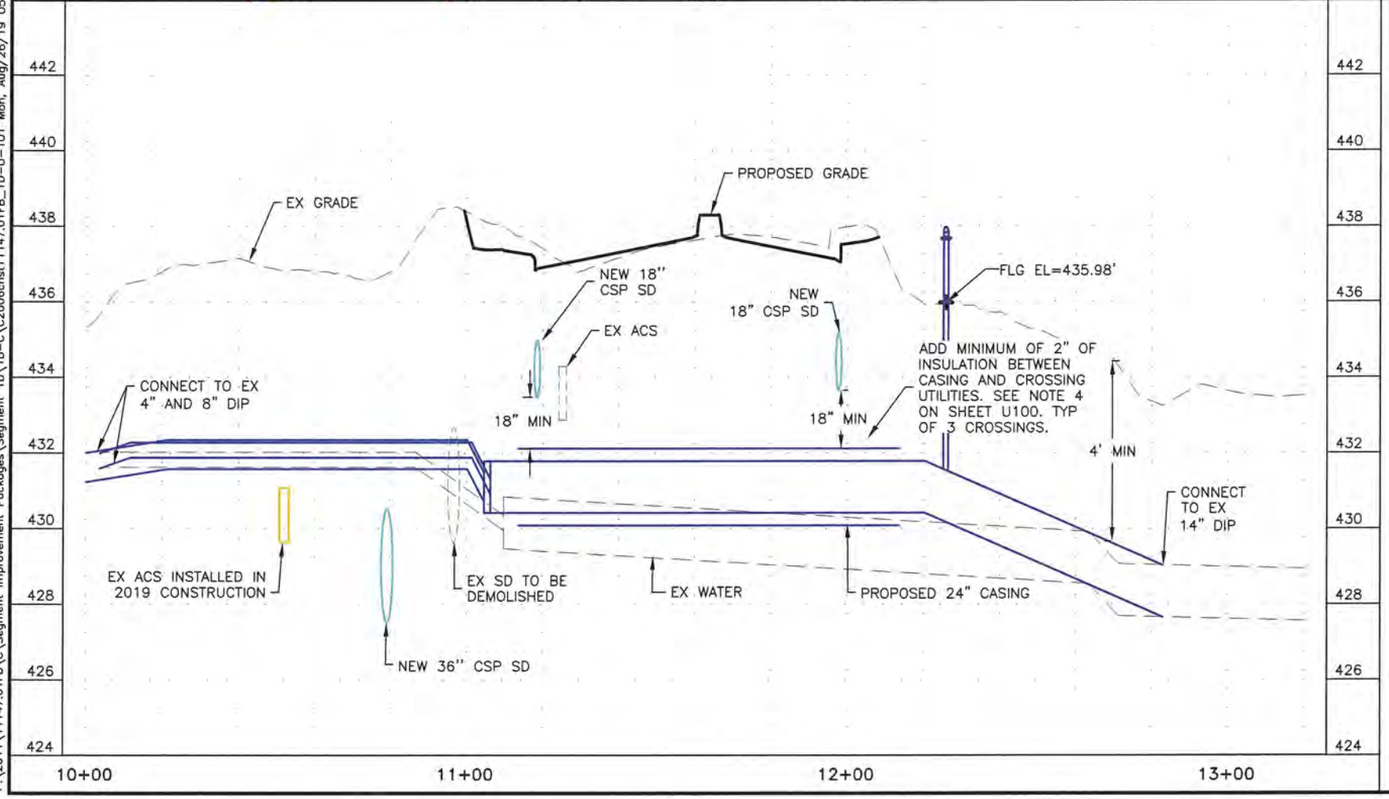
POINT TABLE

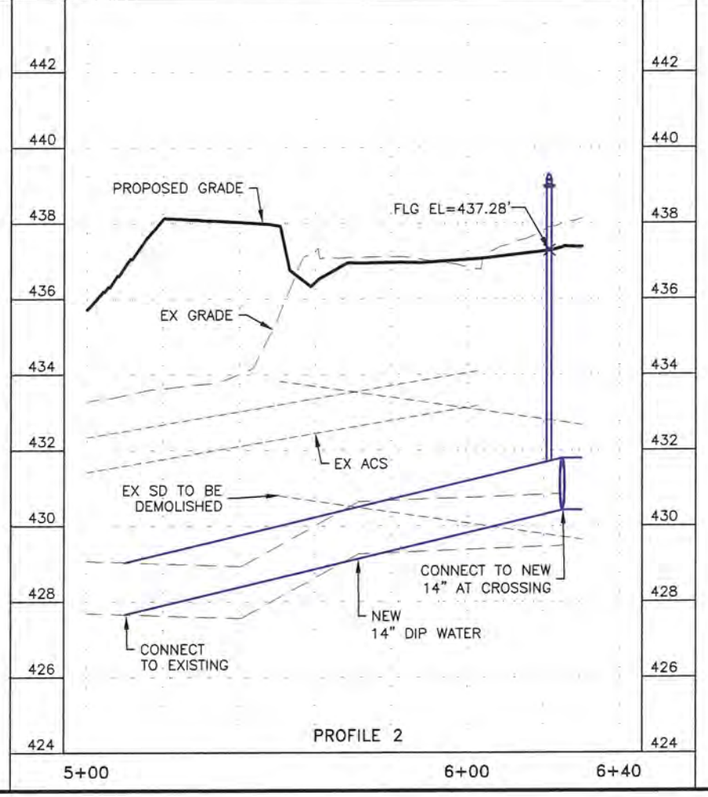
POINT NO.	NORTHING	EASTING	STATION	DESCRIPTION
3300	65677.83	18070.65	10+03.66	CONNECT TO EX 4" WATER
3301	65681.50	18078.87	10+00.00	CONNECT TO EX 8" WATER
3302	65669.92	18070.53	10+11.57	4" 33.75° BEND
3303	65660.06	18078.70	10+21.43	8" 33.75° BEND
3304	65622.16	18103.40	10+67.05	8" 56.25° BEND
3305	65620.14	18102.33	11+06.38	4" 56.25° BEND
3306	65612.68	18140.81	11+09.80	HYDRANT
3307	65615.18	18140.85	11+09.78	14" GV
3308	65616.18	18140.87	11+09.77	14" TEE WITH 14"X8" REDUCER
3309	65617.18	18140.89	11+08.77	8" GV
3310	65619.59	18140.92	11+06.35	8"X4" TEE
3311	65619.61	18139.91	11+06.35	4" GV
3312	65621.34	18140.94	12+27.31	8" 90° BEND
3313	65621.36	18139.94	11+03.60	8" GV
3314	65616.07	18144.86	11+13.76	WEST END OF CASING
3315	65613.42	18244.82	12+13.76	EAST END OF CASING
3316	65613.24	18251.47	12+20.41	14" 90° BEND
3317	65618.76	18251.58	12+25.94	FIRE HYDRANT
3318	65666.55	18253.88	12+73.75	4" GV AND DIP SERVICE TO VAULT
3319	65675.89	18252.49	12+83.07	CONNECT TO EX



DETAIL: BLM 4'' AND 8'' WATER MAIN CONNECTION

WATER AND SEWER PLAN AND PROFILE (1 OF 9)





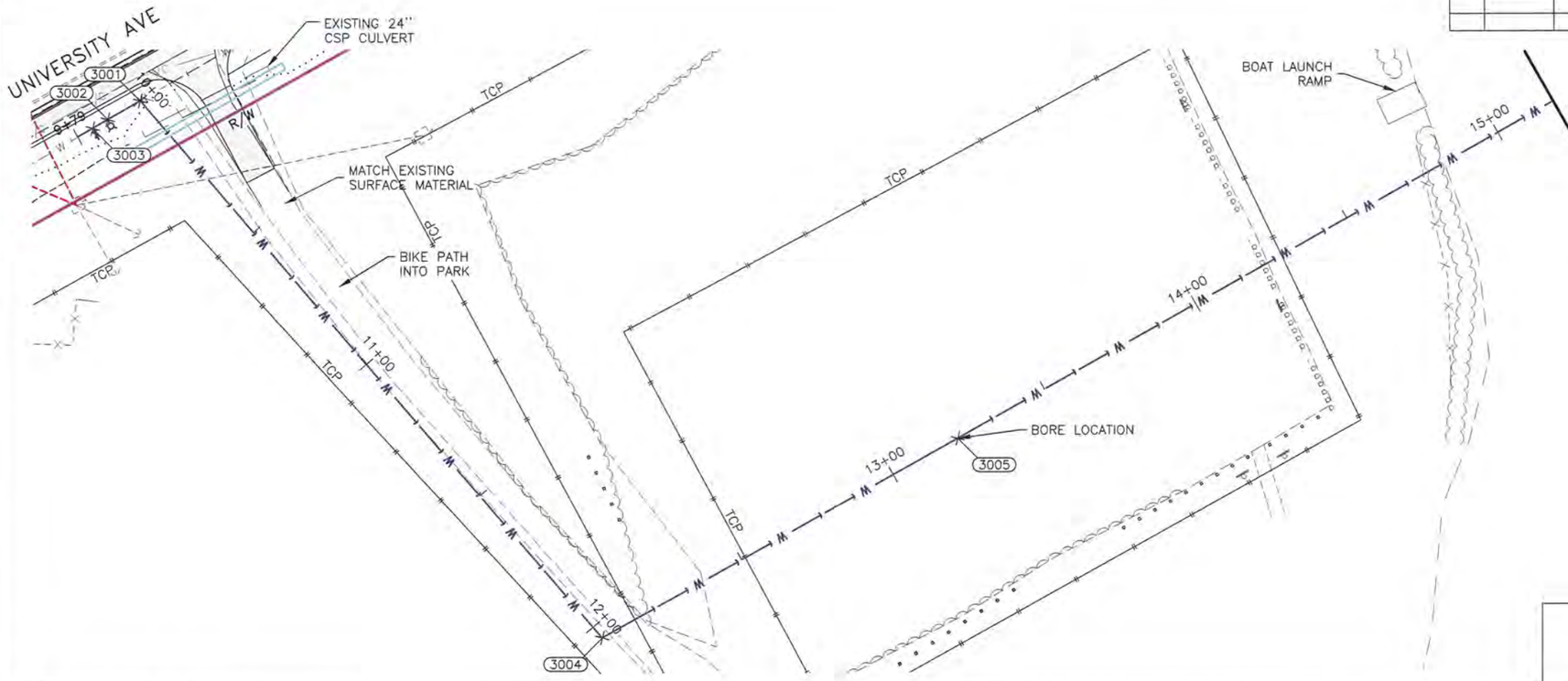
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C2006cnst11147.01FB_1D-U-101 Mon, Aug/26/19 05:55pm

NO.	DATE	REVISION

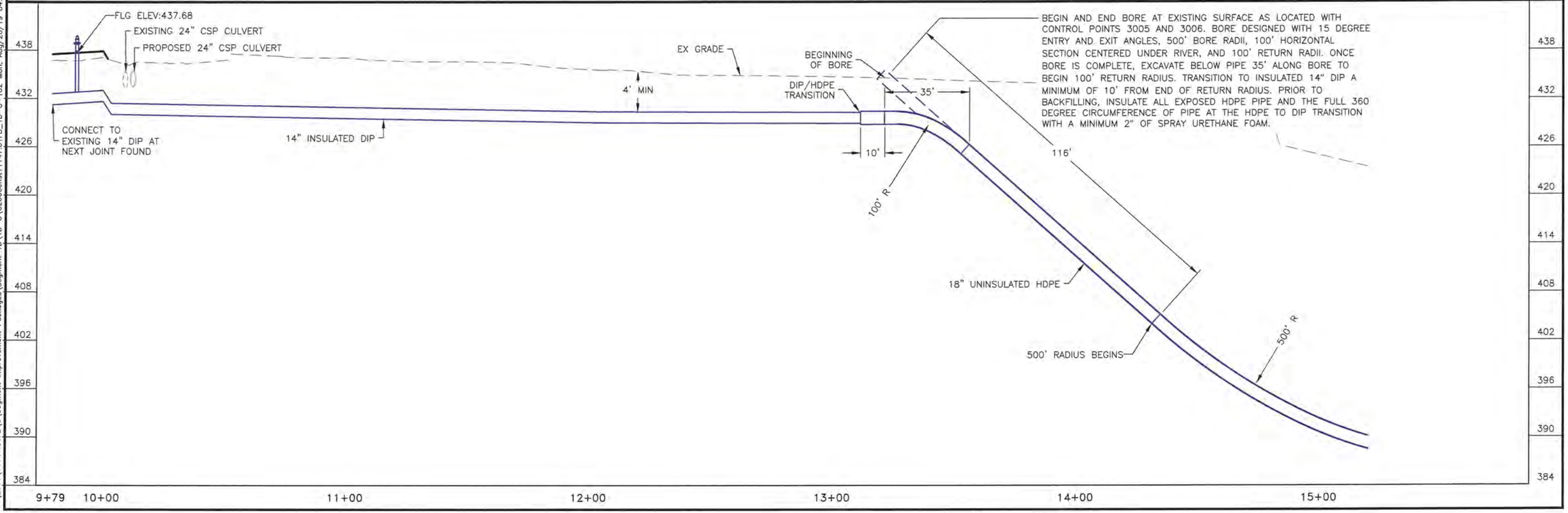
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-102	U-110

POINT TABLE

POINT NO.	NORTHING	EASTING	STATION	DESCRIPTION
3001	66194.63	18255.75	10+00.02	78.75° BEND (90 – 11.25)
3002	66183.84	18255.66	9+89.22	FIRE HYDRANT TEE
3003	66178.84	18255.63	9+84.22	14" BUTTERFLY VALVE
3004	66230.29	18456.71	12+04.12	78.75° BEND (90 – 11.25)
3005	66347.44	18459.13	13+21.30	BORE LOCATION

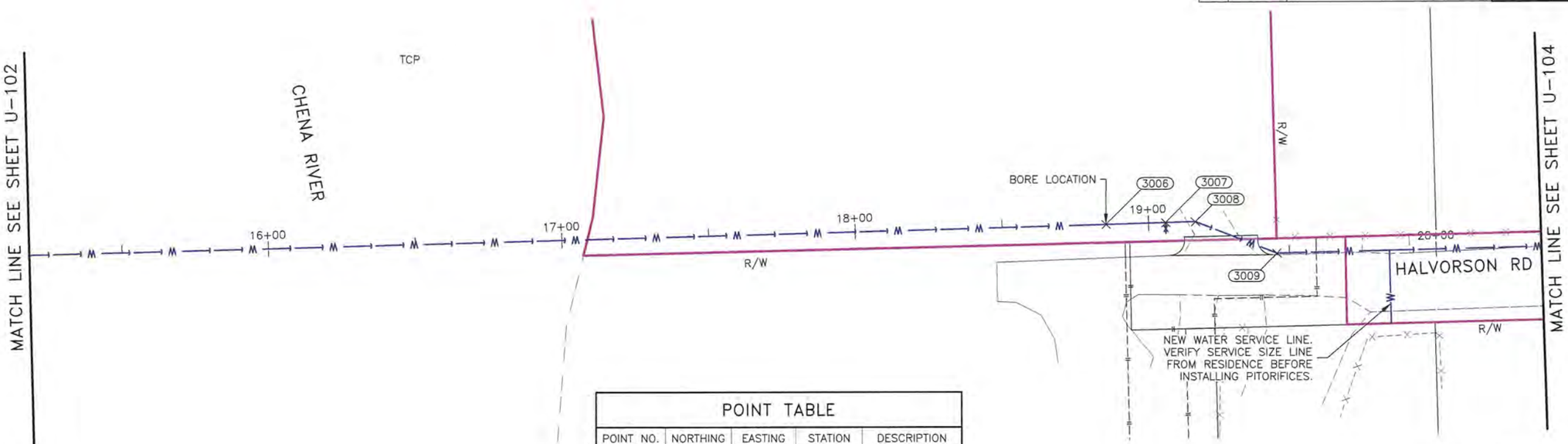


WATER AND SEWER PLAN AND PROFILE (2 OF 9)



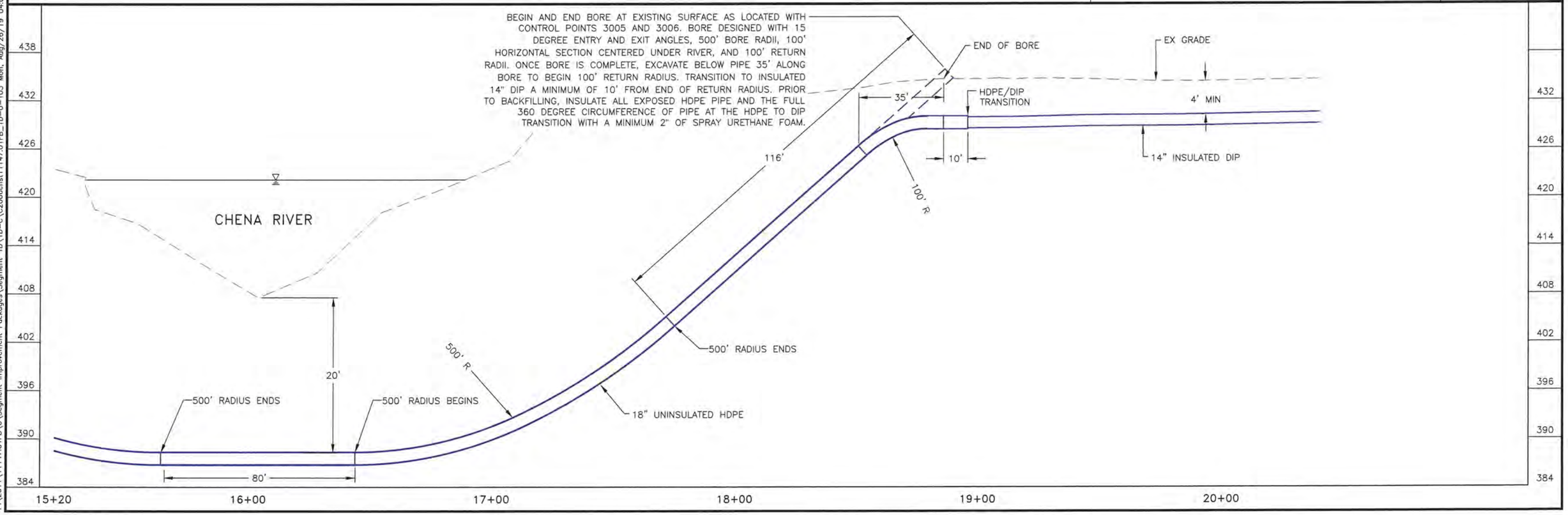
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-103	U-110



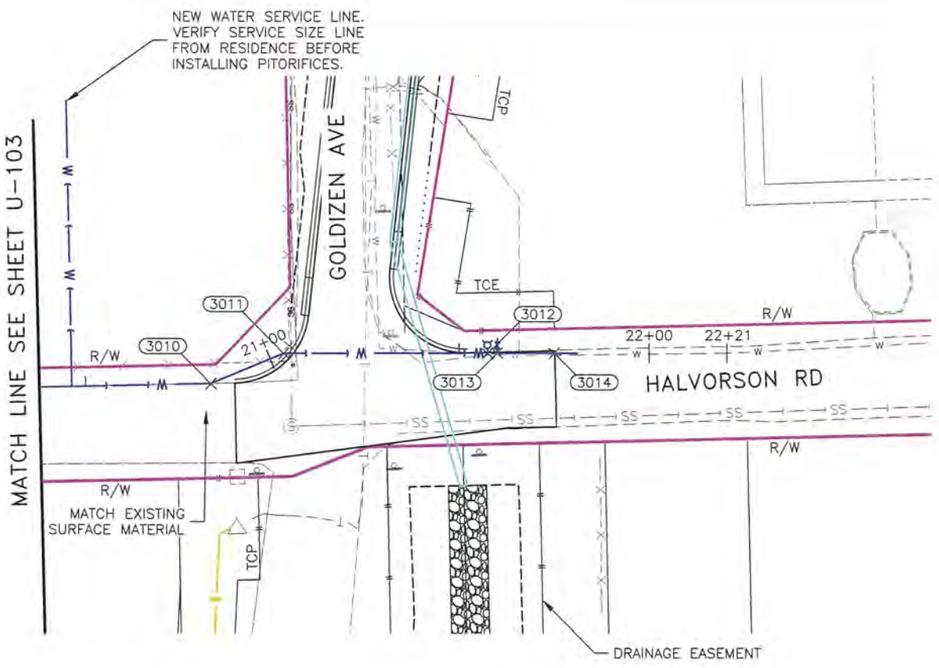
POINT TABLE				
POINT NO.	NORTHING	EASTING	STATION	DESCRIPTION
3006	66911.55	18470.81	18+85.53	BORE LOCATION
3007	66931.86	18471.23	19+05.84	14" BV
3008	66941.92	18471.44	19+15.91	22.5° BEND
3009	66969.22	18483.58	19+45.78	22.5° BEND

WATER AND SEWER PLAN AND PROFILE (3 OF 9)



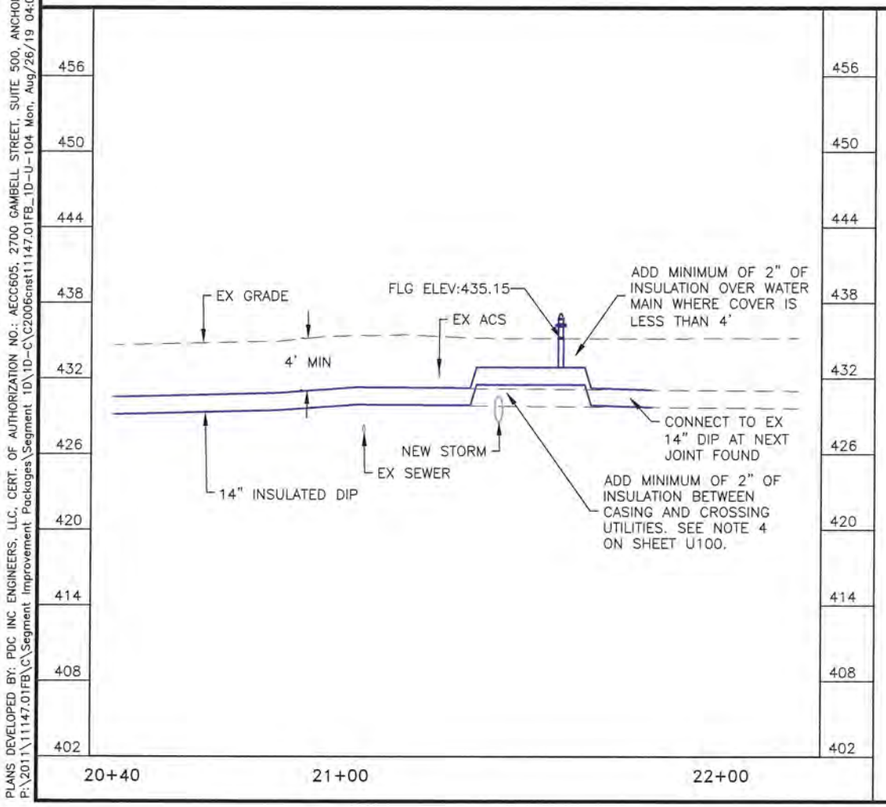
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-104	U-110



POINT TABLE

POINT NO.	NORTHING	EASTING	STATION	DESCRIPTION
3010	67106.39	18487.09	20+82.99	22.5° BEND
3011	67125.97	18480.03	21+03.81	22.5° BEND
3012	67179.60	18482.54	21+57.49	FIRE HYDRANT TEE
3013	67182.10	18482.66	21+59.99	14" BUTTERFLY VALVE
3014	67197.09	18483.36	21+75.00	TIE IN TO EX 14" DIP

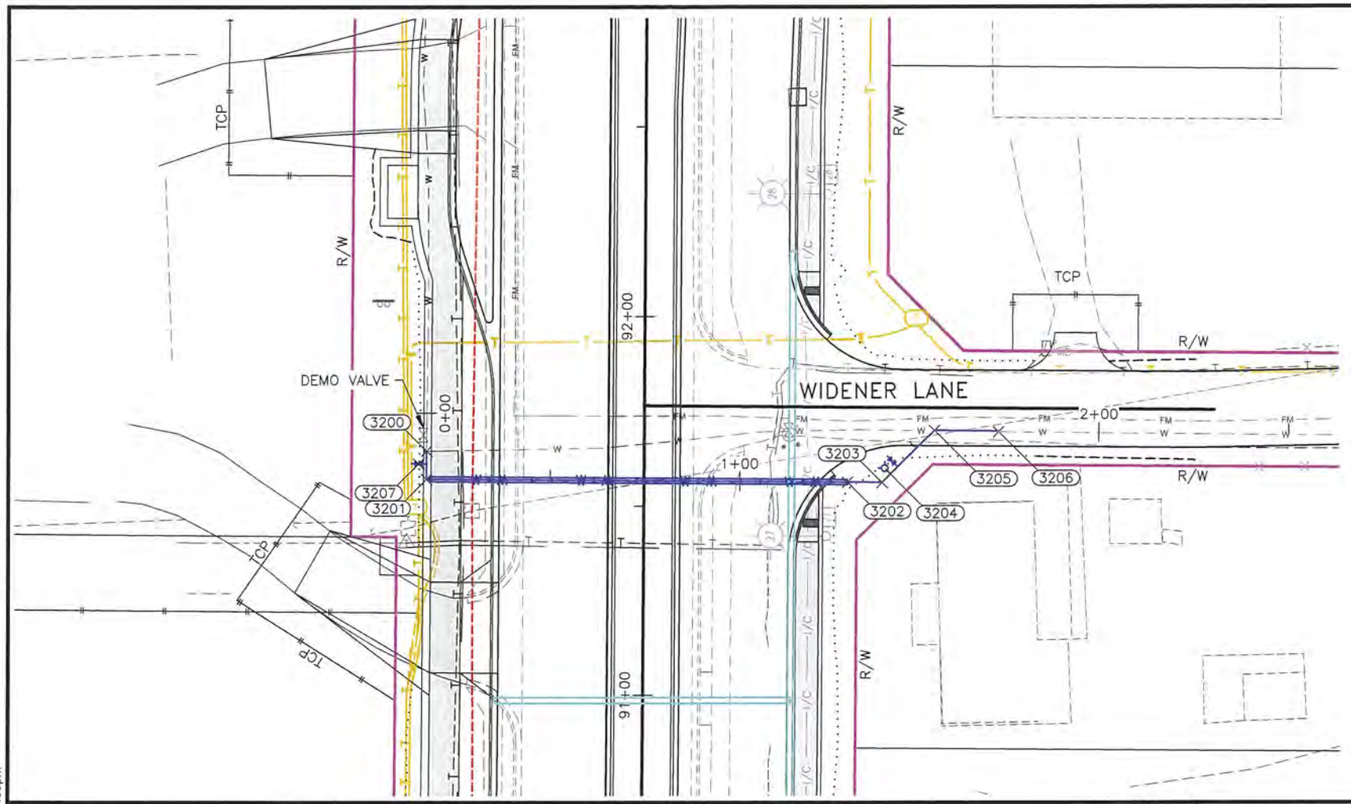


WATER AND SEWER PLAN AND PROFILE (4 OF 9)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\1147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C2006cnst11147.01FB_1D-U-104 Mon, Aug/26/19 04:04pm

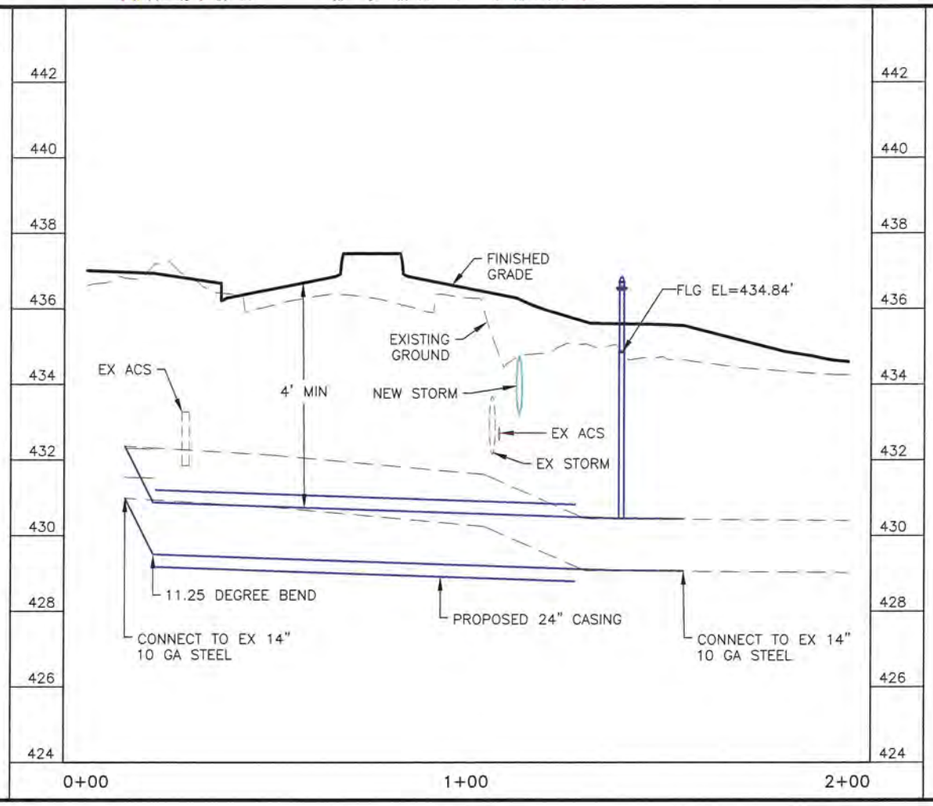
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-105	U-110

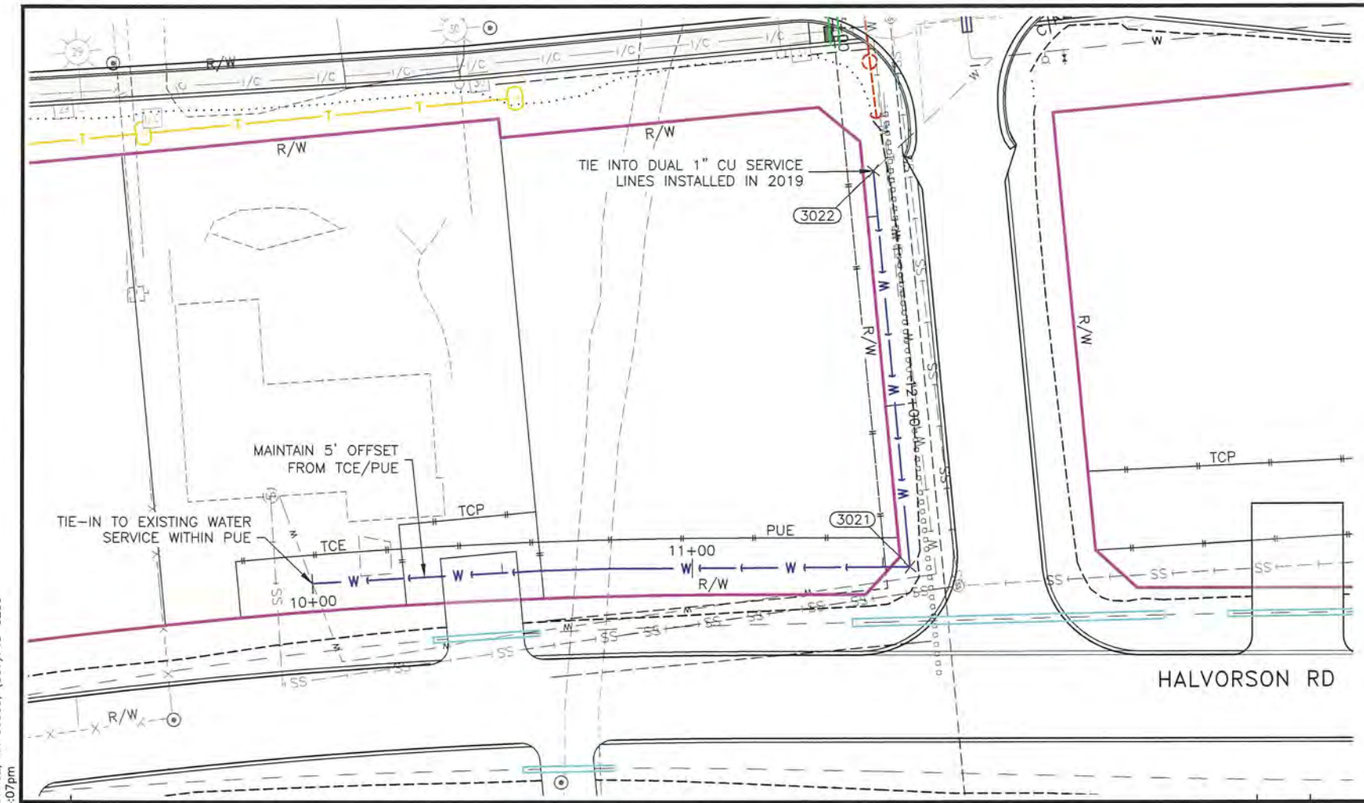


POINT TABLE				
POINT NO.	NORTHING	EASTING	STATION	DESCRIPTION
3200	67902.29	18212.71	0+10.01	TIE-IN TO EX
3201	67894.83	18212.52	0+17.47	90° BEND / WEST END OF CASING
3202	67892.06	18323.24	1+28.23	EAST END OF CASING
3203	67891.83	18332.30	1+37.29	45 DEGREE BEND
3204	67894.01	18334.59	1+40.44	HYDRANT & 14" BV
3205	67905.25	18346.41	1+56.77	45 DEGREE BEND
3206	67904.60	18363.32	1+73.69	TIE-IN TO EX
3207	67898.95	18210.52	0+13.41	14" BUTTERFLY VALVE

WATER AND SEWER PLAN AND PROFILE (5 OF 9)



PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C2006cnst111147.01FB_1D-U-105 Mon, Aug/26/19 04:05pm



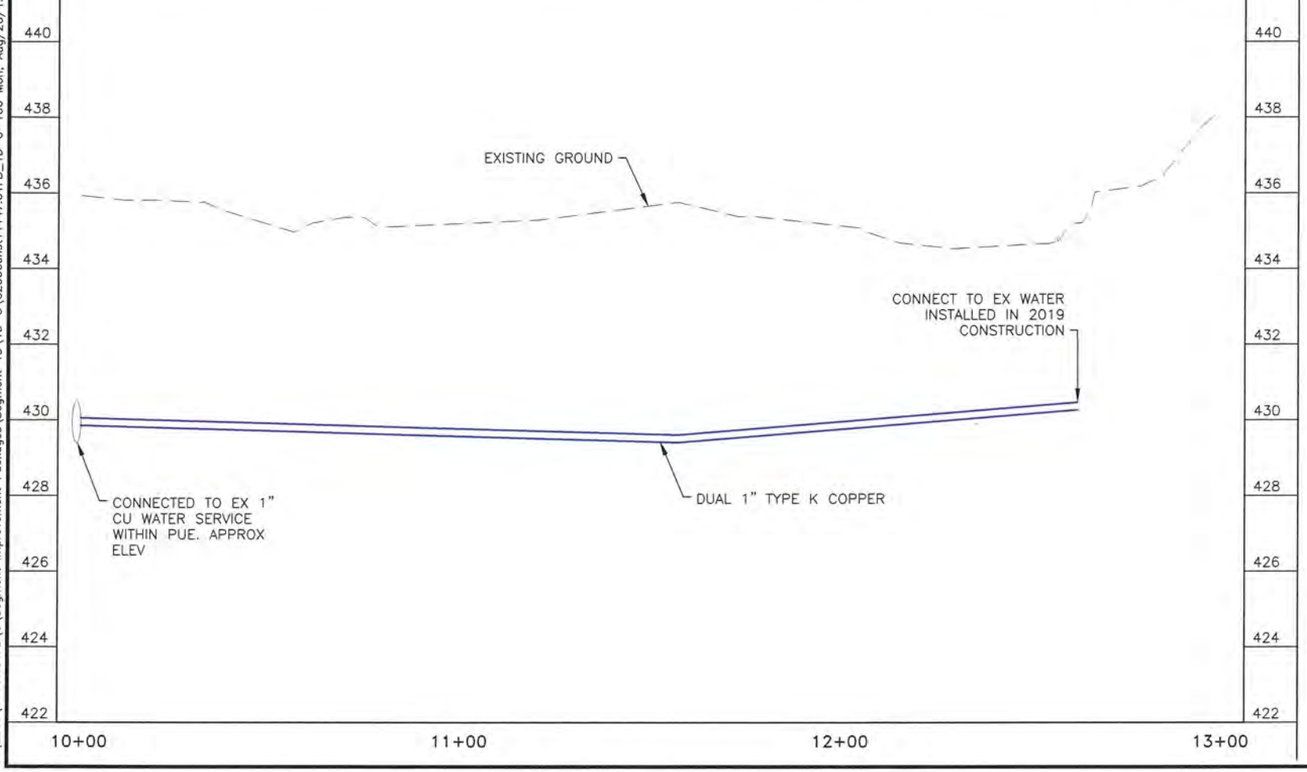
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-106	U-110

POINT TABLE

POINT NO.	NORTHING	EASTING	STATION	DESCRIPTION
3021	68270.00	18470.99	11+57.13	90° BEND
3022	68273.06	18366.20	12+61.97	TIE-IN TO EX

WATER AND SEWER PLAN AND PROFILE (6 OF 9)



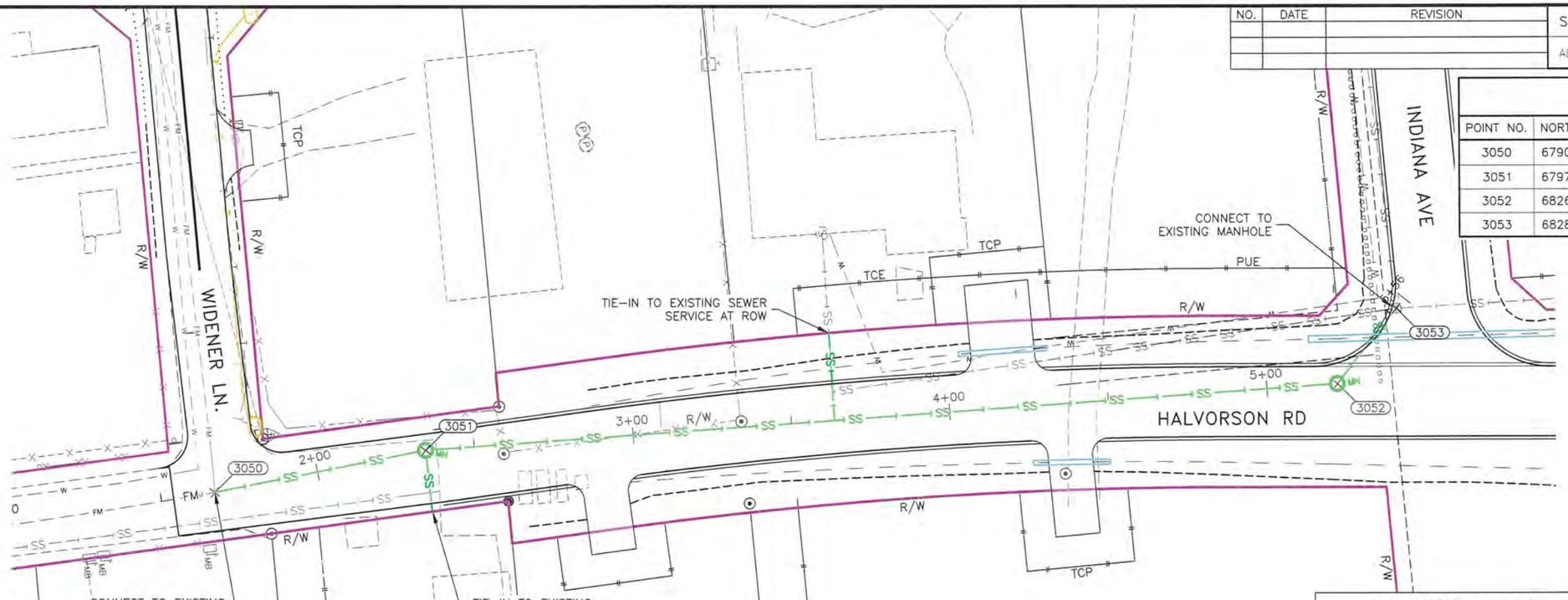
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C2006cnst11147.01FB_1D-U-106 Mon, Aug/26/19 04:07pm

NO.	DATE	REVISION

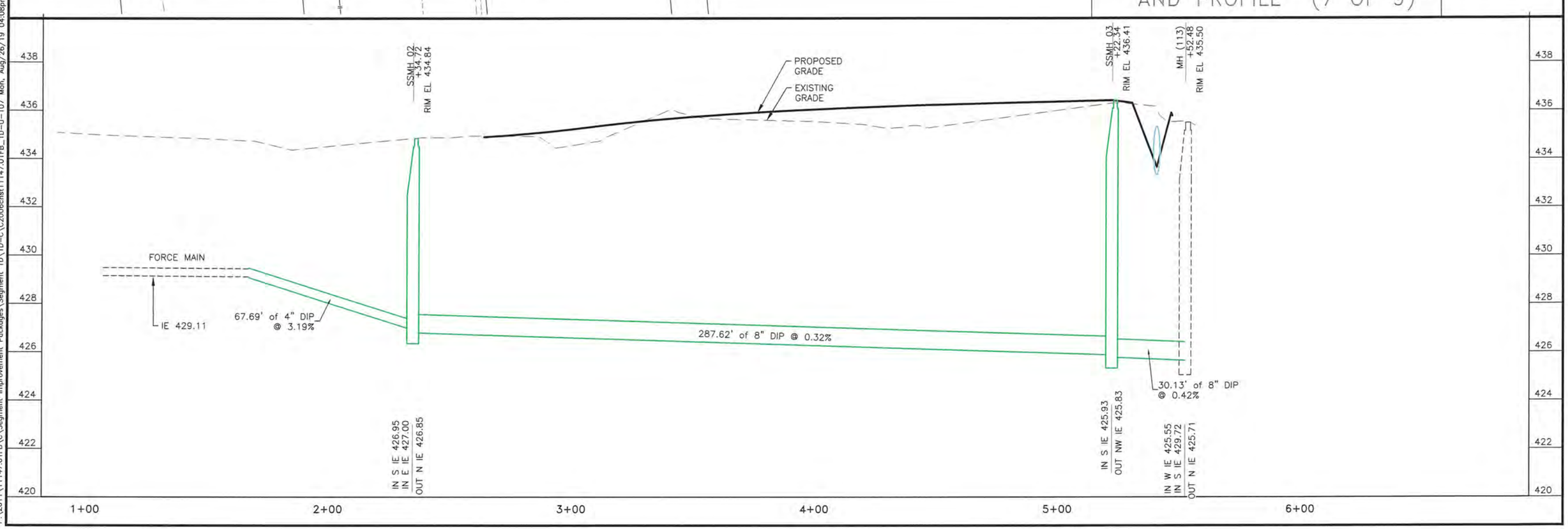
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-107	U-110

POINT TABLE

POINT NO.	NORTHING	EASTING	STATION	DESCRIPTION
3050	67905.89	18490.56	0+00.00	CONNECT TO EX TO 4" DIP
3051	67973.37	18485.26	0+67.69	SSMH 02
3052	68260.68	18498.77	3+54.56	SSMH 03
3053	68281.98	18477.46	3+76.40	CONNECT TO EX MH



WATER AND SEWER PLAN AND PROFILE (7 OF 9)



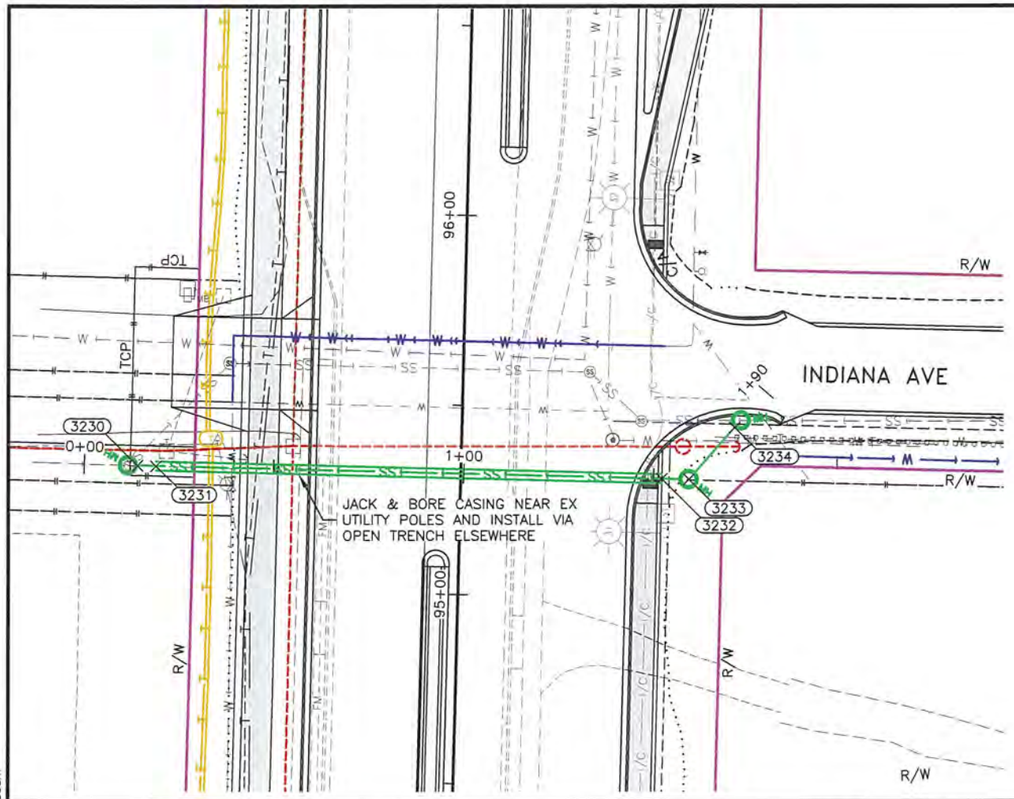
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C2006cnst111147.01FB_1D-U-107 Mon, Aug/26/19 04:08pm

NO.	DATE	REVISION

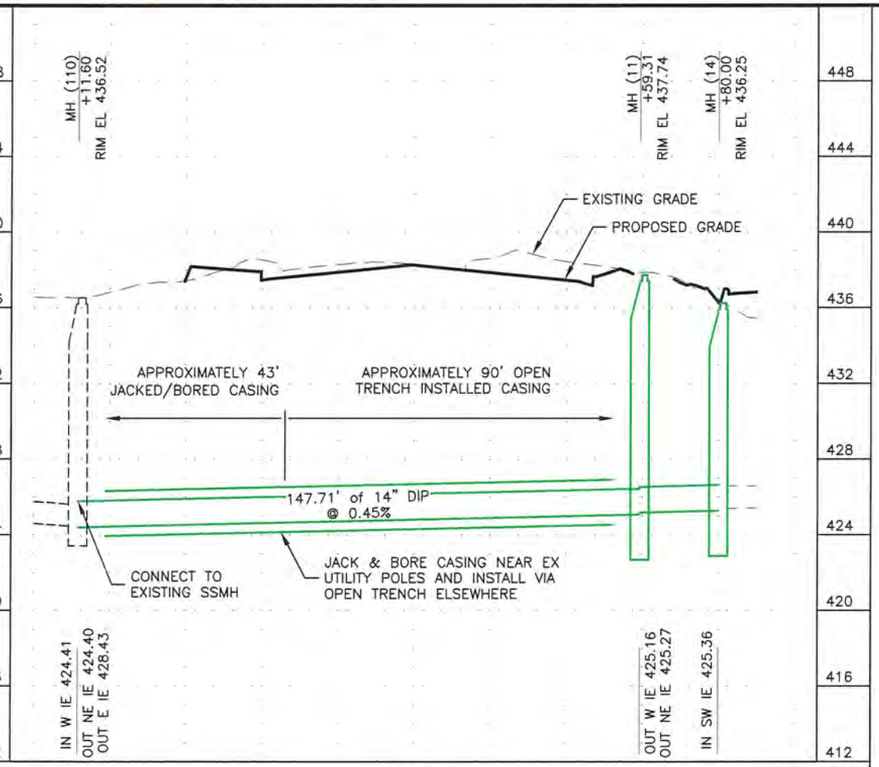
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-108	U-110

POINT TABLE

POINT NO.	NORTHING	EASTING	STATION	DESCRIPTION
3230	68270.72	18194.00	0+14.08	EX SSMH
3231	68270.60	18198.94	0+19.01	WEST END OF CASING
3232	68267.19	18332.08	1+52.20	EAST END OF CASING
3233	68267.01	18339.19	1+59.31	NEW SSMH
3234	68280.64	18351.26	1+77.52	NEW SSMH



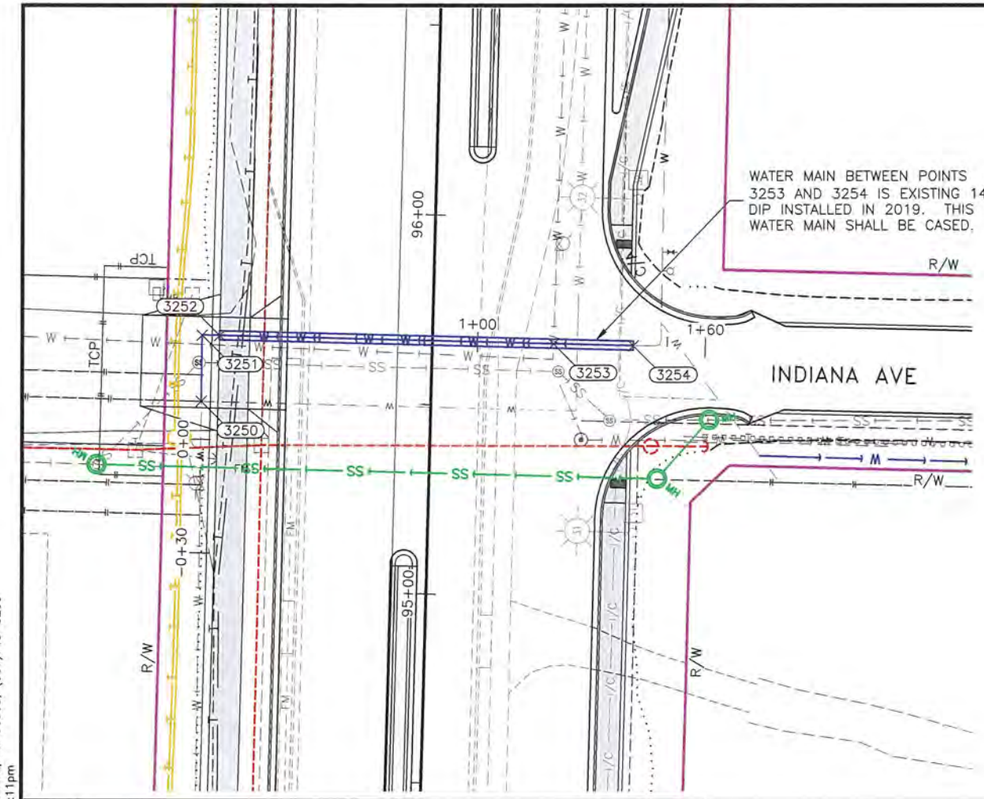
WATER AND SEWER PLAN AND PROFILE (8 OF 9)



PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C2006cnst11147.01FB_1D-U-108 Tue, Aug/27/19 11:50am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-109	U-110

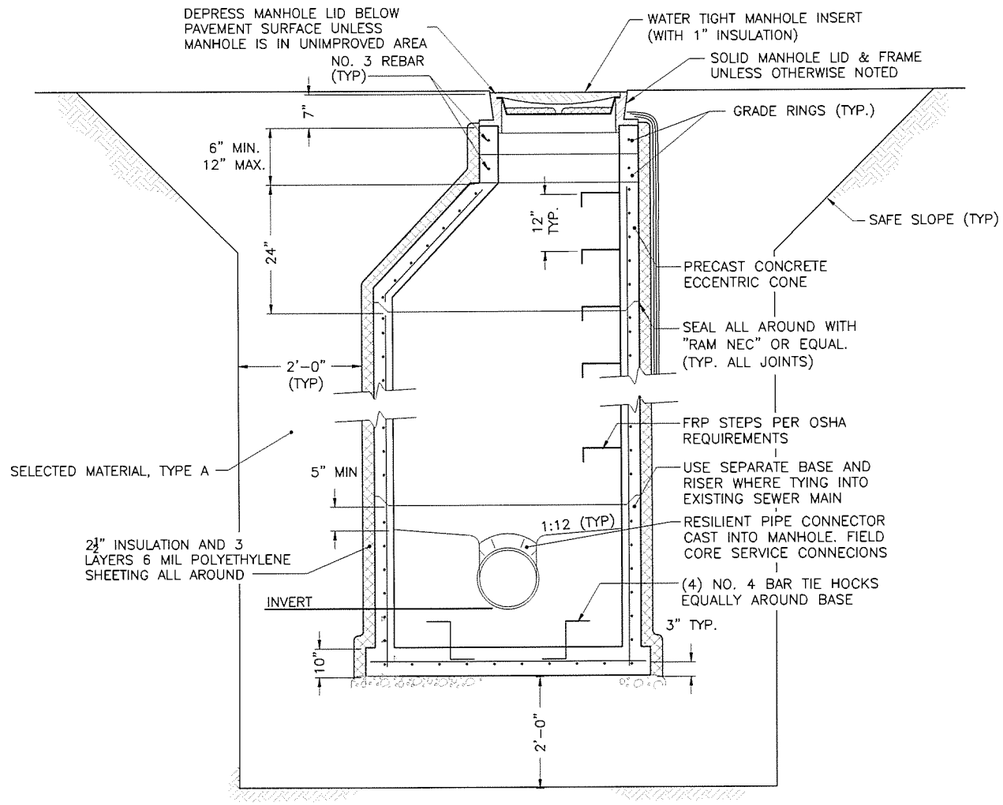


POINT TABLE				
POINT NO.	NORTHING	EASTING	STATION	DESCRIPTION
3250	68287.46	18219.14	0+10.00	TIE-IN TO EX 14" STEEL
3251	68304.94	18219.37	0+27.48	90 DEGREE BEND
3252	68304.83	18223.98	0+32.09	WEST END OF CMP CASING
3253	68302.63	18311.92	1+20.05	TIE-IN TO EX 14" DIP
3254	68302.11	18332.95	1+41.09	EAST END OF CMP CASING

WATER AND SEWER PLAN AND PROFILE (9 OF 9)

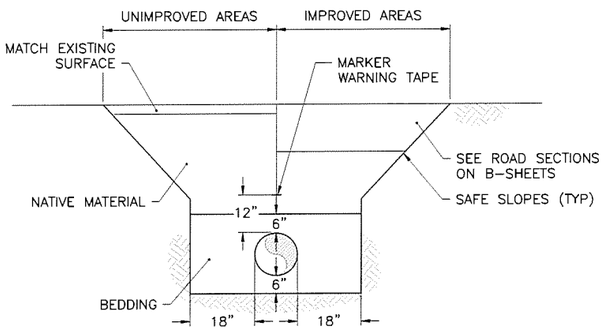
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C2006cnst11147.01FB_1D-U-109 Mon, Aug/26/19 04:11pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	U-110	U-110



MANHOLE DETAIL

NTS

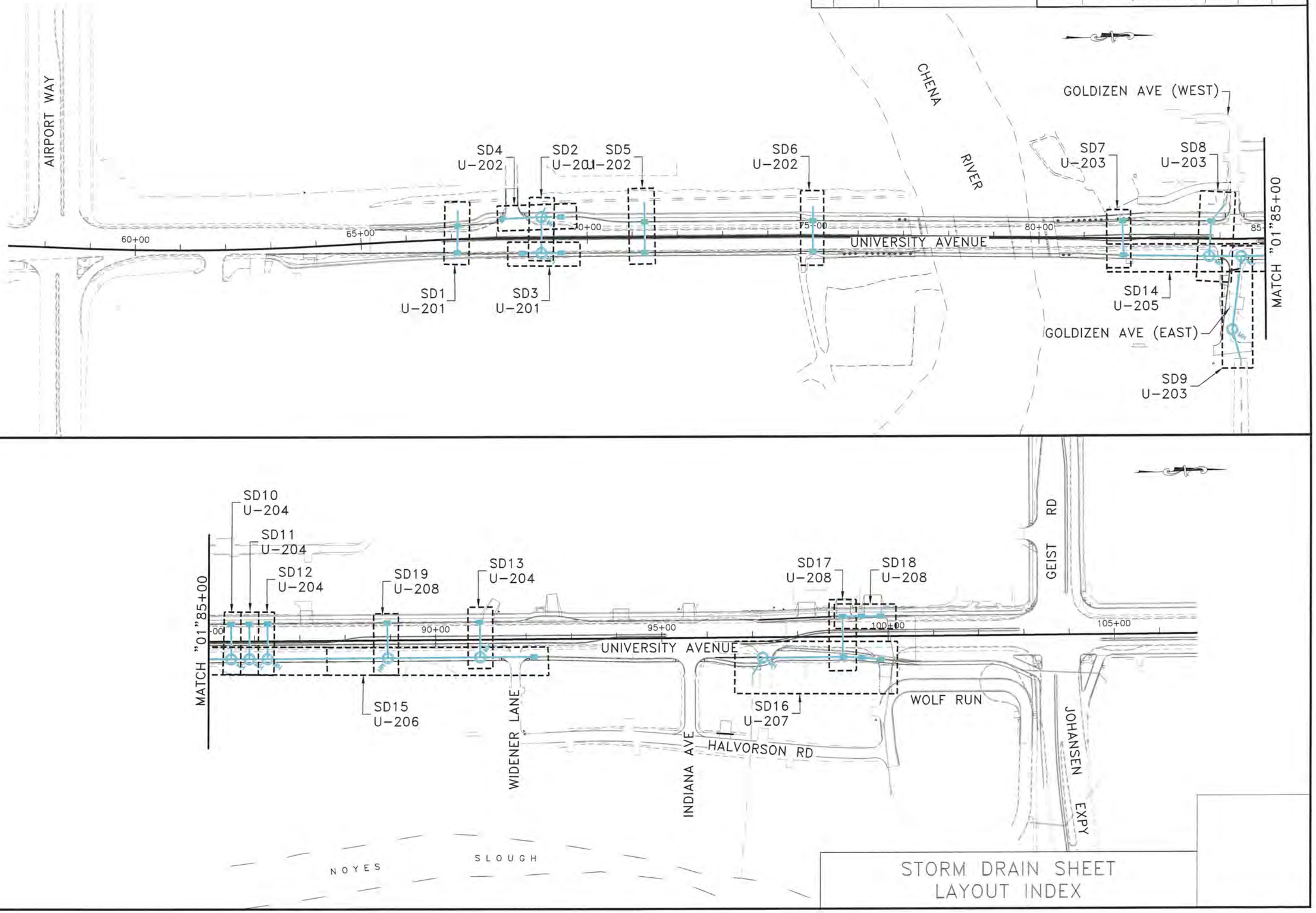


TYPICAL TRENCH SECTION

WATER AND SEWER DETAILS

NO.	DATE	REVISION

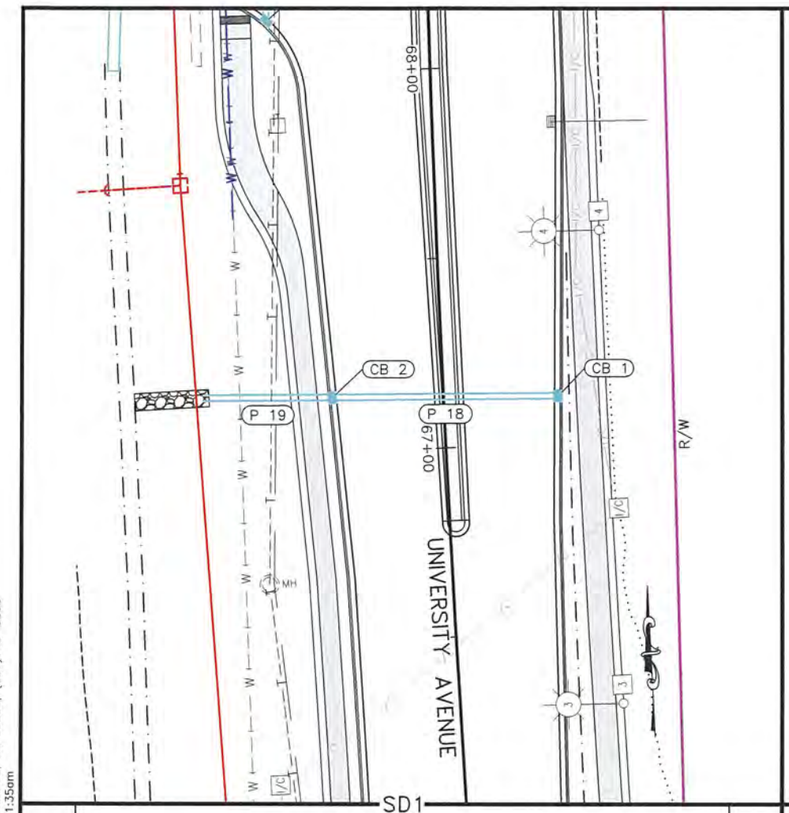
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-200	U-209



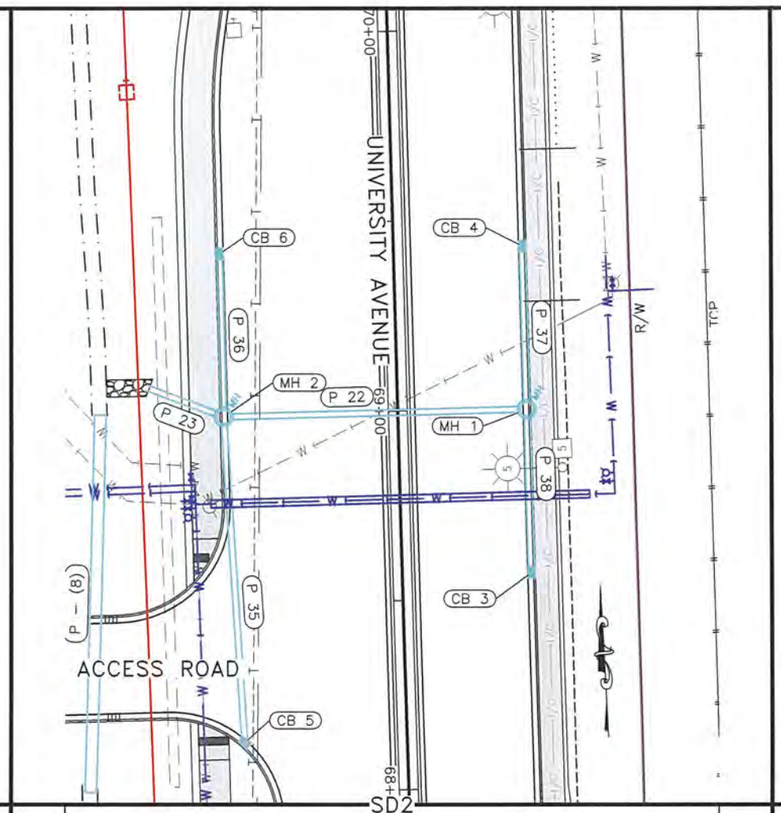
STORM DRAIN SHEET LAYOUT INDEX

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0010cnst11147.01FB_1D-U12 Storm Plan Index Tue, Aug/27/19 11:30am

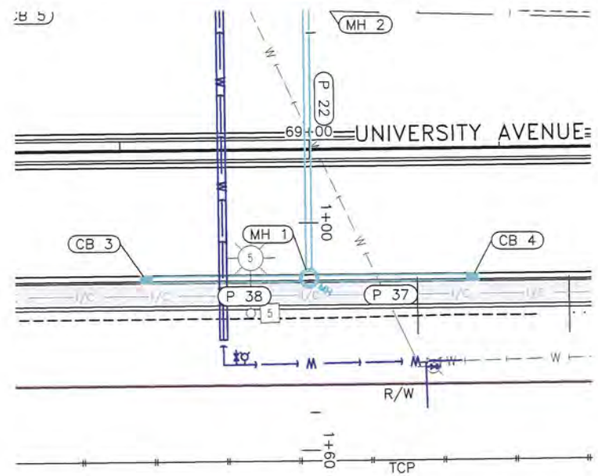
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	U-201	U-209



SD1

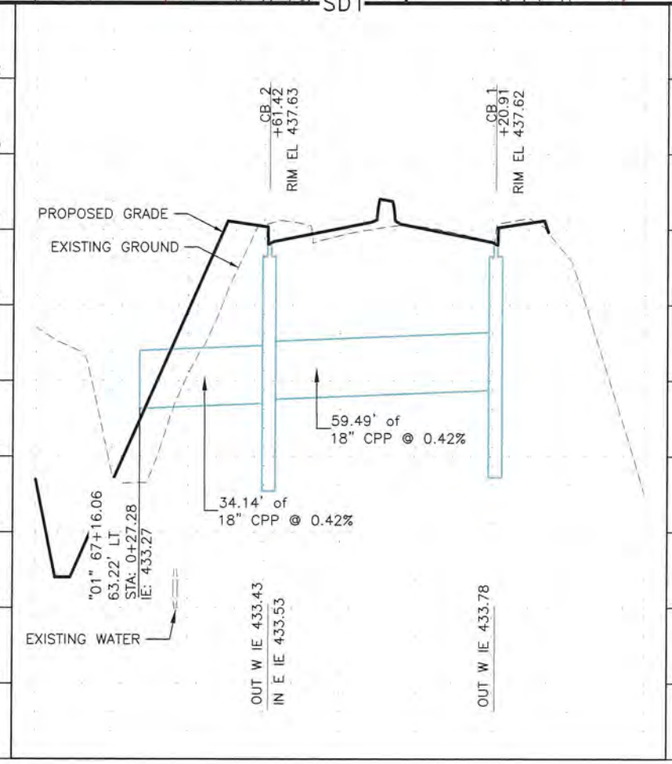


SD2



SD3

STORM DRAIN PLAN AND PROFILE (1 OF 8)



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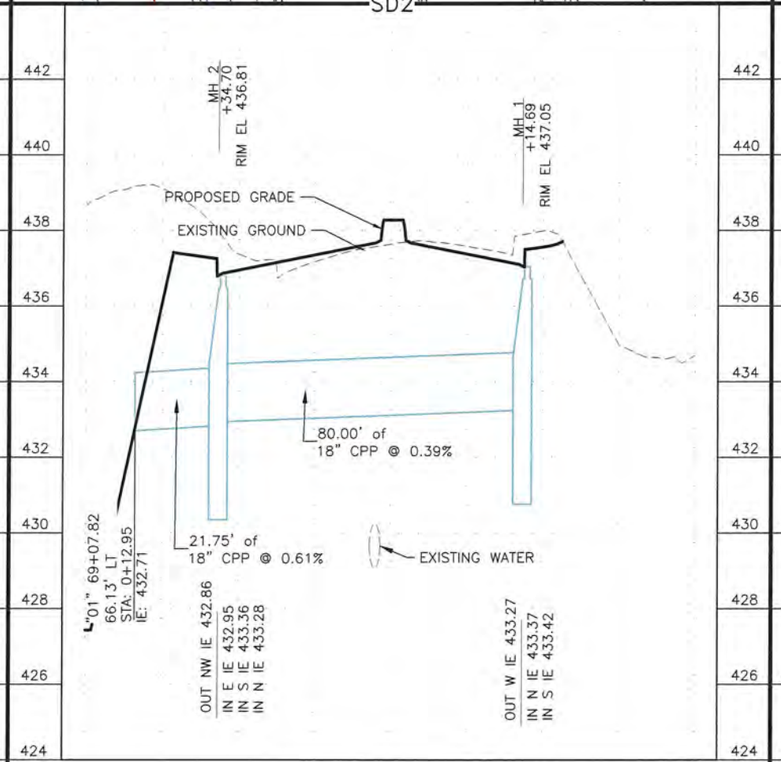

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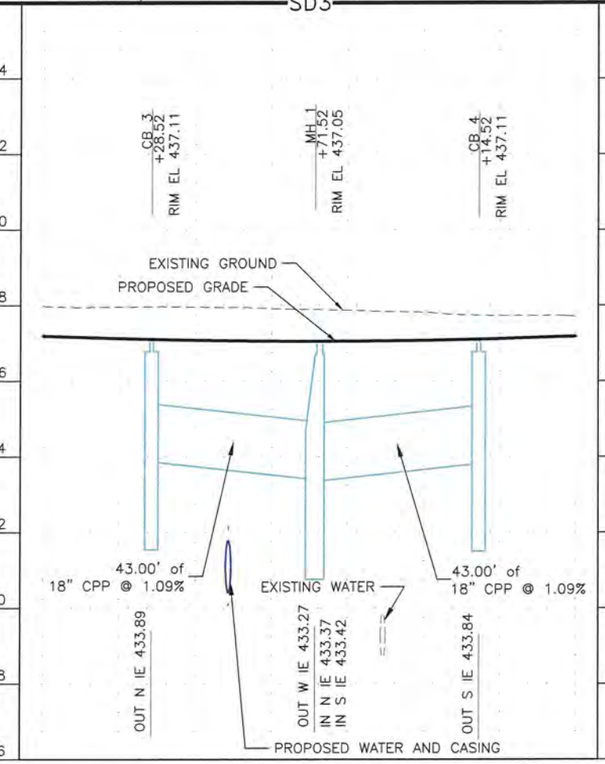
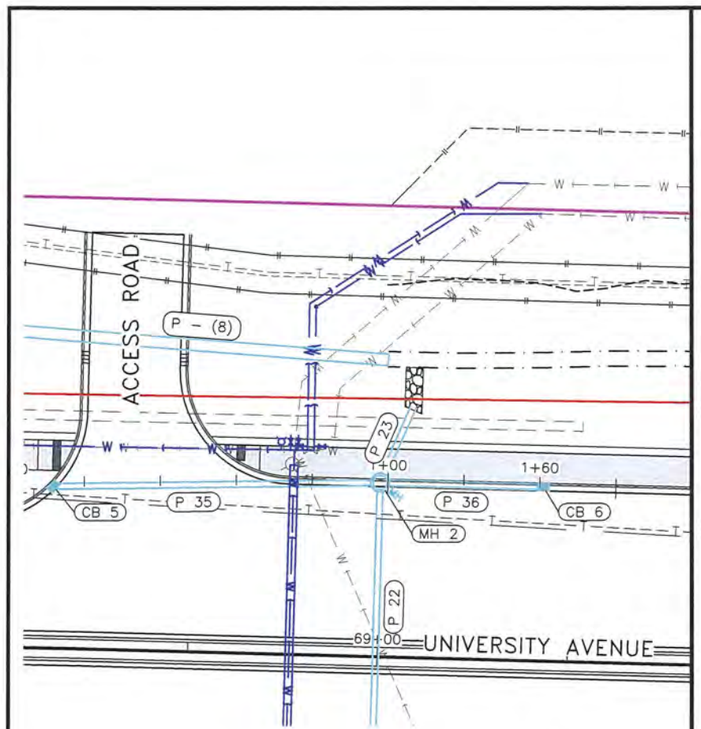


SD3

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-202	U-209



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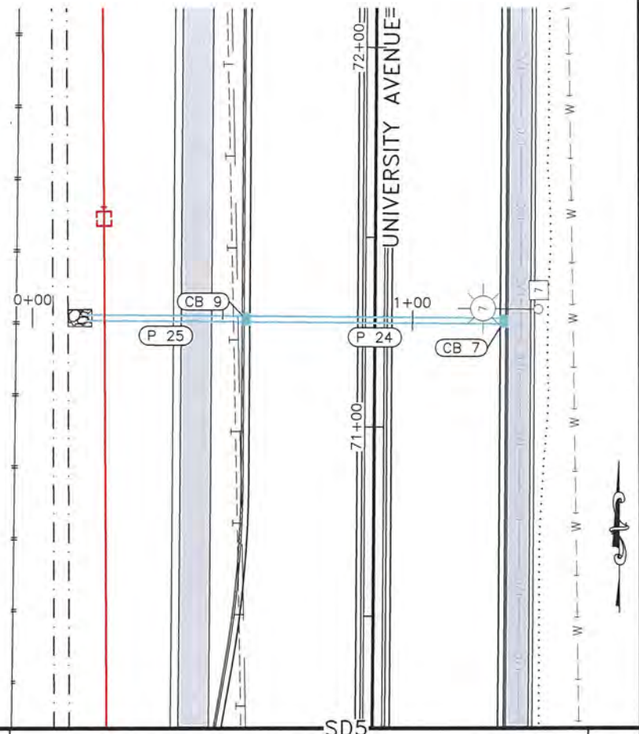
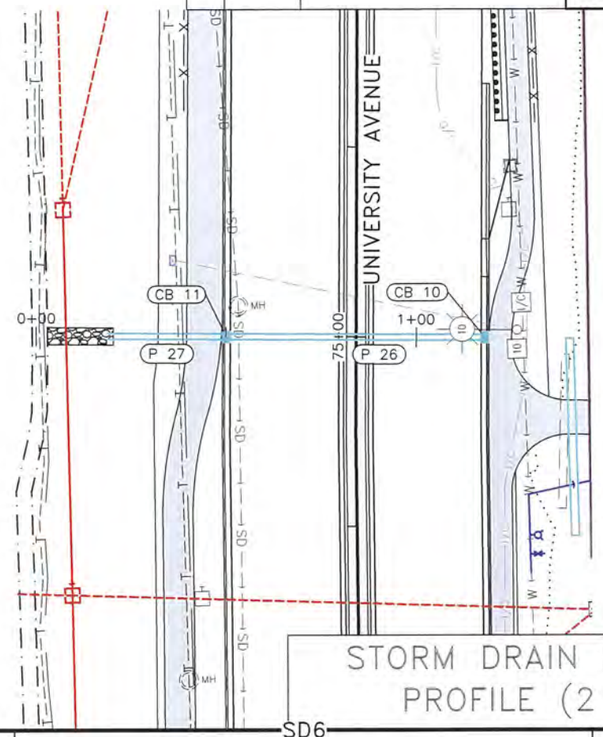
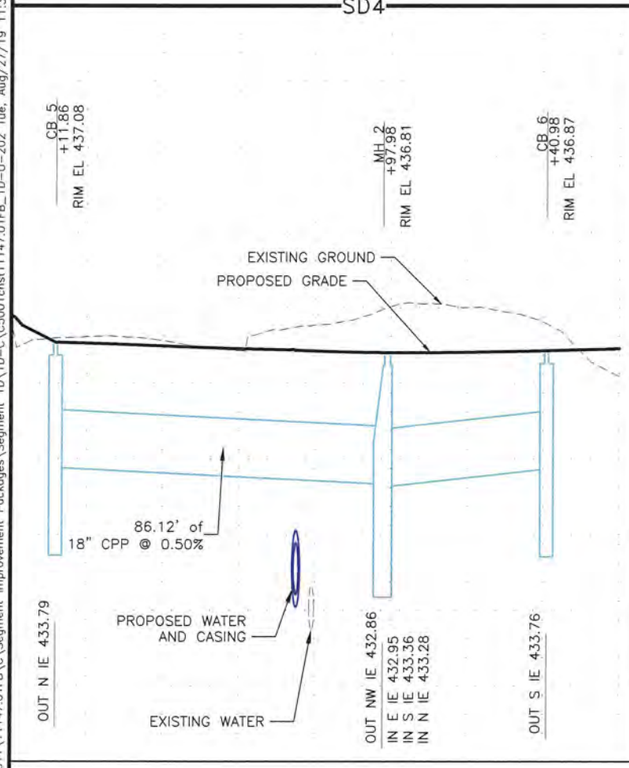


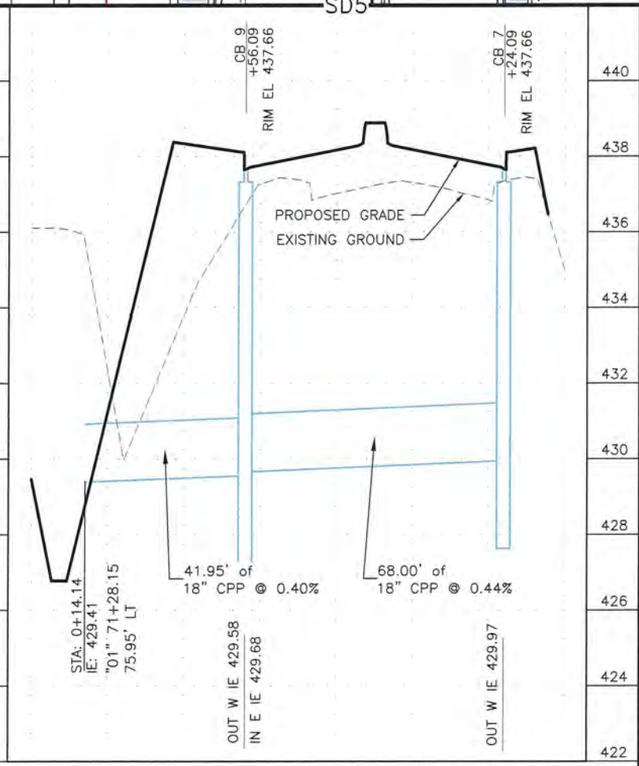
SD5

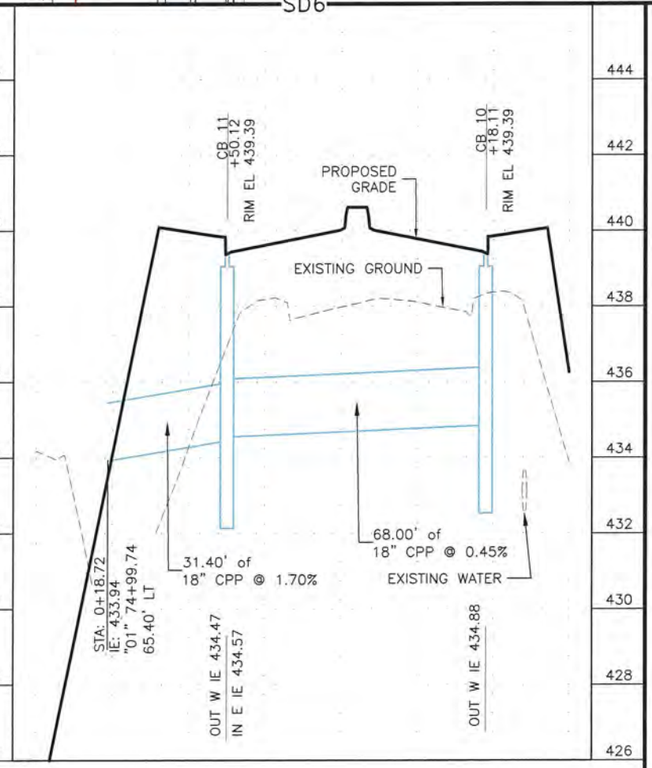


SD6

STORM DRAIN PLAN AND PROFILE (2 OF 8)

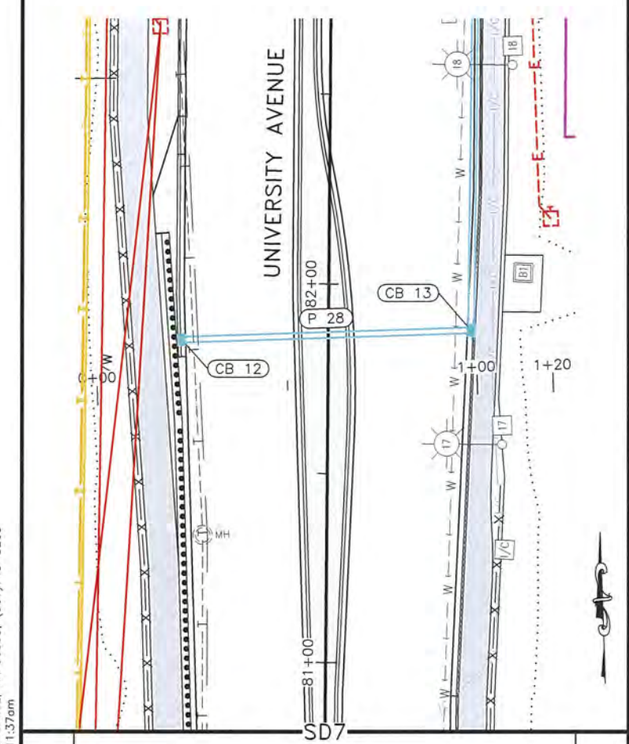




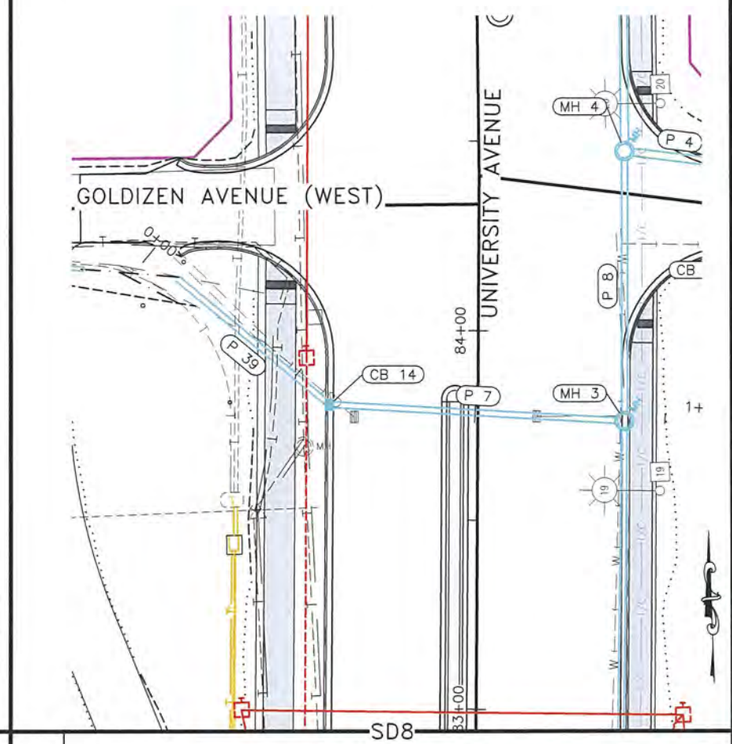


NO.	DATE	REVISION

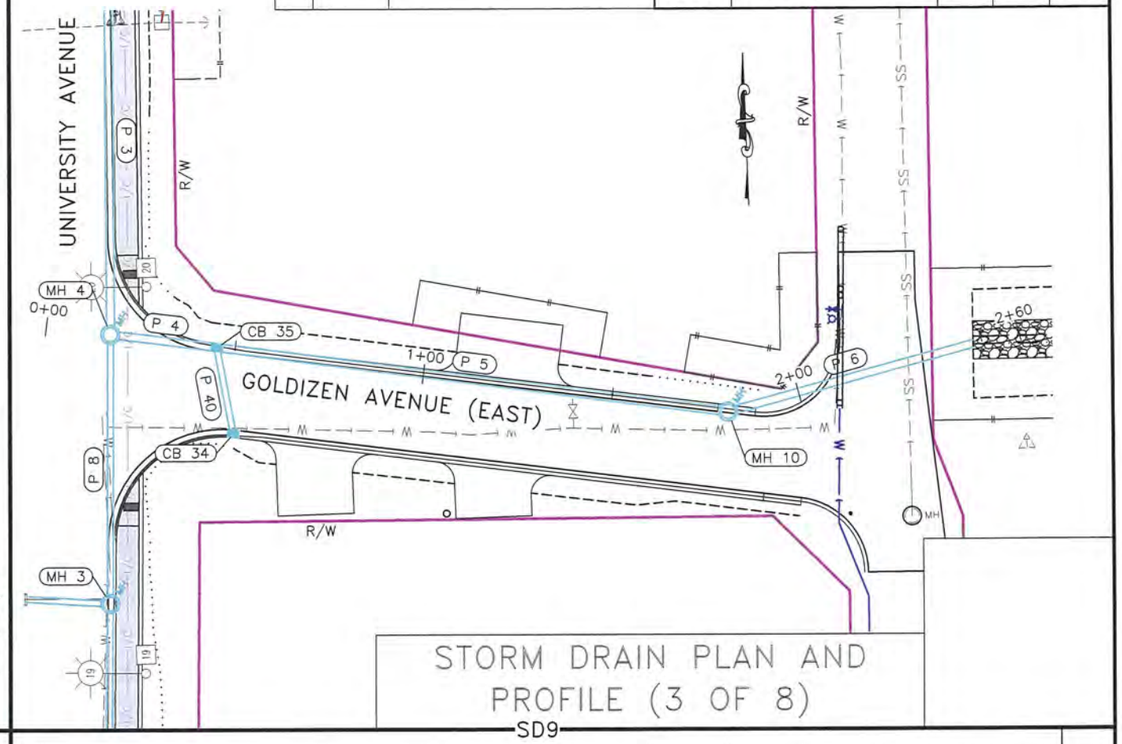
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-203	U-209



SD7

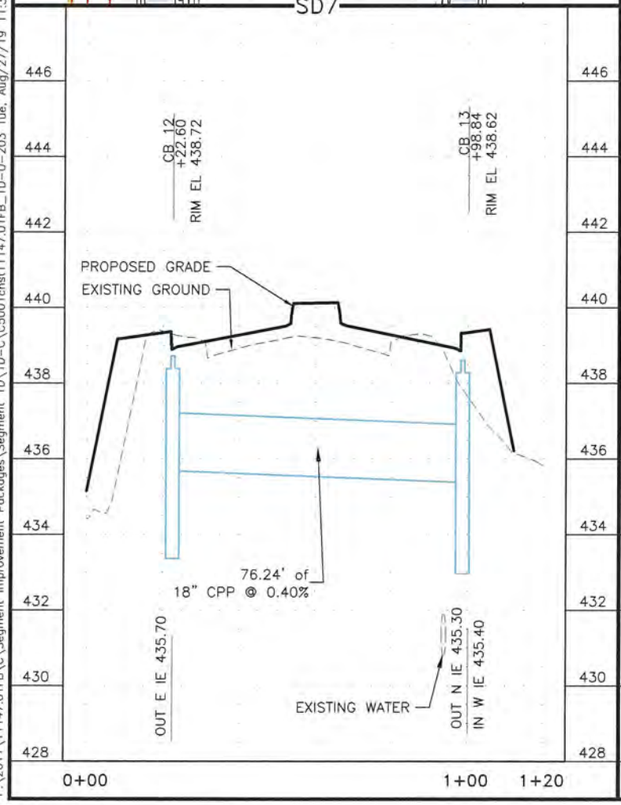


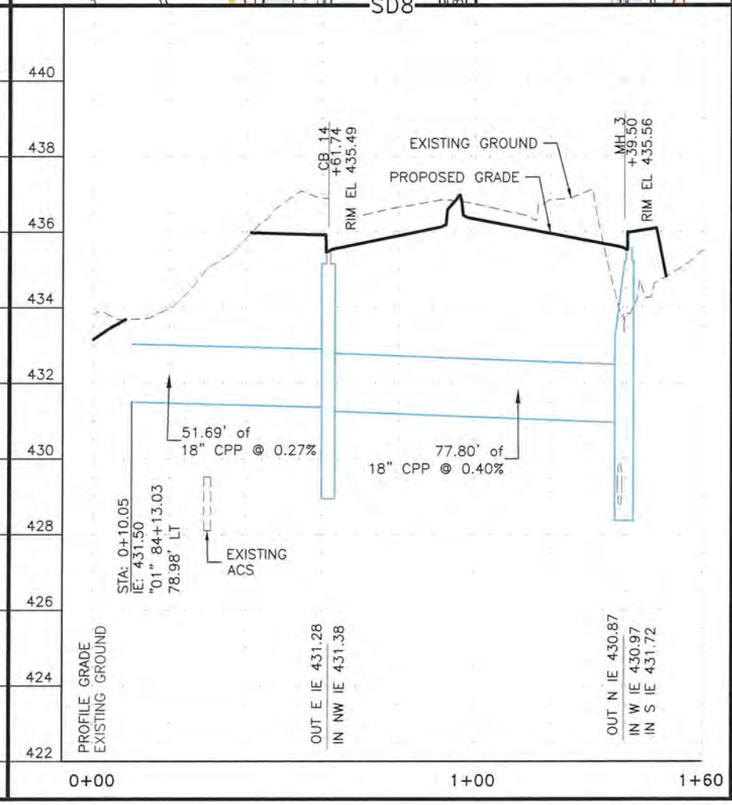
SD8

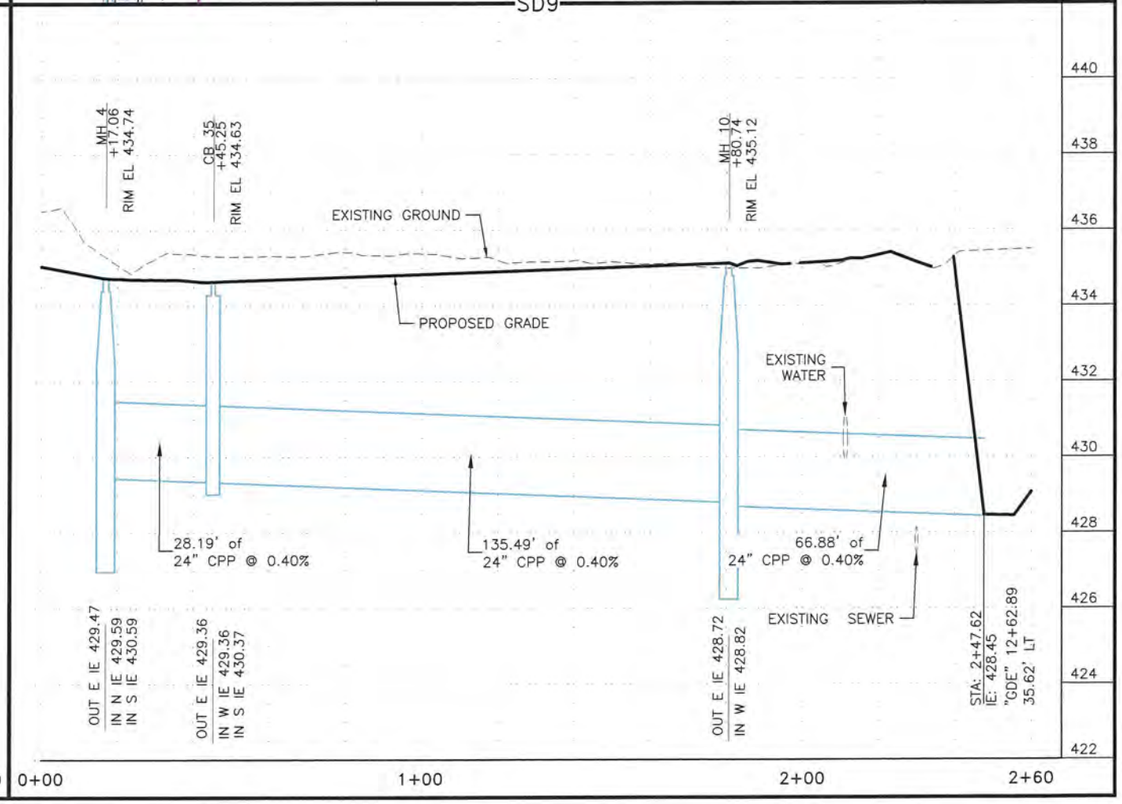


SD9

STORM DRAIN PLAN AND PROFILE (3 OF 8)



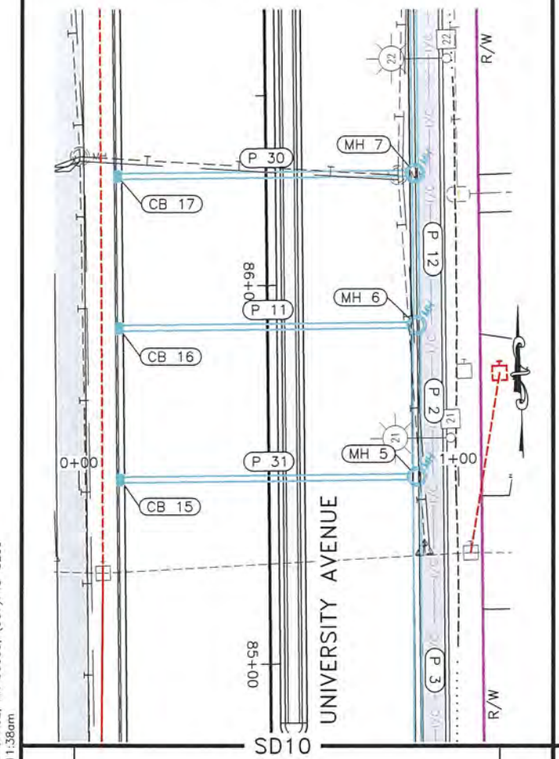




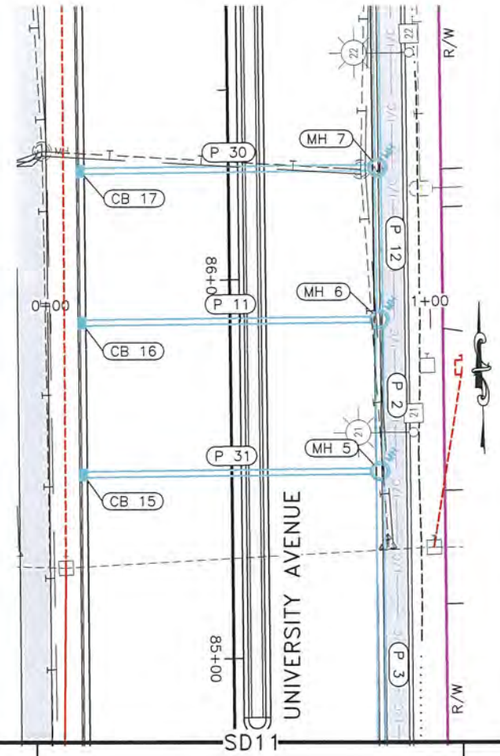
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C5001cnst11147.01FB_1D-U-203 Tue, Aug/27/19 11:37am

NO.	DATE	REVISION

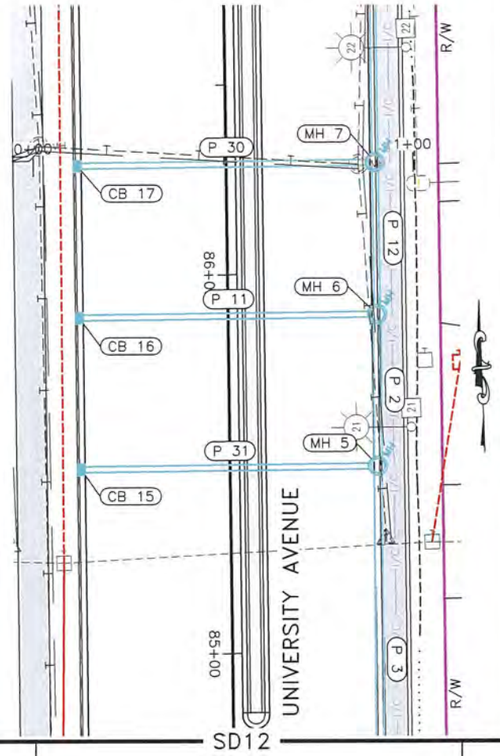
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-204	U-209



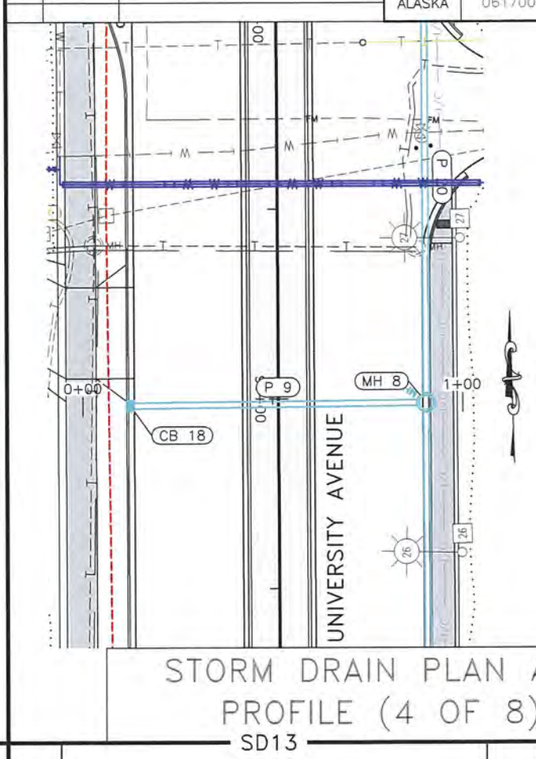
SD10



SD11

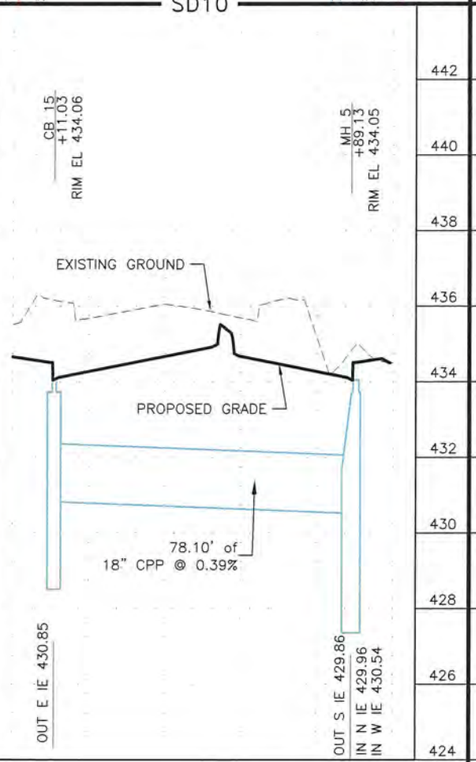


SD12

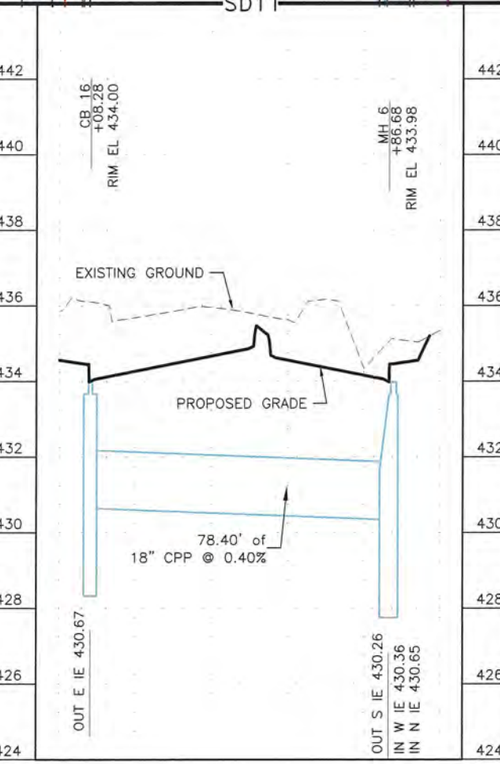


SD13

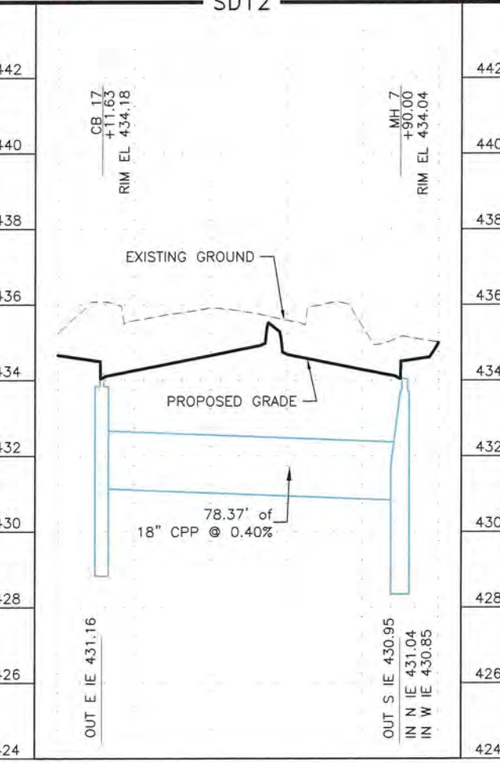
STORM DRAIN PLAN AND PROFILE (4 OF 8)



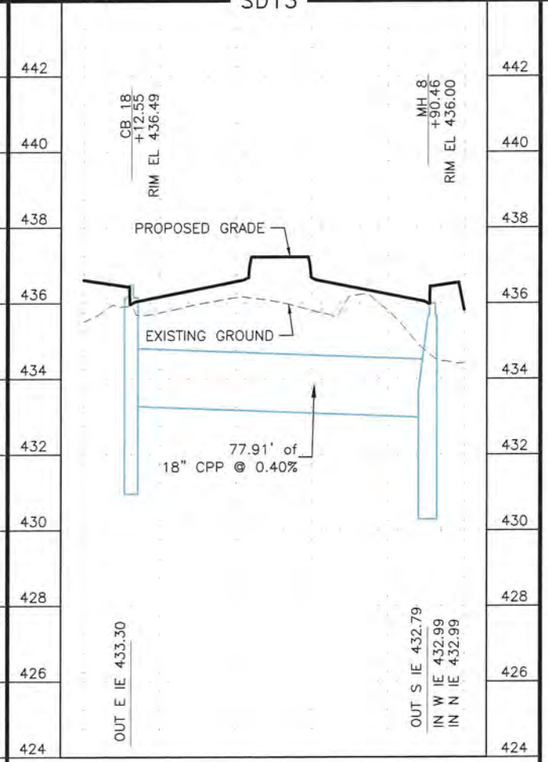
SD10



SD11



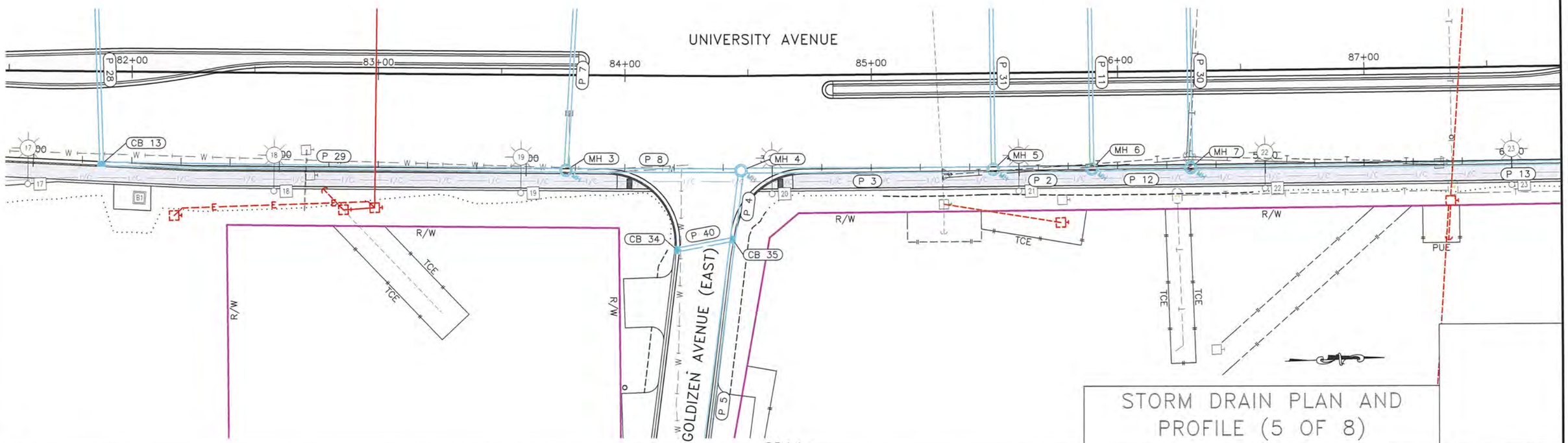
SD12



SD13

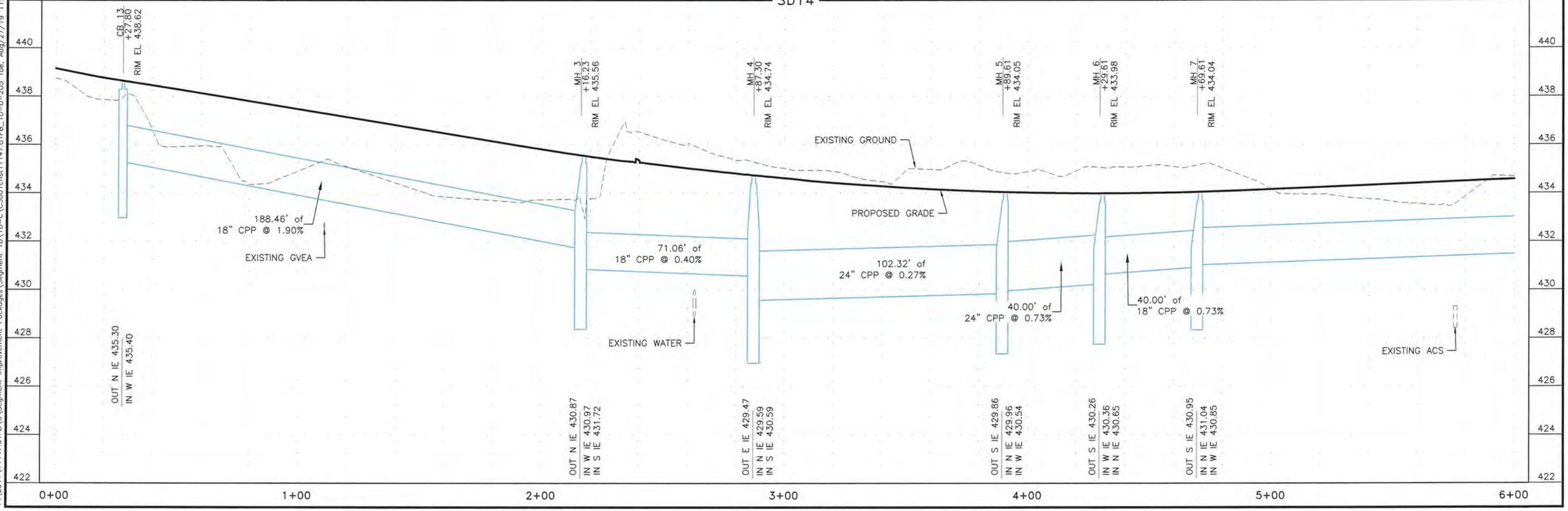
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-205	U-209



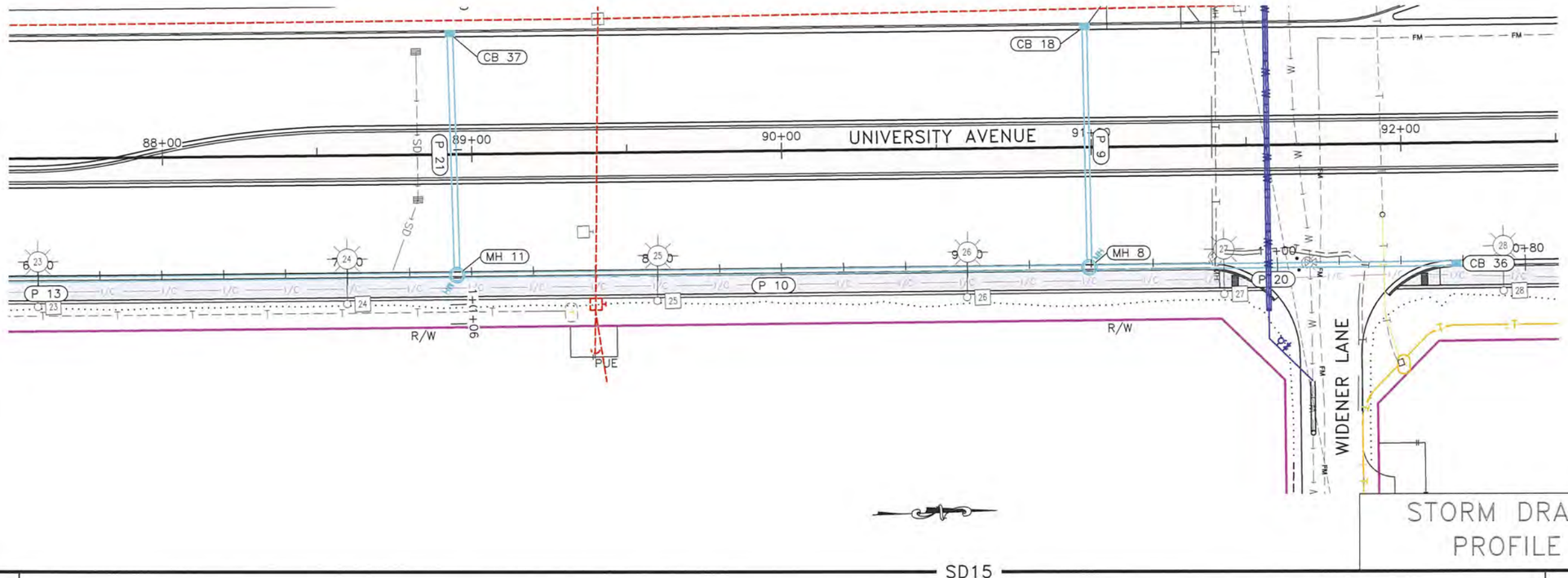
STORM DRAIN PLAN AND PROFILE (5 OF 8)

SD14

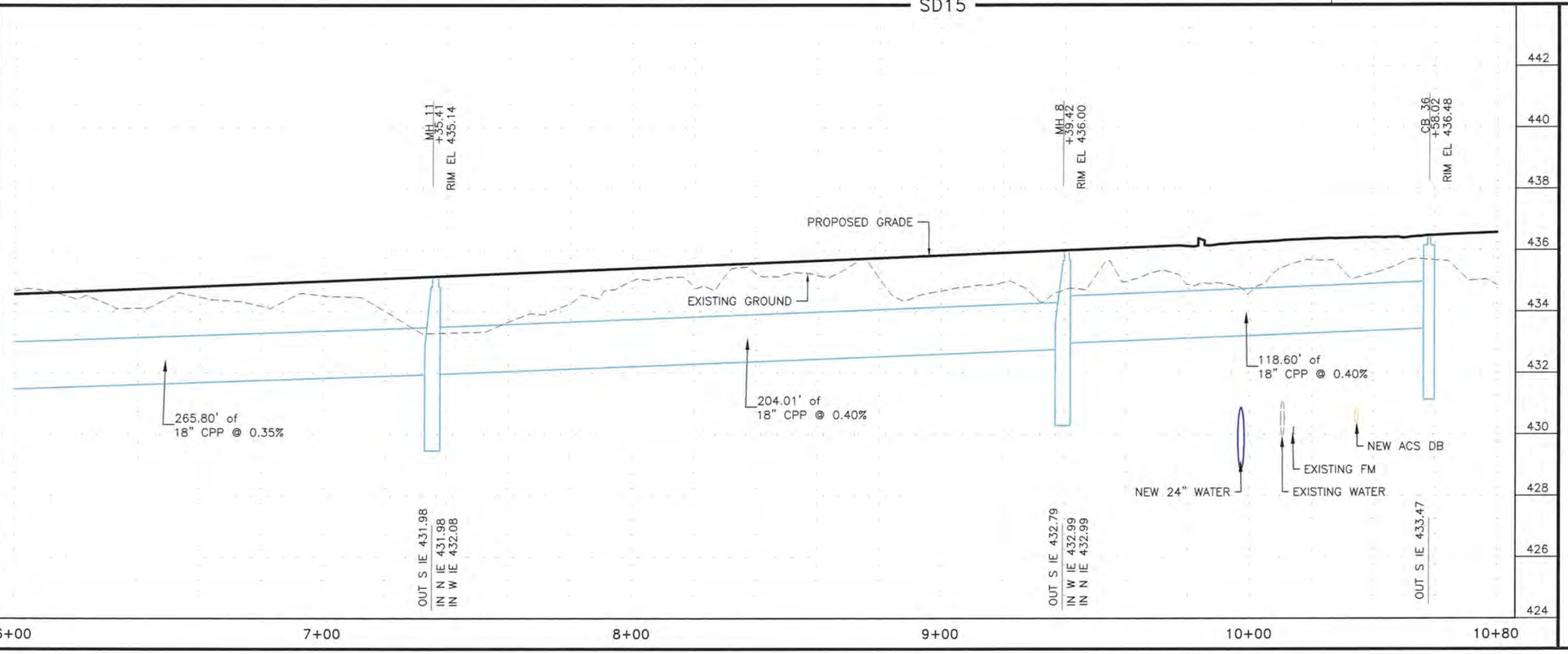


NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-206	U-209

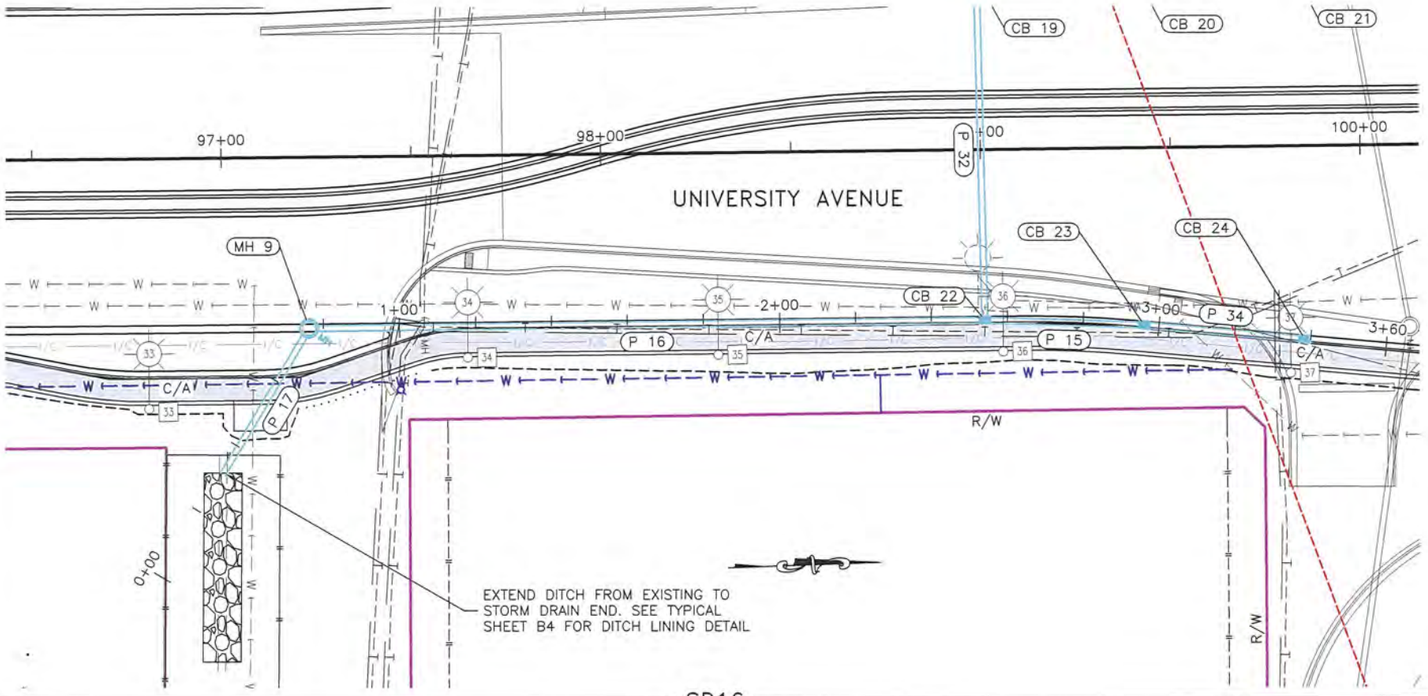


STORM DRAIN PLAN AND PROFILE (6 OF 8)

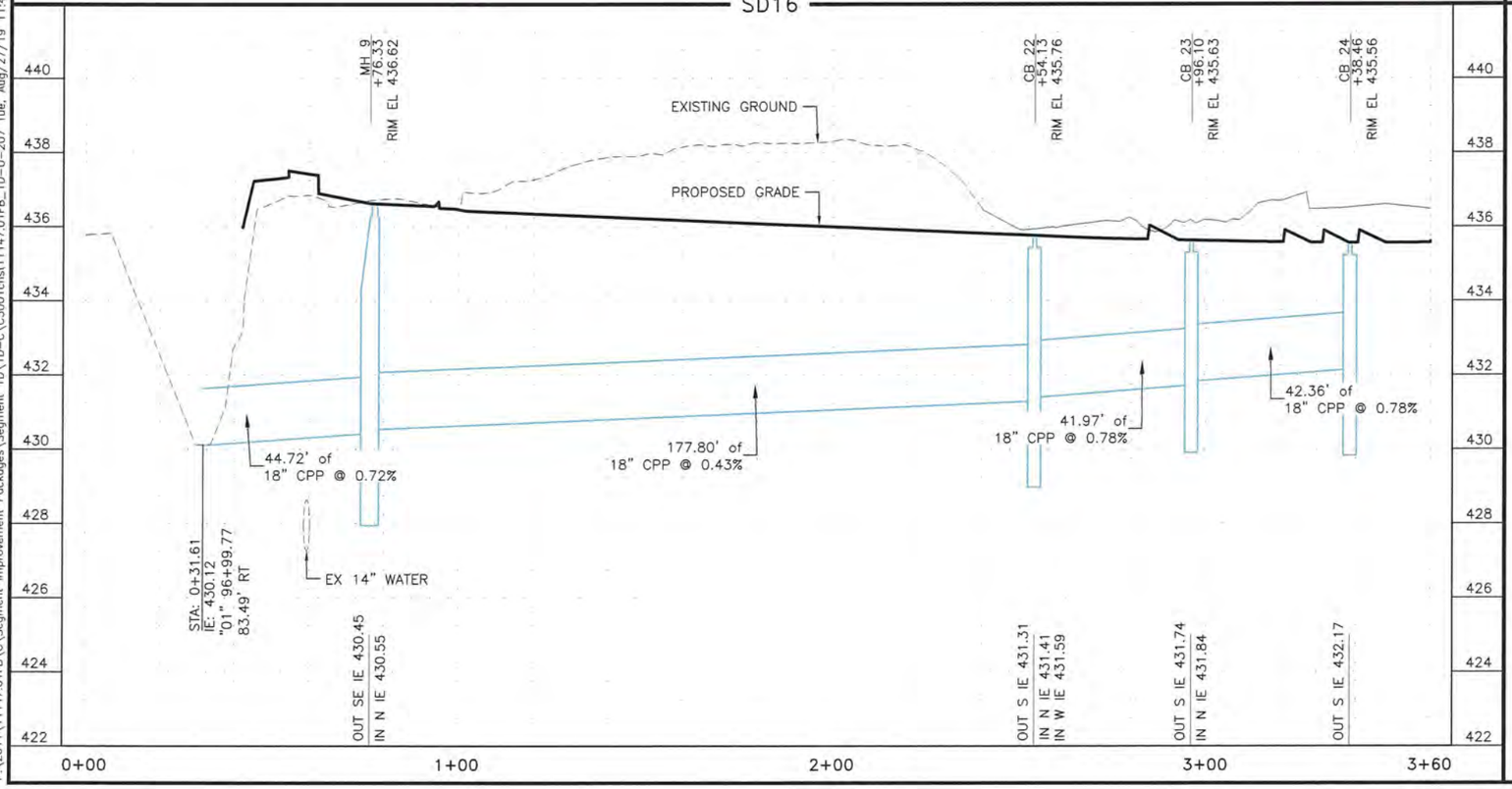


NO.	DATE	REVISION

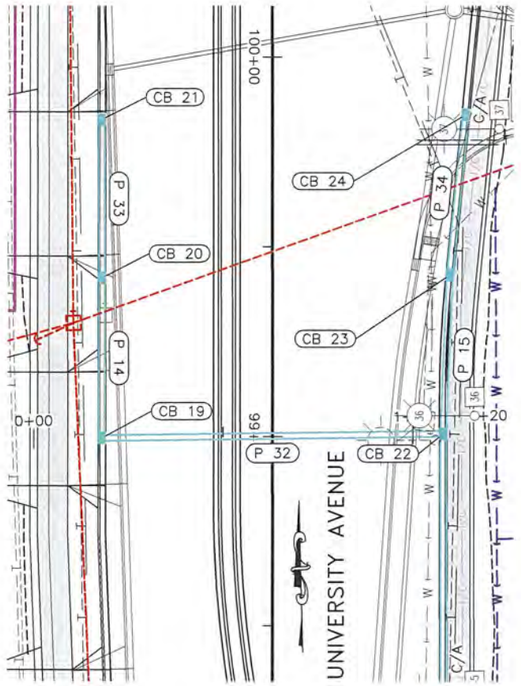
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-207	U-209

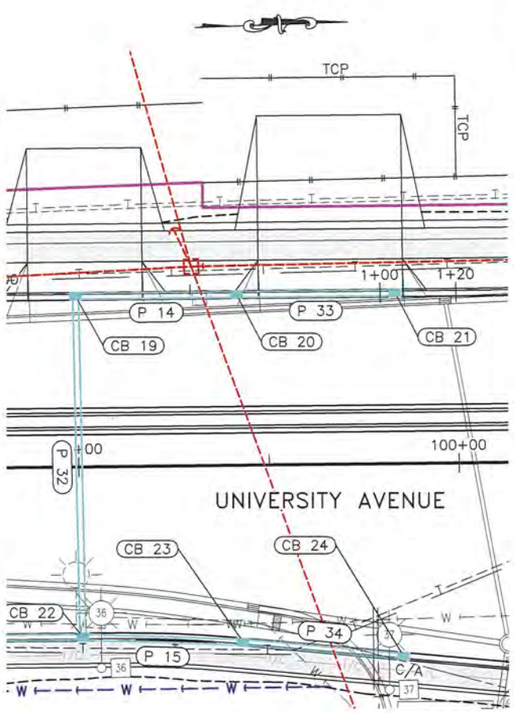


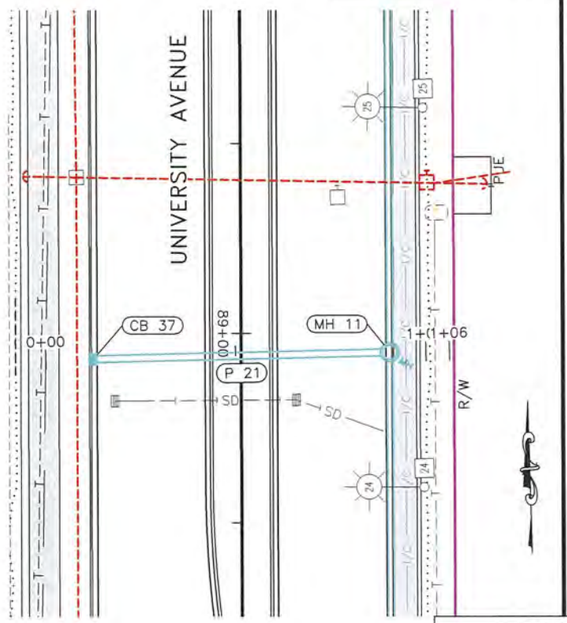
STORM DRAIN PLAN AND PROFILE (7 OF 8)



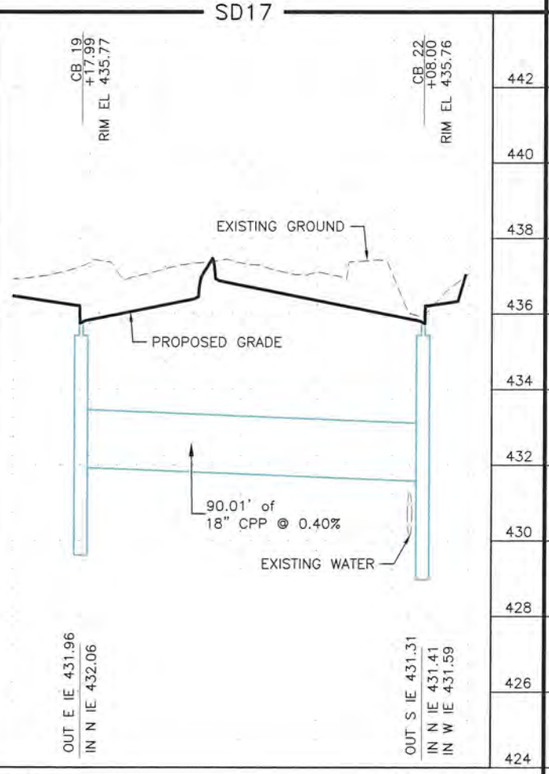
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	U-208	U-209

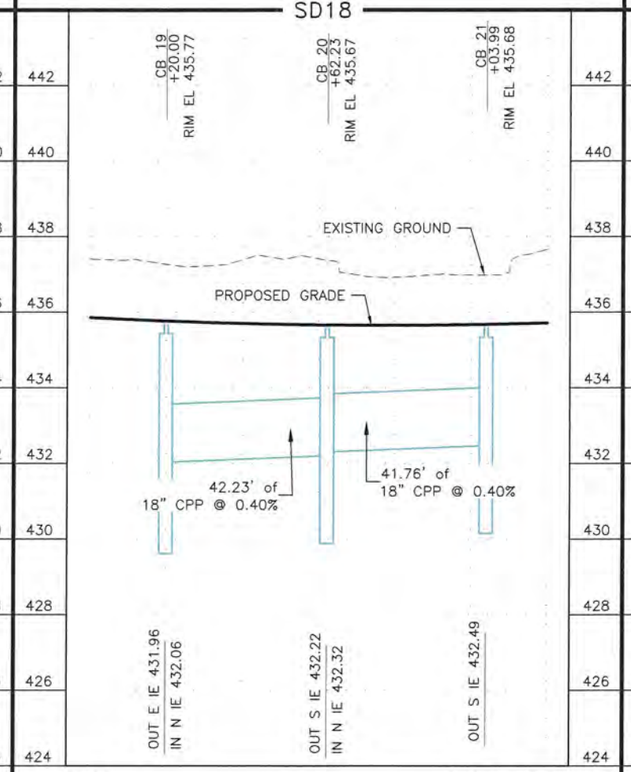


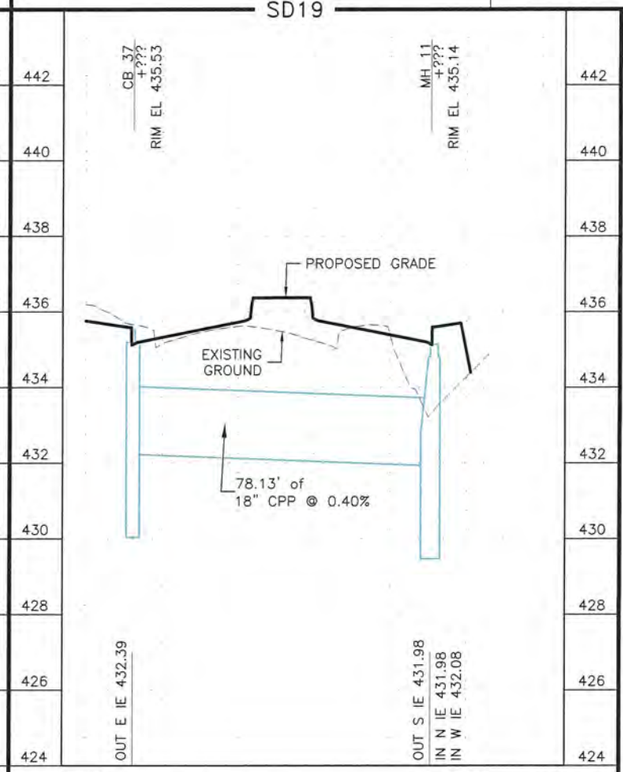




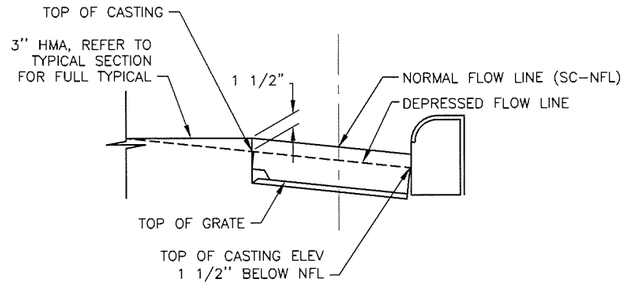
STORM DRAIN PLAN AND PROFILE (8 OF 8)







NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	U-209	U-209



CURB INLET DETAIL

SHEET NOTES

1. SC-NFL REPRESENTS CENTER OF STRUCTURE AT NORMAL FLOW LINE. SEE CURB INLET DETAIL.
2. TOP OF CASTING 1 1/2" BELOW NORMAL FLOW LINE
3. SEE STANDARD DRAWING D-22.01, D-23.01 FOR INLET CONSTRUCTION DETAILS.
4. ALL TYPE "A" INLETS REQUIRE AN 18" SUMP. SEE STANDARD DRAWING D-26.04 FOR TYPE "A" INLET BOX DETAILS.

STORM DETAILS

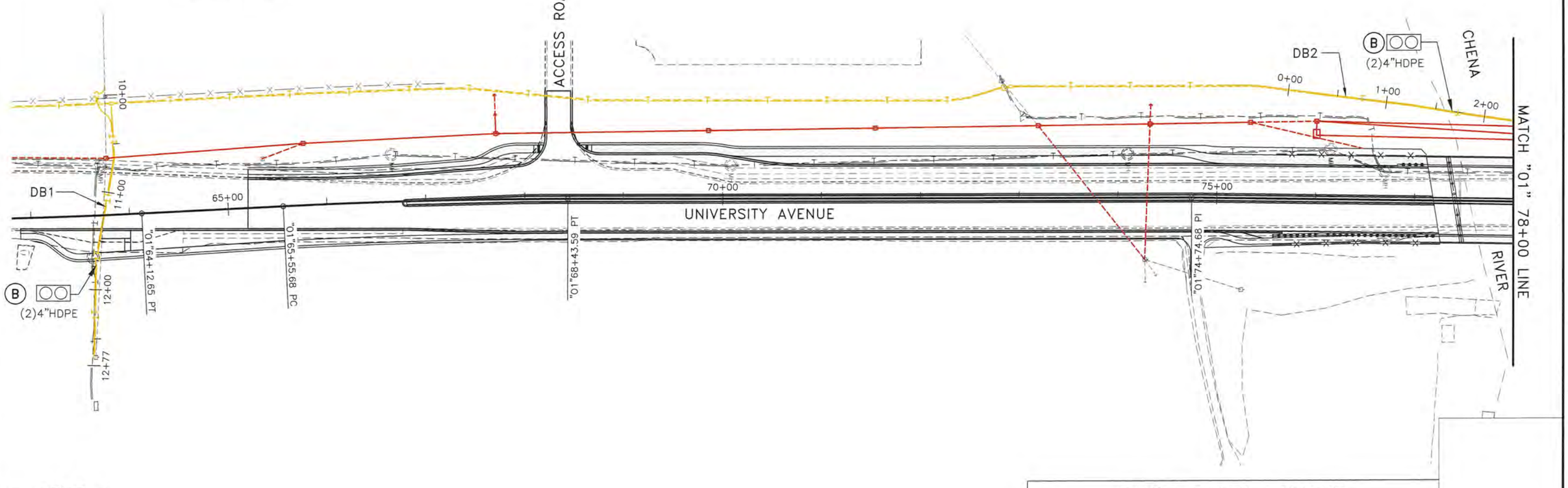
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C5001cnst11147.01FB_1D-U-209 Tue, Aug/27/19 11:44am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-300	U-310

NOTES:

1. DB2 IS THE CHENA RIVER BORE. DESIGN AND INSTALLATION TO BE COMPLETED BY OTHERS.

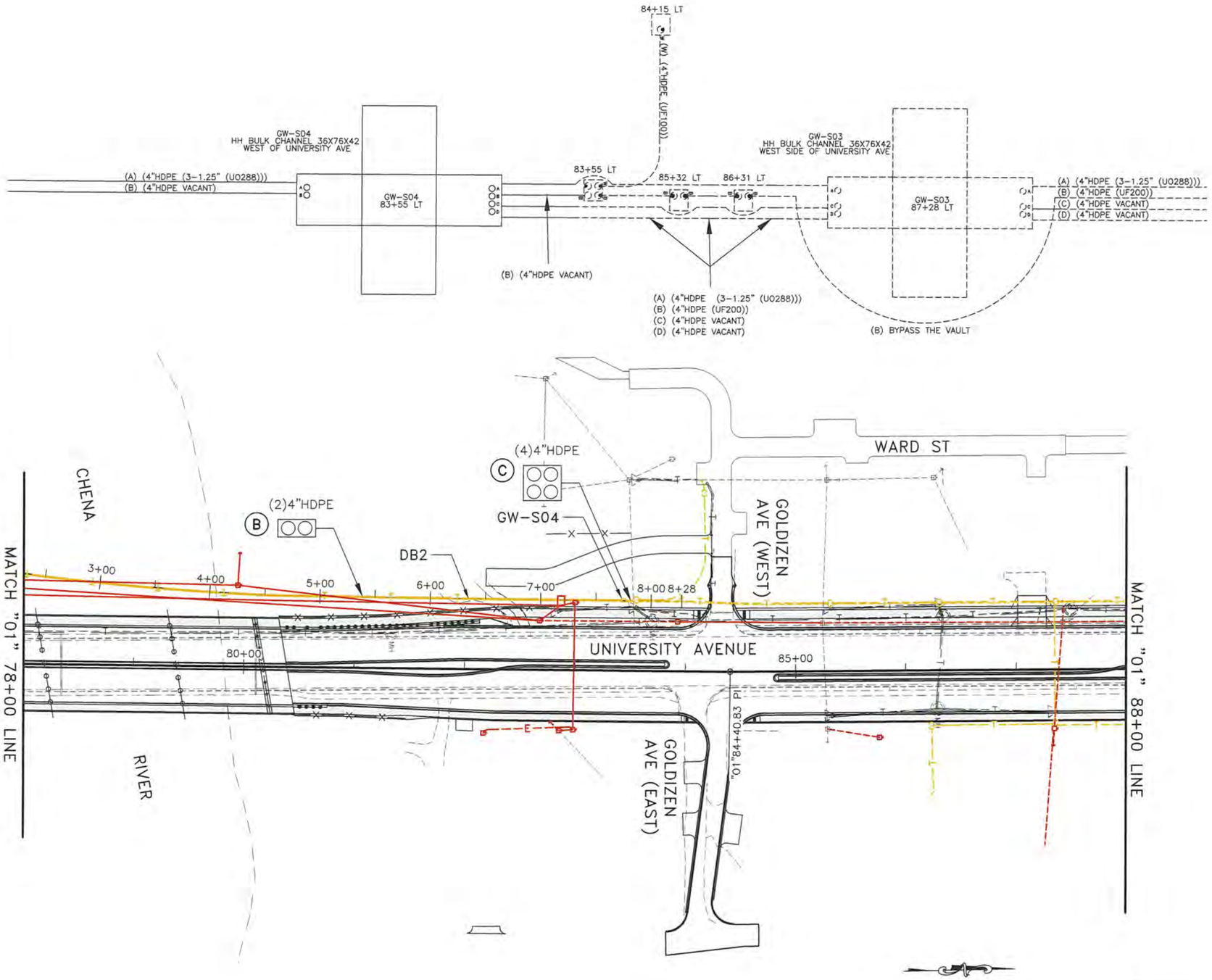


DUCT BANK LAYOUT
(1 OF 3)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C7002cnst11147.01FB_1D-U-300 Duct Bank Layout (1 of 3) Fri, Aug/16/19 09:52am

NO.	DATE	REVISION

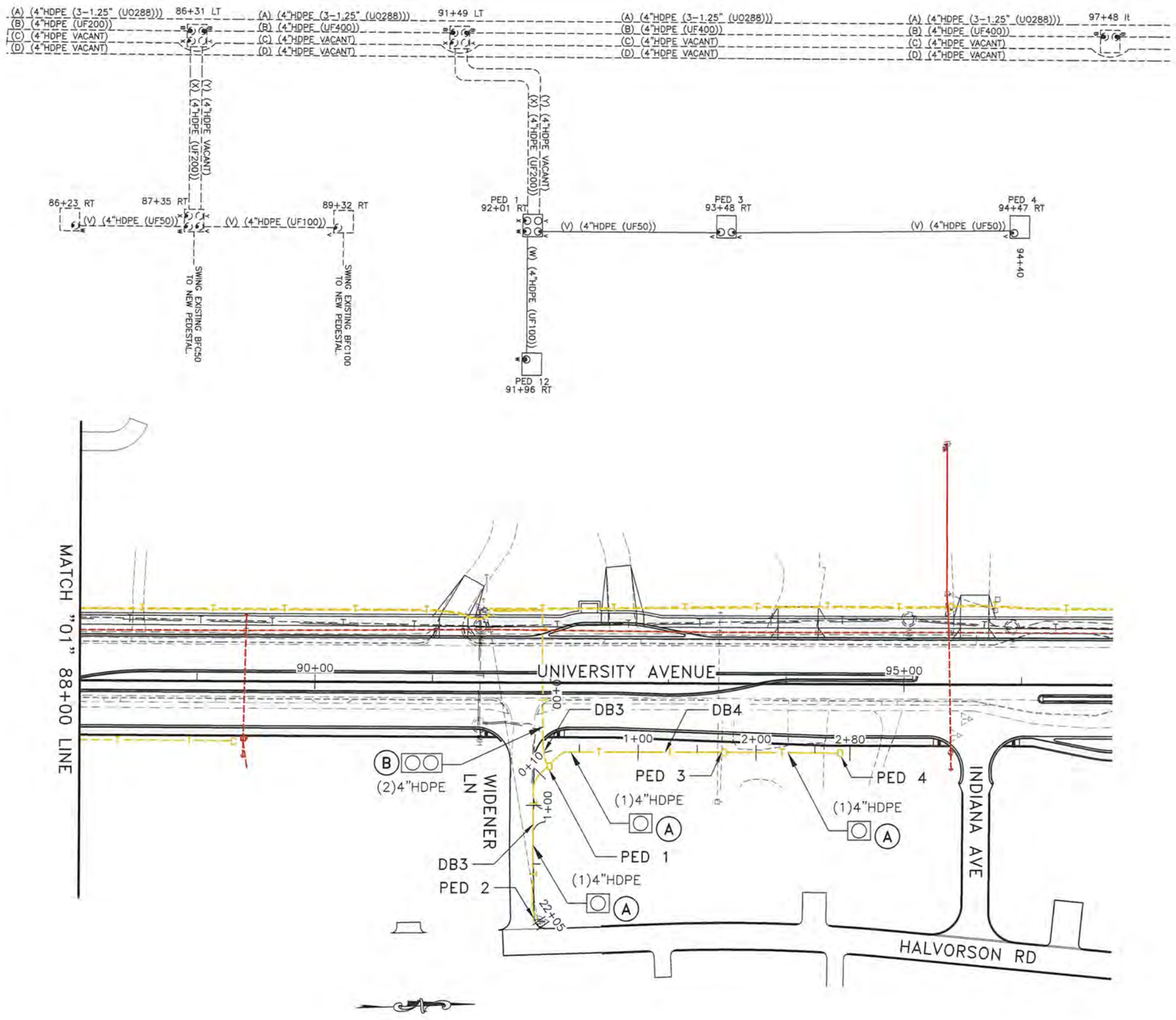
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-301	U-310



DUCT BANK LAYOUT
(2 OF 3)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-302	U-310



DUCT BANK LAYOUT
(3 OF 3)

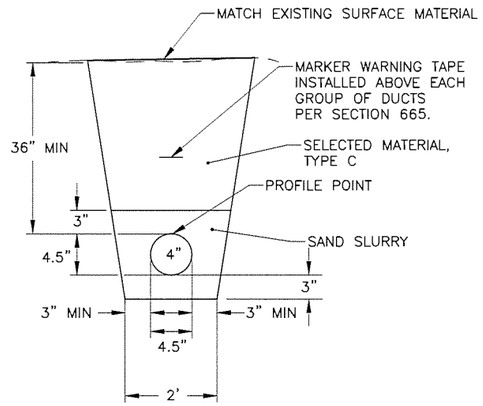
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C7002cnst11147.01FB_1D-U6 Duct Bank Layout (3 of 3) Fri, Aug/16/19 09:54am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-303	U-310

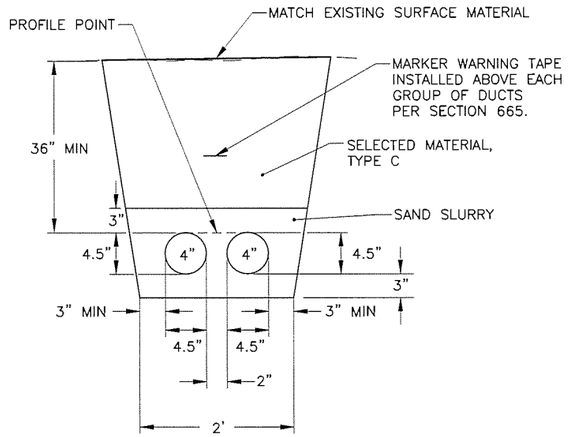
NOTES:

1. DUCT BANK SHALL BE INSTALLED WITHIN THE RIGHT-OF-WAY.
2. DUCT PLACEMENT CAN SHIFT WITHIN THE TRENCH SECTION, MAINTAIN MINIMUM SEPARATION BETWEEN DUCT EDGE AND TRENCH EDGE.



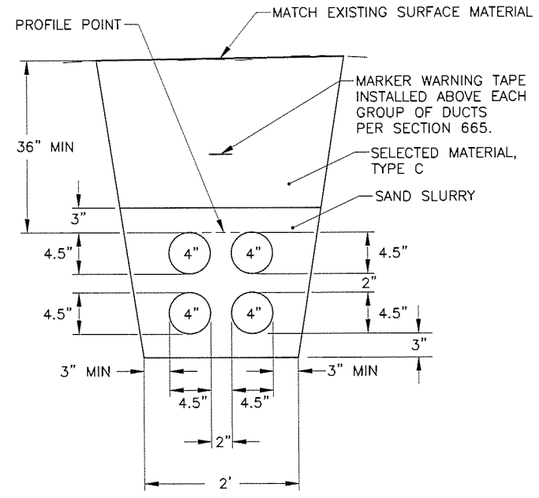
A (1) 4" HDPE CONDUITS

"DB3" 1+54.80 TO "DB3" 2+93.68
"DB4" 0+19.97 TO "DB4" 2+70.61



B (2) 4" HDPE CONDUITS

"DB1" 10+10.52 TO "DB1" 12+66.18
"DB3" 1+23.51 TO "DB3" 2+59.01



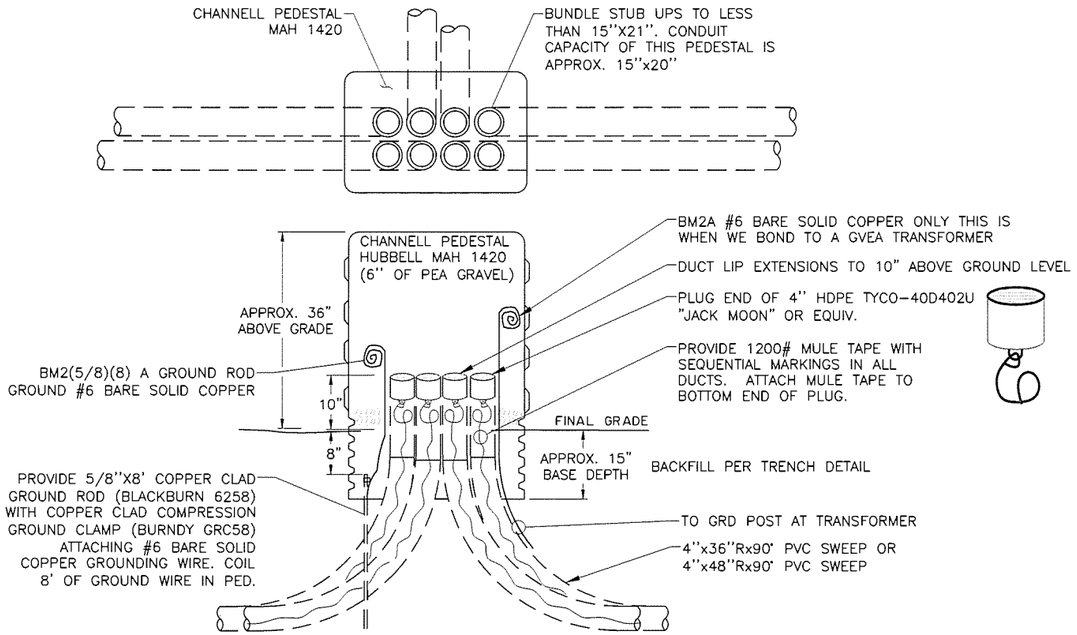
D (4) 4" HDPE CONDUITS

"DB2" 7+74.89 TO "DB2" 7+86.52

DUCT BANK TRENCH SECTIONS

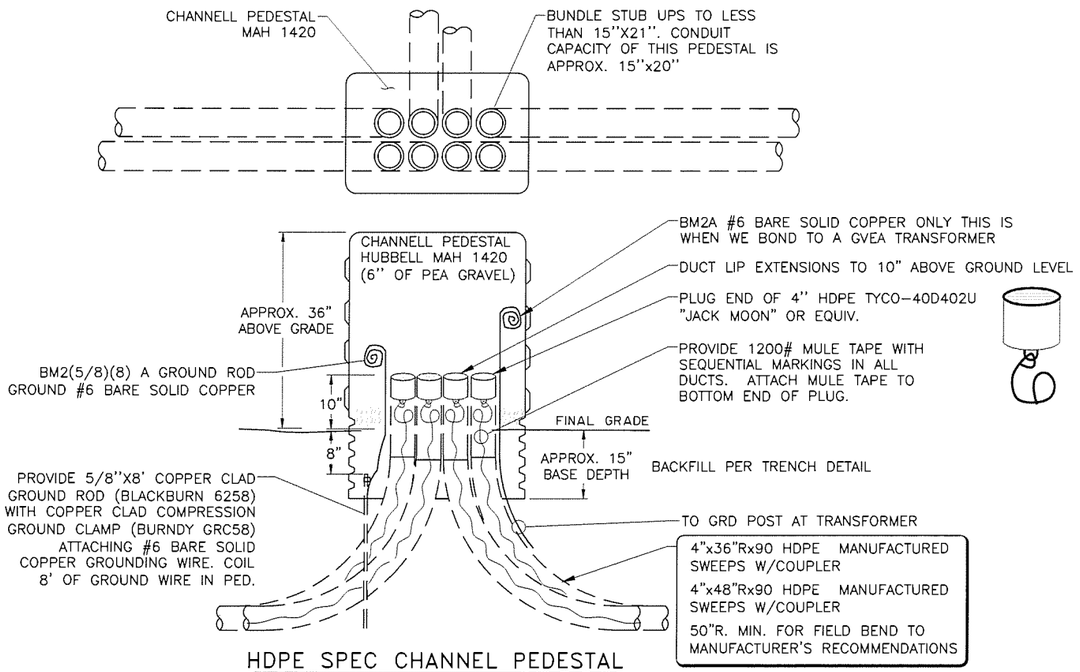
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C7001cnst11147.01FB_1D-Duct Bank Trench Sections Fri, Aug/16/19 08:31am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	U-304	U-310



PVC SPEC CHANNEL PEDESTAL

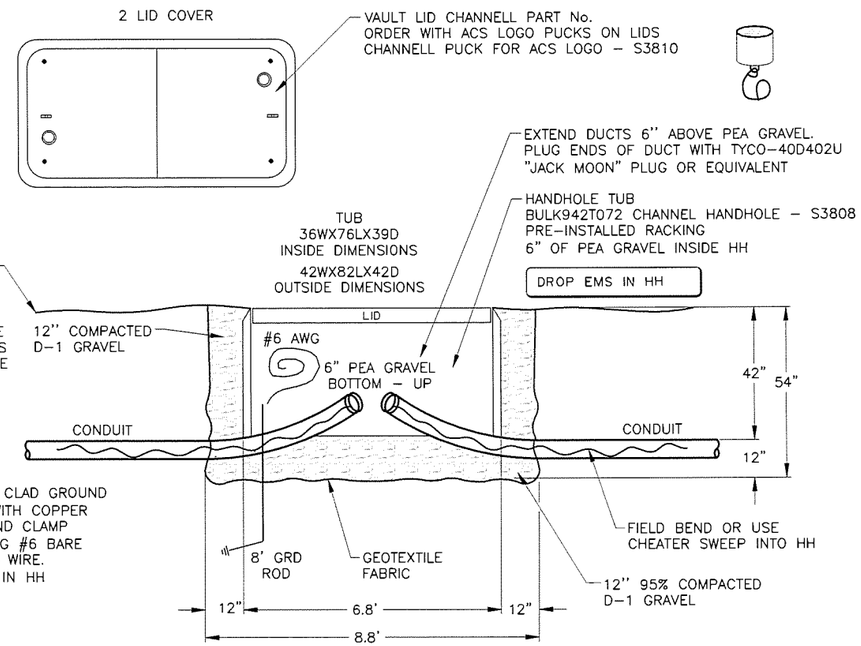
CALL LOCATE: 1-800-478-3121
2 WORKING DAYS PRIOR TO CONSTRUCTION
FOR UNDERGROUND SERVICES LOCATING



HDPE SPEC CHANNEL PEDESTAL

CALL LOCATE: 1-800-478-3121
2 WORKING DAYS PRIOR TO CONSTRUCTION
FOR UNDERGROUND SERVICES LOCATING

ACS CODE S3808

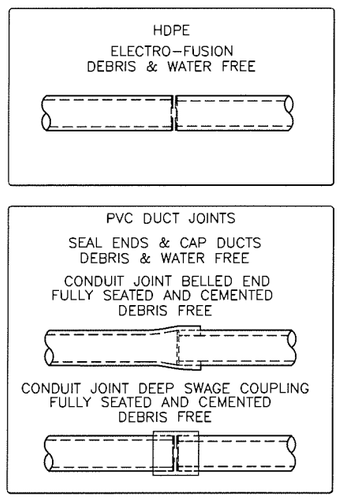


TYPICAL 36X76X42 BULK942T072 CHANNELL HANDHOLE DETAIL INSTALLATION DETAIL

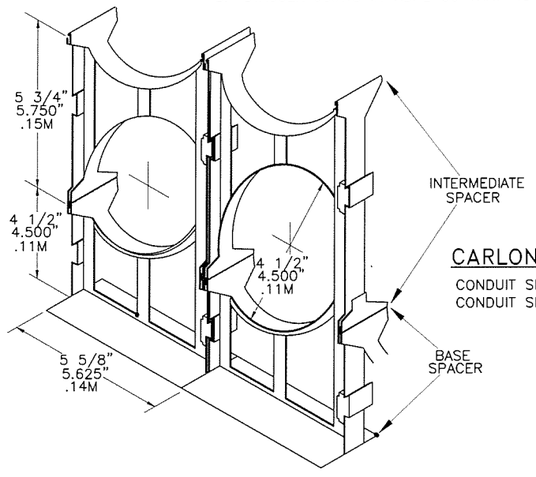
NTS

CARLON PLASTIC SPACER DETAIL NOTES

1. INSTALL CARLON PLASTIC DUCT SPACERS AT 4 FOOT INTERVALS MINIMUM
2. INSTALL CONTRACTOR PROVIDED POLY BANDING AT EVERY THIRD SPACER MINIMUM
3. STAGGER JOINTS IN HDPE SO THAT NO TWO JOINTS ARE CLOSER THAN 2 FEET



DUCT JOINT DETAILS



CARLON PLASTIC DUCT SPACERS:

CONDUIT SPACER BASE 4" CARLON #S288NLN
CONDUIT SPACER INTERMEDIATE 4" CARLON #S289NLN

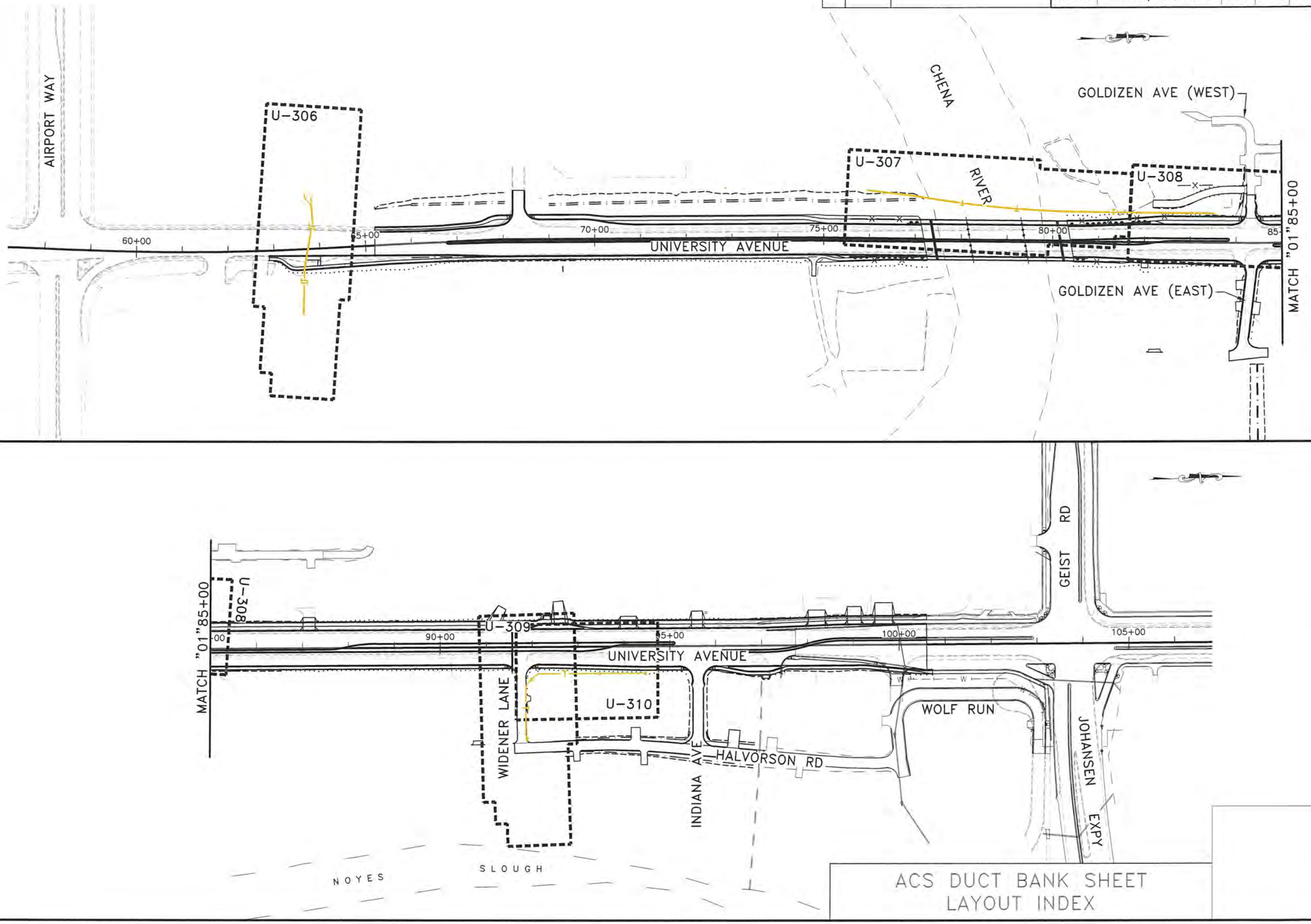
CONDUIT SPACING DETAIL

DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C7001cnst11147.01FB_1D-U9-SS Fri, Aug/16/19 08:31am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-305	U-310



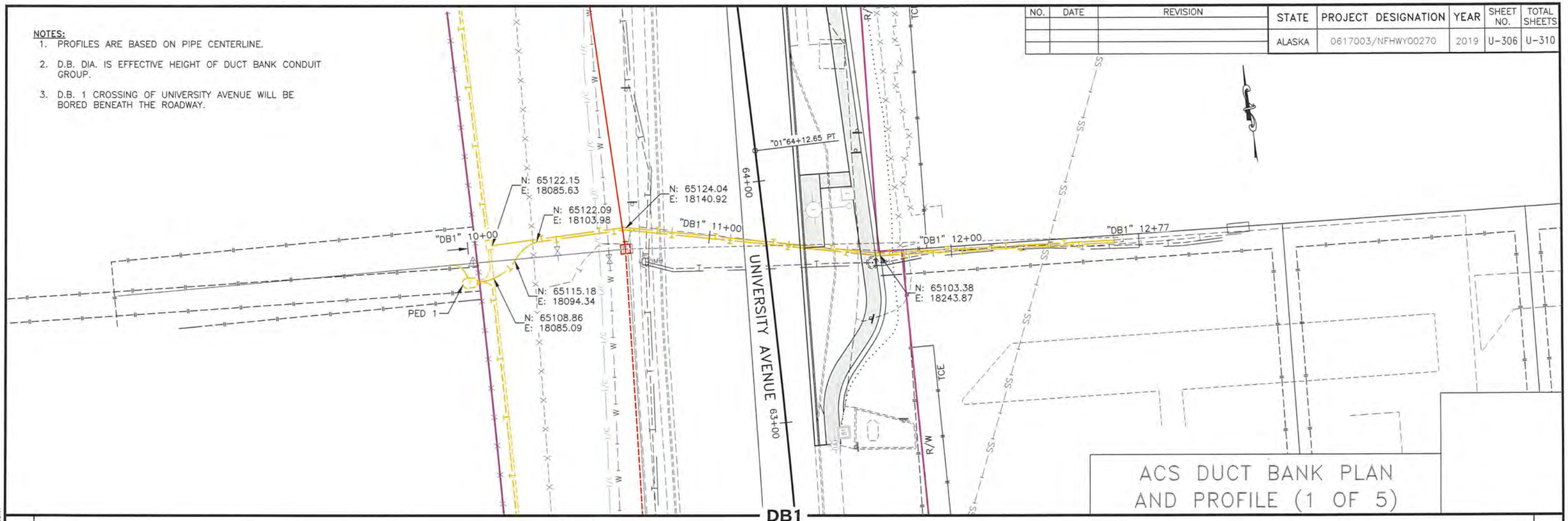
ACS DUCT BANK SHEET LAYOUT INDEX

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\C0009cnst11147.01FB_1D-U24 ACS Plan Index Thu, Aug/22/19 02:12pm

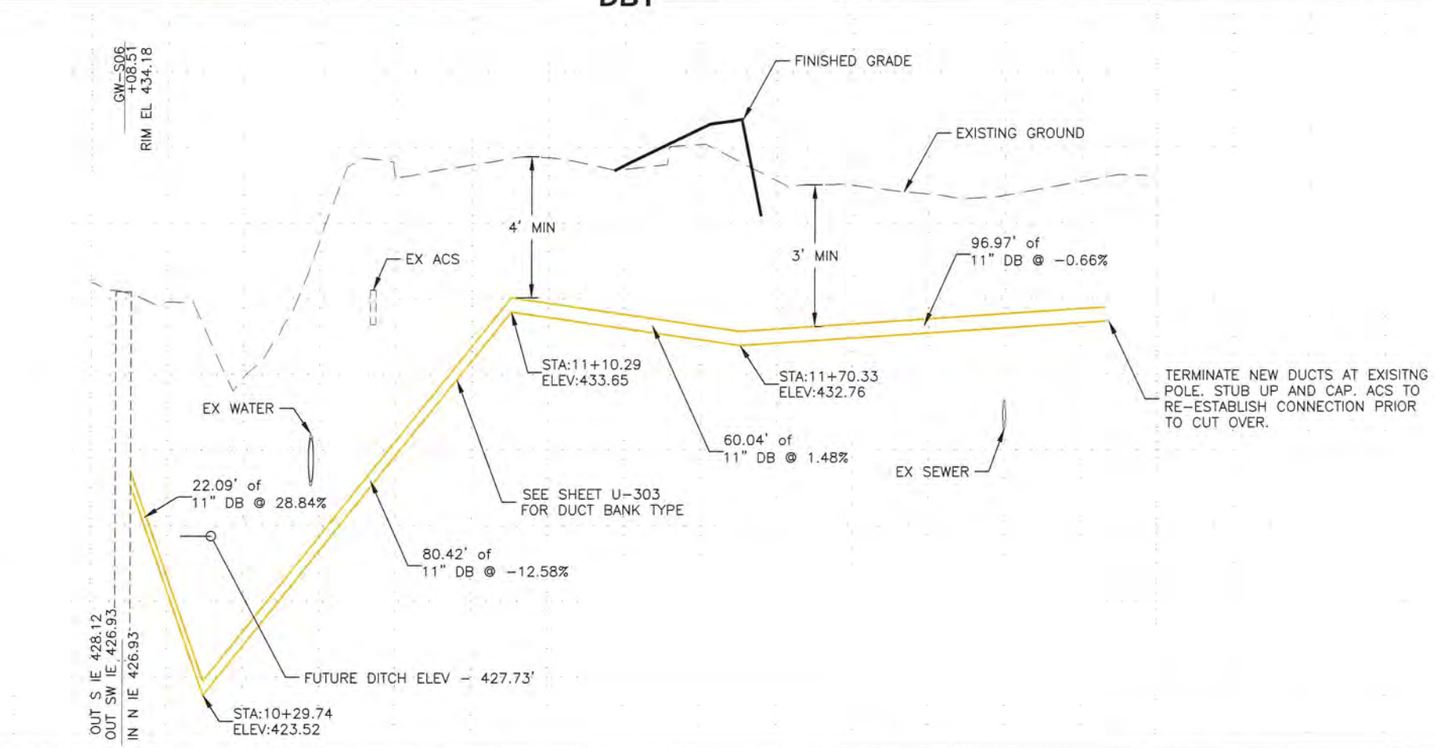
NOTES:
1. PROFILES ARE BASED ON PIPE CENTERLINE.
2. D.B. DIA. IS EFFECTIVE HEIGHT OF DUCT BANK CONDUIT GROUP.
3. D.B. 1 CROSSING OF UNIVERSITY AVENUE WILL BE BORED BENEATH THE ROADWAY.

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-306	U-310



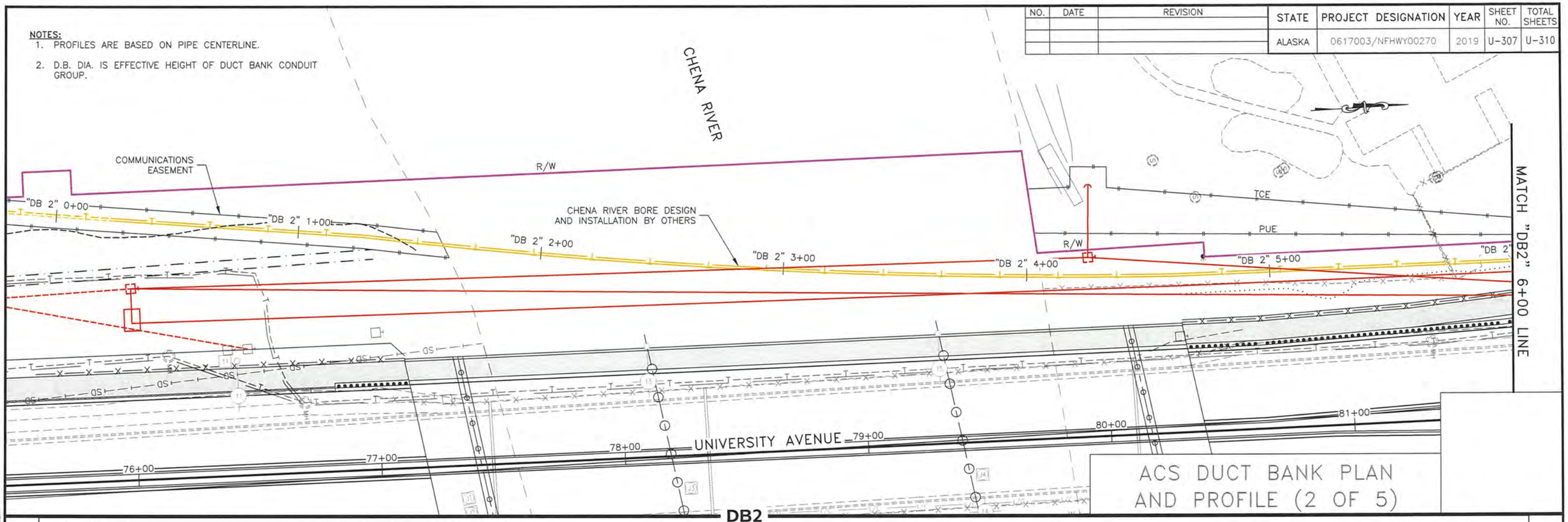
ACS DUCT BANK PLAN AND PROFILE (1 OF 5)



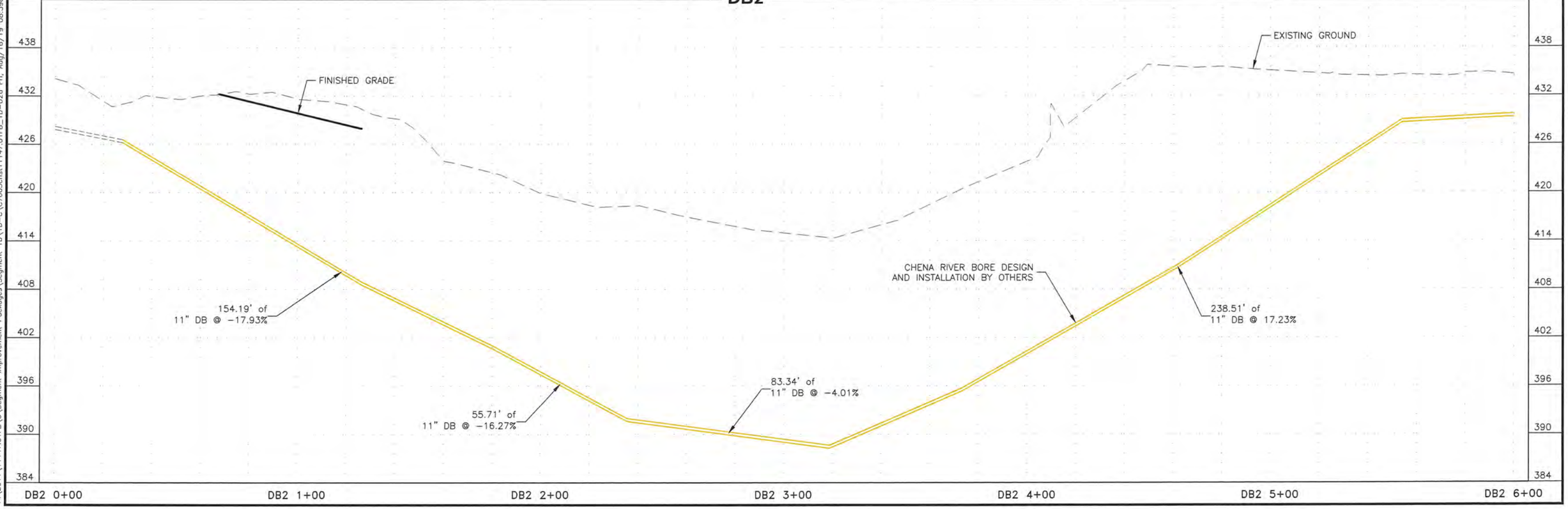
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-307	U-310

NOTES:
1. PROFILES ARE BASED ON PIPE CENTERLINE.
2. D.B. DIA. IS EFFECTIVE HEIGHT OF DUCT BANK CONDUIT GROUP.

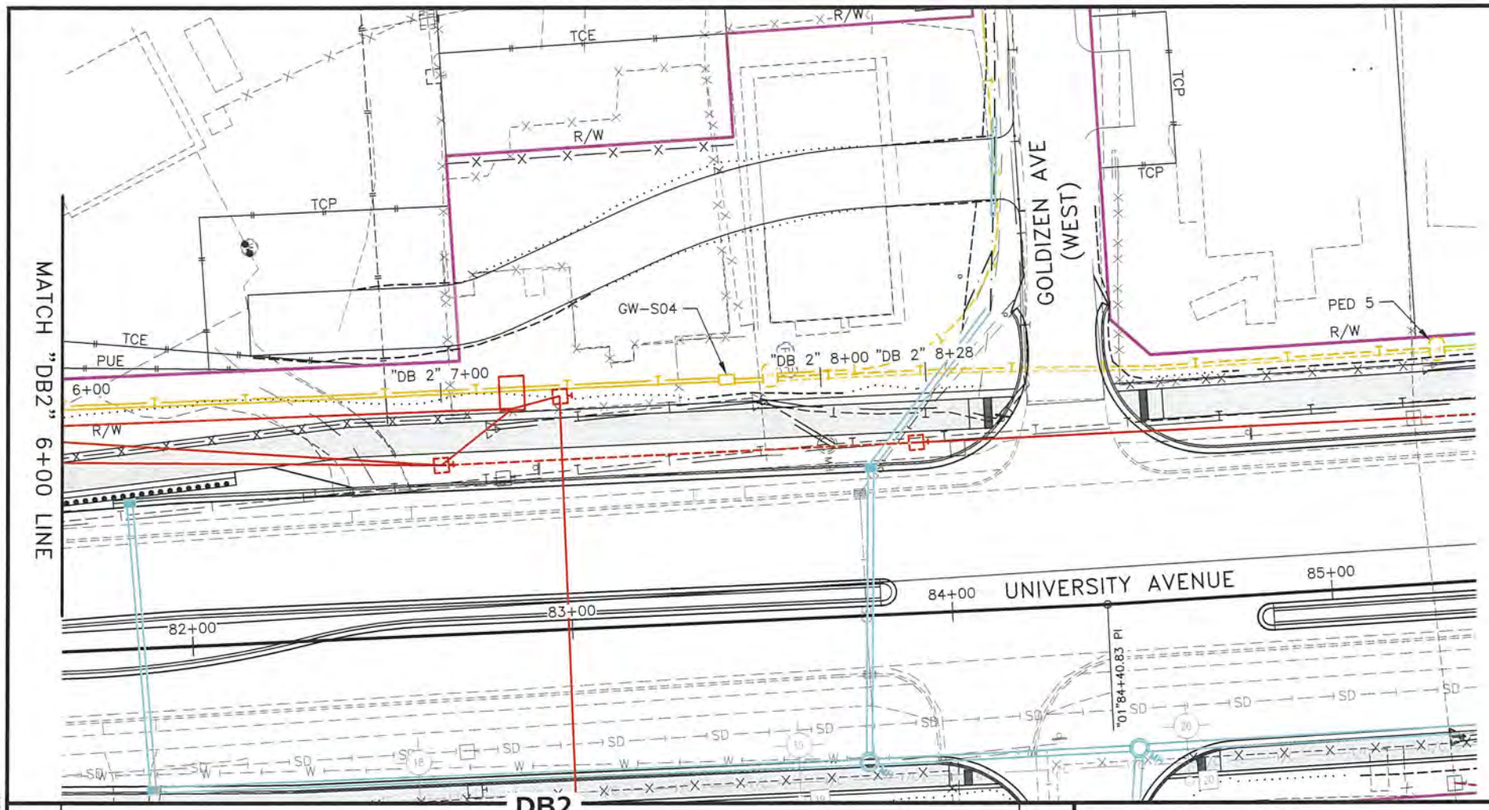


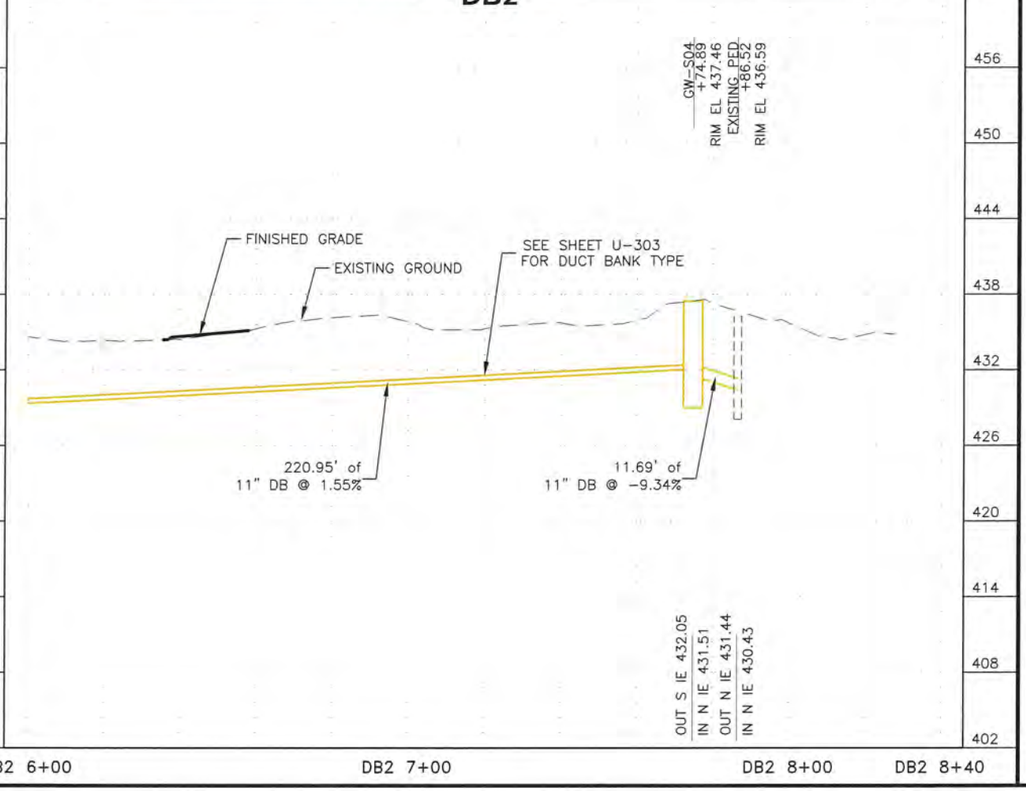
ACS DUCT BANK PLAN AND PROFILE (2 OF 5)



NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-308	U-310



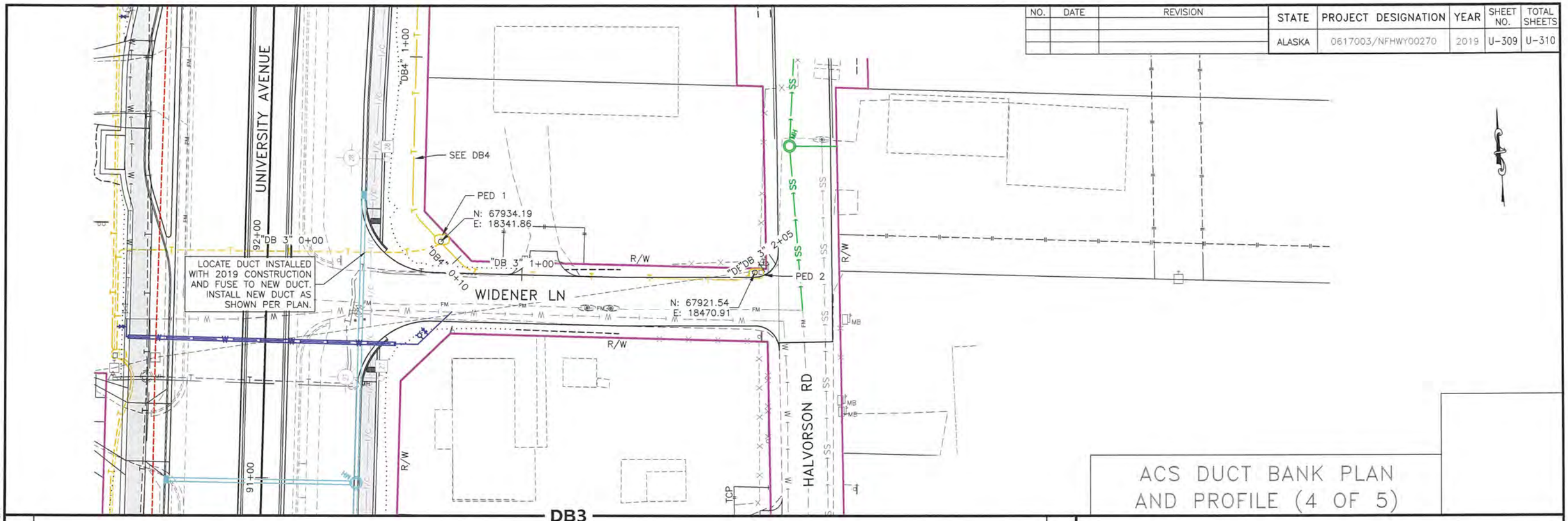


ACS DUCT BANK PLAN AND PROFILE (3 OF 5)

NOTES:
1. PROFILES ARE BASED ON PIPE CENTERLINE.
2. D.B. DIA. IS EFFECTIVE HEIGHT OF DUCT BANK CONDUIT GROUP.

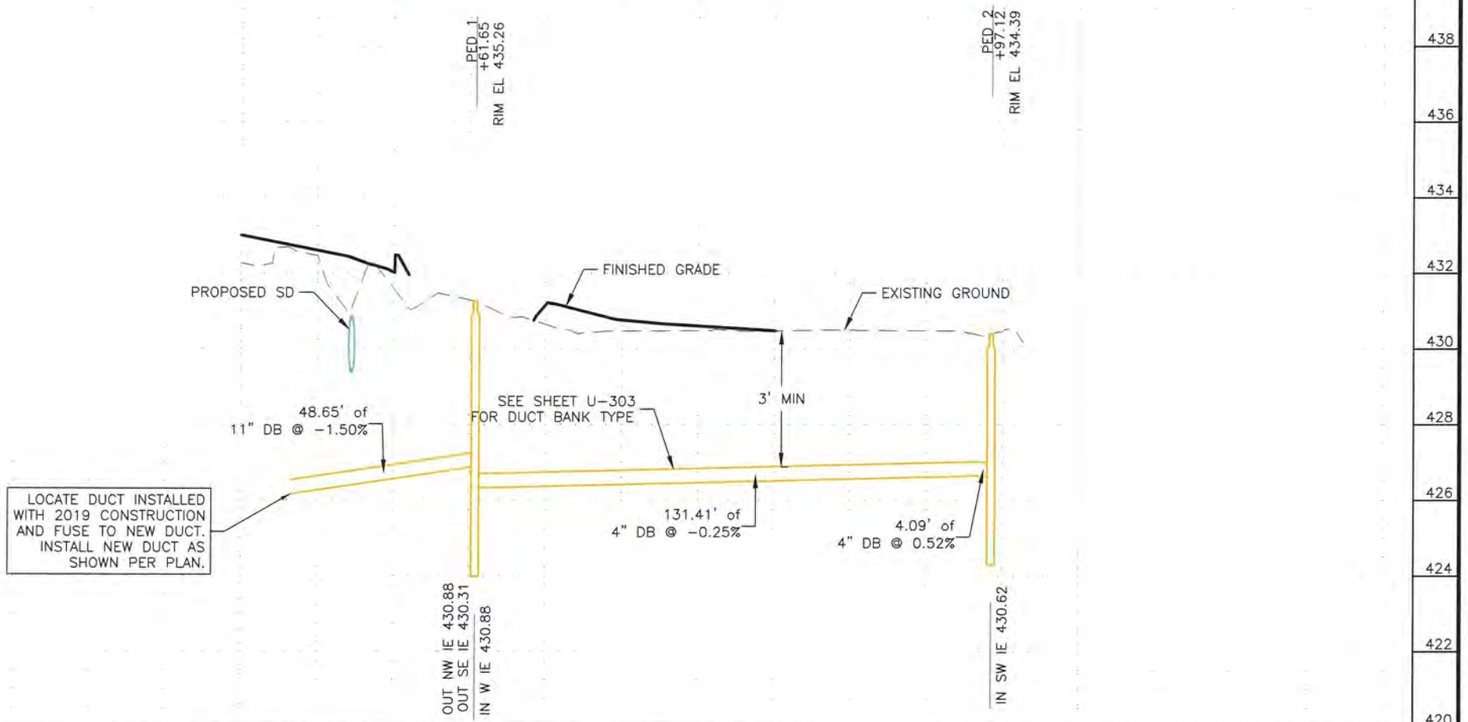
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-309	U-310



ACS DUCT BANK PLAN AND PROFILE (4 OF 5)

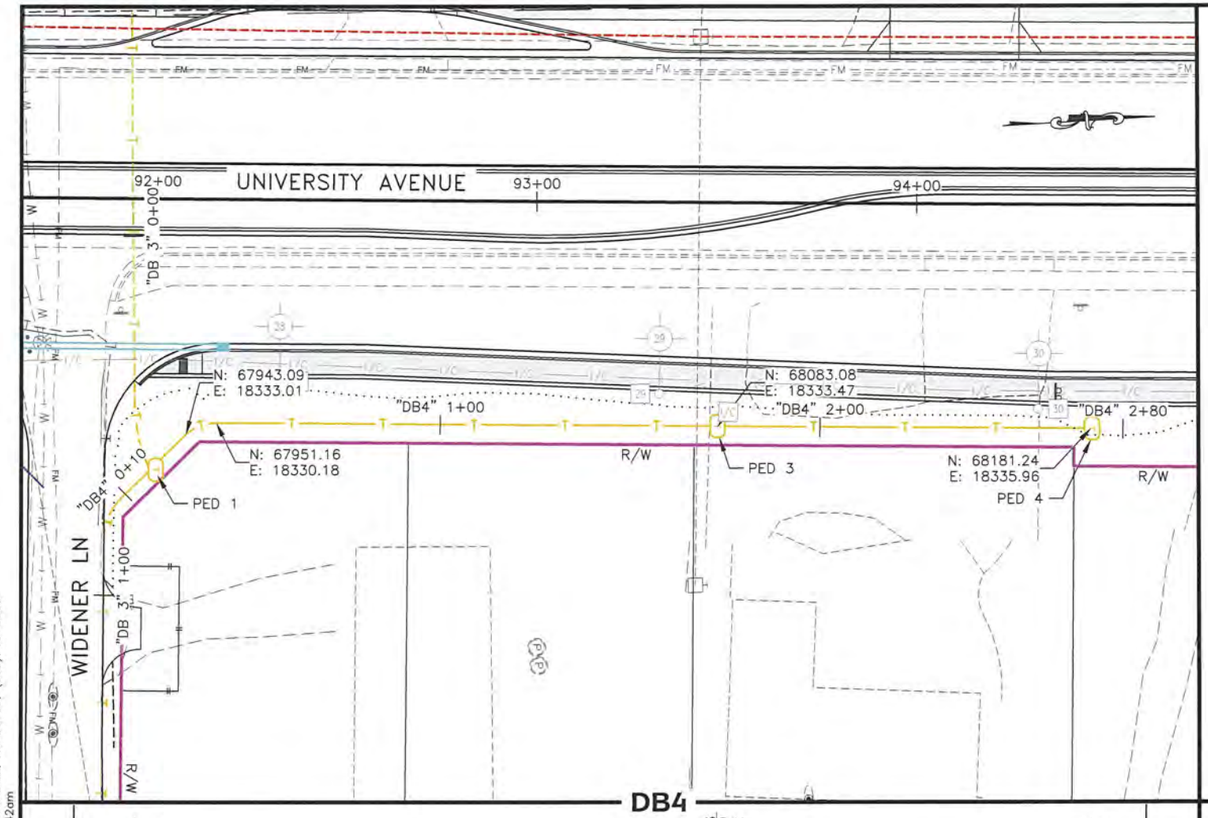
DB3



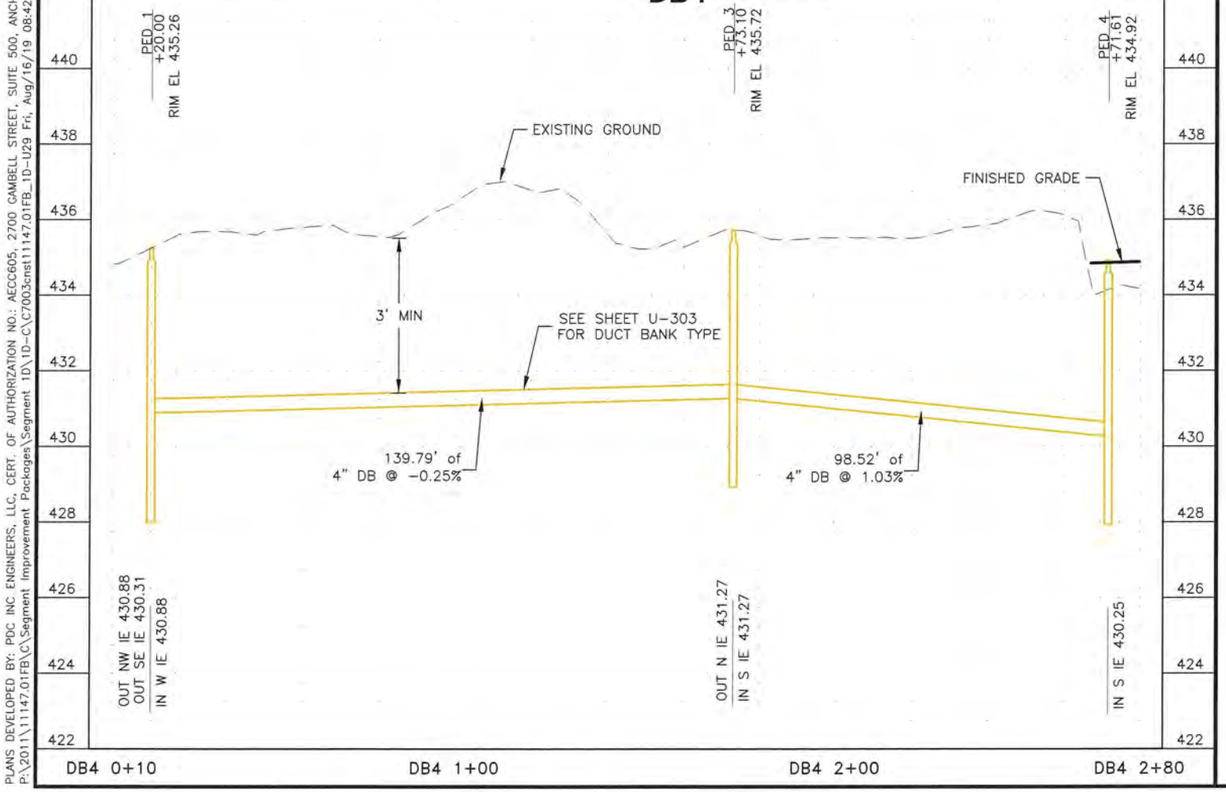
NOTES:
1. PROFILES ARE BASED ON PIPE CENTERLINE.
2. D.B. DIA. IS EFFECTIVE HEIGHT OF DUCT BANK CONDUIT GROUP.

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	U-310	U-310



DB4



ACS DUCT BANK PLAN AND PROFILE (5 OF 5)

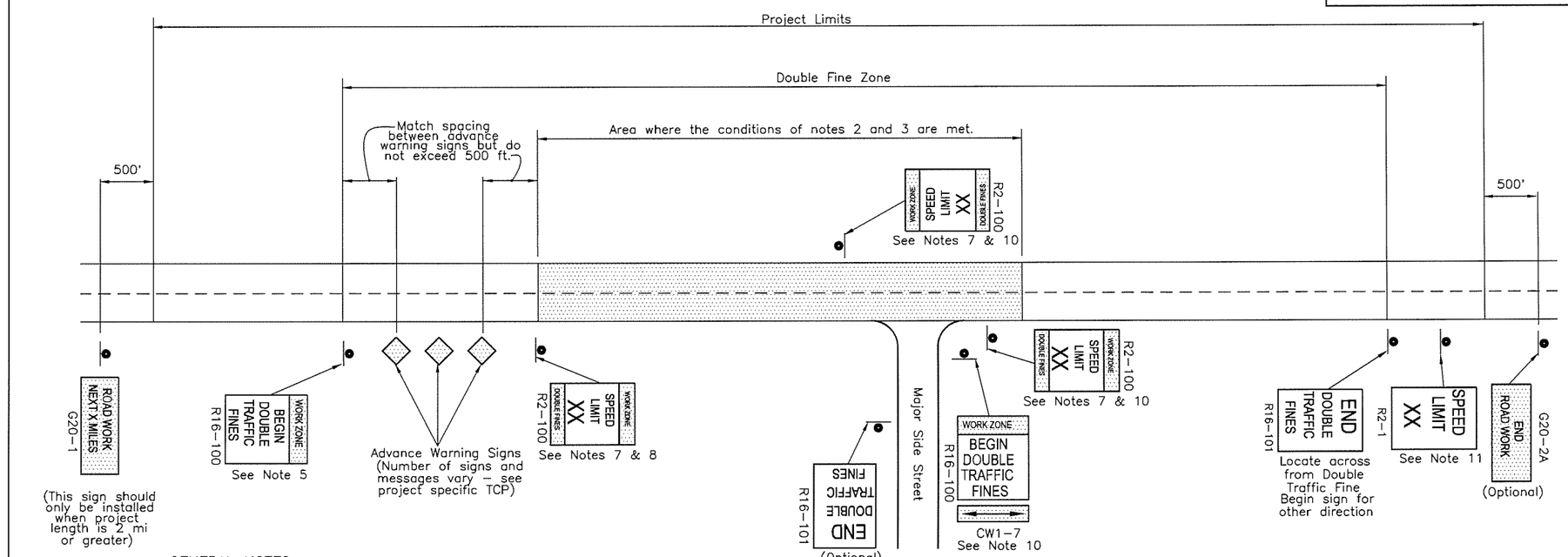
NOTES:
1. PROFILES ARE BASED ON PIPE CENTERLINE.
2. D.B. DIA. IS EFFECTIVE HEIGHT OF DUCT BANK CONDUIT GROUP.

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	V1	V36

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.

REVISIONS		
Date	Description	By
6/11/99	Revised Notes	KJS
2/28/03	Rev. Notes & Sign No's	KJS

State of Alaska
Department of Transportation
& Public Facilities

LOCATION OF
DOUBLE TRAFFIC
FINE SIGNS

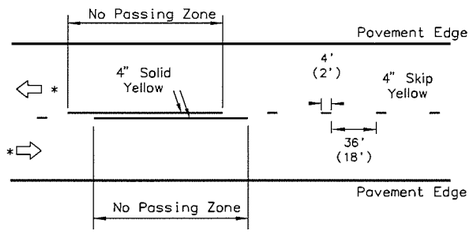
C-04.12

STANDARD DRAWING
C-04.12

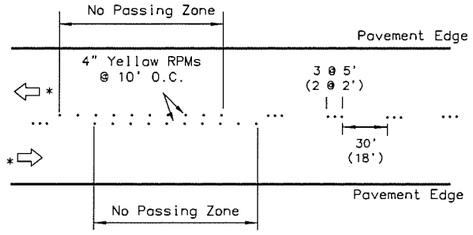
REVIEW PS&E

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	V2	V36

C-05.20



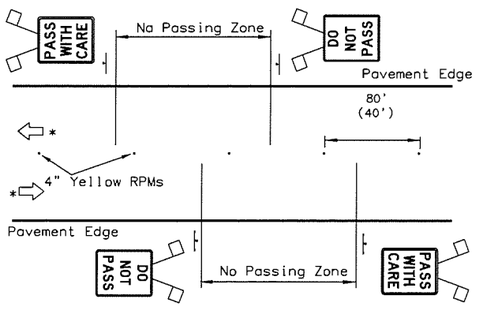
Striping



Temporary Raised Pavement Markers

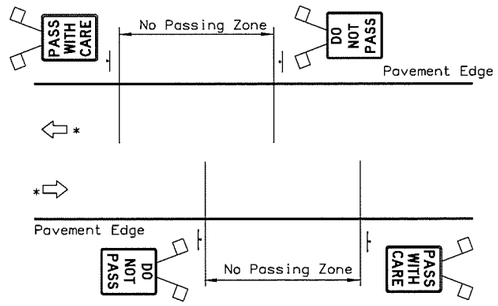
DETAIL A

Two-lane road: No Passing Zones indicated with pavement markings.



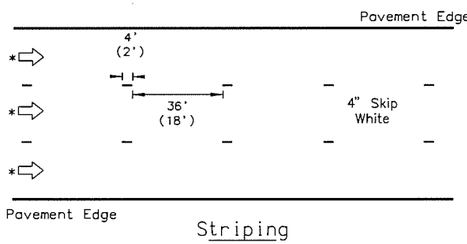
DETAIL B

Two-lane road: No Passing Zones indicated by signs only. Raised pavement markers for centerline delineation.

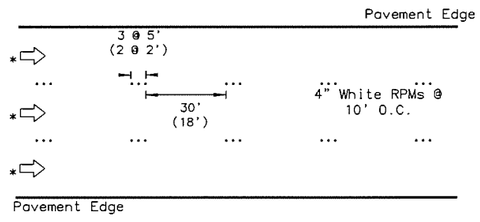


DETAIL C

Two-lane road: No Passing Zones indicated by signs only (see Note 2c). No centerline delineation.



Striping



Temporary Raised Pavement Markers

DETAIL D

Multilane one-way road: Lane dividing lines

* Direction of Travel

GENERAL NOTES:

1. Final pavement markings conforming to Part 3 of the Alaska Traffic Manual should be installed before paved roads are open to public travel. If that is not practical, install interim pavement markings as shown on this drawing. Maintain interim pavement markings until final pavement markings are installed.

2. No interim pavement markings are required:
   a. on projects that will not have permanent markings when finished.
   b. in work zones that are open to public travel for no more than one work shift during daytime or for no more than one hour at night.
   c. where DO NOT PASS and PASS WITH CARE signs are installed on two lane roads as shown in Detail C, no pavement markings are required:
      1) for 3 days if seasonal ADT is above 2000, or
      2) for 1 month if seasonal ADT is below 2000.

3. Interim pavement markings should not be in place longer than 14 calendar days before being replaced with permanent markings conforming to Part 3 of the Alaska Traffic Manual unless the Engineer provides written approval.

4. Where R4-1 DO NOT PASS signs are used, install at the beginning of no passing zones and at no more than 1500' spacings within no passing zones.

5. Install high level warning devices on all DO NOT PASS and PASS WITH CARE signs.

6. Offset temporary markings 8"-12" from the future location of permanent markings if applied on the same lift of pavement.

7. Dimensions in parenthesis apply to curves with a radius of 1000 feet or less or where posted speed limit is 30 mph or less.

REVISIONS		
Date	Description	By
4/28/10	RPM spacing, signs	KJS

Sheet 1 of 1

State of Alaska
Department of Transportation
& Public Facilities

INTERIM
PAVEMENT MARKINGS

C-05.20

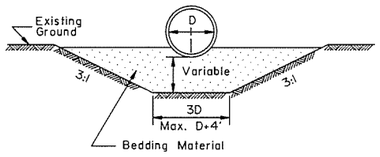
STANDARD DRAWING
C-05.20

REVIEW
PS&E

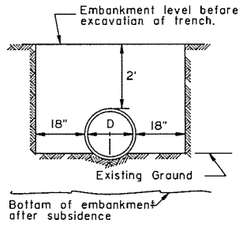
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V3	V36

D-01.02

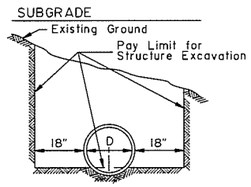
SHEET | of |



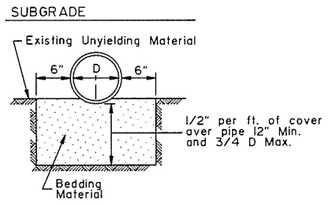
TYPE "A"
FOUNDATION STABILIZATION
To be used in unstable areas as directed by the Engineer.



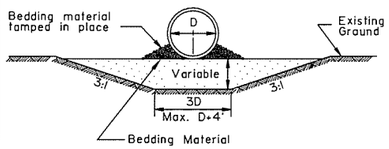
TYPE "B"



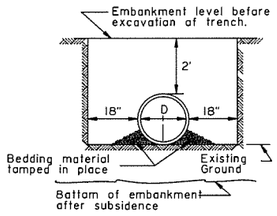
TYPE "C"



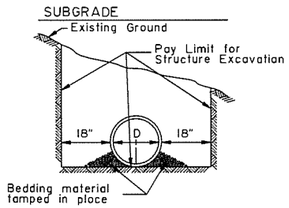
TYPE "D"
ROCK OR UNYIELDING MATERIAL



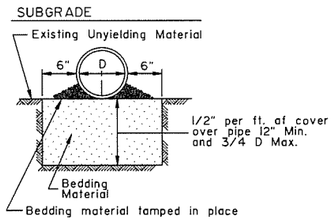
'ALTERNATE'
TYPE "A"
FOUNDATION STABILIZATION
To be used in unstable areas as directed by the Engineer.



'ALTERNATE'
TYPE "B"



'ALTERNATE'
TYPE "C"

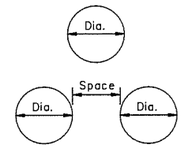


'ALTERNATE' TYPE "D"
ROCK OR UNYIELDING MATERIAL

GENERAL NOTES:

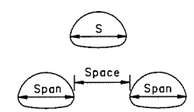
1. Sidefill shall be placed and compacted with care under haunches of pipe and shall be brought up evenly and simultaneously on both sides of pipe to 1 foot above the top of the full length of the pipe.
2. Alternate installation methods may only be used when specified or approved by the Engineer.

D = Naminal Pipe Diameter



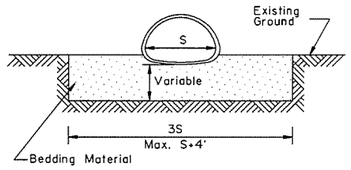
MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Dia. of pipe or 3', whichever is less.

S = Nominal Pipe Arch Span

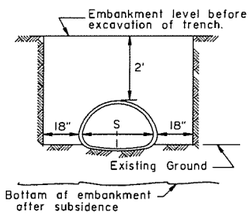


MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Span of pipe arch or 3', whichever is less.

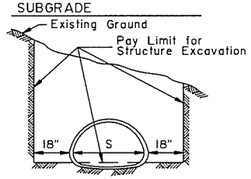
CULVERT PIPE



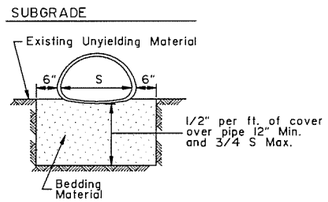
TYPE "A"
FOUNDATION STABILIZATION
To be used in unstable areas as directed by the Engineer.



TYPE "B"



TYPE "C"



TYPE "D"
ROCK OR UNYIELDING MATERIAL

ARCH

REVISIONS		
Date	Description	By
12/1/87	*Delete ref. to Specs.*	*Gdo*
4/1/93	*Delete Alt. Arch*	*Gdo*

State of Alaska
Department of Transportation
& Public Facilities

CULVERT PIPE & ARCH
INSTALLATION DETAILS

D-01.02

CULVERT PIPE & ARCH INSTALLATION DETAILS

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\d0102_11147.01FB-V3-SD Mon, Aug/12/19 02:29pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V4.1	V36

D-04.21

GENERAL NOTES:

1. All material and workmanship shall be in accordance with the State of Aloska, Standard Specifications far Highway Construction.
2. The cantroctor shall select only pipes that meet specific height of cover criteria shown an the plans or in the special provisions.
3. No more than one type of pipe may be used on any single installation or installation grouping.
4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plotes allowed.
5. See Standard Drowing "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the top of flexible pavement subgrode. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflecton.
7. These tables have been developed for an H-20 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil caver exceeds 120 lbs. per cubic foot, the contractor shall use the depth of caver shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2000 AASHTO "LRFD Bridge Design Specifications".

CORRUGATED CIRCULAR ALUMINUM PIPE

Minimum & Maximum Cover For 2 2/3" x 1/2" Aluminum Pipe

GAGE	0.060"		0.075"		0.105"		0.135"		0.164"	
Dia. (in)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)
12	12	100+	12	100+	12	100+	12	100+	12	100+
15	12	94	12	100+	12	100+	12	100+	12	100+
18	12	75	12	94	12	100+	12	100+	12	100+
21	12	65	12	82	12	100+	12	100+	12	100+
24	12	56	12	71	12	99	12	100+	12	100+
27	12	48	12	63	12	89	12	100+	12	100+
30			12	56	12	79	12	100+	12	100+
36			12	47	12	66	12	85	12	100+
42			12	55	12	56	12	73	12	100+
48			12	47	12	49	12	63	12	78
54					15	43	15	56	15	69
60							15	50	15	62
66							18	44	18	56
72									18	45

Minimum & Maximum Cover For 3" x 1" Aluminum Pipe

GAGE	0.060"		0.075"		0.105"		0.135"		0.164"	
Dia. (in)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)
30	12	52	12	65						
36	12	43	12	54	12	100+	12	100+	12	100+
42	12	36	12	46	12	65	12	100+	12	100+
48	12	32	12	40	12	57	12	73	12	100+
54	15	28	15	35	15	50	12	65	12	100+
60	15	25	15	32	15	45	15	58	15	72
66	18	23	18	28	18	41	18	53	18	65
72	18	21	18	26	18	37	18	48	18	59
78			21	24	21	34	21	44	21	55
84					21	31	21	41	21	57
90					24	29	24	38	21	47
96					24	27	24	36	24	44
102							24	33	24	41
108							24	31	24	39
114									24	37
120									24	35

Minimum & Maximum Cover For 9" x 2 1/2" Aluminum Structural Plate Pipe*

GAGE	0.100"		0.125"		0.150"		0.175"		0.200"		0.225"		0.250"	
Dia. (in)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)
60	12	39 31	12	38 45	12	49 60	12	58 70	12	58 81	12	58 92	12	58 100+
66	12	26 28	12	35 41	12	44 54	12	53 64	12	53 74	12	53 84	12	53 94
72	13	24 25	12	32 37	12	41 50	12	48 58	12	48 67	12	48 77	12	48 86
78	14	22 23	12	29 35	12	37 46	12	45 54	12	45 62	12	45 71	12	45 79
84	15	20 22	13	27 32	12	35 42	12	41 50	12	41 58	12	41 66	12	41 73
90	16	19 20	14	25 30	13	32 40	12	39 47	12	39 54	12	39 61	12	39 68
96	17	18 19	15	24 28	14	30 37	13	36 44	12	36 50	12	36 57	12	36 64
102	18	17 18	16	22 26	15	29 35	14	34 41	13	34 47	13	34 54	13	34 60
108	19	16 17	17	21 25	16	27 33	14	32 39	14	32 45	14	32 51	14	32 57
114	20	15 16	18	20 23	16	25 31	15	30 37	15	30 42	15	30 48	15	30 54
120	21	14 15	19	19 22	17	24 30	16	29 35	15	29 40	15	29 46	15	29 51
126	22	13 14	20	18 21	18	23 28	17	27 33	16	27 38	16	27 44	16	27 49
132	23	13 14	21	17 20	19	22 27	18	26 32	17	26 37	17	26 42	17	26 47
138	24	12 13	22	16 19	20	21 26	18	25 30	18	25 35	18	25 40	18	25 44
144	25	12 12	22	16 18	21	20 25	19	24 29	18	24 33	18	24 38	18	24 43
150			23	15 18	21	19 24	20	23 28	19	23 32	19	23 36	19	23 41
156			24	14 17	22	18 23	21	22 27	20	22 31	20	22 35	20	22 39
162					23	18 22	21	21 26	21	21 30	21	21 34	21	21 38
168					24	17 21	22	20 25	21	20 29	21	20 33	21	20 36
174					25	17 20	23	20 24	22	20 28	22	20 31	22	20 35
180							24	19 23	23	19 27	23	19 30	23	19 34

*Longitudinal seams use (5 1/3) 3/4" dia. bolts per foot.

58 — Upper figure for pipe with aluminum bolts.
100+ — (FOR TABLE ABOVE ONLY.)
Lower figure for pipe with galvanized steel bolts.

CORRUGATED ALUMINUM PIPE-ARCH

Minimum & Maximum Cover For 2 2/3" x 1/2" Aluminum Pipe-Arch

Span x Rise (In. x In.)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (In)	Max. Cover (Ft) 2 Tons Corner Bearing Pressure	Max. Cover (Ft) 3 Tons Corner Bearing Pressure ⓒ
17 x 13	3	0.060	12	13	20
21 x 15	3	0.060	12	12	19
24 x 18	3	0.060	12	11	16
28 x 20	3	0.075	12	10	16
35 x 24	3	0.075	12	9	14
42 x 29	3 1/2	0.105	12	7	13
49 x 33	4	0.105	15	6	12
57 x 38	5	0.135	15	6	12
64 x 43	6	0.135	18	6	12
71 x 47	7	0.164	18	6	12

Minimum & Maximum Cover For 3" x 1" Aluminum Pipe-Arch

Span x Rise (In. x In.)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (In)	Max. Cover (Ft) 2 Tons Corner Bearing Pressure	Max. Cover (Ft) 3 Tons Corner Bearing Pressure ⓒ
40 x 31	5	0.075	30	8	12
46 x 36	6	0.075	24	8	13
53 x 41	7	0.075	24	8	13
60 x 46	8	0.075	24	13	20
66 x 51	9	0.075	18	13	20
73 x 55	12	0.075	18	16	24
81 x 59	14	0.105	18	14	22
87 x 63	14	0.105	18	13	20
95 x 67	16	0.105	18	12	18
103 x 71	16	0.135	24	11	17
112 x 75	18	0.164	24	10	16
117 x 79	18	0.164	24	10	15

Minimum & Maximum Cover For 9" x 2Ð " Aluminum Structural Plate Pipe-Arch*

Span x Rise (Ft-In x Ft-In)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (Ft)	Max. Cover in Feet For Soil Bearing Capacity of: 2 Tons/ft²	3 Tons/ft²
5 - 11 x 5 - 5	31.8	0.100	2	24**	24**
6 - 11 x 5 - 9	31.8	0.100	2	22**	22**
7 - 3 x 5 - 11	31.8	0.100	2	20**	20**
7 - 9 x 6 - 0	31.8	0.100	2	28**	18 **
8 - 5 x 6 - 3	31.8	0.100	2	17 **	17 **
9 - 3 x 6 - 5	31.8	0.100	2	15 **	15 **
10 - 3 x 6 - 9	31.8	0.100	2	14 **	14 **
10 - 9 x 6 - 10	31.8	0.100	2	13 **	13 **
11 - 5 x 7 - 1	31.8	0.100	2	12 **	12 **
12 - 7 x 7 - 5	31.8	0.125	2	14	16 **
12 - 11 x 7 - 6	31.8	0.150	2	13	14 **
13 - 1 x 8 - 2	31.8	0.150	2	13	18 **
13 - 11 x 8 - 5	31.8	0.150	2	12	17 **
14 - 8 x 9 - 8	31.8	0.175	2	12	18
15 - 4 x 10 - 0	31.8	0.175	2	11	17
16 - 1 x 10 - 4	31.8	0.200	2	10	16
16 - 9 x 10 - 8	31.8	0.200	2.17	10	15
17 - 3 x 11 - 0	31.8	0.225	2.25	10	15
18 - 0 x 11 - 4	31.8	0.255	2.25	9	14
18 - 8 x 11 - 8	31.8	0.250	2.33	9	14

*Longitudinal seams use (5 1/3) 3/4" dia. bolts per foot.
**Fill limited by the seam strength of the bolts. 3/4" dia. bolts per foot.

METAL THICKNESSES & GAGES

ALUMINUM	GAGE NO. (For Info Only)
0.060	16
0.075	14
0.105	12
0.135	10
0.164	8

ⓒ This column shall not be used unless specified on the plans or approved by the Regional Geotechnical Engineer.

REVISIONS		
Date	Description	By
8/10/100	Pipe Tables & G. Notes.	DFD
10/31/03	Pipe Table Updates & New Sheet 4	LRG

Sheet 1 of 4

State of Alaska
Department of Transportation & Public Facilities

PIPE AND ARCH TABLES

D-04.21

PIPE AND ARCH TABLES (1 OF 4)

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V4.2	V36

D-04.21

GENERAL NOTES

1. All material and workmanship shall be in accordance with the State of Alasko, Standord Specifications for Highwoy Construction.
2. The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
3. No more than one type of pipe may be used on any single installation or installation grouping.
4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates ollowed.
5. See Standard Drawing "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the top of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be thot required to protect the pipe from damage or deflecton.
7. These tables have been developed for an H-20 live load and far compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2000 AASHTO "LRFD Bridge Design Specifications".

Minimum & Maximum Cover For 2 2/3" x 1/2" Steel Pipe

GAGE	0.064"		0.079"		0.109"		0.138"		0.168"	
Dia. (in)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)
12	12	100+	12	100+	12	100+	12	100+	12	100+
15	12	100+	12	100+	12	100+	12	100+	12	100+
18	12	100+	12	100+	12	100+	12	100+	12	100+
21	12	100+	12	100+	12	100+	12	100+	12	100+
24	12	100+	12	100+	12	100+	12	100+	12	100+
27	12	100+	12	100+	12	100+	12	100+	12	100+
30	12	99	12	100+	12	100+	12	100+	12	100+
36	12	83	12	100+	12	100+	12	100+	12	100+
42	12	71	12	88	12	100+	12	100+	12	100+
48	12	62	12	77	12	100+	12	100+	12	100+
54			12	66	12	93	12	100+	12	100+
60					12	79	12	100+	12	100+
66					12	68	12	88	12	100+
72							12	75	12	93
78									12	79
84									12	66

Minimum & Maximum Cover For 3" x 1" Steel Pipe

GAGE	0.064"		0.079"		0.109"		0.138"		0.168"	
Dia. (in)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)
36	12		12		12	100+	12	100+	12	100+
42	12		12		12	100+	12	100+	12	100+
48	12		12	76	12	100+	12	100+	12	100+
54	12	63	12	79	12	100+	12	100+	12	100+
60	12	56	12	71	12	99	12	100+	12	100+
66	12	52	12	64	12	90	12	100+	12	100+
72	12	47	12	59	12	82	12	100+	12	100+
78	12	44	12	54	12	77	12	98	12	100+
84	12	41	12	51	12	71	12	92	12	100+
90	12	37	12	47	12	67	12	86	12	100+
96	12	35	12	44	12	62	12	80	12	98
102	18	33	18	42	18	59	18	76	18	93
108			18	40	18	55	18	71	18	87
114			18	36	18	51	18	66	18	80
120			18	34	18	46	18	61	18	75
126					18	44	18	56	18	70
132					18	41	18	53	18	64
138					18	37	18	49	18	60
144							18	44	18	55
150									18	52

Minimum & Maximum Cover For 5" x 1" Steel Pipe*

GAGE	0.064"		0.079"		0.109"		0.138"		0.168"	
Dia. (in)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)
36	12	81	12	90	12	100+	12	100+	12	100+
42	12	71	12	77	12	100+	12	100+	12	100+
48	12	62	12	68	12	100+	12	100+	12	100+
54	12	56	12	70	12	98	12	100+	12	100+
60	12	50	12	63	12	88	12	100+	12	100+
66	12	46	12	57	12	80	12	100+	12	100+
72	12	42	12	52	12	73	12	95	12	100+
78	12	39	12	48	12	68	12	87	12	100+
84	12	36	12	45	12	63	12	81	12	99
90	12	33	12	42	12	59	12	76	12	93
96	12	31	12	39	12	55	12	71	12	87
102	18	29	18	37	18	52	18	67	18	82
108			18	35	18	49	18	63	18	77
114			18	32	18	45	18	58	18	71
120			18	30	18	41	18	54	18	66
126					18	39	18	50	18	62
132					18	36	18	47	18	57
138					18	33	18	43	18	53
144							18	39	18	49
150									19	47

*Table for pipe with helical lockseams or helicol welded seams ONLY.

Minimum & Maximum Cover For 6" x 2" Steel Structural Plate Pipe**

GAGE	ALL	0.111"	0.140"	0.170"	0.188"	0.218"	0.249"	0.280"
Dia. (in)	Min. (in)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
60	12	46	68	90	100+	100+	100+	100+
66	12	42	62	81	93	100+	100+	100+
72	12	38	57	75	86	100+	100+	100+
78	12	35	52	69	79	95	100+	100+
84	12	33	49	64	73	88	100+	100+
90	12	31	45	60	68	82	97	100+
96	12	29	43	56	64	77	91	100+
102	18	27	40	52	60	73	86	94
108	18	25	38	50	57	69	81	88
114	18	24	36	47	54	65	77	84
120	18	23	34	45	51	62	73	80
126	18	22	32	42	49	59	69	76
132	18	21	31	40	46	56	66	72
138	18	20	29	39	44	54	63	69
144	18	19	28	37	43	51	61	66
150	24	18	27	36	41	49	58	64
156	24	17	26	34	39	47	56	61
162	24	17	25	33	38	46	54	59
168	24	16	24	32	36	44	52	57
174	24	16	23	31	35	42	50	55
180	24	15	22	30	34	41	48	53
186	24	15	22	29	33	40	47	51
192	24		21	28	32	38	45	50
198	30		20	27	31	37	44	48
204	30		20	26	30	36	43	47
210	30		19	25	29	35	41	45
216	30			25	28	34	40	44
222	30			24	27	33	39	43
228	30			23	27	32	38	42
234	30			23	26	31	37	41
240	30				25	31	36	40
246	36				25	30	35	39
252	36					29	34	38
258	36					28	34	37
264	36					28	33	36
270	36					27	32	35
276	36						31	34
282	36						31	34
288	42						30	33
294	42							32
300	42							32
306	42							31
312	42							30

**Longitudinal seams use (4) 3/4" dia. bolts per foot.

CORRUGATED CIRCULAR STEEL PIPE

CORRUGATED STEEL PIPE-ARCH

Minimum & Maximum Cover For 2 2/3" x 1/2" Steel Pipe-Arch

Span x Rise (In. x In.)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (In)	Max. Cover (Ft) 2 Tons Corner Bearing Pressure	Max. Cover (Ft) 3 Tons Corner Bearing Pressure ⊘
17 x 13	3	0.064	12	16	18
21 x 15	3	0.064	12	15	14
24 x 18	3	0.064	12	15	13
28 x 20	3	0.064	12	15	11
35 x 24	3	0.064	12	15	7
42 x 29	3 1/2	0.064	12	15	7
49 x 33	4	0.079	12	15	6
57 x 38	5	0.109	12	15	8
64 x 43	6	0.109	12	15	9
71 x 47	7	0.138	12	15	10
77 x 52	8	0.168	12	15	10
83 x 57	9	0.168	12	15	10

Minimum & Maximum Cover For 3" x 1" Steel Pipe-Arch

Span x Rise (In. x In.)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (In)	Max. Cover (Ft) 2 Tons Corner Bearing Pressure	Max. Cover (Ft) 3 Tons Corner Bearing Pressure ⊘
40 x 31	5	0.079	12	25	12
46 x 36	6	0.079	12	25	13
53 x 41	7	0.079	12	25	13
60 x 46	8	0.079	15	25	13
66 x 51	9	0.079	15	25	13
73 x 55	12	0.079	18	24	16
81 x 59	14	0.079	18	21	17
87 x 63	14	0.079	18	20	16
95 x 67	16	0.079	18	20	17
103 x 71	16	0.079	18	20	15
112 x 75	18	0.079	21	20	16
117 x 79	18	0.109	21	19	15
128 x 83	18	0.138	24	19	14
137 x 87	18	0.138	24	19	13
142 x 91	18	0.138	24	19	12
150 x 96	18	0.138	30	19	
157 x 96	18	0.138	30	19	
164 x 105	18	0.138	30	19	
171 x 110	18	0.138	30	19	

Minimum & Maximum Cover For 5" x 1" Steel Pipe-Arch

Span x Rise (In. x In.)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (In)	Max. Cover (Ft) 2 Tons Corner Bearing Pressure	Max. Cover (Ft) 3 Tons Corner Bearing Pressure ⊘
40 x 31	5	0.109	12	25	12
46 x 36	6	0.109	15	25	13
53 x 41	7	0.109	15	25	13
60 x 46	8	0.109	18	25	13
66 x 51	9	0.109	18	25	13
73 x 55	12	0.109	18	24	16
81 x 59	14	0.109	18	21	17
87 x 63	14	0.109	18	20	16
95 x 67	16	0.109	18	20	17
103 x 71	16	0.109	18	20	15
112 x 75	18	0.109	21	20	16
117 x 79	18	0.109	21	19	15
128 x 83	18	0.109	24	19	14
137 x 87	18	0.109	24	19	13
142 x 91	18	0.109	24	19	12
150 x 96	18	0.138	30	19	
157 x 96	18	0.138	30	19	
164 x 105	18	0.138	30	19	
171 x 110	18	0.138	30	19	

Minimum & Maximum Cover For 6" x 2" Steel Structural Plate Pipe-Arch**

Span x Rise (Ft-In x Ft-In)	Corner Radius (In)	Minimum Gage (In)	2 Tons Corner Bearing Pressure Min. Cover (In)	2 Tons Corner Bearing Pressure Max. Cover (Ft)	3 Tons Corner Bearing Pressure ⊘ Min. Cover (In)	3 Tons Corner Bearing Pressure ⊘ Max. Cover (Ft)
6-1 x 4-7	18	0.111	18	16	12	24
7-0 x 5-1	18	0.111	18	14	12	21
7-11 x 5-7	18	0.111	18	13	12	19
8-10 x 6-1	18	0.111	24	11	18	17
9-9 x 6-7	18	0.111	24	10	18	15
10-11 x 7-1	18	0.111	24	9	18	14
11-10 x 7-7	18	0.111	24	7	18	13
12-10 x 8-4	18	0.111	30	6	24	12
14-1 x 8-9	18	0.111	30	5	24	11
15-4 x 9-3	18	0.111	NS	NS	24	10
15-10 x 9-10	18	0.111	NS	NS	24	9
16-7 x 10-1	18	0.111	NS	NS	24	9
13-3 x 9-4	31	0.111	24	13	24	17
14-2 x 9-10	31	0.111	24	12	24	16
15-4 x 10-4	31	0.111	24	11	24	15
16-3 x 10-10	31	0.111	24	11	24	14
17-2 x 11-4	31	0.111	30	10	30	13
18-1 x 11-10	31	0.111	30	10	30	12
19-3 x 12-4	31	0.111	30	9	30	13
19-11 x 12-10	31	0.140	30	9	30	13
20-7 x 13-2	31	0.140	36	7	36	13

NS = Not Suitable

⊘ This column shall not be used unless specified on the plans or approved by the Region Geotechnical Engineer.

**Longitudinal seams use (4) 3/4" dia. bolts per foot.

METAL THICKNESSES & GAGES

STEEL ZINC COATED	STEEL UNCOATED	GAGE NO. (For Info Only)
0.064	0.0598	16
0.079	0.0747	14
0.109	0.1047	12
0.138	0.1345	10
0.168	0.1644	8
0.188	0.1838	7
0.218	0.2145	5
0.249	0.2451	3
0.280	0.2758	1

REVISIONS

Date	Description	By
8/10/00	Pipe Tables & G. Notes.	DFD
10/31/03	Pipe Table Updates & New Sheet 4.	LRG

Sheet 2 of 4

State of Alaska
Department of Transportation & Public Facilities

PIPE AND ARCH TABLES

D-04.21

PIPE AND ARCH TABLES (2 OF 4)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	V4.3	V36

D-04.21

Maximum Cover for Type S Corrugated Polyethelene Pipe	
Size (in.)	Max. Cover (ft.)
12	30.0
15	30.0
18	30.0
24	30.0
30	30.0
36	30.0
40	20.0
48	20.0

GENERAL NOTES

1. All materials and workmanship shall be in accordance with the State of Alaska Standard Specifications for Highway Construction.
2. For foundation and structural backfill details see Standard Drawing "Culvert Pipe & Arch Installation Details".
3. Pipe cover height is measured from top of the pipe to top of rigid pavement, or to the top of subgrade for flexible pavement. In all cases the minimum cover shall be no less than 2 ft. Where loads traverse the culvert during construction minimum cover shall be no less than 4 ft.

REVISIONS		
Date	Description	By
10/31/03	New Sheet 4.	LRG

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State of Alaska
Department of Transportation
& Public Facilities

PIPE AND ARCH TABLES

D-04.20

PIPE AND ARCH TABLES
(3 OF 4)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\d0421_11147.01FB-V4.3-SD Mon, Aug/12/19 02:32pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V4.4	V36

D-04.21

GENERAL NOTES

1. All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
2. The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
3. No more than one type of pipe may be used on any single installation or installation grouping.
4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
5. See Standard Drawing "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the top of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflecton.
7. These tables have been developed for an H-20 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2000 AASHTO "LRFD Bridge Design Specifications".

Minimum & Maximum Cover For Aluminum Spiral Rib Circular Pipe*

GAGE	0.060"		0.075"		0.105"		0.135"	
Dia. (in)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)	Min. (in)	Max. (Ft)
12	24	35	24	50				
18	24	34	24	49				
24	24	25	24	36	24	63	24	82
30	24	19	24	28	24	50	24	65
36	24	15	24	24	24	41	24	54
42			24	19	24	35	24	46
48			24	17	24	30	24	40
54			24	14	24	27	24	35
60			24	12	24	24	24	30

*¼ x ½ x 7½ in. or ¾ x 1 x 1½ in. Corrugations

Minimum & Maximum Cover For Aluminum Spiral Rib Pipe-Arch*

		Soil Corner Bearing Capacity of 2 Tons/ s.f.		
		0.060"	0.075"	0.105"
Span x Rise (In. x In.)	Min. Cover (In.)	Max. Cover (ft.)	Max. Cover (ft.)	Max. Cover (ft.)
20 x 16	12	13		
23 x 19	12	14		
27 x 21	12	13		
33 x 26	12	13		
40 x 31	12	13		
46 x 36	12	14		
53 x 41	18		13	
60 x 46	18		20	
66 x 51	18		21	
73 x 55	18			21
81 x 59	18			17
87 x 63	18			17
95 x 67	18			17

*¼ x ½ x 7½ in. or ¾ x 1 x 1½ in. Corrugations

ALUMINUM SPIRAL RIB PIPE

STEEL SPIRAL RIB PIPE

Minimum & Maximum Cover For Steel and Aluminized Steel Spiral Rib Circular Pipe*

GAGE	0.064"		0.079"		0.109"		0.138"**	
Dia. (In)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)	Min. (In)	Max. (Ft)
18	12							
24	12	51	12	72	12	121		
30	12	41	12	58	12	97		
36	12	34	12	48	12	81		
42	12	29	12	41	12	69		
48	12	26	12	36	12	61		
54	18	23	18	32	18	54		
60	18	21	18	29	18	49	18	73
66	18	19	18	26	18	44	18	65
72			18	24	18	40	18	59
78			24	22	24	37	24	55
84			24	21	24	35	24	52
90					24	32	24	47
96					24	30	24	44
102					30	29	30	43
108					30	27	30	41

*¼ x ½ x 7½ in. or ¾ x 1 x 1½ in. Corrugations
**¼ x ½ x 7½ in. Corrugations Only.

Minimum & Maximum Cover For Steel Spiral Rib Arch-Pipe*

		Soil Corner Bearing Capacity of 2 Tons/ s.f.		
		0.064"	0.079"	0.109"
Span x Rise (In. x In.)	Min. Cover (In.)	Max. Cover (ft.)	Max. Cover (ft.)	Max. Cover (ft.)
20 x 16	12	13		
23 x 19	12	14		
27 x 21	12	13		
33 x 26	12	13		
40 x 31	12	13		
46 x 36	12	14		
53 x 41	18		13	
60 x 46	18		20	
66 x 51	18		21	
73 x 55	18			21
81 x 59	18			17
87 x 63	18			17
95 x 67	18			17

*¼ x ½ x 7½ in. or ¾ x 1 x 1½ in. Corrugations

REVISIONS		
Date	Description	By
8/10/00	Pipe Tables & G. Notes.	DFD
10/31/03	New Sheet 4.	LRG

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State of Alaska
Department of Transportation
& Public Facilities

PIPE AND ARCH TABLES

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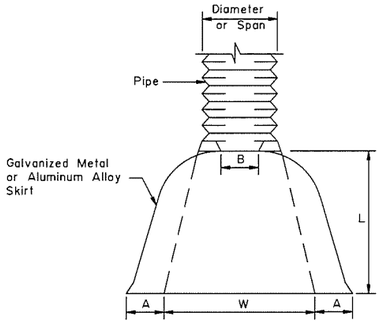
PIPE AND ARCH TABLES
(4 OF 4)

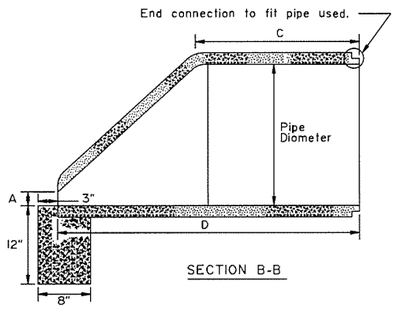
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V5.1	V36

D-06.10



PLAN

ROUND AND PIPE ARCH

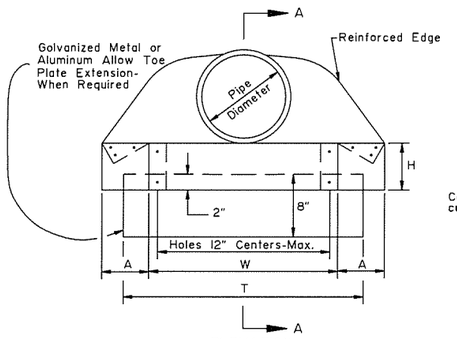


SECTION B-B

MINIMUM DIMENSIONS					
Pipe Diameter	A	B	C	D	E
12"	4"	1 3/4"	24"	46"	24"
18"	9"	2"	25"	50"	36"
24"	9 1/2"	2 1/2"	30"	72"	48"
30"	12"	3"	20"	73"	60"
36"	15"	3 3/8"	35"	97"	72"
42"	21"	3 3/4"	35"	98"	78"
48"	24"	4 1/4"	26"	98"	84"
54"	27"	4 5/8"	33"	99"	82"

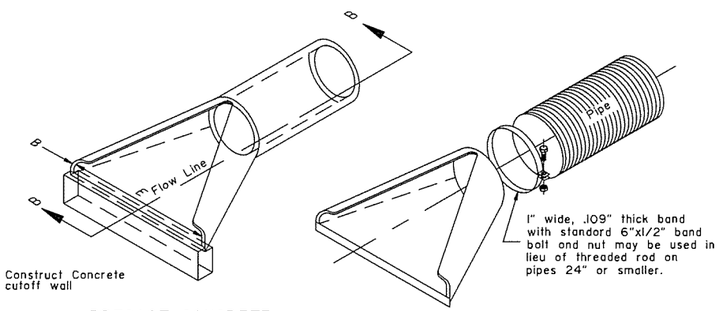
ROUND PIPE										
Pipe Diam. Inches	Thickness For Aluminum	Thk. for Galv. Metal	Dimension Inches A 1" Tol.	B Max.	H 1" Tol.	L 1 1/2" Tol.	W 2" Tol.	T 2" Tol.	Skirt	Approx. Slope
12"	0.060	0.064	6"	6"	6"	21"	24"	34"	1 Pc.	2 1/2
15"	0.060	0.064	7"	8"	6"	26"	30"	40"	1 Pc.	2 1/2
18"	0.060	0.064	8"	10"	6"	31"	36"	46"	1 Pc.	2 1/2
21"	0.060	0.064	9"	12"	6"	36"	42"	52"	1 Pc.	2 1/2
24"	0.075	0.064	10"	13"	6"	41"	48"	58"	1 Pc.	2 1/2
30"	0.075	0.079	12"	16"	8"	51"	60"	70"	1 Pc.	2 1/2
36"	0.105	0.079	14"	19"	9"	60"	72"	94"	2 Pc.	2 1/2
42"	0.105	0.109	16"	22"	11"	69"	84"	106"	2 Pc.	2 1/2
48"	0.105	0.109	18"	27"	12"	78"	90"	112"	2 Pc.	2 1/4
54"	0.105	0.109	18"	30"	12"	84"	102"	122"	2 Pc.	2 1/4
60"	0.135	0.109	18"	33"	12"	87"	114"	134"	3 Pc.	2 1/4
66"	0.135	0.109	18"	36"	12"	87"	120"	142"	3 Pc.	2 1/4
72"	0.135	0.109	18"	39"	12"	87"	126"	146"	3 Pc.	2 1/4
78"	— —	0.109	18"	42"	12"	87"	132"	152"	3 Pc.	1 1/4
84"	— —	0.109	18"	45"	12"	87"	138"	158"	3 Pc.	1 1/6

PIPE-ARCH											
Pipe-Arch Dimension Inches Span	Rise	Thickness for Aluminum	Thk. for Galv. Metal	Dimension Inches A 1" Tol.	B Max.	H 1" Tol.	L 1 1/2" Tol.	W 2" Tol.	T 2" Tol.	Skirt	Approx. Slope
17"	13"	0.060	0.064	7"	9"	6"	19"	30"	40"	1 Pc.	2 1/2
21"	15"	0.060	0.064	7"	10"	6"	23"	36"	46"	1 Pc.	2 1/2
24"	18"	0.060	0.064	8"	12"	6"	28"	42"	52"	1 Pc.	2 1/2
28"	20"	0.075	0.064	9"	14"	6"	32"	48"	58"	1 Pc.	2 1/2
35"	24"	0.075	0.079	10"	16"	6"	39"	60"	70"	1 Pc.	2 1/2
42"	29"	0.105	0.079	12"	18"	8"	46"	75"	85"	1 Pc.	2 1/2
49"	33"	0.105	0.109	13"	21"	9"	53"	85"	103"	2 Pc.	2 1/2
57"	38"	0.105	0.109	18"	26"	12"	63"	90"	114"	2 Pc.	2 1/2
64"	43"	0.105	0.109	18"	30"	12"	70"	102"	130"	2 Pc.	2 1/4
71"	47"	0.135	0.109	18"	33"	12"	77"	114"	144"	3 Pc.	2 1/4
77"	52"	0.135	0.109	18"	36"	12"	84"	120"	158"	3 Pc.	2 1/4
83"	57"	0.135	0.109	18"	39"	12"	90"	126"	170"	3 Pc.	2 1/4

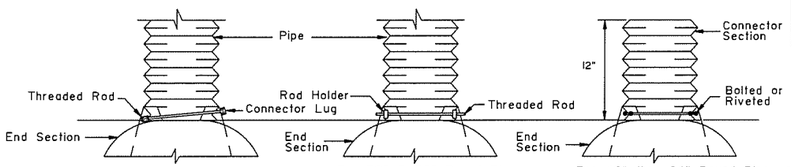


ELEVATION

ROUND PIPE



PRECAST CONCRETE END SECTION

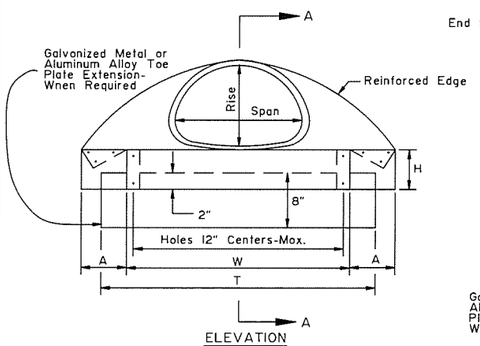


For 12" thru 24" Round Pipe with Annulor Corrugations

For 30" & 36" Raund Pipe and 18"x11" thru 58"x36" Pipe Arch with Annular Corrugations.

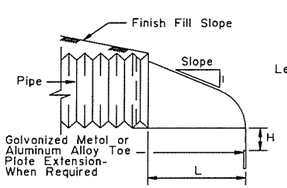
DESIGN A

For 42" thru 84" Raund Pipe and 65"x40" thru 85"x54" Pipe Arch with Annular Corrugations and All Helically Corrugated Pipe and Pipe Arch.

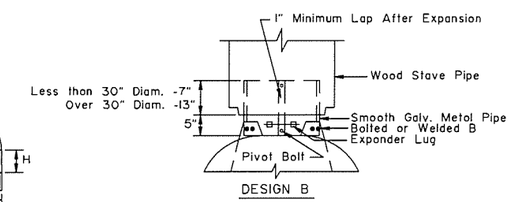


ELEVATION

PIPE ARCH



SECTION A-A



DESIGN B

METAL END SECTION CONNECTED TO WOOD STAVE PIPE

GENERAL NOTES:

1. Toe plate extensions will be required only when provided for on the plans. When required, the toe plate extensions shall be punched with holes to match those in lip of skirt and fastened with 3/8 inch or larger galvanized nuts and bolts and shall be the same gage as the end section.
2. Galvanized Metal or Aluminum Alloy End Sections may be used on Wood Stave and Plastic Pipe.
3. All 3 piece bodies shall have 12 gage sides and 10 gage center panels. Multiple panel bodies shall have lap seams which are to be tightly joined by 3/8" galvanized rivets or bolts.

REVISIONS		
Date	Description	By
3/1/83	Arch Dimensions	WJF/HK
8/10/00	Note 2	DFD

Sheet 1 of 3

State of Alaska
Department of Transportation
& Public Facilities

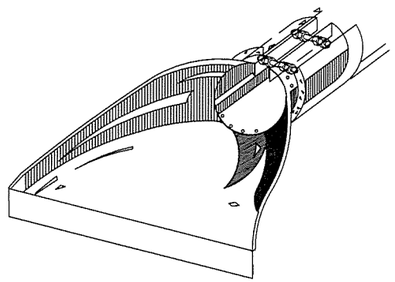
CULVERT END SECTIONS

D-06.10

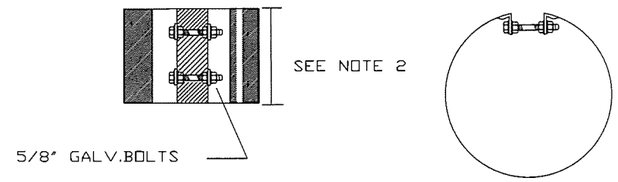
CULVERT END SECTIONS
(1 OF 3)

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V5.2	V36

D-06.10



FOR CONNECTING CONCRETE PIPE OR CORRUGATED POLYETHYLENE PIPE TO METAL END SECTION.



GENERAL NOTES

1. See general notes on sheet 1 of 3.
2. See sheet 1 of 3 for metal end section dimensions.
3. Insert bolts, washers and rivets shall be galvanized. Insert thickness is the same as the end section.
4. Use culvert inserts only at inlet.

METAL INSERTS FOR USE WITH CORRUGATED PLASTIC PIPE AND METAL END SECTIONS

REVISIONS		
Date	Description	By

Sheet 2 of 3

State of Alaska
Department of Transportation
& Public Facilities

CULVERT END SECTIONS

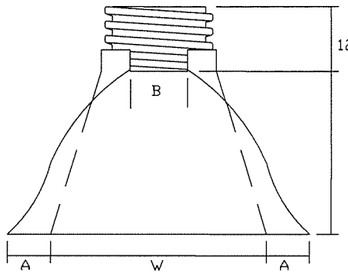
D-06.10

CULVERT END SECTIONS
(2 OF 3)

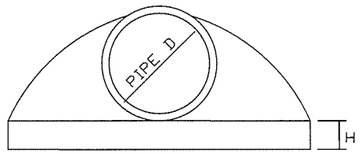
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\d0610_11147.01FB-V5.2-SD Mon, Aug/12/19 02:35pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V5.3	V36

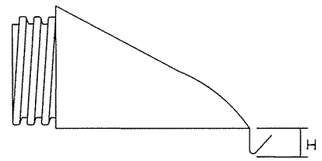
D-06.10



TOP VIEW



END VIEW



SIDE VIEW

PIPE DIAMETER	DIMENSIONS IN MILLIMETERS				
	A(1"±)	B MAX	H(1"±)	L(1/2"±)	W(2"±)
12" and 15"	6 1/2"	10"	6 1/2"	25"	29"
18"	7 1/2"	15"	6 1/2"	32"	35"
24"	7 1/2"	18"	6 1/2"	36"	45"
30"	10 1/2"	N/A	7"	53"	68"
36"	10 1/2"	N/A	7"	53"	68"

GENERAL NOTES

1. Plastic flared end sections may be used with HDPE corrugated culvert pipes where noted in project plans or approved by project engineer.
2. Consult manufacturer's recommendations for proper sizing and coupling devices. Recommended fasteners may include connecting bands or cinch ties. Fittings across dimension B may include threaded rods with wing nuts or bolts and washers. plastic welds may be recommended.
3. Align coupling to accomodate pipe corrugations.
4. Metal components e.g. bolts or washers must be galvanized.
5. Attachment of end section should preserve culvert alignment and not impair pipe function. Use end sections only on culvert inlet.
6. Toe plate extensions will be required only when designated on the plans.
7. End sections will not be used on HDPE culvert pipes larger than 36" unless indicated by project plans or approved by the Engineer.

REVISIONS		
Date	Description	By

Sheet 3 of 3

State of Alaska
Department of Transportation
& Public Facilities

CULVERT END SECTIONS

D-06.10

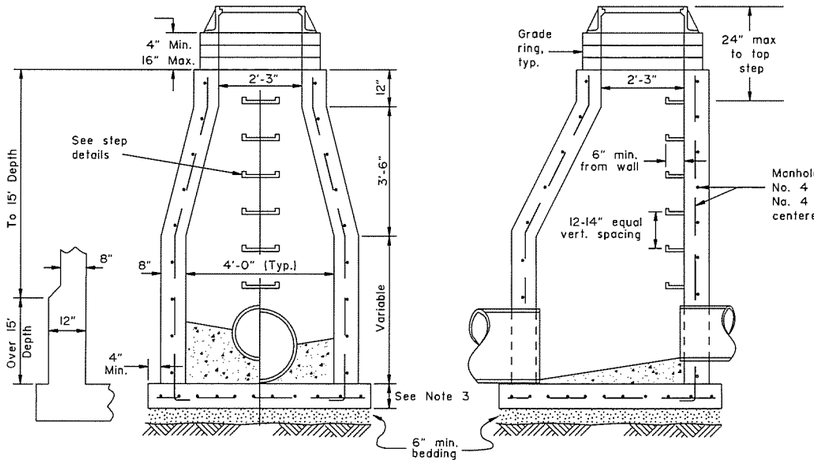
PLASTIC END SECTION FOR CORRUGATED PLASTIC PIPE

CULVERT END SECTIONS
(3 OF 3)

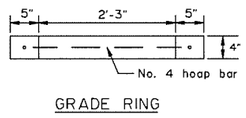
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V6	V36

D-20.05

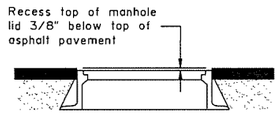
SHEET 1 of 1



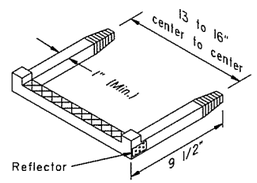
CAST-IN-PLACE MANHOLE



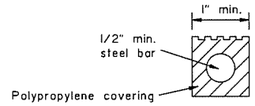
GRADE RING



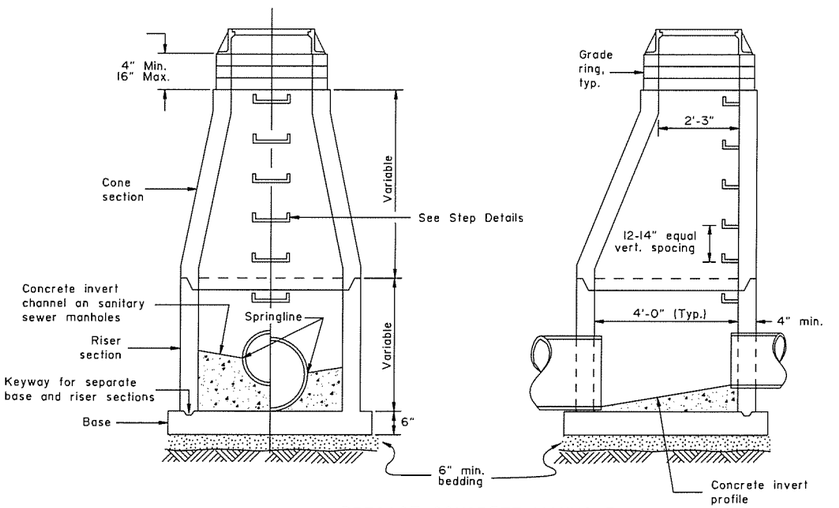
MANHOLE IN PAVEMENT



STEP DETAIL

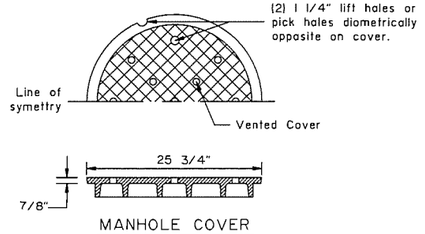


STEP CROSS SECTION

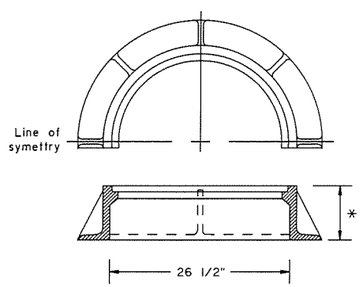


PRECAST CONCRETE MANHOLE

Reinforcement not shown for clarity
See Note 6



MANHOLE COVER



MANHOLE FRAME

MANHOLE FRAME & COVER MINIMUM WEIGHT		
* Depth	6"	380 lbs
	7"	400 lbs
	8"	440 lbs
	9"	470 lbs
	10"	500 lbs

GENERAL NOTES:

1. Either precast or cast-in-place manholes may be used.
2. Details for manhole frame, cover and step are generic in nature and may vary from shown depending on manufacturer
3. Use 8" thick cast-in-place concrete bases for depths less than 15' and 12" thick bases for depths 15' or greater.
4. Manhole frames shall have a depth of 6" unless otherwise indicated on the plans.
5. Step requirements:
   a. 18" max. vertical clearance to bottom of manhole or concrete invert.
   b. 3" minimum embedment.
   c. 1,500 lb. min. pullout force.
   d. ASTM A-615 grade 60 steel bar.
   e. Injection molded polypropylene covering meeting ASTM D-41010
   f. Slip resistant foot tread with "wings" to prevent feet from sliding off the edge.
   g. Reflectors at step corners
6. Reinforcement for precast manhole sections shall meet AASHTO M 199.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

MANHOLES, FRAME AND COVER

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

D-20.05

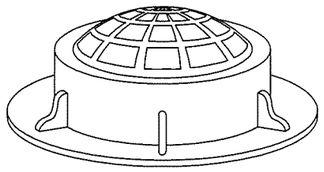
MANHOLES, FRAME AND COVER

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\d2005_11147.01FB-V6-SD Mon, Aug/12/19 02:37pm

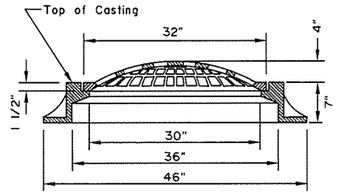
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	V7	V36

D-22.01

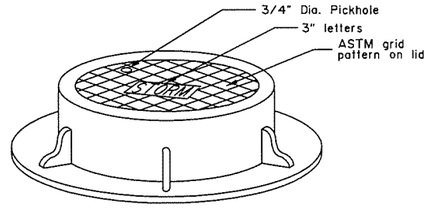


Surround field inlets with a 24" wide rock rubble collar 10" deep, 3" maximum size rock.



FIELD INLET FRAME & GRATE

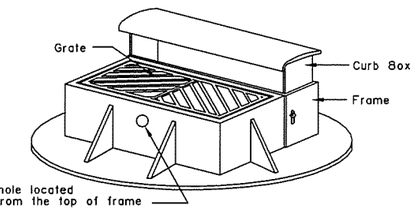
To be supplied for storm drain manholes where field inlets are specified. Field inlet frame and grate shall have a Minimum total weight of 525 lb.



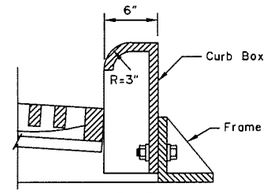
MANHOLE LID FRAME AND GRATE

NOTES:

1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers, except that inlet grate shall be within ¼"± of dimensions shown on this drawing.
2. Manhole lids shall be 32" in diameter and may be used with field inlet frames.
3. Type A field inlet frame inside dimensions shall be 24" x 36". Lugs will not protrude outside the concrete surface of the inlet box.
4. Grates shall be bicycle safe. Where high capacity grates are called for on the plans, they shall conform to Std. Dwg. D-25.
5. Frame and grate casting types are identified by the following abbreviations:
   C.I. = Curb Inlet
   F.I. = Field Inlet
   M.H. = Manhole
6. Flowline depression shall conform to Std. Dwg. D-23 for an on grade or sag point conditions.
7. These are the default frames and grates to be used unless shown otherwise on the drainage plans or drainage structure summary.

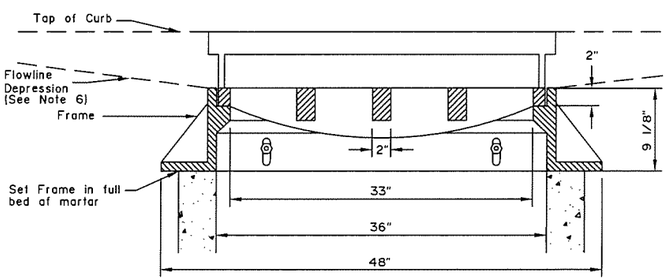


NOTE:
Curb Box, Grate and frome shall have a minimum total weight of 725 lb.

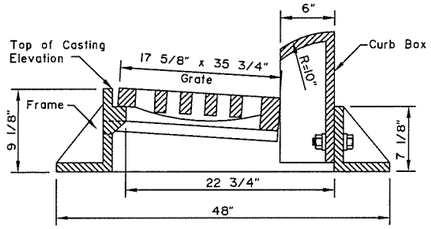


SIDE VIEW
MOUNTABLE CURB AND GUTTER

REQUIRED FRAME AND GRATES (See Note 7)			
STRUCTURE	INLET TYPE	CURB TYPE	TYPE FRAME AND GRATE
INLET BOX, TYPE A	Curb	Mountable	Standard Curb Inlet
	Curb	Expressway	Mountable Curb Inlet
	Curb	Rolled Curb	Depressed Inlet
	Field	------	Field Inlet
STORM DRAIN MANHOLES, TYPE I, II AND III	Curb	Mountable	Mountable Curb Inlet
	Curb	Expressway	Expressway Curb Inlet
	Curb	Rolled Curb	Depressed Inlet
	Field	------	Field Inlet
	Manhole Lids	------	Field Inlet Frame, Solid MH. Lid



FRONT VIEW



SIDE VIEW
EXPRESSWAY CURB AND GUTTER

CURB INLET FRAME AND GRATE

To be supplied for storm drain manholes Type I, Type II and Type III where curb inlets are specified.

NOT TO SCALE

REVISIONS		
Date	Description	By
10/31/03	Misc. Revisions/ Corrections	LRG

Sheet 1 of 1

State of Alaska
Department of Transportation & Public Facilities

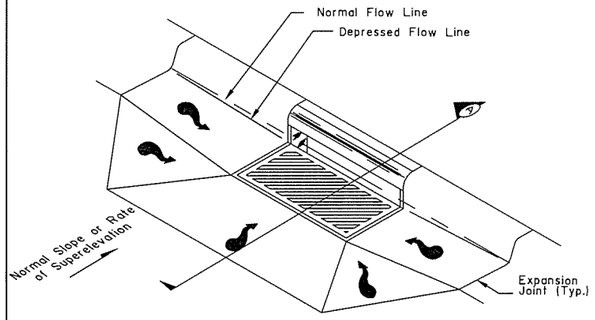
STORMDRAIN MANHOLE FRAME AND GRATE DETAILS

D-22.01

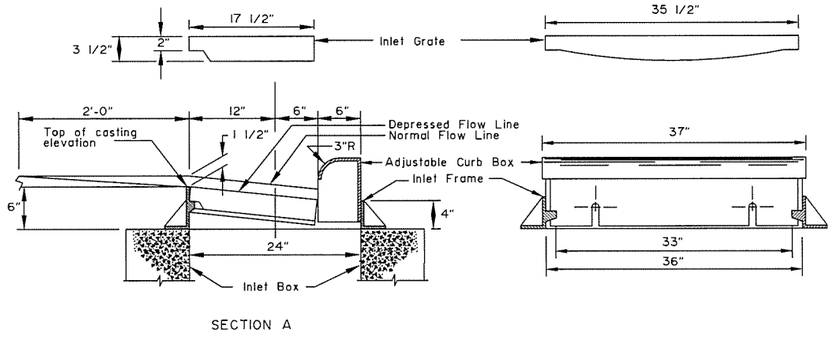
STORMDRAIN MANHOLE FRAME AND GRATE DETAILS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V8	V36

D-23.01



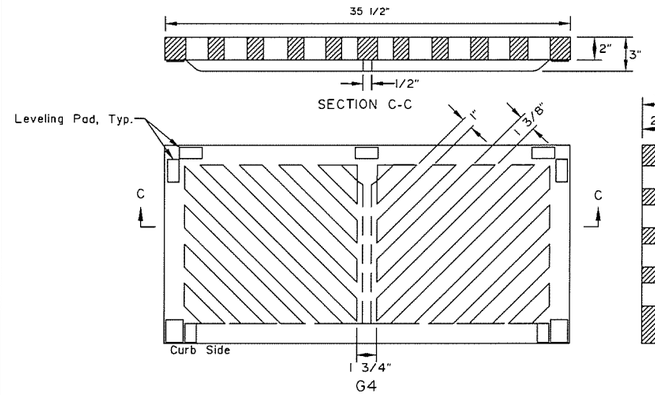
STANDARD CURB INLET INSTALLATION

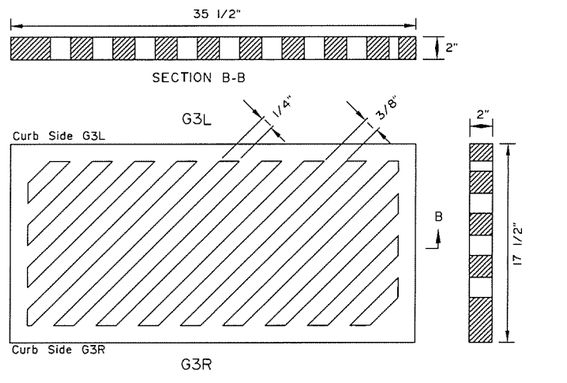


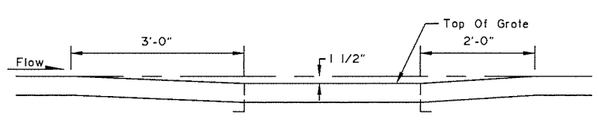
SECTION A

GENERAL NOTES:

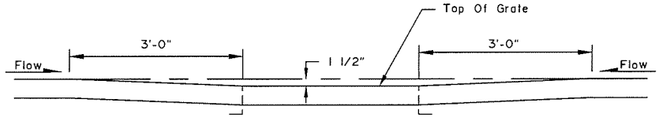
1. Details shown are ta indicate general design only. Dimensions and design may vary among the manufacturers.
2. Minimum casting weight shall be 330 lbs for Curb Inlet Frame with Curb Box and 200 lbs. for Inlet Grate.
3. The outside dimensions of Inlet Grate shall be 35 1/2" x 17 1/2" and all grates shall be inter-changeable.
4. Minimum drainage area of Inlet Grate shall be 255 square inches.
5. Inlet Grate type G-3R or G-3L shall be used in all cases except where drainage is from both directions, in which case type G-4 shall be used.







ON GRADE



AT LOW POINT

DEPRESSION IN FLOW LINE AT INLET CONSTRUCTION DETAILS

NOT TO SCALE

REVISIONS		
Date	Description	By
10/31/03	Misc. Minor Corrections	LRG

Sheet 1 of 1

State of Alaska
Department of Transportation
& Public Facilities

CURB INLET BOX
FRAME & GRATE

D-23.01

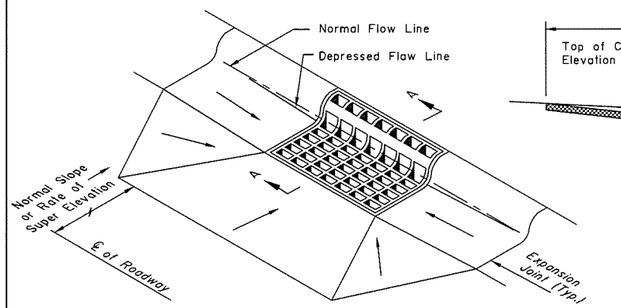
CURB INLET BOX
FRAME & GRATE

NO.	DATE	REVISION

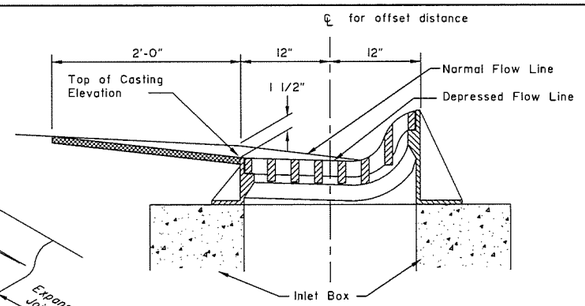
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	V9	V36

D-24.00

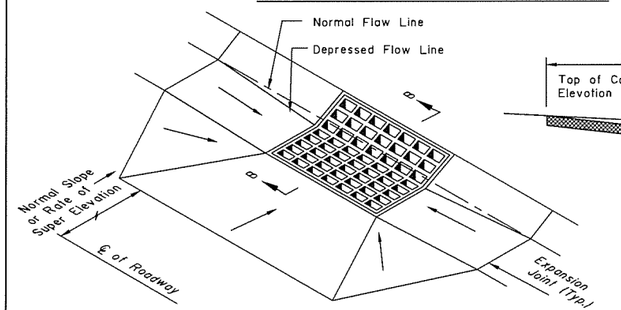
SHEET 1 of 1



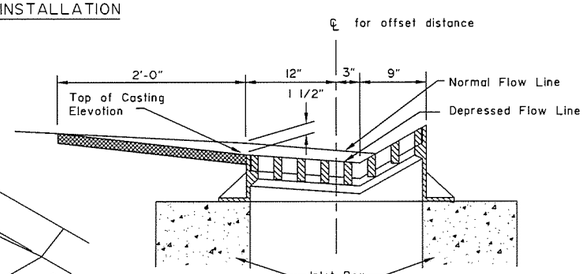
MOUNTABLE CURB INLET INSTALLATION



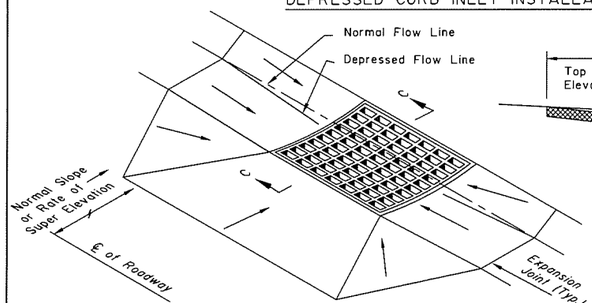
SECTION A-A



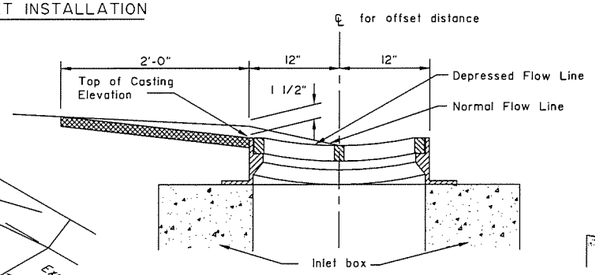
DEPRESSED CURB INLET INSTALLATION



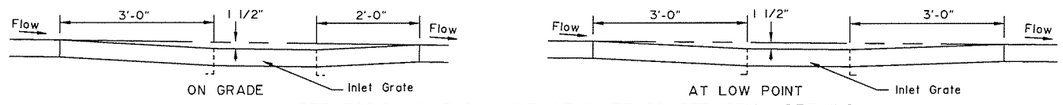
SECTION B-B



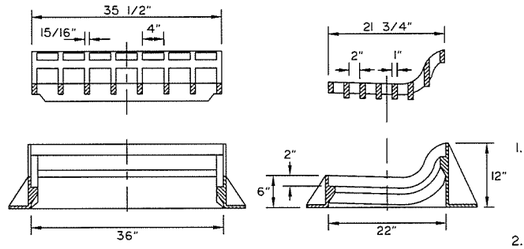
GUTTER INLET INSTALLATION



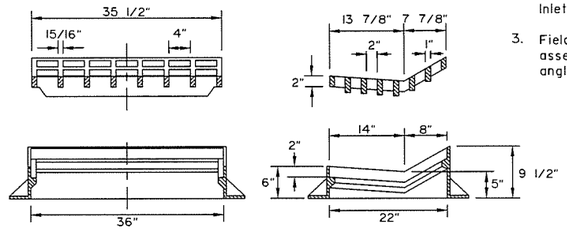
SECTION C-C



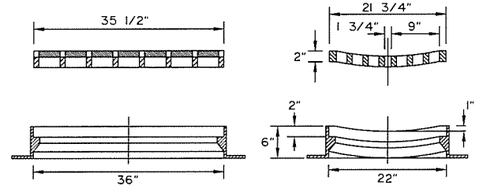
DEPRESSION IN FLOW LINE AT INLET CONSTRUCTION DETAILS



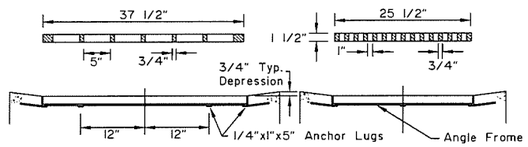
MOUNTABLE CURB INLET FRAME AND GRATE



DEPRESSED CURB INLET FRAME AND GRATE



GUTTER INLET FRAME AND GRATE



NOTE: All Angle Frame shall have Anchor Lugs

FIELD INLET FRAME AND GRATE

GENERAL NOTES:

1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers. Except inlet grate outside dimension shall be as shown on this drawing.
2. Minimum casting weight shall be 550lbs. for Curb Inlet Frame and Grate, 450lbs. for Gutter Inlet Frame and Grate, and 300lbs. for Field Inlet Frame and Grate.
3. Field Inlet Frame may be welded assembly of L 1 3/4"x1 3/4"x1/4" angle equivalent to ASTM A-36 steel.

REVISIONS		
Date	Description	By

State of Alaska
Department of Transportation
& Public Facilities

INLET FRAMES AND GRATES

7/15/82

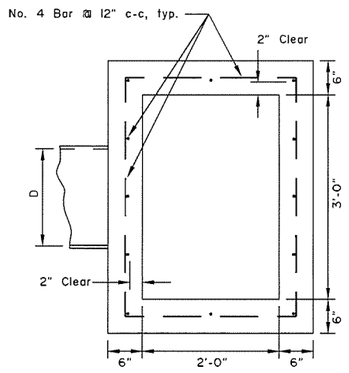
D-24.00

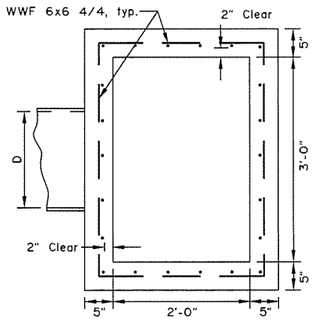
INLET FRAMES AND GRATES

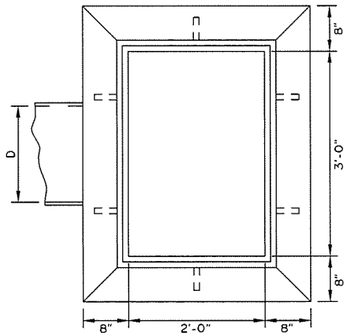
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V10	V36

D-26.04

SHEET | of |

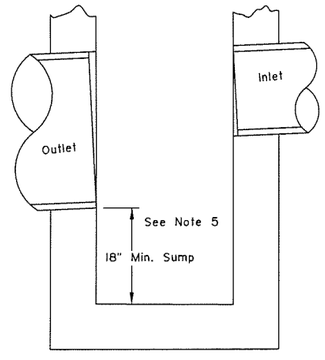




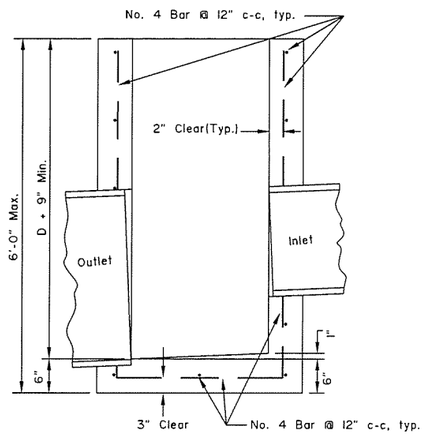


GENERAL NOTES:

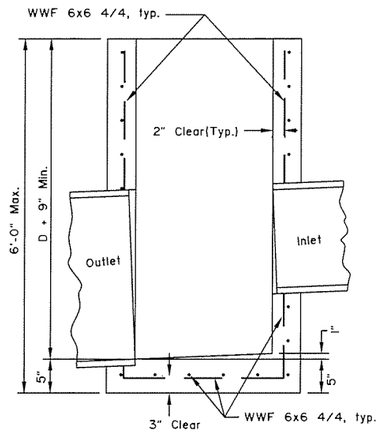
1. Install inlet boxes parallel to the curb line.
2. The plans will indicate which inlet boxes require a sump.
3. Shape floors to drain.
4. Use Grade 40 minimum reinforcing steel.
5. The plans will indicate which inlet boxes require sumps.



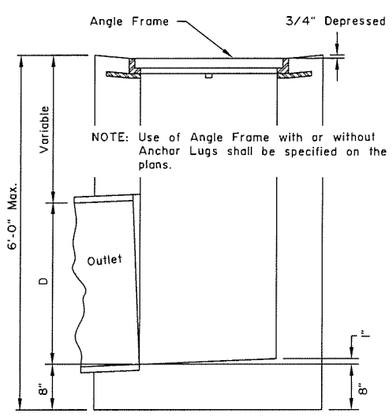
SUMP DETAIL



REINFORCED
CAST IN PLACE



PRECAST



FIELD INLET BOX
CAST* IN PLACE

* May be Precast or Reinforced Cast-In-Place Box.

TYPE "A" CONCRETE INLET BOXES

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

TYPE "A"
INLET BOX

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher
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

D-26.04

TYPE A INLET BOX

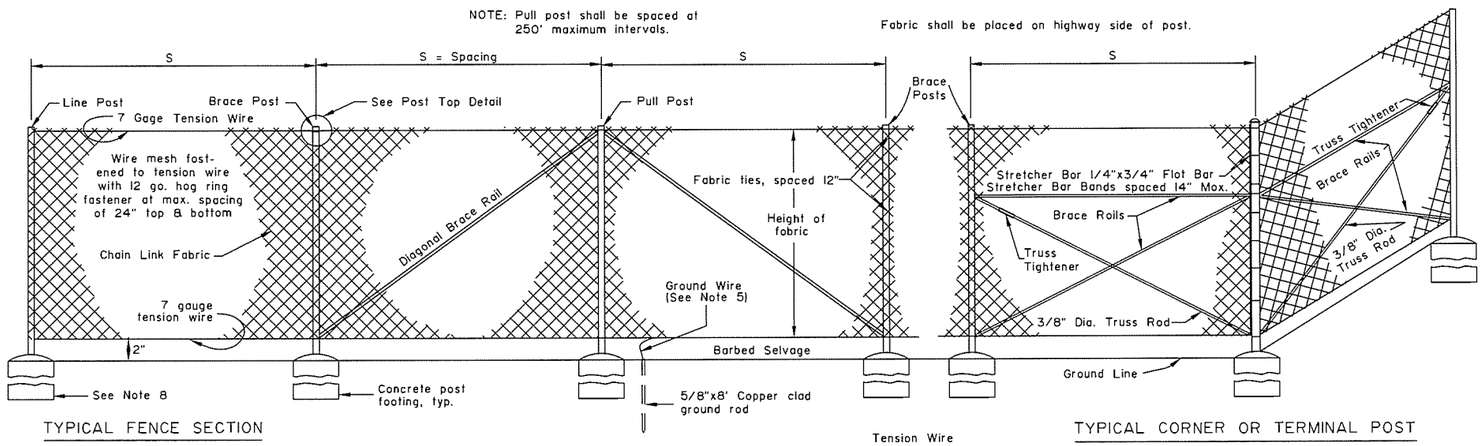
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V11	V36

F-01.03

SHEET | of |

NOTE: Pull post shall be spaced at 250' maximum intervals.

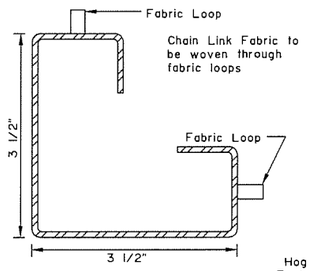
Fabric shall be placed on highway side of post.



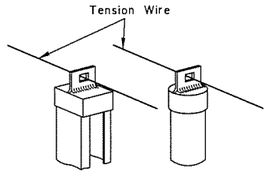
TYPICAL FENCE SECTION

TYPICAL CORNER OR TERMINAL POST

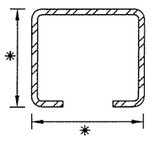
TYPICAL PULL POST



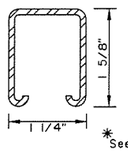
ROLL FORMED POST



LINE POST TOPS

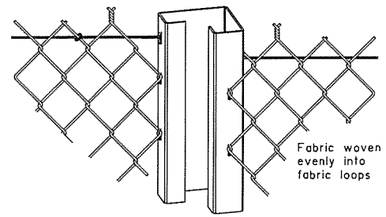


C POST

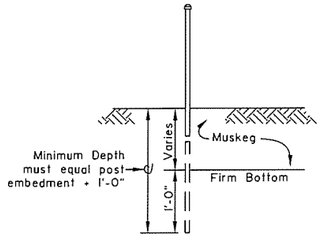


ROLL FORMED BRACE

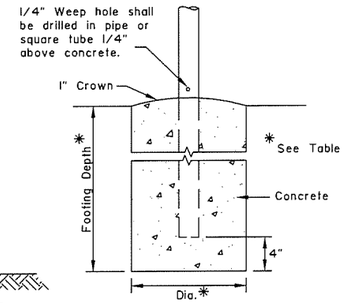
PIPE STYLE POST TOP



ROLL FORMED POST TOP



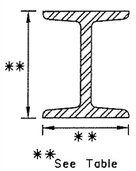
POST SETTING IN MUSKEG AREAS



CONCRETE POST FOOTING

FABRIC HEIGHT	POST								TOP OR BRACE RAIL						ALTERNATE POST	
	END-CORNER-PULL								LINE-BRACE						LINE-BRACE	
	PIPE		SQUARE TUBE		ROLL FORMED		FOOTING		PIPE		C POST		FOOTING		H POST	
	SIZE	WT/FT.	SIZE	WT/FT.	SIZE	WT/FT.	DEPTH	DIA.	SIZE	WT/FT.	SIZE	WT/FT.	DEPTH	DIA.	SIZE	WT/FT.
3'	2"	3.65#	2" x 2"	4.31#	3 1/2"x3 1/2"	4.84#	40"	10"	1 1/2"	2.72#	1 7/8"xl 5/8"	2.28#	28"	10"	1 7/8"xl 5/8"	2.72#
4'	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
5'	2"	3.65#	2" x 2"	4.31#	3 1/2"x3 1/2"	4.84#	40"	10"	1 1/2"	2.72#	1 7/8"xl 5/8"	2.28#	28"	10"	1 7/8"xl 5/8"	2.72#
6'	2 1/2"	5.79#	2 1/2"x2 1/2"	5.59#	3 1/2"x3 1/2"	4.84#	48"	15"	2"	3.65#	2 1/4"xl 45/64"	2.64#	40"	12"	2 1/4"x2"	4.1#
7'	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
8'	2 1/2"	5.79#	2 1/2"x2 1/2"	5.59#	3 1/2"x3 1/2"	4.84#	48"	15"	2"	3.65#	2 1/4"xl 45/64"	2.64#	40"	12"	2 1/4"x2"	4.1#

TOP OR BRACE RAIL						ALTERNATE POST	
PIPE		ROLL FORMED		H POST		LINE-BRACE H POST	
SIZE	WT/FT.	SIZE	WT/FT.	SIZE	WT/FT.	SIZE	WT/FT.
1 1/4"	2.27#	1 5/8"	1.35#	1 1/2"x 1 5/16"	2.27#	1 7/8"xl 5/8"	2.72#
"	"	"	"	"	"	"	"
"	"	"	"	"	"	1 7/8"xl 5/8"	2.72#
"	"	"	"	"	"	2 1/4"x2"	4.1 #
"	"	"	"	"	"	"	"
"	"	"	"	"	"	2 1/4"x2"	4.1#



H POST

GENERAL NOTES:

1. Use equal pole spacing (S). Maximum pole spacing is 10 feet unless directed otherwise by the Engineer.
2. Securely fasten post tops to post.
3. Securely fasten brace rails and truss rods to post with brace bands.
4. Provide truss rods with a tensioning adjusting mechanism.
5. Attach ground wire to fence fabric with a split bolt.
6. Stretch fabric to a smooth uniform appearance.
7. Details shown indicate general design and dimensions may vary among manufacturers.
8. Set line, pull, corner, and terminal posts in concrete footings unless in muskeg or shown otherwise in the plans.

REVISIONS		
Date	Description	By
2/01/15	8' Ground rod fix	LRG
1/16/17	Remove concrete class	LRG

State of Alaska DOT&PF

CHAIN LINK FENCE

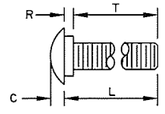
F-01.03

CHAIN LINK FENCE

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\g0004_11147.01FB-V11-SD Mon, Aug/12/19 02:42pm

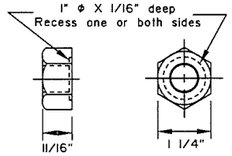
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V12.1	V36

G-00.04 SHEET 1 of 5

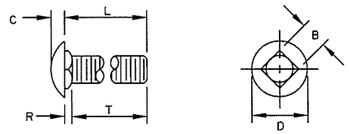


B	C	D	L (Length)	R	T (Thread Length)
15/16"	5/16"	1 5/16" or 1 7/16"	As Required	7/32"	As Required

5/8" BUTTONHEAD BOLT
(FBB01-05)

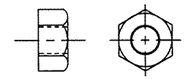


5/8" Dia. RECESSED HEX NUT
(FBB01-05)

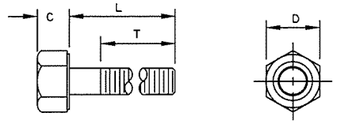


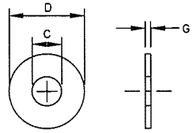
B	C	D	L (Length)	R	T (Thread Length)
5/8"	5/16"	1 5/16"	As Required	3/16"	As Required

5/8" Dia. CARRIAGE BOLT
(FBC10-20)



STANDARD HEX NUT



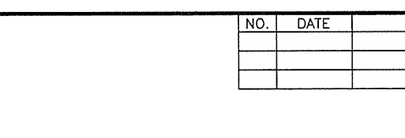


For Bolt ϕ	C	D	G
3/8"	7/16"	1"	5/64"
1/2"	17/32"	1 1/16"	3/32"
1/2" H.S.	17/32"	1 1/16"	3/32"
5/8"	11/16"	1 3/4"	9/64"
3/4"	13/16"	1 15/32"	9/64"
3/4" H.S.	13/16"	2"	5/32"
1"	1 1/16"	2"	9/64"

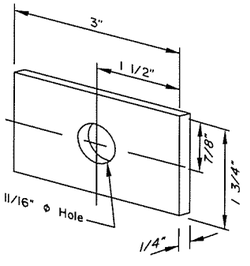
STANDARD STEEL WASHERS

Bolt Size	C	D	L (Length)	T (Thread Length)
5/16"	——	——	1 1/2"	7/8"
5/16"	——	——	1"	1"
3/8"	——	——	7 1/2"	1 1/2"
1/2"	——	——	1 1/2"	1 1/2"
1/2"	——	——	1 1/4"	1 1/4"
5/8" H.S.	5/16"	7/8"	8"	1 1/2"
5/8"-11	——	——	1 1/2"	1 1/2"
3/4"	——	——	1 1/2"	1 1/2"
3/4"	——	——	As Required	2"
3/4" H.S.	15/32"	1 1/4"	2"	1 1/2"

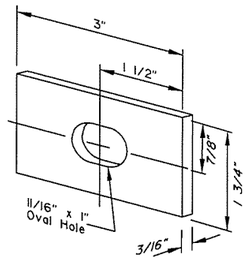
STANDARD HEX BOLTS



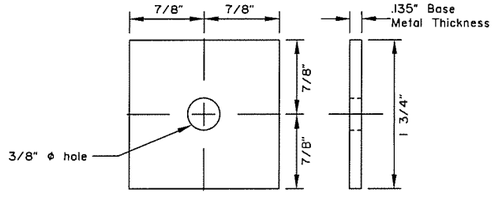
EYE BOLT



FLAT PLATE WASHER



RECTANGULAR POST BOLT WASHER
(FWR03)



SQUARE STEEL WASHER
(FWR01)

Note: drawing not to scale

GENERAL NOTES:

1. All covered hardware shall comply with the AASHTO/AGC/ARTBA "A Guide to Standardized Highway Barrier Hardware", latest edition. Designators given when possible in parentheses.

REVISIONS		
Date	Description	By
3/15/99	Delete BCT Hardware	KJS
1/16/17	Added Designators	LRG
12/22/17	No changes this sht.	LRG

State of Alaska DOT&PF

STANDARD GUARDRAIL HARDWARE
(NUTS , BOLTS & WASHERS)

G-00.04

GUARDRAIL HARDWARE
(NUTS, BOLTS & WASHERS)

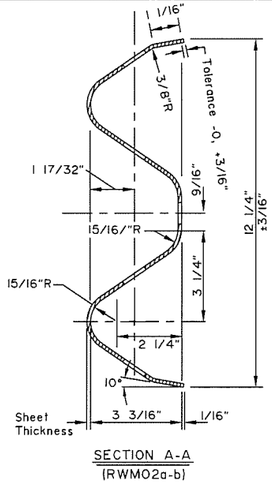
PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\g0004_11147.01FB-V12.1-SD Sat, Aug/17/19 08:45am

NO.	DATE	REVISION

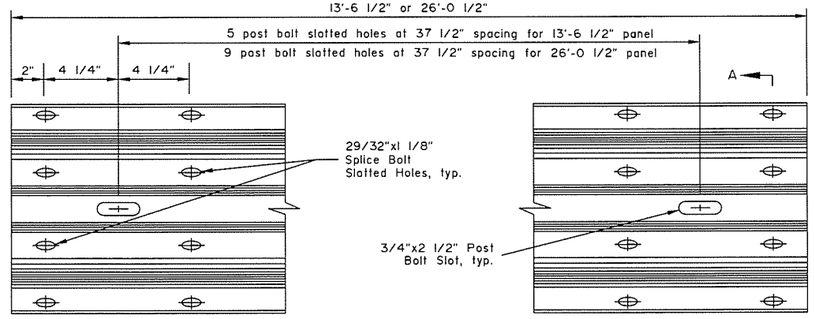
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	V12.2	V36

G-00.04

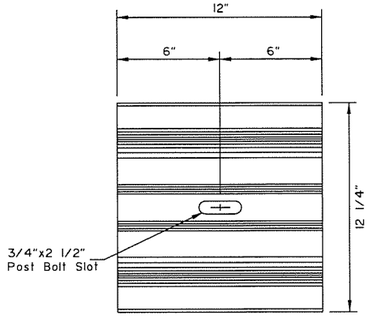
SHEET 2 of 5



SECTION A-A
(RWM02a-b)



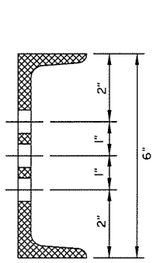
STANDARD W-BEAM PANEL (RWM04a-b)



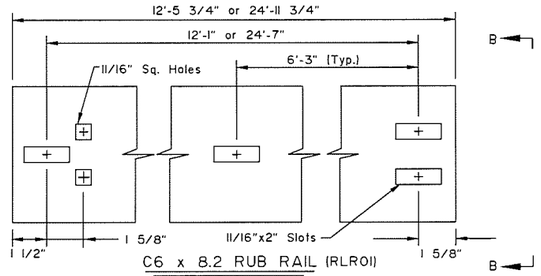
W-BEAM BACKUP PLATE
(RWB01a-b)

GENERAL NOTES:

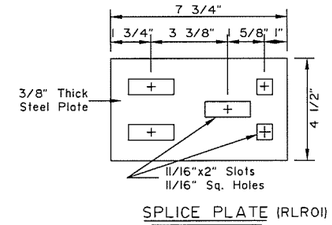
1. All covered hardware shall comply with the AASHTO/AGC/ARTBA "A Guide to Standardized Highway Barrier Hardware", latest edition. Designators given when possible in parentheses.
2. Install back-up plates between blockouts and w-beam or thrie-beam rail at intermediate (non-splice) posts when steel blockouts are used but not with wood, rubber, plastic, or other approved blockouts.



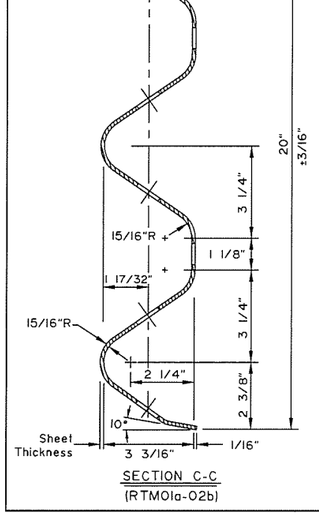
SECTION B-B



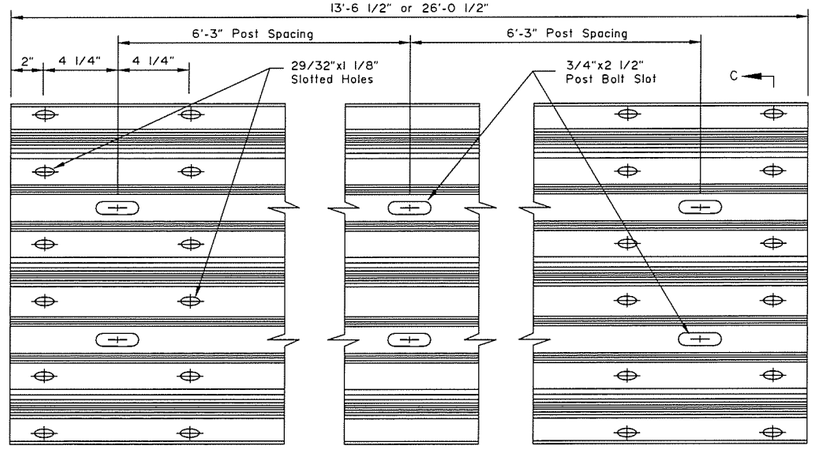
C6 x 8.2 RUB RAIL (RLR01)
ASTM A36 STEEL



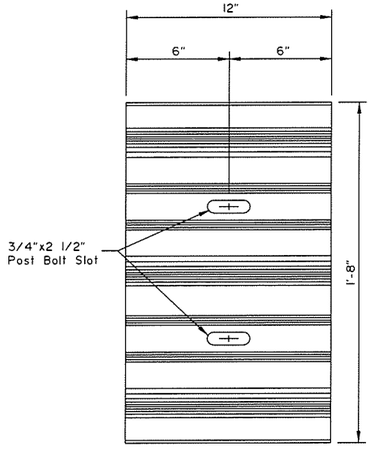
SPLICE PLATE (RLR01)
ASTM A36 STEEL



SECTION C-C
(RTM01a-02b)



STANDARD THRIE BEAM PANEL (RTM01a-02b)



THRIE BEAM BACKUP PLATE
(RTB01a-02b)

REVISIONS		
Date	Description	By
4/28/10	Revise general notes	KJS
1/16/17	Fix dimensions in Sections A-A and C-C	LRG
12/22/17	Std w-beam to RWM04	LRG

State of Alaska DOT&PF

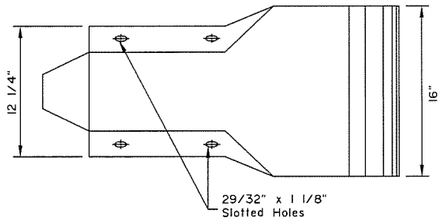
STANDARD GUARDRAIL HARDWARE (RAILS AND SPLICES)

G-00.04

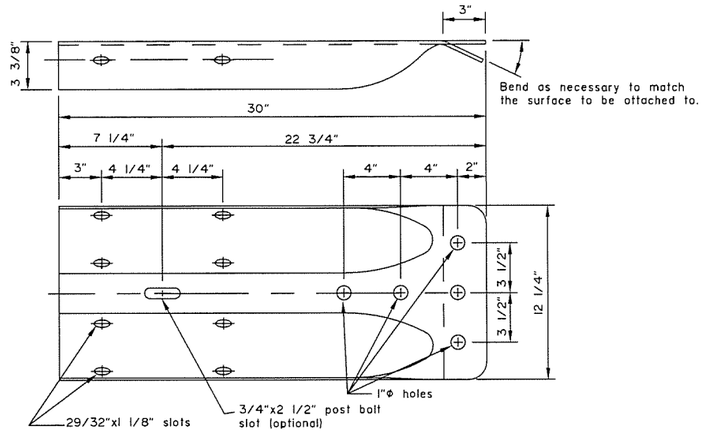
GUARDRAIL HARDWARE (RAILS AND SPLICES)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\g0004_11147.01FB-V12.2-SD Mon, Aug/12/19 02:44pm

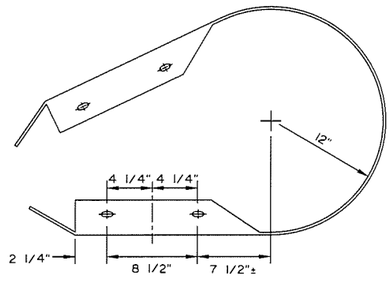
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V12.3	V36



PROFILE

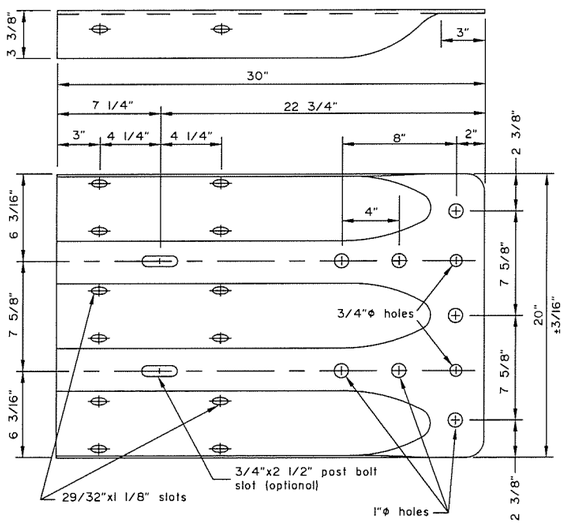


STANDARD W-BEAM TERMINAL CONNECTOR
(RWE02)



W-BEAM PLAN VIEW
*Radius to be specified on the plans

STANDARD W-BEAM END SECTION
(RWE06)



STANDARD THRIE BEAM TERMINAL CONNECTOR
(RTE01b)

Note: Drawing not to scale

GENERAL NOTES:

1. W-Beam and Thrie Beam Terminal Connectors shall conform to AASHTO M 180, Class B, Type II.
2. W-Beam end sections shall conform to AASHTO M 180, Class A, Type II.
3. All covered hardware shall comply with the AASHTO/AGC/ARTBA "A Guide to Standardized Highway Barrier Hardware", latest edition. Designators given when possible in parentheses.

REVISIONS		
Date	Description	By
3/15/99	Delete Thrie end sect.	KJS
1/16/17	Holes added to Thrie	LRG
12/22/17	No changes this sht.	LRG

State of Alaska DOT&PF

STANDARD GUARDRAIL HARDWARE (TERMINAL CONNECTORS)

G-00.04

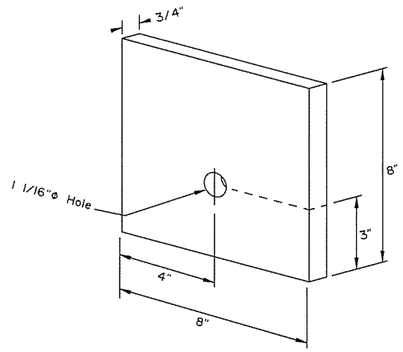
GUARDRAIL HARDWARE (TERMINAL CONNECTORS)

PLANS DEVELOPED BY:: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\g0004_11147.01FB-V12.3-SD Mon, Aug/12/19 02:45pm

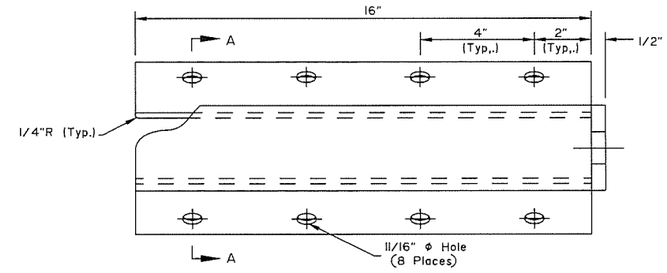
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	V12.4	V36

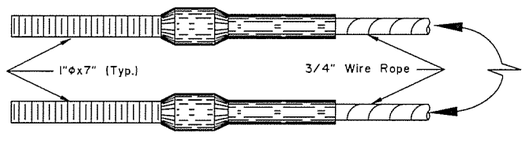
G-00.04 SHEET 4 of 5



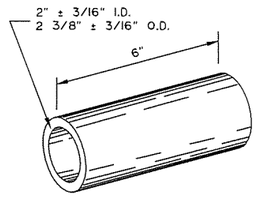
BEARING PLATE for CRT TERMINAL ANCHOR
(FPB01)



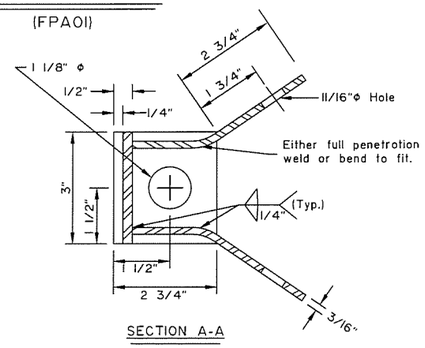
CABLE ANCHOR PLATE
(FPA01)



SWAGED FITTING DETAIL
(FCA01-02)



SLEEVE DETAIL
(FMM02)



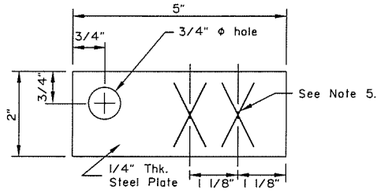
SECTION A-A

CONTROLLED RELEASE TERMINAL HARDWARE DETAILS

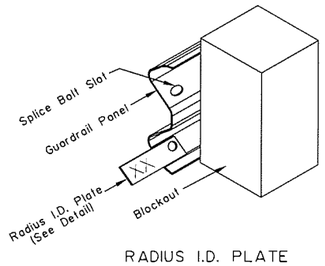
GENERAL NOTES:

1. Cable Anchor Plate may be formed in single unit or welded fabrication.
2. Anchor Cable Assembly must conform to AASHTO M 30 with Type II Wire Rope.
3. Provide Sleeve for Wood Posts meeting the requirements of ASTM A53 and made of 2-inch galvanized standard pipe. Sleeve shall be a tight, pressed fit in post.
4. Attach radius ID plates to all shop-bent guardrail sections. Bolt the ID plates to the back side of the guardrail panel with the lower splice bolt nearest the P.C. of the radius.
5. Show the Rail bend radius, in feet, as "XX" on the radius ID plate. Digits shall be etched or stamped and have a min. height of 1 1/2" and a max. width of 3/4". Galvanize the plate after the digits are marked.
6. All covered hardware shall comply with the AASHTO/AGC/ARTBA "A Guide to Standardized Highway Barrier Hardware", latest edition. Designotors given when possible in parentheses.

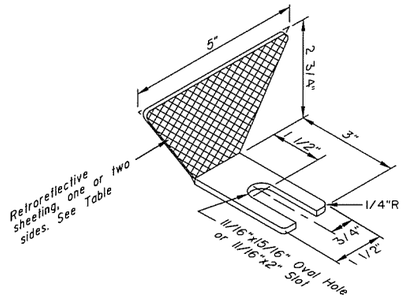
Note: Drawing not to scale



RADIUS I.D. PLATE



RADIUS I.D. PLATE MOUNTING DETAIL



GUARDRAIL REFLECTOR

Guardrail Reflector Table

Type	Color	Reflectorized
A	White	Front & Reor
B	White	Front
C	Yellow	Front
D	Yellow	Front & Rear

REVISIONS		
Date	Description	By
3/15/99	Delete BCT Hardware	KJS
1/16/17	Change ASTM in Note 3	LRG
12/22/17	No changes this sht.	LRG

State of Alaska DOT&PF

STANDARD GUARDRAIL HARDWARE (MISCELLANEOUS)

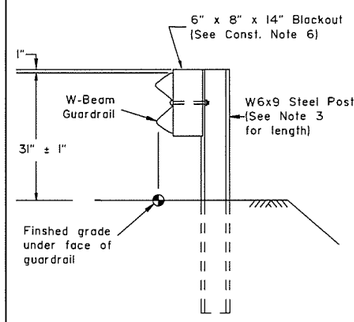
G-00.04

GUARDRAIL HARDWARE (MISCELLANEOUS)

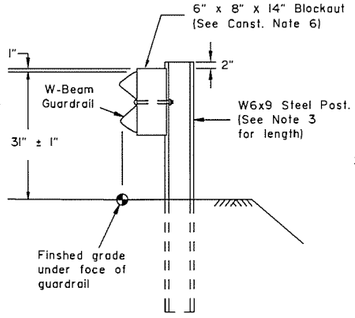
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V13	V36

G-05.11S

SHEET 1 of 1

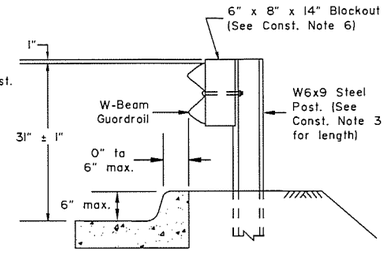


TYPE I POST INSTALLATION

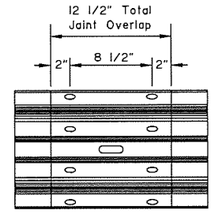


TYPE II POST INSTALLATION

(Facilitates raising rail for future overlays.)

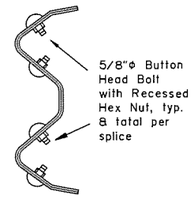


TYPE III POST INSTALLATION

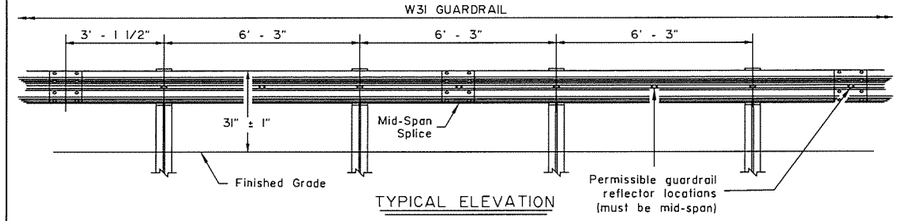


SPLICE DETAIL

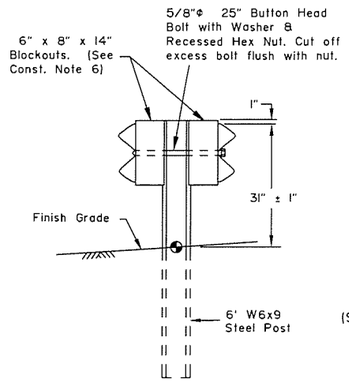
(At mid span between posts only. Bolts not shown for clarity)



SPLICE CROSS-SECTION



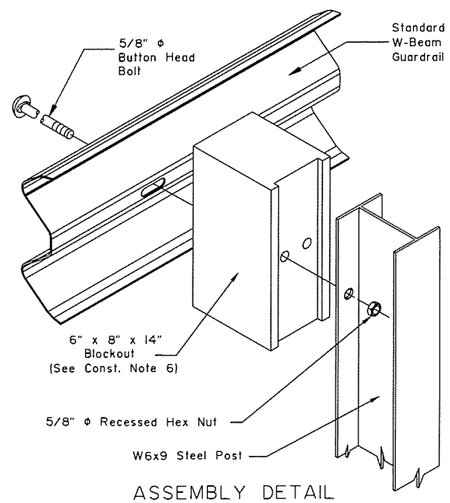
TYPICAL ELEVATION



TYPE IV DOUBLE SIDED INSTALLATION

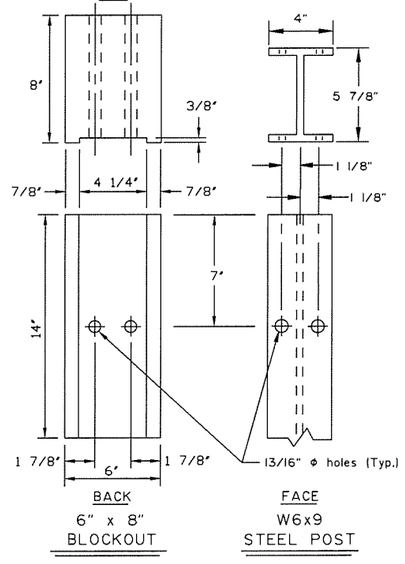
GUARDRAIL REFLECTOR

(See Const. Note 5)



ASSEMBLY DETAIL

(Type I post shown)



BACK

6" x 8" BLOCKOUT

FACE

W6x9 STEEL POST

CONSTRUCTION NOTES:

1. Provide hardware compliant with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware.
2. See Standard Plan G-00 for hardware details not shown on this drawing.
3. See Standard Plan G-10 for past lengths corresponding to different combinations of slope and behind-post embankment width.
4. Typical post spacing is 6'-3" center to center.
5. Attach guardrail reflector to guardrail using a 5/8" button head bolt with 5/8" recessed head hex nut and steel washer at location shown in the Typical Elevation. Install reflectors every 25' on tangents and every 12.5' on curves starting 100' before the P.C. and ending 100' after the P.T.
6. Use wood or synthetic blockouts designed, tested, and passed per MASH for use with steel posts. Either bolt hole on the blockout may be used for attachment.
7. Use a 25 lineor foat transition to match differing height of existing or new rail elements and end treatments - see Standard Plan G-11.
8. W6x8.5 steel post may be substituted for W6x9 steel post.
9. Install flexible delineators on guardrail posts when called for in the contract. See Standard Plan G-00 for guardrail flexible delineotor details.

DESIGN NOTES:

1. No fixed objects allowed within 36" of the bock side of guardrail post.
2. This barrier is acceptable under MASH Tests 3-10 and 3-11.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STEEL POST W31 GUARDRAIL

Adopted as an Alaska Standard Plan by:

Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 05/10/2019

Last Code and Stds. Review By: Date:

Next Code and Standards Review date: 05/10/2029

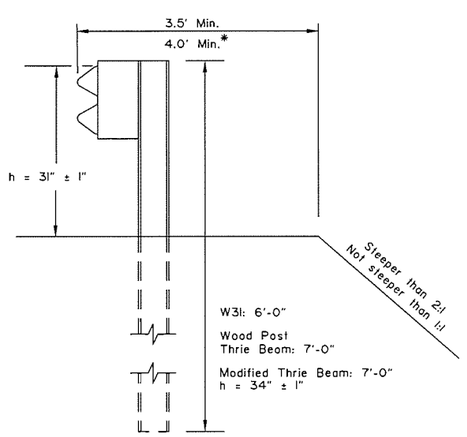
G-05.11S

STEEL POST W31 GUARDRAIL

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V14	V36

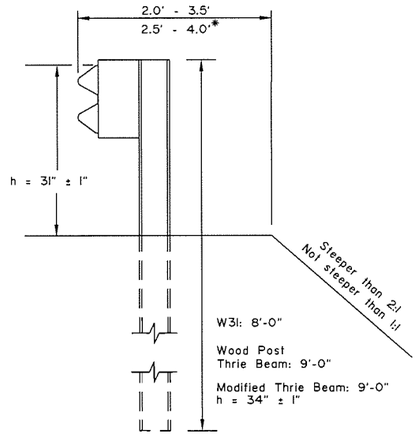
G-10.20

SHEET 1 of 1



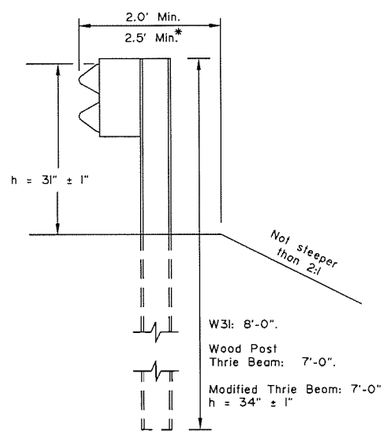
* with Modified Thrie Beam

CASE 1

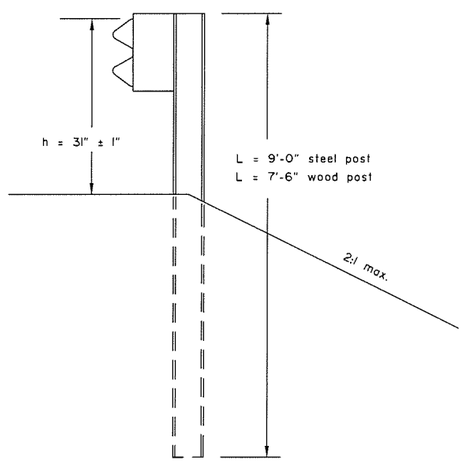


* with Modified Thrie Beam

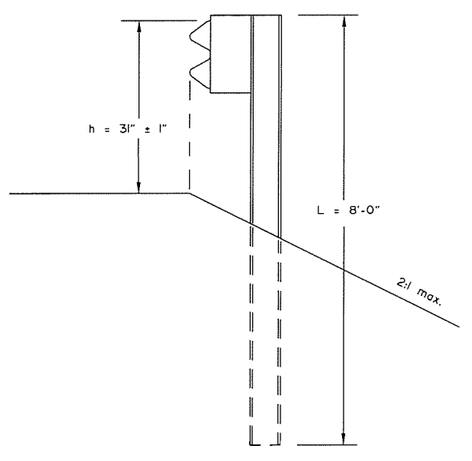
CASE 2



CASE 3



CASE 4
(See Note 5)



CASE 5
(See Note 5)

CONSTRUCTION NOTES:

1. This drawings is to be used for post length determination only. See Plans for slopes and behind-post embankment widths.
2. To determine post length, identify the case that matches site conditions and read the length corresponding to the pertinent guardrail type.
3. These dimensions apply to both curbed and uncurbed section.
4. Case 1, 2 and 3 are shown with steel posts. Wood posts may be substituted when allowed by specifications. Wood Post Thrie Beam installations must use wood posts only.
5. Case 4 and 5 apply to W31 guardrail only.

DESIGN NOTES:

1. No fixed objects allowed within 36" of the back of post for Cases 1, 2 & 3.
2. No fixed objects allowed within 48" of the back of post for Cases 4 & 5.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

GUARDRAIL
POST INSTALLATION

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

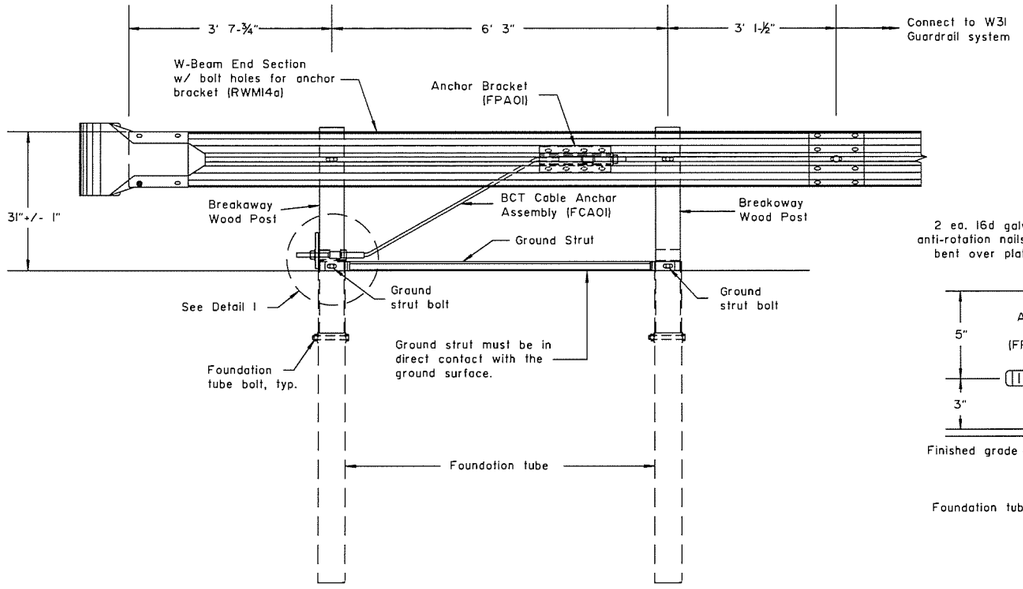
G-10.20

GUARDRAIL POST
INSALLATION

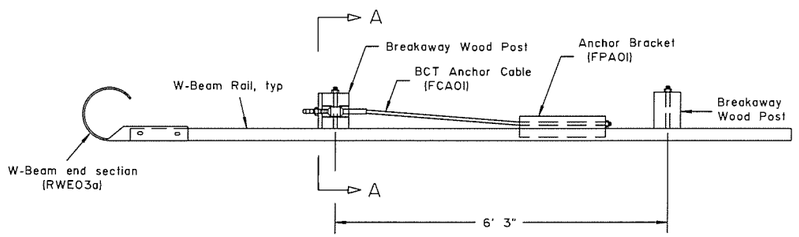
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V15.1	V36

G-14.00

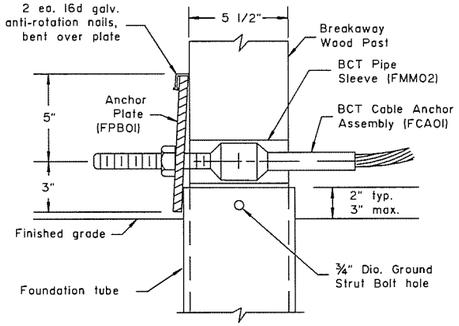
SHEET 1 of 2



ELEVATION

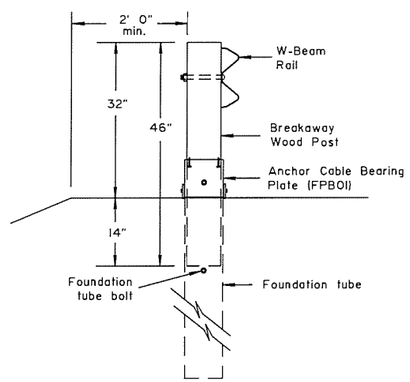


PLAN VIEW



DETAIL 1

(Ground strut not shown for clarity)



SECTION A–A

CONSTRUCTION NOTES

1. All covered hardware must comply with the AASHTO/AGC/ARTBA "A Guide to Standardized Highway Barrier Hardware", latest edition. Designators are given in parenthesis, when possible.
2. End section bolts and nuts have the same material requirements as splice bolts.
3. Foundation tube bolts are are 7/8" diameter ASTM A307 hex head. Foundation tube bolts require an ASTM A563 A nut and two ASTM F844 7/8" diameter flat washers. Install one washer under bolt head and one under nut.
4. Anchor bracket and strut bolts are are 5/8" diameter ASTM A307 hex head. Foundation tube bolts require ASTM A563 A nut and two ASTM F844 7/8" diameter flat washers. Install one washer under bolt head and one under nut.

DESIGN NOTES

1. This design in not crashworthy under MASH and is not intended for locations within the clear zone or where it is likely to be struck head-on by an errant vehicle.
2. This end anchorage is typically used on the downstream end of guardrail runs on one-way roads.

REVISIONS		
Date	Description	By

State of Alaska DOT&PF

W31 DOWNSTREAM END ANCHOR

G-14.00

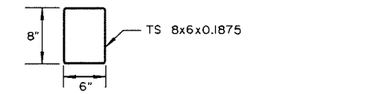
W31 DOWNSTREAM END ANCHOR (1 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\g1400_11147.01FB-V14.1-SD Mon, Aug/12/19 02:49pm

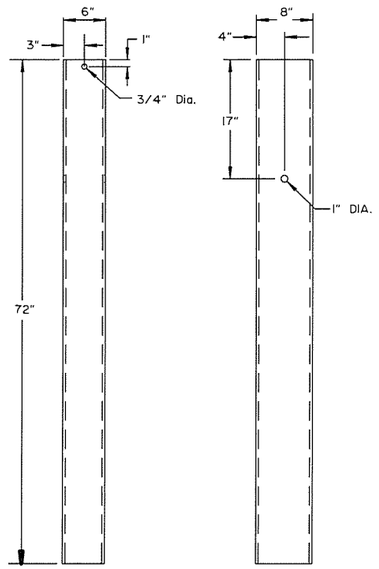
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	V15.2	V36

G-14.00 SHEET 2 of 2



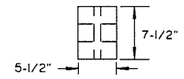
PLAN VIEW



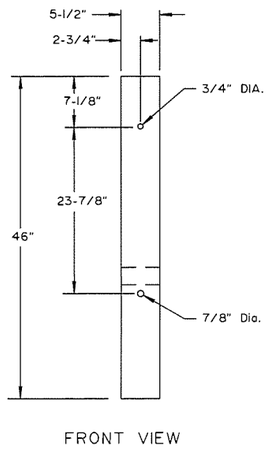
FRONT VIEW SIDE VIEW

FOUNDATION TUBE

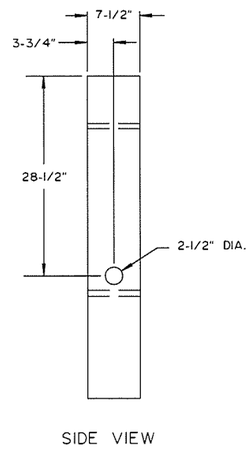
GROUND STRUT SECTION



PLAN VIEW

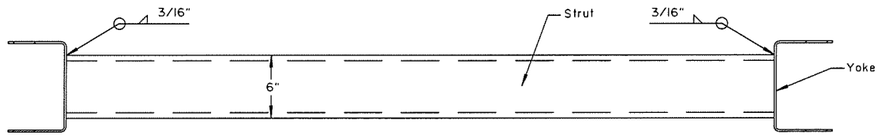


FRONT VIEW

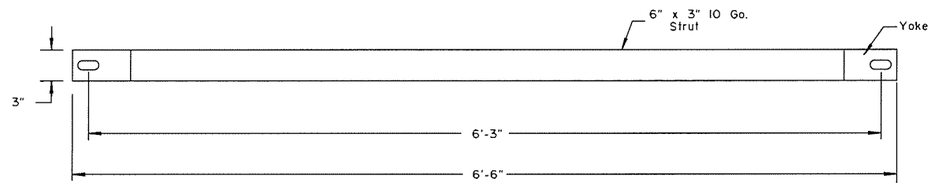


SIDE VIEW

BREAKAWAY WOOD POST

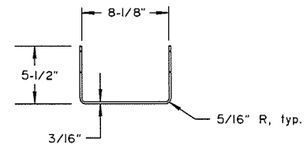


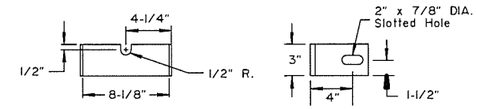
PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL





YOKE DETAIL

CONSTRUCTION NOTES

1. All covered hardware must comply with the AASHTO/AGC/ARTBA "A Guide to Standardized Highway Barrier Hardware", latest edition. Designators are given in parenthesis, when possible.

REVISIONS		
Date	Description	By

State of Alaska DOT&PF

W31 DOWNSTREAM END ANCHOR

G-14.00

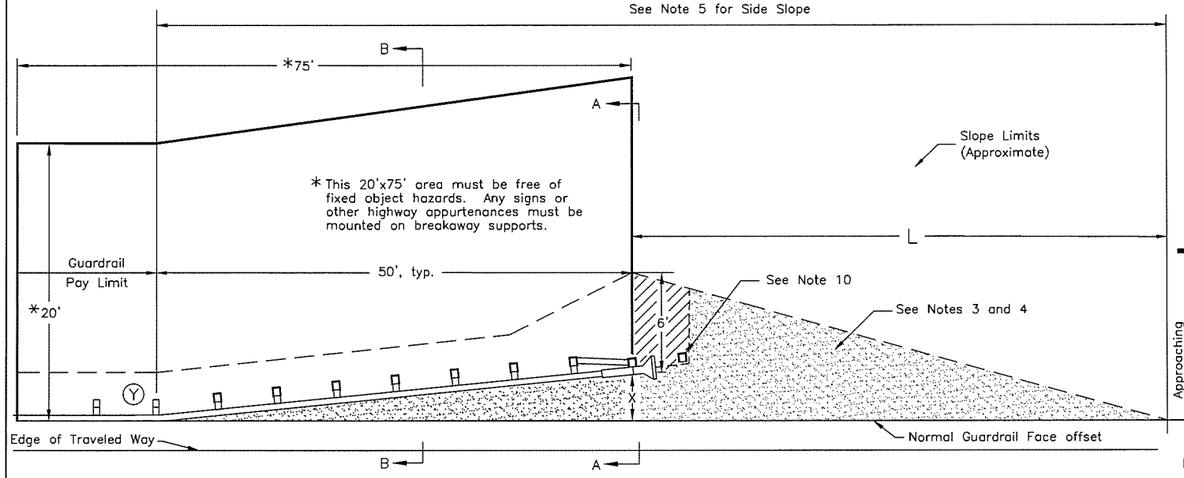
W31 DOWNSTREAM END ANCHOR (2 OF 2)

PLANS DEVELOPED BY: PDC INC ENGINEERS, LLC, CERT. OF AUTHORIZATION NO.: AECC605, 2700 GAMBELL STREET, SUITE 500, ANCHORAGE, AK 99503, (907)743-3200
P:\2011\11147.01FB\C\Segment Improvement Packages\Segment 1D\1D-C\g1400_11147.01FB-V14.2-SD Mon, Aug/12/19 02:49pm

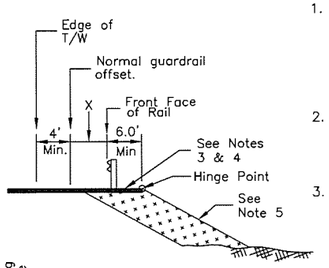
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V16	V36

G-20.12

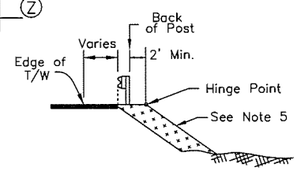
SHEET 1 of 1



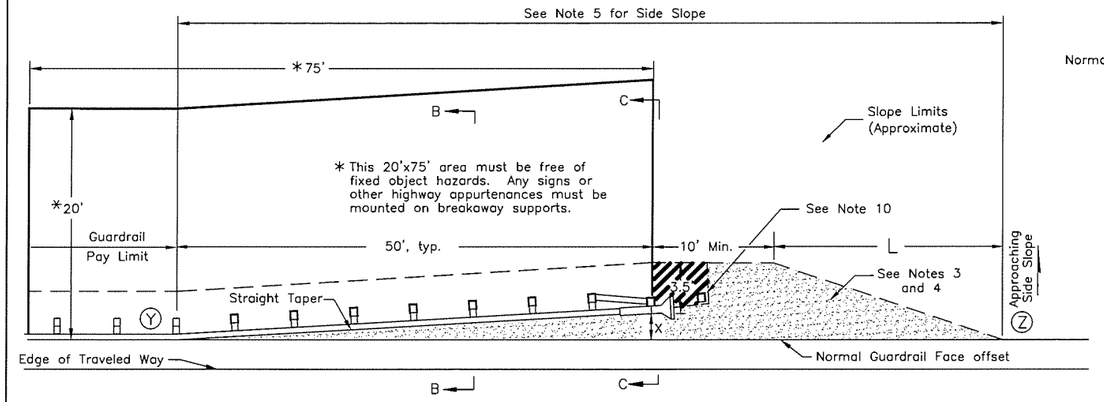
STANDARD GUARDRAIL TERMINAL WIDENING DETAIL



SECTION A–A

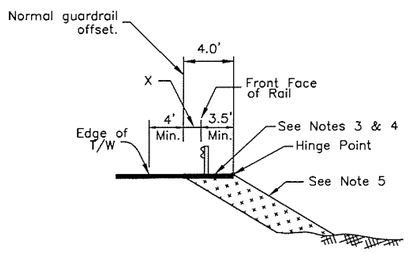


SECTION B–B
(Applies to both details)



ALTERNATE GUARDRAIL TERMINAL WIDENING DETAIL

(USE ONLY WHEN LIMITED RIGHT–OF–WAY OR LIMITING SITE CONDITIONS MAKE THE STANDARD DETAIL INFEASIBLE)



SECTION C–C

X=End offset. See manufacturer's information for the range of acceptable end offsets for each MASH compliant terminal.

Taper Lengths (L) for Common End Offsets (X)		
End Offset	Standard Detail	Alternate Detail
0'	24.0'	13.0'
1'	26.0'	17.0'
1.5'	28.0'	19.0'
2'	30.0'	21.0'
2.5'	32.0'	22.0'
4'	37.0'	28.0'
Interpolate if the end offset falls between table values		

GENERAL NOTES

1. This Std. Dwg. applies to all MASH approved guardrail end terminals (GETs). The alternate detail may only be used with parallel or tangent GETs. The terminal details shown are for illustration only – see manufacturer's drawings for actual post, rail, strut, etc. configuration and layout.
2. Use this Std. Widening Detail for all GETs except when limited right–of–way or limiting site conditions make the use of the Std. Widening Detail infeasible. In that case, the alternate detail is permissable.
3. Construct the shaded areas to match the slope of the adjacent shoulder. The slope may be increased to 10:1 if identified in the plans or when approved by the engineer. Match the slope when the shoulder slopes toward the road as well as away from the road.
4. On paved roads, the shaded areas shall be paved. On gravel roads, surface the shaded areas with the same materials used to surface the travel lanes.
5. From point Ⓨ to point Ⓩ make the side slope match the approaching side slope except where it is flatter than 4:1. In that case, the slope may be steepened to 4:1.
6. Attach a flexible marker at the beginning of each GET.
7. The max. allowable height for foundation tubes or other steel components of terminal post breakaway systems is 4" above the surrounding grade.
8. The details on this sheet do not apply to W31 Downstream End Anchors (Std Dwg G–14).
9. The details on this sheet apply to GETs on both the approach and downstream ends on two–way undivided roads and to any downstream MASH compliant GETs.
10. Some MASH GET systems have an additional post/anchor at the approximate location shown. If this post/anchor is present do not pave the diagonally hatched area. If not present, pave the diagonally hatched area also.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

WIDENING FOR GUARDRAIL END TERMINALS

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

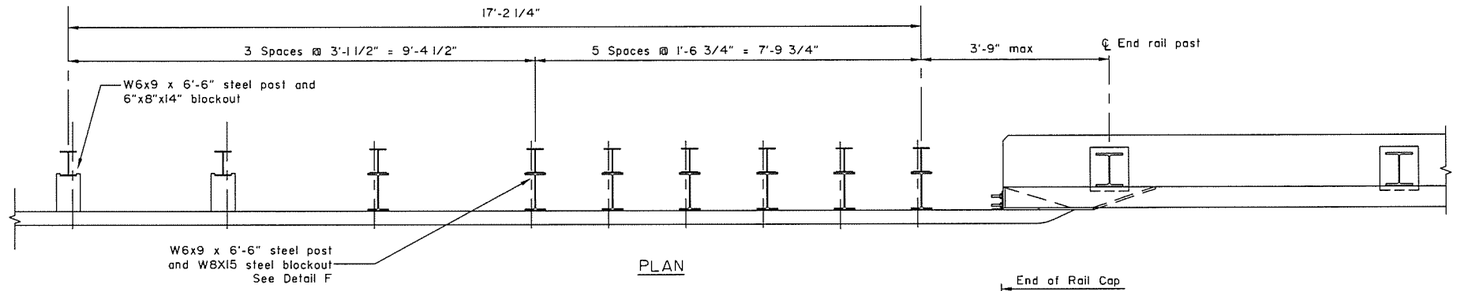
G-20.12

WIDENING FOR GUARDRAIL END TERMINALS

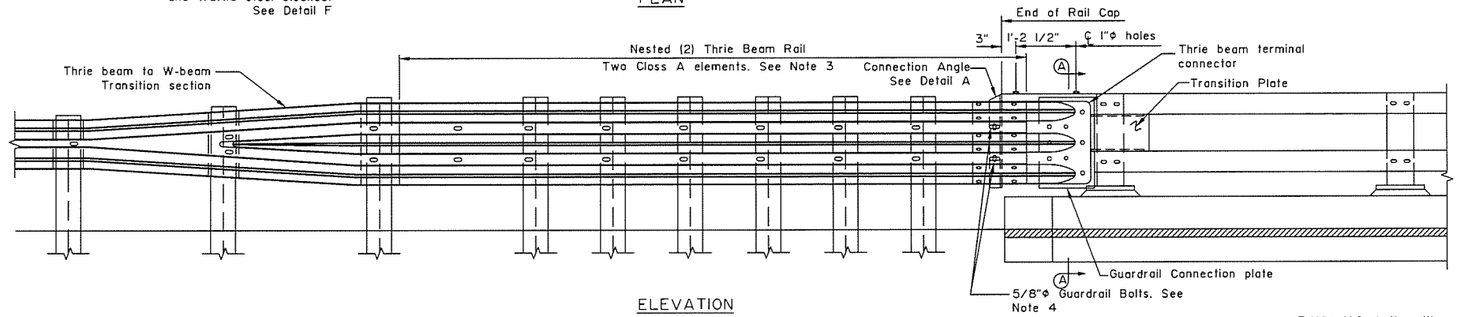
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617003/NFHWY00270	2019	V17	V36

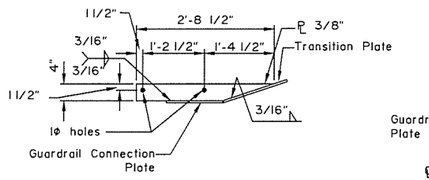
G-31.01



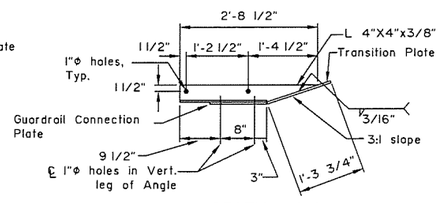
PLAN



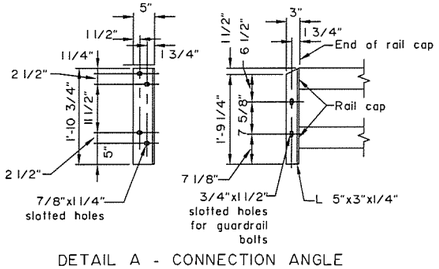
ELEVATION



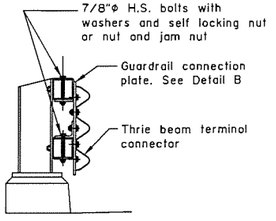
VIEW D-D



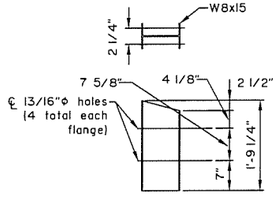
SECTION C-C



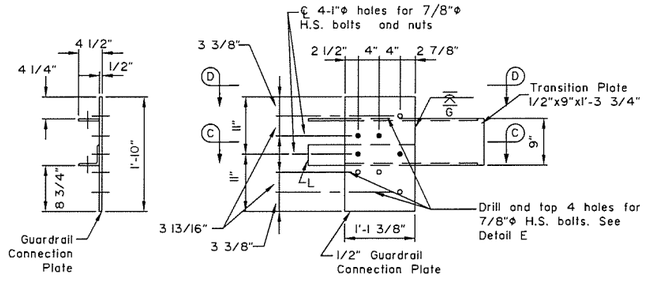
DETAIL A - CONNECTION ANGLE



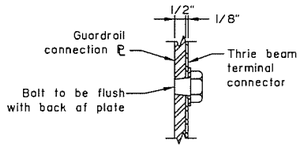
SECTION A-A



DETAIL F - STEEL BLOCKOUT



DETAIL B - GUARDRAIL CONNECTION PLATE



DETAIL E

No Scale

GENERAL NOTES

1. All guardrail and guardrail connectian hardware to canfarm to AASHTO M-180.
   All H.S. Bolts conform to ASTM A325.
   All ather steel to canfarm to ASTM A709 Grade 36.
2. Canform to G-00, G-04S, G-10 for all guardrail details nat shown. No Back-up Plates required.
3. Lap approach guardrail to prevent snags from ancoming traffic.
4. Provide 4 1/2" horizontal slot in approach guardrail. Adjust guardrail bolts for sliding fit.
5. This design is approved for NCHRP 350, TL 4.

REVISIONS		
Date	Description	By
8/10/11	Post Length	EEM

Sheet 1 of 1

State of Alaska
Department of Transportation & Public Facilities

BRIDGE RAIL THRIE BEAM TRANSITION

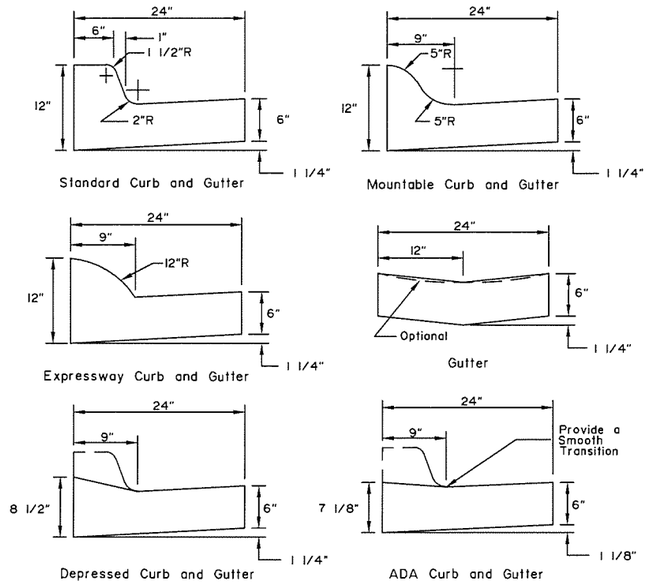
G-31.01

BRIDGE RAIL THRIE BEAM TRANSITION

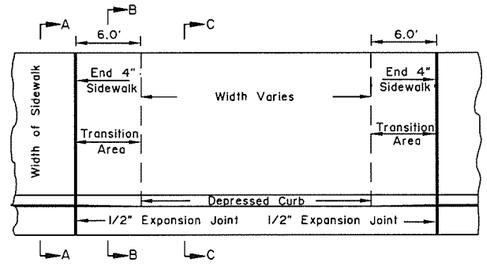
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617003/NFHWY00270	2019	V18	V36

I-20.20

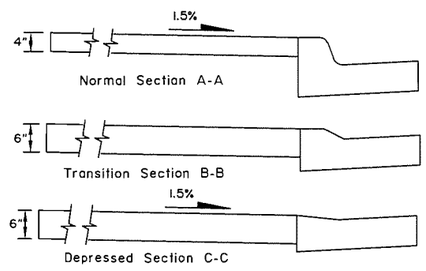
SHEET | of |



CURB and GUTTER DETAILS



DRIVEWAY CURB CUT DETAILS

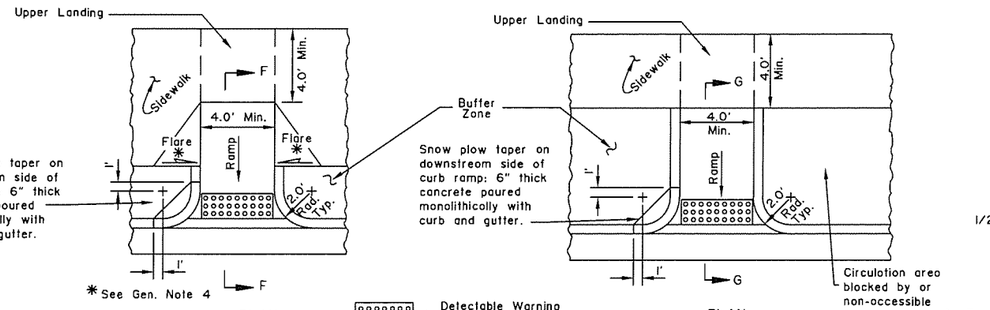


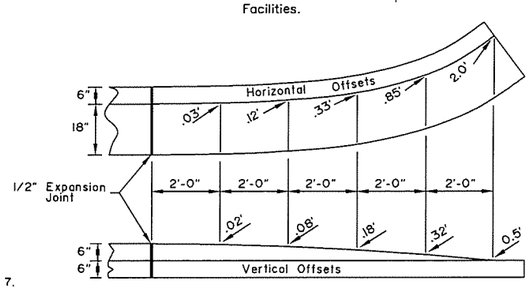
CONSTRUCTION NOTES:

1. Use the type of curb and gutter shown on the plans.
2. Construct ramp runs and landings of concrete, regardless of whether the sidewalk is asphalt or concrete.
3. Construct ramp slopes at a 7.7% nominal grade, or flatter. Ramp slopes may be increased to a maximum of 8.3% when site conditions warrant it. Ramp lengths should be increased to keep grades under the 8.3% maximum, but are not required to exceed 15.0 feet. The resulting ramp grade at a 15.0 foot ramp length is acceptable even if it exceeds 8.3%.
4. Construct flare slopes at 8.3% (measured parallel to the curb line) or flatter, sidewalk cross slopes at 1.5% nominal (1.0% min. and 2.0% max), and ADA Curb and Gutter gutter pan slopes at 4.7% naminol. Construct grade breaks perpendicular to ramp runs.
5. Do not construct flare slopes steeper than 10.0%, sidewalk crass slopes steeper than 2.0% and ADA Curb and Gutter gutter pan slopes steeper than 5.0%. These are the steepest slopes allowed under the 2006 ADA Standards for Transportation Facilities.
6. Provide a coorse broomed finish an ramp runs perpendicular to the ramp slope.
7. When approved by the Engineer, curb returns may be reploced with flares ot locations where access to the side of a ramp run is free of poles, utility boxes, other obstructions, or non-accessible surfaces such as a dirt planter strips. See Standard Drowing I-22 for flare detoils.
8. Instoll 24" wide detectable worning tiles for the full width of the ramp. 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.
9. Maximum cross slope on upper landings, measured in any direction, is 2.0%. Maximum crass slope on ramps is 2.0% measured perpendicular to the ramp run.

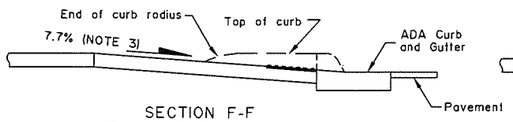
DESIGN NOTES:

1. Use Mountoble or Expressway curbs on medions and traffic islands.
2. These details are compliant with the 2006 ADA Stondords for Transportation Facilities.

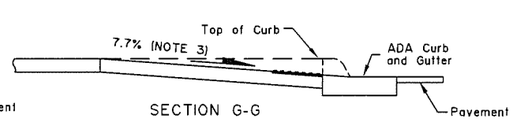




CURB and GUTTER
TERMINATION TRANSITIONS



SECTION F-F
Returned Curb Ramp with Sidewalk for Pedestrians



SECTION G-G
Returned Curb Ramp for Pedestrians

Note: Drawing not to scale

REVISIONS		
Date	Description	By
5/31/12	ADA Updates	JCJ
3/31/15	Slopes and cross slope	JCJ
7/1/16	2006 ADA Stds Update	LRG

State of Alaska DOT&PF

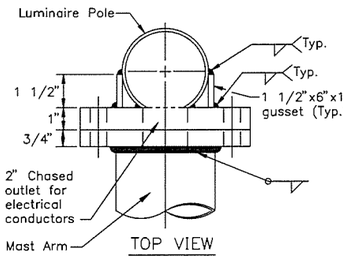
CURB CUT,
CURB & GUTTER
AND CURB RAMP DETAILS

I-20.20

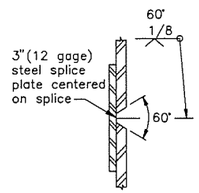
CURB CUT, CURB & GUTTER AND CURB RAMP DETAILS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	V28	

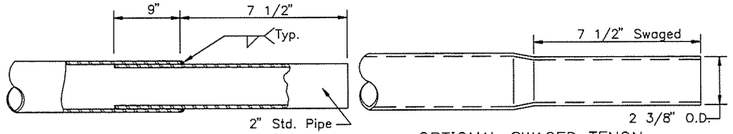
L-03.10



TOP VIEW



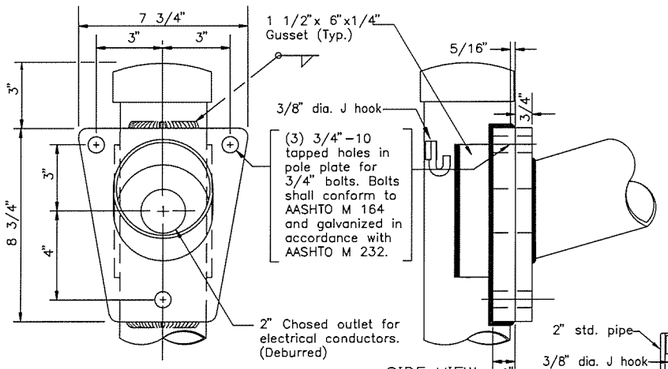
SPLICE DETAILS



TENON

OPTIONAL SWAGED TENON

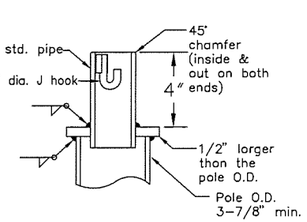
END OF MAST ARM DETAIL



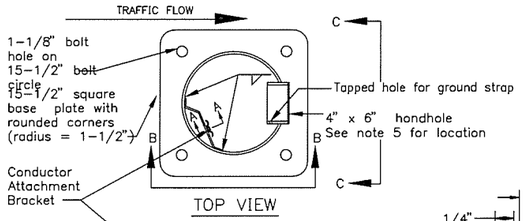
FRONT VIEW

SIDE VIEW

MAST ARM CONNECTION DETAIL

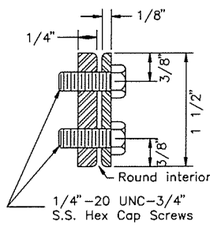


OFFSET LIGHTING STANDARD POLE TOP DETAIL
(CUTAWAY FOR CLARITY)

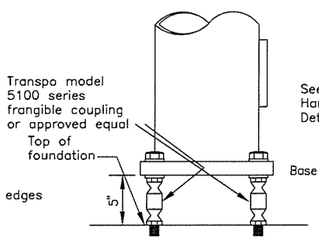


TOP VIEW

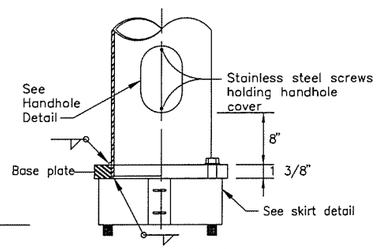
BASE PLATE AND HAND HOLE DETAIL



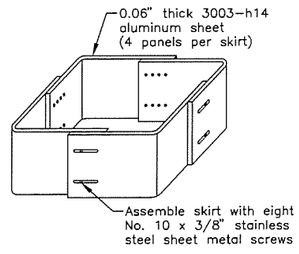
SECTION A-A



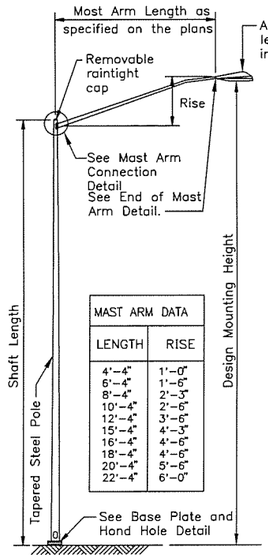
VIEW B-B



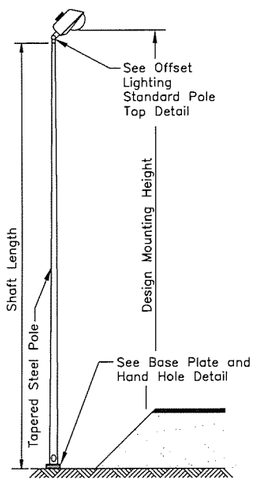
VIEW C-C



SKIRT DETAIL



ELECTROLIER ELEVATION
COBRA HEAD



ELECTROLIER ELEVATION
OFFSET

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.

REVISIONS		
Date	Description	By

Sheet 1 of 1

State of Alaska
Department of Transportation
& Public Facilities

LIGHTING STANDARD

2/28/03

L-03.10

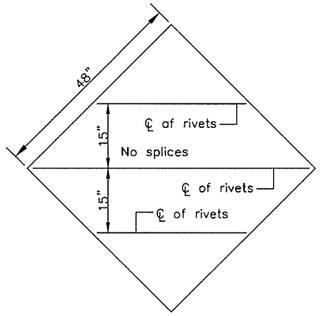
STANDARD DRAWING
L-03.10

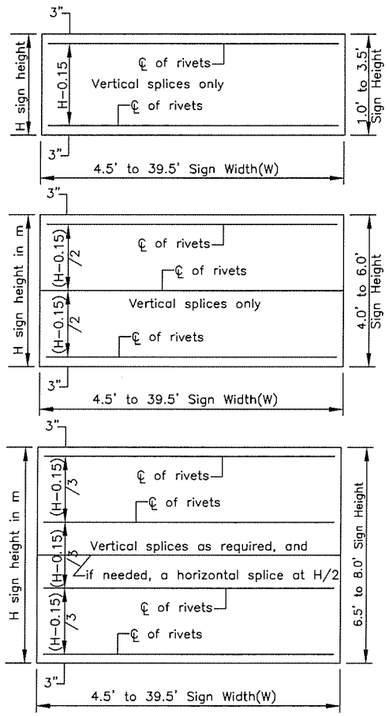
REVIEW PS&E

NO.	DATE	REVISION

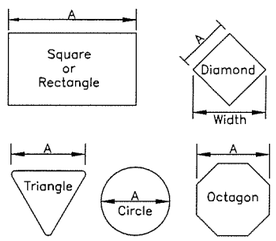
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	V29	

S-00.11





WIND FRAMING LOCATIONS



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.

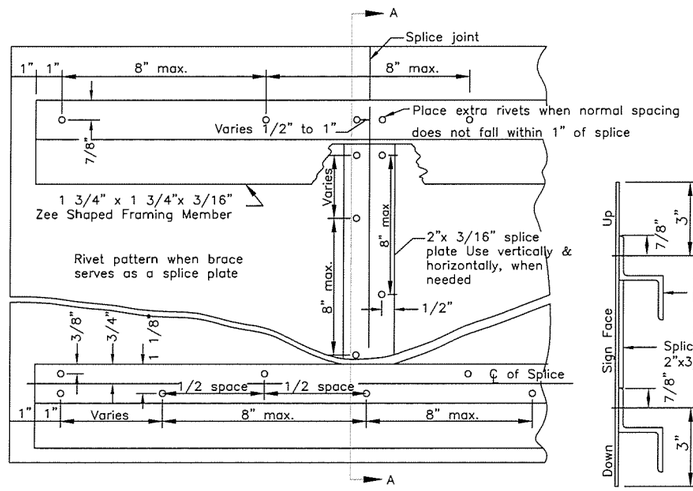
LIGHT SIGNS

TUBE SIGN POST SPACING

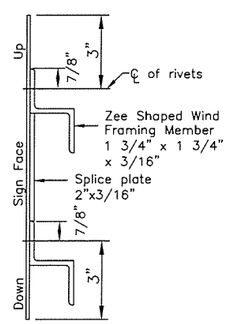
Sign Width (feet)	No. of Posts	Distance Between Posts	Sign Overhang	Post Type				Notes
				P.S.T.	Wood	Steel Tube	W–Shape	
0.5 to 4.0	1	–	0.5W	X	X	X		See Note 2.
4.5 to 10.0	2	0.6W	0.2W	X	X	X		See Note 3.
10.5 to 11.0	2	6	Varies	X	X	X		See Note 3.
11.5 to 13.0	2	8	Varies				X	
13.5 to 20.0	2	0.6W	0.2W				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	

SIGN POST SPACING NOTES:

1. Install sign support in accordance with the table above, unless otherwise required by plans or specifications.
2. Exceptions:
   a. Use one post far 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 Standard Drawing S–30 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 Drawing S–31 for frangible couplings, hinges, and foundations for tube and W–shape sign supports.



RIVET DETAIL FOR ZEE SHAPED WIND FRAMING & SPLICE PLATE



SECTION A–A

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 cald driven rivets, or aluminum alloy 6061–T43 for hot driven rivets.
7. Sign fabricatars 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.

REVISIONS		
Date	Description	By
4/28/10	*Delete pipe, rev notes*	*KJS*

Sheet 1 of 1

State of Alaska
Department of Transportation & Public Facilities

SIGN FRAMING AND POST SPACING

S–00.11

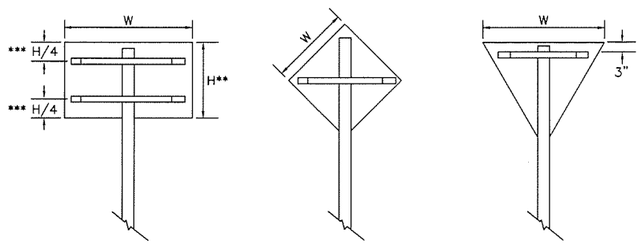
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346–2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1–REMAIN\Production\06173_V29_S–00.11–V29 Thu, Aug/22/19 10:45am

STANDARD DRAWING
S–00.11

REVIEW PS&E

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	V30	

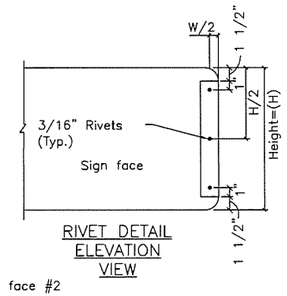
S-01.01



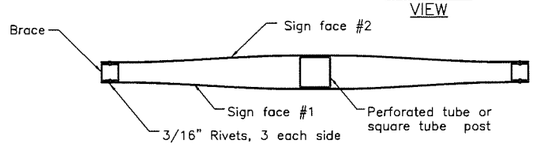
*** Use one brace when H ≤ 18"
Use two braces when 18"< H < 48"
Use three braces when H ≥ 48"

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

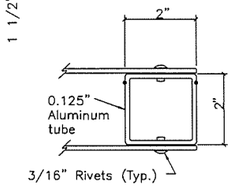
SIGN BRACING PLACEMENT



RIVET DETAIL
ELEVATION
VIEW

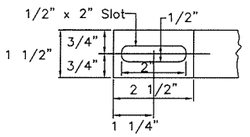


PLAN VIEW

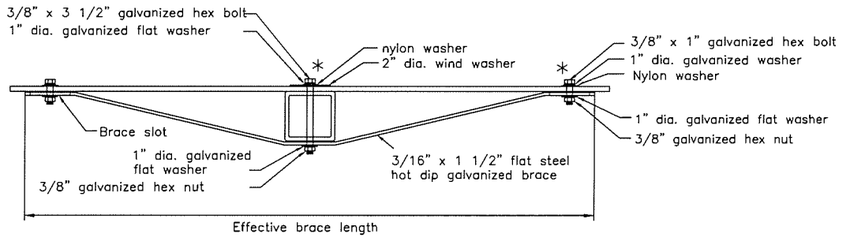


END BRACE DETAIL

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



DETAIL OF BRACE SLOT
Elevation view



TUBE POST SIGN BRACING
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

DRAWING NOT TO SCALE

REVISIONS		
Date	Description	By
1/16/17	Bolt size & type	LRG

State of Alaska DOT&PF

BRACING FOR SIGNS
MOUNTED ON SINGLE POST

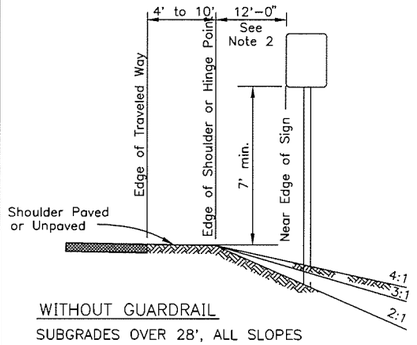
S-01.01

STANDARD DRAWING
S-01.01

REVIEW
PS&E

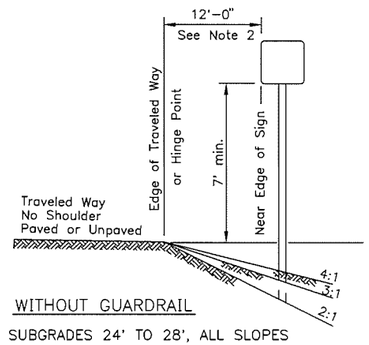
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	V31	

S-05.01



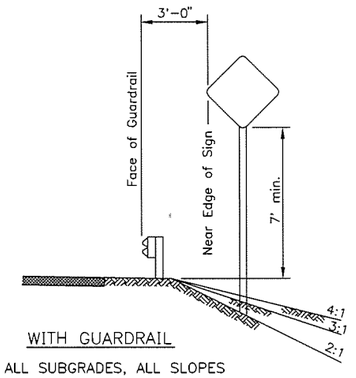
WITHOUT GUARDRAIL

SUBGRADES OVER 28', ALL SLOPES



WITHOUT GUARDRAIL

SUBGRADES 24' TO 28', ALL SLOPES

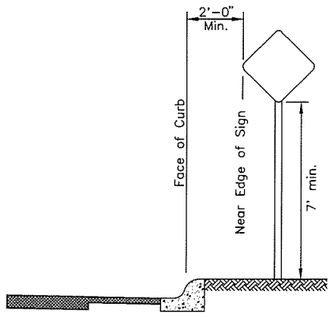


WITH GUARDRAIL

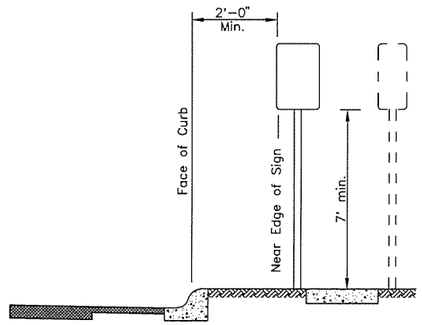
ALL SUBGRADES, ALL SLOPES

GENERAL NOTES

1. Unless shown otherwise on the plans, the standard sign offset is 12'. The minimum is 6'.
2. If signs extend over sidewalks, the minimum vertical clearance is 7'-0".
3. Add 6" to mounting height on unpaved roads.
4. If signs extend over bike paths, the minimum vertical clearance is 8' 0".
5. 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 raad.
6. When multiple hinged sign supports are used, mount hinges at least 7' above the ground.

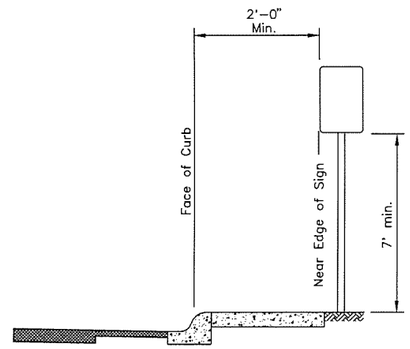


CURB WITHOUT SIDEWALK

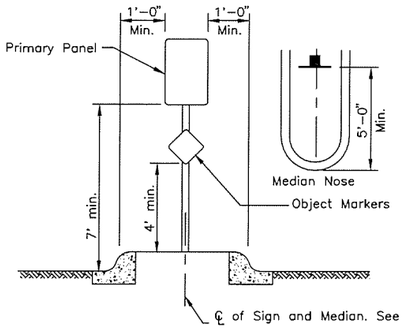


CURB WITH PARKWAY AND SIDEWALK

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

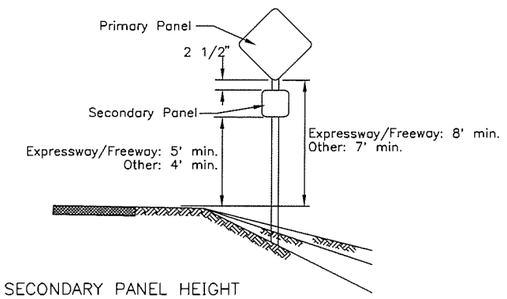


CURB WITH SIDEWALK WITHOUT PARKWAY



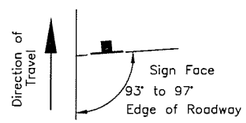
RAISED MEDIANS

Minimum 4' Width for Signing



SECONDARY PANEL HEIGHT

ALL TWO PANEL MOUNTING



SIGN POSITIONING

REVISIONS		
Date	Description	By
4/3/01	*Revised Sign Heights*	*KJS*

Sheet 1 of 1

State of Alaska
Department of Transportation
& Public Facilities

POST MOUNTED SIGN
OFFSET AND HEIGHT

S-05.01

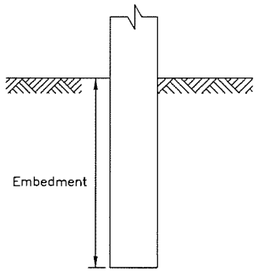
STANDARD DRAWING
S-05.01

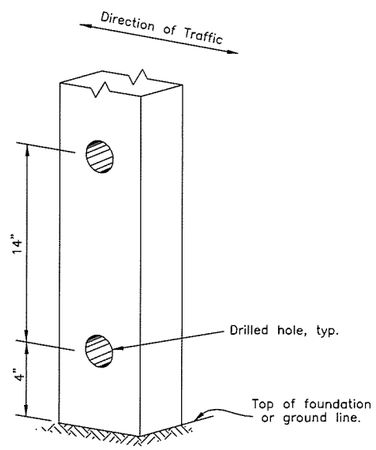
REVIEW PS&E

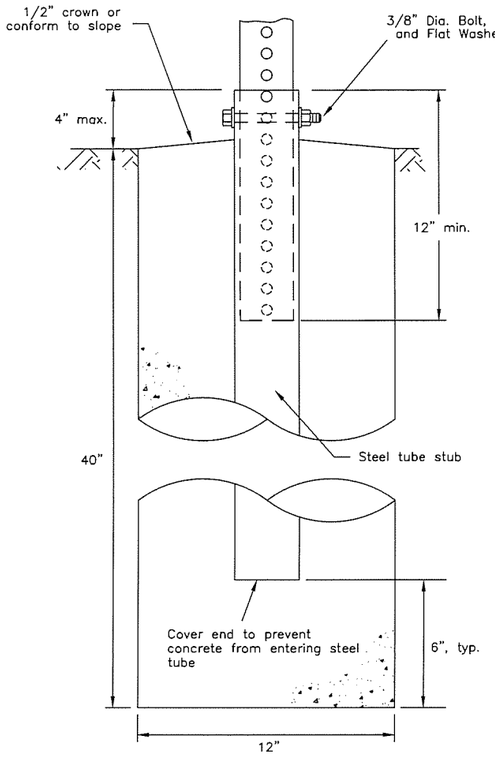
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	V32	

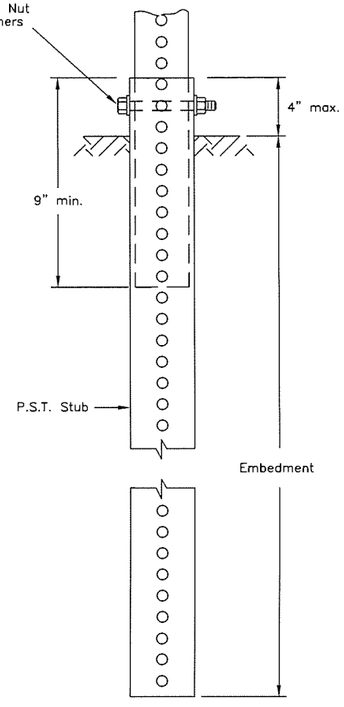
S-30.04







SLEEVE TYPE
CONCRETE FOUNDATION



SLEEVE TYPE *
SOIL EMBEDMENT

WOOD SIGN POSTS			
SIZE	HOLE DIA.	EMBEDMENT*	NO. OF POSTS WITHIN 7 Ft. PATH
4"x4"	NONE	36"	2
4"x6"	1 1/2"	36"	2
6"x6"	1 1/2"	40"	1
6"x8"	3"	48"	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"	3'-0"	2
1 3/4" x 1 3/4"	3'-0"	2
2" x 2"	3'-6"	2
2 1/4" x 2 1/4"	4'-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

GENERAL NOTES:

1. Refer to Std Dwg 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. Do not install wood posts larger than 6"x8".
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.

REVISIONS		
Date	Description	By
4/2/01	Revised PST table Added Note 3	KJS
2/12/02	Revised wood posts	KJS
1/16/17	Rev. note 1, et. al.	LRG

State of Alaska DOT&PF

LIGHT SIGN STRUCTURE
POST EMBEDMENT

S-30.04

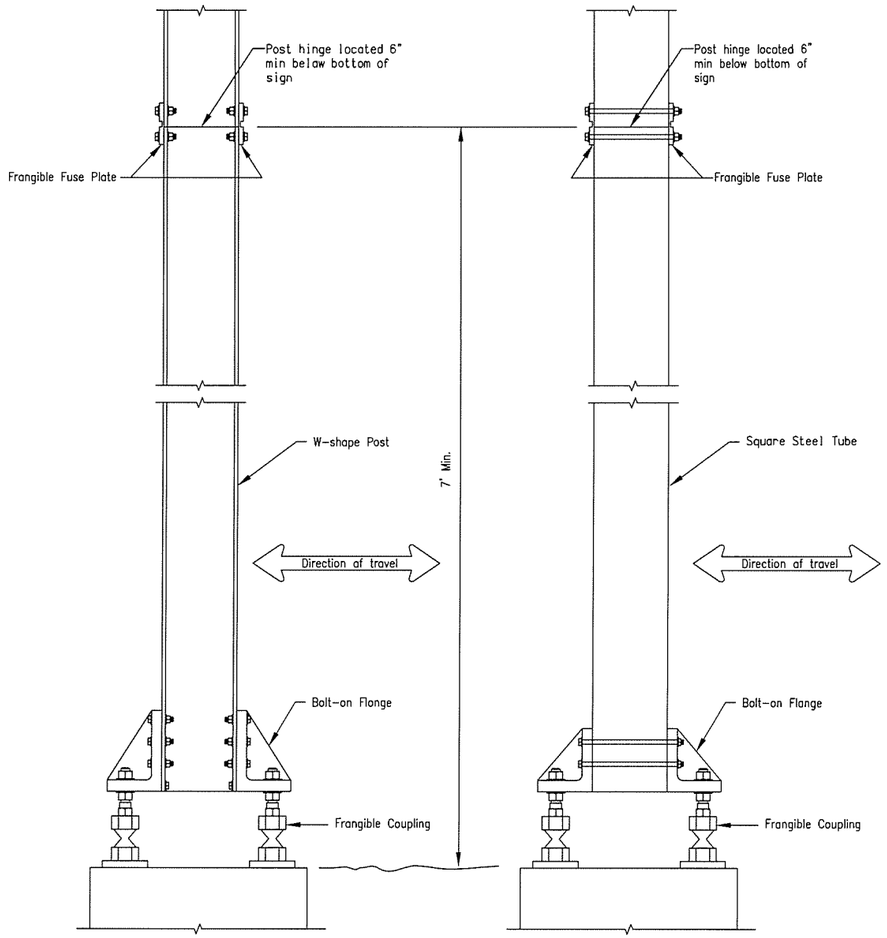
STANDARD DRAWING
S-30.04

REVIEW
PS&E

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0617012/NFHWY00270	2019	V33	

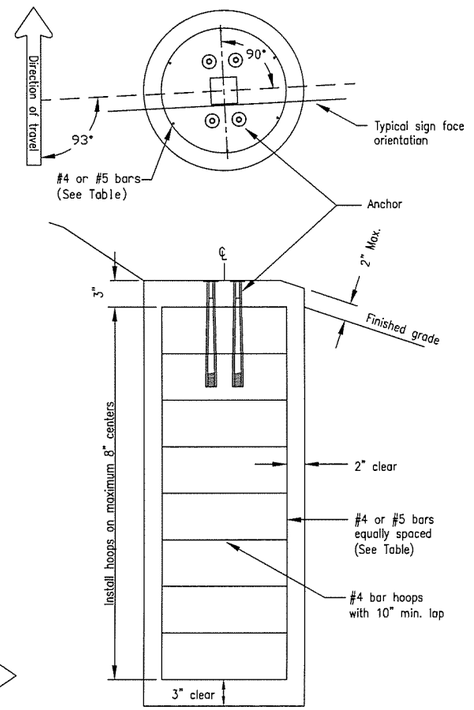
S-31.01

NOTE:
Install hinges when more than one post is used to support a sign. Do not install hinges on single post installations.



FRANGIBLE COUPLING SYSTEM FOR W-SHAPE POST

FRANGIBLE COUPLING SYSTEM FOR SQUARE STEEL TUBES



SIGN POST FOUNDATION

See Table for depth and diameter

POST SIZE & TYPE	FOUNDATION *			REINFORCEMENT					
	DIA.	MIN. DEPTH	CY^3 CONC.	VERTICAL BARS			HOOPS		
				QTY.	SIZE	LGTH.	QTY.	SIZE	DIA.
2 1/2" TUBE	1'-6"	4'-0"	0.26	6	#4	3'-6"	7	#4	1'-2"
3" TUBE	1'-6"	4'-0"	0.26	6	#4	3'-6"	7	#4	1'-2"
3 1/2" TUBE	1'-6"	4'-6"	0.30	6	#4	4'-0"	8	#4	1'-2"
4" TUBE	2'-6"	4'-0"	0.72	7	#5	3'-6"	7	#4	2'-2"
4 1/2" TUBE	2'-6"	4'-6"	0.81	7	#5	4'-0"	8	#4	2'-2"
5" TUBE	2'-6"	5'-6"	1.00	7	#5	5'-0"	9	#4	2'-2"
W6 x 9	2'-6"	4'-0"	0.95	8	#5	3'-6"	7	#4	2'-2"
W6 x 12	2'-6"	4'-6"	1.07	8	#5	4'-0"	8	#4	2'-2"
W6 x 15	3'-0"	6'-6"	1.69	8	#5	6'-0"	11	#4	2'-8"
W6 x 30	3'-0"	7'-6"	1.95	8	#5	7'-0"	12	#4	2'-8"

FOUNDATION TABLE

* Faundotions sized for use where there are no loose, high moisture, or fine groined soils.

GENERAL NOTES

1. Furnish sign posts with NCHRP 350 or MASH compliant FHWA-approved frangible couplings designed to break away safely when struck from any direction. The frangible couplings shall not have specific installation torque requirements.
2. Furnish frangible coupling systems with bolt-on flanges.
3. Details on this sheet illustrate anly the general components af a frangible coupling system, and are not intended to specify a particulor product.
4. Install frangible fuse plates as specified by the manufacturer and hinged joints when multiple posts are used to support a sign. Do not use round pipes.
5. Install the components of the breakaway system, including hinges, in accordance with the written instructions of the system manufacturer.
6. Use Class A concrete conforming to section 501 of the Standard Specifications. Furnish ASTM A615 grade 60 steel bars for concrete reinforcement conforming to AASHTO M31.
7. Spiral reinforcing steel may be substituted for hoops in concrete foundation. Spiral aption shall consist of #3 plain spiral with 6" pitch with three flat turns at the top and one flat turn at the bottom.
8. Install the cancrete anchors using a rigid template. Locate the anchars on centers and within tolerances specified by the manufacturer.
9. Install the anchors in fresh concrete as recommended by the manufacturer. Adjust the template's final position until it is level. Remove and replace all foundations that need more than 2 shims under any 1 coupling or more than a total of 3 shims under any pair of couplings to plumb the post.
10. Drill the holes for attaching brackets before the sign posts are hot dip galvanized. Test fit templates in the holes to ensure the brackets can be installed square to the posts.

REVISIONS		
Date	Description	By
4/28/10	Delete pipe, Add hinge	KJS

Sheet 1 of 1

State of Alaska
Department of Transportation & Public Facilities

SIGN POST BASE AND FOUNDATION

S-31.01

STANDARD DRAWING
S-31.01

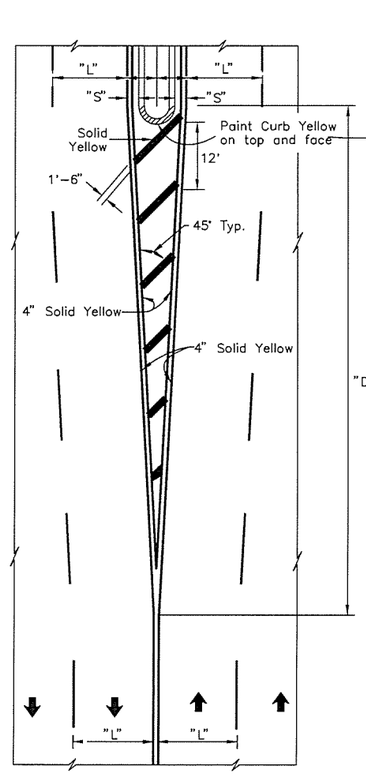
REVIEW PS&E

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. AELC 1102
Z:\PROJECTS\DOTPF\University Avenue Traffic Design_S1-REMAIN\Production\06173_V33_S-31.01-V33 Thu, Aug/22/19 10:45am

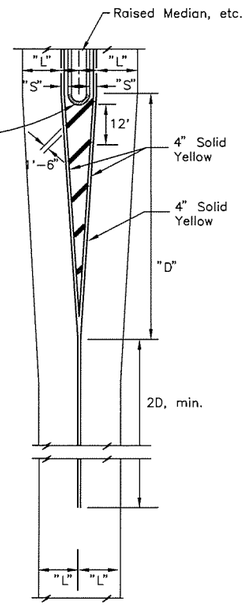
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	V34	

T-20.04

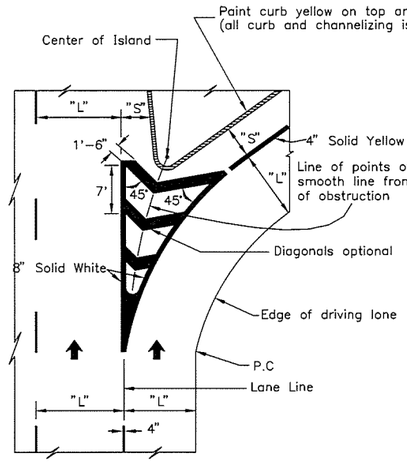


FOUR OR MORE LANES
DRIVE TO RIGHT

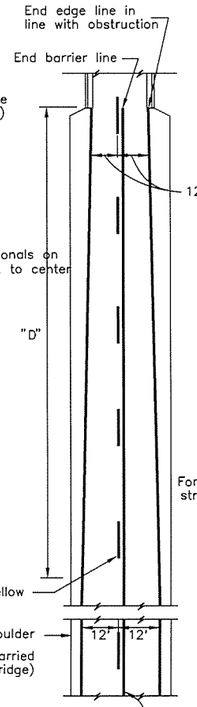


TWO LANES
DRIVE TO RIGHT

White longitudinal and diagonal markers identical to Four Lane Arrangement.

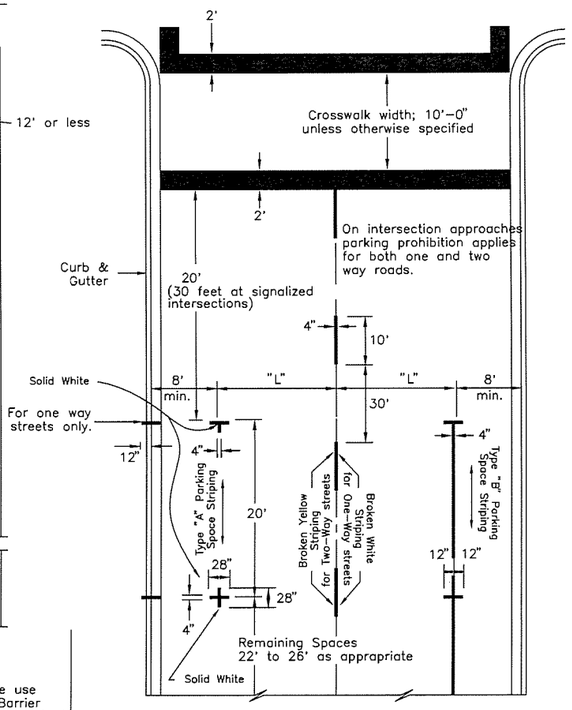


CHANNELIZING ISLAND



Note: On bridges over 24' wide use standard pavement markings. Barrier lines not used unless otherwise required.

EDGE LINE TRANSITION TO NARROW BRIDGE AND APPROACH BARRIER LINE



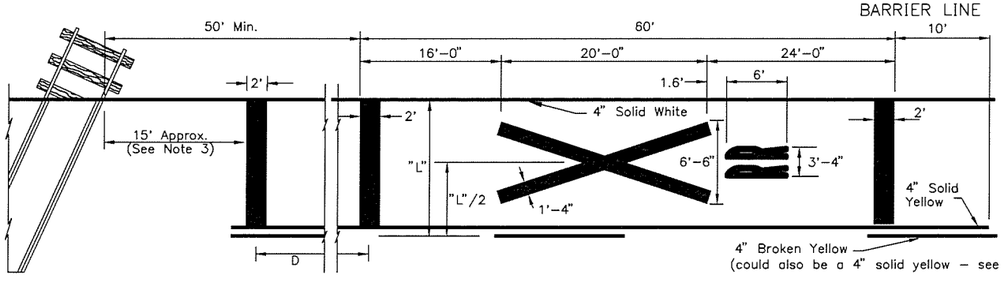
CENTERLINES FOR TWO LANE TWO WAY URBAN ROADS–PARKING LIMIT LINES

APPROACH TO OBSTRUCTIONS

RAILROAD CROSSING NOTES:

1. All markings solid while unless indicated otherwise.
2. On 4–lane roadways place railroad crossing approach markings in each lane of the approach.
3. Locate Stop Bar 15' from railroad track or 8' from gate, if present.
4. Place edge lines and lane lines on a uni–directional approach in a normal manner except that the lane line(s) shall be solid 4" white in lieu of broken for a distance of (D+60') in advance of the stop bands.

POSTED LIMIT	D
30 M.P.H.	225'
40	350'
50	475'
60	625'



APPROACH TO RAILROAD CROSSING ON 2 LANE 2 WAY HIGHWAY

GENERAL NOTES:

1. "S"= offset distance as shown on the plans, otherwise 1 to 2 feet.
2. "L"= driving lane width.
3. See the Alaska Traffic Manual for additional guidance and/or restrictions on the use of traffic control devices.

NOT TO SCALE

REVISIONS		
Date	Description	By
12/11/18	Fixed X Dimensions	SP

State of Alaska DOT&PF

PAVEMENT MARKING APPLICATIONS

T–20.04

STANDARD DRAWING
T–20.04

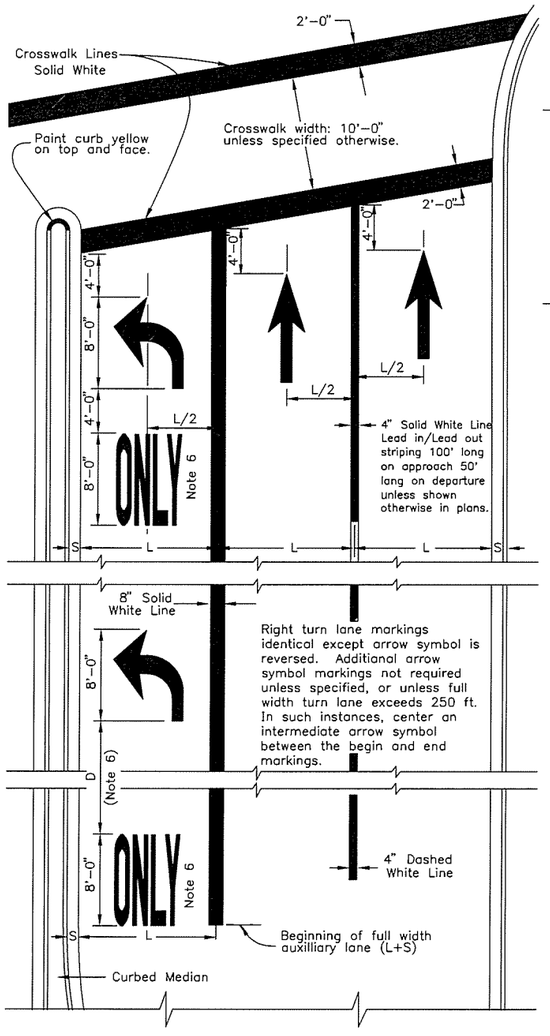
REVIEW PS&E

NO.	DATE	REVISION

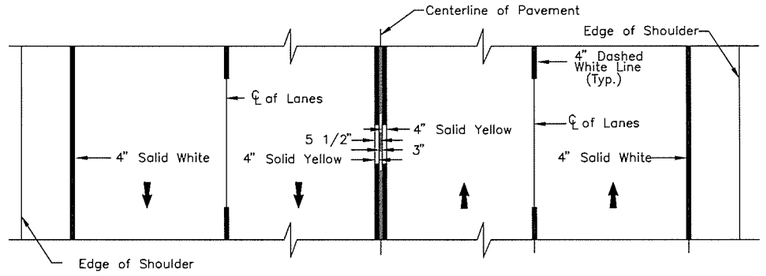
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	V35	

T-21.03

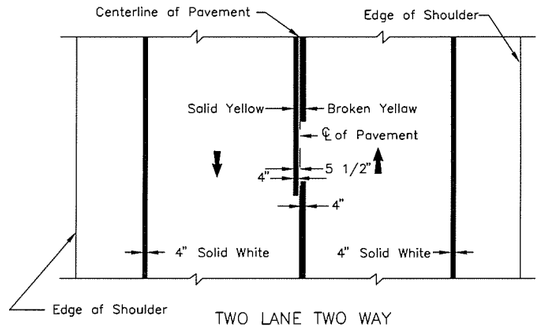
SHEET 1 of 1



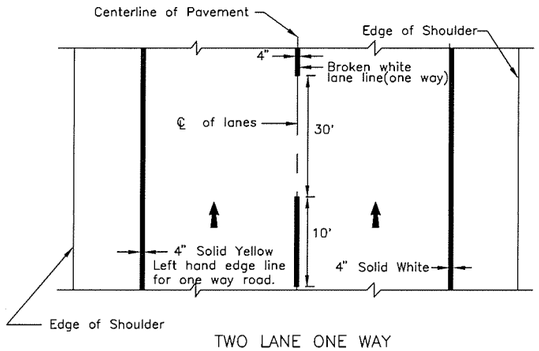
APPROACH TO INTERSECTION



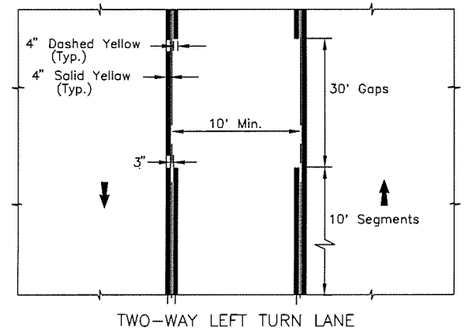
FOUR LANE TWO WAY



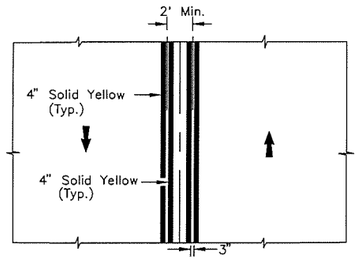
TWO LANE TWO WAY



TWO LANE ONE WAY



TWO-WAY LEFT TURN LANE



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 ouxiliary 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. 6. Adjust distance D between ONLY and Turn Arrow based on SPEED vs. D table.

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

REVISIONS		
Date	Description	By
1/1/86	Arrow Dimension	Gdo
1/1/96	Intersect Note	Gdo
4/28/10	Details, labels, notes	KJS

State of Alaska
Department of Transportation
& Public Facilities

PAVEMENT MARKING
APPLICATIONS

T-21.03

STANDARD DRAWING
T-21.03

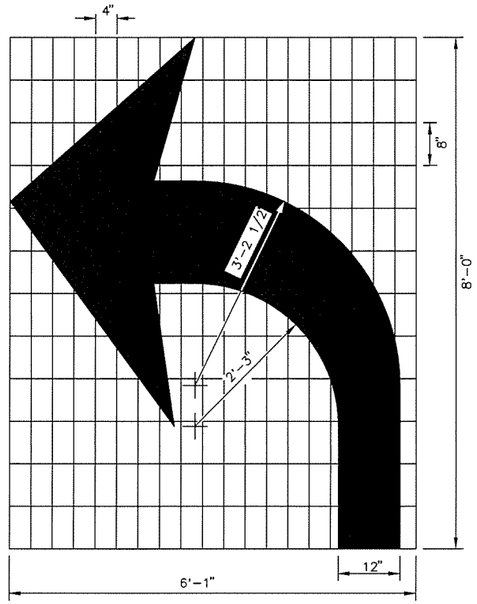
REVIEW
PS&E

NO.	DATE	REVISION

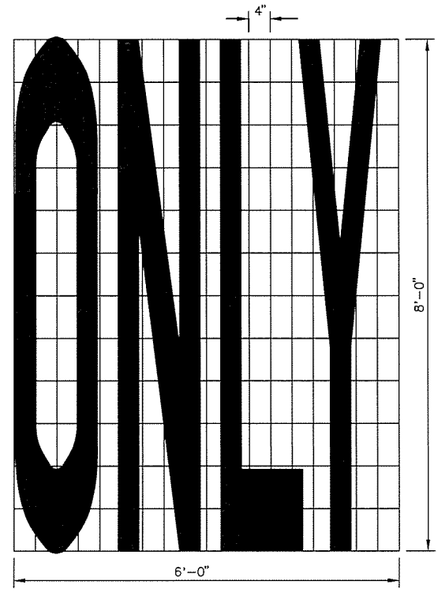
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0617012/NFHWY00270	2019	V36	

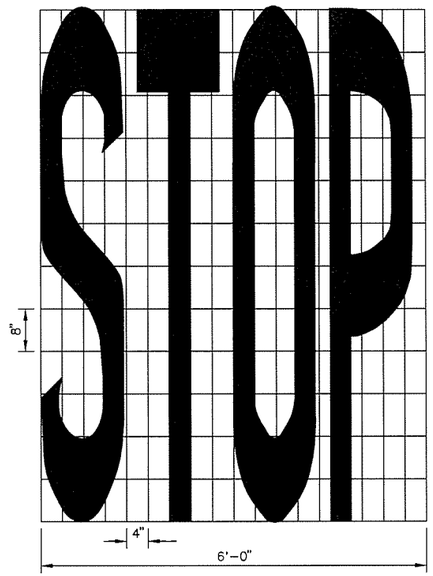
T-22.04

SHEET 1 of 1

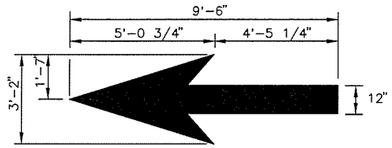


Right turn auxilliary lane usage markings identical except arrow symbol is reversed.

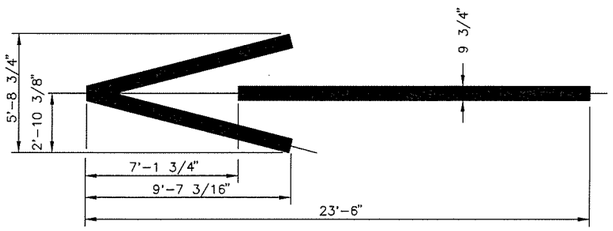




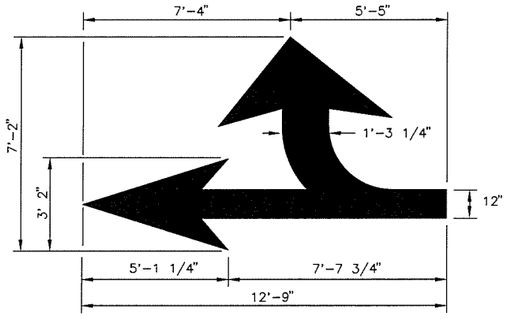
LAYOUT TEMPLATES FOR STENCILS



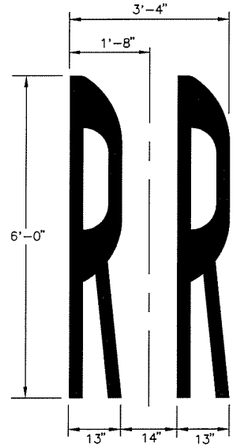
STRAIGHT AHEAD ARROW



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.

REVISIONS		
Date	Description	By
12/11/18	Revise RR Symbol	SP

State of Alaska DOT&PF

PAVEMENT MARKING SYMBOL DIMENSIONS

T-22.04

STANDARD DRAWING
T-22.04

REVIEW PS&E