

SHEET NO.	TOTAL SHEETS
1	8

CITY OF WICHITA, KANSAS

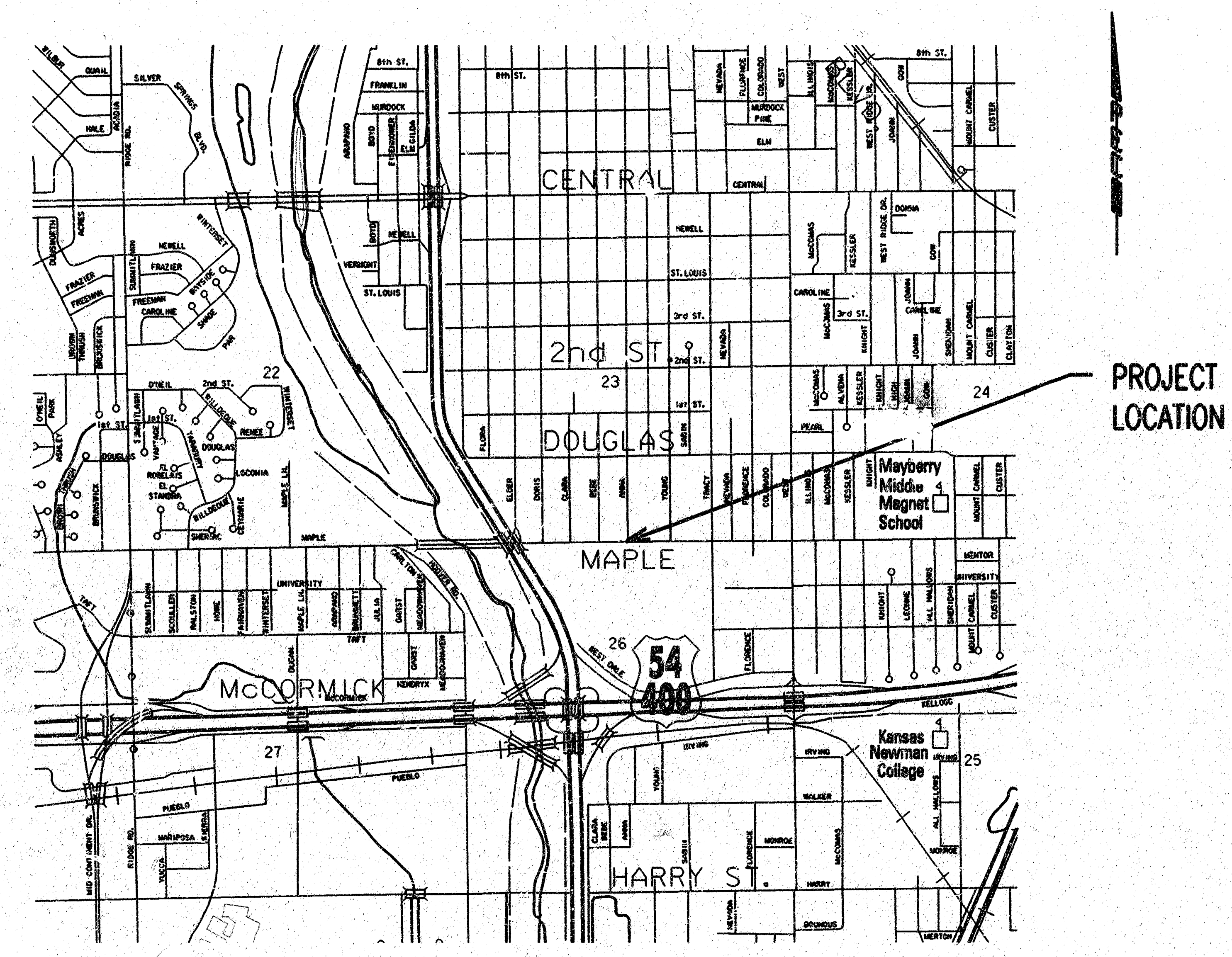
MICHAEL E. LINDEBAK, P.E., CITY ENGINEER

TRAFFIC SIGNAL IMPROVEMENTS

MAPLE STREET & ANNA

CITY OF WICHITA PROJECT NO. 472-76-245-83130-000-000-001
INDEX NO. 710214

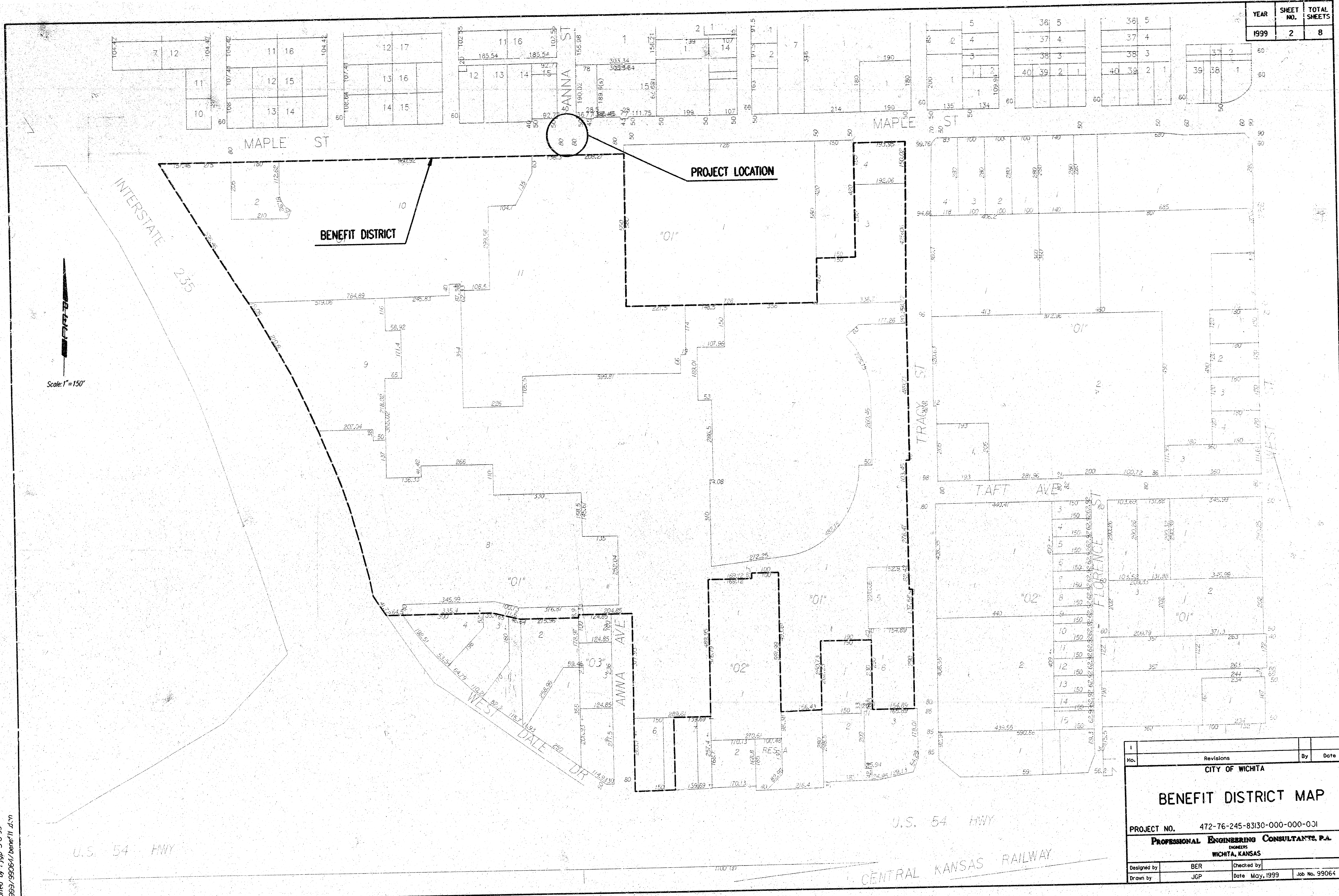
- INDEX OF SHEETS
1. TITLE SHEET
 2. BENEFIT DISTRICT MAP
 3. PLAN
 4. TRAFFIC SIGNAL PLAN
 5. BILL OF MATERIALS
 - 6.-8. TRAFFIC SIGNAL DETAILS



JULY 1999
PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

i: 1999/2004/Title.dgn
date: perfect 7-20-99
author: to sub

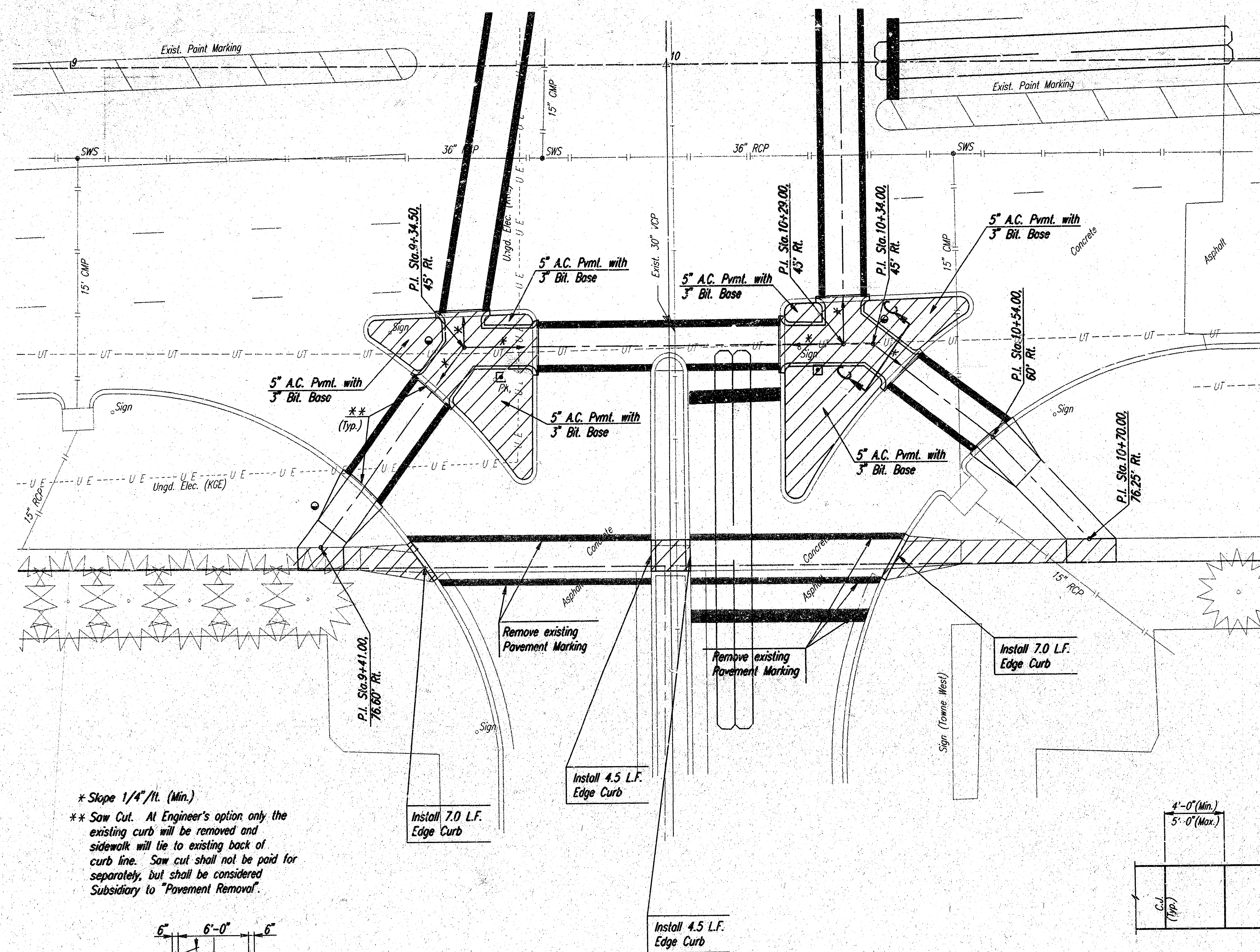
YEAR	SHEET NO.	TOTAL SHEETS
1999	2	8



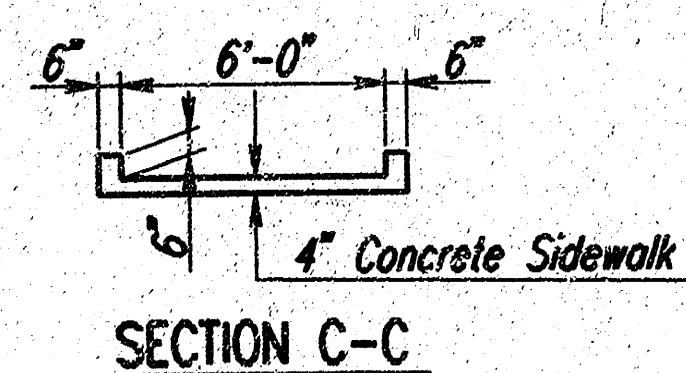
No.	Revisions	By	Date
CITY OF WICHITA			
BENEFIT DISTRICT MAP			
PROJECT NO. 472-76-245-83130-000-000-001			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.			
ENGINEERS WICHITA, KANSAS			
Designed by	BER	Checked by	
Drawn by	JGP	Date	May, 1999
		Job No.	99064

plotted by: jgp 5-6-99
1999/09064/beret/11 d'n

PROJECT NO.	SHEET NO.	TOTAL SHEETS
472-76-245-83130-000-001	3	8



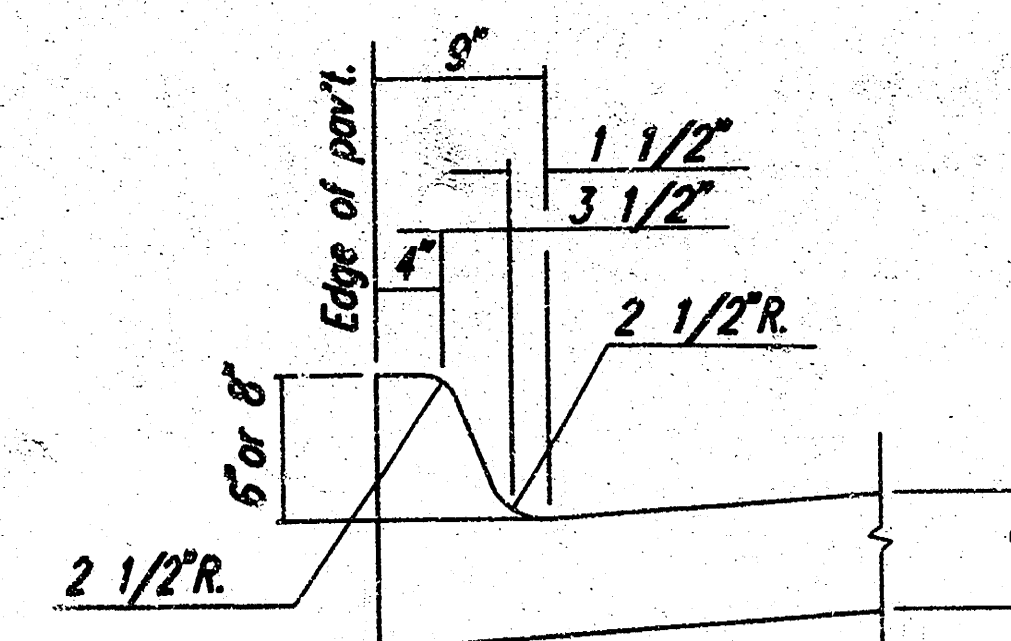
* Slope 1/4" / ft. (Min.)
 ** Saw Cut. At Engineer's option only the existing curb will be removed and sidewalk will lie to existing back of curb line. Saw cut shall not be paid for separately, but shall be considered Subsidiary to "Pavement Removal".



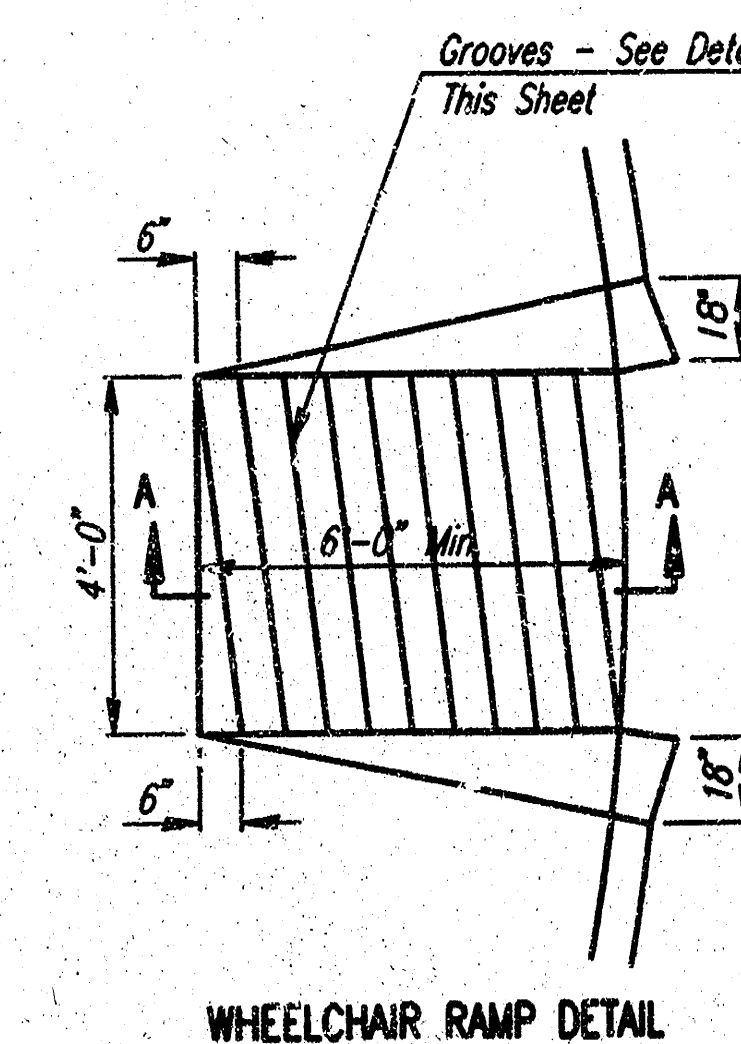
Note: 6" Edge Curb shall be placed monolithic with 4" walk and shall be considered subsidiary to 4" Concrete Sidewalk

Removal of existing pavement markings will not be paid for separately, but shall be considered Subsidiary to other contract items.

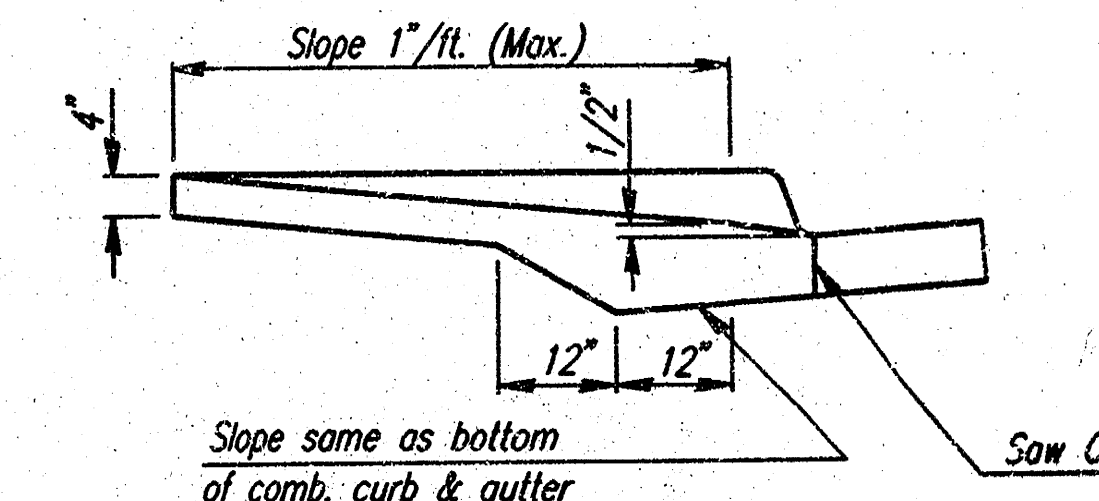
Sidewalk removal and curb removal shall be paid for at the unit price bid for "Pavement Removal".



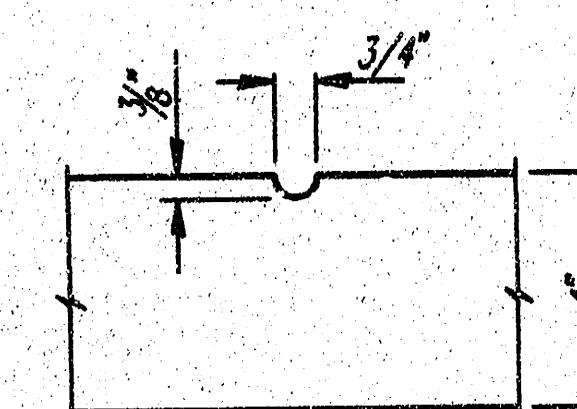
6" OR 8" EDGE CURB
(Monolithic)



WHEELCHAIR RAMP DETAIL

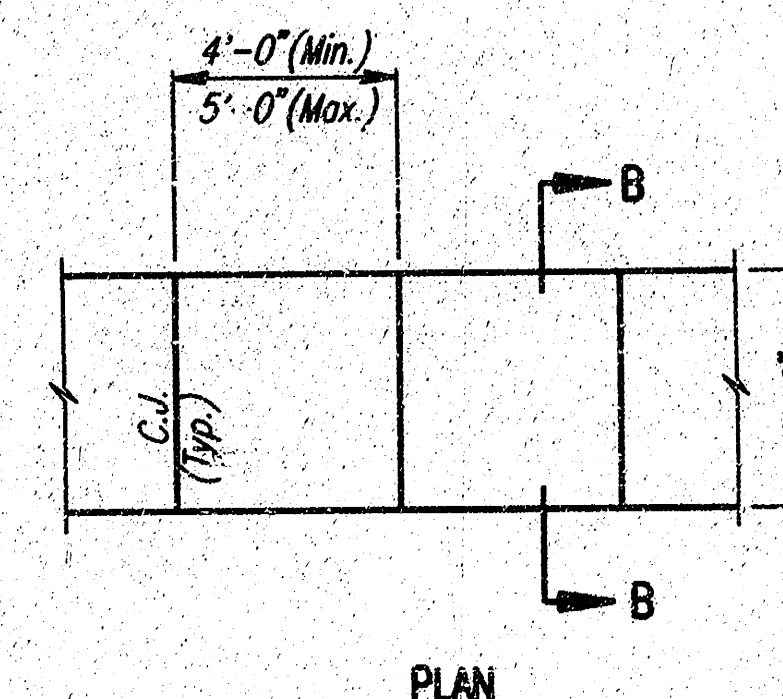


SECTION A-A

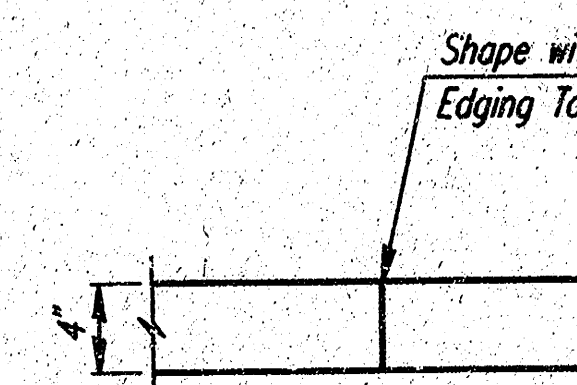


GROOVE DETAIL

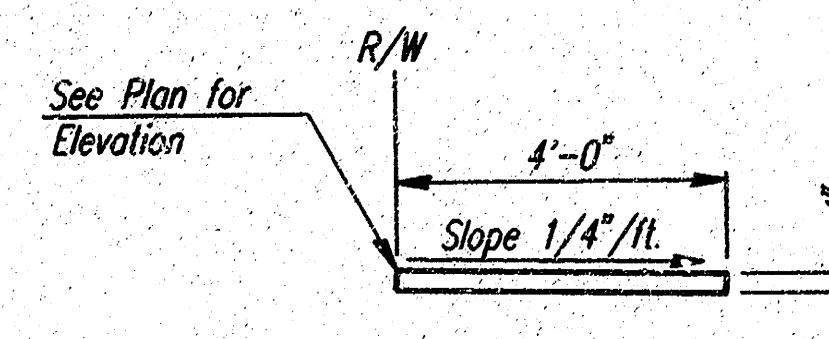
TYPICAL WHEELCHAIR RAMP DETAILS



PLAN

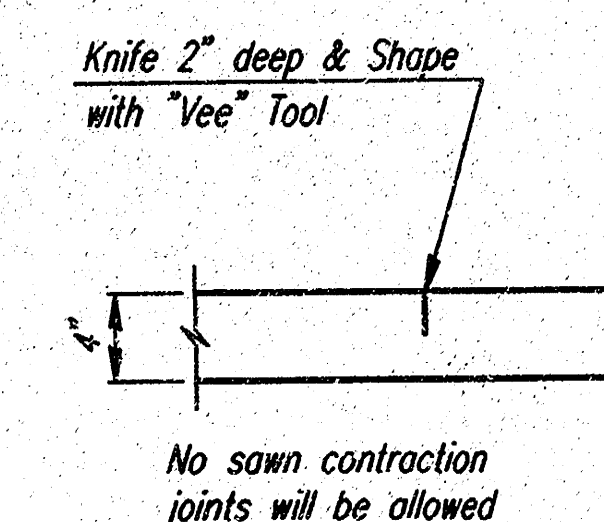


CONSTRUCTION JOINT



SECTION B-B

4" WALK DETAILS



CONTRACTION JOINT

No.	Revisions	By	Date
CITY OF WICHITA, KANSAS			
PLAN			
Professional Engineering Consultants, P.A. 303 S. TOPEKA • WICHITA, KANSAS 67202 316-262-2891 • FAX 316-262-3003			
Designed by	Checked by		Date
Drawn by JGP			Job No. 99064

PROJECT NO.	SHEET NO.	TOTAL SHEETS
472-76-245-83130-000-001	4	8

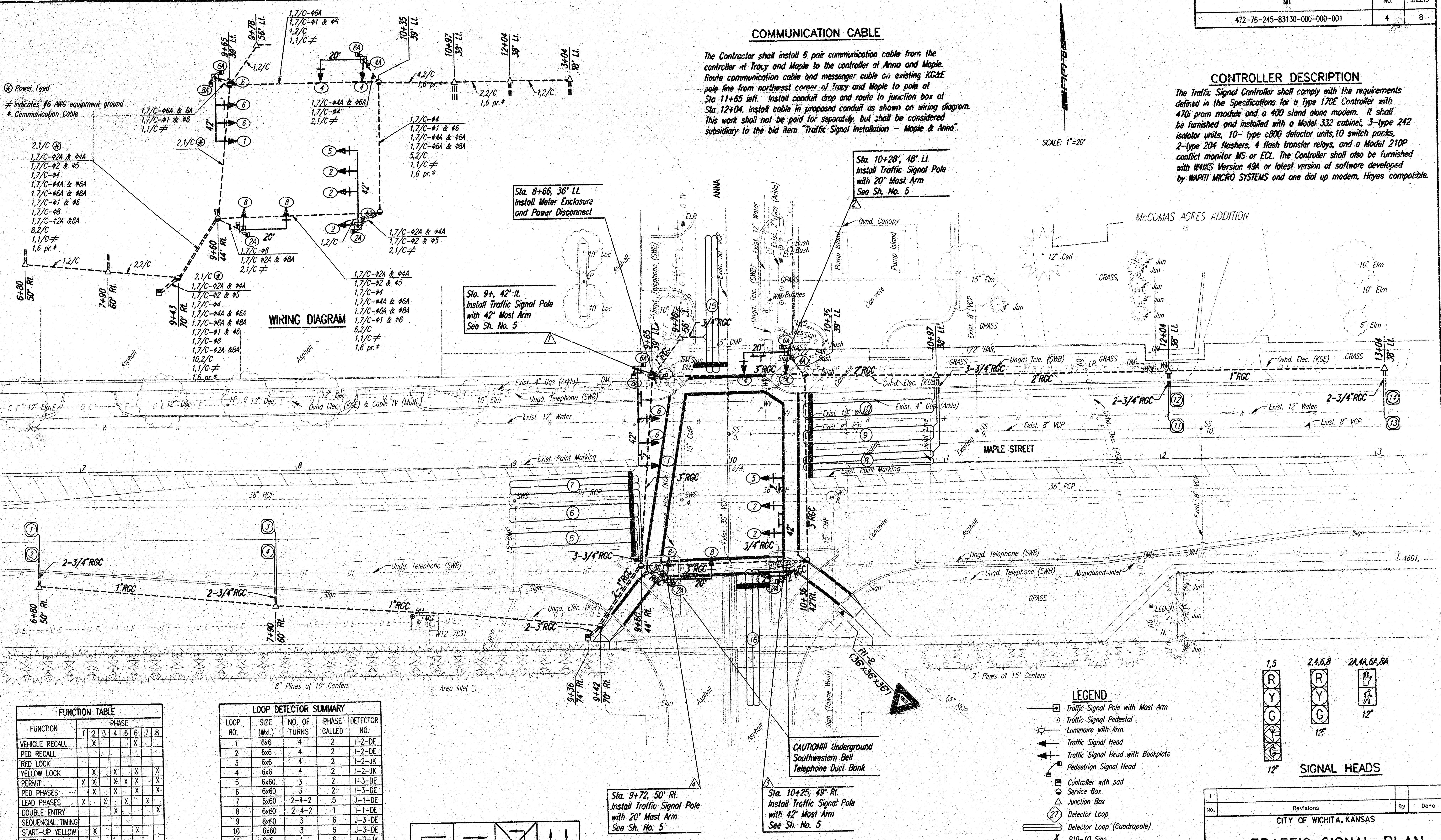
COMMUNICATION CABLE

The Contractor shall install 6 pair communication cable from the controller at Tracy and Maple to the controller at Anna and Maple. Route communication cable and messenger cable on existing RG&E pole line from northeast corner of Tracy and Maple to pole at Sta 11+65 left. Install conduit drop and route to junction box at Sta 12+04. Install cable in proposed conduit as shown on wiring diagram. This work shall not be paid for separately, but shall be considered subsidiary to the bid item "Traffic Signal Installation - Maple & Anna".

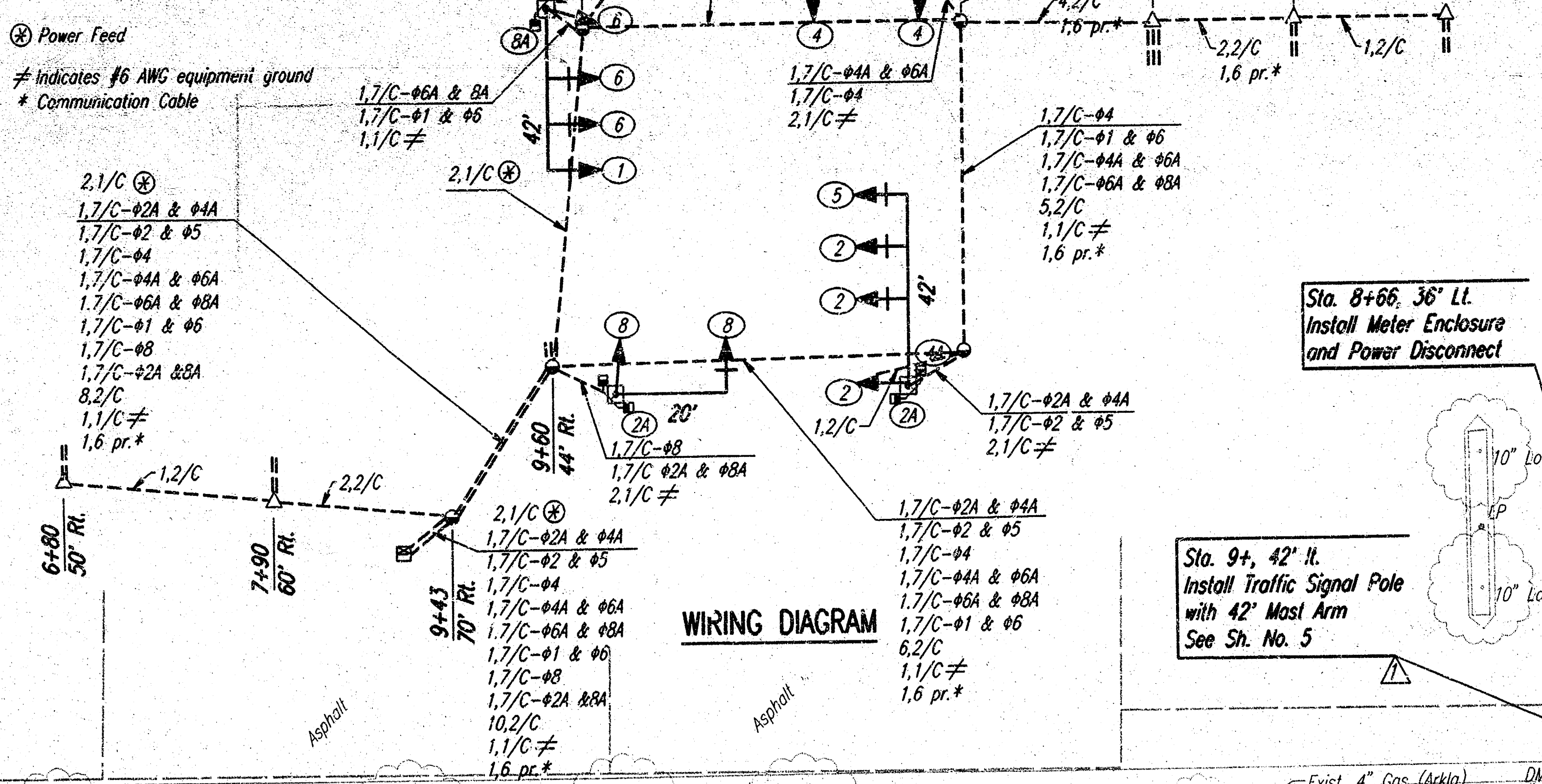
CONTROLLER DESCRIPTION

The Traffic Signal Controller shall comply with the requirements defined in the Specifications for a type 170E Controller with 470i prom module and a 400 stand alone modem. It shall be furnished and installed with a Model 332 cabinet, 3-type 242 isolator units, 10-type c800 detector units, 10 switch packs, 2-type 204 flashers, 4 flash transfer relays, and a Model 210P conflict monitor MS or ECL. The Controller shall also be furnished with WAKS Version 49A or latest version of software developed by WAKS MICRO SYSTEMS and one dial up modem, Hayes compatible.

SCALE: 1"=20'



WIRING DIAGRAM



Sta. 8+66, 36" LL
Install Meter Enclosure and Power Disconnect

Sta. 9+42, 42" LL
Install Traffic Signal Pole with 42' Mast Arm
See Sh. No. 5

Sta. 10+28, 48" LL
Install Traffic Signal Pole with 20' Mast Arm
See Sh. No. 5

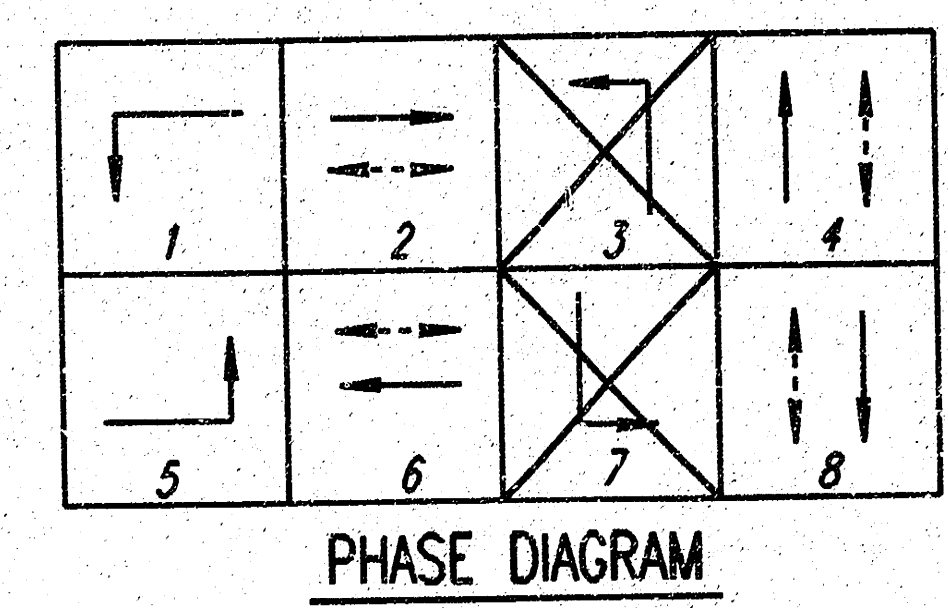
Sta. 9+72, 50' RL
Install Traffic Signal Pole with 20' Mast Arm
See Sh. No. 5

Sta. 10+25, 49' RL
Install Traffic Signal Pole with 42' Mast Arm
See Sh. No. 5

Note: Conduit proposed under existing pavement shall be installed using directional boring methods.

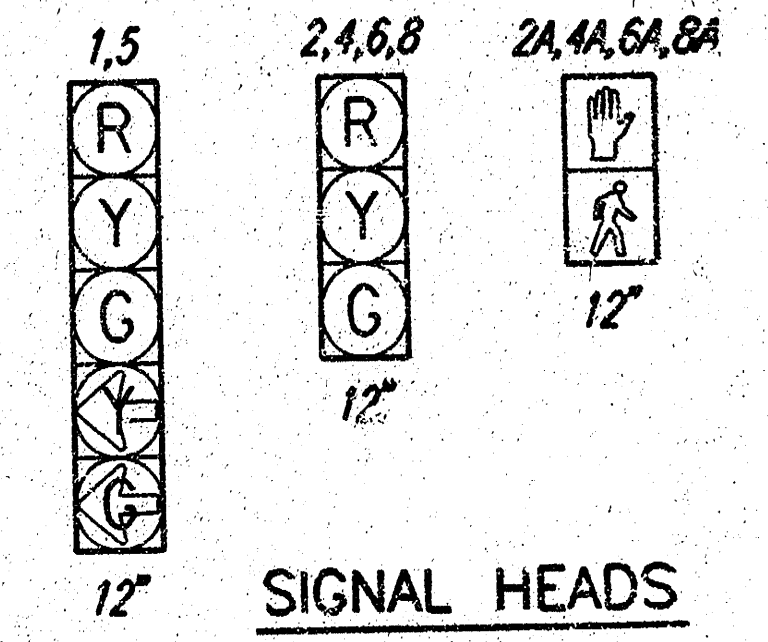
FUNCTION	PHASE							
	1	2	3	4	5	6	7	8
VEHICLE RECALL		X					X	
PED RECALL								X
RED LOCK								
YELLOW LOCK								
PERMIT	X	X	X	X	X	X	X	X
PED PHASES								
LEAD PHASES	X	X	X	X	X	X	X	X
DOUBLE ENTRY					X			
SEQUENTIAL TIMING								
START-UP YELLOW	X					X		
OVERLAP A								
OVERLAP B								
OVERLAP C								
OVERLAP D								
EXCLUSIVE								
SIMULTANEOUS GAP								

LOOP NO.	SIZE (WxL)	NO. OF TURNS	PHASE CALLED	DETECTOR NO.
1	6x6	4	2	1-2-DE
2	6x6	4	2	1-2-DE
3	6x6	4	2	1-2-JK
4	6x6	4	2	1-2-JK
5	6x60	3	2	1-3-DE
6	6x60	3	2	1-3-DE
7	6x60	2-4-2	5	1-1-DE
8	6x60	2-4-2	1	1-1-DE
9	6x60	3	6	1-3-DE
10	6x60	3	6	1-3-DE
11	6x6	4	6	1-2-JK
12	6x6	4	6	1-2-JK
13	6x6	4	6	1-2-JK
14	6x6	4	6	1-2-JK
15	6x60	2-4-2	8	1-7-DE
16	6x60	2-4-2	4	1-7-DE



LEGEND

- Traffic Signal Pole with Mast Arm
- Traffic Signal Pedestal
- Luminaire with Arm
- Traffic Signal Head
- Traffic Signal Head with Backplate
- Pedestrian Signal Head
- Controller with pad
- Service Box
- Junction Box
- Detector Loop
- Detector Loop (Quadrupole)
- ✕ R10-10 Sign
- ✕ R3-1 Sign
- ✕ R10-12 Sign
- Rigid Galvanized Conduit (RGC)
- Signal Phase
- △ Signal Pole Reference Number
- Street Name Sign



Revisions		By	Date
No.			
CITY OF WICHITA, KANSAS			
TRAFFIC SIGNAL PLAN			
MAPLE STREET & ANNA			
Professional Engineering Consultants, P.A. 303 S. TOPEKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003			
Designed by	BER	Checked by	
Drawn by	JGP	Date	
		Job No. 99064	

plotted by: svb 7-20-99
 H999 99064 signalplan.dgn

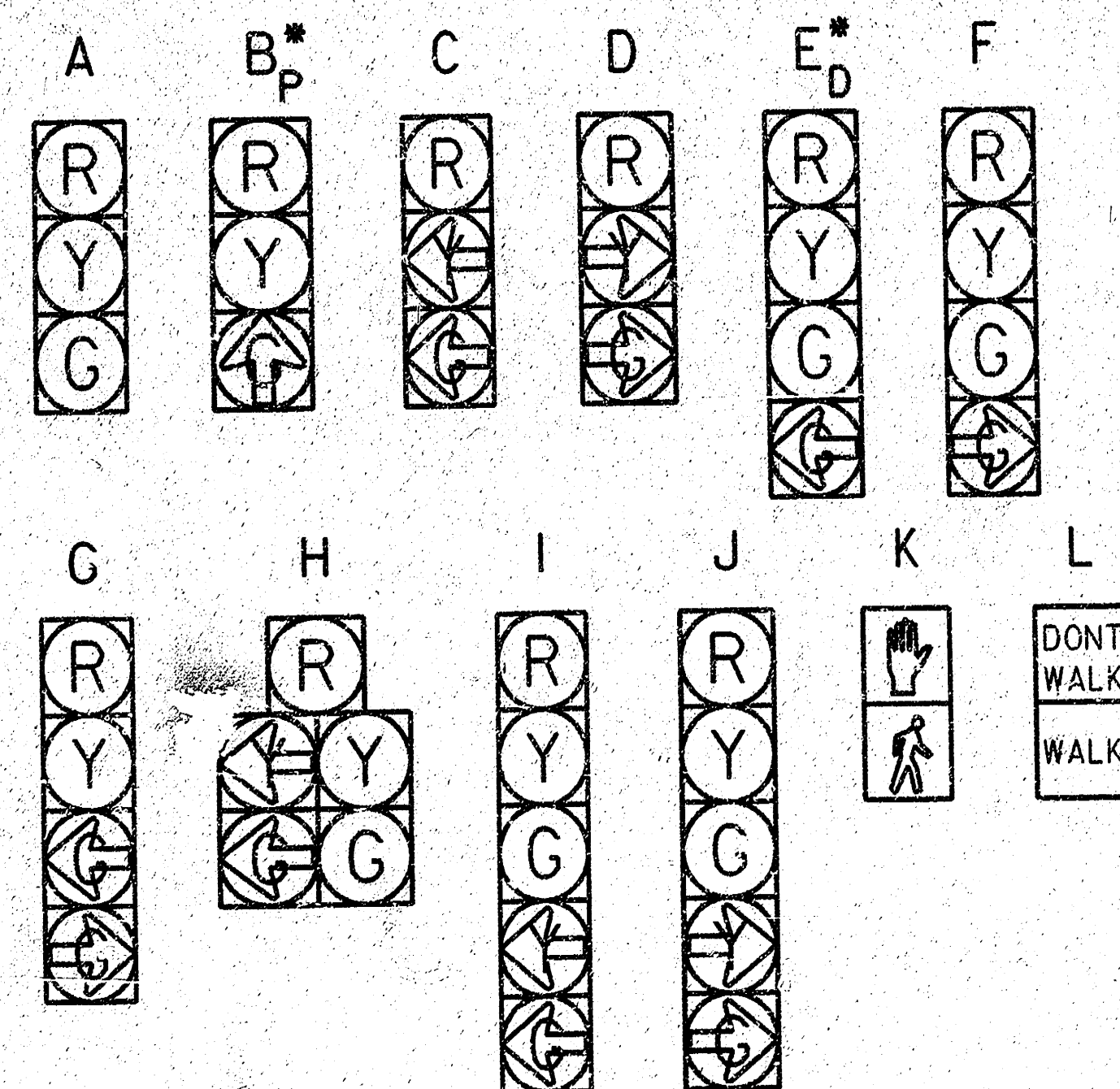
CHART A SIGNAL SUMMARY			
SIGNAL FACE ARRANGEMENT	NO. SECTIONS (PER FACE)	MOUNTING TYPE	QUANTITY
A	3@12"	RIGID MAST ARM	6
I	5@12"	RIGID MAST ARM	2
		RIGID MAST ARM	
L	2@12"	TYPE II	8
		TYPE II	
		SPAN WIRE	
		SPAN WIRE	
A	3@12"	VERTICAL BRACKET	4
		TOTAL	20

CHART B TRAFFIC SIGNAL POLES					
POLE NO.	SIZE	SIGNAL ARM SIZE	SIGNAL ARM MOUNTING HEIGHT	NO. OF SIGNALS ON ARM	SIGNAL SPACING
1	40'	42'	20'	3	11' - 11' / ① ②
2	20'	20'	20'	1	— / ①
3	42'	42'	20'	3	11' - 11' / ① ②
4	20'	20'	20'	1	— / ①

- ① MAST ARM TO SUPPORT STREET NAME SIGN
 ② MOUNT RIO-12 ADJACENT TO TYPE I SIGNAL HEAD
 NOTE: LUMINAIRE TO BE FURNISHED AND INSTALLED BY OTHERS.
 ALL POLES TO BE CLASS II.

SERVICE BOXES		
STATION	OFFSET	SIDE
9+42	70'	RT.
9+60	44'	RT.
9+65	39'	LT.
10+36	39'	LT.
10+36	42'	RT.

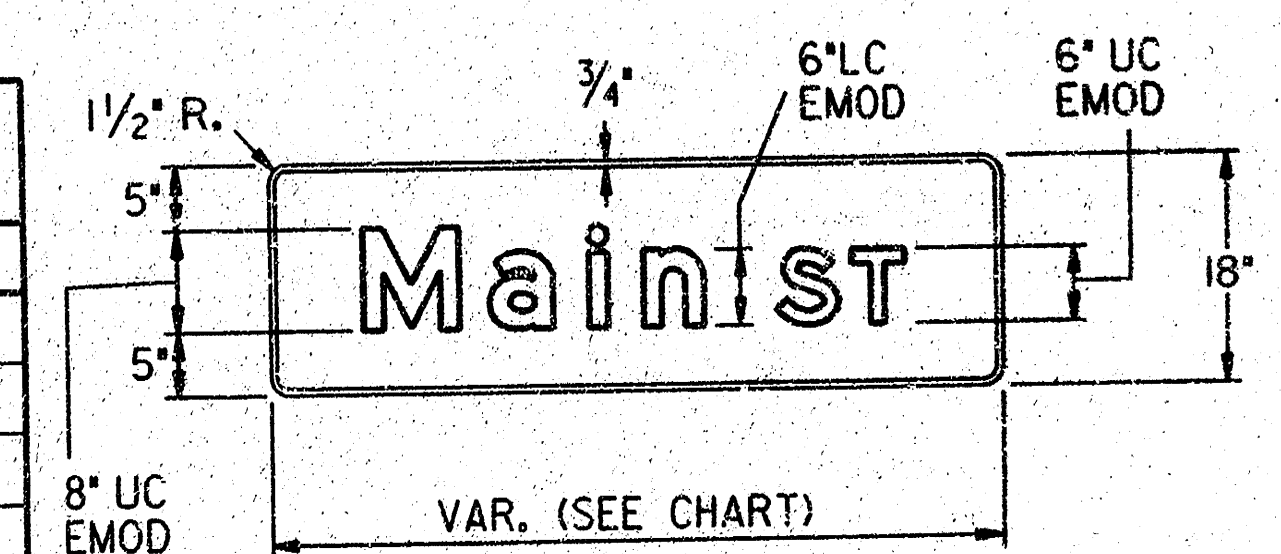
JUNCTION BOXES		
STATION	OFFSET	SIDE
6+80	50'	RT.
7+90	60'	RT.
10+97	38'	LT.
12+04	38'	LT.
13+04	38'	LT.



* SUBSCRIPT "P" INDICATES PROGRAMMED SIGNALS
 SUBSCRIPT "D" INDICATES DUAL-MODE GREEN/YELLOW ARROW SECTION

BILL OF MATERIALS		
ITEM	UNIT	QUANT.
PAD MOUNTED CONTROLLER & CABINET	EACH	1
TRAFFIC SIGNAL HEAD (SEE CHART A) W/MOUNTING HARDWARE	EACH	20
TRAFFIC SIGNAL LAMP 135 WATT KRYPTON	EACH	56
BACK PLATE 5' - 3 SECTION	EACH	6
BACK PLATE 5' - 4 SECTION	EACH	—
BACK PLATE 5' - 5 SECTION	EACH	2
TRAFFIC SIGNAL POLE (WOOD)	EACH	—
TRAFFIC SIGNAL PEDESTAL ALUMINUM	EACH	—
TERMINAL BLOCK	EACH	—
CONCRETE CONTROLLER PAD	EACH	1
CONCRETE FOOTING - PEDESTAL	EACH	—
CONCRETE FOOTING - POLE	EACH	4
ENTRANCE HEAD	EACH	2
CIRCUIT BREAKER, MAIN, 50 AMP.	EACH	1
SERVICE BOX	EACH	5
JUNCTION BOX	EACH	5
GROUND ROD & CLAMP	EACH	6
LOOP DETECTOR	EACH	10
PEDESTRIAN PUSHBUTTON W/SIGN	EACH	8
OVERHEAD STREET NAME SIGN (SEE CHART C) (HIGH INTENSITY SHEETING)	EACH	4
RIO-12 SIGN (24"x30") (HIGH INTENSITY SHEETING)	EACH	2
DETECTOR LOOP WIRE NO. 14 AWG 1/c	FEET	6000
SHIELDED DETECTOR LEAD-IN NO. 14 AWG 2/c	FEET	2500
SHIELDED DETECTOR LEAD-IN NO. 14 AWG 4/c	FEET	—
LEAD-IN WIRE NO. 6 AWG 1/c (POWER)	FEET	250
LEAD-IN WIRE NO. 8 AWG 1/c (EQUIPMENT GROUND) (GREEN)	FEET	500
MULTI-CONDUCTOR CABLE NO. 14 AWG 5/c	FEET	300
MULTI-CONDUCTOR CABLE NO. 14 AWG 2/c	FEET	50
MULTI-CONDUCTOR CABLE NO. 14 AWG 7/c	FEET	1200
6 PAIR COMMUNICATION CABLE	FEET	1200
COMMUNICATION CABLE AERIAL SPLICE BOX	EACH	1
COMMUNICATION CABLE SUPPORT HARDWARE	AS REQUIRED	—
RIGID STEEL CONDUIT, 3/4"	FEET	150
RIGID STEEL CONDUIT, 1"	FEET	350
RIGID STEEL CONDUIT, 1 1/4"	FEET	—
RIGID STEEL CONDUIT, 2"	FEET	350
RIGID STEEL CONDUIT, 3"	FEET	250
P. V. C. CONDUIT, 2"	FEET	—

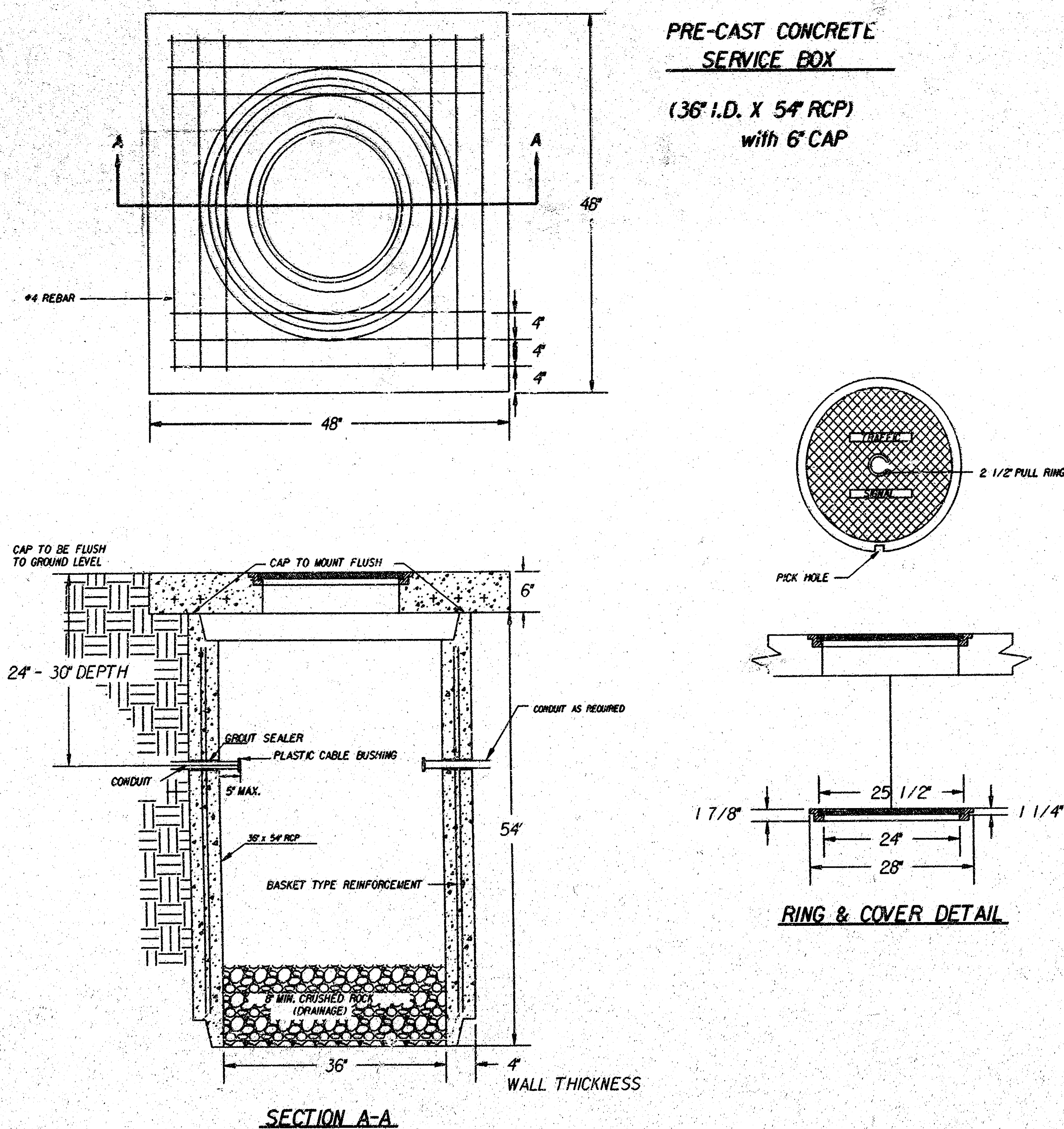
CHART C OVERHEAD STREET NAME SIGNS			
SIGN	LEGEND	LENGTH	QUANTITY
1	Anna	5'-0"	2
2	Maple	5'-0"	2



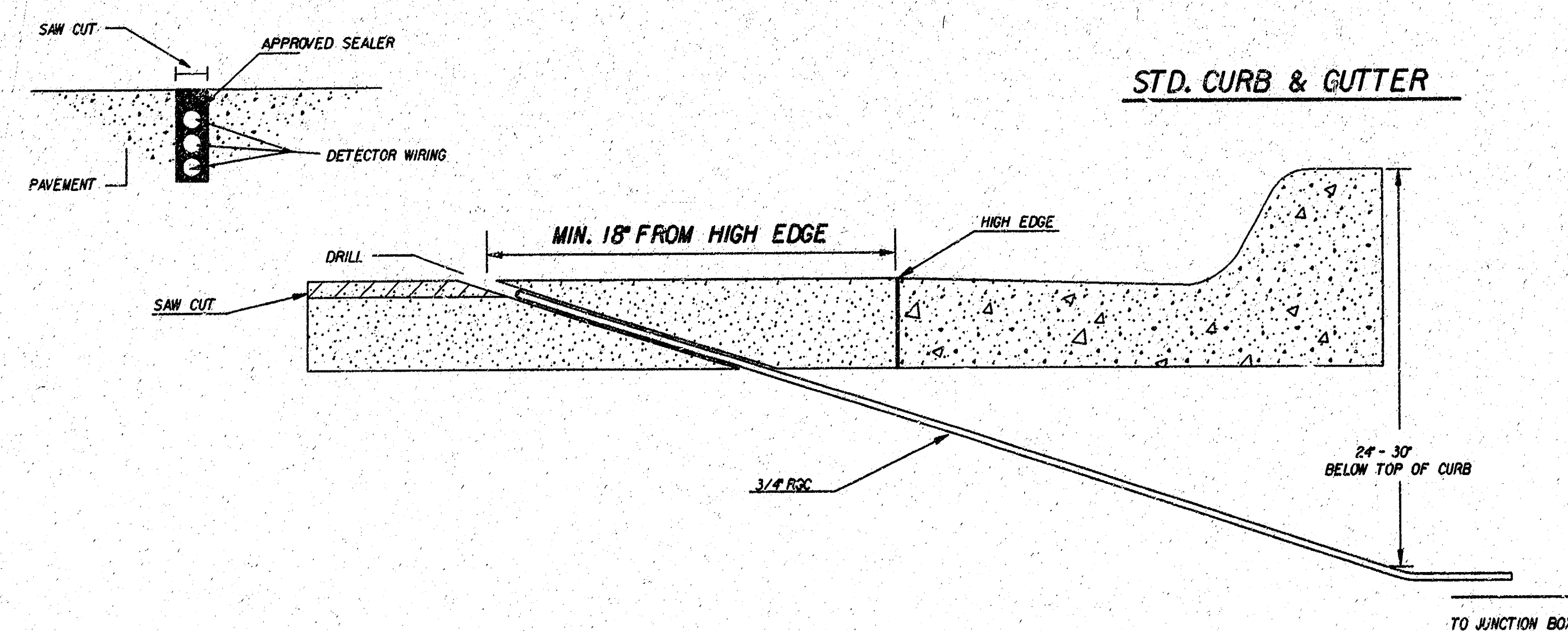
Revisions		By	Date
CITY OF WICHITA, KANSAS			
TRAFFIC SIGNAL QUANTITIES MAPLE STREET & ANNA			
Professional Engineering Consultants, P.A. 303 S. TOPEKA - WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-5035			
Designed by	Checked by		
Drawn by	Date	Job No. 99064	

Prepared by: swh 7-20-99
 11999/99064/sgp/gh

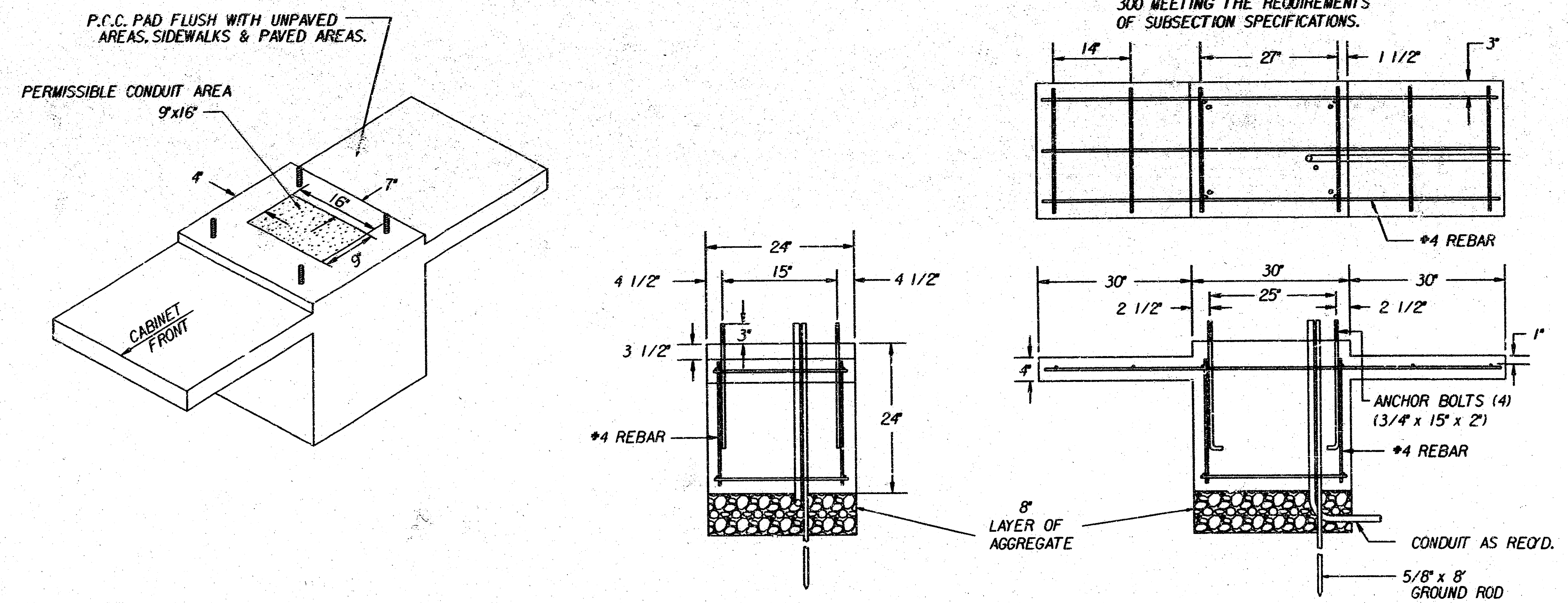
SERVICE BOX CONSTRUCTION/INSTALLATION DETAILS



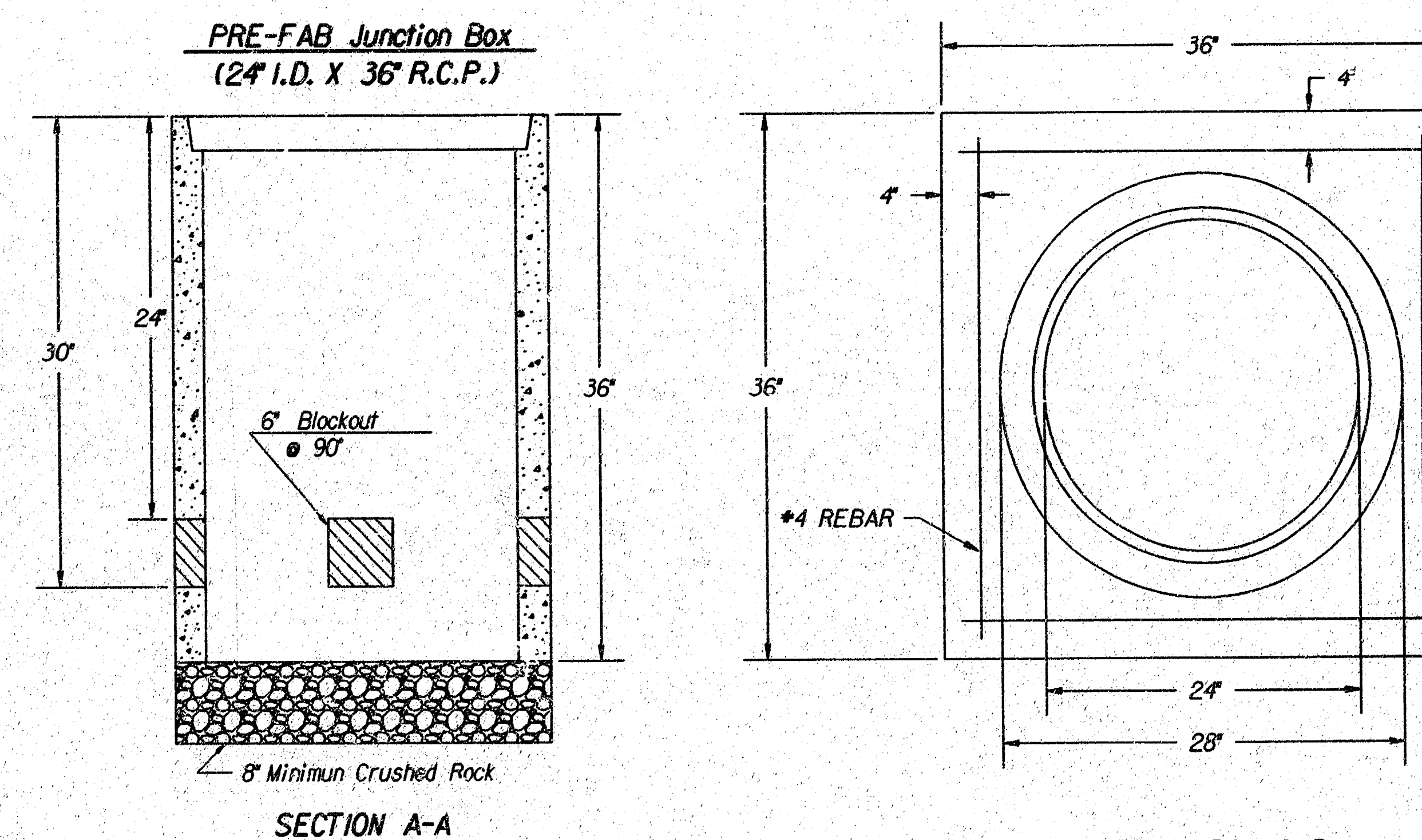
CONDUIT/DETECTOR WIRE INSTALLATION DETAILS



170 CONTROLLER PAD DETAILS



JUNCTION BOX DETAILS



NOTES:

SERVICE & JUNCTION BOX:

1. CONDUIT CONNECTION TO BE FLUSH TO WITHIN 125 mm OF INSIDE FACE OF SIDE WALL, CONDUIT TO DRAIN INTO SERVICE BOX.
2. CONDUIT CONNECTIONS TO SERVICE BOX SHALL BE TERMINATED WITH PLASTIC CABLE BUSHING.
3. CONDUIT SHALL BE SEALED WITH APPROVED SEALER AT INSIDE WALL FACE.

ALL SERVICE & JUNCTION BOXES TO HAVE 200 mm OF CRUSHED ROCK.

TRENCHING:

1. DEPTH TO BE 30" MINIMUM WITH ROCK & STUBBLE FREE BACKFILL TO SERVE AS BEDDING MATERIAL. MAINTAIN MINIMUM CONDUIT DEPTH IN TRENCH.
2. BACKFILL TO BE COMPACTED IN 6" LOOSE LIFTS BY HAND OR MECHANICAL TAMPING TO A 95% STANDARD DENSITY.

CONDUIT:

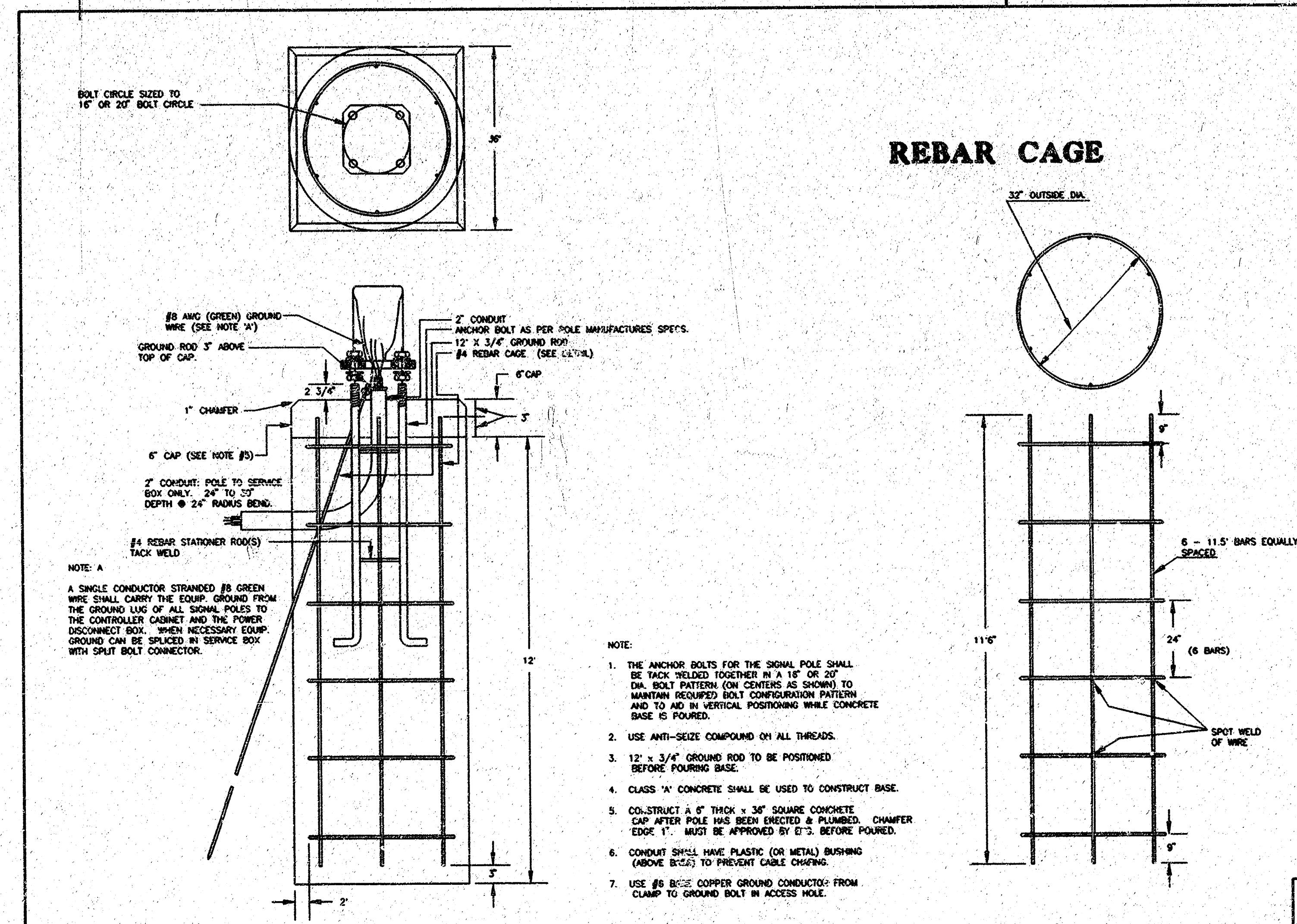
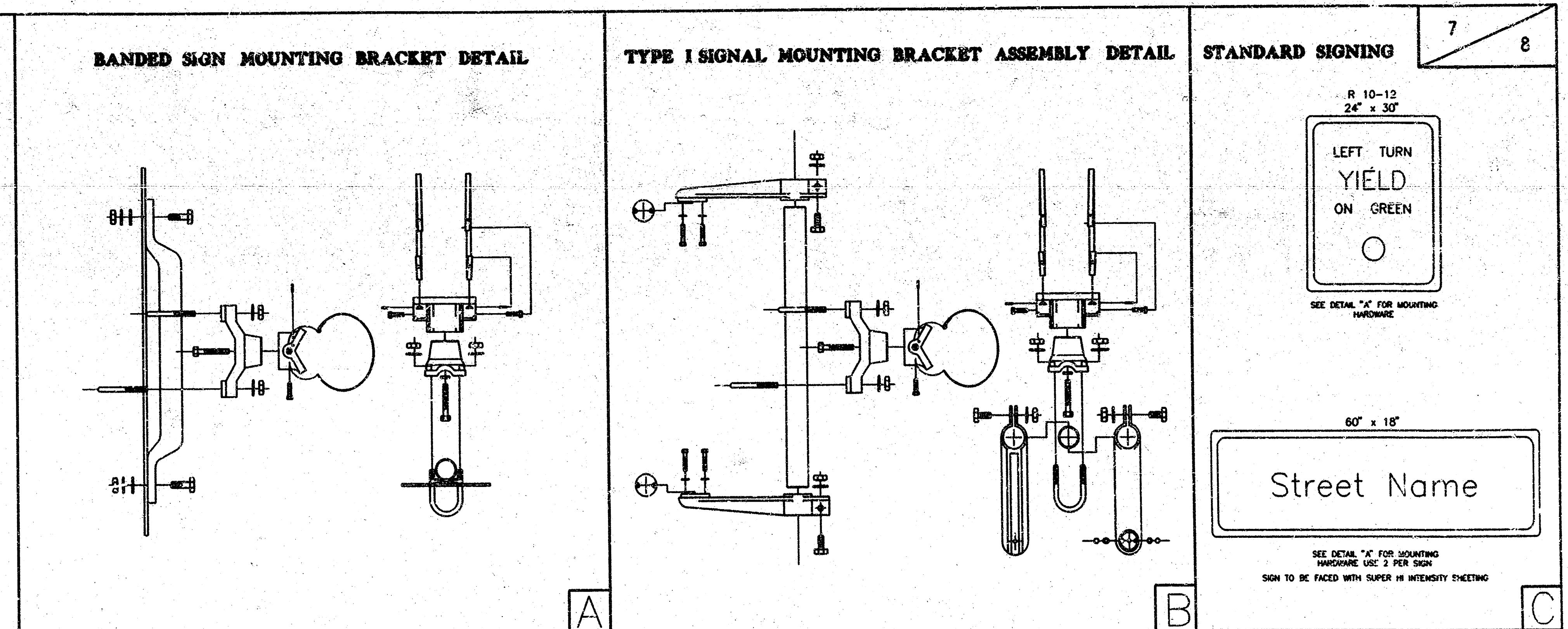
1. SLOPE CONDUIT TO DRAIN AS DIRECTED BY THE ENGINEER.
2. 3" RIGID STEEL CONDUIT BTWN. SERVICE BOXES.
1 1/4" BTWN. SERVICE & JUNCTION BOXES.
3/4" BTWN. JUNCTION BOXES.
3/4" BTWN. JUNCTION BOX & DETECTOR LOOP SAW CUT

SEE SERVICE BOX INSTALLATION FOR RING & COVER DETAILS.

REV.	DATE	COMMENTS	INT

PROJECT DESCRIPTION	
SERVICE/JUNCTION BOX, CONTROLLER PAD CONSTRUCTION/INSTALLATION DETAILS	
PROJECT NUMBER	
472-76-245-83130-000-001	
DRAWN BY: T.M.	APPROVED BY:
DATE: Apr. 95	DATE:
CITY OF WICHITA	
DEPARTMENT OF PUBLIC WORKS	
TRAFFIC ENGINEERING DIVISION	
WILL G. WAINLEY P.E. TRAFFIC ENGINEER	
SCALE	
NO SCALE D-6	

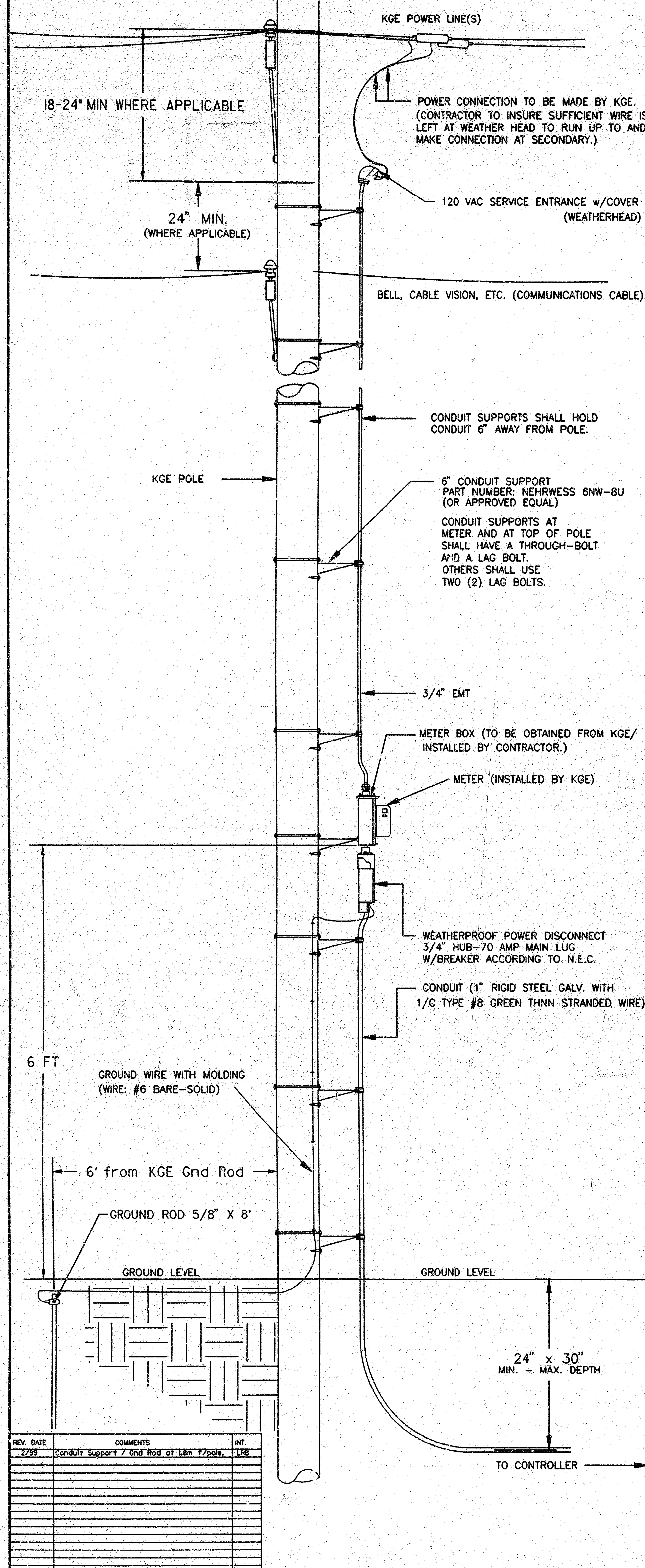
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date plotted: 7-20-99
delivered to: svb



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date plotted. jgp 5-20-99
deliver to:

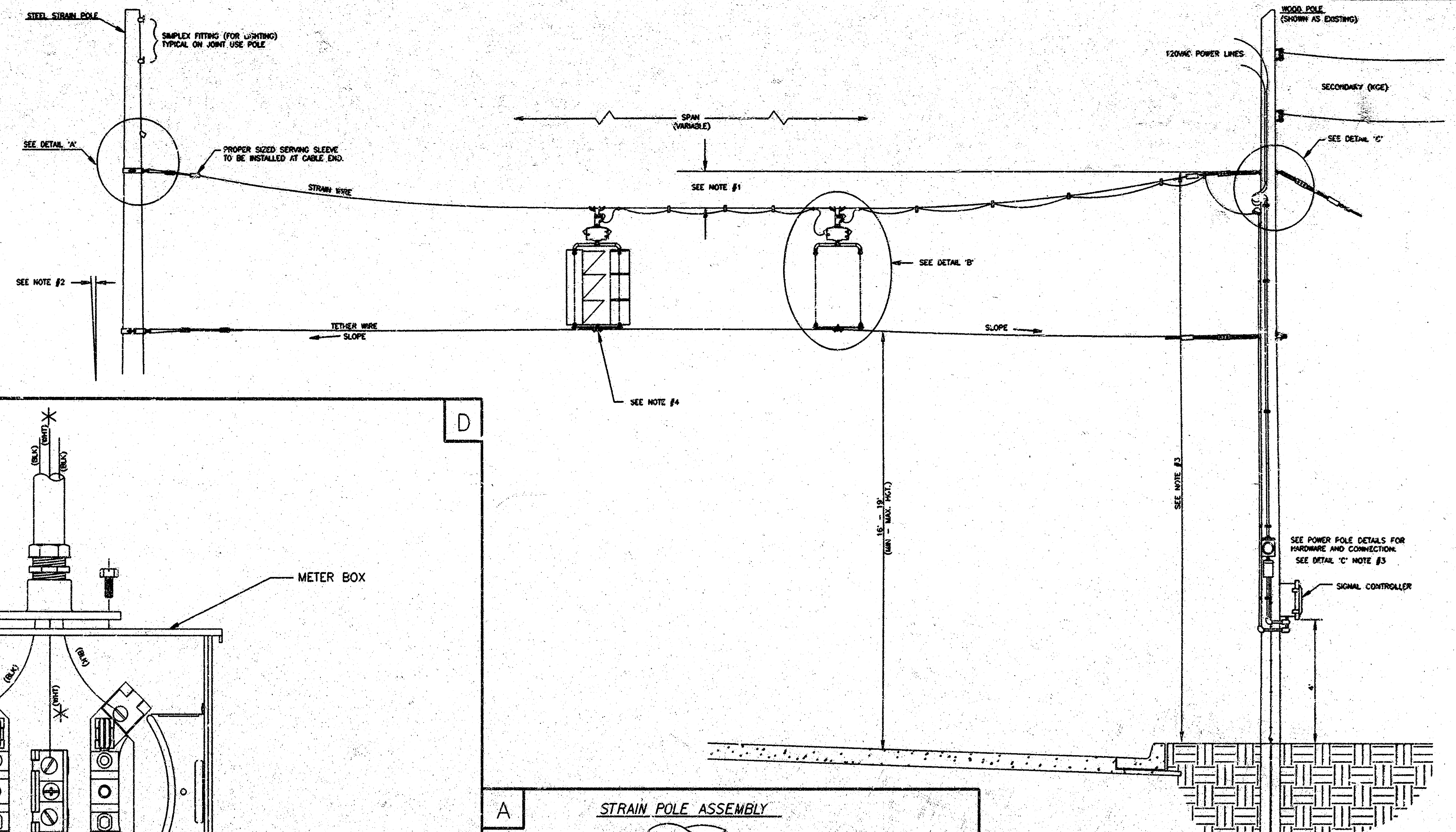
81-0-00-18

POWER POLE DETAILS



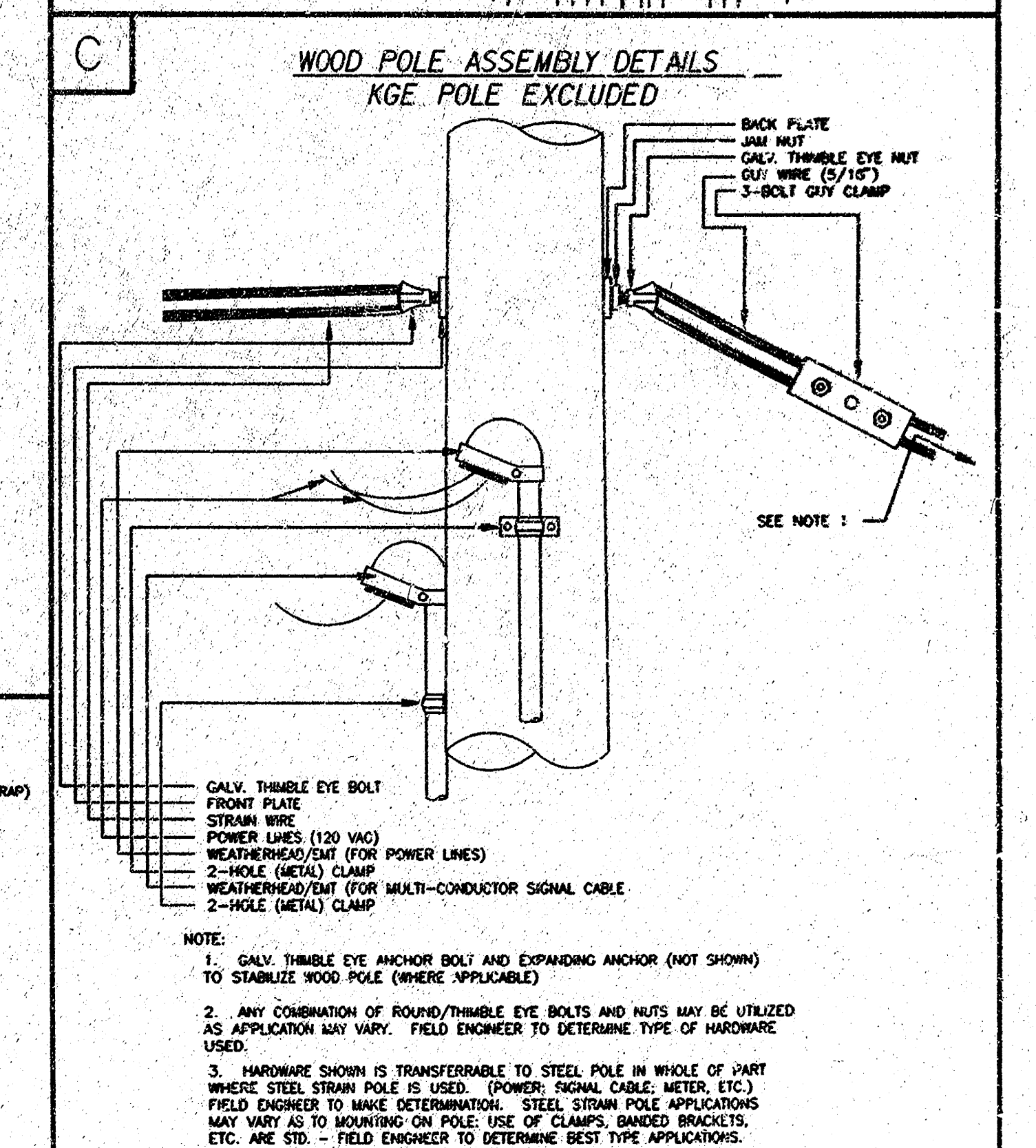
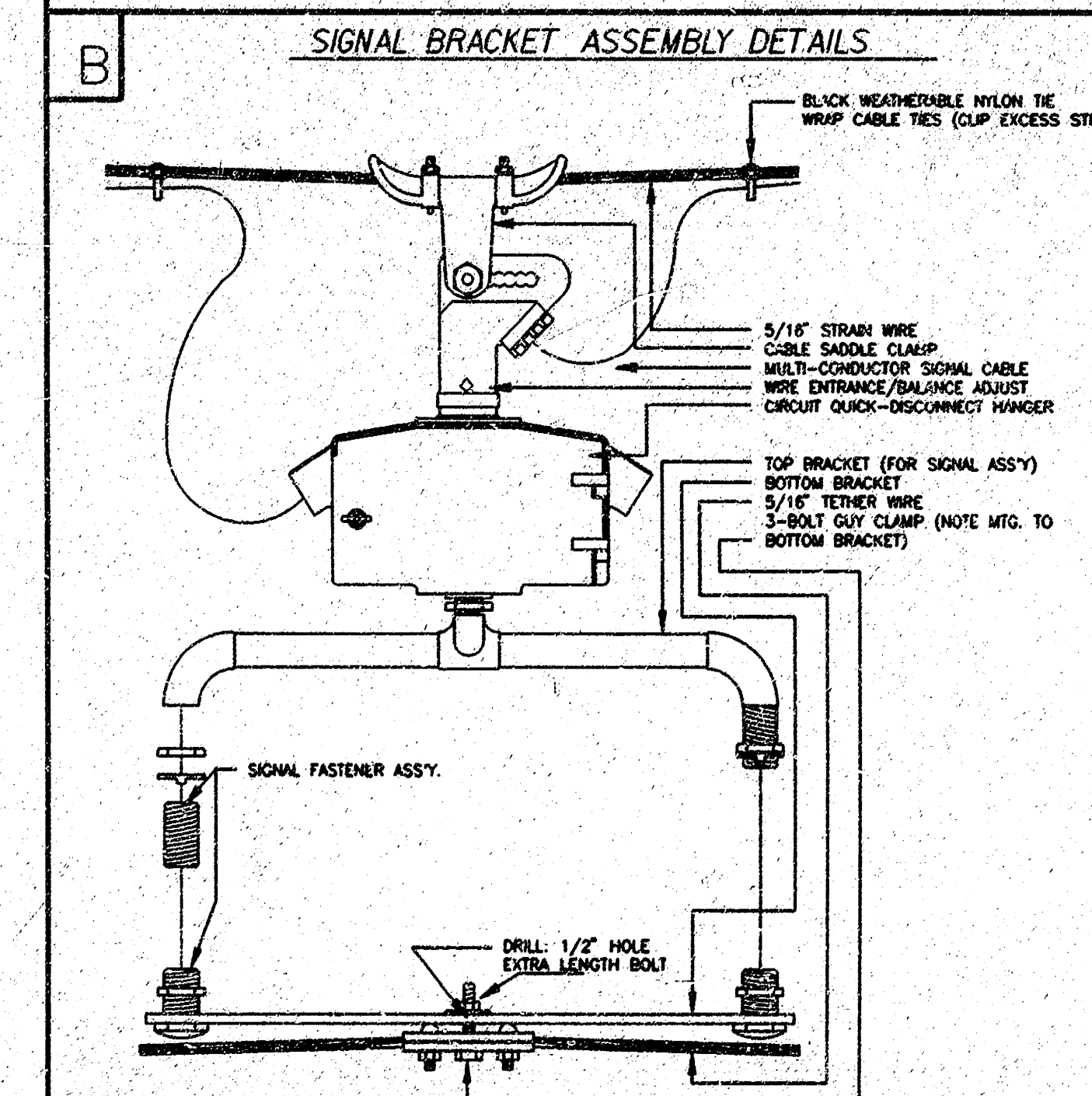
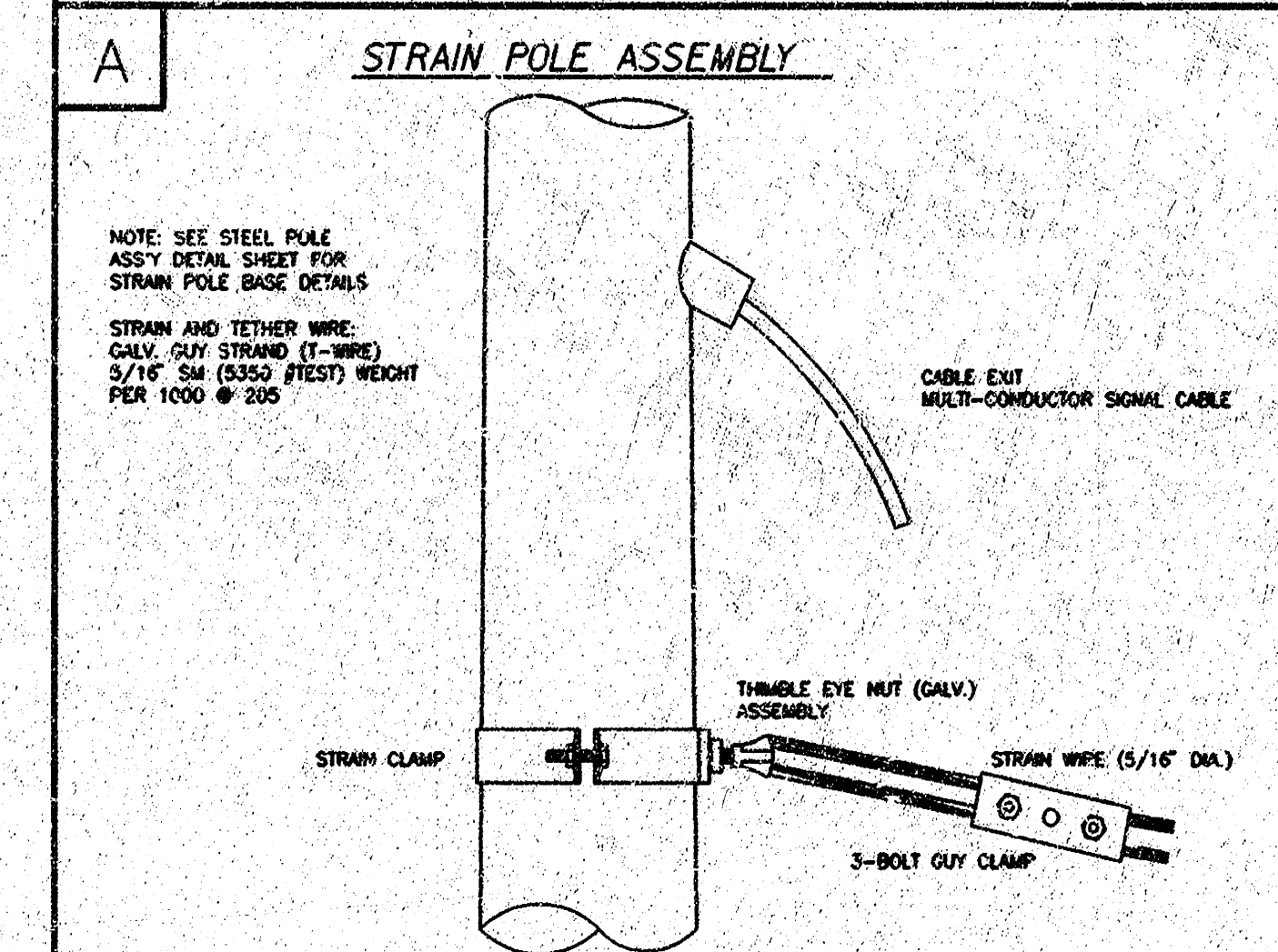
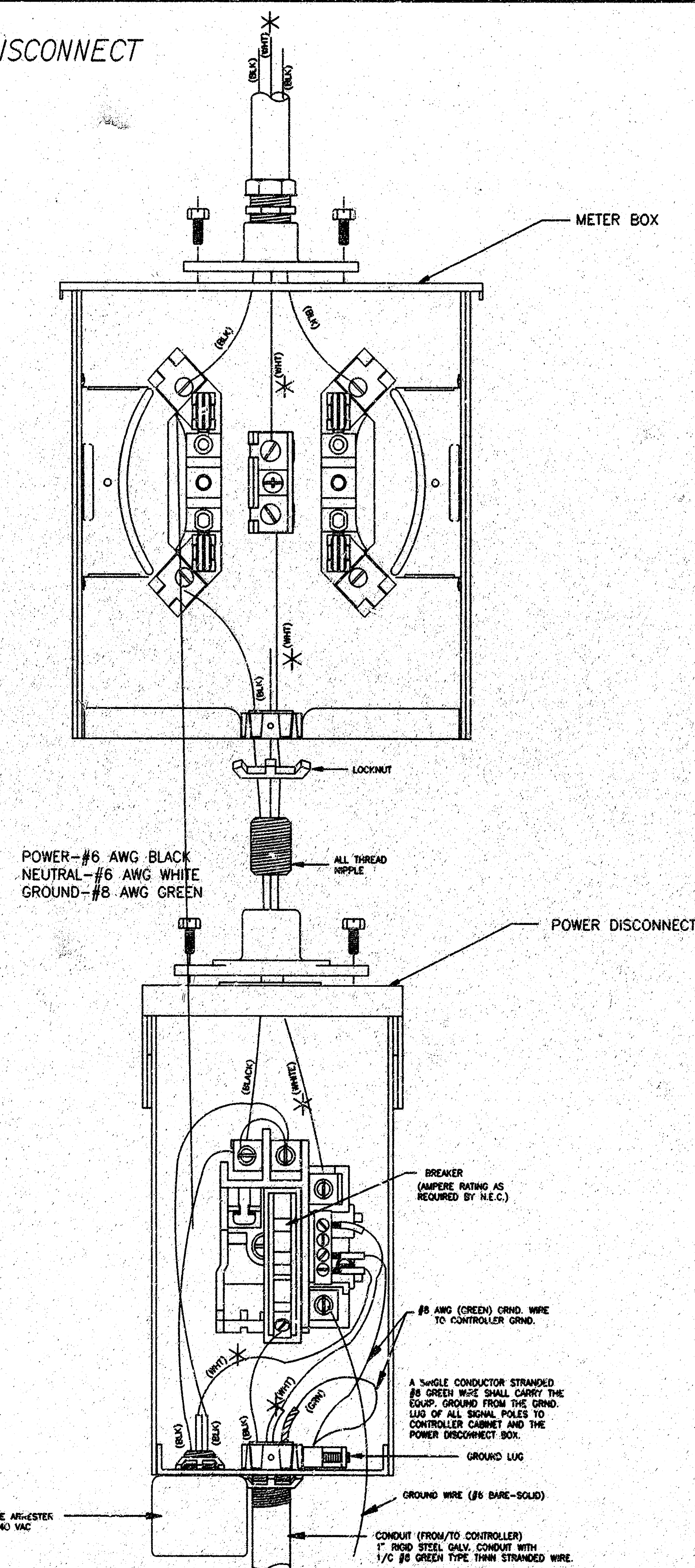
SPANWIRE ASSEMBLY DETAILS

1. MAX. SAG = 5% OF SPAN.
2. STANDARD BACKRAKE = 1.5*
3. HEIGHT OF STRAIN WIRE HOOK-UP TO BE DETERMINED BY FIELD ENGINEER. TRAFFIC SIGNAL CABLE TO BE SECURED TO STRAIN (SPAN) WIRE WEATHERABLE NYLON CABLE HANGERS (12" CTR.) DETAIL 'B'
4. TETHER CLAMP TO BE DESIGNED TO RELEASE UNDER 'HIGH WIND LOAD' TO PERMIT SIGNAL 'FREE SWING'.



METER BOX & POWER DISCONNECT DETAILS

NOTE:
*TO BE MARKED WITH WHITE TAPE



PROJECT DESCRIPTION			
POWER POLE AND SPAN POLE ASSEMBLY DETAILS			
PROJECT NUMBER			
472-76-245-83130-000-001			
DRAWN BY: T.M.	APPROVED BY		REVISED BY: L. B.
DATE: FEB. 96			DATE: 2/26/99
CITY OF WICHITA DEPARTMENT OF PUBLIC WORKS			
DIVISION OF TRAFFIC ENGINEERING			
RANDALL W. HOSKINS, P.E. TRAFFIC ENGINEER			SCALE
			NO SCALE D-7

i: 1999/99064/powp-sp.pgn
acte plotted: 7-20-99
delivered to: svb