

State of Alaska

Department of Transportation and Public Facilities
Statewide Design and Engineering Services Division

SOUTHEAST REGION LED SIGNAL INSTALLATION IM-000S(370) ~ 68159

JUNEAU, ALASKA TWIN LAKES & EGAN DRIVE SIGNAL UPGRADES HHE-0955(13) ~ 68408

As-Built Plans

CONTRACTOR: Alaska Electric Control, Inc.

PROJECT ENGINEER: Al Culbreath

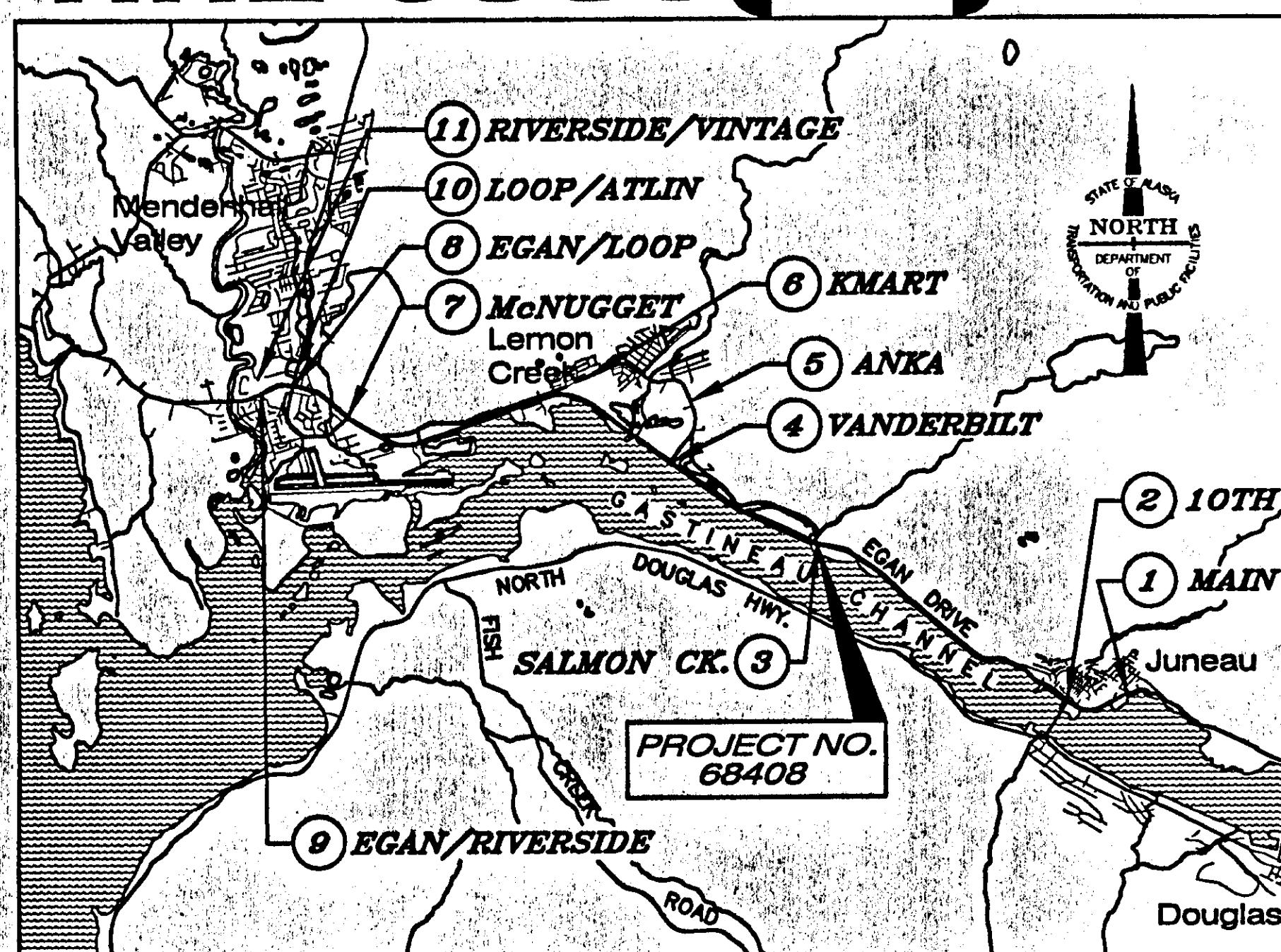
BEGIN DATE: December 20, 2002

END DATE: July 31, 2003

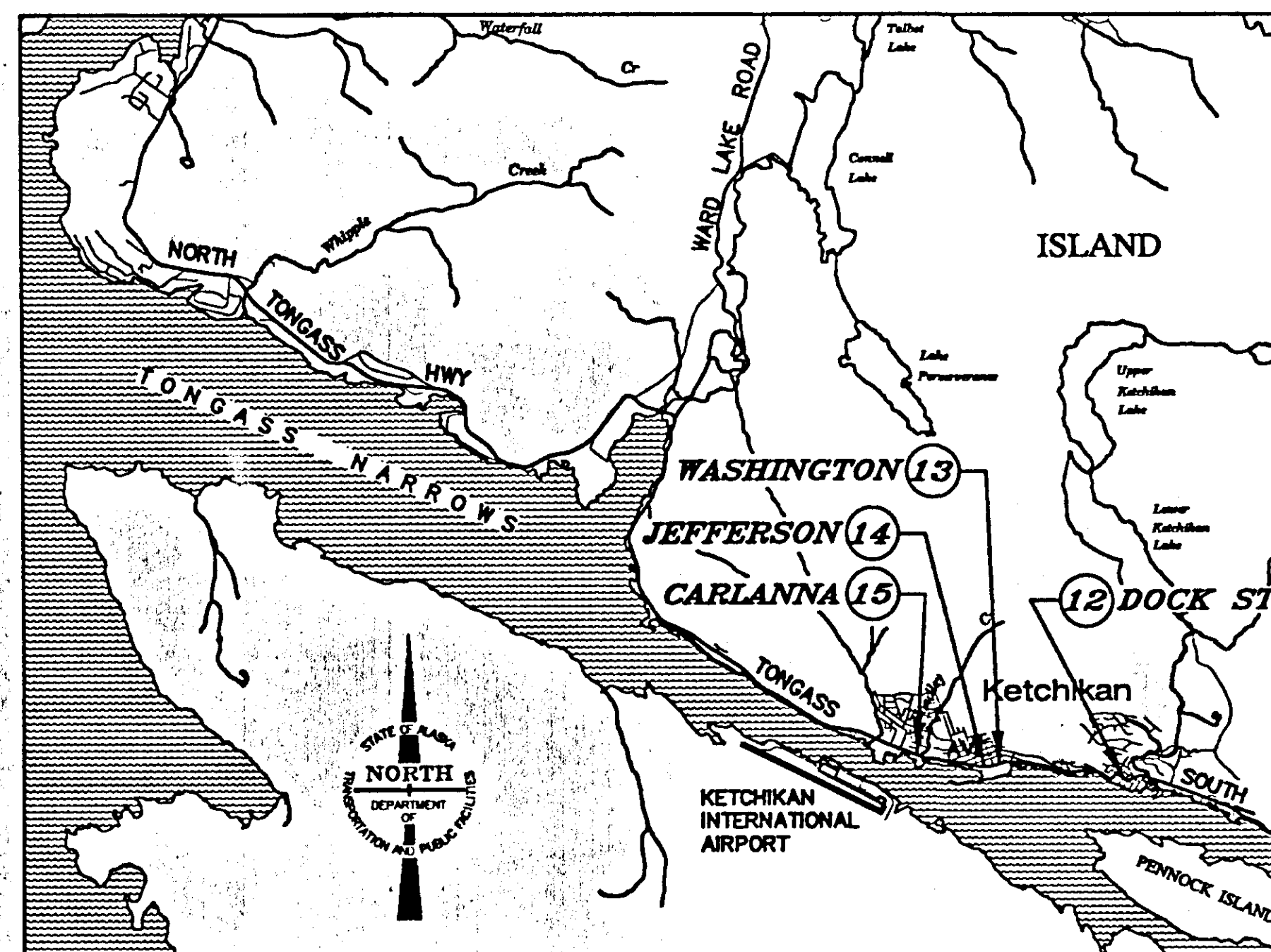
TOTAL CONTRACT AMOUNT: \$533,589.44

Al Culbreath
3/03/04

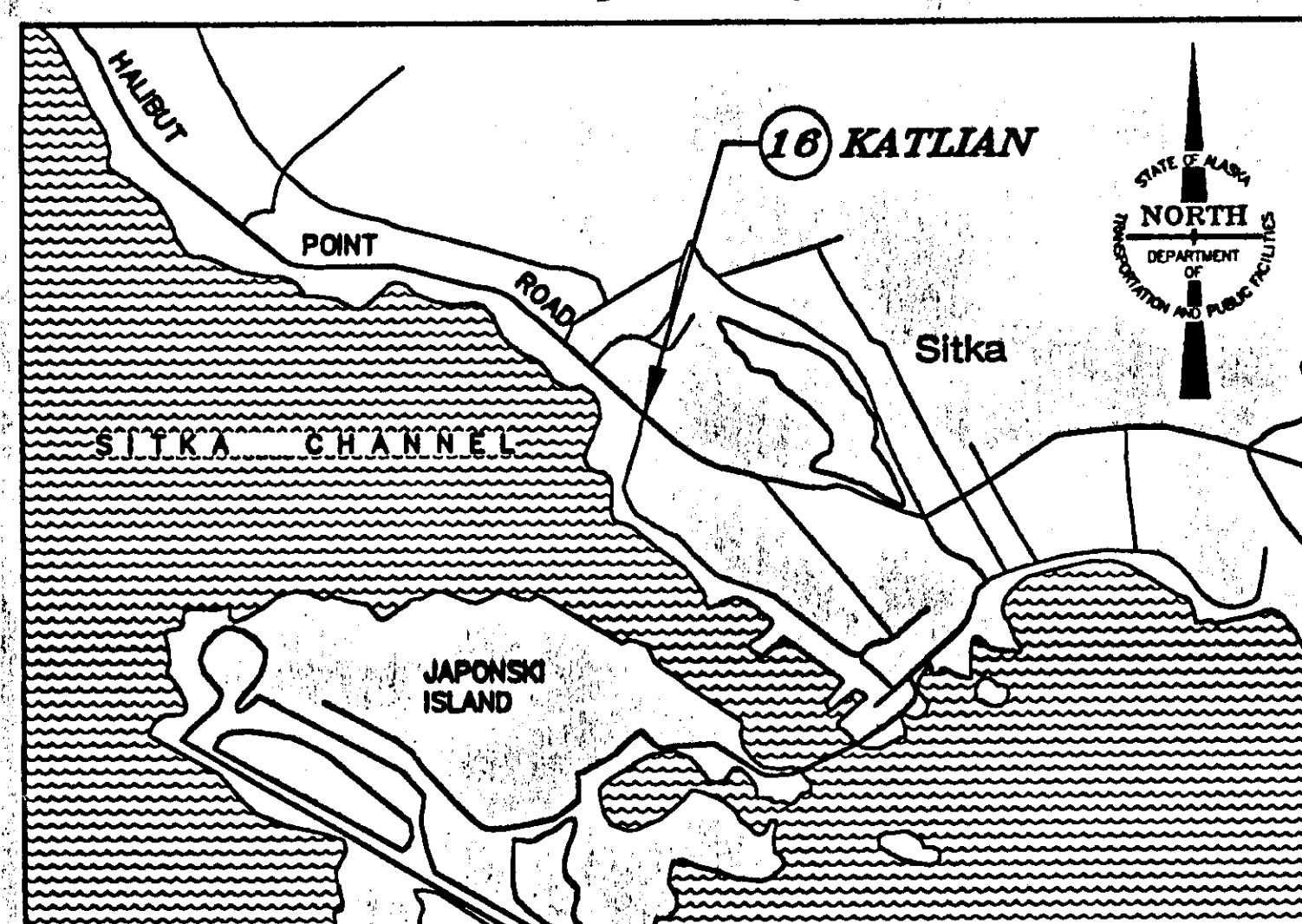
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PROJECT NO. 68408	
L1-L9	TWIN LAKES/EGAN (SALMON CREEK) UPGRADES



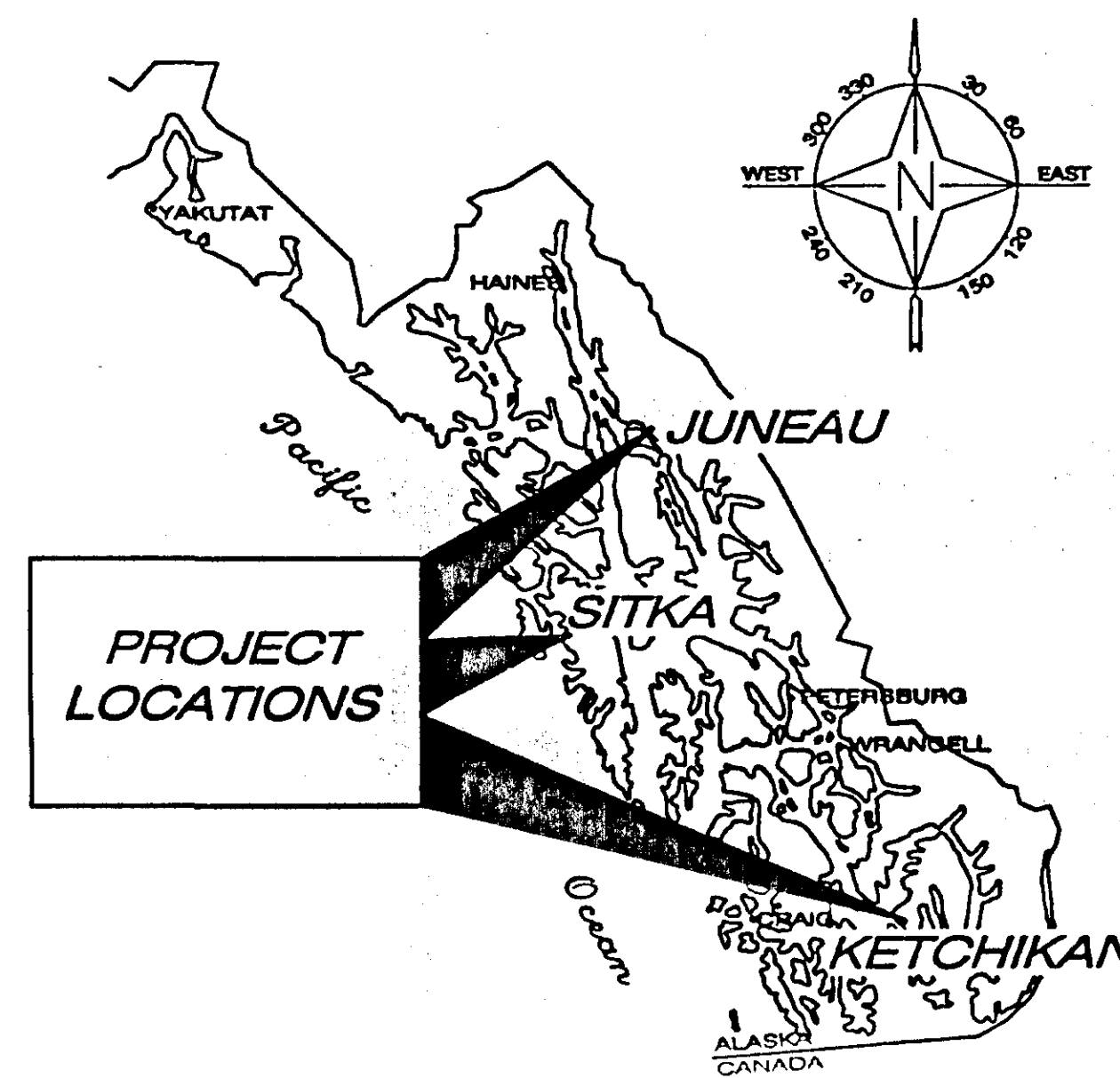
Juneau Vicinity Map



Ketchikan Vicinity Map



Sitka Vicinity Map

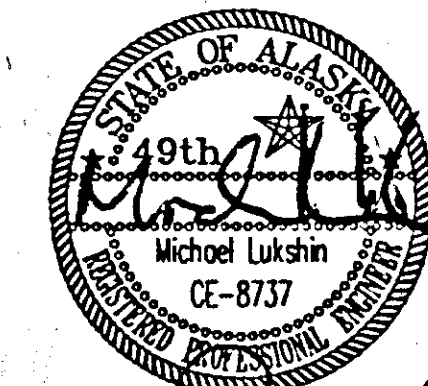


THE FOLLOWING STANDARD DRAWINGS APPLY TO THIS PROJECT:

A-1	C-04.11	L-23.01	L-24.00	L-25.00	L-26.00
S-05.01	S-20.00	S-30.02	T-05.00	T-20.01	T-21.02
T-22.03	T-31.00	T-34.01	T-40.00	T-52.15	

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION



RECOMMENDED FOR APPROVAL:

Patrick J. Kemp
PATRICK J. KEMP, P.E.
REGIONAL PRECONSTRUCTION ENGINEER

9/11/02
DATE

APPROVED:

Robert Doll
ROBERT DOLL
REGIONAL S.E. DIRECTOR

9-11-02
DATE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	IM-000S(370) ~ 68159	2002	A1	30

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY
640 (1)	MOBILIZATION & DEMOBILIZATION	L.S.	ALL REQUIRED
643 (1)	TRAFFIC MAINTENANCE	C.S.	ALL REQUIRED
643 (2)	PERMANENT CONSTRUCTION SIGNING	L.S.	ALL REQUIRED
643 (15)	FLAGGING	L.S.	ALL REQUIRED
660 (7)	TEMPORARY SIGNAL SYSTEM COMPLETE (LOOP & EGAN)	L.S.	ALL REQUIRED
660 (14)	EGAN & MAIN LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (15)	EGAN & 10TH LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (16)	EGAN & SALMON CK. LED IMPROVEMENTS (SEE NOTE 9)	L.S.	ALL REQUIRED
660 (17)	EGAN & VANDERBILT LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (18)	LEMON & ANKA LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (19)	LEMON & K-MART LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (20)	EGAN & MCNUGGET LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (21)	EGAN & LOOP LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (22)	EGAN & RIVERSIDE LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (23)	LOOP & MALL LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (24)	RIVERSIDE & VINTAGE LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (25)	TONGASS & DOCK LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (26)	TONGASS & WASHINGTON LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (27)	TONGASS & JEFFERSON LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (28)	TONGASS & CARLANNA LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (29)	HPR & KATLIAN LED IMPROVEMENTS	L.S.	ALL REQUIRED
660 (30)	SIGNAL CABINET SHOP TESTING	C.S.	ALL REQUIRED

GENERAL NOTES:

- ALL LED'S SHALL BE 12" DIAMETER EXCEPT POLE 4 AT FRONT & DOCK ST. SEE SHEET D6.
- REPLACE SIGNAL HEADS AND MOUNTING HARDWARE IN ACCORDANCE WITH SHEET G1.
- THE CONTRACTOR SHALL GIVE THE ENGINEER ONE WEEK ADVANCE NOTICE WHEN WIRING NEW SIGNAL HEADS AND SIGNAL POLES. IF REQUIRED, THE ENGINEER OR HIS REPRESENTATIVE SHALL THEN DIRECT THE CONTRACTOR WHERE TO LAND THE WIRING IN THE SIGNAL CABINET.
- THE COST TO MODIFY THE SIGNAL CABINET WIRING SHALL BE INCIDENTAL FOR EACH LOCATION.
- REPLACED SIGNAL POLES SHALL BE DELIVERED TO THE S.E. REGION MAINTENANCE SHOP AT 6860 GLACIER HIGHWAY, JUNEAU, AK.
- RED-LED (TYP.) MEANS A RED LED ARROW MODULE. YELLOW-INCANDESCENT MEANS A YELLOW ARROW LENS WITH AN INCANDESCENT BULB.
- INSTALL NEW PEDESTRIAN PUSH BUTTONS AT LEMON RD/KMART, EGAN/10TH ST., DOCK/FRONT AND EGAN/MAIN ST. SEE SPECIAL PROVISIONS.
- A 5-SECTION "DOGHOUSE" SIGNAL HEAD MEANS MUTCD CONFIGURATION S. A 5-SECTION "LONG" SIGNAL HEAD MEANS CONFIGURATION M.
- AT THESE SIGNAL LOCATIONS, YELLOW LAMPS ARE NOT BEING REPLACED WITH LED'S. REPLACE INCANDESCENT BULBS WITH NEW.
- ITEM 660(16) SHALL BE CONSIDERED PAYMENT FOR LED MODULES AND SIGNAL HEADS ONLY. ALL OTHER INTERSECTION RELATED WORK SHALL BE PAID FOR UNDER PROJECT NO. 68408, PAY ITEM 121(1), TWIN LAKES AND SALMON CREEK SIGNAL UPGRADES COMPLETE.
- NEW POLES AT EGAN AND SALMON CK. ARE INCLUDED HERE FOR INFORMATIONAL PURPOSES ONLY. THEY WILL BE PAID FOR UNDER PROJECT 68408 AS NOTED ABOVE.
- SIGNAL "AS-BUILT" DRAWINGS ARE AVAILABLE FROM THE S.E. REGION TRAFFIC AND SAFETY SECTION AT 6860 GLACIER HIGHWAY, JUNEAU, AK.
- WHEN EXCAVATING FOR POLES, CONDUIT OR OTHER STRUCTURES, SEE SPECIAL PROVISION 105 AND 107-1.16.

SIGNAL LAMP SUMMARY TABLE

CITY	NO.	INTERSECTION	LED MODULES							INCANDESCENT		
			RED BALL LED	YELLOW BALL LED	GREEN BALL LED	RED → LED (SEE NOTE 6)	YELLOW → LED (SEE NOTE 6)	GREEN → LED (SEE NOTE 6)	PEDESTRIAN LED	YELLOW BALL INCANDESCENT (SEE NOTE 9)	YELLOW → INCANDESCENT (SEE NOTE 6 & 9)	
JUNEAU	1	EGAN/MAIN ST.	9		5			6			5	6
JUNEAU	2	EGAN/10TH ST.	8	8	8		6	6	8			
JUNEAU	3	EGAN/SALMON CK	10	10	10		4	4	4	2		
JUNEAU	4	EGAN/VANDERBILT	7	7	7		2	2	2			
JUNEAU	5	LEMON RD/ANKA	3	3	3							
JUNEAU	6	LEMON RD/KMART INTERSECTION	8		4			5	4		4	5
JUNEAU	7	EGAN/MCNUGGET										
JUNEAU	8	EGAN/LOOP	1	1	1							
JUNEAU	9	EGAN/RIVERSIDE	8	4	4		2	7	7	4		
JUNEAU	10	LOOP/ATLIN (MALL)	8	8	8		4	4	4	6		
JUNEAU	11	RIVERSIDE/VINTAGE	12		12			8	8	12		4
KETCHIKAN	12	TONGASS AVE/DOCK ST	5		5				8	5		
KETCHIKAN	13	TONGASS AVE/WASHINGTON ST	9		9			4	8	9		4
KETCHIKAN	14	TONGASS AVE/JEFFERSON ST	10		10			2	8	10		
KETCHIKAN	15	TONGASS AVE/CARLANNA LAKE RD	11		9			7	4	9		4
SITKA	16	HALIBUT PT. ROAD/KATLIAN	8		8				4	8		
		SPARE LED'S	4	4	4		2	2	4	4		
KETCHIKAN		DOCK ST. (8" LED'S)	1		1							
		TOTALS	122	45	108		20	25	61	74	62	23

NEW ITEMS ESTABLISHED BY CHANGE ORDER 1

ITEM NO.	ITEM	UNIT	QUANTITY
643(1a)	Traffic Maintenance	L.S.	ALL REQUIRED
643(25)	Traffic Control	C.S.	ALL REQUIRED
660(21a)	Road Bore	L.S.	ALL REQUIRED
660(21b)	Egan & Loop Conduit Modifications	L.S.	ALL REQUIRED
660(31)	LED Signal Modifications	L.S.	ALL REQUIRED

SIGNAL HEAD SUMMARY TABLE

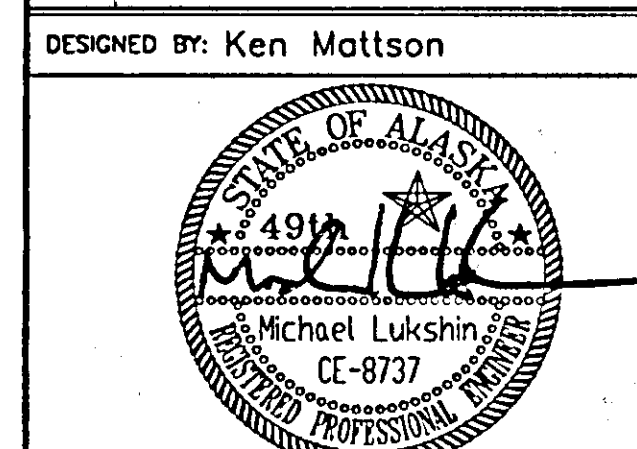
CITY	NO.	INTERSECTION	SIGNAL HEADS					SIGNAL HEAD MOUNTING HARDWARE						PED HARDWARE				NEW POLES			
			3 SECTION HEAD	4 SECTION HEAD	5 (DOGHOUSE) HEAD	5 (LONG) HEAD	PED HEAD	8 INCH SECTION	MAST ARM ASTRO BRAC (AB-116)	MAST ARM (DOG HOUSE) ASTRO BRAC (AB-109)	SIDE MOUNT S-1	SIDE MOUNT S-2	SIDE MOUNT S-3	TOP MOUNT T-1	TOP MOUNT T-2	TOP MOUNT T-3	PED SIDE CLAMSHHELL		PED TOP TW-1	PED TOP TW-2	PED BUTTONS
JUNEAU	1	EGAN/MAIN ST.	7		1	1	6		3		1		1		2		6		6		
JUNEAU	2	EGAN/10TH ST.	12	2			8		6				4				4		8		
JUNEAU	3	EGAN/SALMON CK (SEE NOTE 11)	14				2		6					2	1	2			3		
JUNEAU	4	EGAN/VANDERBILT	9					5				3		1					1		
JUNEAU	5	LEMON RD/ANKA	3											2							
JUNEAU	6	LEMON RD/KMART INTERSECTION	7		1	1	4		3		1		2	1			4		4	1	
JUNEAU	7	EGAN/MCNUGGET	7					3				3					2	1			
JUNEAU	8	EGAN/LOOP	10	3				7				1	3				8				
JUNEAU	9	EGAN/RIVERSIDE	9			1	4		6			3		1	1		4				
JUNEAU	10	LOOP/ATLIN (MALL)	12				6		6			2	2				8				
JUNEAU	11	RIVERSIDE/VINTAGE	4		4	4	8				4		1	3			6				
KETCHIKAN	12	DOCK ST./FRONT	5				8	1	2			1	1				8			8	
KETCHIKAN	13	TONGASS AVE/WASHINGTON ST																			
KETCHIKAN	14	TONGASS AVE/JEFFERSON ST																			
KETCHIKAN	15	TONGASS AVE/CARLANNA LAKE RD	6	3	1	1	4		5		1		2	1			4	3	1		
SITKA	16	HALIBUT PT. ROAD/KATLIAN	8						4								8				
		TOTALS	113	8	7	7	65	1	58		7		24	16	2		59	2	2	26	5

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ADDENDUM NUMBER
ATTACHMENT NUMBER
RECORD OF REVISIONS
No. DATE DESCRIPTION

SOUTHEAST REGION
LED SIGNAL
INSTALLATION
PROJECT NO. 68159

ESTIMATE OF QUANTITIES
AND SUMMARY TABLES

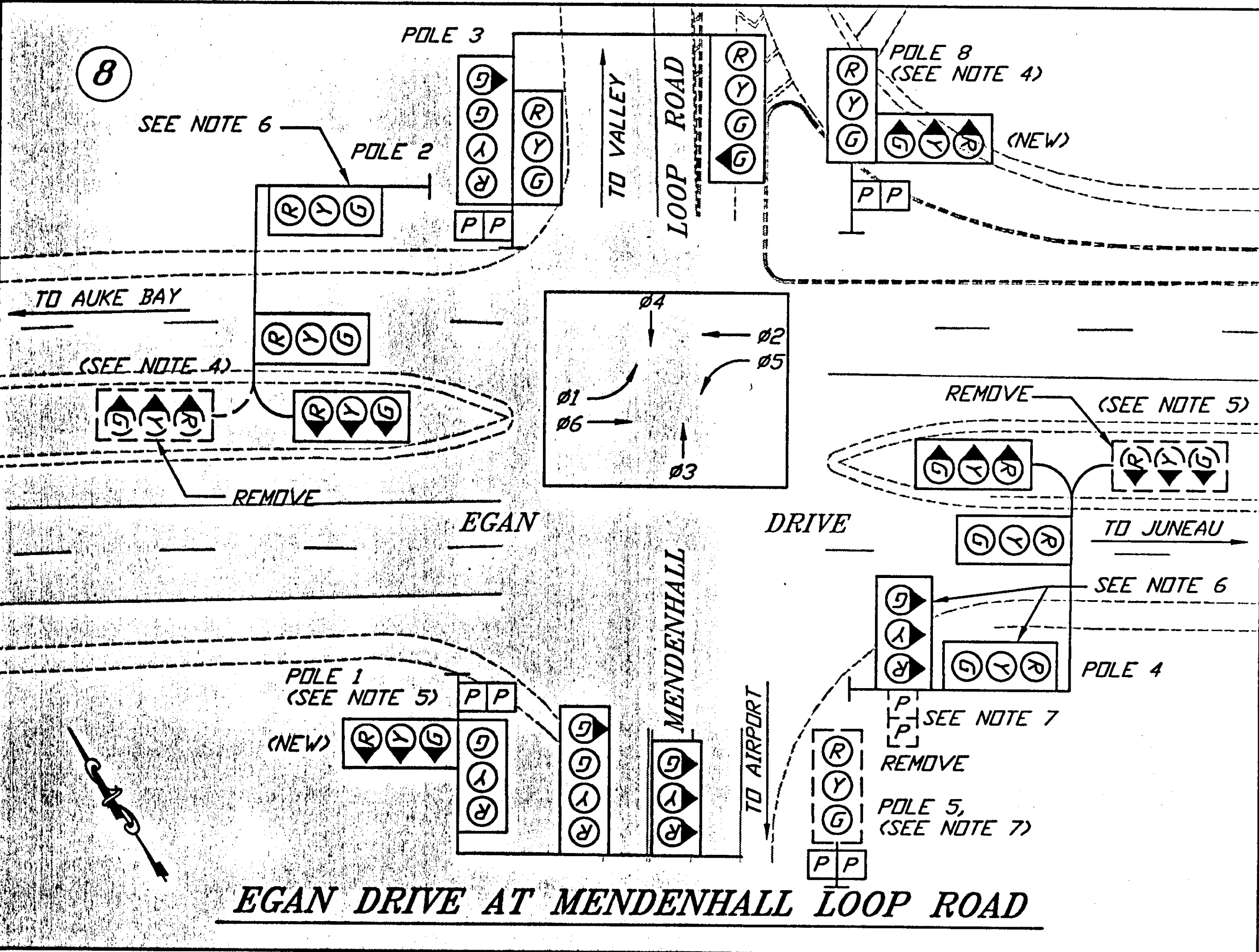


DESIGNED BY: Ken Mattson
CHECKED BY: Michael Lukshin
DRAWN BY: Dave Stevens
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION
SOUTHEAST REGION
LED SIGNAL
INSTALLATION
PROJECT NO. 68159

ESTIMATE OF QUANTITIES

PROJECT DESIGNATION NUMBER	
IM-000S(370)-(68159)	
STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
C1	30

3/10/02



EGAN DRIVE AT MENDENHALL LOOP ROAD

NOTES:

1. SEE SHEET C1.
2. REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.
3. THE EGAN AT MENDENHALL LOOP SIGNAL SYSTEM HAS NEW LED SIGNAL MODULES. REINSTALL THE EXISTING LED SIGNAL MODULES INTO NEW SIGNAL HEADS.
4. REMOVE ø1 LEFT TURN SIGNAL HEAD FROM POLE 2 "DROOP SNOOT". REPLACE WITH NEW ø1 LEFT TURN SIGNAL HEAD ON POLE 8. ADD 5C CABLE FROM POLE 8 BACK TO CONTROLLER CABINET.
5. REMOVE ø5 LEFT TURN SIGNAL HEAD FROM POLE 4 "DROOP SNOOT". REPLACE WITH NEW ø5 LEFT TURN SIGNAL HEAD ON POLE 1. ADD 5C CABLE FROM POLE 8 BACK TO CONTROLLER CABINET.
6. SIDEMOUNT SIGNAL HEADS ON POLES 2 & 4 ARE NEW AND DO NOT NEED TO BE REPLACED. REPLACE MOUNTING HARDWARE ONLY.
7. REMOVE EXISTING PEDESTRIAN HEADS FROM POLE 4 AND INSTALL NEW HEADS ON POLE 5.
8. SEE SHEETS D2-D4 FOR ADDITIONAL WORK.

LEGEND

= TOP MOUNT SIGNAL HEAD CONFIGURATION
 = SIDEMOUNT AND MASTARM SIGNAL HEAD CONFIGURATION
 = PEDESTRIAN SIGNAL HEAD
 = SOLID BALL SIGNAL MODULE (X=COLOR)
 = TURN ARROW SIGNAL MODULE (X=COLOR)
 WHERE:
 R= RED
 Y= YELLOW
 G= GREEN
 = SIGNAL PHASE
 = RMC CONDUIT
 X"=DIA. IN INCHES

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ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159

EGAN/LOOP
 SIGNAL MODIFICATIONS

DESIGNED BY: Ken Mattson

CHECKED BY: Michael Lukshin
 DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

EGAN/LOOP SIGNAL MODIFICATIONS	
PROJECT DESIGNATION NUMBER	
IM-000S(370)-(68159)	
STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
D1	30

MC
 3/16

MAJOR ITEMS OF WORK AT THIS INTERSECTION

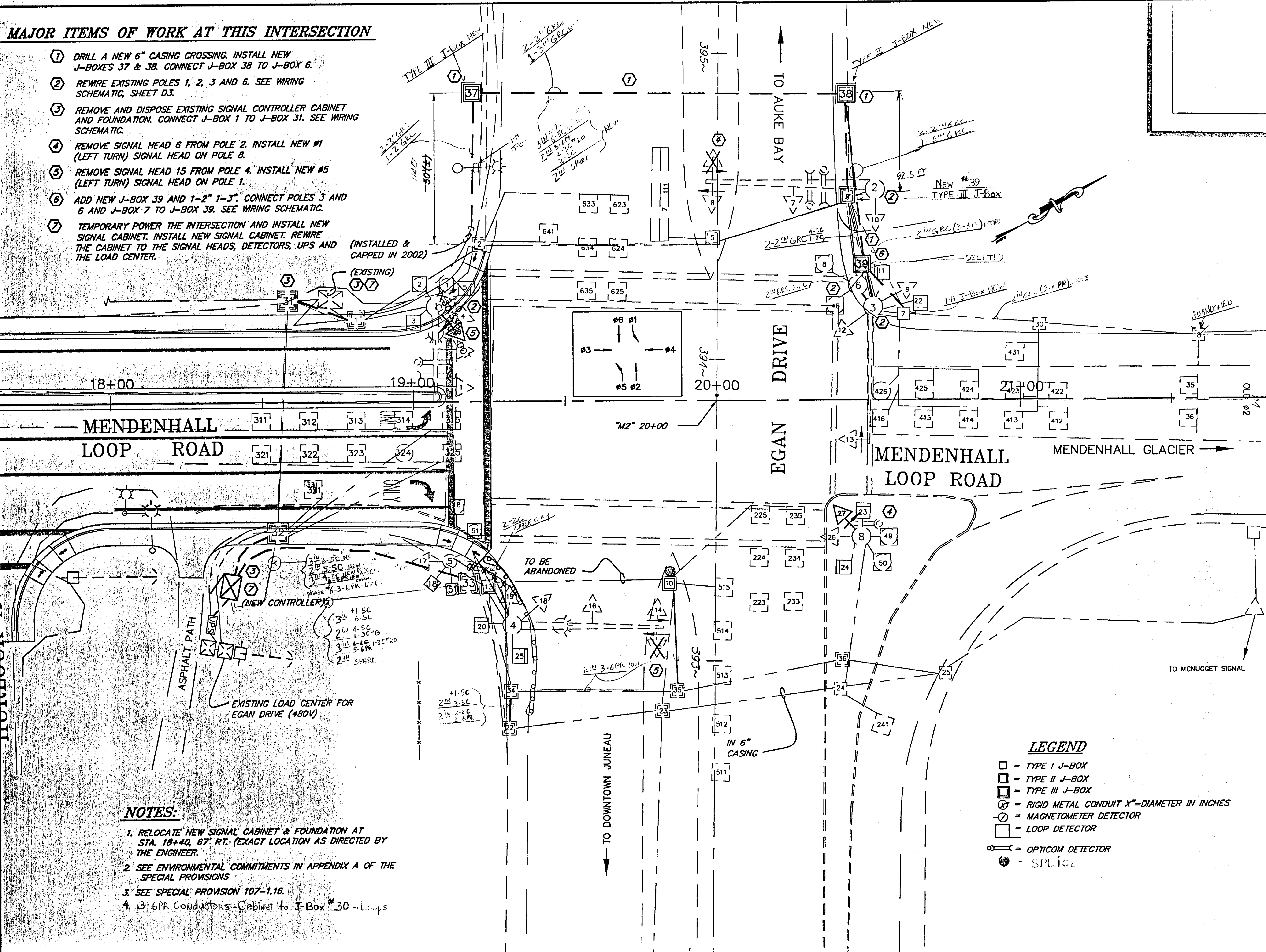
- ① DRILL A NEW 6" CASING CROSSING. INSTALL NEW J-BOXES 37 & 38. CONNECT J-BOX 38 TO J-BOX 6.
- ② REWIRE EXISTING POLES 1, 2, 3 AND 6. SEE WIRING SCHEMATIC, SHEET D3.
- ③ REMOVE AND DISPOSE EXISTING SIGNAL CONTROLLER CABINET AND FOUNDATION. CONNECT J-BOX 1 TO J-BOX 31. SEE WIRING SCHEMATIC.
- ④ REMOVE SIGNAL HEAD 6 FROM POLE 2. INSTALL NEW #1 (LEFT TURN) SIGNAL HEAD ON POLE 8.
- ⑤ REMOVE SIGNAL HEAD 15 FROM POLE 4. INSTALL NEW #5 (LEFT TURN) SIGNAL HEAD ON POLE 1.
- ⑥ ADD NEW J-BOX 39 AND 1-2" 1-3". CONNECT POLES 3 AND 6 AND J-BOX 7 TO J-BOX 39. SEE WIRING SCHEMATIC.
- ⑦ TEMPORARY POWER THE INTERSECTION AND INSTALL NEW SIGNAL CABINET. INSTALL NEW SIGNAL CABINET. REWIRE THE CABINET TO THE SIGNAL HEADS, DETECTORS, UPS AND THE LOAD CENTER.

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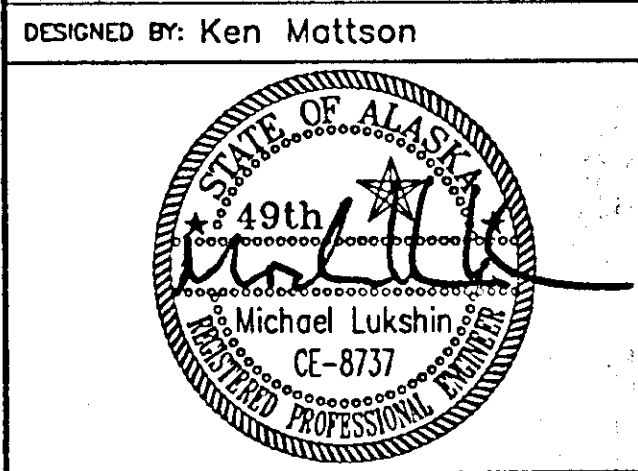
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SCALE: 1 INCH=30 FEET

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ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159
 PLAN VIEW
 EGAN DRIVE/LOOP ROAD



DESIGNED BY: Ken Mattson

CHECKED BY: Rick Purves

DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

PLAN VIEW
EGAN DRIVE/LOOP ROAD

PROJECT DESIGNATION NUMBER
IM-000S(370)-(68159)

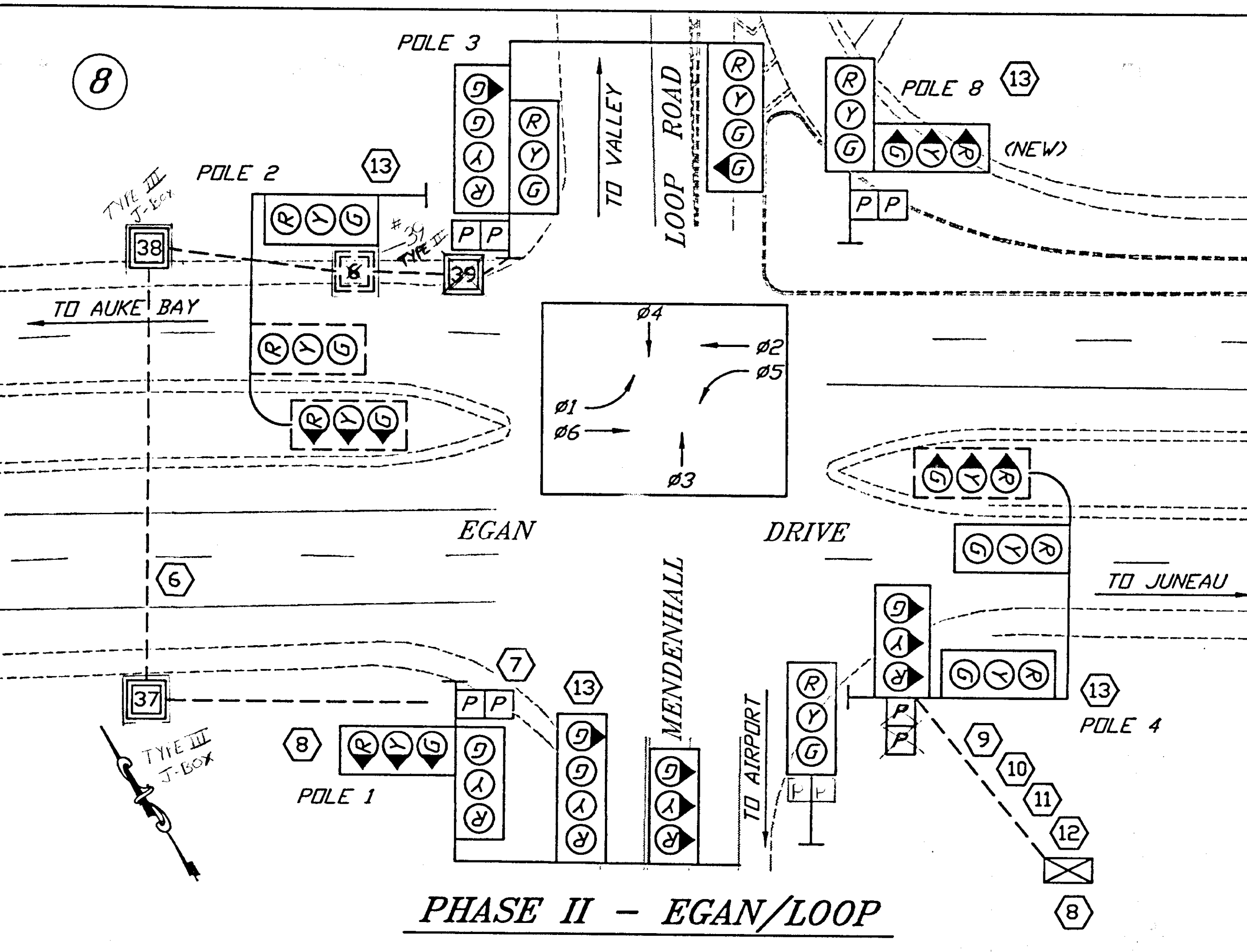
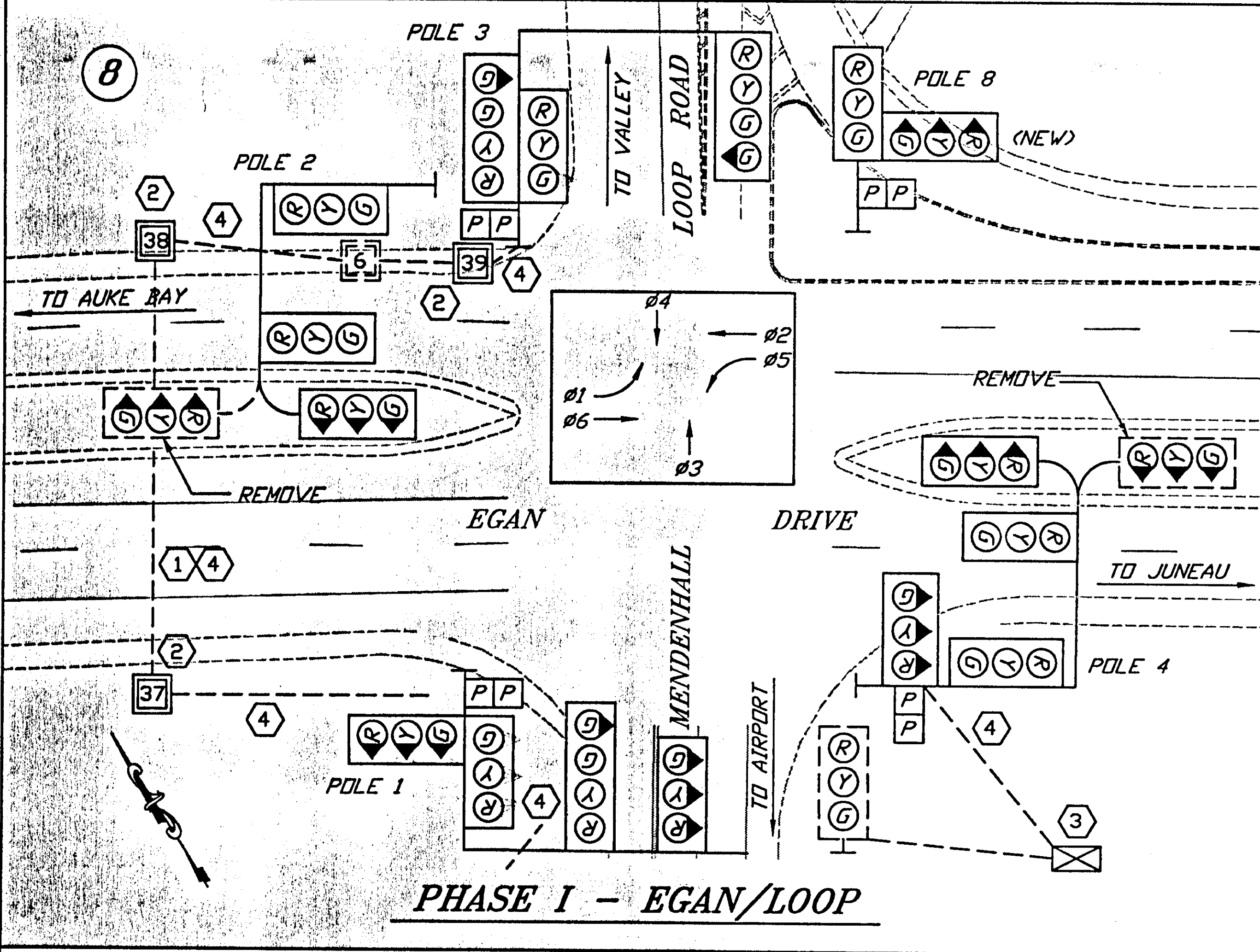
STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
D2	30

NOTES:

1. RELOCATE NEW SIGNAL CABINET & FOUNDATION AT STA. 18+40, 67' RT. (EXACT LOCATION AS DIRECTED BY THE ENGINEER).
2. SEE ENVIRONMENTAL COMMITMENTS IN APPENDIX A OF THE SPECIAL PROVISIONS
3. SEE SPECIAL PROVISION 107-1.16.
4. 3-6PR Conductors - Cabinet to J-Box #30 - Loops

- LEGEND**
- = TYPE I J-BOX
 - ▣ = TYPE II J-BOX
 - ▤ = TYPE III J-BOX
 - ⊗ = RIGID METAL CONDUIT X"=DIAMETER IN INCHES
 - ⊙ = MAGNETOMETER DETECTOR
 - = LOOP DETECTOR
 - ⊕ = OPTICOM DETECTOR
 - = SPLICE

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159
 EGAN AND LOOP
 CONSTRUCTION PHASING PLAN

SIGNAL RECONSTRUCTION PHASING PLAN

PHASE I (INSTALL NEW CONDUIT, J-BOXES, SIGNAL CABINET AND SIGNAL HEADS.)

1. DRILL NEW CASING ACROSS EGAN DRIVE.
2. INSTALL J-BOXES 37, 38 AND 39.
3. INSTALL NEW SIGNAL CABINET AND FOUNDATION.
4. INSTALL NEW CONDUIT AS SHOWN IN PLANS.
5. INSTALL NEW SIGNAL HEADS WITH LED MODULES AND DELETE SIGNAL HEADS AS SHOWN.

LEGEND

= TOP MOUNT SIGNAL HEAD CONFIGURATION

= SIDEMOUNT AND MASTARM SIGNAL HEAD CONFIGURATION

= PEDESTRIAN SIGNAL HEAD

= SOLID BALL SIGNAL MODULE (X=COLOR)

= TURN ARROW SIGNAL MODULE (X=COLOR)

WHERE:
 R= RED
 Y= YELLOW
 G= GREEN

= SIGNAL PHASE

= RMC CONDUIT
 X*=DIA. IN INCHES

SIGNAL RECONSTRUCTION PHASING PLAN

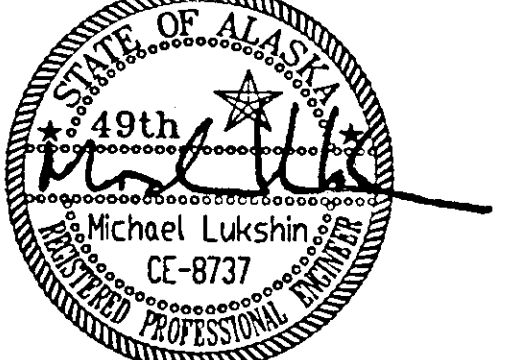
PHASE II (PULL NEW WIRING AND PREPARE NEW SIGNAL CABINET.)

6. PULL NEW WIRING FOR POLES 2, 3 AND 6 FROM J-BOX 39 TO J-BOX 31. PROVIDE ADEQUATE LENGTH FOR ALL CABLES TO REACH NEW SIGNAL CABINET WITHOUT SPLICES.
7. PREPARE AND HAVE ON HAND ALL CABLES NEEDED FOR POLE 1.
8. RUN MODEM CABLE TO NEW SIGNAL CABINET AND CONNECT.
9. RUN POWER CABLE FROM UPS CABINET TO NEW SIGNAL CABINET AND CONNECT.
10. INSTALL TEMPORARY TRACONEX 390 SIGNAL CONTROLLER AND CONFLICT MONITOR (SUPPLIED BY DOT) IN NEW SIGNAL CABINET.
11. TRANSFER TMM-500 SYSTEM MASTER AND HAYES MODEM FROM EXISTING CABINET TO NEW CABINET.
12. ENERGIZE AND TEST CABINET.
13. CONNECT SIGNAL HEADS 2, 10, 19, 26, 27 AND 28 TO NEW SIGNAL CABINET. EXTEND INTERCONNECT CABLES FROM EGAN/RIVERSIDE AND RIVERSIDE/VINTAGE TO THE NEW SIGNAL CABINET.

PHASE III (ACTIVATE NEW SIGNAL CABINET; COMPLETE WORK.)

14. BEGIN GIVING PUBLIC NOTICE ONE WEEK PRIOR TO SIGNAL SWITCH OVER.
15. TURN OFF OLD SIGNAL CABINET.
16. TURN ON NEW SIGNAL CABINET; RUN AS A FIXED-TIME SIGNAL.
17. REWIRE REMAINING SIGNAL HEADS. REWIRE AND TEST TRAFFIC LOOPS.
18. ACTIVATE NEW SIGNAL CABINET AS TRAFFIC ACTUATED CONTROLLER.
19. SALVAGE OLD SIGNAL CABINET TO DOT. REMOVE AND DISPOSE OF EXISTING WIRING.
20. PREPARE AND SUBMIT CABINET AND INTERSECTION "AS-BUILT" DRAWINGS.

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin
 DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

EGAN AND LOOP
 CONSTRUCTION PHASING PLAN
 PROJECT DESIGNATION NUMBER

IM-000S(370)-(68159)

STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
D4	30

ADDENDUM NUMBER

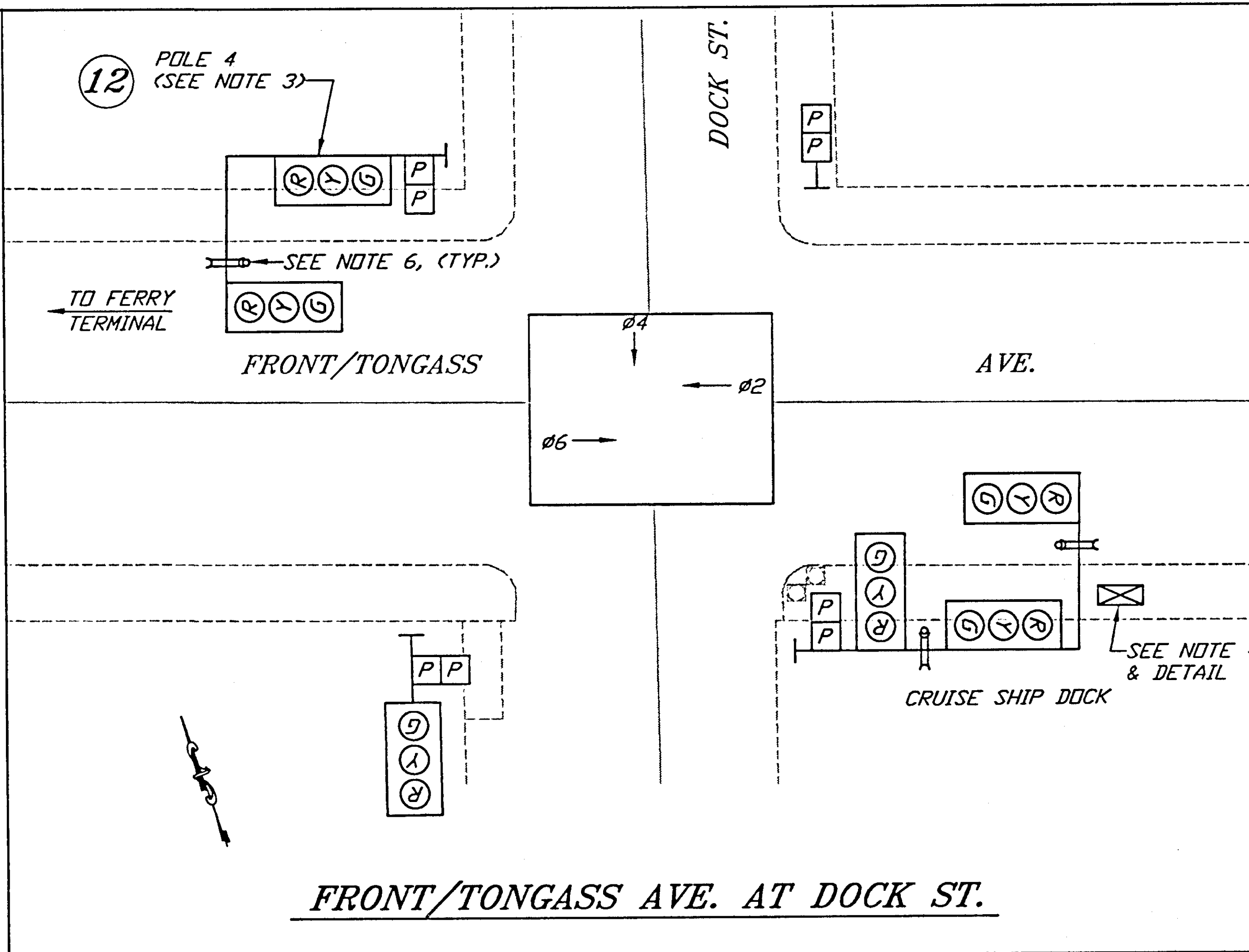
ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159

DOCK STREET
 SIGNAL MODIFICATIONS



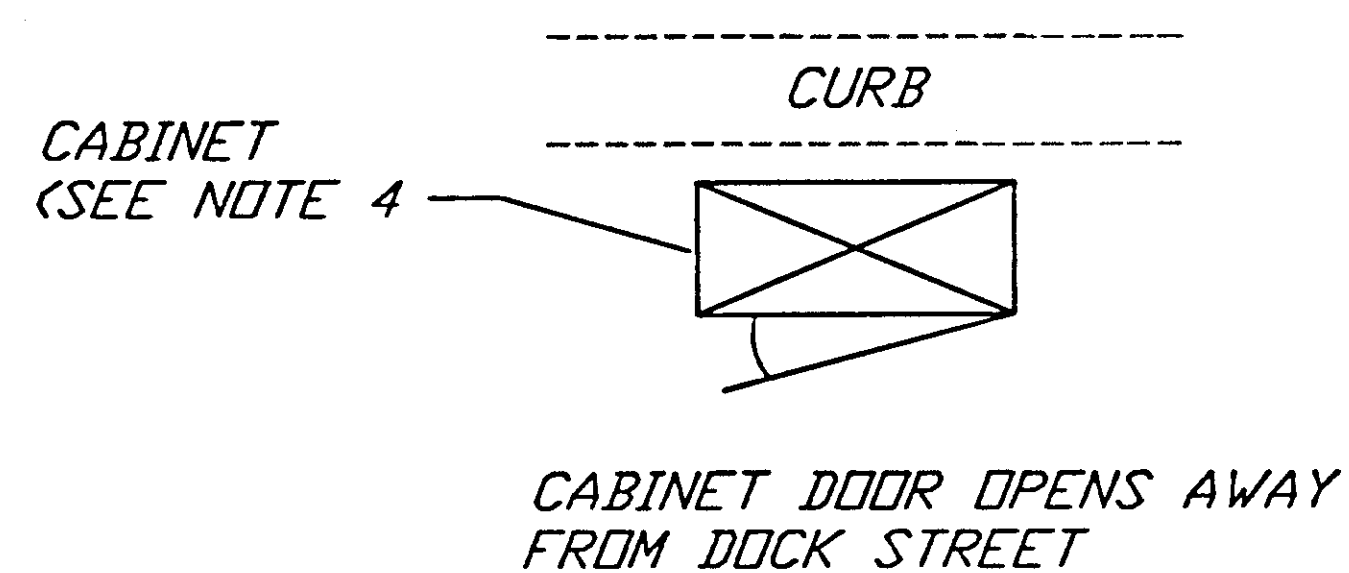
FRONT/TONGASS AVE. AT DOCK ST.

LEGEND

- = TOP MOUNT SIGNAL HEAD CONFIGURATION
 - = SIDEMOUNT AND MASTARM SIGNAL HEAD CONFIGURATION
 - = PEDESTRIAN SIGNAL HEAD
 - = SOLID BALL SIGNAL MODULE (X=COLOR)
 - = TURN ARROW SIGNAL MODULE (X=COLOR)
- WHERE:
 R= RED
 Y= YELLOW
 G= GREEN
- Ø = SIGNAL PHASE
 - Ø" = RMC CONDUIT X"=DIA. IN INCHES

NOTES:

- SEE SHEET C1.
- REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.
- ONLY AT POLE 4, INSTALL THE POLE (SIDE) MOUNT SIGNAL HEAD USING 8" DIAMETER LED SIGNAL MODULES AND NO BACKPLATE.
- INSTALL NEW TYPE MS CABINET ON EXISTING CONCRETE TYPE "M" FOUNDATION. SEE SECTION 660-3.05 OF THE SPECIAL PROVISIONS.
- INSTALL NEW PEDESTRIAN BUTTONS. (SEE SPECIAL PROVISION 660-3.14)
- INSTALL NEW OPTICOM SYSTEM, SEE DETAILS ON SHEET D6.



DETAIL

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin

DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

DOCK STREET
 SIGNAL MODIFICATIONS

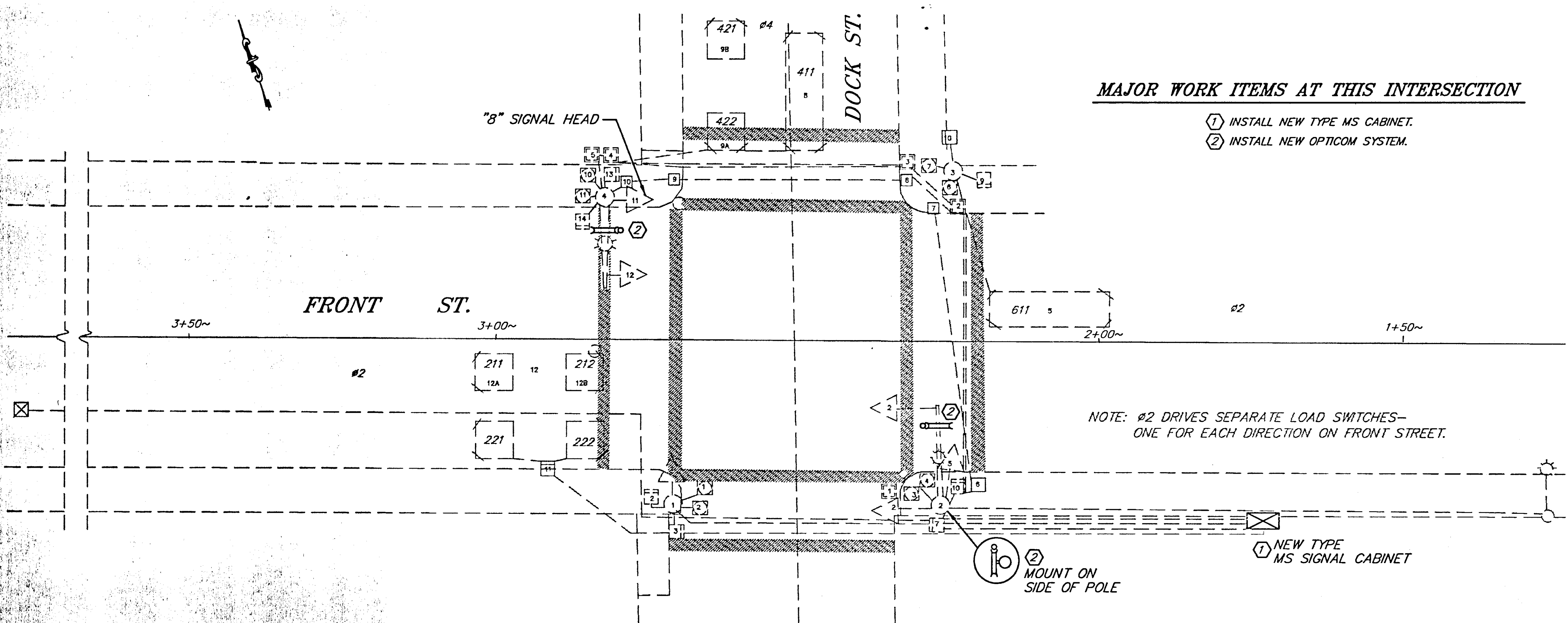
PROJECT DESIGNATION NUMBER

IM-000S(370)-(68159)

STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
D5	30

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159
 DOCK/FRONT AS-BUILT AND
 WIRING SCHEMATIC DIAGRAM



MAJOR WORK ITEMS AT THIS INTERSECTION

- ① INSTALL NEW TYPE MS CABINET.
- ② INSTALL NEW OPTICOM SYSTEM.

NOTE: Ø2 DRIVES SEPARATE LOAD SWITCHES—
 ONE FOR EACH DIRECTION ON FRONT STREET.

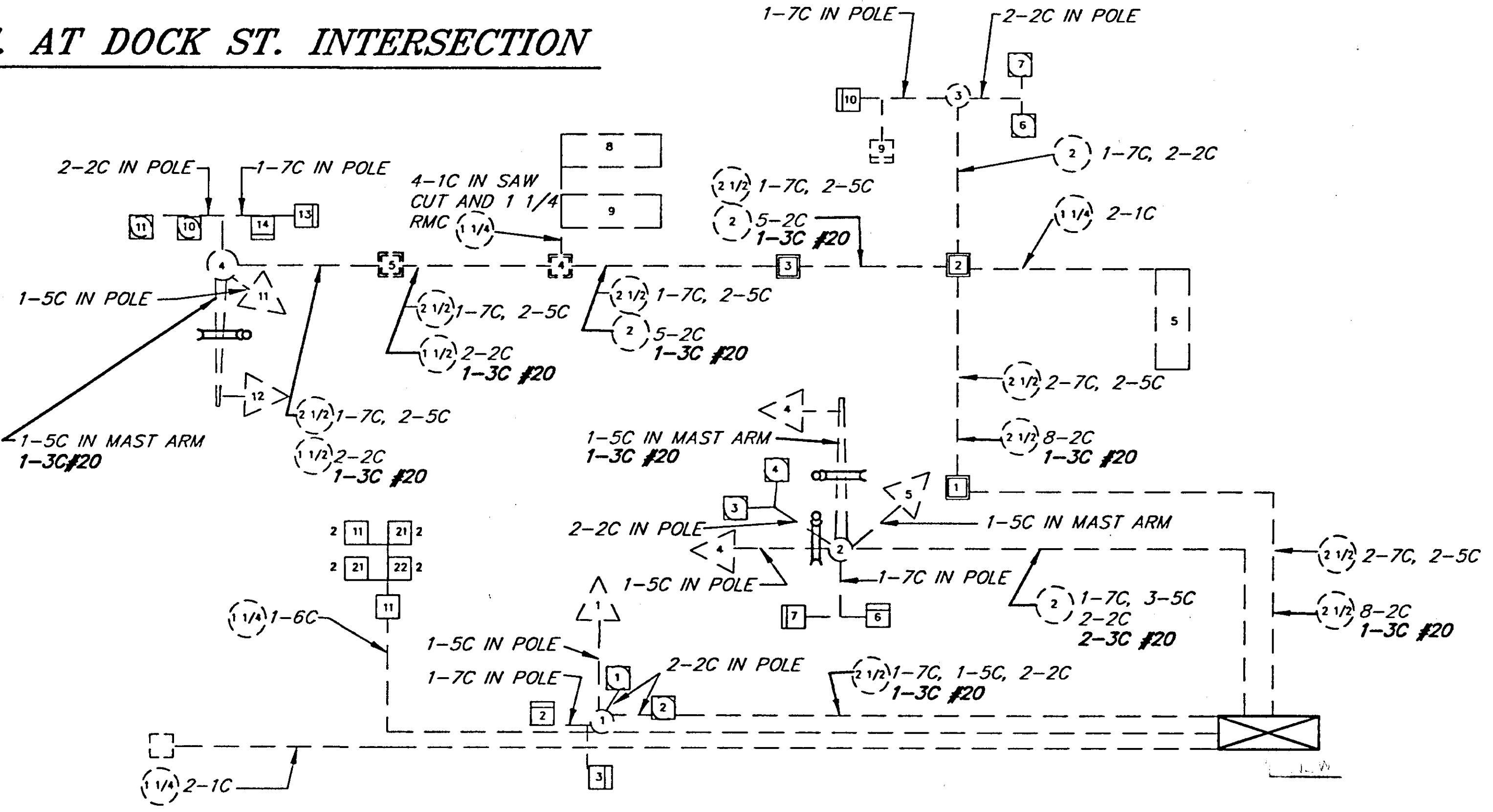
CONDUCTOR LEGEND

- 2-XX = QUANTITY OF CABLES OF INDICATED TYP
- 2C = #13 LOOP DETECTOR LEAD-IN OR #14 PED CALL CABLE
- 5C OR 7C = #14 SIGNAL HEAD CABLE
- 3C* #20 = 3M PROPRIETARY OPTICOM CABLE
- 6PR = MULTI-PAIR LOOP DETECTOR LEAD-IN CABLE OR COMMUNICATION CABLE

LEGEND

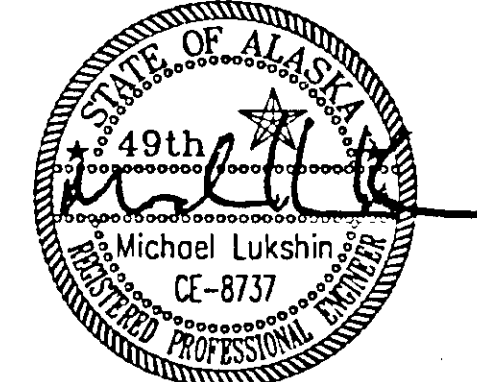
- = TYPE I J-BOX
- = TYPE II J-BOX
- = TYPE III J-BOX
- ⊗ = RIGID METAL CONDUIT X"=DIAMETER IN INCHES
- ⊙ = MAGNETOMETER DETECTOR
- = LOOP DETECTOR
- ⊞ = OPTICOM DETECTOR

FRONT ST. AT DOCK ST. INTERSECTION



WIRING SCHEMATIC DIAGRAM

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin

DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION
 SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

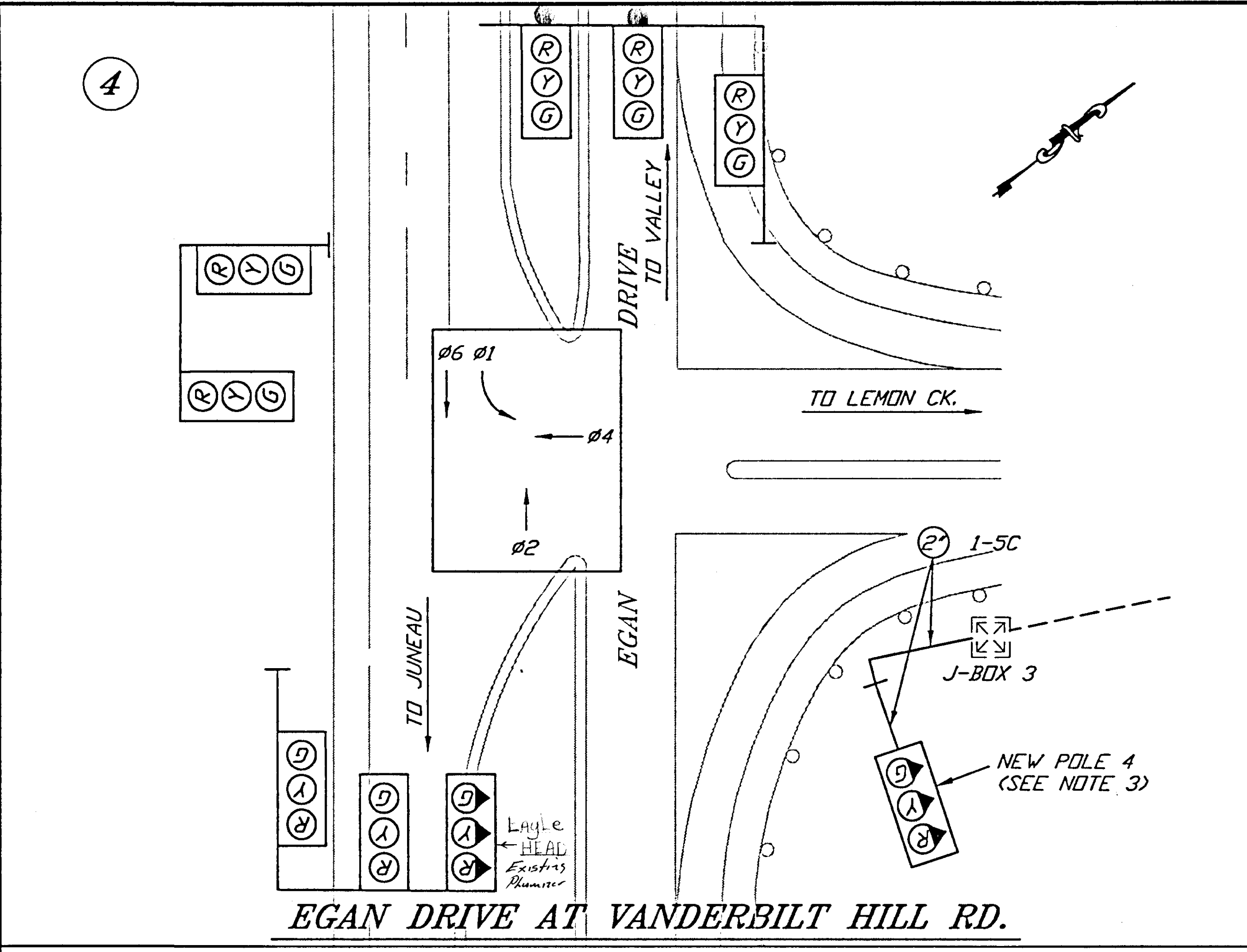
DOCK/FRONT AS-BUILT AND
 WIRING SCHEMATIC DIAGRAM

PROJECT DESIGNATION NUMBER

IM-000S(370)-(68159)

STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
D6	30

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION



SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159
 VANDERBILT
 SIGNAL MODIFICATIONS

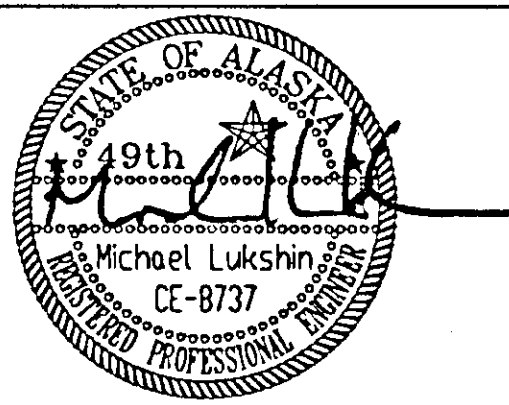
LEGEND

- = TOP MOUNT SIGNAL HEAD CONFIGURATION
 - = SIDEMOUNT AND MASTARM SIGNAL HEAD CONFIGURATION
 - = SPLIT
 - = PEDESTRIAN SIGNAL HEAD
 - = SOLID BALL SIGNAL MODULE (X=COLOR)
 - = TURN ARROW SIGNAL MODULE (X=COLOR)
- WHERE:
 R= RED
 Y= YELLOW
 G= GREEN
- \emptyset = SIGNAL PHASE
 - \emptyset = RMC CONDUIT
X=DIA. IN INCHES

NOTES:

- SEE SHEET C1.
- REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.
- INSTALL A NEW SIGNAL POLE FOR SOUTHBOUND TRAFFIC TURNING LEFT AT VANDERBILT AND EGAN (PHASE ø1). THE POLE WILL BE LOCATED BEHIND THE GUARDRAIL PER THE ENGINEER'S APPROVAL. USE EITHER A TRANSPO BREAKSAFE OR A SLIP BASE (STD. DWG. T-40) FOUNDATION. SEE SHEET G2.
- THE CONTRACTOR SHALL INSTALL A 2" DIAMETER RMC CONDUIT FROM THE NEW SIGNAL POLE TO THE EXISTING J-BOX AND MODIFY THE CABINET WIRING TO ACCOMMODATE ANOTHER SIGNAL HEAD FOR LEFT TURN TRAFFIC (PHASE 1).
- SEE SHEET D8.

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin
 DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION
 SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

VANDERBILT SIGNAL MODIFICATIONS	
PROJECT DESIGNATION NUMBER	
IM-000S(370)-(68159)	
STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
D7	30

ADDENDUM NUMBER

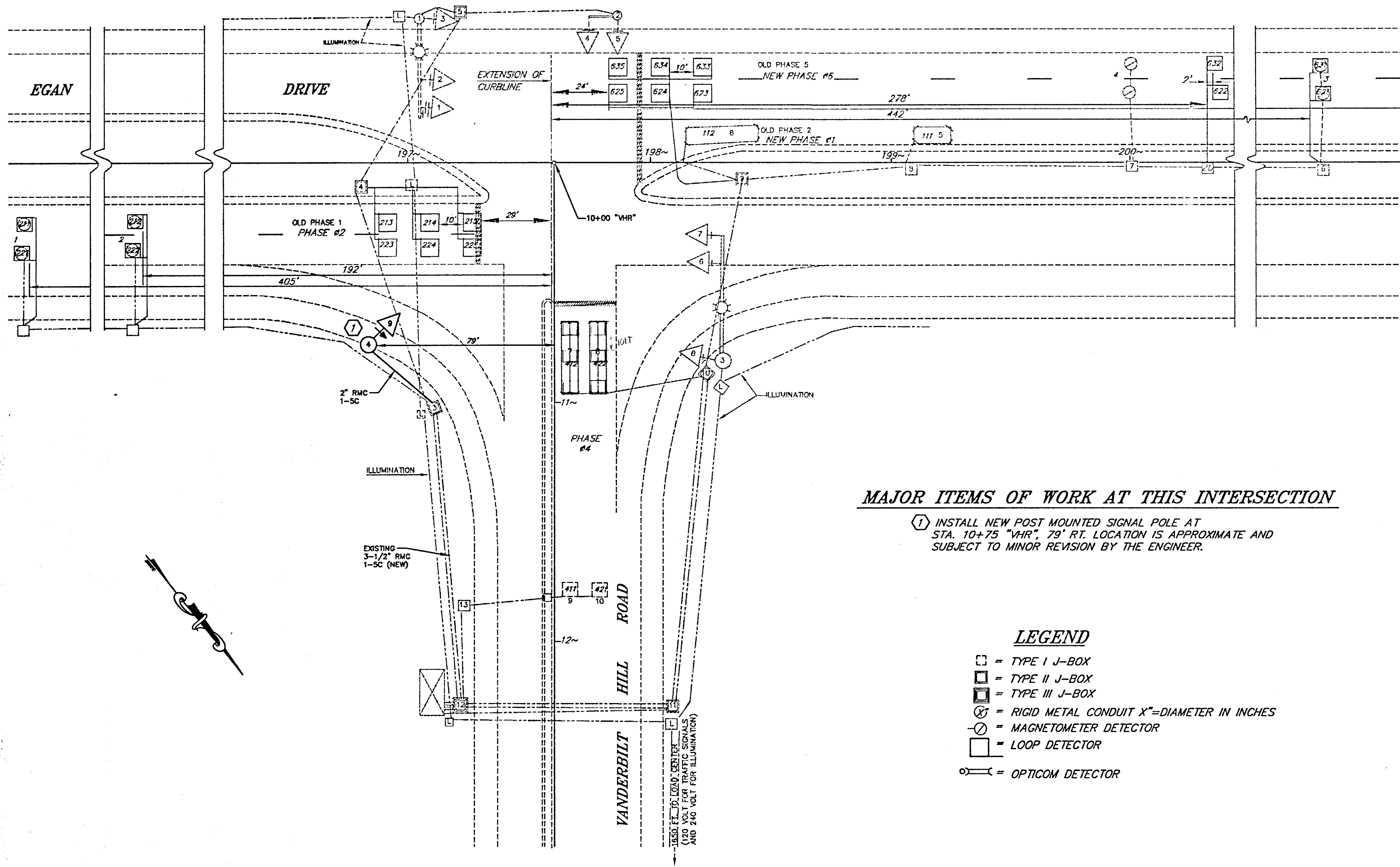
ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159

NEW SIGNAL POLE 4
 EGAN/VANDERBILT



MAJOR ITEMS OF WORK AT THIS INTERSECTION

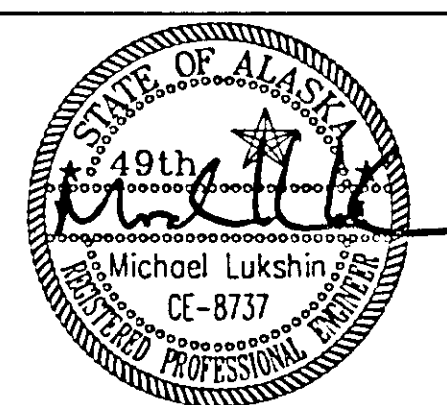
- ① INSTALL NEW POST MOUNTED SIGNAL POLE AT STA. 10+75 "VHR", 79' RT. LOCATION IS APPROXIMATE AND SUBJECT TO MINOR REVISION BY THE ENGINEER.

LEGEND

- = TYPE I J-BOX
- = TYPE II J-BOX
- = TYPE III J-BOX
- ⊗ = RIGID METAL CONDUIT X"=DIAMETER IN INCHES
- ⊙ = MAGNETOMETER DETECTOR
- = LOOP DETECTOR
- ⊗ = OPTICOM DETECTOR

EGAN DRIVE/VANDERBILT HILL INTERSECTION

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin

DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

NEW SIGNAL POLE 4
 EGAN/VANDERBILT

PROJECT DESIGNATION NUMBER

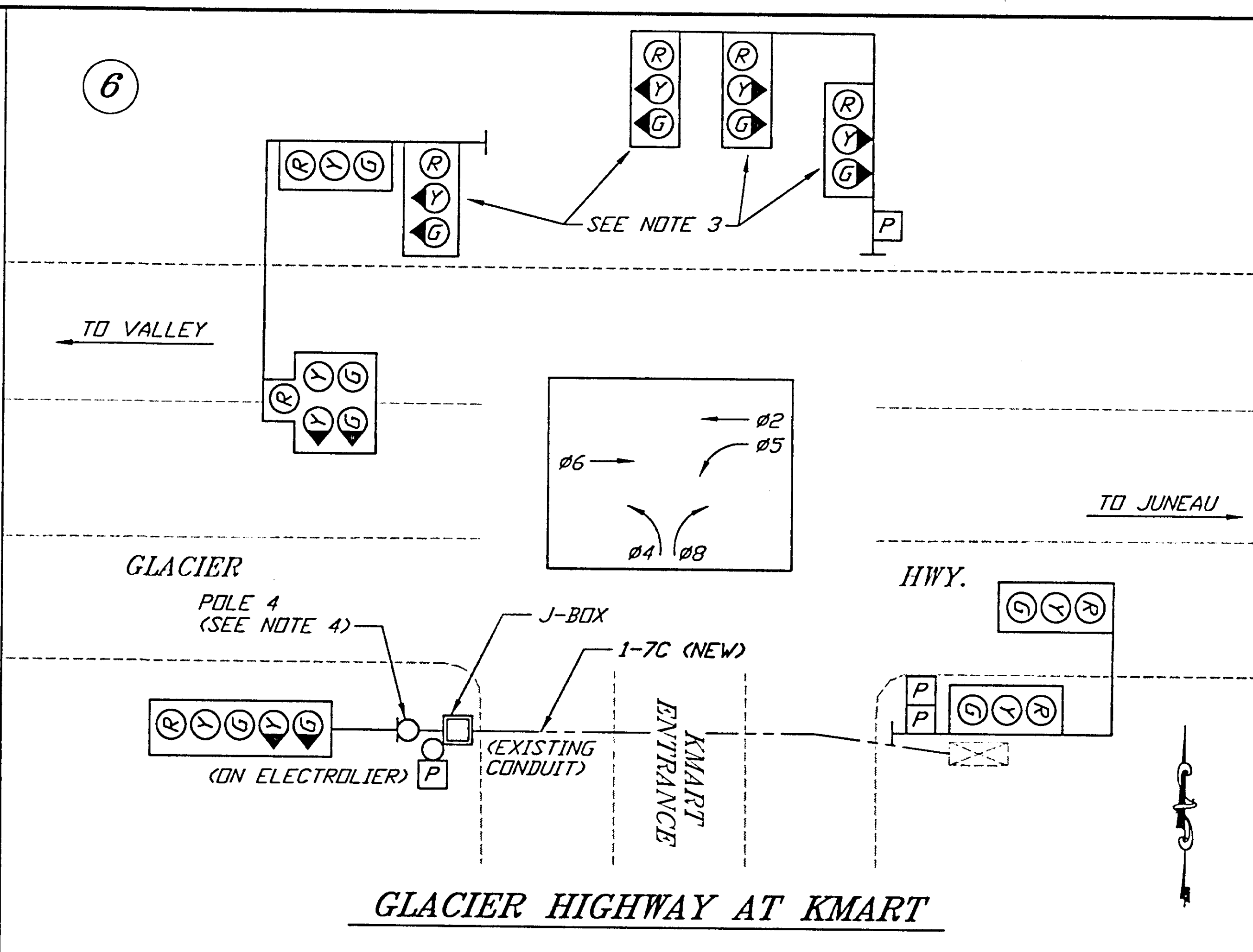
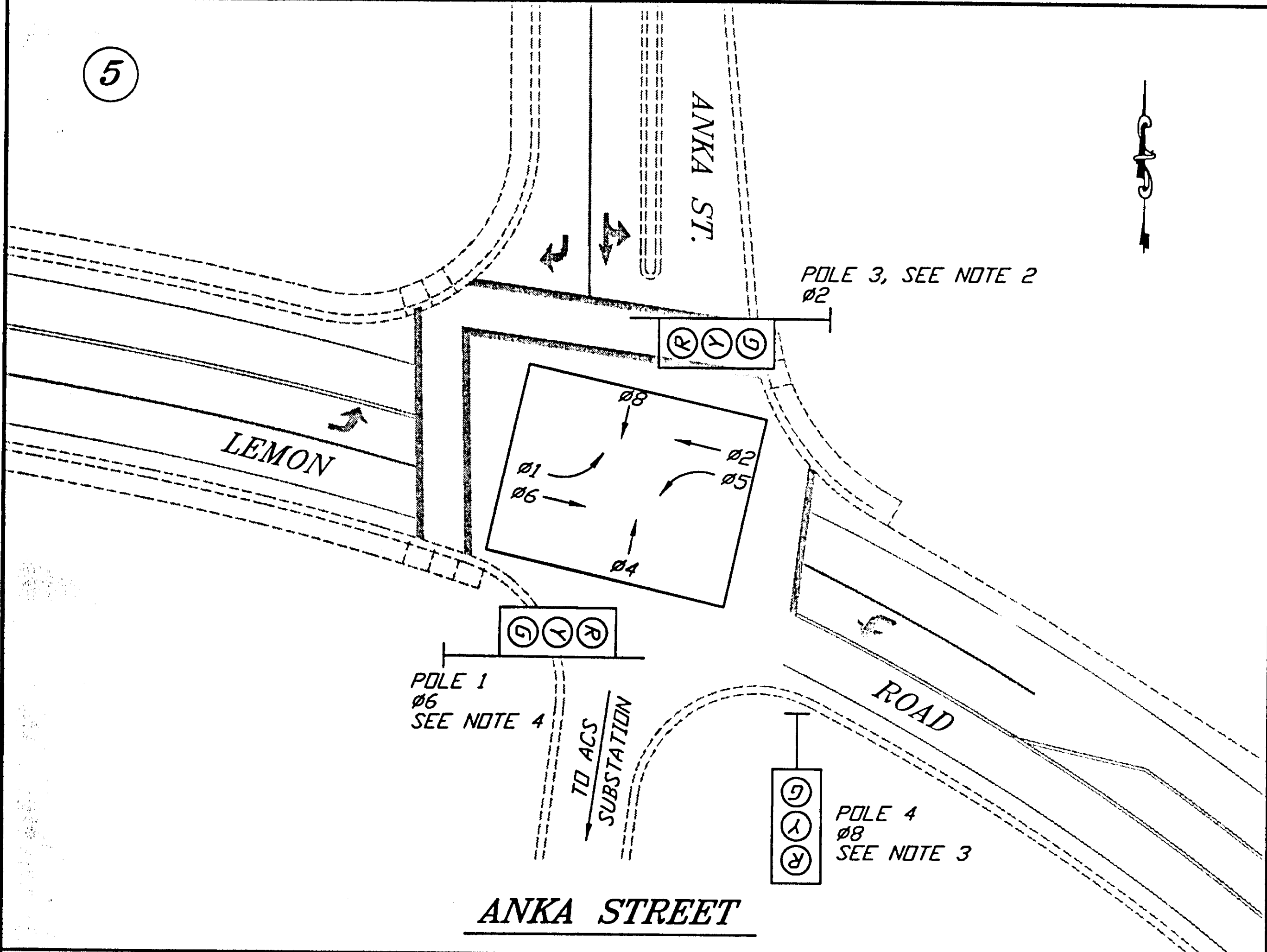
IM-000S(370)-(68159)

STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
D8	30

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159

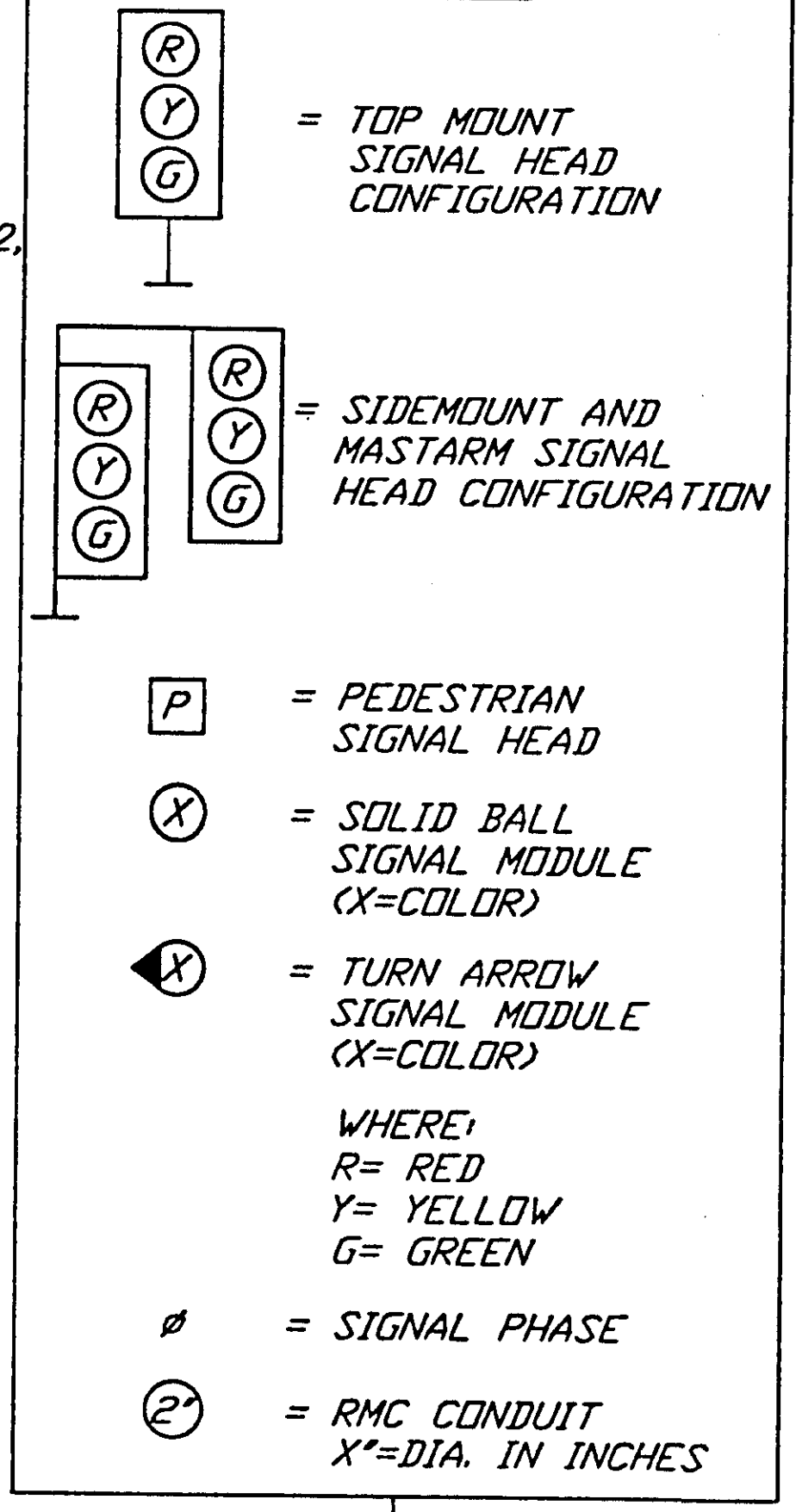
ANKA & K-MART
 SIGNAL MODIFICATIONS



NOTES:

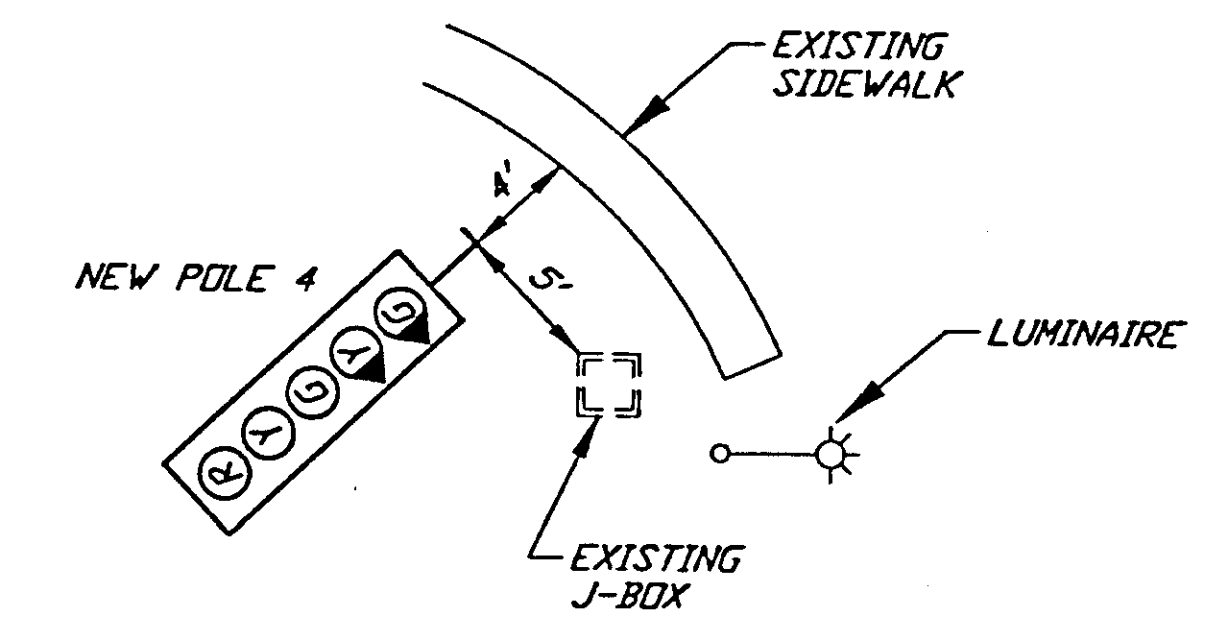
- SEE SHEET C1.
- ADD NEW SIDE MOUNT SIGNAL HEAD TO POLE 3 (PHASE 2). CHANGE SIGNAL HEAD MOUNTING FROM S-2 TO S-3. ADD 5C CONDUCTOR FROM POLE 2 BACK TO CONTROLLER CABINET.
- ADD NEW TOP MOUNT SIGNAL HEAD TO POLE 4 (PHASE 8). CHANGE MOUNTING FROM T1 TO T2. ADD 5C CONDUCTOR FROM POLE 3 BACK TO CONTROLLER CABINET.
- ADD NEW SIDE MOUNT SIGNAL HEAD TO POLE 1 (PHASE 6). CHANGE HEAD MOUNTING FROM S2 TO S3. ADD 5C CONDUCTOR BACK TO CONTROLLER CABINET.
- FOR CLARITY OTHER EXISTING POLES AND SIGNAL HEADS WERE NOT SHOWN.

LEGEND



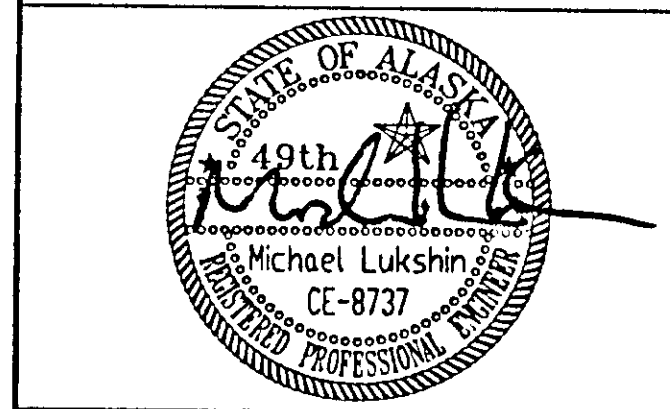
NOTES:

- SEE SHEET C1.
- REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.
- CHANGE EXISTING YELLOW BALLS TO YELLOW ARROWS.
- INSTALL NEW SIGNAL POLE 4 AS SHOWN BELOW, OR AS STAKED BY THE ENGINEER. SEE SHEET G2.
- INSTALL NEW 1-7C CABLE BACK TO CONTROLLER CABINET.
- INSTALL NEW PEDESTRIAN BUTTONS. (SEE SPECIAL PROVISION 660-3.14)



POLE 4 LOCATION DETAIL

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin
 DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

ANKA & K-MART
 SIGNAL MODIFICATIONS

PROJECT DESIGNATION NUMBER

IM-000S(370)-(68159)

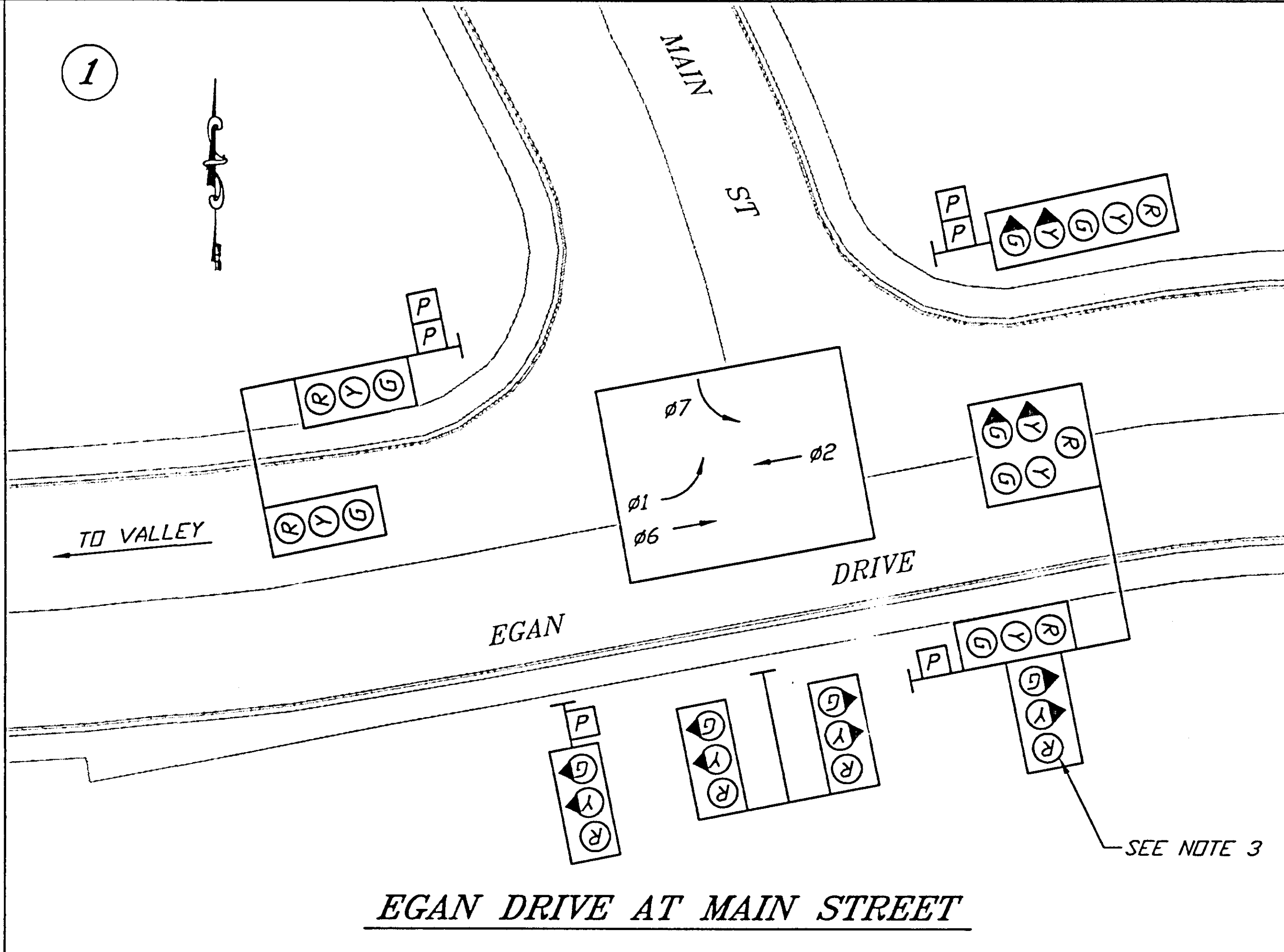
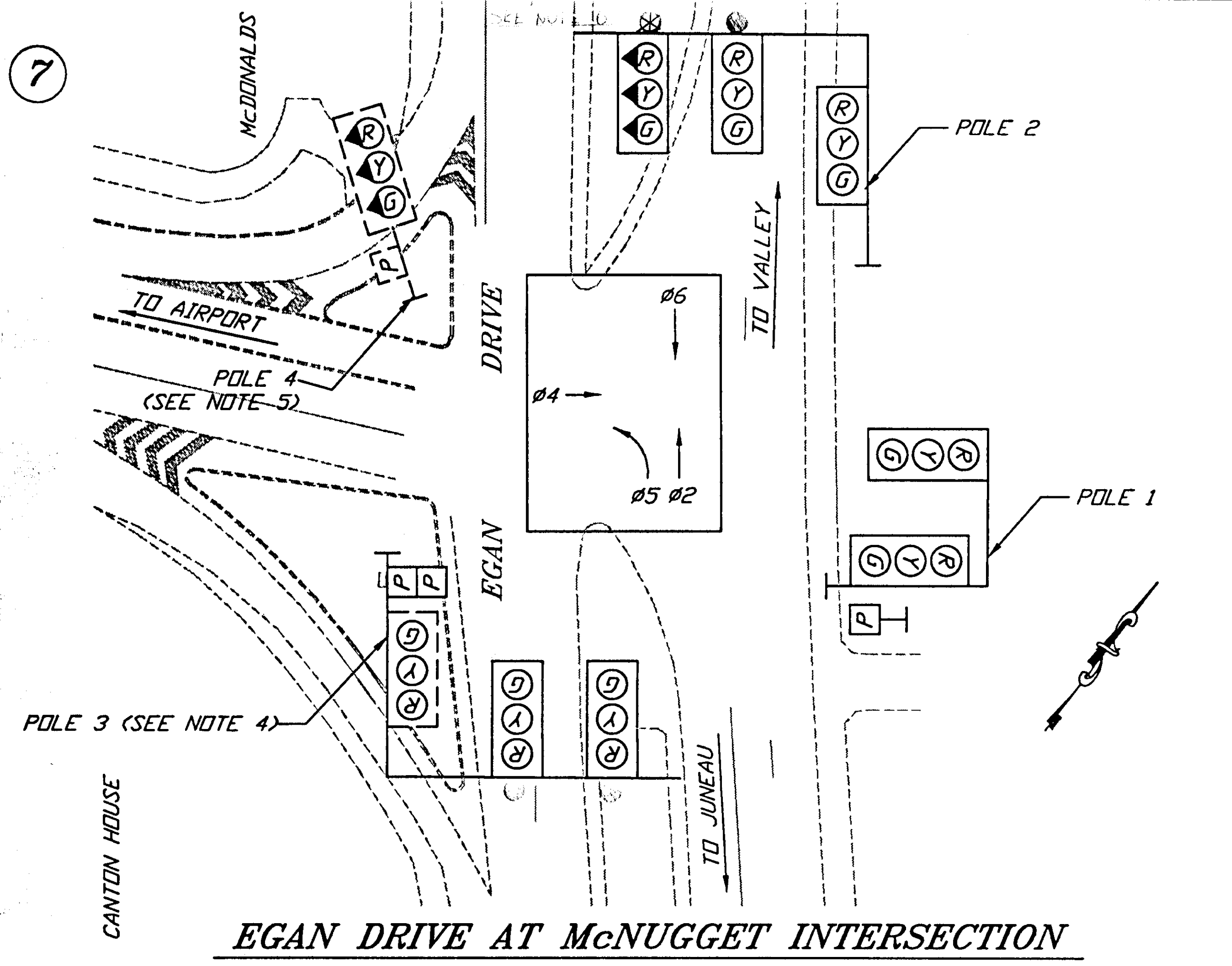
STATE	YEAR
ALASKA	2002

SHEET NUMBER	TOTAL SHEETS
D9	30

D9 30

RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

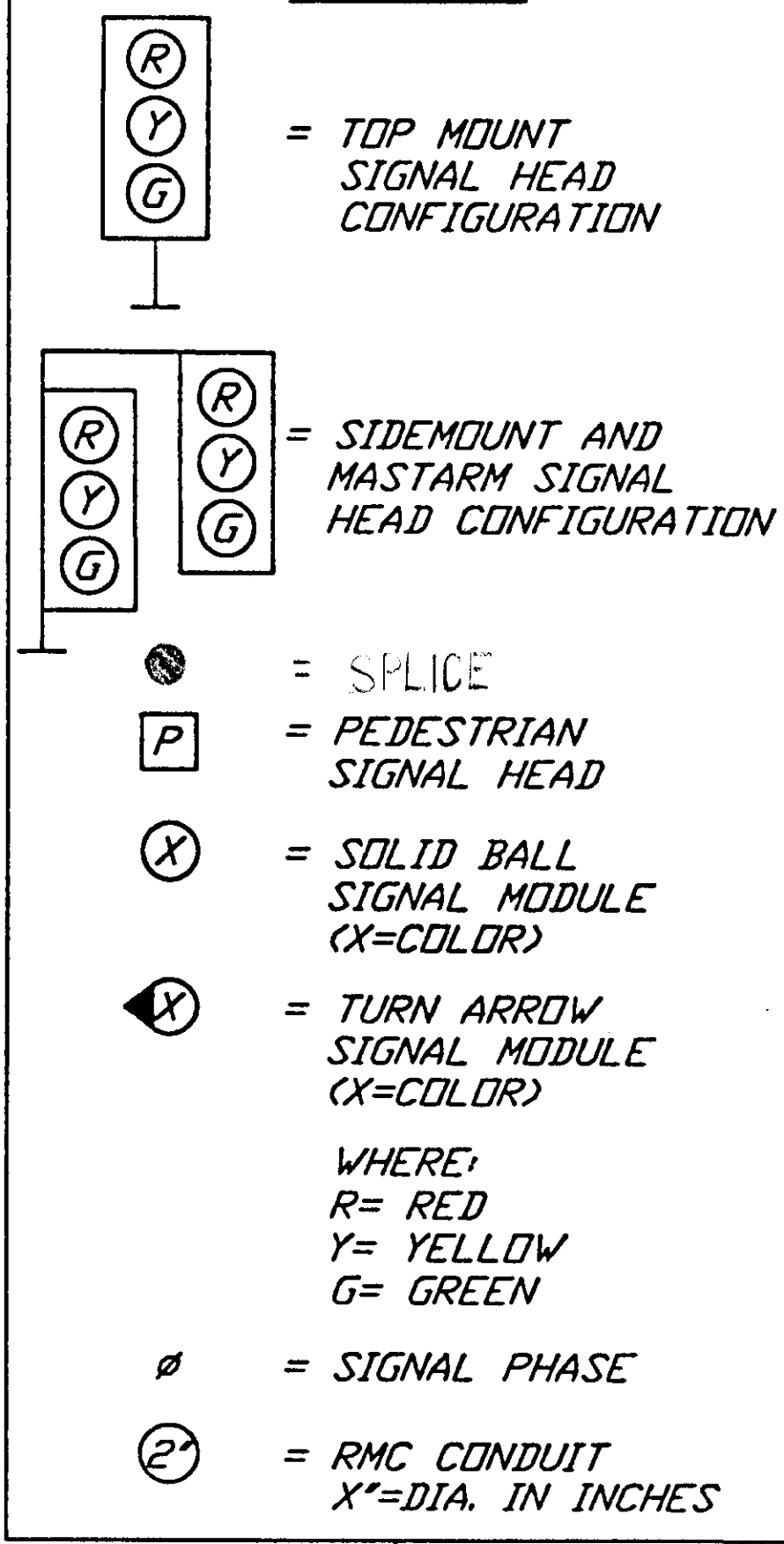
SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159
 McNUGGET & MAIN
 SIGNAL MODIFICATIONS



NOTES:

1. SEE SHEET C1.
2. THE EGAN AT McNUGGET SIGNAL SYSTEM HAS NEW LED SIGNAL MODULES. REINSTALL THE EXISTING LED SIGNAL MODULES INTO NEW SIGNAL HEADS.
3. REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.
4. SIDEMOUNT SIGNAL HEAD ON POLE 3 IS NEW. REPLACE THE S-1 MOUNTING HARDWARE ONLY.
5. POLE 4 WAS REPLACED IN 2002. IT DOES NOT NEED NEW LED MODULES OR SIGNAL HEADS.
6. POLE 2 PLANTER BRACKET (SEE PAGE 10)

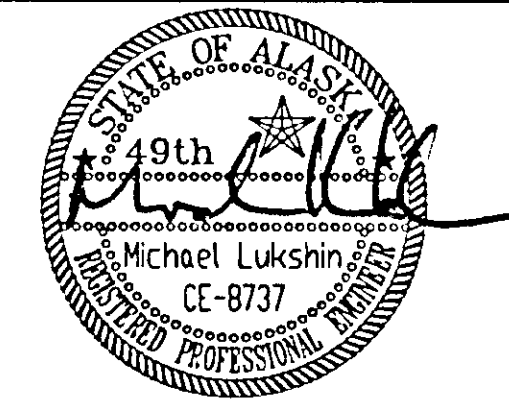
LEGEND



NOTES:

1. SEE SHEET C1.
2. REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.
3. CHANGE EXISTING RED ARROW TO RED BALL.
4. INSTALL NEW PEDESTRIAN BUTTONS. (SEE SPECIAL PROVISION 660-3.14)

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin
 DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION
 SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

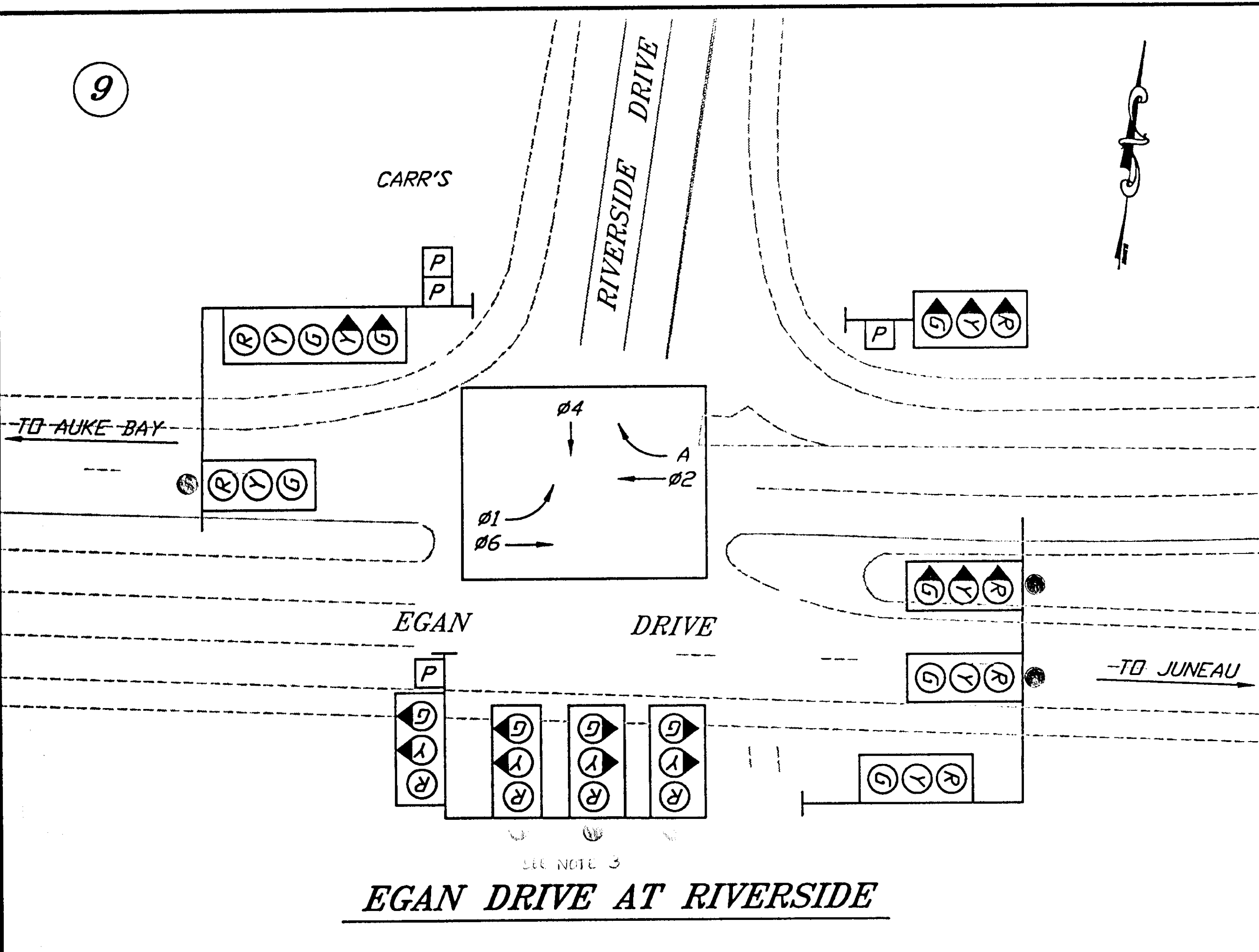
McNUGGET & MAIN
 SIGNAL MODIFICATIONS

PROJECT DESIGNATION NUMBER	
IM-000S(370)-(68159)	
STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
D10	30

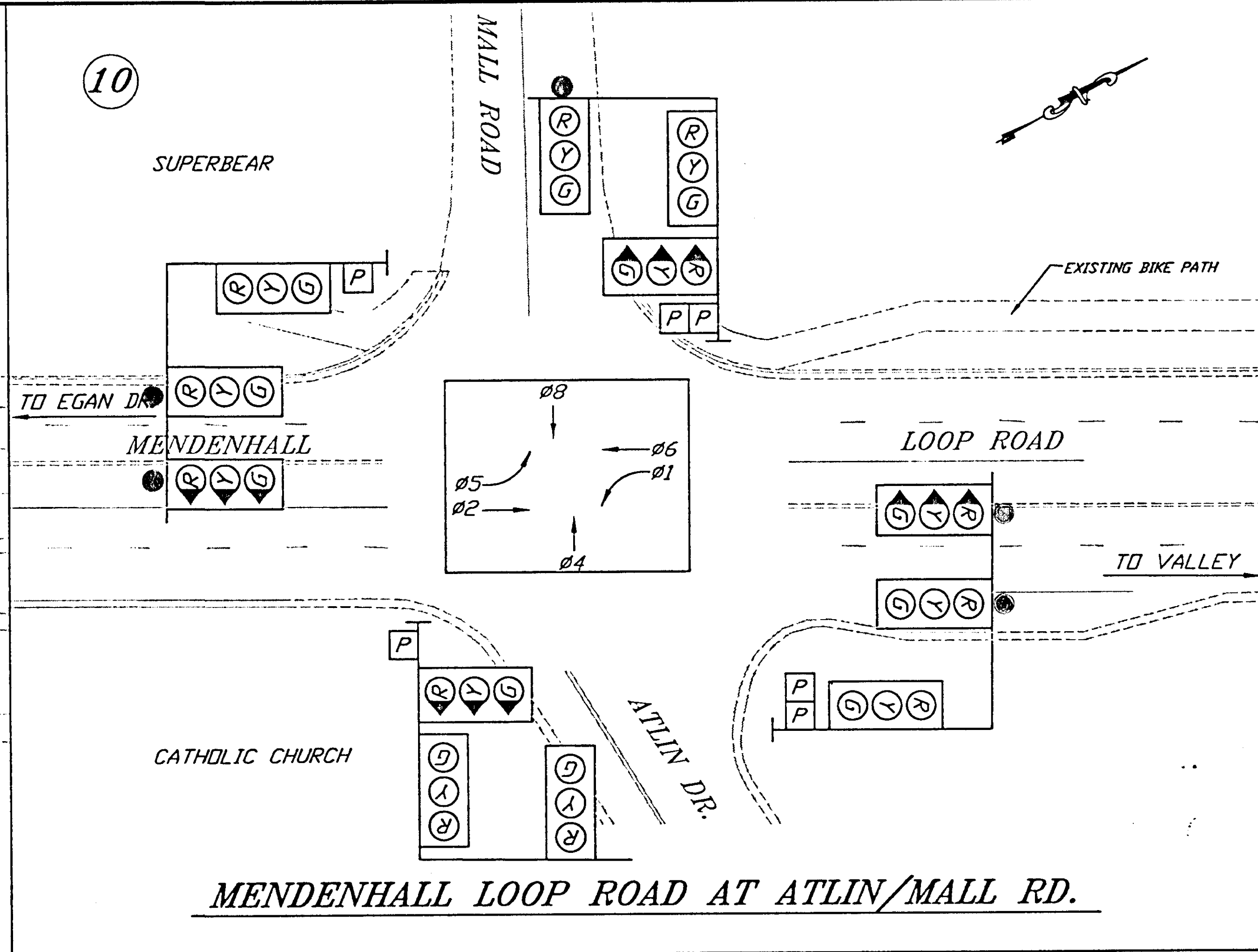
ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159

RIVERSIDE & LOOP/ATLIN
 SIGNAL MODIFICATIONS



EGAN DRIVE AT RIVERSIDE

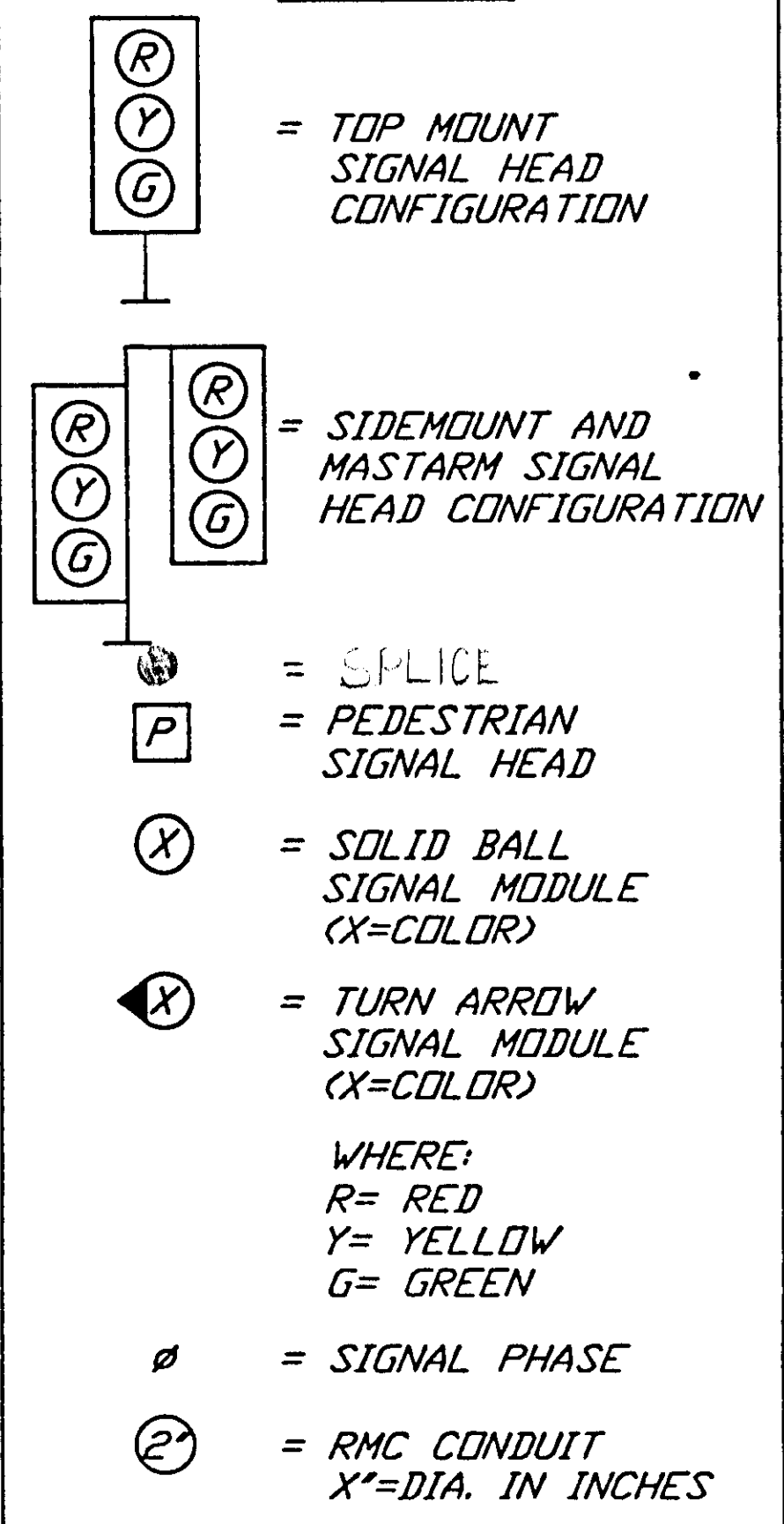


MENDENHALL LOOP ROAD AT ATLIN/MALL RD.

NOTES:

1. SEE SHEET C1.
2. REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.
3. ALL THREE OF THE 3-SECTION SIGNAL HEADS FACING RIVERSIDE HAVE REQUIRED SPICES. EACH SPICE MADE UP OF ASTRO-BASKET

LEGEND



NOTES:

1. SEE SHEET C1.
2. REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin
 DRAWN BY: Dave Stevens

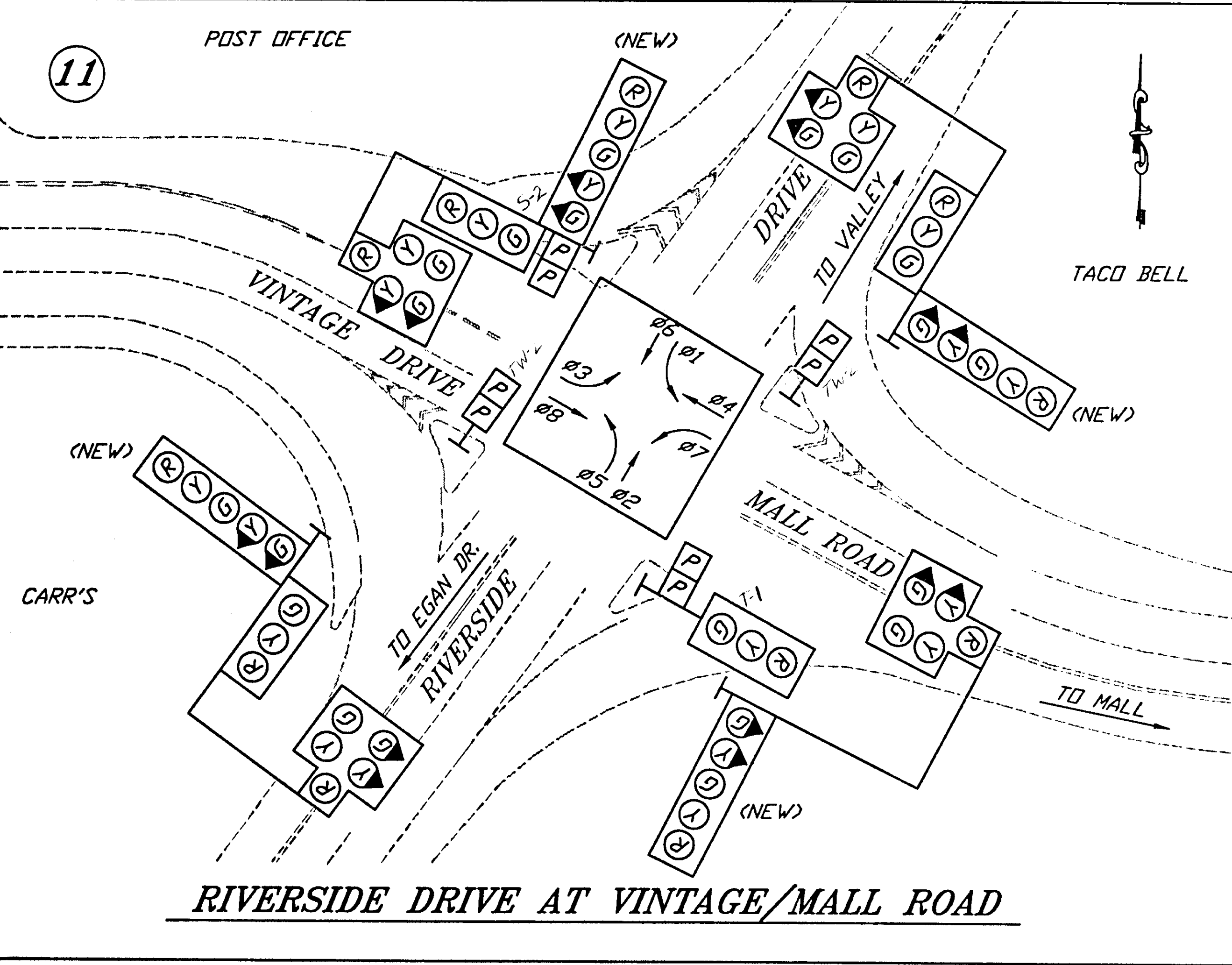
STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159

PROJECT DESIGNATION NUMBER	
IM-000S(370)-(68159)	
STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
D11	30

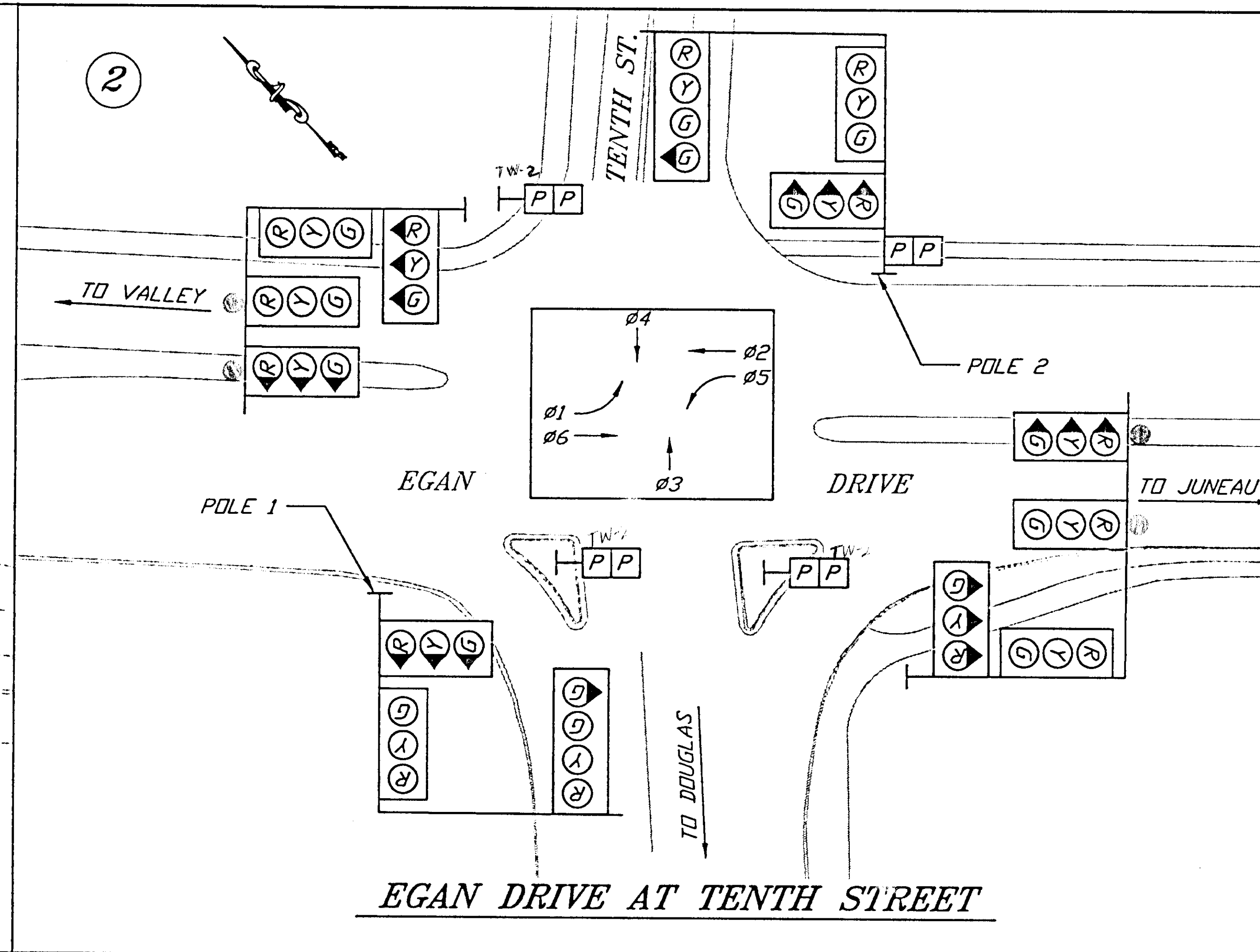
11

POST OFFICE



RIVERSIDE DRIVE AT VINTAGE/MALL ROAD

2



EGAN DRIVE AT TENTH STREET

PATH: Q:\SEA\68159\PlanSet\SIGNSCH.dwg
 Fri, 30/Aug/02 01:57AM Stevens
 PLOT: PSPACE 1=1(F) OR MSPACE 1=1(F)

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

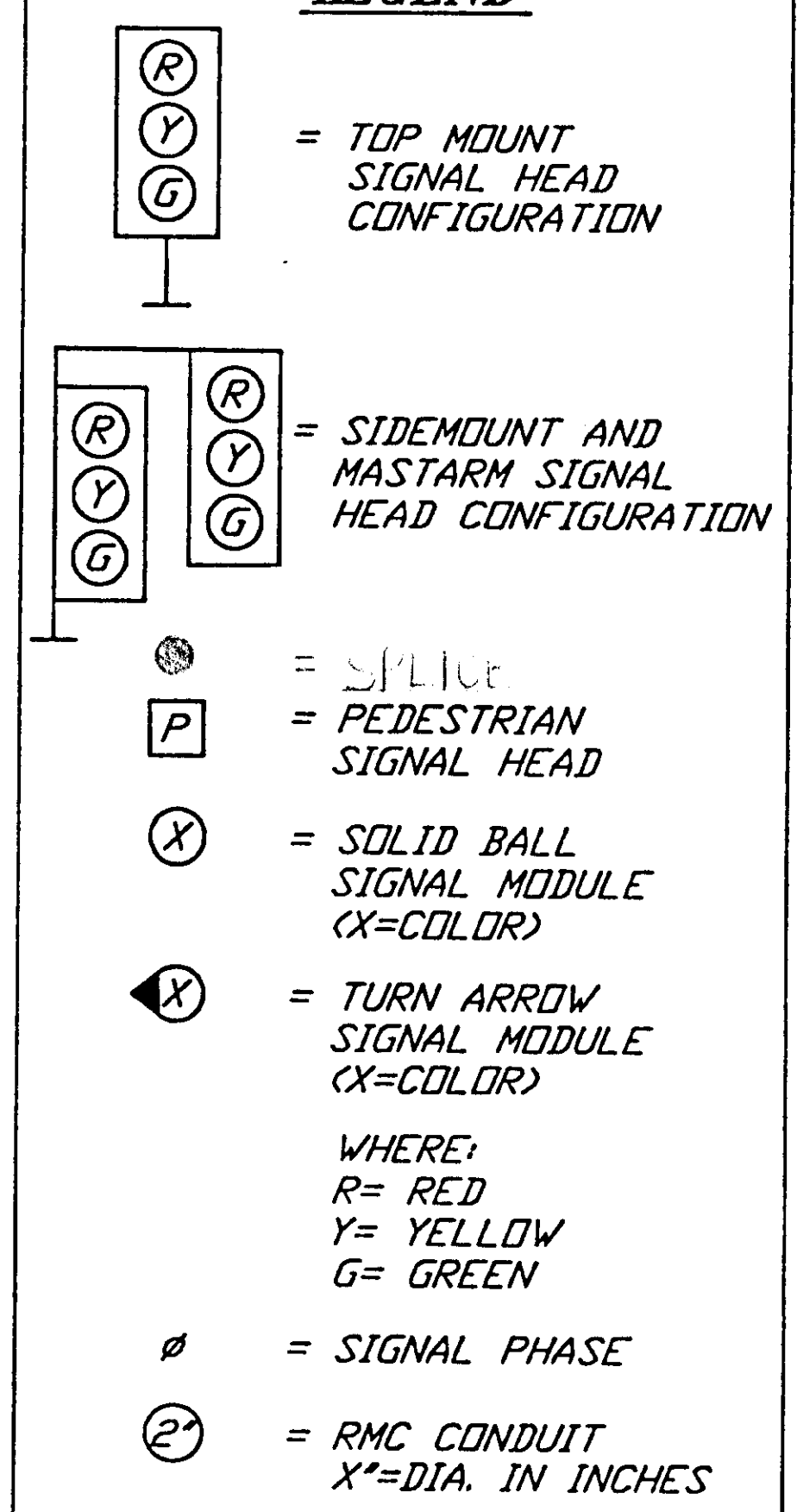
SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159

RIVERSIDE/VINTAGE & TENTH
 SIGNAL MODIFICATIONS

NOTES:

- SEE SHEET C1.
- REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.
- ADD FOUR NEW 5 SECTION SIDEMOUNT HEADS AS DETAILED ABOVE. SEE SHEET G2.

LEGEND



NOTES:

- SEE SHEET C1.
- REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.
- INSTALL NEW PEDESTRIAN BUTTONS. (SEE SPECIAL PROVISION 660-3.14)

DESIGNED BY: Ken Mattson

CHECKED BY: Michael Lukshin
 DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

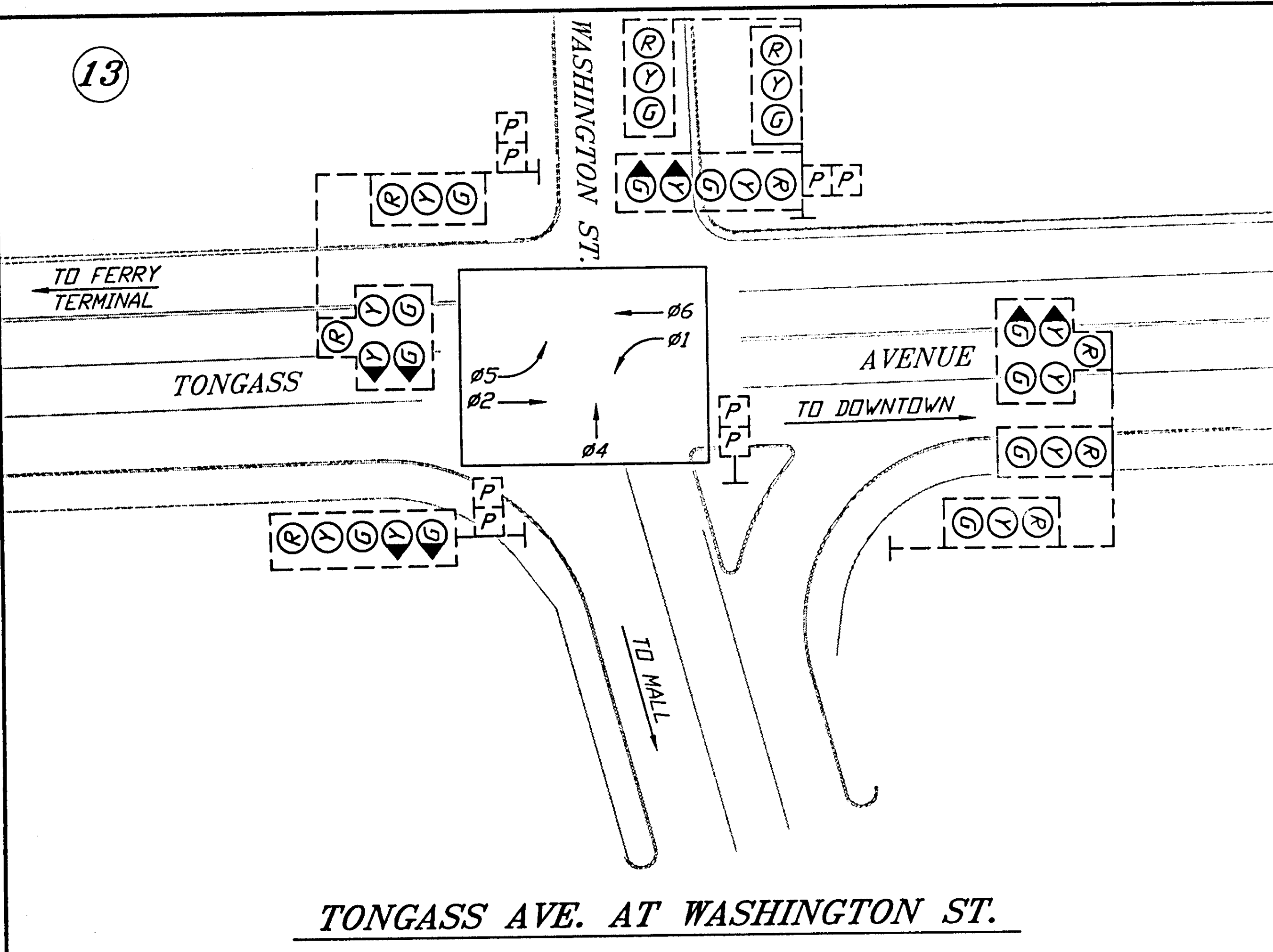
RIVERSIDE/VINTAGE & TENTH
 SIGNAL MODIFICATIONS

PROJECT DESIGNATION NUMBER
 IM-000S(370)-(68159)

STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
D12	30

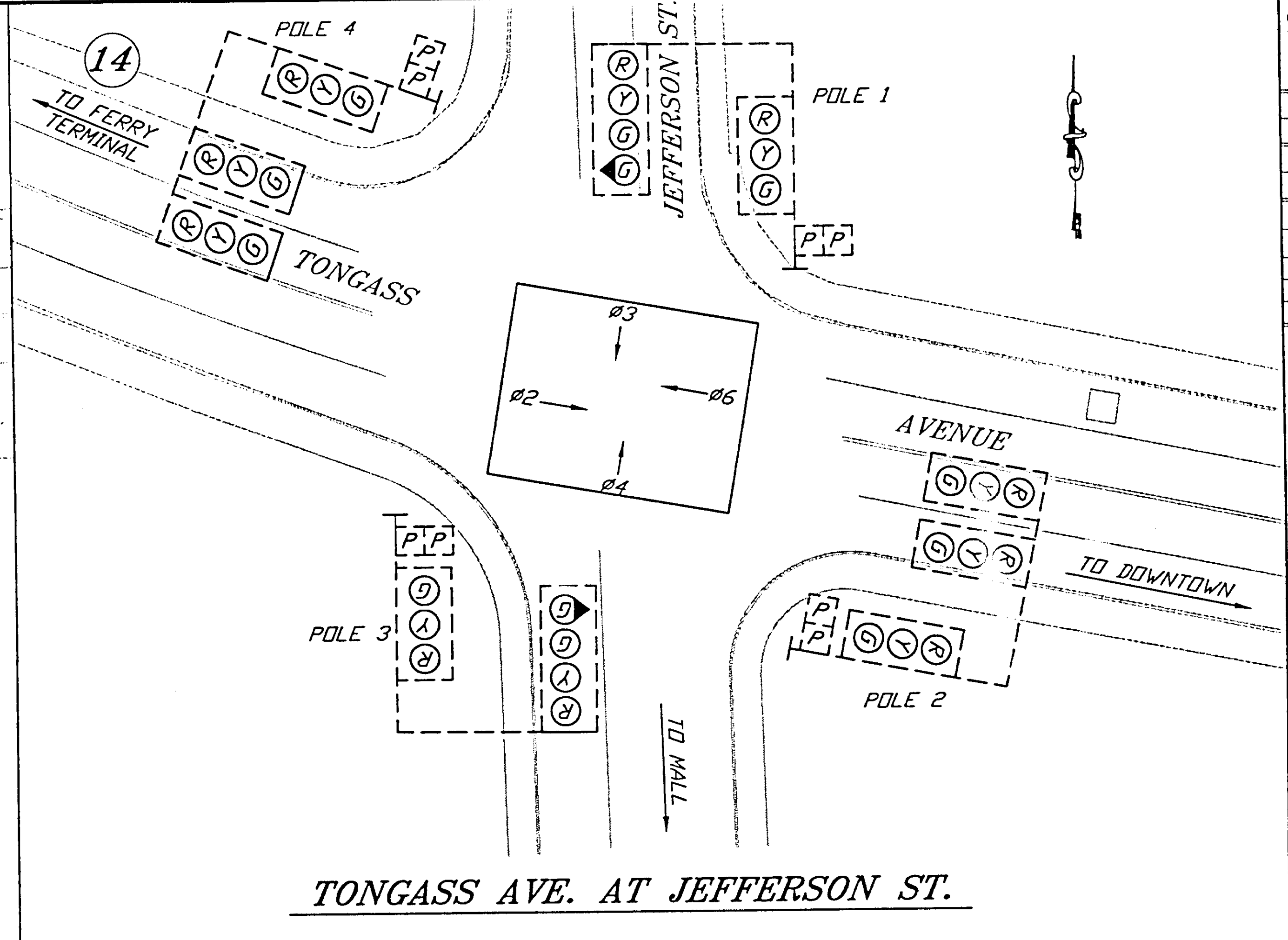
Mc 3/03/02

13



TONGASS AVE. AT WASHINGTON ST.

14

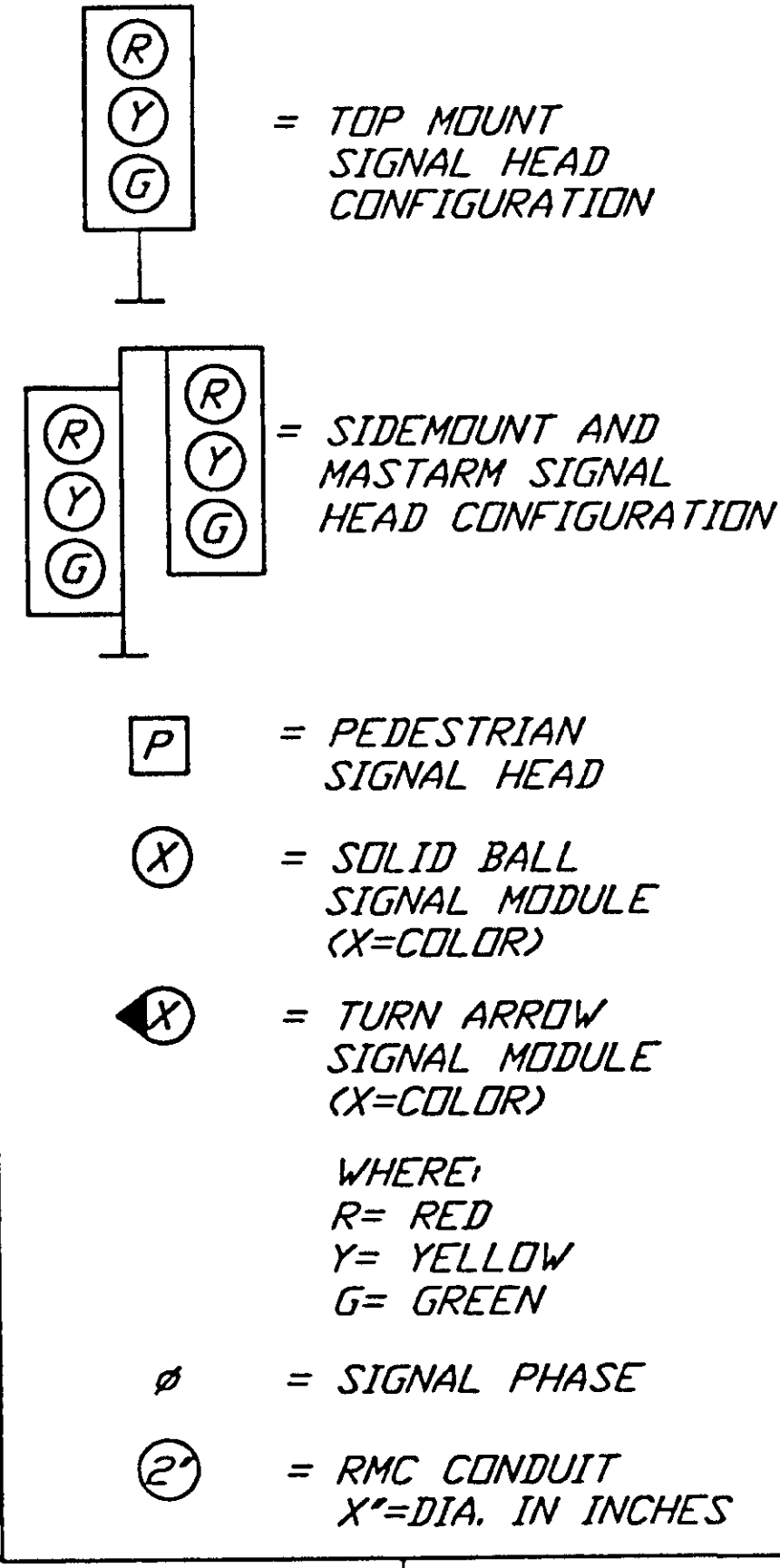


TONGASS AVE. AT JEFFERSON ST.

NOTES:

1. SEE SHEET C1.
2. THE TONGASS AT WASHINGTON SIGNAL SYSTEM WAS BUILT IN 1999. USING THE EXISTING SIGNAL HEADS AND HARDWARE, REPLACE THE EXISTING SIGNAL MODULES.

LEGEND



NOTES:

1. SEE SHEET C1.
2. POLES 2 AND 3 WERE REPLACED IN 1999. NEW SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE WERE INSTALLED AT POLES 1 AND 4.
3. USING THE EXISTING SIGNAL HEADS AND HARDWARE, REPLACE THE EXISTING SIGNAL MODULES.

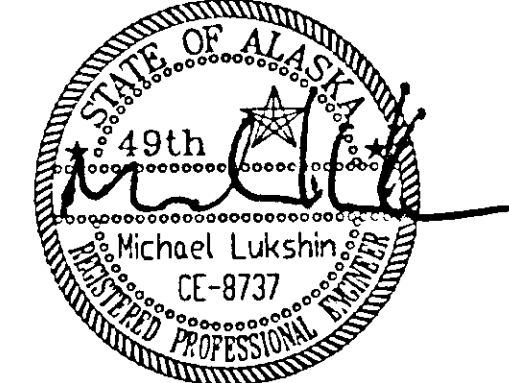
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Tue, 10/Sep/02 08:26PM dastevens
PLOT:
PSPACE 1=1(F) OR MSPACE 1=1(F)

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

SOUTHEAST REGION
LED SIGNAL
INSTALLATION
PROJECT NO. 68159

WASHINGTON & JEFFERSON
SIGNAL MODIFICATIONS

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin

DRAWN BY: Dave Stevens

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
STATEWIDE DESIGN & ENGINEERING
SERVICES DIVISION

SOUTHEAST REGION
LED SIGNAL
INSTALLATION
PROJECT NO. 68179

WASHINGTON & JEFFERSON
SIGNAL MODIFICATIONS

PROJECT DESIGNATION NUMBER

IM-00S(370)-(68159)

STATE	YEAR
ALASKA	2002

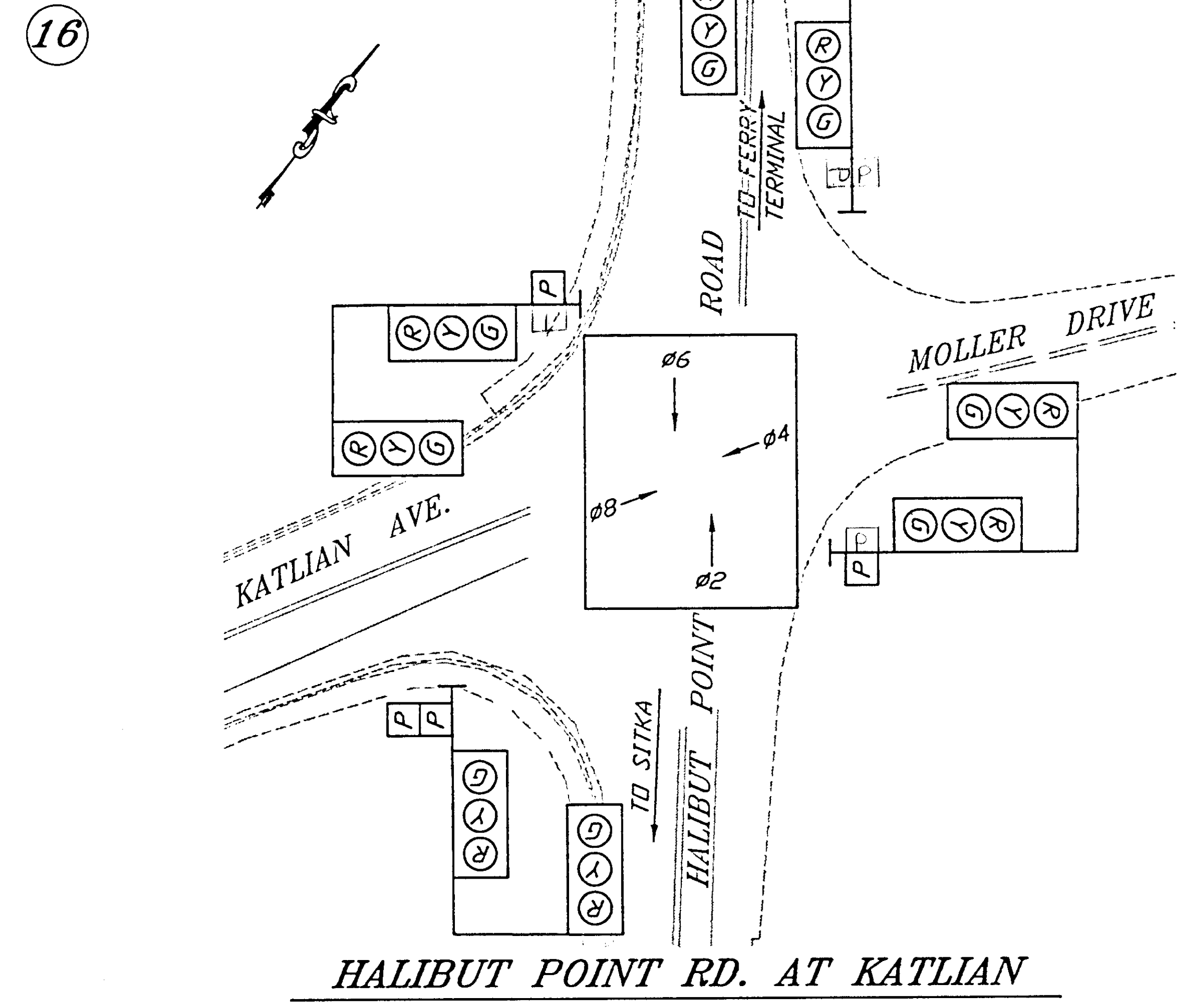
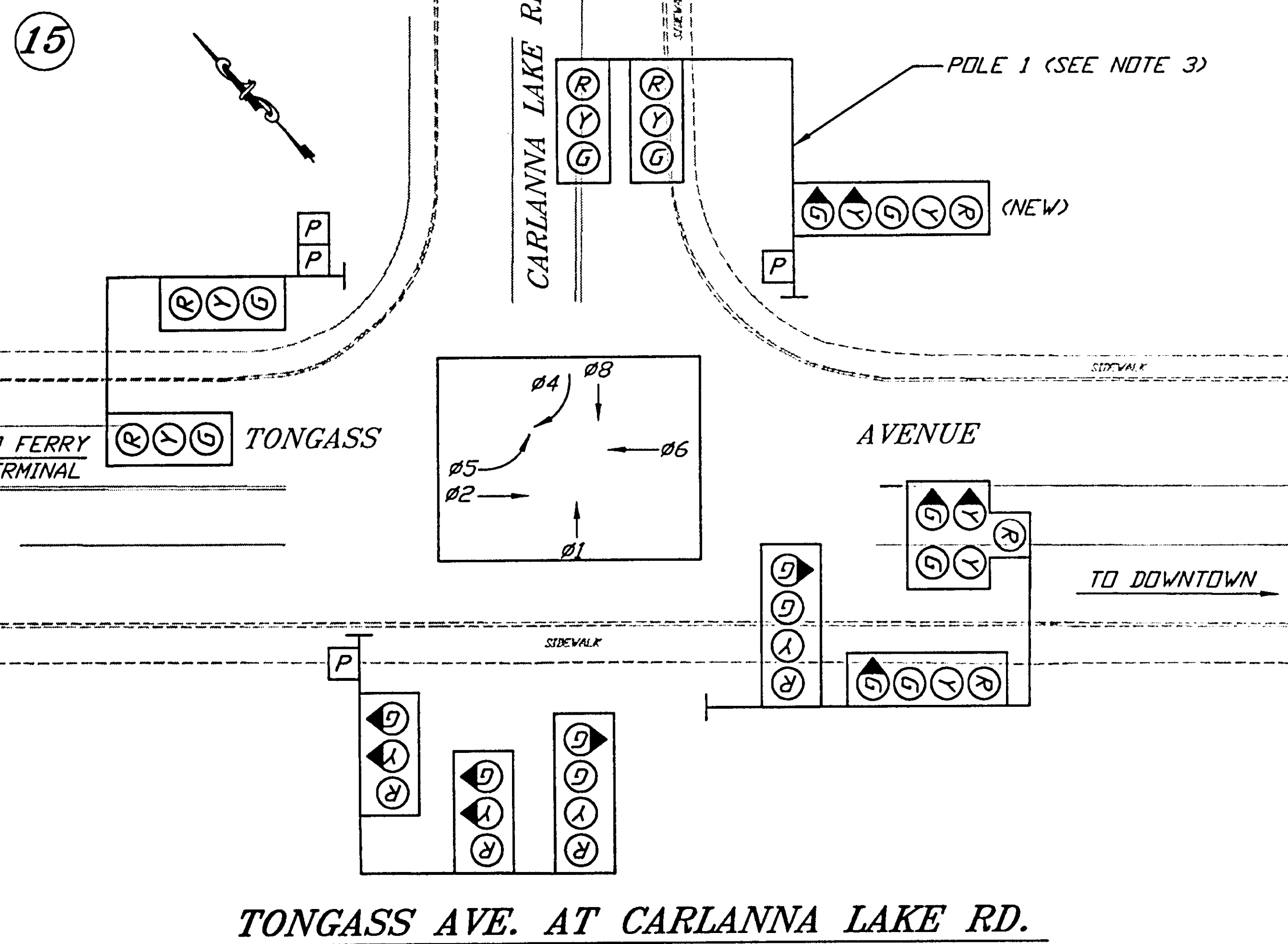
SHEET NUMBER	TOTAL SHEETS
D13	30

SHEET NUMBER	TOTAL SHEETS
D13	30

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159

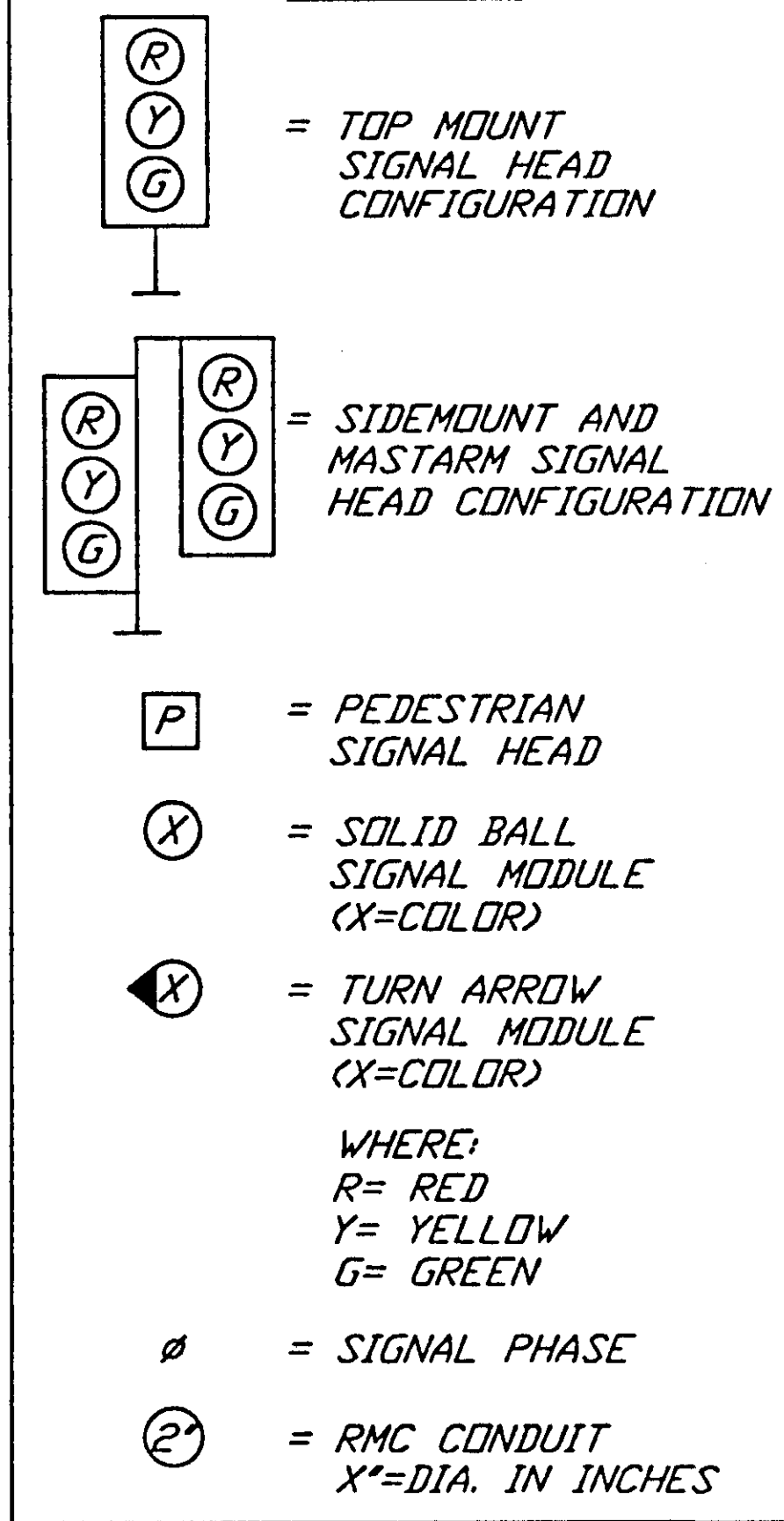
CARLANNA & KATLIAN
 SIGNAL MODIFICATIONS



NOTES:

- SEE SHEET C1.
- REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.
- AT POLE 1 INSTALL A NEW 5-SECTION SIGNAL HEAD FOR LEFT TURNING TRAFFIC. ADD 5C CABLE FROM POLE 1 BACK TO SIGNAL CABINET.

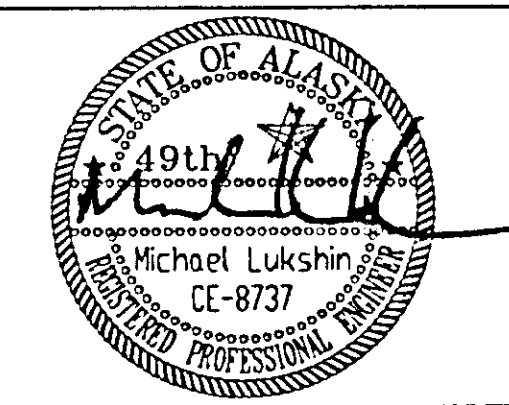
LEGEND



NOTES:

- SEE SHEET C1.
- REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin
 DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

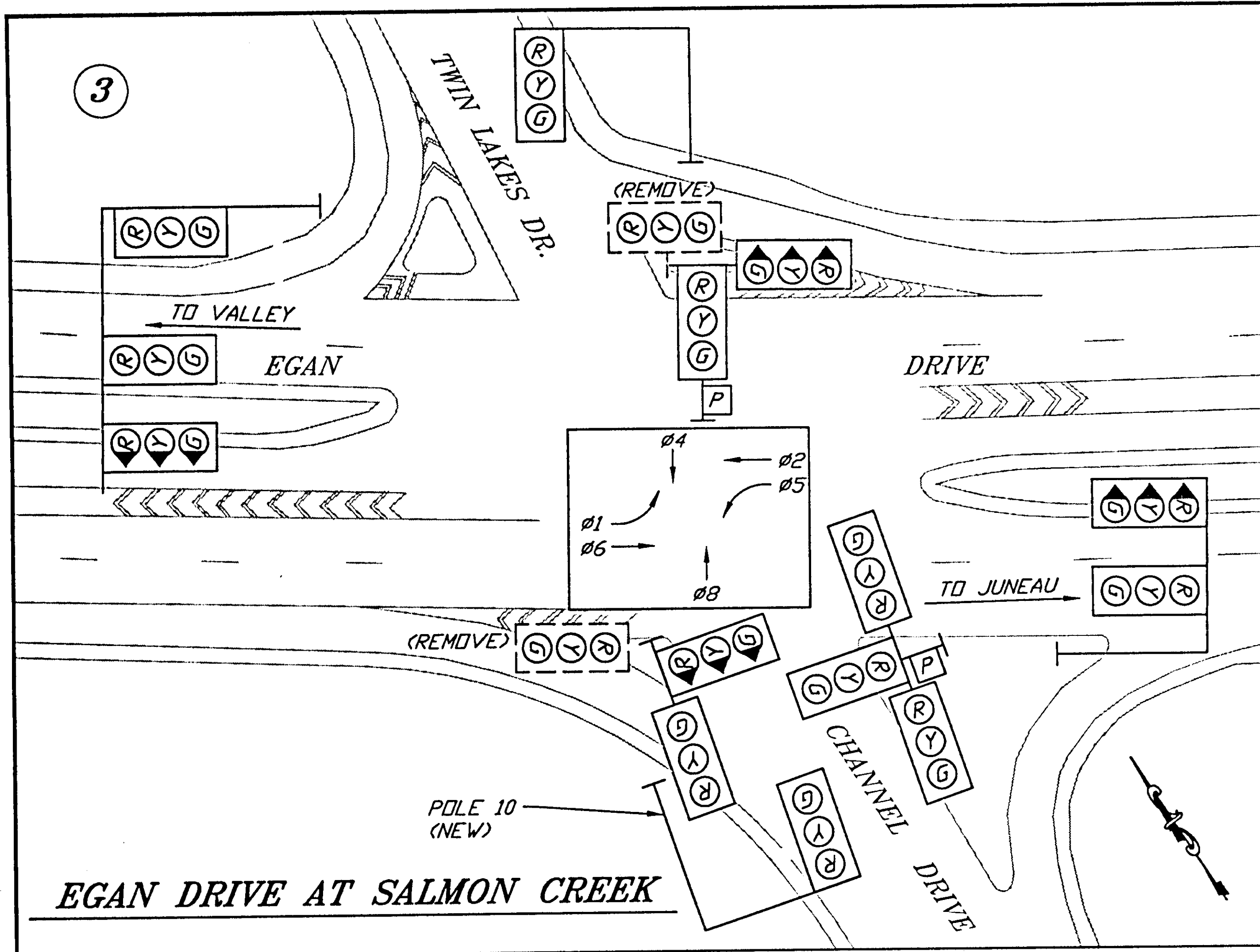
CARLANNA & KATLIAN
 SIGNAL MODIFICATIONS

PROJECT DESIGNATION NUMBER	
IM-000S(370)-(68159)	
STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
D14	30

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159

SALMON CREEK
 SIGNAL MODIFICATIONS



EGAN DRIVE AT SALMON CREEK

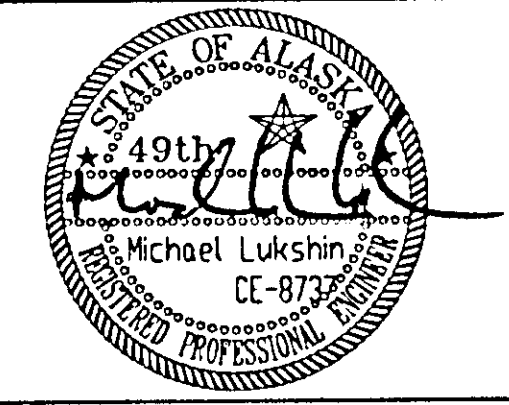
NOTES:

1. SEE SHEET C1.
2. REPLACE ALL EXISTING SIGNAL HEADS, BACKPLATES, AND SIGNAL MOUNTING HARDWARE. THE CONTRACTOR SHALL DISPOSE OF ALL SIGNAL HEADS, BACKPLATES, AND MOUNTING HARDWARE.
3. SEE SHEETS L1-L9 FOR ADDITIONAL WORK DONE UNDER PROJECT NO. 68408.

LEGEND

- = TOP MOUNT SIGNAL HEAD CONFIGURATION
 - = SIDEMOUNT AND MASTARM SIGNAL HEAD CONFIGURATION
 - = PEDESTRIAN SIGNAL HEAD
 - = SOLID BALL SIGNAL MODULE (X=COLOR)
 - = TURN ARROW SIGNAL MODULE (X=COLOR)
- WHERE:
 R= RED
 Y= YELLOW
 G= GREEN
- \emptyset = SIGNAL PHASE
 - \emptyset^* = RMC CONDUIT
 X*=DIA. IN INCHES

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin

DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

SALMON CREEK
 SIGNAL MODIFICATIONS

PROJECT DESIGNATION NUMBER

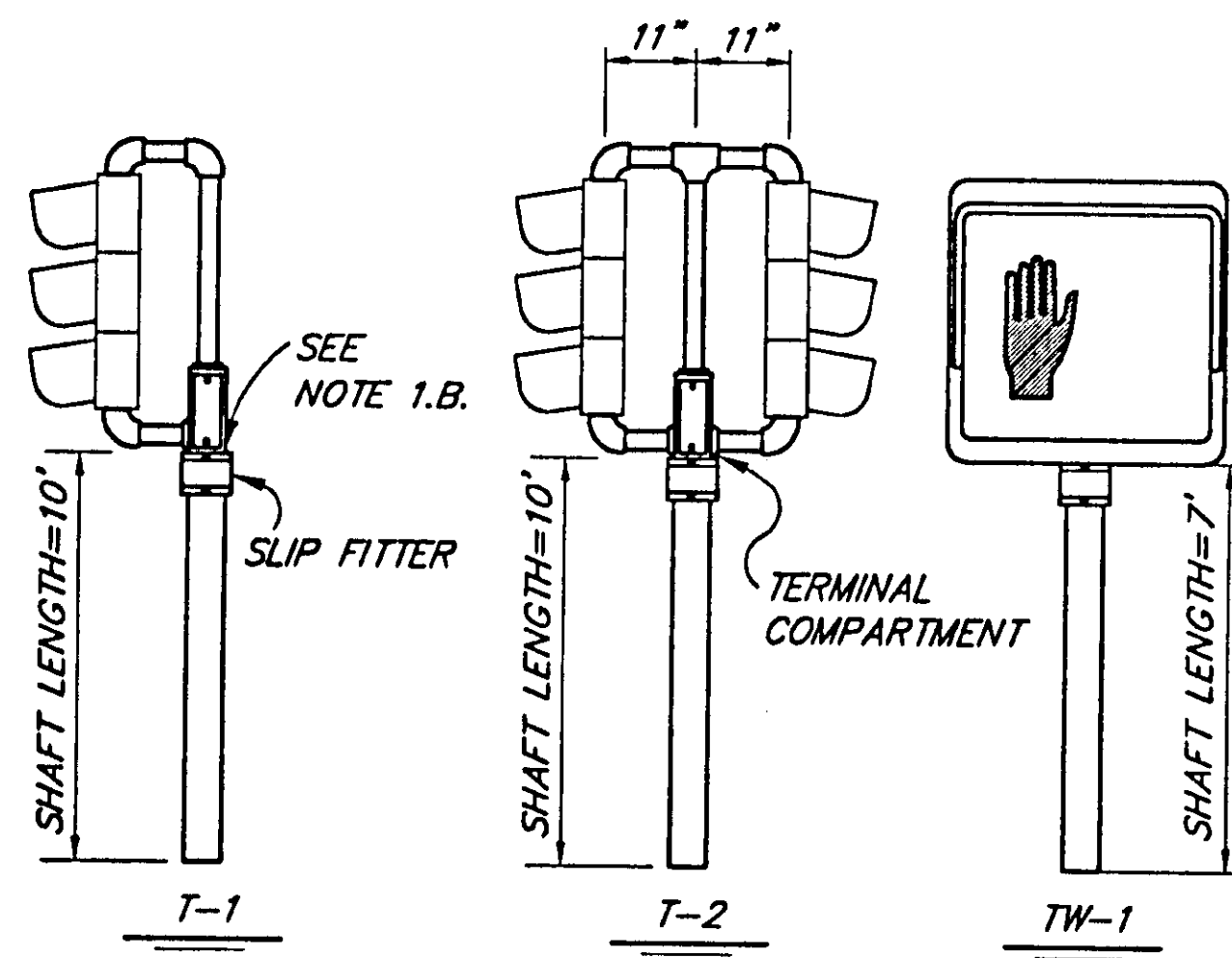
IM-000S(370)-(68159)

STATE	YEAR
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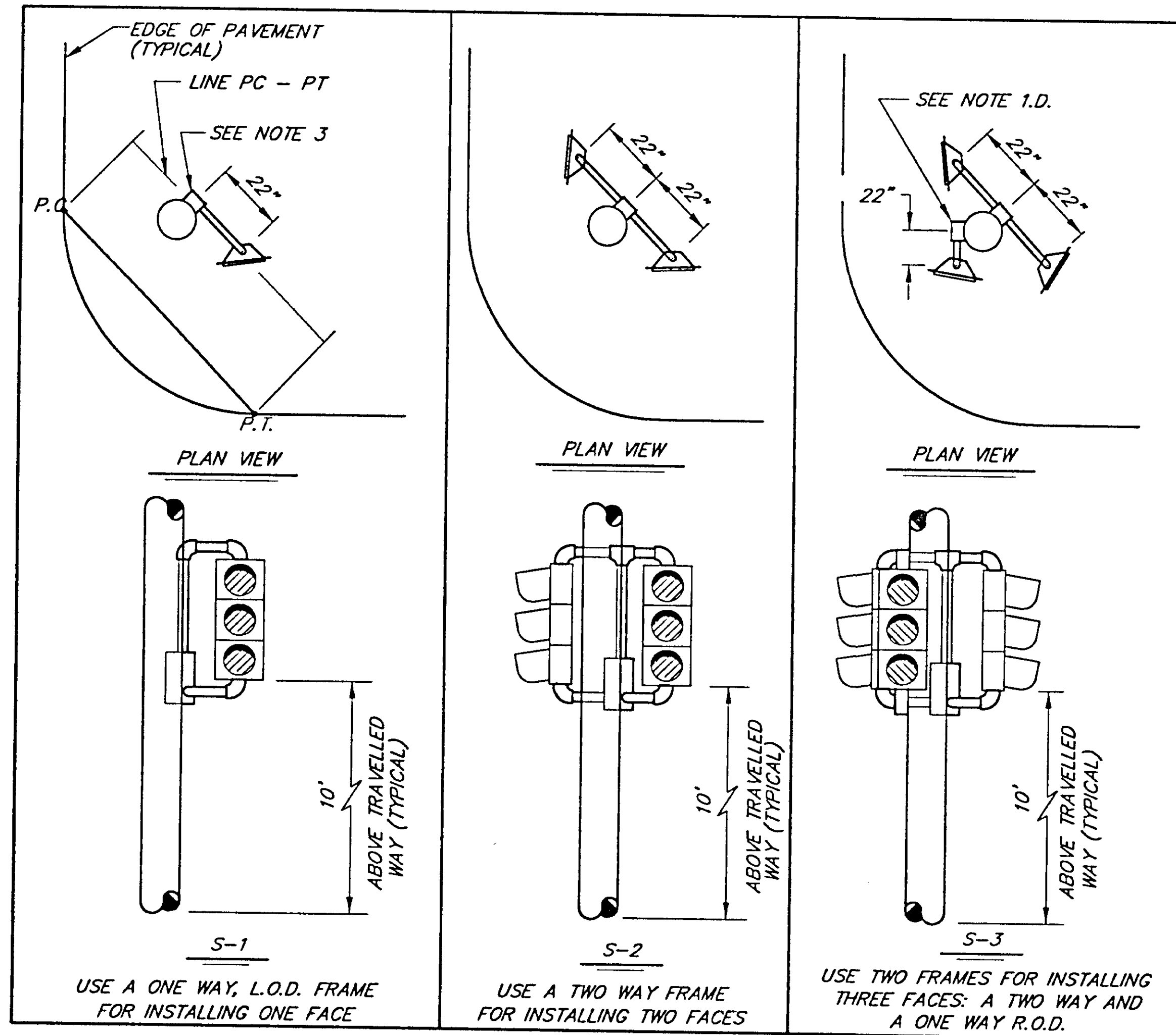
ALASKA	2002
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SHEET NUMBER	TOTAL SHEETS
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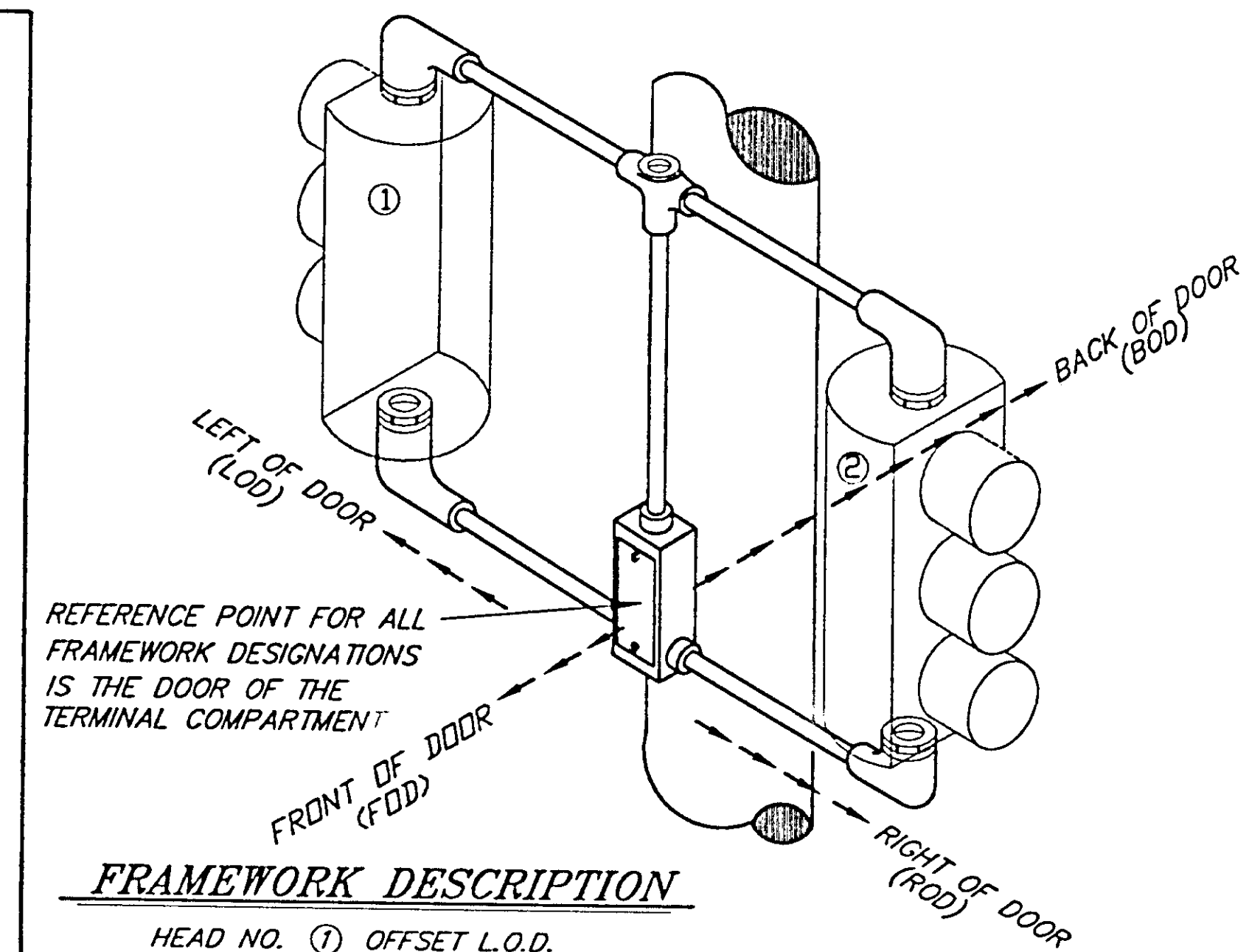
D15	30
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POST MOUNTED SIGNALS
(SHOWN WITHOUT BACKPLATE)



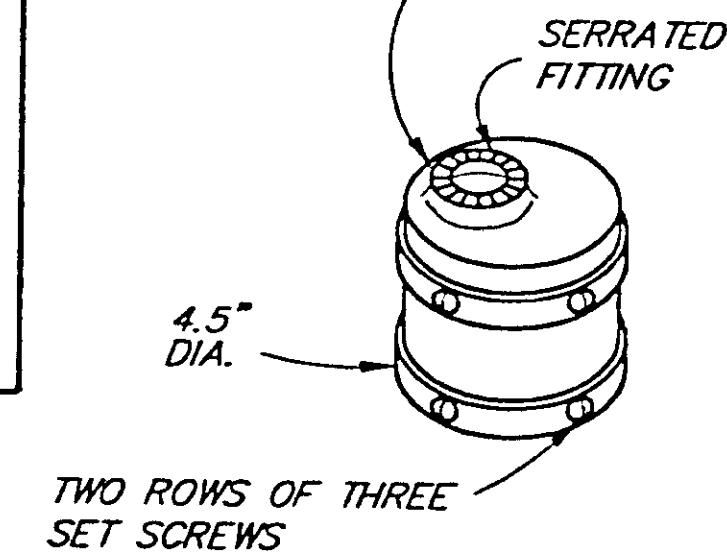
SIDE MOUNTED SIGNAL FRAMES WITH VEHICULAR SIGNALS
(SHOWN WITHOUT BACKPLATES)



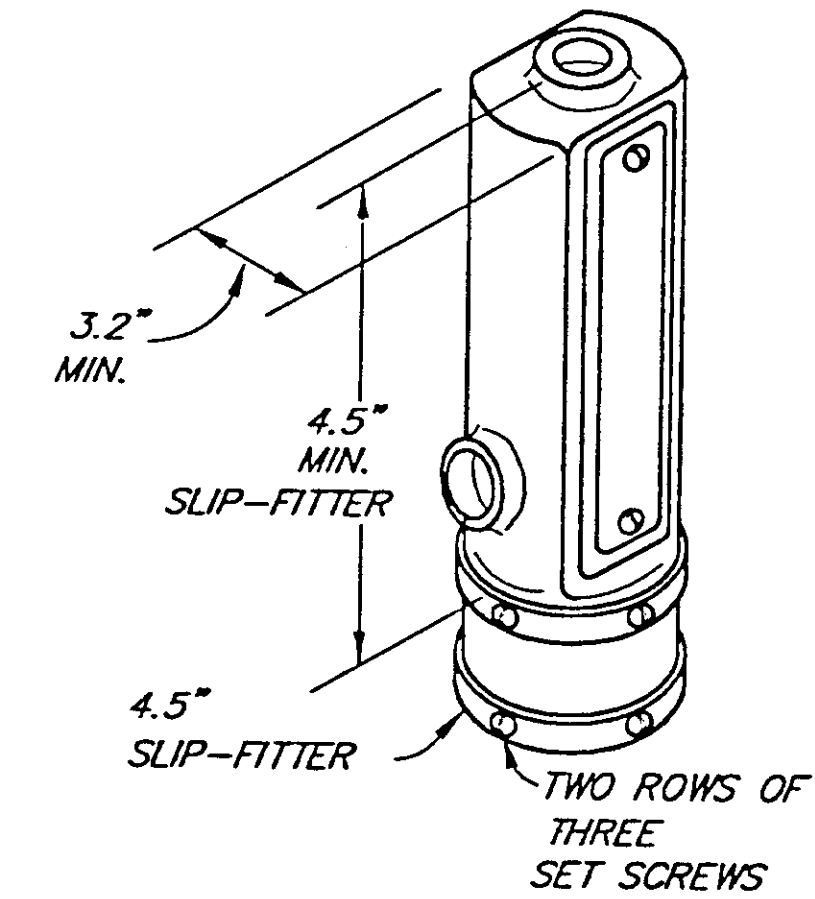
FRAMEWORK DESCRIPTION

HEAD NO. ① OFFSET L.O.D.
HEAD NO. ② OFFSET R.O.D.

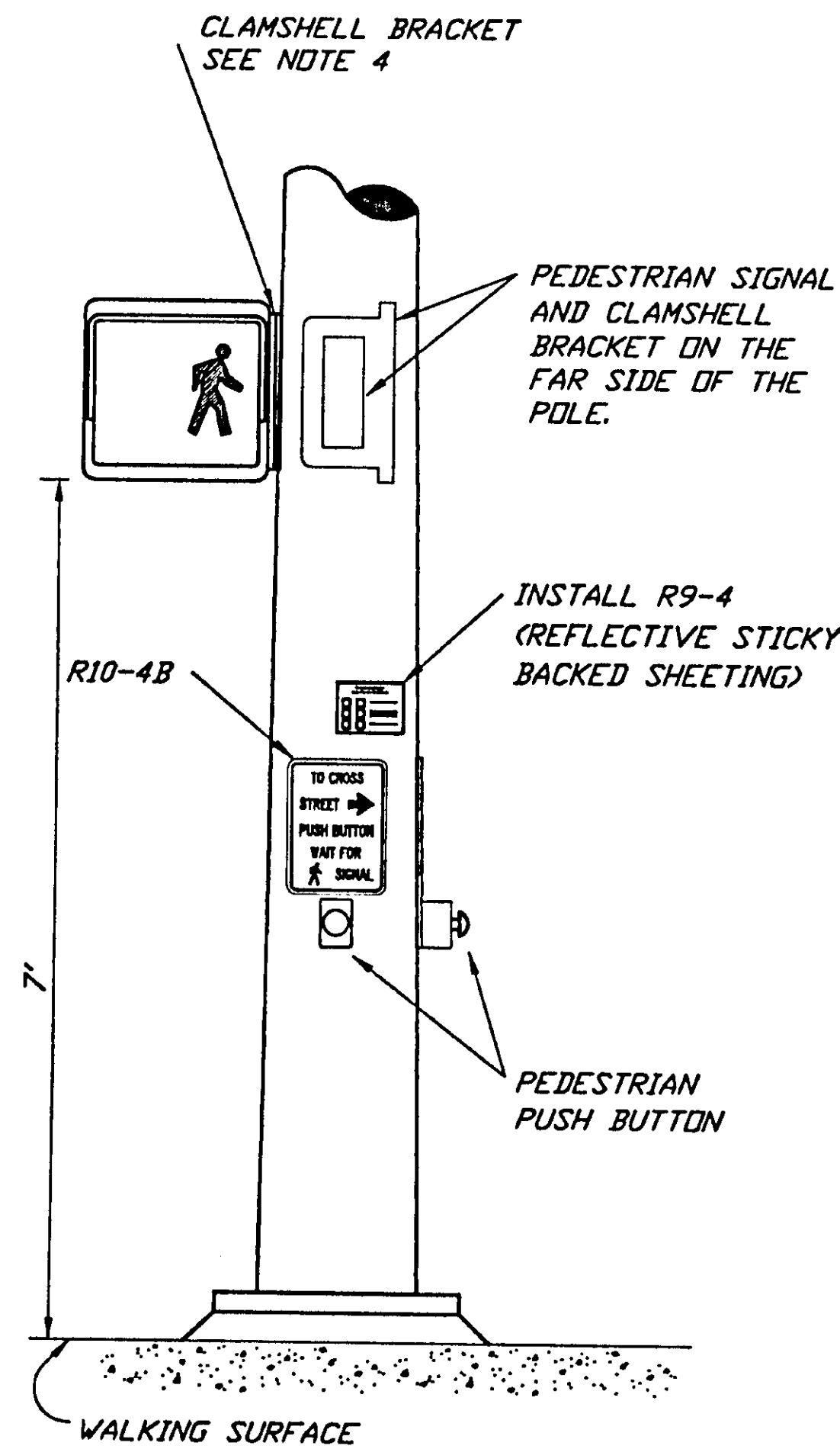
PROVIDE A SLIP FITTER WITH AN OFFSET OPENING WHEN A BACK PLATE IS USED



SLIP FITTER
(SEE NOTE 1.B.)



TERMINAL COMPARTMENT (WITH SLIP FITTER)
(SEE NOTES 1.C. AND 2)



PEDESTRIAN HARDWARE

TRAFFIC SIGNAL HARDWARE NOTES:

1. INSTALL THE SIGNAL FACES SHOWN IN THE PLANS AS DETAILED ON THIS SHEET.
 - A. USE ELEVATOR PLUMBIZERS TO INSTALL FACES ON MAST ARMS AND WHENEVER 2" PIPE TENONS ARE SPECIFIED, INSTALL THE PLUMBIZER BETWEEN THE RED AND YELLOW SIGNAL INDICATIONS.
 - B. USE SLIP FITTERS TO INSTALL PEDESTRIAN SIGNALS ON THE TOP OF POSTS.
 - C. USE SIGNAL FRAMES TO INSTALL SIGNAL FACES ON THE SIDES OF POLES AND ON THE TOPS OF POSTS.
 - D. USE A SECOND SIGNAL FRAME TO INSTALL THE THIRD FACE WHEN THREE SIDE MOUNTED SIGNAL FACES ARE SHOWN.
 - E. USE CLAMHELL BRACKETS TO INSTALL ALL PEDESTRIAN SIGNALS, EXCEPT THOSE THAT ARE POST MOUNTED.
2. FURNISH ALL SIGNAL FRAMES WITH TERMINAL COMPARTMENTS.
3. INSTALL ONE TERMINAL COMPARTMENT ON THE SIDE OF THE POLE OPPOSITE THE MIDPOINT OF THE RADIUS RETURN. POSITION THE TERMINAL COMPARTMENT AT THE LOCATION WHERE A LINE PARALLEL TO THE LONG CHORD (P.C. TO P.T.) OF THE RADIUS RETURN IS TANGENT TO THE POLE.
4. INSTALL PEDESTRIAN SIGNALS SO THE POLES TO WHICH THEY ARE ATTACHED ARE BETWEEN THE PEDESTRIAN SIGNAL AND THE THROUGH TRAFFIC LANE THAT PARALLELS THE CROSSWALK.
5. FIELD DRILL THE HOLES NEEDED FOR ATTACHING ALL SIGNAL HARDWARE. USE HOLE SAWS WHEN DRILL BITS ARE NOT AVAILABLE. TREAT THE BARE STEEL SURFACES IN ACCORDANCE WITH SECTION 660-2.14, GALVANIZING, OF THE STANDARD SPECIFICATIONS.
6. PROVIDE 5" LOUVERED BACK PLATES SIZED FOR THE NUMBER OF SIGNAL SECTIONS AND MOUNTING TYPE, SO THAT NO LIGHT IS VISIBLE BETWEEN THE BACK PLATE AND THE SIGNAL FACE. FURNISH BACK PLATES FOR DOGHOUSE STYLE SIGNALS THAT FEATURE NOTCHED UPPER CORNERS.
7. ATTACH ALL BACK PLATES USING .2" DIAMETER LARGE FLANGE STAINLESS STEEL RIVETS WITH A GRIP RANGE OF .37"-.5".
8. REPLACE PEDESTRIAN BUTTONS AT EGAN/MAIN, EGAN/10TH AND LEMON RD./K-MART AND TONGASS/DOCK. REPLACE BUTTONS ONLY. (HOUSING AND PEDESTRIAN CROSSING SIGNS TO REMAIN.)

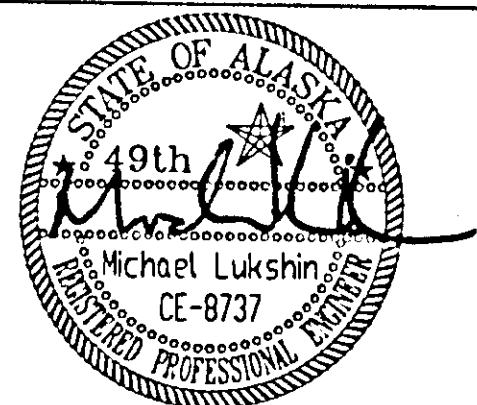
PATH: Q:\SEA\68159\PlanSet\LUMIN.dwg
Tue, 10/Sep/02 08:35PM dostevens
PLOT: PSPACE 1=1(F) OR MSPACE 1=1(F)

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

SOUTHEAST REGION
LED SIGNAL
INSTALLATION
PROJECT NO. 68159

TRAFFIC SIGNAL
HARDWARE DETAILS

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin

DRAWN BY: Dave Stevens

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
STATEWIDE DESIGN & ENGINEERING
SERVICES DIVISION

SOUTHEAST REGION
LED SIGNAL
INSTALLATION
PROJECT NO. 68179

TRAFFIC SIGNAL
HARDWARE PLAN
PROJECT DESIGNATION NUMBER

IM-000S(370)-(68159)

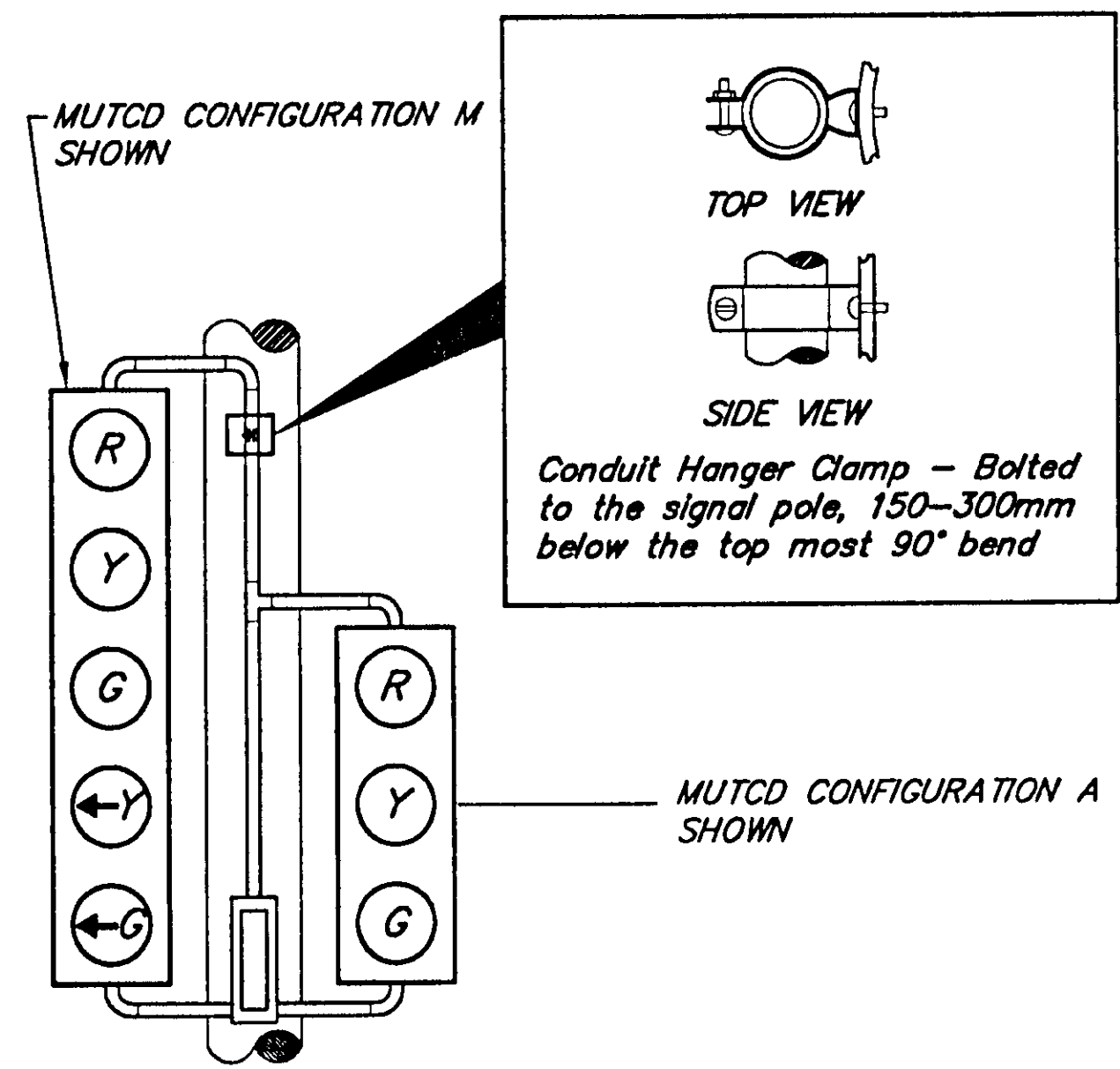
STATE	YEAR
ALASKA	2002

SHEET NUMBER	TOTAL SHEETS
G1	30

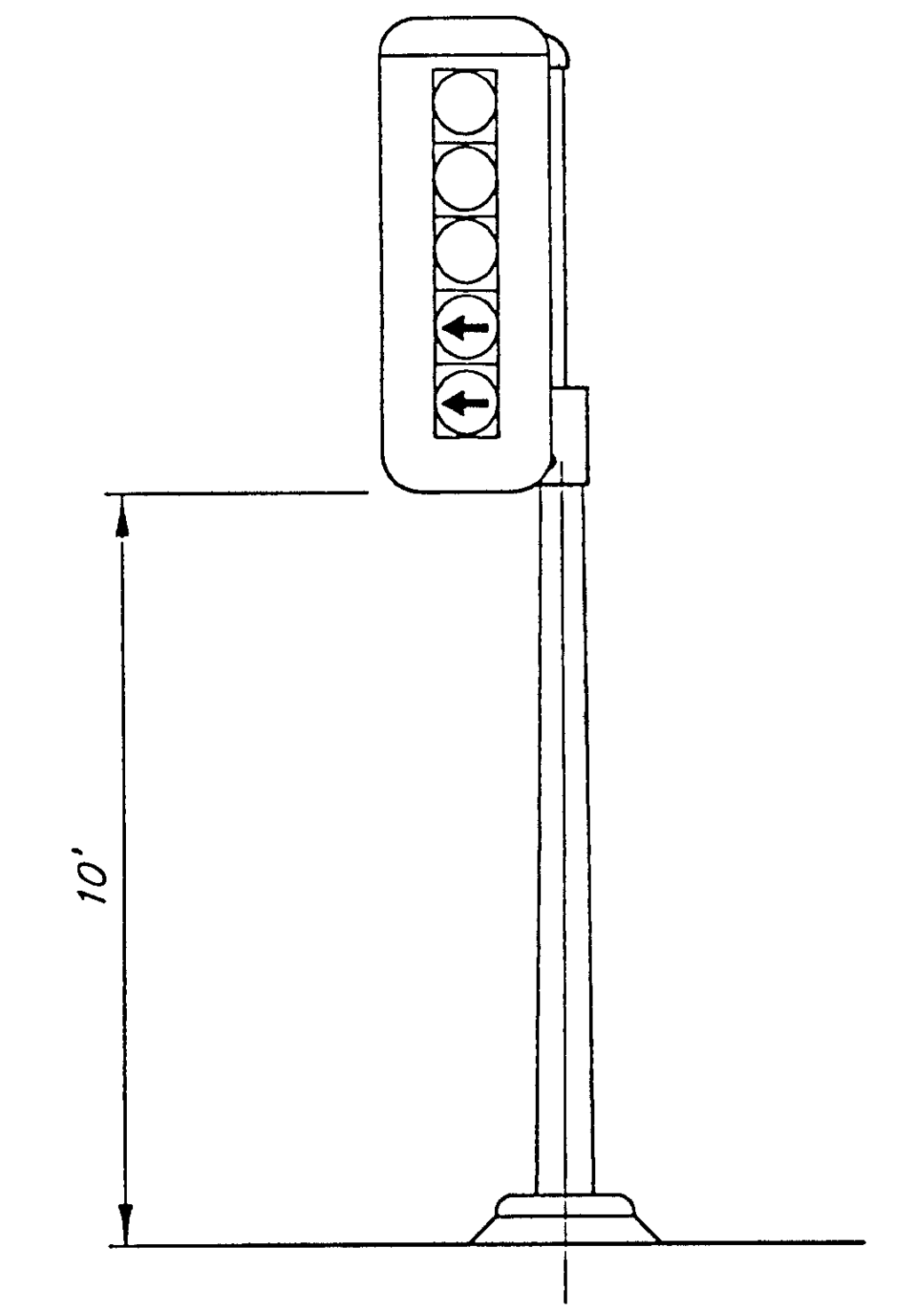
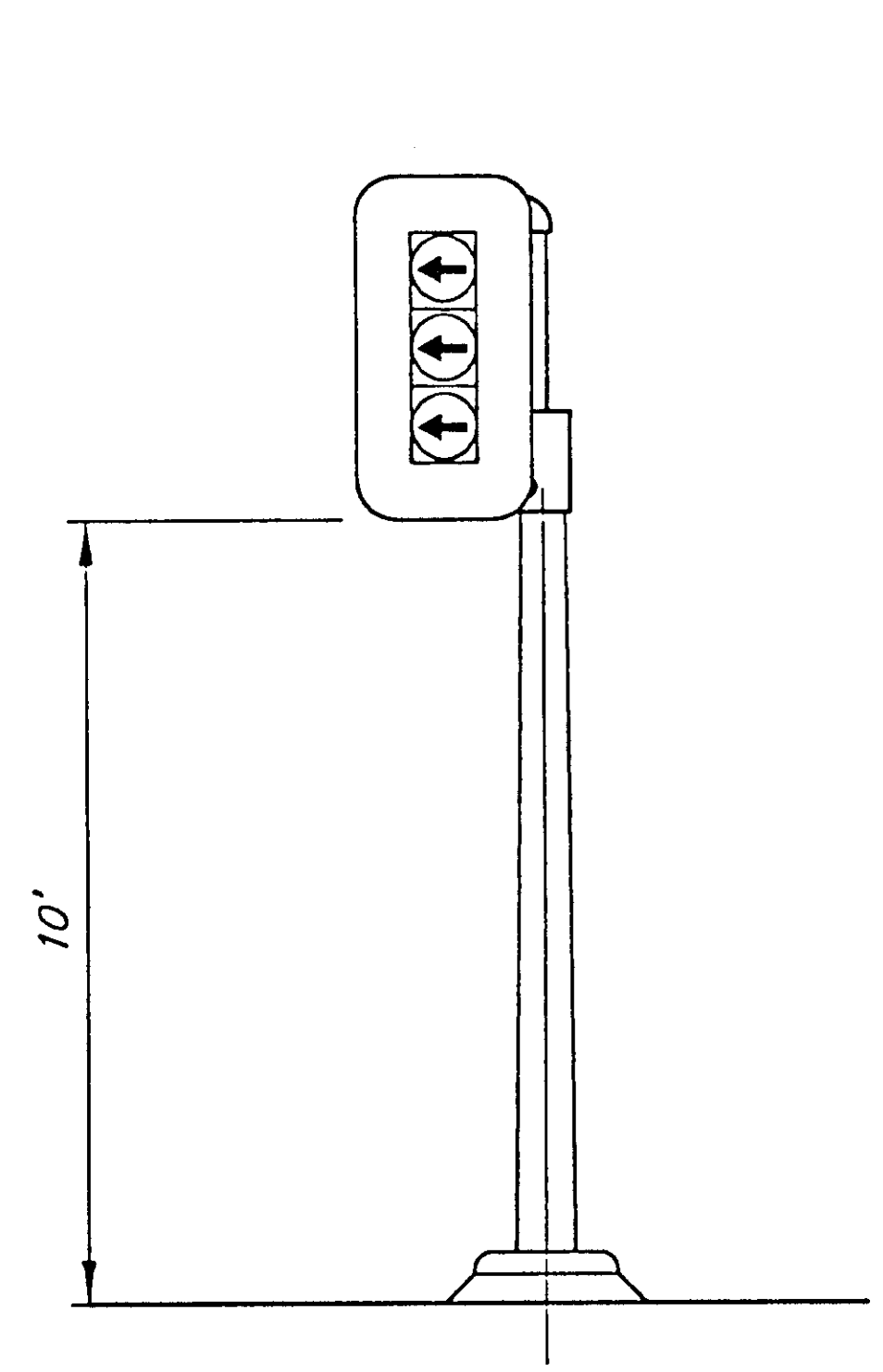
ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159

DETAILS



TYPICAL POST MOUNTING OF TWO UNEQUAL SIZE SIGNAL HEADS
 (FOR CLARITY, BACK PLATES NOT SHOWN)

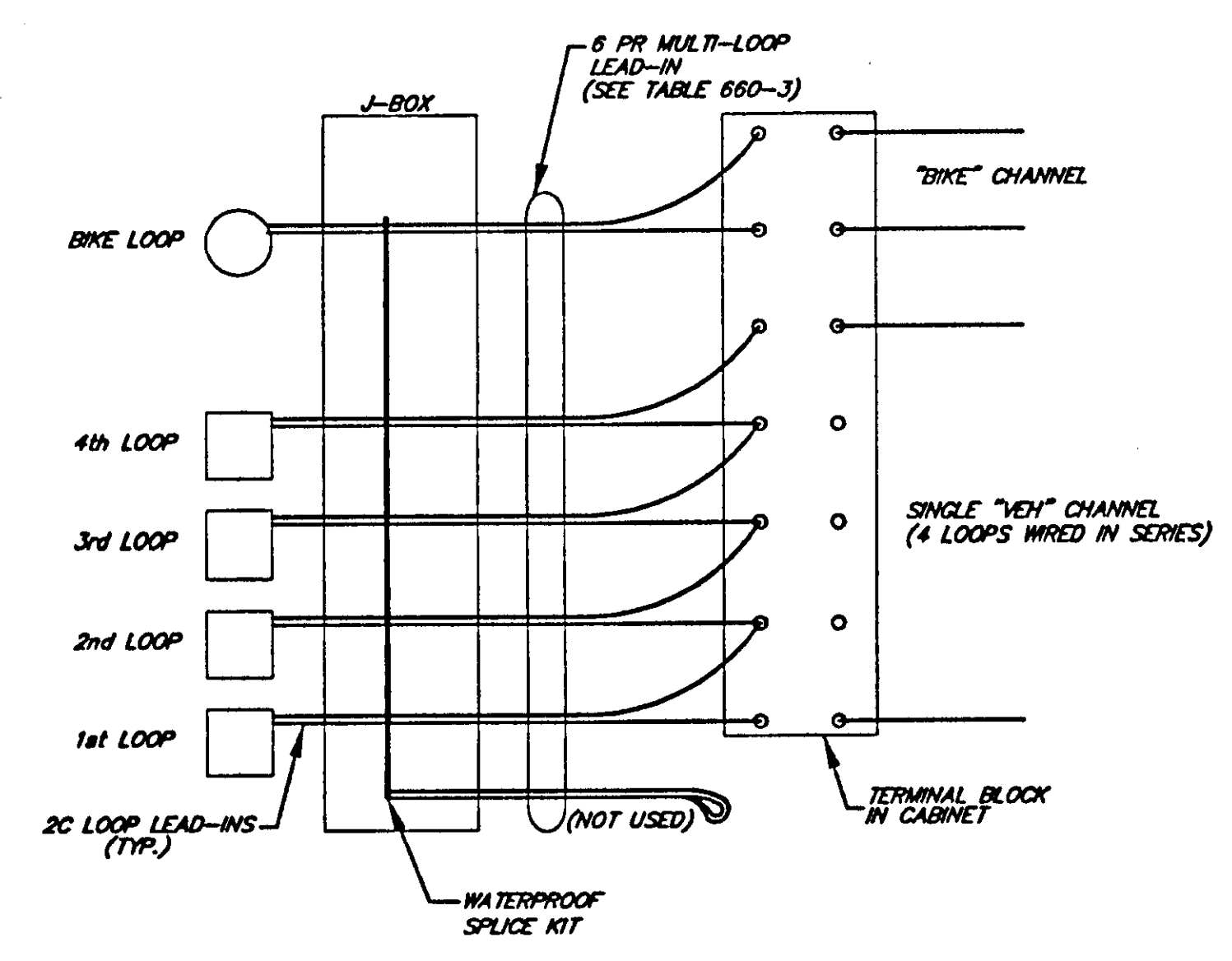


LEFT TURN SIGNAL POLE DETAILS

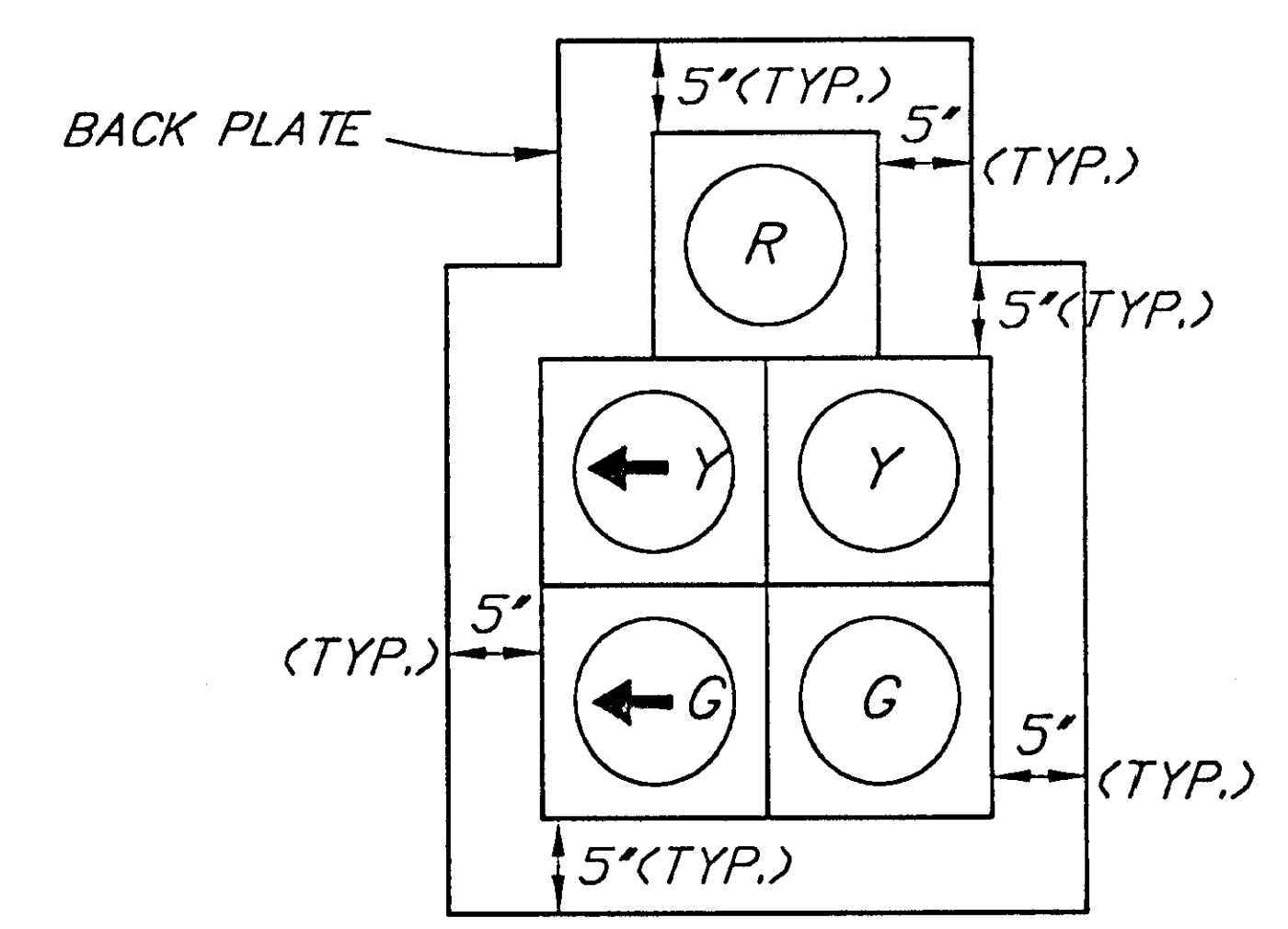
AT EGAN/VANDERBILT & LEMON RD./K-MART
 NOTE: SIGNAL HEAD FOR K-MART IS A 5 SECTION HEAD.

SIGNAL POLE NOTES:

1. SIGNAL POLES, MAST ARMS AND LUMINAIRES SHALL BE DESIGNED FOR 100 MPH WIND SPEED AND STAMPED BY A REGISTERED ENGINEER.
2. THE SIGNAL POLE FOUNDATION DETAIL IS SHOWN IN STD. DWG. T-31.00.
3. SEE SHEET L-6 FOR EGAN/SALMON CK. SIGNAL POLES.
4. ALL BACKPLATES SHALL BE 5 INCHES.

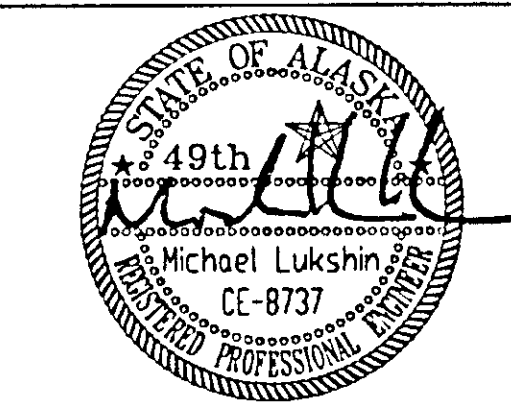


TYPICAL LOOP LEAD-INS



5-SECTION SIGNAL CLUSTER HEAD CONFIGURATION
 (MUTCD configuration S)

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin

DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

DETAILS

PROJECT DESIGNATION NUMBER

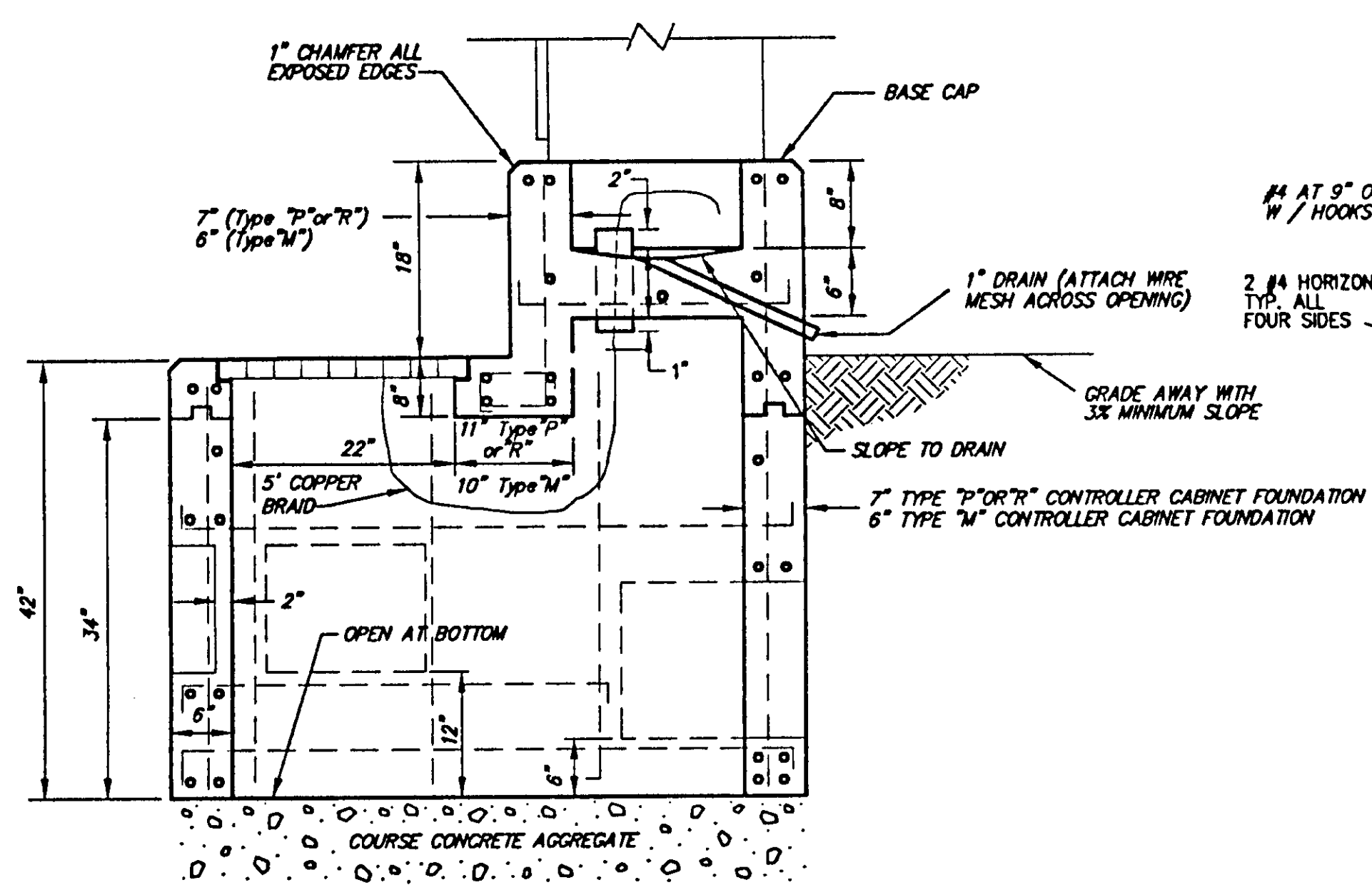
IM-000S(370)-(68159)

STATE	YEAR
ALASKA	2002

SHEET NUMBER	TOTAL SHEETS
G2	30

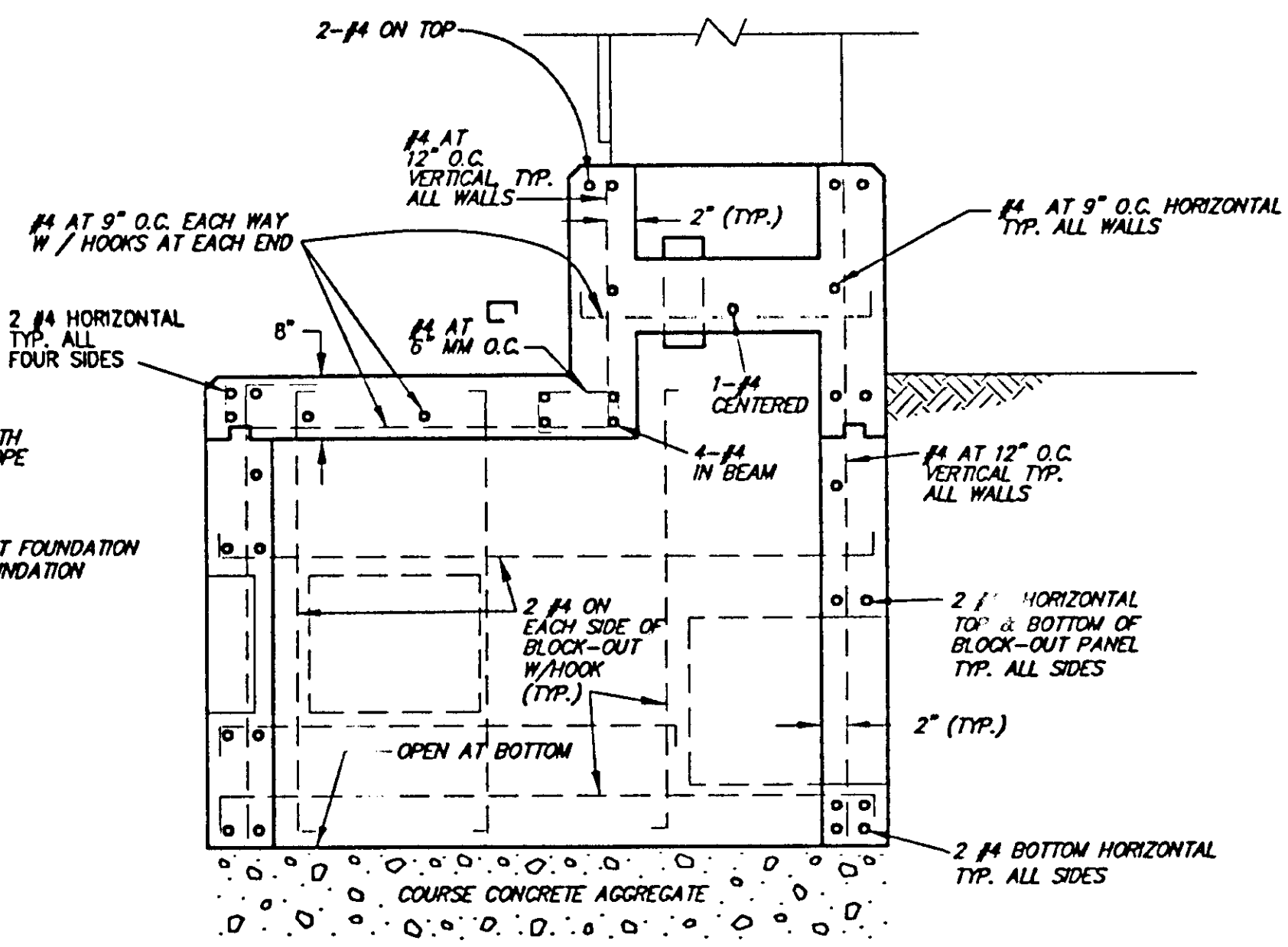
ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159
 CONTROLLER CABINET
 DETAILS



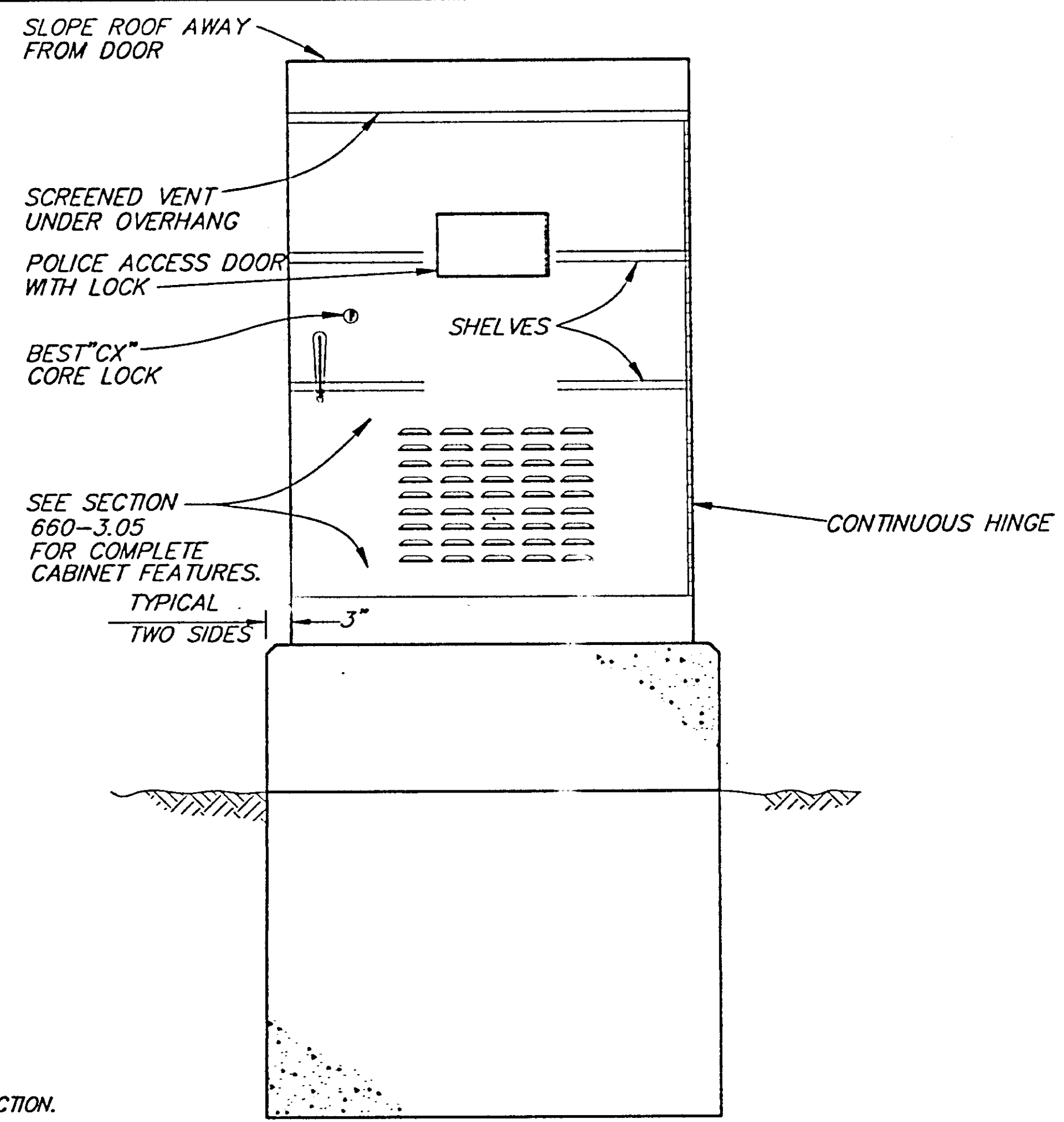
SECTION A-A

NOTE: SEE SECTION "B-B" FOR REBAR DETAILS.



SECTION B-B

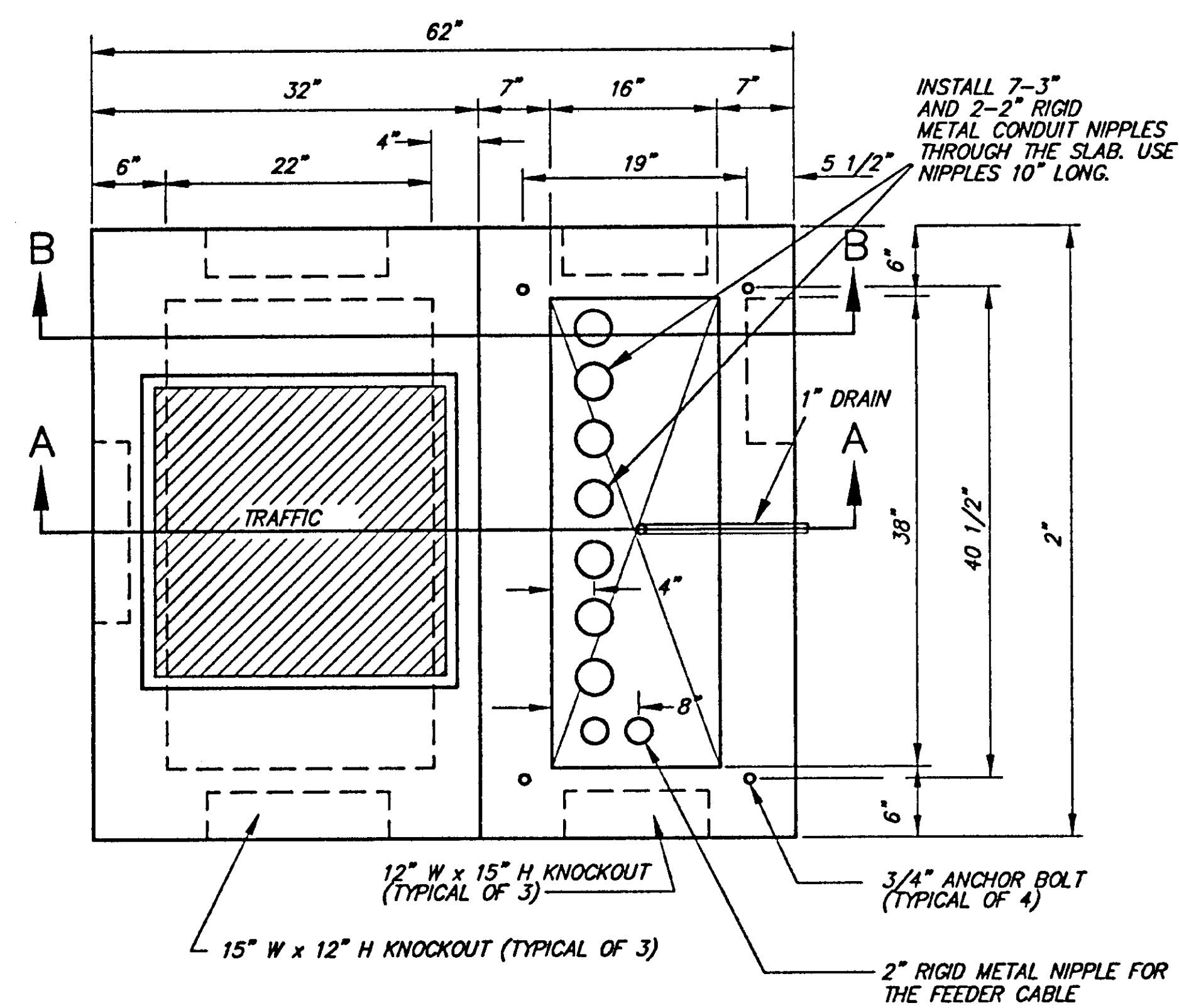
NOTE: SEE SECTION "A-A" FOR DIMENSIONAL DETAILS & NOTES.



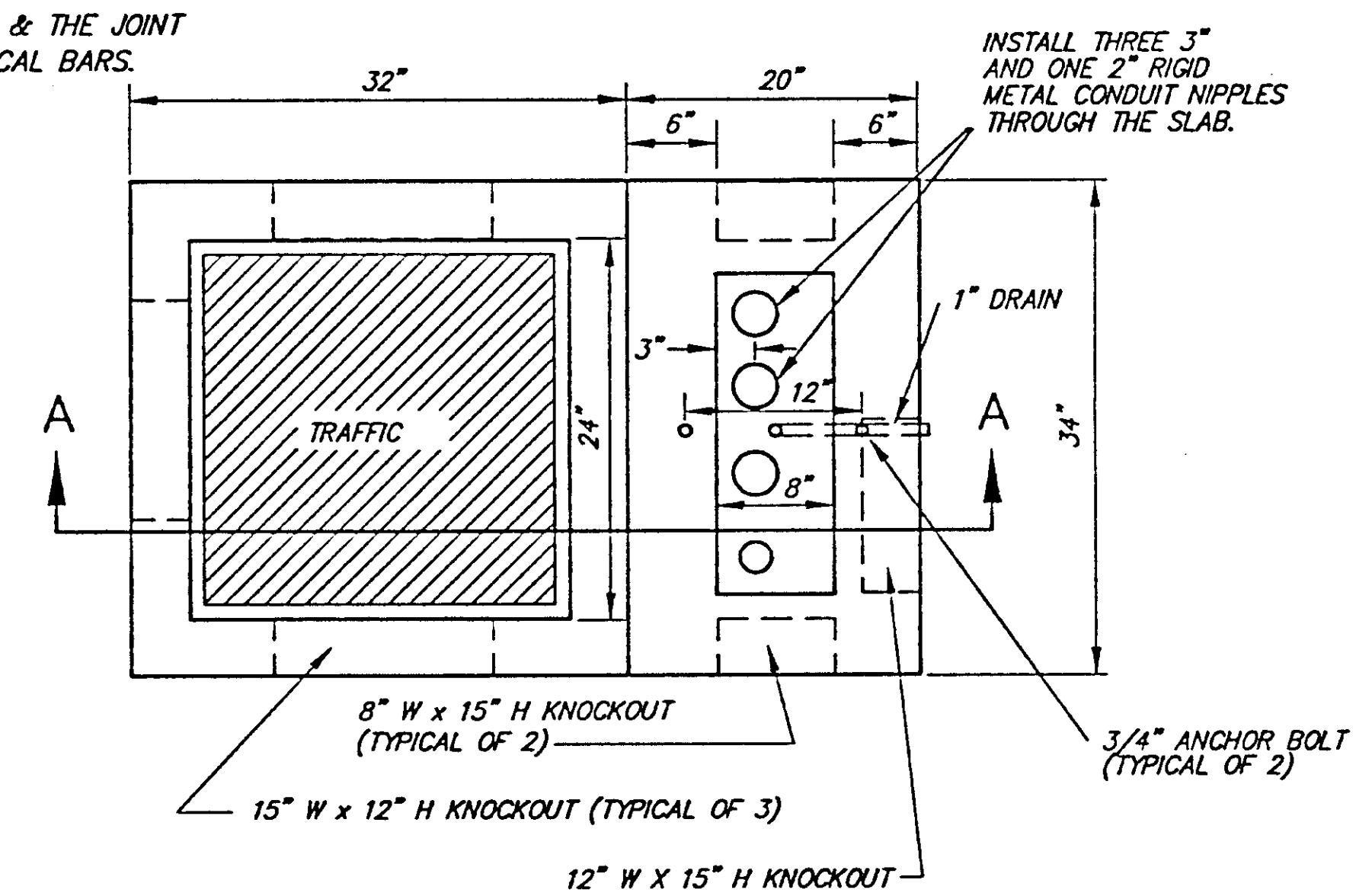
**CABINET
ELEVATION**

GENERAL NOTES:

1. INSTALL A NEW TYPE "P" CABINET FOUNDATION AT LOOP/EGAN INTERSECTION.
2. THE TYPE "M" CABINET FOUNDATION IS INFORMATIONAL ONLY. THE CONTRACTOR SHALL VERIFY THE EXISTING CABINET BOLT PATTERN AT THE DOCK/Front CABINET FOUNDATION AND REDRILL NEW SIGNAL CABINET TO MATCH.
3. ANCHOR BOLTS SHALL NOT PROTRUDE MORE THAN 1 1/2" ABOVE THE TOP OF THE FOUNDATION. ANCHOR BOLT DIMENSIONS SHALL BE AS SPECIFIED BY THE CABINET MANUFACTURER.
4. UNUSED CONDUIT STUBS SHALL BE SEALED WITH WATERTIGHT CAPS. STUBS CARRYING CONDUCTORS SHALL BE SEALED WITH WATERTIGHT SEALING BUSHINGS DESIGNED TO SEAL AROUND CONDUCTORS AND AGAINST THE CONDUIT WALLS.
5. ROUTE THE 5" COPPER GROUNDING JUMPER THROUGH THE 2" PIPE NIPPLE, AND ATTACH IT TO THE GROUNDING BUSHING ON THE FEEDER CABLE CONDUIT
6. STOP HORIZONTAL & VERTICAL STEEL AT THE BLOCK-OUT PANELS & THE JOINT USING 90 DEGREE HOOKS. USE 2 EXTRA #4 HORIZONTAL & VERTICAL BARS. ALL SIDES AS SHOWN.
7. PRECAST FOUNDATIONS ARE ACCEPTABLE.

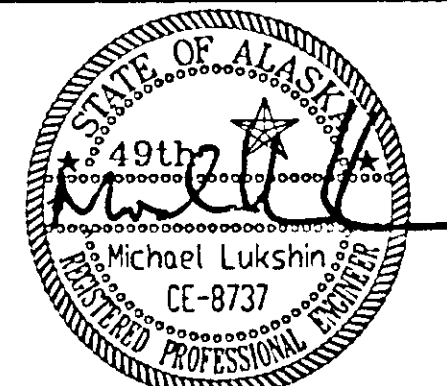


TYPE "P" or "R" CONTROLLER CABINET FOUNDATION



TYPE "M" CONTROLLER CABINET FOUNDATION

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin

DRAWN BY: Dave Stevens

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
STATEWIDE DESIGN & ENGINEERING
SERVICES DIVISION

SOUTHEAST REGION
LED SIGNAL
INSTALLATION
PROJECT NO. 68179

CONTROLLER CABINET
DETAILS

PROJECT DESIGNATION NUMBER

IM-000S(370)-(68159)

STATE	YEAR
ALASKA	2002

SHEET NUMBER	TOTAL SHEETS
G3	30

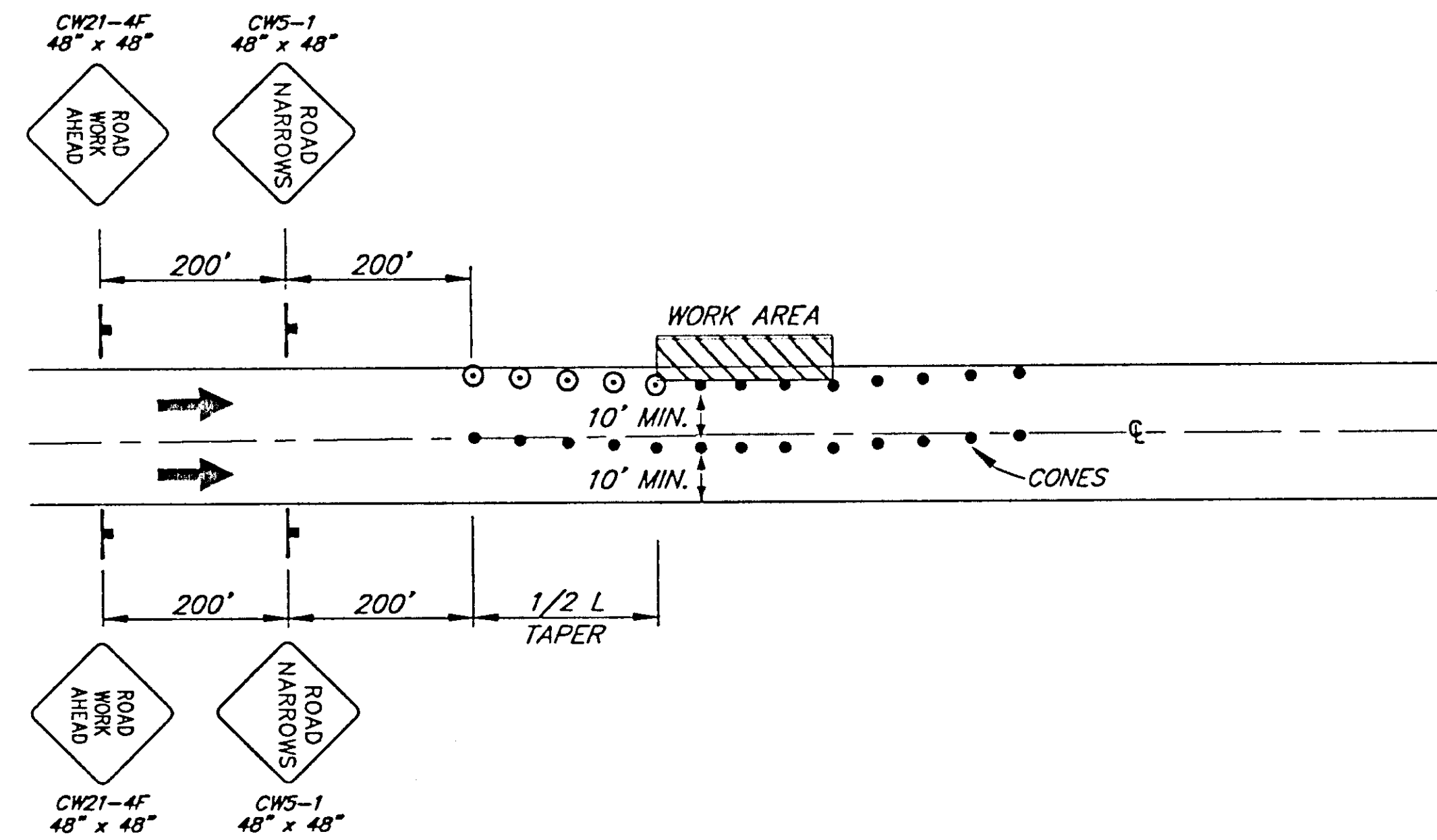
TRAFFIC CONTROL NOTES

1. IT IS THE INTENT OF THIS TRAFFIC CONTROL PLAN (TCP) TO ILLUSTRATE SOME BUT NOT ALL OF THE TRAFFIC CONTROL CONFIGURATIONS THAT WILL BE REQUIRED BY THIS PROJECT. TRAFFIC CONTROL PLANS FOR CONFIGURATIONS NOT COVERED BY THIS TCP SHALL BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.
2. TWO WAY TRAFFIC WILL BE MAINTAINED AT ALL TIMES.
3. THE CONTRACTOR SHALL KEEP THE PUBLIC INFORMED OF HIS CONSTRUCTION ACTIVITIES THROUGH THE USE OF THE LOCAL NEWS MEDIA. NEWS RELEASES SHALL BE APPROVED BY THE PROJECT ENGINEER PRIOR TO THEIR RELEASE. NEWS RELEASES WILL BE REQUIRED BUT NOT LIMITED TO, THE ONSET OF WORK, SIGNAL SHUTDOWNS, AND CHANGES IN THE LANE CONFIGURATIONS.
4. NO SIGNAL SHUTDOWNS SHALL OCCUR BETWEEN 6:30 AM TO 8:30 AM, 12:00 PM TO 6:00 PM ON WEEKDAYS.
5. SIGN SPACING IS SHOWN FOR HIGH SPEED URBAN. SEE CHAPTER 6 OF THE MUTCD FOR SPACING ON FREEWAYS AND LOW SPEED URBAN.
6. DOUBLE TRAFFIC FINE ZONE SIGNS SHALL BE PART OF THIS PROJECT. REFER TO STANDARD DRAWING C-04.11 FOR THE CORRECT DOUBLE TRAFFIC FINE SIGN LAYOUT.
7. THIS TCP APPLIES TO BOTH PROJECTS: 68159 AND 68408.

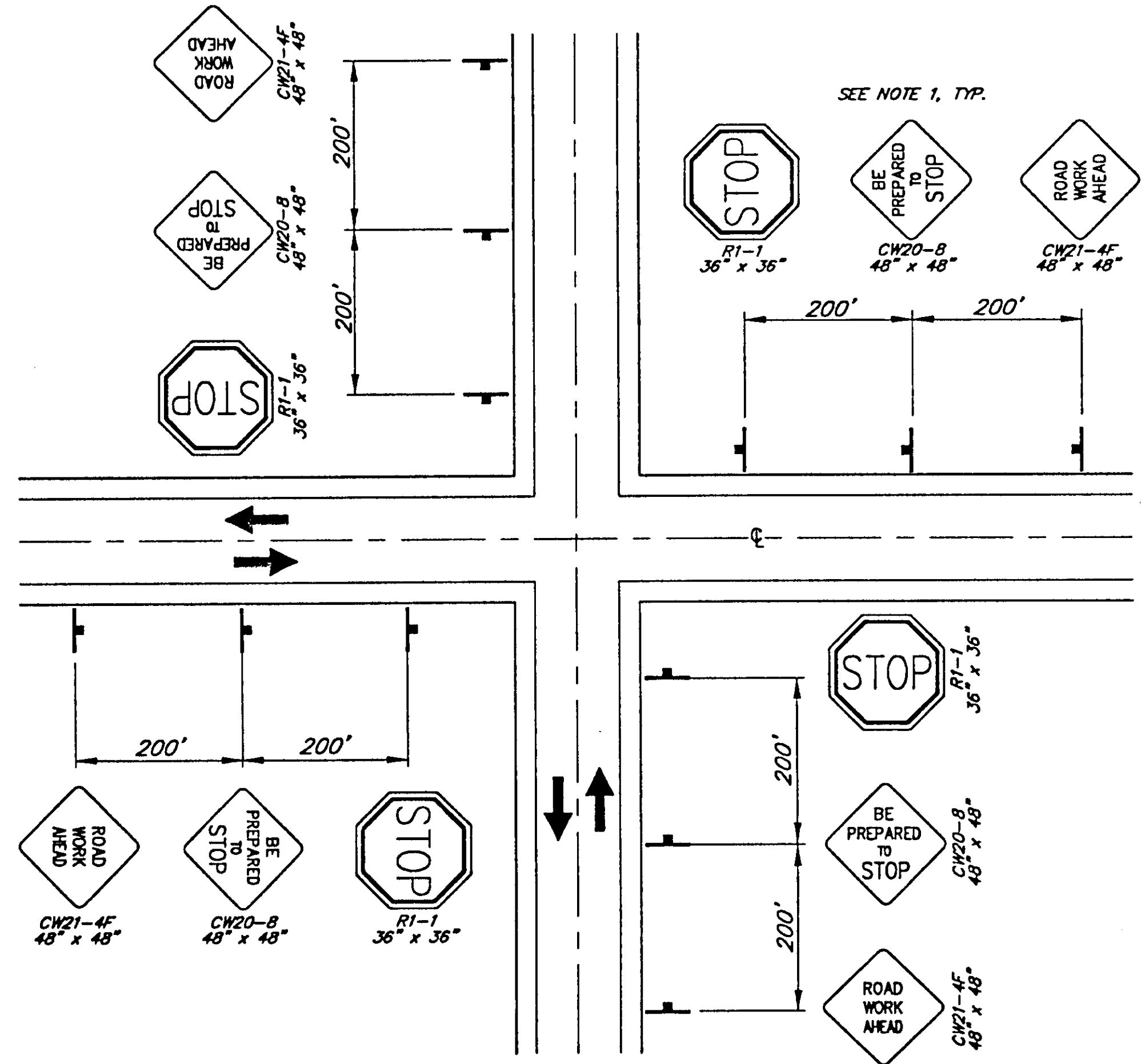
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 Tue, 10/Sep/02 08:42PM dostevens
 PLOT: PSPACE 1=1(F) OR MSPACE 1=1(F)

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68159
 TRAFFIC CONTROL PLAN



ROADWAY ENCROACHMENT



TYPICAL SIGNAL BLACK-OUT TCP

- NOTES:
1. SPACING BETWEEN SIGNS IS FOR LOW SPEED URBAN. SEE CHAPTER 6 OF THE MUTCD FOR SPACING ON HIGH SPEED URBAN AND FREEWAYS.
 2. A FLAGGER TCP SET-UP MAYBE SUBSTITUTED AS DIRECTED BY THE ENGINEER.

LEGEND

- SIGN
- CONE
- DRUM
- TYPE III BARRICADE
- FLAGGING STATION
- HI-LEVEL WARNING DEVICE

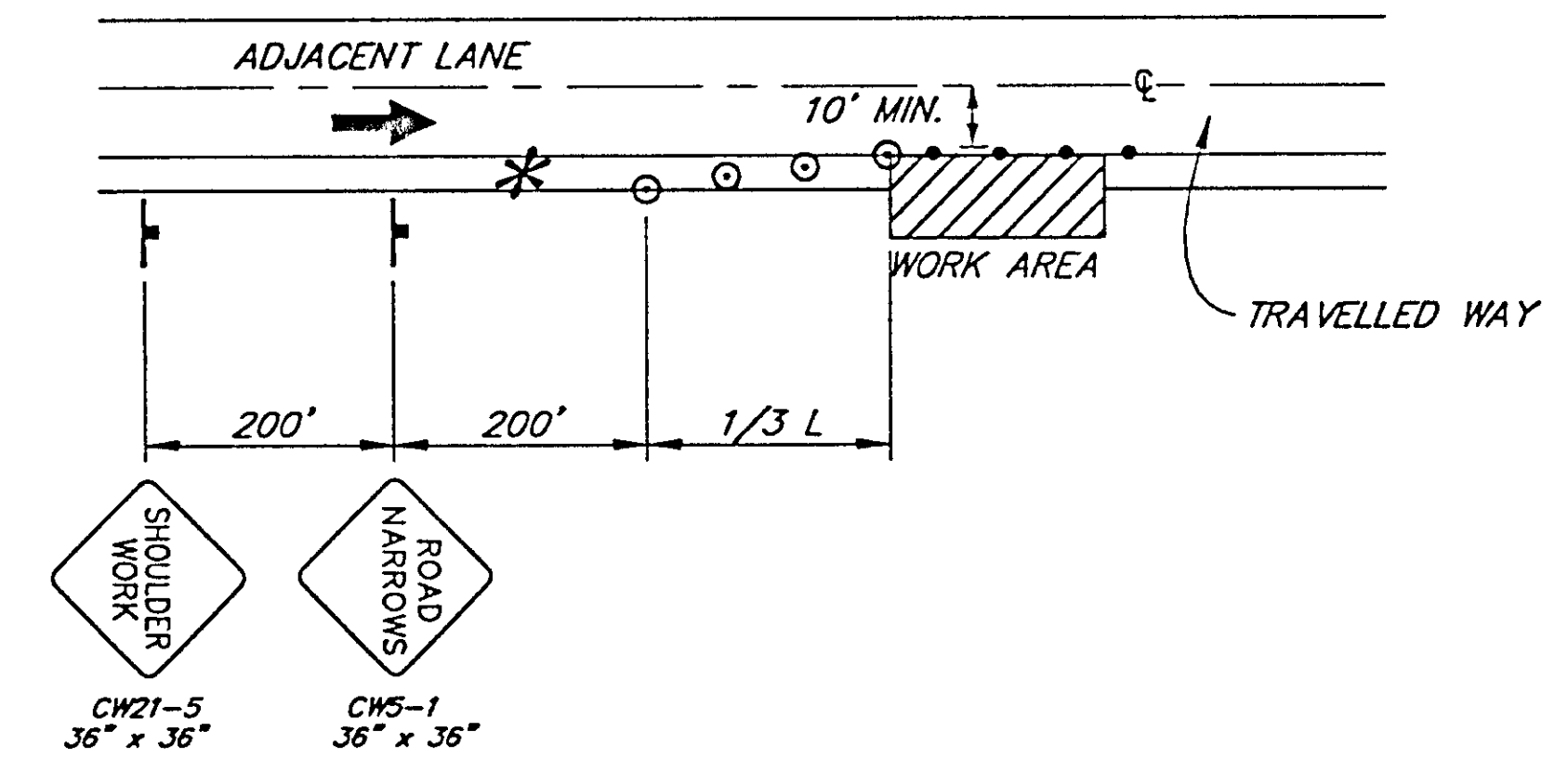
* NO PARKING WITHIN 200' OF CONES

$$L = W \times T$$

WHERE:
 L = LENGTH OF TAPER
 W = WIDTH OF OFFSET
 T = TAPER FACTOR

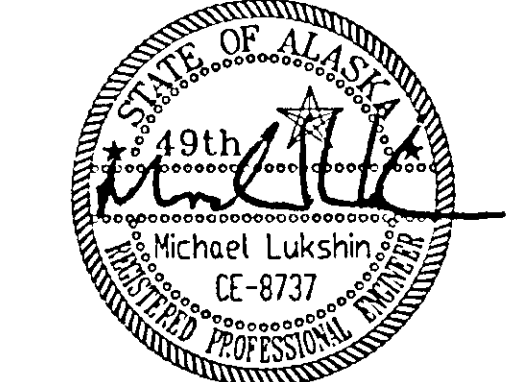
TCP TABLE SETUP

SPEED (MILES PER HOUR)	BUFFER/LENGTH (ft)	CONE/DRUM SPACING (ft)	TAPER FACTOR (T)
20	35	20	4:1
25	55	25	6:1
30	85	30	8:1
35	120	35	12:1
40	170	40	17:1
45	220	45	22:1
50	280	50	28:1
55	335	55	34:1



SHOULDER WORK

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin
 DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION
 SOUTHEAST REGION
 LED SIGNAL
 INSTALLATION
 PROJECT NO. 68179

TRAFFIC CONTROL PLAN	
PROJECT DESIGNATION NUMBER	
IM-000S(370)-(68159)	
STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
H1	30

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

<i>ESTIMATE OF QUANTITIES</i>			
<i>ITEM NO.</i>	<i>ITEM</i>	<i>UNIT</i>	<i>QUANTITY</i>
121(1)	TWIN LAKES & SALMON CREEK SIGNAL UPGRADES COMPLETE	L.S.	ALL REQ'D.

<i>BASIS OF ESTIMATE</i>			
<i>Specifications Section</i>	<i>ITEM</i>	<i>UNIT</i>	<i>QUANTITY</i>
202	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.S.	ALL REQ'D.
203	BORROW	L.S.	ALL REQ'D.
401	ASPHALT CONCRETE PAVEMENT	L.S.	ALL REQ'D.
615	STANDARD SIGNS	S.F.	ALL REQ'D.
641	EROSION & POLLUTION CONTROL	L.S.	ALL REQ'D.
642	CONSTRUCTION SURVEYING	L.S.	ALL REQ'D.
643	TRAFFIC MAINTENANCE	L.S.	ALL REQ'D.
643	FLAGGING	L.S.	ALL REQ'D.
660	SIGNALS & LIGHTING	L.S.	ALL REQ'D.
670	TRAFFIC MARKINGS	L.S.	ALL REQ'D.

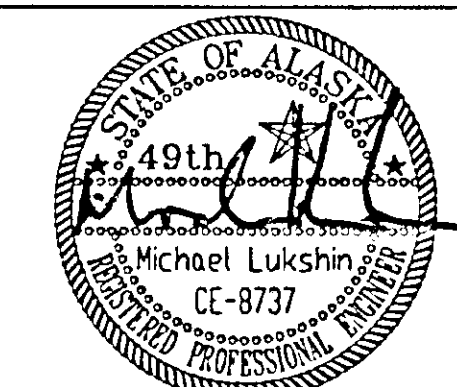
TWIN LAKES & SALMON CREEK
 SIGNAL UPGRADES
 PROJECT NO. 68408

GENERAL NOTES &
 ESTIMATE OF QUANTITIES

GENERAL NOTES:

- LED MODULES, SIGNAL HEADS AND TRAFFIC CONTROL SHALL BE PAID FOR UNDER PROJECT NO. 68159, PAY ITEMS 660 (16) AND 643 (1), (2) AND (15), RESPECTIVELY. ALL OTHER INTERSECTION IMPROVEMENT WORK SHALL BE PAID FOR UNDER PROJECT 68408, PAY ITEM 121 (1).
- SEE SHEET C-1 FOR SIGNAL HARDWARE SUMMARIES.
- SEE SHEET H-1 FOR TRAFFIC CONTROL.
- ALL ASPHALT DAMAGED OR REMOVED SHALL BE REPLACED IN KIND WITH THE SAME ASPHALT TYPE AND OF THE SAME ORIGINAL THICKNESS, AS APPROVED BY THE ENGINEER.
- LOCATIONS OF ALL EXISTING AND ABANDONED UTILITIES ARE NOT KNOWN. THE CONTRACTOR SHALL OBTAIN ALL UTILITY LOCATES AND PERFORM HAND WORK AS NECESSARY TO AVOID ALL UTILITY DAMAGE. SEE SPECIAL PROVISION 105 AND 107-1.16.
- ALL COSTS FOR DAMAGING ANY UTILITY LINE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin

DRAWN BY: Dave Stevens

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION

TWIN LAKES & SALMON CREEK
 SIGNAL UPGRADES
 PROJECT NO. 68408

GENERAL NOTES &
 ESTIMATE OF QUANTITIES

PROJECT DESIGNATION NUMBER

HHE-0955(13)-(68408)

STATE	YEAR
ALASKA	2002

SHEET NUMBER	TOTAL SHEETS
L1	30

L1 30

Handwritten initials and date: *MS* 3/20/02

SIGNAL POLE SUMMARY					
POLE NO.	STATION	OFFSET	MAST ARM LENGTH	LUMINAIRE MAST ARM LENGTH	SPECIAL FEATURES
10	55+30.15	47.16' LT	50'	12'	NEW POLE
6	55+71.34	32.64' LT	-	-	REPLACE EXISTING
5	134+35.17	40.51' RT	-	-	REPLACE EXISTING

JUNCTION BOX SUMMARY			
NO.	STATION	OFFSET	TYPE
①	135+21	41.9' RT.	1A
②	136+26	38.1' RT.	1A

LUMINAIRE SUMMARY					
POLE NO.	STATION	OFFSET	MOUNTING HEIGHT	MAST ARMS	REMARKS
△	136+26.5	39.9' RT	35'	2x20'	TWO MASTARMS

SIGNAL POLE, LUMINAIRE, AND JUNCTION BOX NOTES

1. THE LUMINAIRE LOCATION IS APPROXIMATE. MINOR REVISIONS SHALL BE APPROVED BY THE ENGINEER.
2. NOT ALL ABANDONED AND EXISTING UTILITY LOCATIONS ARE KNOWN. SEE SPECIAL PROVISIONS
3. JUNCTION BOX LOCATIONS ARE APPROXIMATE AND MAY BE MOVED WITH THE ENGINEER'S PERMISSION.

SIGN SUMMARY								
SIGN No.	TYPE	LEGEND	SIZE		AREA S.F.	POST SIZE	POST TYPE	REMARKS
			W	H				
①	D3-1C	CHANNEL DR →	114"	24"	19.0			8" UC/6" LC MOUNT ON MAST ARM
	-	← GLACIER HWY						
②	R10-5	LEFT ON GREEN ARROW ONLY	30"	36"	7.5			MOUNT ON MAST ARM
③	R9-4	MEANING OF PEDESTRIAN SIGNALS	6"	4.5"	.19			DECAL: AFFIX TO POST
④	R10-4C	PUSH BUTTON FOR WALK	9"	12"	.75			AFFIX TO POST
⑤	R10-12	LEFT TURN YIELD ON GREEN BALL	30"	36"	7.5			MOUNT ON MAST ARM
⑥	R3-8L/S	LEFT ONLY/STRAIGHT ONLY	36"	30"	7.5			MOUNT ON MAST ARM
⑦	D3-1B	EGAN DR	66"	18"	8.25			8" UC/6" LC MOUNT ON MAST ARM
⑧	R1-2	YIELD	36"	36"	9.0	2 1/2"	PST	
⑨	R10-5	LEFT ON GREEN ARROW ONLY	30"	36"	7.5			MOUNT ON MAST ARM
⑩	D3-1C	← CHANNEL DR	114"	24"	19.0			8" UC/6" LC MOUNT ON MAST ARM
	-	GLACIER HWY →						
⑪	R1-2	YIELD						REMOVE AND DISPOSE
⑫	R9-4	MEANING OF PEDESTRIAN SIGNALS	6"	4.5"	.19			DECAL: AFFIX TO POST
⑬	R10-4C	PUSH BUTTON FOR WALK	9"	12"	.75			AFFIX TO POST
⑭	R1-2	YIELD	36"	36"	9.0	2 1/2"	PST	
⑮	R10-12	LEFT TURN YIELD ON GREEN BALL	30"	36"	7.5			MOUNT ON MAST ARM
⑯	R3-8L/S	LEFT ONLY/STRAIGHT ONLY	36"	30"	7.5			MOUNT ON MAST ARM
⑰	D3-1B	EGAN DR	66"	18"	8.25			8" UC/6" LC MOUNT ON MAST ARM
⑱	D9-2	HOSPITAL SYMBOL	24"	24"	4.0	2 1/2"	PST	
		HOSPITAL LEGEND	24"	6"	1.0			
		ARROW	24"	6"	1.0			
⑲	W1-1L	BIKE LEFT TURN ARROW						RELOCATE SIGN AS SHOWN
⑳	R1-2	BIKE YIELD						REMOVE AND DISPOSE
㉑	R1-1	BIKE STOP						REMOVE AND DISPOSE
㉒	R1-1	STOP	24"	30"	6.25	2 1/2"	PST	
㉓	D3-1	HOSPITAL DR	24"	30"	2.33			
㉔	D3-1	GLACIER HWY	24"	30"	2.33			
㉕	D3-1C	← JUNEAU	72"	24"	12.0	2 1/2"	PST	2 POSTS 6" UC/4.5" LC
		AUKE BAY →						
			TOTAL=		148.29			

NOTE: 8" UC/6" LC MEANS 8" UPPER CASE LETTERS AND 6" LOWER CASE LETTERS (TYP.)

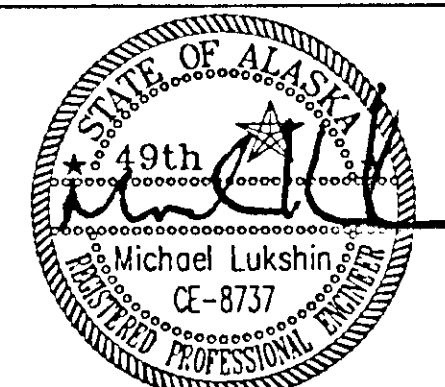
SIGNING NOTES

1. SIGN LOCATIONS ARE APPROXIMATE ONLY AND ARE SUBJECT TO MINOR REVISIONS.
2. SEE STD. DWG. S-30.01 FOR POST SLEEVE TYPE SOIL EMBEDMENT.
3. ALL SIGN POSTS SHALL BE TELESCOPING PERFORATED GALVANIZED SQUARE STEEL POSTS.
4. ALL SIGNS SHALL BE .080" THICK EXCEPT AS NOTED IN THE STANDARD SIGN SCHEDULE.
5. ALL NEW SIGNS SHALL BE UNFRAMED EXCEPT AS NOTED IN THE STANDARD SIGN SCHEDULE.
6. POST MOUNTED SIGNS SHALL BE INSTALLED SO THAT THE BOTTOM OF THE SIGN PANEL IS 7' ABOVE THE ROADWAY SURFACE.
7. PST = PERFORATED STEEL TUBE.
8. D3-1 SIGNS SHALL BE EXTRUDED ALUMINUM PANELS
9. SIGNS NUMBER 1, 7, 10, AND 17 SHALL BE 3m "DIMOND GRADE. VIP," STIMSONITE 622 OR AN APPROVED EQUAL ALUMINUM SHEETING MATERIAL.

TWIN LAKES & SALMON CREEK
SIGNAL UPGRADES
PROJECT NO. 68408

Summary Sheet

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin

DRAWN BY: DAVE STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
STATEWIDE DESIGN & ENGINEERING
SERVICES DIVISION

TWIN LAKES & SALMON CREEK
SIGNAL UPGRADES
PROJECT NO. 68408

Summary Sheet

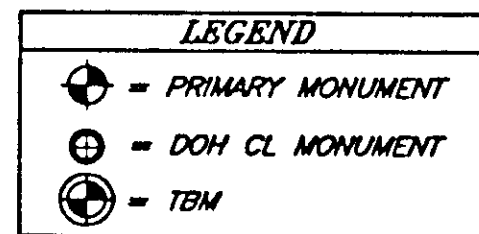
PROJECT DESIGNATION NUMBER

HHE-0955(13)-(68408)

STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
L2	30

PROJECT CONTROL				
PT	NORTH	EAST	ELEVATION	DESCRIPTION
1	489559.6355	518986.0698	29.03'	CL_BC
2	489318.7700	519664.4132	27.74'	DOH_CL_MON
3	489386.6502	519561.8257	27.74'	TBM_EMPIRE
181	491104.5253	518746.3891	28.97'	GPS_WELL_MON
189	490901.5278	517879.3763	26.96'	GPS_CL_MON
517	490307.6280	518647.0414	31.29'	CL_MON_DOH
518	489674.9547	519683.4506	25.33'	CL_MON_DOH

EGAN CL MONUMENT TABLE				
Point	Station	Offset	Elevation	Description
189	E 128+42.21	0	26.96	CL_MON_DOH
517	E 118+70.47	0	31.29	CL_MON_DOH
518	E 106+58.97	0.03L	25.33	CL_MON_DOH



GLACIER HIGHWAY ALIGNMENT				
DESC.	STATION	SPIRAL/CURVE DATA	NORTHING	EASTING
PI	133+91.47		490304.992	518651.125
	LENGTH:	858.530	COURSE: N 05-15-28 E	
PI	142+50		491159.911	518729.790
	TANGENT DATA			
	133+91.47		490304.992	518651.125
	142+50		491159.911	518729.790
	LENGTH:	858.530	COURSE: N 05-15-28.2380 E	

EGAN DRIVE ALIGNMENT				
DESC.	STATION	SPIRAL/CURVE DATA	NORTHING	EASTING
PI	106+58.56		489674.7725	519683.8144
	LENGTH:	1136.2099	COURSE: N 58-42-04.0787 W	
PI	117+92		490255.0361	518712.9582
	LENGTH:	565.5383	COURSE: N 57-07-53.8807 W	
	DELTA:	1-34-10.1980		
	TANGENT DATA			
	106+58.56		489674.7725	519683.8144
	117+13.52		490224.2656	518780.0168
	LENGTH:	1057.7300	COURSE: N 58-42-04.0787 W	
	CIRCULAR CURVE DATA			
PC	117+13.52		490224.2656	518780.0168
CC	118+70.47		495120.0147	521756.5463
PT	118+70.47		490307.6280	518647.0414
	DELTA:	01-34-10.1980	TYPE: RIGHT	
	RADIUS:	5729.5800	DOC: 00-59-59.9987	
	LENGTH:	156.9500	TANGENT: 78.4799	
	MID-ORD:	0.5374	EXTERNAL: 0.5375	
	CHORD:	156.9451	COURSE: N 57-54-58.9797 W	
	ES:	0.5375		
PI	123+57.53		490571.9598	518237.9515
	LENGTH:	487.0584	COURSE: N 47-24-49.7961 W	
	DELTA:	9-43-04.0846		
	CIRCULAR CURVE DATA			
PC	118+70.47		490307.6280	518647.0414
CC	128+42.25		495120.0147	521756.5463
PT	128+42.25		490901.5514	517879.3496
	DELTA:	09-43-04.0846	TYPE: RIGHT	
	RADIUS:	5729.5800	DOC: 00-59-59.9987	
	LENGTH:	971.7805	TANGENT: 487.0584	
	MID-ORD:	20.5903	EXTERNAL: 20.6646	
	CHORD:	970.8161	COURSE: N 52-16-21.8384 W	
	ES:	20.6646		
PI	128+42.25		490901.5514	517879.3496

CHANNEL DRIVE ALIGNMENT				
DESC.	STATION	CURVE DATA	NORTHING	EASTING
PI	32+80.83		489007.3579	520367.0930
	LENGTH:	216.2345	COURSE: N 41-57-16.4712 W	
PI	34+97.07		489168.1661	520222.5314
	LENGTH:	579.3406	COURSE: N 75-09-19.9954 W	
	DELTA:	33-12-03.5242		
	TANGENT DATA			
	32+80.83		489007.3579	520367.0930
	33+64.30		489069.4278	520311.2941
	LENGTH:	83.4637	COURSE: N 41-57-16.4712 W	
	CIRCULAR CURVE DATA			
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	DELTA:	33-12-03.5242	TYPE: LEFT	
	RADIUS:	445.3567	DOC: 12-51-54.5207	
	LENGTH:	258.0692	TANGENT: 132.7707	
	MID-ORD:	18.5624	EXTERNAL: 19.3697	
	CHORD:	254.4737	COURSE: N 58-33-18.2333 W	
	ES:	19.3697		
CC	36+22.37		488771.6885	519980.0934
PT	36+22.37		489202.1814	520094.1919
PI	40+68.94		489316.5906	519662.5263
	LENGTH:	144.9539	COURSE: N 75-09-19.9954 W	
	DELTA:	0-00-00.0000		
	TANGENT DATA			
	36+22.37		489202.1814	520094.1919
	40+68.94		489316.5906	519662.5263
	LENGTH:	446.5699	COURSE: N 75-09-19.9954 W	
PI	42+13.89		489353.7272	519522.4103
	LENGTH:	618.0572	COURSE: N 60-28-42.4119 W	
	DELTA:	14-40-37.5835		
	TANGENT DATA			
	40+68.94		489316.5906	519662.5263
	42+13.89		489353.7272	519522.4103
	LENGTH:	144.9539	COURSE: N 75-09-19.9954 W	
PI	48+31.95		489658.2754	518984.5952
	LENGTH:	426.0395	COURSE: N 60-28-42.4119 W	
	DELTA:	0-00-00.0000		
	TANGENT DATA			
	42+13.89		489353.7272	519522.4103
	48+31.95		489658.2754	518984.5952
	LENGTH:	618.0572	COURSE: N 60-28-42.4119 W	
PI	52+57.99		489868.2068	518613.8683
	LENGTH:	434.1884	COURSE: N 05-56-11.4834 E	
	DELTA:	66-24-53.8952		
	TANGENT DATA			
	48+31.95		489658.2754	518984.5952
	49+40.15		489711.5936	518890.4383
	LENGTH:	108.2051	COURSE: N 60-28-42.4119 W	
	CIRCULAR CURVE DATA			
PC	49+40.15		489711.5936	518890.4383
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	RADIUS:	485.5633	DOC: 11-47-59.4856	
	LENGTH:	562.8456	TANGENT: 317.8344	
	MID-ORD:	79.2960	EXTERNAL: 94.7731	
	CHORD:	531.8594	COURSE: N 27-16-15.4643 W	
	ES:	94.7731		
CC	55+03		490134.1164	519129.7001
PT	55+03		490184.3366	518646.7408
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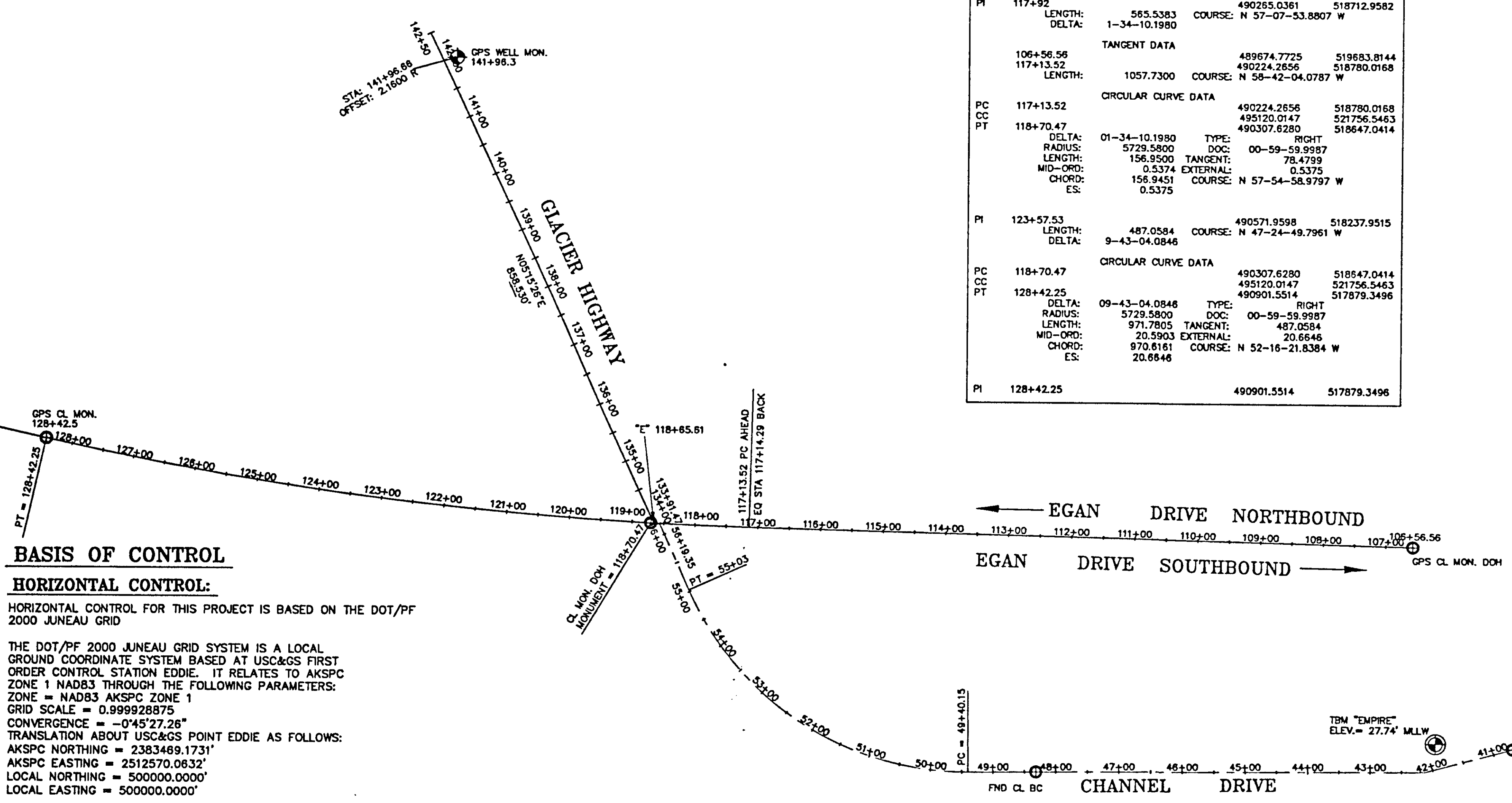
ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

TWIN LAKES & SALMON CREEK
 SIGNAL UPGRADES
 PROJECT NO. 68408

Control Sketch



BASIS OF CONTROL

HORIZONTAL CONTROL:

HORIZONTAL CONTROL FOR THIS PROJECT IS BASED ON THE DOT/PF 2000 JUNEAU GRID

THE DOT/PF 2000 JUNEAU GRID SYSTEM IS A LOCAL GROUND COORDINATE SYSTEM BASED AT USC&GS FIRST ORDER CONTROL STATION EDDIE. IT RELATES TO AKSPC ZONE 1 NAD83 THROUGH THE FOLLOWING PARAMETERS:
 ZONE = NAD83 AKSPC ZONE 1
 GRID SCALE = 0.999928875
 CONVERGENCE = -0°45'27.26"
 TRANSLATION ABOUT USC&GS POINT EDDIE AS FOLLOWS:
 AKSPC NORTHING = 2383469.1731'
 AKSPC EASTING = 2512570.0632'
 LOCAL NORTHING = 500000.0000'
 LOCAL EASTING = 500000.0000'

BASIS OF COORDINATES FOR THIS PROJECT ESTABLISHED WITH SKI PRO STATIC GPS PROCESSING

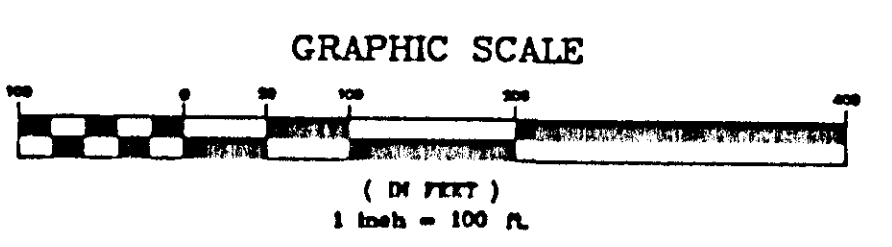
POINT 517 JNU-GRID N 490307.6280', E 518647.0414'
 AKSPC N 2373531.8087', E 2531086.0075'

POINT 181 JNU-GRID N 491104.5253', E 518746.3891'
 AKSPC N 2374327.2662', E 2531195.8751'

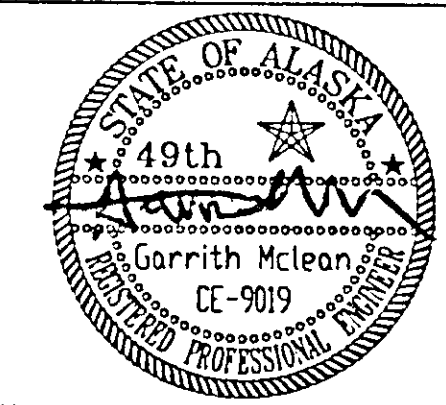
VERTICAL CONTROL:

THE VERTICAL DATUM IS BASED ON LEVELS RUN FROM THE NOS BENCHMARK 2210C LOCATED DOWNTOWN, HAVING A PUBLISHED ELEVATION OF 8.960M (29.396FT) ABOVE MLLW TO USC&GS FIRST ORDER HORIZONTAL CONTROL STATION EDDIE. THE TIDAL EPOCH IS 1960-1978, BUT THIS ELEVATION HAS BEEN UPDATED WITH A FIVE YEAR OBSERVATION PERIOD FROM JAN '94 TO DEC '98 PUBLISHED NOV '99.

THE PROJECT SPECIFIC BASIS OF VERTICAL CONTROL IS TBM "EMPIRE" WITH AN OBSERVED ELEVATION OF 27.74 FEET ABOVE MLLW. SAID TBM IS LOCATED IN THE CONCRETE SIDEWALK PAVEMENT AT THE JUNEAU EMPIRE BUILDING.



DESIGNED BY: Garrith Mclean



CHECKED BY: Garrith Mclean

DRAWN BY: Tim Reed

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION

TWIN LAKES & SALMON CREEK
 SIGNAL UPGRADES
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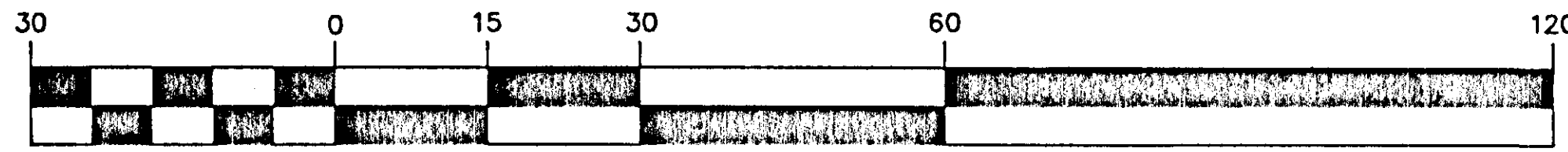
Control Sketch

PROJECT DESIGNATION NUMBER

HHE-0966(21)-(68408)

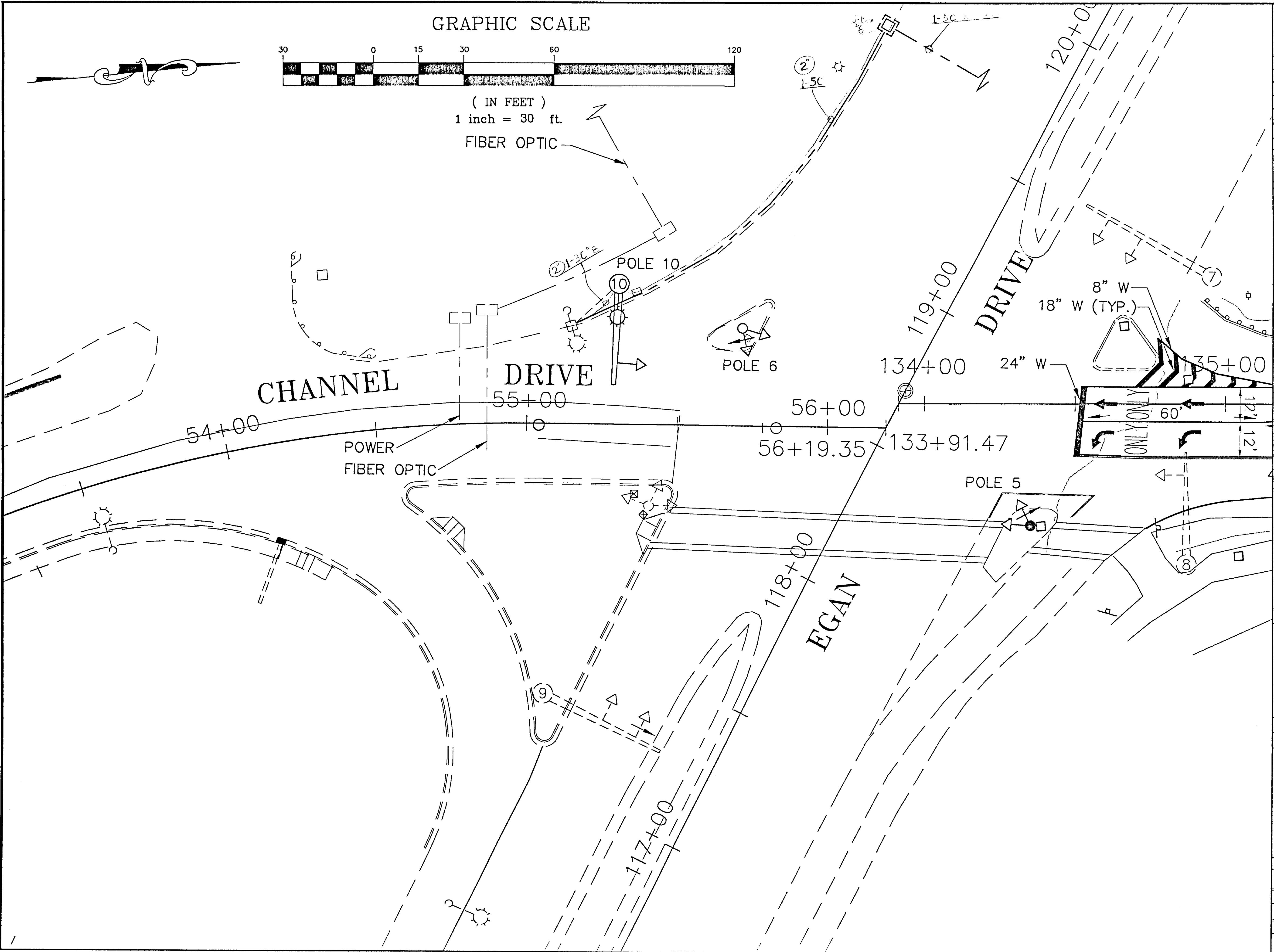
STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
L3	30

GRAPHIC SCALE



(IN FEET)
1 inch = 30 ft.

FIBER OPTIC



PATH:
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Tue, 10/Sep/02 09:04PM dostevens
PLOT:
PSPACE 1=1(F) OR MSPACE 1=1(F)

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

TWIN LAKES & SALMON CREEK
SIGNAL UPGRADES
PROJECT NO. 68408

Signal Plan

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin
DRAWN BY: Dave Stevens

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
STATEWIDE DESIGN & ENGINEERING
SERVICES DIVISION
TWIN LAKES & SALMON CREEK
SIGNAL UPGRADES
PROJECT NO. 68408

Signal Plan

PROJECT DESIGNATION NUMBER	
HHE-0955(13)-(68408)	
STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
L4	30

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

TWIN LAKES & SALMON CREEK
 SIGNAL UPGRADES
 PROJECT NO. 68408

Pole Details

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin

DRAWN BY: MICHAEL LIMBAUGH

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING
 SERVICES DIVISION

TWIN LAKES & SALMON CREEK
 SIGNAL UPGRADES
 PROJECT NO. 68408

Pole Details

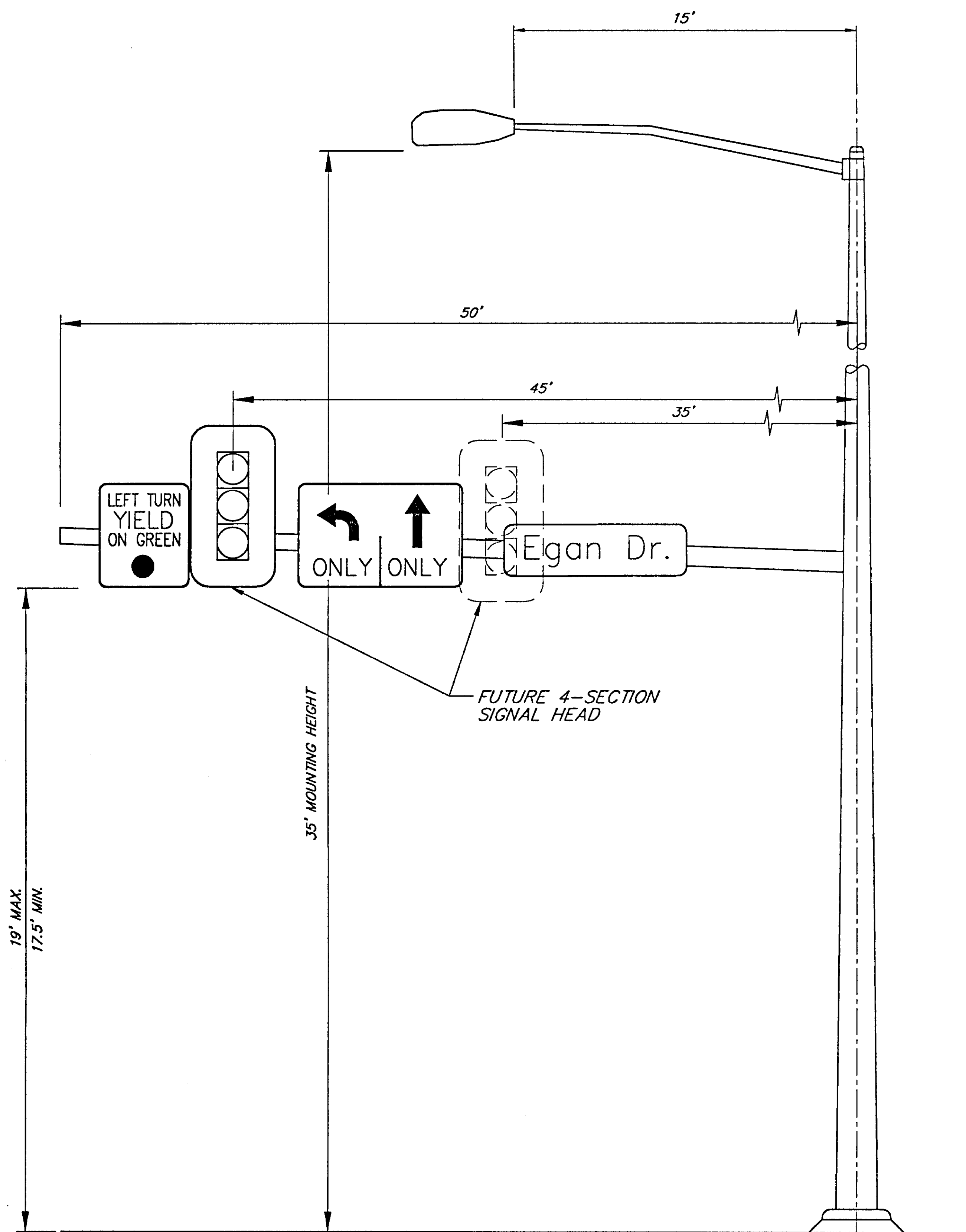
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HHE-0966(21)-(68408)

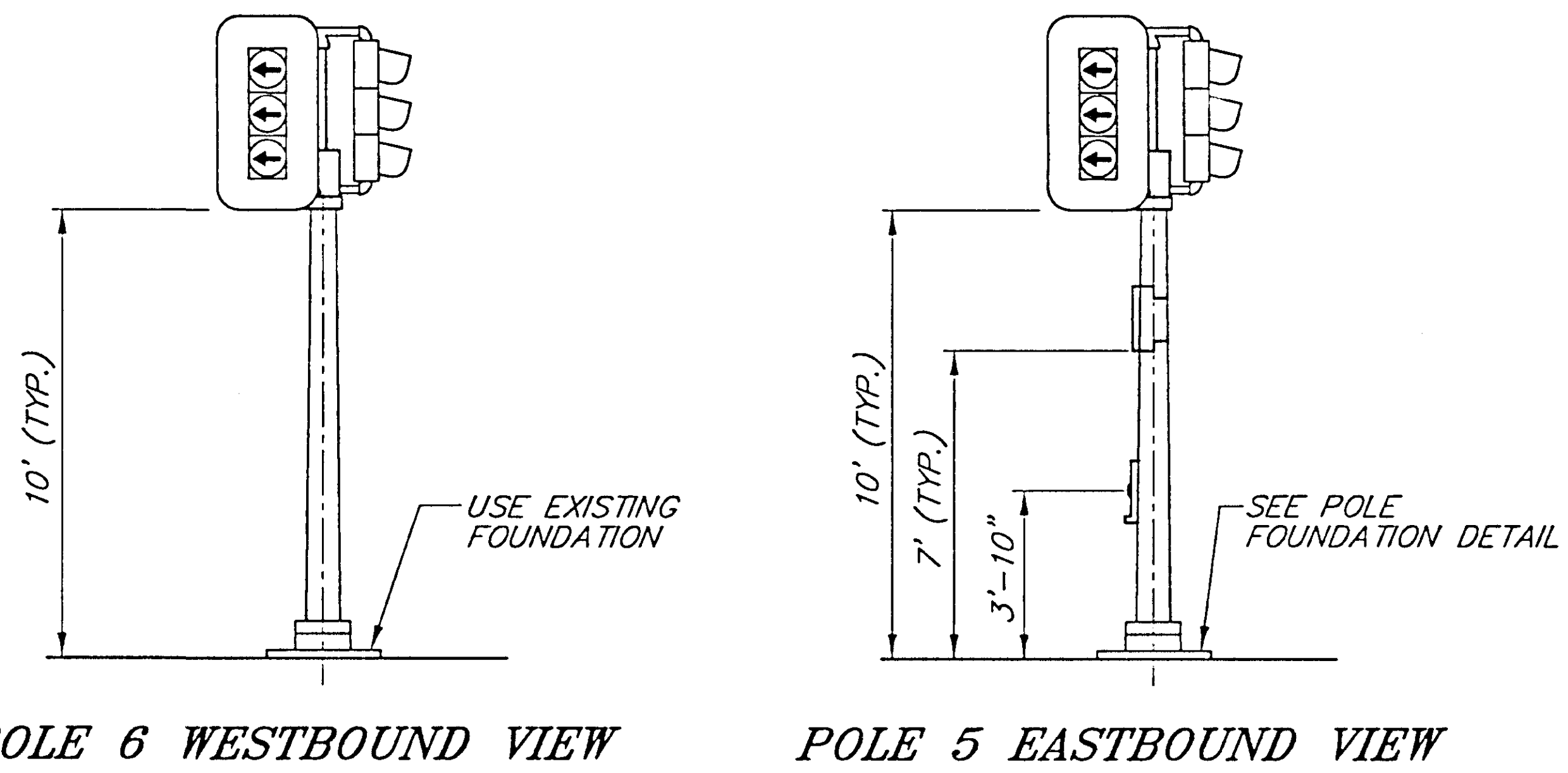
STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
L6	30

SIGNAL POLE NOTES:

1. SIGNAL POLES, MASTARMS, AND LUMINAIRES SHALL BE DESIGNED FOR 100 MPH WIND SPEED AND STAMPED BY A REGISTERED ENGINEER.
2. THE SIGNAL POLE FOUNDATION IS SHOWN IN STD. DWG. T-31.00 (POLE 6 ONLY) AND T-52.15 (POLE 10 ONLY).
3. DESIGN POLE 10 FOR FUTURE SIGNAL HEADS.

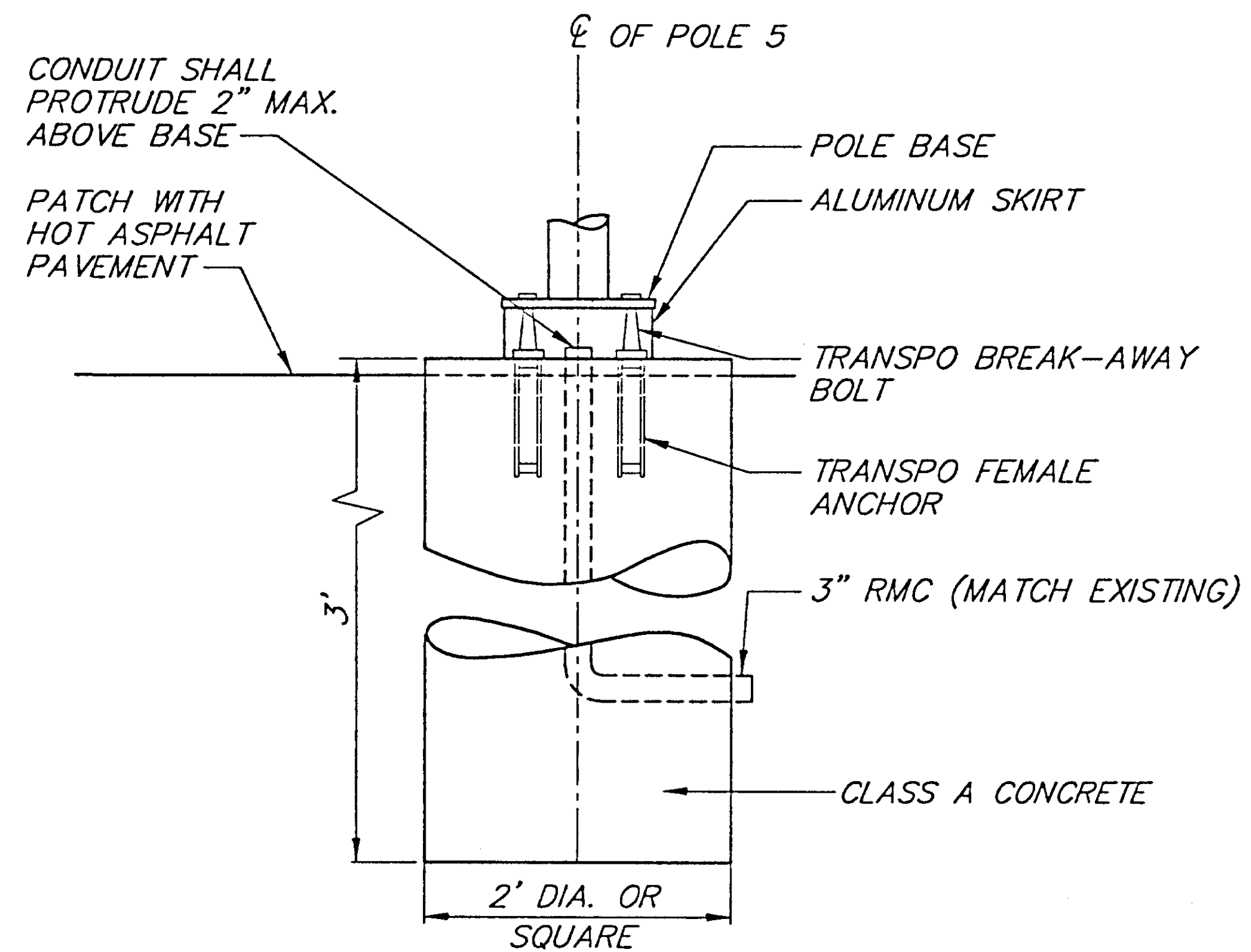


SIGNAL POLE NO. 10 DETAIL
 (LOOKING SOUTH)

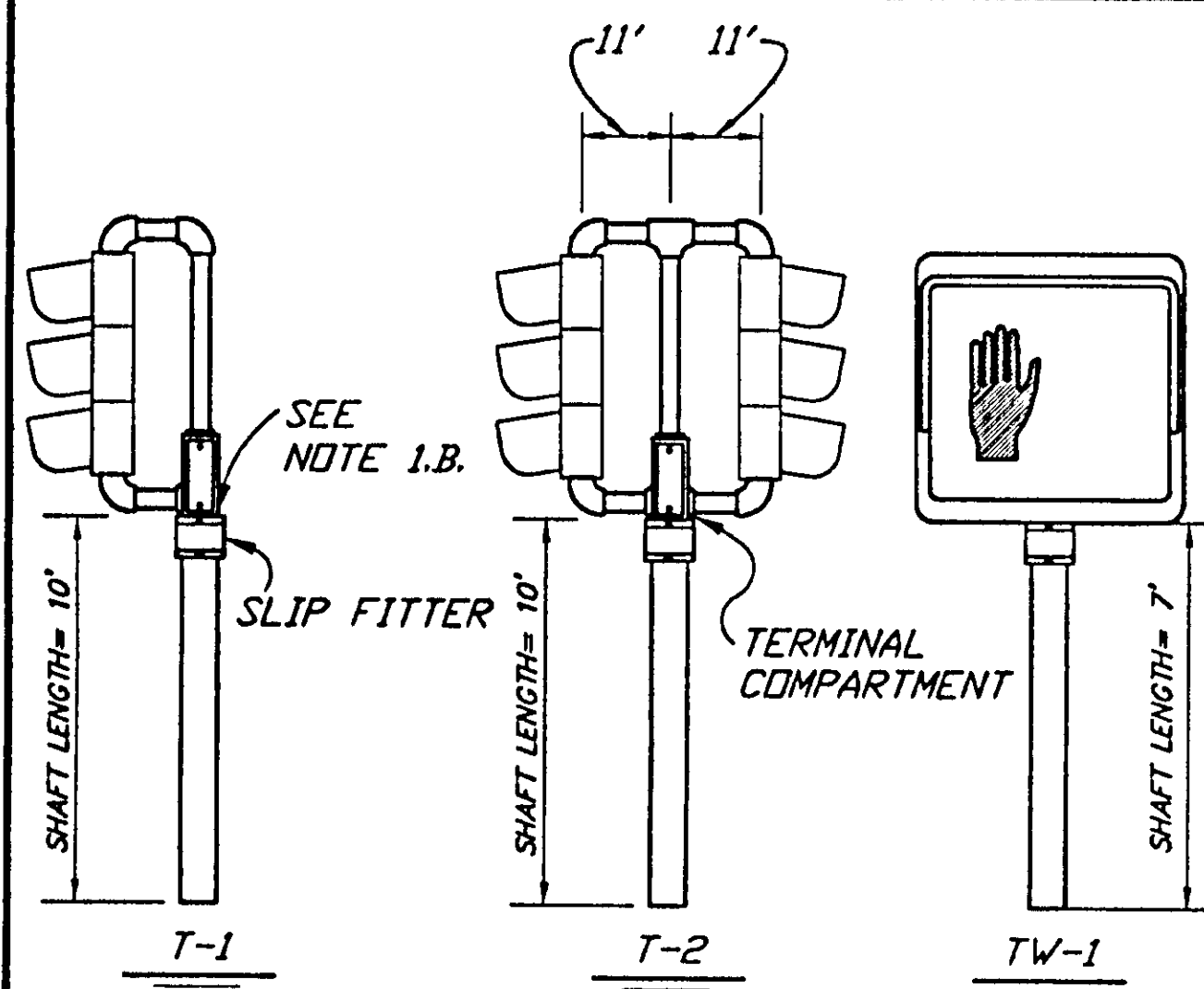


POLE 6 WESTBOUND VIEW

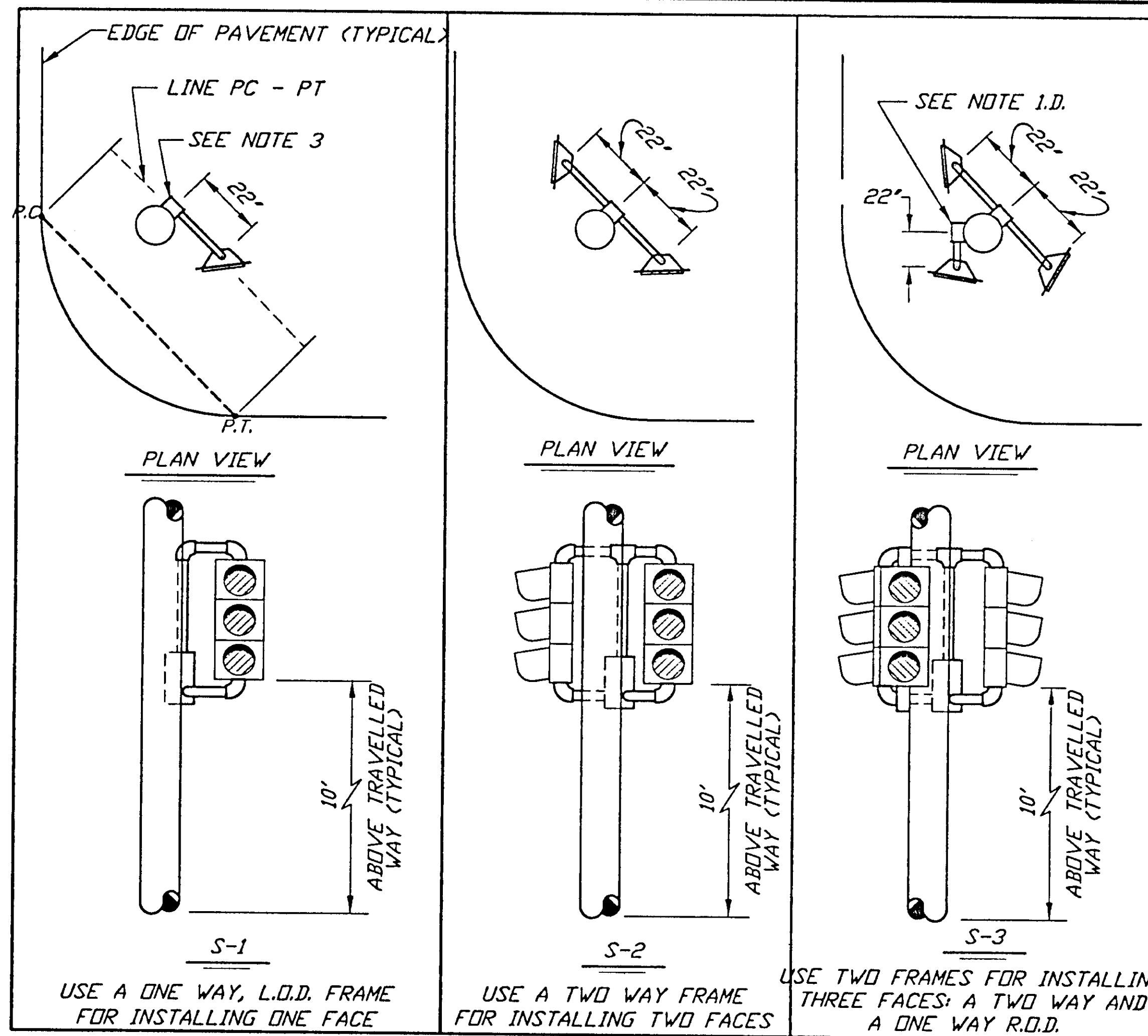
POLE 5 EASTBOUND VIEW



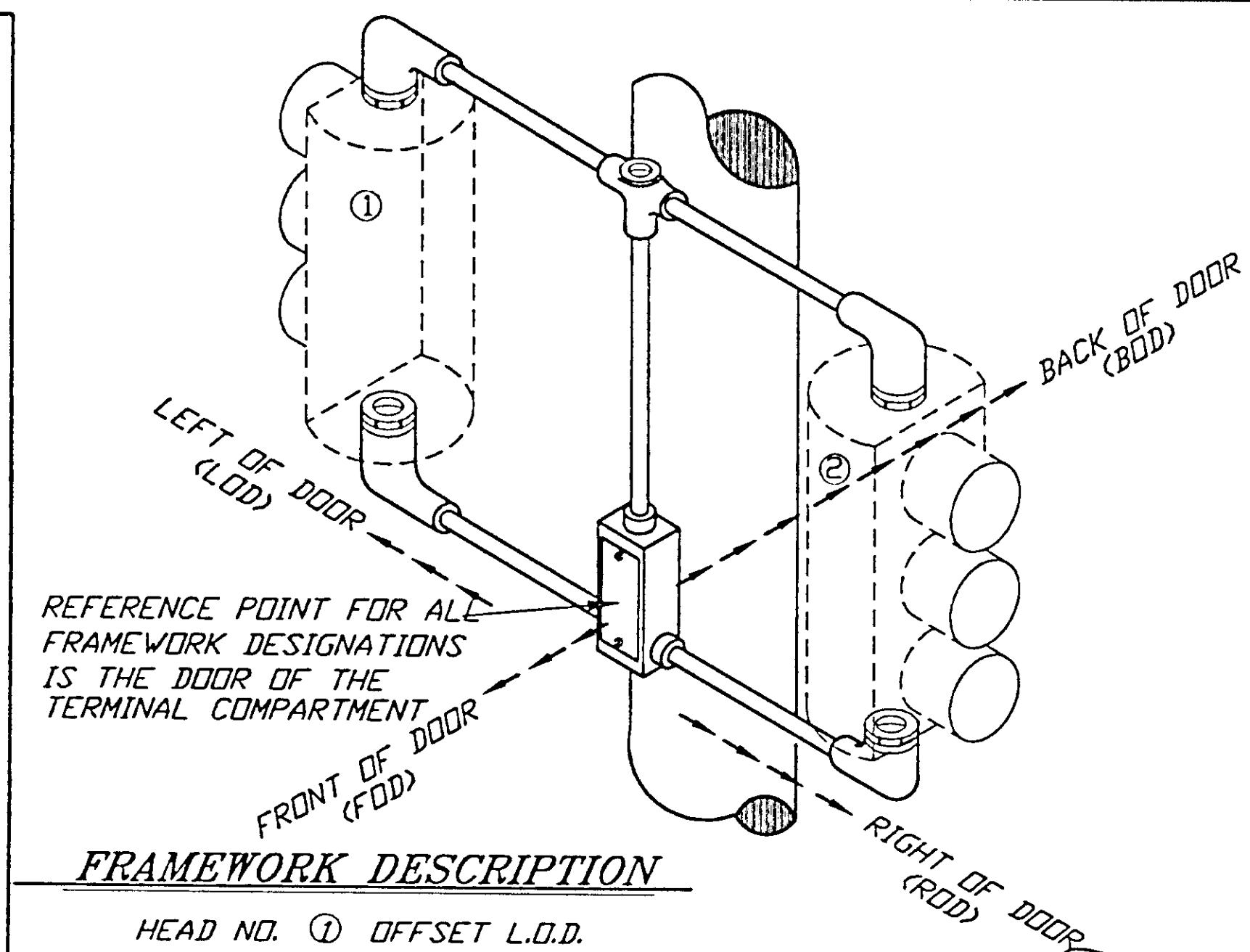
POLE FOUNDATION DETAIL
 (NEW FOUNDATION POLE 5)



POST MOUNTED SIGNALS
(SHOWN WITHOUT BACKPLATE)



SIDE MOUNTED SIGNAL FRAMES WITH VEHICULAR SIGNALS
(SHOWN WITHOUT BACKPLATES)

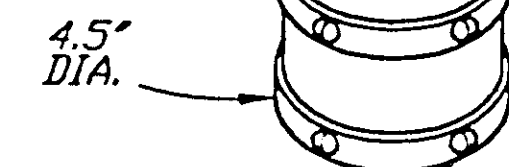


FRAMEWORK DESCRIPTION

HEAD NO. ① OFFSET L.O.D.
HEAD NO. ② OFFSET R.O.D.

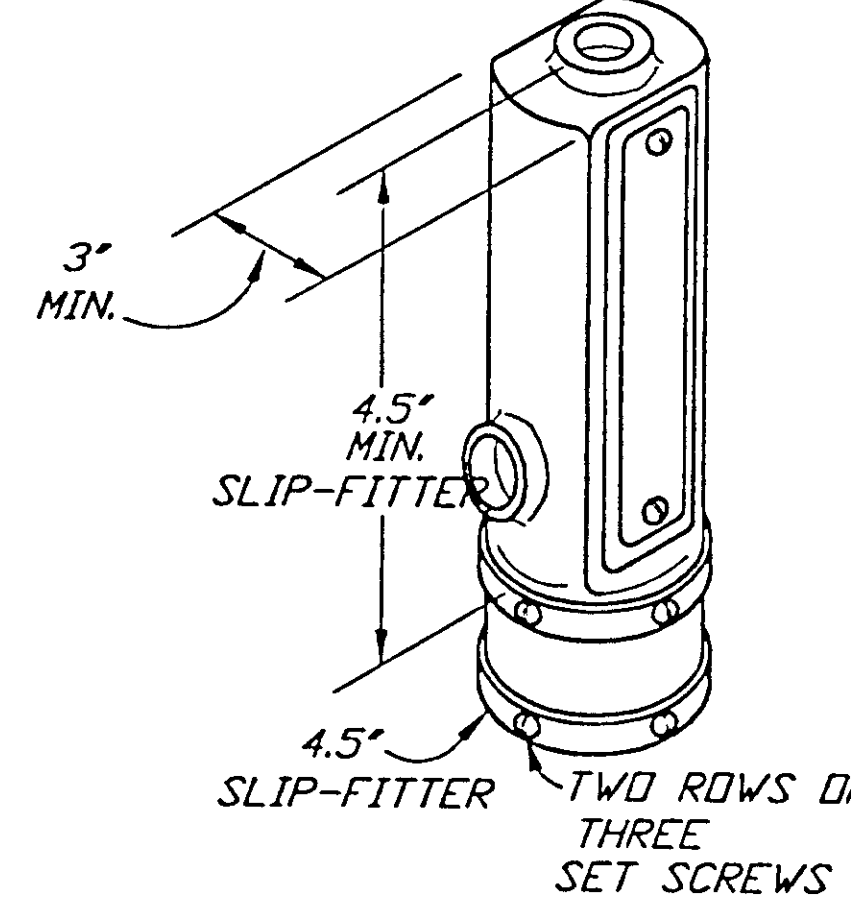
PROVIDE A SLIP FITTER WITH AN OFFSET OPENING WHEN A BACK PLATE IS USED

SERRATED FITTING

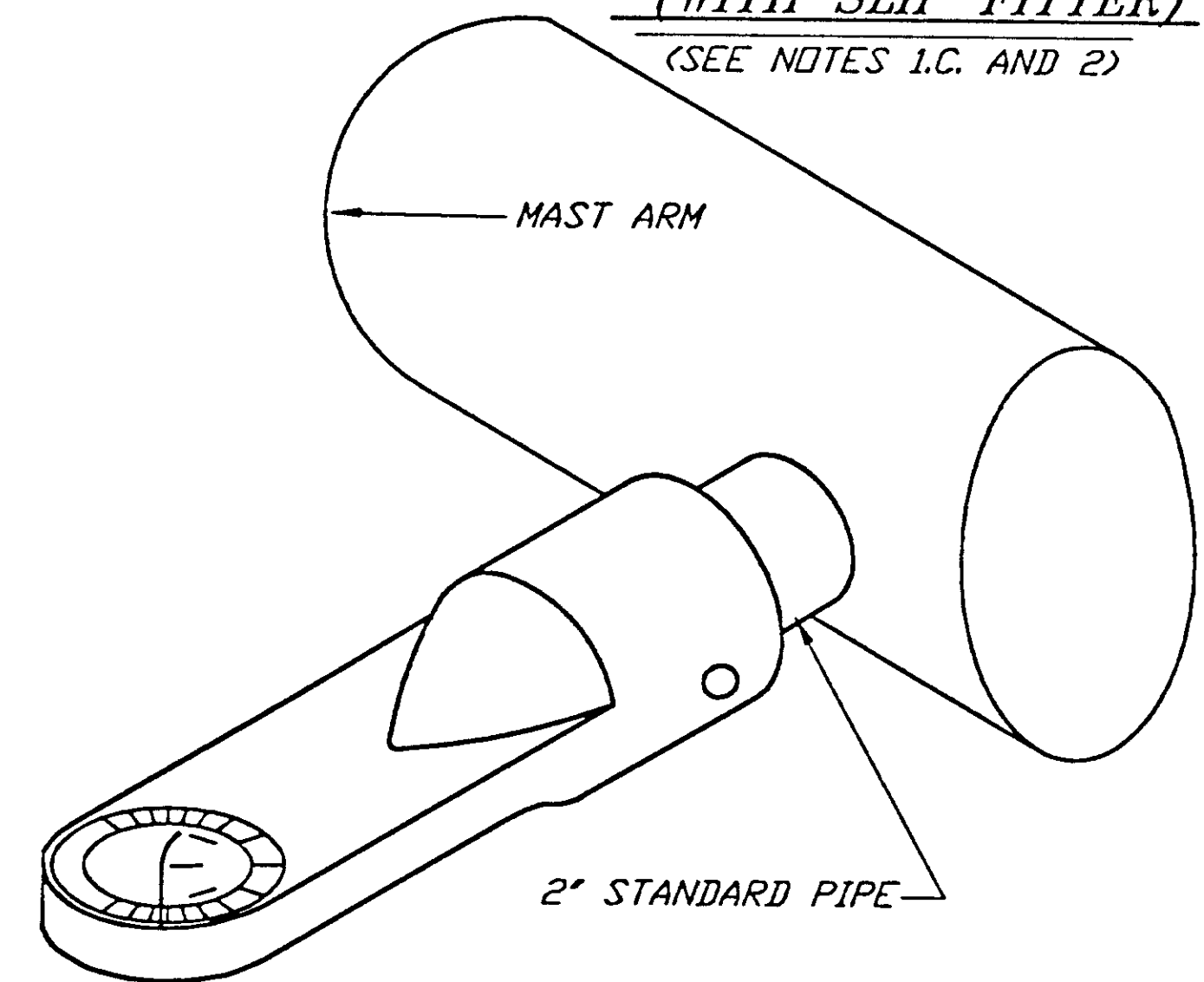


TWO ROWS OF THREE SET SCREWS

SLIP FITTER
(SEE NOTE 1.B.)



TERMINAL COMPARTMENT (WITH SLIP FITTER)
(SEE NOTES 1.C. AND 2)



ELEVATOR PLUMBIZER
(SEE NOTE 1.A.)

TRAFFIC SIGNAL HARDWARE NOTES:

1. INSTALL THE SIGNAL FACES SHOWN IN THE PLANS AS DETAILED ON THIS SHEET.
 - A. USE ELEVATOR PLUMBIZERS TO INSTALL FACES ON MAST ARMS AND WHENEVER 2" PIPE TENONS ARE SPECIFIED, INSTALL THE PLUMBIZER BETWEEN THE RED AND YELLOW SIGNAL INDICATIONS.
 - B. USE SLIP FITTERS TO INSTALL PEDESTRIAN SIGNALS ON THE TOP OF POSTS.
 - C. USE SIGNAL FRAMES TO INSTALL SIGNAL FACES ON THE SIDES OF POLES AND ON THE TOPS OF POSTS.
 - D. USE A SECOND SIGNAL FRAME TO INSTALL THE THIRD FACE WHEN THREE SIDE MOUNTED SIGNAL FACES ARE SHOWN.
 - E. USE CLAMSHELL BRACKETS TO INSTALL ALL PEDESTRIAN SIGNALS, EXCEPT THOSE THAT ARE POST TOP MOUNTED.
2. FURNISH ALL SIGNAL FRAMES WITH TERMINAL COMPARTMENTS.
3. INSTALL ONE TERMINAL COMPARTMENT ON THE SIDE OF THE POLE OPPOSITE THE MIDPOINT OF THE RADIUS RETURN. POSITION THE TERMINAL COMPARTMENT AT THE LOCATION WHERE A LINE PARALLEL TO THE LONG CHORD (P.C. TO P.T.) OF THE RADIUS RETURN IS TANGENT TO THE POLE.
4. FIELD DRILL THE HOLES NEEDED FOR ATTACHING ALL SIGNAL HARDWARE. USE HOLE SAWS WHEN DRILL BITS ARE NOT AVAILABLE. TREAT THE BARE STEEL SURFACES IN ACCORDANCE WITH SECTION 660-2.14, GALVANIZING, OF THE STANDARD SPECIFICATIONS.
5. PROVIDE LOUVERED BACK PLATES SIZED FOR THE NUMBER OF SIGNAL SECTIONS AND MOUNTING TYPE, SO THAT NO LIGHT IS VISIBLE BETWEEN THE BACK PLATE AND THE SIGNAL FACE. FURNISH BACK PLATES FOR DOGHOUSE STYLE SIGNALS THAT FEATURE NOTCHED UPPER CORNERS.
6. ATTACH ALL BACK PLATES USING .18" DIAMETER LARGE FLANGE STAINLESS STEEL RIVETS WITH A GRIP RANGE OF .37"-.50".

PATH:
G:\Jnu\68408\PlanSet\Lumin2.dwg
Tue, 20/Aug/02 05:40AM Stevens
PLOT:
PSPACE 1=1(F) OR MSPACE 1=1(F)

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

TWIN LAKES & SALMON CREEK
SIGNAL UPGRADES
PROJECT NO. 68408

Traffic Signal Hardware Plan

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin
DRAWN BY: MICHAEL LIMBAUGH

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
STATEWIDE DESIGN & ENGINEERING
SERVICES DIVISION

TWIN LAKES & SALMON CREEK
SIGNAL UPGRADES
PROJECT NO. 68408

Traffic Signal Hardware Plan

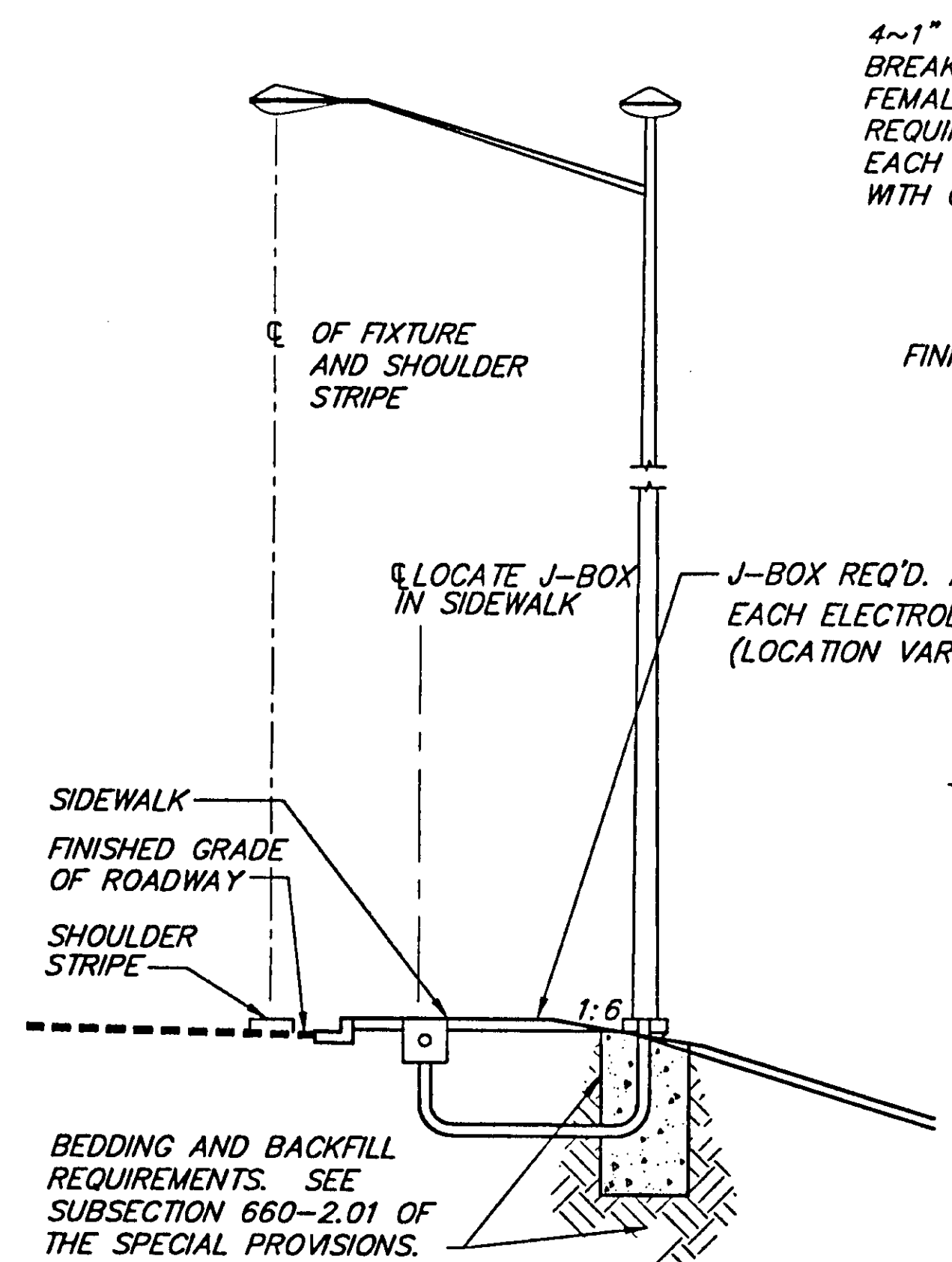
PROJECT DESIGNATION NUMBER
HHE-0966(21)-(68408)

STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
L7	30

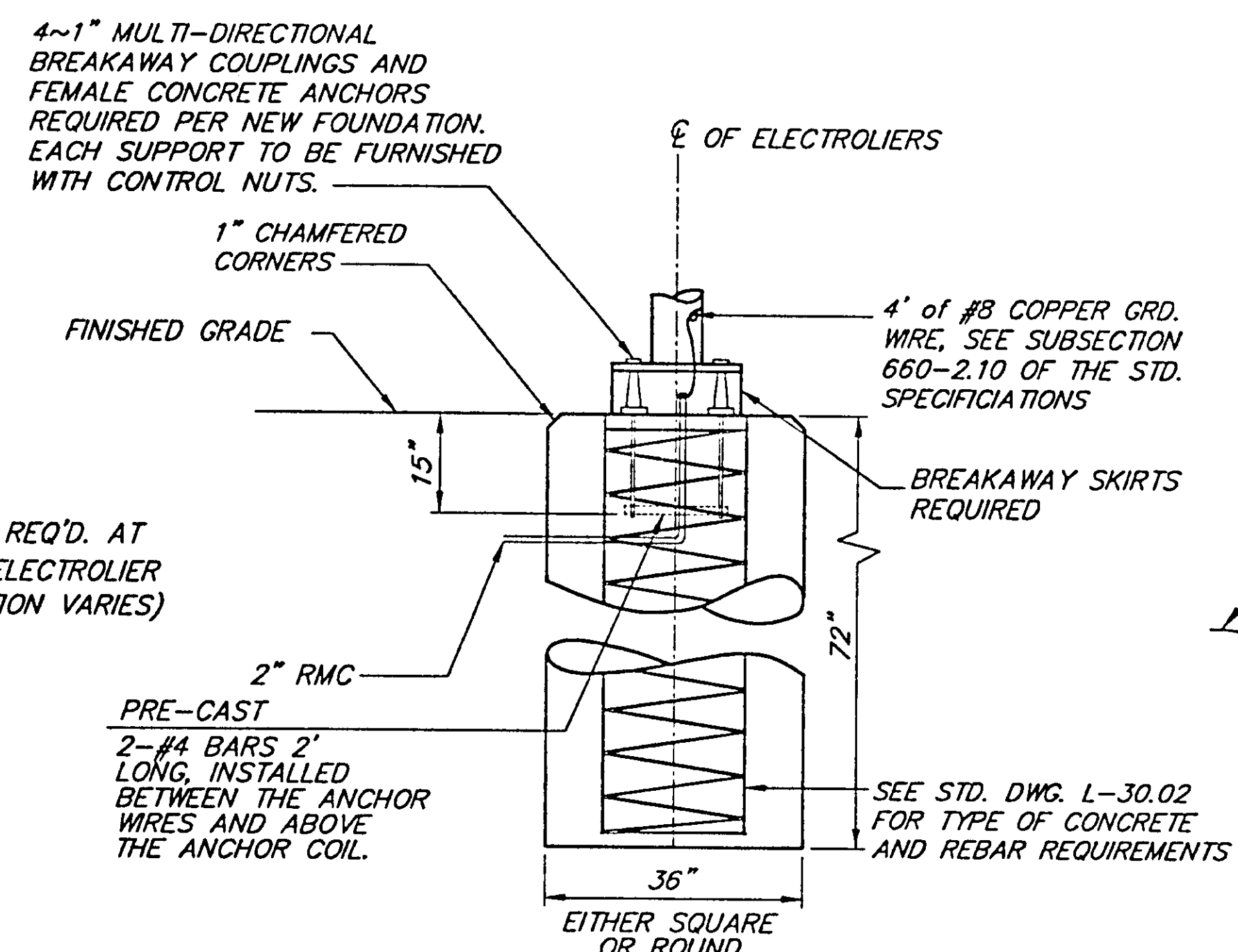
ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

TWIN LAKES & SALMON CREEK
 SIGNAL UPGRADES
 PROJECT NO. 68408

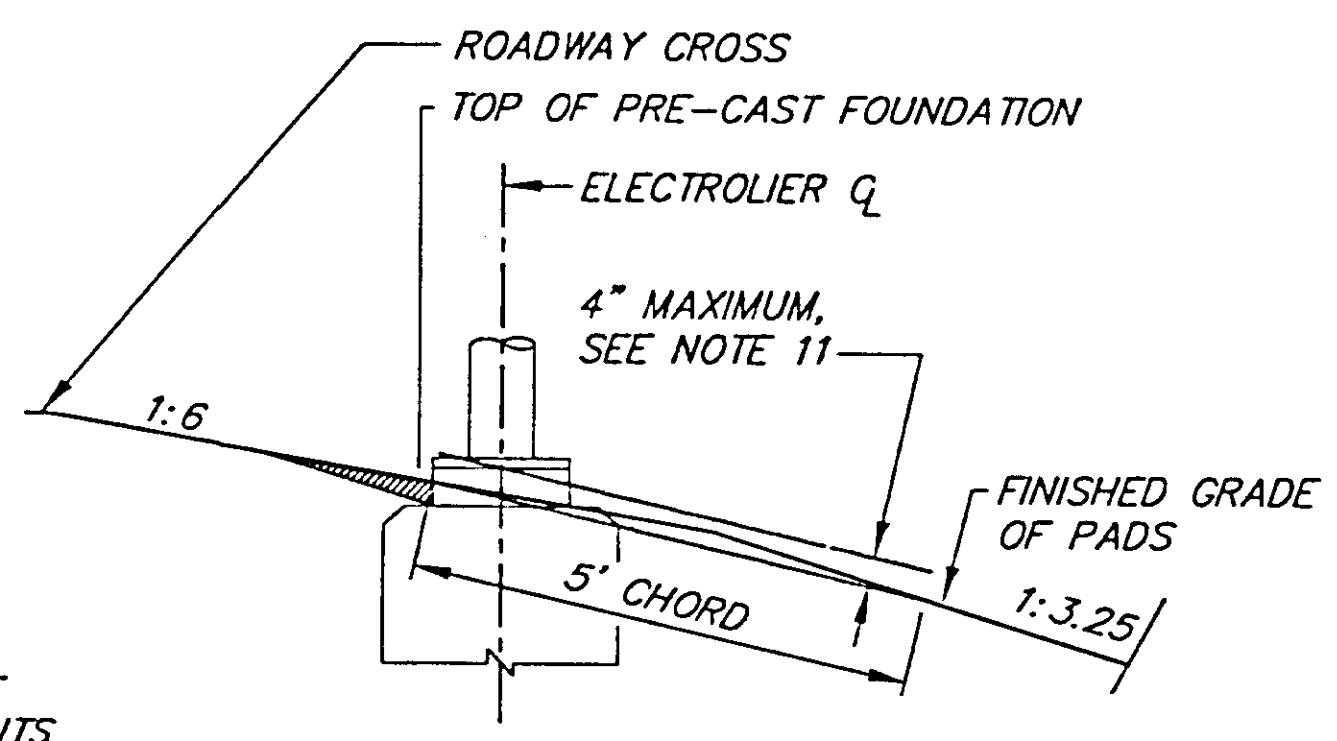
Illumination Details



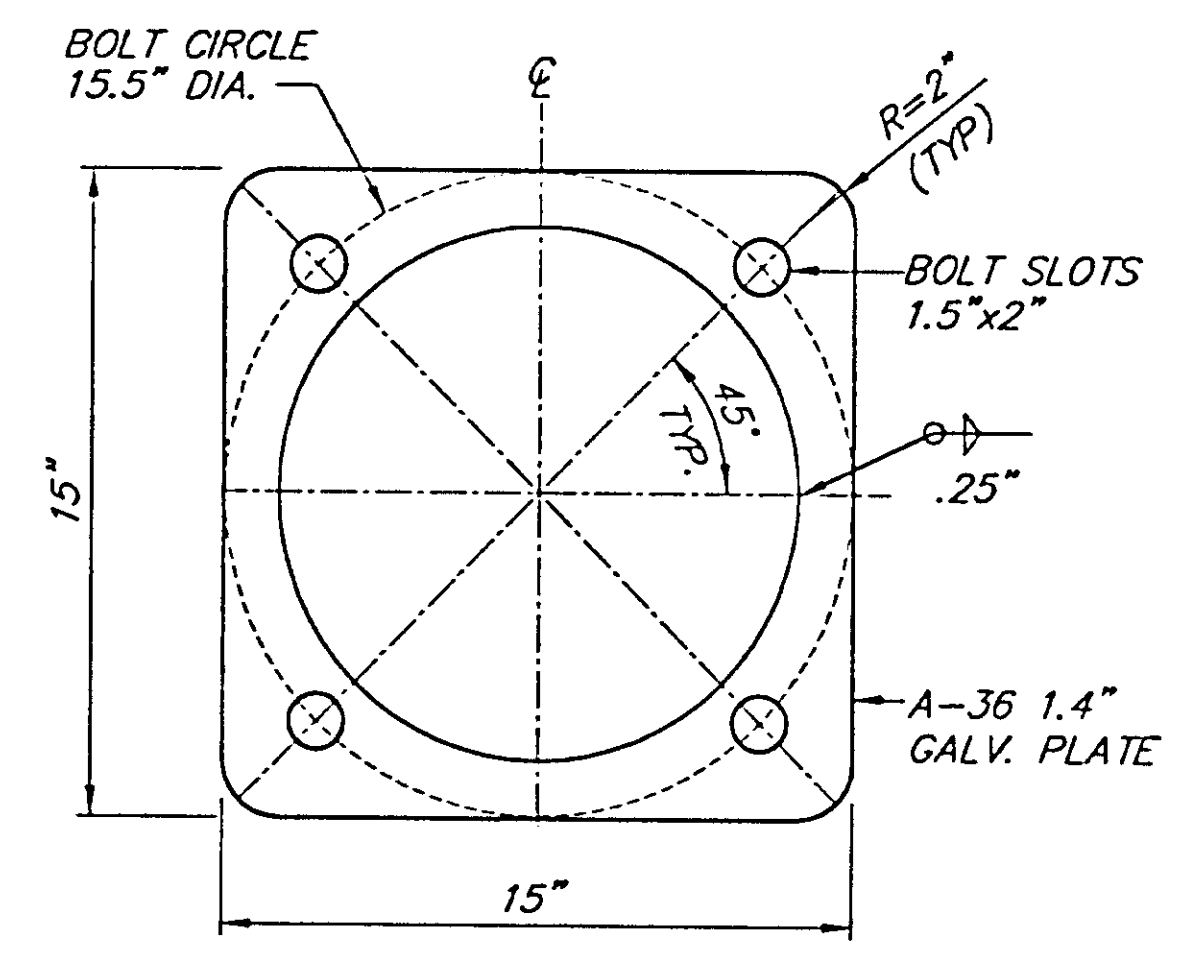
TYPICAL SECTION FOR TWO MASTED ELECTROLIER



FOUNDATION WITH BREAKAWAY COUPLINGS



FOUNDATION INSTALLATION DETAIL

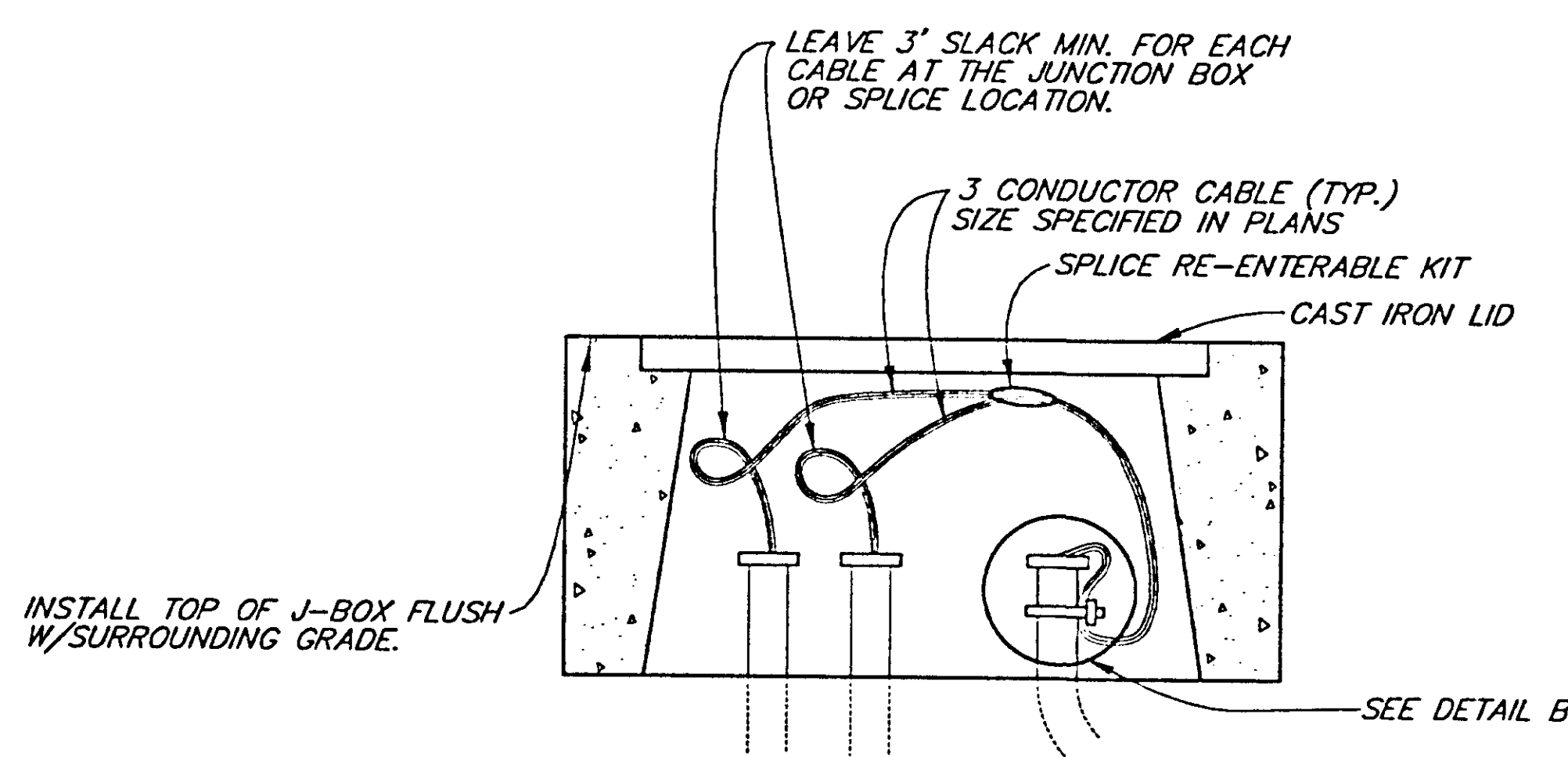


ANCHOR BASE DETAIL

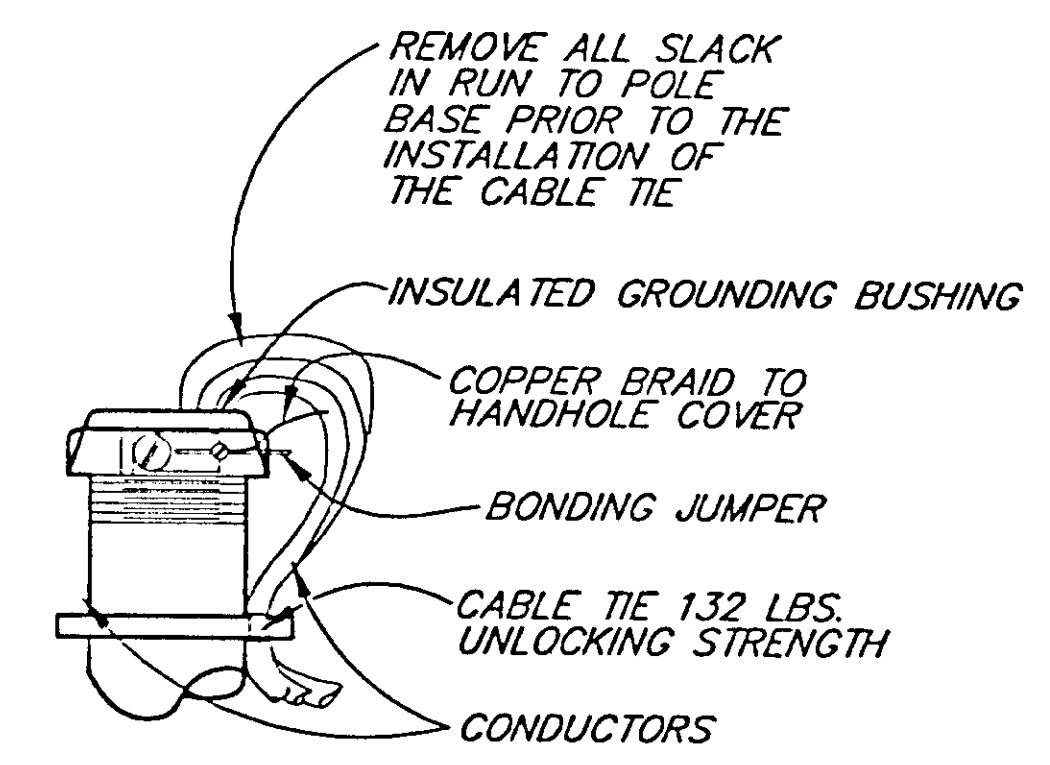
INDICATES EMBANKMENT MATERIAL TO BE REMOVED FROM AROUND BREAKAWAY SKIRTS

ILLUMINATION GENERAL NOTES

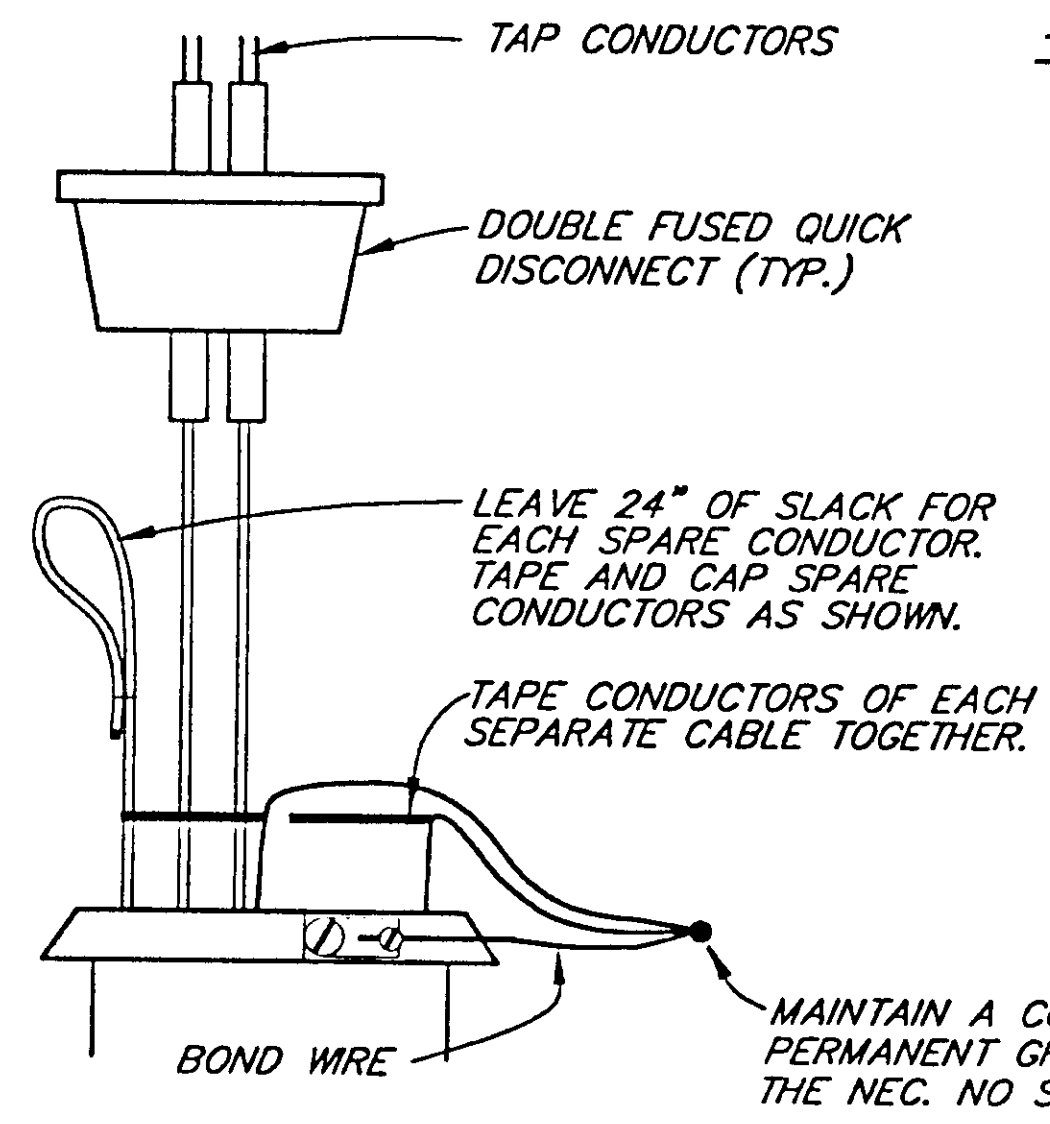
1. ALL WIRING SHALL BE ENCASED IN 2" DIA. RIGID METAL CONDUIT.
2. EACH ELECTROLIER SHALL HAVE A J-BOX INSTALLED ADJACENT TO THE FOUNDATION AS SHOWN IN THE POLE AND J-BOX WIRING DETAIL.
3. ALL JUNCTION BOXES SHALL BE TYPE I-A, EXCEPT AT LOAD CENTERS. SEE STANDARD DRAWING L-23.01.
4. A BARE STRANDED GROUND CONDUCTOR SHALL BE INSTALLED THROUGH ALL CONDUITS. THE GROUND CONDUCTOR SHALL BE ATTACHED TO ALL CONDUIT END BUSHINGS AND POLES.
5. NEW ELECTROLIER FOUNDATIONS MAY BE PRE-CAST. PRE-CAST FOUNDATIONS SHALL BE TRANSPORTED USING A DEVICE THAT SPREADS THE LOAD EVENLY BETWEEN THE ANCHOR BOLTS.
6. INSTALL THE PHOTOELECTRIC CELL ON TOP OF THE NEAREST ELECTROLIER POLE.
7. ILLUMINATION CIRCUIT WIRES SHALL BE NO. 8 AWG. 3-CONDUCTOR CABLE AS SPECIFIED IN STANDARD SPECIFICATION 660-2.08.
8. LUMINAIRES SHALL BE 240 VOLT, 250 WATT, HIGH PRESSURE SODIUM, MEDIUM DISTRIBUTION, CUT-OFF, IES TYPE III AND SHALL BE HAVE MAGNETIC REGULATOR BALLASTS, AND HPS LAMPS WITH A 24,000 HOUR RATED LIFE.
9. INSTALL 1 SPARE 2" RIGID METAL CONDUIT FROM THE LOAD CENTER TO THE FIRST JUNCTION BOX.
10. NON-BREAKAWAY PORTIONS OF FOUNDATIONS SHALL NOT PROTRUDE MORE THAN 4" ABOVE ANY 5' CHORD STARTING AND ENDING ON THE FINISHED GRADE OF THE ELECTROLIER PADS.
11. LUMINAIRE MASTARMS SHALL BE 15' LONG UNLESS NOTED ELSEWHERE.
12. NEW LUMINAIRES SHALL HAVE A 35' MOUNTING HEIGHT.



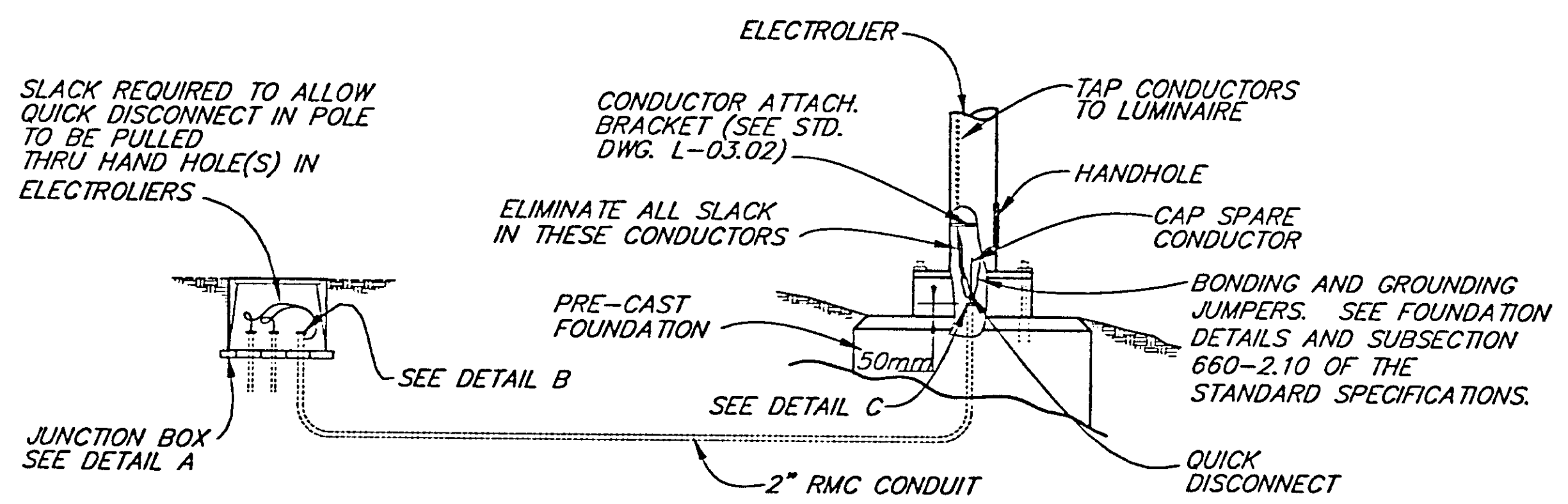
DETAIL A



DETAIL B (IN J-BOX)

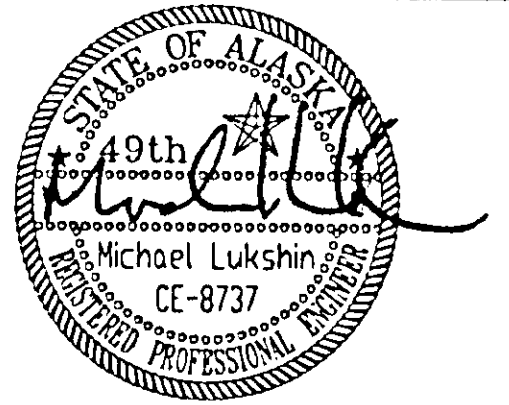


DETAIL C (IN POLE BASE)



LIGHTING SYSTEM POLE AND J-BOX WIRING DETAILS (BREAKAWAY COUPLINGS)

DESIGNED BY: Ken Mattson

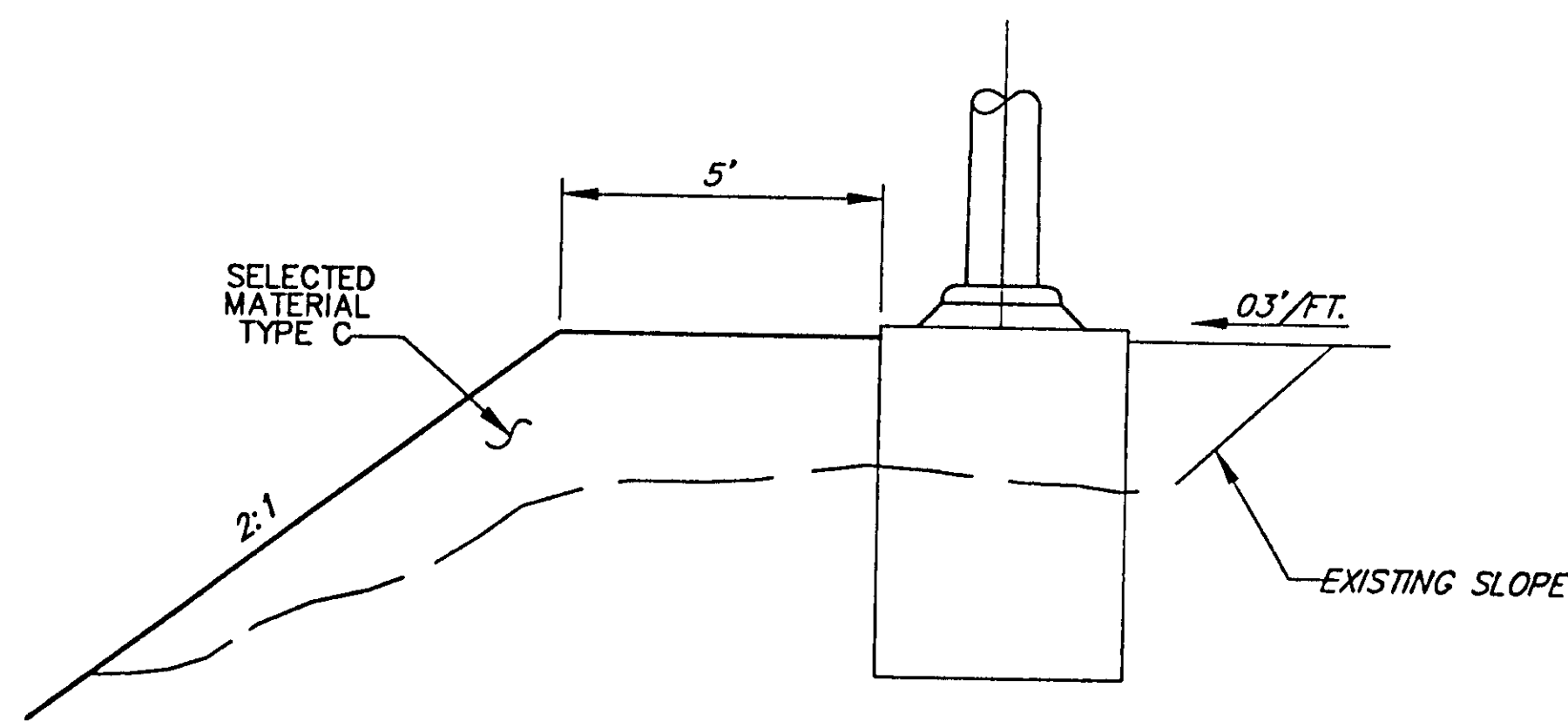


CHECKED BY: Michael Lukshin
 DRAWN BY: MICHAEL LIMBAUGH

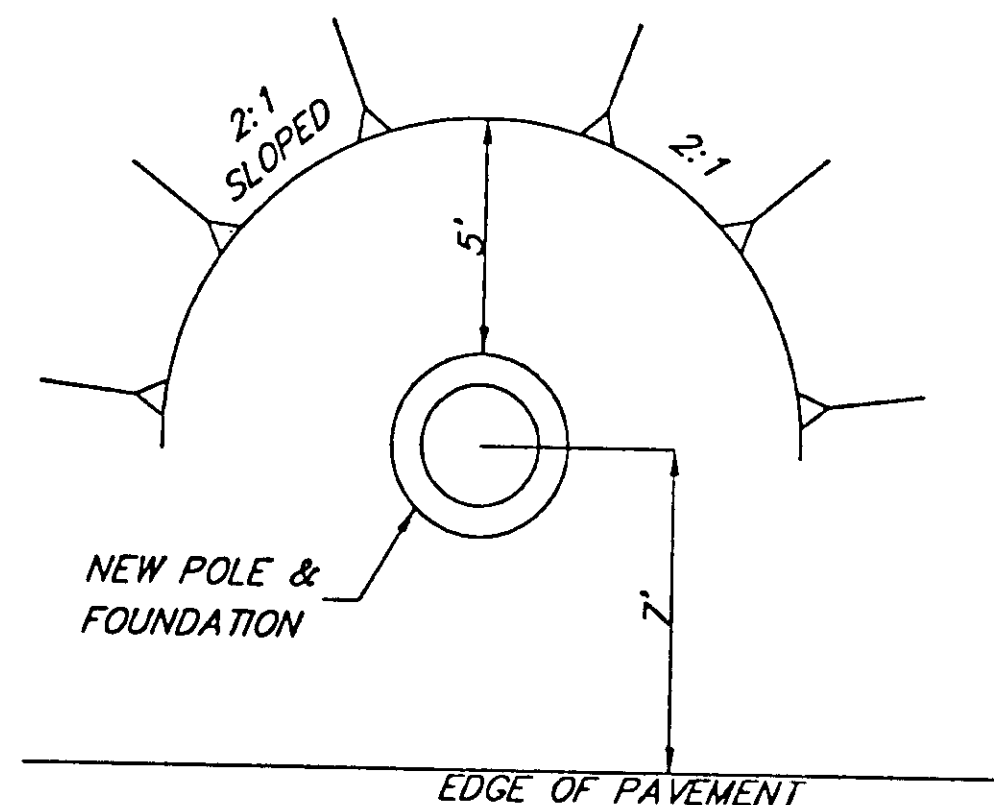
STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
 STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION
 TWIN LAKES & SALMON CREEK
 SIGNAL UPGRADES
 PROJECT NO. 68408

Illumination Details

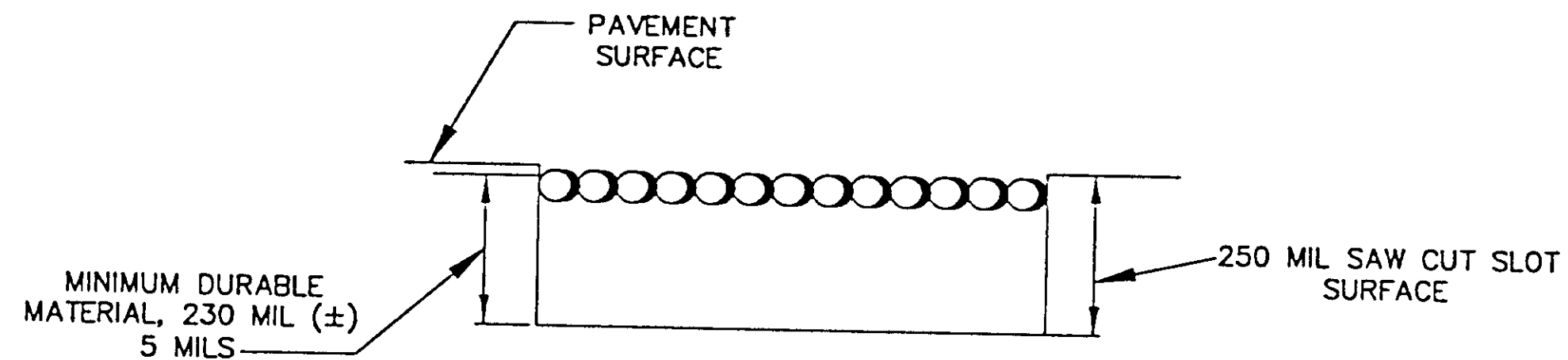
PROJECT DESIGNATION NUMBER	
HHE-0966(21)-(68408)	
STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
L8	30



ELEVATION
SEE STD. DWG T-52.15



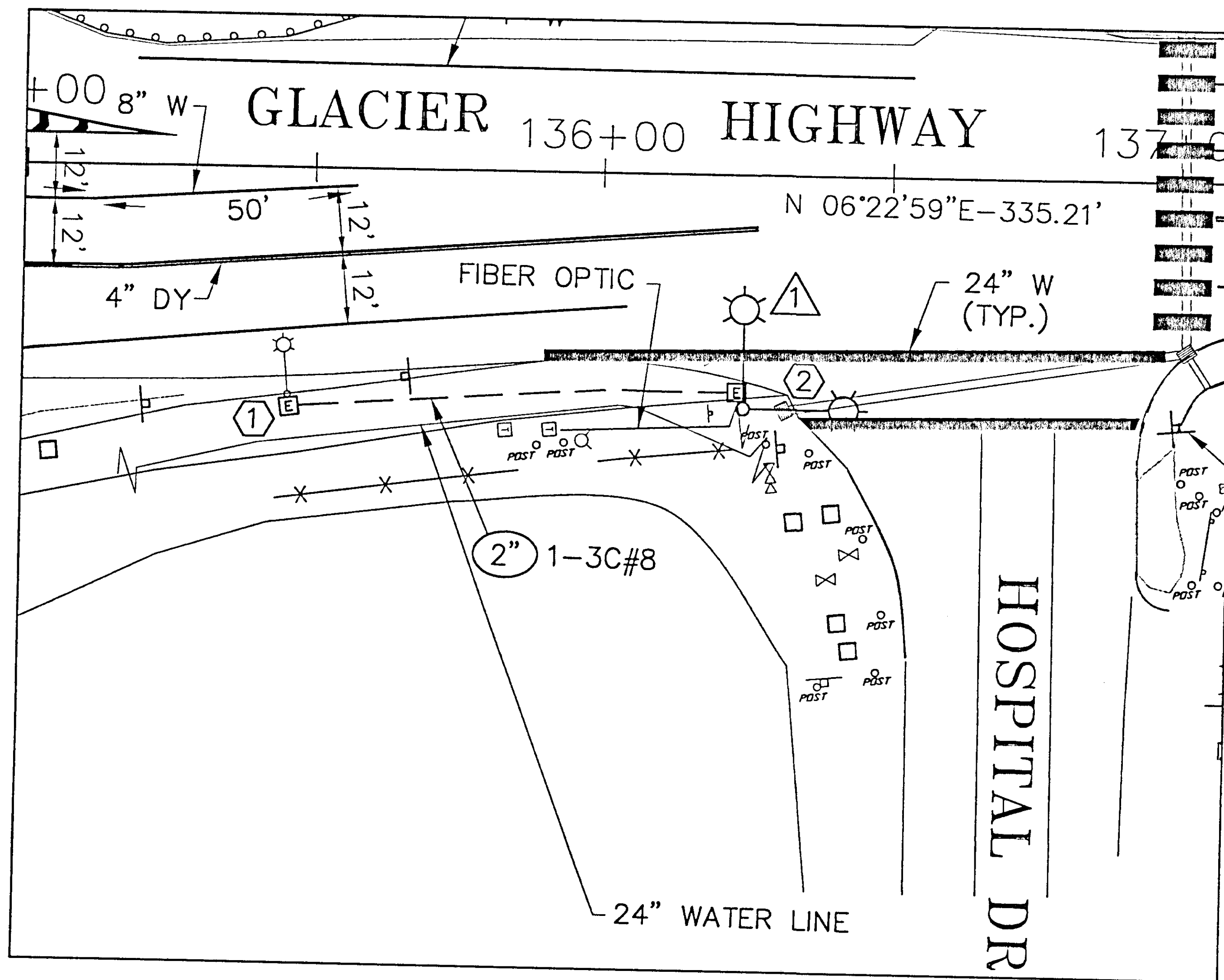
PLAN



**INLAID DETAIL
(METHYL METHACRYLATE)**

NOTE:
GLASS BEADS (TOP COATING) SHALL BE IMBEDDED APPROXIMATELY 50% OF THE BEAD DIAMETER INTO THE DURABLE MATERIAL. THE METHYL METHACRYLATE SHALL BE FLUSH WITH, OR SLIGHTLY RECESSED BELOW, THE PAVEMENT SURFACE. ANY METHYL METHACRYLATE OVER THE PAVEMENT SURFACE SHALL BE REMOVED.

SIGNAL POLE NO. 10 PAD DETAIL



SPECIAL ILLUMINATION DETAIL

N.T.S.

PATH:
O:\jnu\68408\Planset\TPLAN.dwg
Fri, 30/Aug/02 02:38AM Stevens
PLOT:
PSPACE 1=1(F) OR MSPAGE 1=1(F)

ADDENDUM NUMBER		
ATTACHMENT NUMBER		
RECORD OF REVISIONS		
No.	DATE	DESCRIPTION

TWIN LAKES & SALMON CREEK
SIGNAL UPGRADES
PROJECT NO. 68408

Details

DESIGNED BY: Ken Mattson



CHECKED BY: Michael Lukshin

DRAWN BY: Dave Stevens

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
STATEWIDE DESIGN & ENGINEERING
SERVICES DIVISION

TWIN LAKES & SALMON CREEK
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Details

PROJECT DESIGNATION NUMBER

HHE-0955(13)-(68408)

STATE	YEAR
ALASKA	2002
SHEET NUMBER	TOTAL SHEETS
L9	30