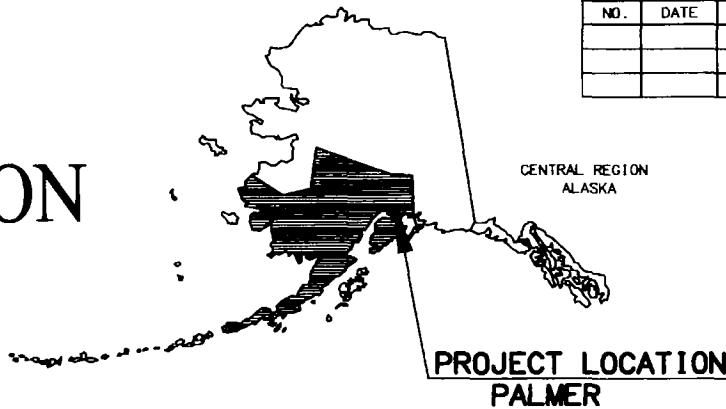


STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

**PALMER: AIRPORT ROAD AND EAST
EVERGREEN STREET REHABILITATION**
STP-0001(291)/56544
INCLUDES SUTTON PATHWAY



REVISIONS		
NO.	DATE	DESCRIPTION

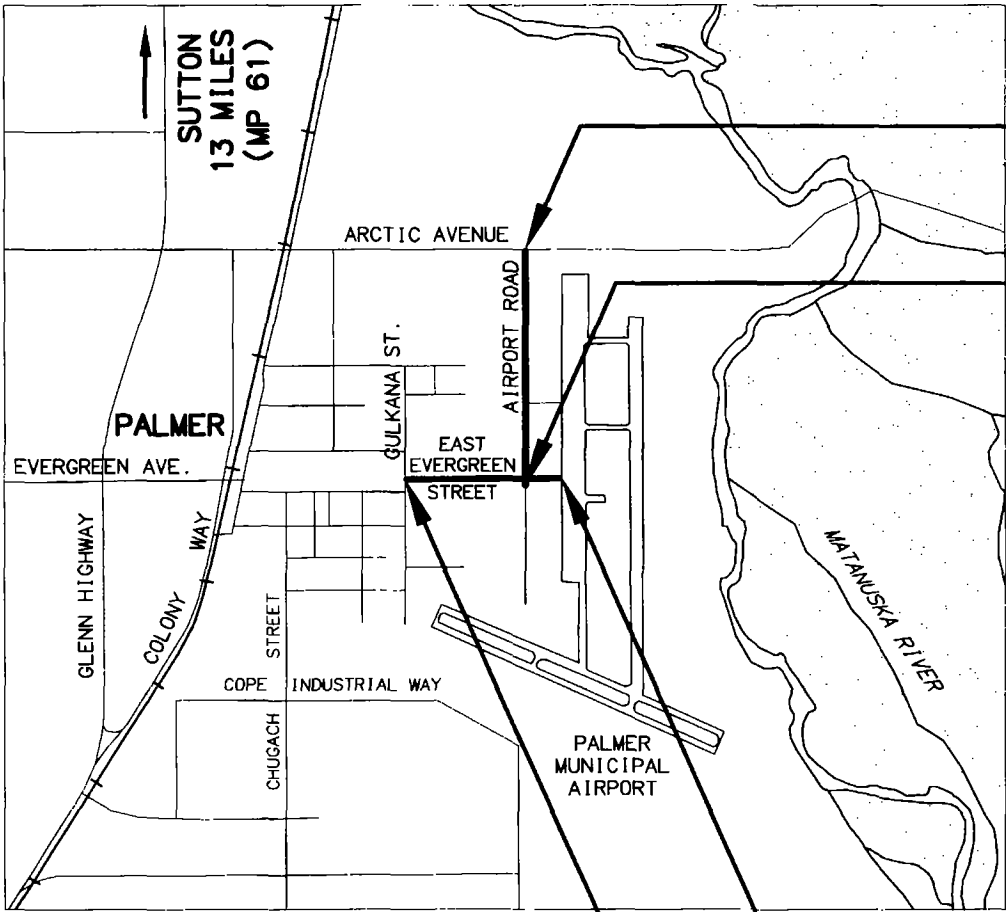
YEAR	STATE	PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
2003	ALASKA	STP-0001(291)/56544	A1	16

INDEX	
SHEET NO.	DESCRIPTION
A1	TITLE SHEET
B1 - B2	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES
D1 - D3	SUMMARIES
E1 - E2	DETAILS
F1 - F6	PLAN & PROFILE
K1	TRAFFIC CONTROL

DESIGN DESIGNATIONS		
	AIRPORT ROAD	EAST EVERGREEN STREET
A.A.D.T. 2003	500	500
V (mph)	30	30

As Advertised
Central Region
June 4, 2003

PROJECT SUMMARY				
ROADWAY	WIDTH (FEET)	LENGTH (MILE)	BEGIN	END
AIRPORT ROAD	28	0.5	EAST EVERGREEN STREET	ARCTIC AVENUE
EAST EVERGREEN STREET	28	0.4	GULKANA STREET	PALMER MUNICIPAL AIRPORT
SUTTON PATHWAY	8	0.5	KUOPPALA STREET	CHICKALOON STREET

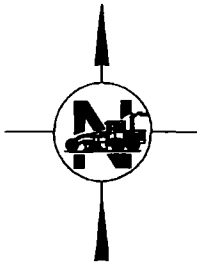


END PROJECT
AIRPORT ROAD
MATCH EXISTING PAVEMENT

BEGIN PROJECT
AIRPORT ROAD
75 FEET SOUTH OF EAST
EVERGREEN STREET CENTERLINE

BEGIN PROJECT
EAST EVERGREEN STREET
MATCH EXISTING PAVEMENT

END PROJECT
EAST EVERGREEN STREET
MATCH EXISTING PAVEMENT



NOTE:
BEGIN AND END AT ADJOINING EDGE OF
INTERSECTING ROADWAYS, OR AS DIRECTED BY
THE ENGINEER.

NOTE:
ALL DIMENSIONS ARE ENGLISH. DIMENSIONS
ARE SHOWN IN FEET UNLESS OTHERWISE NOTED.

THE FOLLOWING STANDARD DRAWINGS
APPLY TO THIS PROJECT:

A-1
C-03.10, C-04.11, C-05.10
D-01.02, D-04.20, D-09.00, D-24.00, D-26.02
I-81.00
M-16.01
S-00.00, S-05.01, S-30.03
T-21.02

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES

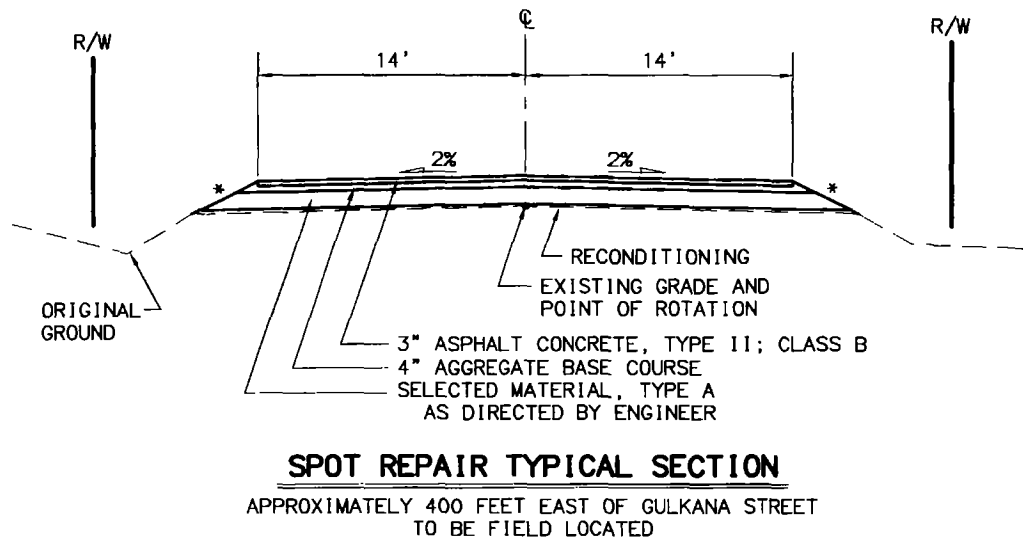
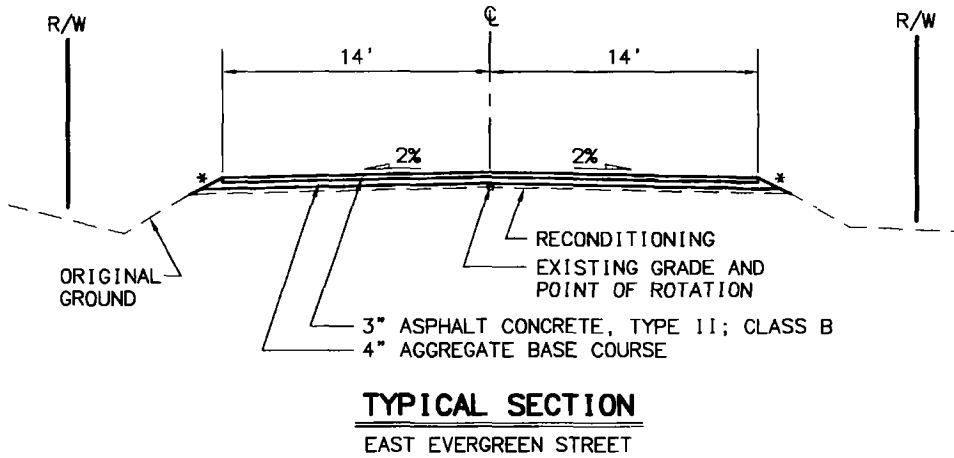
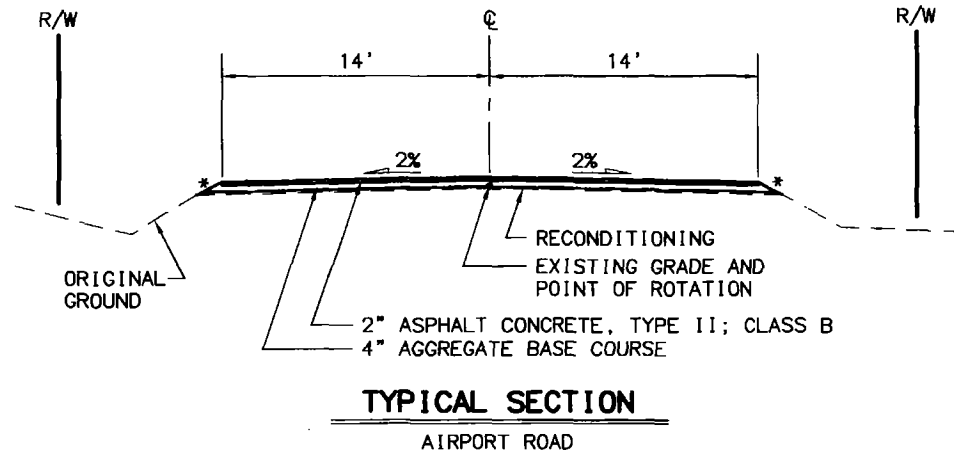


APPROVED: *[Signature]* 5/29/03
REGIONAL PRE-CONSTRUCTION ENGINEER DATE
CONCUR: *[Signature]* 5/29/03
DIRECTOR, CONSTRUCTION & OPERATIONS DATE
CERTIFIED TRUE & CORRECT AS-BUILT OF ACTUAL FIELD CONDITION:
CONSTRUCTION PROJECT MANAGER DATE

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(291)/56544	2003	B1	B2

GENERAL NOTES

- DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.
- EXISTING PAVEMENT EDGES SHALL BE SAWCUT WHERE NEW PAVEMENT IS TO MATCH EXISTING.
- RE-ESTABLISH SUPERELEVATIONS AND TRANSITIONS.
- ALL CONSTRUCTION BY THE CONTRACTOR SHALL BE WITHIN THE RIGHT-OF-WAY LIMITS.
- WITHIN 24 HOURS AFTER FINAL PAVING, CONTRACTOR SHALL PULL MATERIAL FROM SHOULDERS TO EDGE OF NEW PAVEMENT. ADD ADDITIONAL AGGREGATE BASE COURSE AS DIRECTED BY THE ENGINEER.
- IN AREAS OF ROADWAY GRADE RAISES, USE 200 FT. TRANSITIONS BEFORE AND AFTER.
- WIDENING FOR DRIVEWAYS WILL BE PAID AT THE UNIT PRICES FOR 301(1), AND 401(1B), 401(2), AND 401(6).
- RECONDITION TO A DEPTH OF 4".



* SLOPE VARIES. MATCH BREAKPOINT
ON EXISTING SLOPE, 2:1 MAX SLOPE.



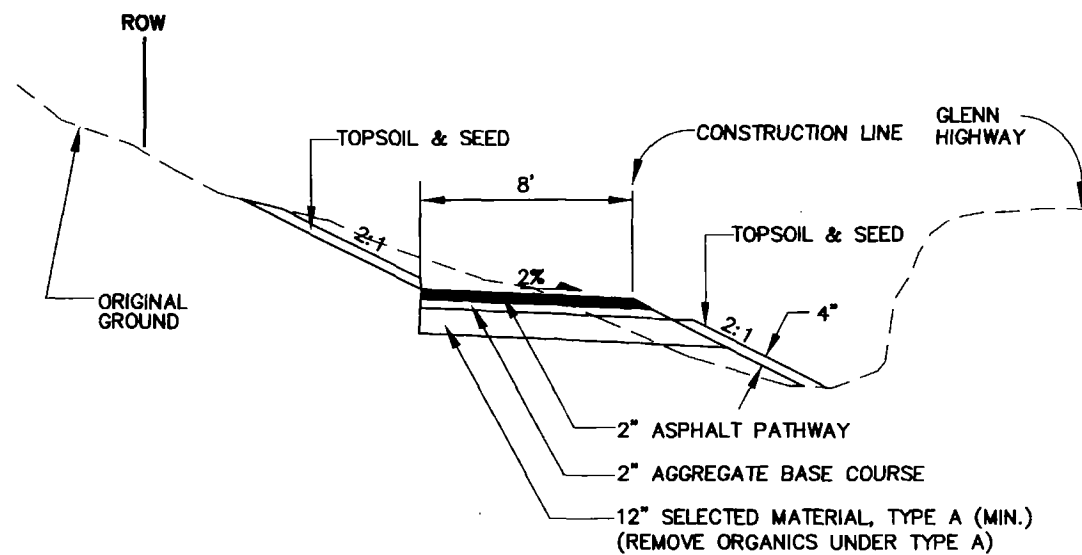
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES
**PALMER: AIRPORT ROAD AND
EAST EVERGREEN STREET
REHABILITATION**

TYPICAL SECTIONS

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 DESIGNED BY: JED CHECKED BY: JED
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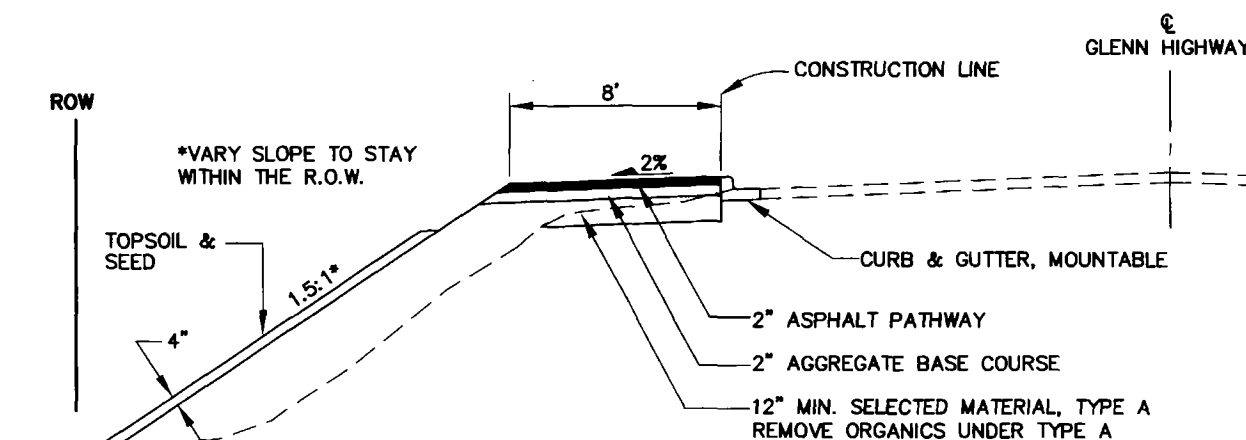
REVISIONS		
NO.	DATE	DESCRIPTION

YEAR	STATE	PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
2003	ALASKA	STP-0001(291)/56544	B2	B2



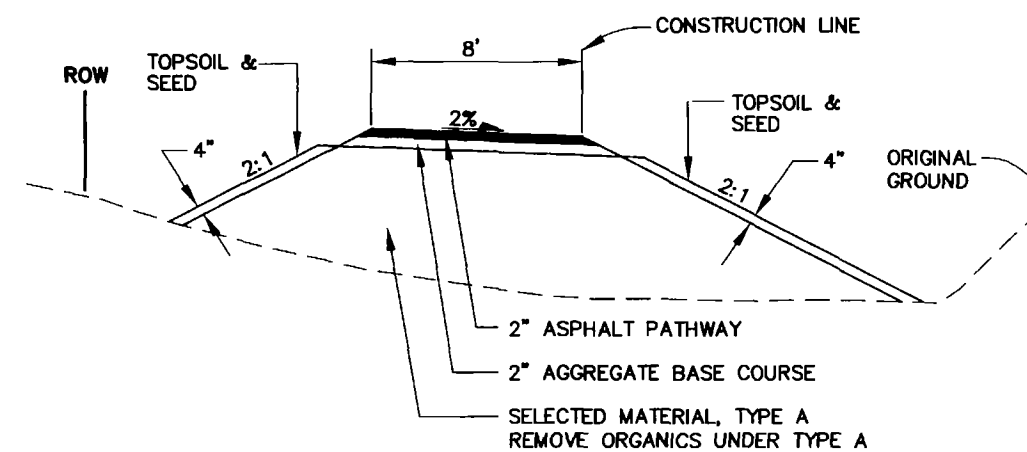
SUTTON PATHWAY TYPICAL

STA. 'P' 10+00 TO 'P' 18+80



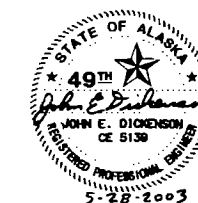
SUTTON PATHWAY TYPICAL

STA. 'P' 18+80 TO 'P' 27+00



SUTTON PATHWAY TYPICAL

STA. 'P' 27+00 TO 'P' 33+78.3



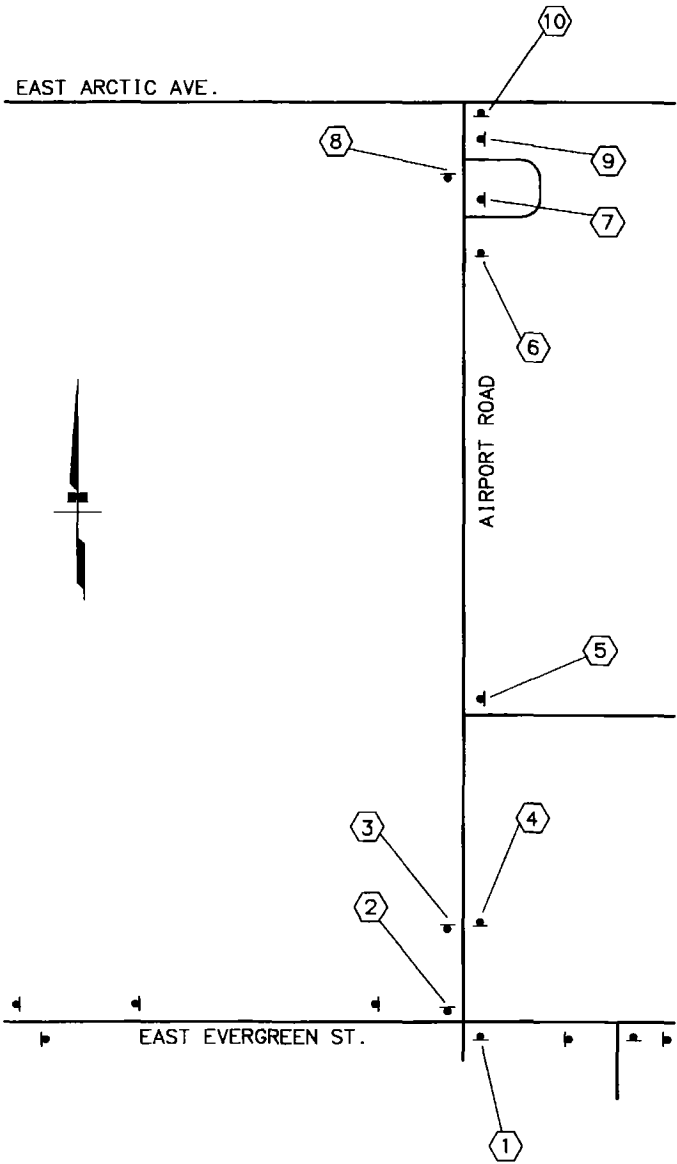
STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND
 PUBLIC FACILITIES

**PALMER: AIRPORT ROAD AND
 EAST EVERGREEN STREET
 REHABILITATION**

**SUTTON PATHWAY
 TYPICAL SECTIONS**

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
NO.	DATE	DESCRIPTION	ALASKA	STP-0001(291)/56544	2003	D1	D3

AIRPORT ROAD SIGN SUMMARY												
POST NO.	C REF.	TYPE	LEGEND	SIZE (IN)		AREA (SQ FT)	SIGN FACES	POSTS NO., SIZE, & TYPE	THICKNESS (IN)			REMARKS
				WIDTH	HEIGHT				FRAMED?	BRACED?	YES	
				30	30	5.20	S	1-2.5" P.T.		0.125		
1	RT.	R1-1										
				30	30	5.20	N	1-2.5" P.T.		0.125		
2	LT.	R1-1										
2	LT.	D3-1		36	8	2.00	N	1-2.5" P.T.		0.125		
2	LT.	D3-1		42	8	2.33	W	1-2.5" P.T.		0.125		
3	LT.	W2-4		36	36	9.00	N	1-2.5" P.T.		0.125		
4	RT.	R2-1		30	36	7.50	S	1-2.5" P.T.		0.125		
5	RT.	R1-1		30	30	5.20	E	1-2.5" P.T.		0.125		
5	RT.	D3-1		42	8	2.33	W	1-2.5" P.T.		0.125		
5	RT.	D3-1		36	8	2.00	S	1-2.5" P.T.		0.125		
6	RT.	W3-1A		36	36	9.00	S	1-2.5" P.T.		0.125		LOCATE 250' IN ADVANCE OF STOP SIGN
7	RT.	R1-1		30	30	5.20	E	1-2.5" P.T.		0.125		
8	LT.	R2-1		30	36	7.50	N	1-2.5" P.T.		0.125		
8	LT.	CUSTOM		36	36	9.00	N	1-2.5" P.T.		0.125		
9	RT.	R1-1		30	30	5.20	E	1-2.5" P.T.		0.125		



SIGN POST SCHEMATIC



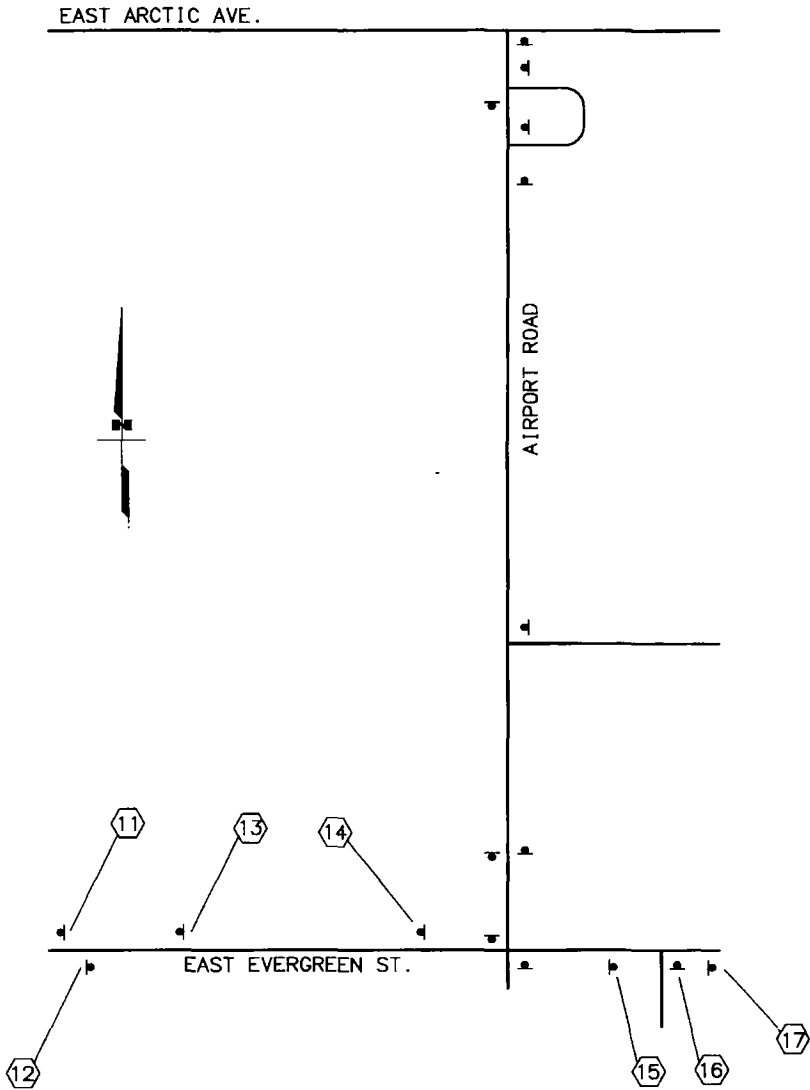
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

PALMER: AIRPORT ROAD AND
EAST EVERGREEN STREET
REHABILITATION

SUMMARY SHEET

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(291)/56544	2003	D2	D3

EAST EVERGREEN ST. SIGN SUMMARY												
POST NO.	C REF.	TYPE	LEGEND	SIZE (IN)		AREA (SQ FT)	SIGN FACES	POSTS NO., SIZE, & TYPE	THICKNESS (IN)			REMARKS
				WIDTH	HEIGHT				FRAMED?	BRACED?	YES	
				30	30	5.20	S	1-2.5" P.T.		0.125		
10	RT.	R1-1		30	30	5.20	S	1-2.5" P.T.		0.125		
10	RT.	D3-1		42	8	2.33	W	1-2.5" P.T.		0.125		
				30	30	5.20	E	1-2.5" P.T.		0.125		
11	LT.	R1-1		30	30	5.20	E	1-2.5" P.T.		0.125		
11	LT.	D3-1		42	8	2.33	E	1-2.5" P.T.		0.125		
11	LT.	D3-1		42	8	2.33	S	1-2.5" P.T.		0.125		
12	RT.	R2-1		30	36	7.50	W	1-2.5" P.T.		0.125		
12	LT.	CUSTOM EXISTING		EX	EX		E	1-2.5" P.T.		0.125		REUSE EXISTING SIGN
13	LT.	W3-1A		36	36	9.00	E	1-2.5" P.T.		0.125		LOCATE 250' IN ADVANCE OF STOP SIGN
14	LT.	R2-1		30	36	7.50	E	1-2.5" P.T.		0.125		LOCATE 100' WEST OF AIRPORT ROAD INTERSECTION
15	RT.	W14-2		36	36	9.00	W	1-2.5" P.T.		0.125		
16	RT.	R1-1		30	30	5.20	S	1-2.5" P.T.		0.125		
17	RT.	R1-1		30	30	5.20	W	1-2.5" P.T.		0.125		
17	RT.	CUSTOM		30	30	6.25	W	1-2.5" P.T.		0.125		



SIGN POST SCHEMATIC



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

PALMER: AIRPORT ROAD AND
EAST EVERGREEN STREET
REHABILITATION

SUMMARY SHEET

DRAWING LOCATION
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DATE
TIME
DESIGNED BY
CHECKED BY
DATE
TIME
DESIGNED BY
CHECKED BY
DATE
TIME

REVISIONS			YEAR	STATE	PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
NO.	DATE	DESCRIPTION					
			2003	ALASKA	STP-0001(291)/56544	D3	D3

603(17-) PIPE SUMMARY							
PIPE	INLET STATION/STRUCTURE	OUTLET STATION/STRUCTURE	LENGTH (FEET)	DIAMETER (INCHES)	INLET ELEV.	OUTLET ELEV.	SLOPE
P1	10+44 @ 14.7' LT	10+67 @ 4.9' RT	29	18	447.81	447.5	0.91%
P2	18+70 @ 9.9' LT	18+55 @ 6.3' RT	22	18	445.69	445.25	2.00%
P3	S1	21+95 @ 12' LT	12	12	450.08	449.43	5.42%
P4	S2	23+59 @ 12' LT	12	12	452.23	451.17	8.83%
P5	S3	25+88 @ 13' LT	13	12	454.96	453.84	8.62%
P6	33+66 @ 12.6' LT	33+45 @ 6.7' RT	28	18	464.10	460.86	11.6%

*604(3) RECONSTRUCT EXISTING MANHOLE	
TYPE	LOCATION
STORM DRAIN	APPROXIMATELY 11.5' WEST AND 4' NORTH OF THE INTERSECTION OF AIRPORT ROAD AND EAST EVERGREEN STREET

*NOTE:
EXISTING UTILITY TYPES AND LOCATIONS APPROXIMATE,
TO BE FIELD VERIFIED.

604(5) INLET SUMMARY			
STRUCTURE	STATION	OFFSET	TOP OF CAST ELEVATION
S1	21+95	1' RT	452.33
S2	23+59	1' RT	454.48
S3	25+88	1' RT	457.21

608(6) CURB RAMP	
STATION	REMARKS
18+80	BEGIN CURB SECTION
20+00	DRIVEWAY
20+55	DRIVEWAY
21+15	PARK ST, TACTILE WARNING
21+85	PARK ST, TACTILE WARNING
23+05	DRIVEWAY
23+52	DRIVEWAY
25+35	DRIVEWAY
25+82	DRIVEWAY
26+80	DRIVEWAY, END CURB SECTION

*627(13) RECONSTRUCT VALVE BOX		
STREET	LOCATION	OFFSET
EAST EVERGREEN	APPROXIMATELY 783' WEST OF AIRPORT ROAD INTERSECTION	13' SOUTH OF CL
EAST EVERGREEN	APPROXIMATELY 57' WEST OF AIRPORT ROAD INTERSECTION	12' NORTH OF CL
EAST EVERGREEN	APPROXIMATELY 10' EAST OF AIRPORT ROAD INTERSECTION	10.5' SOUTH OF CL

*NOTE:
EXISTING UTILITY TYPES AND LOCATIONS APPROXIMATE,
TO BE FIELD VERIFIED.

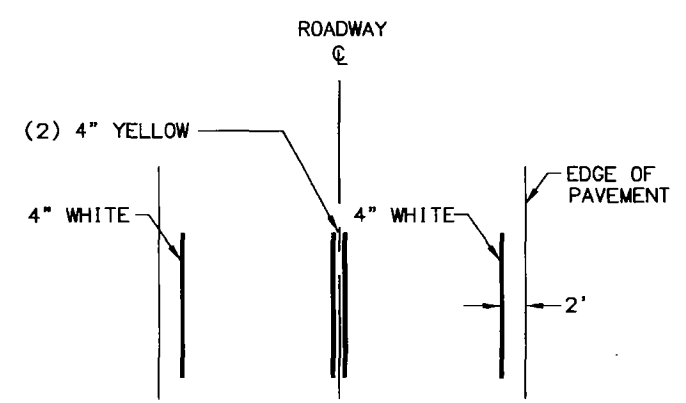


STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
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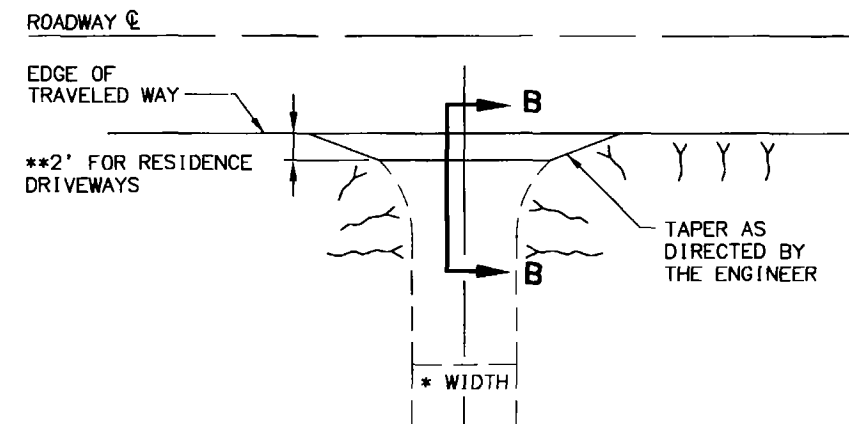
PALMER: AIRPORT ROAD AND
EAST EVERGREEN STREET
REHABILITATION

SUTTON PATHWAY
SUMMARY SHEET

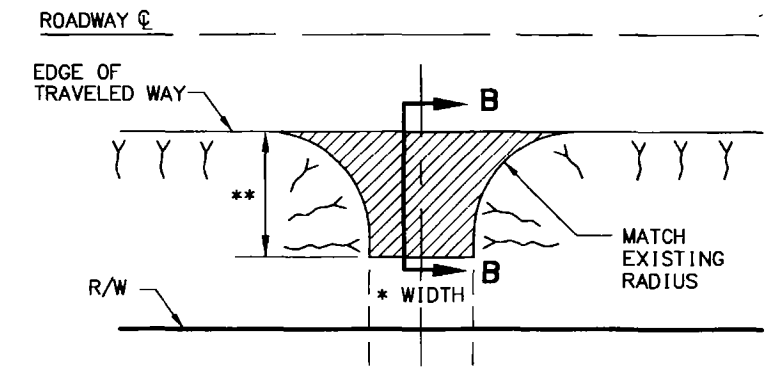
REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(291)/56544	2003	E1	E2



TYPICAL STRIPING DETAIL
EAST EVERGREEN STREET
AIRPORT ROAD



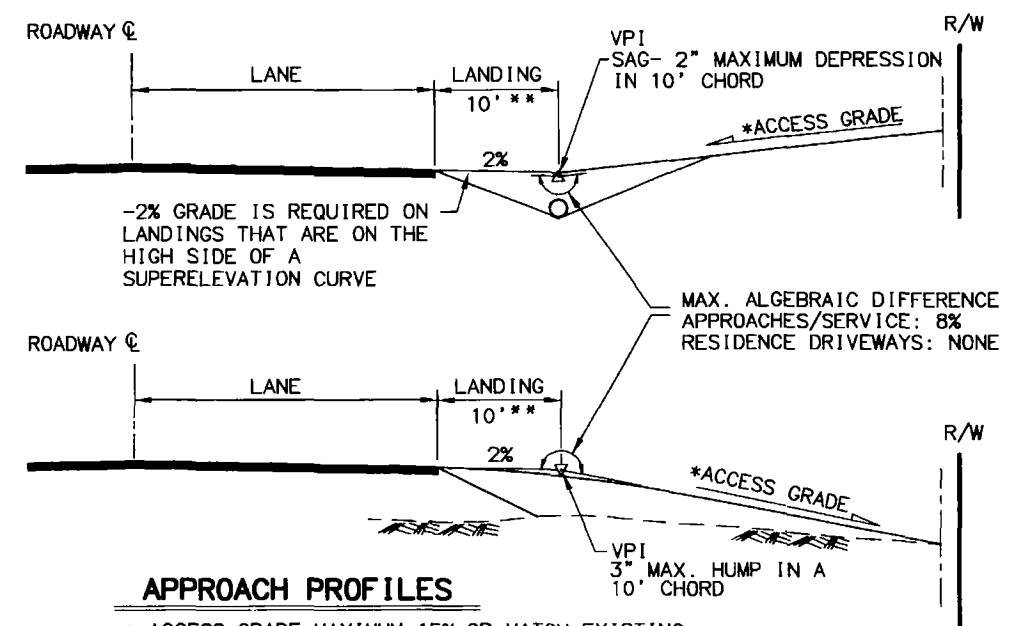
DRIVEWAYS PLAN VIEW
* MATCH EXISTING WIDTH OR AS DIRECTED BY THE ENGINEER.
** WHERE EXISTING DRIVEWAYS ARE PAVED, EXTEND NEW PAVEMENT TO MATCH EXISTING.



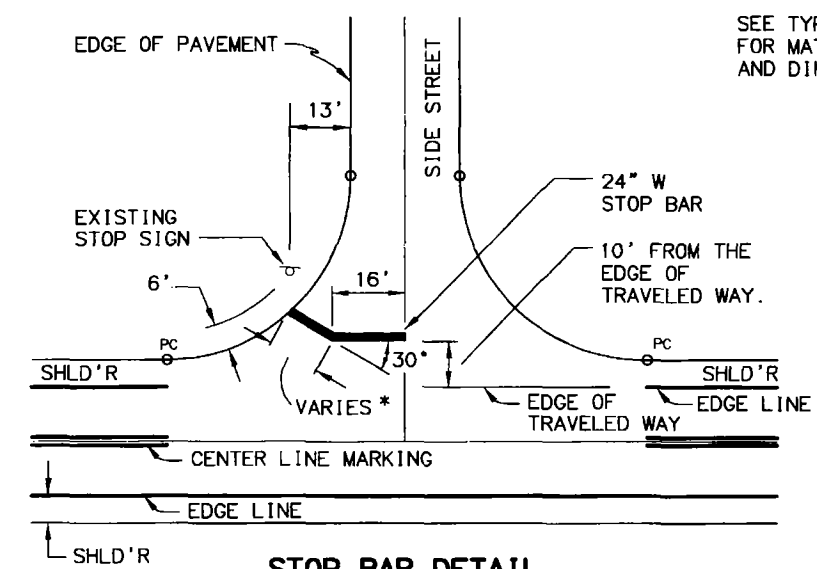
APPROACH PLAN VIEW
* MATCH EXISTING WIDTH OR AS DIRECTED BY THE ENGINEER.
** PAVE TO RADIUS RETURN OR 20 FEET, WHICHEVER IS GREATER.
WHERE EXISTING APPROACHES ARE PAVED INTO THE RIGHT OF WAY, EXTEND NEW PAVEMENT TO MATCH EXISTING.

NOTES:

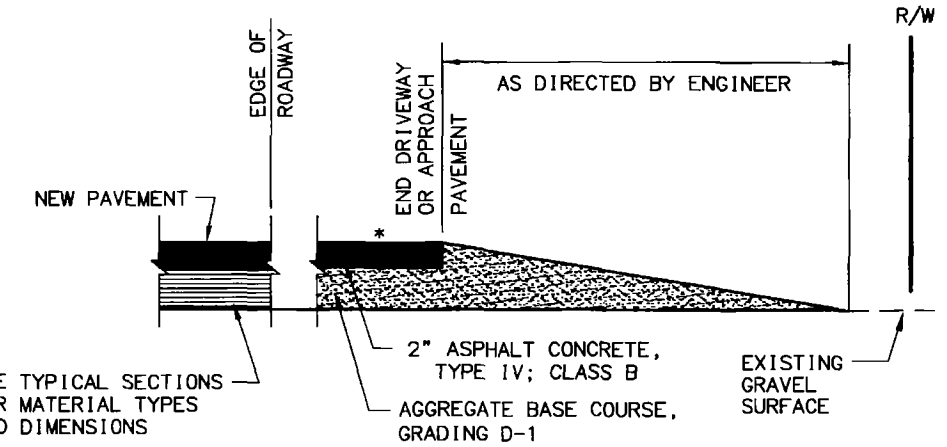
1. TRANSITION ROADWAY FORESLOPE TO MATCH APPROACH FORESLOPE AS DIRECTED BY THE ENGINEER.
2. CALL BEFORE YOU DIG.



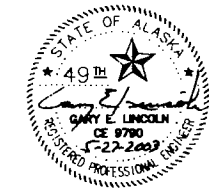
APPROACH PROFILES
* ACCESS GRADE MAXIMUM 15% OR MATCH EXISTING. MATCH EXISTING WITHIN THE RIGHT-OF-WAY LIMITS.
** 30' FOR APPROACHES WITH SIGNIFICANT TRACTOR TRAILER TRAFFIC



STOP BAR DETAIL
(WITHOUT PATHWAY)
* OMIT ANGLE IF LESS THAN 8'.

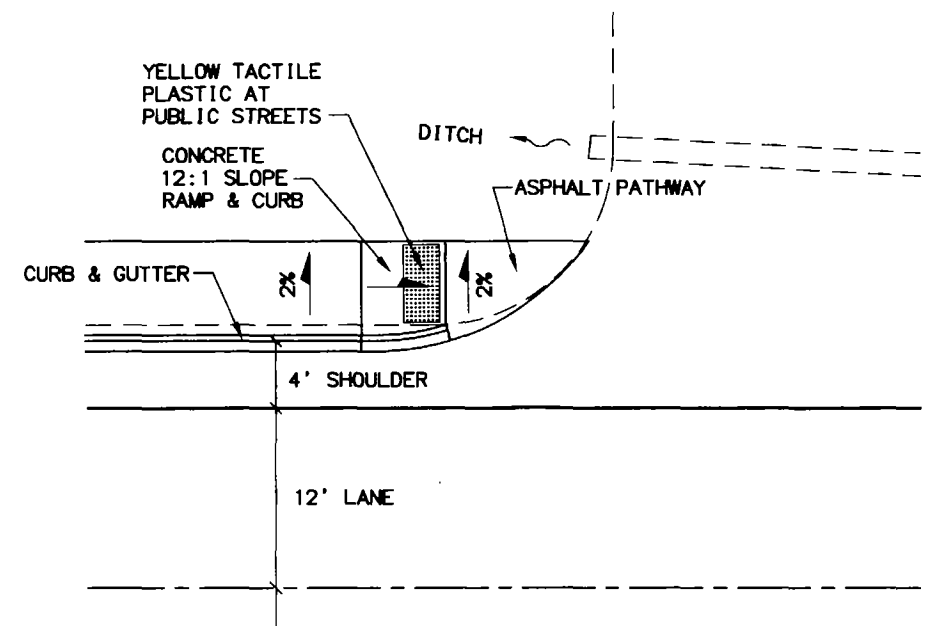


SECTION B-B FOR APPROACH OR DRIVEWAY
* SEE APPROACH PROFILES FOR SLOPE



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
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PUBLIC FACILITIES
**PALMER: AIRPORT ROAD AND
EAST EVERGREEN STREET
REHABILITATION**
DETAILS

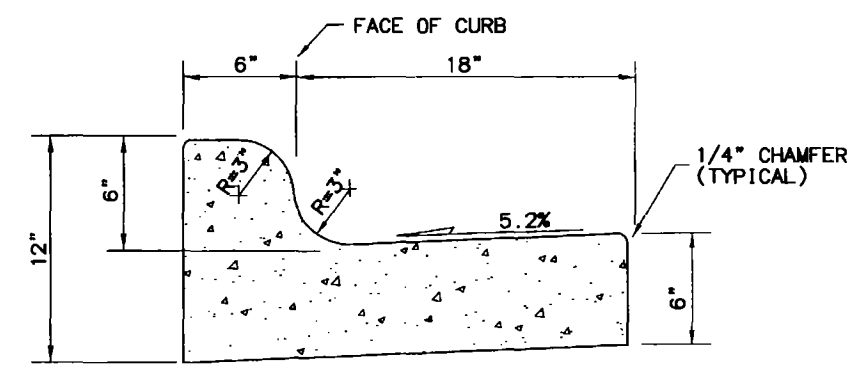
REVISIONS			YEAR	STATE	PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
NO.	DATE	DESCRIPTION					
			2003	ALASKA	STP-0001(291)/56544	E2	E2



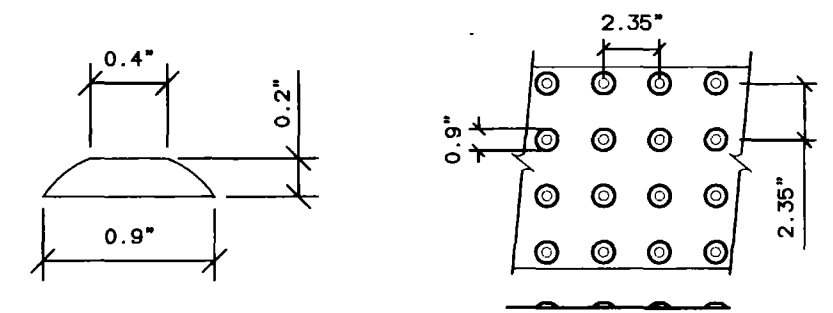
SUTTON PATHWAY TRANSITION AT APPROACH

DETECTABLE WARNING NOTES:

1. DETECTABLE WARNINGS SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
2. THE DETECTABLE WARNING SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE OR OTHER POTENTIAL HAZARD IS 6 TO 8 INCHES FROM THE CURB LINE OR OTHER POTENTIAL HAZARD, SUCH AS A RAIL CROSSING.
3. TRUNCATED DOMES SHALL HAVE A DIAMETER OF 0.9 INCH AT THE BOTTOM, A DIAMETER OF 0.4 INCH AT THE TOP, A HEIGHT OF 0.2 INCH AND A CENTER-TO-CENTER SPACING OF 2.35 INCHES MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT.
4. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
5. THERE SHALL BE A MINIMUM OF 70 PERCENT CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE, OR THE DETECTABLE WARNING SHALL BE "SAFETY YELLOW". THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE.
6. PROVIDE DETECTABLE WARNINGS AT PARK STREET CURB RAMPS.



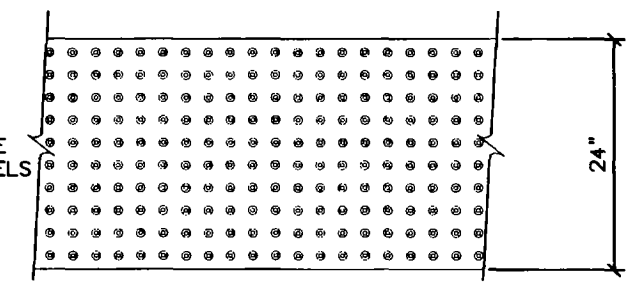
MOUNTABLE CURB & GUTTER



DOMES SECTION

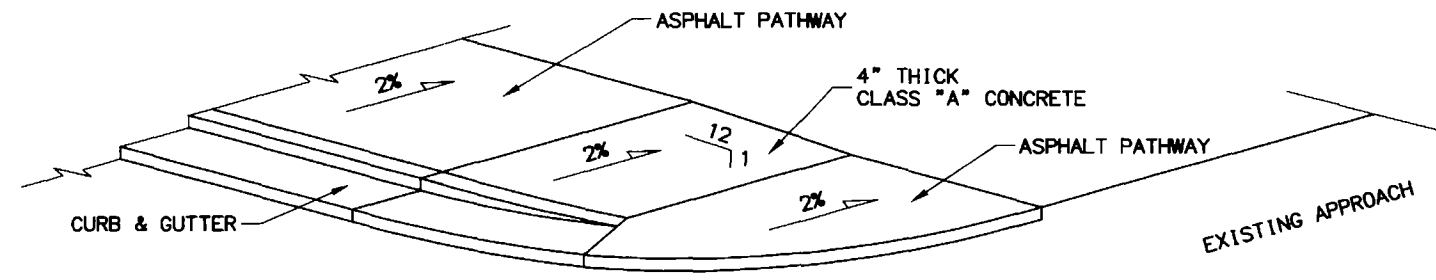
DOMES PLAN

DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINATE DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.

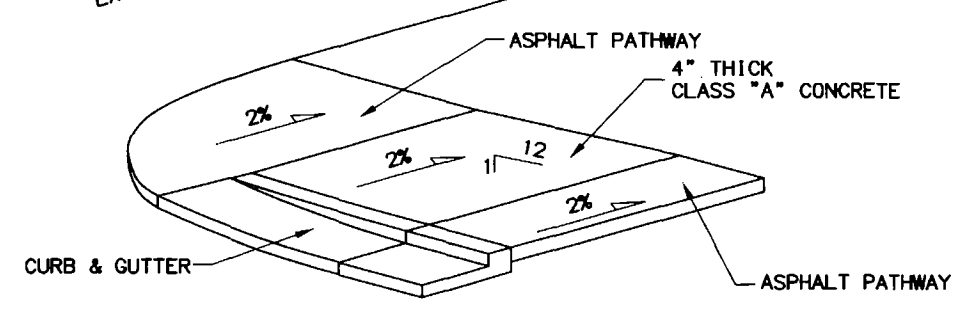


PLAN VIEW OF DETECTABLE WARNING SURFACE

DETECTABLE WARNING SURFACE DETAILS



CURB RAMP DETAIL



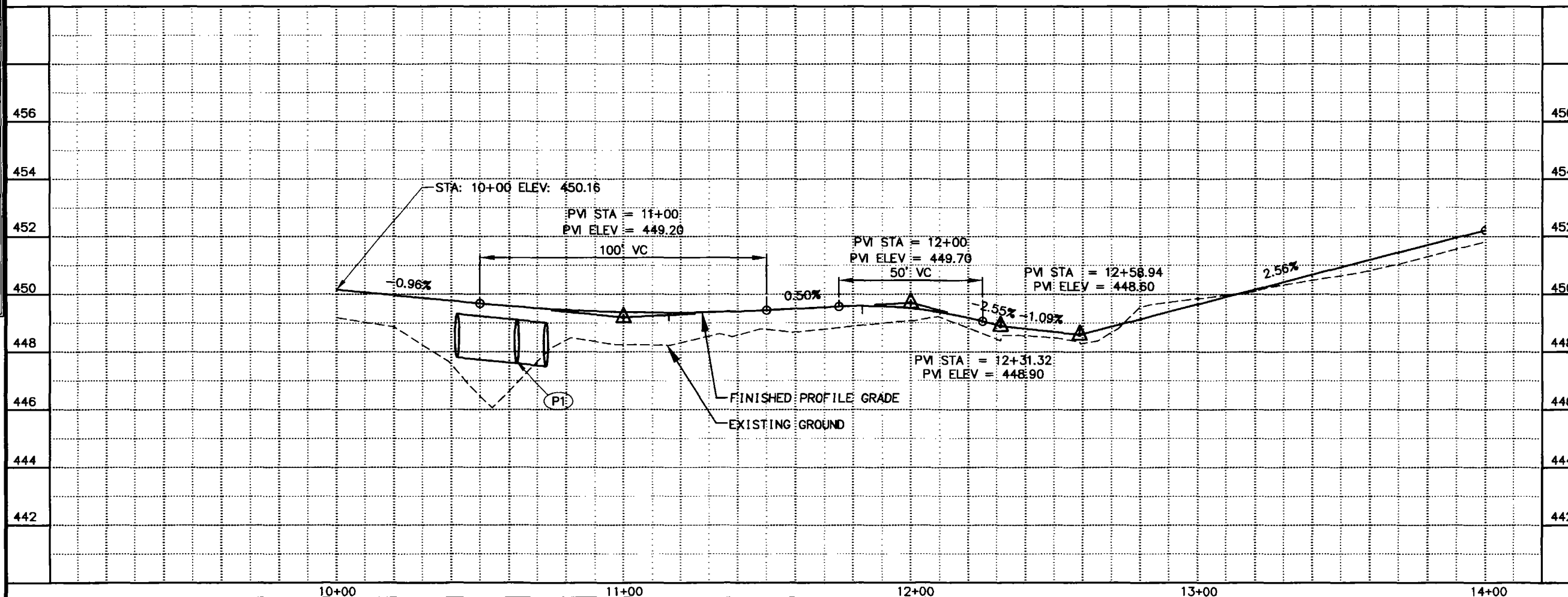
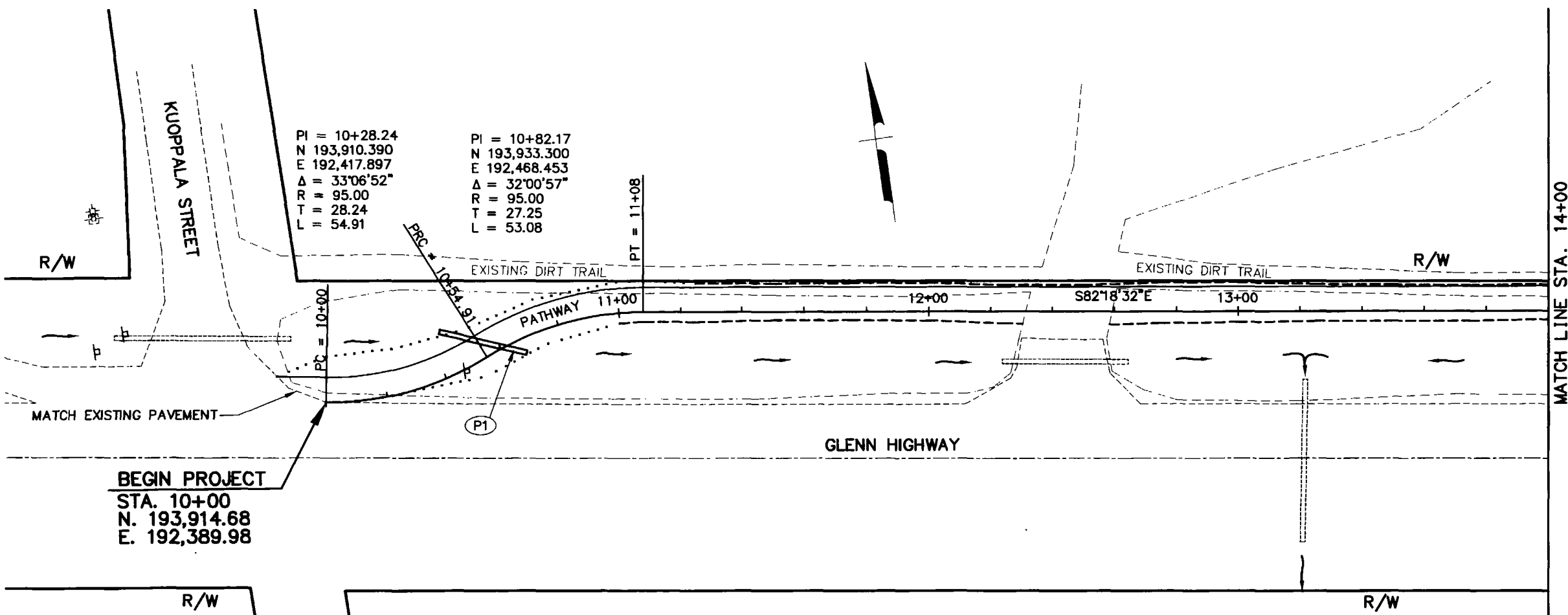
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

**PALMER: AIRPORT ROAD AND
EAST EVERGREEN STREET
REHABILITATION**

**SUTTON PATHWAY
DETAILS**

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CHECKED BY: [unintelligible]
SCALE: N/A
SHEET: 13

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 DRAWN BY: JMD



SHEET NO.		TOTAL SHEETS	
F1		F6	
STATE		YEAR	
ALASKA		2003	
PROJECT DESIGNATION			
STP-0001(291)/56544			
ADDENDUM NO.			
ATTACHMENT NO.			
REVISIONS			
NO.	DATE	DESCRIPTION	

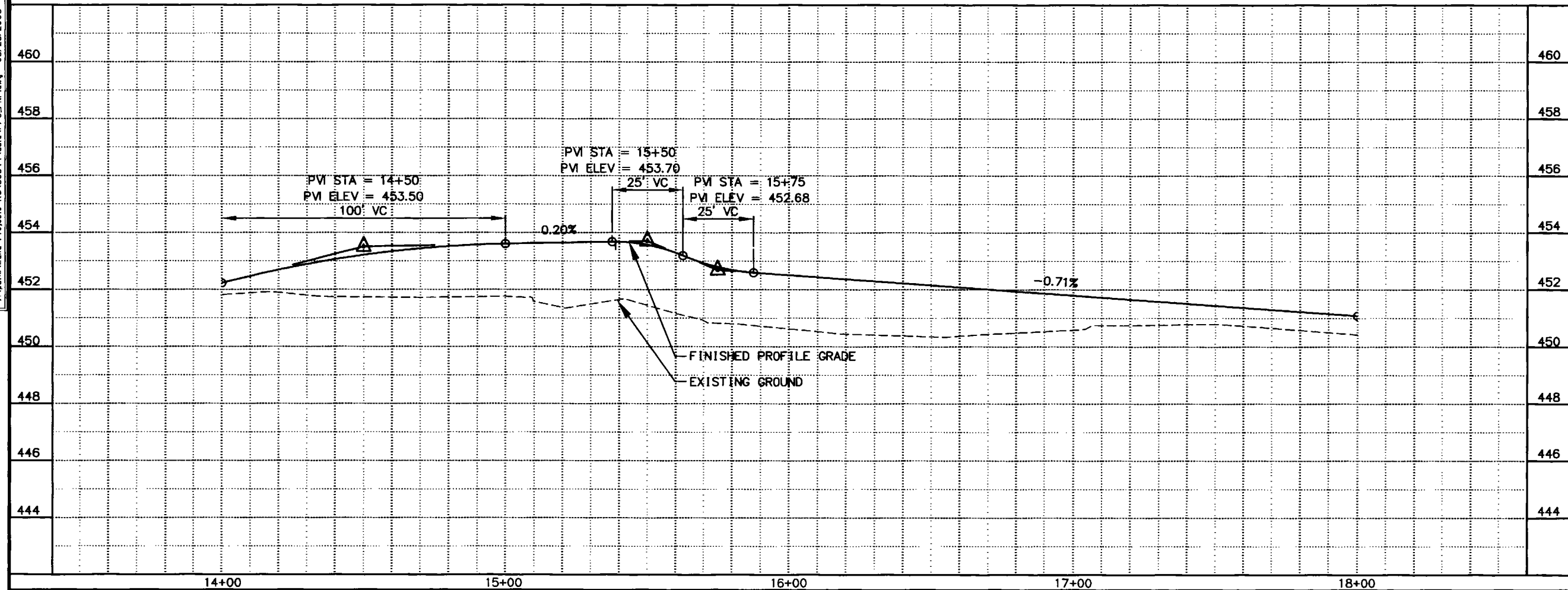
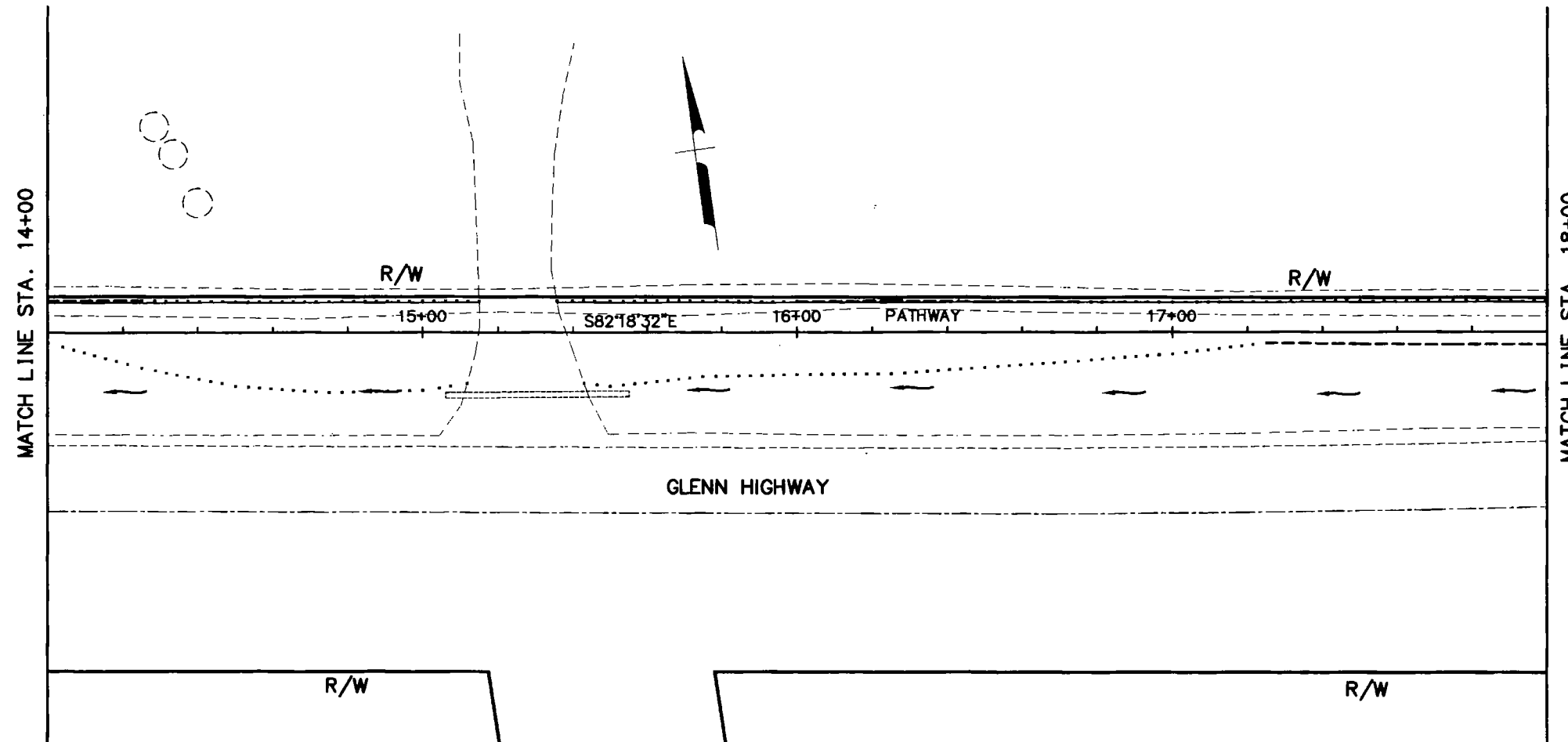


STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES

PALMER: AIRPORT ROAD AND
 EAST EVERGREEN STREET
 REHABILITATION

PLAN & PROFILE
 SUTTON PATHWAY
 STA. 10+00 TO 14+00

DRAWING LOCATION DATE TIME
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 DESIGNED BY JWP
 CHECKED BY JED
 DRAFTED BY LWF
 SHEET'S BASE F. P. 0000
 SCALE 1:20
 LAYOUT F2



SHEET NO.		TOTAL SHEETS	
F2		F6	
STATE		YEAR	
ALASKA		2003	
PROJECT DESIGNATION			
STP-0001(291)/56544			
ADDENDUM NO.			
ATTACHMENT NO.			
REVISIONS			
NO.	DATE	DESCRIPTION	

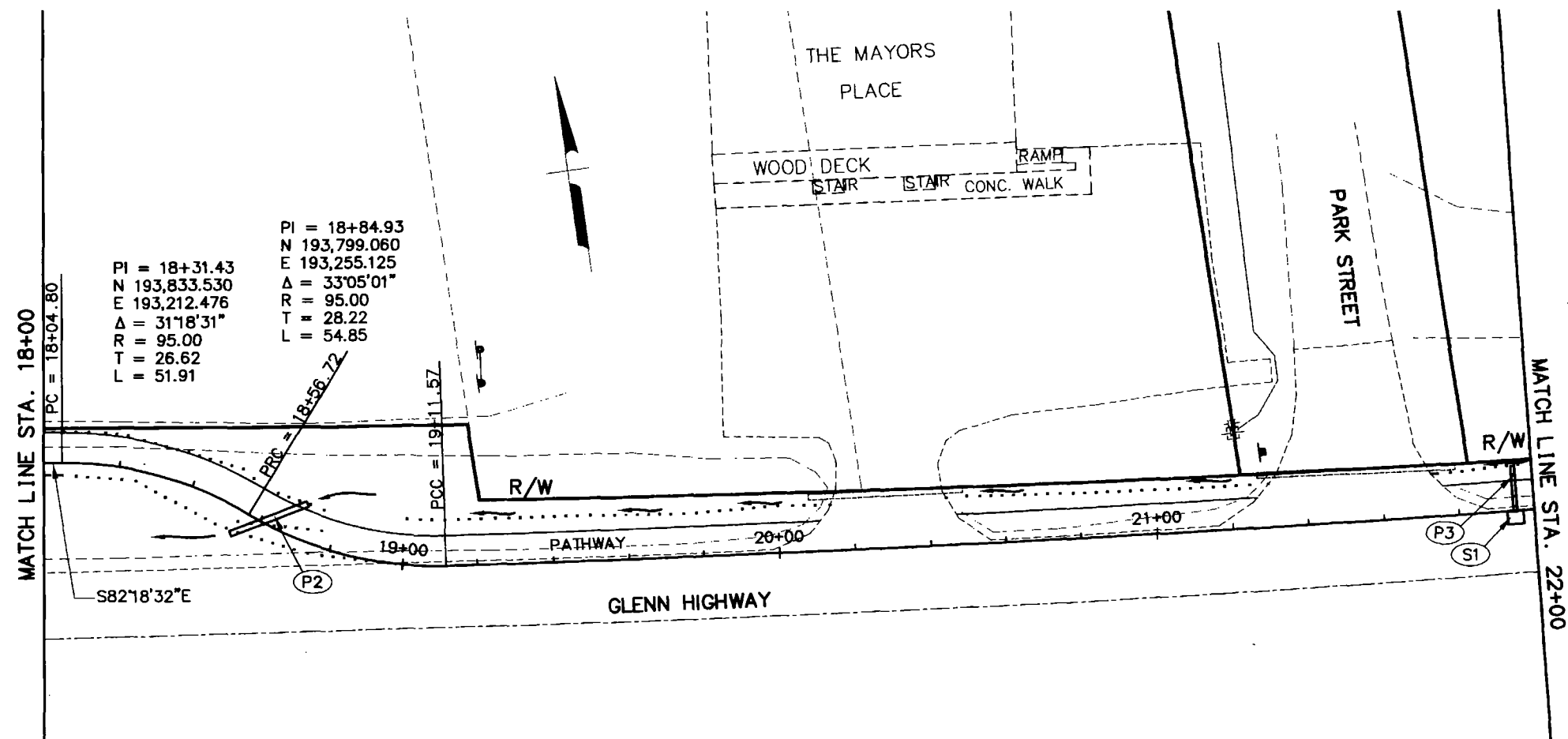
STATE OF ALASKA
 49th
 John E. Dickerson
 CE 526
 5-26-2003
 REGISTERED PROFESSIONAL

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES

PALMER: AIRPORT ROAD AND
 EAST EVERGREEN STREET
 REHABILITATION

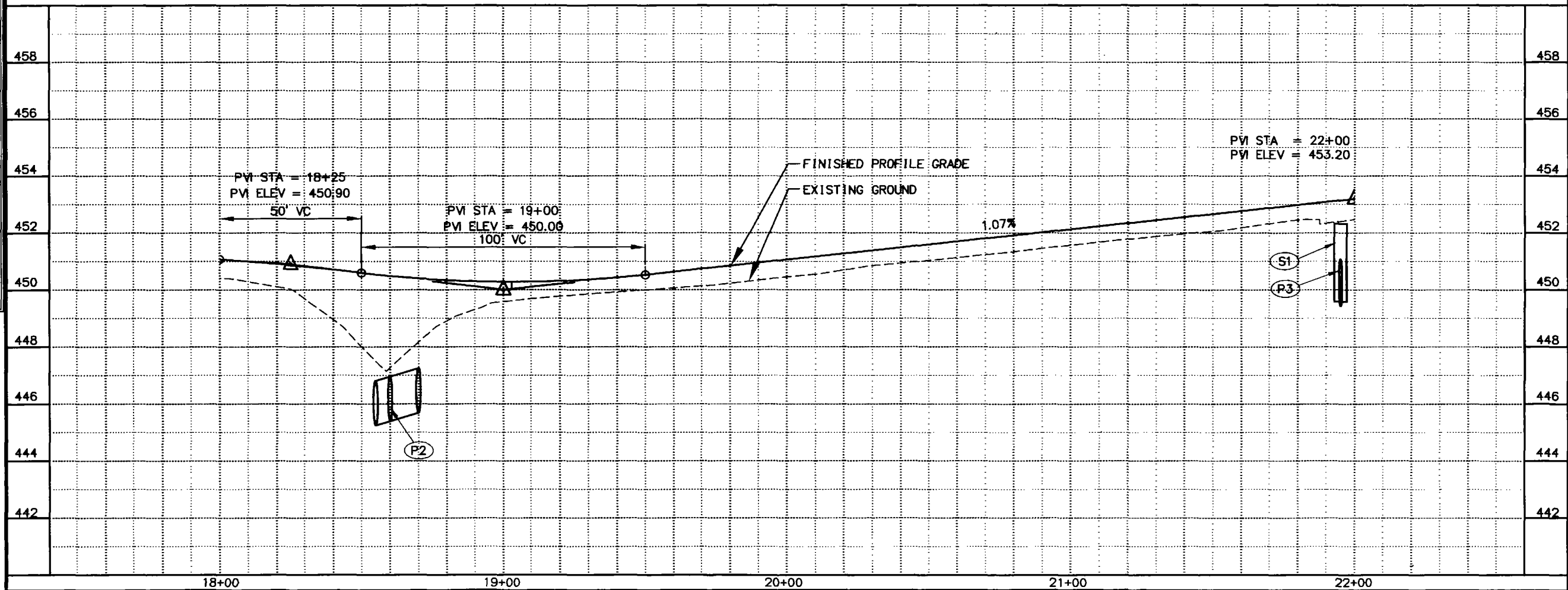
PLAN & PROFILE
 SUTTON PATHWAY
 STA. 14+00 TO 18+00

DRAWING LOCATION: T:\path\land Projects R3\56544\data\PL-6_PNP.dwg DATE: 05/28/2003 TIME: 08:59 AM ADT



PI = 18+31.43
 N 193,833.530
 E 193,212.476
 $\Delta = 31^\circ 18' 31''$
 R = 95.00
 T = 26.62
 L = 51.91

PI = 18+84.93
 N 193,799.060
 E 193,255.125
 $\Delta = 33^\circ 05' 01''$
 R = 95.00
 T = 28.22
 L = 54.85



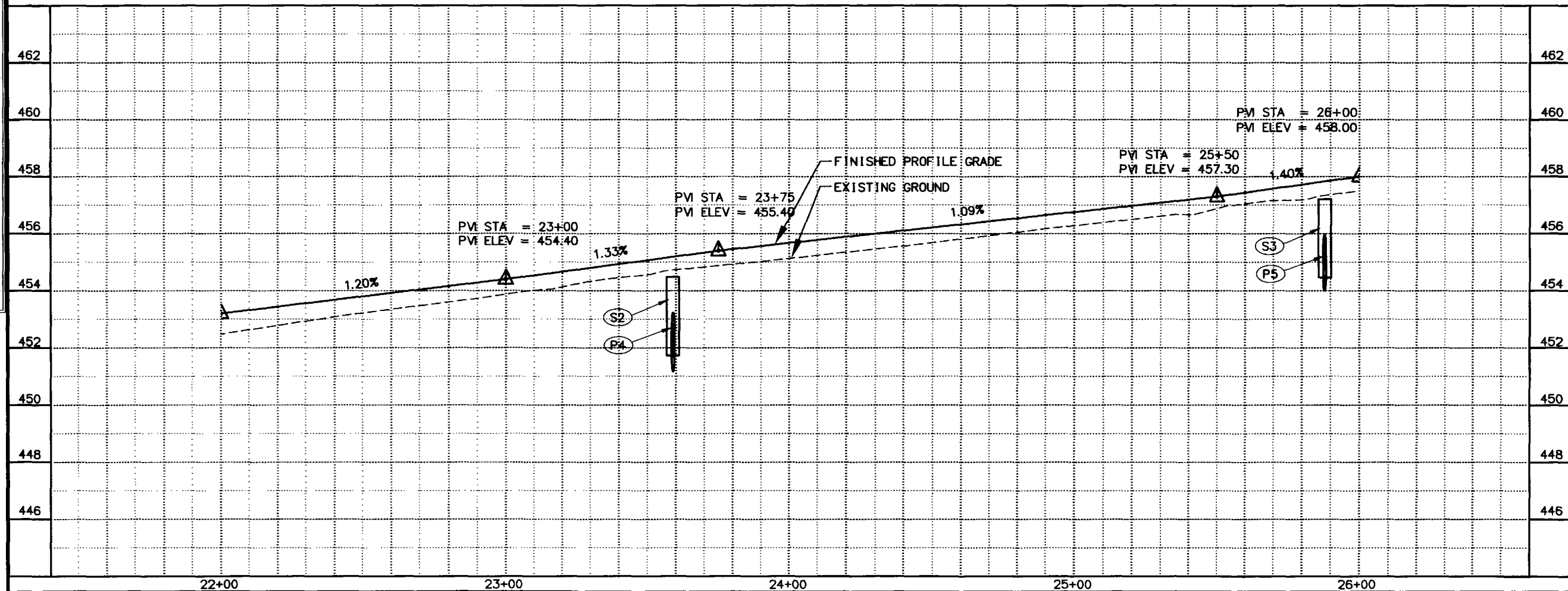
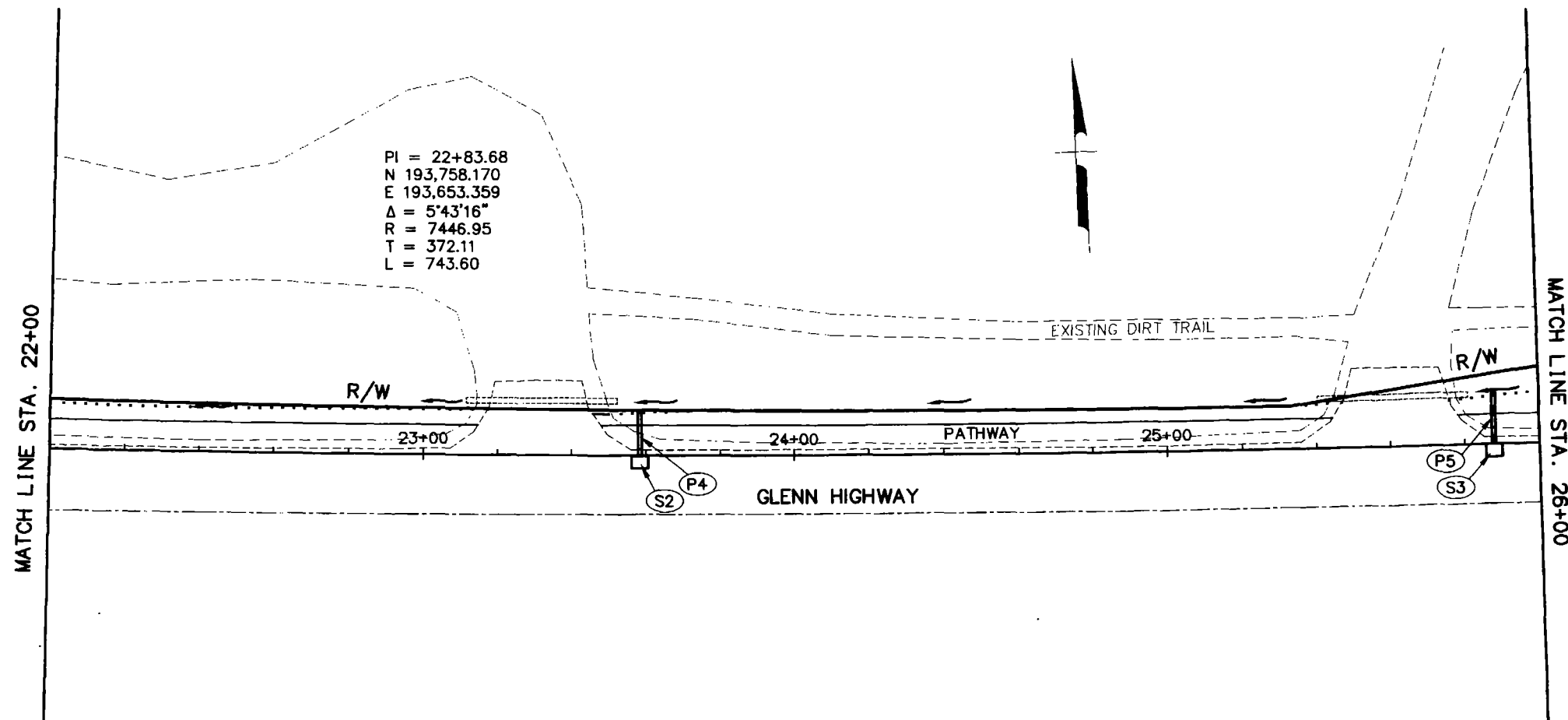
PVI STA = 22+00
 PVI ELEV = 453.20

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STATE		YEAR	
ALASKA		2003	
PROJECT DESIGNATION			
STP-0001(291)/56544			
ADDENDUM NO.			
ATTACHMENT NO.			
REVISIONS			
NO.	DATE	DESCRIPTION	



STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 PALMER: AIRPORT ROAD AND
 EAST EVERGREEN STREET
 REHABILITATION
 PLAN & PROFILE
 SUTTON PATHWAY
 STA. 18+00 TO 22+00

DRAWING LOCATION
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DATE
05/28/2003 08:58:59 AM ADT
TIME
DESIGNED BY
LMP
CHECKED BY
LED
SCALE
1:20
DRAFTED BY
FA

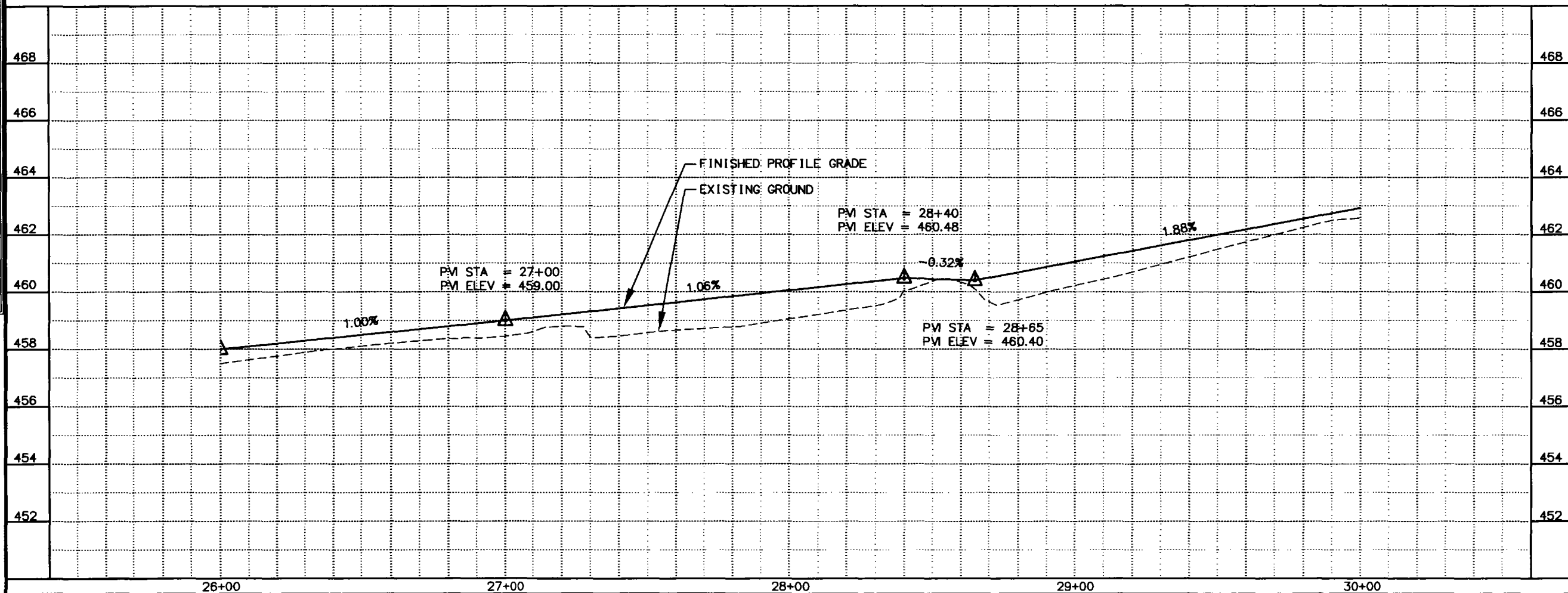
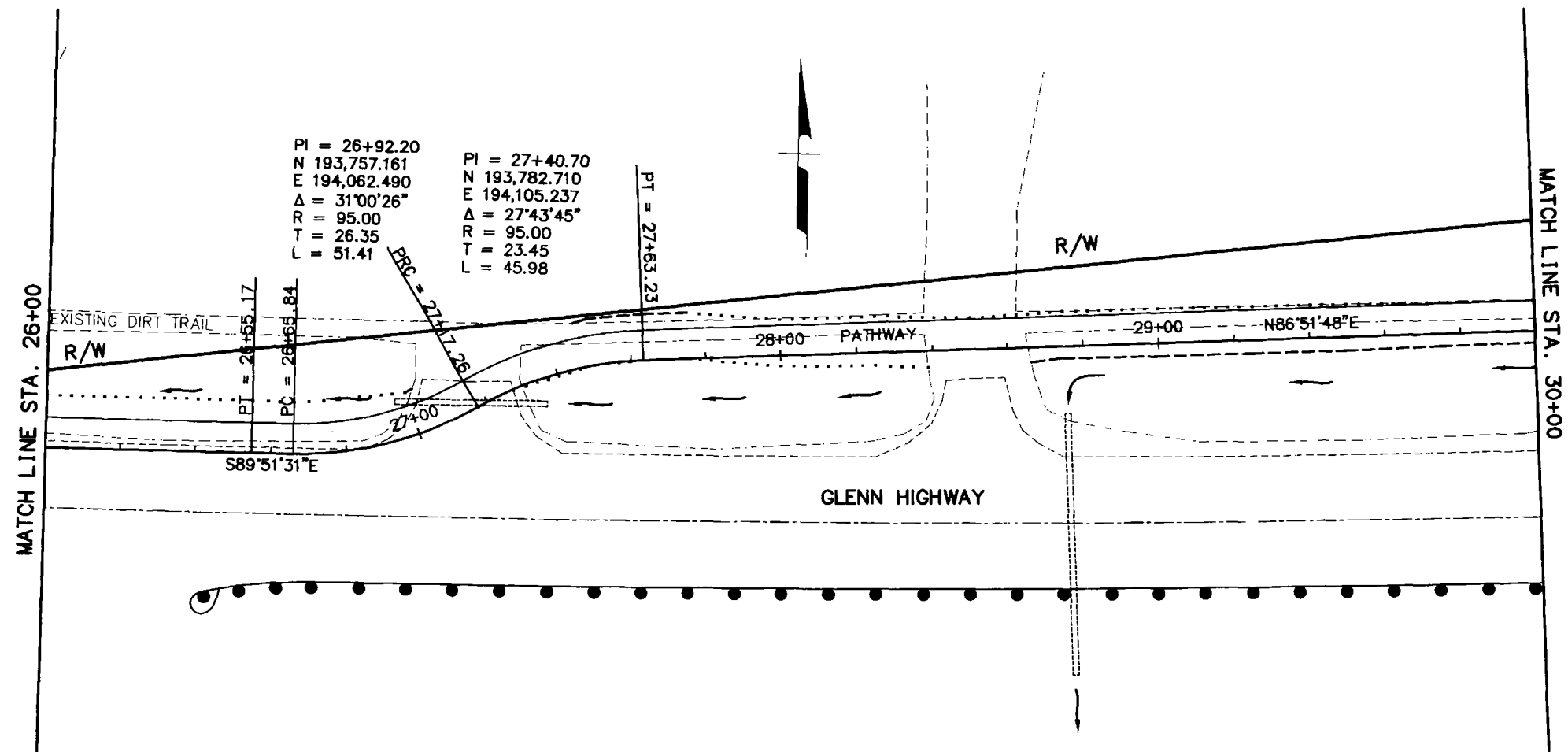


SHEET NO.	TOTAL SHEETS	
F4	F6	
STATE	YEAR	
ALASKA	2003	
PROJECT DESIGNATION		
STP-0001(291)/56544		
ADDENDUM NO.		
ATTACHMENT NO.		
REVISIONS		
NO.	DATE	DESCRIPTION



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
PALMER: AIRPORT ROAD AND
EAST EVERGREEN STREET
REHABILITATION
PLAN & PROFILE
SUTTON PATHWAY
STA. 22+00 TO 26+00

DRAWING LOCATION: T:\p\h\land Projects R3\56544\adit\6_PNP.dwg DATE: 05/28/2003 08:01:59 AM ADT
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 DATE: 05/28/2003 08:01:59 AM ADT
 SCALE: 1"=40' DRAWN BY: JWP
 LAYOUT: 1"=40'



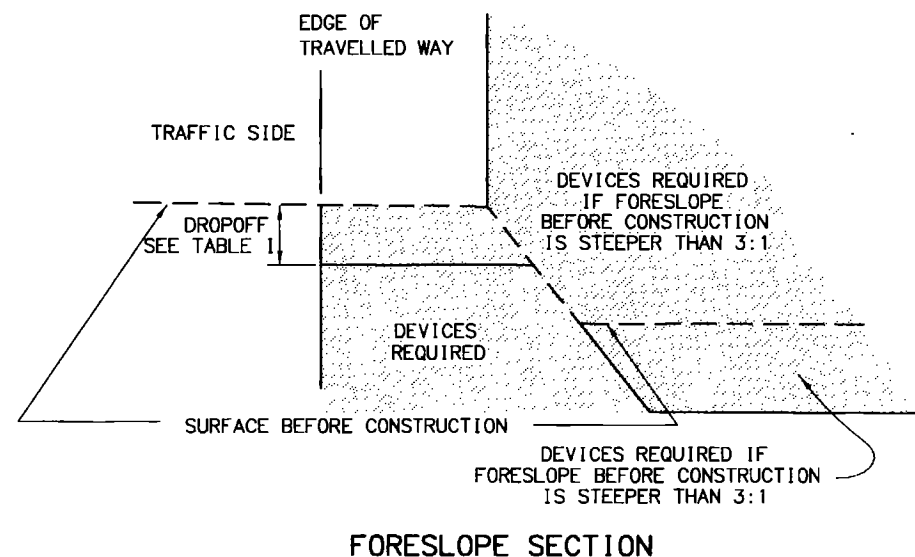
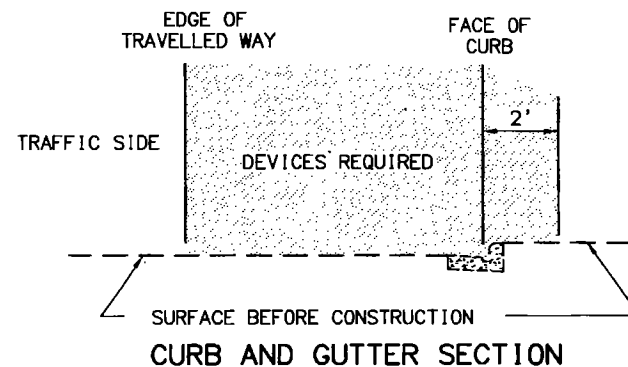
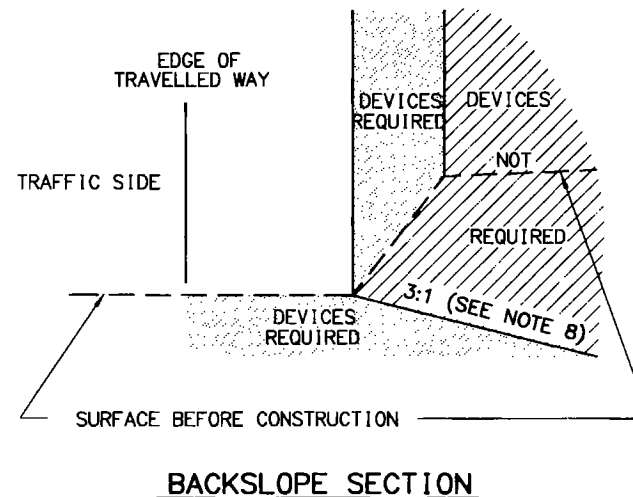
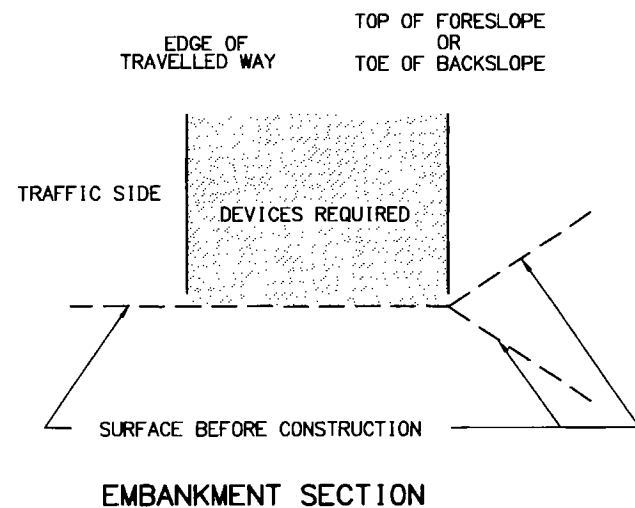
SHEET NO.		TOTAL SHEETS	
F5		F6	
STATE		YEAR	
ALASKA		2003	
PROJECT DESIGNATION			
STP-0001(291)/56544			
ADDENDUM NO.			
ATTACHMENT NO.			
REVISIONS			
NO.	DATE	DESCRIPTION	

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES

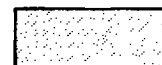
**PALMER: AIRPORT ROAD AND
 EAST EVERGREEN STREET
 REHABILITATION**

**PLAN & PROFILE
 SUTTON PATHWAY
 STA. 26+00 TO 30+00**

DESIGNED BY: AUTOCAD/PATTI/ANESSA-56544/TCD/ICE-PALMER.DWG
CHECKED BY: PLOT SCALE: 1"=1' PLOT VIEW: ALL
DRAWN BY: 15:00/01/01 12:38:40 PM AST
SPECIFICATIONS: COMPUTER DESIGNATION



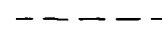
LEGEND



WORK AREA WHERE TRAFFIC CONTROL DEVICES ARE REQUIRED



WORK AREA WHERE TRAFFIC CONTROL DEVICES ARE NOT REQUIRED



SURFACE BEFORE CONSTRUCTION



CONSTRUCTION AREA BOUNDARY

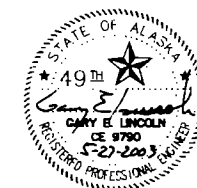
* TABLE 1 TRAFFIC CONTROL DEVICES REQUIRED FOR DROPOFFS ADJACENT TO TRAVELLED WAY			
ROADWAY TYPE	DROPOFF ≤ 2"	2" < DROPOFF < 12"	DROPOFF ≥ 12"
AVERAGE DAILY TRAFFIC > 4000 OR SPEED > 40 MPH	TUBULAR CANDLES OR DELINEATORS	TYPE II BARRICADES OR DRUMS	TEMPORARY PORTABLE CONCRETE BARRIER OR TEMPORARY GUARDRAIL
ALL OTHER ROADWAYS	NONE REQUIRED	TYPE II BARRICADES OR DRUMS	TYPE II BARRICADES OR DRUMS

* SPACE THE DEVICES IN ACCORDANCE WITH REQUIREMENTS FOR SPACING TYPE II BARRICADES AND DRUMS SET FORTH IN THE ALASKA TRAFFIC MANUAL.

REVISIONS			PROJECT DESIGNATION		YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	STP-0001(291)/56544		2003	K1	K1
1	1/23/98	NOTE #8					
2	1/15/99	MODIFIED NOTE-TABLE 1					
3	5/25/99	MODIFIED NOTE #1.					
4	2/7/00	MODIFIED TITLE					
5	10/05/01	ADDED NOTE 10					

GENERAL NOTES:

1. TRAFFIC CONTROL DEVICES REQUIRED BY THE GUIDELINES ON THIS SHEET ARE INTENDED FOR CONDITIONS WHICH WILL BE IN PLACE LONGER THAN THREE DAYS. FOR CONDITIONS WHICH WILL BE IN PLACE LESS THAN THREE DAYS LESSER REQUIREMENTS MAY APPLY. IN EITHER CASE, AN APPROVED TRAFFIC CONTROL PLAN IS REQUIRED PRIOR TO BEGINNING WORK.
2. THE GROUND CROSS SECTION AT A LOCATION BEFORE CONSTRUCTION DETERMINES WHETHER TRAFFIC CONTROL DEVICES ARE NEEDED AT THE SAME LOCATION DURING CONSTRUCTION.
3. GUARDRAIL EXISTING AT A LOCATION BEFORE CONSTRUCTION SHALL REMAIN IN PLACE DURING CONSTRUCTION OR APPROVED ALTERNATE DEVICES INSTALLED.
4. INSTALL TRAFFIC CONTROL DEVICES BETWEEN THE EDGE OF TRAVELLED WAY AND THE WORK AREA ON ANY ROADWAY OPENED TO TRAFFIC WHEN REQUIRED BY THIS DRAWING.
5. EXISTING ROADWAY ALIGNMENTS
INSTALL TRAFFIC CONTROL DEVICES WHEN WORK OCCURS IN THE DEVICES REQUIRED AREAS SHOWN ON THIS DRAWING.
6. DETOURS, TEMPORARY ROADWAYS, OR NEW ROADWAYS NOT YET COMPLETE.
INSTALL TRAFFIC CONTROL DEVICES WHEN ANY OF THE FOLLOWING CONDITIONS EXIST:
 - A. THE HORIZONTAL OR VERTICAL CURVATURE IS MORE SEVERE THAN BEFORE CONSTRUCTION BEGAN.
 - B. THE ROADWAY OR SHOULDER WIDTH IS LESS THAN BEFORE CONSTRUCTION BEGAN.
 - C. THE BACKSLOPE OR FORESLOPE IS STEEPER THAN BEFORE CONSTRUCTION BEGAN.
 - D. THE HEIGHT OF THE FORESLOPE IS GREATER THAN BEFORE CONSTRUCTION BEGAN.
7. DROPOFFS
INSTALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE FORESLOPE SECTION DETAIL AND TABLE 1.
8. ON ANY NEWLY CONSTRUCTED SLOPE STEEPER THAN 4:1 TO 3:1 PROVIDE A 10 FOOT FLAT RECOVERY AREA AT THE TOE OF SLOPE OR INSTALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE FORESLOPE SECTION DETAIL.
9. TRAFFIC CONTROL DEVICE REQUIREMENTS
 - A. ON ROADWAYS WITH A SPEED LIMIT GREATER THAN 40 MILES PER HOUR OR AVERAGE DAILY TRAFFIC VOLUME GREATER THAN 4000 VEHICLES PER DAY INSTALL TEMPORARY PORTABLE CONCRETE BARRIER OR TEMPORARY GUARDRAIL.
TERMINATE RUNS OF TEMPORARY PORTABLE CONCRETE BARRIER USING ONE OF THE FOLLOWING THREE METHODS:
 - I.) TEMPORARY CRASH ATTENUATOR.
 - II.) RIGID TO SEMI-RIGID GUARDRAIL TRANSITION WITH SLOTTED RAIL TERMINAL OR OTHER APPROVED CRASHWORTHY END TREATMENT.
 - III.) FLARE THE ENDS OF THE TEMPORARY BARRIER AWAY FROM THE ROADWAY AT A RATE OF 15:1 ON A TRANSVERSE SLOPE OF 10:1 OR FLATTER TO THE OUTSIDE EDGE OF THE CLEAR ZONE AND INSTALL A SLOPING END TREATMENT, PER STANDARD DRAWING G-45.01.
 - TERMINATE RUNS OF TEMPORARY GUARDRAIL USING EITHER OF THE FOLLOWING TWO METHODS:
 - I.) SLOTTED RAIL TERMINAL OR OTHER APPROVED CRASHWORTHY END TREATMENT.
 - II.) FLARE THE ENDS OF THE TEMPORARY GUARDRAIL AWAY FROM THE ROADWAY AT A RATE OF 15:1 ON A TRANSVERSE SLOPE OF 10:1 OR FLATTER TO THE OUTSIDE EDGE OF THE CLEAR ZONE.
 - B. ON ALL OTHER ROADWAYS INSTALL TYPE II BARRICADES OR DRUMS WHEN DEVICES ARE REQUIRED. SPACE THE BARRICADES OR DRUMS IN ACCORDANCE WITH THE ALASKA TRAFFIC MANUAL.
10. DO NOT CONSTRUCT DROPOFFS GREATER THAN 1.5" WITHIN THE TRAFFIC LANE OR ACTIVE WHEEL TRACK. PROVIDE A 4' SHOULDER ADJACENT TO TRAFFIC LANES WHEN DROPOFFS ARE GREATER THAN OR EQUAL TO 6".



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

PALMER: AIRPORT ROAD AND
EAST EVERGREEN STREET
REHABILITATION

TRAFFIC CONTROL DEVICES
FOR ROADSIDES

10/05/01

SATELLITE DISH

MANHOLE

DRIVEWAYS, APPROACHES

SOLID YELLOW STRIPE
with BROKEN YELLOW
STRIPE

HIGHWAY MILE POST

⑤

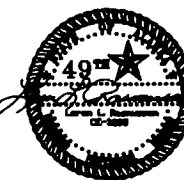
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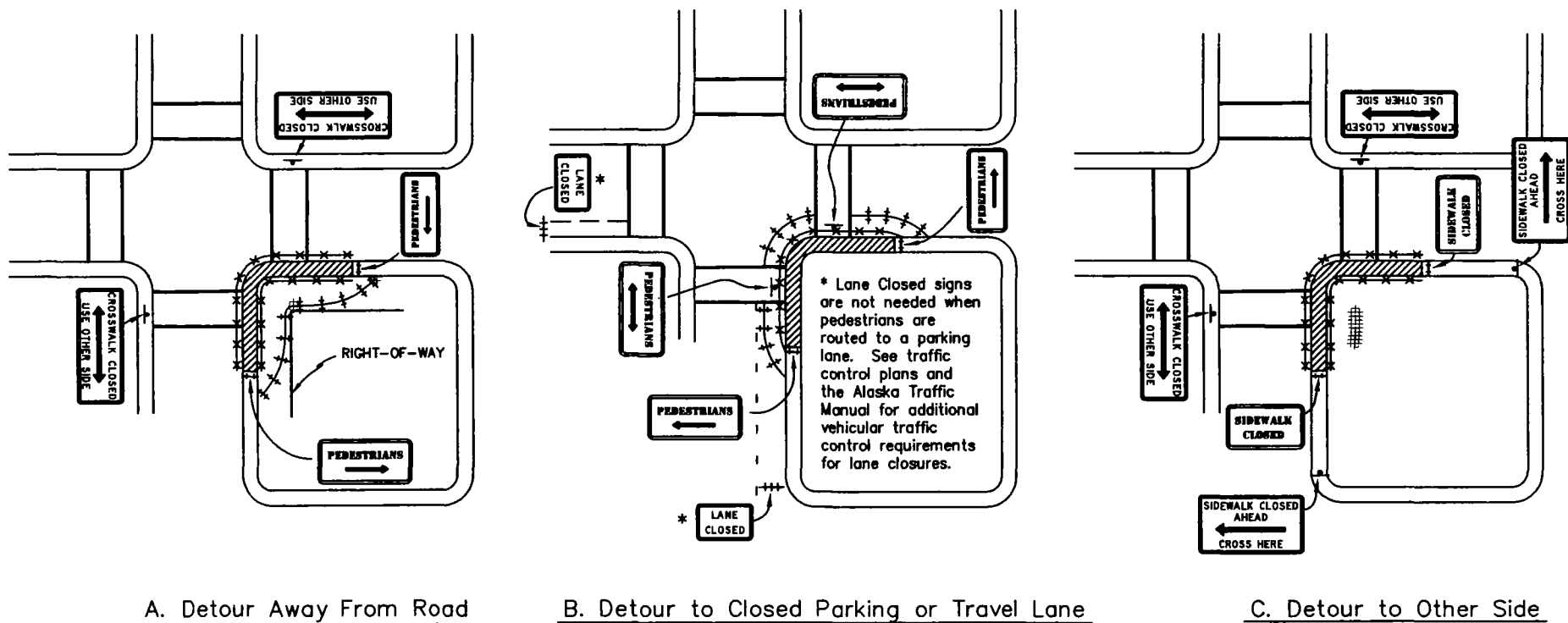
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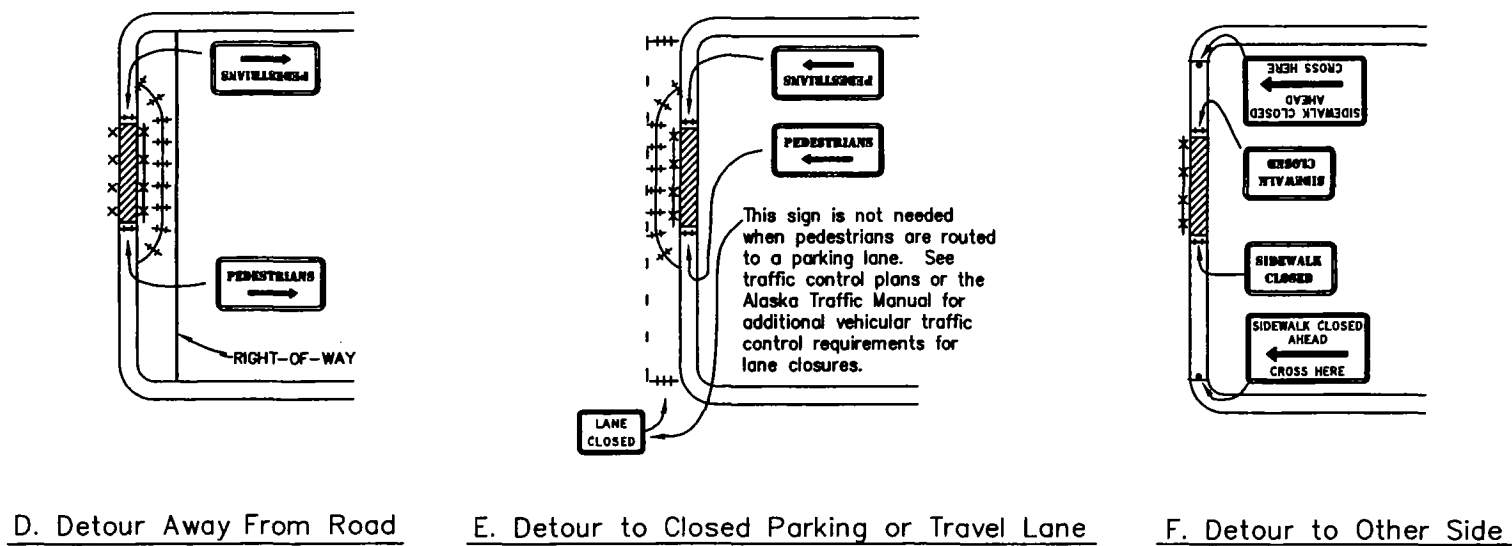


Date _____



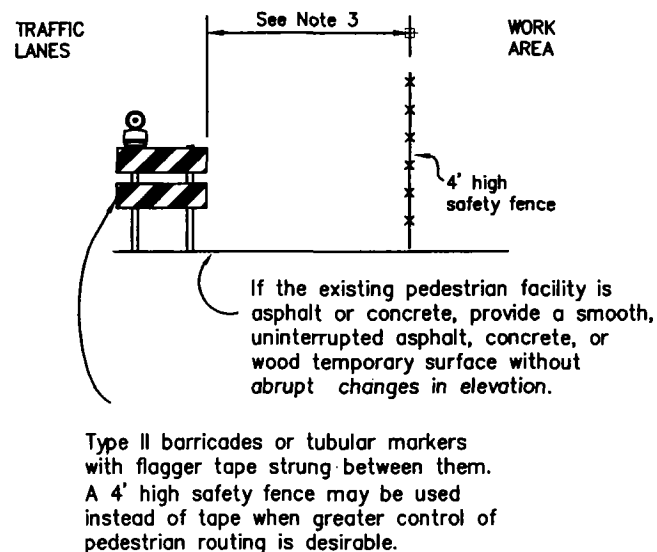
INTERSECTION SIDEWALK PATHWAY OR SHOULDER CLOSURE

A to C In Order of Preference



MID-BLOCK SIDEWALK PATHWAY OR SHOULDER CLOSURE

D to F In Order of Preference



**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

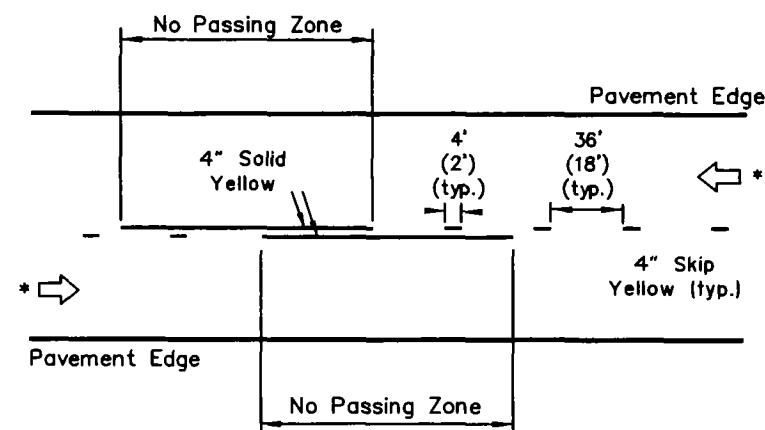
Sheet 1 of 1

State of Alaska
Department of Transportation
& Public Facilities

**PEDESTRIAN TRAFFIC
CONTROL**

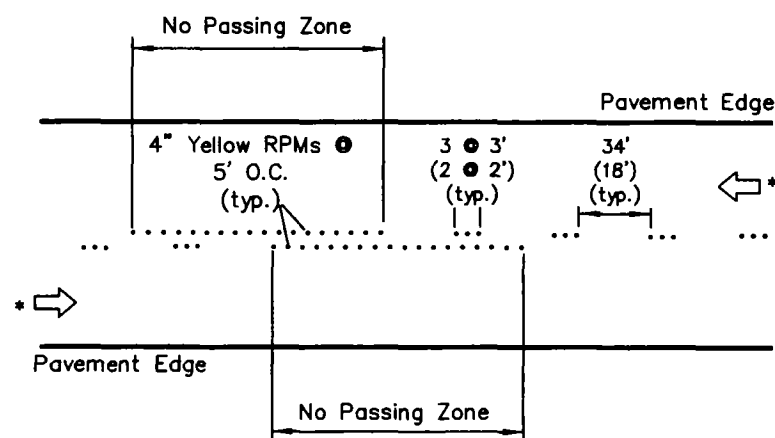
APPROVED

Date



Striping

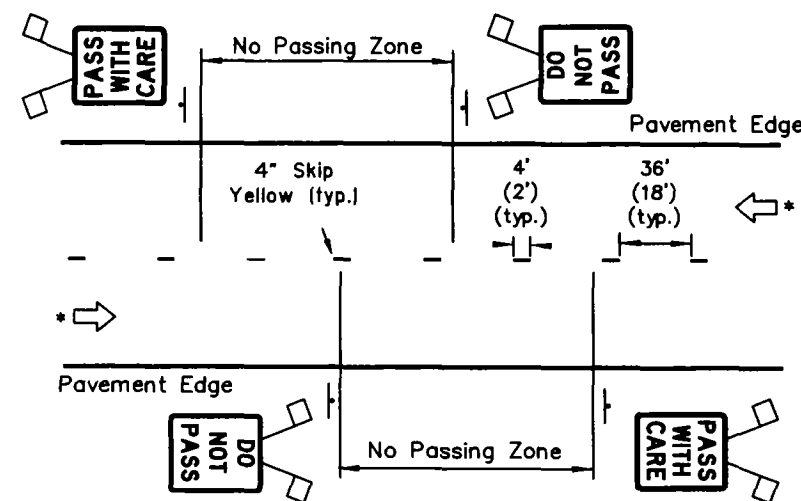
* Direction of Travel



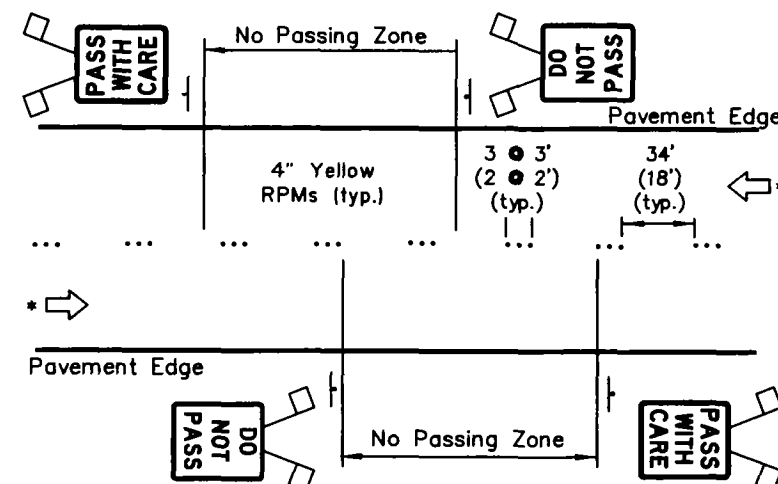
Temporary Raised Pavement Markers

DETAIL A

No passing zones indicated with pavement markings.



Striping



Temporary Raised Pavement Markers

DETAIL B

No passing zones indicated with signs.

NOTES.

1. Where it is not practical to install final pavement markings conforming to the Alaska Traffic Manual before a road segment is opened for public travel, install interim pavement markings as shown here.
2. Interim markings may be used for no longer than the period (in calendar days) shown in the table below. After that, markings shall conform to the Alaska Traffic Manual.
3. Dimensions in parentheses apply to curves with a degree of curve greater than 5.
4. Where R4-1 "DO NO PASS" signs are used, install them at the beginning of no passing zones and at no more than 1500' spacings within the zones.
5. Install high level warning devices on all "Do Not Pass" and "Pass With Care" signs.
6. Install interim lane-dividing lines on multi-lane roads as follows:

Striping: 4' long 4" wide stripes with 36' gaps (2' stripes with 18' gaps where the degree of curve is greater than 5).

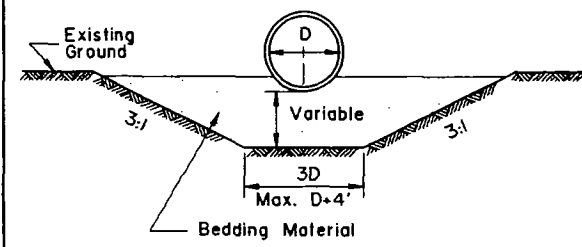
Temporary Raised Pavement Markers: Three markers at 3' o.c. with a gap of 34' between marker groups (two markers at 2' o.c. with a 18' gap where the degree of curve is greater than 5).

Allowable Duration (Cal. Days)			
Type of Marking	Detail	Average Daily Traffic	
		<2000	>=2000
Center-line	A	14	14
	B	14	7
Lane-line	n/a	14	14

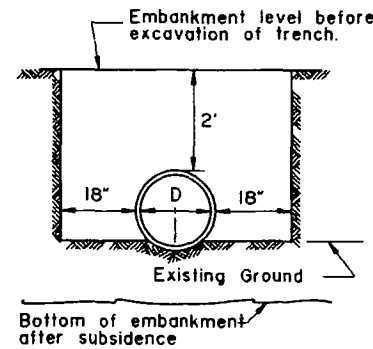
REVISIONS		
Date	Description	By
Sheet 1 of 1		
State of Alaska Department of Transportation & Public Facilities		
INTERIM PAVEMENT MARKINGS		
APPROVED		
Date		

GENERAL NOTES:

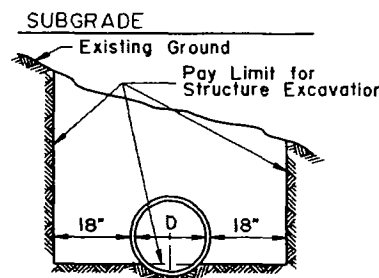
1. Sidefill shall be placed and compacted with care under haunches of pipe and shall be brought up evenly and simultaneously on both sides of pipe to 1 foot above the top of the full length of the pipe.
2. Alternate installation methods may only be used when specified or approved by the Engineer.



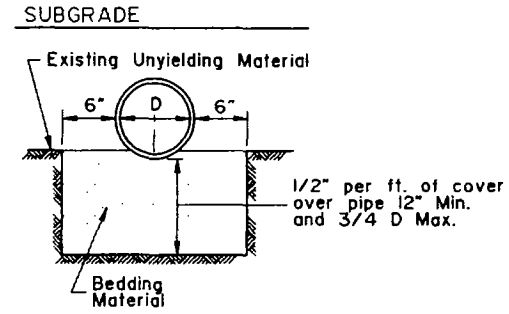
TYPE "A"
FOUNDATION STABILIZATION
To be used in unstable areas as directed by the Engineer.



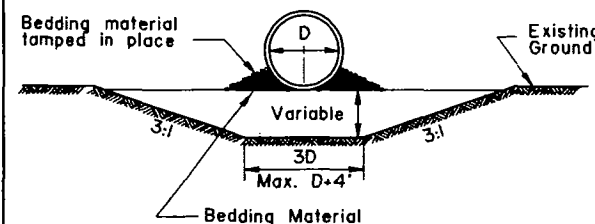
TYPE "B"



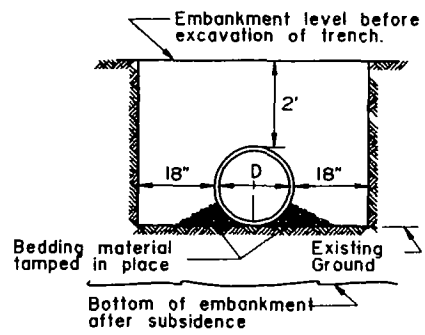
TYPE "C"



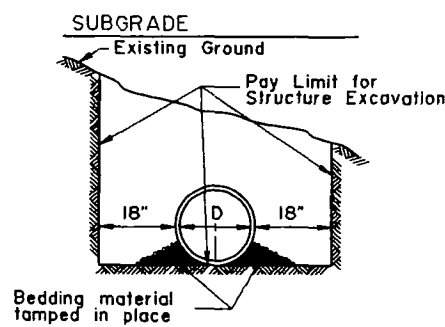
TYPE "D"
ROCK OR UNYIELDING MATERIAL



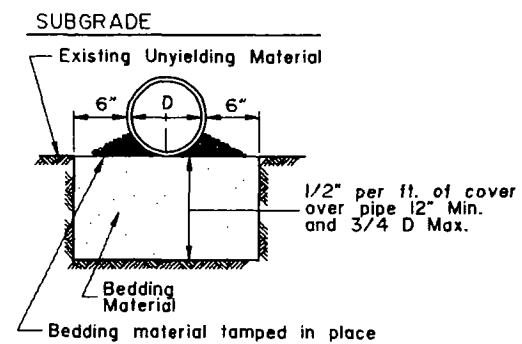
'ALTERNATE' TYPE "A"
FOUNDATION STABILIZATION
To be used in unstable areas as directed by the Engineer.



'ALTERNATE' TYPE "B"

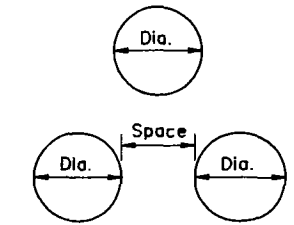


'ALTERNATE' TYPE "C"



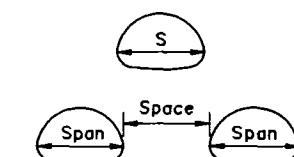
'ALTERNATE' TYPE "D"
ROCK OR UNYIELDING MATERIAL

D = Nominal Pipe Diameter



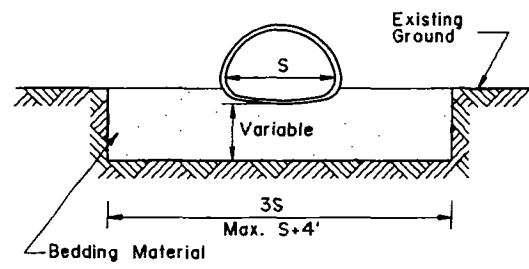
MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Dia. of pipe or 3', whichever is less.

S = Nominal Pipe Arch Span

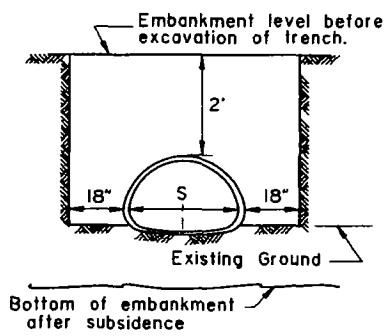


MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Span of pipe arch or 3', whichever is less.

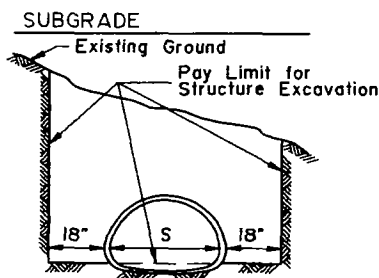
CULVERT PIPE



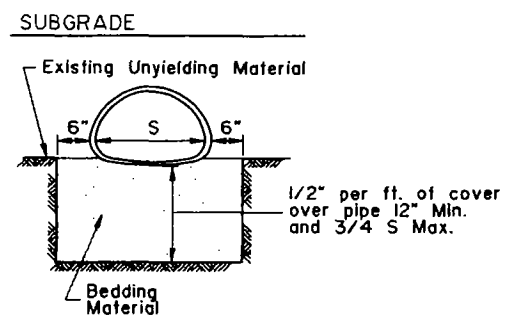
TYPE "A"
FOUNDATION STABILIZATION
To be used in unstable areas as directed by the Engineer.



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

GENERAL NOTES:

1. All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
2. The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
3. No more than one type of pipe may be used on any single installation or installation grouping.
4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
5. See Standard Drawing "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the top of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflection.
7. These tables have been developed for an H-20 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2000 AASHTO "LRFD Bridge Design Specifications".

Minimum & Maximum Cover For 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	50 100.	12	50 100.	12	86 100.	12	90 100.	12	93 100.	
15	12	40 100.	12	40 100.	12	69 100.	12	72 100.	12	74 100.	
18	12	33 100.	12	33 100.	12	57 100.	12	60 100.	12	62 100.	
21	12	28 68	12	28 100.	12	49 100.	12	51 100.	12	53 100.	
24	12	25 77	12	25 96	12	43 100.	12	45 100.	12	46 100.	
27	12	22 68	12	22 86	12	38 100.	12	40 100.	12	41 100.	
30			12	20 77	12	34 100.	12	36 100.	12	37 100.	
36			12	16 64	12	28 90	12	30 100.	12	31 100.	
42			12	28 55	12	50 77	12	52 99	12	53 100.	
48			12	25 47	12	43 66	12	45 86	12	47 100.	
54					14	38 54	14	40 70	14	41 87	
60							15	36 57	15	37 71	
66							16	33 46	16	34 57	
72									18	31 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.)	Min. (In.)	Max. (Ft.)
36	12	30	12	37	12	51	12	77	12	100	100	100
		58		74		100.		100.		100.		
42	12	26	12	32	12	44	12	66	12	86	100	100
		50		63		89		100.		100.		
48	12	22	12	28	12	38	12	58	12	75	100	100
		44		55		78		100		100		
54	14	20	14	25	14	34	12	51	12	67	100	100
		39		49		69		89		100.		
60	15	18	15	22	15	31	14	46	12	60	98	98
		35		44		62		80		98		
66	17	16	17	20	17	28	15	42	13	55	89	89
		32		40		56		73		89		
72	18	15	18	18	18	25	16	38	15	50	81	81
		29		37		52		66		81		
78			20	17	20	23	18	35	16	46	75	75
				34		43		61		75		
84					21	22	19	33	17	43	70	70
						44		57		70		
90					23	20	20	31	18	40	65	65
						41		51		65		
96					24	19	22	29	19	37	60	60
						38		49		60		
102							23	27	21	35	54	54
								44		54		
108							24	25	22	33	49	49
								40		49		
114									23	31	44	44
										44		
120									24	30	40	40
										40		

Minimum & Maximum Cover For 6" 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)	Min. (In)
30	12	35 62	12	44 77	12	62 100+	12	79 100+	12	96 100+	100
36	12	29 51	12	36 64	12	51 90	12	66 100+	12	80 100+	100
42	12	25 44	12	31 55	12	44 77	12	56 99	12	69 100+	100
48	12	22 38	12	27 48	12	38 67	12	49 87	12	60 100+	100
54	14	19 34	14	24 43	14	34 60	13	44 77	12	53 94	94
60	15	17 31	15	22 38	15	31 54	14	39 69	13	48 85	85
66	17	16 28	17	20 35	17	28 49	15	36 63	14	43 77	77
72	18	14 25	18	18 32	18	25 45	17	33 58	15	40 70	70
78			20	17 29	20	23 41	18	30 53	16	37 65	65
84					21	22 38	19	28 49	17	34 60	60
90					23	20 36	21	26 46	19	32 56	56
96							22	24 43	20	33 53	53
102							23	23 40	21	28 44	44
108							25	22 36	22	24 40	40
114									24	24 36	36

Minimum & Maximum Cover For 9" x 2 1/2" Aluminum 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.)	Min. (in.)	Max. (Ft.)	
60	12	29 31	12	38 45	12	49 60	12	58 70	12	58 81	12	58 92	12	58 105	12	58 118	
66	12	26 28	12	35 41	12	44 54	12	53 64	12	53 74	12	53 84	12	53 94	12	53 104	
72	13	24 25	12	32 37	12	41 50	12	48 58	12	48 67	12	48 77	12	48 87	12	48 97	
78	14	22 23	12	29 35	12	37 46	12	45 54	12	45 62	12	45 71	12	45 81	12	45 91	
84	15	20 22	13	27 32	12	35 42	12	41 50	12	41 56	12	41 66	12	41 76	12	41 86	
90	16	19 20	14	25 30	13	32 40	12	39 47	12	39 54	12	39 61	12	39 71	12	39 81	
96	17	18 19	15	24 28	14	30 37	13	36 44	12	36 50	12	36 57	12	36 67	12	36 77	
102	18	17 18	16	22 25	15	29 35	14	34 41	13	34 47	13	34 54	13	34 64	13	34 74	
108	19	16 17	17	21 25	16	27 33	14	32 39	14	32 45	14	32 51	14	32 61	14	32 71	
114	20	15 16	18	20 23	16	25 31	15	30 37	15	30 42	15	30 48	15	30 58	15	30 68	
120	21	14 15	19	19 22	17	24 30	16	29 35	15	29 40	15	29 46	15	29 56	15	29 66	
126	22	13 14	20	18 21	18	23 28	17	27 33	16	27 38	16	27 44	16	27 54	16	27 64	
132	23	13 14	21	17 20	19	22 27	18	26 32	17	26 37	17	26 42	17	26 52	17	26 62	
138	24	12 13	22	16 19	20	21 26	18	25 30	18	25 35	18	25 40	18	25 50	18	25 60	
144	25	12 12	22	16 18	21	20 25	19	24 29	18	24 33	18	24 38	18	24 48	18	24 58	
150			23	15 18	21	19 24	20	23 28	19	23 32	19	23 36	19	23 46	19	23 56	
156			24	14 17	22	18 23	21	22 27	20	22 31	20	22 35	20	22 45	20	22 55	
162					23	18 22	21	21 26	21	21 30	21	21 34	21	21 44	21	21 54	
168					24	17 21	22	20 25	21	20 29	21	20 33	21	20 43	21	20 53	
174					25	17 20	23	20 24	22	20 28	22	20 31	22	20 41	22	20 51	
180							24	19 23	23	19 27	23	19 30	23	19 40	23	19 50	

58	100+	Upper figure for pipe with riveted or spot welded seams.
16	100+	Lower figure for pipe with helical lockseam.

CORRUGATED CIRCULAR ALUMINUM PIPE

CORRUGATED ALUMINUM PIPE-ARCH

58	100+	Upper figure for pipe with aluminum bolts.
16	100+	Lower figure for pipe with steel bolts.

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.)	2 Tons Corner Bearing Pressure	3 Tons Corner Bearing Pressure
17 x 13	3	0.060	18	12	18
21 x 15	3	0.060	18	10	14
24 x 18	3	0.060	24	7	13
28 x 20	3	0.060	24	5	11
35 x 24	3	0.060	30	NS	7
42 x 29	3 1/2	0.060	30	NS	7
49 x 33	4	0.075	30	NS	6
57 x 38	5	0.135	30	NS	8
64 x 43	6	0.135	30	NS	9
71 x 47	7	0.164	24	NS	10

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.)	2 Tons Corner Bearing Pressure	3 Tons Corner Bearing Pressure
40 x 31	5	0.060	30	8	12
46 x 36	6	0.060	24	8	13
53 x 41	7	0.060	24	8	13
60 x 46	8	0.060	24	8	13
66 x 51	9	0.060	18	9	13
73 x 55	12	0.075	18	11	16
81 x 59	14	0.075	18	11	17
87 x 63	14	0.105	18	10	16
95 x 67	16	0.105	18	11	17
103 x 71	16	0.135	24	10	15
112 x 75	18	0.135	24	10	16
117 x 79	18	0.164	24	10	15

Minimum & Maximum Cover For 6" x 2" Aluminum Pipe-Arch +					Max. Cover (Ft)	
Span x Rise (Ft-in x Ft-in)	Corner Radius (in)	Minimum Gage (in)	Min. Cover (in)	2 Tons Corner Bearing Pressure	3 Tons Corner Bearing Pressure	
6- 7 x 5- 8	31.8	0.100	14	23	23	
7- 9 x 6- 0	31.8	0.100	17	20	20	
8- 5 x 6- 3	31.8	0.100	18	18	18	
8- 3 x 6- 5	31.8	0.100	20	16	16	
9- 11 x 6- 8	31.8	0.100	21	15	15	
10- 9 x 6- 10	31.8	0.100	23	14	14	
11- 5 x 7- 1	31.8	0.100	24	13	13	
12- 3 x 7- 3	31.8	0.100	26	12	12	
12- 11 x 7- 6	31.8	0.100	27	11	11	
13- 1 x 8- 4	31.8	0.100	27	11	11	
13- 11 x 9- 5	31.8	0.100	29	11	11	
14- 8 x 9- 8	31.8	0.100	31	10	10	
15- 4 x 10- 0	31.8	0.125	29	11	14	
16- 1 x 10- 4	31.8	0.125	30	10	14	
16- 9 x 10- 8	31.8	0.125	32	10	13	
17- 3 x 11- 0	31.8	0.150	30	10	15	
18- 0 x 11- 4	31.8	0.150	31	9	14	
18- 8 x 11- 8	31.8	0.150	33	9	14	

GENERAL NOTES

1. All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
2. The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
3. No more than one type of pipe may be used on any single installation or installation grouping.
4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
5. See Standard Drawing "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the top of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflection.
7. These tables have been developed for an H-20 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2000 AASHTO "LRFD Bridge Design Specifications".

GAGE	0.064"	0.079"	0.109"	0.138"	0.168"
Min. (in.)	Max. (ft)	Min. (in.)	Max. (ft)	Min. (in.)	Max. (ft)
12	92	100	100	100	100
15	74	80	100	100	100
18	61	67	100	100	100
21	53	57	100	100	100
24	46	50	100	100	100
27	41	44	100	100	100
30	37	40	100	100	100
36	30	33	100	100	100
42	24	27	100	100	100
48	20	23	100	100	100
54	14	17	100	100	100
60		12	100	100	100
66		13	100	100	100
72		14	100	100	100
78			100	100	100
84			100	100	100

GAGE	0.064"	0.079"	0.109"	0.138"	0.168"
Min. (in.)	Max. (ft)	Min. (in.)	Max. (ft)	Min. (in.)	Max. (ft)
36	53	66	98	100	100
42	45	57	84	100	100
48	39	49	73	100	100
54	35	44	65	100	100
60	31	39	58	100	100
66	29	36	53	100	100
72	26	33	49	100	100
78	24	30	45	100	100
84	22	28	42	100	100
90	21	26	39	100	100
96	17	24	36	100	100
102	18	23	35	100	100
108		16	32	100	100
114		17	31	100	100
120		18	29	100	100
126			27	100	100
132			17	100	100
138				100	100
144				100	100
150				100	100

GAGE	0.064"	0.079"	0.109"	0.138"	0.168"
Min. (in.)	Max. (ft)	Min. (in.)	Max. (ft)	Min. (in.)	Max. (ft)
36	72	90	100	100	100
42	62	77	100	100	100
48	54	68	100	100	100
54	48	60	100	100	100
60	43	54	100	100	100
66	39	49	100	100	100
72	36	45	100	100	100
78	33	41	100	100	100
84	31	38	100	100	100
90	29	36	100	100	100
96		34	100	100	100
102		32	100	100	100
108		16	100	100	100
114		17	100	100	100
120		18	100	100	100
126			100	100	100
132			100	100	100
138			100	100	100
144			100	100	100
150			100	100	100

* Table for pipe with helical lockseams or helical welded seams ONLY.

GAGE	ALL	0.109"	0.138"	0.168"	0.188"	0.218"	0.249"	0.280"
Dia. (in)	Min. (in)	Max. (ft)	Max. (ft)	Max. (ft)	Max. (ft)	Max. (ft)	Max. (ft)	Max. (ft)
60	12	46	68	90	100	100	100	100
66	12	42	62	81	93	100	100	100
72	12	38	57	75	86	100	100	100
78	12	35	52	69	79	95	100	100
84	12	33	49	64	73	88	100	100
90	12	31	45	60	68	82	97	100
96	12	29	43	56	64	77	91	100
102	13	27	40	52	60	73	86	94
108	14	25	38	50	57	69	81	86
114	15	24	36	47	54	65	77	84
120	15	23	34	45	51	62	73	80
126	16	22	32	42	49	59	69	76
132	17	21	31	40	46	56	66	72
138	18	20	29	39	44	54	63	69
144	18	19	28	37	43	51	61	66
150	19	18	27	36	41	49	58	64
156	20	17	26	34	39	47	56	61
162	21	17	25	33	38	46	54	59
168	21	16	24	32	36	44	52	57
174	22	16	23	31	35	42	50	55
180	23	15	22	30	34	41	48	53
186	24	15	22	29	33	40	47	51
192	24		21	28	32	38	45	50
198	25		20	27	31	37	44	48
204	26		20	26	30	36	43	47
210	27		19	25	29	35	41	46
216	27			25	28	34	40	44
222	28			24	27	33	39	43
228	29			23	27	32	38	42
234	30			23	26	31	37	41
240	30				25	31	36	40
246	31				25	30	35	39
252	32					29	34	38
258	33					28	34	37
264	33					28	33	36
270	34					27	32	35
276	35						31	34
282	36						31	34
288	36						30	33
294	37							32
300	38							32
306	39							31

66
100+

Upper figure for pipe with riveted or spot welded seams.

Lower figure for pipe with helical lockseam or helical welded seam.

CORRUGATED CIRCULAR STEEL PIPE

CORRUGATED STEEL PIPE-ARCH

Span x Rise (in. x in.)	Corner Radius (in.)	Minimum Gage (in.)	Min. Cover (in.)	2 Tons Corner Bearing Pressure	3 Tons Corner Bearing Pressure
17 x 13	3	0.064	18	12	18
21 x 15	3	0.064	18	10	14
24 x 18	3	0.064	24	7	13
28 x 20	3	0.064	24	5	11
35 x 24	3	0.064	30	NS	7
42 x 29	3 1/2	0.064	30	NS	7
49 x 33	4	0.079	30	NS	6
57 x 38	5	0.109	30	NS	8
64 x 43	6	0.109	30	NS	9
71 x 47	7	0.138	24	NS	10
77 x 52	8	0.168	24	5	10
83 x 57	9	0.168	24	5	10

Span x Rise (in. x in.)	Corner Radius (in.)	Minimum Gage (in.)	Min. Cover (in.)	2 Tons Corner Bearing Pressure	3 Tons Corner Bearing Pressure
40 x 31	5	0.079	30	8	12
46 x 36	6	0.079	24	8	13
53 x 41	7	0.079	24	8	13
60 x 46	8	0.079	24	8	13
66 x 51	9	0.079	18	9	13
73 x 55	12	0.079	18	11	16
81 x 59	14	0.079	18	11	17
87 x 63	14	0.079	18	10	16
95 x 67	16	0.079	18	11	17
103 x 71	16	0.109	24	10	15
112 x 75	18	0.109	24	10	16
117 x 79	18	0.109	24	10	15
128 x 83	18	0.138	24	9	14
137 x 87	18	0.138	24	8	13
142 x 91	18	0.168	24	7	12

Span x Rise (in. x in.)	Corner Radius (in.)	Minimum Gage (in.)	Min. Cover (in.)	2 Tons Corner Bearing Pressure	3 Tons Corner Bearing Pressure
40 x 31	5	0.064	30	8	12
46 x 36	6	0.064	24	8	13
53 x 41	7	0.064	24	8	13
60 x 46	8	0.064	24	8	13
66 x 51	9	0.064	18	9	13
73 x 55	12	0.064	18	11	16
81 x 59	14	0.064	18	11	17
87 x 63	14	0.064	18	10	16
95 x 67	16	0.079	18	11	17
103 x 71	16	0.109	24	10	15
112 x 75	18	0.109	24	10	16
117 x 79	18	0.109	24	10	15
128 x 83	18	0.138	24	9	14
137 x 87	18	0.138	24	8	13
142 x 91	18	0.168	24	7	12

Span x Rise (ft-in x ft-in)	Corner Radius (in.)	Minimum Gage (in.)	Min. Cover (in.)	Max. Cover (ft)	2 Tons Corner Bearing Pressure	3 Tons Corner Bearing Pressure
6-1 x 4-7	18	0.109	18	16	12	24
7-0 x 5-1	18	0.109	18	14	12	21
7-11 x 5-7	18	0.109	18	13	12	19
8-10 x 6-1	18	0.109	24	11	18	17
9-9 x 6-7	18	0.109	24	10	18	15
10-11 x 7-1	18	0.109	24	9	18	14
11-10 x 7-7	18	0.109	24	7	18	13
12-10 x 8-4	18	0.109	30	6	24	12
14-1 x 8-9	18	0.109	30	5	24	11
15-4 x 9-3	18	0.109	NS	NS	24	10
15-10 x 9-10	18	0.109	NS	NS	24	9
16-7 x 10-1	18	0.109	NS	NS	24	9
13-3 x 9-4	31	0.109	24	13	24	17
14-2 x 9-10	31	0.109	24	12	24	16
15-4 x 10-4	31	0.109	24	11	24	15
16-3 x 10-10	31	0.109	24	11	24	14
17-2 x 11-4	31	0.109	30	10	30	13
18-1 x 11-10	31	0.109	30	10	30	12
19-3 x 12-4	31	0.138	30	9	30	13
19-11 x 12-10	31	0.138	30	9	30	13
20-7 x 13-2	31	0.138	36	7	36	13

METAL THICKNESSES & GAGES		
STEEL		GAGE NO. (For Info Only)
ZINC COATED	UNCOATED	
0.064	0.0598	16
0.079	0.0747	14
0.109	0.1047	12
0.138	0.1345	10
0.168	0.1644	8
0.188	0.1838	7
0.218	0.2145	5
0.249	0.2451	3
0.280	0.2758	1

Date	Description	By
8/10/00	Page 1 of 2	10/00

Sheet 2 of 3

State of Alaska
Department of Transportation
& Public Facilities

PIPE AND ARCH TABLES



This column shall not be used unless specified on the plans or approved by the Region Geotechnical Engineer.

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

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

REVISIONS		
Date	Description	By

Sheet 3 of 3

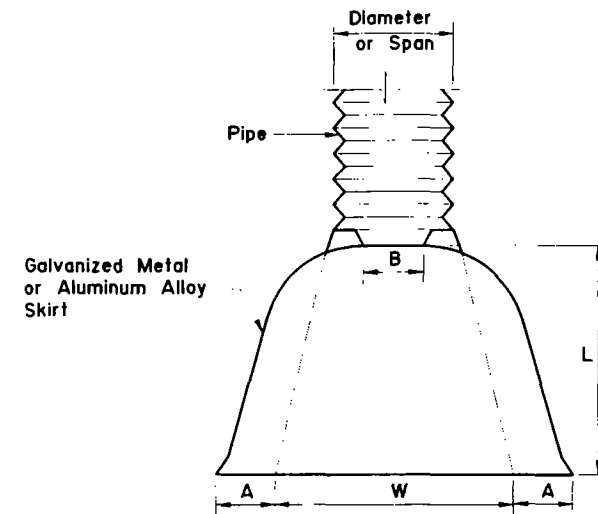
State of Alaska
Department of Transportation
& Public Facilities

PIPE AND ARCH TABLES

APPROVED

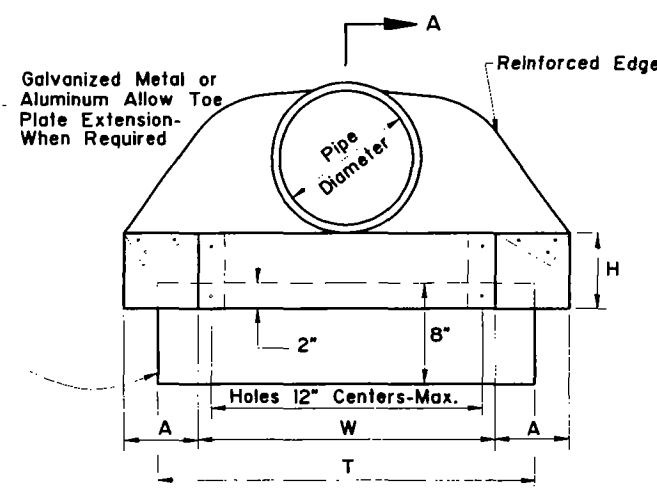
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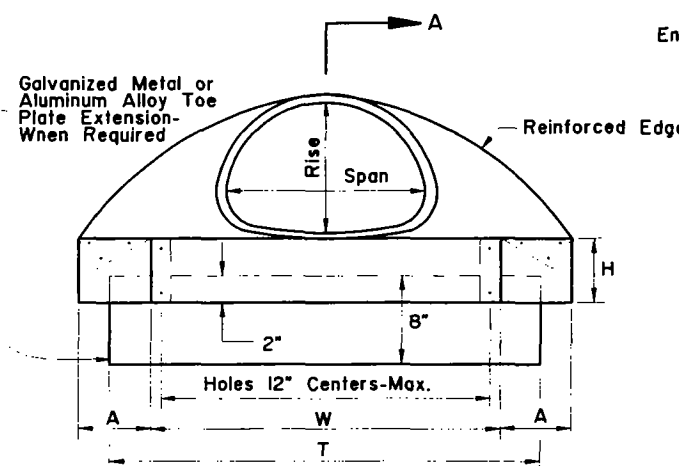
PLAN

ROUND AND PIPE ARCH



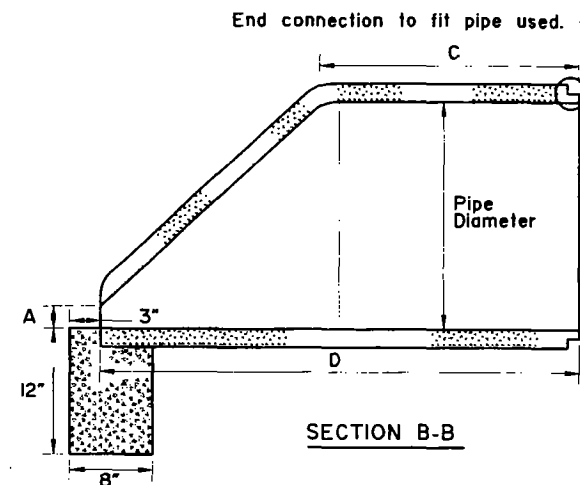
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ROUND PIPE



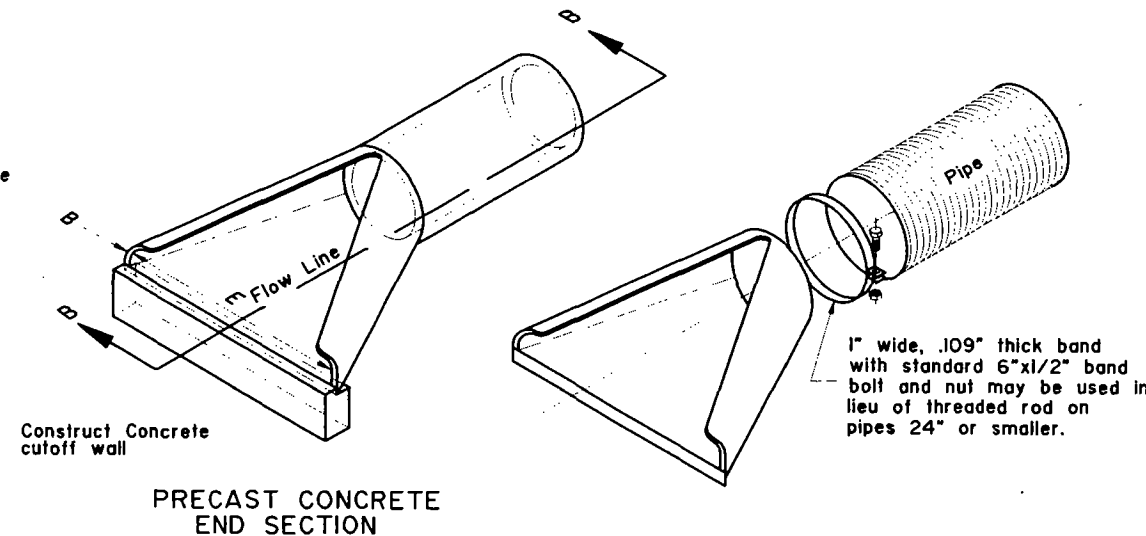
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PIPE ARCH

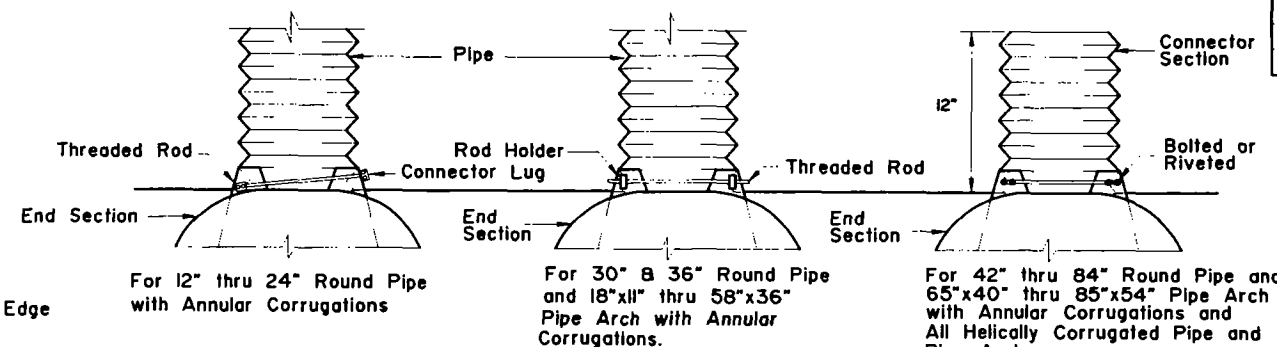


SECTION B-B

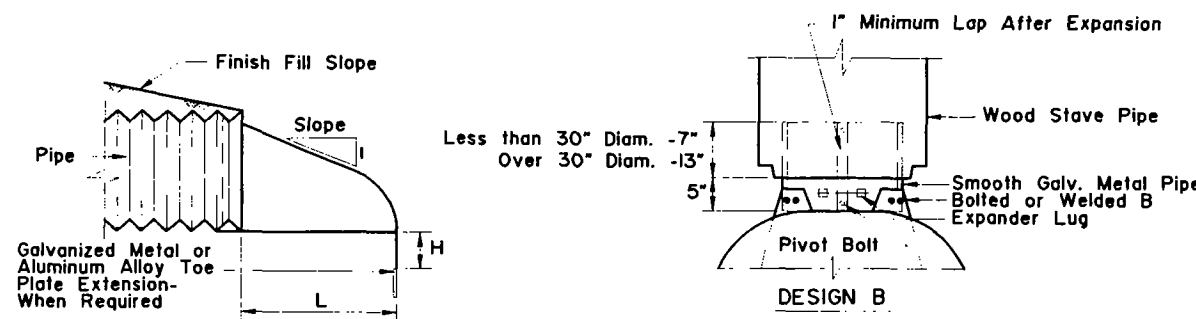
MINIMUM DIMENSIONS					
Pipe Diameter	A	B	C	D	E
12"	4"	1 3/4"	24"	46"	24"
18"	9"	2"	25"	50"	36"
24"	9 1/2"	2 1/2"	30"	72"	48"
30"	12"	3"	20"	73"	60"
36"	15"	3 3/8"	35"	97"	72"
42"	21"	3 3/4"	35"	98"	78"
48"	24"	4 1/4"	26"	98"	84"
54"	27"	4 5/8"	33"	99"	82"



PRECAST CONCRETE END SECTION



DESIGN A



DESIGN B

METAL END SECTION CONNECTED TO WOOD STAVE PIPE

ROUND PIPE										
Pipe Diam. Inches	Thickness For Aluminum	Thk. for Galv. Metal	Dimension Inches						Skirt	Approx. Slope
			A Tot.	B Max.	H Tot.	L 1/2" Tot.	W Tot.	T Tot.		
12"	0.060	0.064	6"	6"	6"	21"	24"	34"	1 Pc.	2 1/2
15"	0.060	0.064	7"	8"	6"	26"	30"	40"	1 Pc.	2 1/2
18"	0.060	0.064	8"	10"	6"	31"	36"	46"	1 Pc.	2 1/2
21"	0.060	0.064	9"	12"	6"	36"	42"	52"	1 Pc.	2 1/2
24"	0.075	0.064	10"	13"	6"	41"	48"	58"	1 Pc.	2 1/2
30"	0.075	0.079	12"	16"	8"	51"	60"	70"	1 Pc.	2 1/2
36"	0.105	0.079	14"	19"	9"	60"	72"	94"	2 Pc.	2 1/2
42"	0.105	0.109	16"	22"	11"	69"	84"	106"	2 Pc.	2 1/2
48"	0.105	0.109	18"	27"	12"	78"	90"	112"	2 Pc.	2 1/4
54"	0.105	0.109	18"	30"	12"	84"	102"	122"	2 Pc.	2 1/4
60"	0.135	0.109	18"	33"	12"	87"	114"	134"	3 Pc.	2 1/4
66"	0.135	0.109	18"	36"	12"	87"	120"	142"	3 Pc.	2 1/4
72"	0.135	0.109	18"	39"	12"	87"	126"	146"	3 Pc.	2 1/4
78"	—	0.109	18"	42"	12"	87"	132"	152"	3 Pc.	1 1/4
84"	—	0.109	18"	45"	12"	87"	138"	158"	3 Pc.	1 1/6

PIPE-ARCH											
Pipe-Arch Dimension Inches		Thickness for Aluminum	Thk. for Galv. Metal	Dimension Inches						Skirt	Approx. Slope
				A 1" Tol.	B Max.	H 1" Tol.	L 1 1/2" Tol.	W 2" Tol.	T 2" Tol.		
Span	Rise										
17"	13"	0.060	0.064	7"	9"	6"	19"	30"	40"	1 Pc.	2 1/2
21"	15"	0.060	0.064	7"	10"	6"	23"	36"	46"	1 Pc.	2 1/2
24"	18"	0.060	0.064	8"	12"	6"	28"	42"	52"	1 Pc.	2 1/2
28"	20"	0.075	0.064	9"	14"	6"	32"	48"	58"	1 Pc.	2 1/2
35"	24"	0.075	0.079	10"	16"	6"	39"	60"	70"	1 Pc.	2 1/2
42"	29"	0.105	0.079	12"	18"	8"	46"	75"	85"	1 Pc.	2 1/2
49"	33"	0.105	0.109	13"	21"	9"	53"	85"	103"	2 Pc.	2 1/2
57"	38"	0.105	0.109	18"	26"	12"	63"	90"	114"	2 Pc.	2 1/2
64"	43"	0.105	0.109	18"	30"	12"	70"	102"	130"	2 Pc.	2 1/4
71"	47"	0.135	0.109	18"	33"	12"	77"	114"	144"	3 Pc.	2 1/4
77"	52"	0.135	0.109	18"	36"	12"	84"	120"	158"	3 Pc.	2 1/4
83"	57"	0.135	0.109	18"	39"	12"	90"	126"	170"	3 Pc.	2 1/4

GENERAL NOTES:

1. Toe plate extensions will be required only when provided for on the plans. When required, the toe plate extensions shall be punched with holes to match those in lip of skirt and fastened with 3/8 inch or larger galvanized nuts and bolts and shall be the same gage as the end section.
2. Galvanized Metal or Aluminum Alloy End Sections may be used on Wood Stave and Plastic Pipe.
3. All 3 piece bodies shall have 12 gage sides and 10 gage center panels. Multiple panel bodies shall have lap seams which are to be tightly joined by 3/8" galvanized rivets or bolts.

REVISIONS		
Date	Description	By
3/1/83	Arch. Dimensions	W.F. H.
5/10/83	June 2	D.F.

Sheet 1 of 3

State of Alaska
Department of Transportation
& Public Facilities

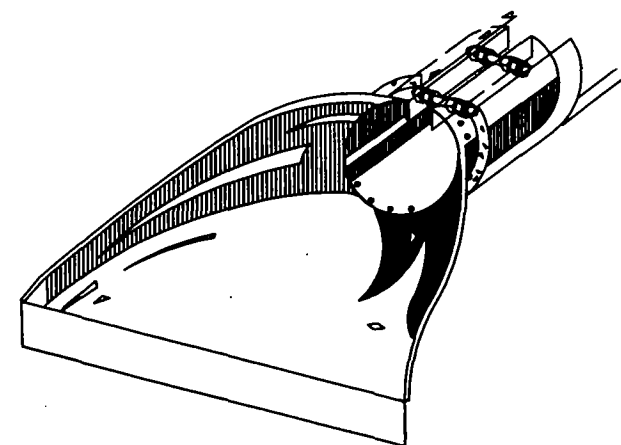
CULVERT END SECTIONS

APPROVED

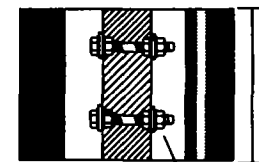
Date

GENERAL NOTES

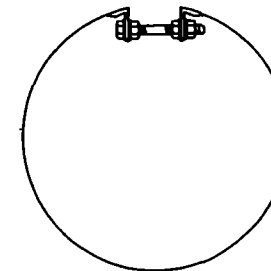
1. See general notes on sheet 1 of 3.
2. See sheet 1 of 3 for metal end section dimensions.
3. Insert bolts, washers and rivets shall be galvanized. Insert thickness is the same as the end section.
4. Use culvert inserts only at inlet.



FOR CONNECTING CONCRETE PIPE OR CORRUGATED POLYETHYLENE PIPE TO METAL END SECTION.



SEE NOTE 2



5/8" GALV.BOLTS

METAL INSERTS FOR USE WITH CORRUGATED PLASTIC
PIPE AND
METAL END SECTIONS

REVISIONS		
Date	Description	By

Sheet 2 of 3

State of Alaska
Department of Transportation
& Public Facilities

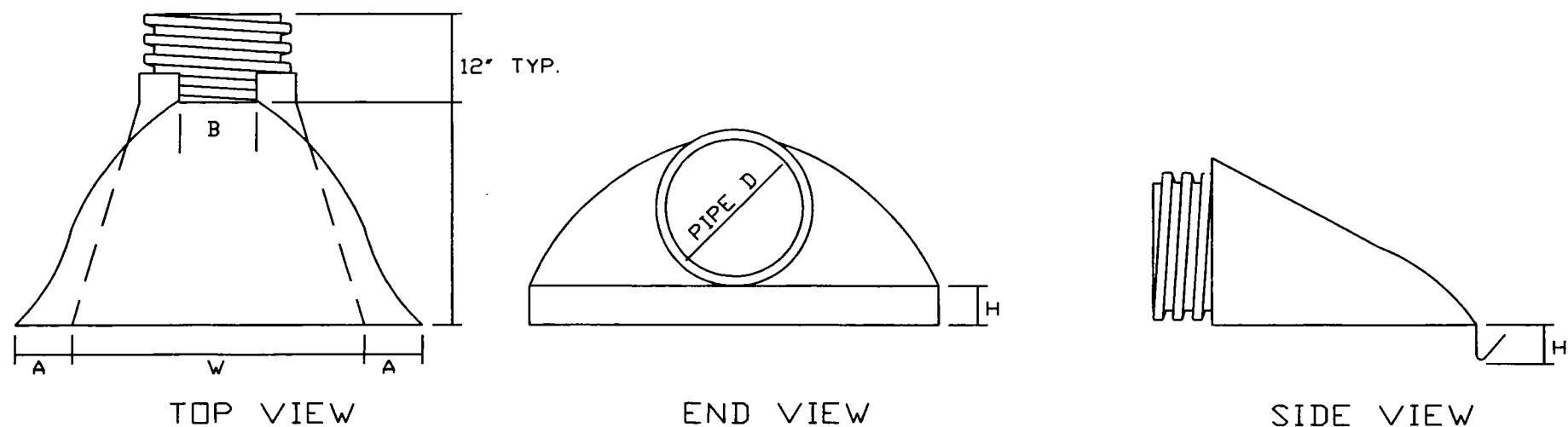
CULVERT END SECTIONS

APPROVED

Date

GENERAL NOTES

1. Plastic flared end sections may be used with HDPE corrugated culvert pipes where noted in project plans or approved by project engineer.
2. Consult manufacturer's recommendations for proper sizing and coupling devices. Recommended fasteners may include connecting bands or cinch ties. Fittings across dimension B may include threaded rods with wing nuts or bolts and washers. plastic welds may be recommended.
3. Align coupling to accomodate pipe corrugations.
4. Metal components e.g. bolts or washers must be galvanized.
5. Attachment of end section should preserve culvert alignment and not impair pipe function. Use end sections only on culvert inlet.
6. Toe plate extensions will be required only when designated on the plans.
7. End sections will not be used on HDPE culvert pipes larger than 36" unless indicated by project plans or approved by the Engineer.



PIPE DIAMETER	DIMENSIONS IN MILLIMETERS				
	A(1'±)	B MAX	H(1'±)	L(1/2'±)	W(2'±)
12" and 15"	6 1/2"	10"	6 1/2"	25"	29"
18"	7 1/2"	15"	6 1/2"	32"	35"
24"	7 1/2"	18"	6 1/2"	36"	45"
30"	10 1/2"	N/A	7"	53"	68"
36"	10 1/2"	N/A	7"	53"	68"

PLASTIC END SECTION FOR CORRUGATED PLASTIC PIPE

Date	REVISIONS Description	By
Sheet 3 of 3		
State of Alaska Department of Transportation & Public Facilities		
CULVERT END SECTIONS		
Date	APPROVED	

D-09.00

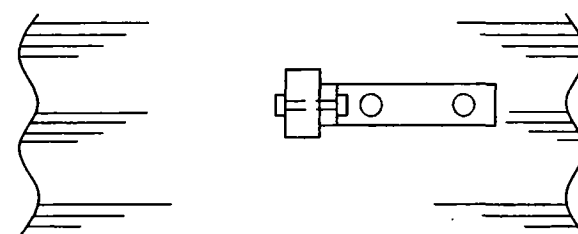
SHEET
1 of 1

GENERAL NOTES:

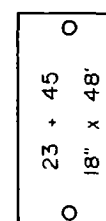
- I. Culvert marker post shall be installed with galvanized steel hardware meeting the following requirements: Galvanizing for nuts and washers shall meet the requirements of ASTM A-153, Class C. Galvanizing for steel mounting supports shall meet the requirements of MIL-P-26915A, or ASTM A-153, Class C.

DIRECTION OF TRAFFIC

Shoulder of Road



TOP VIEW

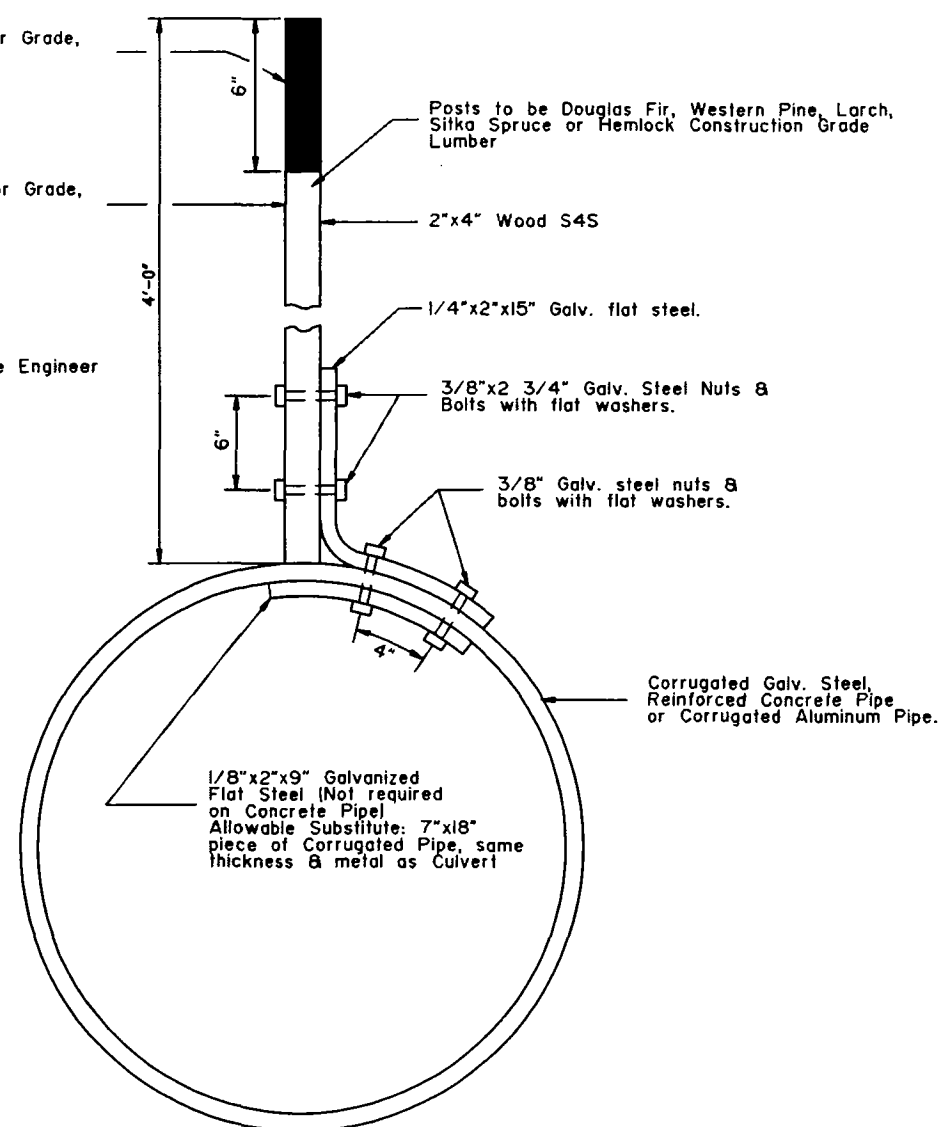


Sta. and size of Culvert to be stamped into a 2"x4"x0.064" thick brass plate, fastened, with No. 8 round head brass screws, to the marker post as shown. Plate to be on side of post facing traffic.

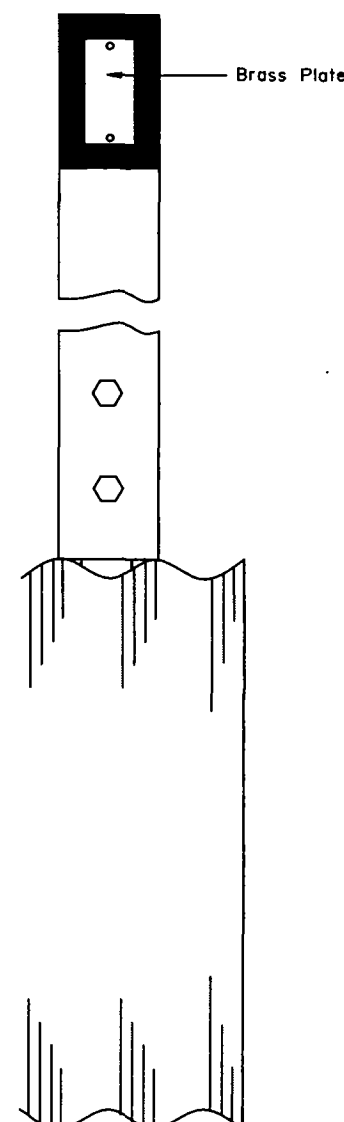
* Black Paint, Exterior Grade, Semi Gloss Enamel.

* White Paint, Exterior Grade, Semi Gloss Enamel

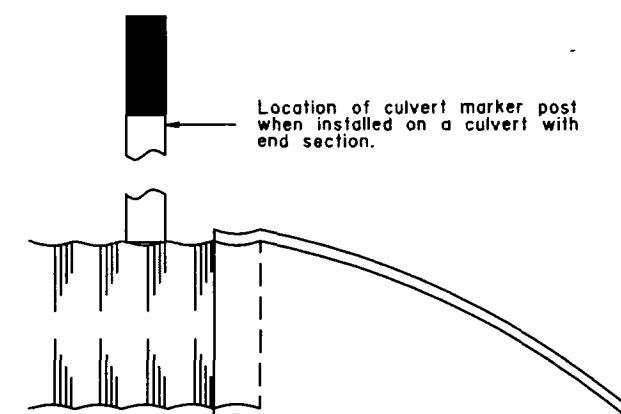
* As approved by the Engineer



END VIEW



SIDE VIEW



END SECTION SIDE VIEW

REVISIONS		
Date	Description	By

State of Alaska
Department of Transportation
& Public Facilities

CULVERT MARKER POST

APPROVED

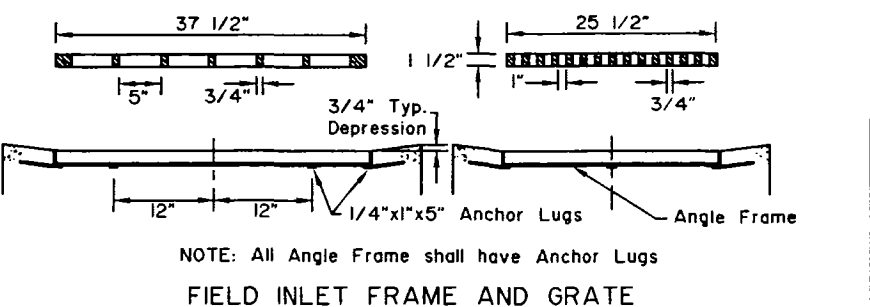
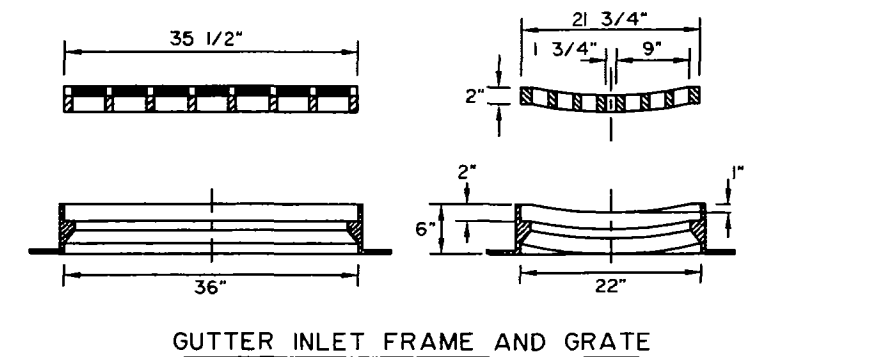
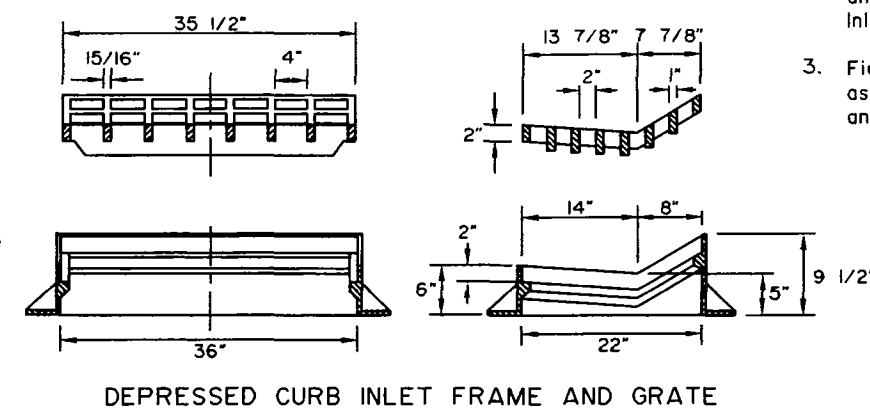
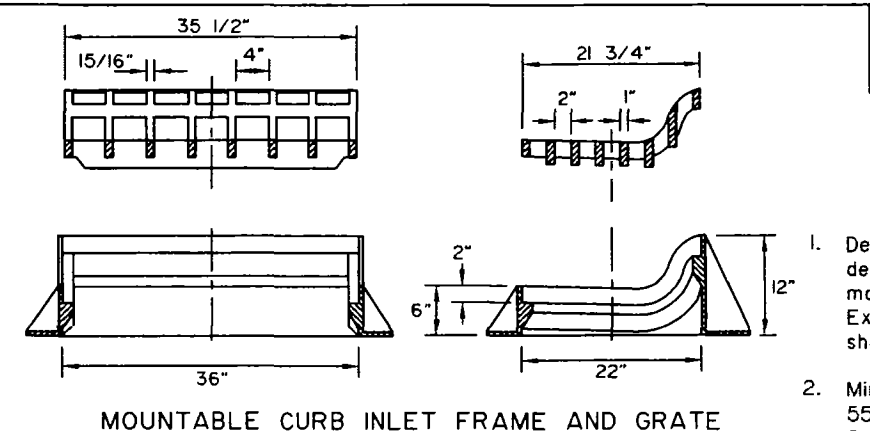
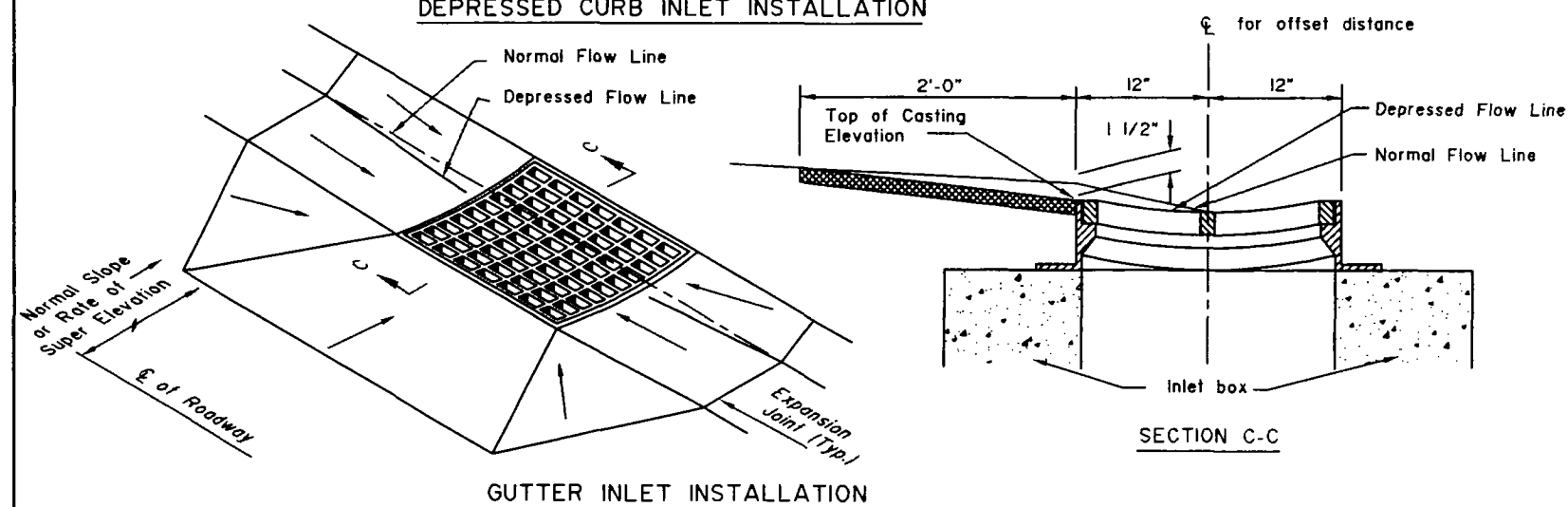
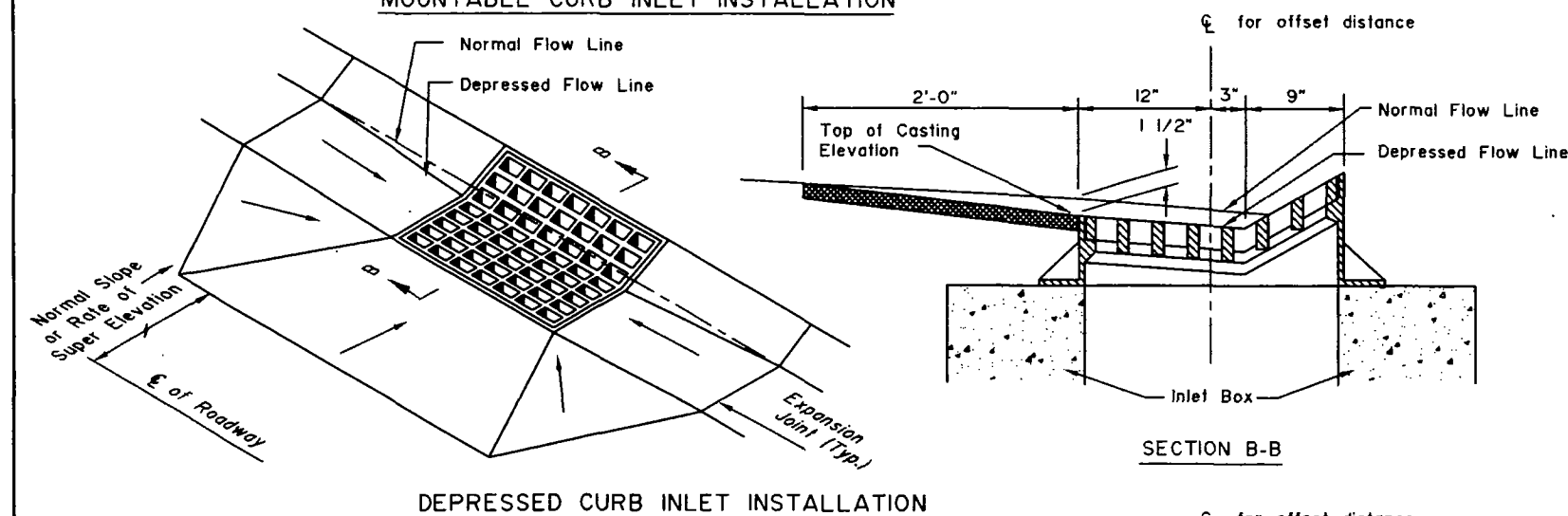
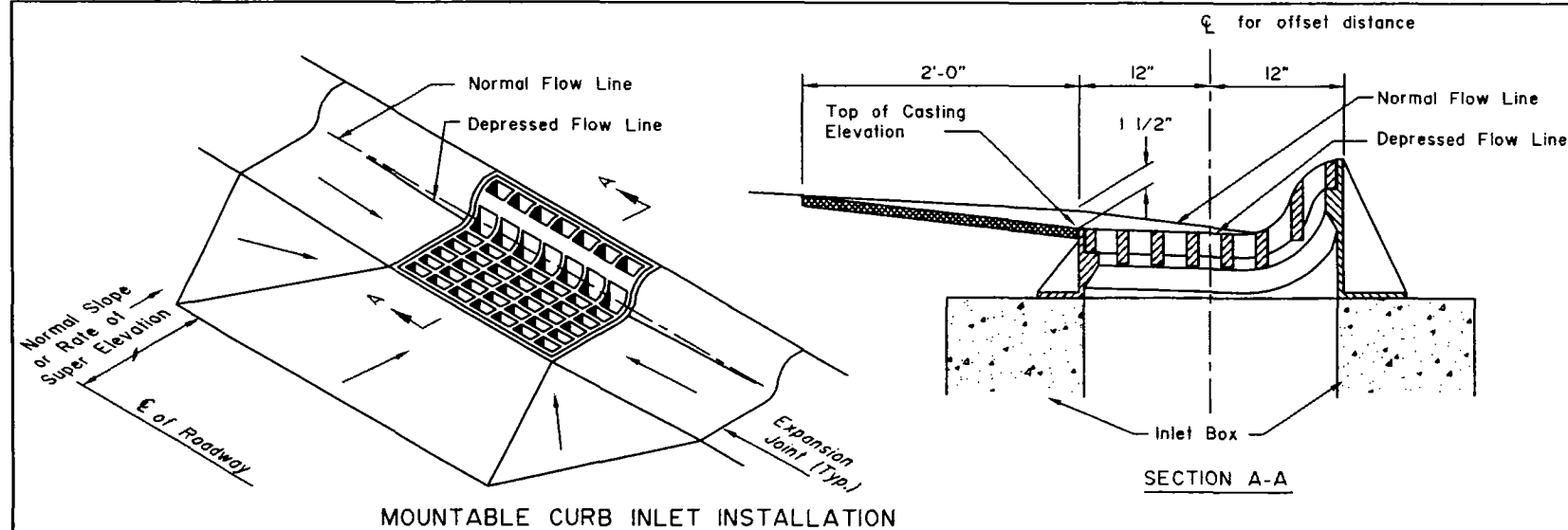


Date 7/15/82

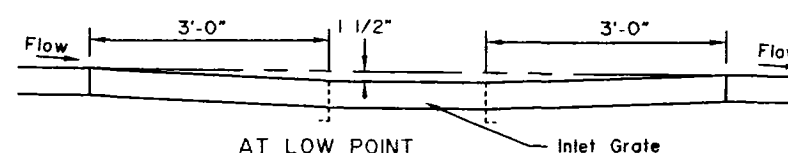
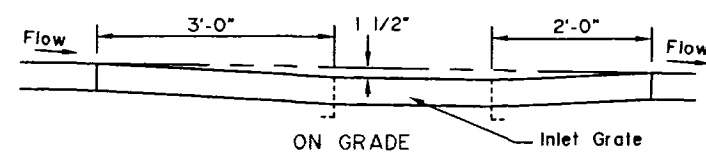
D-09.00

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.



NOTE: All Angle Frame shall have Anchor Lugs



DEPRESSION IN FLOW LINE AT INLET CONSTRUCTION DETAILS

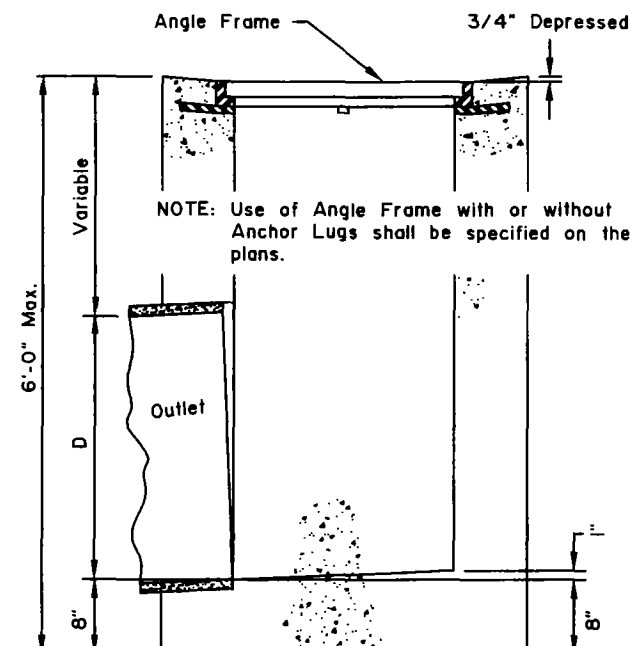
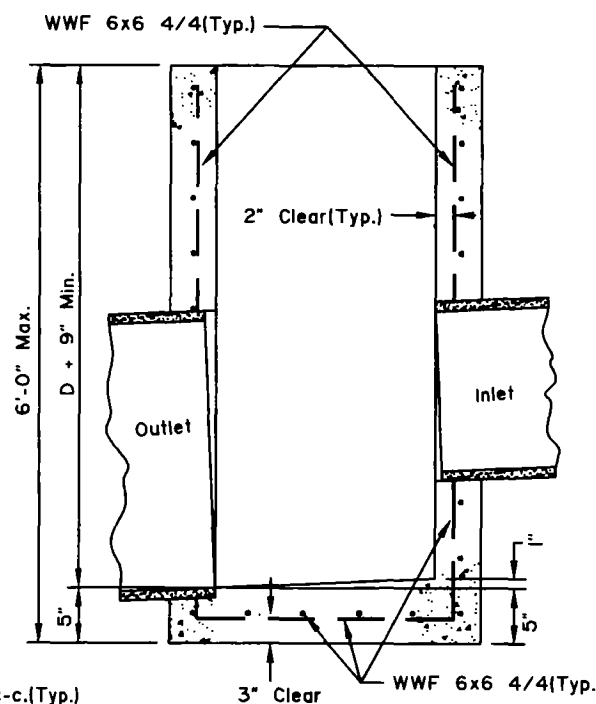
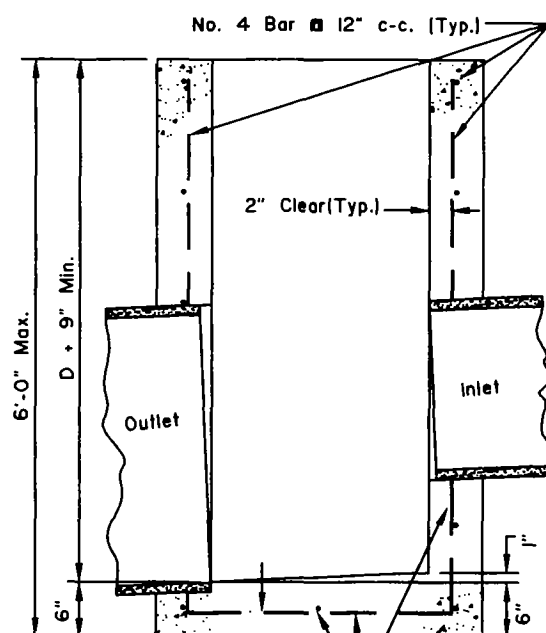
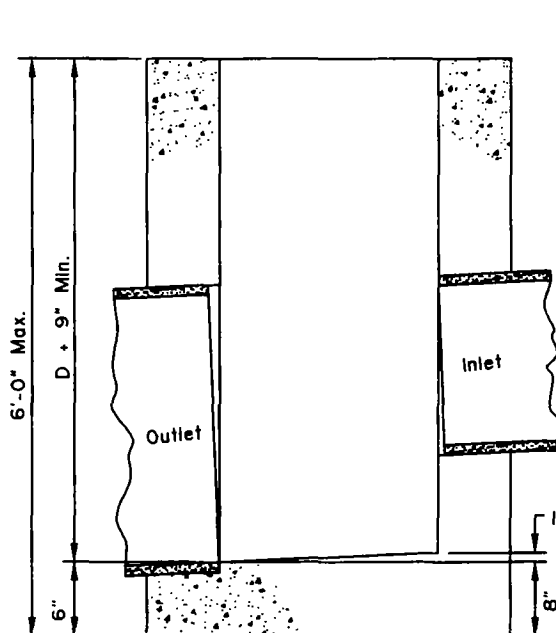
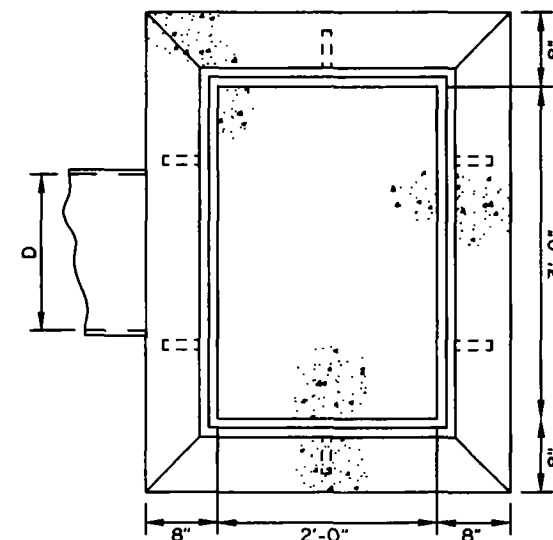
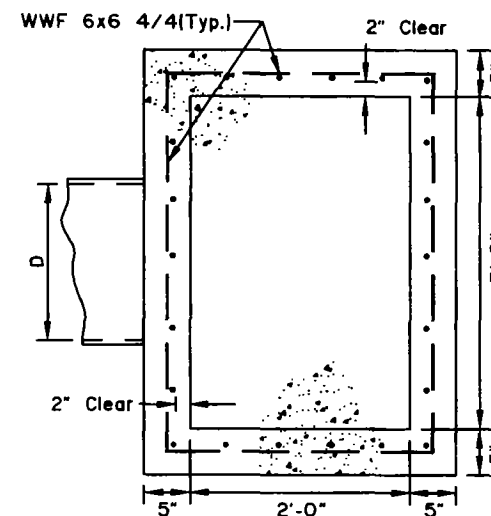
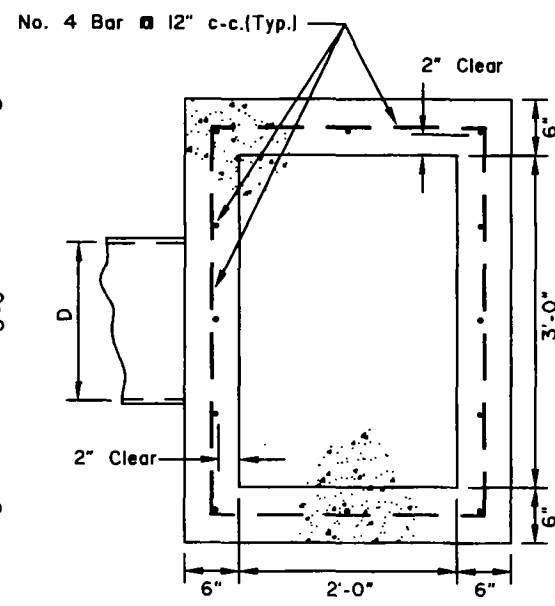
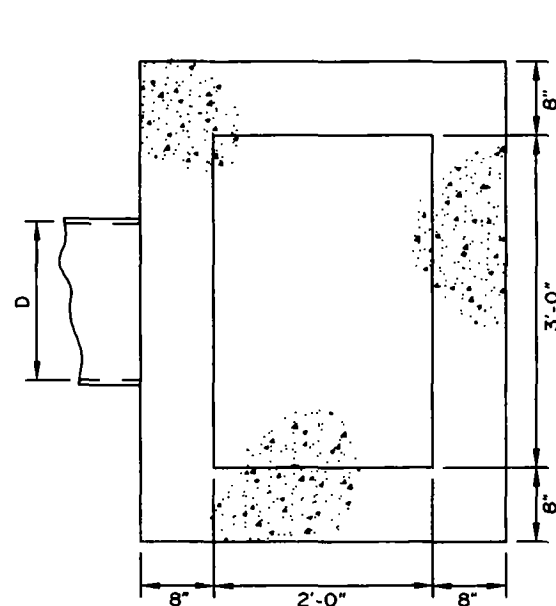
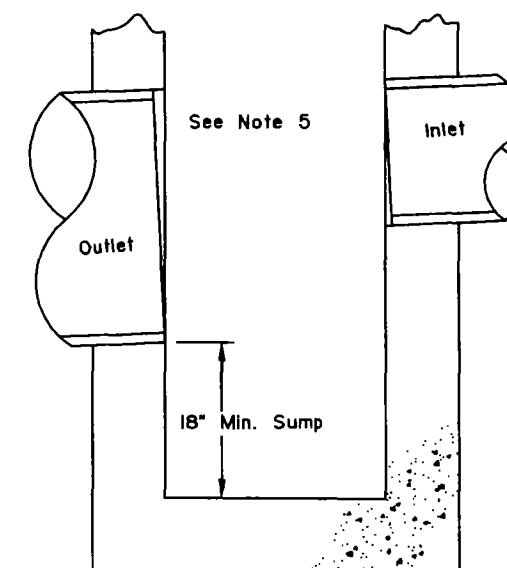
REVISIONS		
Date	Description	By

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

APPROVED
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.



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



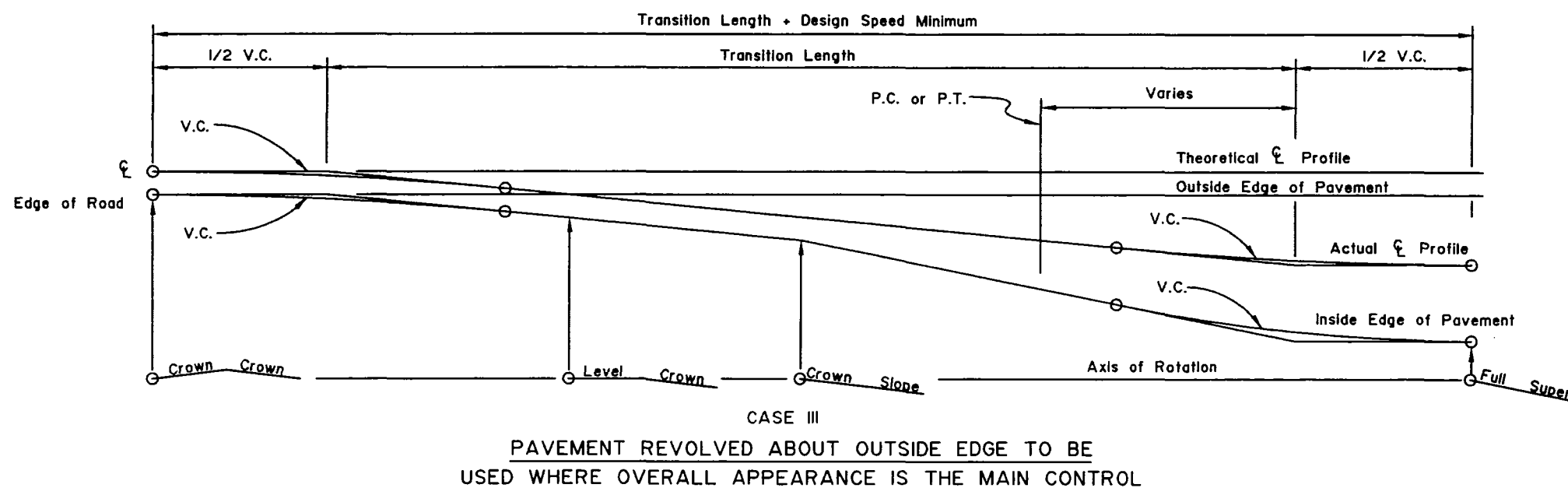
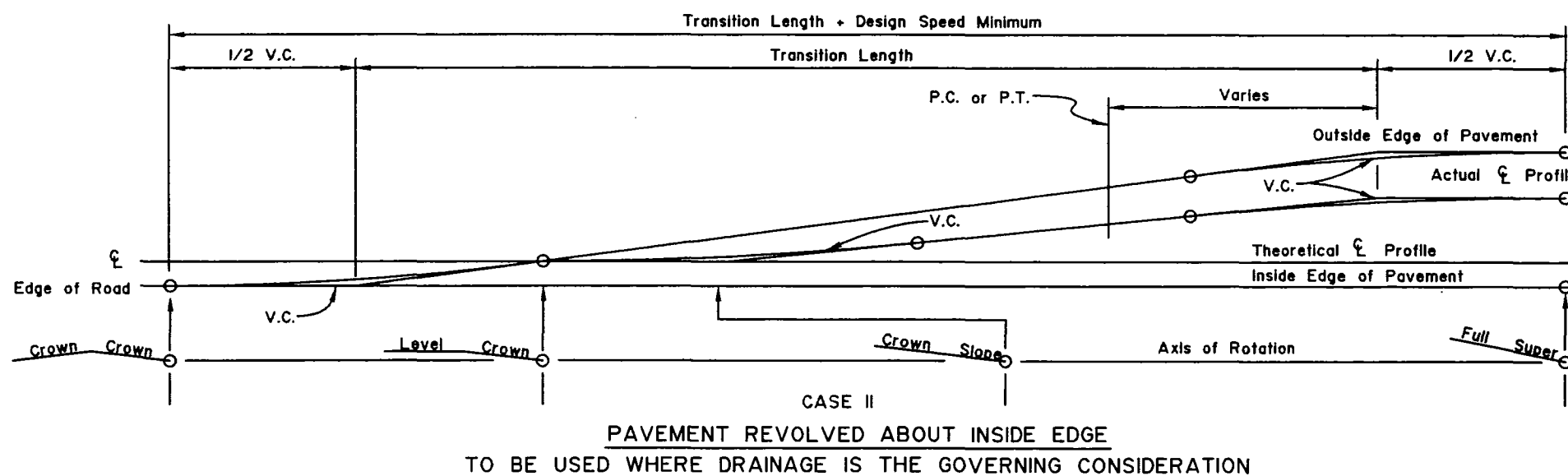
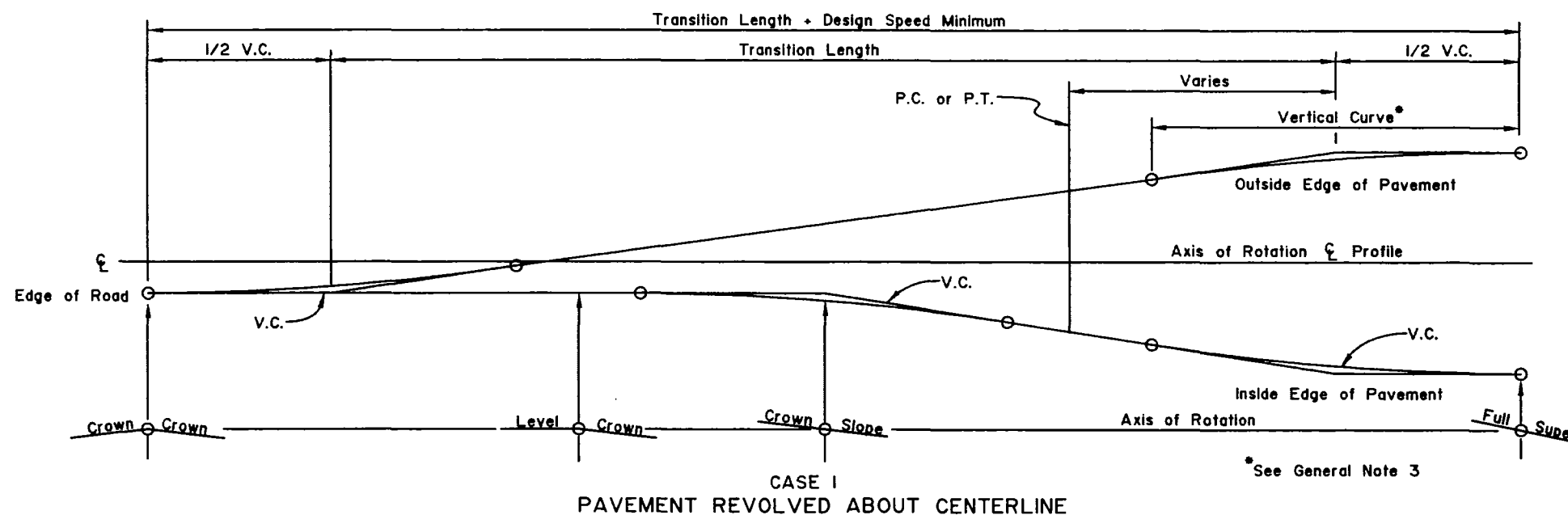
Date 7/15/82

I-81.00

SHEET
1 of 1

GENERAL NOTES:

1. Location of transition length relative to horizontal curves will be shown on the plans or as directed by the Engineer.
2. Widening for guardrail or curvature will not change the location of the axis of rotation.
3. Minimum vertical curve length in feet shall be the numerical value of the design speed in M.P.H.
4. Superelevation shall be built into the subgrade and carried through the shoulders.



REVISIONS		
Date	Description	By

State of Alaska
Department of Transportation
& Public Facilities

SUPERELEVATION TRANSITION

APPROVED



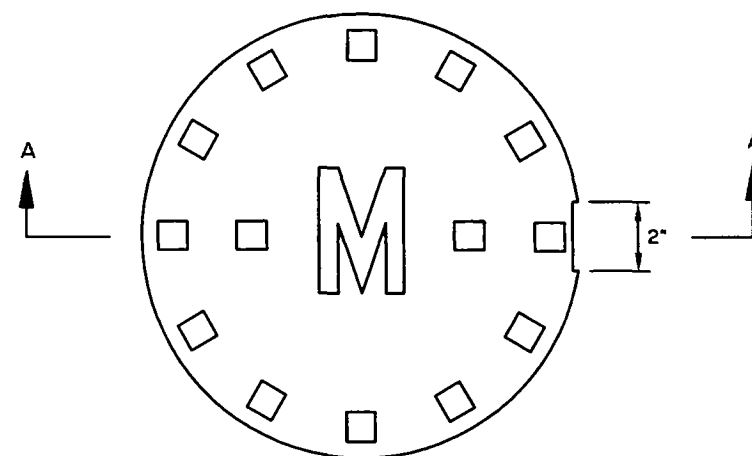
ADDENDUM NO. 1
ATTACHMENT NO. 6

Date 12/1/87

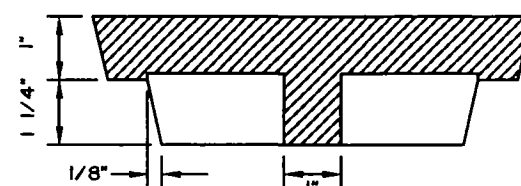
GENERAL NOTES:

1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers.
2. Where monument cases are to be placed in paved area of a roadway or sidewalk, the top of the case and/or cover shall be the same elevation as the top of the finish surface with bolting type access cover.
3. Where monument cases are to be placed in a gravel surfaced roadway, the top of the case shall be placed 1'-0" below the top of the surface of the roadway.
4. In solid rock, drill a 2" Dia. hole a minimum of 1'-0" deep, fill with mortar and set cap. 3/4"x9" galvanized pipe, designated length when set in mortar.
5. The top of the monument cap shall be placed 1' above the bottom of the monument case.

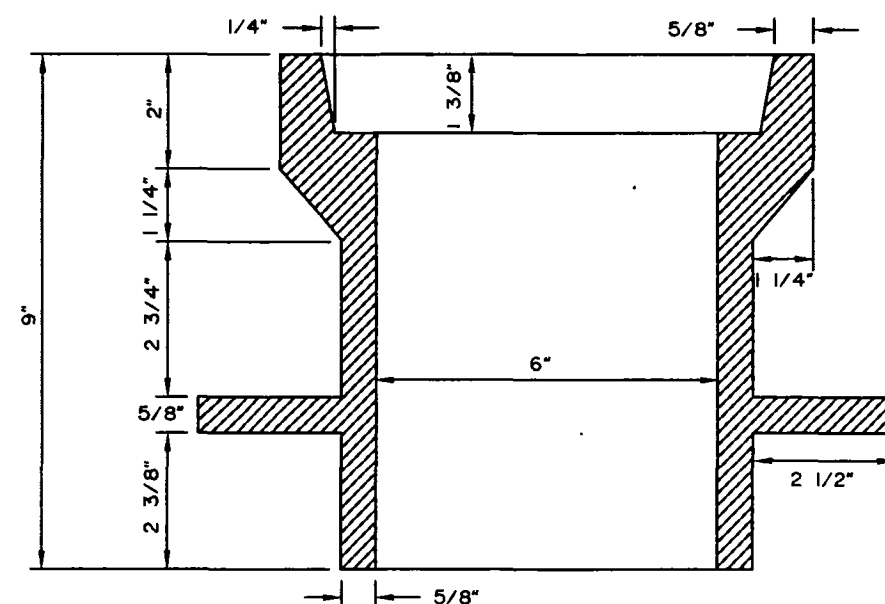
PLAN VIEW ACCESS COVER



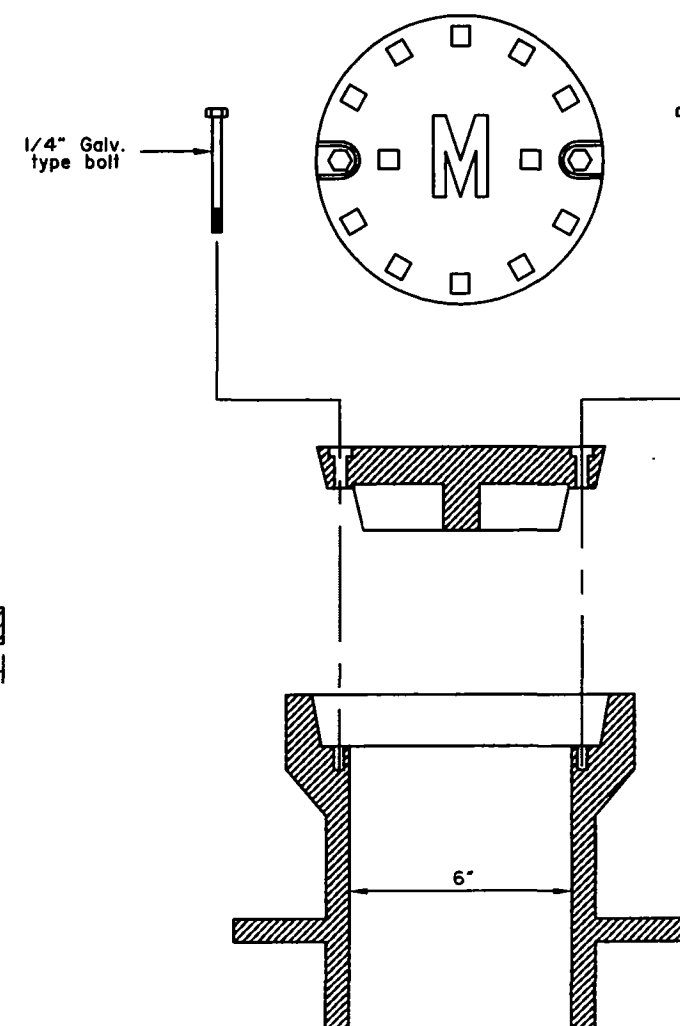
SECTION A-A



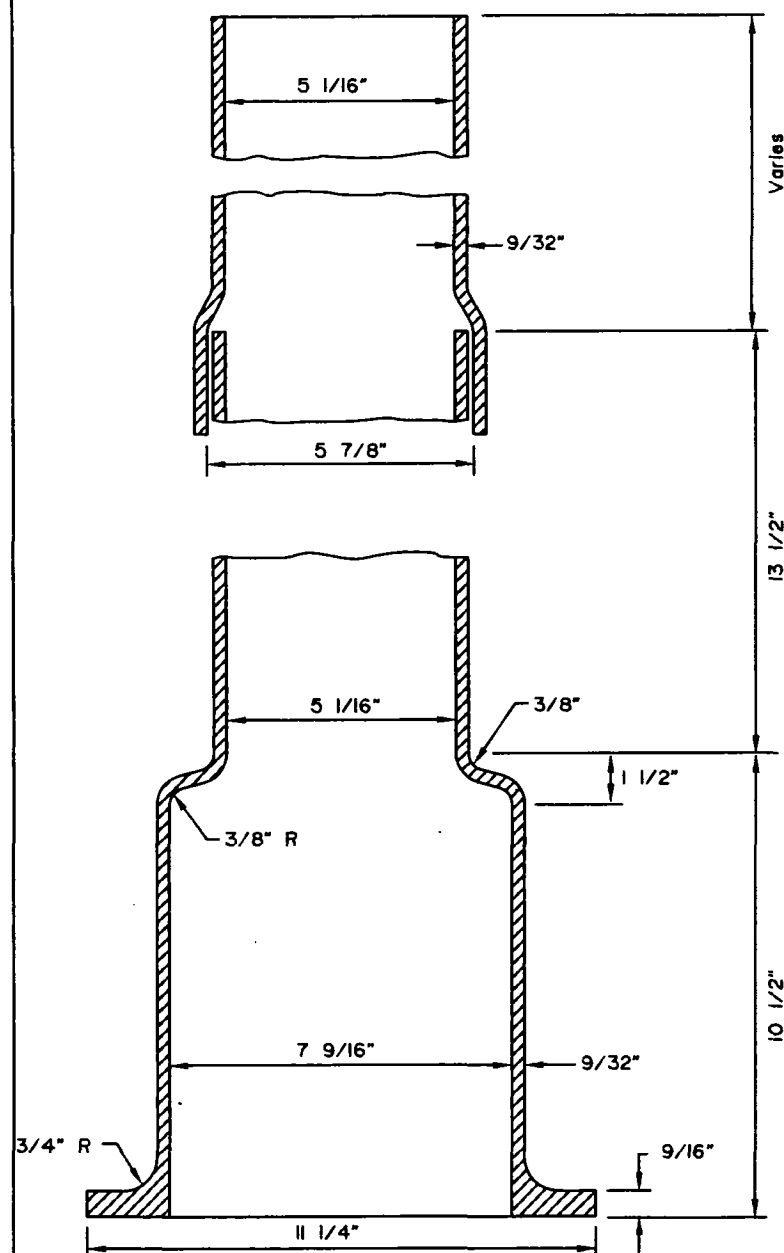
MONUMENT CASE



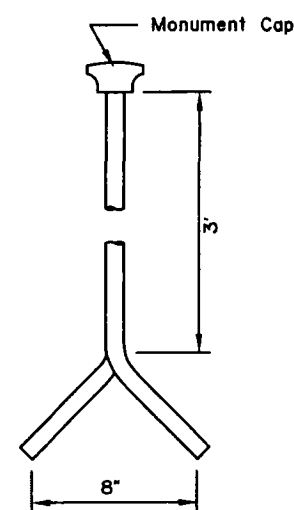
BOLTING MONUMENT CASE ASSEMBLY
(See Note 2)



EXTENSION PIPES



MONUMENT DETAIL

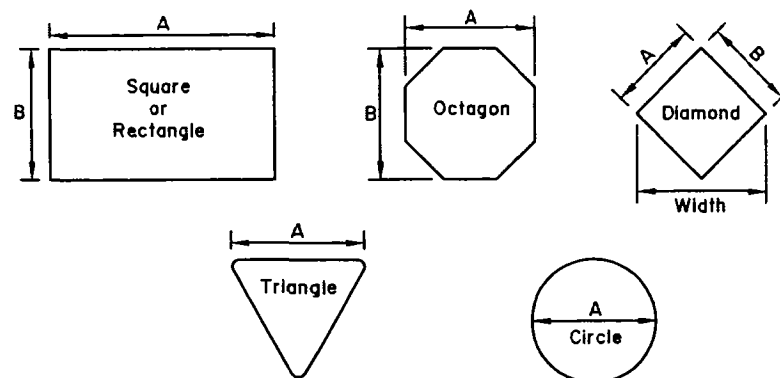


REVISIONS		
Date	Description	By
5/15/89	Revised Cap Markings	Gdo

State of Alaska
Department of Transportation
& Public Facilities

BRASS CAP MONUMENTS
& MONUMENT CASE



LIGHT SIGNS

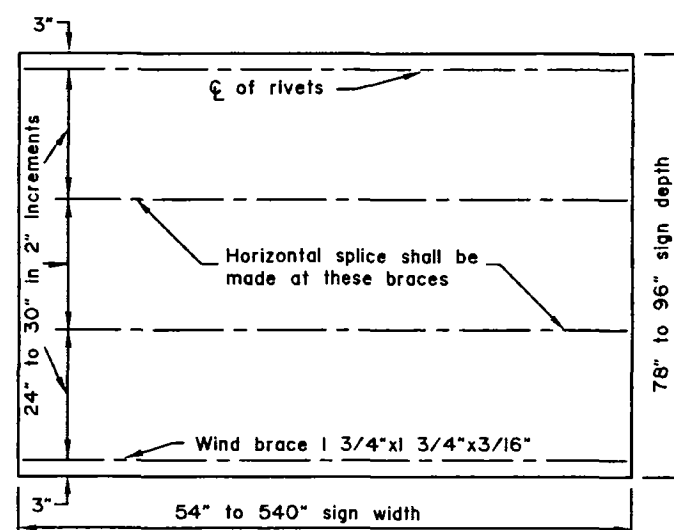
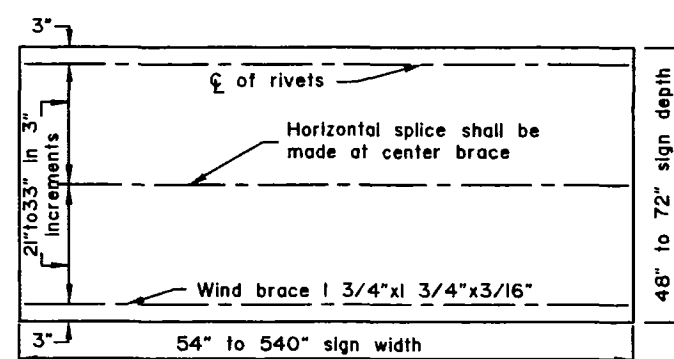
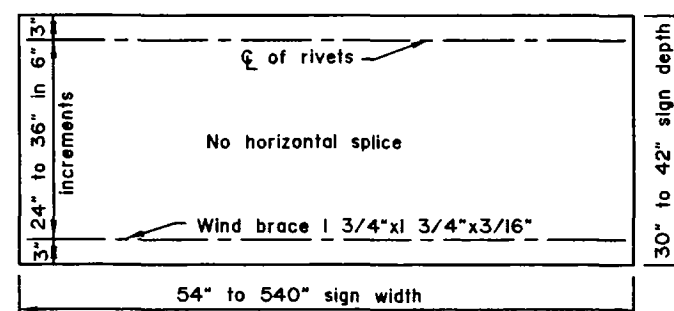
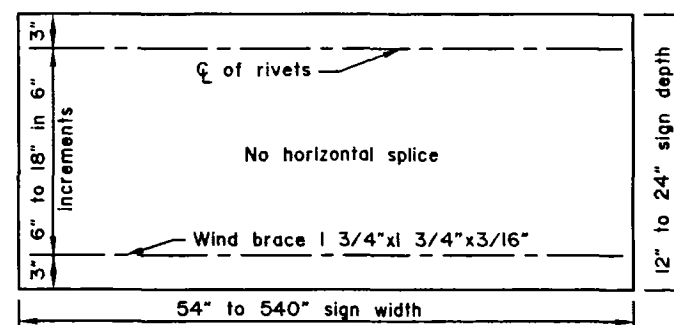
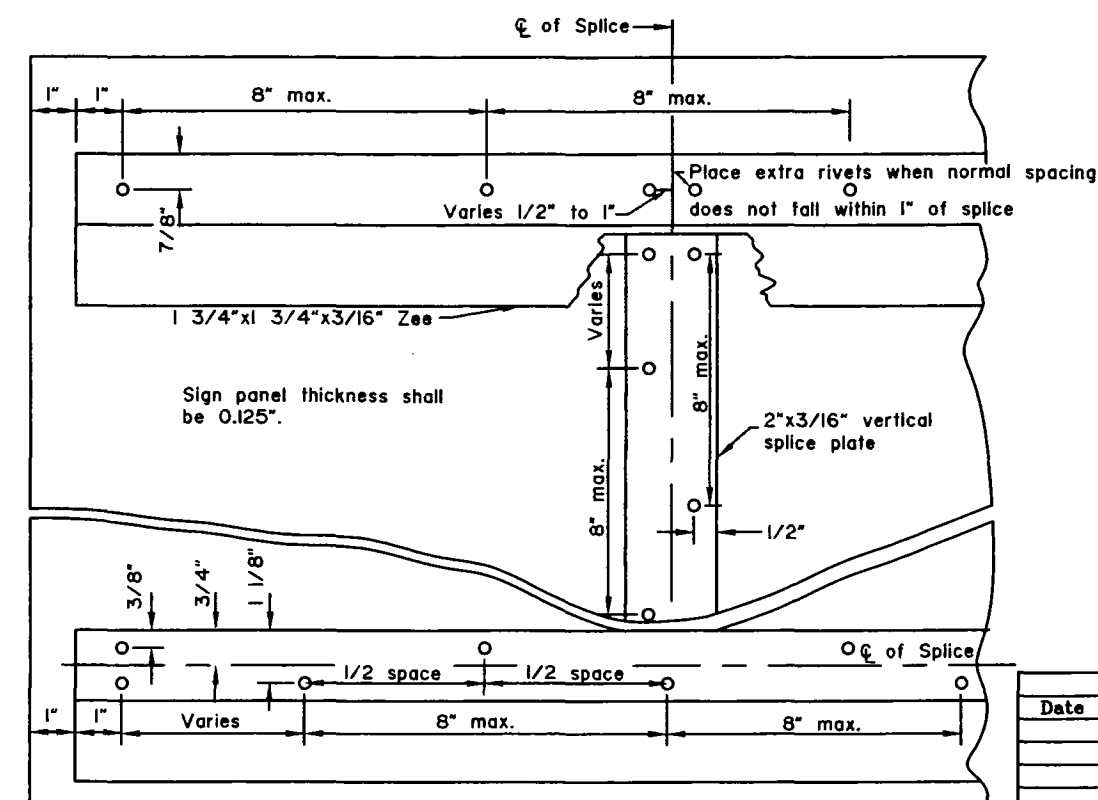
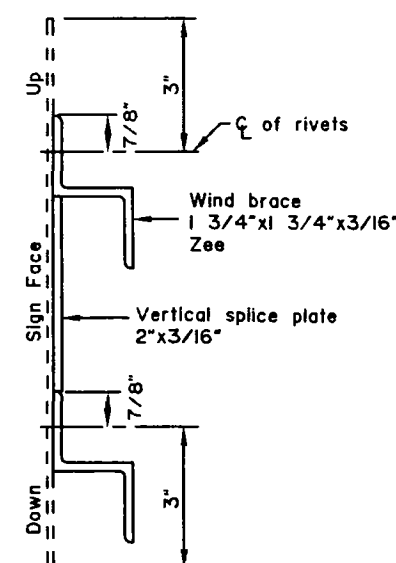
Maximum unframed alloy 6061-T6 aluminum sign blank per installation for light sign structure single and double post.

Sign Shapes	Thickness inches	Single Post		Double Post		Sign Width	Post Spacing
Squares	0.080"	36"	36"	60"	60"	12"	7"
Shields	0.100"	42"	42"	72"	72"	18"	11"
Rte. Markers	0.125"	54"	54"	90"	90"	24"	14"
Rectangles	0.080"	36"	96"	60"	96"	30"	18"
	0.100"	42"	84"	72"	96"	36"	22"
	0.125"	54"	66"	90"	78"	42"	25"
Diamonds	0.080"	30"	30"	48"	48"	48"	29"
	0.100"	36"	36"	54"	54"	54"	32"
	0.125"	42"	42"	66"	66"	60"	36"
Triangles	0.080"	42"		72"		66"	40"
	0.100"	54"		90"		72"	43"
	0.125"	60"		96"		78"	47"
Round & Octagons	0.080"	42"		72"		84"	50"
	0.100"	54"		90"		90"	54"
	0.125"	60"		96"		96"	58"

Heavy sign structure and multi-post spacing

Sign Width	No. of Post	Post Spacing		
		Overhang	Between Post	Overhang
12 1/2'	2	0.2W	1 spaces at 0.6W	0.2W
13' to 21 1/2'	3	0.15W	2 spaces at 0.35W	0.15W
22' to 30'	4	0.125W	3 spaces at 0.25W	0.125W
30 1/2' to 37 1/2'	5	0.1W	4 spaces at 0.2W	0.1W

Heavy sign structures shall require framing.

HEAVY SIGN STRUCTURERIVET DETAIL FOR ZEE WIND BRACE & SPLICE PLATEGENERAL NOTES:

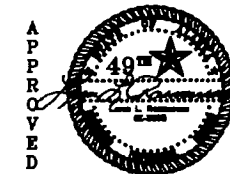
- Aluminum alloy 6061-T6 shall be used for sign sheets and extruded zeos.
- Rivets shall be 3/16" diameter conforming to aluminum alloy 6061-T6 for cold driven rivets, or aluminum alloy 6061-T43 for hot driven rivets.
- Alternative to zee wind brace as shown may be substituted with approval of the engineer if the alternative equals or exceeds in strength the design shown.
- Extruded sign panels and extruded wind beams may be used if manufacturers guarantee their design is equal to or exceed strength design shown on this drawing.

REVISIONS		
Date	Description	By

State of Alaska
Department of Transportation
& Public Facilities

SHEET ALUMINUM SIGN
AND FRAMING

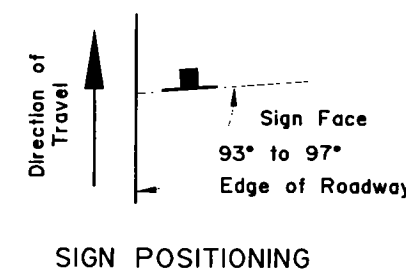
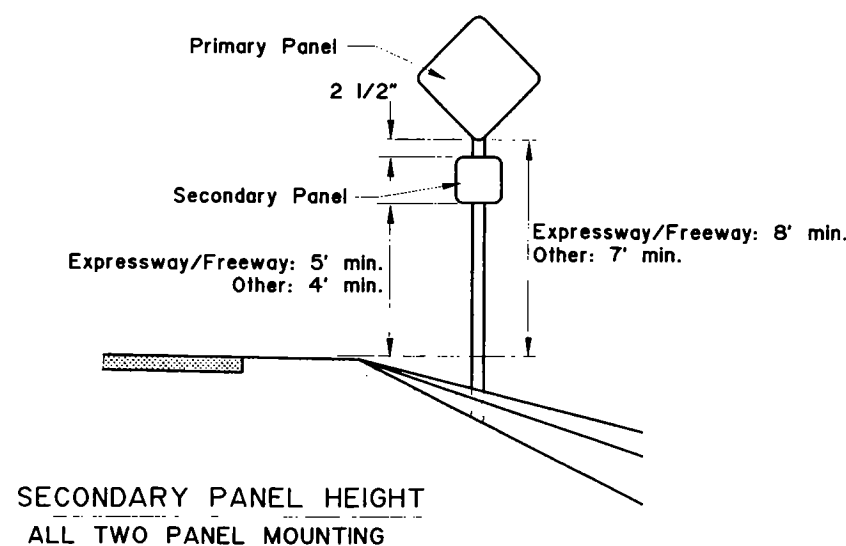
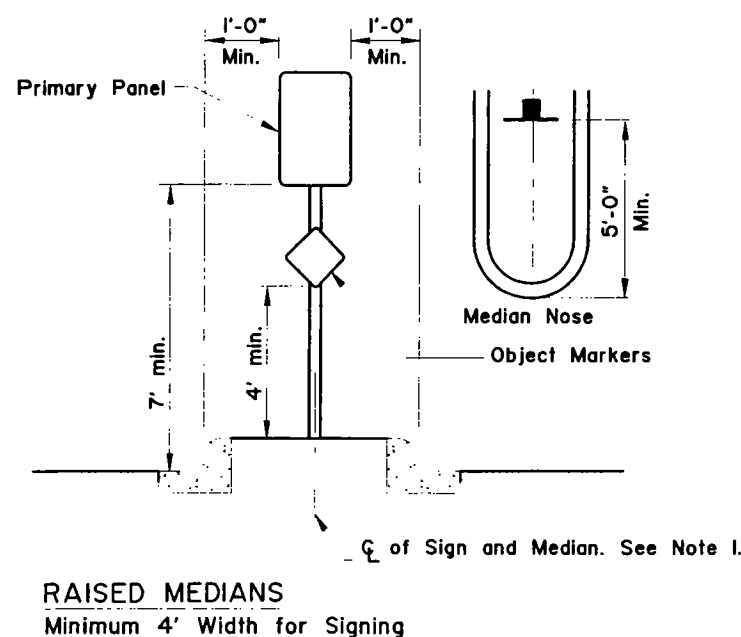
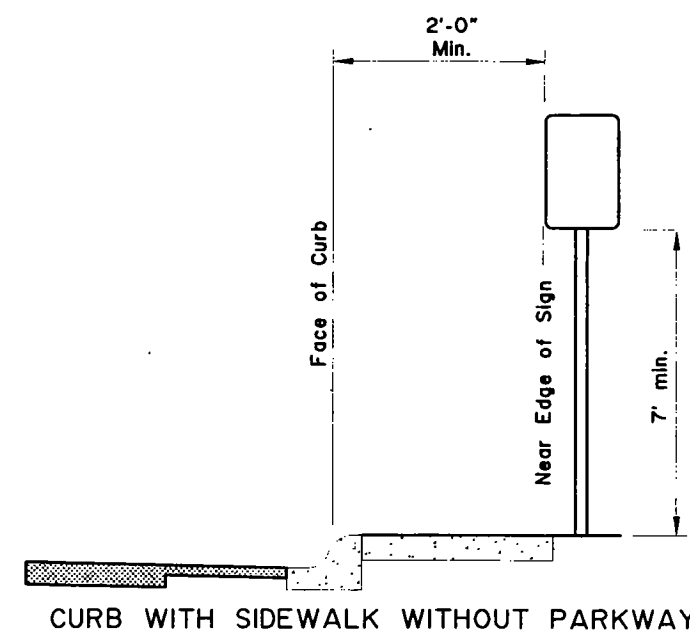
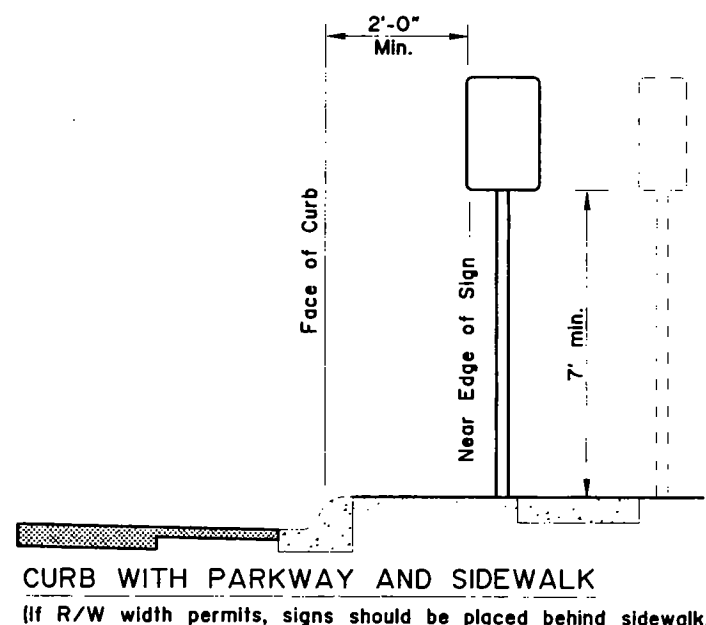
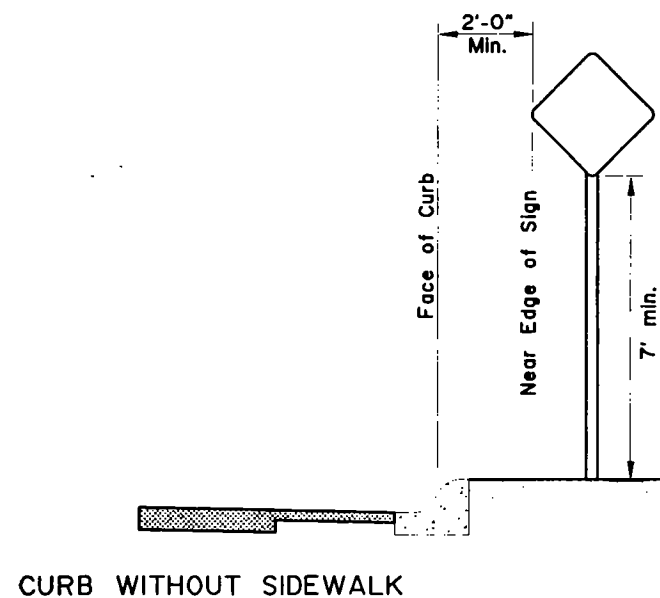
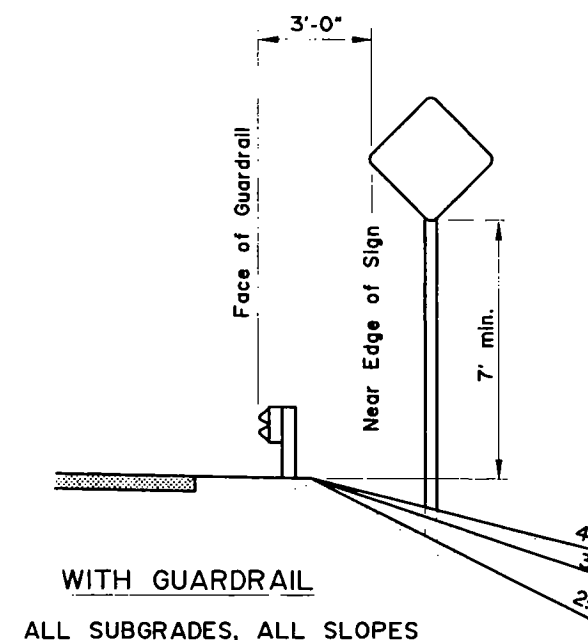
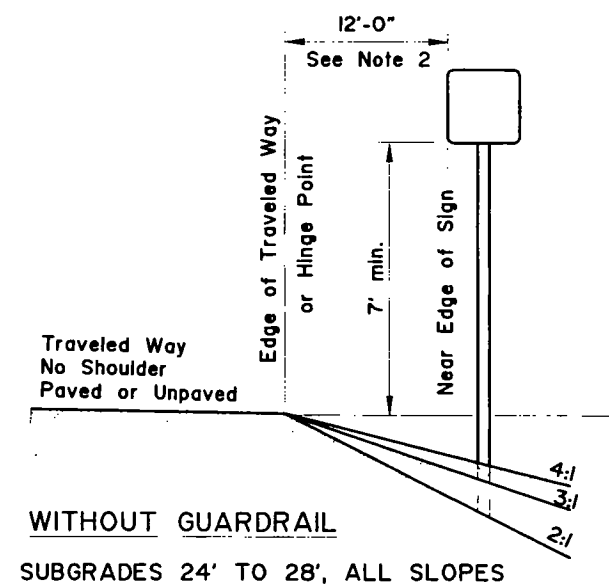
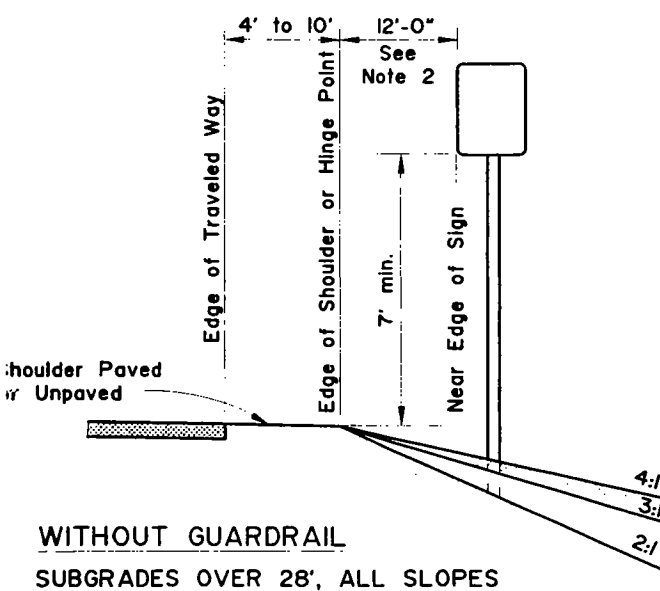
Date 7/15/82



S-05.01

GENERAL NOTES

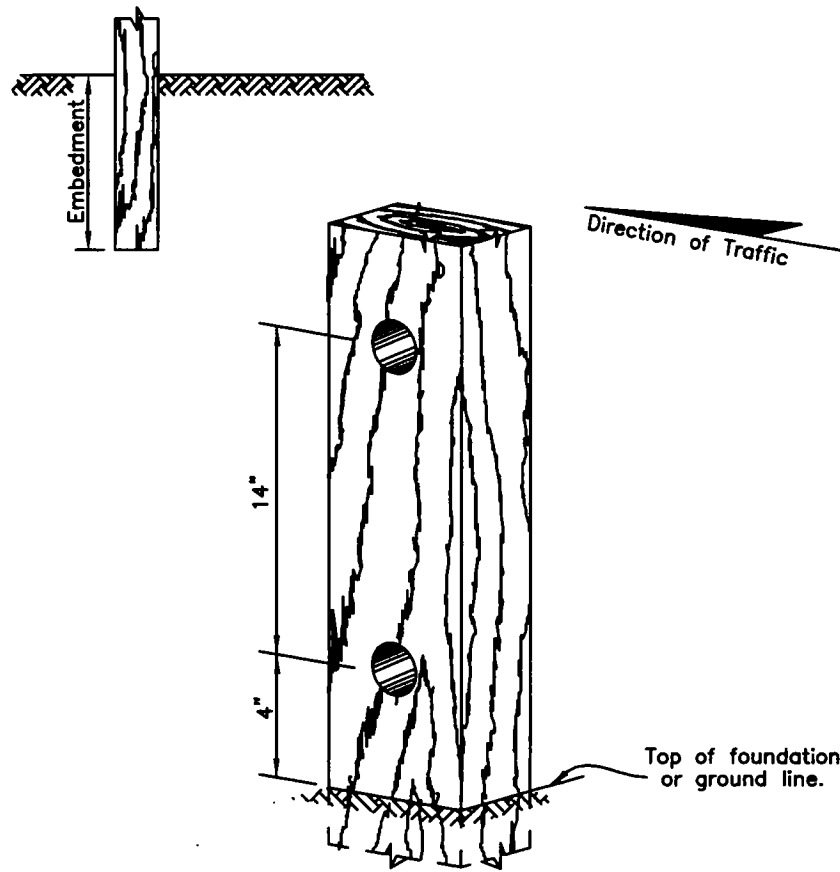
1. Unless shown otherwise on the plans, the standard sign offset is 12'. The minimum is 6'.
2. If signs extend over sidewalks, the minimum vertical clearance is 7'-0".
3. Add 6" to mounting height on unpaved roads.
4. If signs extend over bike paths, the minimum vertical clearance is 8'-0".
5. When signs 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.



REVISIONS		
Date	Description	By
4-3-00	Revised Sign Heights	KJS
Sheet 1 of 1		
State of Alaska Department of Transportation & Public Facilities		
POST MOUNTED SIGN OFFSET AND HEIGHT		
APPROVED		

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.

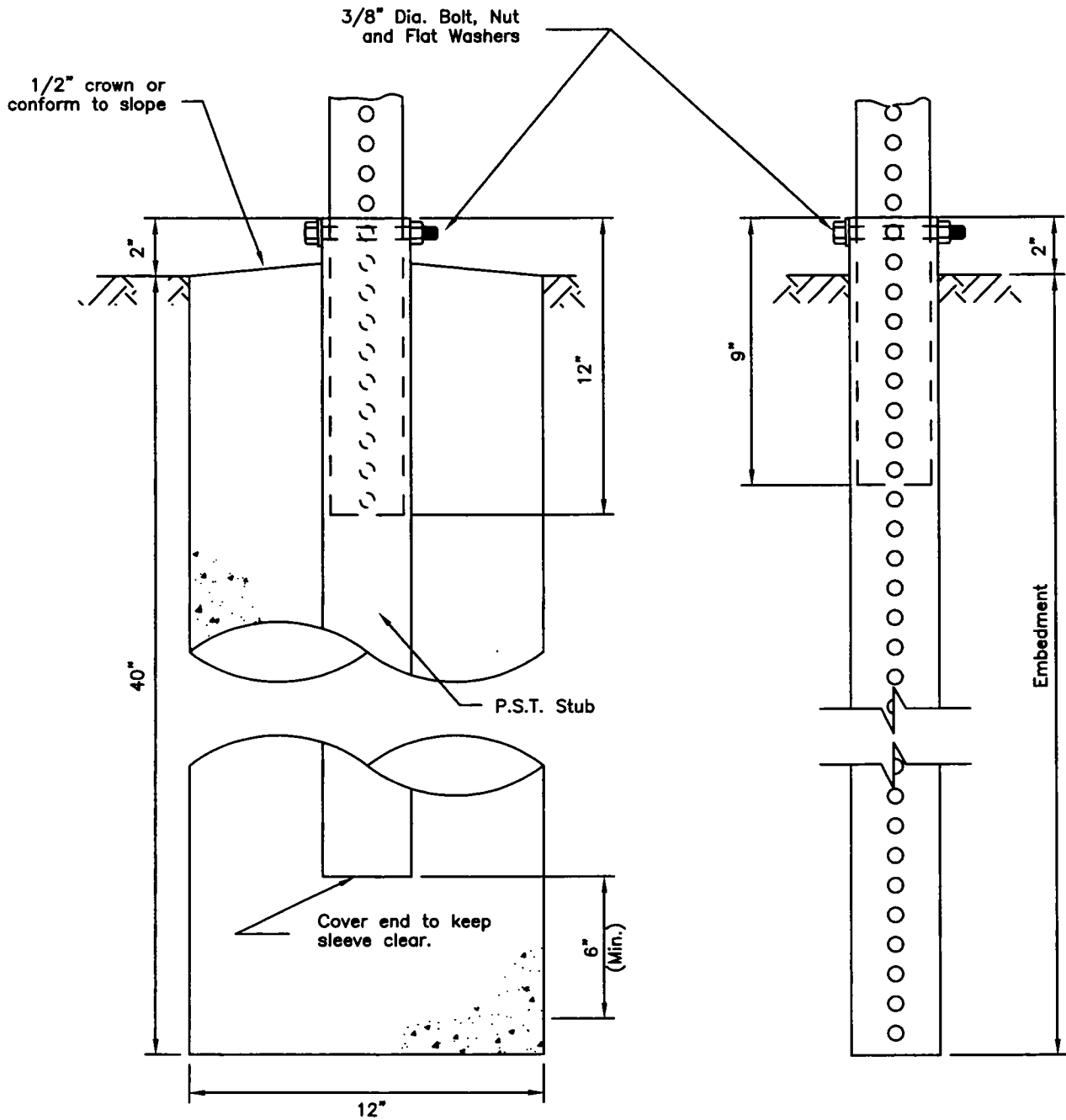


Note: If holes are field drilled after post has been treated, the holes shall be thoroughly swabbed with a 5% solution of pentachlorophenol and mineral spirits.

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



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

ADDENDUM NO. 1
ATTCHMENT NO. 6

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

State of Alaska
Department of Transportation
& Public Facilities

LIGHT SIGN
STRUCTURE POST
EMBEDMENT



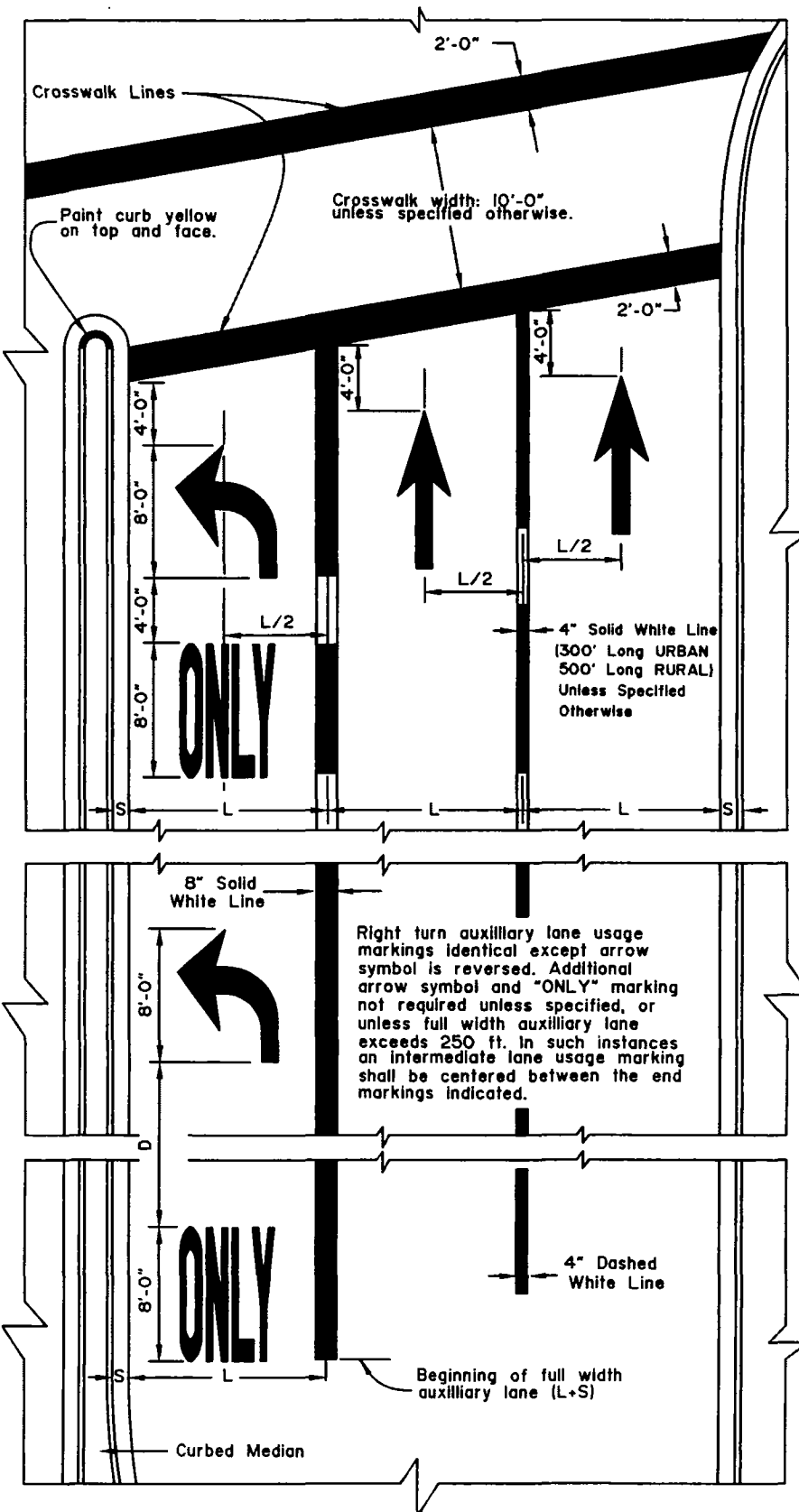
Date 7/15/82

NOTES:

1. All markings white unless indicated otherwise.
2. Straight ahead and combination arrows shall be used only on one-way roadways unless indicated otherwise on the plans.
3. Lane lines for auxiliary lanes are unbroken solid white.

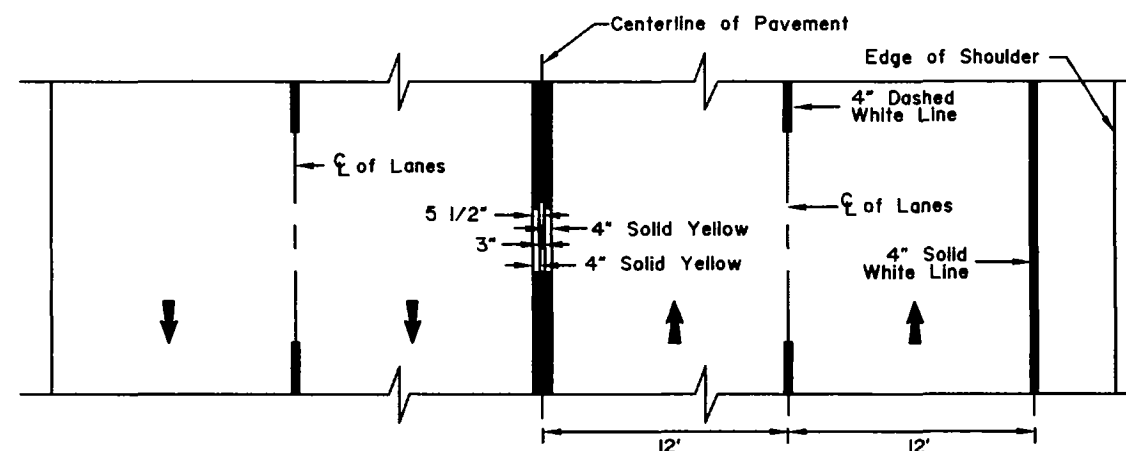
T-21.02

SHEET
of 1

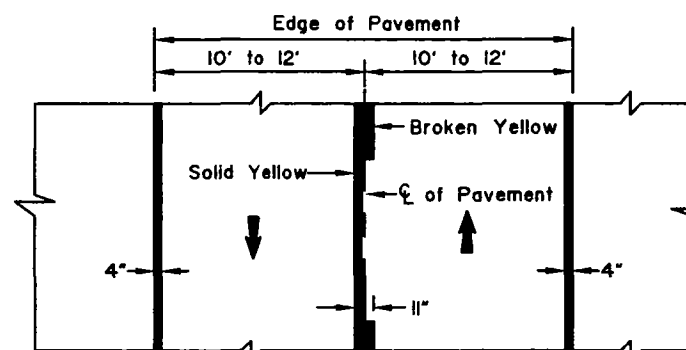


APPROACH TO INTERSECTION

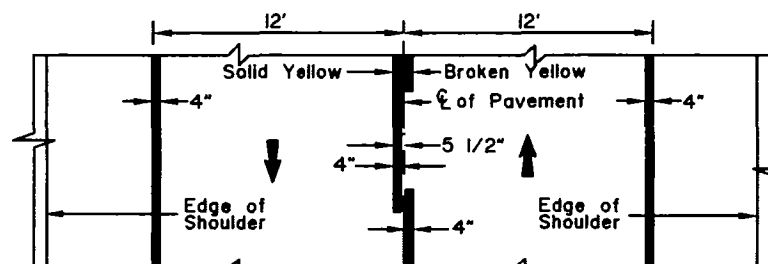
V	D
25 or less	35'
30	45'
35	50'
40	60'
45	65'
50	75'
55 or more	80'



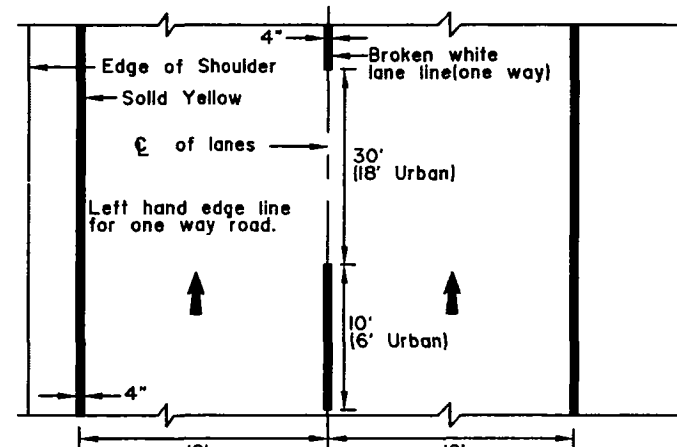
4 LANE UNDIVIDED



UNPAVED SHOULDER OR NO SHOULDER



PAVED SHOULDER

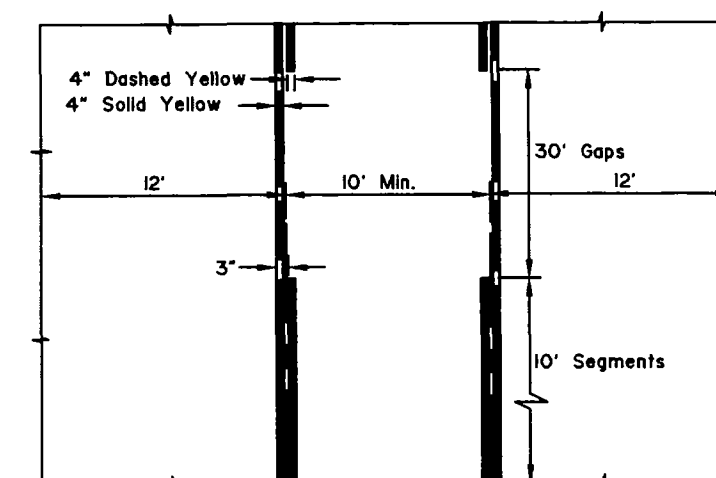


LEFT HAND EDGE LINE FOR ONE WAY ROAD

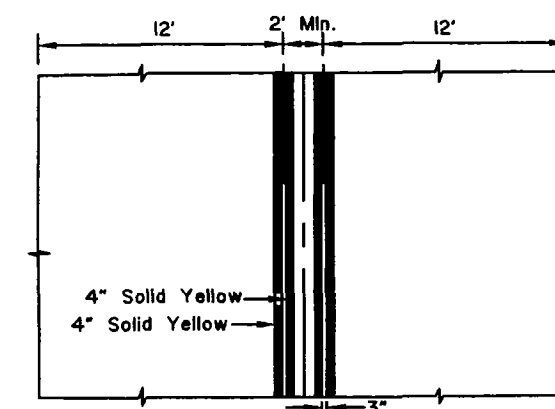
NOTES:

1. All markings solid white unless indicated otherwise.
2. Lengths of stripe and gap for lane and center lines identical.

CENTER LINES, LANE LINES EDGE LINES and SHOULDER MARKINGS



PAINTED MEDIANS



BI-DIRECTIONAL LANE MARKINGS

1. All markings shall be reflectorized.
2. "L" = driving lane width.
3. "S" = shy distance as designated, otherwise 1 to 2 feet.

REVISIONS		
Date	Description	By
1/1/86	Arrow Dimensions	Gdo
1/1/96	Intersect. Note	Gdo

State of Alaska
Department of Transportation
& Public Facilities

PAVEMENT MARKING
APPLICATIONS



Date 7/15/82

ADDENDUM NO. 1
ATTCHMENT NO. 6