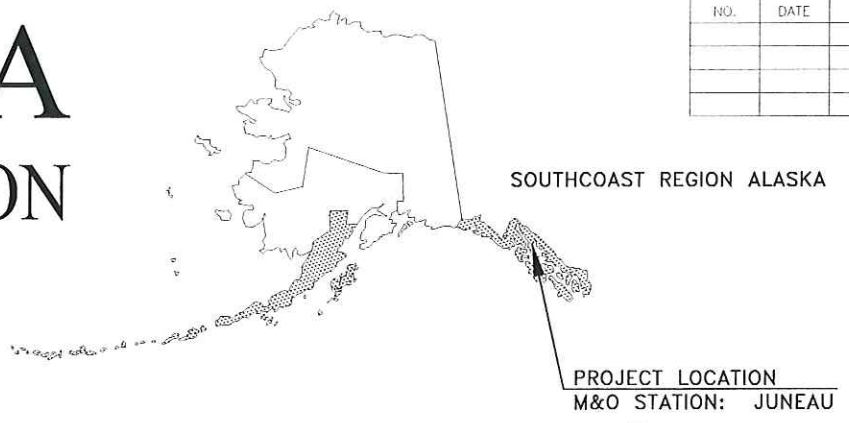


FILE: O:\jnu\2501000002\Planes\SRMBS00024\_A1\_TITLE.dwg  
 DATE: 1/13/2017 15:57 LAYOUT: A1  
 DESIGNED: R. WARNER  
 CHECKED: C. GONS  
 DRAFTED: R. WARNER

# STATE OF ALASKA

## DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

NO.	DATE	REVISIONS	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	A1	4
						PLAN SET TOTAL	24



PROJECT SUMMARY	
DOUGLAS HIGHWAY MP 1.79-2.24	
WIDTH OF SIDEWALK, CURB & GUTTER	5' TO 8' FT
LENGTH OF SIDEWALK	0.36 MILES
LENGTH OF PROJECT	0.45 MILES

DESIGN DESIGNATIONS	
PROJECT TYPE	SRTS
PRESENT A.D.T. (2014)	6839
DESIGN SPEED	40 M.P.H.
FUNCTIONAL CLASSIFICATION	MAJOR COLLECTOR

### PROPOSED SIDEWALK PROJECT

## JNU: DOUGLAS HIGHWAY SIDEWALK EXTENSION: GASTINEAU SCHOOL TO LAWSON CREEK RD./CROW HILL DR.

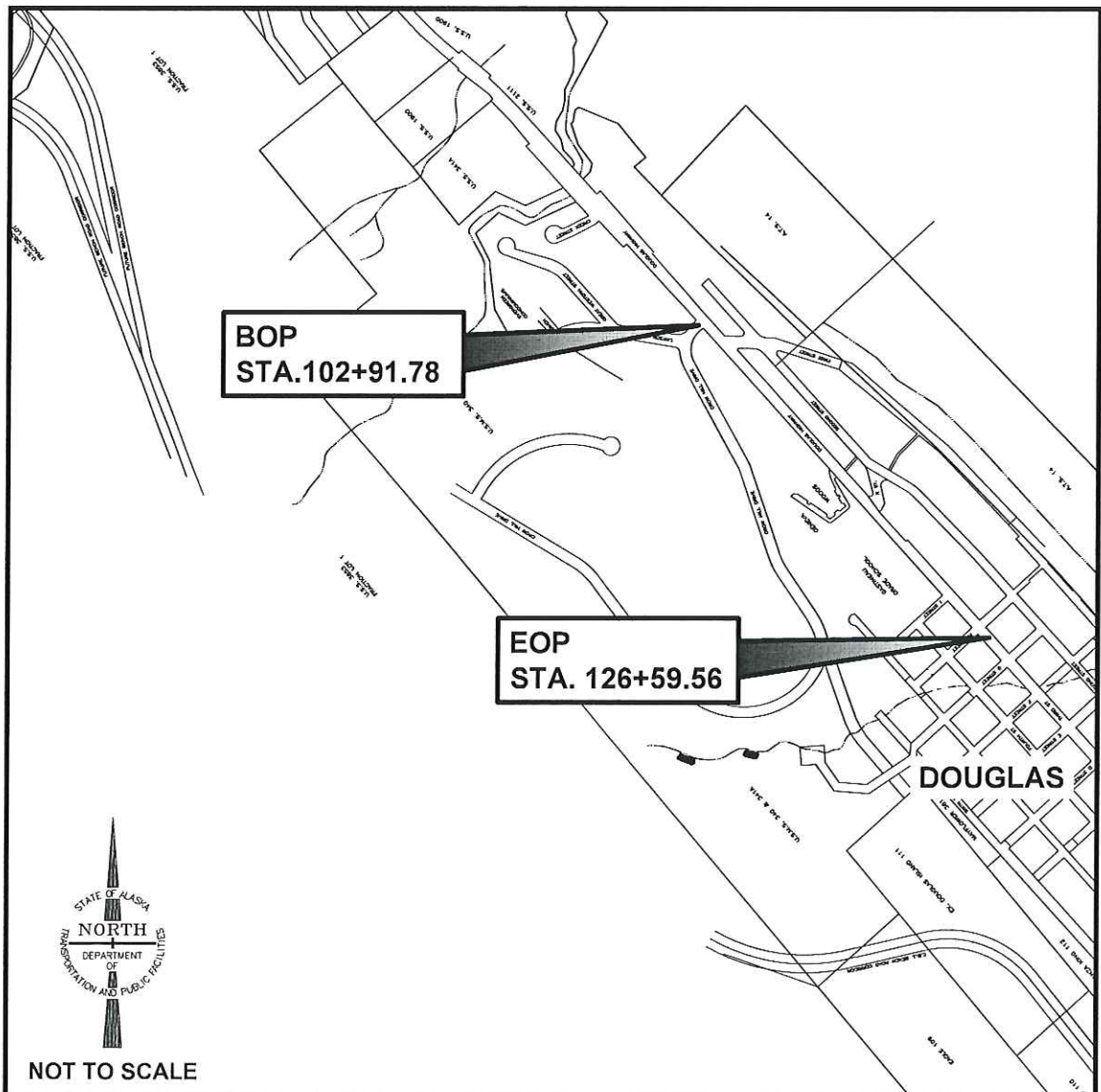
### PROJECT NO. SRMBS00024 ~ 2501000002

SIDEWALK EXTENSION AND REPLACEMENT, DRAINAGE

The undersigned hereby certifies that this duplicated document is an exact and true copy of the original.

*Cody Salvo*

June 15, 2017



**As Builts**  
 Contractor: Admiralty Construction, Incorporated  
 Project Engineer: Cole Carnahan  
 Start Date: August 12, 2017  
 End Date: September 30, 2017

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

USE THESE PLANS IN CONJUNCTION WITH THE STATE OF ALASKA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2015 EDITION AND THE PROJECT SPECIAL PROVISIONS.

STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES  
 6860 GLACIER HIGHWAY, JUNEAU, AK 99811  
 (907) 465-1763

APPROVED: *Pat Carroll* 3/31/17  
 REGIONAL PRECONSTRUCTION ENGINEER DATE  
 PAT CARROLL, P.E.

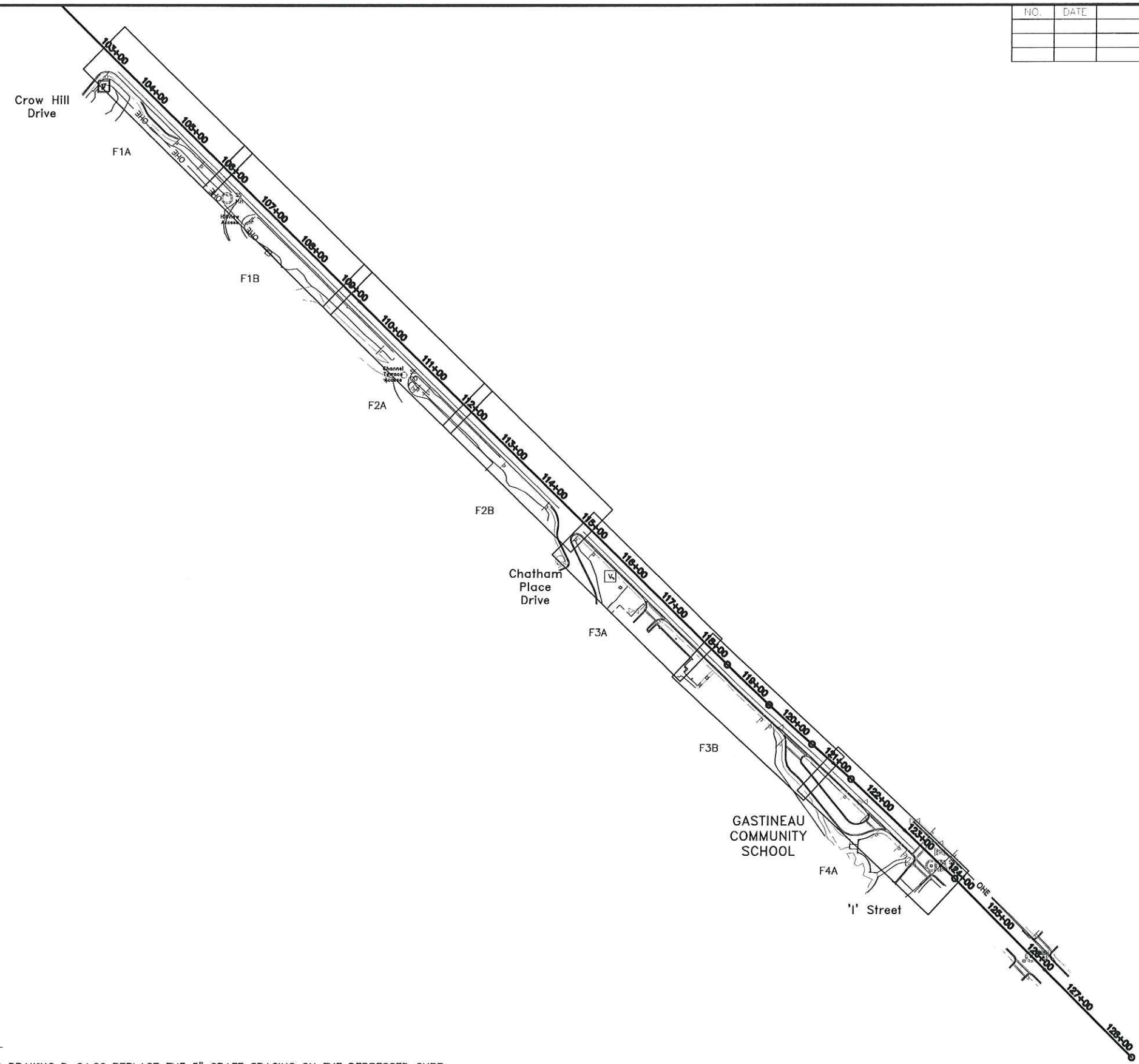
CONCUR: *Michael Coffey* 3/31/17  
 DIRECTOR, SOUTH COAST REGION DATE  
 MICHAEL COFFEY

NOT TO SCALE

VICINITY MAP

FILE D:\p\2501000002\Plans\SRMBS00024\_A2\_LAYOUT.dwg  
 DESIGNED R. WARNER  
 CHECKED C. GOINS  
 DRAFTED R. WARNER  
 DATE 1/26/2017 11:46  
 LAYOUT A2

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	A2	24



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2	LAYOUT
A3	LEGEND
A4	SURVEY CONTROL PLAN
B1-B2	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES
D1-D2	SUMMARY TABLES
E1-E2	MISCELLANEOUS DETAILS
F1-F4	PLAN SHEETS
G1	DRIVEWAY DETAILS
P1-P5	EROSION SEDIMENT CONTROL PLAN
T1-T3	TRAFFIC CONTROL PLANS

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
 PROJECT ENGINEER:

**GENERAL NOTE:**

- ON STANDARD DRAWING D-24.00 REPLACE THE 5" GRATE SPACING ON THE DEPRESSED CURB INLET FRAME AND GRATE DETAIL AND INSTALL A GRATE WITH BICYCLE SAFE GRATE SPACING.

**STANDARD DRAWINGS**

C-03.10	D-01.02	I-20.20	S-00.11
C-04.12	D-04.21	I-21.10	S-01.00
	D-22.01	I-22.10	S-05.01
	D-24.00		S-30.03
	D-26.02		
	D-35.00		

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION  
 AND PUBLIC FACILITIES  
 6860 GLACIER HIGHWAY, JUNEAU, AK 99811  
 (907) 465-1763

DOUGLAS HWY SIDEWALK  
 EXTENSION - GASTINEAU SCHOOL TO  
 LAWSON CR. RD./CROWHILL DRIVE

**SHEET LAYOUT**

FILE C:\nuh\250100002\PI\onset\SRMBS00024\_A3\_LEGEN.DWG DATE 1/13/2017 15:57 LAYOUT A3 DESIGNED R. WARNER CHECKED C. GOINS DRAFTED R. WARNER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/250100002	2017	A3	24

	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		
REBAR AND CAP		
REBAR		
IRON PIPE		
PK NAIL		
SPIKE		
HUB AND TACK		
CONSTRUCTION CENTERLINE		
MICELLANEOUS CENTERLINE		
STATION EQUATION	$\frac{L}{100} = \frac{L^2}{48+97.23 \text{ POT BK} = 10+00}$	
PROJECT RIGHT-OF-WAY LINE		
EXISTING RIGHT-OF-WAY LINE		
EXISTING PROPERTY LINE		
CONTROLLED ACCESS LINE		
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		
MEANDER LINE		

	EXISTING	PROPOSED
SANITARY SEWER (FLOW DIRECTION →)		
FUEL LINE		
GAS LINE		
WATER LINE		
METER, VALVE, FIRE HYDRANT		
EXISTING STORM DRAIN (FLOW DIRECTION →)		
PROPOSED STORM DRAIN		
FIBER OPTIC LINE		
DIRECT BURIAL TELEPHONE CABLE		
DIRECT BURIAL ELECTRIC CABLE		
ELECTRIC LINE (OVERHEAD)		
POWER POLE LINE		
JOINT USE POWER & TELEPHONE		
TELEPHONE POLE LINE		
POLE ANCHOR		
STUB POLE (POWER OR TELEPHONE)		
TELEPHONE DUCT		
TELEPHONE PEDESTAL		
BURIED CABLE MARKER		
PIPELINE MARKER OR VALVE		
CATCH BASIN OR DROP INLET		
MANHOLE		
SANITARY SEWER CLEAN OUT		
RIPRAP		
SPECIAL DITCH CENTERLINE		
HIGH TIDE LINE		
INVASIVE SPECIES		

	EXISTING	PROPOSED
ROADWAY/PAVEMENT EDGE		
FENCE		
CURB AND GUTTER		
DETECTABLE WARNINGS		
GUARDRAIL		
CULVERT PIPE		
SIGN		
MAILBOX		
RAILROAD TRACKS		
RAILROAD DEVICES		
TREE LINE		
WATER BOUNDARY		
ORDINARY HIGH WATER LINE		
FLOW CENTERLINE		
FLOW DIRECTION		
WETLANDS		
EXISTING BUILDINGS		
POST OR BOLLARD		
WELL OR MONITORING WELL		
SEPTIC PIPE		
FUEL TANK FILL PIPE/VENT		
SATELLITE DISH		
TEST HOLE		
CONIFER TREE		
DECIDUOUS TREE		
GRAVE		
THERMOSIPHON		
PARKING METER		
VEHICLE PLUG-IN		
DELINEATOR/GUIDE MARKER		

H = HOUSE  
 G = GARAGE  
 M = MERCHANT/STORE  
 B = BARN  
 S = SHED  
 P = PRIVY  
 SS = SERVICE STATION  
 W = WAREHOUSE

	EXISTING	PROPOSED
JUNCTION BOX, TYPE IA		
JUNCTION BOX, TYPE II		
JUNCTION BOX, TYPE III		
SIGNAL FACE, VEHICULAR		
SIGNAL FACE, BACKPLATE		
SIGNAL FACE, LEFT TURN, BACKPLATE		
SIGNAL FACE, PEDESTRIAN		
LOOP DETECTOR		
VIDEO DETECTOR		
RADAR DETECTOR		
OPTICOM DETECTOR		
PEDESTRIAN PUSH BUTTON		
SIGNAL POST W/O MAST ARM		
SIGNAL POLE W/MAST ARM		
SIGNAL CONTROLLER		
LOAD CENTER		
LUMINAIRE		
RIGID METAL CONDUIT		

ABBREVIATIONS:

RT	RIGHT
LT	LEFT
DW	DRIVEWAY
SW	SIDEWALK
STA	STATION
MTE	MATCH TO EXISTING
HMA	HOT MIX ASPHALT
OFF	OFFSET
HWY	HIGHWAY
PCC	PORTLAND CONCRETE CEMENT
ASPH	ASPHALT
TBOC	TOP BACK OF CURB
ELEV	ELEVATION
SRTS	SAFE ROUTES TO SCHOOL
STD DWG	AK DOT&PF STANDARD DRAWING
AK DOT&PF	ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

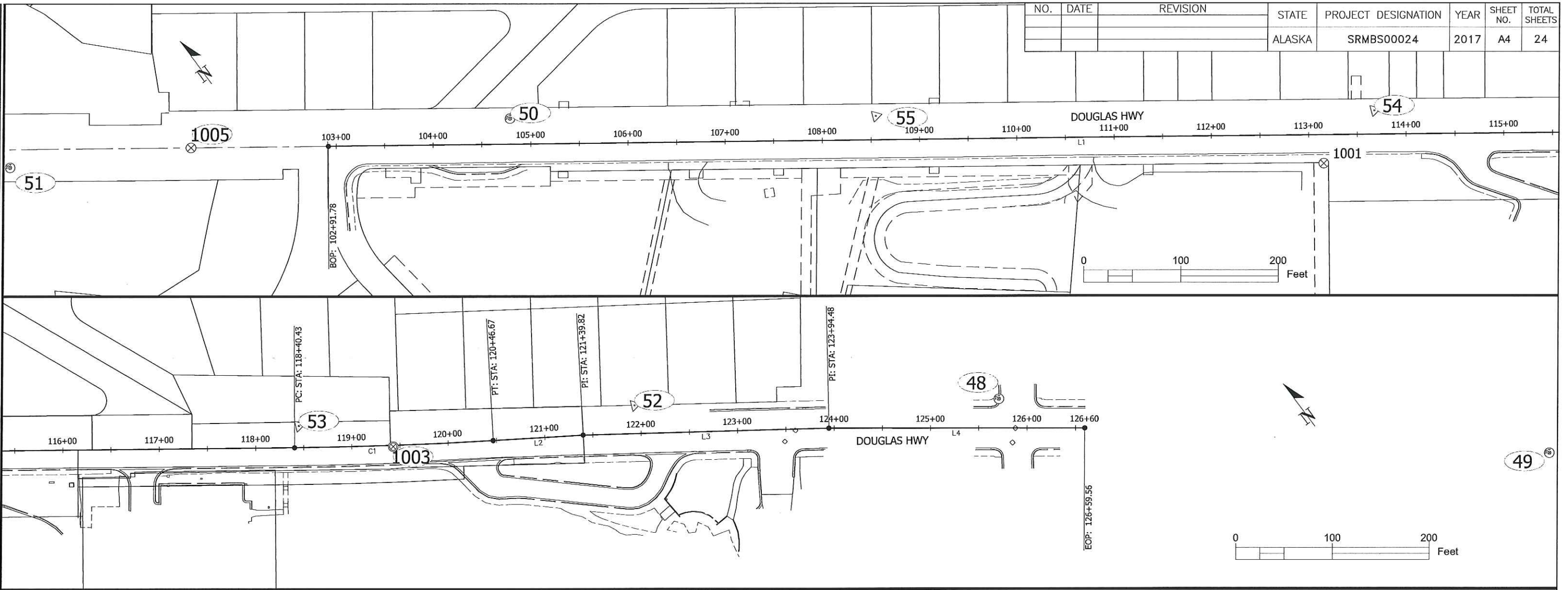
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
 6860 GLACIER HIGHWAY, JUNEAU, AK 99811  
 (907) 465-1763

JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE

**LEGENDS / SYMBOLS**

DESIGNED: J. PAPOI  
 CHECKED: D. IGNOLOV  
 DRAFTED: J. PAPOI  
 XREFS  
 SCALE  
 LAYOUT  
 SCS  
 DATE TIME  
 1/31/2017 14:59  
 DRAWING LOCATION  
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024	2017	A4	24



### DOUGLAS SIDEWALK ALIGNMENT

SEGMENT	START STATION	NORTHING	EASTING	END STATION	RADIUS	LENGTH	DELTA
L1	102+91.78	473239.76	531203.42	118+40.43			
C1	118+40.43	472156.08	532309.75	120+46.67	4181.36	206.24	2°49'34"
L2	120+46.67	472015.45	532460.58	121+39.82			
L3	121+39.82	471953.63	532530.26	123+94.48			
L4	123+94.48	471778.40	532715.04	126+59.56			

Point #	Northing	Easting	Description	Station	Offset
1001	472502.70	531914.20	3.25"ALCAP_RW\TRA3_CHS	113+15.31	29.17R

**All PROPERTY MONUMENTS** in this **existing property table** shall be **preserved in place** or **referenced** prior to disturbance and replaced at their original horizontal position. **A RECORD OF MONUMENT FORM SHALL BE SUBMITTED TO DOT FOR REVIEW PRIOR TO RECORDING.**

Point #	Northing	Easting	Description	Station	Offset
1003	472084.26	532383.06	2.5"BC_DOH\CL MON	119+43.04	1.26R
1005	473338.83	531102.21	BC2.5" DOH\CL MON	N/A	N/A

**EXISTING CENTERLINE MONUMENTS 1003 & 1005 SHALL BE PRESERVED IN PLACE.**

### MONUMENT NOTES:

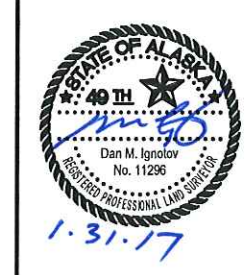
1. If any pair of control points disagrees from published value by more than 1:10,000 horizontally or vertically then a third network point must be tied to ascertain which point is in error or has been disturbed.
2. Whether listed or not, all monuments, property markers, or accessories that will be disturbed or buried shall be referenced prior to being disturbed, and re-established in their original position and a record of monument form in accordance with A.S.34.65.040 shall be submitted to the construction engineer for review prior to recording. Coordinate values listed are for location purposes and should be used to reset monuments only as a last resort.

Coordinates hold over distances and bearings.

Point #	Northing	Easting	Elevation	Description	Station	Offset
48	471675.02	532860.79	102.18	ALCAP2" DOT_SET	125+70.61	30.13L
49	471232.56	533224.05	78.73	ALCAP2" DOT_SET	N/A	N/A
50	473127.72	531355.42	100.07	ALCAP2" DOT_SET	104+78.77	26.32L
51	473456.06	530956.21	100.01	ALCAP2" DOT_SET	N/A	N/A
52	471937.74	532589.55	111.01	MAG/WASH_SET	121+93.78	29.27L
53	472168.90	532328.81	112.47	MAG/WASH_SET	118+45.10	22.50L
54	472504.46	531989.04	106.73	MAG/WASH_SET	113+67.54	24.46L
55	472863.27	531622.94	100.46	MAG/WASH_SET	108+54.93	24.60L

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

All **SURVEY CONTROL** monuments in this table are provided strictly for survey control. Should any of them be destroyed during construction they **shall NOT** be replaced.

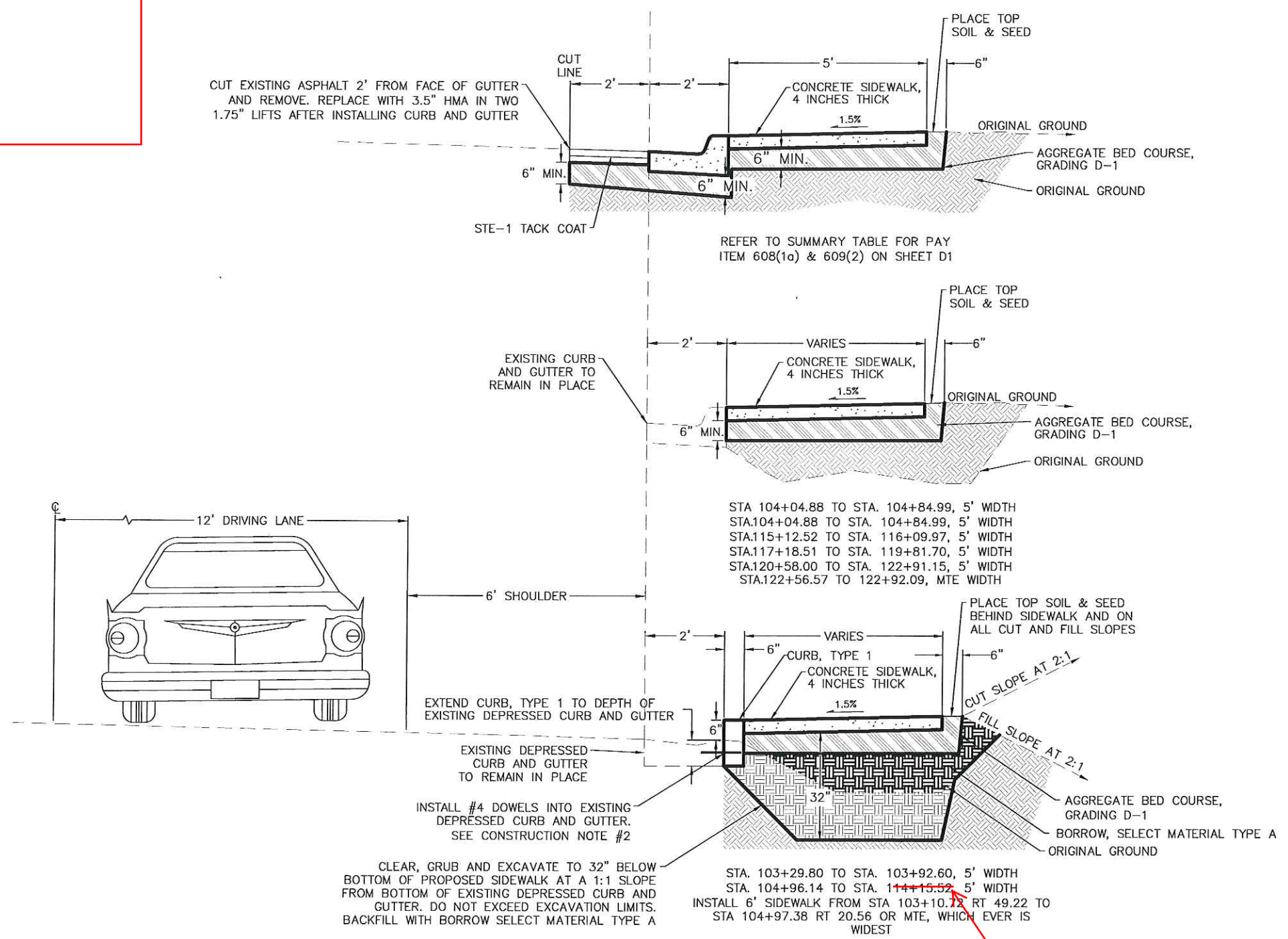


STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 & PUBLIC FACILITIES  
 SOUTHCOAST REGION  
 6860 GLACIER HIGHWAY  
 JUNEAU, AK 99811-2506  
 (907)465-1763  
**DOUGLAS HWY SIDEWALK EXTENSION-  
 GASTINEAU SCHOOL TO  
 LAWSON CRK ROAD // CROWHILL DRIVE  
 SURVEY CONTROL**

FILE 0:\nuv\2501000002\Plans\SRMBS00024\_B1-B2\_Typ.dwg  
 DATE 1/13/2017 15:56 LAYOUT B1  
 DESIGNED R. WARNER  
 CHECKED C. GOINS  
 DRAFTED R. WARNER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	B1	24

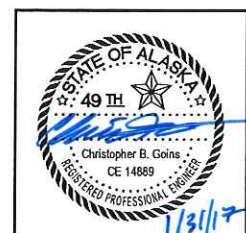
Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**



Changed to Sta: 109+17.  
 Excavation depth changed to 9" to preserve existing underdrain Sta: 109+17 - 114+52

1 DOUGLAS HIGHWAY/3RD STREET  
 B1 STA 102+91 TO STA 126+59

- CONSTRUCTION NOTES:**
- CLEAR, GRUB, SEED AND ADD 2" OF TOPSOIL TO LIMITS OF CUT AND FILL PER TYPICAL SECTIONS.
  - INSTALL A MINIMUM OF TWO EVENLY SPACED 8" #4 REINFORCING STEEL DOWELS PER 10' CURB SECTION AND 5' APART IN SECTIONS THAT ARE NOT 10'. INSTALL WITH 4 INCHES OF EMBEDMENT INTO BACK OF EXISTING MECHANICALLY CLEANED DEPRESSED CURB AND GUTTER. INSTALL WITH APPROVED EPOXY AND MAINTAIN 2" OF COVER IN EXISTING CONCRETE. SEE SECTION 503 AND 712 OF THE SPECIAL PROVISIONS.
  - DO NOT EXCEED THE EXCAVATION LIMITS SHOWN.



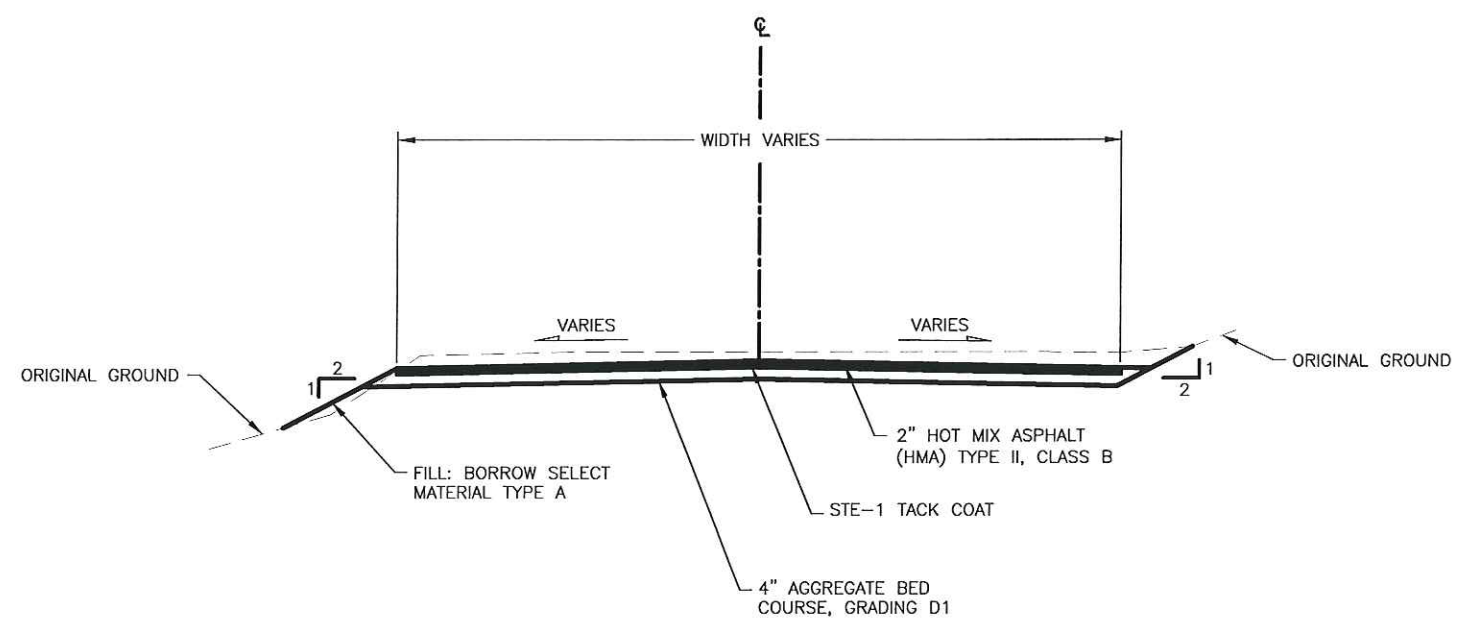
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
 6860 GLACIER HIGHWAY, JUNEAU, AK 99811  
 (907) 465-1763

JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE

**TYPICAL SECTIONS**

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	B2	24

FILE: O:\nuu\2501000002\Plan\set1\SRMBS00024\_B1-B2\_TYP.dwg  
 DATE: 1/31/2017 14:39 LAYOUT: B2 DESIGNED: R. WARNER CHECKED: C. GOINS DRAFTED: R. WARNER



1 HILL VIEW & CHANNEL TERRACE DRIVEWAYS  
 B2 STA 106+50 & STA 110+55

SEE SHEET G1 FOR DETAILS

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
 PROJECT ENGINEER:

Christopher B. Goins  
CE 14889  
REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
 6860 GLACIER HIGHWAY, JUNEAU, AK 99811  
 (907) 465-1763

JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE

**TYPICAL SECTIONS**

FILE Q:\ju\250100002\Plan\set\SRMBS00024\_C1\_QTY.dwg DATE 1/26/2017 11:47 LAYOUT C1 DESIGNED R. WARNER CHECKED C. GOINS DRAFTED R. WARNER

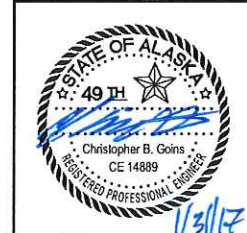
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/250100002	2017	C1	24

ESTIMATE OF QUANTITIES				
ITEM NO	ITEM DESCRIPTION	PAY UNIT	QUANTITY	FINAL QUANTITY
201(3B)	CLEARING AND GRUBBING	LUMP SUM	ALL REQ'D	-
201(7)	INVASIVE SPECIES CONTROL, REMOVAL AND DISPOSAL	SQUARE YARD	<del>400</del>	58.9
202(1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQ'D	-
202(2)	REMOVAL OF PAVEMENT (ASPH SW)	SQUARE YARD	<del>705</del>	675
202(3)	REMOVAL OF SIDEWALK (PCC SW)	SQUARE YARD	<del>405</del>	120.9
202(9)	REMOVAL OF CURB AND GUTTER	LINEAR FOOT	<del>300</del>	363.6
203(3)	UNCLASSIFIED EXCAVATION	CUBIC YARD	<del>600</del>	422.3
203(5)	BORROW	TON	<del>460</del>	414.19
301(1)	AGGREGATE BASE COURSE, GRADING, D1	TON	<del>550</del>	486.31
<del>401(4)</del>	<del>ASPHALT BINDER, PG 58-28</del>	<del>TON</del>	<del>2</del>	<del>-</del>
401(6)	HMA, TYPE II; CLASS B	SQUARE YARD	<del>58</del>	134.95
503(3)	DRILL AND BOND DOWELS	EACH	<del>197</del>	199
603(21-18)	18 INCH CORRUGATED POLYETHYLENE PIPE	LINEAR FOOT	<del>127</del>	141.4
604(1)	STORM SEWER MANHOLE	EACH	1	1
604(5)	INLET, TYPE A	EACH	1	1
604(8)	ADJUST EXISTING INLET	EACH	1	1
604(9)	REPLACE EXISTING FRAME AND GRATE	EACH	2	2
608(1A)	CONCRETE SIDEWALK, 4 INCHES THICK	SQUARE YARD	<del>903</del>	921.5
608(1B)	CONCRETE SIDEWALK, 6 INCHES THICK	SQUARE YARD	<del>177</del>	195.14
608(6)	CURB RAMP	EACH	9	9
609(1)	CURB, TYPE 1	LINEAR FOOT	<del>983</del>	983.3
609(2)	CURB AND GUTTER, TYPE 1	LINEAR FOOT	<del>300</del>	350.4
611(2)	RIPRAP, CLASS 1	TON	<del>12</del>	7.4
615(1)	STANDARD SIGN	SQUARE FOOT	6	6
615(2)	REMOVE AND RELOCATE EXISTING SIGN	EACH	<del>9</del>	10
618(4)	SEEDING	LUMP SUM	ALL REQ'D	-
620(1)	TOPSOIL	SQUARE YARD	<del>484</del>	575
639(3)	APPROACH	EACH	2	2
640(1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQ'D	-
641(1)	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQ'D	-
641(3)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	LUMP SUM	ALL REQ'D	-
641(5)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL BY DIRECTIVE	CONTINGENT SUM	ALL REQ'D	-
641(6)	WITHHOLDING	CONTINGENT SUM	ALL REQ'D	-
642(1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQ'D	-
643(2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQ'D	-
643(3)	PERMANENT CONSTRUCTION SIGNS	LUMP SUM	ALL REQ'D	-
643(15)	FLAGGING	CONTINGENT SUM	ALL REQ'D	-
643(23)	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQ'D	-
643(25)	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQ'D	-
643(32)	TEMPORARY ADA COMPLIANT CURB RAMPS	EACH	4	4

Deleted by Addendum No. 1

BASIS OF ESTIMATE		
ITEM NO.	ITEM	ESTIMATING FACTOR
201(3B)	CLEARING AND GRUBBING	0.25 ACRES
203(6)	BORROW	1.80 TONS/CY
301(1)	AGGREGATE BASE COURSE, GRADING D-1	1.95 TONS/CY
401(6)	HMA, TYPE II; CLASS B	225 LBS/SY OF 2" LIFT FOR DRIVEWAYS
611(2)	RIPRAP, CLASS 1	1.45 TONS/CY
618(4)	SEEDING	44 LBS/ACRE @ 0.10 ACRES

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:



STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
6860 GLACIER HIGHWAY, JUNEAU, AK 99811  
(907) 465-1763  
JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE  
**ESTIMATE OF QUANTITIES & BASIS OF ESTIMATE**

FILE D:\jnu\250100002\Planes\SRMBS00024\_01-D2\_SUMS.dwg DATE 1/13/2017 15:59 LAYOUT D1 DESIGNED R. WARNER CHECKED C. GOINS DRAFTED R. WARNER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/250100002	2017	D1	24

202(1) REMOVAL OF STRUCTURES & OBSTRUCTIONS		
STATION	OFFSET	REMARKS
103+08.20	RT 43.06	Remove standard curb inlet frame and grate. Catch basin to remain in place.
122+80.23	RT 27.44	Remove sign base from sidewalk.
123+11.41	RT 20.46	Remove standard curb inlet frame and grate. Catch basin to remain in place.
123+30.88	LT 28.92	Remove 14' of concrete hand rail foundation at back of driveway

604(8) ADJUST EXISTING INLET		
STATION	OFFSET	REMARKS
106+66.04	RT 18.57	Remove and replace depressed curb and gutter and adjust inlet frame and grate

202(2) REMOVAL OF PAVEMENT (ASPH SW)					
BEGIN STA.	OFFSET	END STA.	OFFSET	AREA (SY)	REMARKS
103+10.72	RT 49.22	104+96.13	RT 20.55	140	Crow Hill Rd. to front of Bus Pull Out
106+41.48	RT 20.87	106+81.18	RT 20.91	88	Hillview Access
110+40.94	RT 21.03	110+79.04	RT 20.86	117	Channel Terrace Access
114+15.52	RT 21.04	114+54.05	RT 38.14	117	Chatham Pl. RT Curb Return
114+85.63	RT 26.04	116+62.82	RT 25.53	90	Chatham Pl. to School Parking Lot
117+00.87	RT 25.96	119+81.70	RT 20.70	153	School Parking Lot to Bus Pull In
120+67.03	RT 20.44	121+91.15	RT 22.42	80	Bus Pull In to Bus Pull Out

604(9) REPLACE EXISTING FRAME AND GRATE		
STATION	OFFSET	REMARKS
103+15.07	RT 28.50	Install depressed curb inlet frame and grate
123+11.41	RT 20.46	Install depressed curb inlet frame and grate

202(3) REMOVAL OF SIDEWALK (PCC SW)					
BEGIN STA.	OFFSET	END STA.	OFFSET	AREA (SY)	REMARKS
114+15.52	RT 21.04	114+54.05	RT 38.14	24	Chatham Pl. RT Curb Return
116+34.15	RT 20.37	116+49.97	RT 20.45	8	Chatham Pl. to School Parking Lot
122+56+57	RT 22.50	123+20.40	RT 29.66	46	I Street Northern Corner
123+07.89	RT 22.42	123+47.88	RT 22.34	19	Parallel Mid-Block Curb Ramp
123+59.56	RT 28.23	123+73.77	RT 22.52	8	I Street Southern Corner

608(1a) CONCRETE SIDEWALK, 4 INCHES THICK					
BEGIN STA.	OFFSET	END STA.	OFFSET	AREA (SY)	REMARKS
103+25.45	RT 21.80	106+32.21	RT 20.90	173	Crowhill Dr. to Hillview Apt. Access DW
106+81.72	RT 20.90	110+35.44	RT 21.04	193	Hillview Apt. to Channel Terrace Apt.
110+85.51	RT 20.87	114+31.18	RT 22.08	192	Channel Terrace Apt. Access DW to R2
115+00.71	RT 20.52	116+09.97	RT 20.32	66	R3 to School Utility Building DW
116+40.15	RT 20.41	116+49.97	RT 20.45	11	School Utility Building DW to R4
117+18.51	RT 20.47	119+90.16	RT 20.95	152	R5 to R6
120+67.03	RT 20.44	121+91.15	RT 22.42	80	Section between Bus Pull In and Bus Pull Out
122+56.57	RT 22.50	122+92.09	RT 22.45	26	Section between Bus Pull Out and 'I' Street

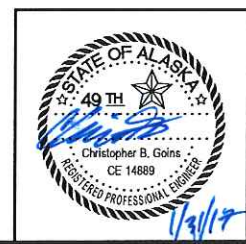
202(9) REMOVAL OF CURB & GUTTER					
BEGIN STA.	OFFSET	END STA.	OFFSET	LENGTH (LF)	REMARKS
103+08.63	RT 49.41	103+29.80	RT 21.16	34	Southernmost corner of Crow Hill Drive
103+92.60	RT 20.55	104+04.88	RT 24.57	13	See Detail 4 North, Sheet E1
104+84.99	RT 24.68	104+97.38	RT 20.56	12	See Detail 4 South, Sheet E1
106+61.45	RT 20.39	106+70.69	RT 20.39	10	Hillview access
114+15.52	RT 21.04	114+54.05	RT 38.14	44	Westernmost corner of Chatham Place Drive
114+85.26	RT 26.71	115+12.52	RT 20.49	30	Southernmost corner of Chatham Place Drive
116+09.97	RT 20.32	116+15.93	RT 20.29	6	Rightside of school utility building driveway
116+34.15	RT 20.37	116+65.88	RT 28.74	35	Leftside of school utility building driveway to westernmost corner of school parking lot
117+00.48	RT 26.36	117+06.14	RT 22.72	7	Southernmost corner of school parking lot
120+51.12	RT 25.70	120+58.00	RT 20.68	7	Westernmost corner of school bus pull in
121+39.08	RT 22.32	121+49.83	RT 22.35	11	Adjacent to bus stop
122+92.09	RT 22.45	123+20.39	RT 30.16	33	Westernmost corner of I Street intersection
123+59.41	RT 28.73	123+73.77	RT 22.52	18	Southernmost corner of I Street intersection
123+07.89	LT 22.42	123+47.88	LT 22.34	40	Mid-block parallel curb ramp across from westernmost corner of I Street intersection

608(1b) CONCRETE SIDEWALK, 6 INCHES THICK					
BEGIN STA.	OFFSET	END STA.	OFFSET	AREA (SY)	REMARKS
103+10.72	RT 49.22	103+25.45	RT 21.80	20	R1 - Curb Ramp 103+09.38 RT 28.50
106+32.21	RT 20.90	106+81.72	RT 20.90	30	Hillview Access DW
110+35.44	RT 21.04	110+85.51	RT 20.87	29	Channel Terrace Apt. Access DW
114+31.18	RT 22.08	114+54.05	RT 38.14	15	R2 - Curb Ramp 114+34.28 RT 25.49
114+85.78	RT 25.54	115+00.71	RT 20.52	8	R3 - Curb Ramp 114+83.55 RT 22.74
116+09.97	RT 20.32	116+40.15	RT 20.41	9	School Utility Building DW
116+49.97	RT 20.45	116+62.82	RT 25.53	5	R4 - Curb Ramp 116+51.53 RT 22.16
117+01.30	RT 25.46	117+18.51	RT 20.47	7	R5 - Curb Ramp 117+01.42 RT 23.00
120+51.12	RT 25.70	120+67.03	RT 20.44	8	R7 - Curb Ramp 120+54.30 RT 22.62
122+92.09	RT 22.45	123+20.40	RT 29.66	20	R10 - Curb Ramp 123+13.16 RT 24.40
123+07.89	RT 22.42	123+47.88	RT 22.34	18	R12 - Curb Ramp 123+09.61 LT 23.44
123+59.56	RT 28.23	123+73.77	RT 22.52	8	R11 - Curb Ramp 123+56.71 RT 24.28

604(1) STORM SEWER MANHOLE		
STA.	OFFSET	REMARKS
109+14.21	RT 23.74	SEE STANDARD DRAWING D-35.00

604(5) INLET, TYPE A		
STA.	OFFSET	REMARKS
110+39.34	RT 26.03	SEE STANDARD DRAWING D-26.02

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**PROJECT ENGINEER:**



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 JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE

**SUMMARY TABLES**

FILE D:\work\2501000002\Plans\SRMBS00024-D1-02-SUMS.dwg  
 DATE 1/13/2017 15:59 LAYOUT D2  
 DESIGNED R. WARNER  
 CHECKED C. GOINS  
 DRAFTED R. WARNER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	D2	24

608(6) CURB RAMP		
STATION	OFFSET	REMARKS
103+15.07	RT 28.50	Crow Hill Drive
114+39.48	RT 25.26	Chatham Pl.
114+88.92	RT 22.47	Chatham Pl.
116+57.80	RT 22.54	School Faculty Parking
117+06.65	RT 22.71	School Faculty Parking
120+54.30	RT 22.62	School Bus Pull In
1239+18.82	RT 25.29	I Street RT
123+15.87	RT 22.55	I Street LT
123+62.08	RT 25.04	I Street RT

609(1) CURB, TYPE 1				
BEGIN STA.	END STA.	OFFSET	LENGTH (FT)	REMARKS
103+29.80	103+92.60	RT	63	Install behind existing valley gutter. See bottom typical section detail, Sheet B1.
104+96.14	114+15.52	RT	920	Install behind existing valley gutter. See bottom typical section detail, Sheet B1.

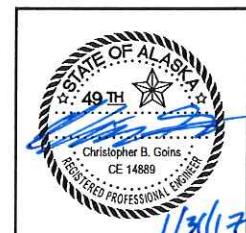
609(2) CURB & GUTTER, TYPE 1					
BEGIN STA.	OFFSET	END STA.	OFFSET	LENGTH (LF)	REMARKS
103+08.63	RT 49.41	103+29.80	RT 21.16	34	Southernmost corner of Crow Hill Drive
103+92.60	RT 20.55	104+04.88	RT 24.57	13	See Detail 4 North, Sheet E1
104+84.99	RT 24.68	104+97.38	RT 20.56	12	See Detail 4 South, Sheet E1
106+61.45	RT 20.39	106+70.69	RT 20.39	10	Hillview access
114+15.52	RT 21.04	114+54.05	RT 38.14	44	Westernmost corner of Chatham Place Drive
114+85.26	RT 26.71	115+12.52	RT 20.49	30	Southernmost corner of Chatham Place Drive
116+09.97	RT 20.32	116+15.93	RT 20.29	6	Rightside of school utility building driveway
116+34.15	RT 20.37	116+65.88	RT 28.74	35	School utility building to school parking lot
117+00.48	RT 26.36	117+06.14	RT 22.72	7	Southernmost corner of school parking lot
120+51.12	RT 25.70	120+58.00	RT 20.68	7	Westernmost corner of school bus pull in
121+39.08	RT 22.32	121+49.83	RT 22.35	11	Adjacent to bus stop
122+92.09	RT 22.45	123+20.39	RT 30.16	33	Westernmost corner of I Street intersection
123+59.41	RT 28.73	123+73.77	RT 22.52	18	Southernmost corner of I Street intersection
123+07.89	LT 22.42	123+47.88	LT 22.34	40	Mid-block parallel curb ramp at I Street intersection

615(1) STANDARD SIGN SUMMARY										
SIGN NO.	LEGEND	STA	OFFSET	ASDS CODE	WIDTH (IN)	HEIGHT (IN)	AREA (SF)	POST	SIGN FACING	COMMENTS
1	END SCHOOL ZONE	116+00	L	S5-2	18	24	3.00	2.5 PST	SE	END SCHOOL ZONE - NB
2	END SCHOOL ZONE	126+25	R	S5-2	18	24	3.00	2.5 PST	NW	END SCHOOL ZONE - SB

615(2) REMOVE AND RELOCATE EXISTING SIGN		
STA.	OFFSET	LEGEND
104+93.53	28.63 RT	BUS STOP
105+53.64	27.17 RT	NO PARKING BIKE LANE
113+09.57	26.64 RT	SPEED LIMIT 30
114+15.03	26.55 RT	PED X/AHEAD
115+33.53	27.19 RT	BUS STOP
120+05.18	36.78 RT	SPEED LIMIT 5
121+53.22	30.41 RT	BUS STOP
122+85.35	30.09 RT	STUDENT DROP OFF AREA/NO PARKING ANY TIME
123+00.64	29.23 RT	PED X/ARROW

641(8) INLET PROTECTION	
STATION	OFFSET
103+73.44	31.36 RT
103+75.13	19.73 RT
105+33.01	19.24 RT
105+33.25	28.46 RT
106+65.75	19.91 RT
109+14.60	30.78 RT
111+34.43	19.52 RT
111+34.46	28.16 RT
115+28.31	19.72 RT
117+68.79	27.36 RT
123+12.89	21.45 RT
123+70.21	20.53 LT

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

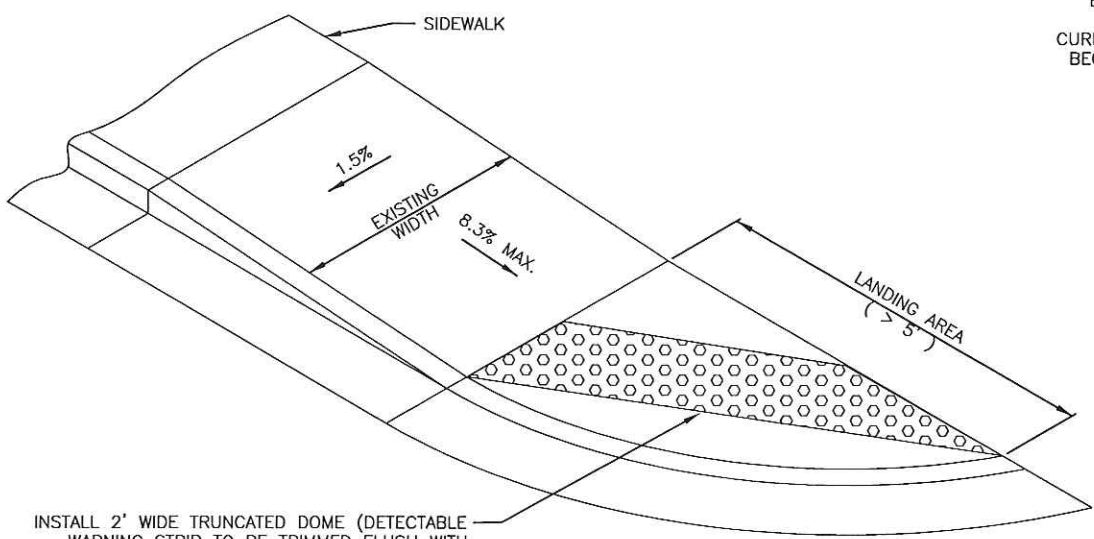


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**SUMMARY TABLES**

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	E1	24

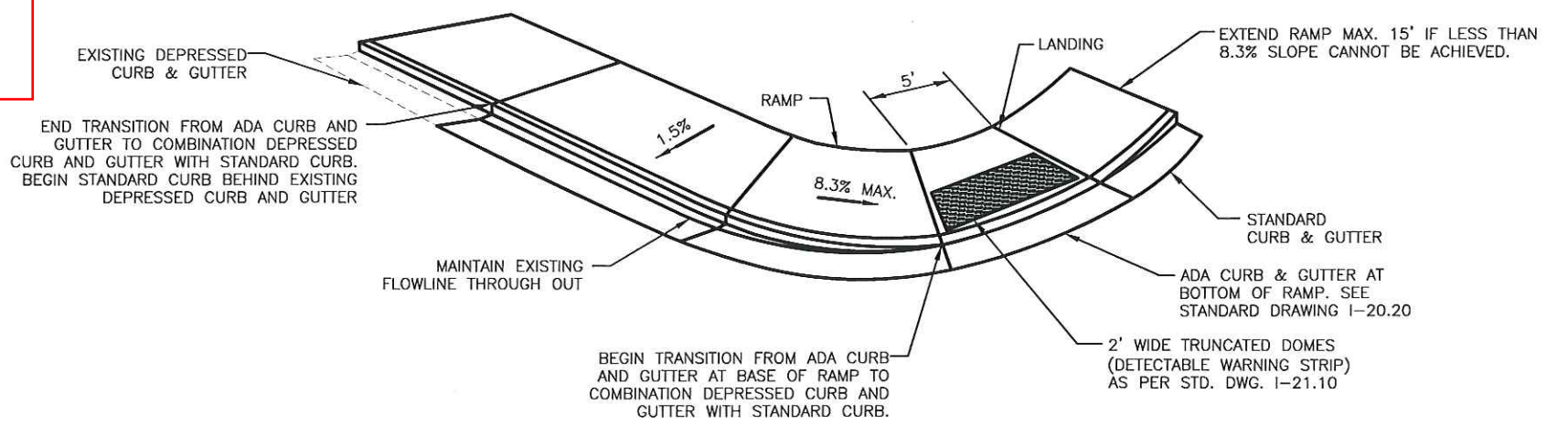
Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:

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 DESIGNED: R. WARNER  
 CHECKED: C. GOINS  
 DRAFTED: R. WARNER

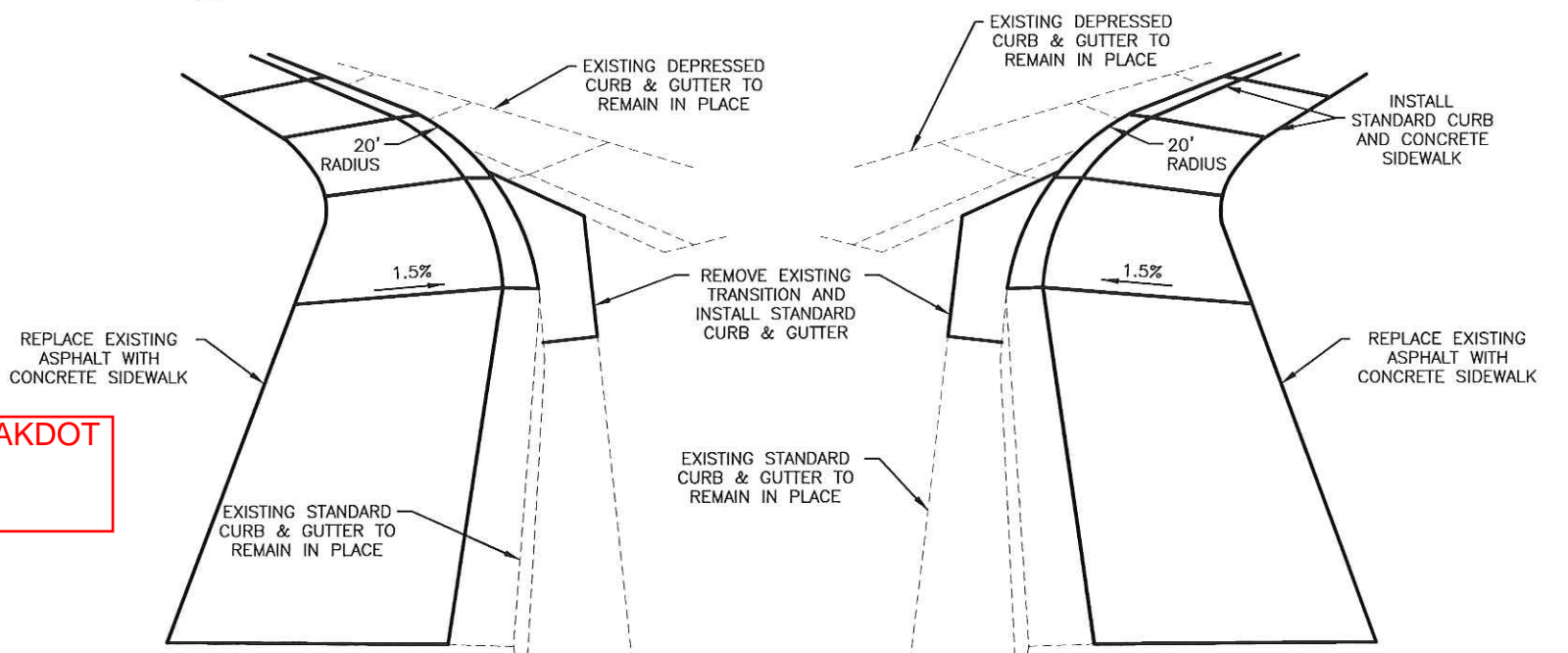


INSTALL 2' WIDE TRUNCATED DOME (DETECTABLE WARNING STRIP TO BE TRIMMED FLUSH WITH SIDEWALK JOINT) AND ADA CURB AND GUTTER AS PER STD. DWG. I-20.20 & I-21.10

**1** ONE WAY DIRECTIONAL CURB RAMP (LANDING AREA > 5')  
E1 SCALE: NOT TO SCALE



**2** CURB & GUTTER TO COMBINATION DEPRESSED CURB & GUTTER TRANSITION DETAIL  
E1 SCALE: NOT TO SCALE



**3** BUS STATION CURB & GUTTER TRANSITION DETAILS  
E1 SCALE: NOT TO SCALE

Expansion joints omitted per AKDOT Maintenance and Operations recommendation, RFI #3.

**CONSTRUCTION NOTES:**

- ~~CONCRETE SIDEWALK, CURB AND GUTTER EXPANSION JOINTS SHALL BE AT EACH END OF CURB RETURNS AND IMMEDIATELY PRECEDING AND FOLLOWING ALL CURB CUTS. THEREAFTER, THEY SHALL BE PLACED AT 30' MAXIMUM.~~
- CONCRETE CURB & GUTTER, CURB, AND SIDEWALK DUMMY JOINTS SHALL EXTEND INTO CONCRETE 1/3 THE DEPTH AND 1/8" WIDE. SIDEWALK DUMMY JOINTS SHALL BE PLACED AT 5' MAXIMUM INTERVALS BETWEEN EXPANSION JOINTS AND CURB & GUTTER, AND CURB DUMMY JOINTS SHALL BE PLACED AT 10' MAXIMUM INTERVALS BETWEEN EXPANSION JOINTS. DUMMY JOINTS SHALL NOT OVERLAP REINFORCING STEEL DOWELS.
- ALL JOINTS AND SEAMS SHALL BE EDGED.
- STEEL TROWEL FINISH REQUIRED PRIOR TO BROOM FINISHING ON ALL SURFACES.
- CURING COMPOUND SHALL BE APPLIED TO THE CONCRETE. APPLICATION SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS.
- FOR RAMPS, WHEN "CHASING GRADE", RAMP LENGTH NEED NOT EXCEED 15', BUT SLOPE MUST BE UNIFORM.

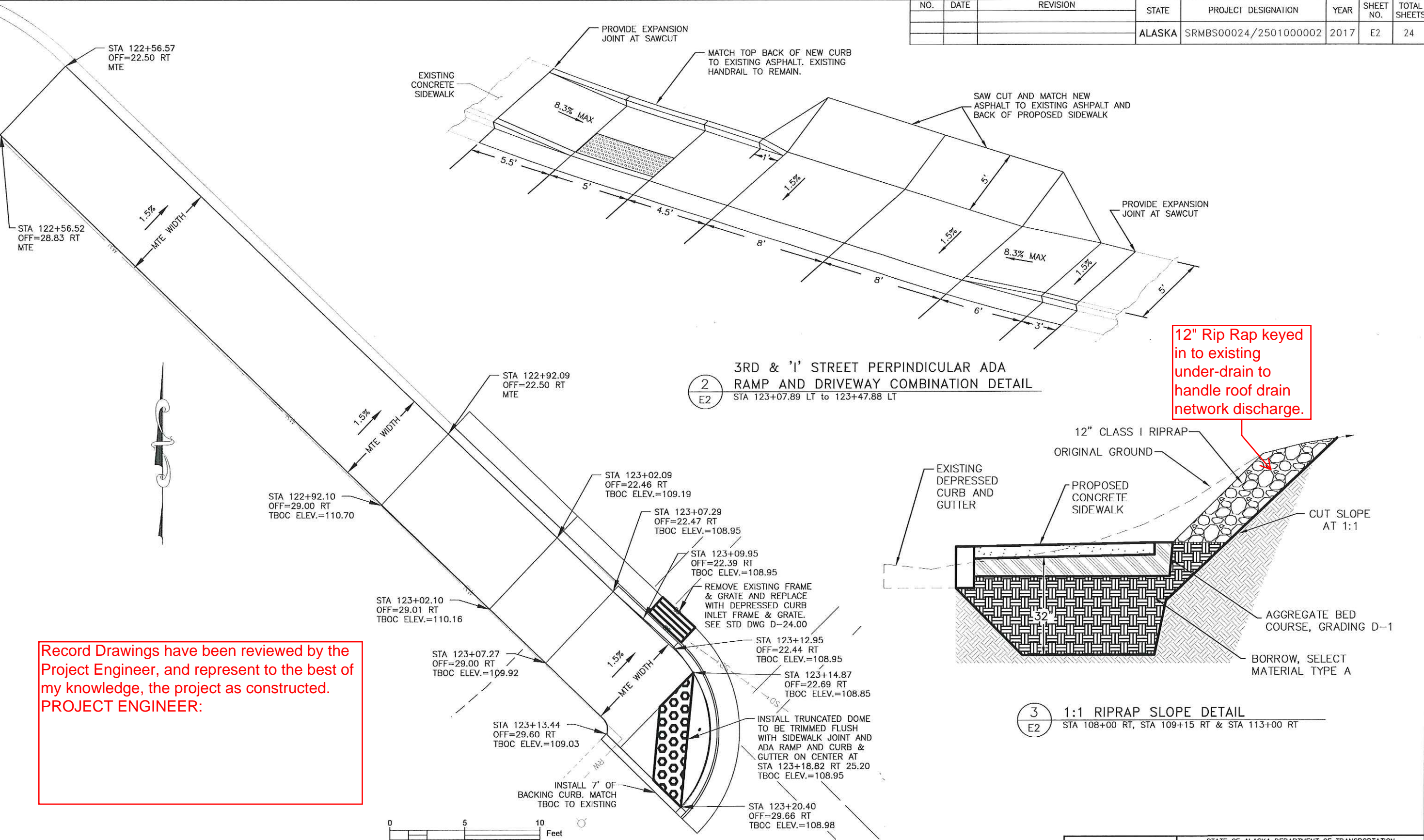


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**RAMP DETAILS**

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	E2	24

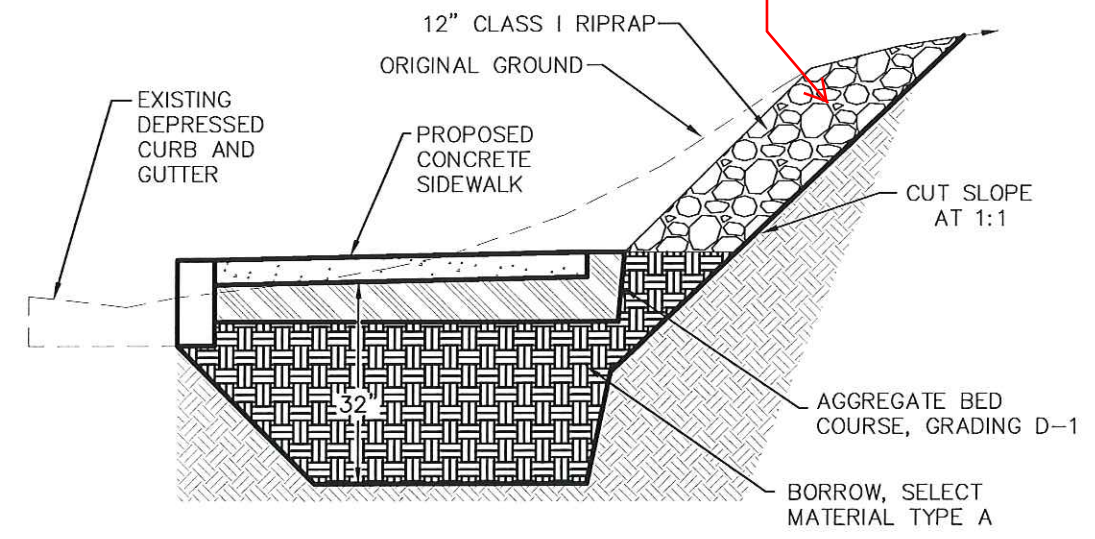
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 DESIGNED R. WARNER  
 CHECKED C. GOINS  
 DRAFTED R. WARNER



12" Rip Rap keyed  
 in to existing  
 under-drain to  
 handle roof drain  
 network discharge.

Record Drawings have been reviewed by the  
 Project Engineer, and represent to the best of  
 my knowledge, the project as constructed.  
 PROJECT ENGINEER:

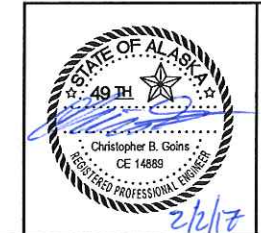
2  
 E2  
 3RD & '1' STREET PERPENDICULAR ADA  
 RAMP AND DRIVEWAY COMBINATION DETAIL  
 STA 123+07.89 LT to 123+47.88 LT



3  
 E2  
 1:1 RIPRAP SLOPE DETAIL  
 STA 108+00 RT, STA 109+15 RT & STA 113+00 RT

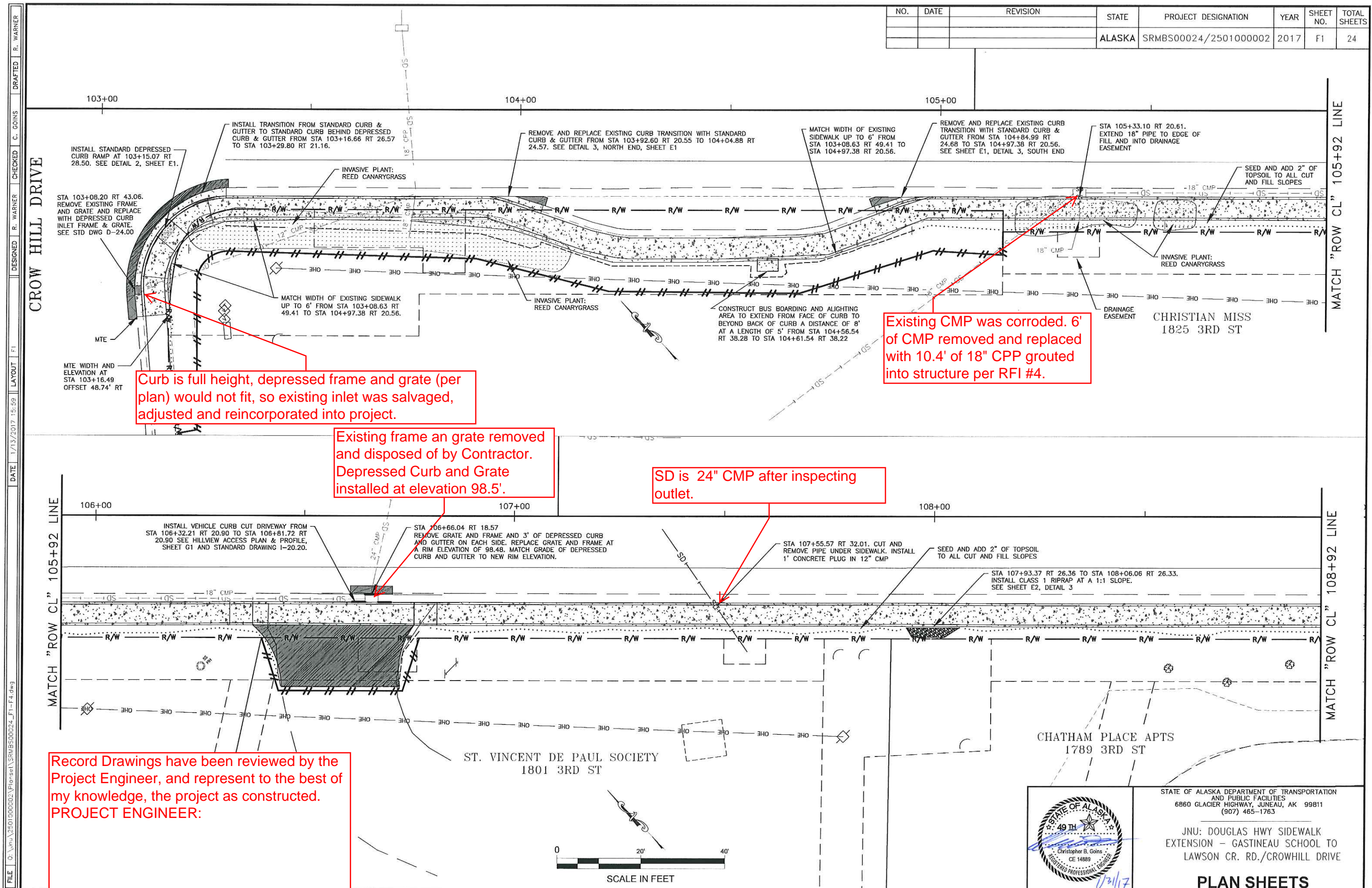
1  
 E2  
 3RD & '1' STREET ADA RAMP ELEVATIONS AND DETAILS  
 STA 122+56.57 RT to 123+20.40 RT

**CONSTRUCTION NOTES:**  
 1. WHEN REPLACING CURB AND GUTTER MATCH EXISTING FLOWLINE.



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 EXTENSION - GASTINEAU SCHOOL TO  
 LAWSON CR. RD./CROWHILL DRIVE  
**RAMP DETAIL**

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	F1	24



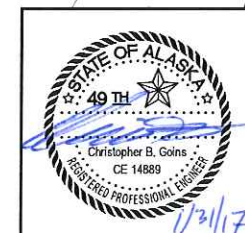
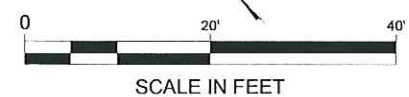
Curb is full height, depressed frame and grate (per plan) would not fit, so existing inlet was salvaged, adjusted and reincorporated into project.

Existing frame and grate removed and disposed of by Contractor. Depressed Curb and Grate installed at elevation 98.5'.

SD is 24" CMP after inspecting outlet.

Existing CMP was corroded. 6' of CMP removed and replaced with 10.4' of 18" CPP grouted into structure per RFI #4.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:



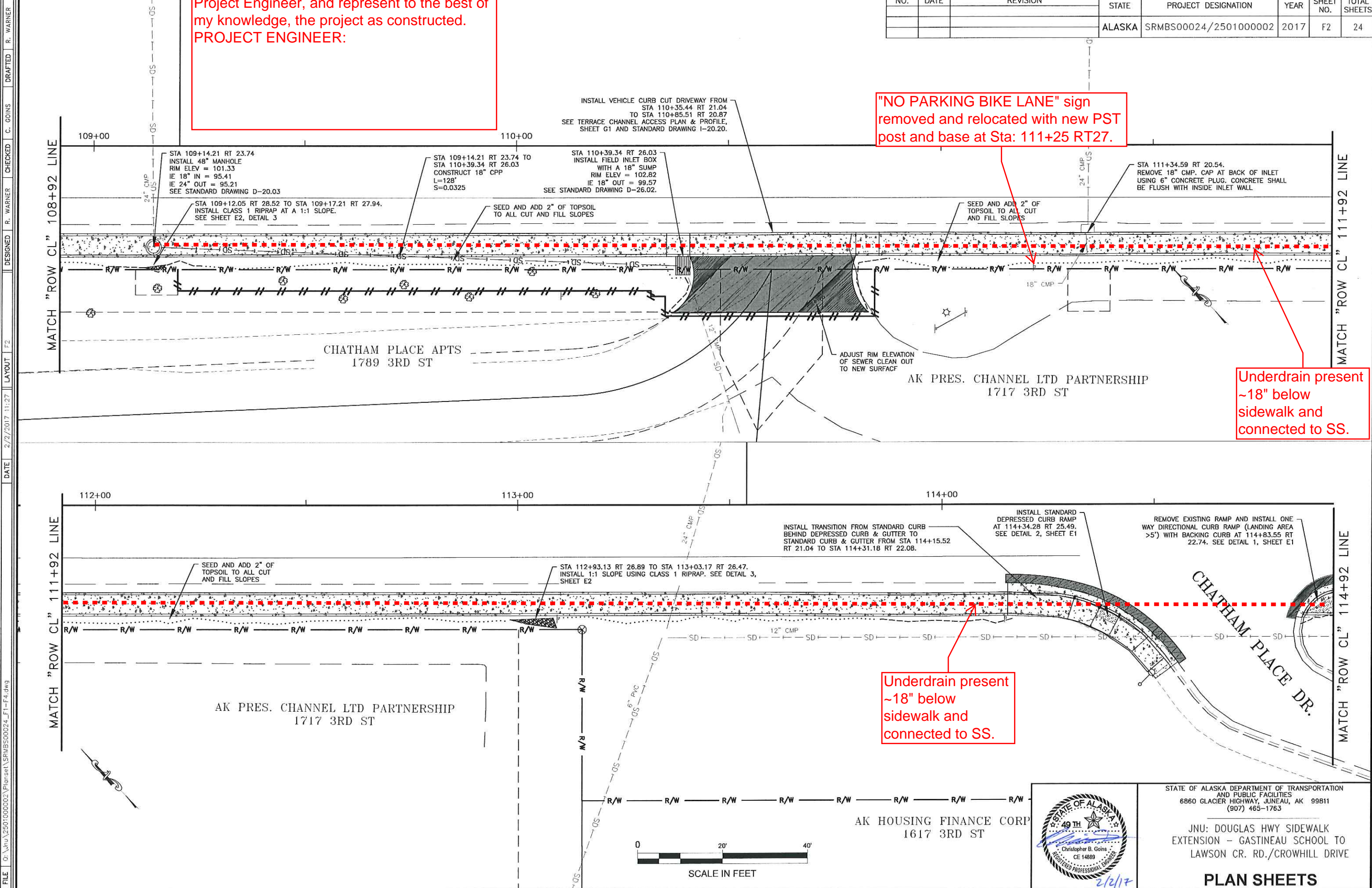
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PLAN SHEETS

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**PROJECT ENGINEER:**

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	F2	24

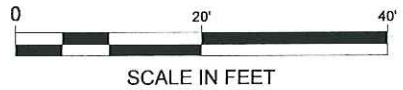


"NO PARKING BIKE LANE" sign removed and relocated with new PST post and base at Sta: 111+25 RT27.

Underdrain present ~18" below sidewalk and connected to SS.

Underdrain present ~18" below sidewalk and connected to SS.

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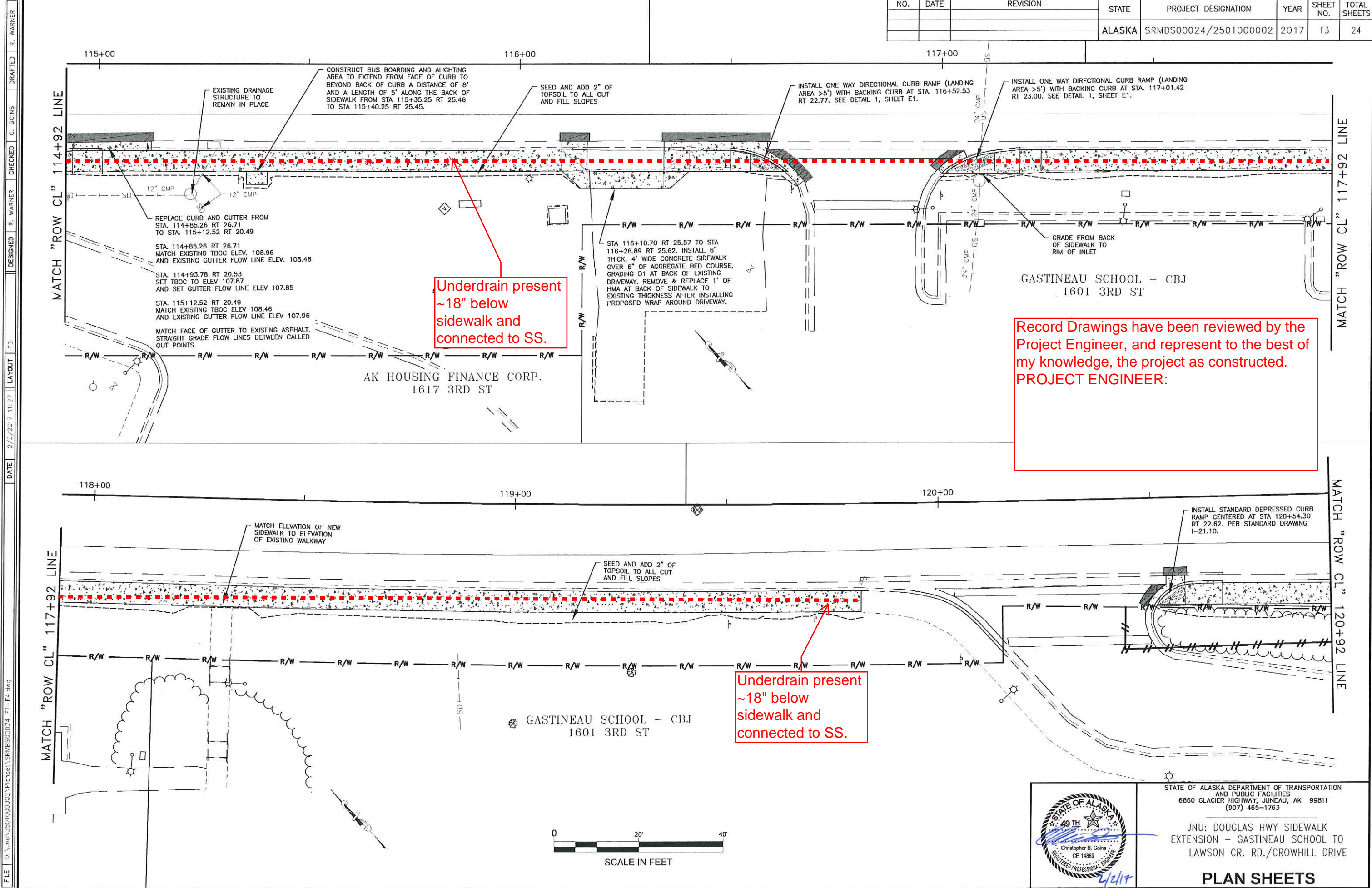


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**PLAN SHEETS**

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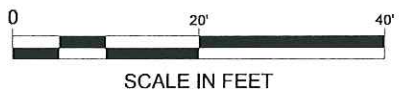


Underdrain present  
~18" below  
sidewalk and  
connected to SS.

Record Drawings have been reviewed by the  
Project Engineer, and represent to the best of  
my knowledge, the project as constructed.  
PROJECT ENGINEER:

Underdrain present  
~18" below  
sidewalk and  
connected to SS.

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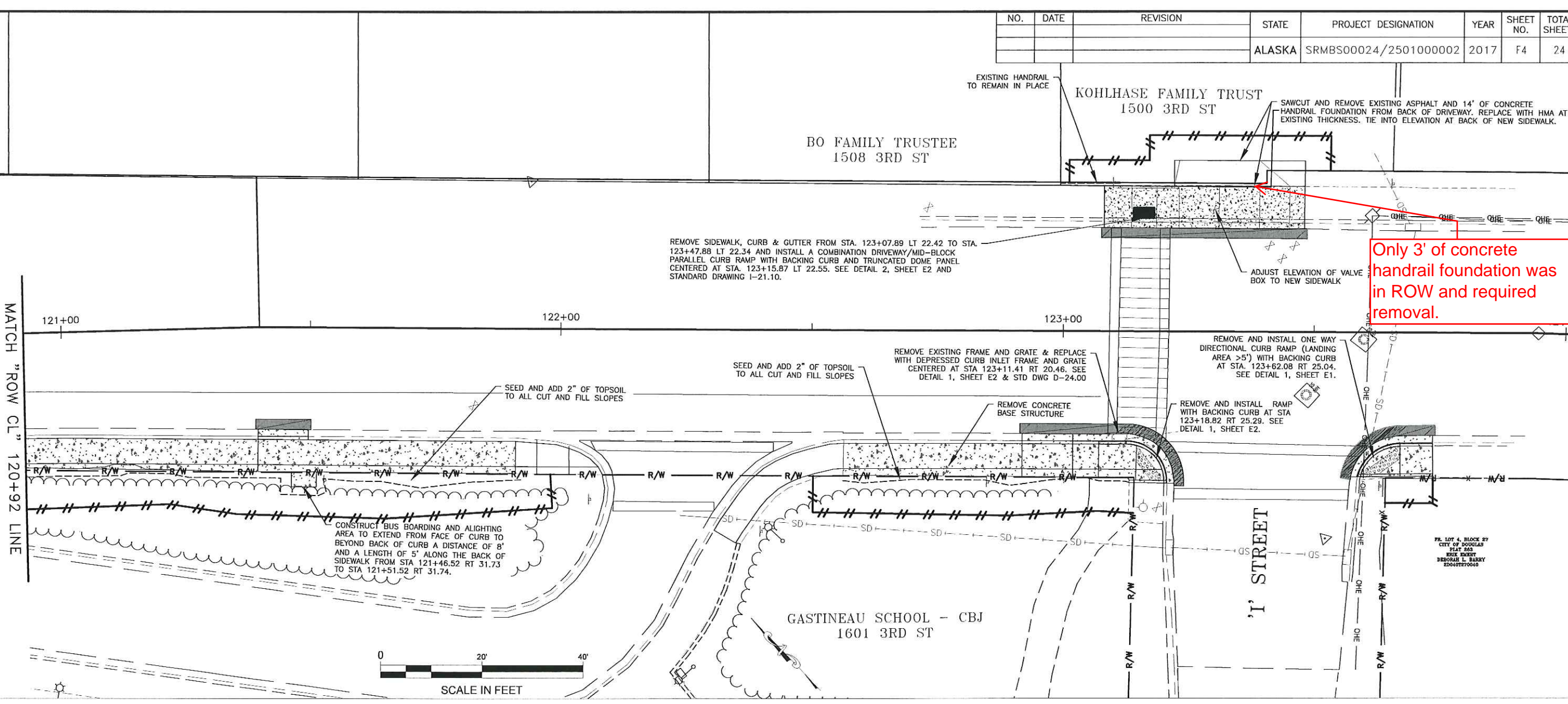
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**PLAN SHEETS**

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	F4	24

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 LAYOUT: F4  
 DESIGNED: R. WARNER  
 CHECKED: C. GOINS  
 DRAFTED: R. WARNER



REMOVE SIDEWALK, CURB & GUTTER FROM STA. 123+07.89 LT 22.42 TO STA. 123+47.88 LT 22.34 AND INSTALL A COMBINATION DRIVEWAY/MID-BLOCK PARALLEL CURB RAMP WITH BACKING CURB AND TRUNCATED DOME PANEL CENTERED AT STA. 123+15.87 LT 22.55. SEE DETAIL 2, SHEET E2 AND STANDARD DRAWING I-21.10.

EXISTING HANDRAIL TO REMAIN IN PLACE  
 KOHLHASE FAMILY TRUST  
 1500 3RD ST  
 SAWCUT AND REMOVE EXISTING ASPHALT AND 14" OF CONCRETE HANDRAIL FOUNDATION FROM BACK OF DRIVEWAY. REPLACE WITH HMA AT EXISTING THICKNESS. TIE INTO ELEVATION AT BACK OF NEW SIDEWALK.

Only 3' of concrete handrail foundation was in ROW and required removal.

REMOVE AND INSTALL ONE WAY DIRECTIONAL CURB RAMP (LANDING AREA >5') WITH BACKING CURB AT STA. 123+62.08 RT 25.04. SEE DETAIL 1, SHEET E1.

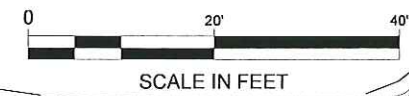
REMOVE AND INSTALL RAMP WITH BACKING CURB AT STA. 123+18.82 RT 25.29. SEE DETAIL 1, SHEET E2.

REMOVE EXISTING FRAME AND GRATE & REPLACE WITH DEPRESSED CURB INLET FRAME AND GRATE CENTERED AT STA. 123+11.41 RT 20.46. SEE DETAIL 1, SHEET E2 & STD DWG D-24.00

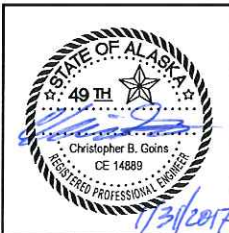
SEED AND ADD 2" OF TOPSOIL TO ALL CUT AND FILL SLOPES

SEED AND ADD 2" OF TOPSOIL TO ALL CUT AND FILL SLOPES

CONSTRUCT BUS BOARDING AND ALIGHTING AREA TO EXTEND FROM FACE OF CURB TO BEYOND BACK OF CURB A DISTANCE OF 8' AND A LENGTH OF 5' ALONG THE BACK OF SIDEWALK FROM STA. 121+46.52 RT 31.73 TO STA. 121+51.52 RT 31.74.



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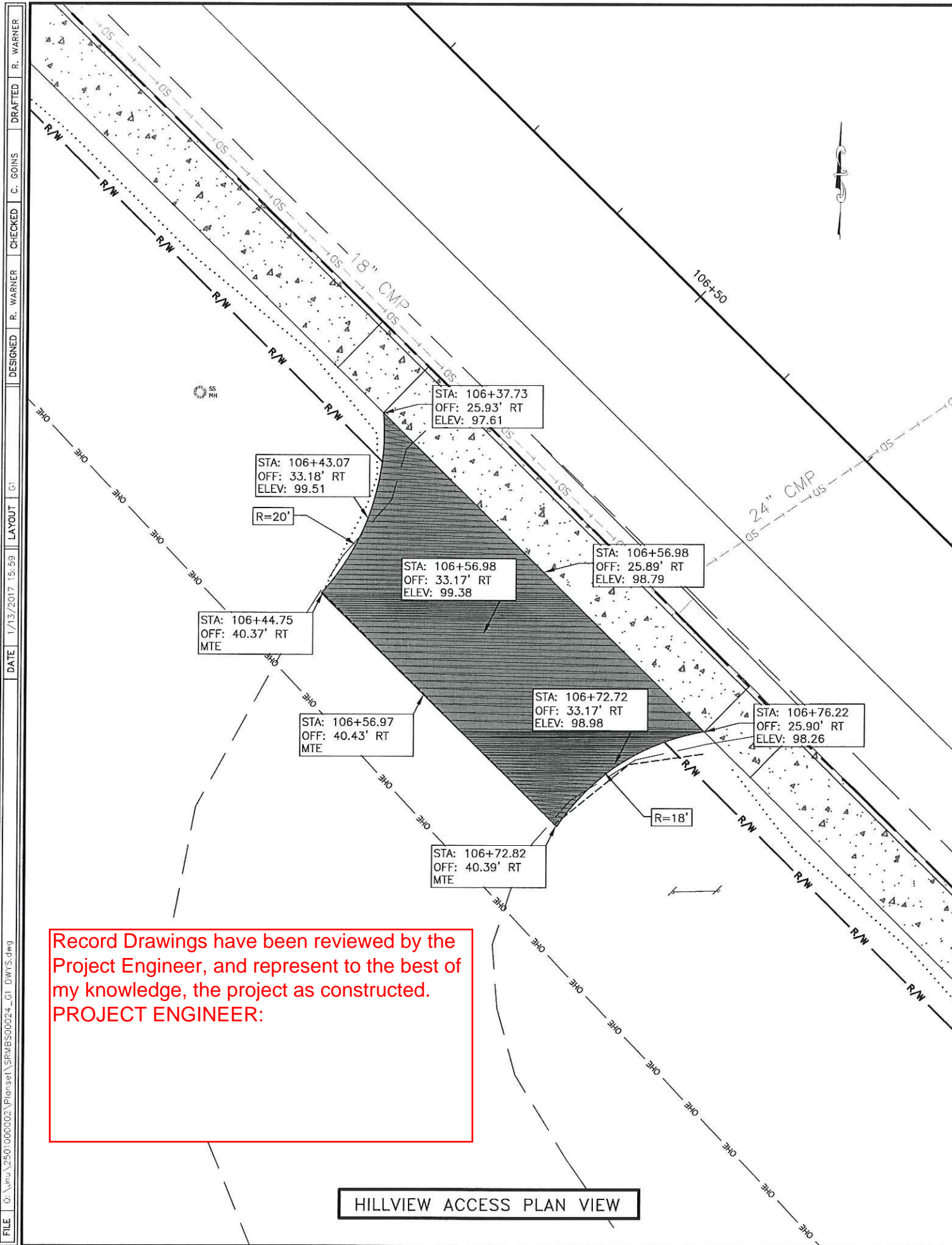


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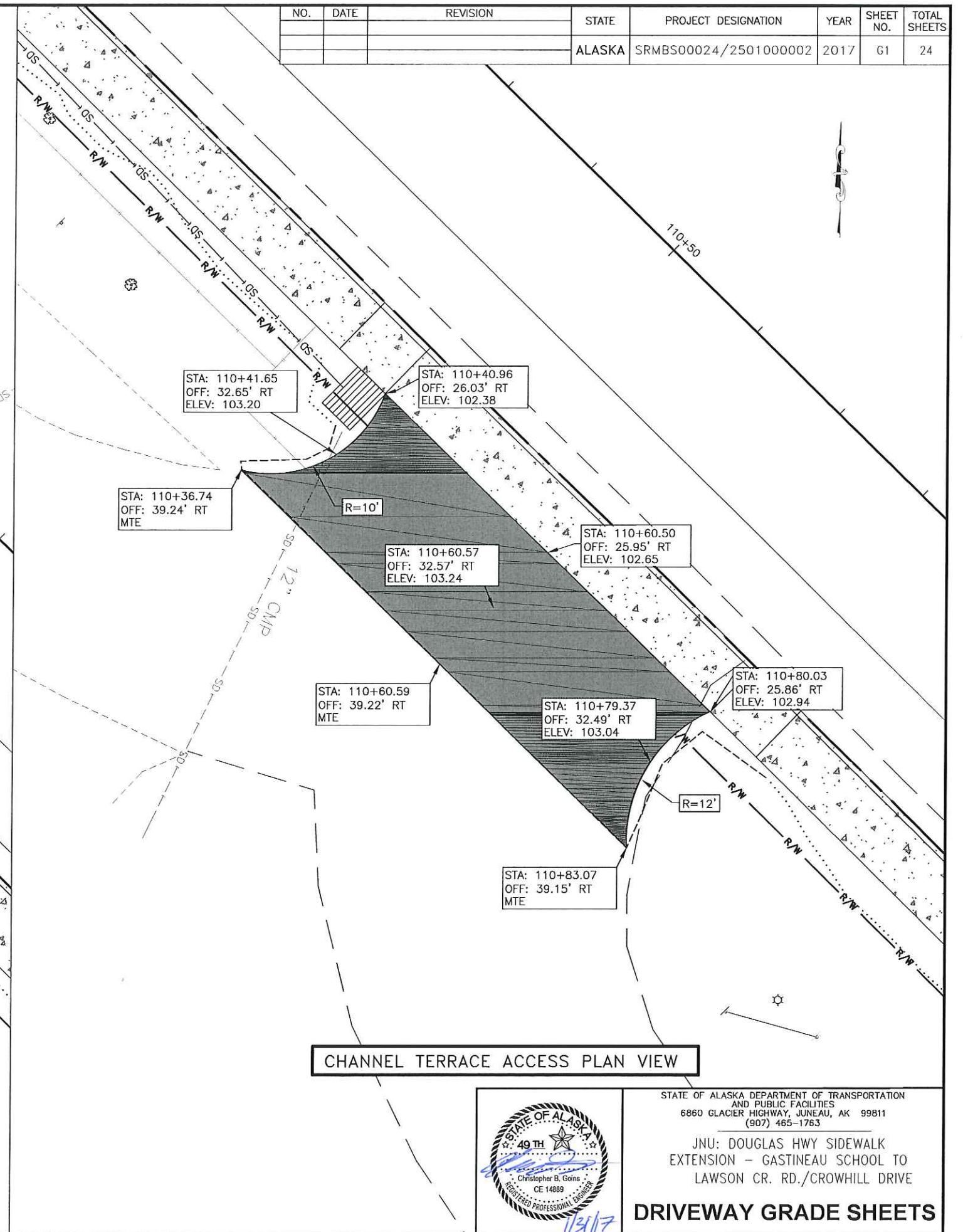
JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE

**PLAN SHEETS**

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	G1	24

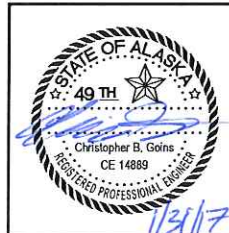


HILLVIEW ACCESS PLAN VIEW



CHANNEL TERRACE ACCESS PLAN VIEW

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:



STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
6860 GLACIER HIGHWAY, JUNEAU, AK 99811  
(907) 465-1763  
JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE

DRIVEWAY GRADE SHEETS

FILE: D:\jnu\2501000002\Plans\SRMBS00024\_G1\_DWYS.dwg  
DATE: 1/13/2017 15:59 LAYOUT: G1  
DESIGNED: R. WARNER CHECKED: C. GOINS DRAFTED: R. WARNER

FILE D:\jnu\2501000024\plans\SRMBS00024\_P1-ESCP.dwg DATE 1/26/2017 11:15 LAYOUT P1 DESIGNED R. WARNER CHECKED C. GOINS DRAFTED R. WARNER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/250100002	2017	P1	24

**GENERAL SITE INFORMATION:**

1. SITE FUNCTION: DRAINAGE.
2. AVERAGE ANNUAL PRECIPITATION = 98"
3. 2-YEAR 24-HOUR PRECIPITATION = 3.5"
4. PROJECT AREAS ARE LISTED BELOW (MATERIAL SITES NOT LISTED):  
 PROJECT AREA (ACRE): <4.00  
 DISTURBED AREA (ACRE): <0.25  
 IMPERVIOUS AREA (ACRE): 0.10  
 RUNOFF COEFFICIENT: 0.75 (residential)
5. SPRING THAW DATE: MAY 19
6. FALL FREEZE DATE: OCTOBER 13

**ENVIRONMENTAL INFORMATION:**

1. RECEIVING WATERS: LAWSON CREEK, BEAR CREEK & GASTINEAU CHANNEL
2. IMPAIRED WATER BODIES: NONE
3. TOTAL MAXIMUM DAILY LOAD (TMDL) WATERS: NONE.
4. THREATENED AND ENDANGERED SPECIES: NONE.
5. HISTORICAL & CULTURAL RESOURCE PRESENCE: YES  
 FISH AND WILDLIFE ESSENTIAL HABITAT: NO
6. WETLANDS: NONE
7. CONTAMINATED SITES WITHIN 1500 FEET:  
 4 SITES LISTED AS ACTIVE ARE AS FOLLOWS:  
 RESIDENCE-110 F STREET  
 HAZARD ID NO.: 26415 IS WITHIN 555 FEET AND DOWNSTREAM OF EOP.  
 RESIDENCE-1109 4TH STREET  
 HAZARD ID NO.: 26118 IS WITHIN 675 FEET AND DOWNSTREAM OF EOP.  
 BEAR CREEK APARTMENTS  
 HAZARD ID NO.: 4294 IS WITHIN 710 FEET AND DOWNSTREAM OF EOP.  
 RESIDENCE-1003 2ND STREET  
 HAZARD ID NO.: 25905 IS WITHIN 930 FEET AND DOWNSTREAM OF EOP.  
 2 SITES LISTED AS CLEAN-UP COMPLETE ARE AS FOLLOWS:  
 MIKE'S PLACE  
 HAZARD ID NO.: 3982 IS WITHIN 825 FEET AND DOWNSTREAM OF EOP.  
 DOUGLAS FIRE HALL  
 HAZARD ID NO.: 2703 IS WITHIN 840 FEET AND DOWNSTREAM OF EOP.
8. REFER TO APPENDIX B OF THE SPECIAL PROVISIONS FOR THE ENVIRONMENTAL COMMITMENTS AND PERMITS.

**ANTICIPATED CONSTRUCTION SEQUENCE:**

- THIS ESCP ASSUMES THE FOLLOWING CONSTRUCTION SEQUENCE:
1. INSTALL PERIMETER CONTROLS AND BMP'S AND STAKE PERMIT AND RIGHT-OF-WAY BOUNDARIES.
  2. EXCAVATE AND FILL
  3. ADJUST INLETS AND STORM DRAINAGE FACILITIES
  4. INSTALL CURBS & GUTTERS, RAMPS AND SIDEWALKS
  5. FINALIZE STABILIZATION AND REMOVAL OF TEMPORARY BMPs.

**ESCP NOTES:**

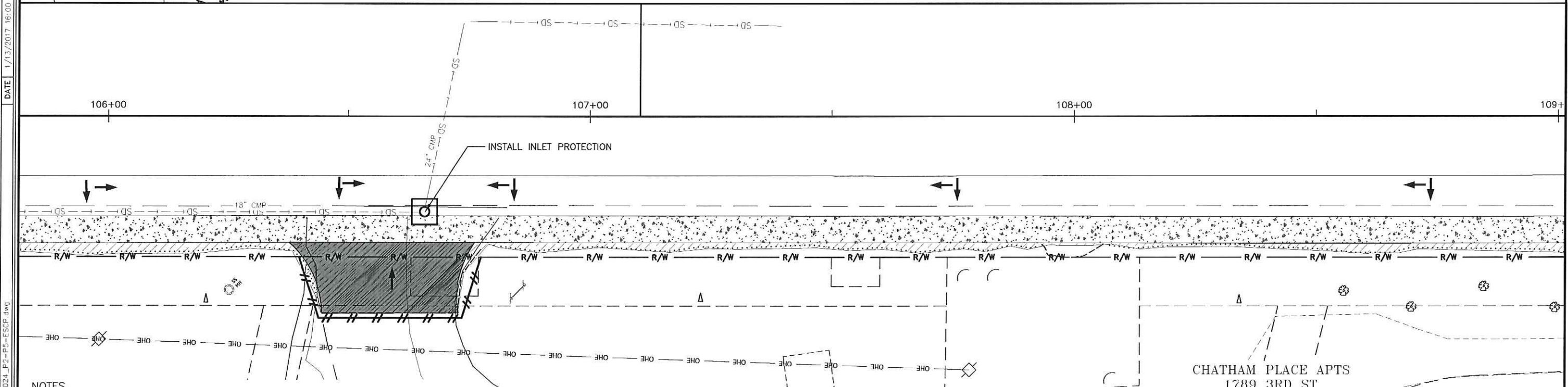
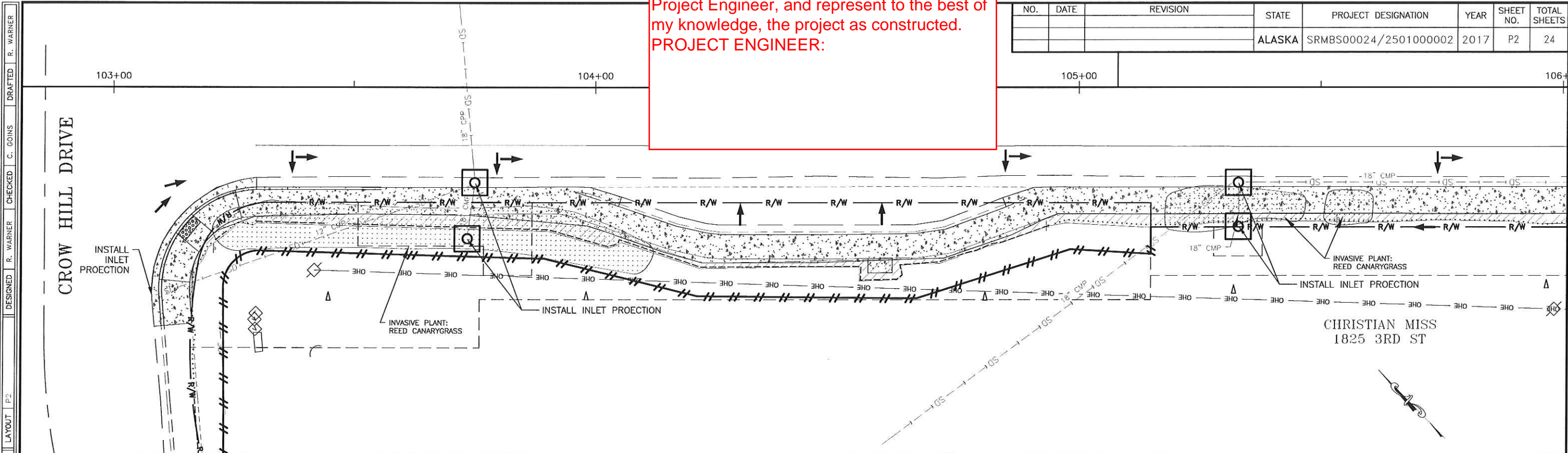
1. THIS ESCP IS INTENDED TO GUIDE CONTRACTORS DURING THE BIDDING PROCESS AND ASSIST IN THE PREPARATION OF THE CONTRACTOR'S WATER QUALITY CONTROL PLAN (WQCP) THAT MUST BE APPROVED PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR THE RISK ASSESSMENT, PLANNING, PREPARATION, AND IMPLEMENTATION OF THE WQCP.
2. INSTALL EROSION AND SEDIMENT CONTROL DEVICES BEFORE BEGINNING EARTH DISTURBING ACTIVITIES. MAINTAIN AND MONITOR DAILY.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION  
 AND PUBLIC FACILITIES  
 6880 GLACIER HIGHWAY, JUNEAU, AK 99811  
 (907) 485-1783  
 JNU: DOUGLAS HWY SIDEWALK  
 EXTENSION - GASTINEAU SCHOOL TO  
 LAWSON CR. RD./CROWHILL DRIVE  
**EROSION AND SEDIMENT  
 CONTROL DETAILS**

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	P2	24



**NOTES**

1. INSTALL BMP'S BEFORE BEGINNING CONSTRUCTION ACTIVITIES.
2. CONSTRUCT CHECK DAMS AS REQUIRED BY CONSTRUCTION PHASING IN EXISTING DITCHES PRIOR TO ALL INLETS.
3. THE LOCATIONS OF TEMPORARY EROSION & SEDIMENT POLLUTION CONTROLS ARE RECOMMENDATIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PREPARE AND IMPLEMENT A WQCP ACCORDING TO SECTION 641 OF THE SPECS.
4. ADDITIONAL SEDIMENT BARRIERS MAY NEED TO BE ADDED AT THE DISCRETION OF THE PROJECT ENGINEER.
5. THE CONTRACTOR IS REQUIRED TO INSTALL APPROPRIATE DOWN-SLOPE SEDIMENT CONTROLS DURING PIPE EXTENSION ACTIVITIES TO PREVENT SEDIMENT DISCHARGE TO CONVEYANCE CHANNELS.



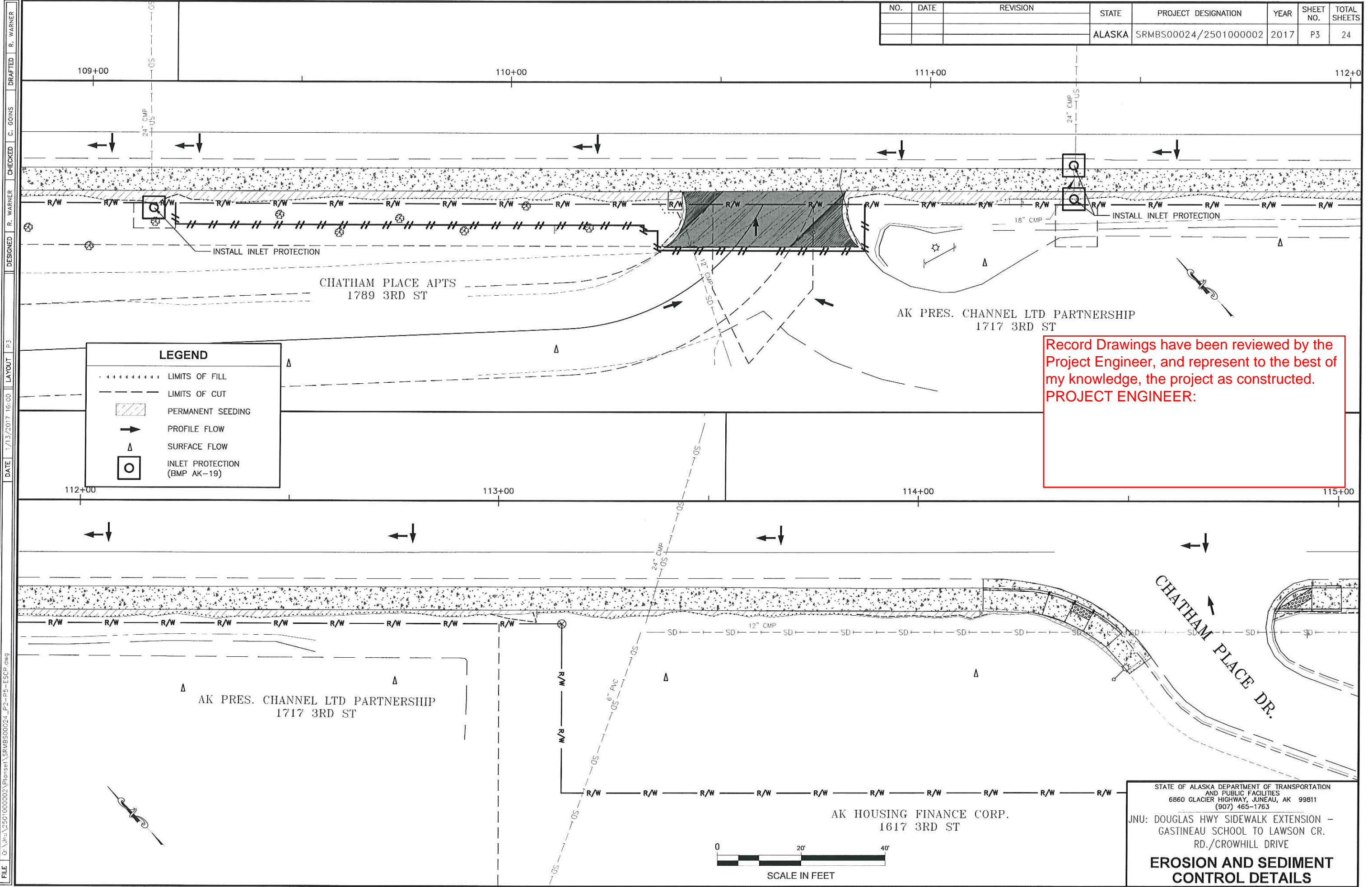
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.....	LIMITS OF FILL
-----	LIMITS OF CUT
[Hatched Box]	PERMANENT SEEDING
→	PROFILE FLOW
Δ	SURFACE FLOW
[Circle with X]	INLET PROTECTION (BMP AK-19)

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
 6860 GLACIER HIGHWAY, JUNEAU, AK 99811  
 (907) 465-1763  
 JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE  
**EROSION AND SEDIMENT CONTROL DETAILS**

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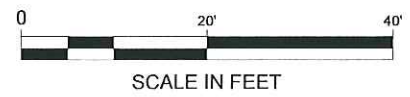
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 DESIGNED R. WARNER CHECKED C. GOINS DRAFTED R. WARNER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/250100002	2017	P3	24



LEGEND	
.....	LIMITS OF FILL
-----	LIMITS OF CUT
▨	PERMANENT SEEDING
→	PROFILE FLOW
Δ	SURFACE FLOW
○	INLET PROTECTION (BMP AK-19)

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:



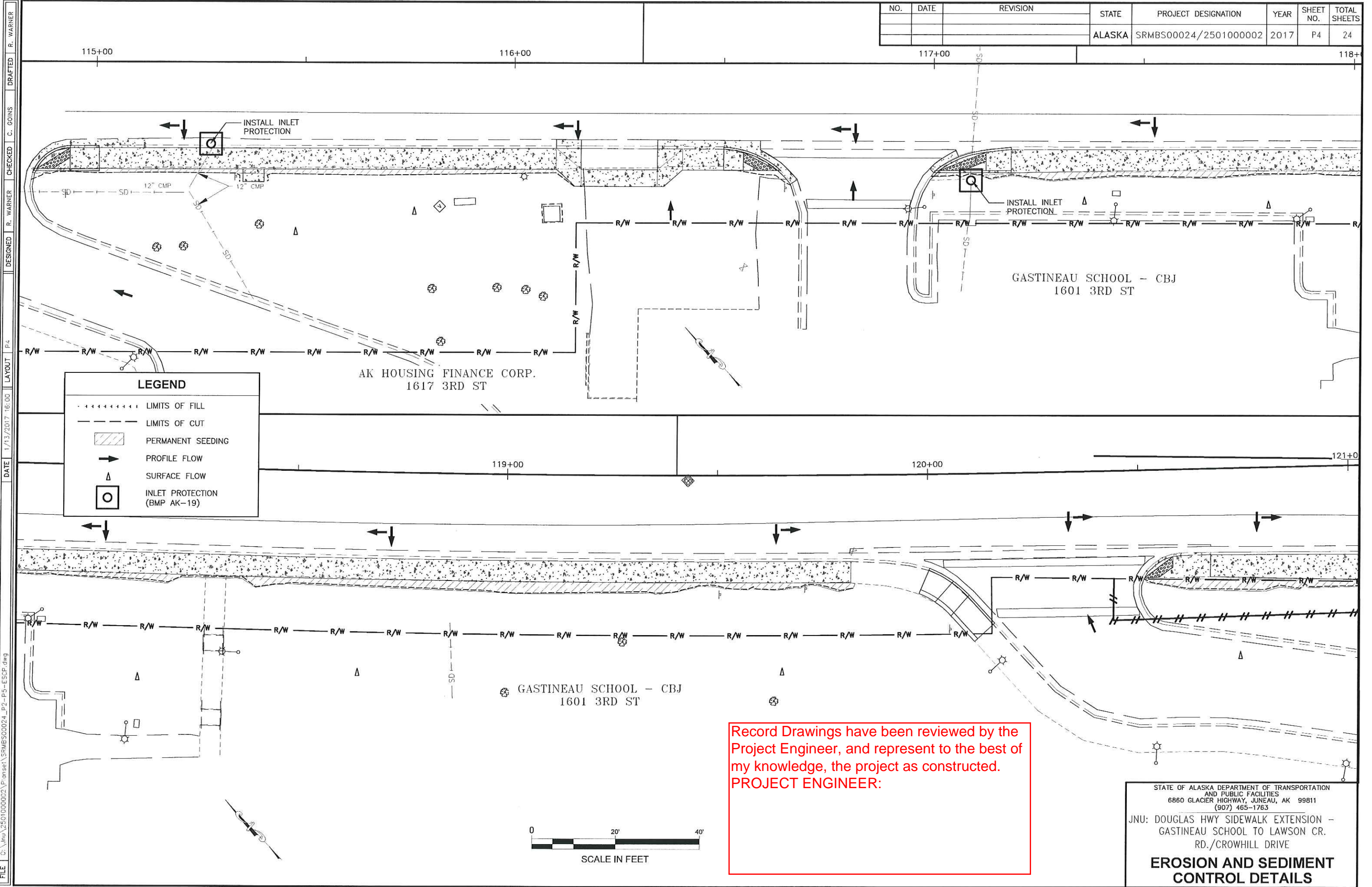
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
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(907) 465-1763

JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE

**EROSION AND SEDIMENT CONTROL DETAILS**

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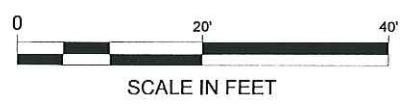
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/250100002	2017	P4	24



**LEGEND**

- LIMITS OF FILL
- LIMITS OF CUT
- ▨ PERMANENT SEEDING
- PROFILE FLOW
- △ SURFACE FLOW
- INLET PROTECTION (BMP AK-19)

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:



STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
6860 GLACIER HIGHWAY, JUNEAU, AK 99811  
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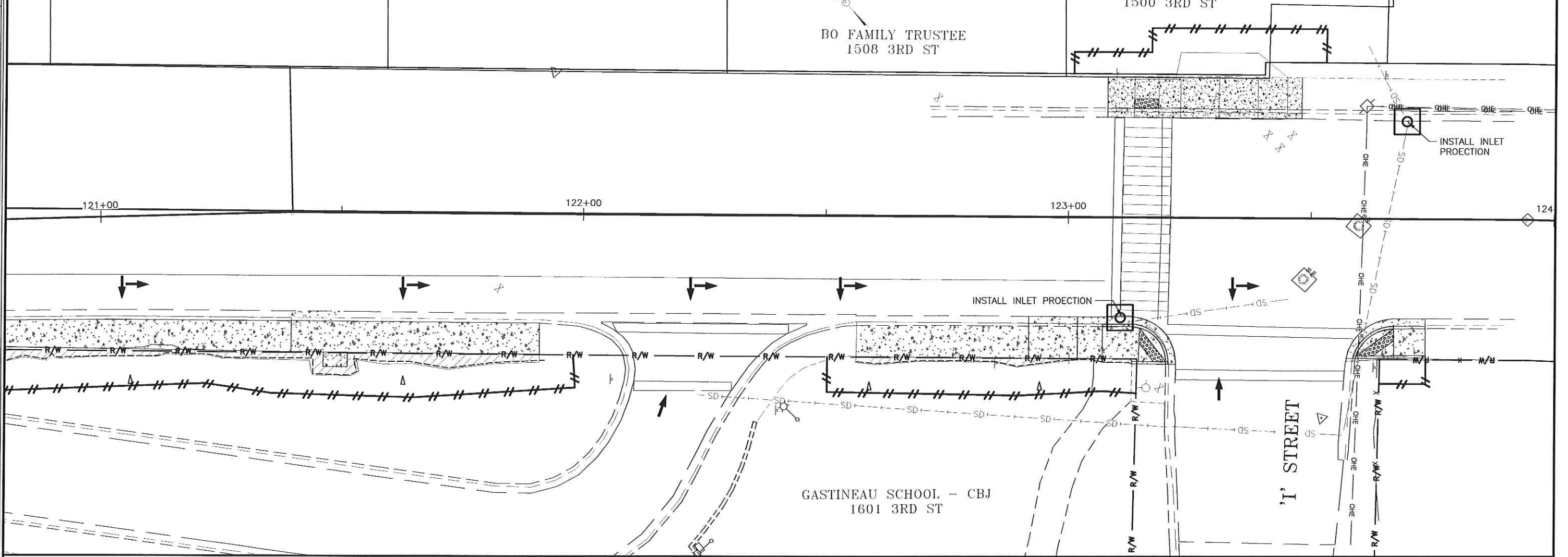
JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE

**EROSION AND SEDIMENT CONTROL DETAILS**

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 CHECKED: C. GOINS  
 DRAFTED: R. WARNER

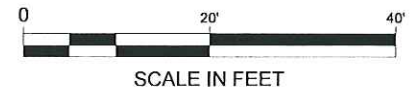
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	P5	24



Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:

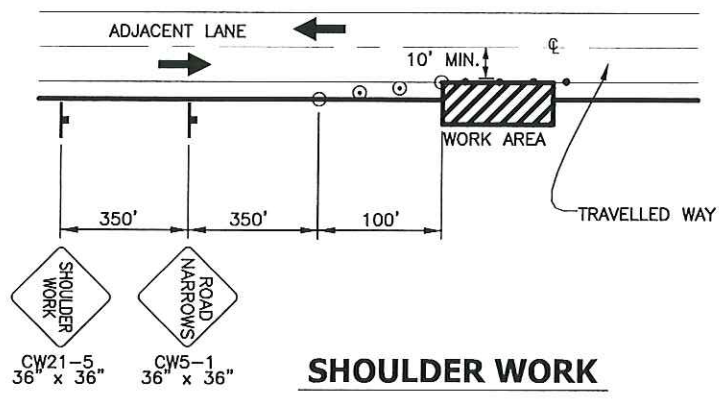
LEGEND	
-----	LIMITS OF FILL
-----	LIMITS OF CUT
[Hatched Box]	PERMANENT SEEDING
[Arrow]	PROFILE FLOW
[Triangle]	SURFACE FLOW
[Circle]	INLET PROTECTION (BMP AK-19)



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6860 GLACIER HIGHWAY, JUNEAU, AK 99811  
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JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE  
**EROSION AND SEDIMENT CONTROL DETAILS**

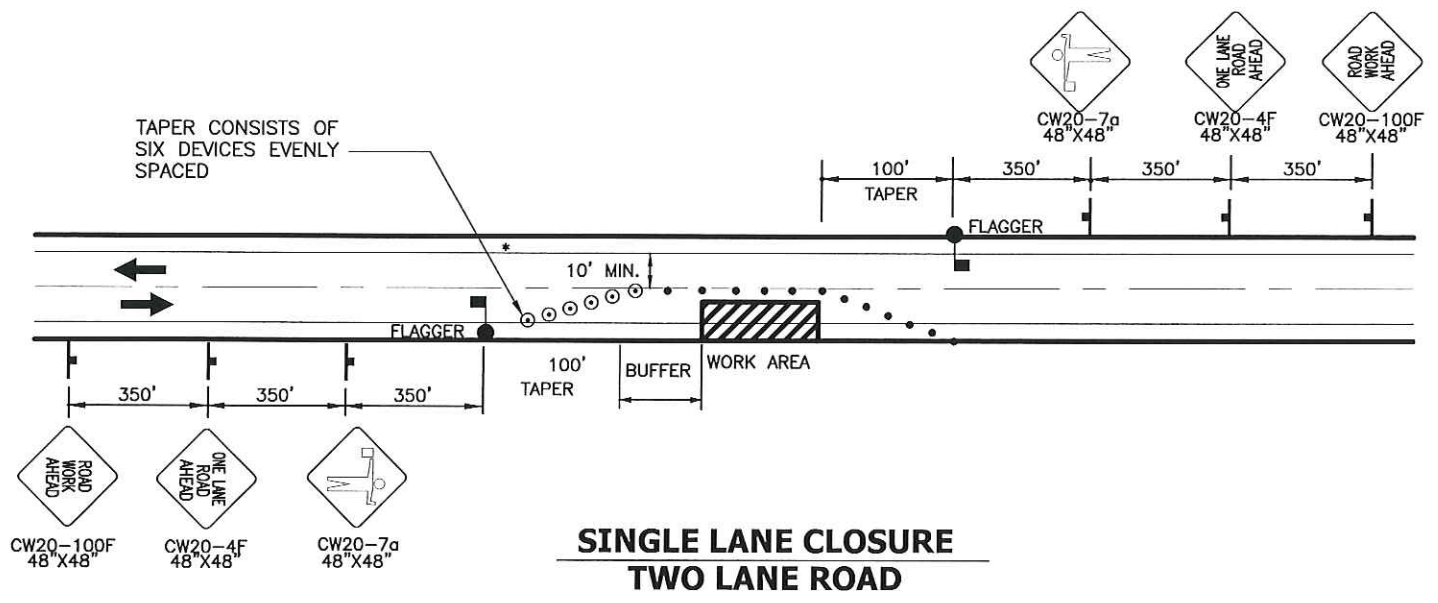
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMS00024/250100002	2017	T1	24



SPEED (MPH)	LANE WIDTH (ft)			LANE WIDTH (ft)			SPACING (ft)		BUFFER SPACE (ft)
	10	11	12	10	11	12	Straight	Curve	
	Minimum Taper Length (ft)			Minimum Number of Devices					
25 OR BELOW	105	115	125	6	6	6	25	50	155
30	150	165	180	6	7	7	30	60	200
35	205	225	245	7	8	8	35	70	250
40	270	295	320	8	9	9	40	80	305

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

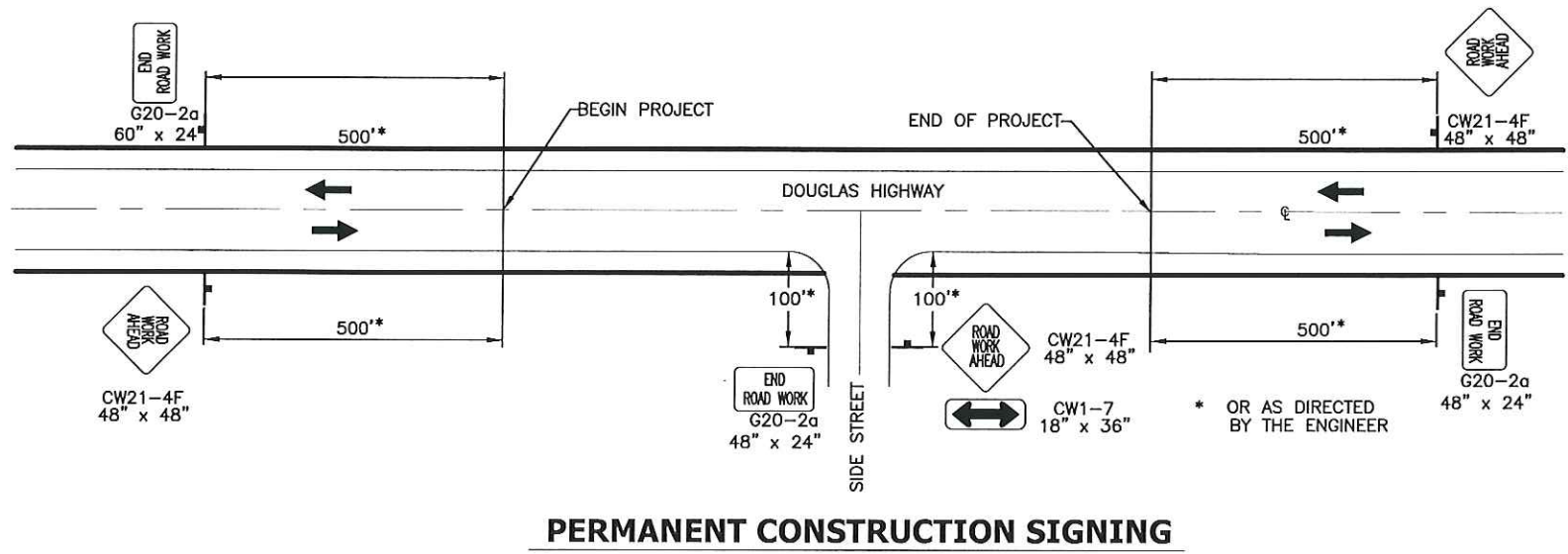


**LEGEND**

- SIGN
- CONE
- DRUM
- WORK AREA

**TRAFFIC CONTROL NOTES:**

- MINIMUM OF ONE LANE SHALL REMAIN OPEN AT ALL TIMES IN WORK AREAS.
- TEMPORARY DRIVING LANES SHALL HAVE A MINIMUM WIDTH OF 10'-0".
- THE CONTRACTOR SHALL ORGANIZE CONSTRUCTION OPERATIONS SO THE TOTAL OF ALL STOPPAGES EXPERIENCED BY A VEHICLE TRAVELING THROUGH THE PROJECT DOES NOT EXCEED FIVE MINUTES.
- CONSTRUCTION SIGNING SHALL BE IN PLACE ONLY WHEN THE CONDITIONS EXIST FOR WHICH THE SIGNS ARE INTENDED.
- CHANNELIZATION DEVICES IF USED AT NIGHT SHALL BE LIT IN ACCORDANCE WITH THE ALASKA TRAFFIC MANUAL.
- IT IS THE INTENT OF THIS TRAFFIC CONTROL PLAN (TCP) TO ILLUSTRATE SOME, NOT ALL, OF THE TRAFFIC CONTROL SETUPS WHICH WILL BE REQUIRED ON THIS PROJECT. TCPS FOR ALL MODES OF TRAVEL SHALL BE CREATED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.



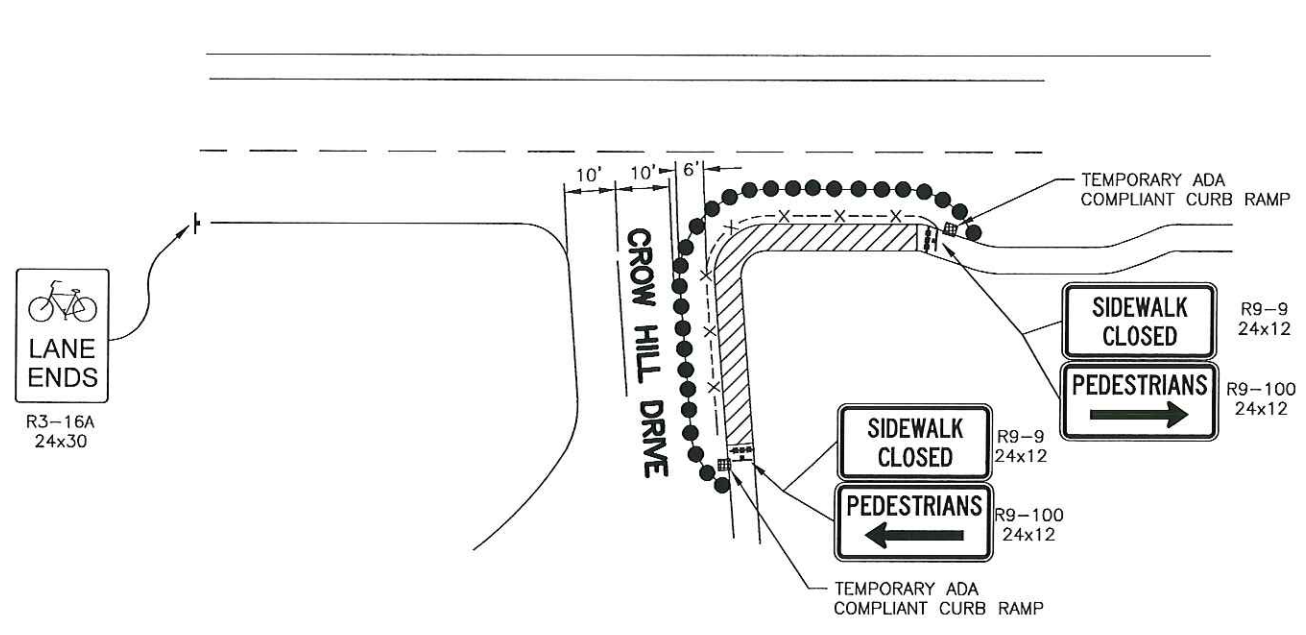
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
 6660 GLACIER HIGHWAY, JUNEAU, AK 99811  
 (907) 465-1763  
 JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

**TRAFFIC CONTROL**

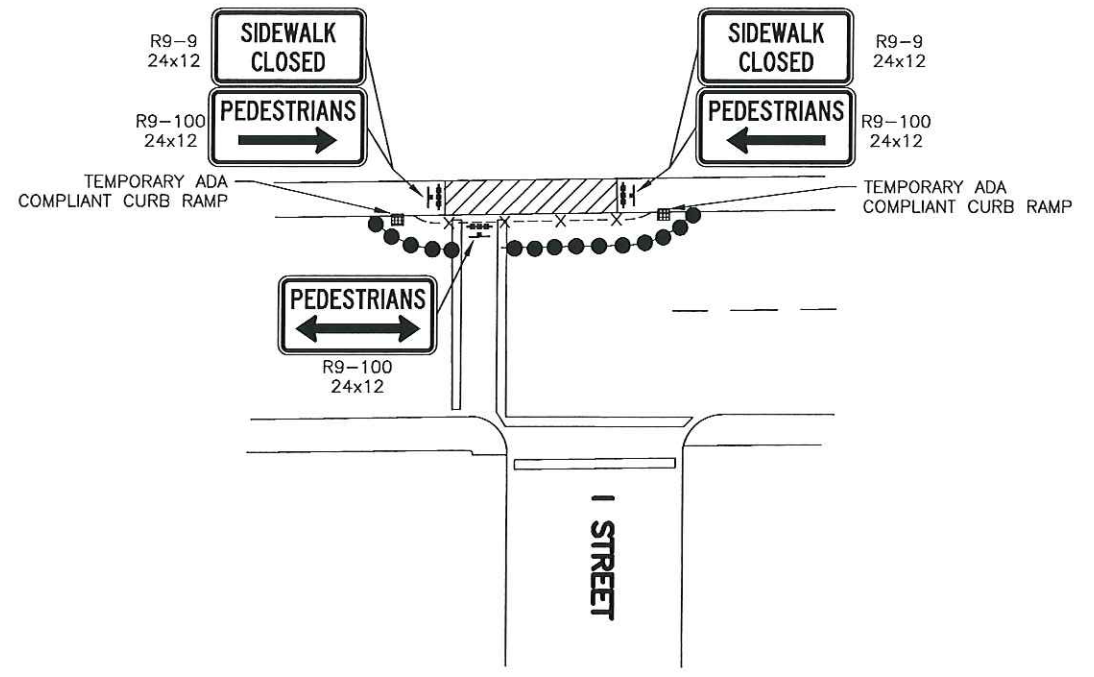
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	T2	24



1  
T2 CROW HILL DRIVE AND BUS STOP CONSTRUCTION PHASING  
SCALE: NOT TO SCALE

COMPLETE REMOVAL AND REPLACEMENT OF SIDEWALK ALONG CROW HILL DRIVE TO BEGINNING OF BUS STOP PRIOR TO REMOVAL AND REPLACEMENT OF THE SIDEWALK ADJACENT TO BUS STOP.



2  
T2 I STREET INTERSECTION CONSTRUCTION PHASING  
SCALE: NOT TO SCALE

COMPLETE REMOVAL AND REPLACEMENT OF ALL SIDEWALK ON ONE SIDE OF DOUGLAS HIGHWAY PRIOR TO REMOVAL AND REPLACEMENT OF THE SIDEWALK ON THE OPPOSITE SIDE OF THE HIGHWAY.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

LEGEND	
	..... SIGN
	..... CONE
	..... DRUM
	..... TYPE II BARRICADE
	..... SAFETY FENCE
	..... WORK AREA
	..... TEMPORARY CURB RAMP

**PEDESTRIAN CONTROL PLAN NOTES:**

PEDESTRIAN CONTROL DEVICES NEED TO:

1. PROVIDE A CONTINUOUS, CANE-DETECTABLE SURFACE WITHIN 1.5 INCHES OF THE FINISHED GRADE.
2. BE CONTINUOUS AND SMOOTHLY TRAVERSABLE TO HAND TRAILING, CANE, OR DOG TRAVEL.
3. BE STABLE AND RESIST TIPPING OR DISPLACEMENT ON CONTACT FROM CANE OR BODY.
4. BE DETECTABLE USING RESIDUAL VISION BY COLOR, CONTRAST, OR BRIGHTNESS.
5. MEET ADA PROVISIONS FOR PROTRUDING OBJECTS (NO PROJECTIONS GREATER THAN 4 INCHES)
6. PROVIDE 10' TRAVEL LANE FOR CROW HILL DRIVE IN BOTH DIRECTIONS AS WELL AS 4' PEDESTRIAN CHANNELIZATION PATH AROUND WORK AREA

THE ENGINEER WILL NOT APPROVE TCPs THAT REQUIRE PEDESTRIANS TO CROSS DOUGLAS HIGHWAY AT CROW HILL DRIVE. TEMPORARY ADA COMP RAMPs HAVE A SLIP RESISTANT SURFACE WITH A MAXIMUM SLOPE OF 8.3%.

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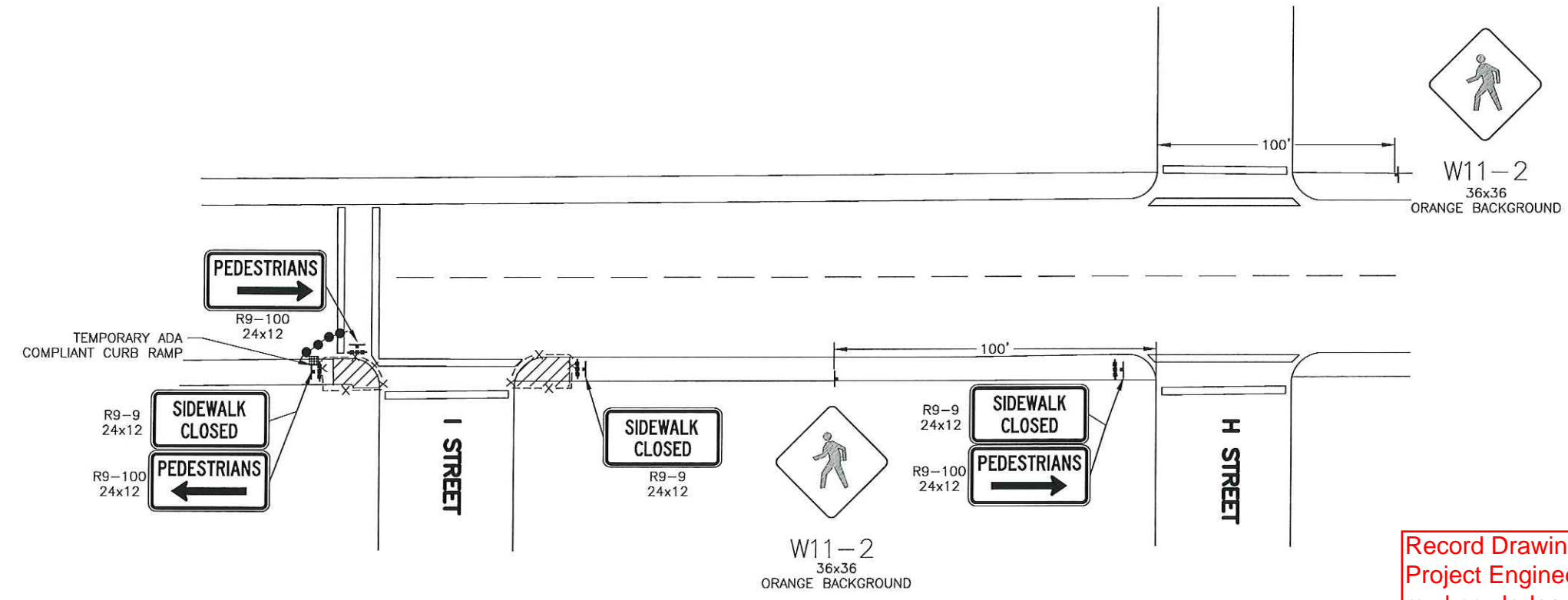
JNU: DOUGLAS HWY SIDEWALK EXTENSION - GASTINEAU SCHOOL TO LAWSON CR. RD./CROWHILL DRIVE

**TRAFFIC CONTROL**

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

FILE | C:\Users\2501000002\Documents\SRMBS00024\_T1-T3.dwg | DATE | 1/13/2017 16:04 | LAYOUT | T3 | DESIGNED | R. WARNER | CHECKED | C. GOINS | DRAFTED | R. WARNER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SRMBS00024/2501000002	2017	T3	24



**1**  
T3  
**I STREET INTERSECTION  
CONSTRUCTION PHASING**  
SCALE: NOT TO SCALE

REMOVAL AND REPLACEMENT OF SIDEWALK ON ONE SIDE OF DOUGLAS HIGHWAY SHALL BE COMPLETED PRIOR TO REMOVAL AND REPLACEMENT OF SIDEWALK ON THE OPPOSITE SIDE OF THE HIGHWAY.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

LEGEND	
	SIGN
	CONE
	DRUM
	TYPE II BARRICADE
	SAFETY FENCE
	WORK AREA
	TEMPORARY CURB RAMP

**PEDESTRIAN CONTROL PLAN NOTES:**

PEDESTRIAN CONTROL DEVICES NEED TO:

1. PROVIDE A CONTINUOUS, CANE-DETECTABLE SURFACE WITHIN 1.5 INCHES OF THE FINISHED GRADE.
2. BE CONTINUOUS AND SMOOTHLY TRAVERSABLE TO HAND TRAILING, CANE, OR DOG TRAVEL.
3. BE STABLE AND RESIST TIPPING OR DISPLACEMENT ON CONTACT FROM CANE OR BODY.
4. BE DETECTABLE USING RESIDUAL VISION BY COLOR, CONTRAST, OR BRIGHTNESS.
5. MEET ADA PROVISIONS FOR PROTRUDING OBJECTS (NO PROJECTIONS GREATER THAN 4 INCHES)
6. PROVIDE 10' TRAVEL LANE FOR CROW HILL DRIVE IN BOTH DIRECTIONS AS WELL AS 4' PEDESTRIAN CHANNELIZATION PATH AROUND WORK AREA.

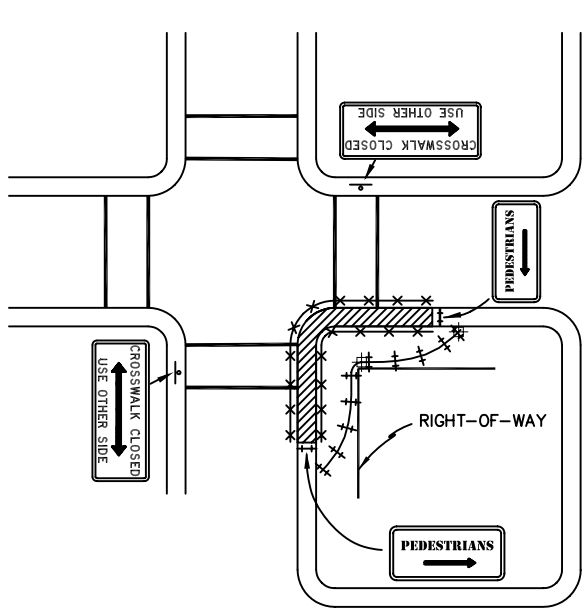
THE ENGINEER WILL NOT APPROVE TCPs THAT REQUIRE PEDESTRIANS TO CROSS DOUGLAS HIGHWAY AT CROW HILL DRIVE.  
TEMPORARY ADA COMP RAMPS SHALL HAVE A SLIP RESISTANT SURFACE WITH A MAXIMUM SLOPE OF 8.3%.

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

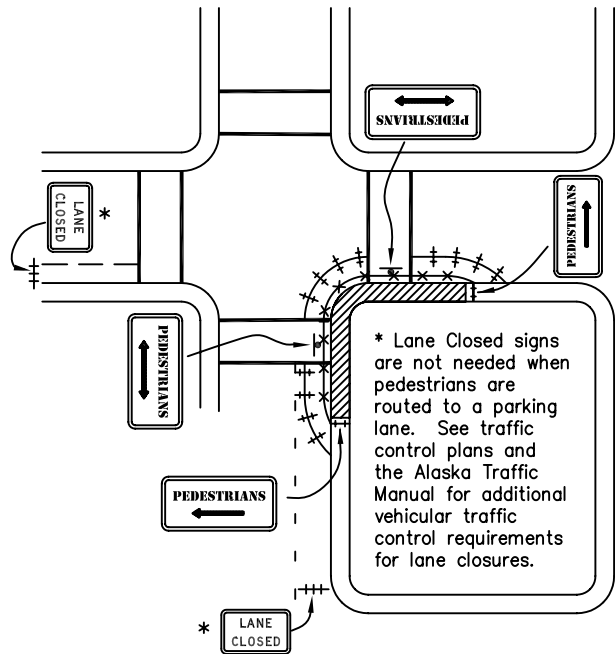
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION  
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JNU: DOUGLAS HWY SIDEWALK EXTENSION -  
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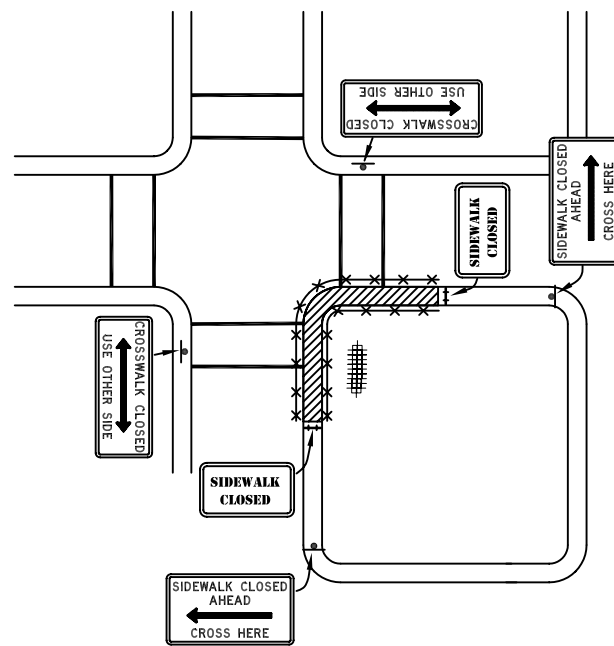
**TRAFFIC CONTROL**



A. Detour Away From Road



B. Detour to Closed Parking or Travel Lane

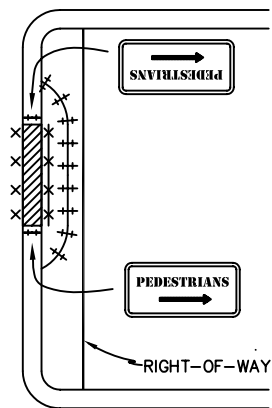


C. Detour to Other Side

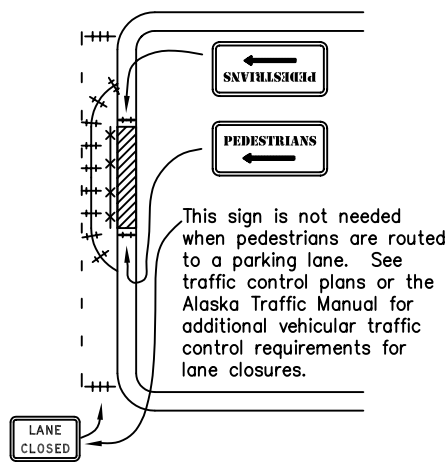
**INTERSECTION SIDEWALK PATHWAY OR SHOULDER CLOSURE**

A to C In Order of Preference

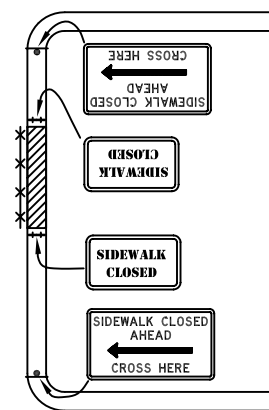
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**PROJECT ENGINEER:**



D. Detour Away From Road



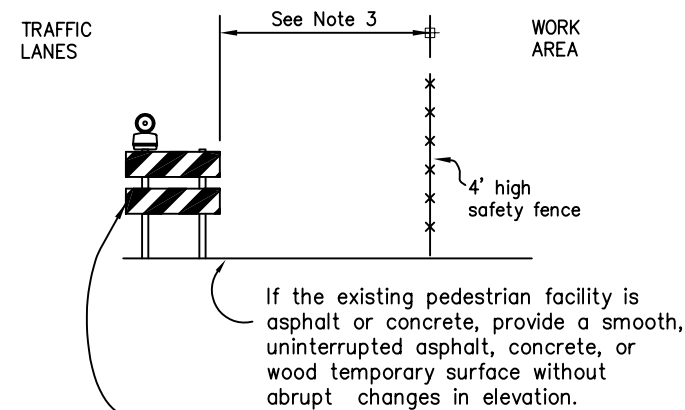
E. Detour to Closed Parking or Travel Lane



F. Detour to Other Side

**MID-BLOCK SIDEWALK PATHWAY OR SHOULDER CLOSURE**

D to F In Order of Preference



Type II barricades or tubular markers with flagger tape strung between them. A 4' high safety fence may be used instead of tape when greater control of pedestrian routing is desirable.

**PEDESTRIAN DETOUR TYPICAL SECTION**

NOTES.

1. Provide pedestrian traffic control devices when sidewalks or pathways are closed to pedestrians and where required by the Plans or Specifications.
2. Avoid routing pedestrians across roads unnecessarily. Use detail C or F only when it is not practical to use detail A, B, D, or E.
3. Maintain a minimum pedestrian facility width of 5 feet or the width of the facility that existed before construction, whichever is less.
4. Where the posted speed limit exceeds 45 MPH, separate pedestrians from roadway edge of pavement or face of curb by at least 5'. Where that is not feasible, install portable concrete barrier between pedestrians and the road.
5. When pedestrian traffic control devices required by the current traffic control plan are not in place or are temporarily removed, provide a worker to direct pedestrians through the work area.
6. Cover pedestrian traffic signal displays controlling closed crosswalks.
7. This sheet focuses on traffic control devices for pedestrians. Look elsewhere for vehicular traffic control requirements.
8. When using details C and F, route pedestrians to the best crossing point near the work area.

LEGEND:

- ++ Type II Barricade or Tubular Marker
- +++ Type III Barricade
- x-x-x- Safety Fence
- Sign
- Work Area

REVISIONS		
Date	Description	By

Sheet 1 of 1

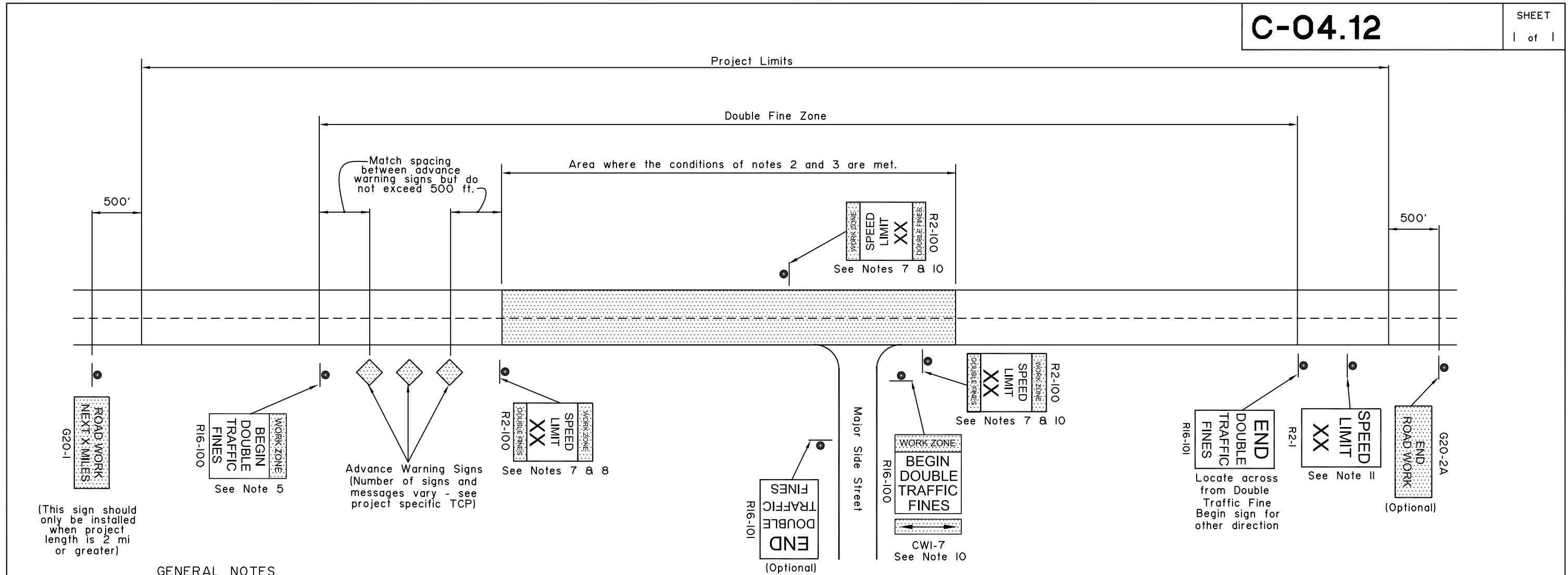
State of Alaska  
Department of Transportation  
& Public Facilities

**PEDESTRIAN TRAFFIC CONTROL**

APPROVED



Date 5/15/01



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.
  - ii. 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.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:

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

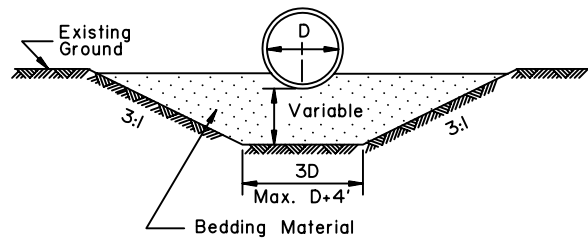
**LOCATION OF  
DOUBLE TRAFFIC  
FINE SIGNS**

APPROVED

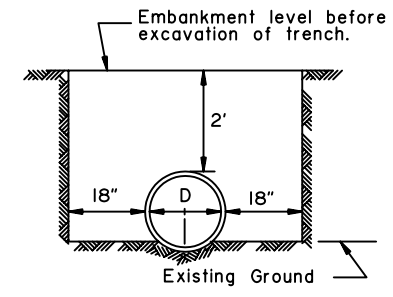
Date 3/31/99

GENERAL NOTES:

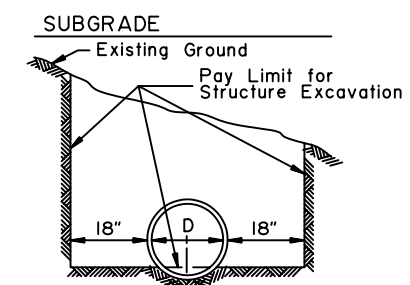
1. Sidefill shall be placed and compacted with care under haunches of pipe and shall be brought up evenly and simultaneously on both sides of pipe to 1 foot above the top of the full length of the pipe.
2. Alternate installation methods may only be used when specified or approved by the Engineer.



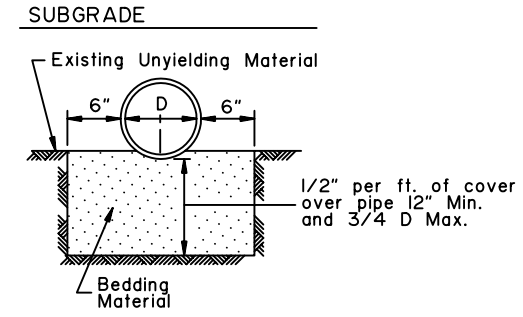
**TYPE "A"**  
FOUNDATION STABILIZATION  
To be used in unstable areas as directed by the Engineer.



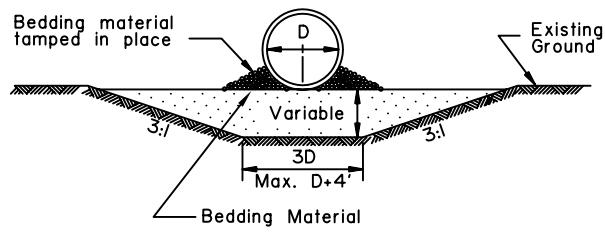
**TYPE "B"**



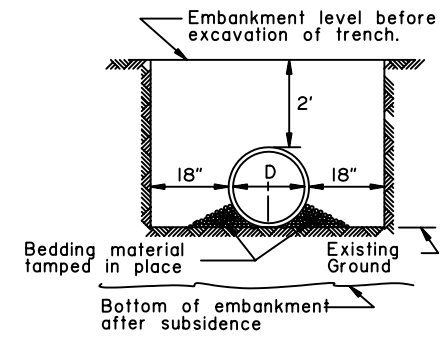
**TYPE "C"**



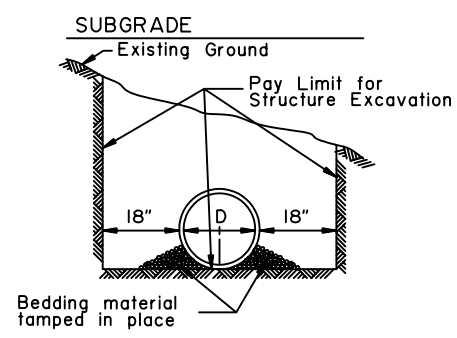
**TYPE "D"**  
ROCK OR UNYIELDING MATERIAL



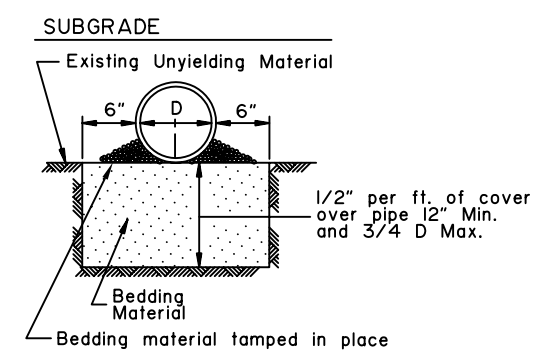
**'ALTERNATE' TYPE "A"**  
FOUNDATION STABILIZATION  
To be used in unstable areas as directed by the Engineer.



**'ALTERNATE' TYPE "B"**

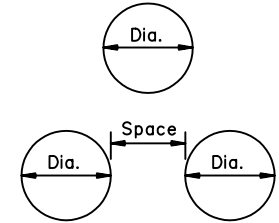


**'ALTERNATE' TYPE "C"**



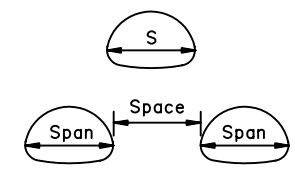
**'ALTERNATE' TYPE "D"**  
ROCK OR UNYIELDING MATERIAL

D = Nominal Pipe Diameter



MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Dia. of pipe or 3', whichever is less.

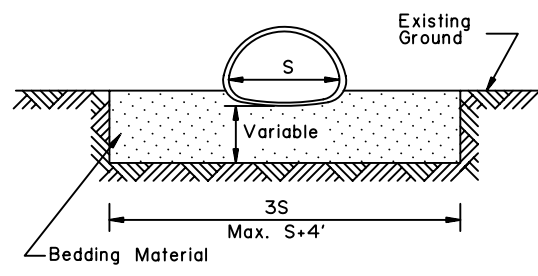
S = Nominal Pipe Arch Span



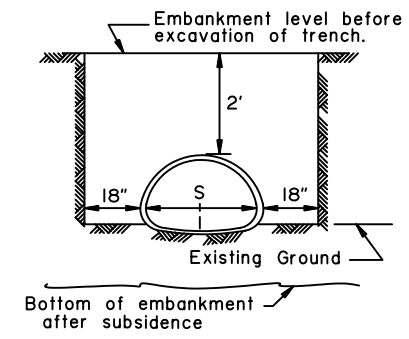
MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Span of pipe arch or 3', whichever is less.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

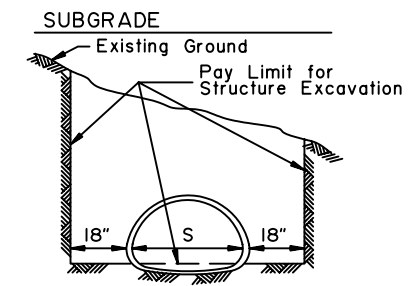
CULVERT PIPE



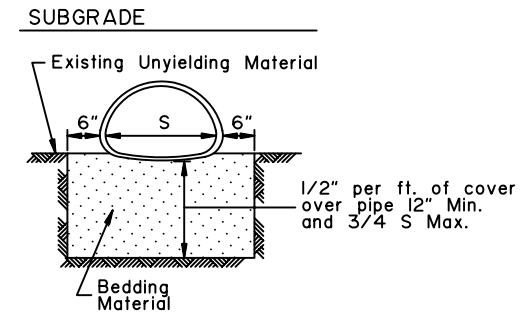
**TYPE "A"**  
FOUNDATION STABILIZATION  
To be used in unstable areas as directed by the Engineer.



**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 All. Arch	Gdo

State of Alaska  
Department of Transportation  
& Public Facilities  
**CULVERT PIPE & ARCH  
INSTALLATION DETAILS**

APPROVED

Date 7/15/82

# D-04.21

## GENERAL NOTES:

- All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
- The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
- No more than one type of pipe may be used on any single installation or installation grouping.
- 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.
- See Standard Drawing "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
- 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 deflection.
- 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 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

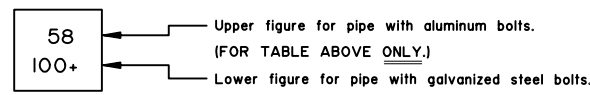
Minimum & Maximum Cover For 3" x 1" Aluminum Pipe

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	24	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	29 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.



———— CORRUGATED CIRCULAR ALUMINUM PIPE ————

———— CORRUGATED ALUMINUM PIPE-ARCH ————

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

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	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	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 2 1/2" 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.

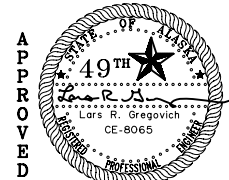
REVISIONS

Date	Description	By
8/10/00	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



Date 10/31/03

D-04.21

# D-04.21

## GENERAL NOTES

- All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
- The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
- No more than one type of pipe may be used on any single installation or installation grouping.
- 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.
- See Standard Drawing "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
- 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 deflection.
- 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".

GAGE	0.064"		0.079"		0.109"		0.138"		0.168"	
	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

GAGE	0.064"		0.079"		0.109"		0.138"		0.168"	
	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

GAGE	0.064"		0.079"		0.109"		0.138"		0.168"	
	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 helical welded seams ONLY.

GAGE	ALL	0.111"		0.140"		0.170"		0.188"		0.218"		0.249"		0.280"	
		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	46	68	90	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+
66	12	42	62	81	93	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+
72	12	38	57	75	86	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+
78	12	35	52	69	79	95	100+	100+	100+	100+	100+	100+	100+	100+	100+
84	12	33	49	64	73	88	100+	100+	100+	100+	100+	100+	100+	100+	100+
90	12	31	45	60	68	82	97	100+	100+	100+	100+	100+	100+	100+	100+
96	12	29	43	56	64	77	91	100+	100+	100+	100+	100+	100+	100+	100+
102	18	27	40	52	60	73	86	94	100+	100+	100+	100+	100+	100+	100+
108	18	25	38	50	57	69	81	88	100+	100+	100+	100+	100+	100+	100+
114	18	24	36	47	54	65	77	84	100+	100+	100+	100+	100+	100+	100+
120	18	23	34	45	51	62	73	80	100+	100+	100+	100+	100+	100+	100+
126	18	22	32	42	49	59	69	76	100+	100+	100+	100+	100+	100+	100+
132	18	21	31	40	46	56	66	72	100+	100+	100+	100+	100+	100+	100+
138	18	20	29	39	44	54	63	69	100+	100+	100+	100+	100+	100+	100+
144	18	19	28	37	43	51	61	66	100+	100+	100+	100+	100+	100+	100+
150	24	18	27	36	41	49	58	64	100+	100+	100+	100+	100+	100+	100+
156	24	17	26	34	39	47	56	61	100+	100+	100+	100+	100+	100+	100+
162	24	17	25	33	38	46	54	59	100+	100+	100+	100+	100+	100+	100+
168	24	16	24	32	36	44	52	57	100+	100+	100+	100+	100+	100+	100+
174	24	16	23	31	35	42	50	55	100+	100+	100+	100+	100+	100+	100+
180	24	15	22	30	34	41	48	53	100+	100+	100+	100+	100+	100+	100+
186	24	15	22	29	33	40	47	51	100+	100+	100+	100+	100+	100+	100+
192	24		21	28	32	38	45	50	100+	100+	100+	100+	100+	100+	100+
198	30		20	27	31	37	44	48	100+	100+	100+	100+	100+	100+	100+
204	30		20	26	30	36	43	47	100+	100+	100+	100+	100+	100+	100+
210	30		19	25	29	35	41	45	100+	100+	100+	100+	100+	100+	100+
216	30			25	28	34	40	44	100+	100+	100+	100+	100+	100+	100+
222	30			24	27	33	39	43	100+	100+	100+	100+	100+	100+	100+
228	30			23	27	32	38	42	100+	100+	100+	100+	100+	100+	100+
234	30			23	26	31	37	41	100+	100+	100+	100+	100+	100+	100+
240	30				25	31	36	40	100+	100+	100+	100+	100+	100+	100+
246	36				25	30	35	39	100+	100+	100+	100+	100+	100+	100+
252	36					29	34	38	100+	100+	100+	100+	100+	100+	100+
258	36					28	34	37	100+	100+	100+	100+	100+	100+	100+
264	36					28	33	36	100+	100+	100+	100+	100+	100+	100+
270	36					27	32	35	100+	100+	100+	100+	100+	100+	100+
276	36						31	34	100+	100+	100+	100+	100+	100+	100+
282	36						31	34	100+	100+	100+	100+	100+	100+	100+
288	42						30	33	100+	100+	100+	100+	100+	100+	100+
294	42							32	100+	100+	100+	100+	100+	100+	100+
300	42							32	100+	100+	100+	100+	100+	100+	100+
306	42							31	100+	100+	100+	100+	100+	100+	100+
312	42							30	100+	100+	100+	100+	100+	100+	100+

\*\*Longitudinal seams use (4) 3/4" dia. bolts per foot.

### CORRUGATED CIRCULAR STEEL PIPE

### CORRUGATED STEEL PIPE-ARCH

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:

Span x Rise (In. x In.)	Corner Radius (In)	Minimum Gage (In)	Min. Cover (In)	Max. Cover (Ft)	
				2 Tons Corner Bearing Pressure	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

**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.

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

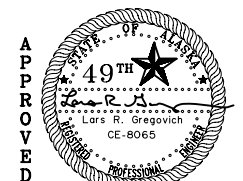
Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:

REVISIONS		
Date	Description	By
10/31/03	New Sheet 4.	LRG

Sheet 3 of 4

State of Alaska  
Department of Transportation  
& Public Facilities

**PIPE AND ARCH TABLES**



Date 10/31/03

# D-04.21

## GENERAL NOTES

- All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
- The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
- No more than one type of pipe may be used on any single installation or installation grouping.
- 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.
- See Standard Drawing "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
- 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 deflection.
- 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".

GAGE	0.060"		0.075"		0.105"		0.135"	
	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

\* $\frac{3}{4}$  x  $\frac{3}{4}$  x  $7\frac{1}{2}$  in. or  $\frac{3}{4}$  x 1 x  $11\frac{1}{2}$  in. Corrugations

Span x Rise (In. x In.)	Min. Cover (In.)	Soil Corner Bearing Capacity of 2 Tons/ s.f.		
		0.060" Max. Cover (ft.)	0.075" Max. Cover (ft.)	0.105" 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

\* $\frac{3}{4}$  x  $\frac{3}{4}$  x  $7\frac{1}{2}$  in. or  $\frac{3}{4}$  x 1 x  $11\frac{1}{2}$  in. Corrugations

ALUMINUM SPIRAL RIB PIPE

STEEL SPIRAL RIB PIPE

GAGE	0.064"		0.079"		0.109"		0.138***	
	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

\* $\frac{3}{4}$  x  $\frac{3}{4}$  x  $7\frac{1}{2}$  in. or  $\frac{3}{4}$  x 1 x  $11\frac{1}{2}$  in. Corrugations

\*\* $\frac{3}{4}$  x  $\frac{3}{4}$  x  $7\frac{1}{2}$  in. Corrugations Only.

Span x Rise (In. x In.)	Min. Cover (In.)	Soil Corner Bearing Capacity of 2 Tons/ s.f.		
		0.064" Max. Cover (ft.)	0.079" Max. Cover (ft.)	0.109" 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

\* $\frac{3}{4}$  x  $\frac{3}{4}$  x  $7\frac{1}{2}$  in. or  $\frac{3}{4}$  x 1 x  $11\frac{1}{2}$  in. Corrugations

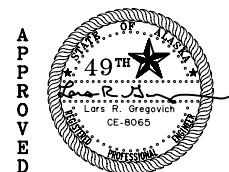
Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:

REVISIONS		
Date	Description	By
8/10/00	Pipe Tables & G. Notes.	DFD
10/31/03	New Sheet 4.	LRG

Sheet 4 of 4

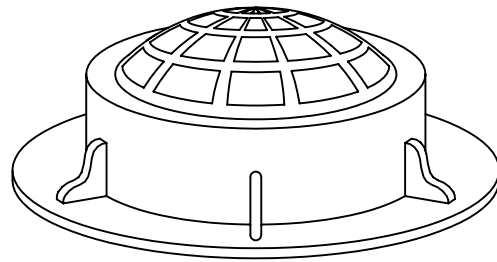
State of Alaska  
Department of Transportation  
& Public Facilities

PIPE AND ARCH TABLES

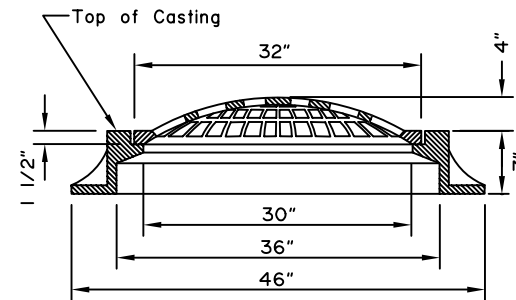


Date 10/31/03

D-04.21

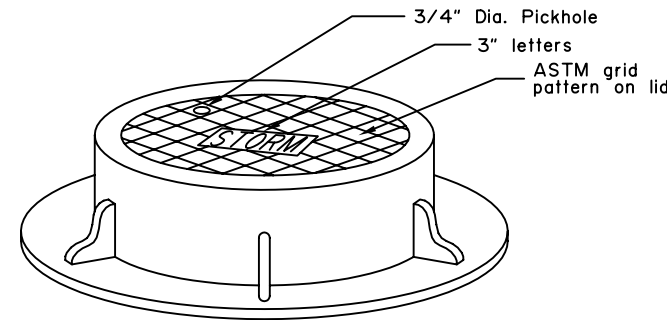


Surround field inlets with a 24" wide rock rubble collar 10" deep, 3" maximum size rock.



**FIELD INLET FRAME & GRATE**

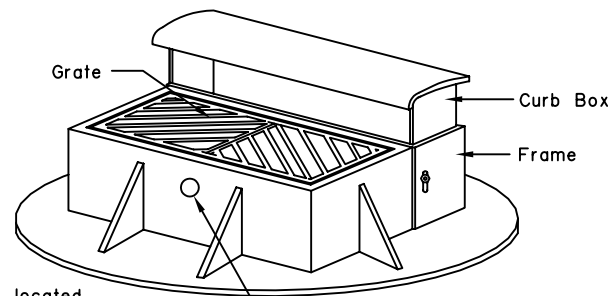
To be supplied for storm drain manholes where field inlets are specified. Field inlet frame and grate shall have a Minimum total weight of 525 lb.



**MANHOLE LID FRAME AND GRATE**

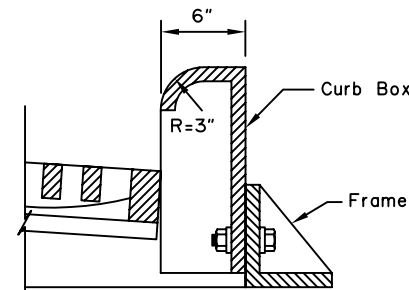
**NOTES:**

- Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers, except that inlet grate shall be within  $\frac{1}{4}$ "± of dimensions shown on this drawing.
- Manhole lids shall be 32" in diameter and may be used with field inlet frames.
- Type A field inlet frame inside dimensions shall be 24" x 36". Lugs will not protrude outside the concrete surface of the inlet box.
- Grates shall be bicycle safe. Where high capacity grates are called for on the plans, they shall conform to Std. Dwg. D-25.
- Frame and grate casting types are identified by the following abbreviations:  
C.I. = Curb Inlet  
F.I. = Field Inlet  
M.H. = Manhole
- Flowline depression shall conform to Std. Dwg. D-23 for an on grade or sag point conditions.
- These are the default frames and grates to be used unless shown otherwise on the drainage plans or drainage structure summary.



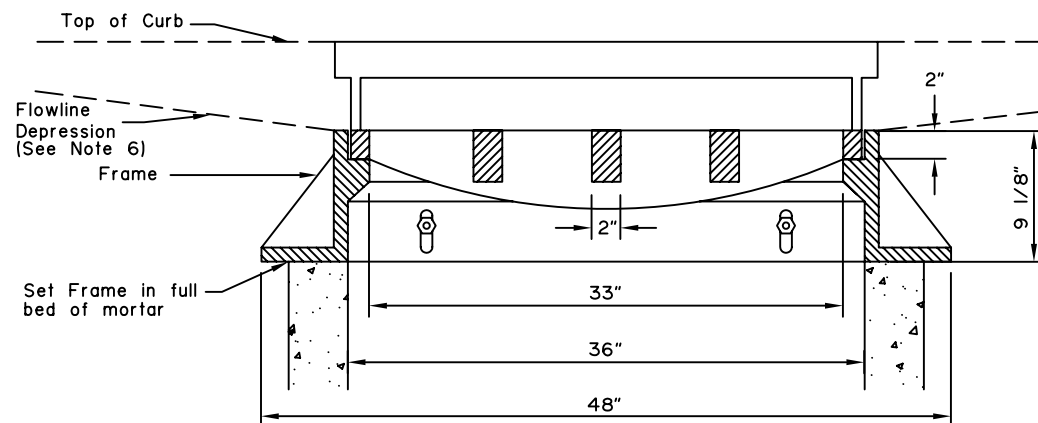
Pickhole located 3" from the top of frame

NOTE: Curb Box, Grate and frame shall have a minimum total weight of 725 lb.



**SIDE VIEW MOUNTABLE CURB AND GUTTER**

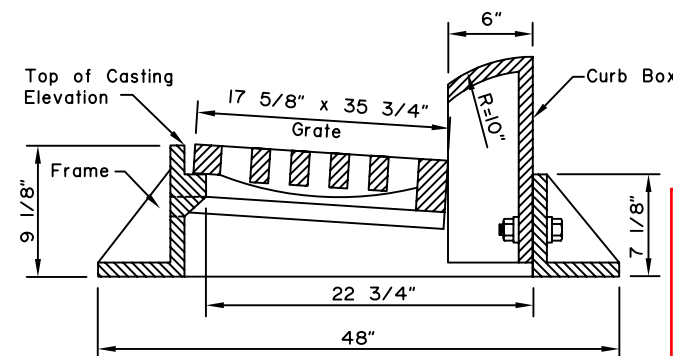
REQUIRED FRAME AND GRATES (See Note 7)			
STRUCTURE	INLET TYPE	CURB TYPE	TYPE FRAME AND GRATE
INLET BOX, TYPE A	Curb	Mountable	Standard Curb Inlet
	Curb	Expressway	Mountable Curb Inlet
	Curb	Rolled Curb	Depressed Inlet
	Field	-----	Field Inlet
STORM DRAIN MANHOLES, TYPE I, II AND III	Curb	Mountable	Mountable 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**

**CURB INLET FRAME AND GRATE**

To be supplied for storm drain manholes Type I, Type II and Type III where curb inlets are specified.



**SIDE VIEW EXPRESSWAY CURB AND GUTTER**

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

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**



APPROVED

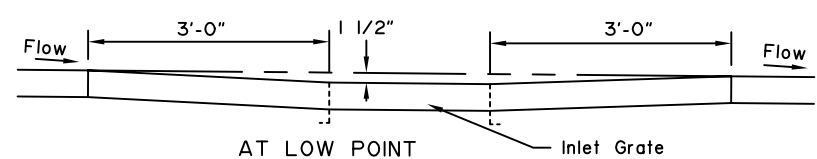
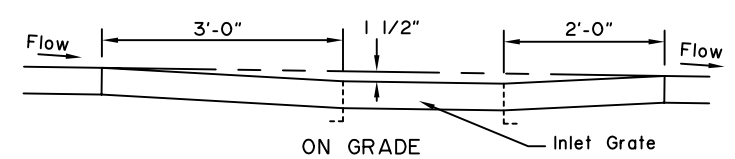
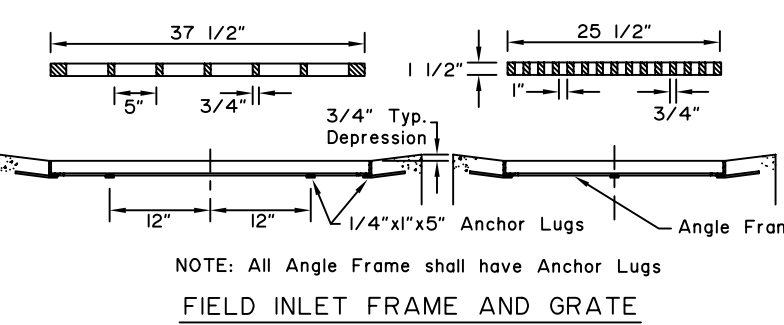
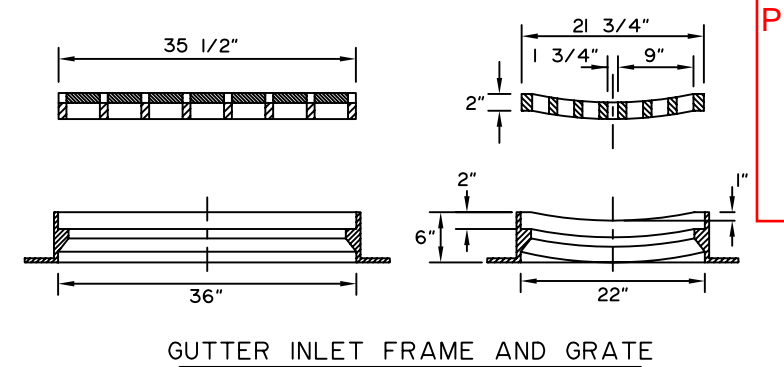
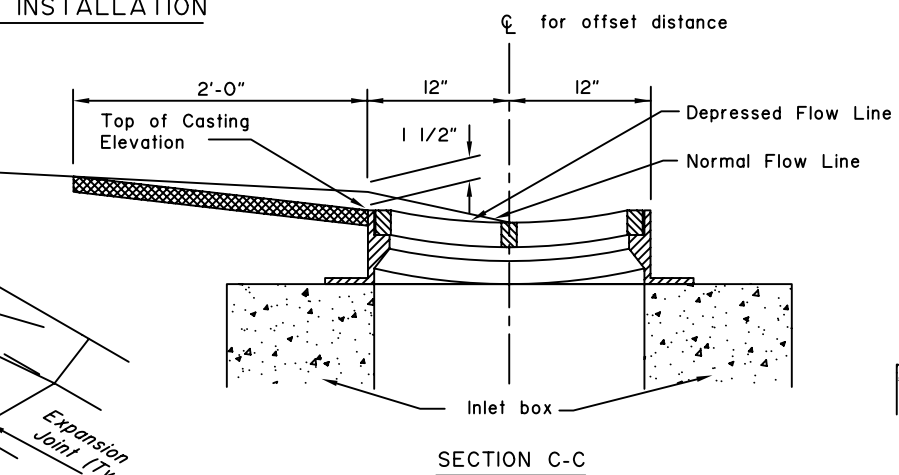
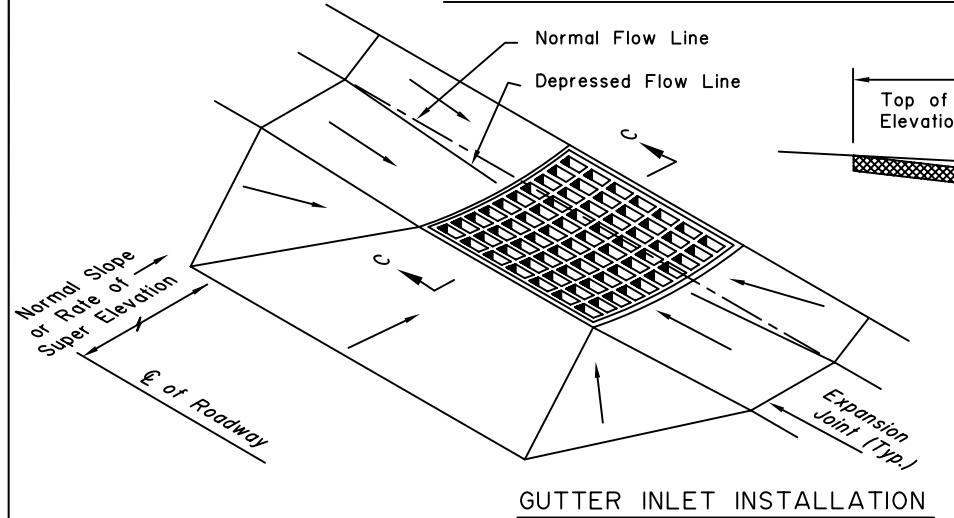
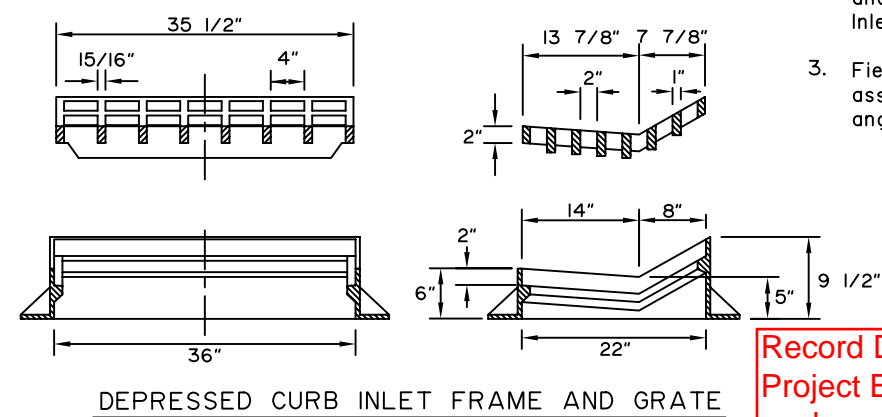
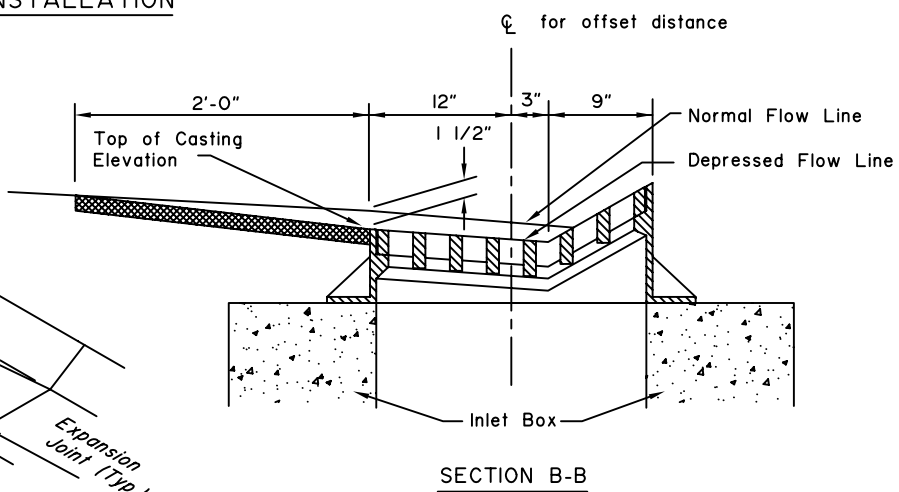
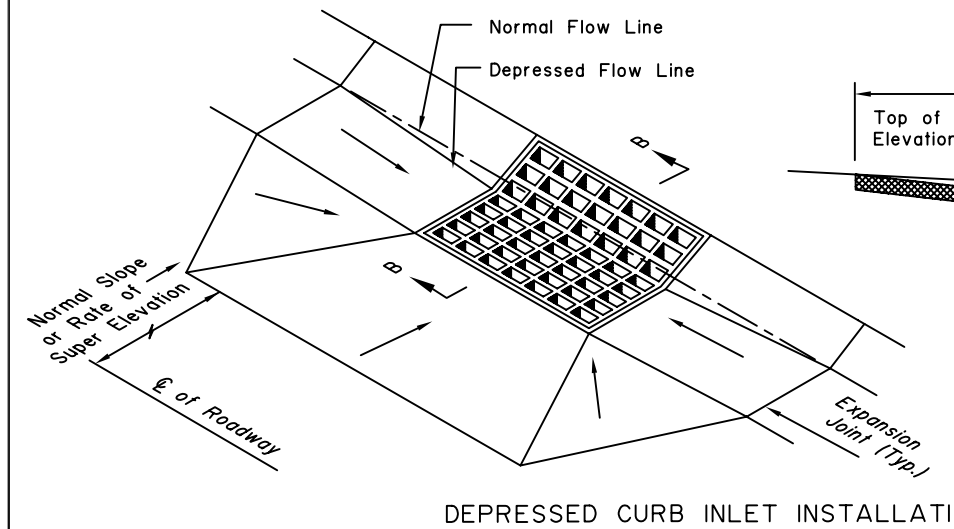
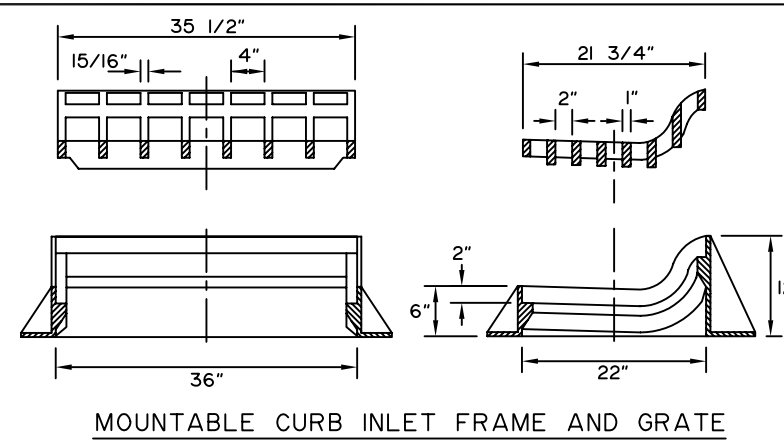
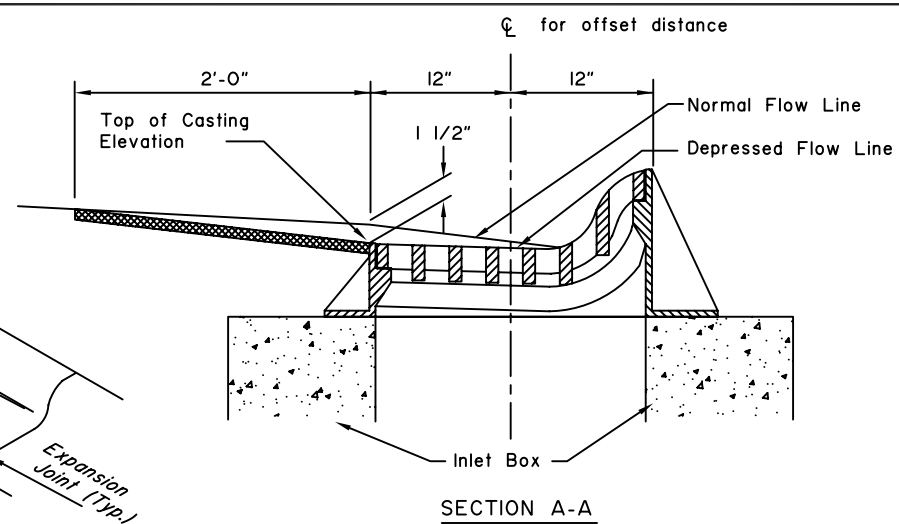
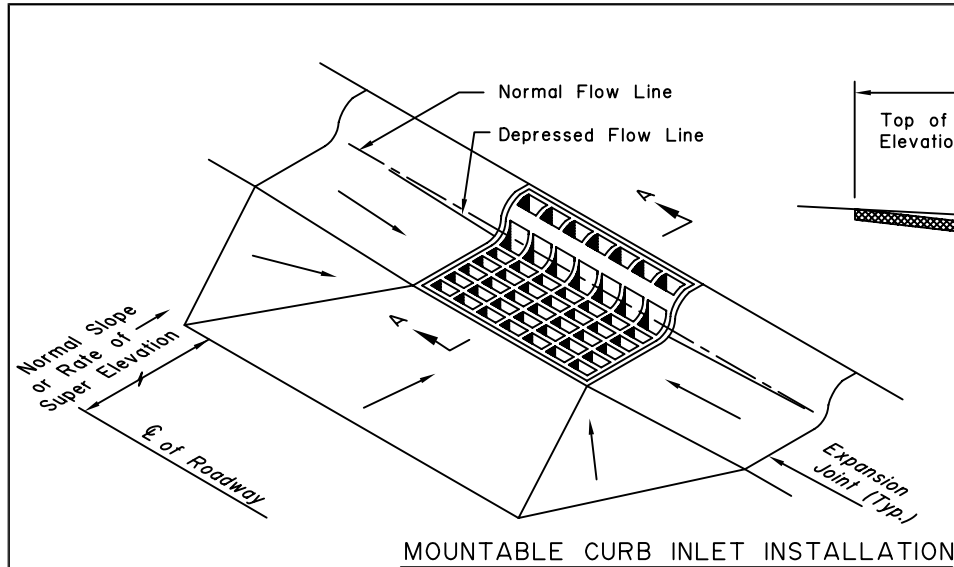
NOT TO SCALE

Date 10/31/03

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.

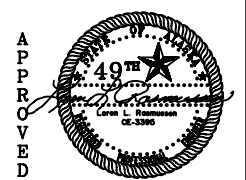
Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:



DEPRESSION IN FLOW LINE AT INLET CONSTRUCTION DETAILS

REVISIONS		
Date	Description	By

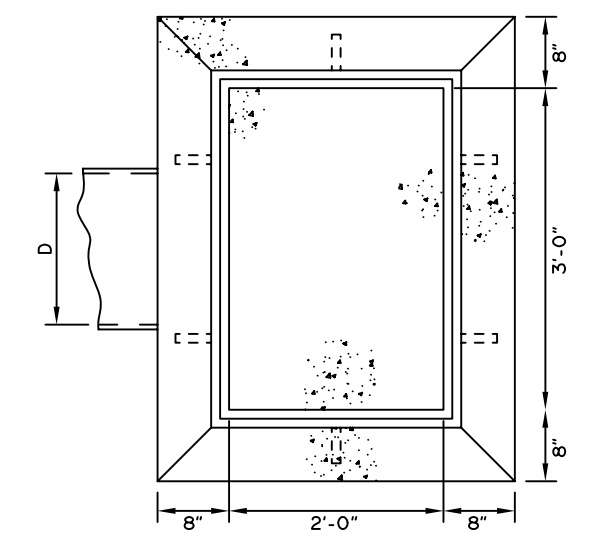
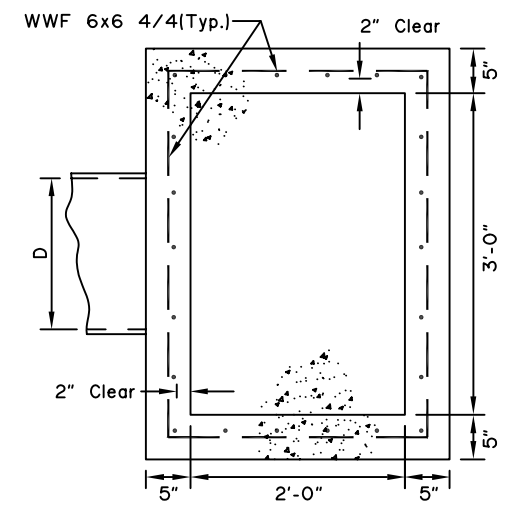
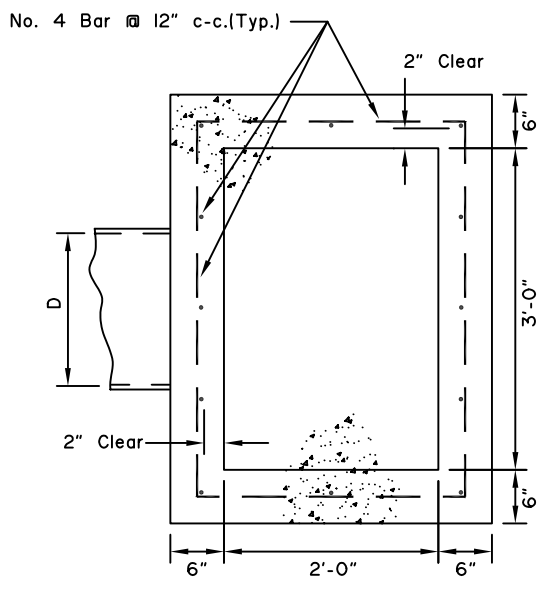
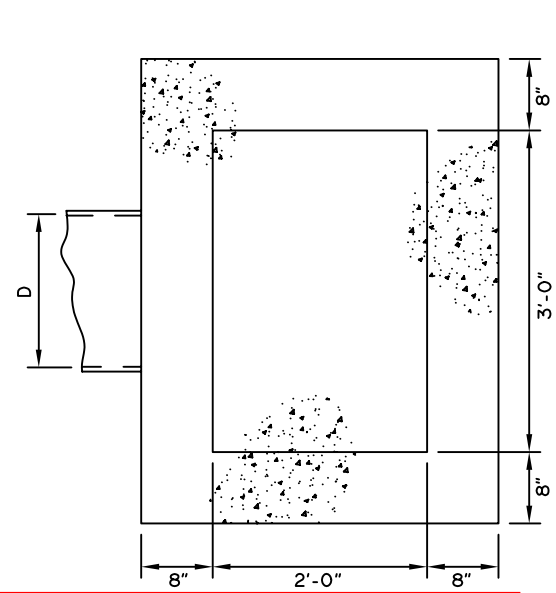
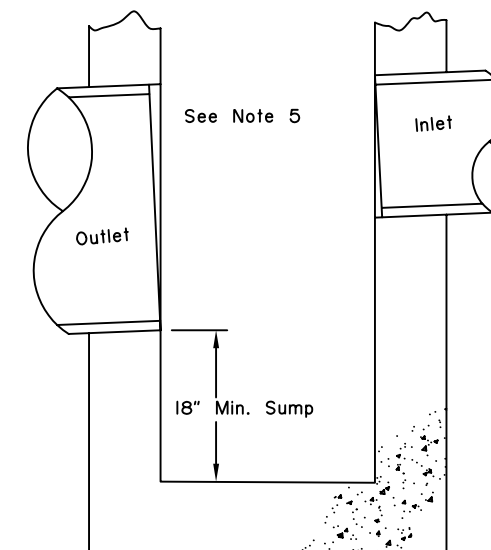
State of Alaska  
Department of Transportation  
& Public Facilities  
**INLET FRAMES  
AND GRATES**



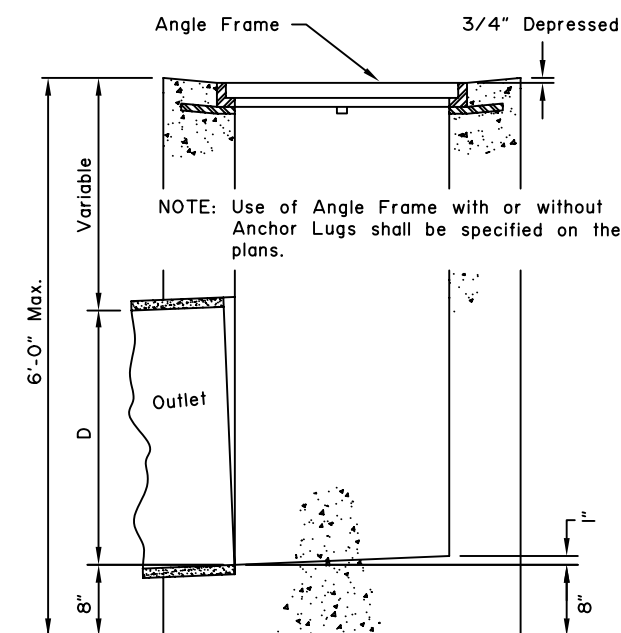
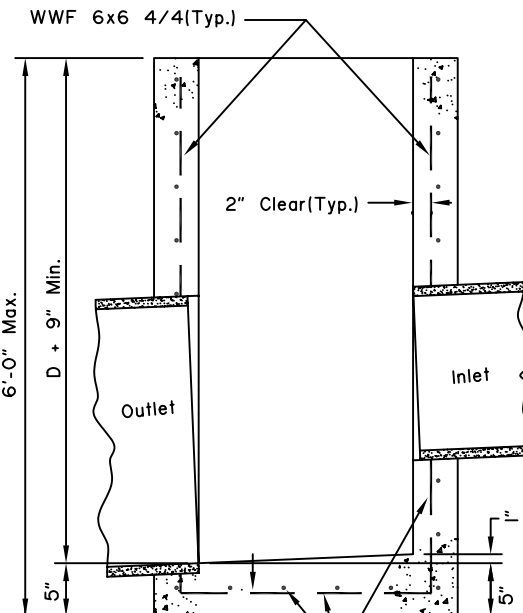
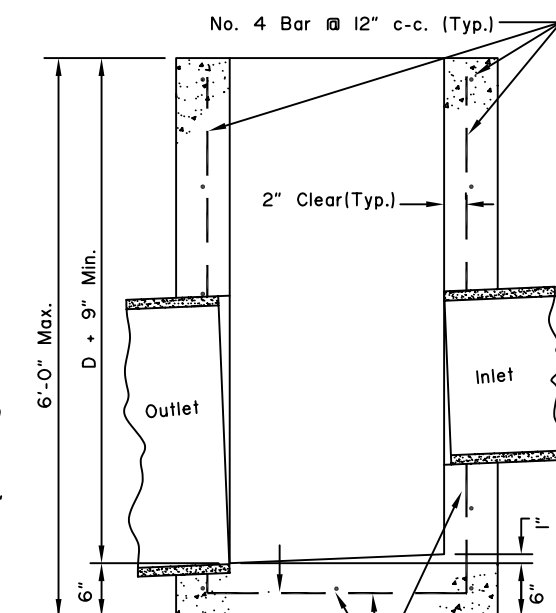
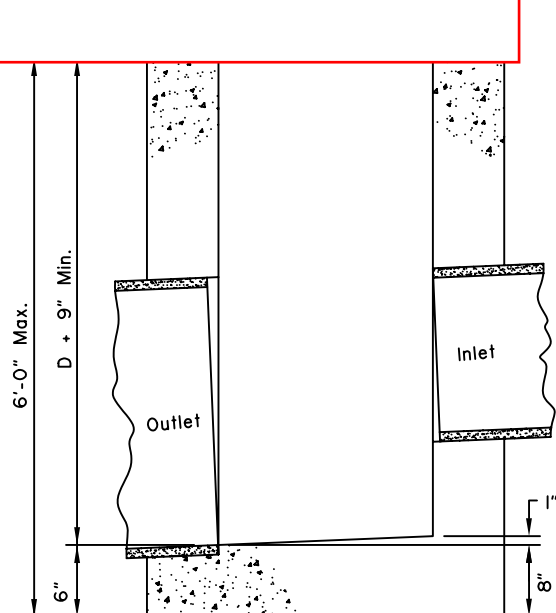
Date 7/15/82

GENERAL NOTES:

1. Cast in Place Concrete Inlet Box shall be Class "W" Concrete.
2. Concrete Inlet Box depth and location shall be shown on the plans, or as directed by the Engineer.
3. Shape floors to drain.
4. Concrete Inlet Box shall be parallel to roadway centerline unless directed otherwise by the Engineer.
5. Shall be specified on plans when inlets require a sump.



Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:



CAST IN PLACE

REINFORCED  
CAST IN PLACE

PRECAST

FIELD INLET BOX  
CAST\* IN PLACE

TYPE "A" CONCRETE INLET BOXES

\* May be Precast or Reinforced Cast-In-Place Box.

REVISIONS		
Date	Description	By
3/1/83	Gen. Note Revision	WJF/HK
1/1/96	Add 6'-0" Box Ht.	Gdo

State of Alaska  
Department of Transportation  
& Public Facilities

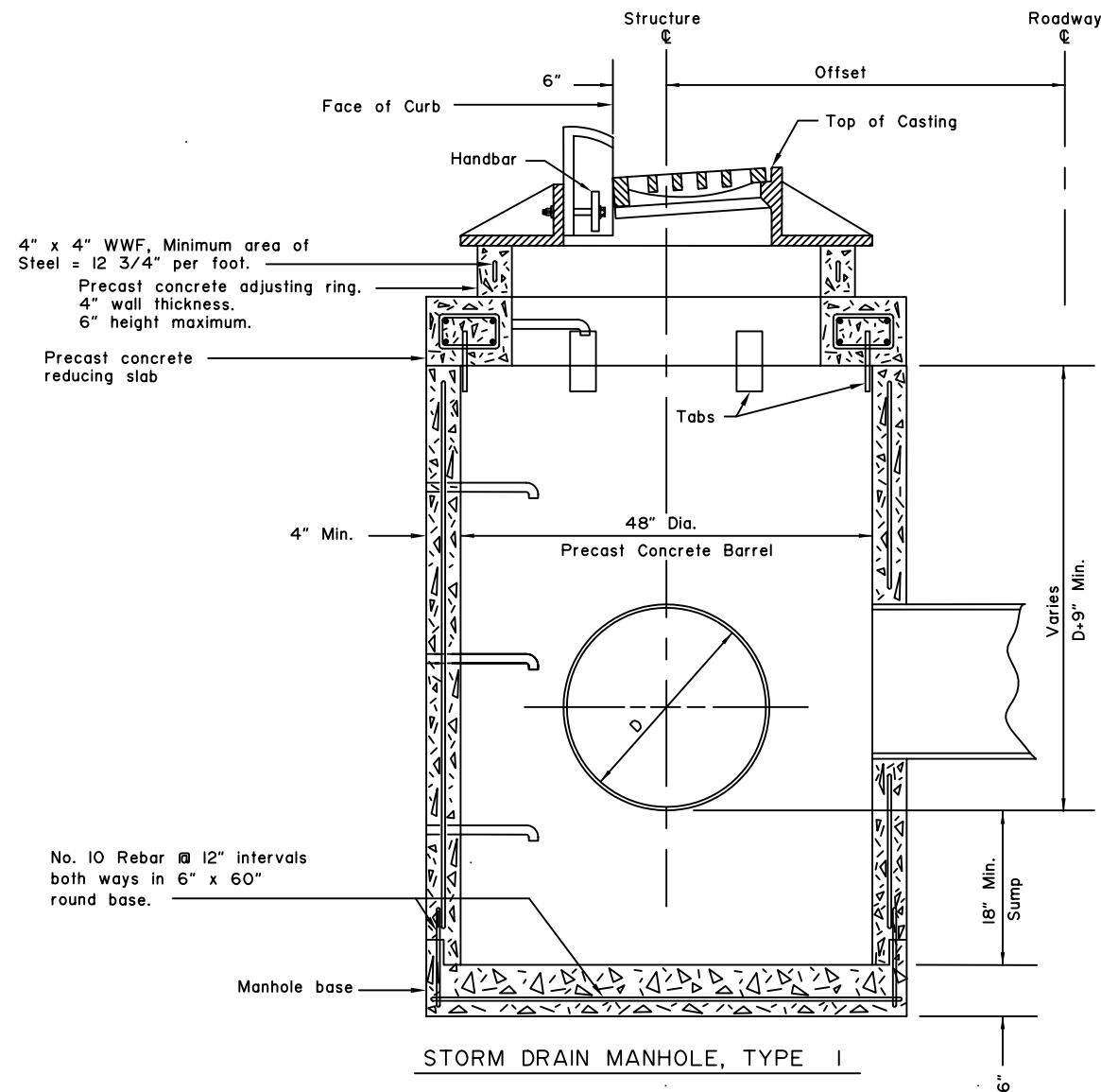
**TYPE "A"  
INLET BOXES**

APPROVED

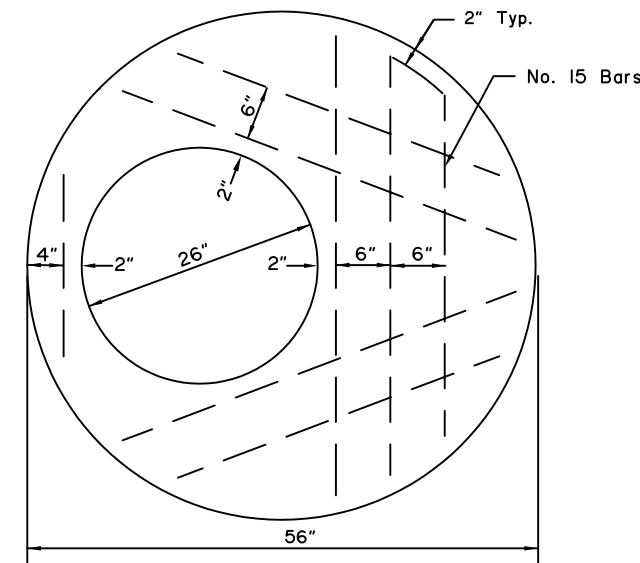
Date 7/15/82

GENERAL NOTES:

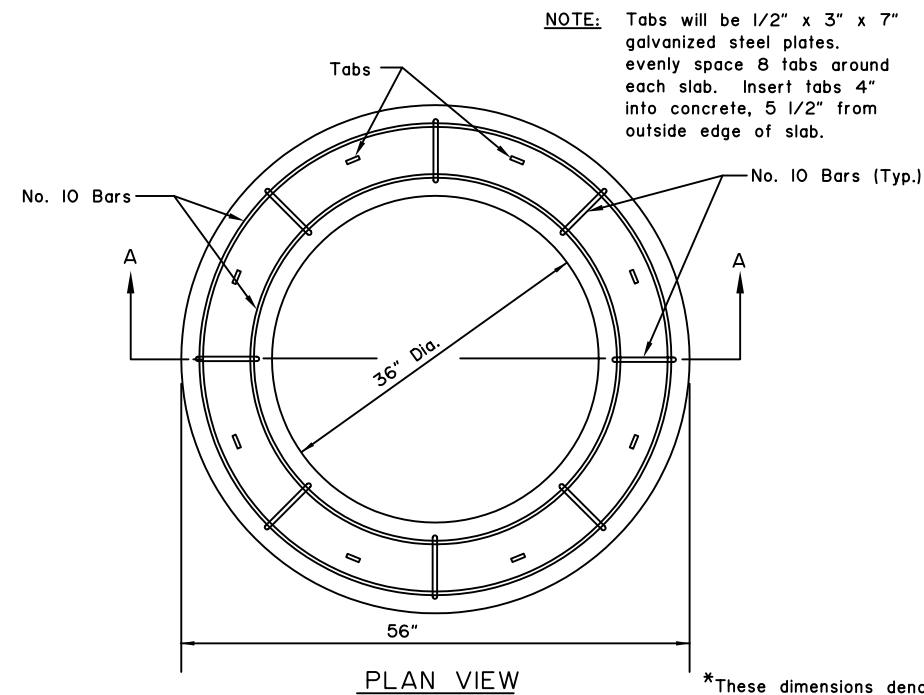
1. All drainage structures and appurtenances shall meet the requirements of ASTM C-478.
2. Minimum steel required for barrel as per ASTM-478 shall be imbedded in base so that the first barrel section is connected to the base by continuous steel.
3. Cast-In-Place structures may be used if approved by the Engineer.
4. All blockouts shall be formed.
5. All storm drain manholes and inlets shall have 18" minimum sumps. Manholes with petroleum separators shall have 24" minimum sumps.
6. Steps shall be placed 12" O.C. on the unobstructed side of the structure, 20" from top of casting and 18" maximum from manhole base.
7. On storm drain manhole, type I structures, primary pipes not to exceed 30" C.M.P. or 27" rigid concrete pipe with included angle between pipes no less than 135 degrees or primary pipes not to exceed 24" C.M.P. or 21" rigid concrete pipe with included angle no less than 135 degrees.
8. Offsets are measured from  $\text{C}$  of the road to  $\text{C}$  of the structure.
9. The precast concrete reducing slab with a 26" opening is to be used with the depressed inlet frame in the rolled curb areas.



STORM DRAIN MANHOLE, TYPE I

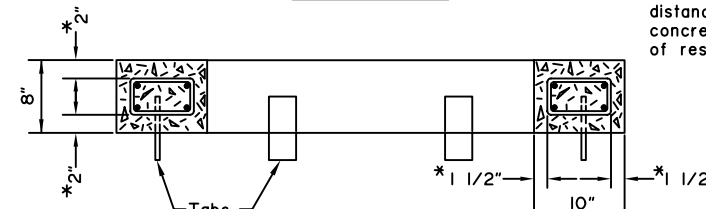


PRECAST CONCRETE REDUCING SLAB  
56" to 26" with offset hole.



PLAN VIEW

\*These dimensions denote distance between edge of concrete and outside edge of resteel.



SECTION A-A

PRECAST CONCRETE REDUCING SLAB  
56" to 36" with centered hole.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:

REVISIONS		
Date	Description	By

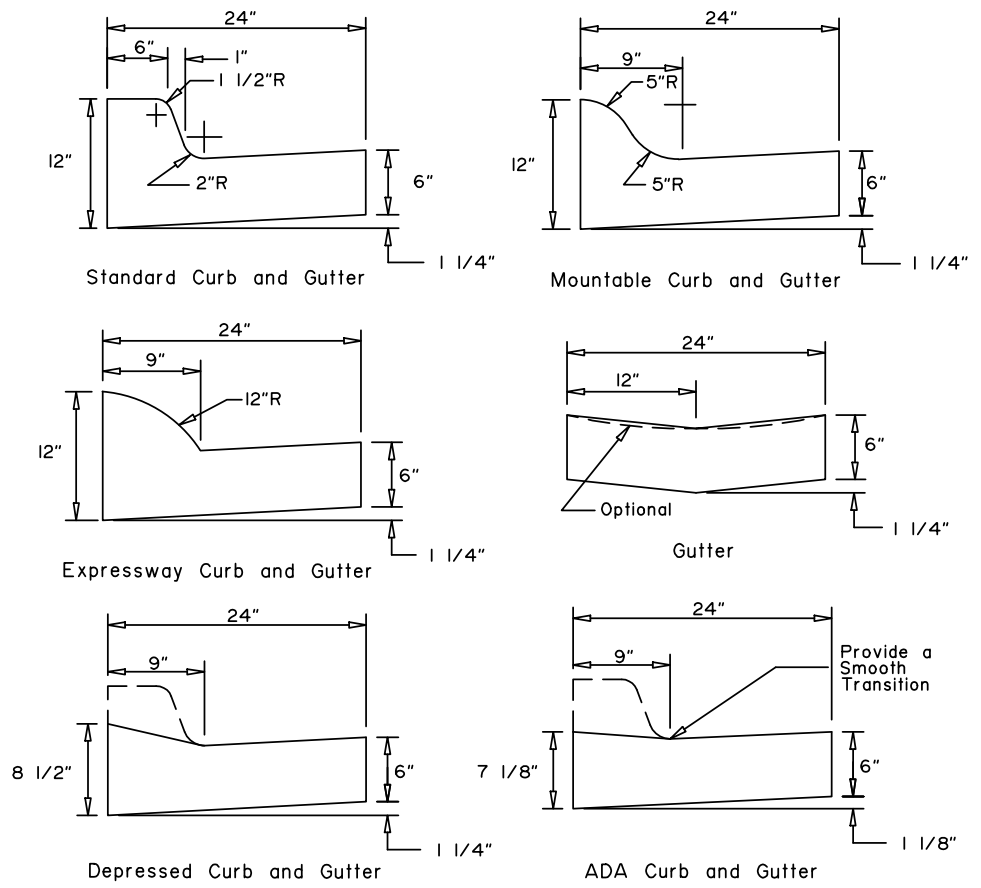
State of Alaska  
Department of Transportation  
& Public Facilities

48" STORM  
DRAIN MANHOLE

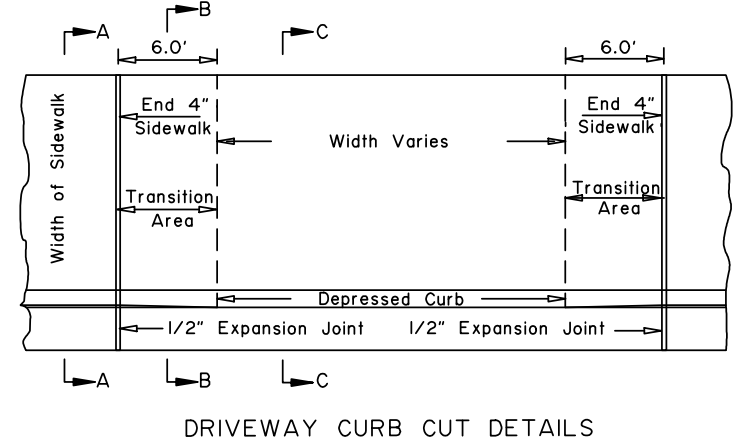
APPROVED



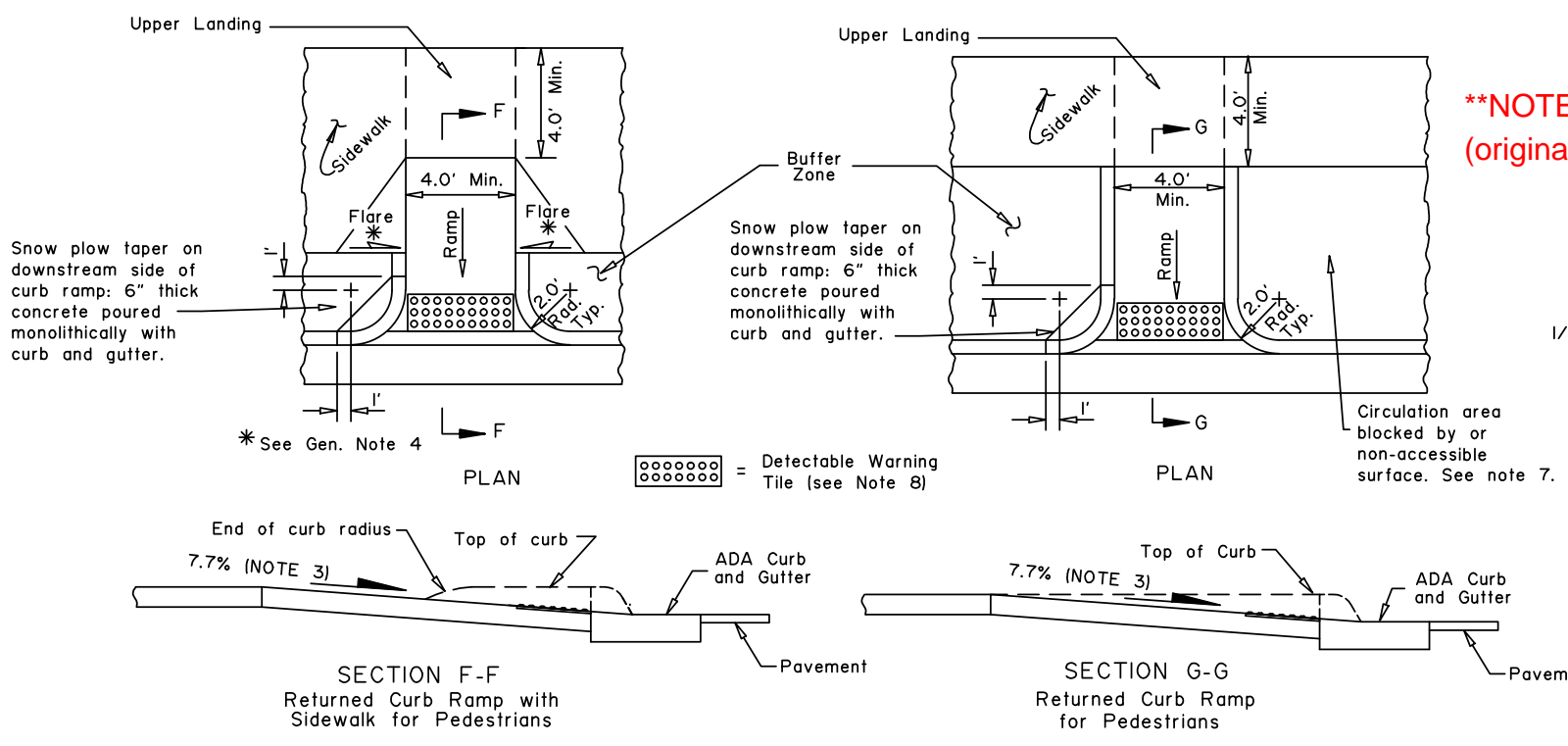
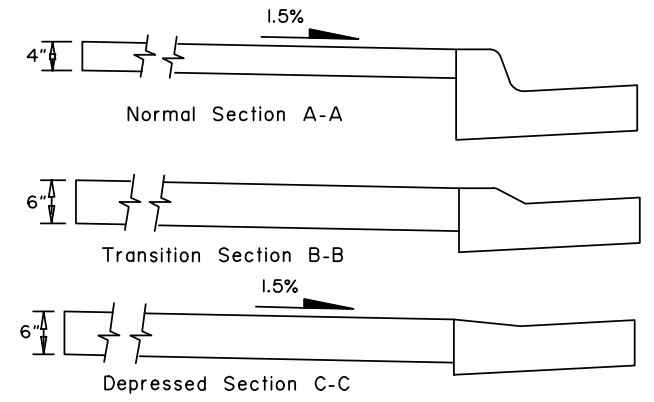
Date 3/15/99



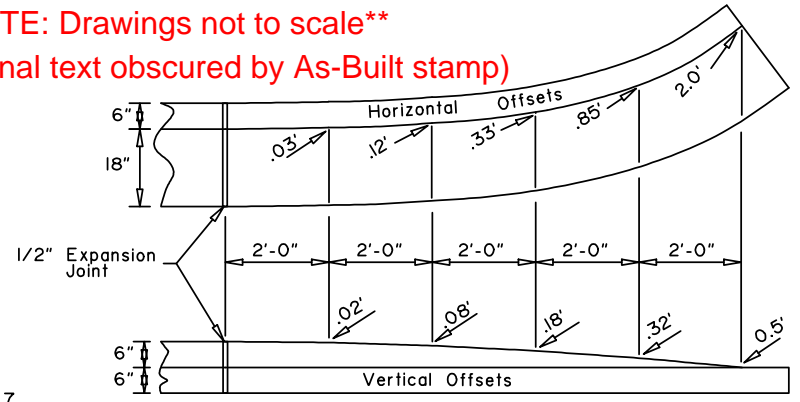
CURB and GUTTER DETAILS



DRIVEWAY CURB CUT DETAILS



**\*\*NOTE: Drawings not to scale\*\***  
(original text obscured by As-Built stamp)



CURB and GUTTER TERMINATION TRANSITIONS

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**

**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% 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 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 coarse broomed finish on ramp runs perpendicular to the ramp slope.
7. When approved by the Engineer, curb returns may be replaced with flares at 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 Drawing I-22 for flare details.
8. 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.
9. Maximum cross slope on upper landings, measured in any direction, is 2.0%. Maximum cross slope on ramps is 2.0% measured perpendicular to the ramp run.

**DESIGN NOTES:**

1. Use Mountable or Expressway curbs on medians and traffic islands.
2. These details are compliant with the 2006 ADA Standards for Transportation Facilities.

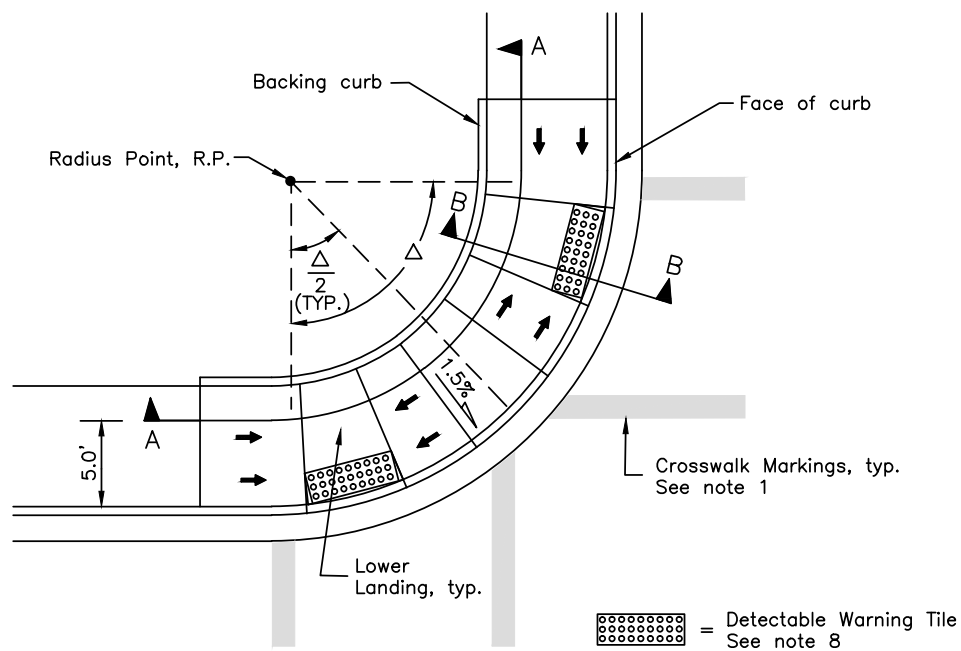
REVISIONS		
Date	Description	By
5/31/12	ADA Updates	JCJ
3/31/15	Slopes and cross slope	JCJ
7/1/16	2006 ADA Stds Update	LRG

State of Alaska DOT&PF  
3132 Channel Dr., Juneau, AK  
Phone: (907) 465-2960

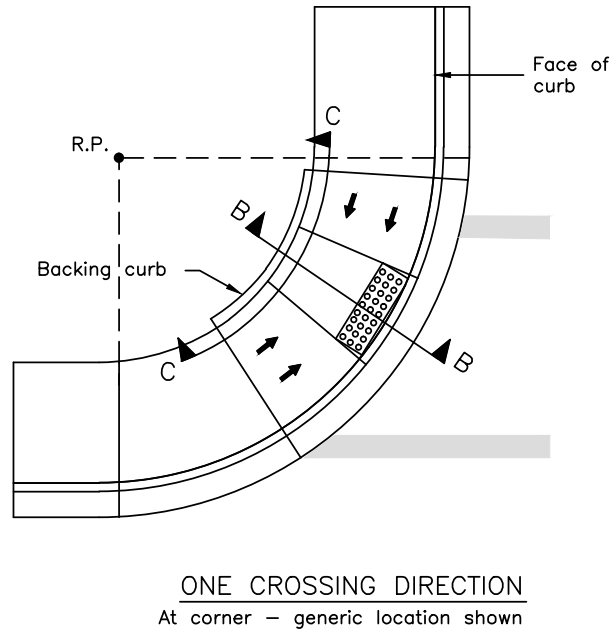
**CURB CUT, CURB & GUTTER AND CURB RAMP DETAILS**



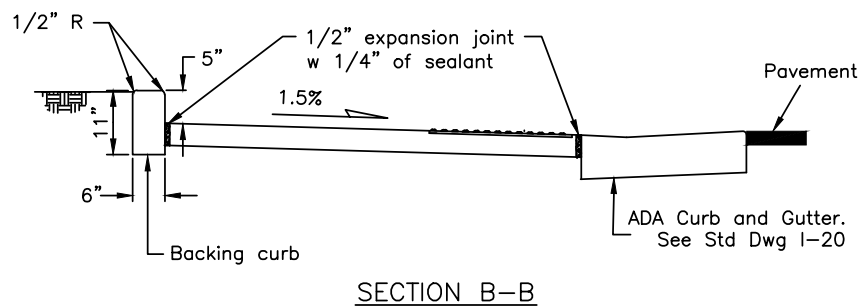
Eff. Date: 7/1/16



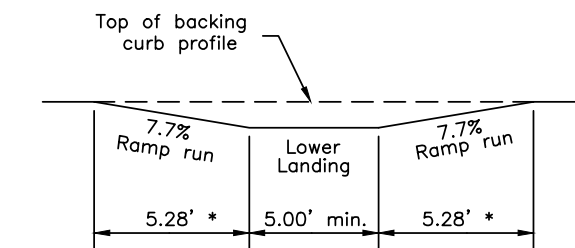
TWO CROSSING DIRECTIONS  
At corner



ONE CROSSING DIRECTION  
At corner - generic location shown



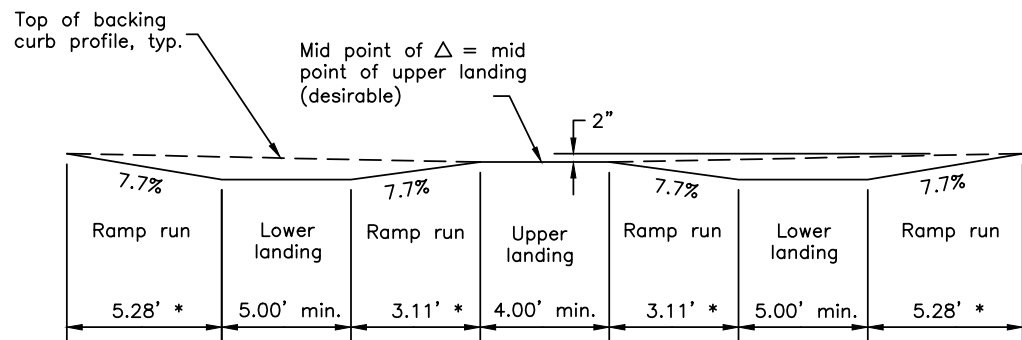
SECTION B-B



\* See Note 5

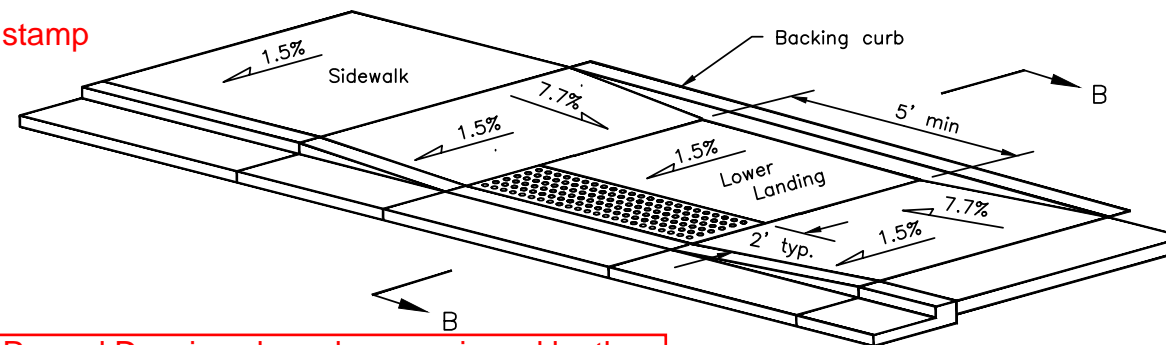
PROFILE C-C

**\*\*NOTE: Drawings not to scale\*\***  
**(original text obscured by As-Built stamp)**



\* See Note 5

PROFILE A-A



**Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.**  
**PROJECT ENGINEER:**

**\*\*Mid Block\*\***  
**(original text obscured by As-Built stamp)**

CONSTRUCTION NOTES:

1. See plans for ramp type at specific locations. See striping plans for crosswalk layouts.
2. Construct ramp runs and landings of concrete, regardless of whether the sidewalk is asphalt or concrete.
3. When one parallel curb ramp will serve two directions, use the One Crossing Direction detail and refer to the striping plans for crosswalk layouts.
4. Ramp run lengths are shown for a flat sidewalk grade. For other sidewalk grades, increase or decrease ramp and flare lengths to maintain the slopes shown.
5. 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. 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%.
6. Construct sidewalk cross slopes at 1.5% nominal (1.0% min. and 2.0% max).
7. Provide a coarse broomed finish running perpendicular to the curb on ramp runs and upper landings and parallel to the curb on lower landings.
8. Install 24" detectable warning tiles meeting Section 705.1 of the 2006 ADA Standards for Transportation Facilities for the full width of the ramp. Align truncated dome pattern in the predominant direction of wheelchair travel to permit wheels to roll between domes.
9. Maximum cross slope on lower landings is 2.0% as measured in any direction. Maximum cross slope on ramps is 2.0% measured perpendicular to the ramp run.

DESIGN NOTES

1. Parallel curb ramps are typically used when the sidewalk is at least 4' wide but can not be constructed wide enough for perpendicular ramps.
2. When one curb ramp is installed in a curb radius to serve both directions of pedestrian traffic, construct it in accordance with the One Crossing Direction detail.
3. Locate lower landings within the inner edges of marked crosswalks or, if crosswalks are not marked, within the area a standard marked crosswalk would enclose. See Standard Drawing T-23 for standard crosswalk layout.
4. Avoid drainage grates within marked crosswalks or, if crosswalks aren't marked, within the area a standard marked crosswalk would enclose. If a drainage grate is located directly in the pedestrian accessible route (e.g. a wheel chair must pass over it), install a grate meeting the requirements of Section 302.3 of the 2006 ADA Standards.
5. These details are compliant with the 2006 ADA Standards for Transportation Facilities.

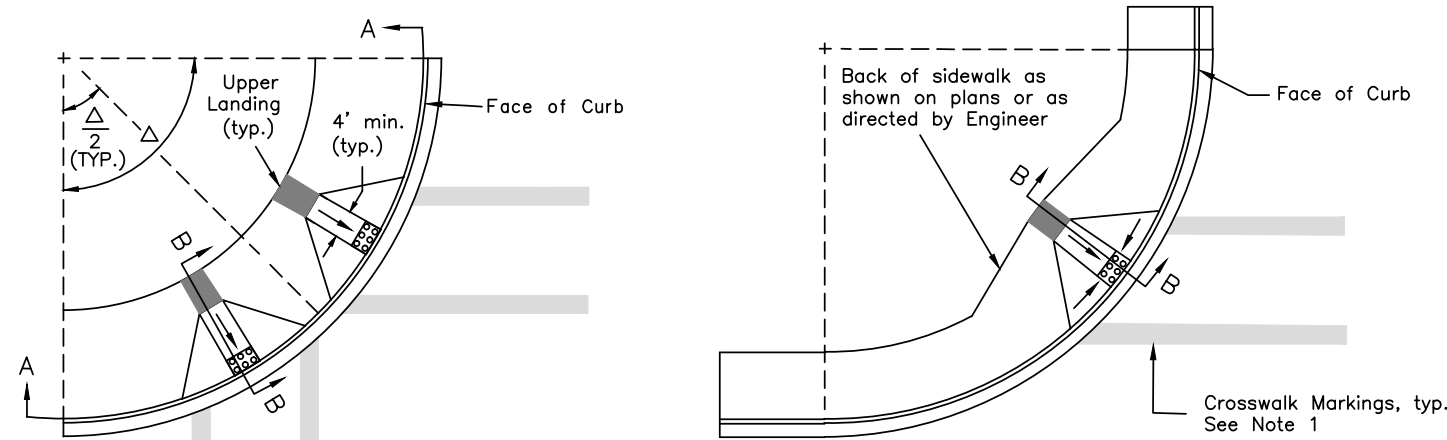
REVISIONS		
Date	Description	By
5/31/12	ADA Updates	JCJ
3/31/15	Slopes and cross slope	JCJ
7/1/16	2006 ADA Stds Update	LRG

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Phone: (907) 465-2960

PARALLEL CURB RAMP



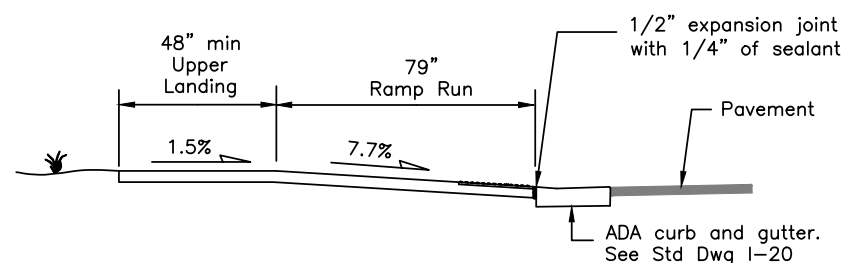
Eff. Date:  
7/1/16



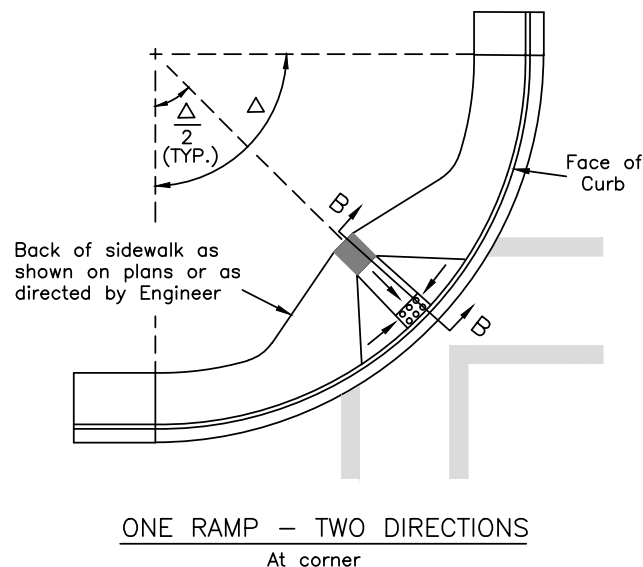
TWO CROSSING DIRECTIONS  
At corner

ONE CROSSING DIRECTION  
At corner

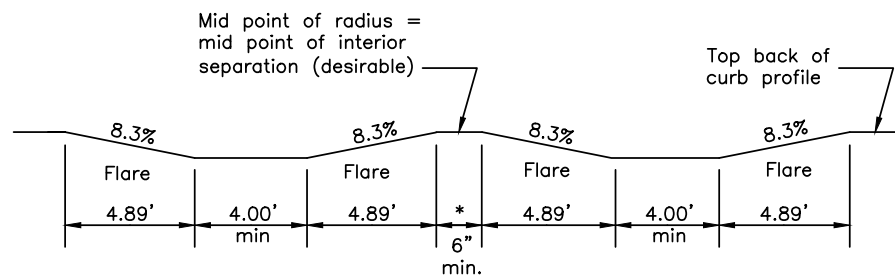
= Detectable Warning Tile  
See Note 9



SECTION B-B



ONE RAMP - TWO DIRECTIONS  
At corner



PROFILE A-A

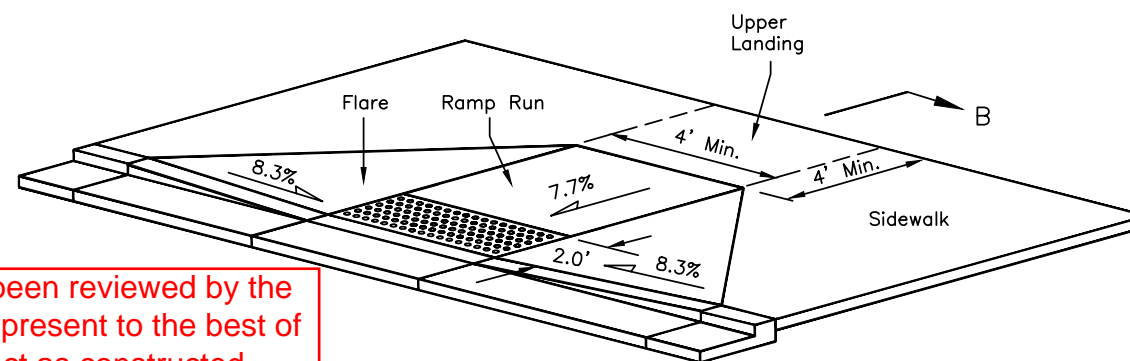
\* This dimension is adjustable depending on the curb radius and location of ramps

CONSTRUCTION NOTES

1. See plans for ramp type at specific locations. See striping plans for crosswalk layouts.
2. Construct Ramp runs perpendicular to the curb face.
3. Construct ramp runs, flares, and upper landings of concrete, regardless of whether the sidewalk is asphalt or concrete.
4. Ramp run and flare lengths are shown for a flat sidewalk grade. For other sidewalk grades, increase or decrease ramp and flare lengths to maintain the slopes shown.
5. Construct ramp slopes at a nominal 7.7% grade, or flatter. Ramps 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%.
6. Construct flare slopes at 8.3% (measured parallel to the curb line) or flatter, and sidewalk cross slopes at a nominal 1.5% (1.0% min., 2.0% max). Do not construct flare slopes steeper than 10.0%, or sidewalk cross slopes steeper than 2.0%.
7. Provide a coarse broomed finish running parallel to the curb on ramp runs and flares.
8. When approved by the Engineer, flares may be replaced with a curb at locations where access to the side of a ramp run is blocked by poles, utility boxes, other obstructions, or by a non-accessible surface such as a dirt planter strip. See Standard Drawing I-20 for details.
9. Install 24" detectable warning tiles for the full width of the ramp. Arrange domes in a square pattern. Provide tiles with truncated domes meeting Section 705.1 of the 2006 ADA Standards for Transportation Projects. Align truncated dome pattern in the predominant direction of wheelchair travel to permit wheels to roll between domes.
10. Maximum cross slope on upper landings, measured in any direction, is 2.0%. Maximum cross slope on ramps is 2.0% measured perpendicular to the ramp run.

DESIGN NOTES

1. Perpendicular curb ramps require approximately 11' of sidewalk width. Use parallel or combination parallel/perpendicular curb ramps for narrower widths.
2. When marked crosswalks are used, the 4'x4' landing area at the bottom of ramps should fall within the inner edges of the crosswalk markings.
3. Avoid drainage grates within marked crosswalks, or if crosswalks are not marked, within the area a standard marked crosswalk would enclose. If a drainage grate is located directly in the pedestrian accessible route (e.g. a wheelchair use must necessarily pass over it), install a grate meeting the requirements of Section 302.3 of the 2006 ADA Standards.
4. These details are compliant with the 2006 ADA Standards for Transportation Facilities.



MID-BLOCK

**\*\*Mid Block\*\***  
(original text obscured by As-Built stamp)

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

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3132 Channel Dr., Juneau, AK  
Phone: (907) 465-2960

PERPENDICULAR CURB RAMP



Eff. Date:  
7/1/16

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:

## GENERAL NOTES

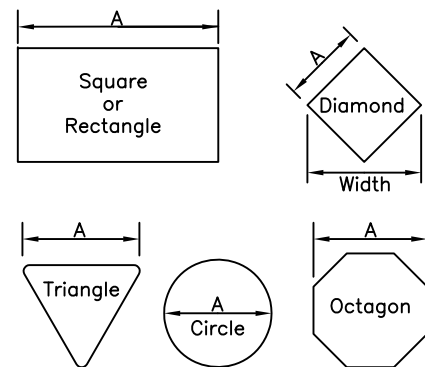
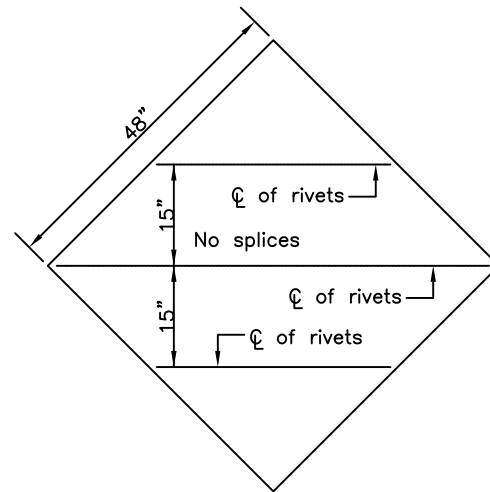
- See the standard specifications for the aluminum alloys that you may use for sign sheeting and wind framing members.
- Fabricate all signs from 0.125" thick aluminum sheeting.
- Sign fabricators may use alternates to the zee shaped framing member with approval of the engineer, if the frame manufacturer certifies their design equals or exceeds the strength of the zee shaped design.
- 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.
- 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.
- Use 3/16" diameter rivets conforming to aluminum alloy 6061-T6 for cold driven rivets, or aluminum alloy 6061-T43 for hot driven rivets.
- Sign fabricators may use sign panels extruded with integral framing with approval of the engineer, if the manufacturer certifies their design equals or exceeds the strength of the 0.125" thick panel with framing attached to it.
- 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.
- Do not use round pipes for sign supports.

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:

- Install sign support in accordance with the table above, unless otherwise required by plans or specifications.
- Exceptions:
  - Use one post for all E5-1 gore signs, regardless of width.
  - Use one 2.5" P.S.T. for all STOP signs, with or without street name signs.
- 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'.
- See Standard Drawing S-31 for frangible couplings, hinges, and foundations for tube and W-shape sign supports.

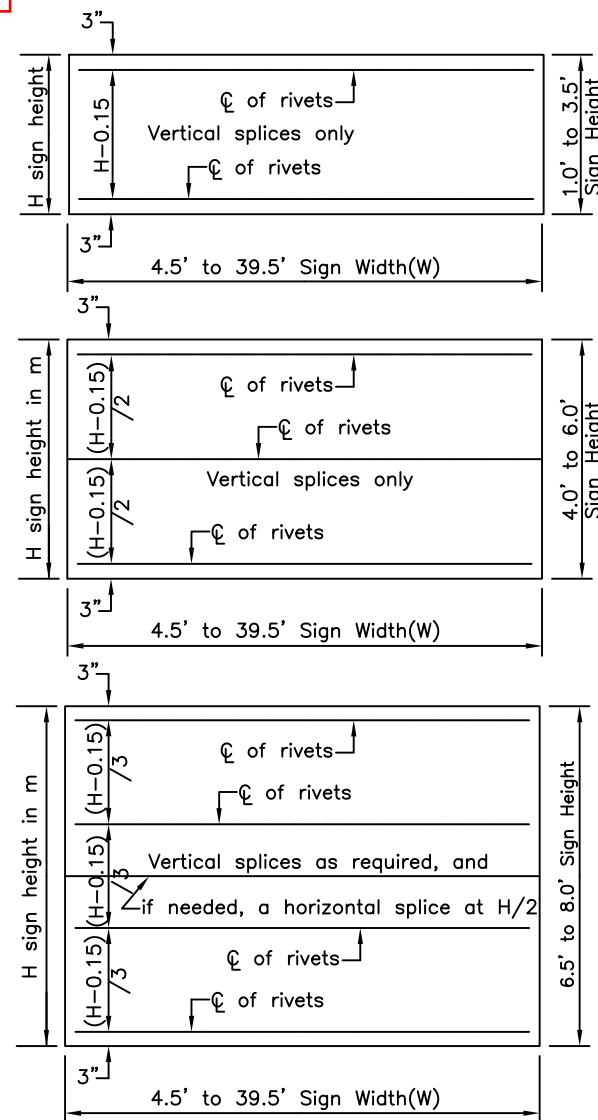
Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:



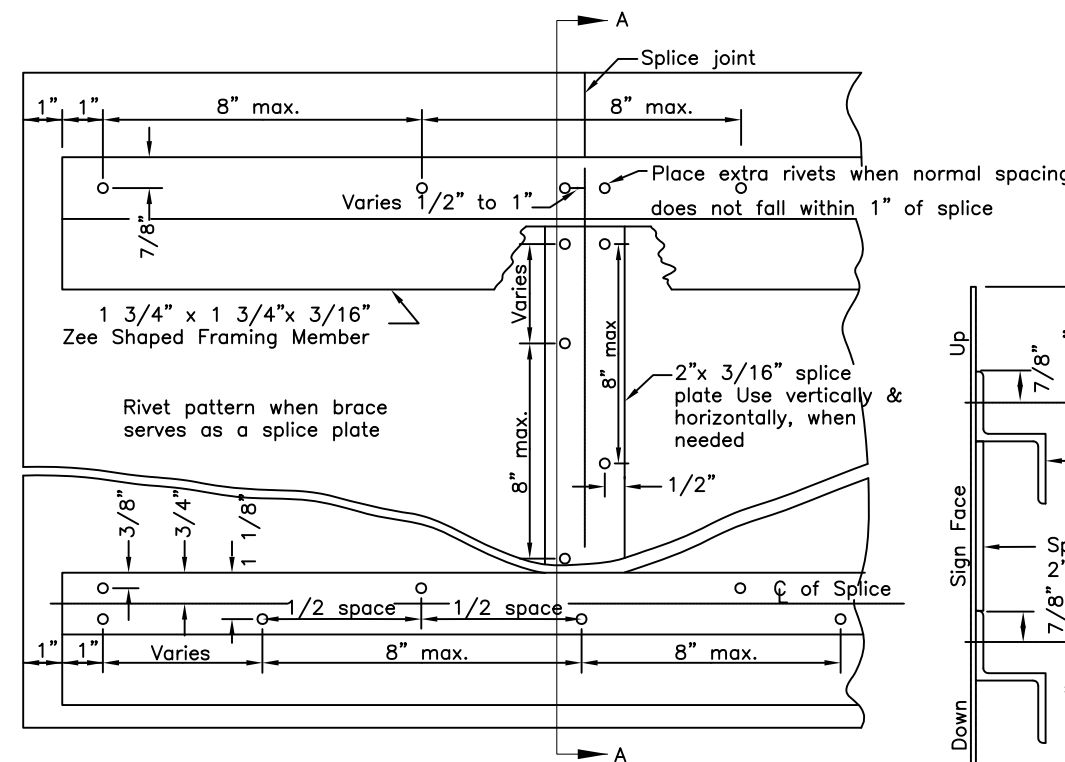
Maximum size unframed signs using 0.125" thick aluminum sheeting.	
Sign Shape	A
Squares, Shields, and Route Markers	48"
Rectangles	48"
Diamonds	48"
Triangles	48"
Rounds and Octagons	48"

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

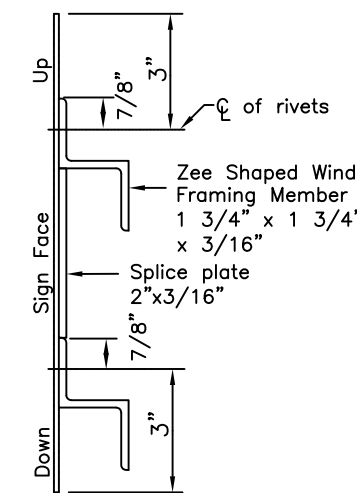
## LIGHT SIGNS



## WIND FRAMING LOCATIONS



## RIVET DETAIL FOR ZEE SHAPED WIND FRAMING & SPLICE PLATE



## SECTION A-A

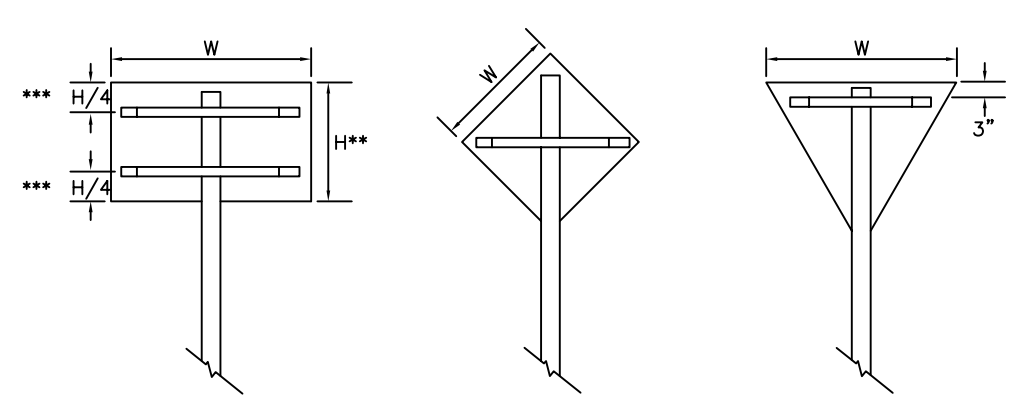
REVISIONS		
Date	Description	By
4/28/10	Delete pipe, rev notes	KJS

Sheet 1 of 1

State of Alaska  
Department of Transportation  
& Public Facilities

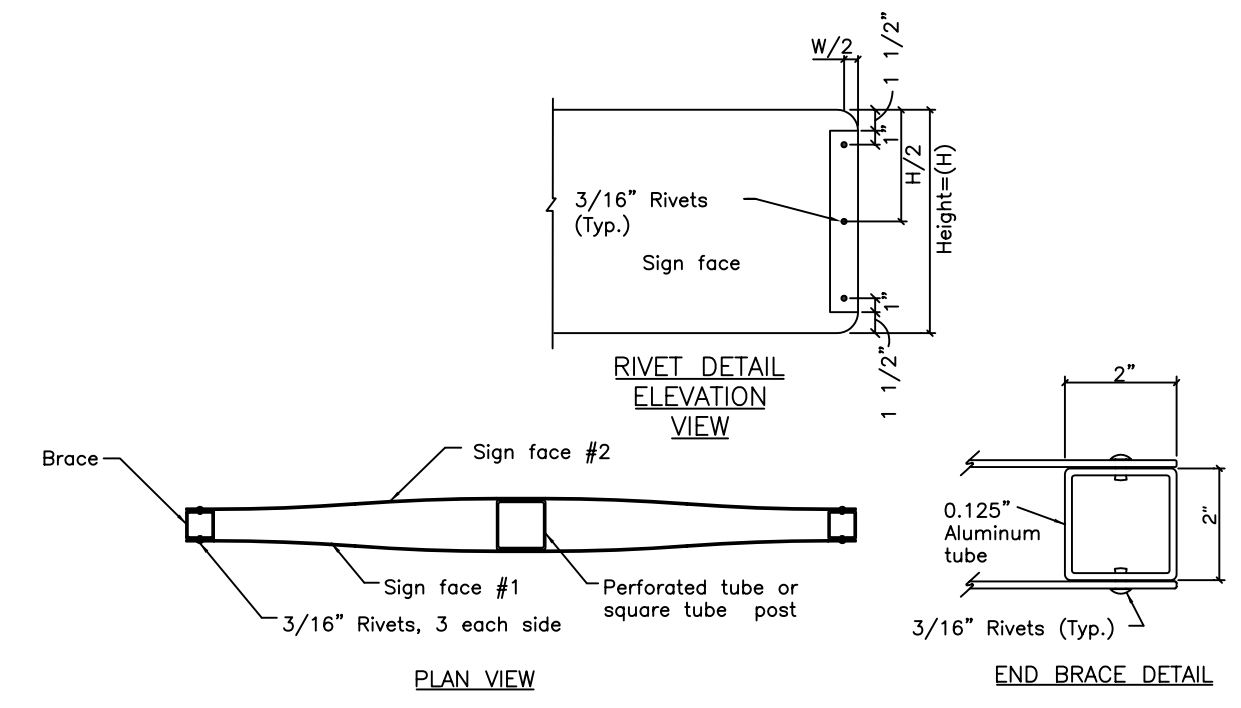
## SIGN FRAMING AND POST SPACING

APPROVED  
49th  
4/28/10  
Date 5/31/12

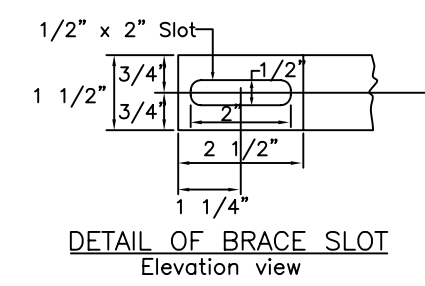


\*\*\*Use one brace when  $H \leq 18"$   
 Use two braces when  $18" < H < 48"$   
 Use three braces when  $H \geq 48"$   
 \*\* Position of brace may be varied to match  
 Predrilled mounting holes in panel

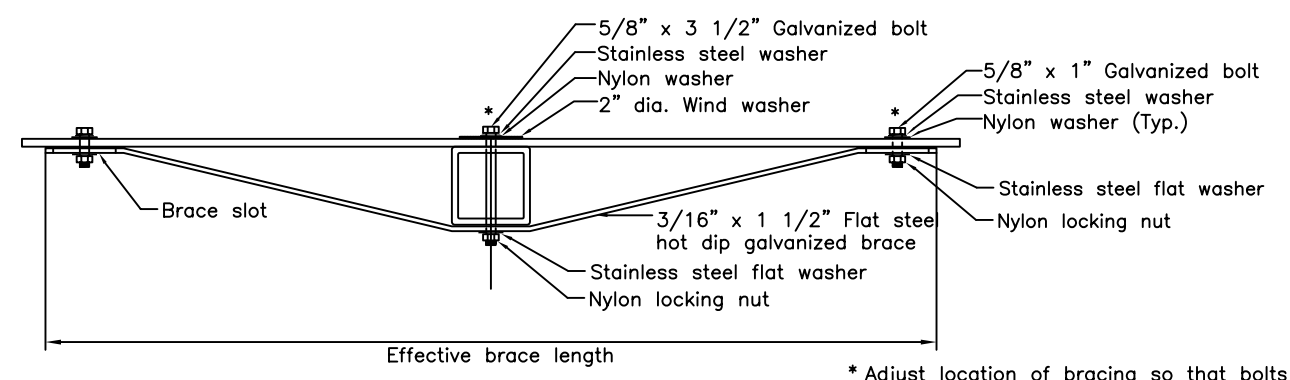
SIGN BRACING PLACEMENT



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



DETAIL OF BRACE SLOT  
Elevation view



TUBE POST SIGN BRACING  
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

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:

REVISIONS		
Date	Description	By

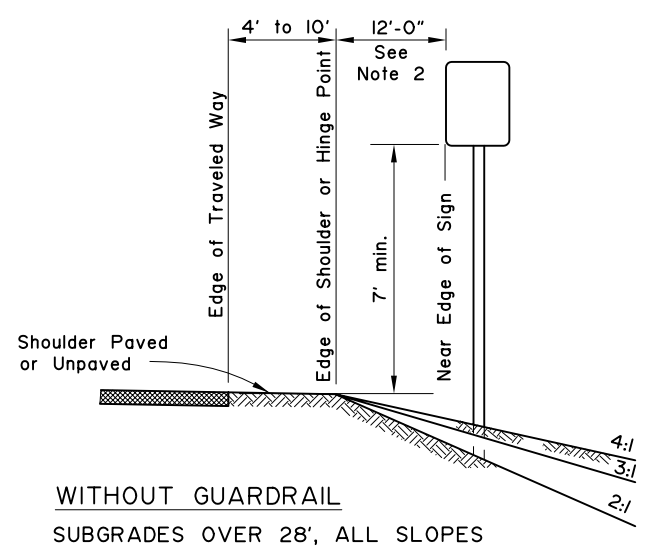
Sheet 1 of 1  
 State of Alaska  
 Department of Transportation  
 & Public Facilities  
**BRACING FOR SIGNS  
 MOUNTED ON SINGLE POST**



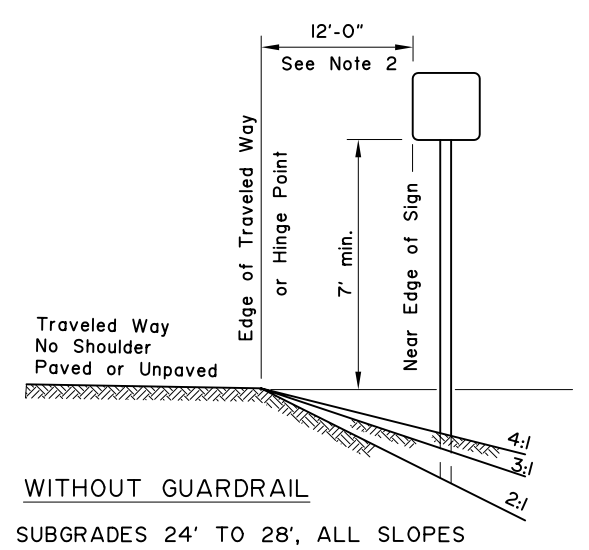
Date 2/28/03

## GENERAL NOTES

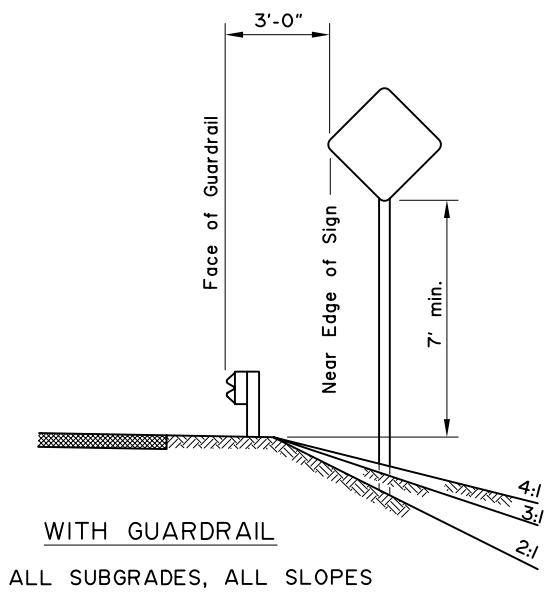
1. Unless shown otherwise on the plans, the standard sign offset is 12'. The minimum is 6'.
2. If signs extend over sidewalks, the minimum vertical clearance is 7'-0".
3. Add 6" to mounting height on unpaved roads.
4. If signs extend over bike paths, the minimum vertical clearance is 8' 0".
5. When signs 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 road.
6. When multiple hinged sign supports are used, mount hinges at least 7' above the ground.



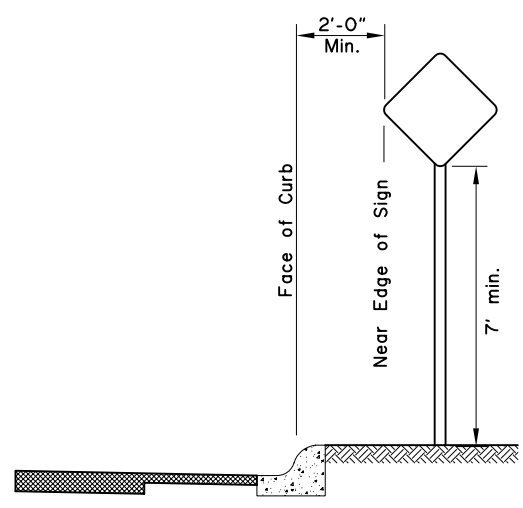
**WITHOUT GUARDRAIL**  
SUBGRADES OVER 28', ALL SLOPES



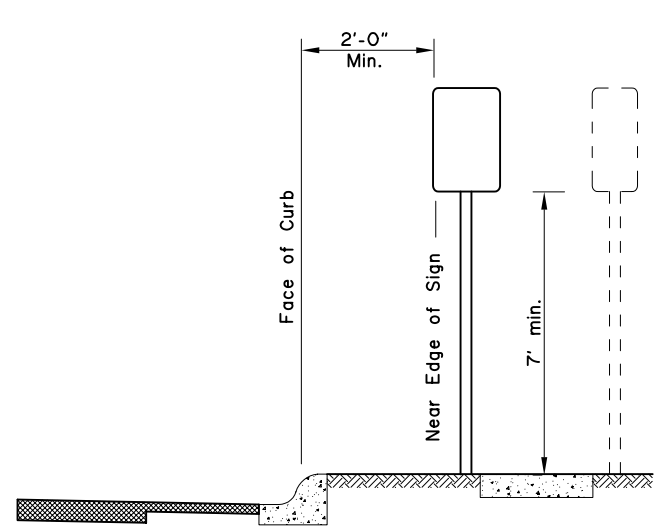
**WITHOUT GUARDRAIL**  
SUBGRADES 24' TO 28', ALL SLOPES



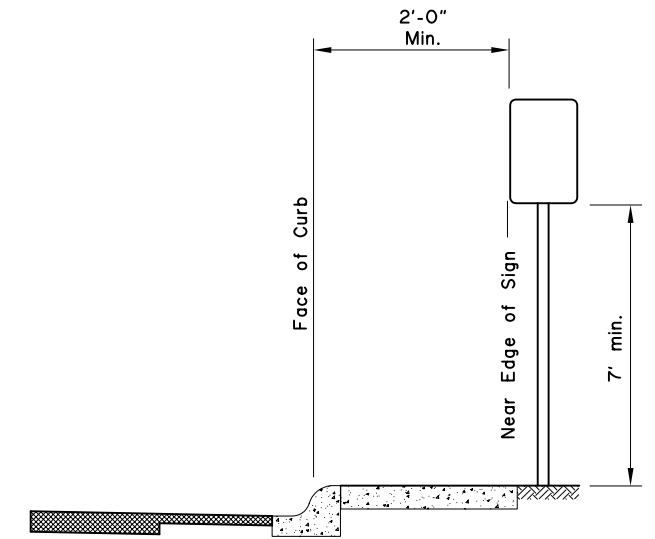
**WITH GUARDRAIL**  
ALL SUBGRADES, ALL SLOPES



**CURB WITHOUT SIDEWALK**

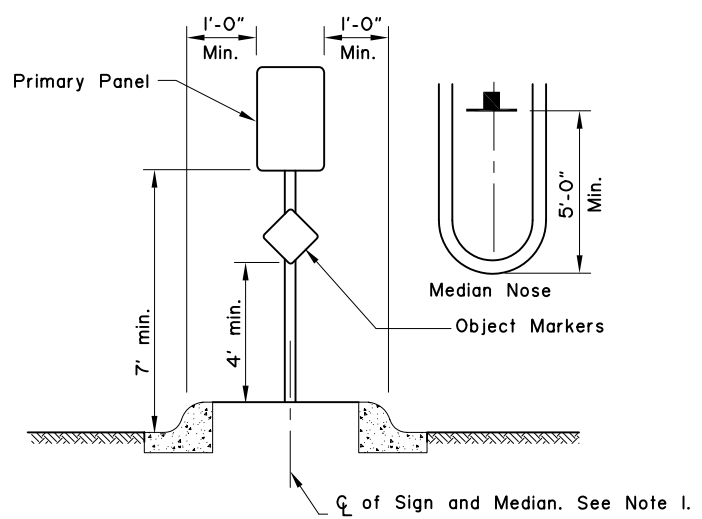


**CURB WITH PARKWAY AND SIDEWALK**  
(If R/W width permits, signs should be placed behind sidewalk.)

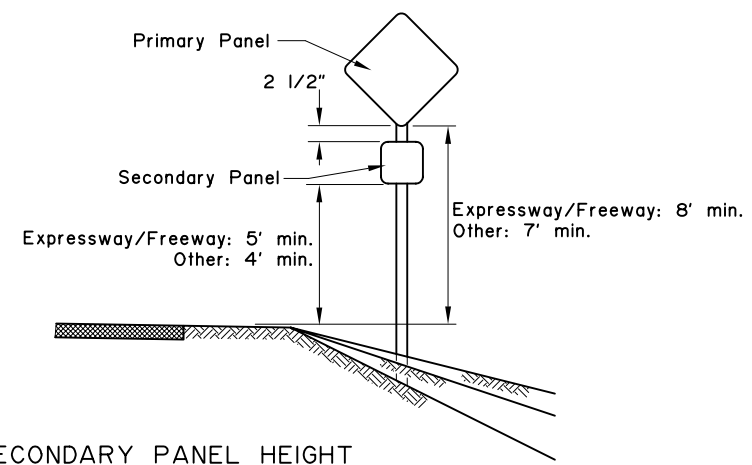


**CURB WITH SIDEWALK WITHOUT PARKWAY**

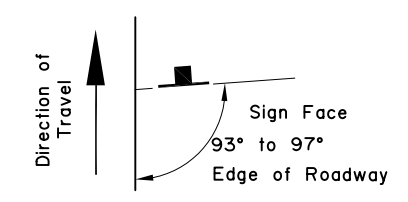
Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
**PROJECT ENGINEER:**



**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  
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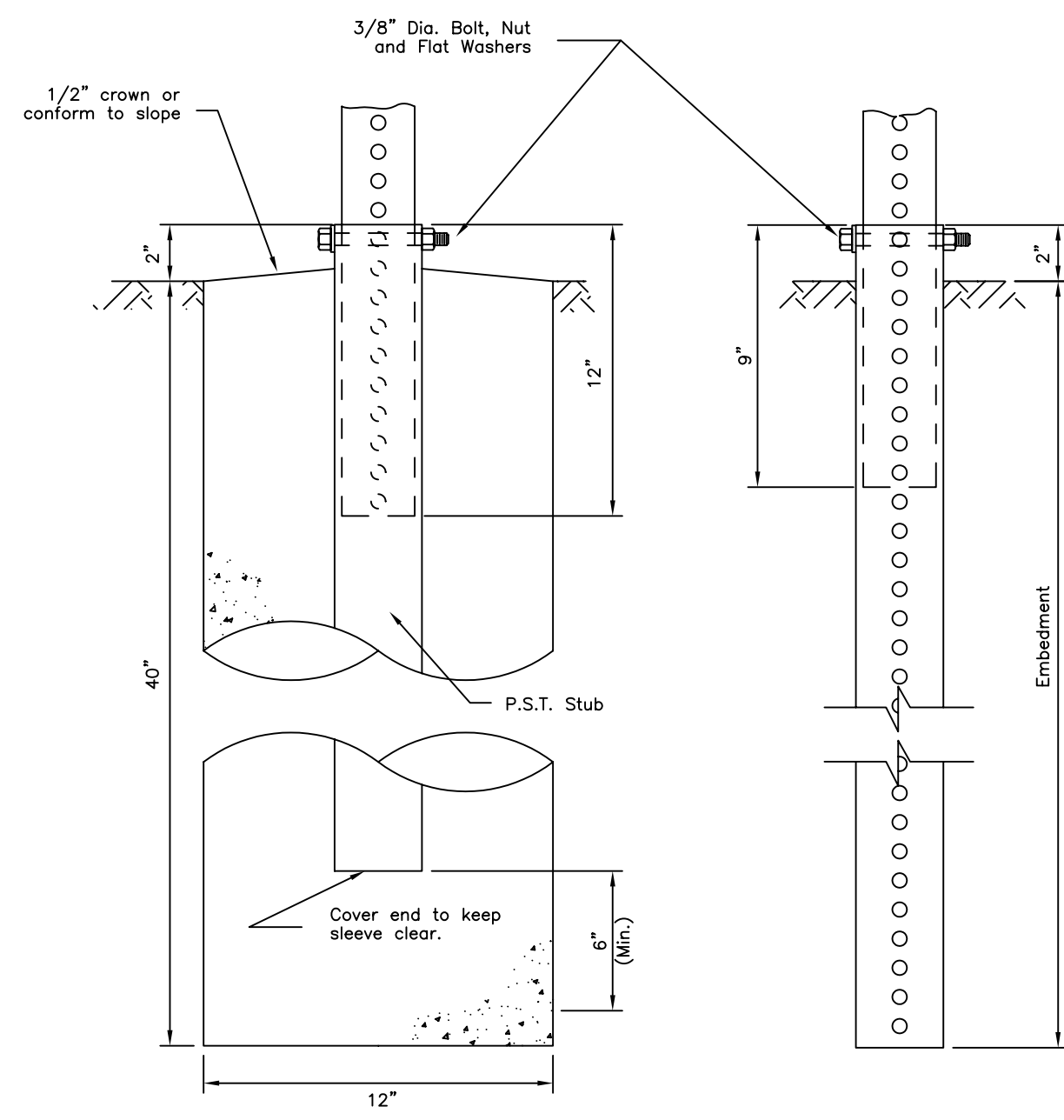
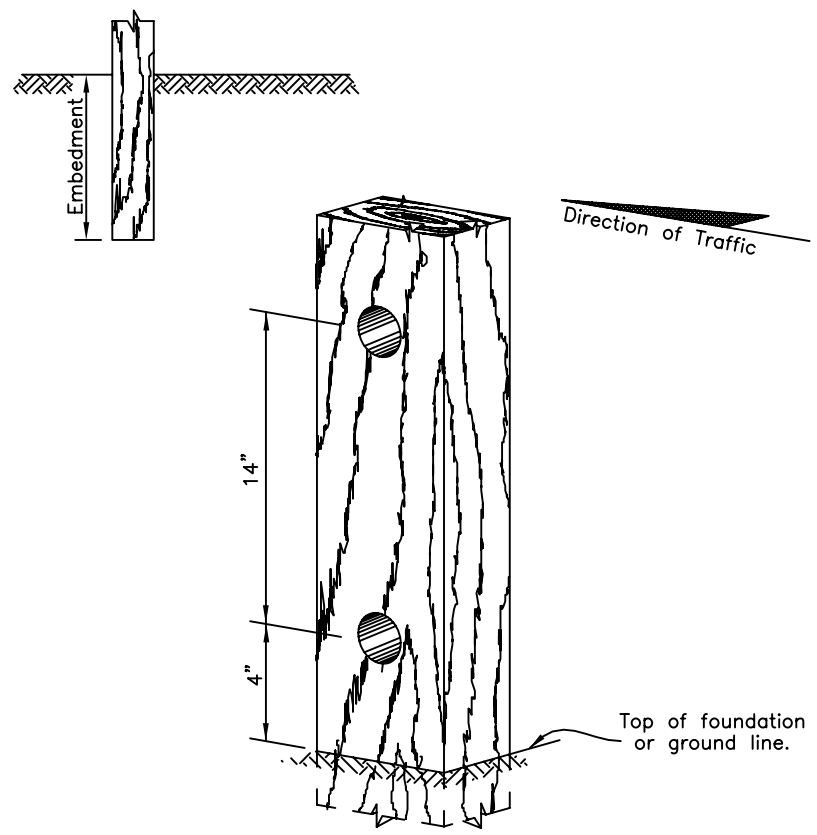
**POST MOUNTED SIGN  
OFFSET AND HEIGHT**

APPROVED

Date 7/15/82

## GENERAL NOTES:

1. Refer to Standard Drawing "Sheet Aluminum Sign and Framing" for light sign 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. Use larger posts than shown on this sheet, with hinges, for multiple support signs where the supports are separated by more than 7 feet.



Note: If holes are field drilled after post has been treated, the holes shall be thoroughly swabbed with a 5% solution of pentachlorophenol and mineral spirits.

WOOD POSTS			
SIZE	HOLE DIA.	EMBEDMENT*	NUMBER 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

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PROJECT ENGINEER:

PERFORATED STEEL TUBES (P.S.T.) (12 ga. - .105" Wall Thickness)		
POST SIZE (inch)	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

REVISIONS		
Date	Description	By
1/1/85	Redraft-Delete Post	Gdo
4/2/01	Revised PST table	Kjs
	Added note 3	
2/12/02	Revised Wood Posts	Kjs

Sheet 1 of 1

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## LIGHT SIGN STRUCTURE POST EMBEDMENT



Date 7/15/82