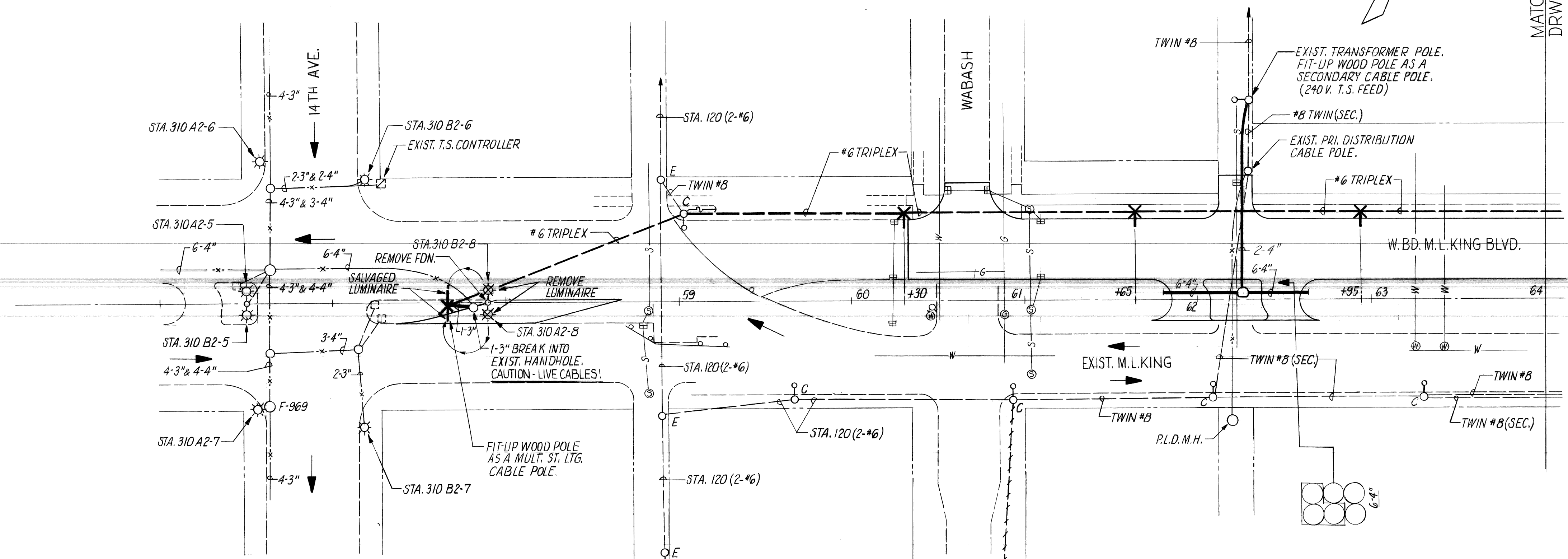


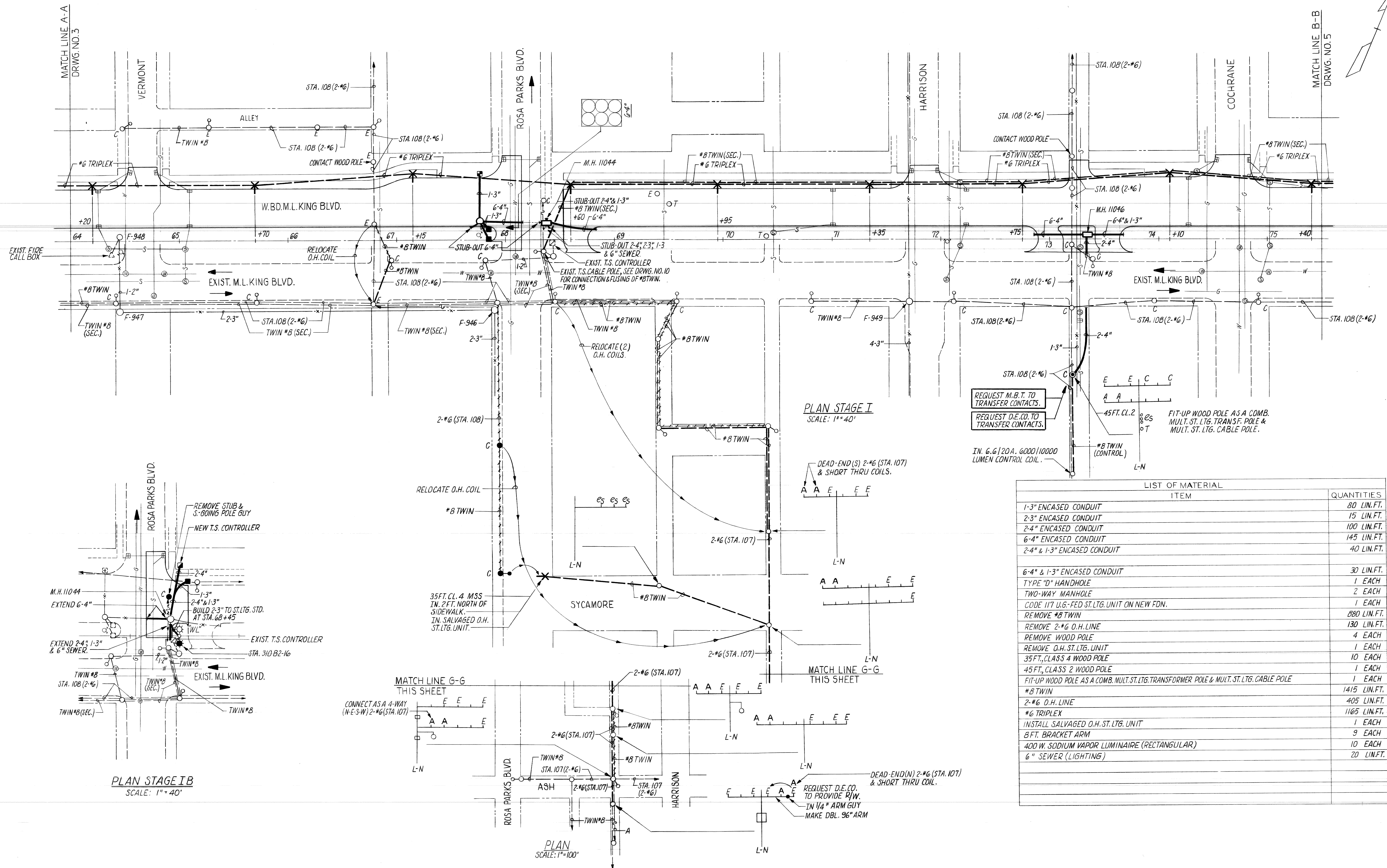
MATCH LINE A-A  
DRWG. NO. 4



PLAN STAGE I  
SCALE: 1" = 40'

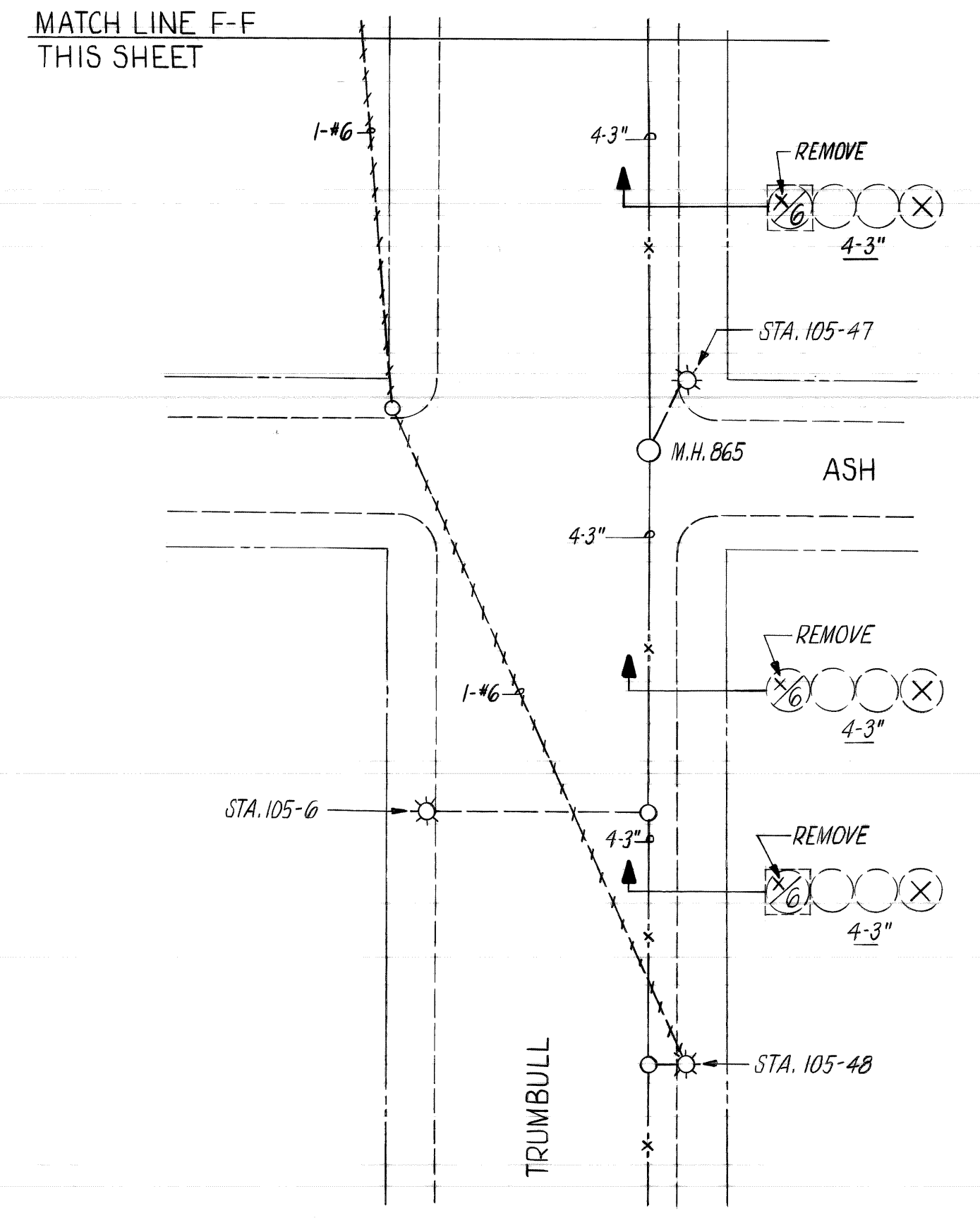
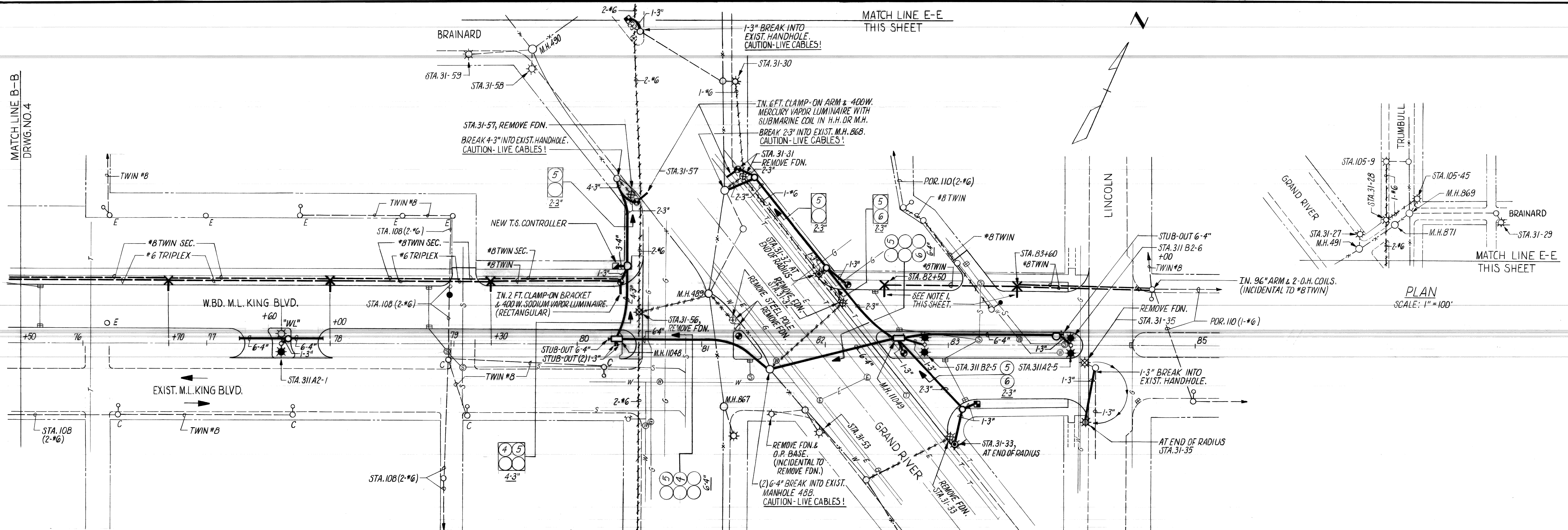
ITEM	QUANTITIES
1-3" ENCASED CONDUIT	15 LIN. FT.
2-4" ENCASED CONDUIT	110 LIN. FT.
6-4" ENCASED CONDUIT	85 LIN. FT.
TYPE "D" HANDHOLE	1 EACH
REMOVE U.G. FED ST. LTG. UNIT	1 EACH
REMOVE FOUNDATION	1 EACH
REMOVE LUMINAIRE	2 EACH
REMOVE #8 TWIN	115 LIN. FT.
REMOVE 2-#6 O.H. LINE	130 LIN. FT.
REMOVE WOOD POLE	2 EACH
REMOVE O.H. ST. LTG. UNIT	1 EACH
35 FT., CLASS 4 WOOD POLE	5 EACH
FIT-UP WOOD POLE AS A MULT. ST. LTG. CABLE POLE	1 EACH
#8 TWIN	160 LIN. FT.
#6 TRIPLEX	650 LIN. FT.
INSTALL SALVAGED O.H. ST. LTG. UNIT	1 EACH
B.F.T. BRACKET ARM	5 EACH
400 W. SODIUM VAPOR LUMINAIRE (RECTANGULAR)	3 EACH
INSTALL SALVAGED 400 W. SODIUM VAPOR LUMINAIRE (RECTANGULAR)	2 EACH
REMOVE 2-1/2" #2 ST. LTG. CABLES & 1-#2 NEUTRAL	10 LIN. FT.
2KV, 2-1/2" #2 ST. LTG. CABLES & 1-#2 NEUTRAL	40 LIN. FT.
FIT-UP WOOD POLE AS A SECONDARY CABLE POLE	1 EACH

NOTES:  
1. ALL NEW WOOD POLES TO BE 35 FT. CLASS 4.  
(EXCEPT WHERE OTHERWISE NOTED.)



LIST OF MATERIAL	
ITEM	QUANTITIES
1-3" ENCASED CONDUIT	80 LIN. FT.
2-3" ENCASED CONDUIT	15 LIN. FT.
2-4" ENCASED CONDUIT	100 LIN. FT.
6-4" ENCASED CONDUIT	145 LIN. FT.
2-4" & 1-3" ENCASED CONDUIT	40 LIN. FT.
6-4" & 1-3" ENCASED CONDUIT	30 LIN. FT.
TYPE "D" HANDHOLE	1 EACH
TWO-WAY MANHOLE	2 EACH
CODE 117 U.G.-FED ST.LTG. UNIT ON NEW FDN.	1 EACH
REMOVE #8 TWIN	280 LIN. FT.
REMOVE 2-#6 O.H. LINE	130 LIN. FT.
REMOVE WOOD POLE	4 EACH
REMOVE O.H. ST.LTG. UNIT	1 EACH
35 FT., CLASS 4 WOOD POLE	10 EACH
45 FT., CLASS 2 WOOD POLE	1 EACH
FIT-UP WOOD POLE AS A COMB. MULT. ST.LTG. TRANSFORMER POLE & MULT. ST.LTG. CABLE POLE	1 EACH
#8 TWIN	1415 LIN. FT.
2-#6 O.H. LINE	405 LIN. FT.
#6 TRIPLEX	1165 LIN. FT.
INSTALL SALVAGED O.H. ST.LTG. UNIT	1 EACH
8 FT. BRACKET ARM	9 EACH
400 W. SODIUM VAPOR LUMINAIRE (RECTANGULAR)	10 EACH
6" SEWER (LIGHTING)	20 LIN. FT.





ITEM	QUANTITIES
1-3" ENCASED CONDUIT	175 LIN. FT.
2-3" ENCASED CONDUIT	360 LIN. FT.
4-3" ENCASED CONDUIT	65 LIN. FT.
3-4" ENCASED CONDUIT	10 LIN. FT.
6-4" ENCASED CONDUIT	435 LIN. FT.
TYPE "D" HANDHOLE	2 EACH
TWO-WAY MANHOLE	2 EACH
REMOVE U.G.-FED ST. LTG. UNIT	6 EACH
REMOVE FOUNDATION	9 EACH
30 FT. STEEL STRAIN POLE ON NEW FDN.	6 EACH
CODE 117 U.G.-FED ST. LTG. UNIT ON NEW FDN.	3 EACH
400 W. SODIUM VAPOR LUMINAIRE (RECTANGULAR)	9 EACH
6 FT. CLAMP-ON BRACKET ARM (3°-0" RISE)	4 EACH
CODE 009-00 ST. LTG. STD. WITH TRANSFORMER BASE ON NEW FDN.	2 EACH
SALVAGED U.G.-FED ST. LTG. UNIT ON NEW FDN.	1 EACH
400 W. MERCURY VAPOR LUMINAIRE WITH SERIES COIL	6 EACH
ROUND HANDHOLE	4 EACH
REMOVE STEEL POLE	1 EACH
REMOVE 1-1/2" #8 L.C. ST. LTG. CABLE	255 LIN. FT.
REMOVE 2-1/2" #8 L.C. ST. LTG. CABLES	1285 LIN. FT.
600V, 1-7/8" #14 P.J. CABLE FOR CHRONOPLAN	410 LIN. FT.
7500V, 1-1/2" #8 L.C. ST. LTG. CABLE	255 LIN. FT.
7500V, 2-1/2" #8 L.C. ST. LTG. CABLES	1610 LIN. FT.
REMOVE WOOD POLE	1 EACH
35 FT., CLASS 4 WOOD POLE	5 EACH
8 FT. BRACKET ARM	5 EACH
REMOVE O.H. ST. LTG. UNIT	1 EACH
REMOVE 1-1/2" O.H. LINE	1010 LIN. FT.
REMOVE 2-1/2" O.H. LINE	540 LIN. FT.
#8 TWIN	1090 LIN. FT.
#6 TRIPLEX	385 LIN. FT.
2 FT CLAMP-ON BRACKET	1 EACH
2 KV., 2-1/2" #6 SECONDARY CABLES	80 LIN. FT.

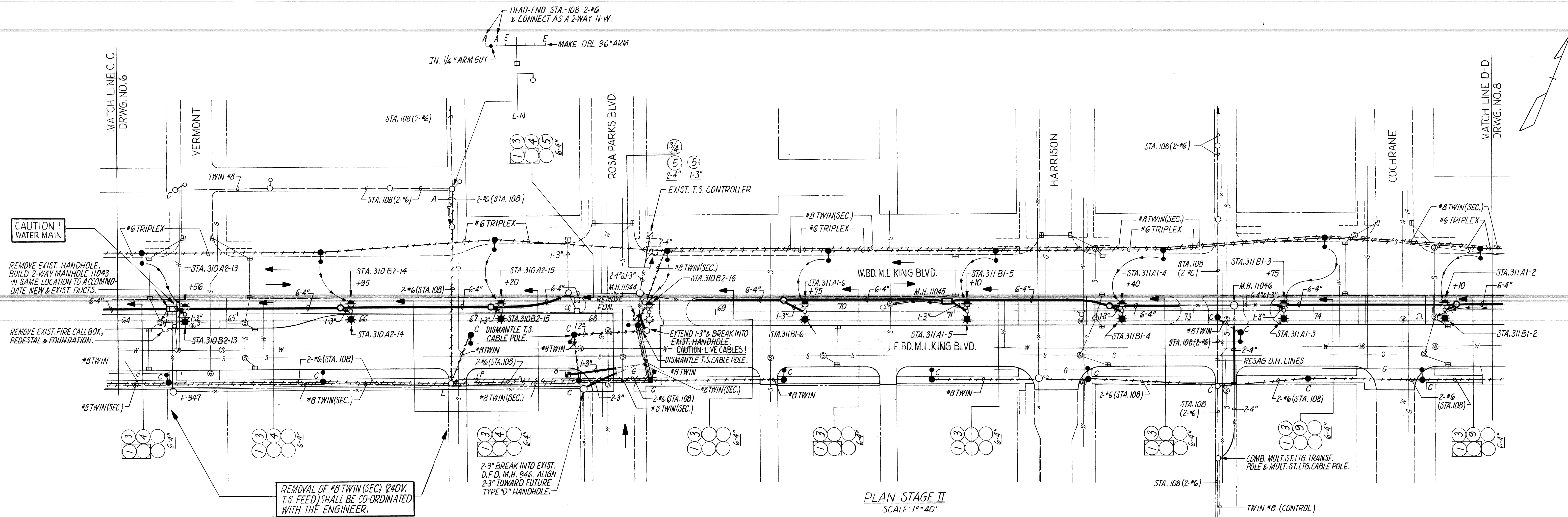
NOTES:  
1. INSTALL 8 FT. BRACKET ARM & 400 W. TYPE III MERCURY VAPOR LUMINAIRE WITH SERIES COIL.

DATE	DESCRIPTION	CHKD. BY	<b>M.L. KING JR. BLVD. RECONSTRUCTION WABASH AVE. TO LINCOLN AVE. GENERAL PLAN</b>	SHEET _____ OF _____ SHEETS	<b>CITY OF DETROIT</b>  <b>CITY ENGINEERING DEPARTMENT</b>	DRAWN <b>CEA</b>	PLAN PREPARED BY <b>CONSULTING ENGINEERING ASSOCIATES INC.</b> ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	CHECKED BY	<b>PUBLIC LIGHTING DEPARTMENT</b>  CITY OF DETROIT	FILE NO. <b>51-0585</b>
				JOB NO.		APPROVED		APPROVED BY		SHEET NO. <b>35 OF 71</b>
				ASSIGNMENT NO.		DATE		DATE		DATE
				NO.				DRWG. NO. <b>5 OF 41</b>		FILE NO. <b>CEA 1098</b>
				DATE						DATE <b>AUG 1984</b>

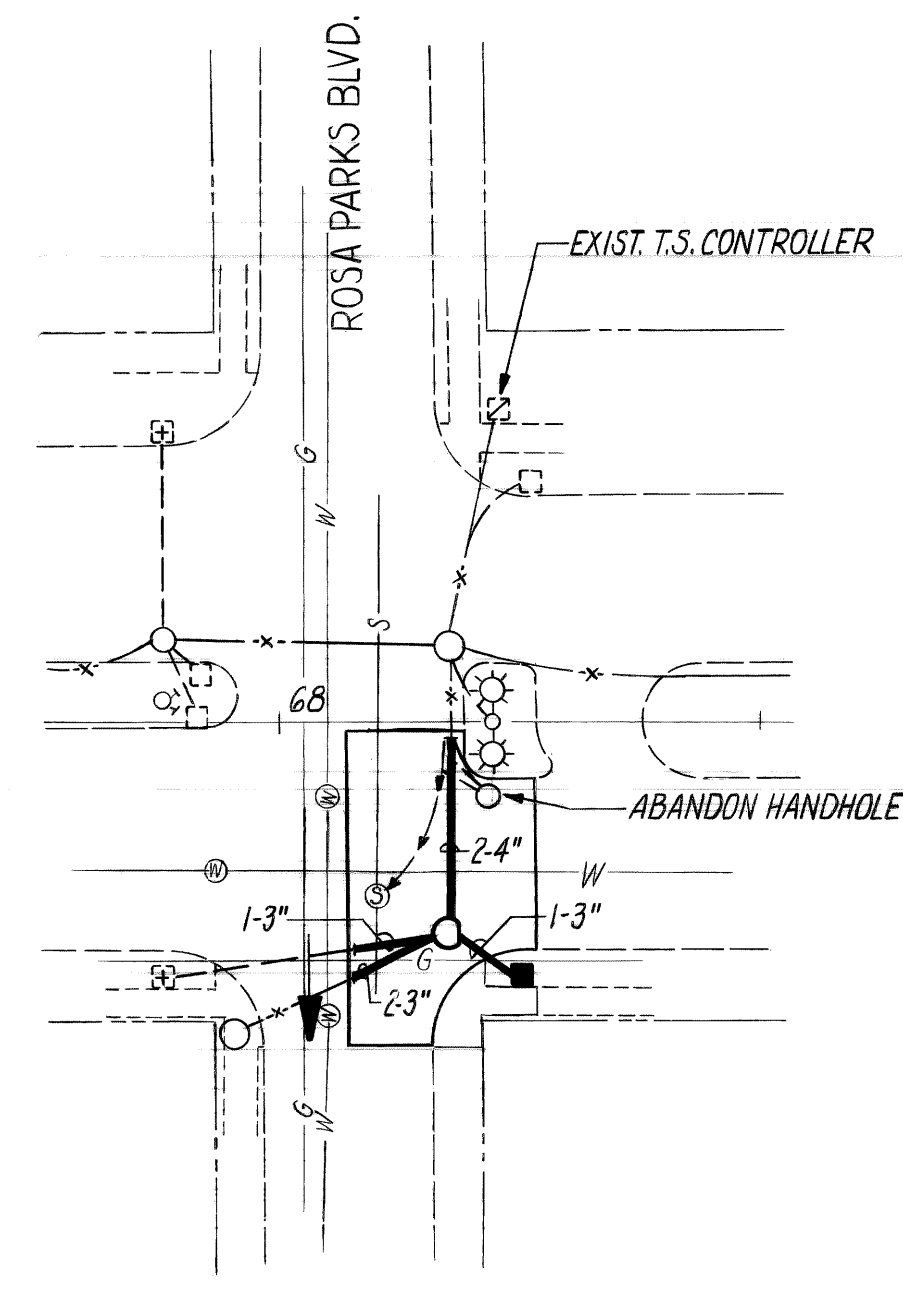








PLAN STAGE II  
SCALE: 1"=40'

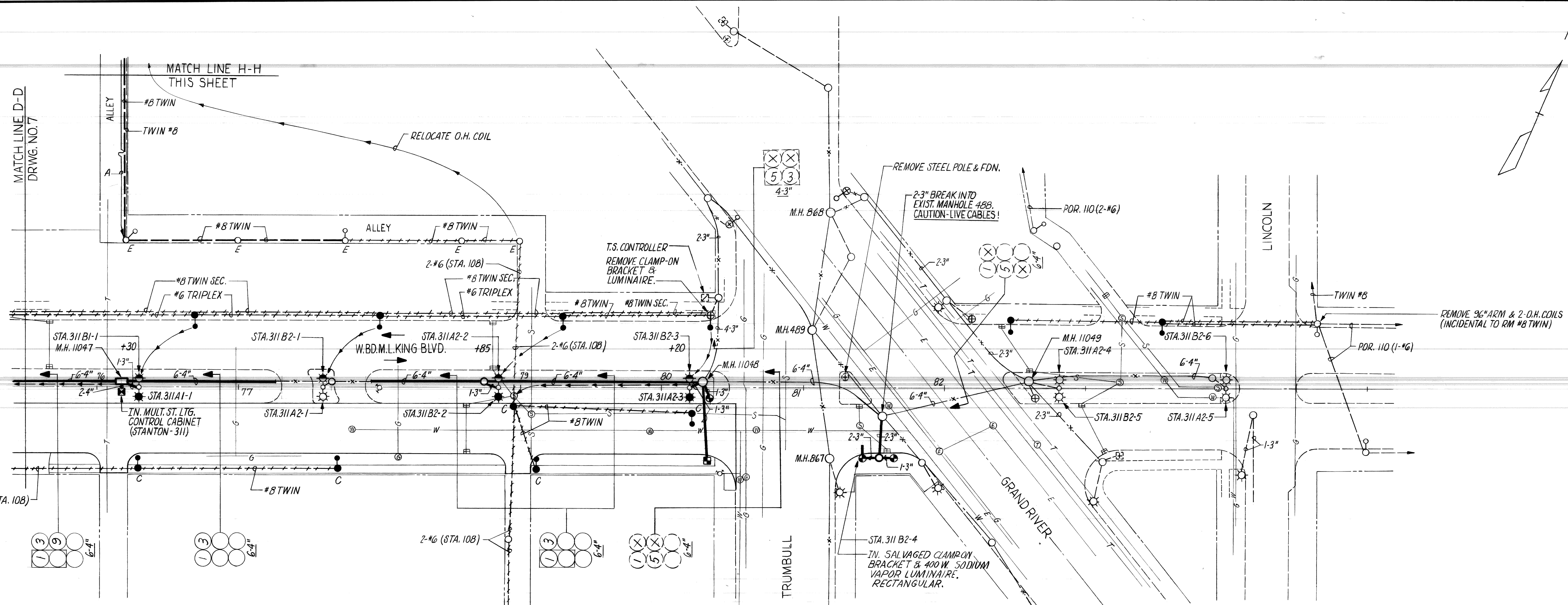


PLAN STAGE II B & FINAL STAGE  
SCALE: 1"=40'

ITEM	QUANTITIES
1-3" ENCASED CONDUIT	140 LIN.FT.
2-3" ENCASED CONDUIT	50 LIN.FT.
2-4" ENCASED CONDUIT	85 LIN.FT.
6-4" ENCASED CONDUIT	945 LIN.FT.
ROUND HANDHOLE	5 EACH
TYPE "D" HANDHOLE	1 EACH
TWO-WAY MANHOLE	2 EACH
CODE 117 U.G.-FED ST.LTG. UNIT ON NEW FDN.	8 EACH
400W. SODIUM VAPOR LUMINAIRE (RECTANGULAR)	8 EACH
INSTALL SALVAGED 400W. S.V. LUMINAIRE (RECTANGULAR)	9 EACH
REMOVE FOUNDATION	2 EACH
REMOVE CALL BOX & PEDESTAL	1 EACH
REMOVE HANDHOLE	1 EACH
REMOVE #8 TWIN	1670 LIN.FT.
REMOVE 2-#6 O.H. LINE	960 LIN.FT.
REMOVE #6 TRIPLEX	1160 LIN.FT.
REMOVE WOOD POLE	23 EACH
DISMANTLE T.S. CABLE POLE	2 EACH
ABANDON HANDHOLE	1 EACH
REMOVE O.H. ST. LTG. UNIT	20 EACH
2KV, 2-1/2" #2 ST. LTG. CABLES & 1-#2 NEUTRAL	1165 LIN.FT.
2KV, 4-1/2" #2 ST. LTG. CABLES & 1-#2 NEUTRAL	160 LIN.FT.
2KV, 2-1/2" #2 ST. LTG. CABLES & 1-#2 NEUTRAL	370 LIN.FT.
2KV, 2-1/2" #6 SECONDARY CABLES	770 LIN.FT.
CHRONOPLAN CABLE, 16 GA., PLASTIC JACKETED, @ PR., SHIELDED	490 LIN.FT.
2KV, 2-1/2" #2 SECONDARY CABLES	535 LIN.FT.
6" SEWER LIGHTING	130 LIN.FT.
6" SEWER TAP	3 EACH

DATE	DESCRIPTION	CHKD. BY	SHEET _____ OF _____ SHEETS	CITY OF DETROIT	DRAWN	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	CHECKED BY	PUBLIC LIGHTING DEPARTMENT	FILE NO.
					CITY ENGINEERING DEPARTMENT				51-0585
									37 OF 71
									DATE
					AUG 1984	7 OF 41	CEA 1098	CITY OF DETROIT	AUG 1984





PLAN STAGE II  
SCALE: 1"=40'

ITEM	QUANTITIES
1-3" ENCASED CONDUIT	105 LIN.FT.
2-3" ENCASED CONDUIT	35 LIN.FT.
2-4" ENCASED CONDUIT	10 LIN.FT.
6-4" ENCASED CONDUIT	405 LIN.FT.
ROUND HANDHOLE	2 EACH
TWO-WAY MANHOLE	1 EACH
CODE 117 U.G.-FED ST. LTG. UNIT ON NEW FDN.	3 EACH
30 FT. STEEL STRAIN POLE ON NEW FDN.	3 EACH
400 W. SODIUM VAPOR LUMINAIRE (RECTANGULAR)	4 EACH
INSTALL SALVAGED CLAMP-ON BRACKET	1 EACH
REMOVE CLAMP-ON BRACKET	1 EACH
INSTALL SALVAGED 400W. S.V. LUMINAIRE (RECTANGULAR)	4 EACH
MULT. ST. LTG. CONTROL CABINET ON NEW FDN.	1 EACH
2 KV., 2-1/2" #2 ST. LTG. CABLES & 1-#2 NEUTRAL	880 LIN.FT.
2 KV., 4-1/2" #2 ST. LTG. CABLES & 1-#2 NEUTRAL	65 LIN.FT.
2 KV., 2-1/2" #2 ST. LTG. CABLES & 1-#2 NEUTRAL	85 LIN.FT.
2 KV. 2-1/2" #6 SECONDARY CABLES	560 LIN.FT.
REMOVE #8 TWIN	1560 LIN.FT.
REMOVE 2-#6 O.H. LINE	470 LIN.FT.
REMOVE #6 TRIPLEX	385 LIN.FT.
REMOVE WOOD POLE	10 EACH
REMOVE O.H. ST. LTG. UNIT	3 EACH
REMOVE LUMINAIRE	1 EACH
REMOVE STEEL POLE	1 EACH
REMOVE FOUNDATION	1 EACH
#8 TWIN	385 LIN.FT.
2-#6 O.H. LINE	195 LIN.FT.
6" SEWER (LIGHTING)	200 LIN.FT.
6" SEWER TAP	1 EACH

DATE	DESCRIPTION	CHKD. BY

M.L. KING JR. BLVD. RECONSTRUCTION  
WABASH AVE. TO LINCOLN AVE.  
GENERAL PLAN

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

CITY OF DETROIT  
CITY ENGINEERING DEPARTMENT

DRAWN CEA
CHECKED
APPROVED
DATE AUG1984

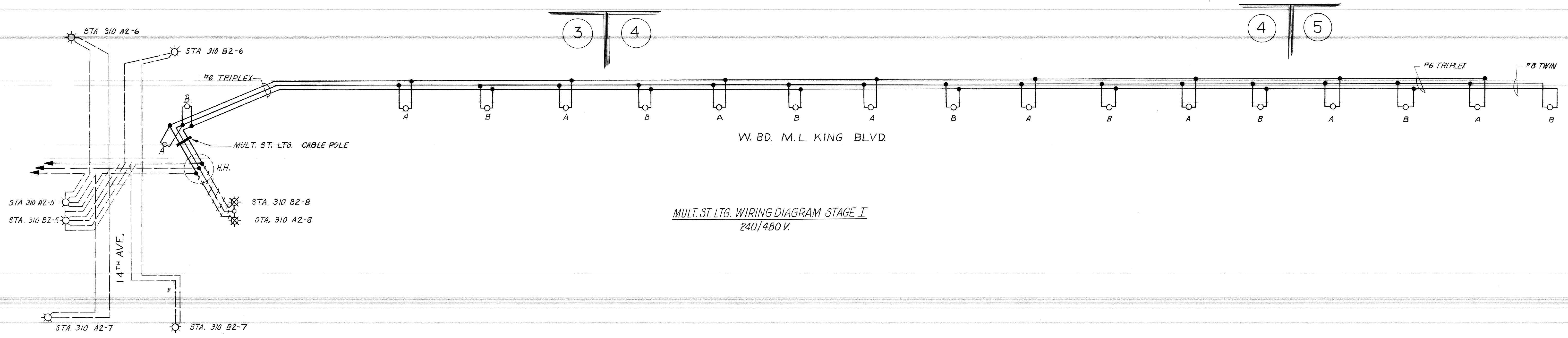
PLAN PREPARED BY  
CONSULTING ENGINEERING ASSOCIATES INC.  
ENGINEERING CONSULTANTS  
16580 WYOMING DETROIT, MICH 48221

CHECKED BY
APPROVED BY

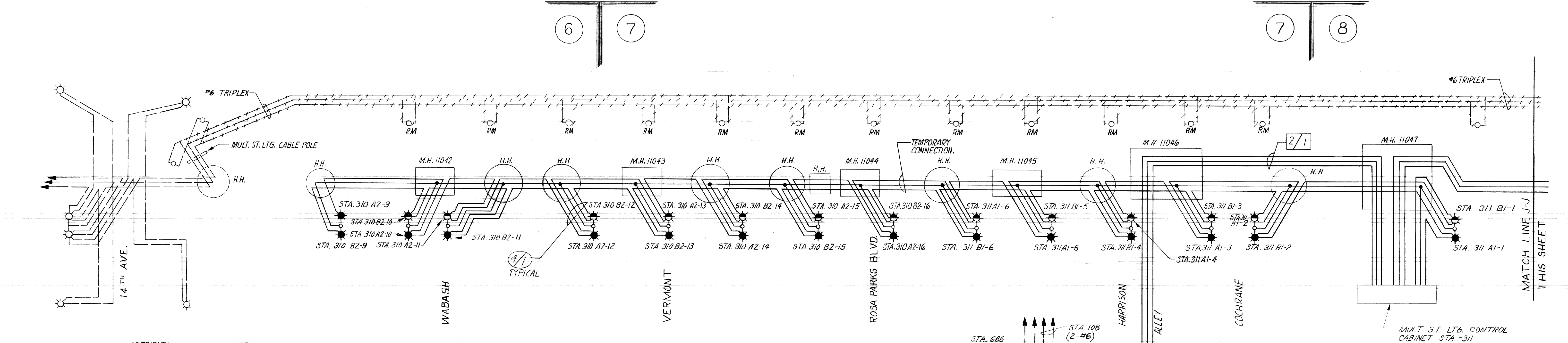
PUBLIC LIGHTING DEPARTMENT  
CITY OF DETROIT

FILE NO. 51-0585
SHEET NO. 38 OF 71
DATE AUG1984

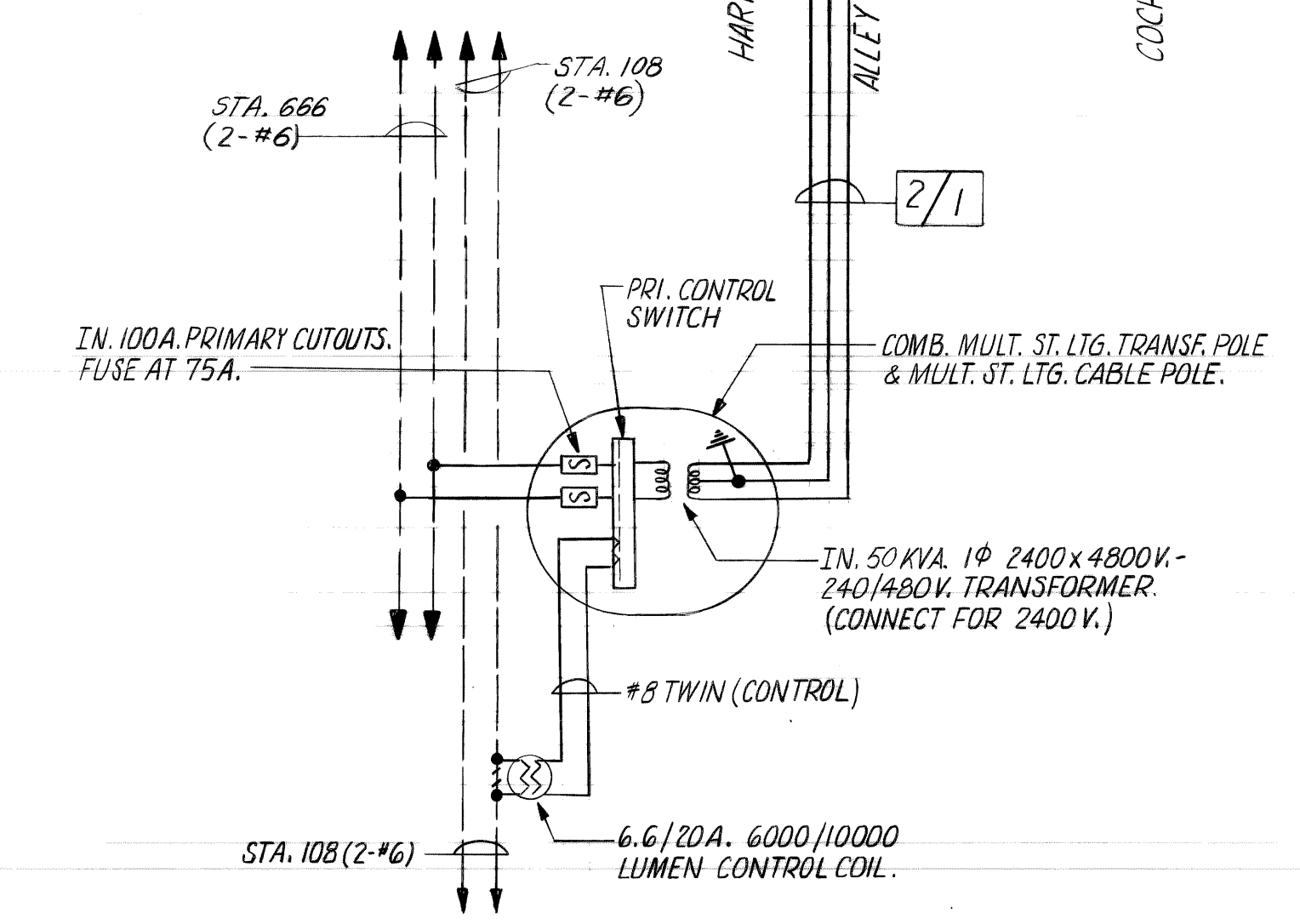
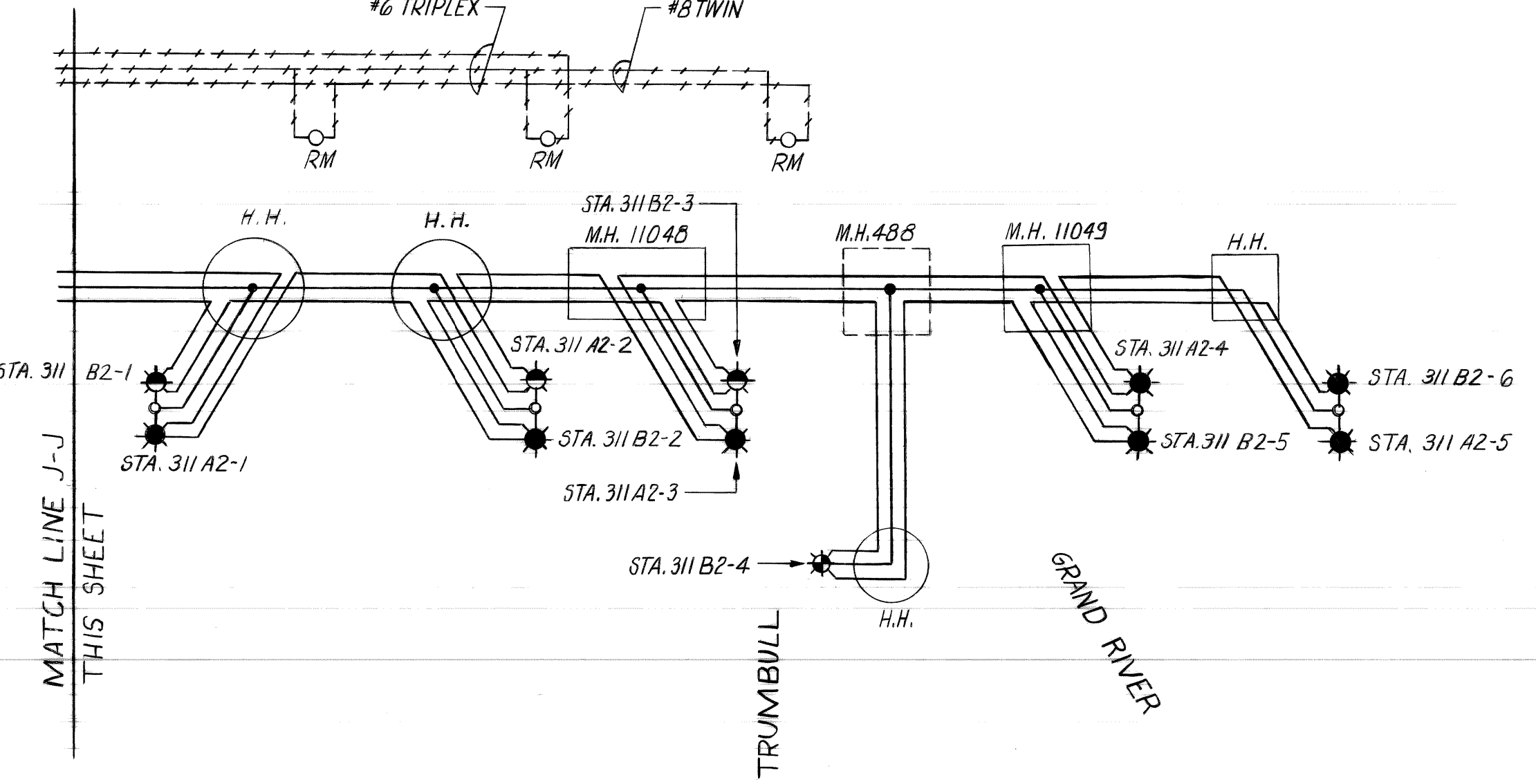




MULT. ST. LTG. WIRING DIAGRAM STAGE I  
240/480 V.

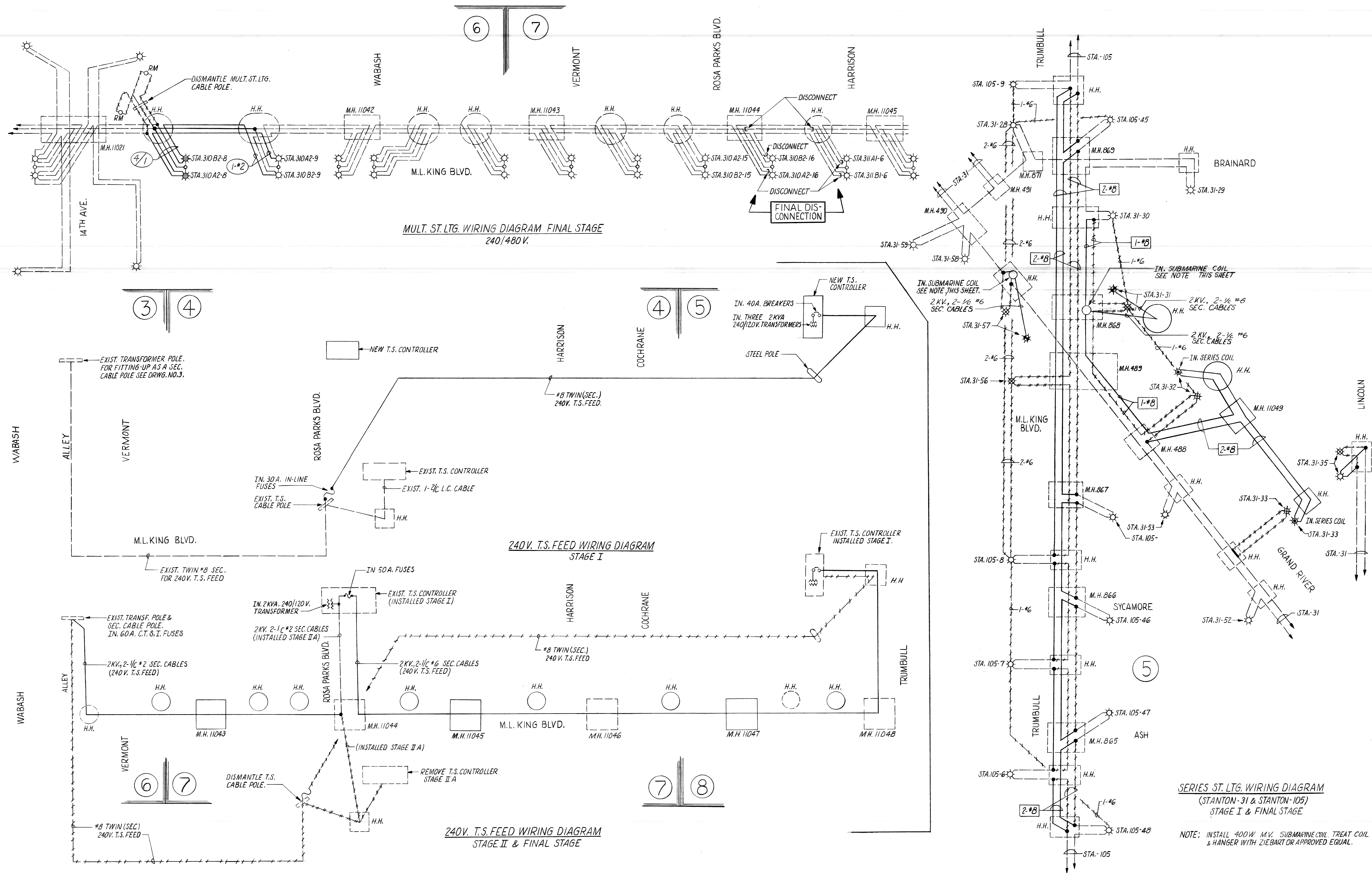


MULT. ST. LTG. WIRING DIAGRAM STAGE II  
240/480 V.



FOR FINAL MULT. ST. LTG. WIRING DIAGRAM SEE DRWG. NO. 10.

DATE	DESCRIPTION	CHKD. BY	SHEET _____ OF _____ SHEETS	CITY OF DETROIT	DRAWN	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT MICH. 48221	CHECKED BY	PUBLIC LIGHTING DEPARTMENT	FILE NO.
					CEA				51-0585
					APPROVED				39 OF 71
					DATE				DATE
					AUG 1984				AUG 1984
M.L. KING JR. BLVD. RECONSTRUCTION WABASH AVE. TO LINCOLN AVE. MULT. ST. LTG. WIRING DIAGRAM			CITY ENGINEERING DEPARTMENT	9 OF 41	CEA 1098	CITY OF DETROIT	APPROVED BY	CITY OF DETROIT	DATE



**SERIES ST. LTG. WIRING DIAGRAM**  
 (STANTON-31 & STANTON-105)  
 STAGE I & FINAL STAGE

NOTE: INSTALL 400W. M.V. SUBMARINE COIL TREAT COIL & HANGER WITH ZIEBART OR APPROVED EQUAL.

DATE	DESCRIPTION	CHKD. BY

**M.L. KING JR. BLVD. RECONSTRUCTION**  
**WABASH AVE TO LINCOLN AVE.**  
 MISC. WIRING DIAGRAMS

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

**CITY OF DETROIT**  
 CITY ENGINEERING DEPARTMENT

DRAWN <b>CEA</b>
CHECKED <b>ep</b>
APPROVED <b>[Signature]</b>
DATE <b>AUG 1984</b>

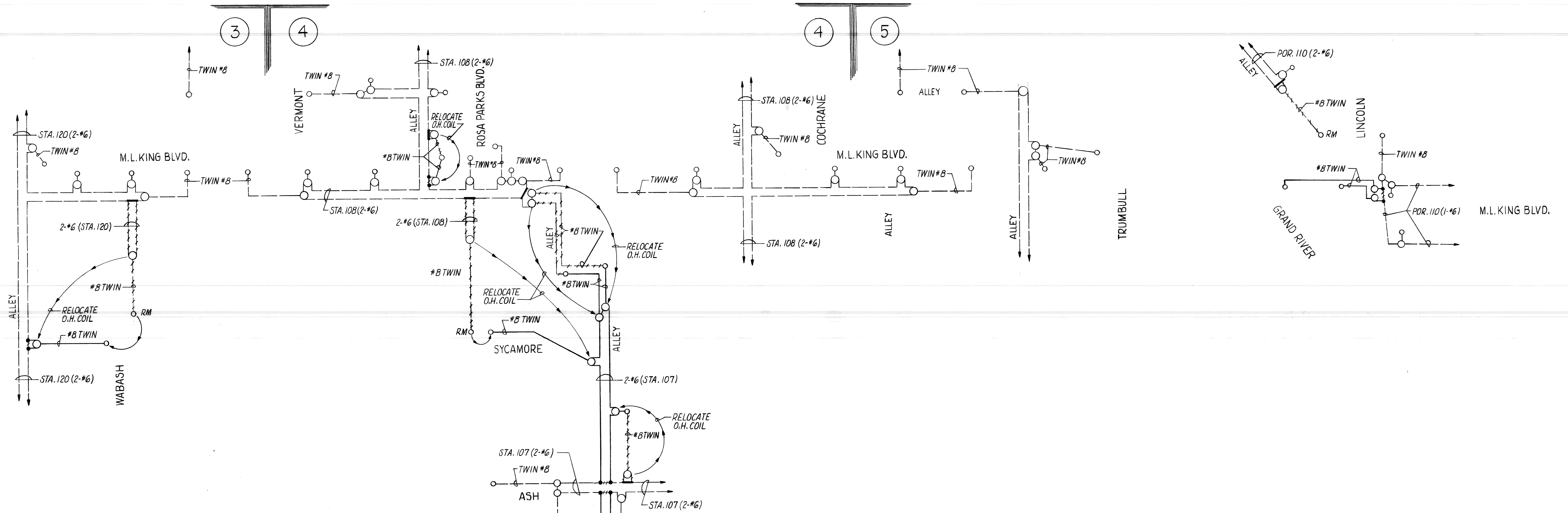
PLAN PREPARED BY  
**CONSULTING ENGINEERING ASSOCIATES INC.**  
 ENGINEERING CONSULTANTS  
 16580 WYOMING DETROIT, MICH. 48221

CHECKED BY
APPROVED BY

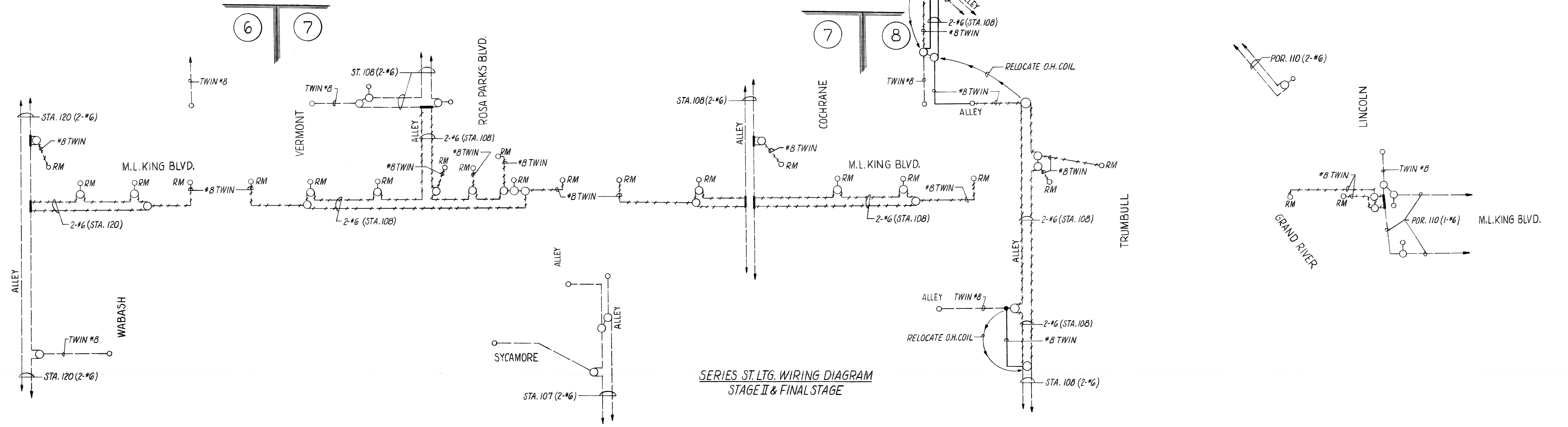
**PUBLIC LIGHTING DEPARTMENT**  
 CITY OF DETROIT

FILE NO. <b>51-0585</b>
SHEET NO. <b>40 OF 71</b>
DATE <b>AUG 1984</b>





SERIES ST. LTG. WIRING DIAGRAM  
STAGE I



SERIES ST. LTG. WIRING DIAGRAM  
STAGE II & FINAL STAGE

DATE	DESCRIPTION	CHKD. BY

**M.L. KING JR. BLVD. RECONSTRUCTION  
WABASH AVE. TO LINCOLN AVE.  
SERIES ST. LTG. WIRING DIAGRAMS**

SHEET _____ OF _____ SHEETS
JOB NO. _____
ASSIGNMENT NO. _____
DATE _____

**CITY OF DETROIT**  
CITY ENGINEERING DEPARTMENT

DRAWN <b>CEA</b>
CHECKED <i>[Signature]</i>
APPROVED <i>[Signature]</i>
DATE <b>AUG 1984</b>

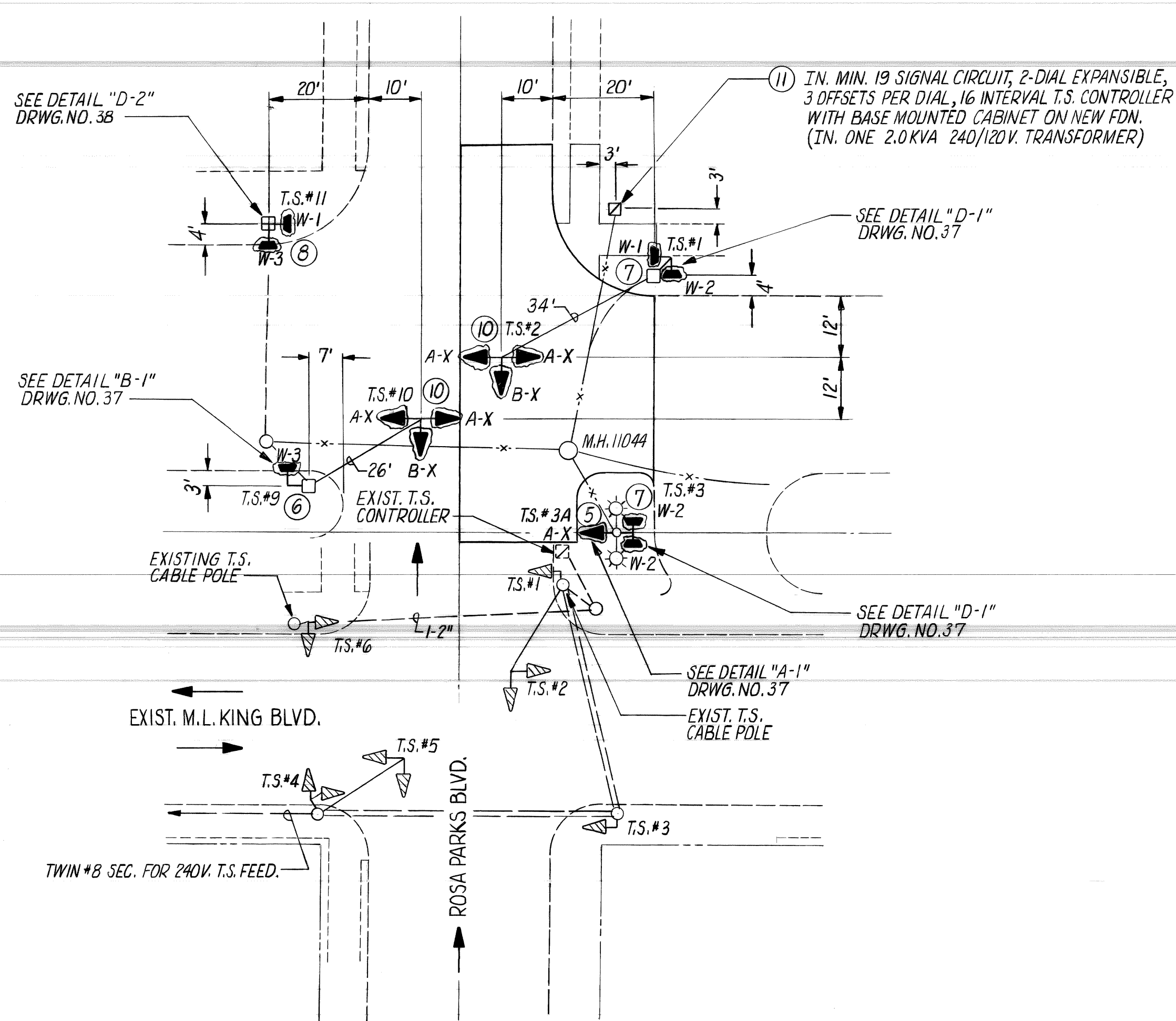
PLAN PREPARED BY  
**CONSULTING ENGINEERING ASSOCIATES INC.**  
ENGINEERING CONSULTANTS  
16580 WYOMING DETROIT, MICH. 48221

DRWG. NO. **II OF 41**  
FILE NO. **CEA 1098**

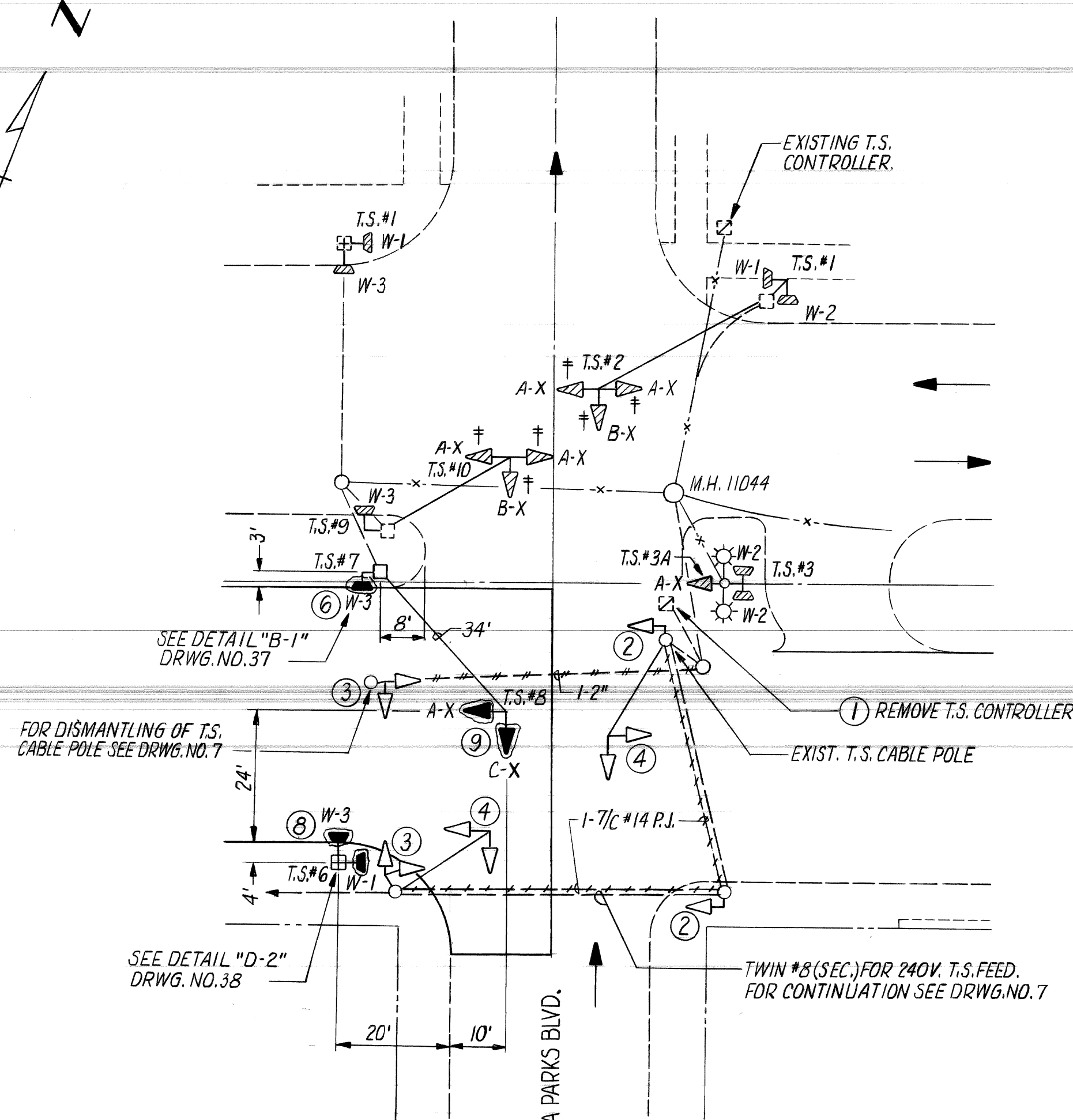
CHECKED BY _____
APPROVED BY _____

**PUBLIC LIGHTING DEPARTMENT**  
CITY OF DETROIT

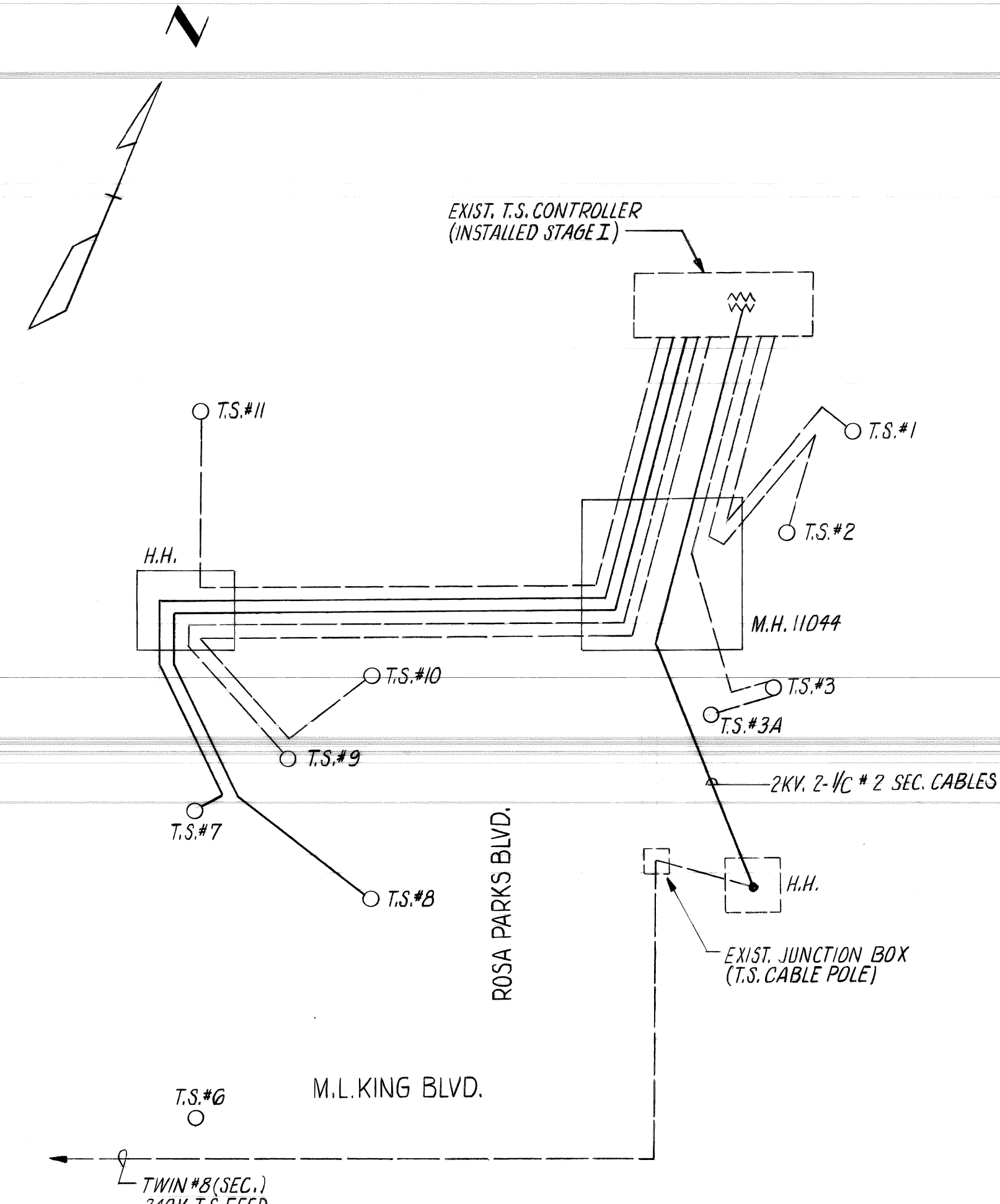
FILE NO. <b>51-0585</b>
SHEET NO. <b>41 OF 71</b>
DATE <b>AUG 1984</b>



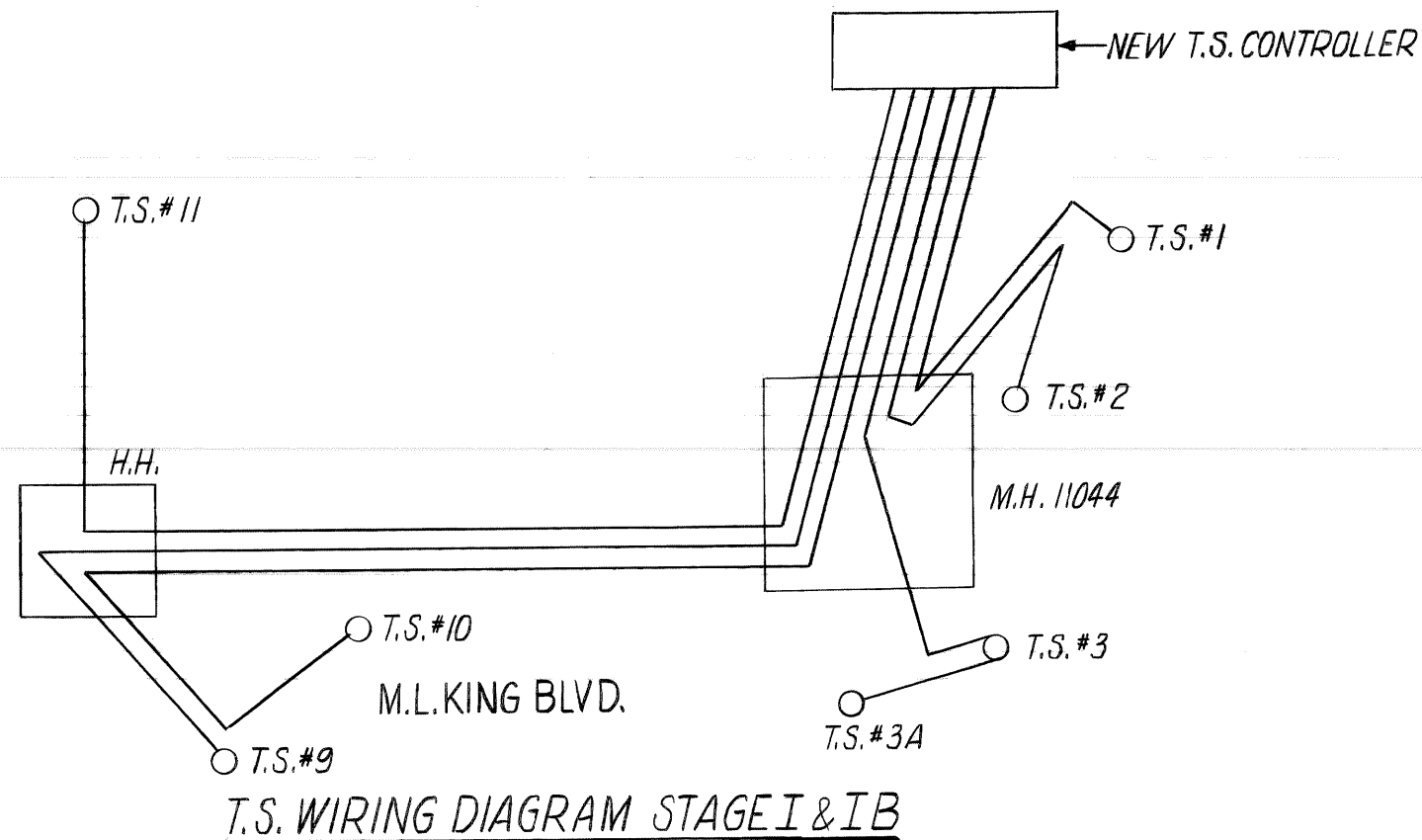
PLAN STAGE I & IB  
SCALE: 1"=20'



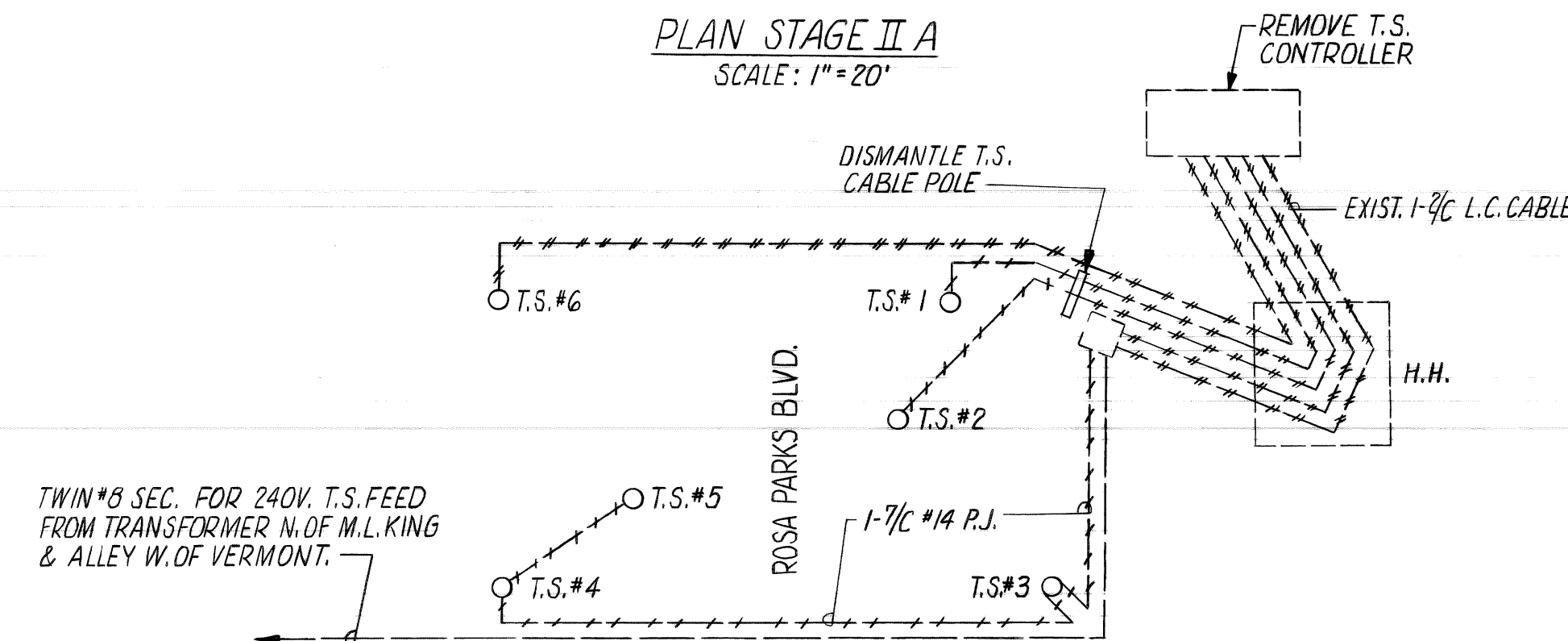
PLAN STAGE II A  
SCALE: 1"=20'



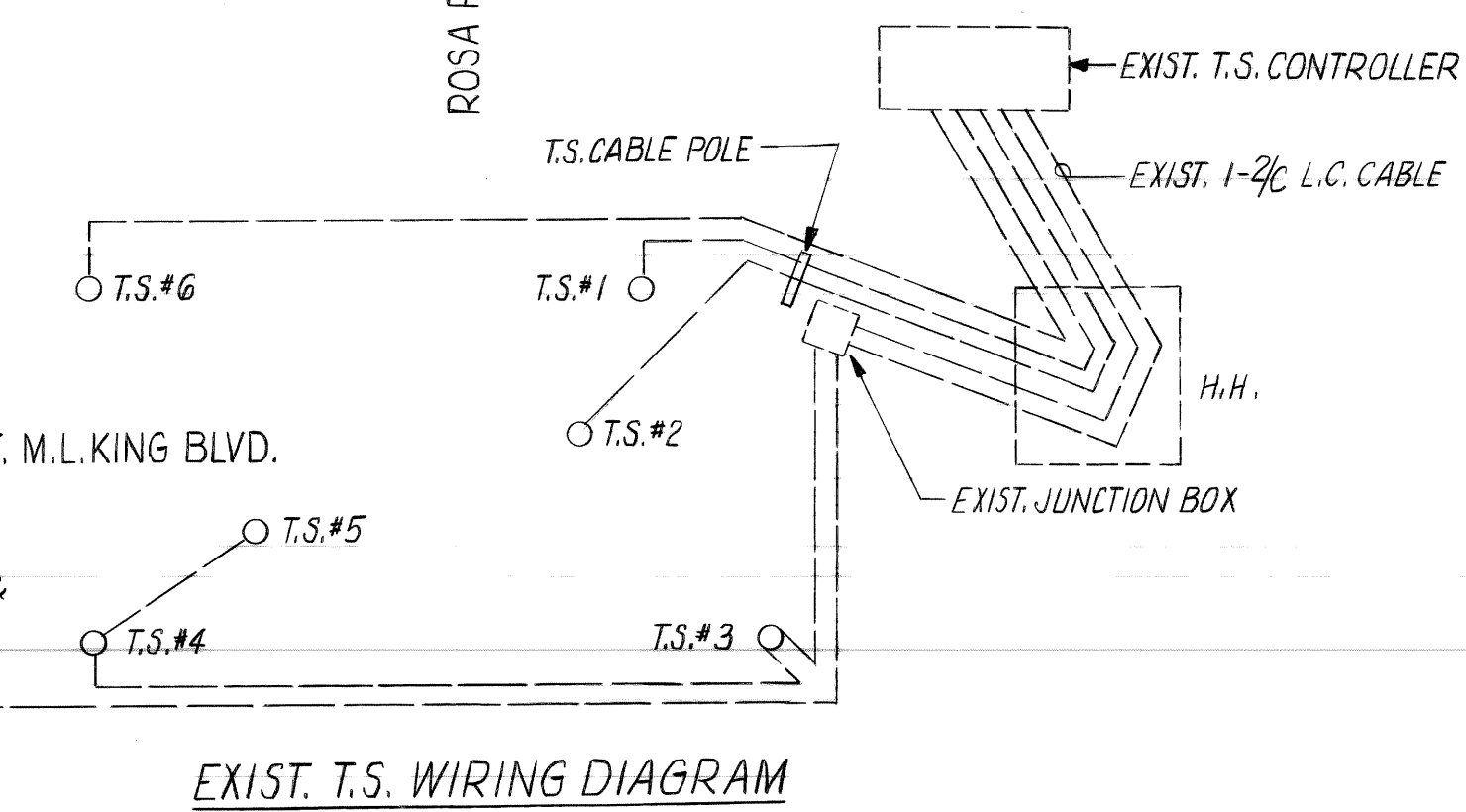
T.S. WIRING DIAGRAM STAGE II A



T.S. WIRING DIAGRAM STAGE I & IB



T.S. REMOVAL WIRING DIAGRAM



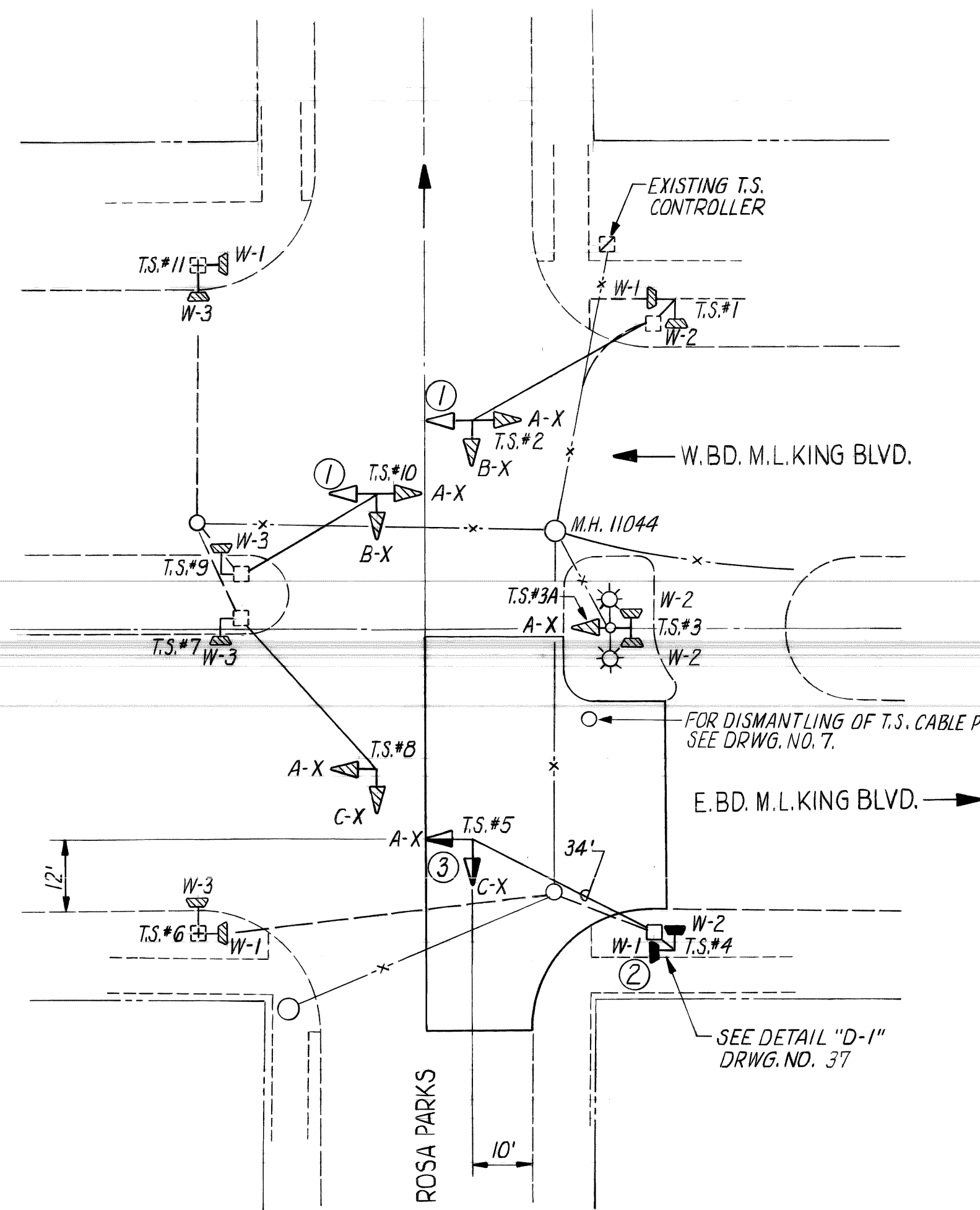
EXIST. T.S. WIRING DIAGRAM

LIST OF MATERIAL		QUANTITIES
	ITEM	
①	REMOVE T.S. CONTROLLER, CABINET & PEDESTAL	1 EACH
②	REMOVE 1-WAY BRACKET ARM T.S.	2 EACH
③	REMOVE 2-WAY BRACKET ARM T.S.	2 EACH
④	REMOVE 2-WAY MAST ARM T.S. & MAST ARM	2 EACH
⑤	1-WAY BRACKET ARM T.S.	1 EACH
⑥	1-WAY PEDESTRIAN BRACKET ARM T.S.	2 EACH
⑦	2-WAY PEDESTRIAN BRACKET ARM T.S.	2 EACH
⑧	2-WAY PEDESTRIAN T.S. ON BFT. PEDESTAL ON NEW FDN.	2 EACH
⑨	2-WAY MAST ARM T.S., MAST ARM & STD. ON NEW FDN.	1 EACH
⑩	3-WAY MAST ARM T.S., MAST ARM & STD. ON NEW FDN.	2 EACH
⑪	T.S. CONTROLLER WITH BASE MOUNTED CABINET ON NEW FDN.	1 EACH

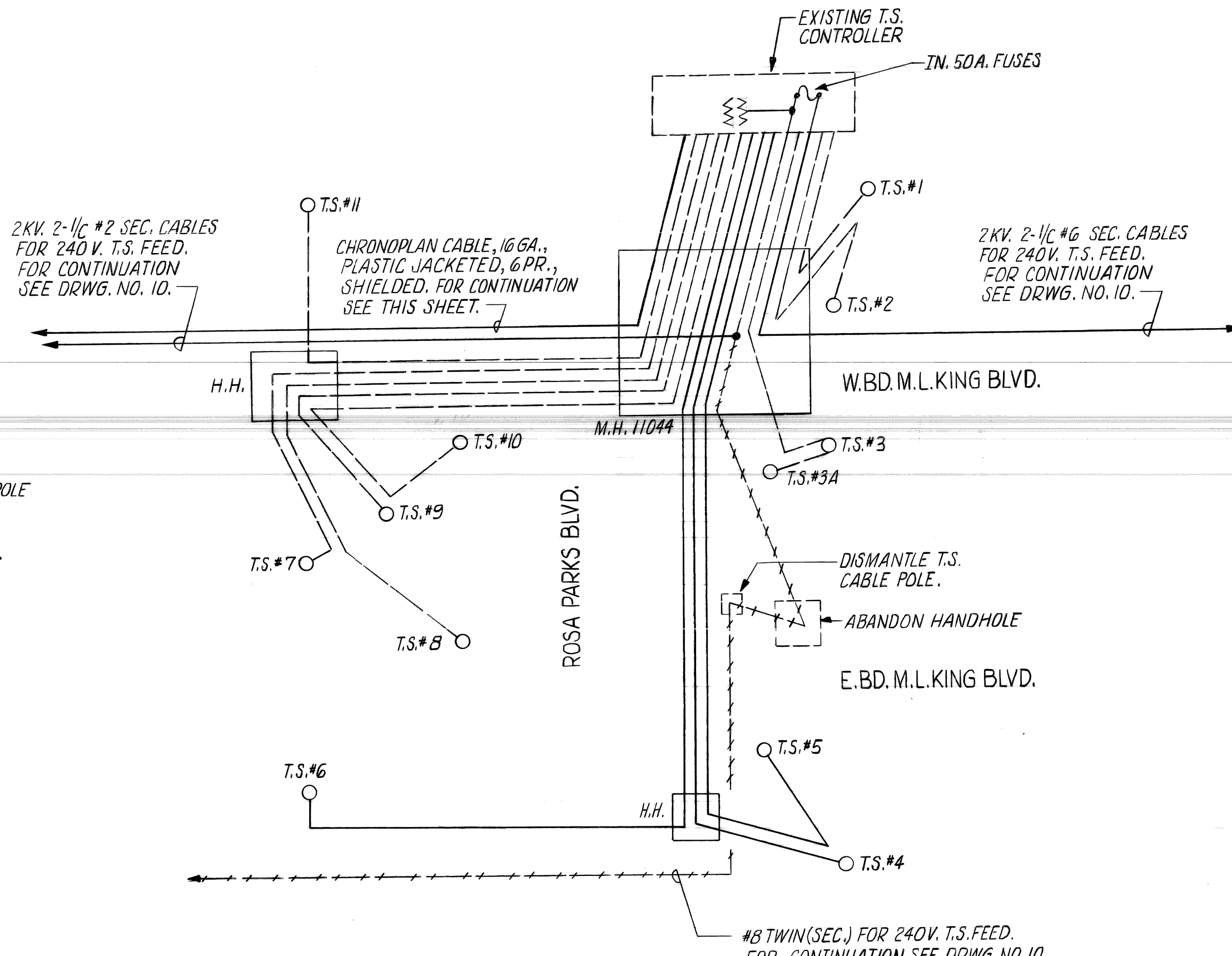
ALL 3-SECTION TRAFFIC SIGNALS ON THIS SHEET SHALL BE ALUMINUM.

DATE	DESCRIPTION	CHKD. BY	M.L. KING JR. BLVD. RECONSTRUCTION WABASH AVE. TO LINCOLN AVE. T.S. AT ROSA PARK & M.L. KING BLVD.	SHEET _____ OF _____ SHEETS	CITY OF DETROIT CITY ENGINEERING DEPARTMENT	DRAWN	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	CHECKED BY	PUBLIC LIGHTING DEPARTMENT	FILE NO.
						CEA				51-0585
										42 OF 71
										DATE
										AUG 1984
						DRWG. NO.	FILE NO.	APPROVED BY	CITY OF DETROIT	DATE
						12 OF 41	CEA 1098		CITY OF DETROIT	AUG 1984





PLAN STAGE II B & FINAL STAGE



T.S. WIRING DIAGRAM STAGE II B & FINAL STAGE

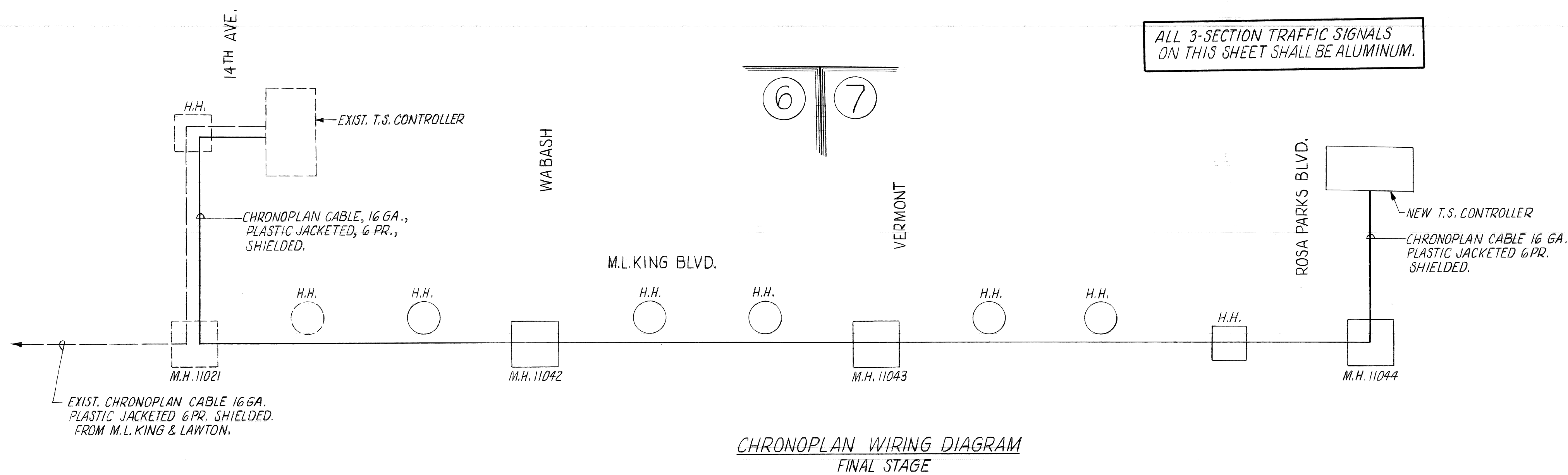
TIME OF REMOVAL SHALL BE CO-ORDINATED WITH THE ENGINEER.

NOTE:  
ALL T.S. CABLES TO BE 1-7/8" #14 P.J. CABLES.  
(EXCEPT AS OTHERWISE INDICATED.)

ALL 3-SECTION TRAFFIC SIGNALS ON THIS SHEET SHALL BE ALUMINUM.

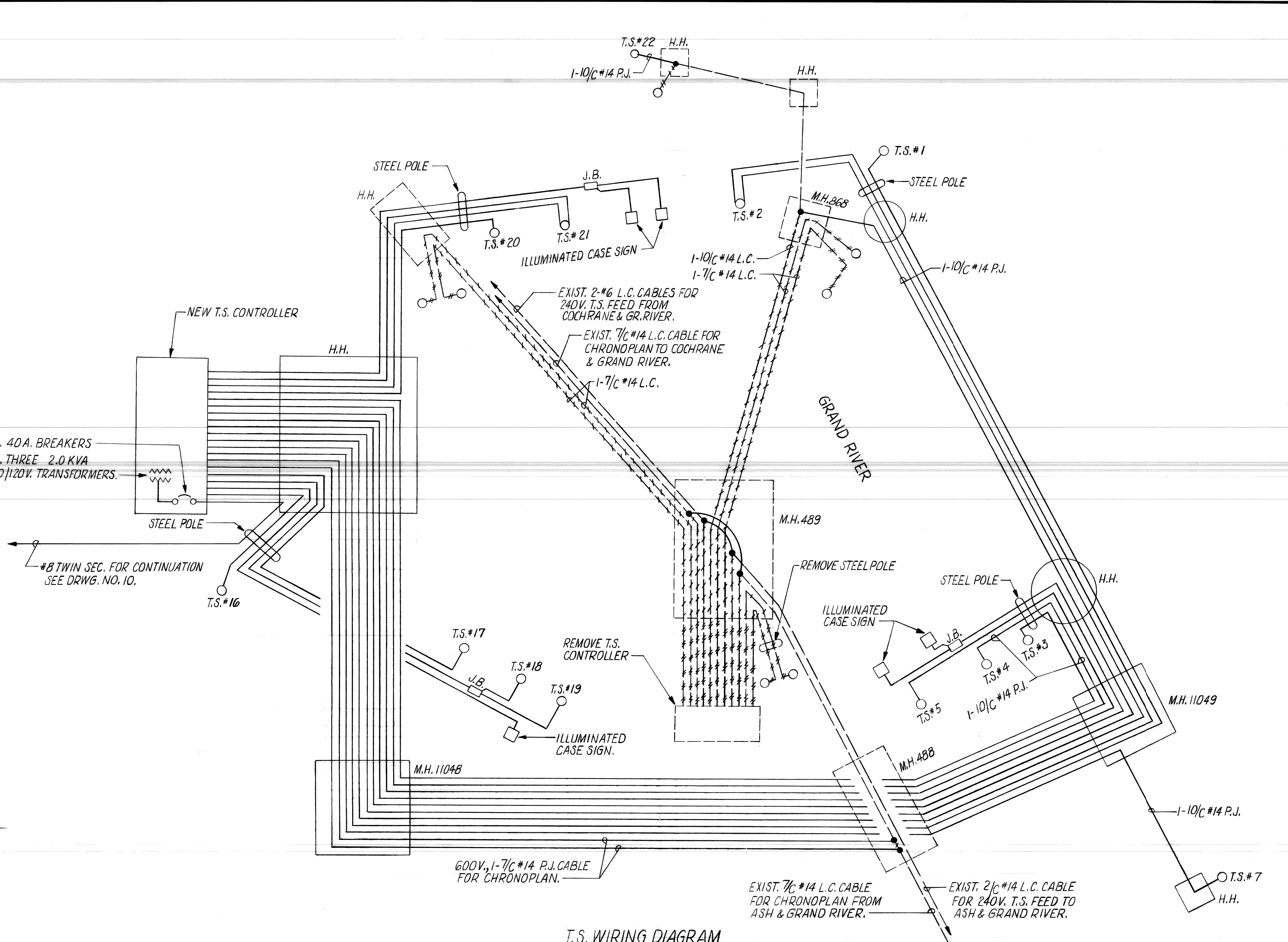
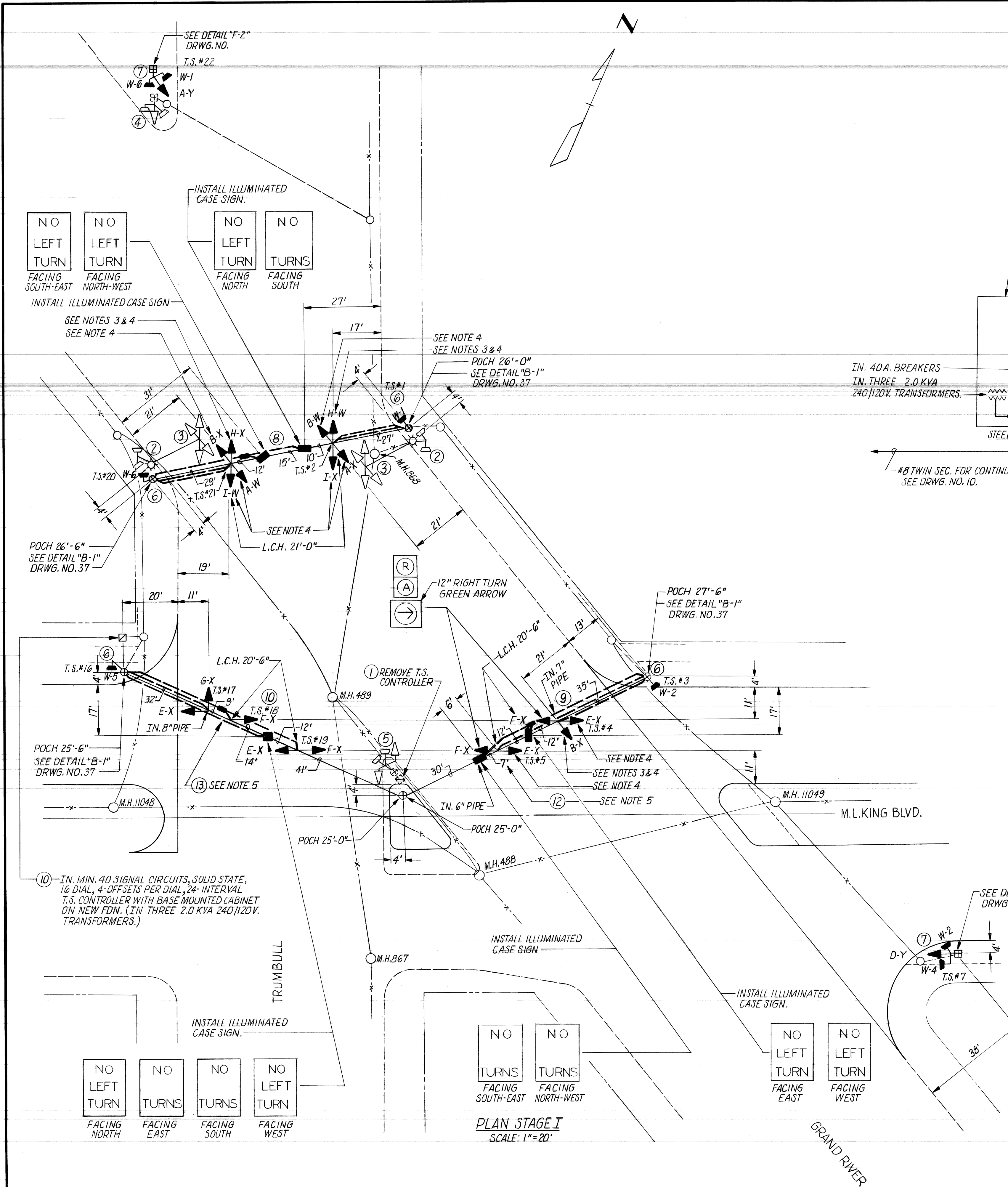
LIST OF MATERIAL		QUANTITIES
ITEM		
①	REMOVE 1-WAY MAST ARM T.S.	2 EACH
②	2-WAY PEDESTRIAN BRACKET ARM T.S.	1 EACH
③	2-WAY MAST ARM T.S. (WITH SALVAGED HEADS), MAST ARM & STD. ON NEW FDN.	1 EACH

\* AFTER REMOVAL OF 1-WAY SPAN WIRE T.S. CONTRACTOR SHALL MODIFY MOUNTING OF REMAINING T.S. AS A 2-WAY, 3-SECTION SPAN WIRE T.S. (INCIDENTAL TO REMOVE 1-WAY SPAN WIRE T.S.)



CHRONOPLAN WIRING DIAGRAM FINAL STAGE

REVISIONS	DATE	DESCRIPTION	CHKD. BY	M.L. KING JR. BLVD. RECONSTRUCTION WABASH AVE. TO LINCOLN AVE. T.S. AT ROSA PARK & M.L. KING BLVD.	SHEET _____ OF _____ SHEETS	CITY OF DETROIT CITY ENGINEERING DEPARTMENT	DRAWN	CEA	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	CHECKED BY	APPROVED BY	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT	FILE NO.	51-0585	
														SHEET NO.	43 OF 71
														DATE	AUG 1984
														DRWG. NO.	13 OF 41
														FILE NO.	CEA 1098



⑩ IN. MIN. 40 SIGNAL CIRCUITS, SOLID STATE, 16 DIAL, 4-OFFSETS PER DIAL, 24-INTERVAL T.S. CONTROLLER WITH BASE MOUNTED CABINET ON NEW FDN. (IN THREE 2.0 KVA 240/120V. TRANSFORMERS.)

PLAN STAGE I  
SCALE: 1"=20'

T.S. WIRING DIAGRAM  
STAGE I

**NOTES:**

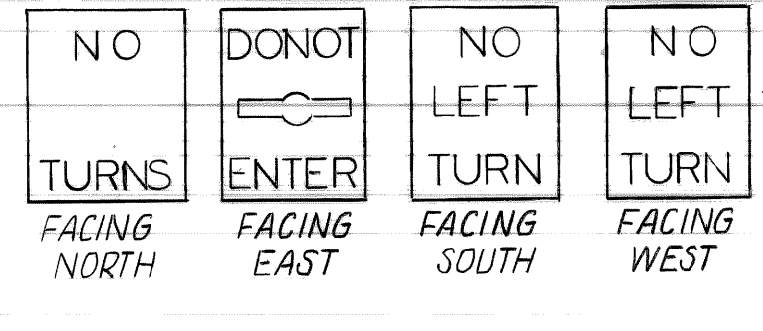
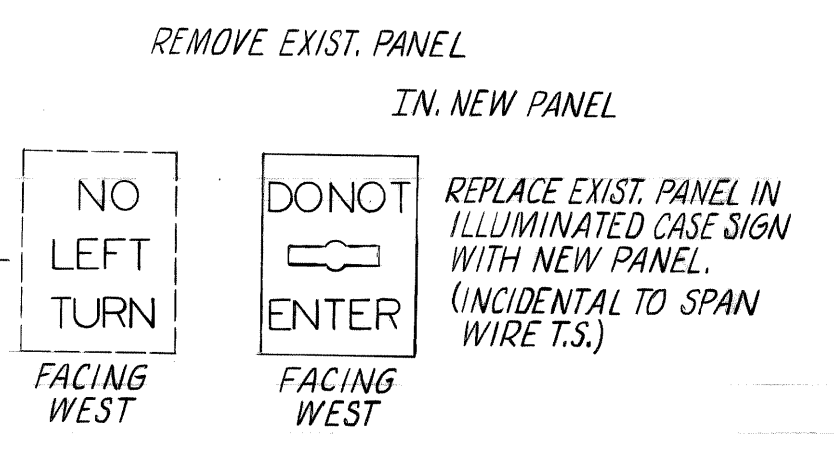
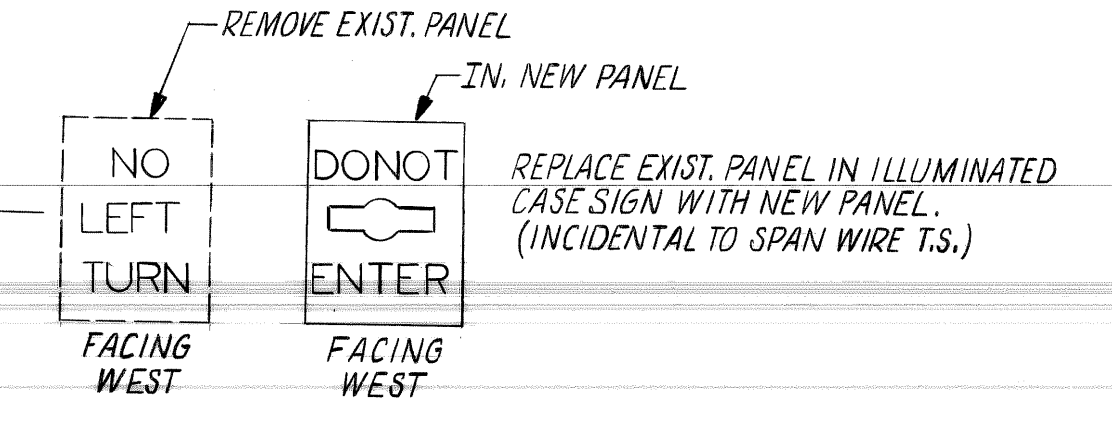
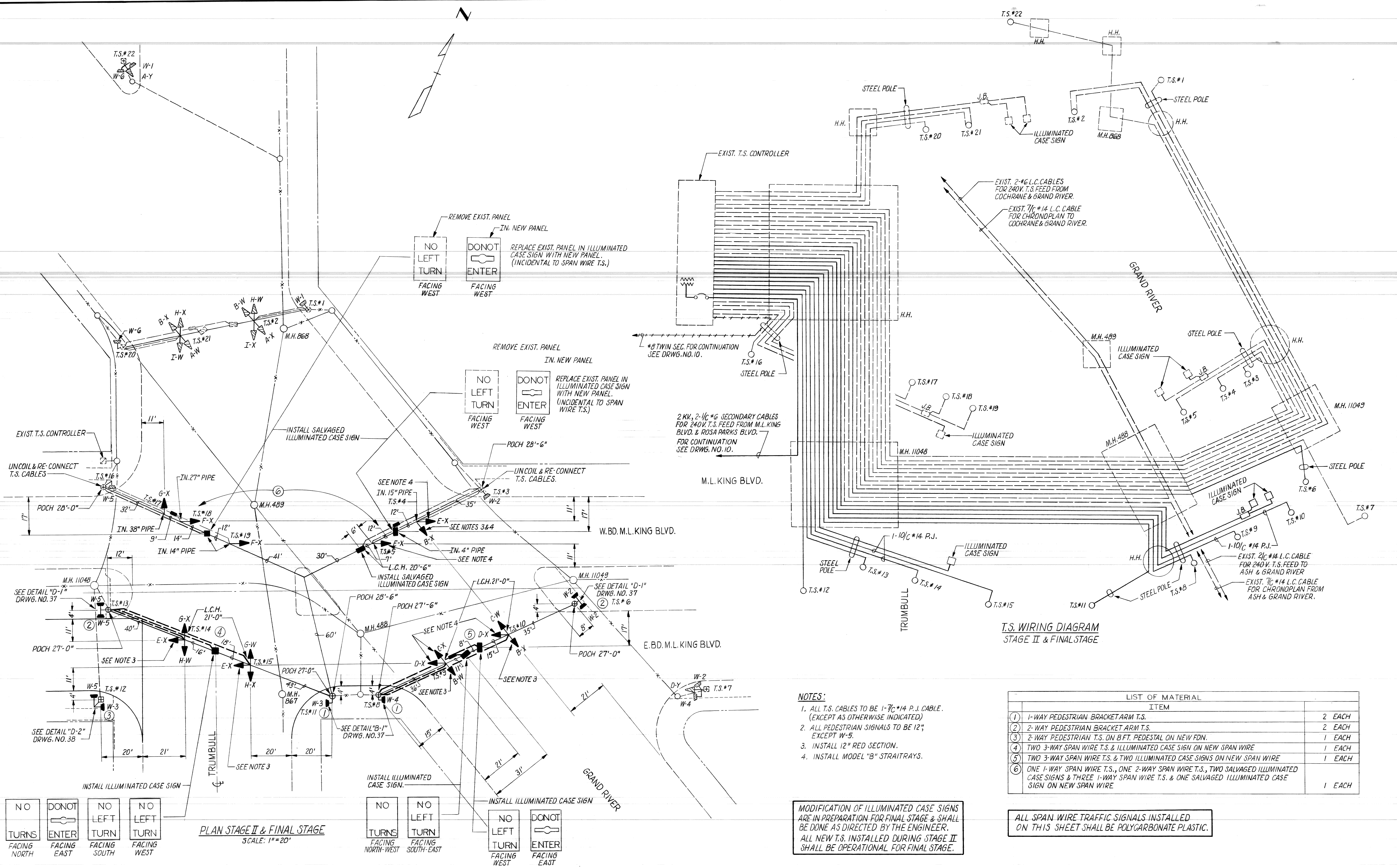
1. ALL T.S. CABLES TO BE 1-7/8" #14 P.J. CABLE. (EXCEPT AS OTHERWISE INDICATED.)
2. ALL PEDESTRIAN SIGNALS TO BE 12", EXCEPT W-5.
3. INSTALL 12" RED SECTION.
4. INSTALL MODEL "B" STRAITRAYS.
5. REMOVE SPAN WIRE, T.S. & ILLUMINATED CASE SIGNS AT END OF STAGE II. SALVAGE & RE-INSTALL ILLUMINATED CASE SIGNS FOR FINAL STAGE. COIL-UP O.H. T.S. CABLES ON STEEL STRAIN POLES & RE-CONNECT FOR FINAL STAGE T.S.

ALL NEW T.S. INSTALLED DURING THIS STAGE SHALL BE OPERATIONAL FOR STAGE II. BAGGING OF T.S. SHALL BE AS DIRECTED BY THE ENGINEER.

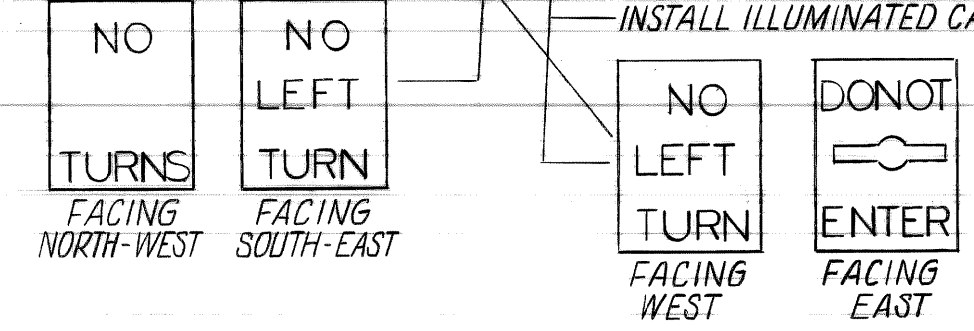
LIST OF MATERIAL		
ITEM	QUANTITY	REMARKS
1 REMOVE T.S. CONTROLLER, CABINET & PEDESTAL	1 EACH	
2 REMOVE 2-WAY PEDESTRIAN BRACKET ARM T.S.	2 EACH	
3 REMOVE 4-WAY MAST ARM T.S. & MAST ARM	2 EACH	
4 REMOVE 2-WAY PEDESTRIAN T.S., 1-WAY T.S. & PEDESTAL	1 EACH	
5 REMOVE 2-WAY PEDESTRIAN BRACKET ARM T.S. & 2-WAY BRACKET ARM T.S.	1 EACH	
6 1-WAY PEDESTRIAN BRACKET ARM T.S.	4 EACH	
7 2-WAY PEDESTRIAN T.S. & 1-WAY T.S. ON 10FT. PEDESTAL ON NEW FDN.	2 EACH	
8 TWO 4-WAY SPAN WIRE T.S. & TWO ILLUMINATED CASE SIGNS ON NEW SPAN WIRE	1 EACH	
9 ONE 2-WAY SPAN WIRE T.S., ONE 3-WAY SPAN WIRE T.S. & TWO ILLUMINATED CASE SIGNS ON NEW SPAN WIRE	1 EACH	
10 TWO 2-WAY SPAN WIRE T.S., ONE 1-WAY SPAN WIRE T.S. & ONE ILLUMINATED CASE SIGN ON NEW SPAN WIRE	1 EACH	
11 T.S. CONTROLLER WITH BASE MOUNTED CABINET ON NEW FDN.	1 EACH	
12 REMOVE (2) SPAN WIRE T.S., (2) ILLUMINATED CASE SIGNS & SPAN WIRE	1 EACH	
13 REMOVE (3) SPAN WIRE T.S., ILLUMINATED CASE SIGN & SPAN WIRE	1 EACH	

ALL SPAN WIRE TRAFFIC SIGNALS INSTALLED ON THIS SHEET SHALL BE POLYCARBONATE PLASTIC.





PLAN STAGE II & FINAL STAGE  
SCALE: 1"=20'



- NOTES:**
1. ALL T.S. CABLES TO BE 1-7C#14 P.J. CABLE. (EXCEPT AS OTHERWISE INDICATED)
  2. ALL PEDESTRIAN SIGNALS TO BE 12", EXCEPT W-5.
  3. INSTALL 12" RED SECTION.
  4. INSTALL MODEL "B" STRAITRAYS.

MODIFICATION OF ILLUMINATED CASE SIGNS ARE IN PREPARATION FOR FINAL STAGE & SHALL BE DONE AS DIRECTED BY THE ENGINEER. ALL NEW T.S. INSTALLED DURING STAGE II SHALL BE OPERATIONAL FOR FINAL STAGE.

LIST OF MATERIAL		
ITEM	QUANTITY	REMARKS
① 1-WAY PEDESTRIAN BRACKET ARM T.S.	2 EACH	
② 2-WAY PEDESTRIAN BRACKET ARM T.S.	2 EACH	
③ 2-WAY PEDESTRIAN T.S. ON B.F.T. PEDESTAL ON NEW FDN.	1 EACH	
④ TWO 3-WAY SPAN WIRE T.S. & ILLUMINATED CASE SIGN ON NEW SPAN WIRE	1 EACH	
⑤ TWO 3-WAY SPAN WIRE T.S. & TWO ILLUMINATED CASE SIGNS ON NEW SPAN WIRE	1 EACH	
⑥ ONE 1-WAY SPAN WIRE T.S., ONE 2-WAY SPAN WIRE T.S., TWO SALVAGED ILLUMINATED CASE SIGNS & THREE 1-WAY SPAN WIRE T.S. & ONE SALVAGED ILLUMINATED CASE SIGN ON NEW SPAN WIRE	1 EACH	

ALL SPAN WIRE TRAFFIC SIGNALS INSTALLED ON THIS SHEET SHALL BE POLYCARBONATE PLASTIC.



BID-ITEM	UNIT	AS PER PLANS												AS CONSTRUCTED											
		DRWG. NO.												DRWG. NO.											
		2	3	4	5	6	7	8	12	13	14	15	TOTAL	2	3	4	5	6	7	8	12	13	14	15	TOTAL
CONDUIT REPAIR- UNDER PAVEMENT	EACH	2	—	—	—	—	—	—	—	—	—	—	—	2											
CONDUIT REPAIR-UNDER SIDEWALK OR DIRT	EACH	2	—	—	—	—	—	—	—	—	—	—	—	2											
	LIN.FT.	—	—	—	—	—	—	—	—	—	—	—	—												
1-3" ENCASED CONDUIT	LIN.FT.	—	15	80	175	40	140	105	—	—	—	—	—	555											
2-3" ENCASED CONDUIT	LIN.FT.	—	—	15	360	—	50	35	—	—	—	—	—	460											
4-3" ENCASED CONDUIT	LIN.FT.	—	—	—	65	—	—	—	—	—	—	—	—	65											
2-4" ENCASED CONDUIT	LIN.FT.	—	110	100	—	—	85	10	—	—	—	—	—	305											
3-4" ENCASED CONDUIT	LIN.FT.	—	—	—	10	—	—	—	—	—	—	—	—	10											
6-4" ENCASED CONDUIT	LIN.FT.	—	85	145	435	515	945	405	—	—	—	—	—	2530											
2-4" & 1-3" ENCASED CONDUIT	LIN.FT.	—	—	40	—	—	—	—	—	—	—	—	—	40											
6-4" & 1-3" ENCASED CONDUIT	LIN.FT.	—	—	30	—	—	—	—	—	—	—	—	—	30											
ROUND HANDHOLE	EACH	—	—	—	4	3	5	2	—	—	—	—	—	14											
TYPE "D" HANDHOLE	EACH	—	1	1	2	—	1	—	—	—	—	—	—	5											
TWO-WAY MANHOLE	EACH	—	—	2	2	1	2	1	—	—	—	—	—	8											
REMOVE HANDHOLE	EACH	—	—	—	—	—	1	—	—	—	—	—	—	1											
ABANDON HANDHOLE	EACH	—	—	—	—	—	1	—	—	—	—	—	—	1											
MULT. ST. LTG. CONTROL CABINET ON NEW FDN.	EACH	—	—	—	—	—	—	1	—	—	—	—	—	1											
CODE I17 U.G.-FED. ST. LTG. UNIT ON NEW FDN.	EACH	—	—	1	3	4	8	3	—	—	—	—	—	19											
CODE 009-00 ST. LTG. STD. WITH TRANSFORMER BASE ON NEW FDN.	EACH	—	—	—	2	—	—	—	—	—	—	—	—	2											
6FT. CLAMP-ON BRACKET ARM (3'-0" RISE)	EACH	—	—	—	4	—	—	—	—	—	—	—	—	4											
SALVAGED U.G.-FED. ST. LTG. UNIT ON NEW FDN.	EACH	—	—	—	1	1	—	—	—	—	—	—	—	2											
REMOVE U.G.-FED. ST. LTG. UNIT	EACH	—	1	—	6	—	—	—	—	—	—	—	—	7											
REMOVE FOUNDATION	EACH	—	1	—	9	—	2	1	—	—	—	—	—	13											
REMOVE CALL BOX & PEDESTAL	EACH	—	—	—	—	—	1	—	—	—	—	—	—	1											
30 FT. STEEL STRAIN POLE ON NEW FDN.	EACH	—	—	—	6	—	—	3	—	—	—	—	—	9											
2 FT. CLAMP-ON BRACKET	EACH	—	—	—	1	—	—	—	—	—	—	—	—	1											
400W. SODIUM VAPOR LUMINAIRE (RECTANGULAR)	EACH	—	3	10	9	5	8	4	—	—	—	—	—	39											
400W. MERCURY VAPOR LUMINAIRE WITH SERIES COIL	EACH	—	—	—	6	—	—	—	—	—	—	—	—	6											
INSTALL SALVAGED 400W. SODIUM VAPOR LUMINAIRE (RECTANGULAR)	EACH	—	2	—	—	5	9	4	—	—	—	—	—	20											
REMOVE CLAMP-ON BRACKET	EACH	—	—	—	—	—	—	1	—	—	—	—	—	1											
INSTALL SALVAGED CLAMP-ON BRACKET	EACH	—	—	—	—	—	—	1	—	—	—	—	—	1											
8 FT. BRACKET ARM	EACH	—	5	9	5	—	—	—	—	—	—	—	—	19											
REMOVE LUMINAIRE	EACH	—	2	—	—	—	—	1	—	—	—	—	—	3											
REMOVE STEEL POLE	EACH	—	—	—	1	—	—	1	—	—	—	—	—	2											
REMOVE 2-1/2" ST. LTG. CABLES & 1-#2 NEUTRAL	LIN.FT.	—	10	—	—	40	—	—	—	—	—	—	—	50											
REMOVE 1-1/2" L.C. ST. LTG. CABLE	LIN.FT.	—	—	—	255	—	—	—	—	—	—	—	—	255											
REMOVE 2-1/2" L.C. ST. LTG. CABLES	LIN.FT.	—	—	—	1285	—	—	—	—	—	—	—	—	1285											
600., 1-7/8" P.J. CABLE FOR CHRONOPLAN	LIN.FT.	—	—	—	410	—	—	—	—	—	—	—	—	410											
CHRONOPLAN CABLE, 16 GA., PLASTIC JACKETED, 6 PR., SHIELDED	LIN.FT.	—	—	—	—	865	490	—	—	—	—	—	—	1355											
2KV, 2-1/2" SECONDARY CABLES	LIN.FT.	—	—	—	80	—	770	560	—	—	—	—	—	1410											
2KV, 2-1/2" SECONDARY CABLES	LIN.FT.	—	—	—	—	315	535	—	—	—	—	—	—	850											
2KV, 1-1/2" ST. LTG. CABLE	LIN.FT.	—	—	—	—	20	—	—	—	—	—	—	—	20											
2KV, 2-1/2" ST. LTG. CABLES & 1-#2 NEUTRAL	LIN.FT.	—	40	—	—	640	1165	880	—	—	—	—	—	2725											
2KV, 4-1/2" ST. LTG. CABLES & 1-#2 NEUTRAL	LIN.FT.	—	—	—	—	40	160	65	—	—	—	—	—	265											
2KV, 2-1/2" ST. LTG. CABLES & 1-#2/0 NEUTRAL	LIN.FT.	—	—	—	—	—	370	85	—	—	—	—	—	455											
7500V, 1-1/2" L.C. ST. LTG. CABLE	LIN.FT.	—	—	—	255	—	—	—	—	—	—	—	—	255											
7500V, 2-1/2" L.C. ST. LTG. CABLES	LIN.FT.	—	—	—	1610	—	—	—	—	—	—	—	—	1610											
6" SEWER (LIGHTING)	LIN.FT.	—	—	20	—	60	130	200	—	—	—	—	—	410											
6" SEWER TAP	EACH	—	—	—	—	1	3	1	—	—	—	—	—	5											
REMOVE WOOD POLE	EACH	—	2	4	1	9	23	10	—	—	—	—	—	49											
REMOVE O.H. ST. LTG. UNIT	EACH	—	1	1	1	10	20	9	—	—	—	—	—	42											
DISMANTLE MULT. ST. LTG. CABLE POLE	EACH	—	—	—	—	1	—	—	—	—	—	—	—	1											
DISMANTLE T.S. CABLE POLE	EACH	—	—	—	—	—	2	—	—	—	—	—	—	2											
REMOVE # 8 TWIN	LIN.FT.	—	115	880	—	585	1670	1560	—	—	—	—	—	4810											
REMOVE 1-#6 O.H. LINE	LIN.FT.	—	—	—	1040	—	—	—	—	—	—	—	—	1040											
REMOVE 2-#6 O.H. LINE	LIN.FT.	—	130	130	540	210	960	470	—	—	—	—	—	2440											
REMOVE #6 TRIPLEX	LIN.FT.	—	—	—	—	675	1160	385	—	—	—	—	—	2220											

DATE	DESCRIPTION	CHKD. BY

**M.L. KING JR. BLVD. RECONSTRUCTION**  
**WABASH AVE. TO LINCOLN AVE.**  
**QUANTITY SHEET**

SHEET \_\_\_\_\_ OF \_\_\_\_\_ SHEETS  
JOB NO. \_\_\_\_\_  
ASSIGNMENT NO. \_\_\_\_\_  
DATE \_\_\_\_\_

**CITY OF DETROIT**  
**CITY ENGINEERING DEPARTMENT**

DRAWN **CEA**  
CHECKED **ep**  
APPROVED **MA**  
DATE **AUG 1984**

PLAN PREPARED BY:  
**CONSULTING ENGINEERING ASSOCIATES INC.**  
ENGINEERING CONSULTANTS  
16580 WYOMING DETROIT, MICH., 48221

DRWG. NO. **16 OF 41** FILE NO. **CEA 1098**

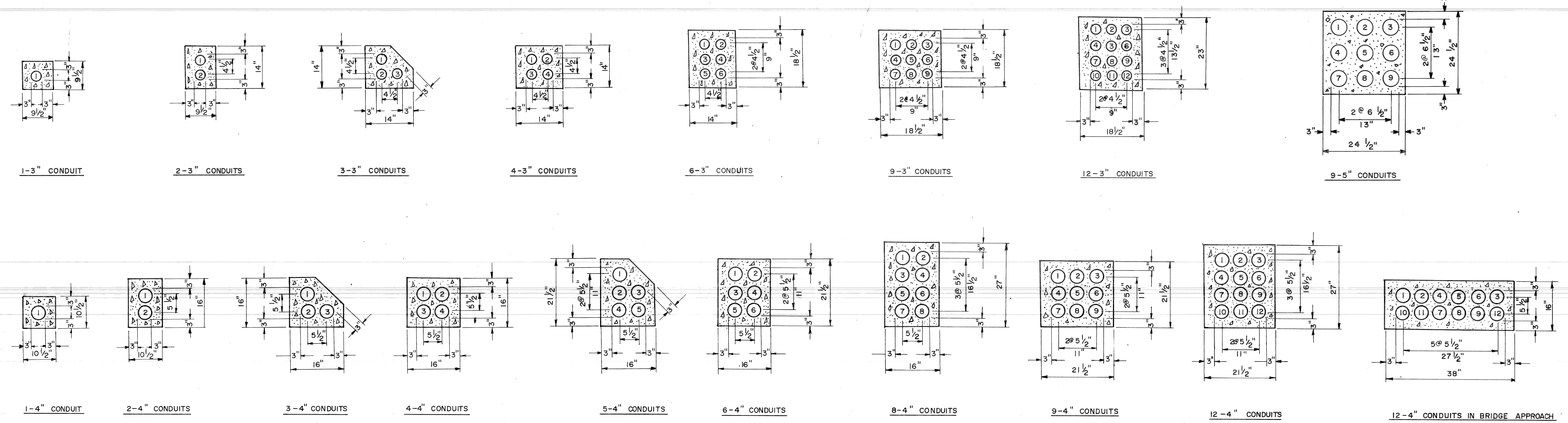
CHECKED BY \_\_\_\_\_  
APPROVED BY \_\_\_\_\_

**PUBLIC LIGHTING COMMISSION**  
CITY OF DETROIT

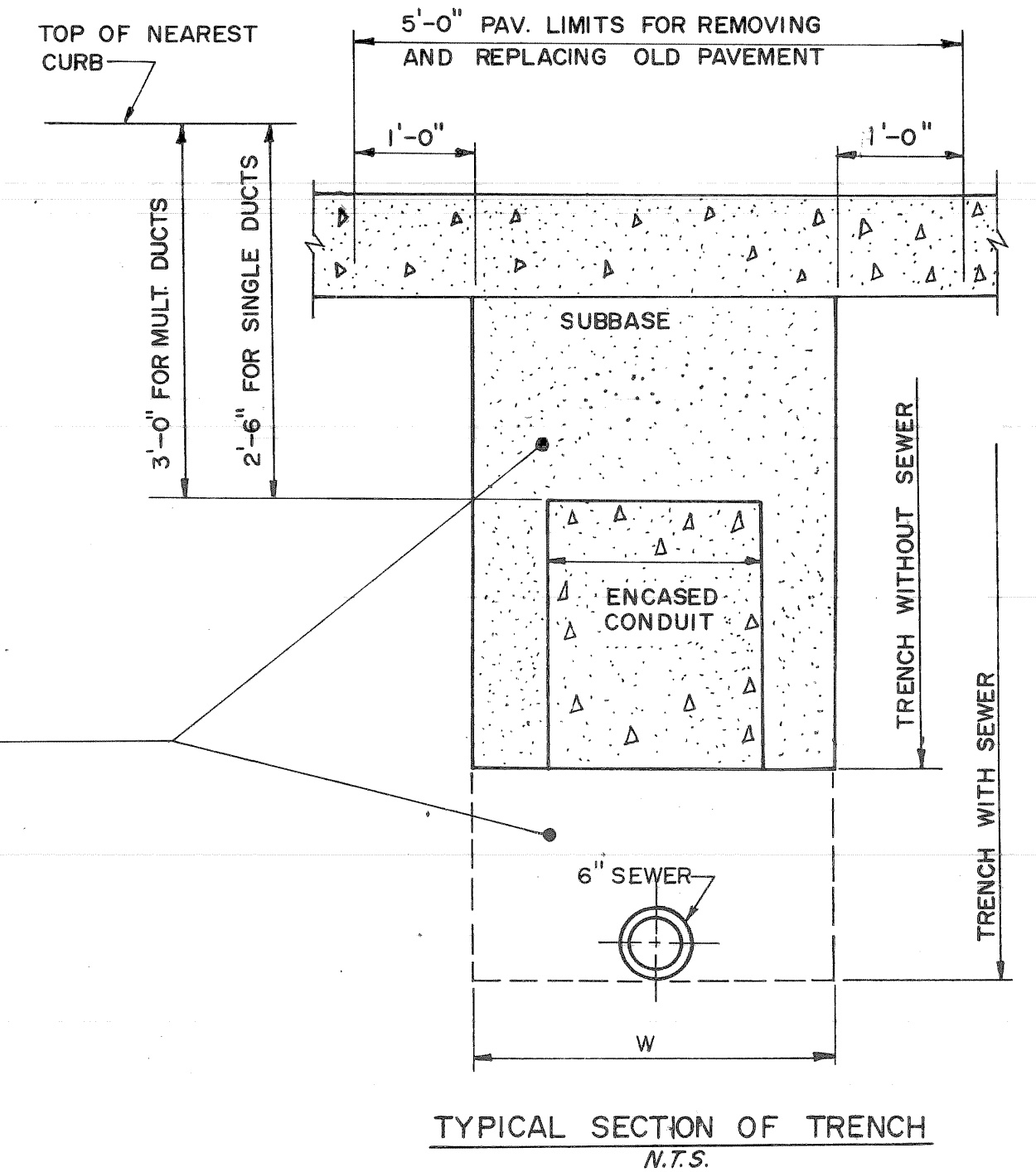
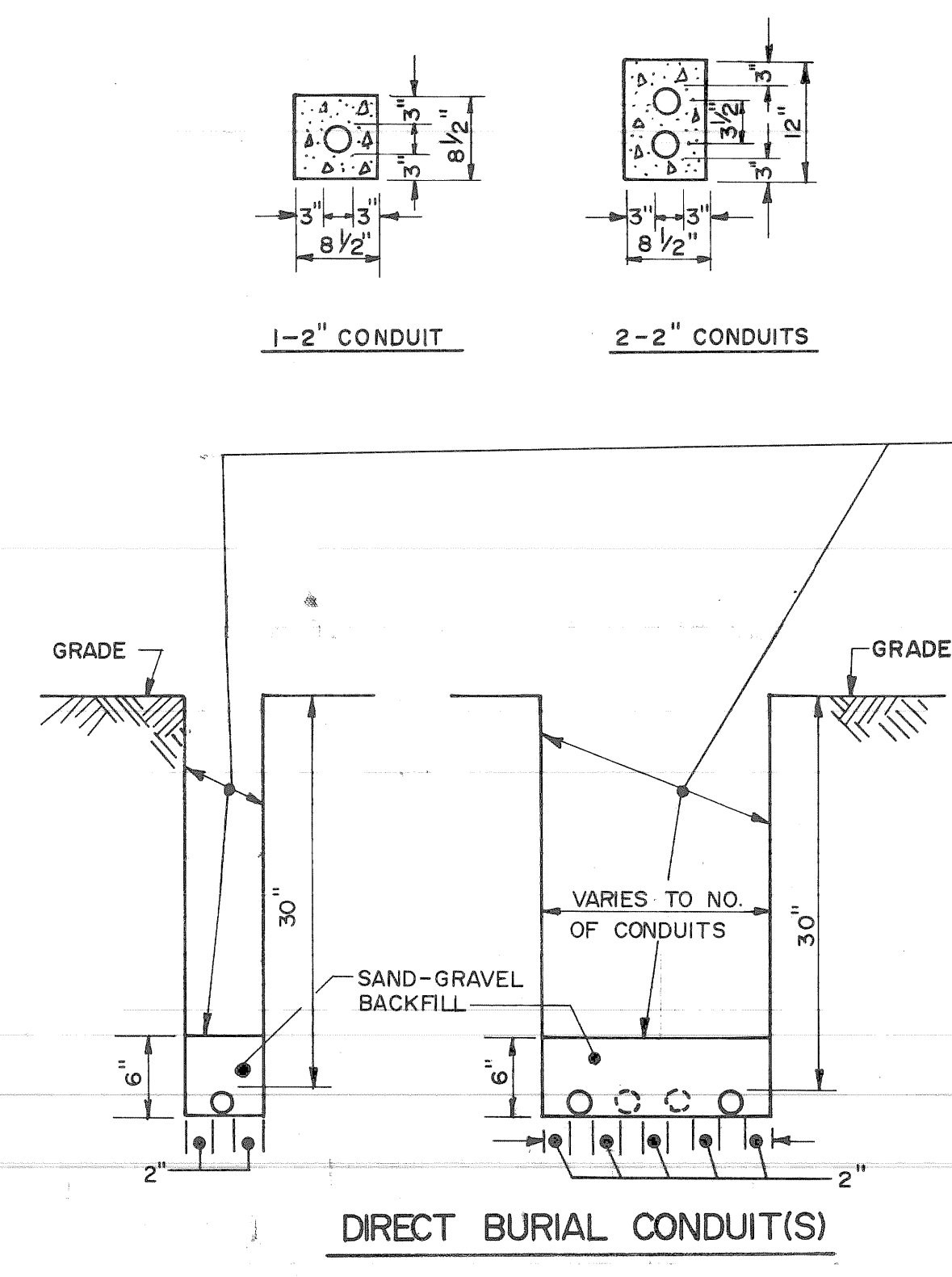
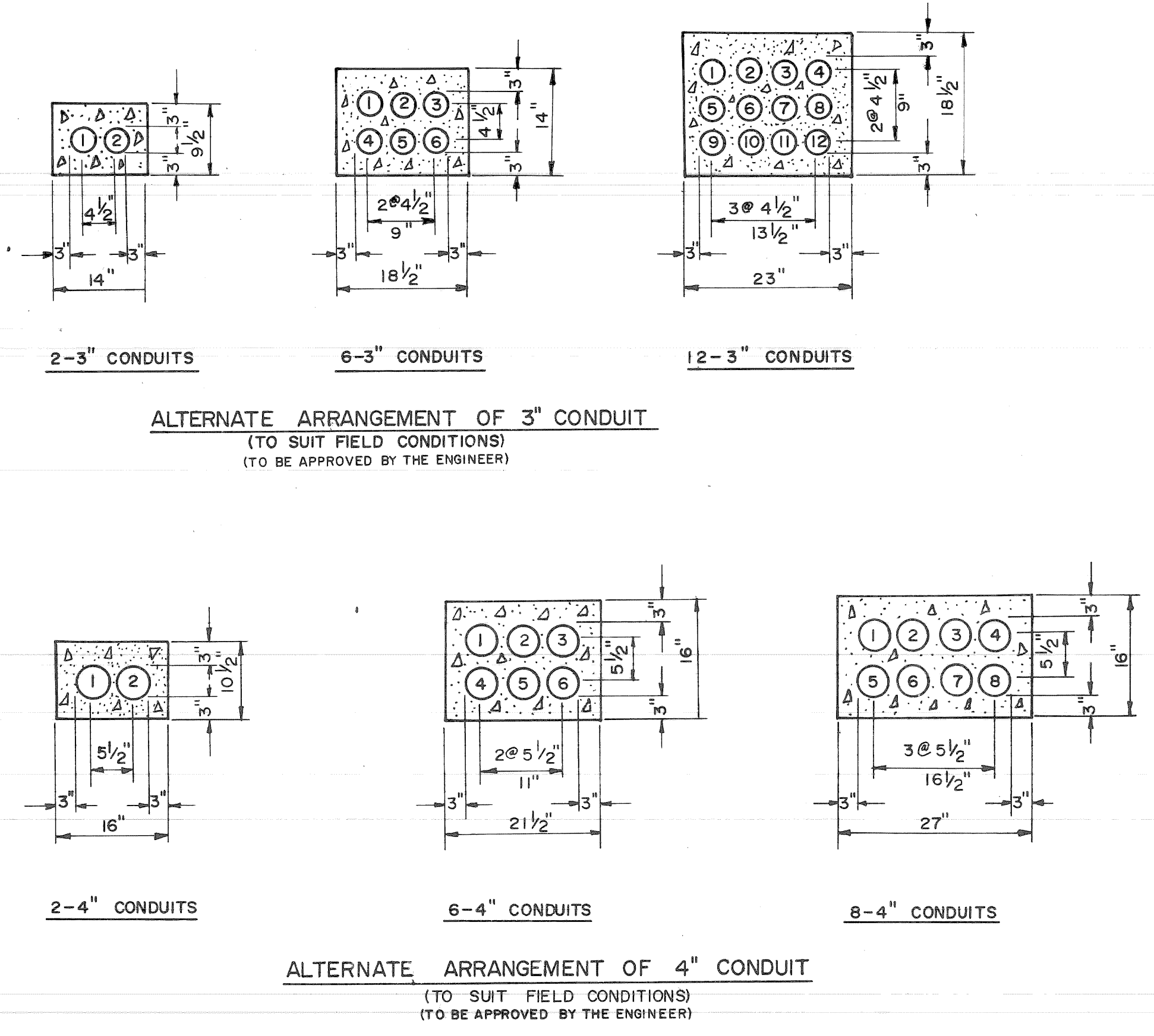








### CONCRETE ENCASED CONDUIT SECTIONS



BACK FILL WITH GRADE "A" MATERIAL ACCORDING TO CITY OF DETROIT SPECIFICATION

NOTE:  
PREFERRED TRENCH WIDTH "W"  
NOT WIDER THAN CONDUIT  
ENCASEMENT WIDTH "D"

NO.	DATE	DESCRIPTION	CHKD. BY

**M.L. KING JR. BLVD. RECONSTRUCTION**  
**WABASH AVE TO LINCOLN AVE.**  
 MISC. ENCASED CONDUIT SECTIONS  
 DETAILS

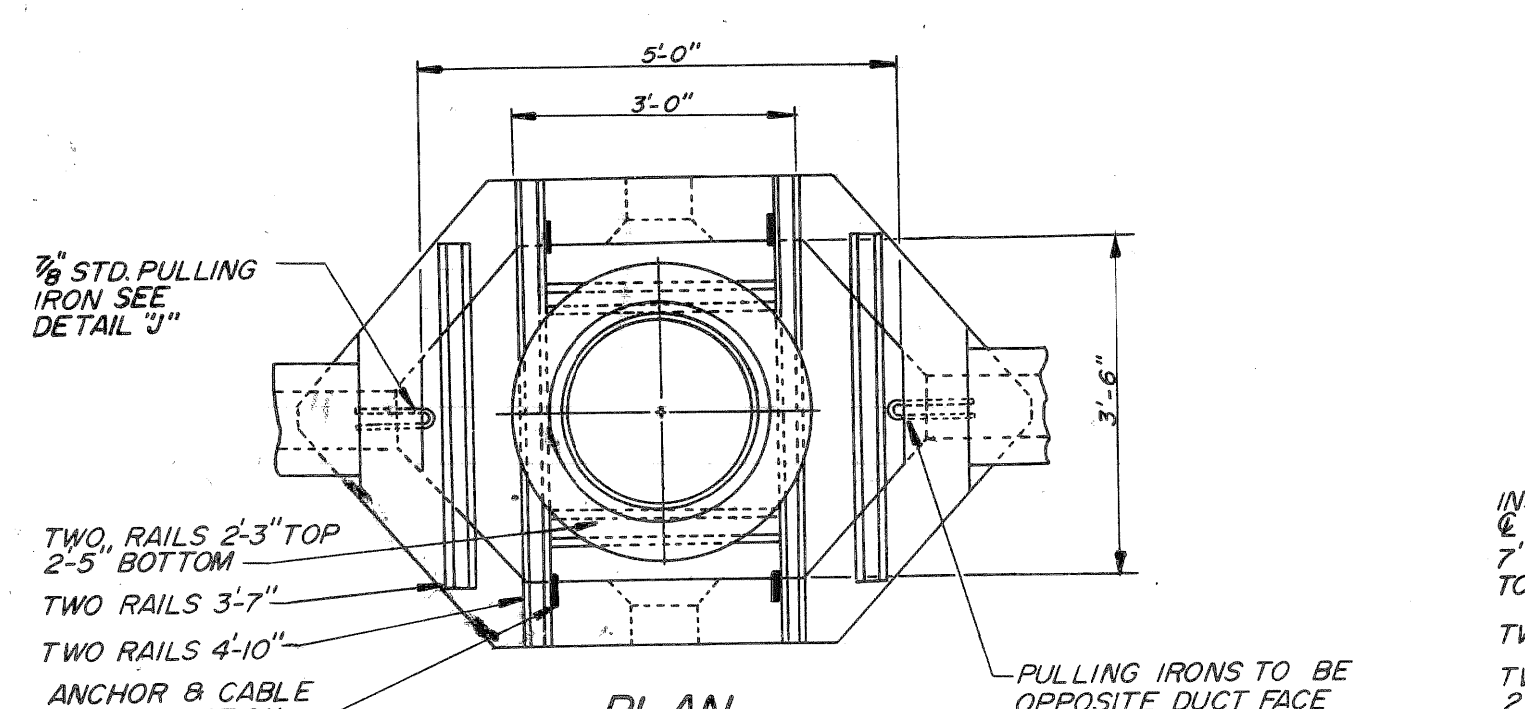
SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

**CITY OF DETROIT**  
 CITY ENGINEERING DEPARTMENT

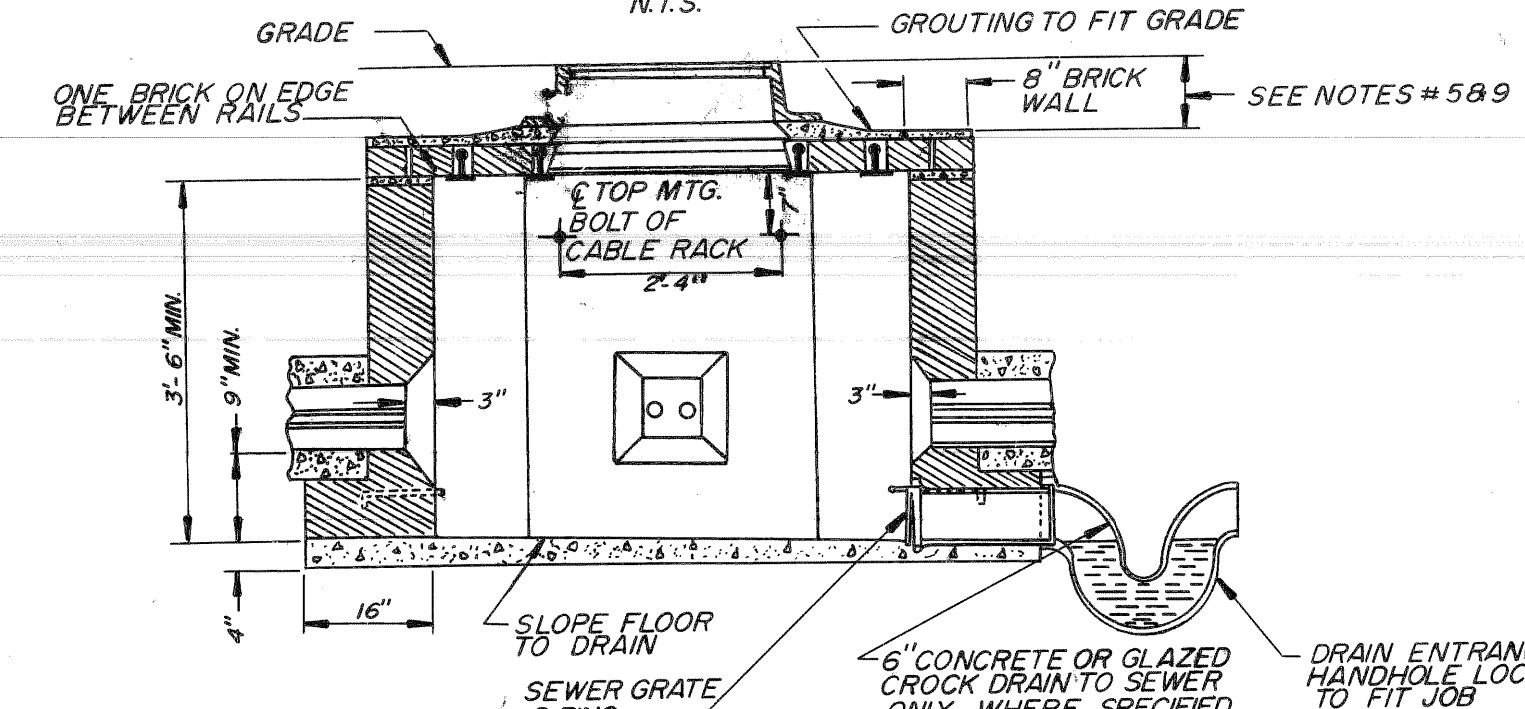
DRAWN CEA	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED [Signature]	16580 WYOMING, DETROIT, MICH., 48221
APPROVED [Signature]	FILE NO. CEA 1098
DATE AUG 1984	DRWG. NO. 18 OF 41

CHECKED BY	<b>PUBLIC LIGHTING COMMISSION</b>	FILE NO. 51-0585
APPROVED BY	<b>CITY OF DETROIT</b>	SHEET NO. 48 OF 71
		DATE AUG 1984

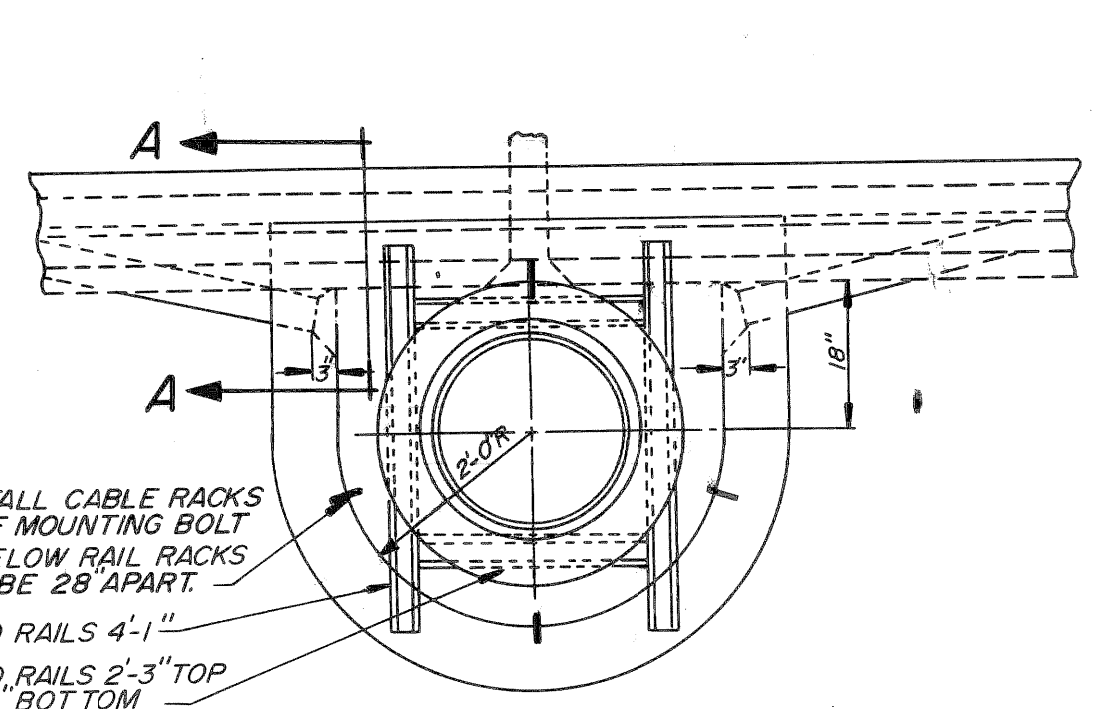




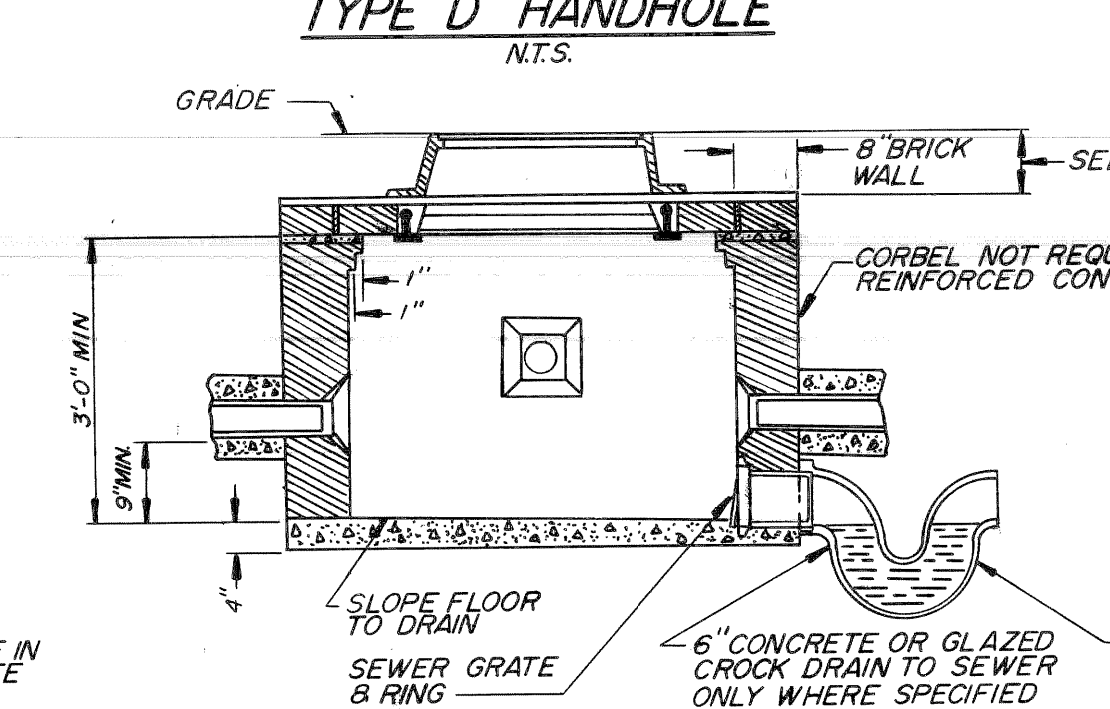
PLAN TYPE "S" HANDHOLE  
N.T.S.



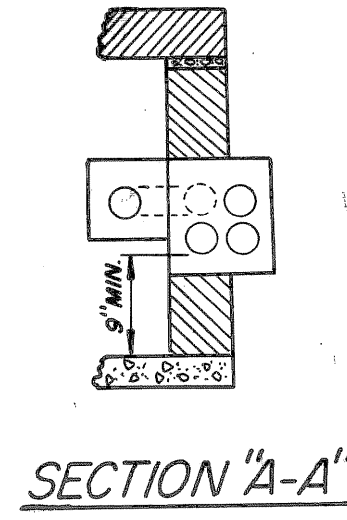
SECTION TYPE "S" HANDHOLE  
N.T.S.



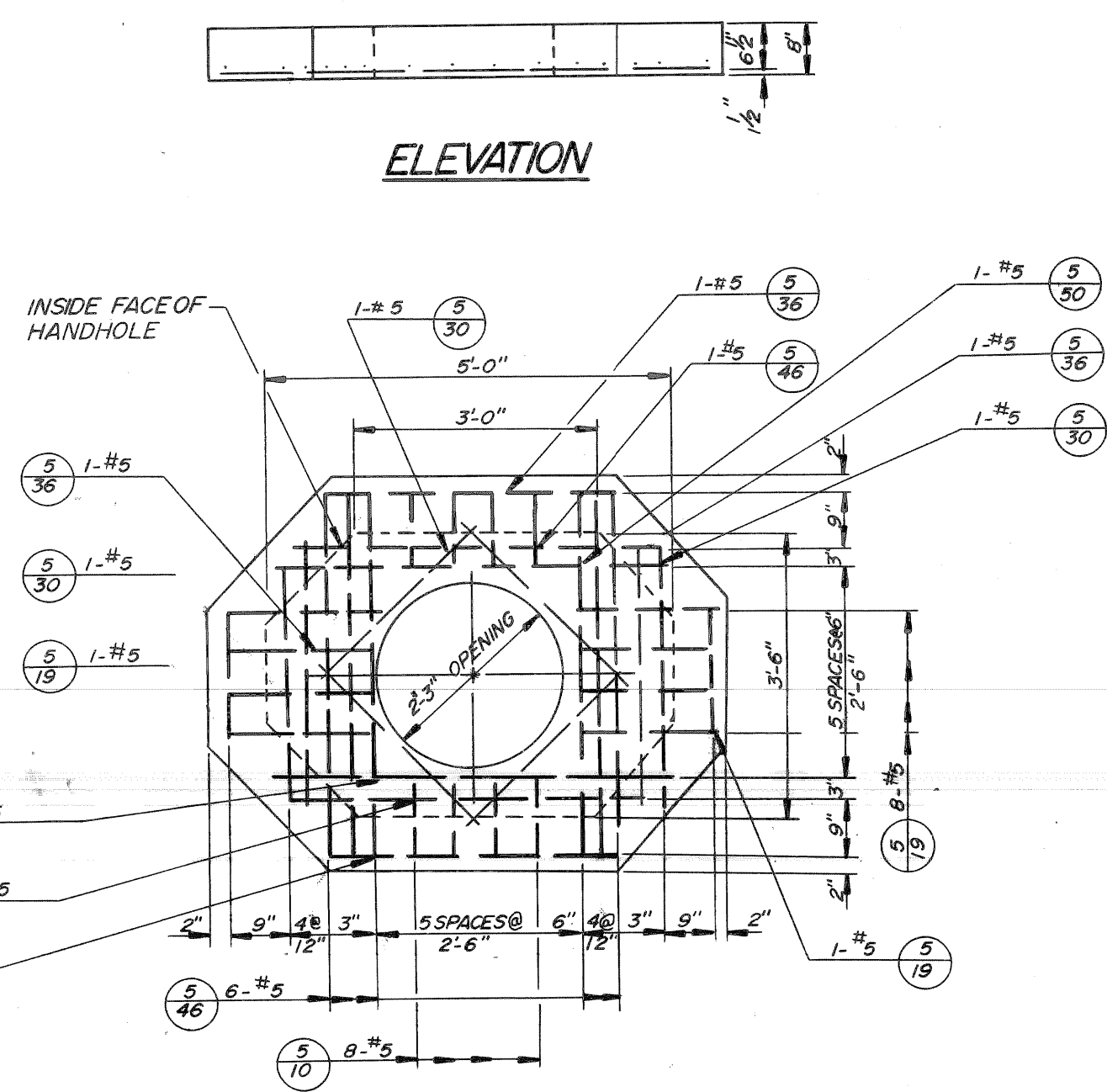
PLAN TYPE "D" HANDHOLE  
N.T.S.



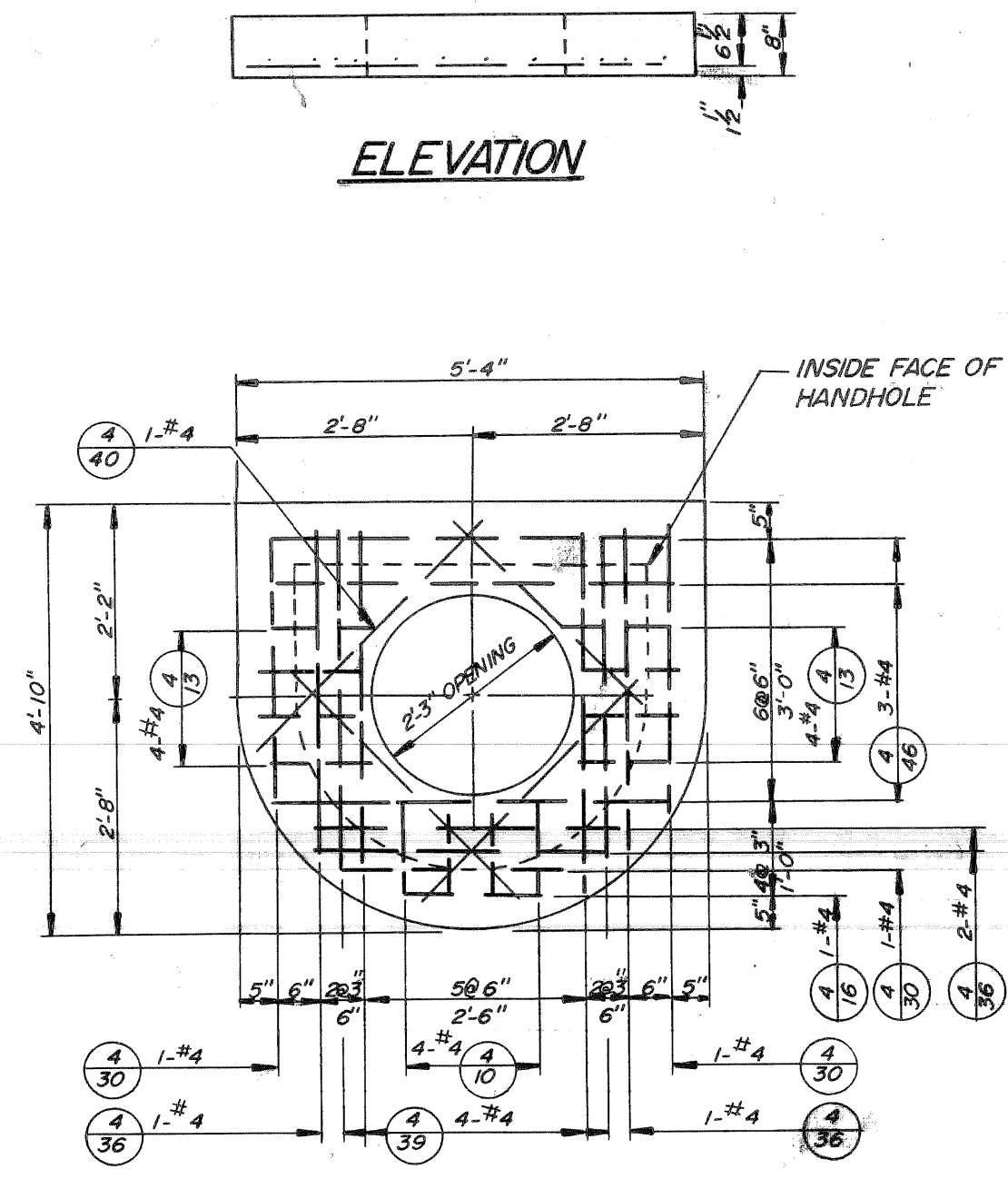
SECTION TYPE "D" HANDHOLE  
N.T.S.



SECTION "A-A"



ALTERNATE ROOF-TYPE "S" HANDHOLE  
N.T.S.



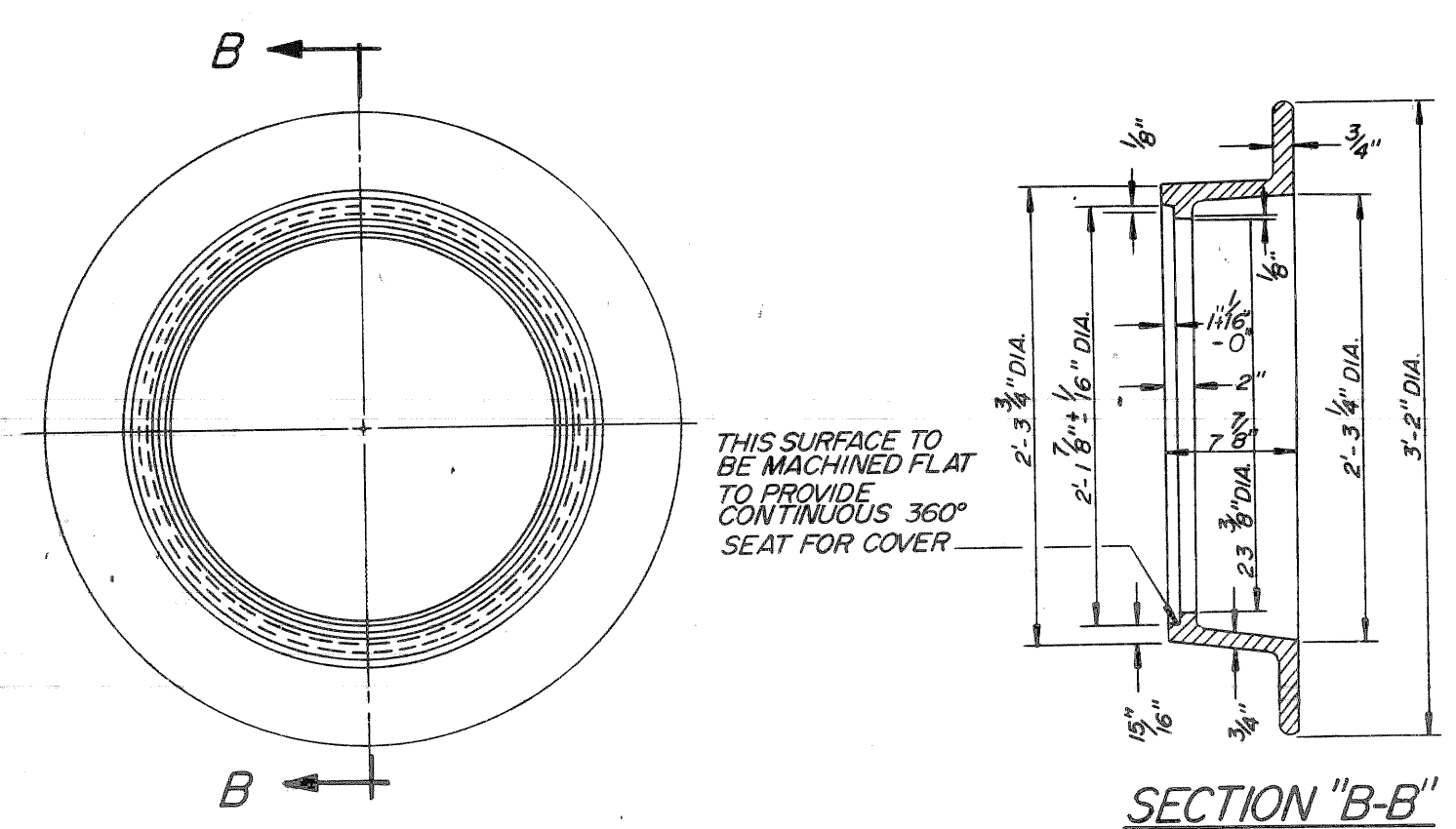
ALTERNATE ROOF-TYPE "D" HANDHOLE  
N.T.S.

TYPE "D" HANDHOLE TABLE FOR #4 BARS

MARK NO.	LENGTH
4-46	3 4'-6"
4-40	4 4'-0"
4-39	4 3'-9"
4-36	4 3'-6"
4-30	3 3'-0"
4-16	1 18"
4-13	8 15"
4-10	4 12"

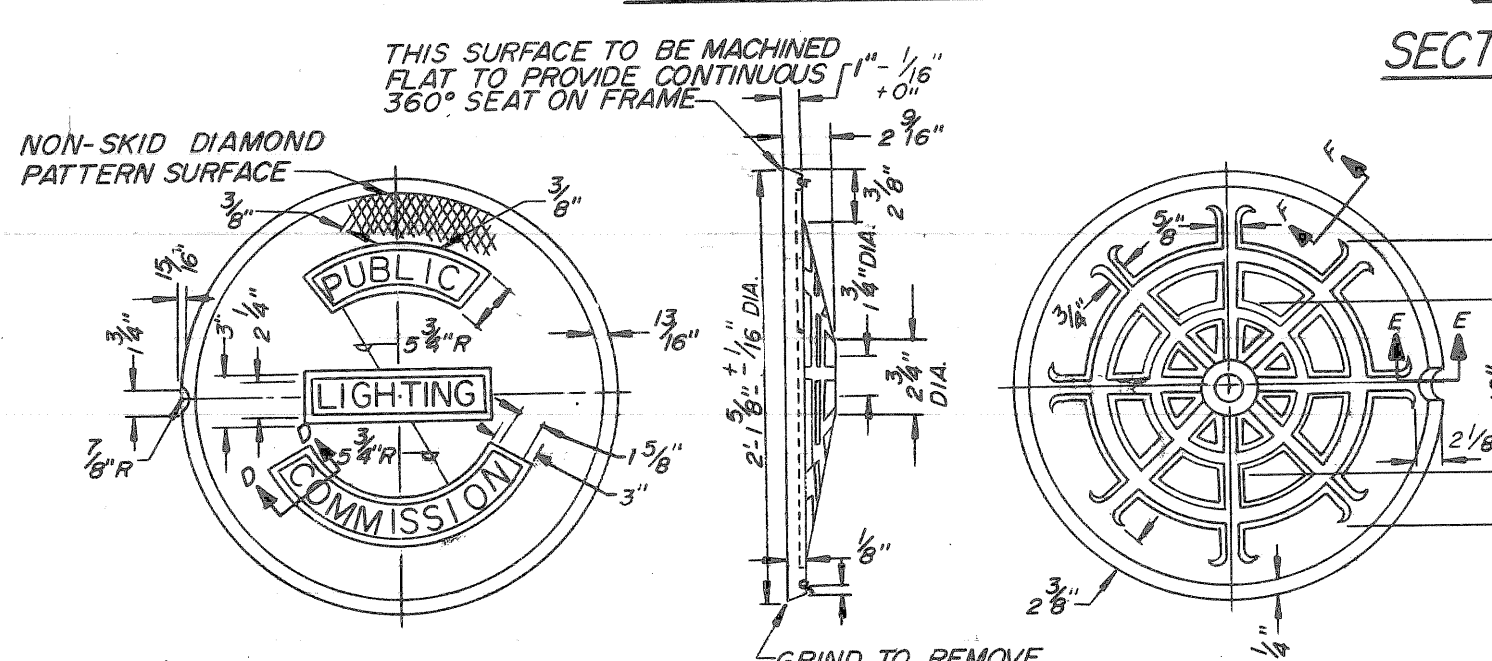
TYPE "S" HANDHOLE TABLE FOR #5 BARS

MARK NO.	LENGTH
5-50	2 5'-0"
5-46	4 4'-6"
5-36	4 3'-6"
5-30	6 3'-0"
5-19	10 21"
5-10	8 12"



SECTION "B-B"

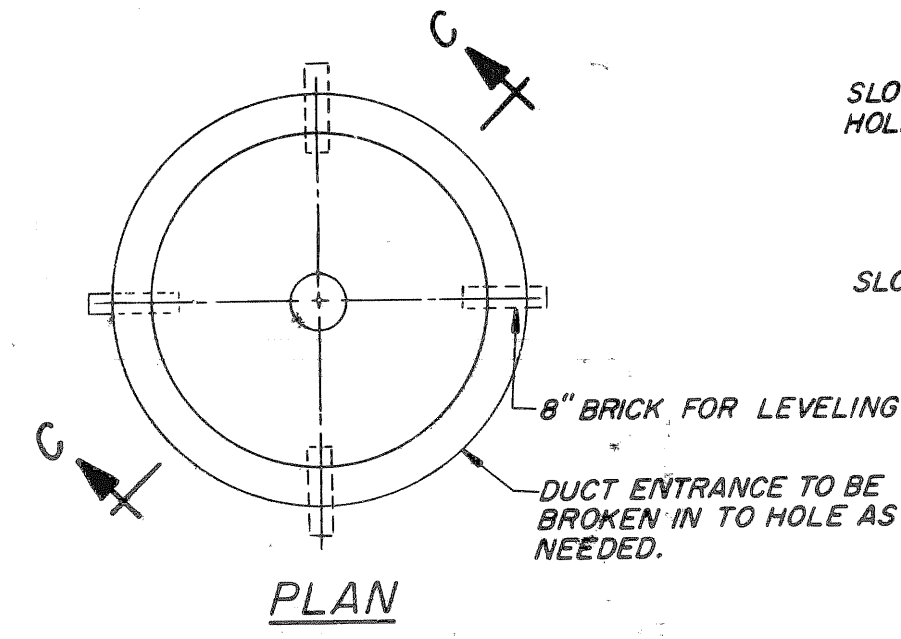
PL.C. PATTERN NO.1A  
A.S.T.M. CLASS 20 OR 30 GRAY IRON  
APPROX. WT. 251 LBS.  
HANDHOLE FRAME



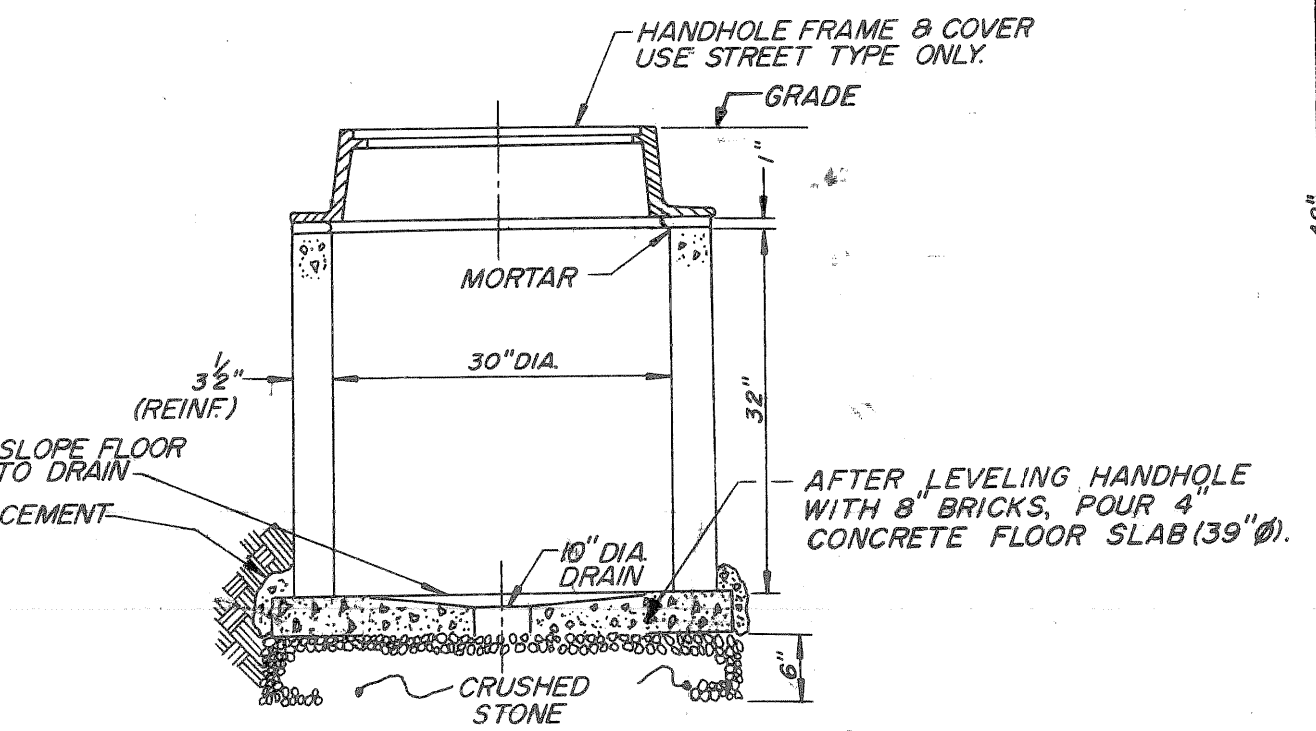
SECTION "D-D"

PL.C. PATTERN NO.2A  
A.S.T.M. CLASS 30 GRAY IRON  
APPROX. WT. 145 LBS.  
STREET TYPE COVER  
TO BE USED IN STREETS & DRIVES

- NOTE:
1. FRAMES MAY BE A.S.T.M. CLASS 30 GRAY IRON IF THE CONTRACTOR SO ELECTS.
  2. ALL FILLETS ARE 1/2" RADIUS, & ALL ROUNDS ARE 1/4" RADIUS

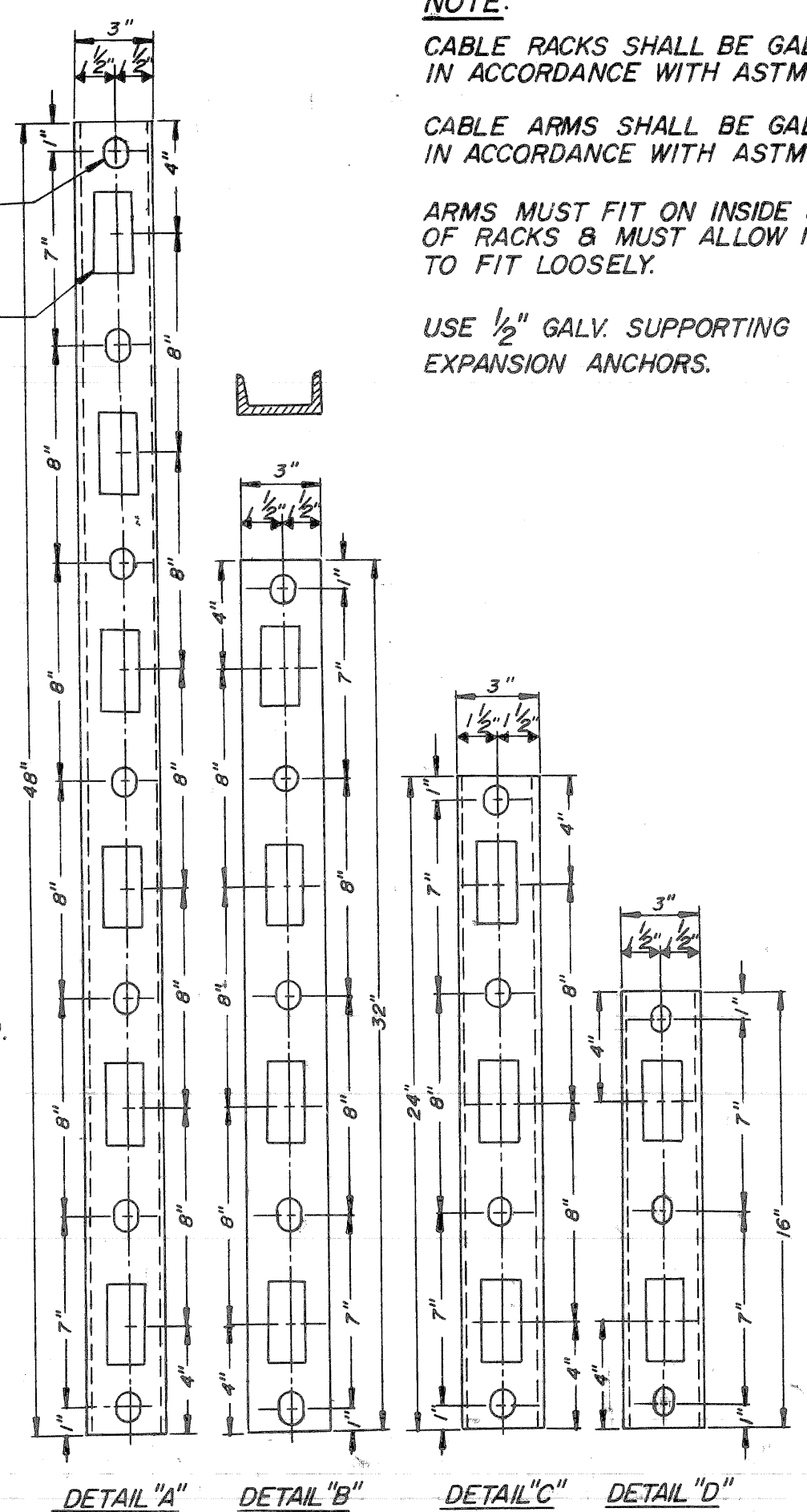


PLAN



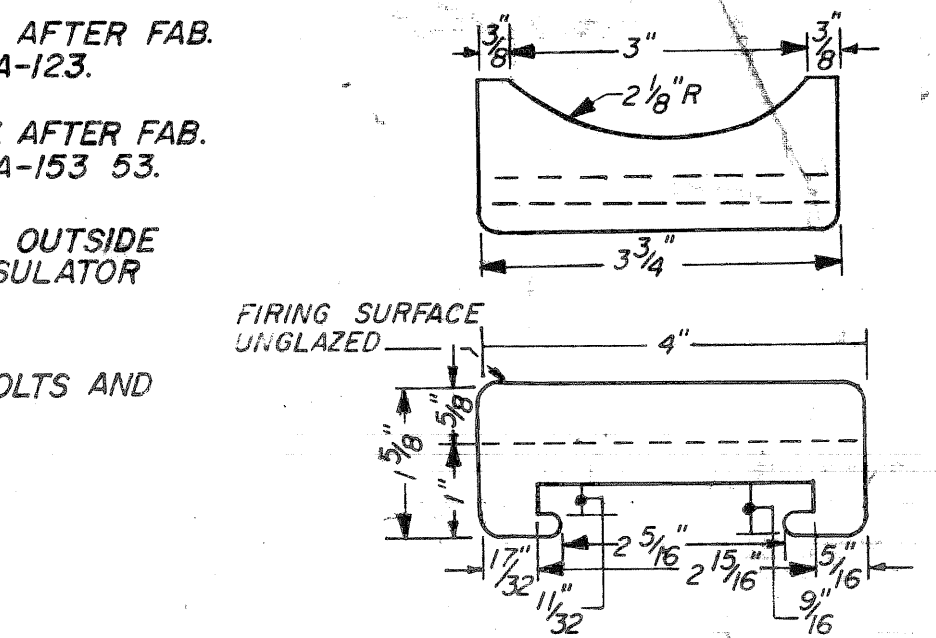
SECTION "C-C"  
REINFORCED CONCRETE PIPE (CLASS III)  
ROUND HANDHOLE

- NOTES:
1. DUCT ENTRANCE TO BE BUILT AS REQUIRED.
  2. ALL RAILS TO BE 60#/YD. OR HEAVIER.
  3. CABLE PULLING IRONS TO BE GALVANIZED.
  4. CABLE RACKS AND ARMS TO BE GALVANIZED.
  5. IN PAVEMENT PROVIDE AT LEAST 3" BETWEEN ROOF AND BASE OF PAVEMENT. WHERE EXISTING GRADE IS HIGHER THAN PROP. FUTURE GRADE INSTALL BRICK RING OR GROUT (AS REQ'D.) UNDER FRAME TO ALLOW FOR FUTURE FRAME ADJUSTMENT.
  6. BAR NUMBERS DENOTE THE SIZE OF BAR REQUIRED IN ACCORDANCE WITH CURRENT USAGE SPECIFIED BY THE CONCRETE REINFORCING STEEL INSTITUTE.
  7. EXCAVATION LIMITS FOR PUBLIC LIGHTING DEPARTMENT HANDHOLES SHALL BE ON VERTICAL PLANES OF THE FOOTING OUTLINE.
  8. INSTALL ANCHORS & CABLE-RACKS AS SHOWN.
  9. WHERE HANDHOLES ARE LOCATED BACK OF CURBS ROOF MUST BE BUILT 18" BELOW CURB GRADE, TO PROVIDE FOR FUTURE WIDENING.

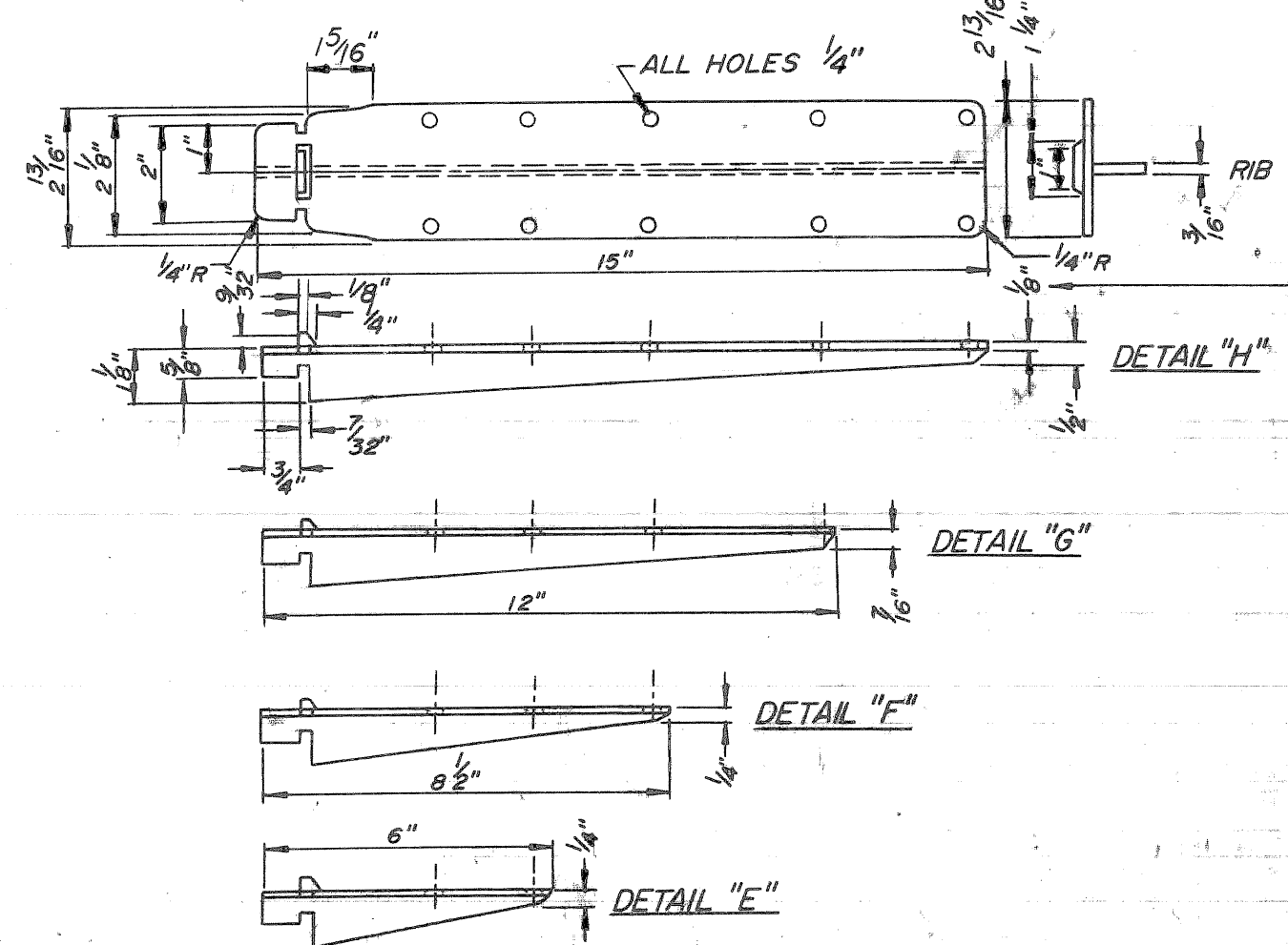


CABLE RACKS  
3" STD. 4 1/8" CHANNEL  
N.T.S.

NOTE:  
CABLE RACKS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-123.  
CABLE ARMS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-153 53.  
ARMS MUST FIT ON INSIDE & OUTSIDE OF RACKS & MUST ALLOW INSULATOR TO FIT LOOSELY.  
USE 1/2" GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.



CABLE ARM INSULATORS  
WHITE GLAZED PORCELAIN DRY PROCESS  
N.T.S.



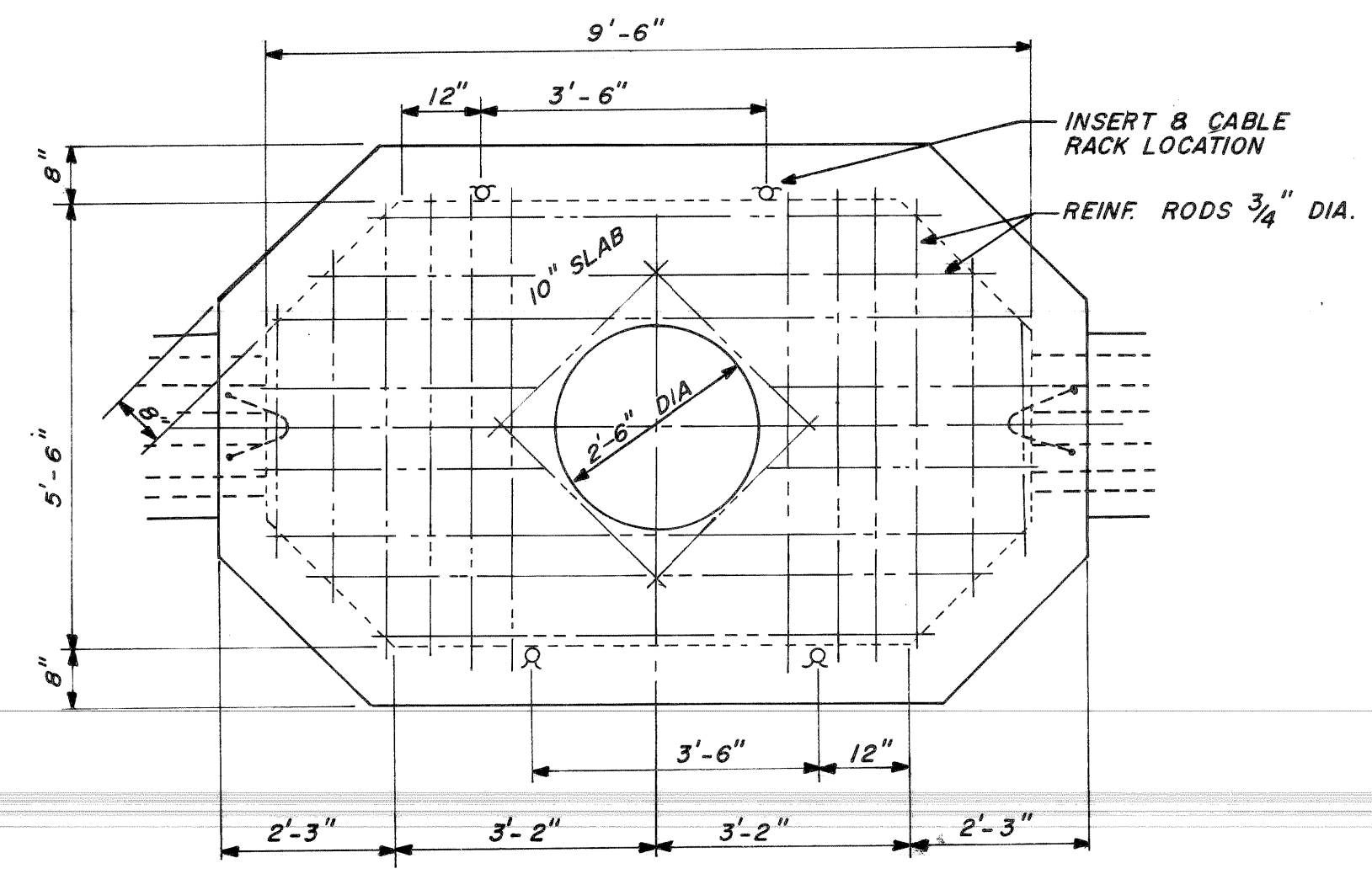
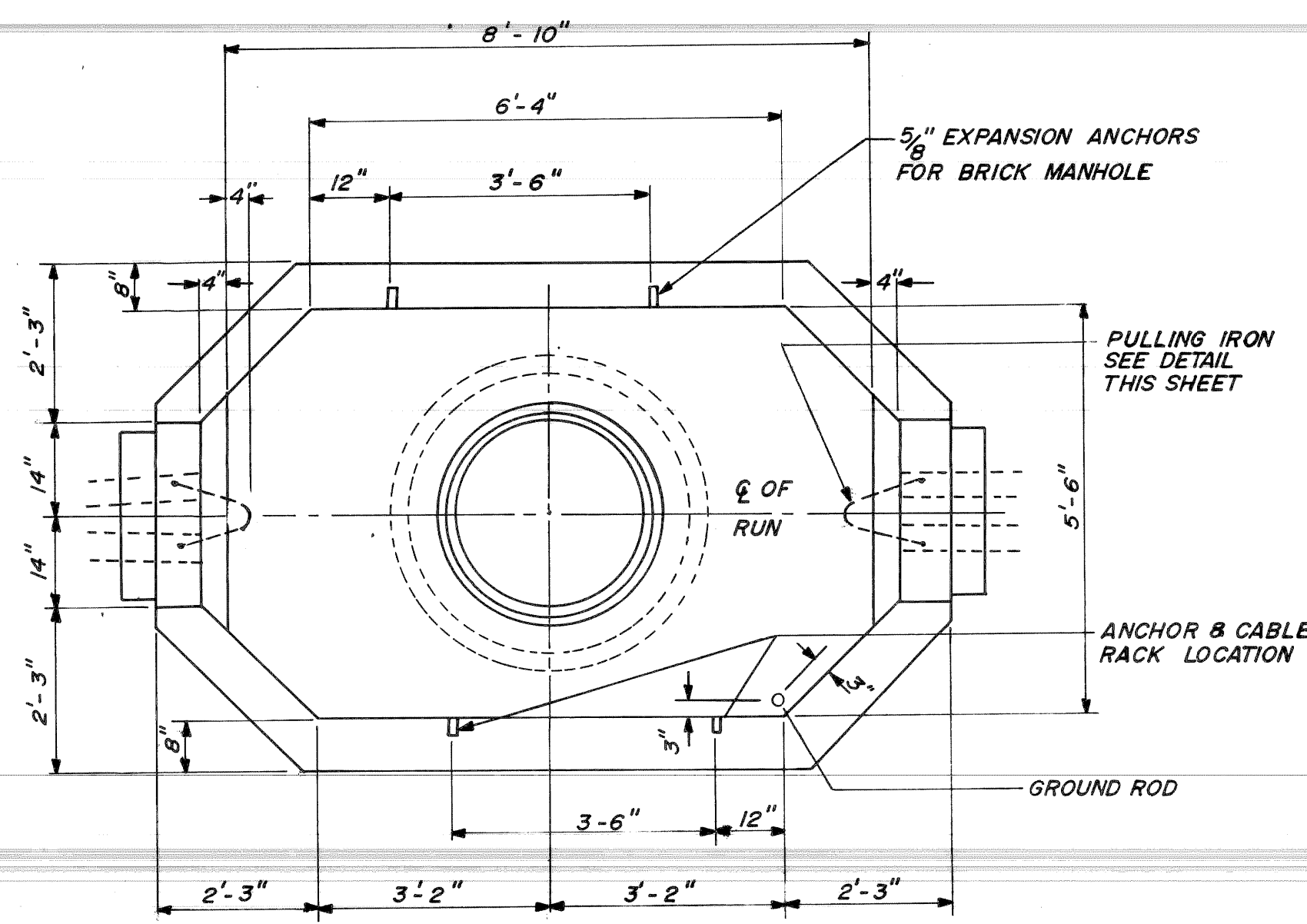
PULLING IRON  
N.T.S.  
DETAIL - "J"

CABLE ARMS  
MALLEABLE CAST IRON  
N.T.S.

CABLE RACKS, CABLE ARMS, AND CABLE ARM INSULATORS  
N.T.S.

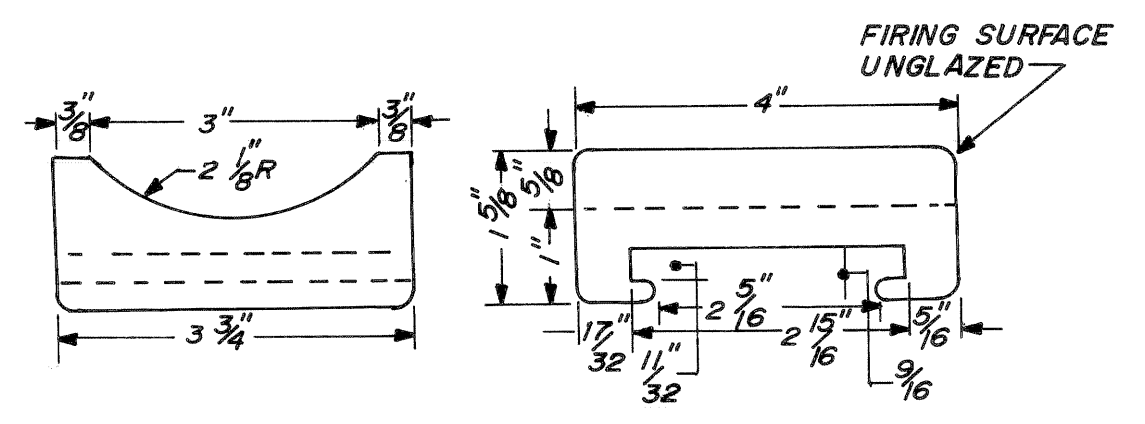
DATE	DESCRIPTION	CHRD. BY	14	M.L. KING JR. BLVD. RECONSTRUCTION WABASH AVE. TO LINCOLN AVE. HANDHOLE DETAILS	SHEET _____ OF _____ SHEETS	CITY OF DETROIT CITY ENGINEERING DEPARTMENT	DRAWN BY CEA CHECKED BY APPROVED BY DATE AUG 1984	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16590 WYOMING DETROIT, MICH 48221 FILE NO. CEA-PLC-1098	PUBLIC LIGHTING COMMISSION CITY OF DETROIT	FILE NO.
										51-0585
										49 OF 71
										DATE
										AUG 1984



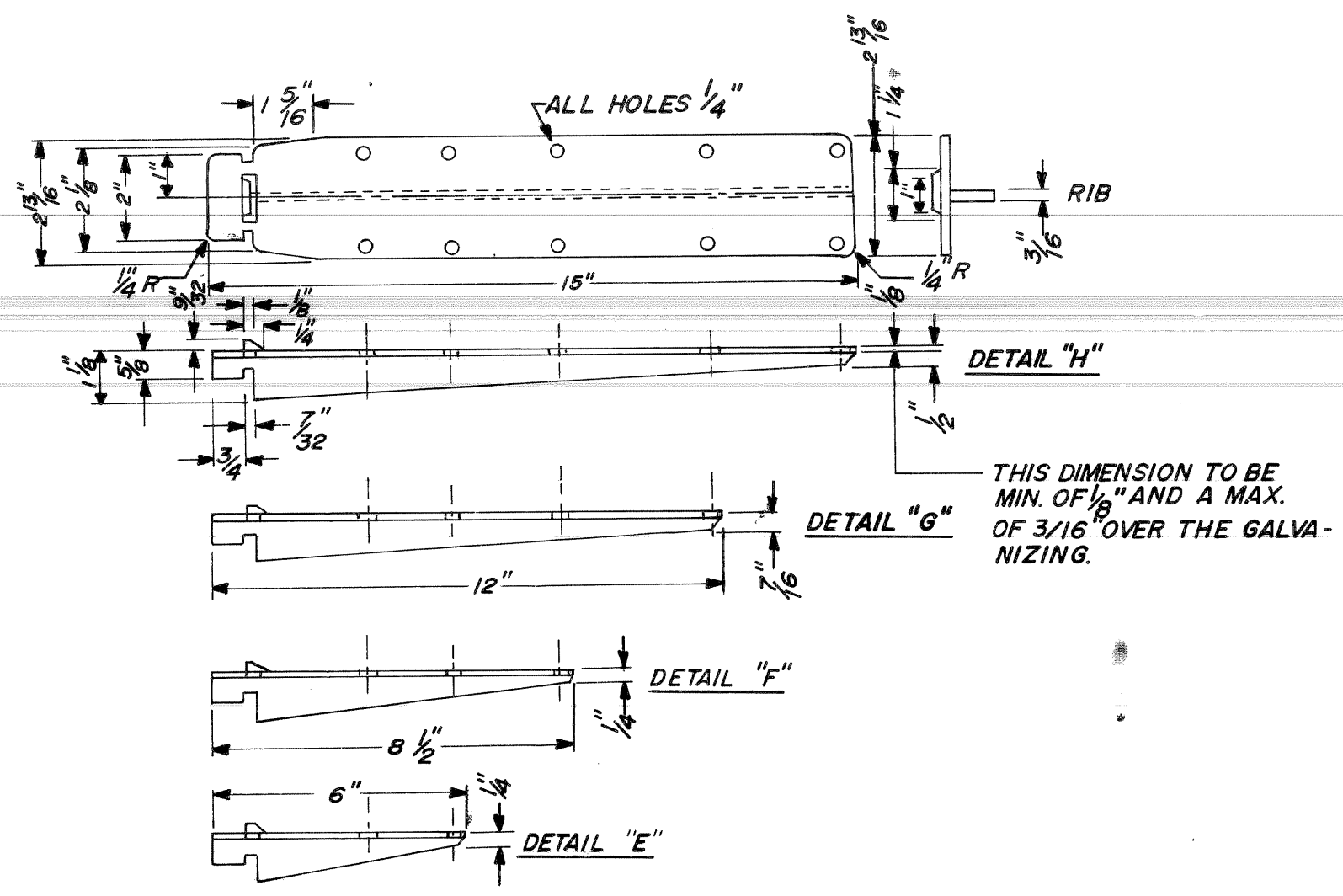


**NOTE**

CABLE RACKS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM. A-123.  
CABLE ARMS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM. A-133 53.  
ARMS MUST FIT ON INSIDE & OUTSIDE OF RACKS & MUST ALLOW INSULATOR TO FIT LOOSELY.  
USE 1/2" GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.



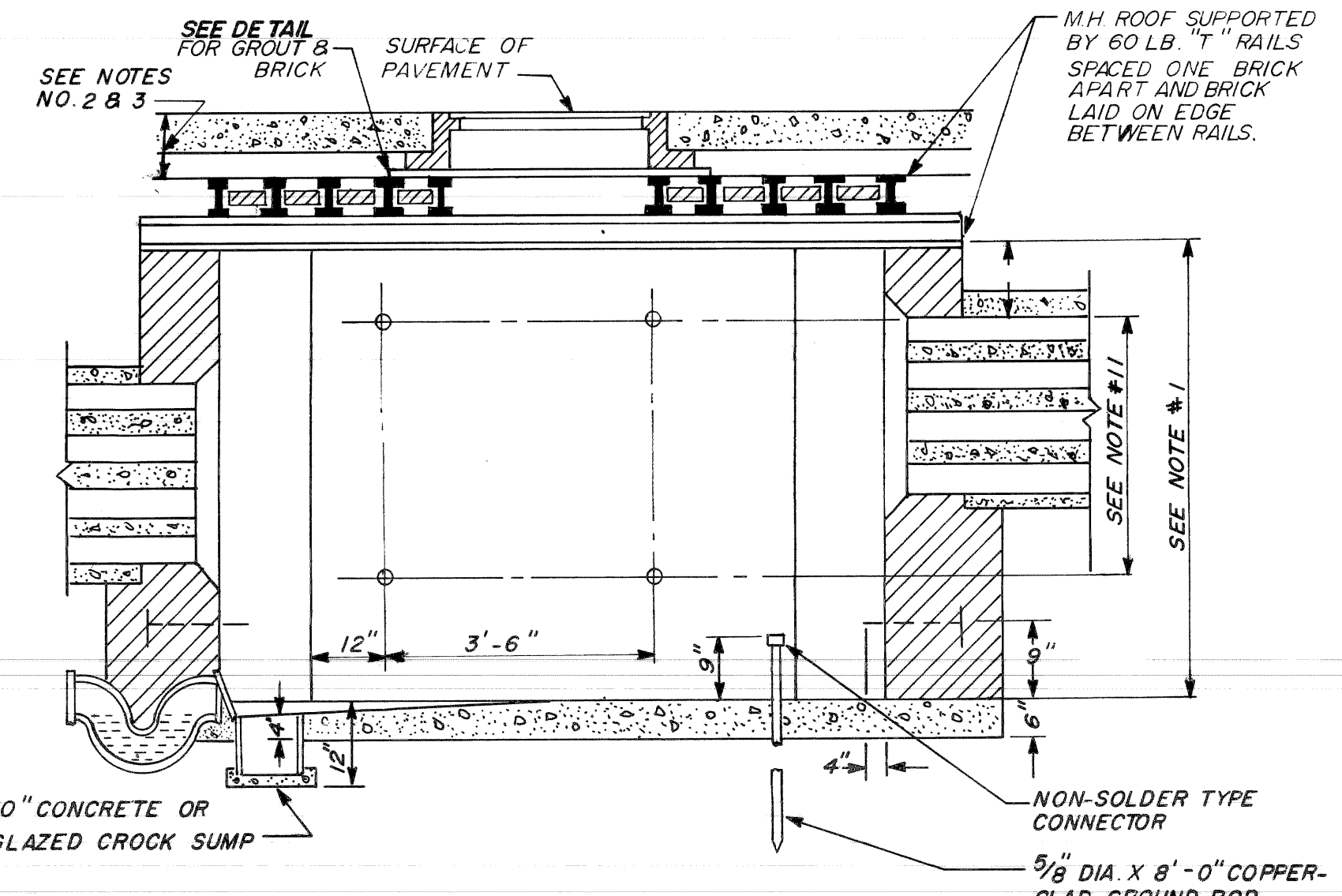
**CABLE ARM INSULATORS**  
WHITE GLAZED PORCELAIN DRY PROCESS  
N.T.S.



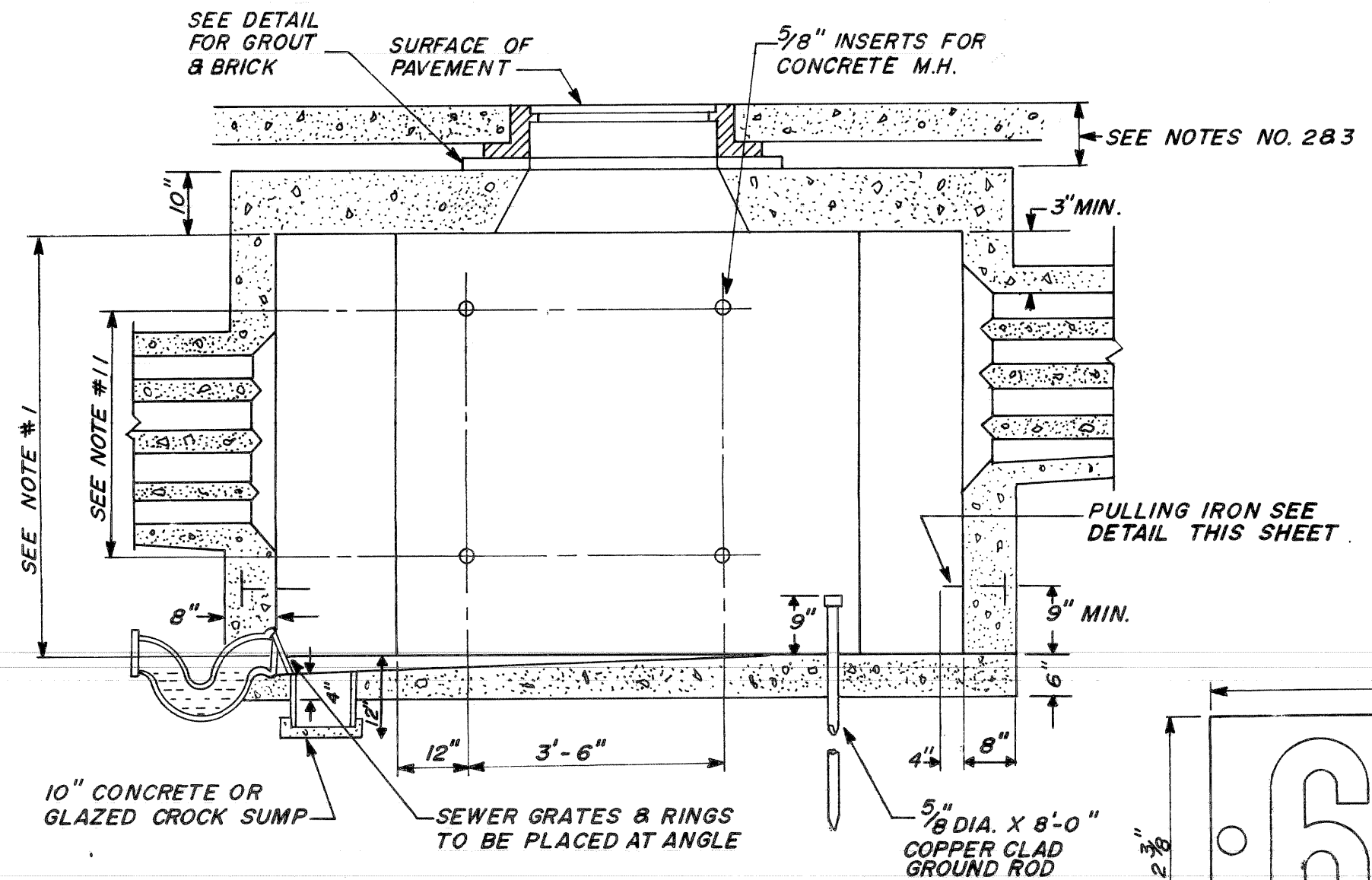
**CABLE RACKS**  
3" STD. 4 INCH CHANNEL  
N.T.S.

**CABLE ARMS**  
MALLEABLE CAST IRON  
N.T.S.

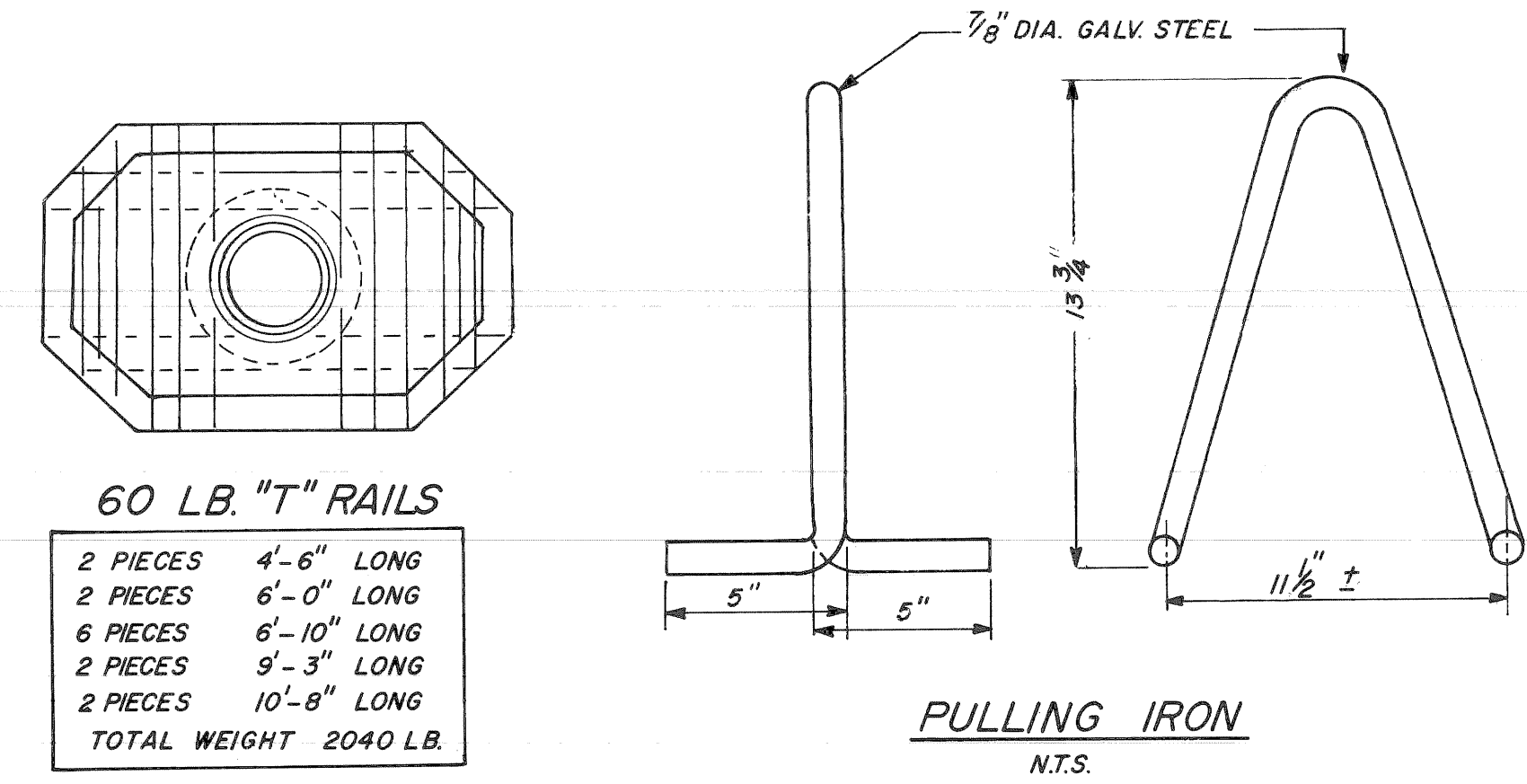
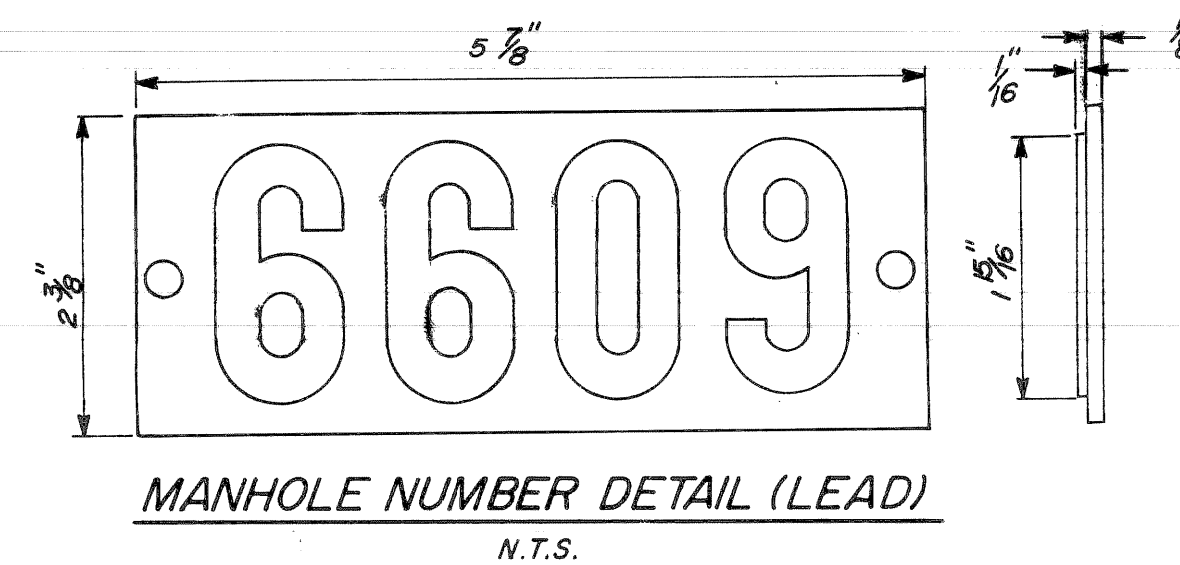
**CABLE RACKS, CABLE ARMS, AND CABLE ARM INSULATORS**



**BRICK-TWO WAY MANHOLE**  
N.T.S.



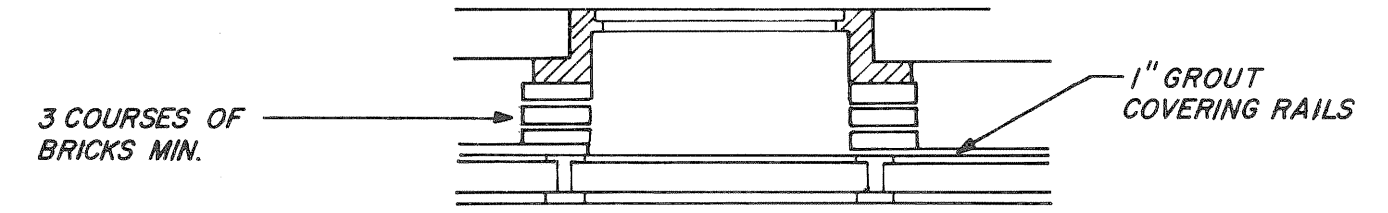
**CONCRETE-TWO WAY MANHOLE**  
N.T.S.



- 3/4" DIA. REINFORCING STEEL RODS REQ'D. FOR 2-WAY M.H.  
N.T.S.
- 10 PIECES 3'-6" LONG
  - 2 PIECES 5'-0" LONG
  - 8 PIECES 6'-6" LONG
  - 2 PIECES 8'-0" LONG
  - 4 PIECES 10'-0" LONG

**NOTES:**

1. THIS DIMENSION NORMALLY 6'-0." SEE SPECIFICATIONS FOR UNUSUAL CONDITIONS.
2. WHERE M.H.'S ARE LOCATED BACK OF CURBS, TOP OF M.H. ROOF MUST BE BUILT 26" BELOW CURB GRADE TO PROVIDE FOR FUTURE PAVEMENT.
3. IN EXISTING PAVEMENT, PROVIDE AT LEAST 8" BETWEEN TOP OF ROOF AND BASE OF PAVEMENT.
4. BOLTS, RACKS & PULLING IRONS TO BE HOT-DIP GALV.
5. C OF RAILS UNDER M.H. FRAME FLANGE TO BE APPROX. 18" FROM C'S OF FRAMES.
6. M.H. NUMBER TO BE INSTALLED ON MANHOLE WALL IN CONSPICUOUS PLACE.
7. MOUNTING HEIGHT FOR LOWER BOLTS OF CABLE RACK SHALL BE THE AVERAGE HEIGHT OF THE BOTTOM OF THE LOWEST DUCTS IN MAIN CONDUITS. INSTALL RACKS ON ALL WALLS.
8. 8" THICK BRICK CHIMNEYS WHERE SPECIFIED SHALL BE INCIDENTAL TO APPLICABLE M.H. ITEM.
9. EXCAVATION LIMITS FOR PUBLIC LIGHTING DEPARTMENT MANHOLES SHALL BE ON VERTICAL PLANES ON THE FOOTING OUTLINE.
10. 1/2" PLASTER OUTSIDE WALLS OF BRICK MANHOLES.
11. SPACING OF INSERTS AS REQUIRED TO ACCOMMODATE CABLE RACK.



**GROUT & BRICK DETAIL**

DATE	DESCRIPTION	CHKD. BY
		15

M.L. KING JR. BLVD. RECONSTRUCTION  
WABASH AVE. TO LINCOLN AVE.  
TWO-WAY MANHOLE

SHEET	OF	SHEETS
JOB NO.		
ASSIGNMENT NO.		
DATE		

CITY OF DETROIT  
CITY ENGINEERING DEPARTMENT

DRAWN BY	CEA
CHECKED BY	
APPROVED BY	
DATE	AUG 1984

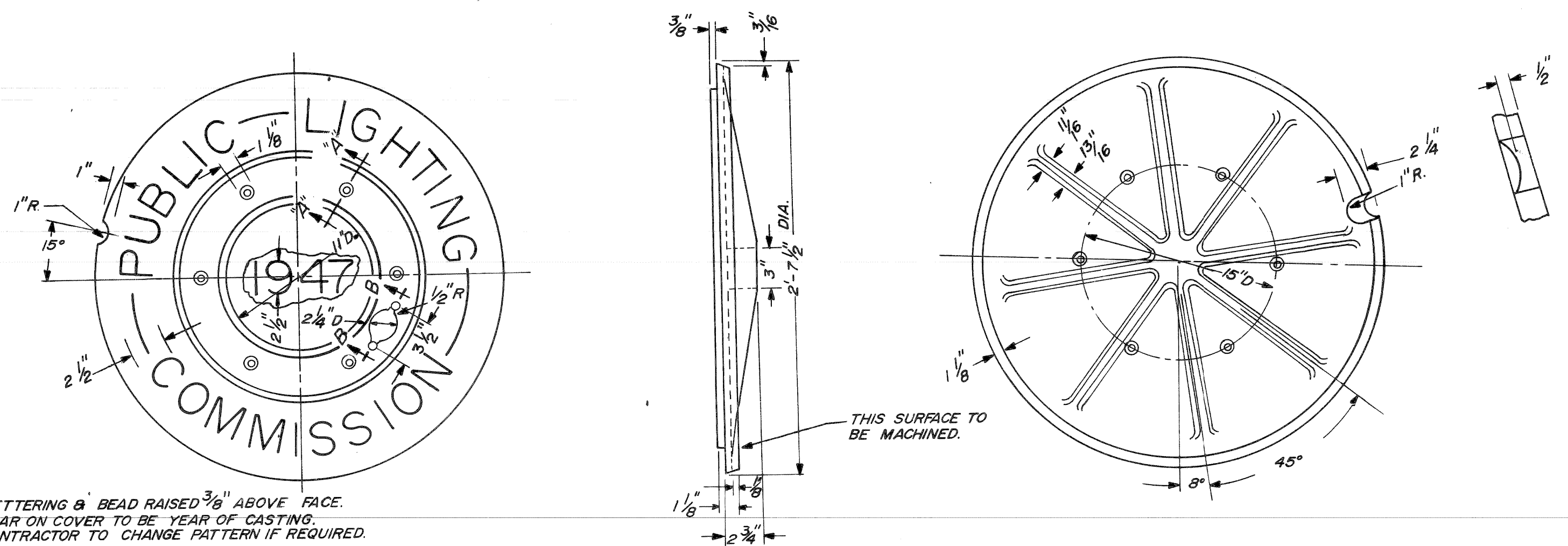
PLAN PREPARED BY  
CONSULTING ENGINEERING ASSOCIATES INC.  
ENGINEERING CONSULTANTS  
16580 WYOMING DETROIT, MICH. 48221

DRAWING NO. 20 OF 41  
FILE NO. CEA 1098

PUBLIC LIGHTING COMMISSION  
CITY OF DETROIT

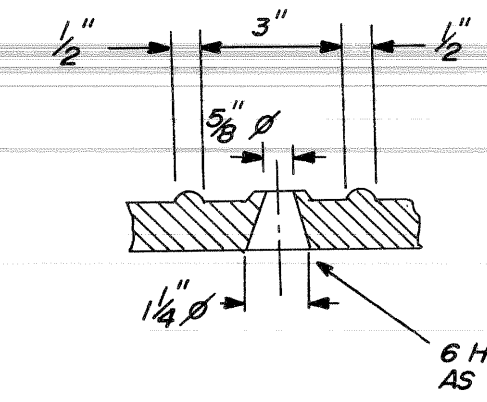
FILE NO.	51-0585
SHEET NO.	50 OF 71
DATE	AUG 1984



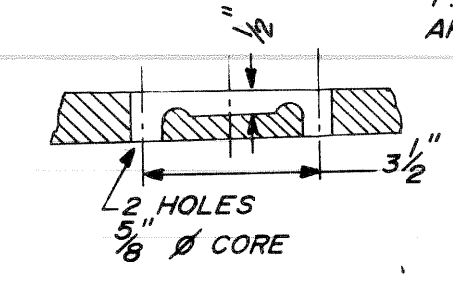


LETTERING & BEAD RAISED 3/16" ABOVE FACE. YEAR ON COVER TO BE YEAR OF CASTING. CONTRACTOR TO CHANGE PATTERN IF REQUIRED.

A.S.T.M. CLASS 30 GREY IRON  
P.L.C. PATT. NO. 418  
APPROX. WT. - 245 #

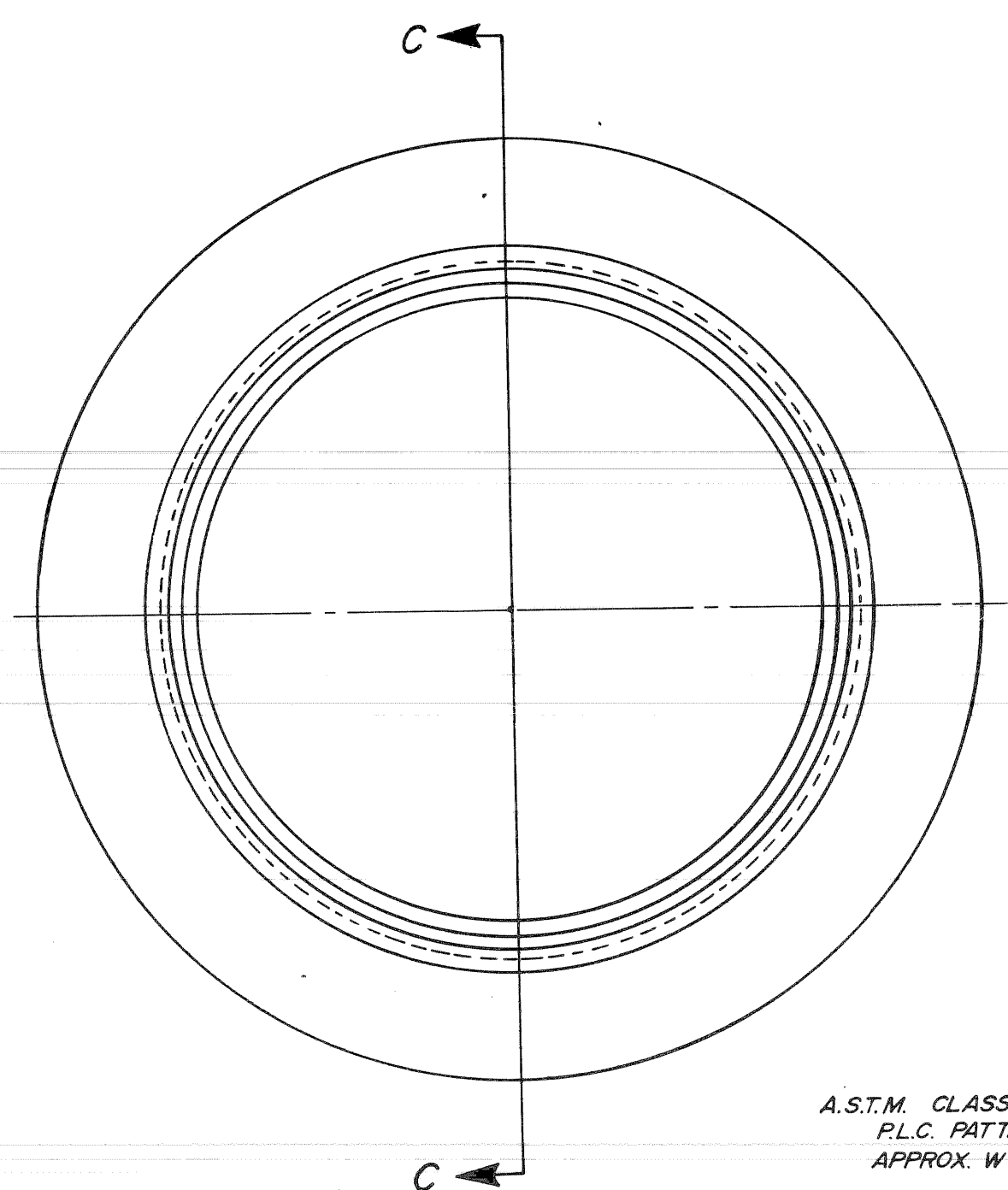


SECTION "A-A"



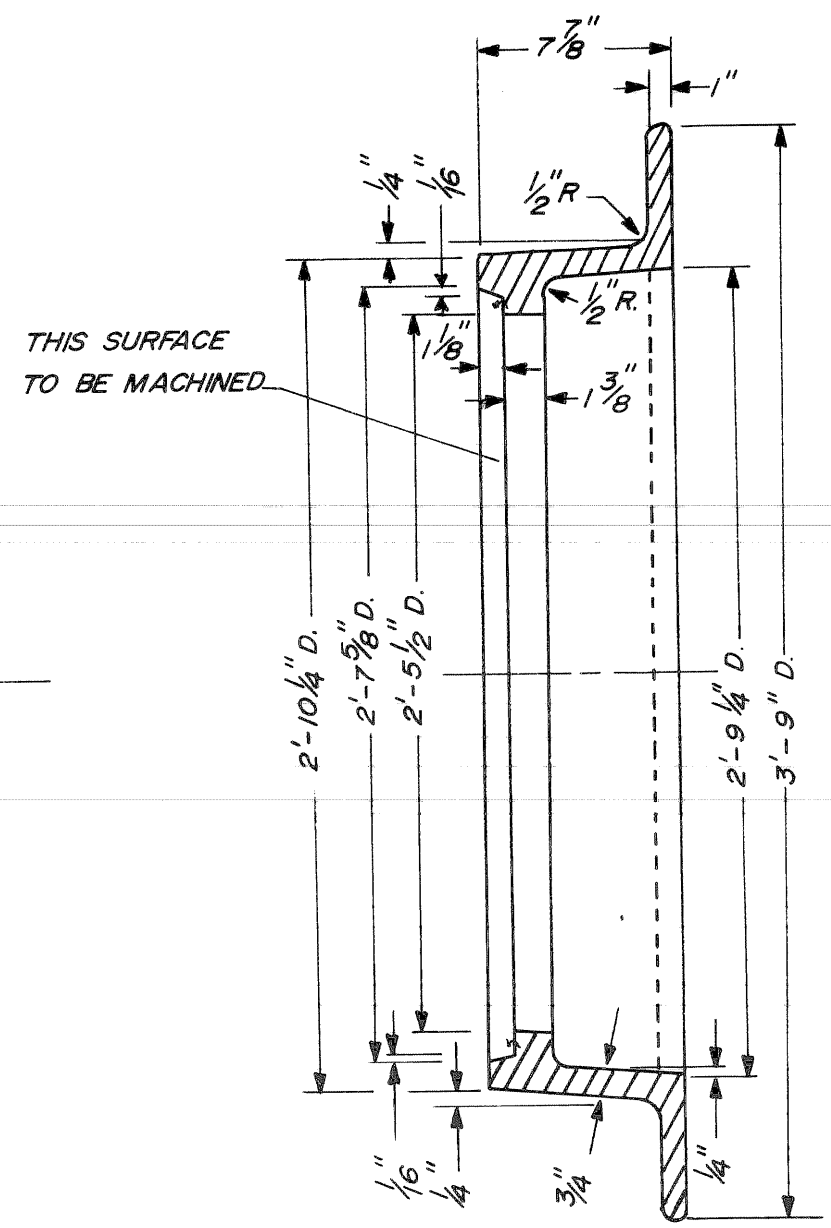
SECTION "B-B"

MANHOLE COVER  
N.T.S.

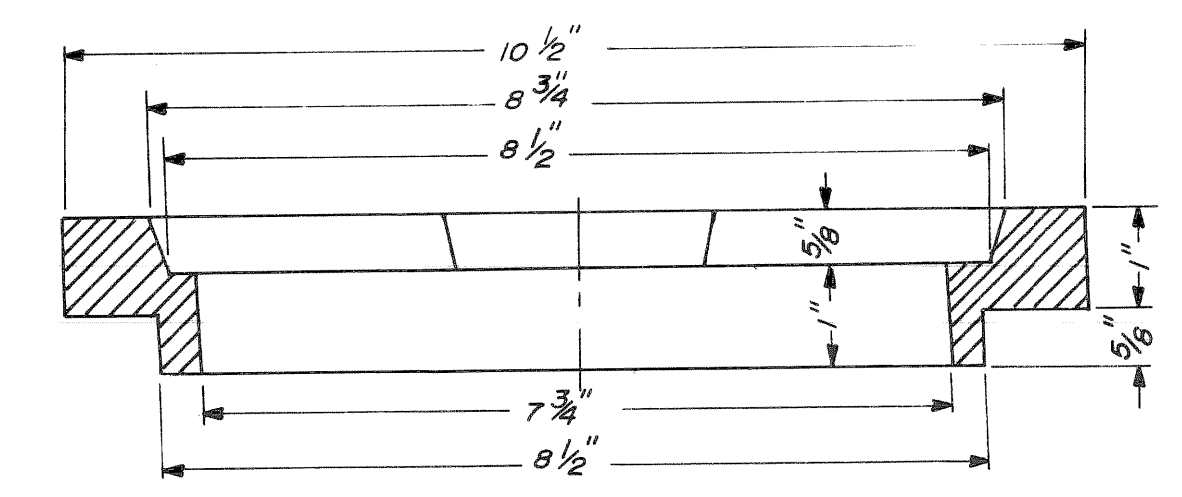


A.S.T.M. CLASS 20 OR 30 GREY IRON  
P.L.C. PATT. NO. 417  
APPROX. WT. - 410 #

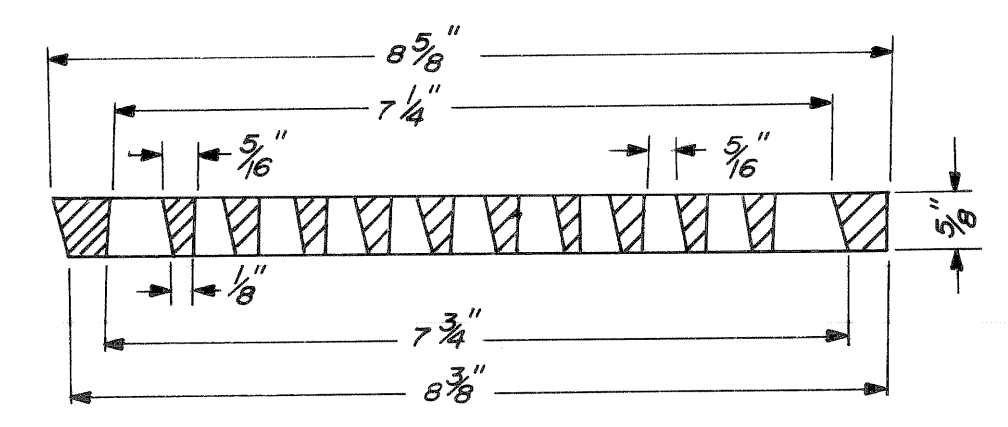
MANHOLE FRAME  
N.T.S.



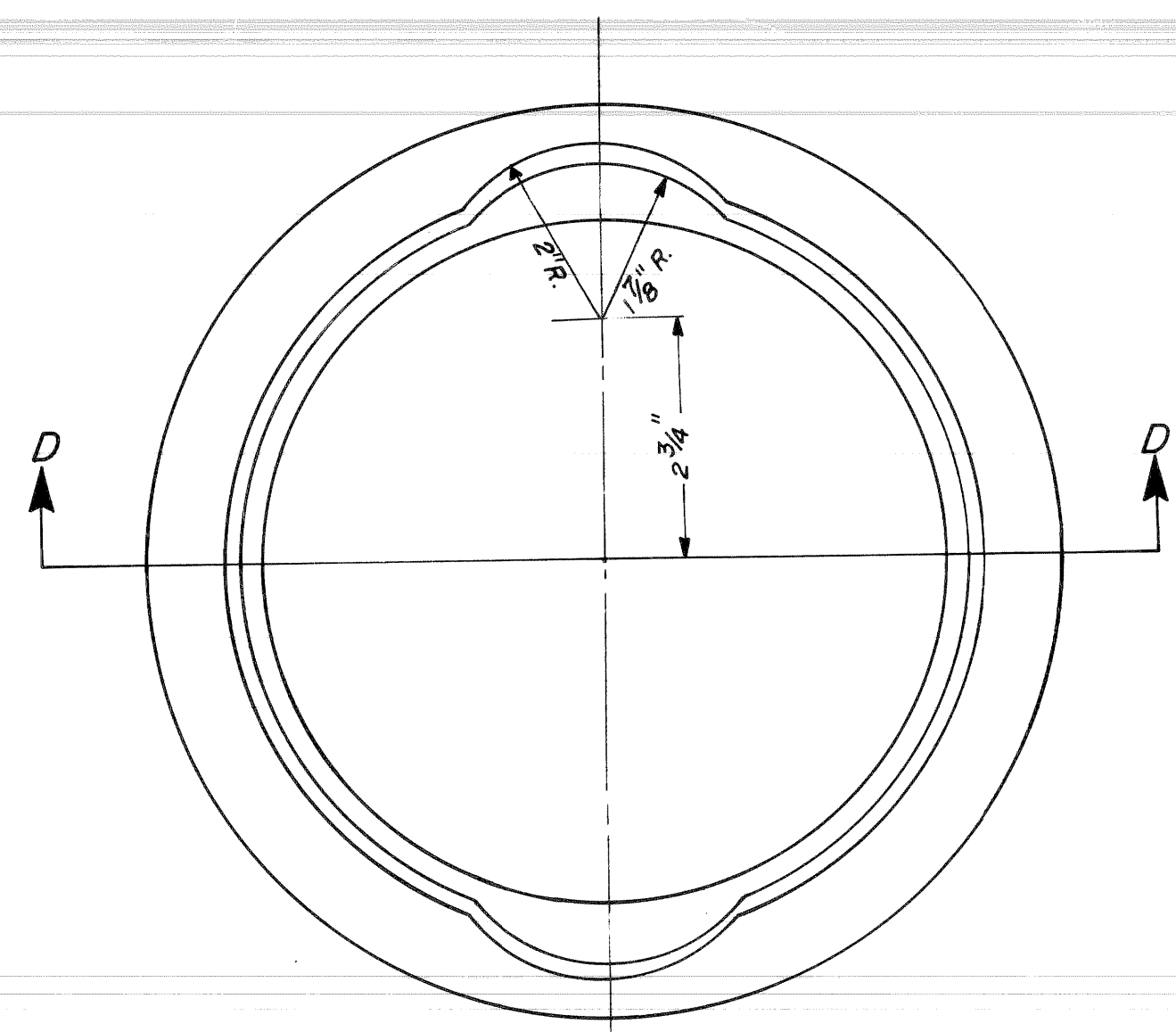
SECTION "C-C"



SECTION "D-D"

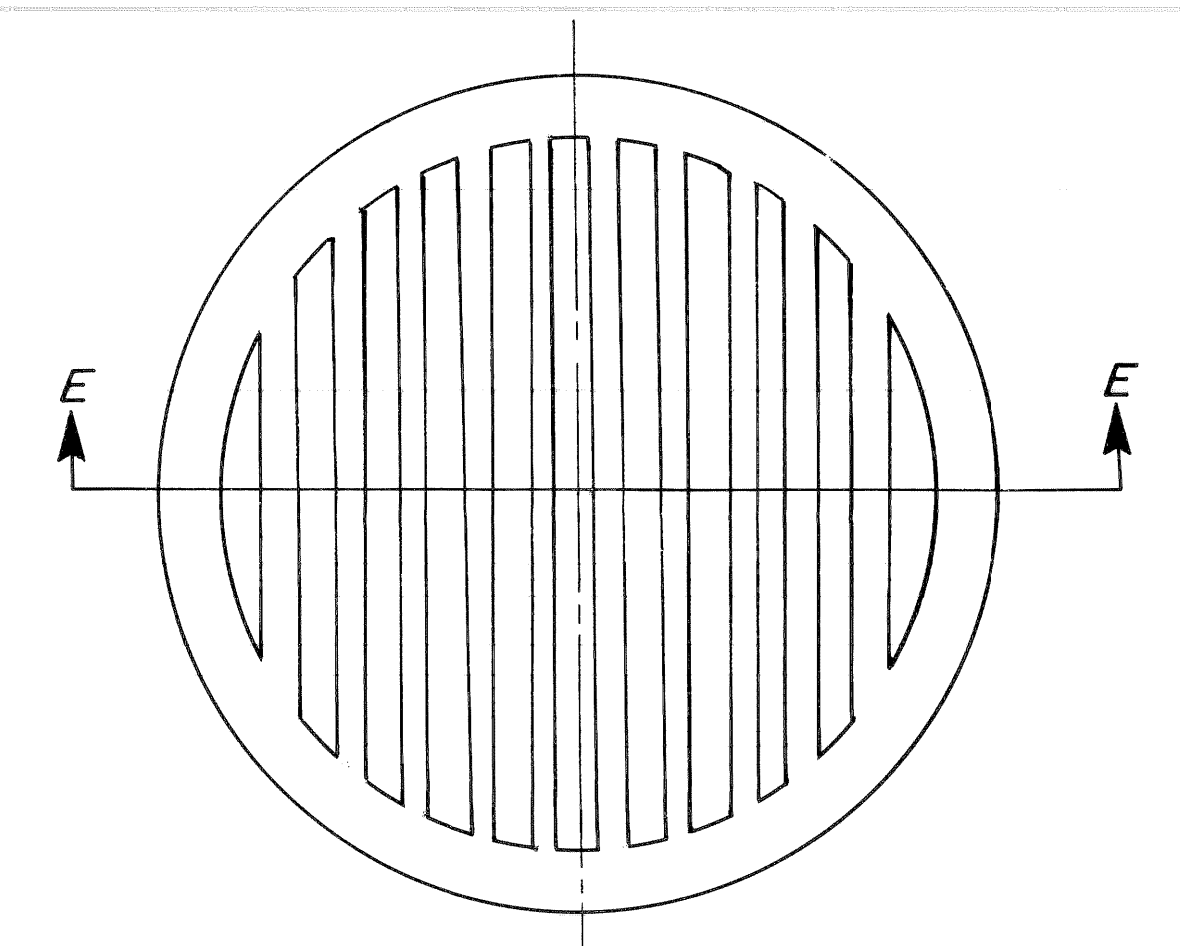


SECTION "E-E"



A.S.T.M. CLASS 20 OR 30 GREY IRON  
P.L.C. PATT. NO. 318-A  
APPROX. WT. 9 #

SEWER RING  
N.T.S.



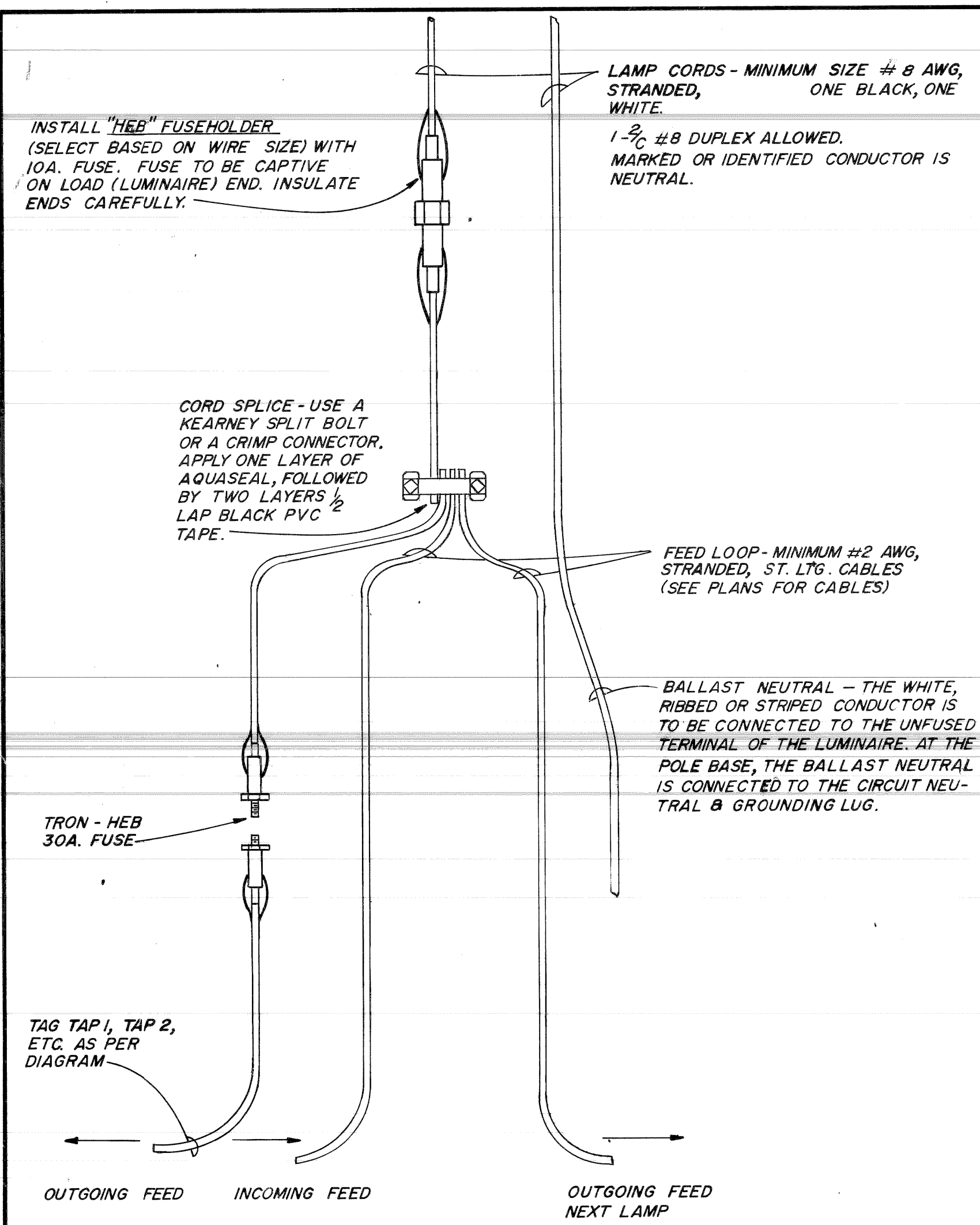
A.S.T.M. CLASS 20 OR 30 GREY IRON  
P.L.C. PATT. NO. 318  
APPROX. WT. - 4.5 #

SEWER GRATE  
N.T.S.

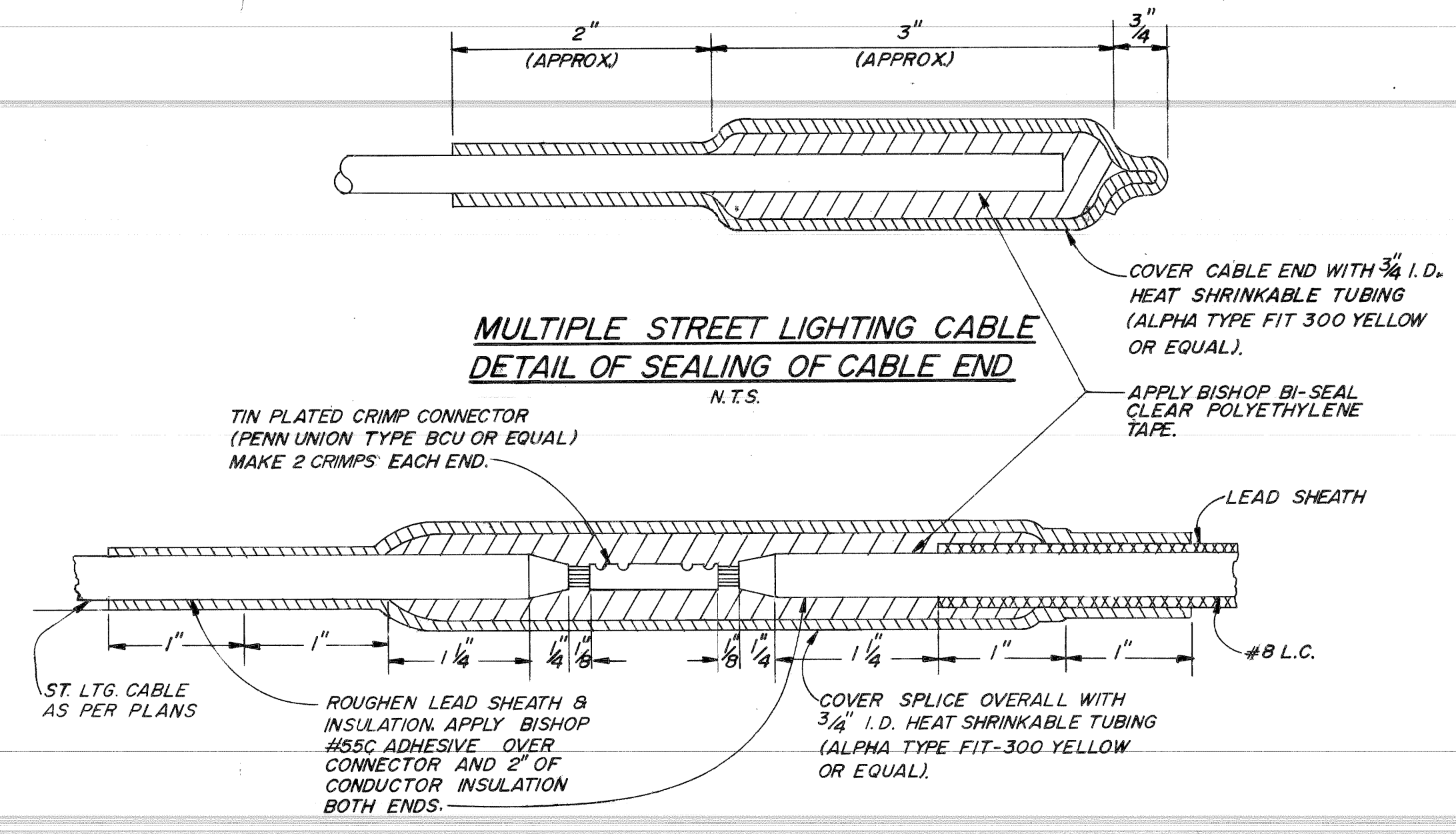
NOTE:  
FRAMES MAY BE A.S.T.M. CLASS 30 GREY IRON IF THE CONTRACTOR SO ELECTS.

REVISIONS	DATE	DESCRIPTION	CHKD BY	19	M.L. KING JR. BLVD. RECONSTRUCTION WABASH AVE. TO LINCOLN AVE. MANHOLE FRAMES & COVERS - SEWER GRATE & RING DETAILS	SHEET _____ OF _____ SHEETS	CITY OF DETROIT CITY ENGINEERING DEPARTMENT	DRAWN BY	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	FILE NO. CEA 1098	PUBLIC LIGHTING COMMISSION CITY OF DETROIT	FILE NO.	51-0585
								CHECKED BY				SHEET NO.	
								APPROVED BY				51 OF 71	
								DATE				DATE	
								AUG 1984				AUG 1984	





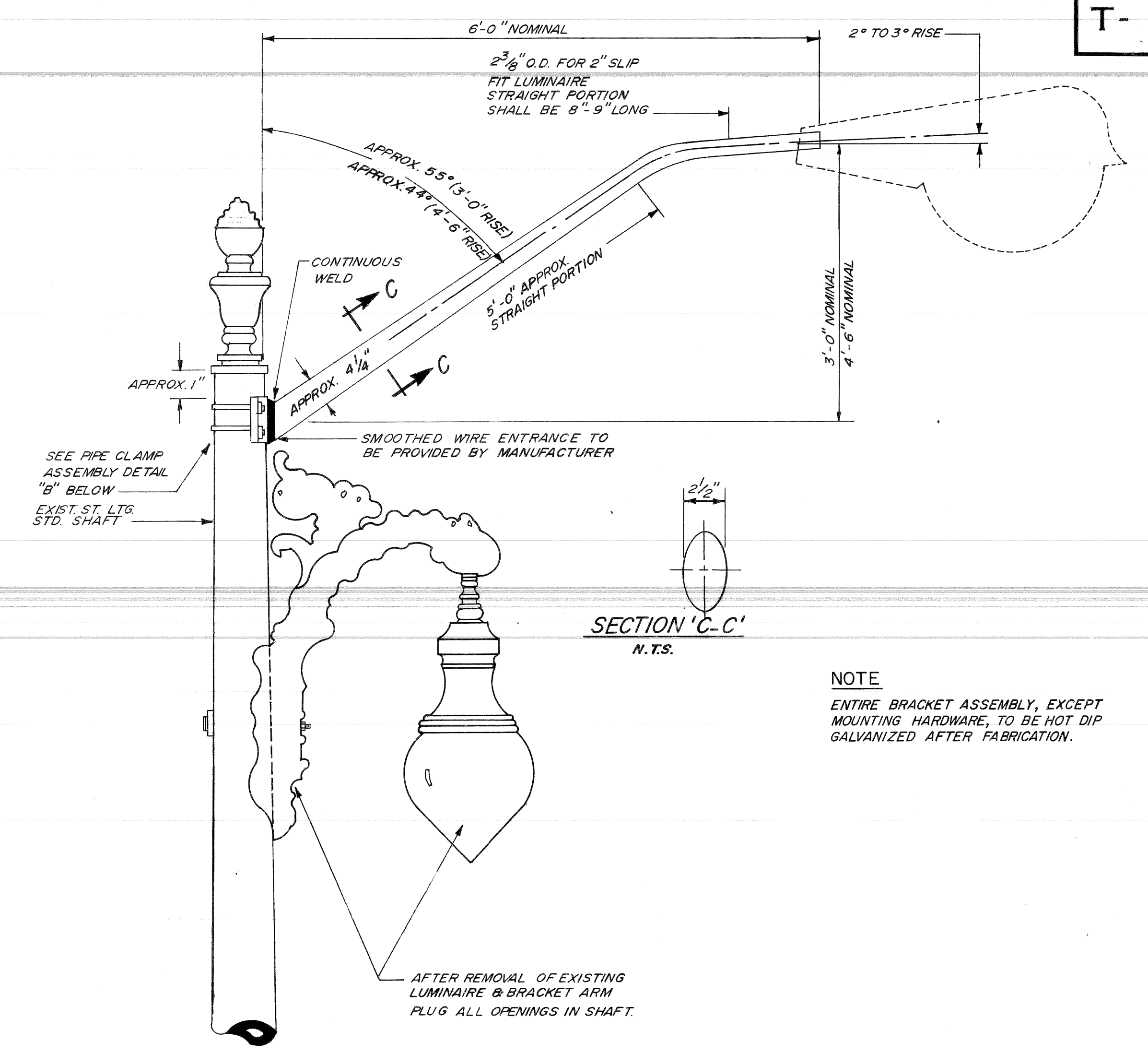
**MULTIPLE STREET LIGHTING CONNECTION IN POLE BASE**  
N.T.S.



**MULTIPLE STREET LIGHTING SPLICE DETAIL "A"**  
#8 L.C. TO #2 ST. LTG.  
N.T.S.

**SUBSTATION NAMES ON IDENTIFICATION TAGS SHALL BE SPELLED AS FOLLOWS**

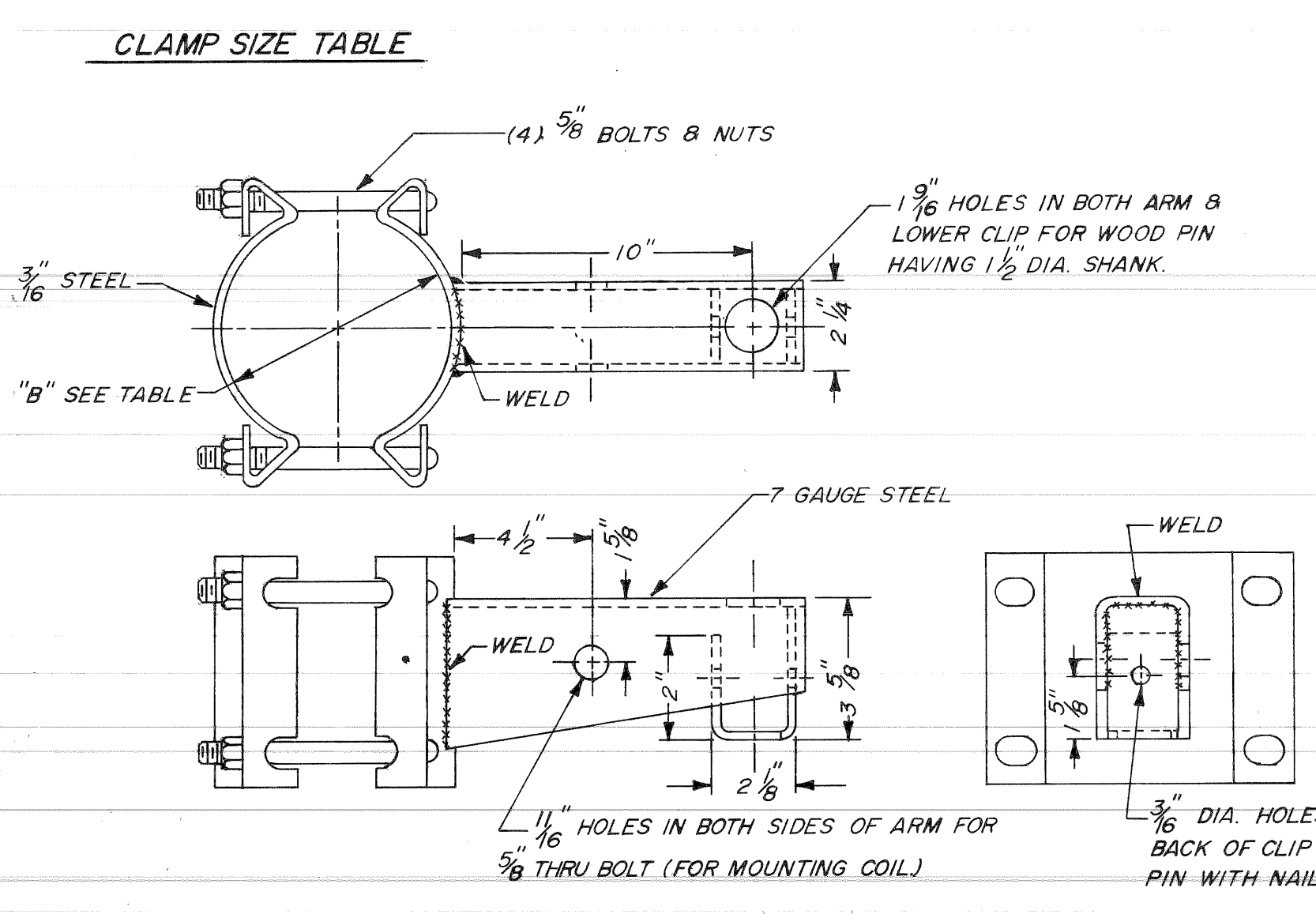
ATWTR.	MCRDY.
BL	MTRSE.
BUTZL.	PAL PK.
CAFLD.	PHIL P.
CONNR.	PORIER.
CUSTER.	STNTN.
GRNFD.	STONE.
HUDSN.	TRNTY.
J. CAMP.	TRBLY.
JOYRD.	TURNR.
L.A. BEL.	VERNR.
LTHRP.	WALTN.
LUDDN.	WARRN.
MAPLE.	WD TER.



**NOTE**  
ENTIRE BRACKET ASSEMBLY, EXCEPT MOUNTING HARDWARE, TO BE HOT DIP GALVANIZED AFTER FABRICATION.

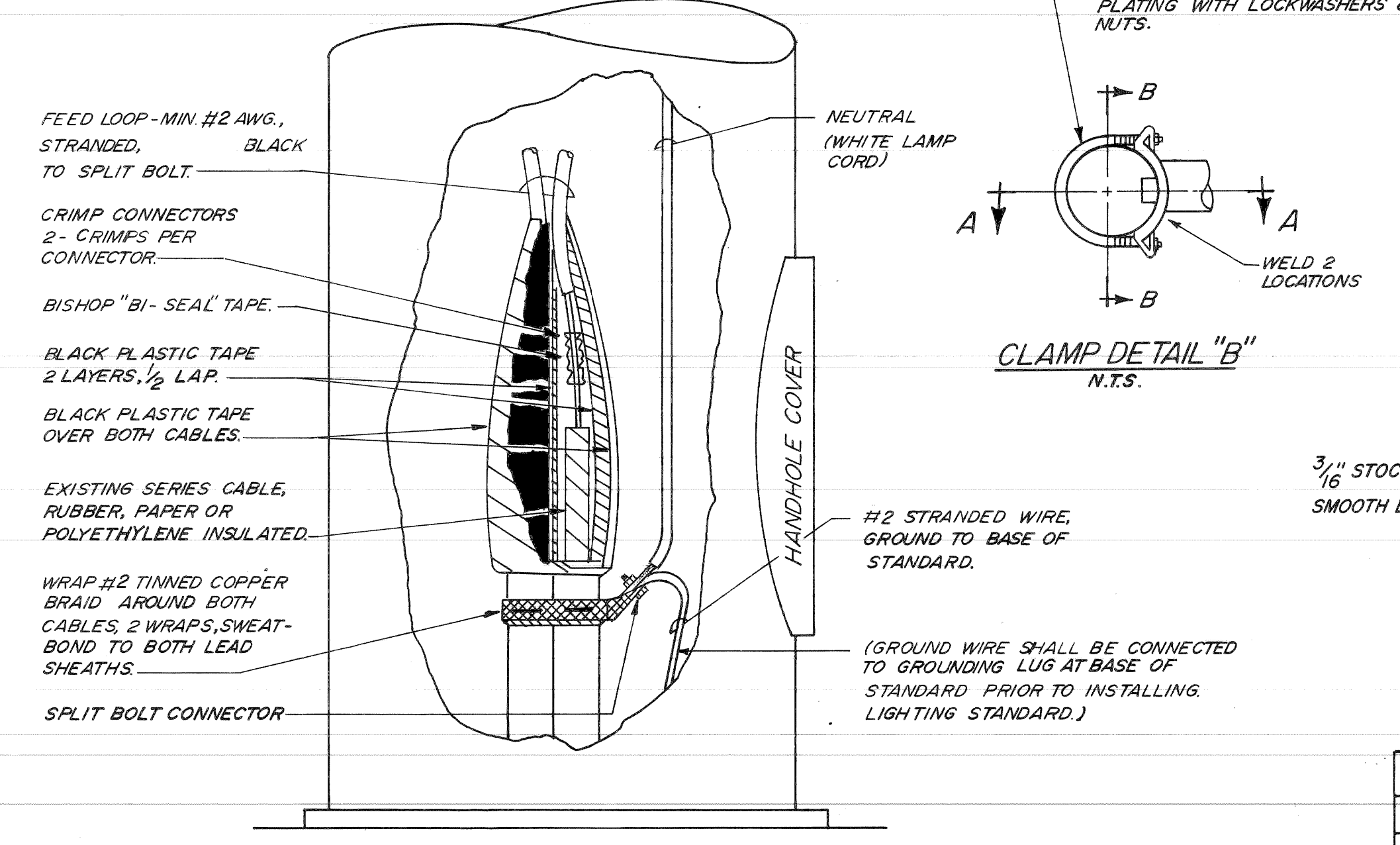
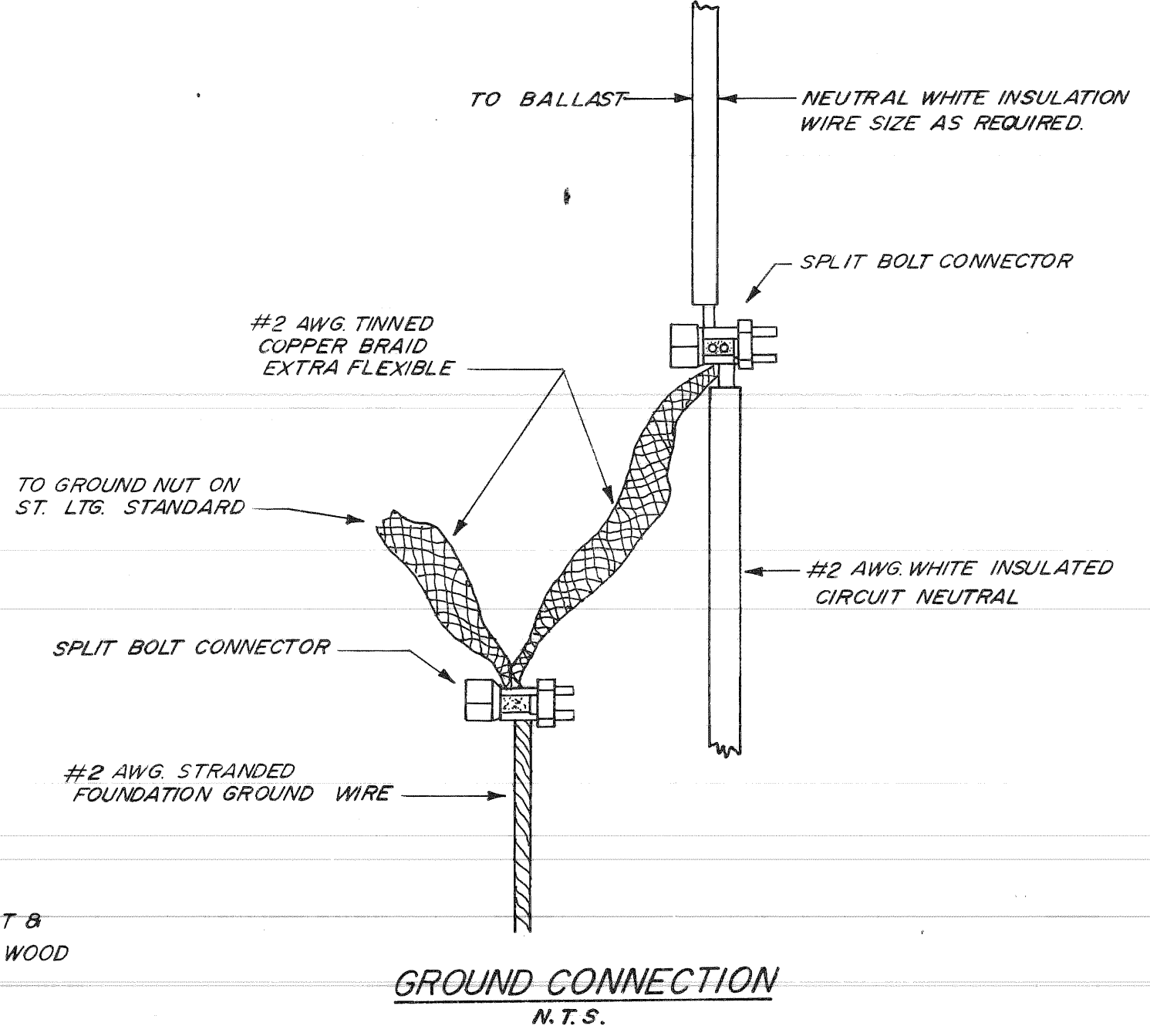
**CLAMP SIZE TABLE**

TYPE	POLE DIAMETER
A	3.6" - 4.5"
B	6.1" - 6.9"
C	7.5" - 8.5"
D	



**CLAMP FEEDER ARM**  
N.T.S.

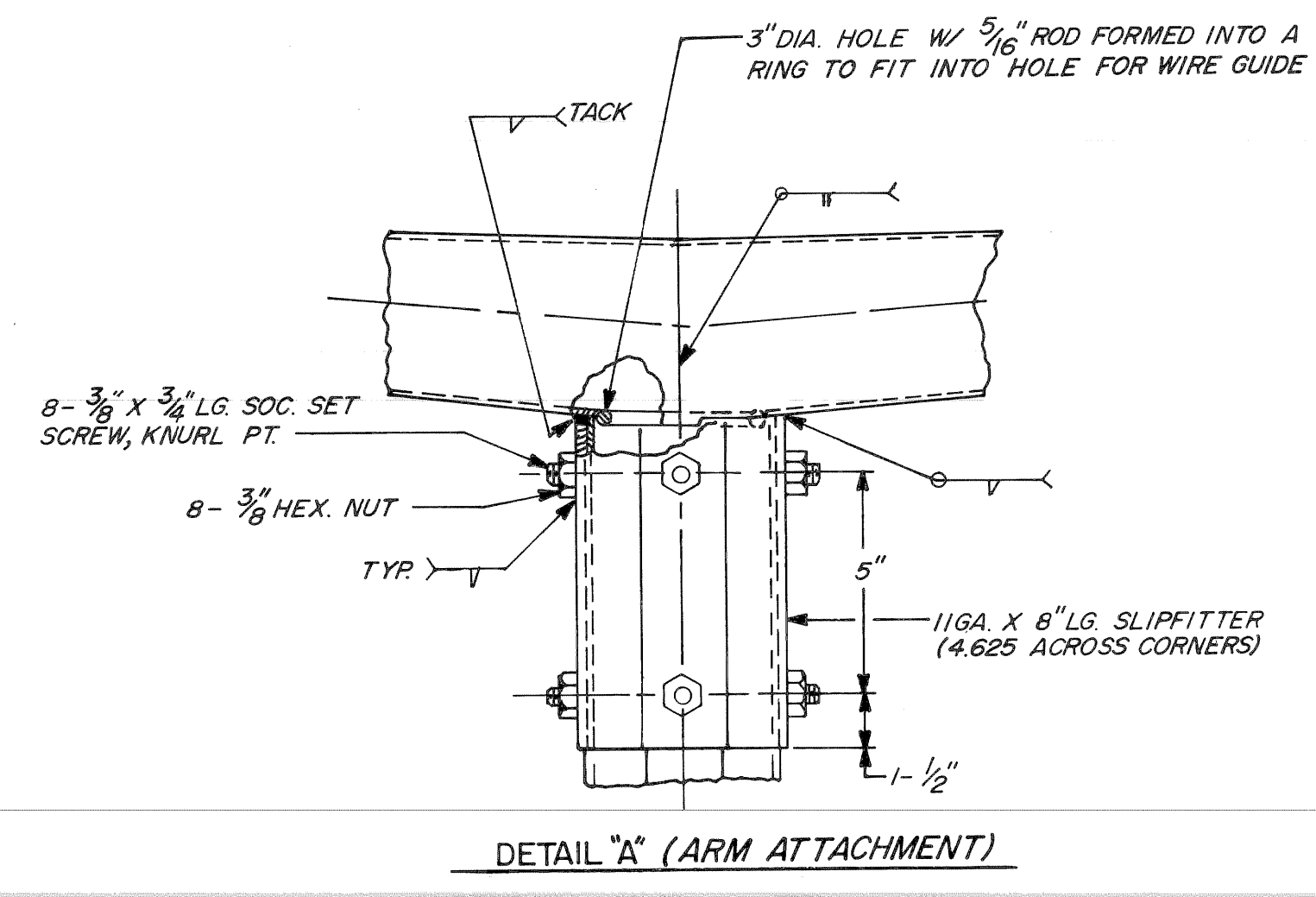
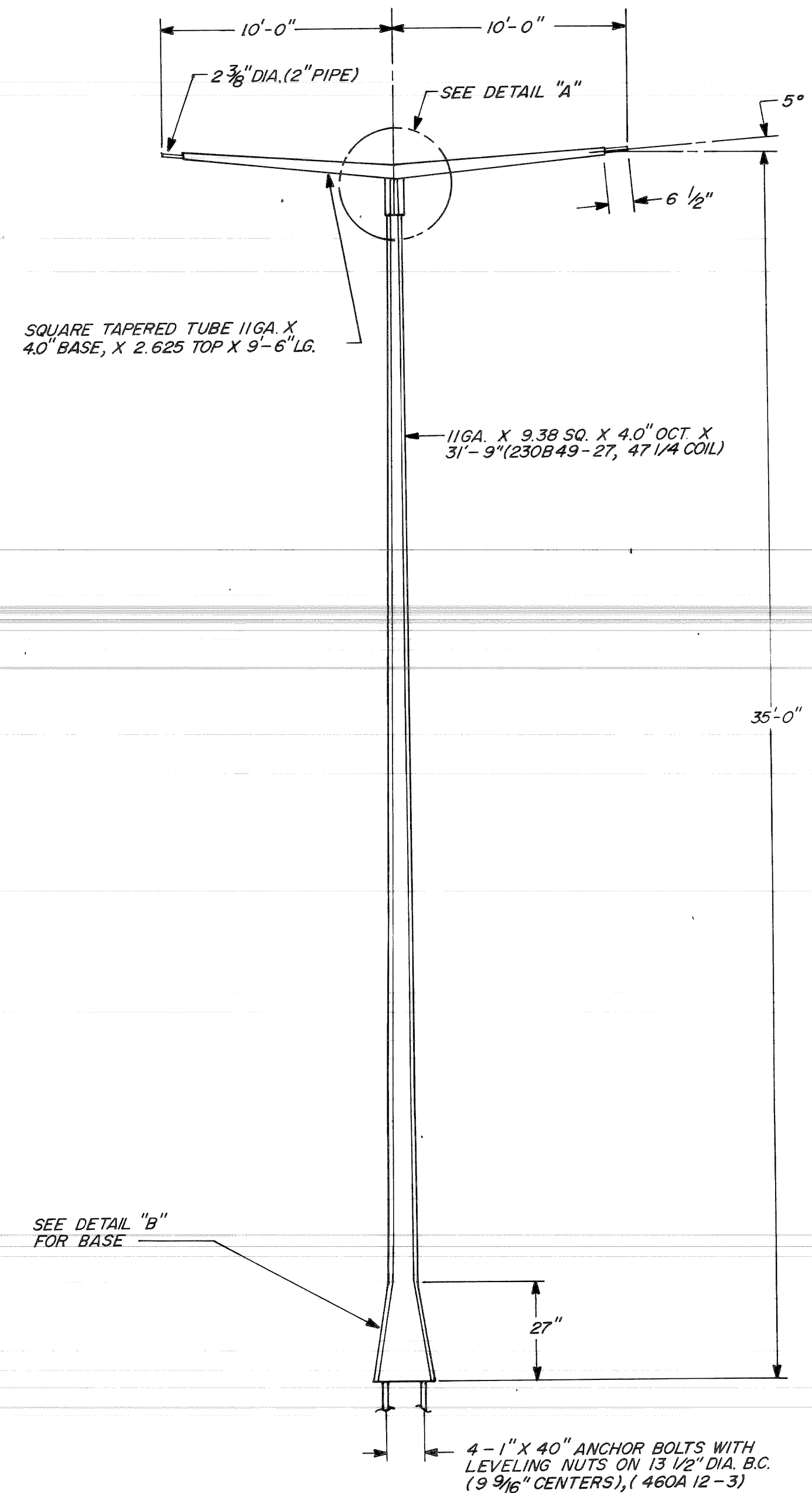
\* FINISH SHALL BE HOT DIP GALVANIZING AFTER FABRICATION.



**CLAMP SIZE TABLE**

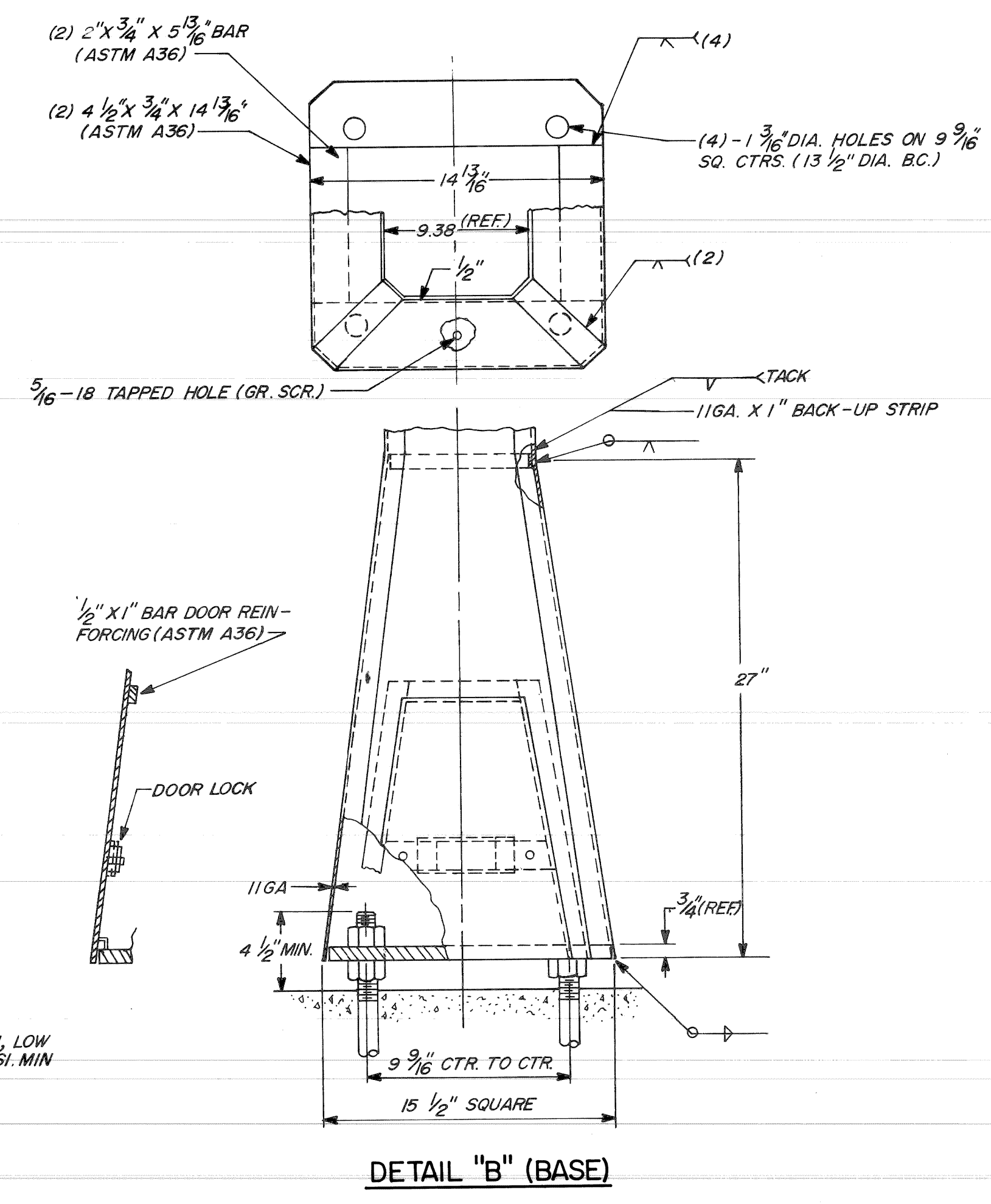
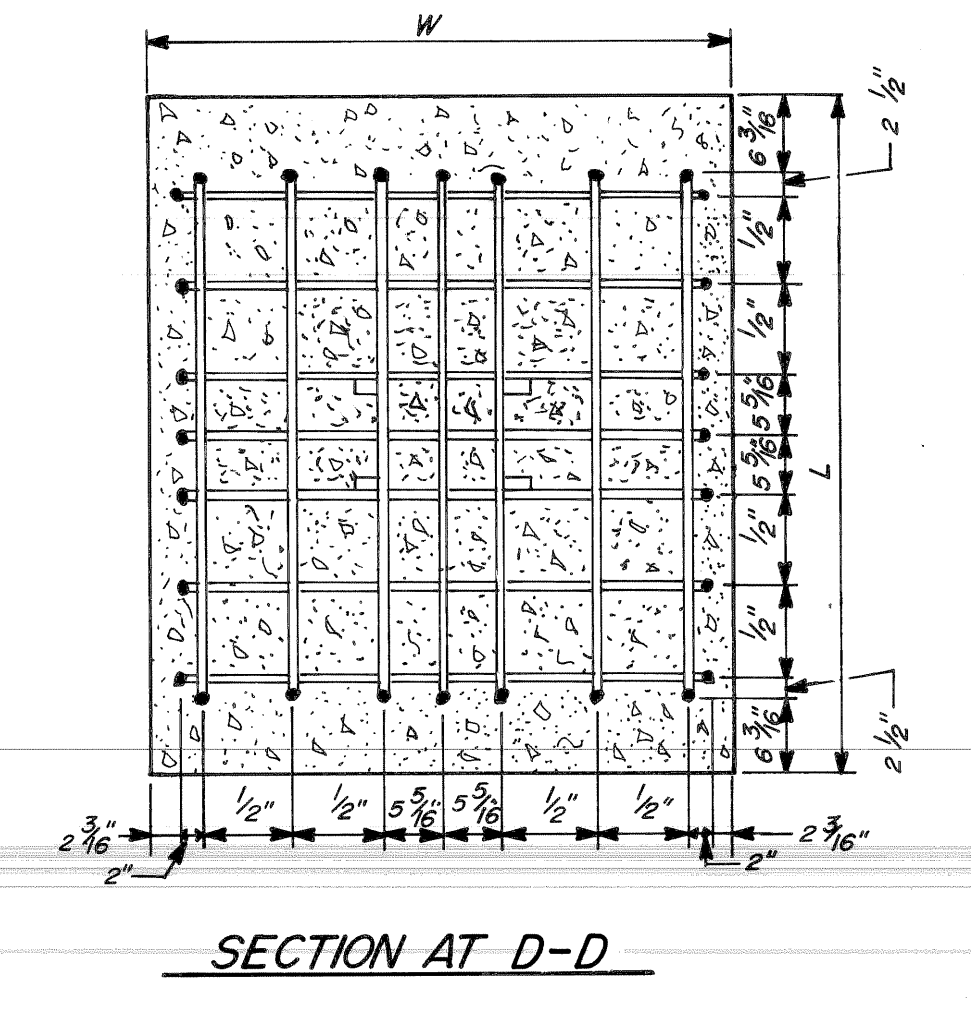
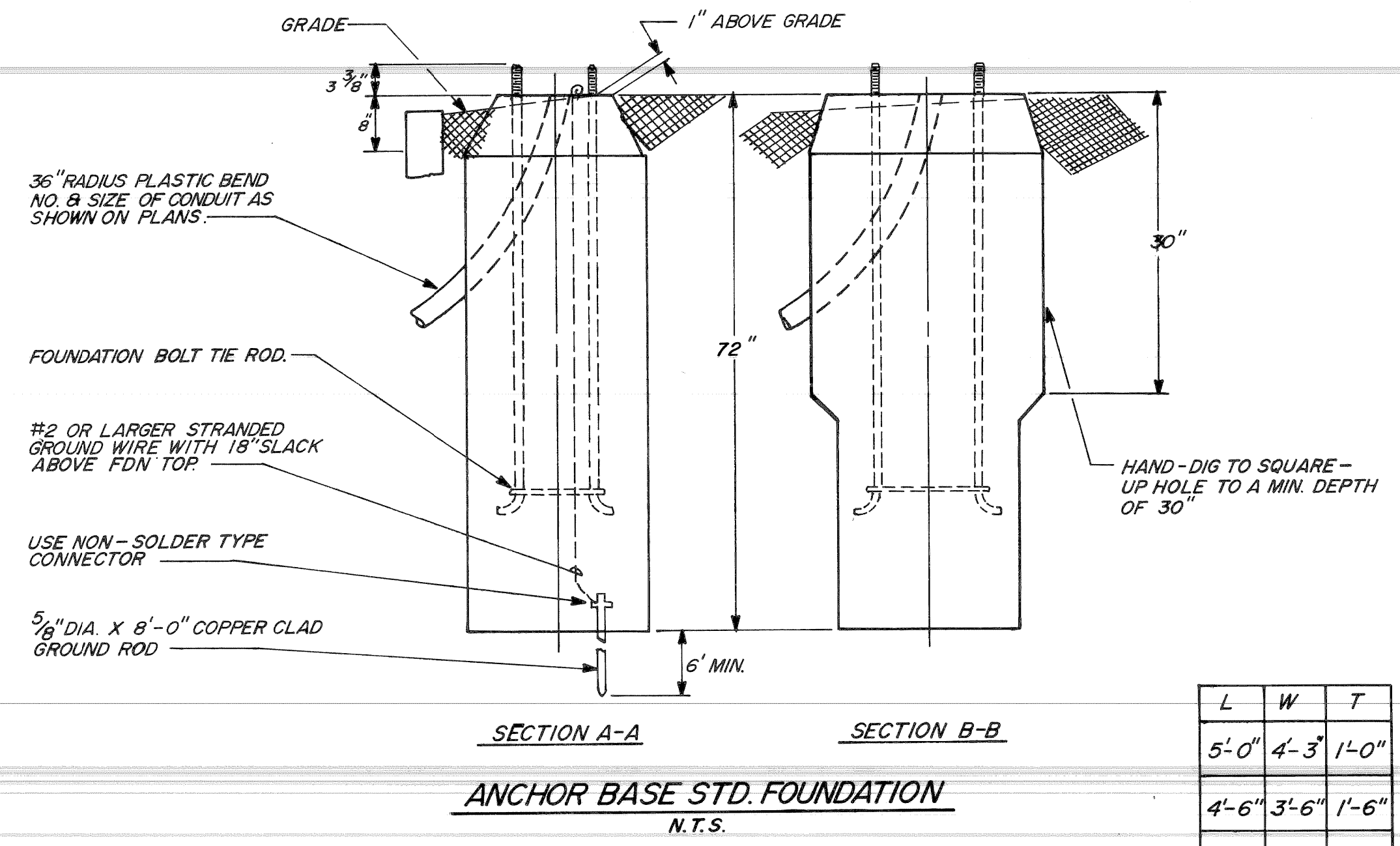
TYPE	POLE DIAMETER
A	3.6" - 4.5"
B	6.1" - 6.9"
C	7.5" - 8.5"





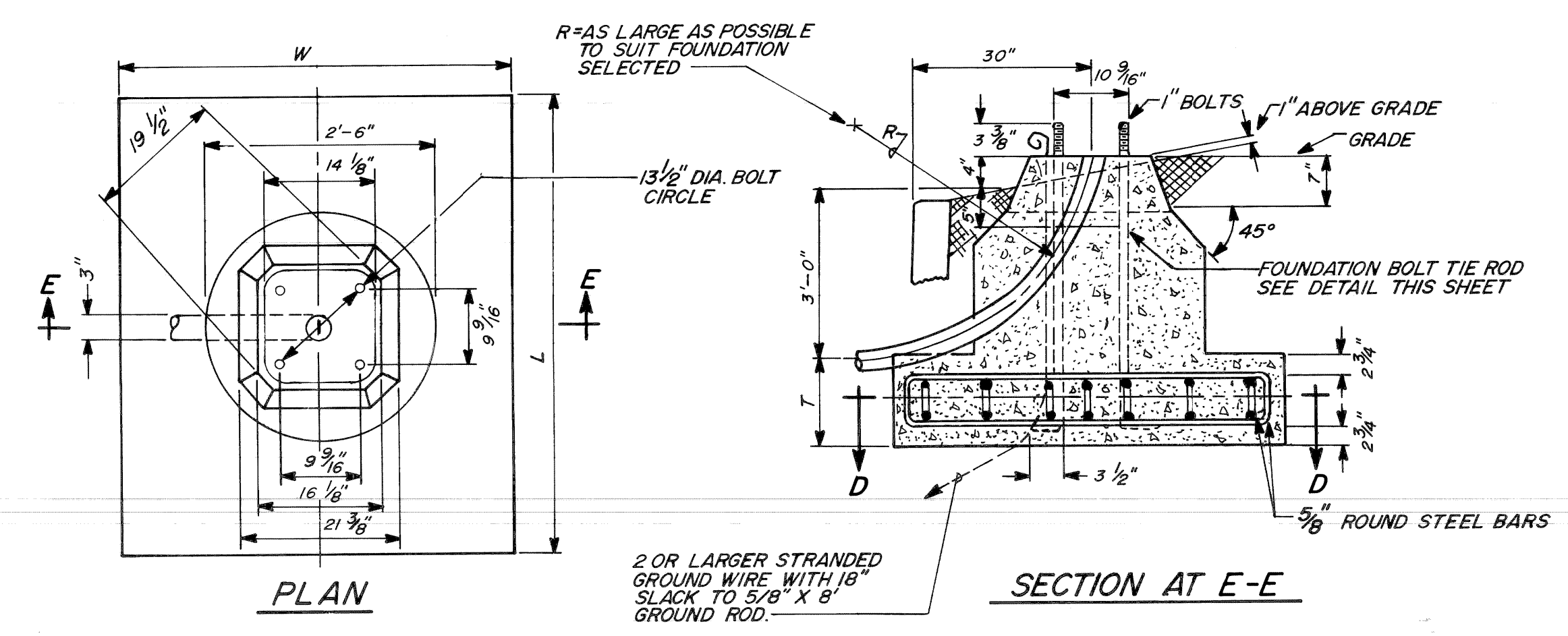
NOTE:

- MATERIAL - HIGH STRENGTH, LOW ALLOY STEEL 50,000 PSI. MIN. YIELD, 70,000 PSI. MIN TENSILE.
- FINISH - PRIME PAINT



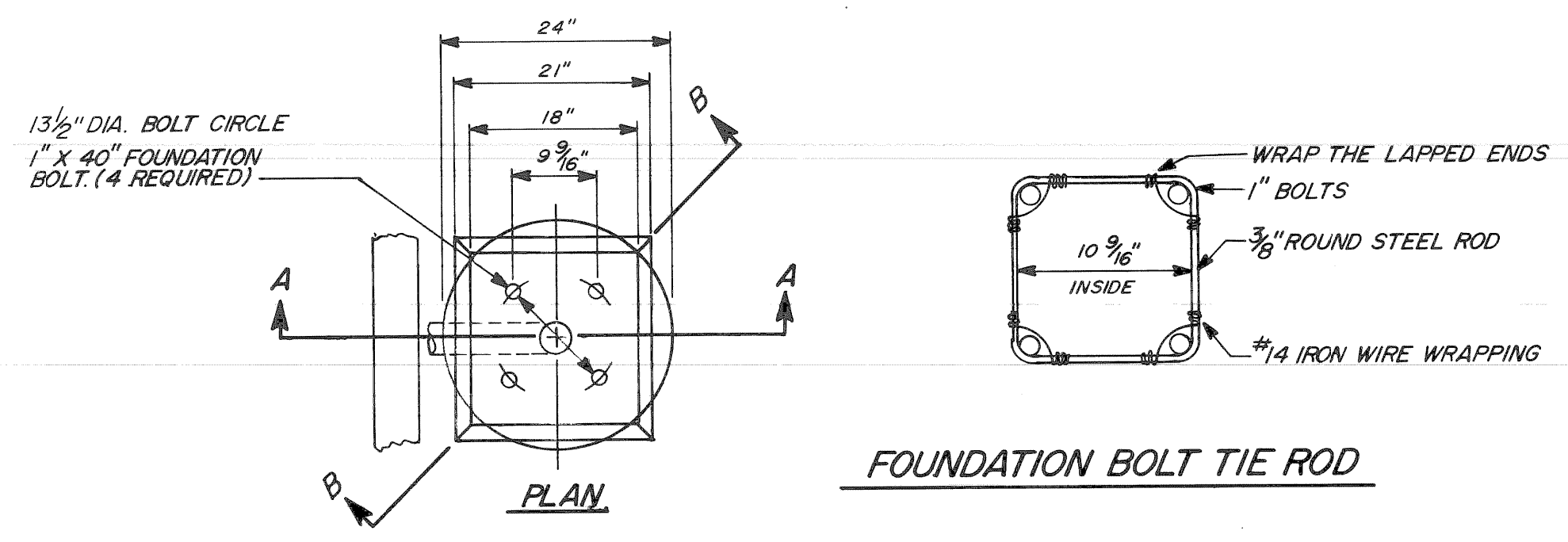
NOTE:

- MATERIAL - EXCEPT AS NOTED; HIGH STRENGTH, LOW ALLOY STEEL, 50,000 PSI. MIN. YIELD. 70,000 PSI. MIN TENSILE.
- FINISH - TO MATCH POLE.



SPECIAL FOUNDATION N.T.S.

THERE SHALL BE NO EXTRA PAYMENT FOR SPECIAL FDN. TO BE PAID FOR AS A NORMAL ST. LG. STD. FDN. INSTALLATION



NOTE: ( FOUNDATION BOLTS )

- MATERIAL - HIGH STRENGTH STEEL, 115,000 PSI. MIN. YIELD. ASTM A576, OR 1541 (MODIFIED) STRESS RELIEVED ROD.
- HOT DIP GALVANIZE PER ASTM A153
- THREAD TO BE CLASS 2A PER AMERICAN STD. B.1.1 AFTER GALVANIZING.
- ALL BOLTS ROLLED THREAD.

DATE	DESCRIPTION	CHKD. BY

M.L. KING JR. BLVD. RECONSTRUCTION  
 WABASH AVE. TO LINCOLN AVE.  
 CODE 117 U.G. FED ST. LG. UNIT

SHEET	OF	SHEETS
JOB NO.		
ASSIGNMENT NO.		
DATE		

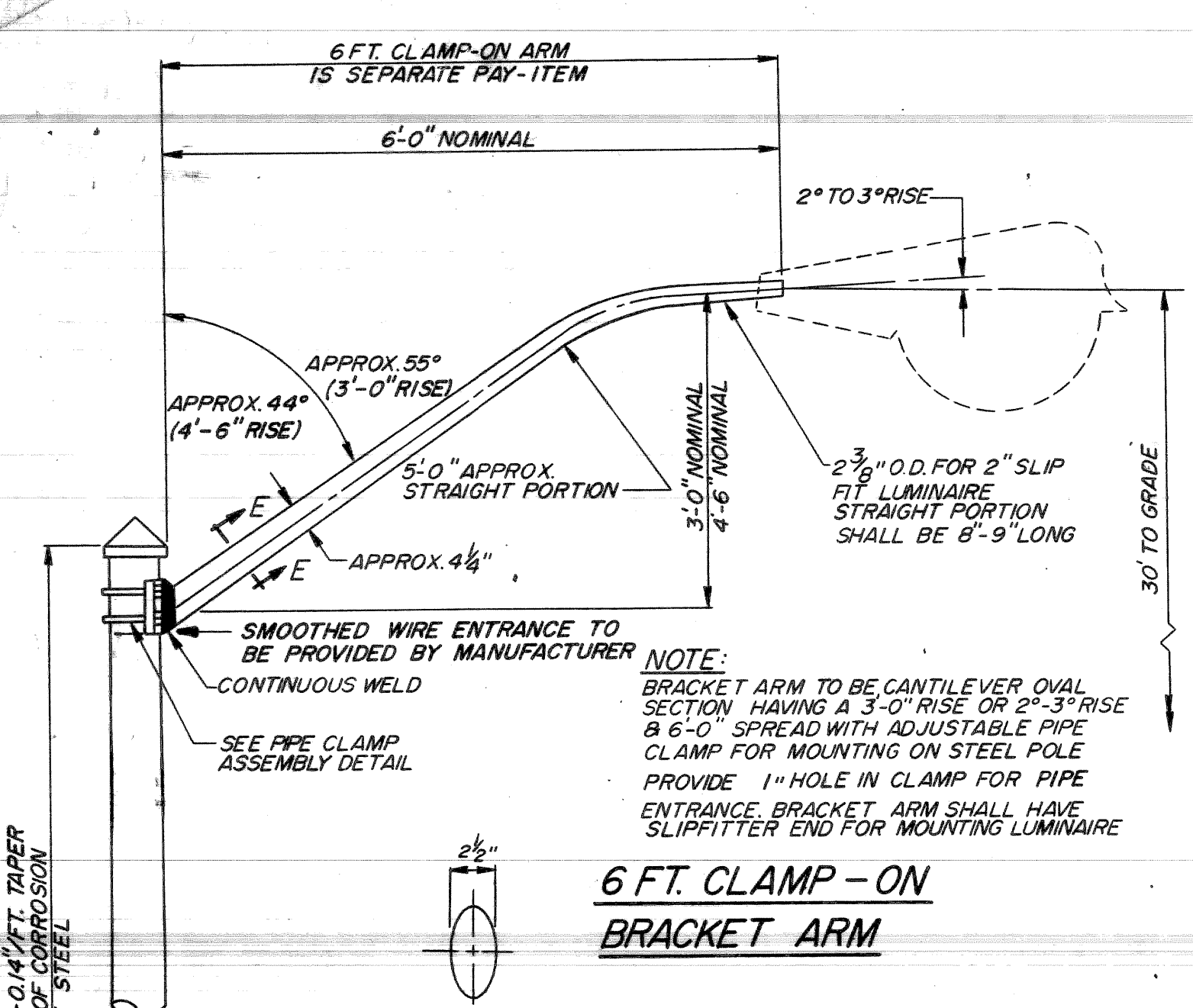
CITY OF DETROIT  
 CITY ENGINEERING DEPARTMENT

DRAWN BY	CEA	PLAN PREPARED BY	CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED BY	ep	APPROVED BY	16580 WYOMING DETROIT, MICH. 48221
DATE	AUG 1984	DRWG. NO.	23 OF 41
		FILE NO.	CEA 1098

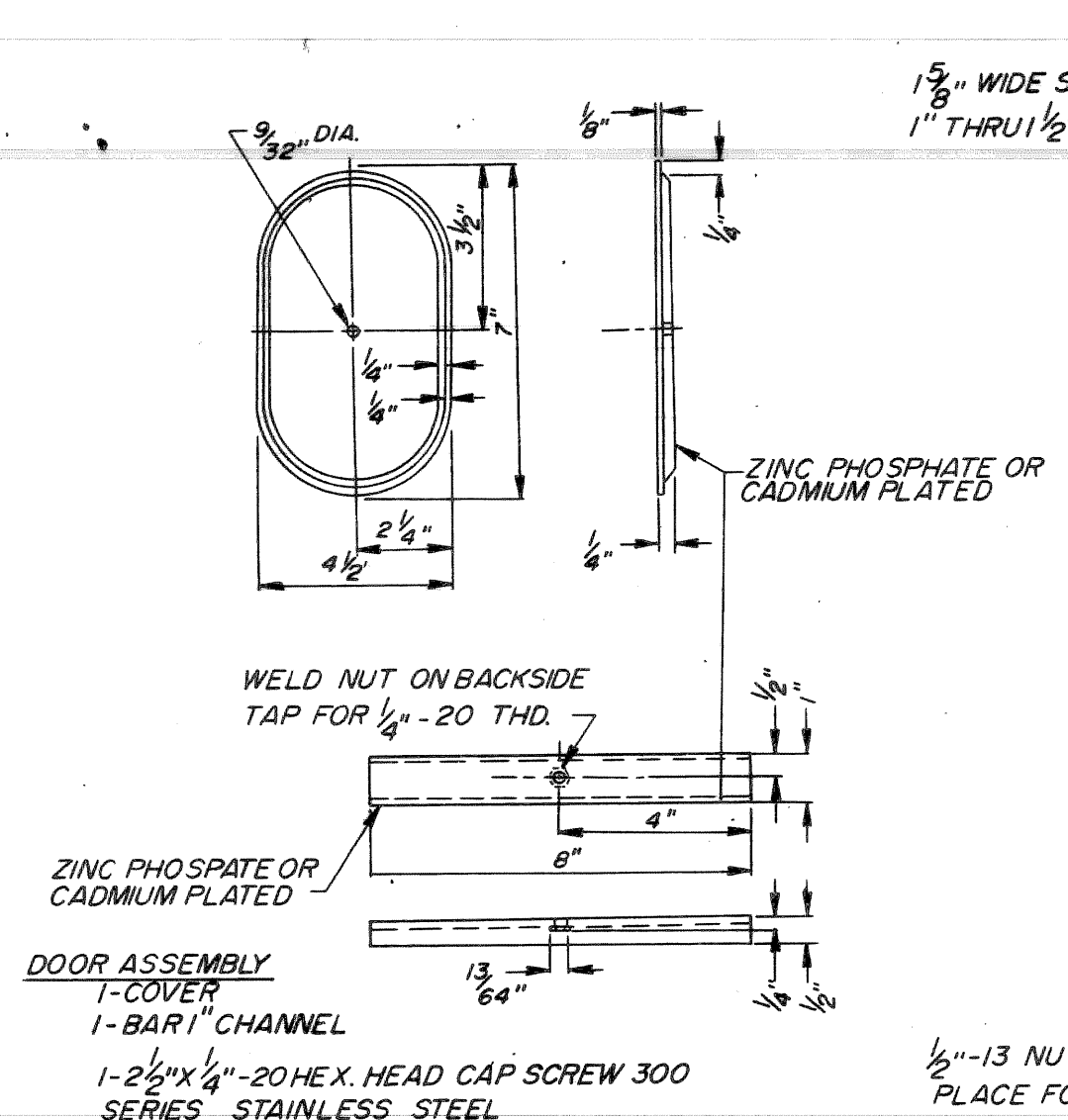
CHECKED BY		
APPROVED BY		
PUBLIC LIGHTING COMMISSION		
CITY OF DETROIT		

FILE NO.	51-0585
SHEET NO.	53 OF 71
DATE	AUG 1984

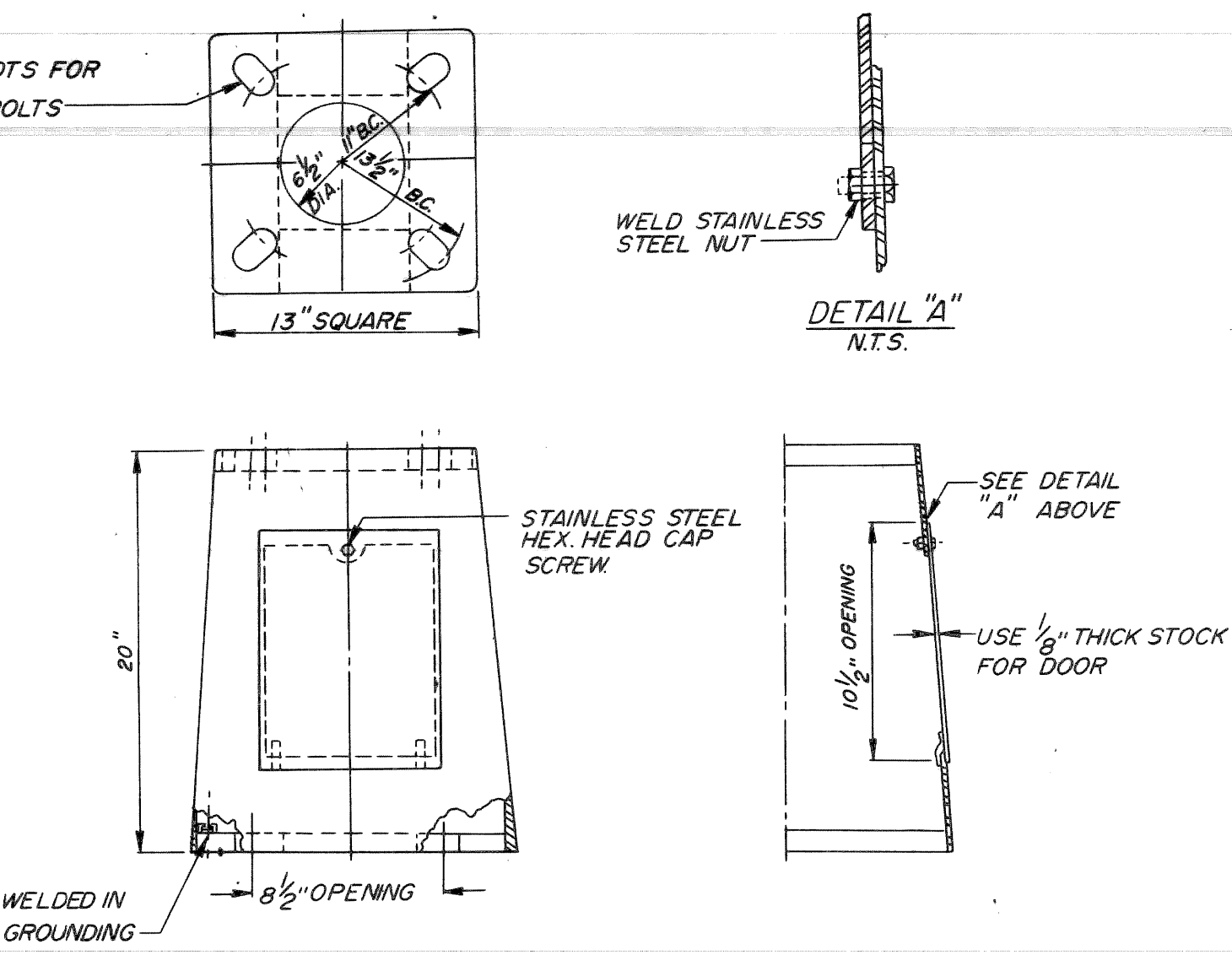




**6 FT. CLAMP-ON BRACKET ARM**  
N.T.S.

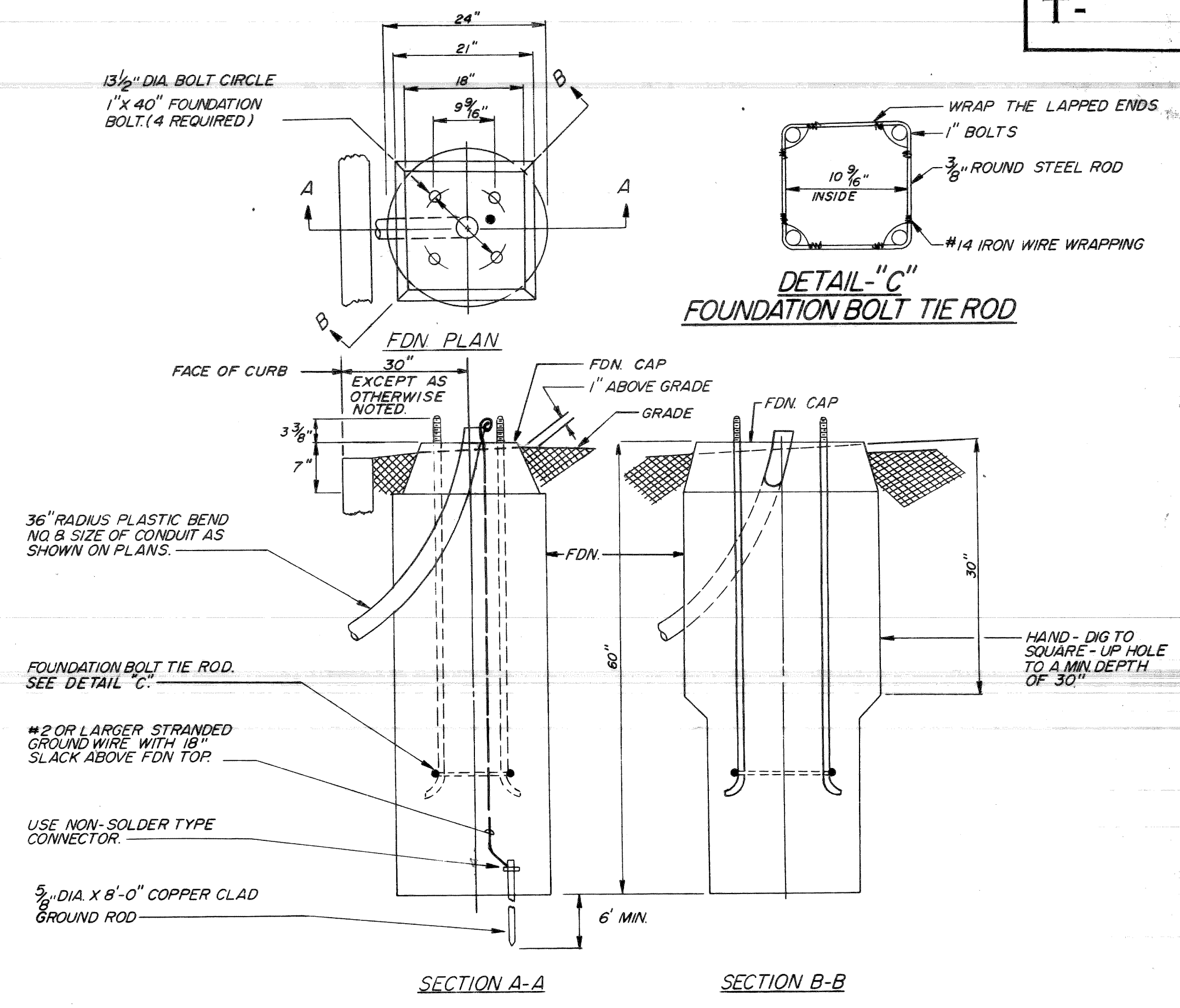


**HANDHOLE COVER DETAIL**  
N.T.S.

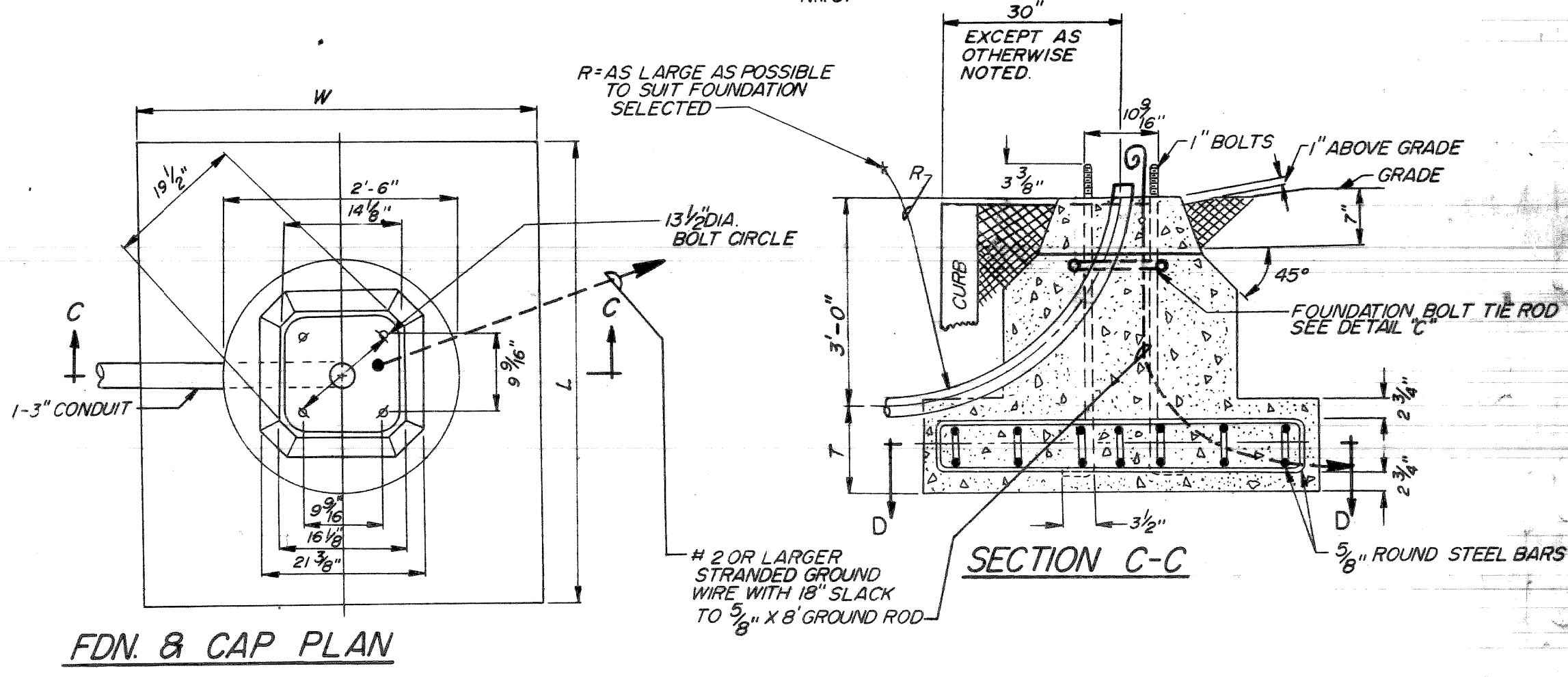


**P.L.D. UNIVERSAL STEEL TRANSFORMER BASE**  
N.T.S.

**NOTES:**  
MATERIALS:  
1. TOP, BOTTOM & SIDES TO BE U.S. COR-TEN REPUBLIC 50 OR EQUAL.  
2. DOOR FASTENING SCREW TO BE ASTM SERIES 300 STAINLESS STEEL MIN. 1/4" -20 NC. HEX HEAD CAP SCREW ONLY.  
3. THE DOOR FASTENING METHOD SHALL USE ONLY ONE HEX HEAD CAP SCREW, SERIES 300 STAINLESS STEEL. MULTIPLE SCREWS WILL NO LONGER BE ALLOWED TO INSURE PROPER FIELD INSTALLATION AND OPERATION.  
BASE PLATE SHALL HAVE THE MAX CUTAWAY AS SHOWN & STILL DEVELOP FULL REQUIRED STRENGTH.

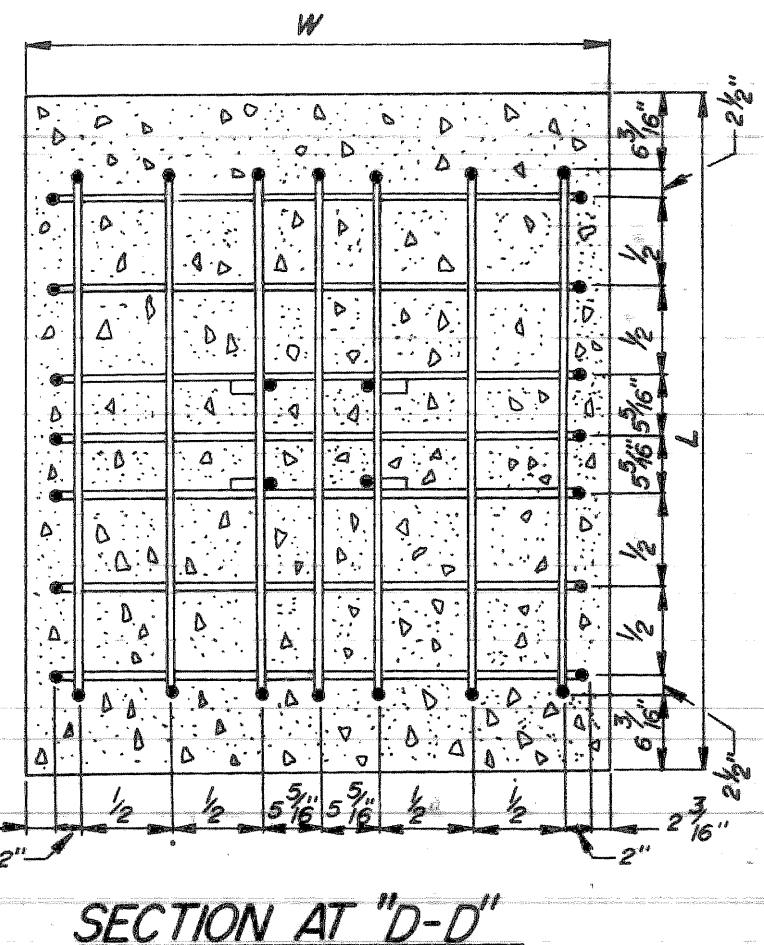


**ANCHOR BASE STD. FOUNDATION**  
N.T.S.



**FDN. & CAP PLAN**  
N.T.S.

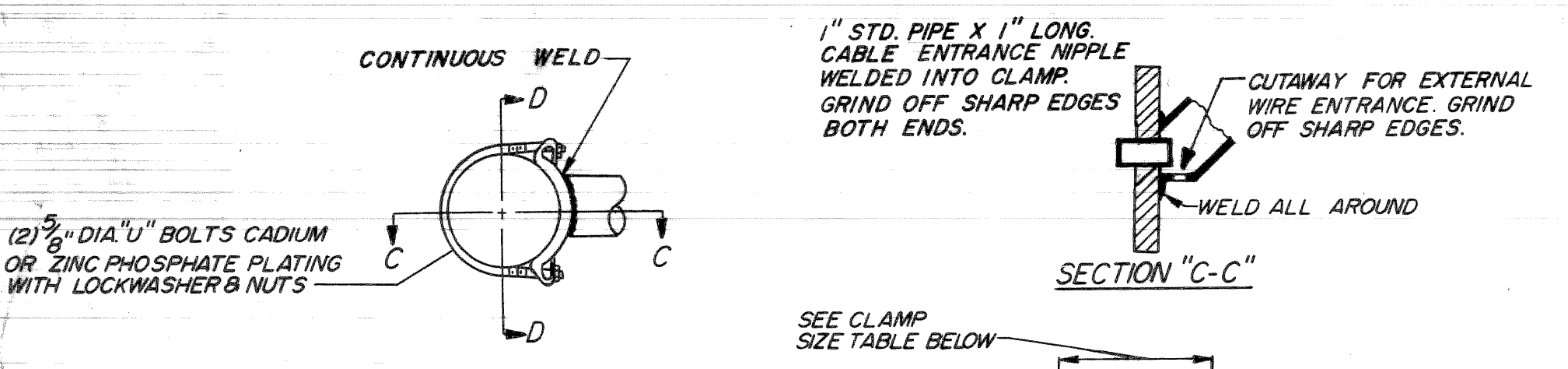
L	W	T
5'-0"	4'-3"	1'-0"
4'-6"	3'-6"	1'-6"



**SECTION AT 'D-D'**  
N.T.S.

**CODE 009-00 STREET LIGHTING STANDARD**  
N.T.S.

**SHAFT MODIFICATION**  
N.T.S.



**SECTION 'C-C'**  
N.T.S.

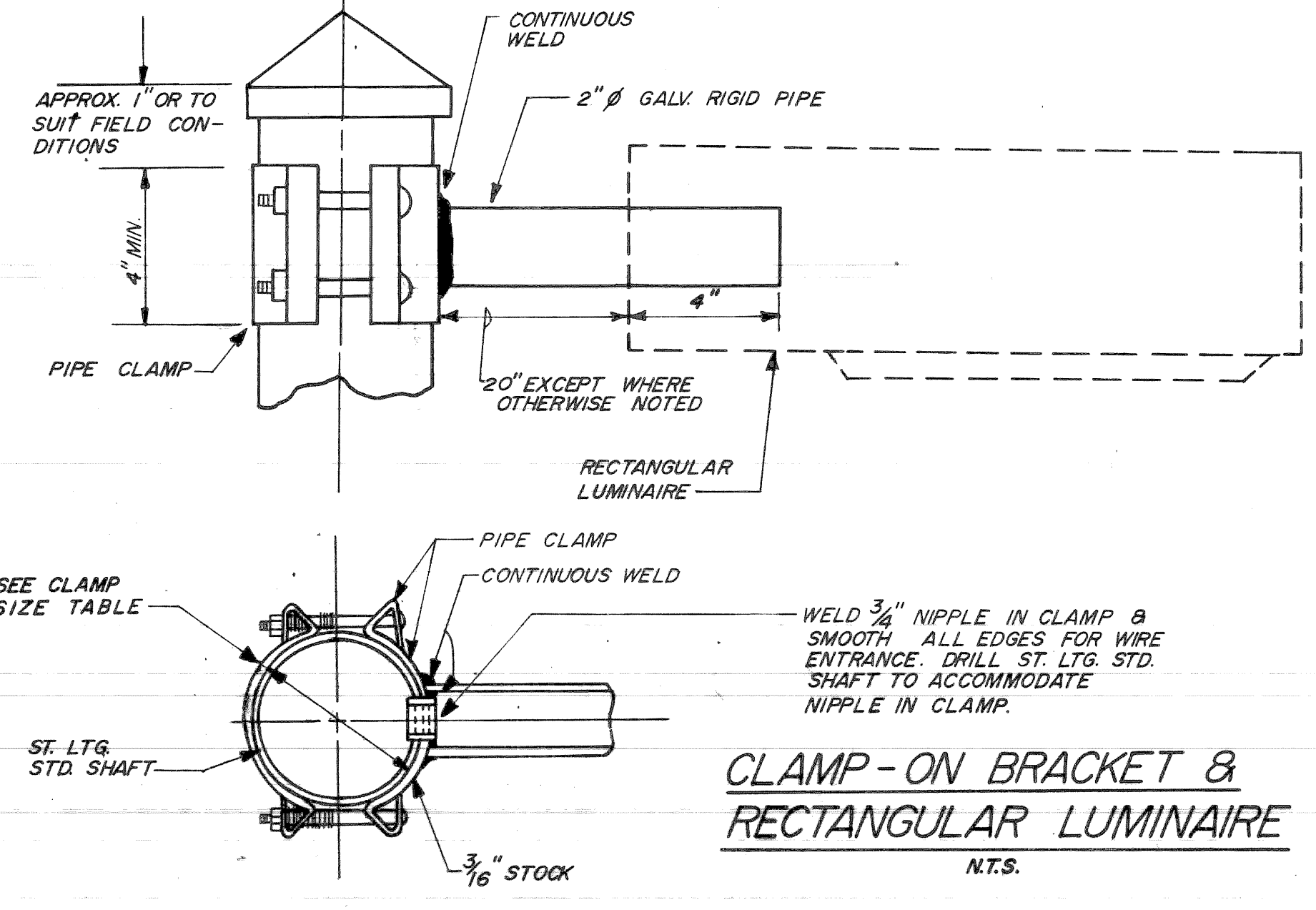
**CLAMP SIZE TABLE**

TYPE	POLE DIAMETER
A	36"-4.5"
B	6.1"-6.9"
C	7.5"-8.5"

**CLAMP ASSEMBLY DETAILS**  
N.T.S.

**SECTION 'D-D'**  
N.T.S.

**NOTE:**  
ENTIRE BRACKET ASSEMBLY, EXCEPT MOUNTING HARDWARE, TO BE HOT DIP GALVANIZED



**CLAMP-ON BRACKET & RECTANGULAR LUMINAIRE**  
N.T.S.

**SPECIAL FOUNDATION**  
N.T.S.

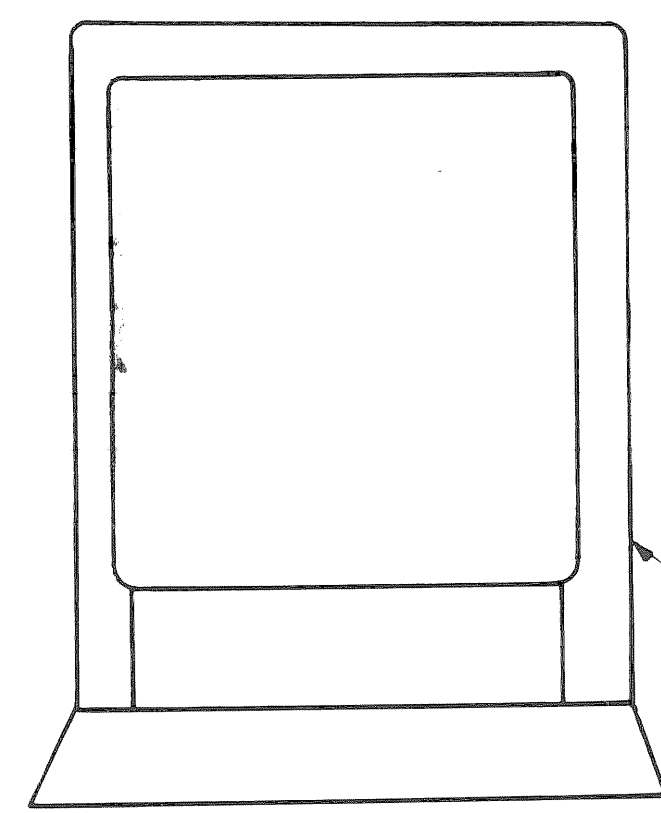
THERE SHALL BE NO EXTRA PAYMENT FOR SPECIAL FDN. (TO BE PAID FOR AS A NORMAL ST. LG. STD. FDN. INSTALLATION)

STD. CODE NO.	SHAFT LENGTH	SHAFT DEFLECTION *	MINIMUM LOAD **	ANCHOR BOLT CIRCLE Ø	ANCHOR BOLT Ø & O.A.	HANDHOLE	LUMINAIRE MOUNTING HEIGHT	BRACKET FITTERS REQ'D	BRACKET LENGTH
009-00	28'-6"	2.9"	880 #	13 1/2"	1" X 40"	4' X 6 1/2"	30'	—	6'

\* SHAFT DEFLECTION: SHAFT DEFLECTION MEASURED IN INCHES AT TOP SHALL NOT BE GREATER THAN THAT SHOWN FOR A HORIZONTAL LOAD OF 100 LBS APPLIED 18 INCHES BELOW TOP OF SHAFT.

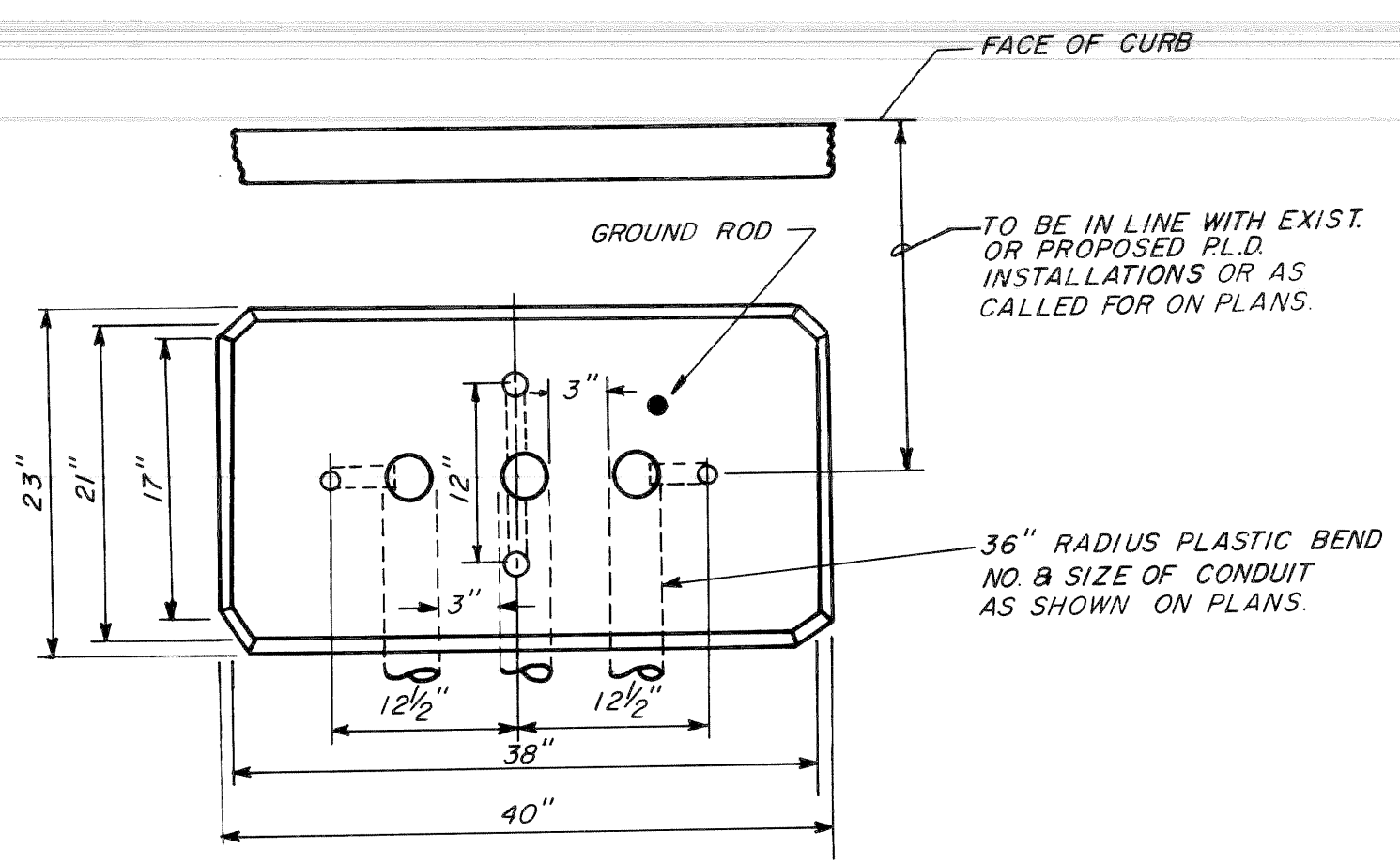
\*\* SHAFT LOADING: SHAFTS SHALL WITHSTAND, AT THE GUARANTEED MINIMUM YIELD STRENGTH OF THE SHAFT MATERIAL, THE LOADS SHOWN IN THIS TABLE. THE LOAD SHALL BE APPLIED IN A SINGLE HORIZONTAL DIRECTION ANYWHERE AROUND THE CIRCUMFERENCE OF SHAFT 18 INCHES FROM THE TOP.



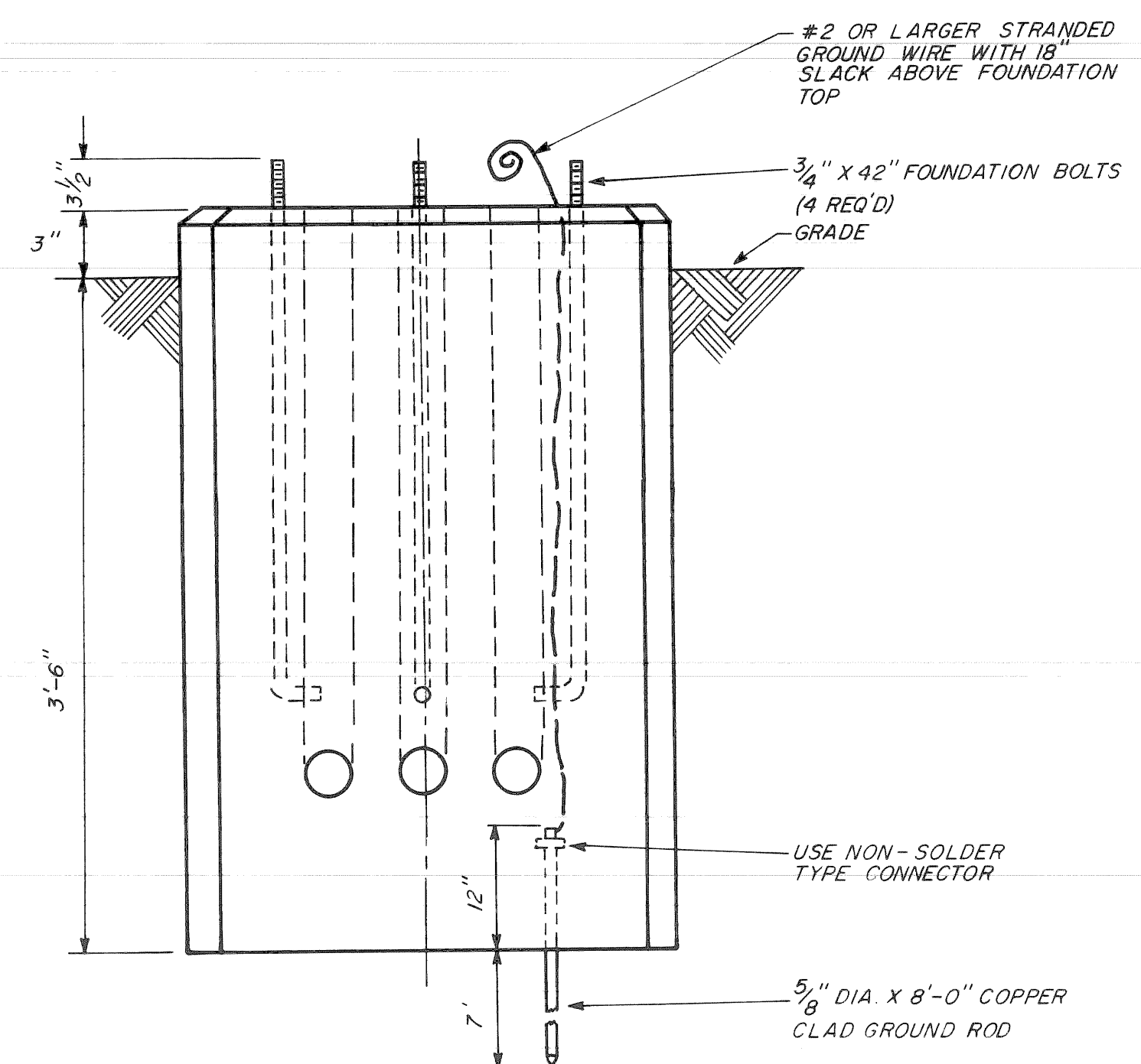


VENTED ALUMINUM CABINET WITH BASE MOUNTING SHALL BE 34"W X 17"D X 48"H. CABINET CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATION FOR TRAFFIC SIGNAL CONTROLLER CABINET CONSTRUCTION.

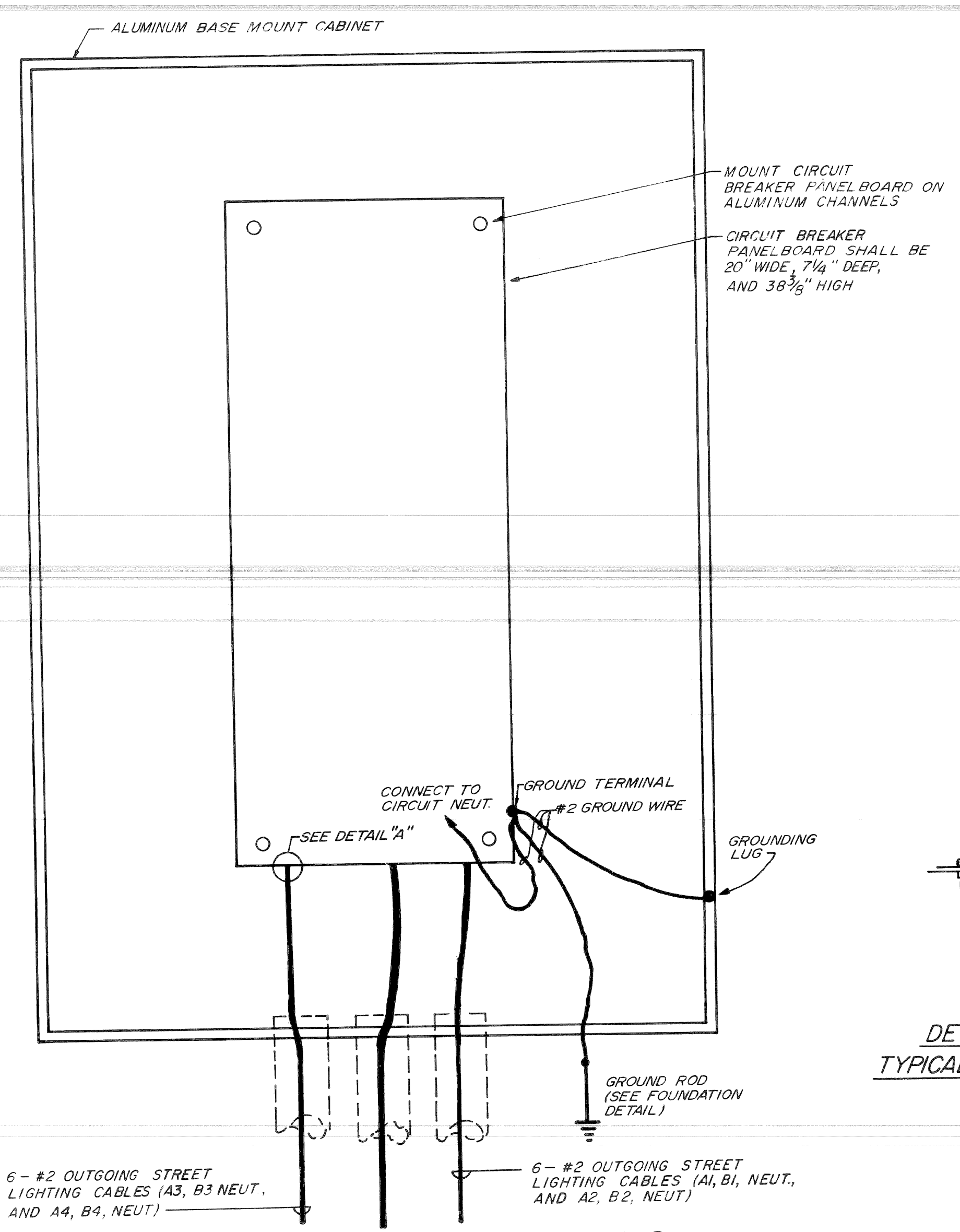
**MULT. ST. LTG. CONTROL CABINET**  
N.T.S.



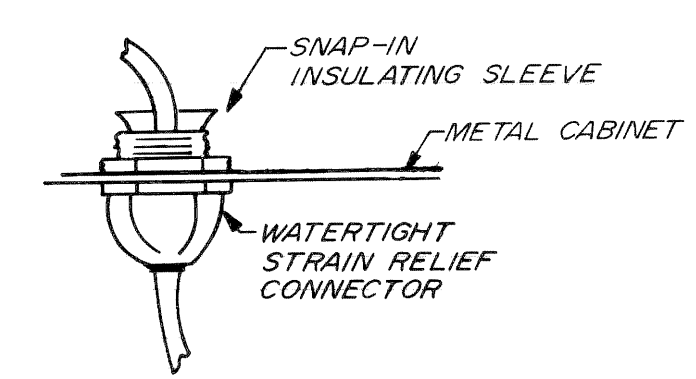
**PLAN**



**FOUNDATION FOR MULT. ST. LTG. CONTROL CABINET**  
N.T.S.



**MULT. ST. LTG. DISTRIBUTION PANELS**  
N.T.S.



**DETAIL "A"**  
TYPICAL - EACH CABLE

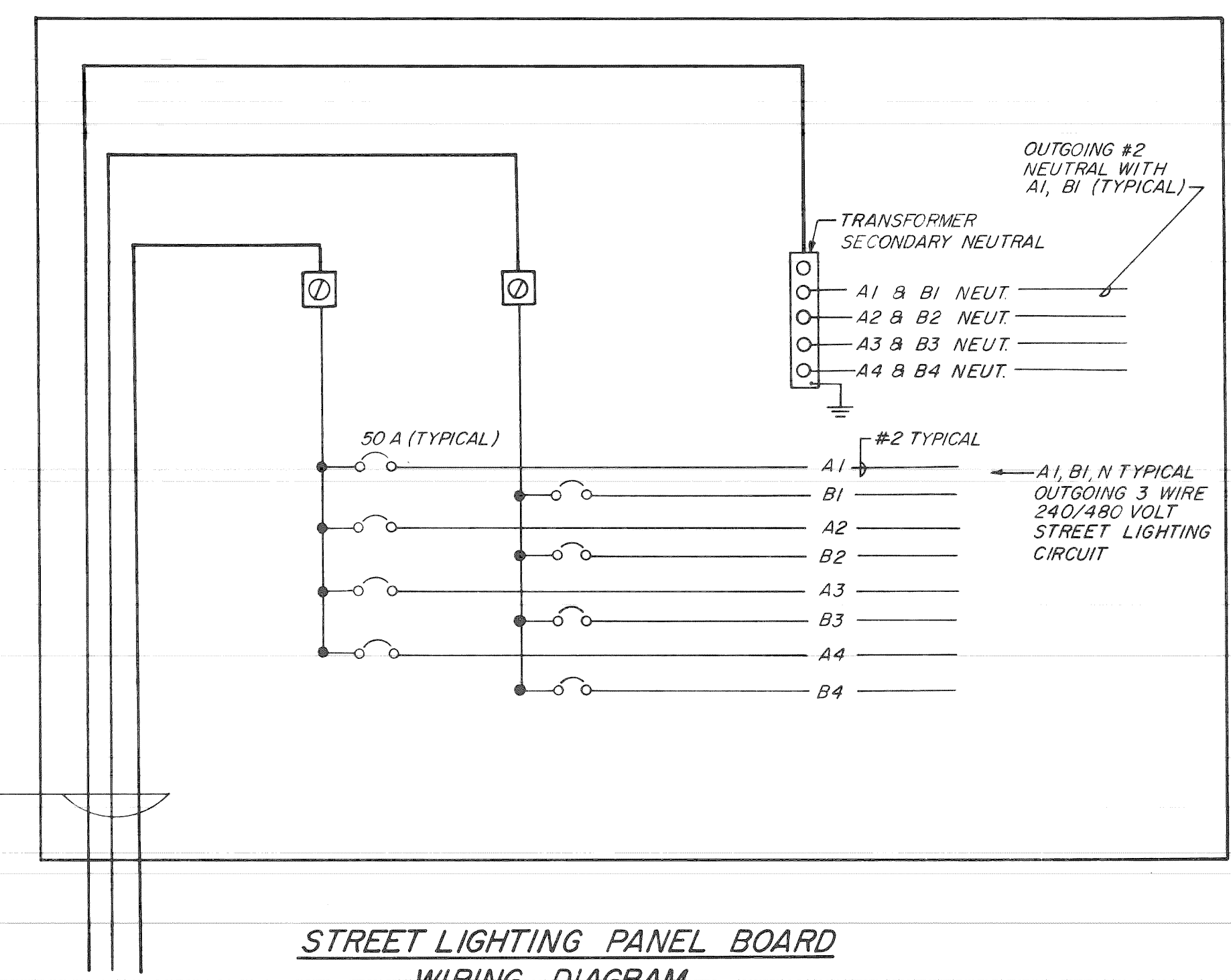
PRIOR TO FABRICATING THE CIRCUIT BREAKER PANEL BOARD AND BOX WITH ASSOCIATED LUGS, BREAKERS ETC. SUBMIT TO THE P.L.D. THE DETAILED SHOP DRAWING INDICATING THE TYPE OF ALUMINUM CABINET, INTERIOR MOUNTING CHANNEL, MOUNTING OF CIRCUIT BREAKER BOX, WIRING AND NECESSARY HARDWARE FOR A COMPLETE ASSEMBLY. THE P.L.D. MAY REQUIRE DEVIATIONS TO THE SUBMITTED SHOP DRAWING AND P.L.D. REQUESTED CHANGES SHALL BE DONE WITH NO ADDITIONAL COST TO THE CONTRACT.

**NOTES:**

LIGHTING PANEL BOARD SHALL BE CIRCUIT BREAKER TYPE, RATED 480 V.A.C. MINIMUM, 225 AMP MAIN LUGS, SINGLE PHASE, 3-WIRE, SOLID NEUTRAL, NEMA TYPE 3R WEATHERPROOF ENCLOSURE.

BRANCH CIRCUIT BREAKERS SHALL BE 50 AMP, TYPE NEF THERMAL - MAGNETIC BREAKERS, 1POLE WITH MINIMUM INTERRUPTING CAPACITY OF 14,000 RMS SYMMETRICAL AMPERES AT 240 VOLTS.

THE CIRCUIT BREAKER BOX SHALL BE MINIMUM 20" WIDE, 7 1/4" DEEP AND 38 3/8" HIGH. THE SIDE AND BOTTOM GUTTERS SHALL BE ADEQUATE TO ACCOMMODATE THE 3-#2/0 INCOMING CABLES AND 12-#2 OUTGOING CIRCUIT CABLES



**STREET LIGHTING PANEL BOARD WIRING DIAGRAM**

REVISIONS	DATE	DESCRIPTION	CHKD. BY	M.L. KING JR. BLVD. RECONSTRUCTION WABASH AVE. TO LINCOLN AVE.  MULT. ST. LTG. CONTROL CABINET (240/480V)	SHEET ____ OF ____ SHEETS JOB NO. ASSIGNMENT NO. DATE	CITY OF DETROIT CITY ENGINEERING DEPARTMENT	DRAWN	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	CHECKED BY	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT	FILE NO.
							CEA				51-0585
							APPROVED				55 OF 71
							DATE				DATE
							AUG 1984				AUG 1984
				25 OF 41	CEA 1098						



DATE	DESCRIPTION	CHKD BY	ITEM RATING NO.	CONDUCTOR	SYNTHETIC RUBBER	IMPREG-NATED PAPER	POLYETHYLENE	POLYVINYL-CHLORIDE	SHIELD OVER INSULATED CONDUCTOR	TAPE OVER INSULATED CONDUCTOR/S	IMPREG-NATED PAPER BELT	JACKET	LEAD SHEATH	COVERING OVER LEAD	STEEL TAPE ARMOR	COVERING OVER STEEL TAPE	COVERING OVER CONDUCTOR
			1	#2-#6 AWG. UNCOATED SOLID COPPER A.S.T.M. B1													0.047 INCH BLACK POLYETHYLENE
			2	#4/0-#2/0 AWG. M.H.D. UNCOATED 7/STR. COPPER A.S.T.M. B2, B8													0.063 INCH BLACK NEOPRENE
			3	#6 AWG. HD. UNCOATED SOLID COPPER A.S.T.M. B1													0.032 INCH BLACK POLYETHYLENE
			4	#2 AWG. HD. UNCOATED SOLID COPPER A.S.T.M. B1													0.047 INCH BLACK POLYETHYLENE
			5	#4/0-#2/0 AWG. M.H.D. UNCOATED 7/STR. COPPER A.S.T.M. B2, B8													0.063 INCH BLACK POLYETHYLENE
			6														
			7														
			8														
			9	#8 AWG. UNCOATED 7/STR. COPPER A.S.T.M. B8				0.062 INCH 75° C. BLACK, RECYCLED AS PRINTED NOT IMPRINTED									
			10	2/C #8 AWG. UNCOATED 7/STR. COPPER A.S.T.M. B8				0.062 INCH 60° C. BLACK, CONSTRUCTION									
			11	3/C 350MCM SECTOR, SOFT UNCOATED COPPER A.E.C.					0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C					0.045 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100° C			0.090 INCH. HEAT & LIGHT STABILIZED BLACK HIGH MOLE- CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH
			12	3/C #2 AWG. UNCOATED COPPER A.E.C.					0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C					0.045 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100° C			0.080 INCH. HEAT & LIGHT STABILIZED BLACK HIGH MOLE- CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH
			13	3/C #2 AWG. ROUND, SOFT COPPER A.E.C.					0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C					0.045 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100° C			0.080 INCH. HEAT & LIGHT STABILIZED BLACK HIGH MOLE- CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH
			14	3/C 350MCM SECTOR, SOFT UNCOATED COPPER A.E.C.					0.100 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C					0.090 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100° C			0.090 INCH. HEAT & LIGHT STABILIZED BLACK HIGH MOLE- CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH
			15	3/C #2 AWG. UNCOATED COPPER A.E.C.					0.100 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C					0.090 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100° C			0.090 INCH. HEAT & LIGHT STABILIZED BLACK HIGH MOLE- CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH
			16	3/C #2 AWG. UNCOATED COPPER A.E.C.					0.100 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C					0.090 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100° C			0.090 INCH. HEAT & LIGHT STABILIZED BLACK HIGH MOLE- CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH
			17	1/C #8 AWG. SOLID, SOFT COPPER A.S.T.M. B3				0.047 INCH 60° C. BLACK									
			18	1/C #8 AWG. SOLID, SOFT COPPER A.S.T.M. B3				0.047 INCH 60° C. BLACK									
			19	3/C 500MCM SECTOR, SOFT, UNCOATED COPPER A.E.C.					0.230 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C					0.090 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100° C			0.047 INCH ASPHALTUM SATURATED JUTE OVER LEAD
			20	3/C 350MCM SECTOR, SOFT, UNCOATED COPPER A.E.C.					0.230 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C					0.090 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100° C			0.110 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE- CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH
			21	3/C #2 AWG. UNCOATED COPPER A.E.C.					0.245 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C					0.100 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100° C			0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE- CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH
			22	#14 AWG. SOLID, SOFT UNCOATED COPPER, NO. 15 SECTOR AS RECOMMENDED BY A.S.T.M. B3													
			23	#14 AWG. SOLID, SOFT UNCOATED COPPER, NO. 15 SECTOR AS RECOMMENDED BY A.S.T.M. B3													
			24	8/C #8 AWG. SOLID, SOFT, TINNED COPPER A.S.T.M. B 3-3													
			25	1/C #2 AWG. B. CLASS 3 OR H STRANDING TINNED COPPER A.S.T.M. B173													

COLOR CODED AS FOLLOWS:  
 RED - A CIRCUIT  
 BLACK - B CIRCUIT  
 WHITE - NEUTRAL

ALL MULTIPLE STREET LIGHTING, TRAFFIC SIGNAL SECONDARY AND SPECIAL EVENT CABLES INSTALLED IN CONDUIT SHALL BE AS PER THE FOLLOWING:  
 CONDUCTORS: COATED, STRANDED COPPER CONDUCTOR PER ASTM B-8 AND B-189. INSULATION: MEETS OR EXCEEDS ALL REQUIREMENTS OF INTERM STANDARD #1 TO IPCEA S-68-516 NEMA WC 8 (MARCH 1971) FOR ETHYLENE PROPYLENE RUBBER INSULATION AND ASTM D 2802-70 AND UL STANDARD 44. JACKET: EXCEEDS ALL REQUIREMENTS OF IPCEA S-19-81, (5TH EDITION) SECTION 4.13.86 FOR HEAVY DUTY CHLOROSULFONATED-POLYETHYLENE LISTED BY UNDERWRITERS LABORATORIES, INC. AS TYPE RHH OR RHW.

NOTE: PRIOR TO PLACING ORDER FOR PURCHASE OF THIS CABLE, A SAMPLE LENGTH OF CABLE MUST FIRST BE SUBMITTED TO P.L.D. FOR THEIR APPROVAL OF INSULATION AND JACKET CHARACTERISTICS.

ACCORDING TO SPECIFICATIONS

SPECIAL CONSTRUCTION  
 0.063 INCH OF 30% HEAVY ARUBBER AND ONE LAYER OF LAPPED FILLED COTTON TAPE OVER EACH CONDUCTOR CENTRAL CONDUCTOR HAS ADDITIONAL 0.170 INCH VARNISHED CAMBRIC TAPE REMAINING 7 CONDUCTORS EACH HAVE ADDITIONAL 0.094 INCH VARNISHED CAMBRIC TAPE ONE OF 7 OUTSIDE CONDUCTORS WRAPPED WITH WHITE PAPER FOR IDENTIFICATION ALL CONDUCTORS CABLED WITH PARAFFINATED JUTE (OUTSIDE FILLER). 0.084 INCH BELT OF OIL SATURATED PAPER OVERALL 0.115 INCH COPPER BEARING LEAD BENEATH OVERALL.

\* BINDER TAPE OVER SHIELDED INSULATED CONDUCTORS AND FILLERS TO BE COPPER OR BRONZE TAPE INTER-CALATED WITH PAPER TAPE OR (2) METALLIZED PAPER TAPES

\* CARBON BLACK PAPER TAPE OVER CONDUCTOR

M.L. KING JR. BLVD. RECONSTRUCTION  
 WABASH AVE. TO LINCOLN AVE.  
 CABLE & WIRE SPECIFICATIONS, DETAILS

SHEET \_\_\_\_\_ OF \_\_\_\_\_ SHEETS  
 JOB NO. \_\_\_\_\_  
 ASSIGNMENT NO. \_\_\_\_\_  
 DATE \_\_\_\_\_

CITY OF DETROIT  
 CITY ENGINEERING DEPARTMENT

DRAWN BY C.E.A.  
 CHECKED BY \_\_\_\_\_  
 APPROVED BY \_\_\_\_\_  
 DATE AUG 1984

PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS  
 16580 WYOMING DETROIT, MICH. 48221

CHECKED BY \_\_\_\_\_  
 APPROVED BY \_\_\_\_\_  
 DATE 26 OF 41 FILE NO. CEA 1098

PUBLIC LIGHTING COMMISSION  
 CITY OF DETROIT

FILE NO. 51-0585  
 SHEET NO. 56 OF 71  
 DATE AUG 1984

T.



**1. DISTRIBUTION AND TRANSMISSION CABLES**

ALL TRANSMISSION CABLES, (24 K.V., ITEMS 11-16 INCLUSIVE) ARE FOR CIRCUITS WITH GROUNDED NEUTRAL, AND SHALL CONFORM STRICTLY WITH THE LATEST REVISION OF THE A.E.I.C. "SPECIFICATION FOR IMPREGNATED, PAPER INSULATED, LEAD COVERED SOLID TYPE CABLE", 9TH EDITION, DATED APRIL, 1954, AND CONSTRUCTION OPTIONS AS NOTED IN SHEET 1.  
 ALL DISTRIBUTION CABLES, (7.5 KV, ITEMS 19-21 INCLUSIVE) ARE FOR CIRCUITS WITH UNGROUNDED NEUTRAL AND SHALL ALSO CONFORM WITH THE ABOVE SPECIFICATION, WITH CONSTRUCTION OPTIONS AS NOTED IN TABLE I.

**2. OVERHEAD LINE WIRE**

OVERHEAD LINE WIRE SHALL BE IN ACCORDANCE WITH LATEST REVISION OF ASA C8.34 (NEOPRENE COVERING) OR THE LATEST REVISION OF ASA C8.35 (POLYETHYLENE COVERING).

**3. 8/C, #8 AWG, STREET LIGHTING CABLE, 7500 V.**

THIS IS A SPECIAL CONSTRUCTION AND SHALL BE MADE STRICTLY IN ACCORDANCE WITH THE DESCRIPTION IN TABLE I.

**4. OTHER RUBBER OR THERMOPLASTIC INSULATED CABLES, LEADED & NON-LEADED**

WIRE SIZE, INSULATION TYPE AND NOMINAL THICKNESSES, OTHER CONSTRUCTION FEATURES SHALL BE AS SHOWN IN TABLE I, AND APPLICABLE REFERENCE SPECIFICATIONS SHOWN BELOW:

**INSULATIONS**

THE MINIMUM INSULATION THICKNESS OF ANY OF THESE CABLES SHALL BE LESS THAN 90% OF THE NOMINAL THICKNESS SHOWN ON TABLE I.

THE PHYSICAL AND AGING PROPERTIES OF THERMOPLASTIC AND RUBBER INSULATIONS SHALL BE AS FOLLOWS:

**CONDUCTORS**

ALL CONDUCTORS SHALL BE COPPER, COMPLYING WITH THE LATEST REVISIONS OF ASTM SPECIFICATIONS, AS FOLLOWS:

- SOFT OR ANNEALED, BARE COPPER WIRE ASTM B3
- MEDIUM HARD DRAWN COPPER WIRE ASTM B2
- HARD DRAWN COPPER WIRE ASTM B1
- CONCENTRIC-LAY-STRAINED COPPER CONDUCTORS, HARD, MEDIUM HARD OR SOFT, COATED OR UNCOATED, AS REQUIRED. ASTM B8
- ROPE-LAY-STRAINED, SOFT, COPPER CONDUCTORS, COATED OR UNCOATED, AS REQUIRED ASTM B173
- SOFT, SOLID COPPER CONDUCTORS, TINNED ASTM B33
- SOFT, SOLID COPPER CONDUCTORS, LEAD OR LEAD ALLOY COATED ASTM B189

**JACKETS**

THE MINIMUM JACKET THICKNESS SHALL NOT BE LESS THAN 80% OF THE NOMINAL THICKNESS SHOWN ON TABLE I.

		POLYVINYL-CHLORIDE 60°C	POLYVINYL-CHLORIDE 75°	HIGH MOLECULAR WEIGHT NATURAL POLYETHYLENE	SYNTHETIC RUBBER 75°C HEAT & MOISTURE RESISTANT	OZONE RESISTING BUTYL RUBBER
ORIGINAL	TENSILE STRENGTH PSI	2300, MIN.	2300, MIN.	1400, MIN.	700, MIN.	600, MIN.
	ELONGATION AT RUPTURE, PERCENT	250, MIN.	250, MIN.	350, MIN.	300, MIN. AND 1/2" SET, MAX.	350, MIN. AND 1/2" SET, MAX.
AIR OVEN TEST, TIME & TEMP. AS NOTED	TENSILE STRENGTH % OF ORIGINAL	65, MIN. 168 HRS., 100±1°C	120, MAX. 80, MIN. 168 HRS., 120±1°C	75, MIN. 48 HRS., 100±1°C	—	60, MIN. 168 HRS., 100±1°C
	ELONGATION % OF ORIGINAL	* 65, MIN. 168 HRS., 100±1°C	** 75, MIN. 168 HRS., 120±1°C	75, MIN. 48 HRS., 100±1°C	—	60, MIN. 168 HRS., 100±1°C
OXYGEN PRESSURE TEST	TENSILE STRENGTH % OF ORIGINAL	—	—	—	50, MIN. 168 HRS., 80±1°C	—
	ELONGATION % OF ORIGINAL	—	—	—	50, MIN. 168 HRS., 80±1°C	—
AIR PRESSURE HEAT TEST	TENSILE STRENGTH % OF ORIGINAL	—	—	—	50, MIN. 20 HRS., 127±1°C	50, MIN. 40 HRS., 127±1°C
	ELONGATION % OF ORIGINAL	—	—	—	50, MIN. 20 HRS., 127±1°C	50, MIN. 40 HRS., 127±1°C
HEAT DISTORTION 121±1°C	% OF ORIGINAL	50, MAX.	25, MAX.	—	—	—
OIL IMMERSION 4 HRS., 70±1°C	TENSILE STRENGTH % OF ORIGINAL	* 85, MIN.	** 85, MIN.	—	—	—
	ELONGATION, % OF ORIGINAL	* 85, MIN.	** 85, MIN.	—	—	—
HEAT SHOCK 121±1°C	—	NO CRACKS	NO CRACKS	—	—	—
COLD BEND	—	NO CRACKS -30±1°C	NO CRACKS -30±1°C	NO CRACKS -55±1°C	—	—
INSULATION RESISTANCE CONSTANT AT 15.6°C	—	1,000 MIN.	2,000 MIN.	50,000 MIN.	4,000 MIN.	20,000 MIN.
FLAME RESISTING PROPERTIES	—	SECT. 6.5 IPCEA 5-61-402	SECT. 6.5 IPCEA 5-61-402	—	—	—
ACCELERATED WATER ABSORPTION REQUIREMENT	ELECTRIC-AL METHOD	DIELECTRIC CONSTANT, 1 DAY	10, MAX.	10, MAX.	—	5, MAX.
		% CAPACITANCE INCREASE	1-14 DAYS -10, MAX. 7-14 DAYS -5, MAX.	1-14 DAYS -4.0 MAX. 7-14 DAYS -2.0 MAX.	—	1-14 DAYS 10.0 MAX. 7-14 DAYS 4.0, MAX.
	OR GRAVIMETRIC METHOD	TEMP.	50±1°C	75±1°C	—	75±1°C
TEST IN ACCORDANCE WITH LATEST REVISION OF		IPCEA S-61-402 (EXCEPTIONS ARE NOTED ABOVE)		IPCEA S-61-402	IPCEA S-19-81 (EXCEPTIONS ARE NOTED ABOVE)	IPCEA S-19-81

FOR #6 AWG AND LARGER, USING BUFFED DIE-CUT SPECIMENS, THE FOLLOWING VALUES SHALL APPLY:

- \* ELONGATION AFTER AIR OVEN TEST 45% MIN.
- \*\* ELONGATION AFTER AIR OVEN TEST 50% MIN.
- \* OR \*\* TENSILE STRENGTH AFTER OIL IMMERSION 80% MIN.
- \* OR \*\* ELONGATION AFTER OIL IMMERSION 60% MIN.

		NEOPRENE BLACK HEAVY DUTY	NEOPRENE BLACK GENERAL PURPOSE	POLYVINYL-CHLORIDE, BLACK	HEAT & LIGHT STABILIZED BLACK POLYETHYLENE COVERG OVER LEAD SHEATH
ORIGINAL	TENSILE STRENGTH PSI	1600, MIN.	1500, MIN.	1500, MIN.	1400, MIN.
	ELONGATION AT RUPTURE, %	300, MIN. 3/8" MAX. SET	250, MIN. 3/8" MAX. SET	100, MIN.	350, MIN.
AIR OVEN TEST TIME & TEMP. AS NOTED	TENSILE STRENGTH, % OF ORIGINAL	—	—	85, MIN. 120 HRS., 100±1°C	75, MIN.
	ELONGATION % OF ORIGINAL	—	—	60, MIN. 120 HRS., 100±1°C	75, MIN.
OXYGEN PRESSURE TEST 168 HRS. 80±1°C	TENSILE STRENGTH % OF ORIGINAL	50, MIN.	50, MIN.	—	—
	ELONGATION % OF ORIGINAL	50, MIN.	50, MIN.	—	—
AIR PRESSURE HEAT TEST 20 HRS. 127±1°C	TENSILE STRENGTH, % OF ORIGINAL	50, MIN.	50, MIN.	—	—
	ELONGATION, % OF ORIGINAL	50, MIN.	50, MIN.	—	—
OIL IMMERSION TEST, TIME & TEMP AS NOTED	TENSILE STRENGTH, % OF ORIGINAL	60, MIN. 18 HRS. 121±1°C	60, MIN. 18 HRS. 121±1°C	60, MIN. 4 HRS. 70±1°C	—
	ELONGATION % OF ORIGINAL	60, MIN. 18 HRS. 121±1°C	60, MIN. 18 HRS. 121±1°C	60, MIN. 4 HRS. 70±1°C	—
HEAT DISTORTION, PERCENT OF UNAGED VALUE	—	—	—	50, MAX. 121±1°C	25, MAX. 90±1°C
HEAT SHOCK 121±1°C	—	—	—	NO CRACKS	—
COLD BEND TEST -35±1°C	—	—	—	NO CRACKS	NO CRACKS
ENVIRONMENTAL CRACKING	—	—	—	—	NO CRACKS
LIGHT ABSORPTIVITY	—	—	—	—	24,000, MIN.
TEST IN ACCORDANCE WITH LATEST REVISION OF		IPCEA S-19-81	IPCEA S-19-81	IPCEA S-61-402	IPCEA INTERIM REVISION #1 PUB. S-54-401 SEPT. 1959

DATE	DESCRIPTION	CHKD. BY	<b>M.L. KING JR. BLVD. RECONSTRUCTION</b> <b>WABASH AVE. TO LINCOLN AVE.</b> <b>CABLE &amp; WIRE SPECIFICATIONS</b> <b>DETAILS</b>	SHEET _____ OF _____ SHEETS	<b>CITY OF DETROIT</b>  <b>CITY ENGINEERING DEPARTMENT</b>	DRAWN BY CEA	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH 48221	CHECKED BY	<b>PUBLIC LIGHTING</b> <b>COMMISSION</b>  <b>CITY OF DETROIT</b>	FILE NO. 51-0585
		26		JOB NO.		CHECKED BY		SHEET NO. 57 OF 71		
				ASSIGNMENT NO.		DATE		DATE		
				DATE		DRAWING NO. 27 OF 41		FILE NO. CEA 1098		
						APPROVED BY		DATE		
								DATE		



CERTIFIED TEST REPORTS

SHIPMENTS OF WIRE AND CABLE SHALL NOT BE CONSIDERED COMPLETE UNTIL CERTIFIED TEST REPORTS ARE RECEIVED AND APPROVED. TEST REPORTS FOR THE VARIOUS ITEMS OF WIRE AND CABLE SHOWN ON SHEET 1 SHALL CONTAIN THE FOLLOWING TEST RESULTS:

ITEMS 1 - 5 INCLUSIVE - OVERHEAD LINE WIRE

1. CONDUCTOR CONTINUITY, RESISTANCE, TENSILE STRENGTH AND ELONGATION TESTS.
2. COVERING THICKNESS, PHYSICAL AND AGING TESTS.
3. WEIGHT OF FINISHED WIRE.

ALL TESTS IN ACCORDANCE WITH THE LATEST REVISION OF ASA 8.34 (NEOPRENE COVERING) OR ASA 8.35 (POLYETHYLENE COVERING.)

ITEMS 6 - 10 INCLUSIVE

1. CONDUCTOR CONTINUITY, RESISTANCE, TENSILE STRENGTH, AND ELONGATION TESTS IN ACCORDANCE WITH THE LATEST REVISIONS OF ASTM B8, B 33 OR B 189.
2. THE PHYSICAL AND OTHER TESTS FOR THE SPECIFIED INSULATION SHOWN ON SHEET-2.
3. INSULATION THICKNESS MEASUREMENTS.
4. THE ALTERNATING-CURRENT VOLTAGE TEST IN ACCORDANCE WITH THE LATEST REVISION OF IPCEA S-61-402.
5. INSULATION RESISTANCE TEST. INSULATION RESISTANCE CONSTANT AS SHOWN ON SHEET-2.
6. (CABLE ITEM 8 ONLY) MINIMUM, MAXIMUM AND AVERAGE LEAD THICKNESS MEASUREMENTS. SHALL ALSO BE INCLUDED.
7. (CABLE ITEM 10 ONLY) A RIP TEST SHALL ALSO BE INCLUDED AS FOLLOWS:

A SIX-FOOT SAMPLE OF THE COMPLETED 2 CONDUCTOR WIRE WITH CLEANLY CUT ENDS SHALL BE SUBJECTED TO A TEMPERATURE OF -10°F. FOR ONE HOUR, WHILE STILL COLD. THE TWO INSULATED CONDUCTORS SHALL BE SEPARATED AT ONE END FOR A DISTANCE OF APPROXIMATELY 3 INCHES AND THEN SHALL BE TORN APART WITH A STEADY PULL AT A RATE OF 33 INCHES IN ONE SECOND OR LESS. THERE SHALL BE NO DAMAGE TO THE INSULATION.

ITEMS 11 - 16 INCLUSIVE - DISTRIBUTION CABLES UNDER 10 KV RATING

1. CONDUCTOR RESISTANCE.
2. SHEATH THICKNESS MEASUREMENTS.
3. HIGH VOLTAGE TEST.
4. MECHANICAL INTEGRITY TEST.
5. BENDING TEST.
6. SPARK TEST ON COVERING OVER LEAD SHEATH ON EACH LENGTH IF COVERING IS SPECIFIED.

ALL TESTS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF "SOLID TYPE IMPREGNATED-PAPER-INSULATED LEAD COVERED CABLE SPECIFICATIONS", PUBLISHED BY THE ASSOCIATION OF EDISON ILLUMINATING COMPANIES.

ITEMS 17 - 18 INCLUSIVE - SERIES STREET LIGHTING CABLE

1. CONDUCTOR RESISTANCE AND CONTINUITY, IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-3.
2. THE PHYSICAL AND OTHER TESTS FOR HIGH MOLECULAR WEIGHT POLYETHYLENE INSULATION AS SHOWN ON SHEET-2.
3. THE PHYSICAL AND OTHER TESTS FOR 60°C. POLYVINYL-CHLORIDE INSULATION AS SHOWN ON SHEET-2.
4. THE FOLLOWING TESTS SHALL ALSO BE MADE AND REPORTED:

**HIGH VOLTAGE TEST** - AFTER NOT LESS THAN SIX (6) HOURS IMMERSION IN WATER AT 60°F. AND WHILE STILL IMMersed, EACH REEL OF INSULATED CABLE WITHOUT LEAD, SHALL WITHSTAND A 60 CYCLE POTENTIAL OF 30,000 VOLTS FOR A PERIOD OF FIVE (5) MINUTES.

**INSULATION RESISTANCE TEST** - THE INSULATION RESISTANCE SHALL NOT BE LESS THAN 26,500 MEGOHMS PER THOUSAND FEET AT 60°F. THIS TEST SHALL BE CONDUCTED UPON COMPLETION OF THE HIGH VOLTAGE TEST.

**SHORT-TIME DIELECTRIC STRENGTH TEST** - A TEN (10) FT. SAMPLE OF THE FINISHED CABLE WITH ONLY THE LEAD REMOVED, AFTER TWELVE (12) HOURS SUBMERSION IN WATER AND WHILE STILL IMMersed, SHALL WITHSTAND A VOLTAGE TEST OF 60,000 VOLTS 60 CYCLE A.C. FOR FIVE (5) MINUTES. ON COMPLETION OF THIS TEST, THE VOLTAGE WILL BE GRADUALLY RAISED IN ACCORDANCE WITH I.P.C.E.A. SPECIFICATIONS, UNTIL THE INSULATION IS PUNCTURED. THIS VOLTAGE SHALL BE RECORDED AND SHALL BE NOT LESS THAN 72,000 VOLTS.

**EXTERNAL CORONA TEST** - THIS TEST SHALL BE CONDUCTED ON ONE (1) SAMPLE PER 10,000 FT. OF COMPLETED CABLE EIGHTEEN (18) INCHES LONG WITH ONLY THE LEAD SHEATH REMOVED, AFTER WHICH IT SHALL BE WIPED WITH A CLEAN DRY CLOTH. THESE SAMPLES SHALL BE BENT AND MAINTAINED IN A "U-SHAPE" HAVING A BENDING DIAMETER EQUAL TO FIVE TIMES THE INSULATED CABLE DIAMETER. THE BENT SAMPLES SHALL THEN BE PLACED IN A VERTICAL POSITION ON A FLAT METALLIC GROUNDED PLATE AND 60 CYCLE AC. VOLTAGE SHALL BE GRADUALLY APPLIED, WITH A CORONA-LEVEL TEST APPARATUS OF THE FILTER-CIRCUIT TYPE, MAINTAINING SUFFICIENT AMPLIFICATION TO INDICATE THE EXISTENCE OF CORONA DISCHARGE. THIS VOLTAGE SHALL BE RAISED UNTIL CORONA IS INDICATED, AND SHALL NOT BE LESS THAN 8,200 VOLTS RMS.

THE VOLTAGE SHALL THEN BE RAISED TO 25,000 VOLTS AND MAINTAINED FOR SIX (6) HOURS WITHOUT FAILURE OF THE INSULATION. THE VOLTAGE SHALL THEN BE RAISED IN 10% STEPS AT TEN (10) MINUTE INTERVALS UNTIL FAILURE OF THE INSULATION OR FLASHOVER OCCURS.

THESE VOLTAGES SHALL BE RECORDED AND REPORTED.

INTERNAL-CORONA LEVEL-EACH LENGTH OF COMPLETED CABLE SHALL BE TESTED IN ACCORDANCE WITH SECTION 6.13 OF THE LATEST REVISION OF I.P.C.E.A. STANDARD S-61-402, EXCEPT THAT THE MINIMUM CORONA LEVEL SHALL BE 8,200 VOLTS.

ITEMS 19 - 21 INCLUSIVE - TRANSMISSION CABLES.

1. CONDUCTOR RESISTANCE.
2. SHEATH THICKNESS MEASUREMENT.
3. HIGH VOLTAGE TEST.
4. MECHANICAL INTEGRITY TEST.
5. BENDING TEST.
6. IONIZATION TEST. ONE TEST PER ORDER OR
7. HIGH VOLTAGE - TIME TEST ) THERE IS A QUANTITY LIMITATION OF
8. DIELECTRIC POWER TEST ) 25,000 FT. ON THESE TESTS PER AIC
9. POWER FACTOR TEST
10. SPARK TEST ON COVERING OVER LEAD SHEATH ON EACH LENGTH.

ALL TESTS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF "SOLID-TYPE IMPREGNATED-PAPER-INSULATED LEAD-COVERED CABLE SPECIFICATION", PUBLISHED BY THE ASSOCIATION OF EDISON ILLUMINATING COMPANIES.

ITEMS 22 - 23 INCLUSIVE - MULTI-CONDUCTOR TRAFFIC SIGNAL CABLE

1. INDIVIDUAL CONDUCTOR RESISTANCE IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B3.
2. INSULATION THICKNESS MEASUREMENTS.
3. INSULATION PHYSICAL AND OTHER TESTS FOR 60°C. POLYVINYLCHLORIDE AS SHOWN ON SHEET-2.
4. ALTERNATING CURRENT VOLTAGE TEST.
5. INSULATION RESISTANCE TEST. INSULATION RESISTANCE CONSTANT IS SHOWN ON SHEET-2.
6. (CABLE ITEM 23 ONLY)
  - a. POLYVINYL CHLORIDE JACKET PHYSICAL AND OTHER TESTS SHOWN ON SHEET-2.
  - b. JACKET THICKNESS MEASUREMENTS.
7. (CABLE ITEM 22 ONLY), LEAD SHEATH THICKNESS MEASUREMENTS.

TESTS NO. 4-7 INCLUSIVE, SHALL BE MADE IN ACCORDANCE WITH THE LATEST REVISION OF IPCEA S-61-402, EXCEPT THAT THE INSULATION RESISTANCE CONSTANT SHALL BE 1000 AT 15.6°C.

ITEM 24 - 8/C SERIES STREET LIGHTING CABLE

1. CONDUCTOR CONTINUITY AND RESISTANCE IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-33.
2. LEAD SHEATH THICKNESS MEASUREMENTS.
3. A HIGH VOLTAGE TEST CONSISTING OF 22,500 VOLTS, 60 CYCLES AC, FOR A DURATION OF 5 MINUTES, BETWEEN CONDUCTORS AND FROM EACH CONDUCTOR TO THE LEAD SHEATH.

ITEM 25 - FLEXIBLE OVERHEAD TRAINER WIRE

1. CONDUCTOR RESISTANCE, TENSILE STRENGTH AND ELONGATION IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-173.
2. INSULATION PHYSICAL AND OTHER TESTS SHOWN ON SHEET-2.
3. ADDITIONAL INSULATION TESTS IN ACCORDANCE WITH THE LATEST REVISION OF IPCEA S-19-81 AS FOLLOWS:
  - a. ALTERNATING-CURRENT VOLTAGE TEST.
  - b. INSULATION RESISTANCE TEST.
  - c. DIRECT-CURRENT VOLTAGE TEST.
  - d. CORONA LEVEL TEST.
  - e. SHORT-TIME DIELECTRIC STRENGTH TEST.
  - f. COLD-BENDING AND LONG-TIME DIELECTRIC STRENGTH TEST.
  - g. CAPACITY AND POWER FACTOR TEST.
  - h. OZONE RESISTANCE TEST.
4. PHYSICAL AND OTHER TESTS ON THE NEOPRENE JACKET (GENERAL PURPOSE OR HEAVY DUTY), AS SHOWN ON SHEET-2.
5. JACKET THICKNESS MEASUREMENTS.

ITEM 26 - SUPERVISORY CONTROL CABLE (MULTI-CONDUCTOR)

1. CONDUCTOR RESISTANCE, TENSILE STRENGTH AND ELONGATION, IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-3.
2. INSULATION PHYSICAL FOR 60°C. PVC INSULATION AND OTHER TESTS SHOWN ON SHEET 2.
3. INSULATION RESISTANCE TESTS.
4. VOLTAGE TESTS PER IPCEAS-61-402.
5. INSULATION THICKNESS.
6. LEAD SHEATH THICKNESS.
7. THICKNESS OF COVERING OVER LEAD SHEATH.
8. SPARK TEST ON COVER OVER LEAD SHEATH ON EACH LENGTH.

MULTI-PAIR COMMUNICATION CABLES (Maximum Mutual Capacitance = 90 nf per mile) (ALSO FOR TRAFFIC SIGNAL CHRONOPLAN.) AND SUPERVISORY

ITEM NO.	USE AND RATING	CONDUCTOR	INSULATION (b)	TAPE OVER INSULATED CONDUCTORS	INNER BELT	SHIELD OVER TAPE OR BELT	JACKET OR SHEATH	COVERING OVER SHEATH
27	AERIAL (a) 600 V.						BLACK POLYETHYLENE (AS TM D 2308). THICKNESSES OVER CORE AND MESSENGER AND WEB DIMENSIONS IN ACCORDANCE WITH REA SPECIFICATION PE-38.	
28	1 IN DUCT 600 V.	#16 OR #19 AWG. SOLID, UNCOATED COPPER (ASTM B 33) - NUMBER OF PAIRS AS REQUIRED	0.025-IN (c) CLASS B POLYETHYLENE (ASTM D 1351)			CORRUGATED, LONGITUDINAL, ANNEALED (c) 0.004-IN COPPER	BLACK POLYETHYLENE (ASTM D 2308) THICKNESS IN ACCORDANCE WITH PARAGRAPH 3.6.7.3.7 AND TABLE IV OF FED. SPEC. J.C.III.	
29	1 IN DUCT 600 V.			12.5 PERCENT MINIMUM LAR POLYETHYLENE TEREPHTHALATE				LEAD-ANTIMONY THICKNESS PER ITEM 26 EXCEPT 0.063-IN. MIN. THICKNESS (c)
30	DIRECT BURIAL 600 V.	#16 OR #19 AWG. SOLID, TINNED COPPER (ASTM B 33), NUMBER OF PAIRS AS REQUIRED	0.031 IN (c) DIOTYL PHTHALATE PLASTICIZED PVC (ASTM D 2219)				COMMERCIALLY PURE LEAD, THICKNESS PER ITEMS 22 & 23.	ASPHALTUM-SATURATED JUTE STEEL ARMOR PER ITEMS 17 & 18.

TEST REPORTS

SHIPMENTS OF WIRE AND CABLE SHALL NOT BE CONSIDERED COMPLETE UNTIL CERTIFIED TEST REPORTS ARE RECEIVED AND APPROVED. TEST REPORTS FOR THE VARIOUS ITEMS ABOVE SHALL SHOW COMPLIANCE WITH CITED SPECIFICATIONS, LISTING TEST RESULTS, AS WELL AS THE FOLLOWING TESTS:

1. CONDUCTOR RESISTANCE OF EACH LENGTH OF EACH CONDUCTOR IN OHMS PER 1000 FT.
2. CERTIFICATION OF MUTUAL CAPACITANCE OF ALL CABLES AND OF NON-INJURIOUS EFFECT OF FLOODING COMPOUND ON ITEM 27.
  - (a) FIGURE 8" CONSTRUCTION MESSENGER SHALL BE 7 STRAND EHS GALVANIZED, CLASS A, 1/4-IN. NOMINAL DIAM. (ASTM A 475) AND SHALL BE FULLY FLOODED.
  - (b) COLOR CODED PER FEDERAL SPECIFICATION J-C-III.
  - (c) NOMINAL THICKNESS, INCHES.

DATE	DESCRIPTION	CHKD BY

M.L. KING JR. BLVD. RECONSTRUCTION  
WABASH AVE. TO LINCOLN AVE.  
CABLE & WIRE SPECIFICATIONS  
DETAILS

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT
NO.
DATE

CITY OF DETROIT  
CITY ENGINEERING DEPARTMENT

DRAWN BY CEA
CHECKED BY ep
APPROVED BY [Signature]
DATE AUG 1984

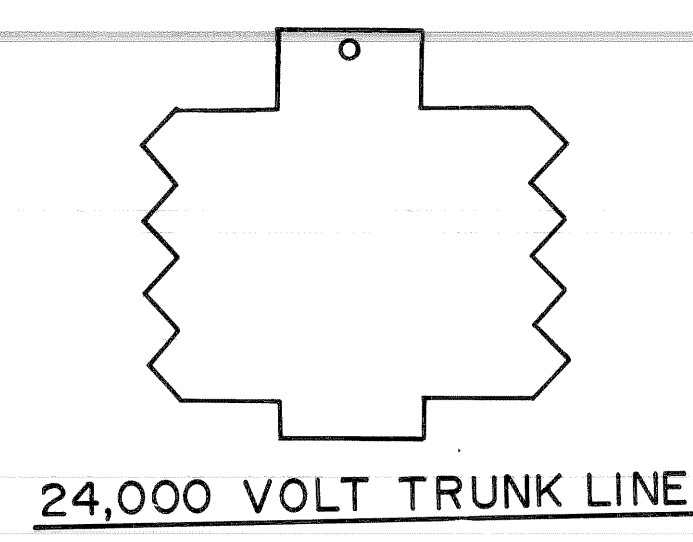
PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221
DRAWING NO. 28 OF 41
FILE NO. CEA 1098

CHECKED BY
APPROVED BY

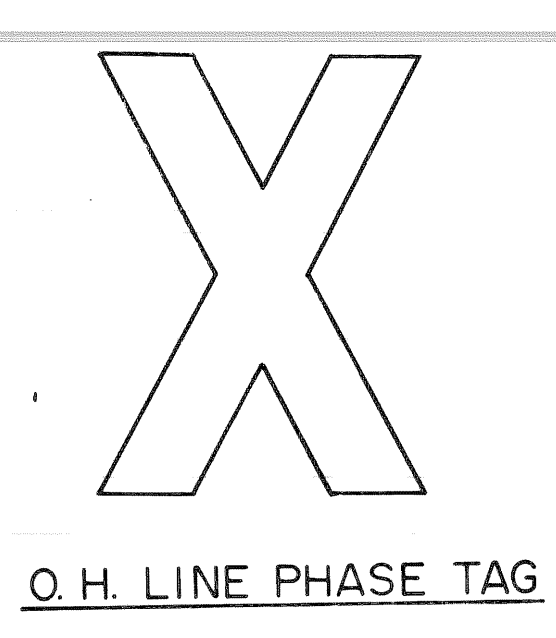
PUBLIC LIGHTING  
COMMISSION  
CITY OF DETROIT

FILE NO. 51-0585
SHEET NO. 58 OF 71
DATE AUG 1984

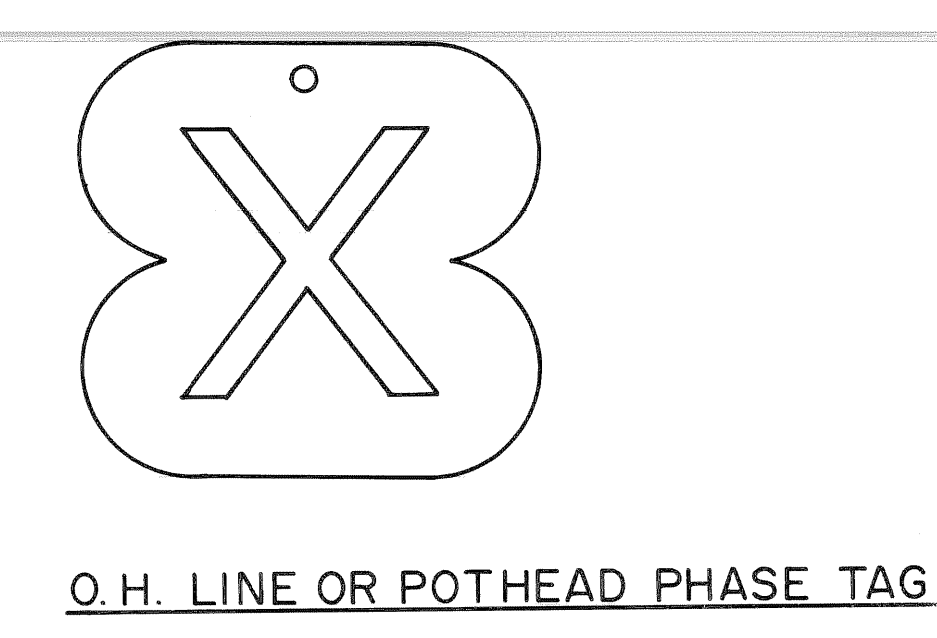




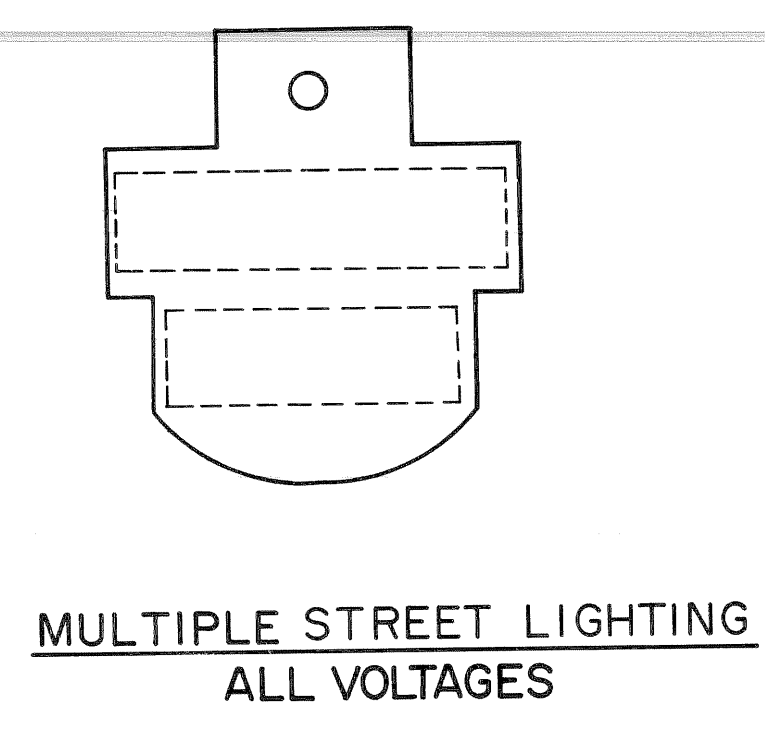
24,000 VOLT TRUNK LINE



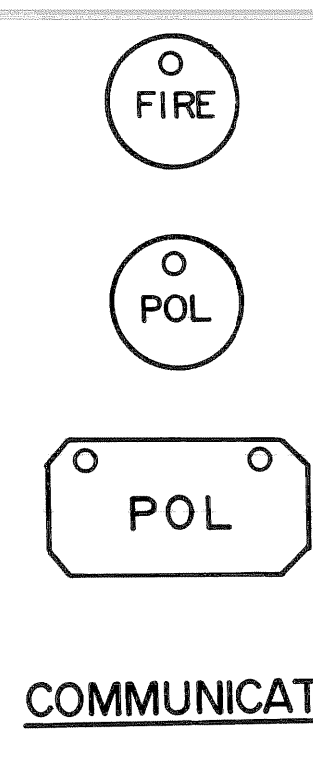
O.H. LINE PHASE TAG



O.H. LINE OR POTHEAD PHASE TAG



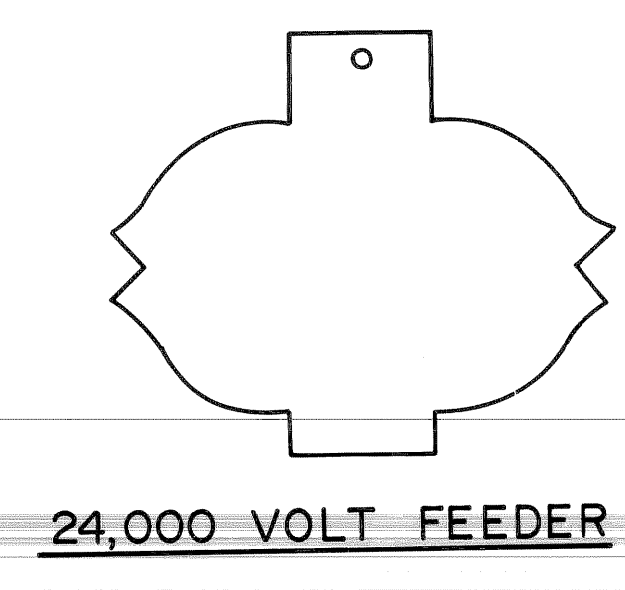
MULTIPLE STREET LIGHTING ALL VOLTAGES



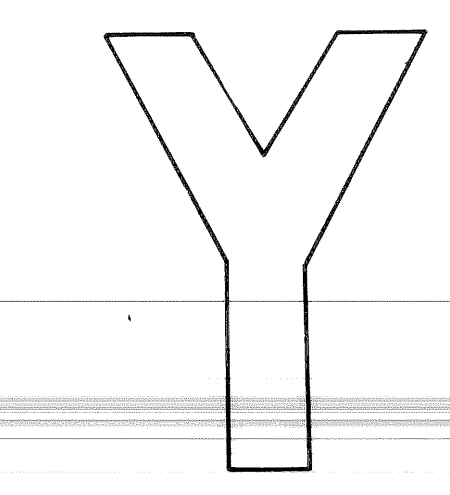
COMMUNICATION

SUBSTATION NAMES ON IDENTIFICATION TAGS SHALL BE SPELLED AS FOLLOWS

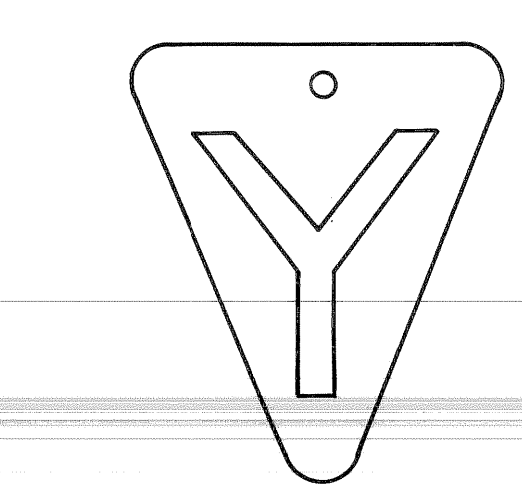
- B.I.
- BUTZL.
- CNFLD.
- CONNR
- CUSTR
- GRNFD.
- HUdsn.
- J. CAMP.
- JOY RD.
- LA BEL
- LTHRP.
- LUDDN.
- MAPLE
- MCRDY.
- MTRSE
- PAL. PK.
- PHILP.
- PORTR
- RUSSL.
- STNTN.
- STONE
- TRNTY.
- TWNSD
- TURNR.
- VERNR.
- WALTN.
- WARRN.
- WD. TER.



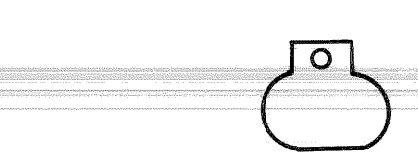
24,000 VOLT FEEDER



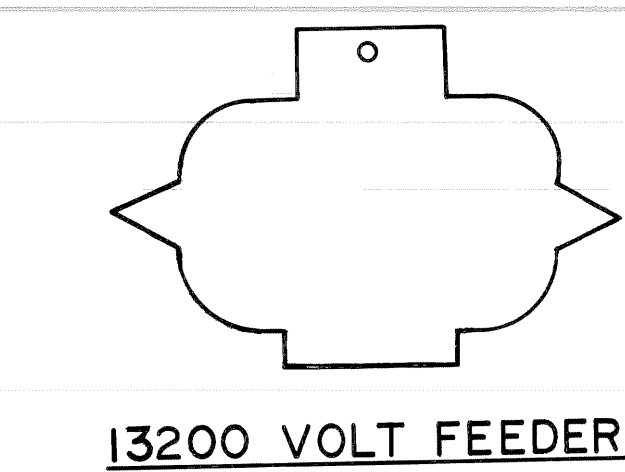
O.H. LINE PHASE TAG



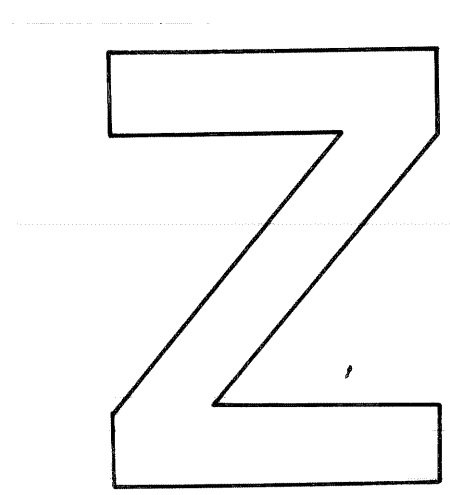
O.H. LINE OR POTHEAD PHASE TAG



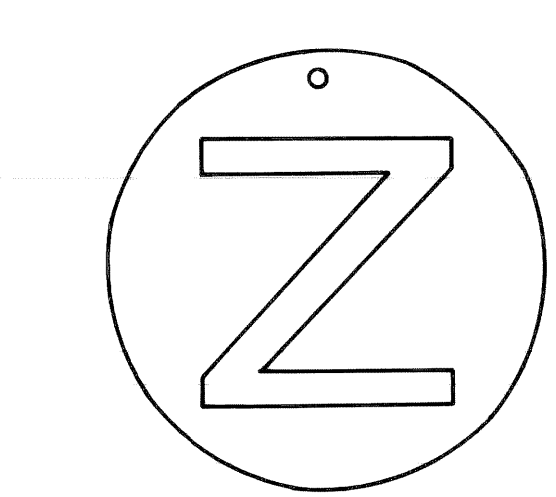
MULTIPLE INC. LTG.



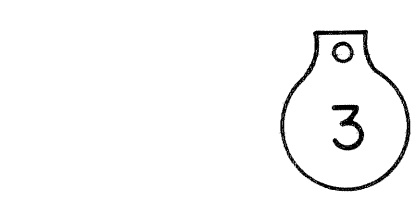
13200 VOLT FEEDER



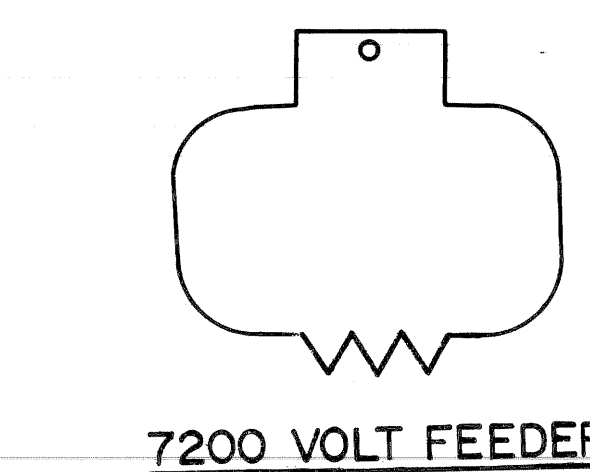
O.H. LINE PHASE TAG



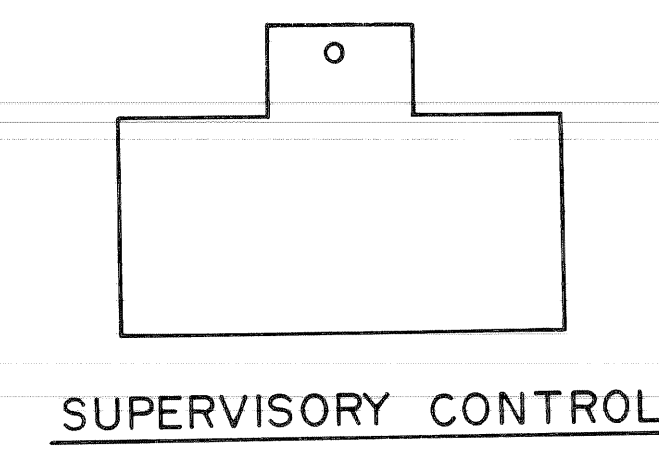
O.H. LINE OR POTHEAD PHASE TAG



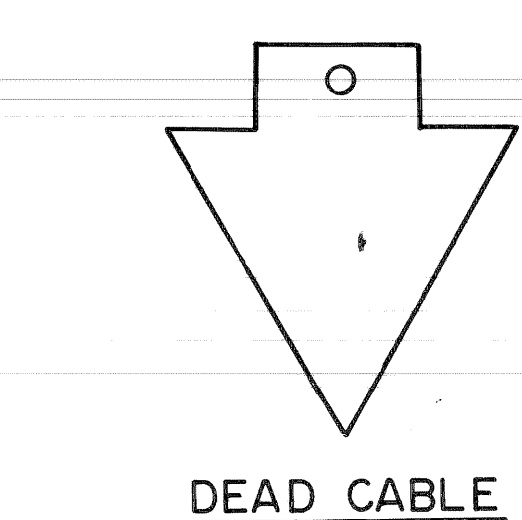
TRAFFIC SIGNALS



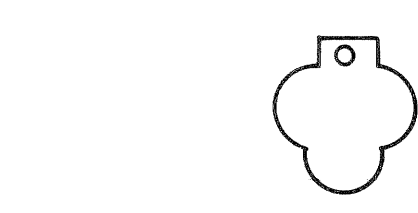
7200 VOLT FEEDER



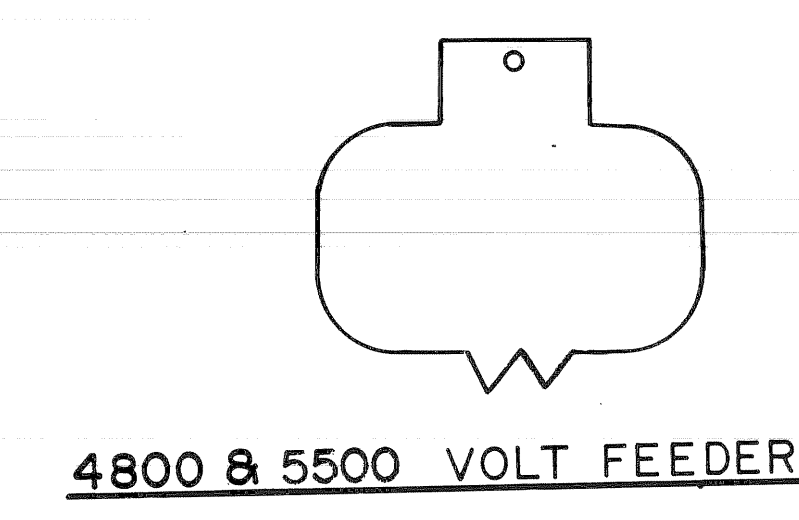
SUPERVISORY CONTROL



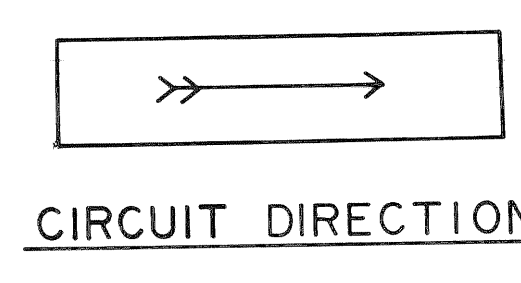
DEAD CABLE



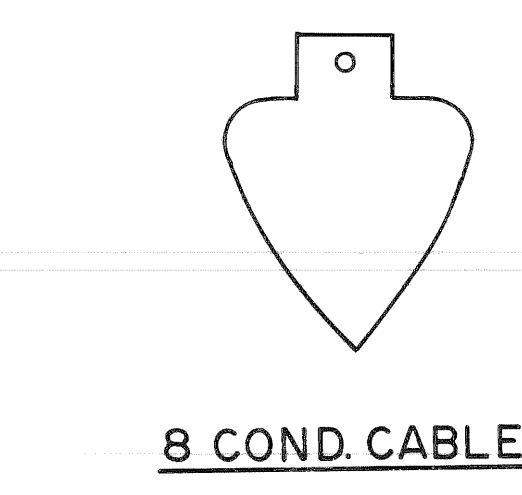
SECONDARY POWER TO SAFETY ISLANDS & TRAFFIC SIGNALS



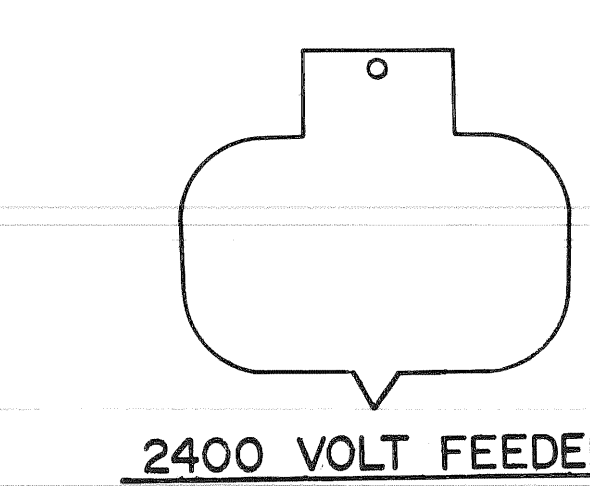
4800 & 5500 VOLT FEEDER



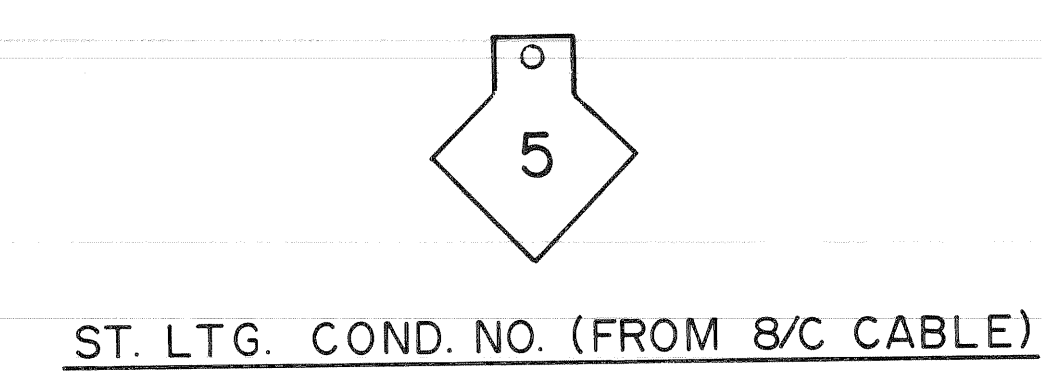
CIRCUIT DIRECTION



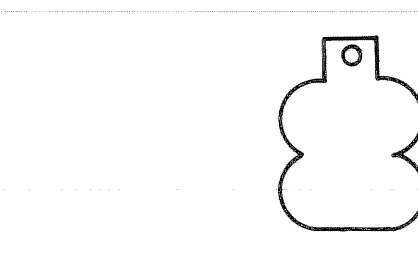
8 COND. CABLE



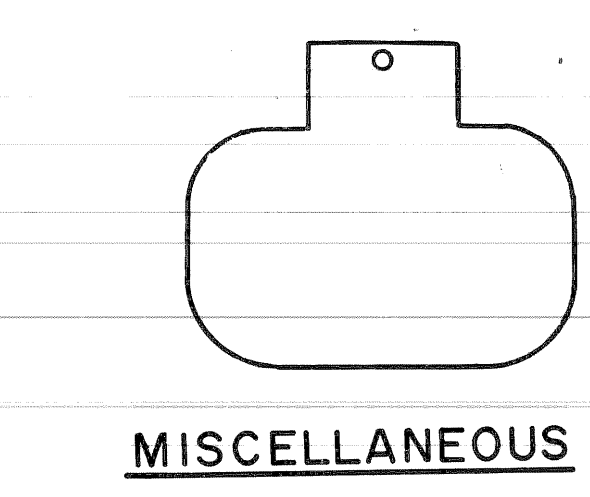
2400 VOLT FEEDER



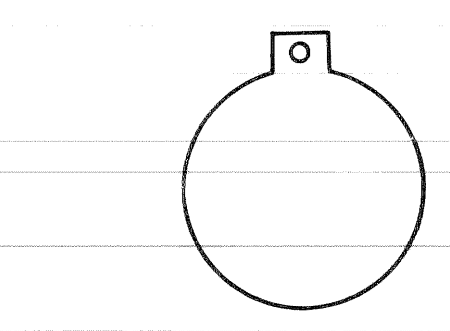
ST. LTG. COND. NO. (FROM 8/C CABLE)



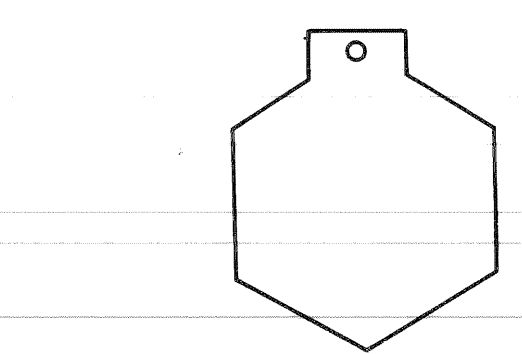
TRAFFIC SIGNAL CHRONOLIZER



MISCELLANEOUS



ST. LTG. CIRC. NUMBER



MULTIPLE LTG. CONTROL

IDENTIFICATION TAGS MATERIAL LEAD

**NOTE:**

LEAD CABLE IDENTIFICATION TAGS WILL BE FURNISHED TO CONTRACTOR BY P.L.D. CABLE TAG MARKINGS SUCH AS SUBSTATION OR CABLE MARKINGS WILL BE AS SHOWN ON PLANS OR WILL BE FURNISHED BY P.L.D.

DATE	DESCRIPTION	CHKD. BY

**M.L. KING JR. BLVD. RECONSTRUCTION  
WABASH AVE. TO LINCOLN AVE.**

CABLE TAGS DETAILS

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

CITY OF DETROIT

CITY ENGINEERING DEPARTMENT

DRAWN CEA
CHECKED ep
APPROVED [Signature]
DATE AUG 1984

PLAN PREPARED BY  
CONSULTING ENGINEERING ASSOCIATES INC.  
ENGINEERING CONSULTANTS  
16580 WYOMING DETROIT, MICH., 48221

DRWG. NO. 29 OF 41

FILE NO. CEA 1098

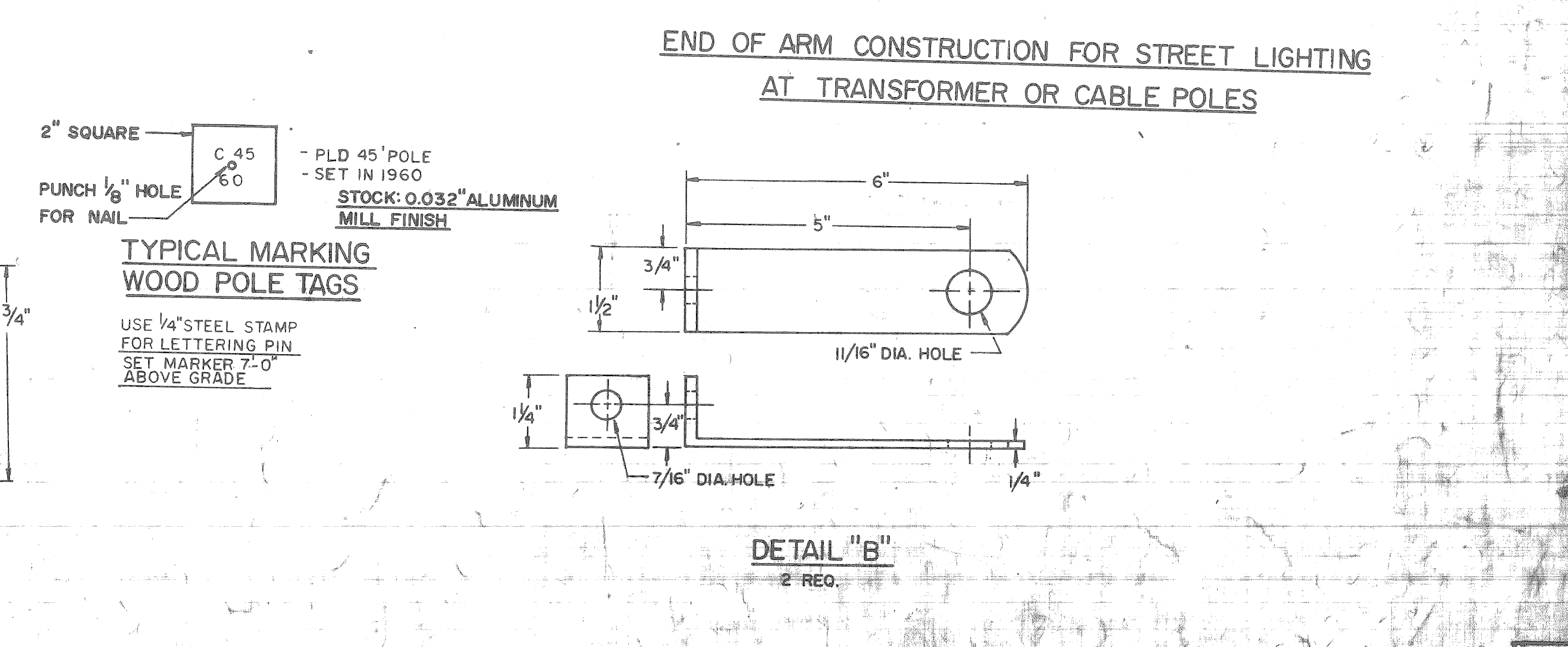
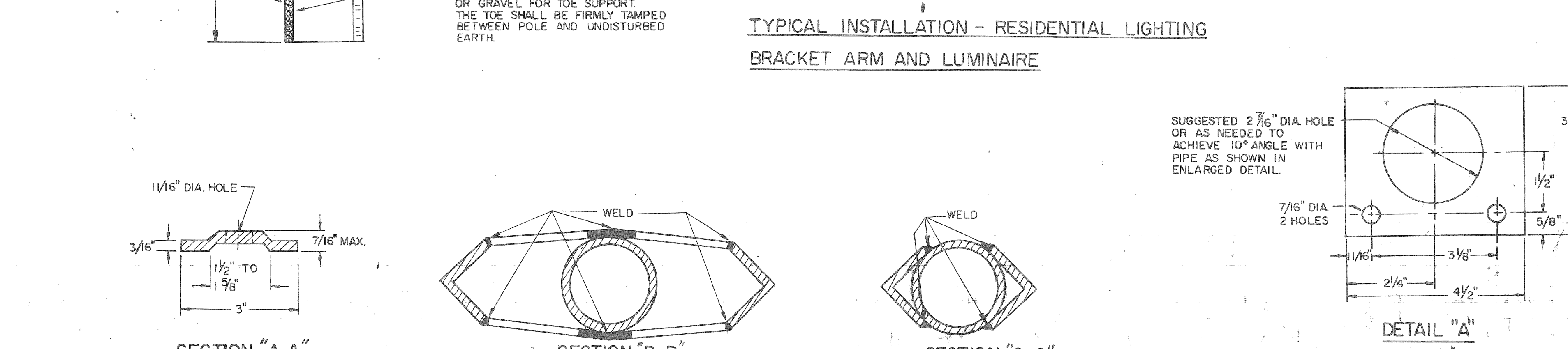
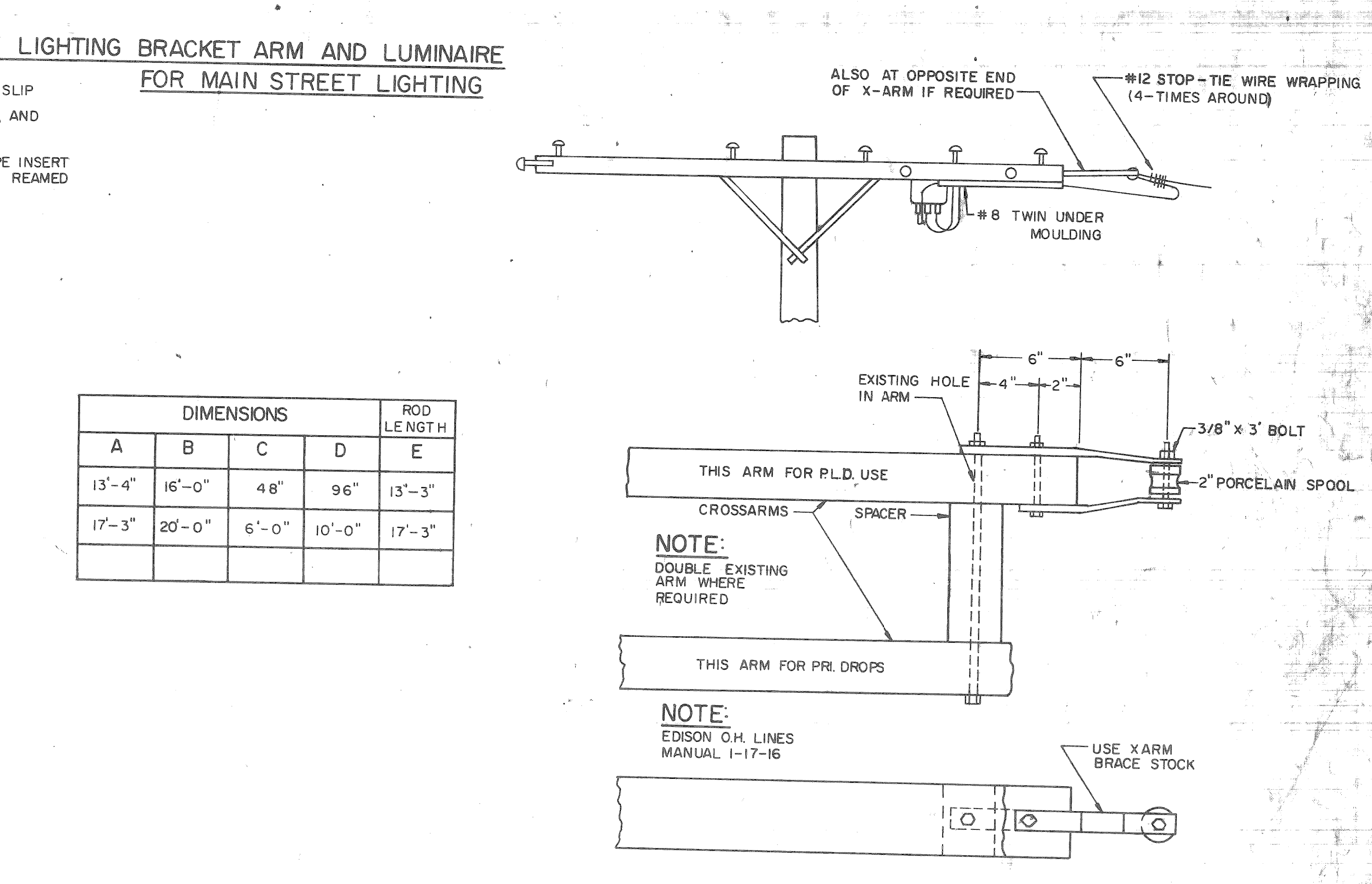
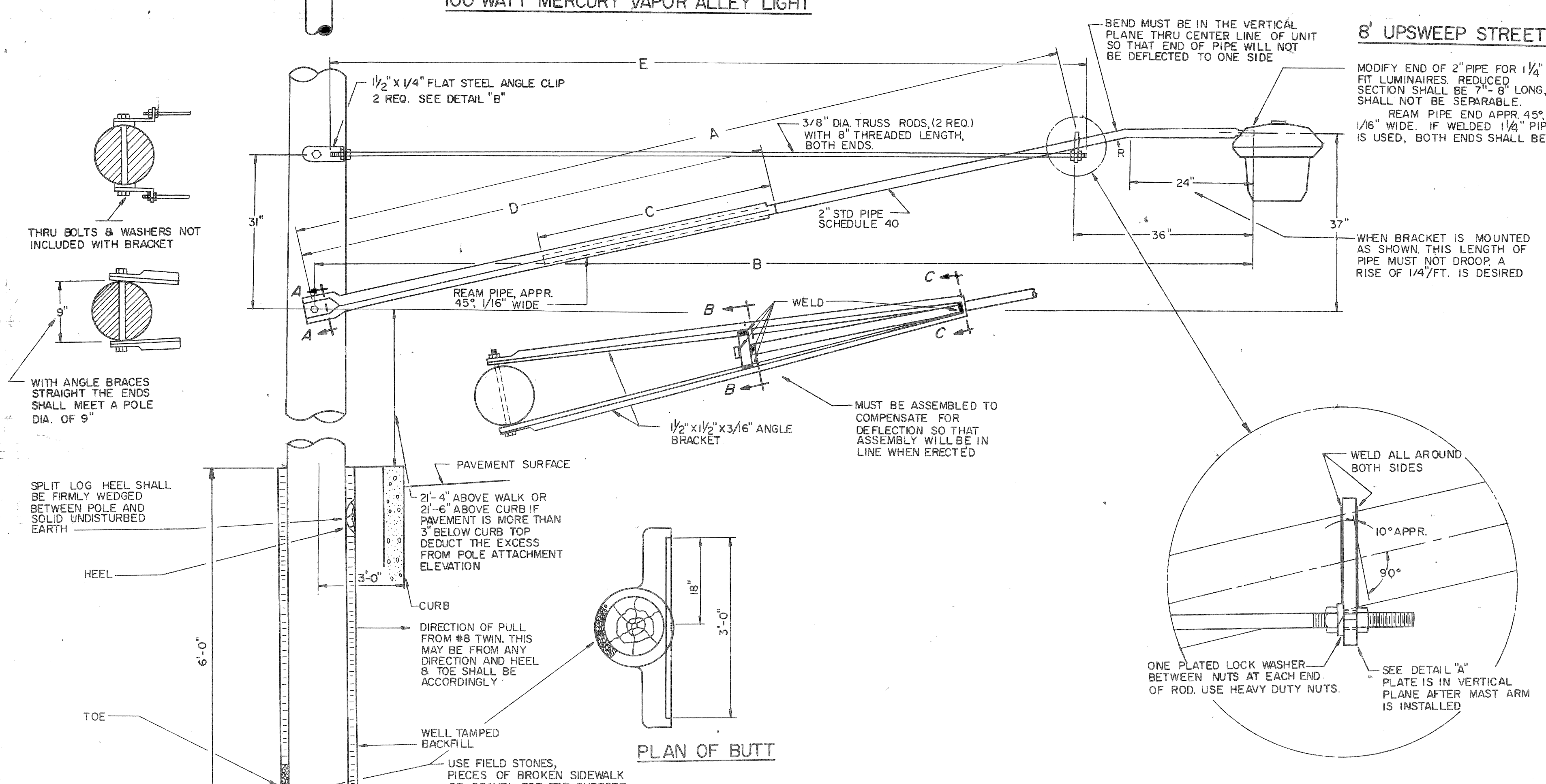
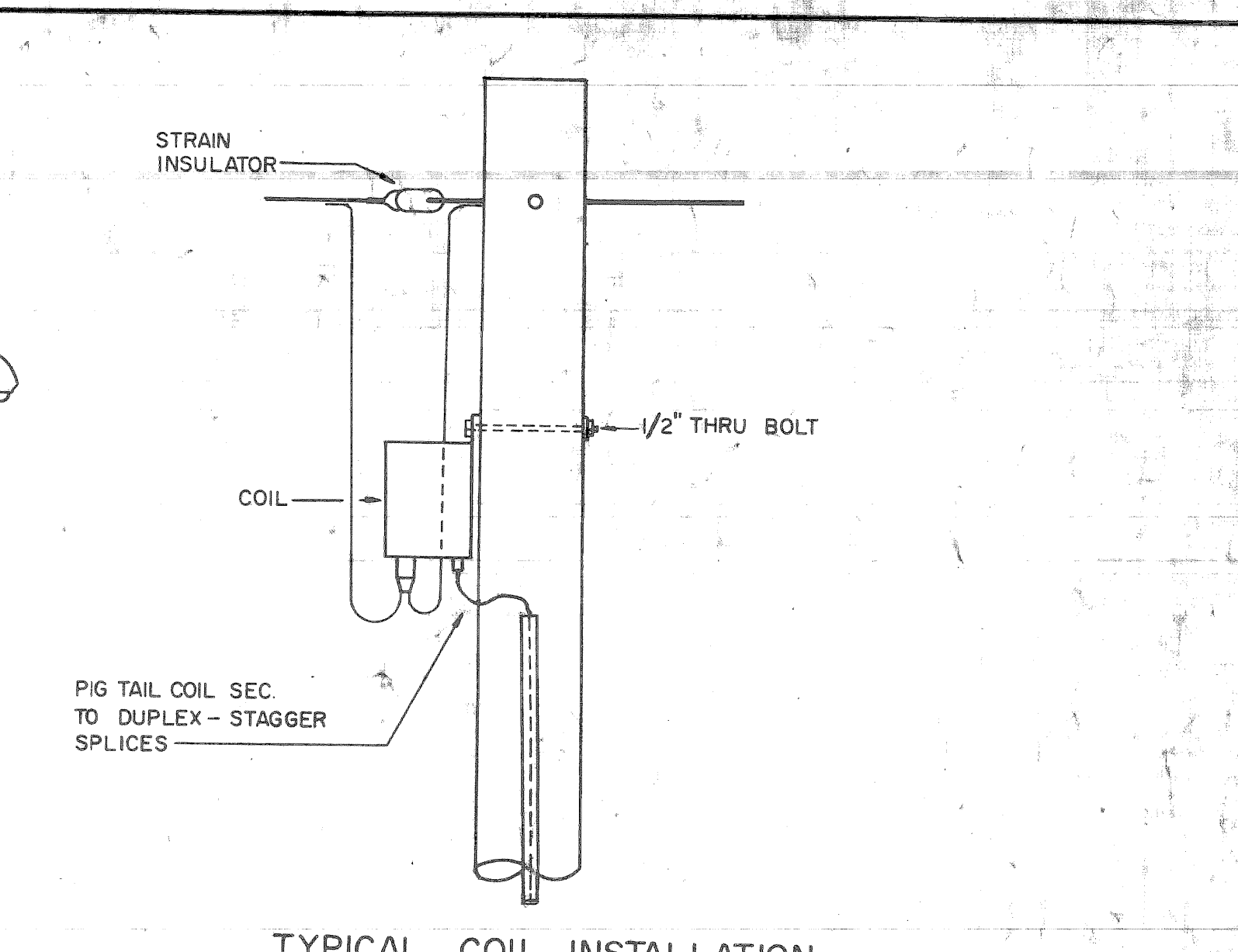
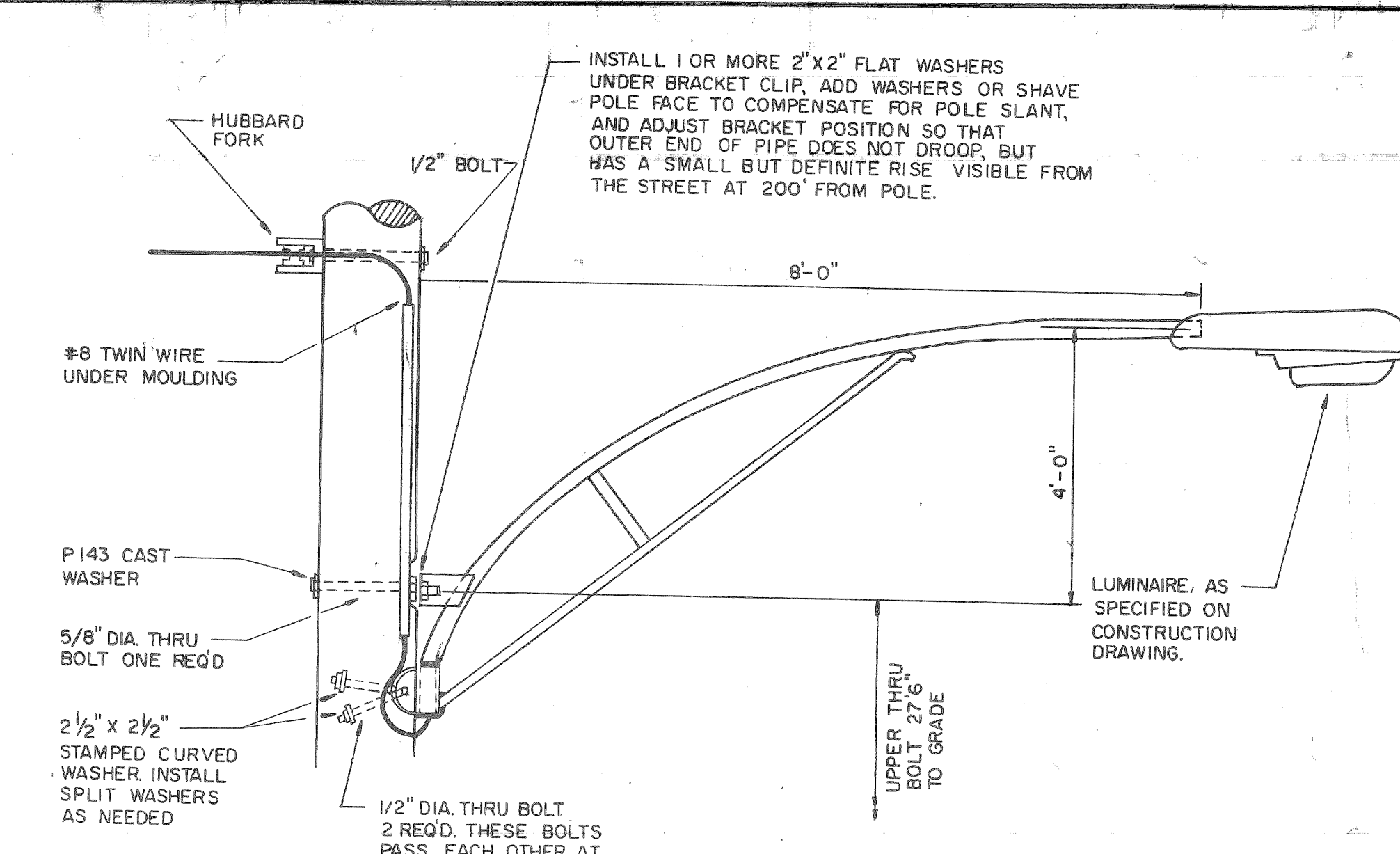
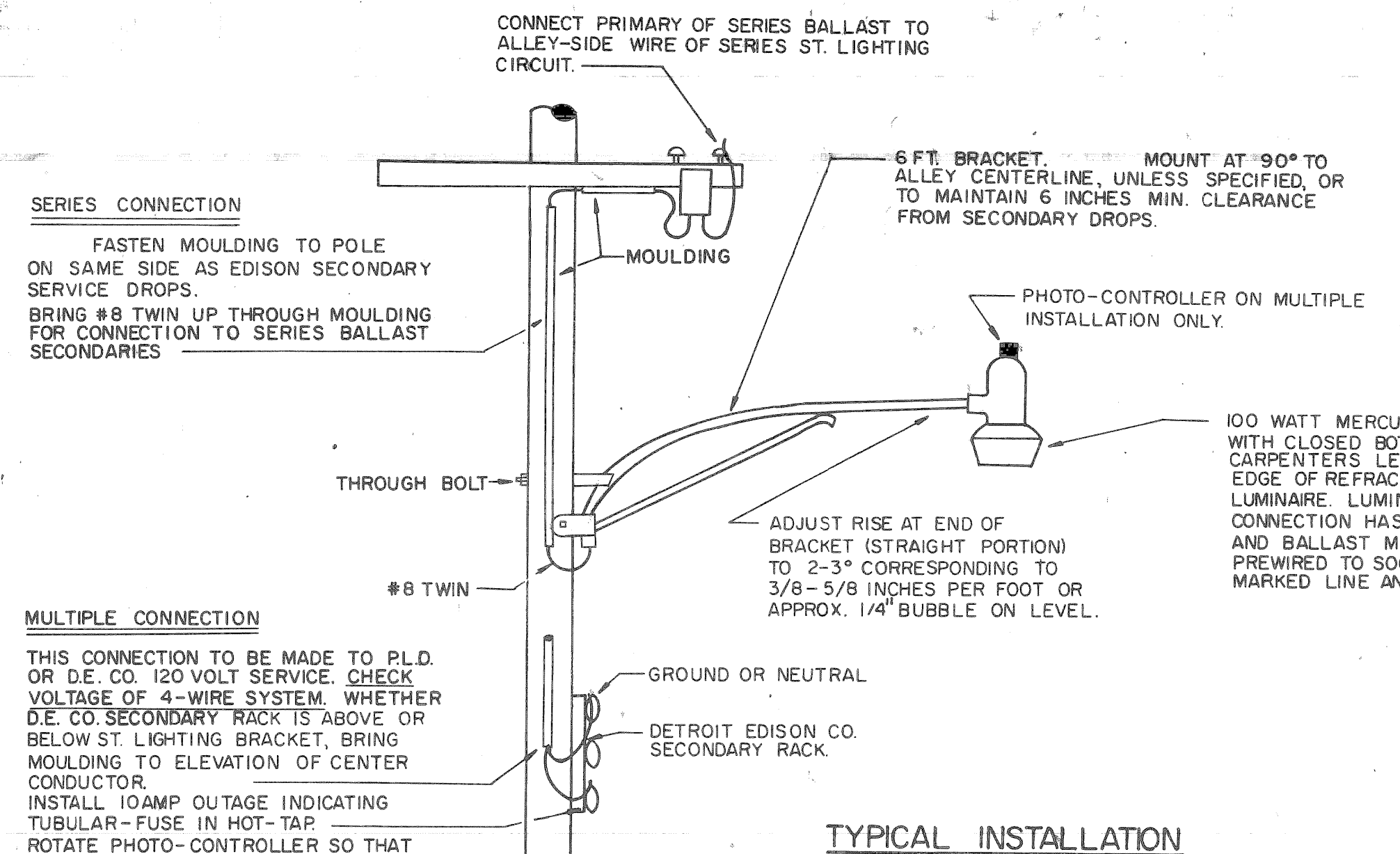
CHECKED BY
APPROVED

PUBLIC LIGHTING DEPARTMENT

CITY OF DETROIT

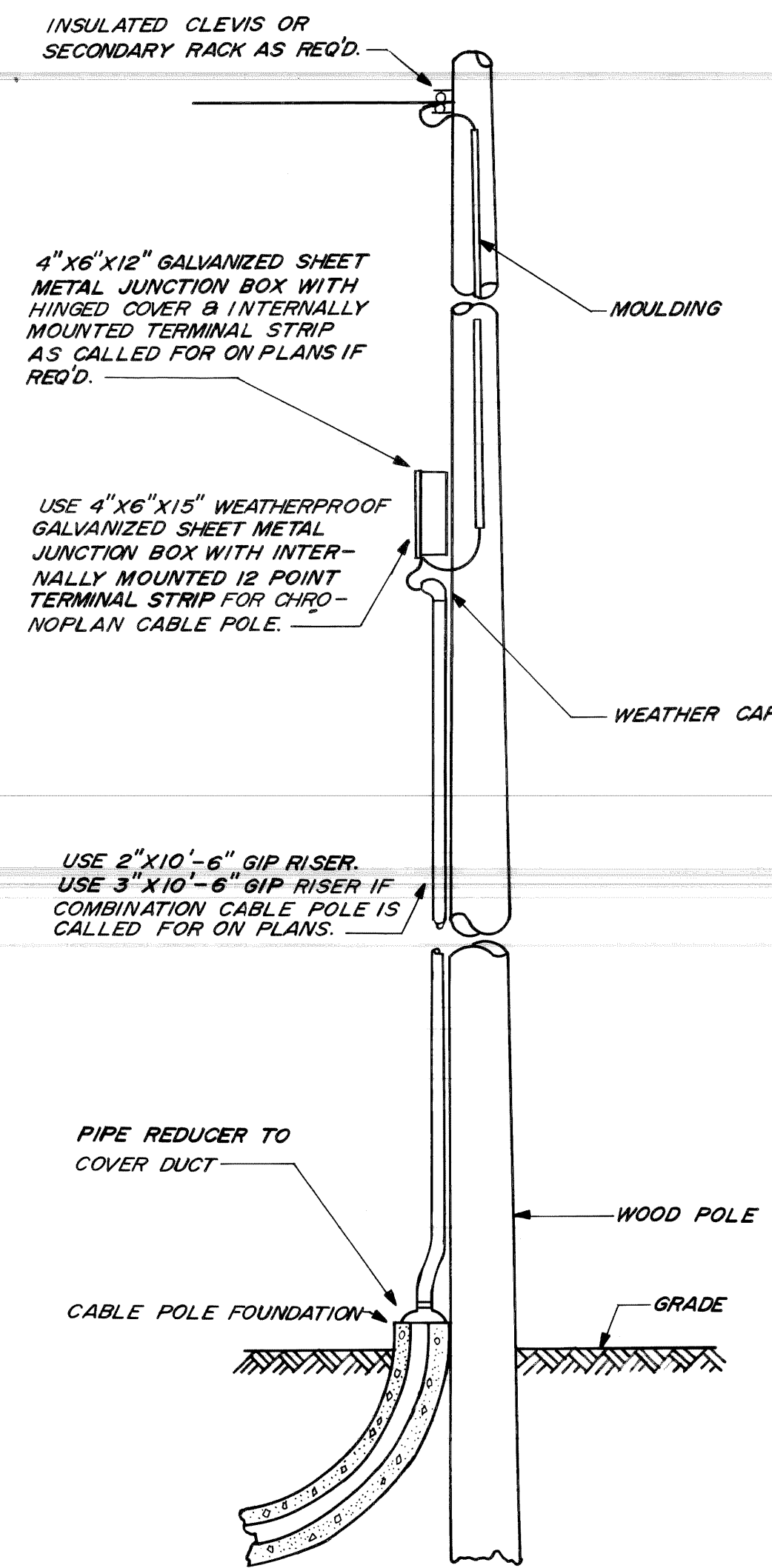
FILE NO. 51-0585
SHEET NO. 59 OF 71
DATE AUG 1984



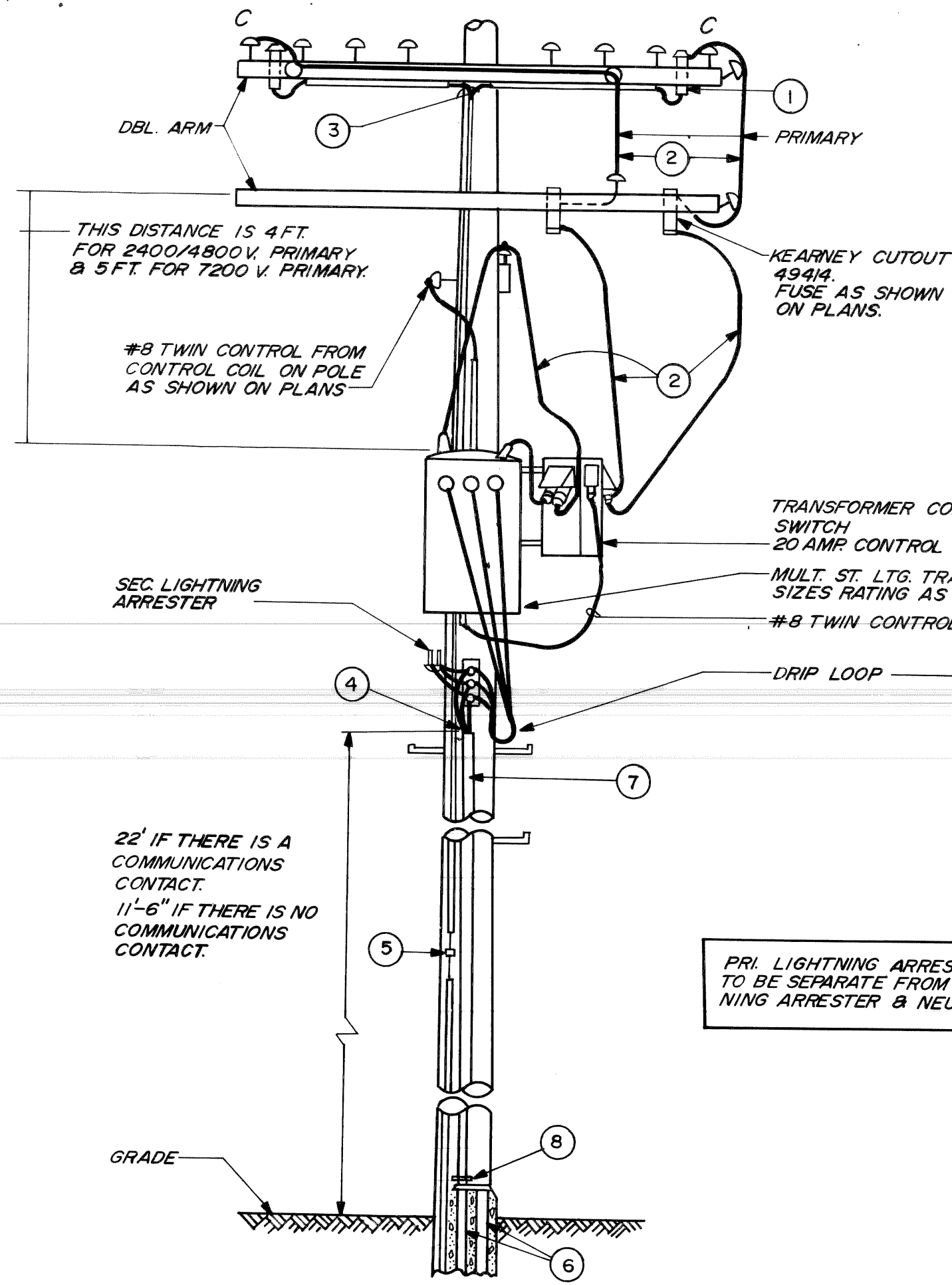


DATE	DESCRIPTION	CHKD. BY	41	<b>M.L. KING JR BLVD. RECONSTRUCTION</b> <b>WABASH AVE TO LINCOLN AVE</b> MISCELLANEOUS OVERHEAD DETAILS	SHEET _____ OF _____ SHEETS JOB NO. ASSIGNMENT NO. DATE	<b>CITY OF DETROIT</b> CITY ENGINEERING DEPARTMENT	DRAWN BY: CEA CHECKED BY: [Signature] APPROVED BY: [Signature] DATE: AUG 1984	PLAN PREPARED BY: CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221 FILE NO. CEA 1098	PUBLIC LIGHTING COMMISSION CITY OF DETROIT	SHEET NO. 60 OF 71 DATE: AUG 1984

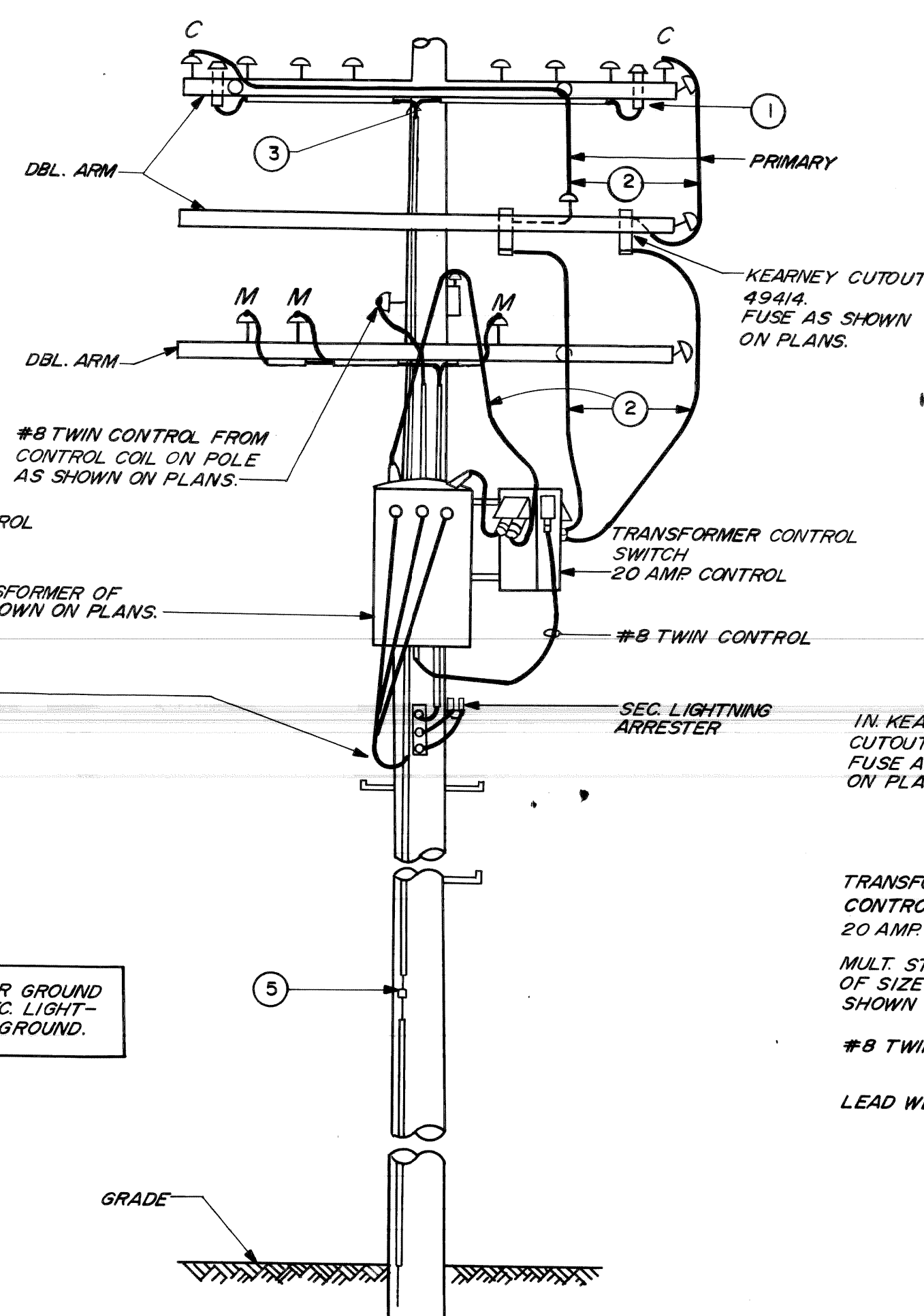




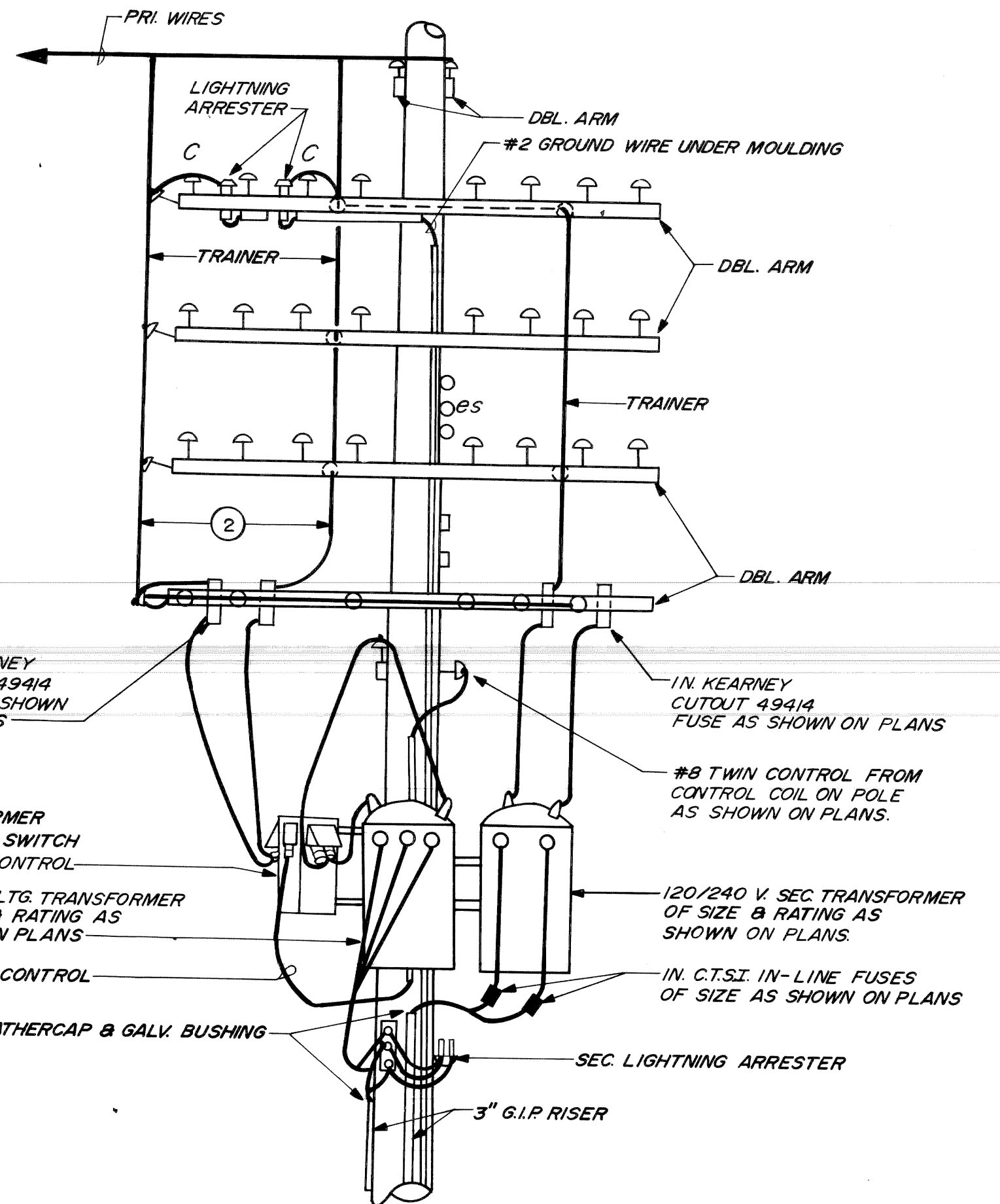
TYPICAL CHRONOPLAN, SECONDARY, MULT. ST. LTG. & TRAFFIC SIGNAL CABLE DETAIL  
DETAIL "D"  
N.T.S.



COMB. MULT. ST. LTG. TRANSF. POLE & MULT. ST. LTG. CABLE POLE  
DETAIL "A"  
N.T.S.



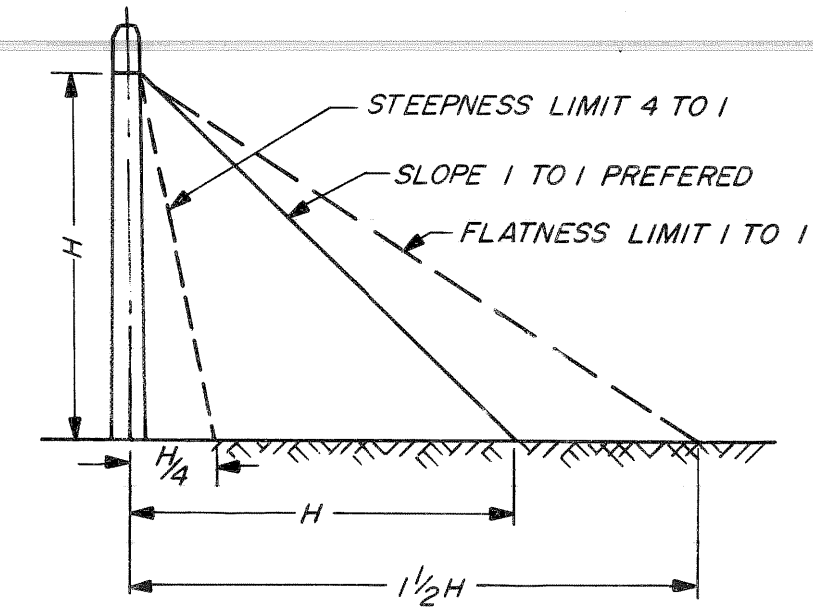
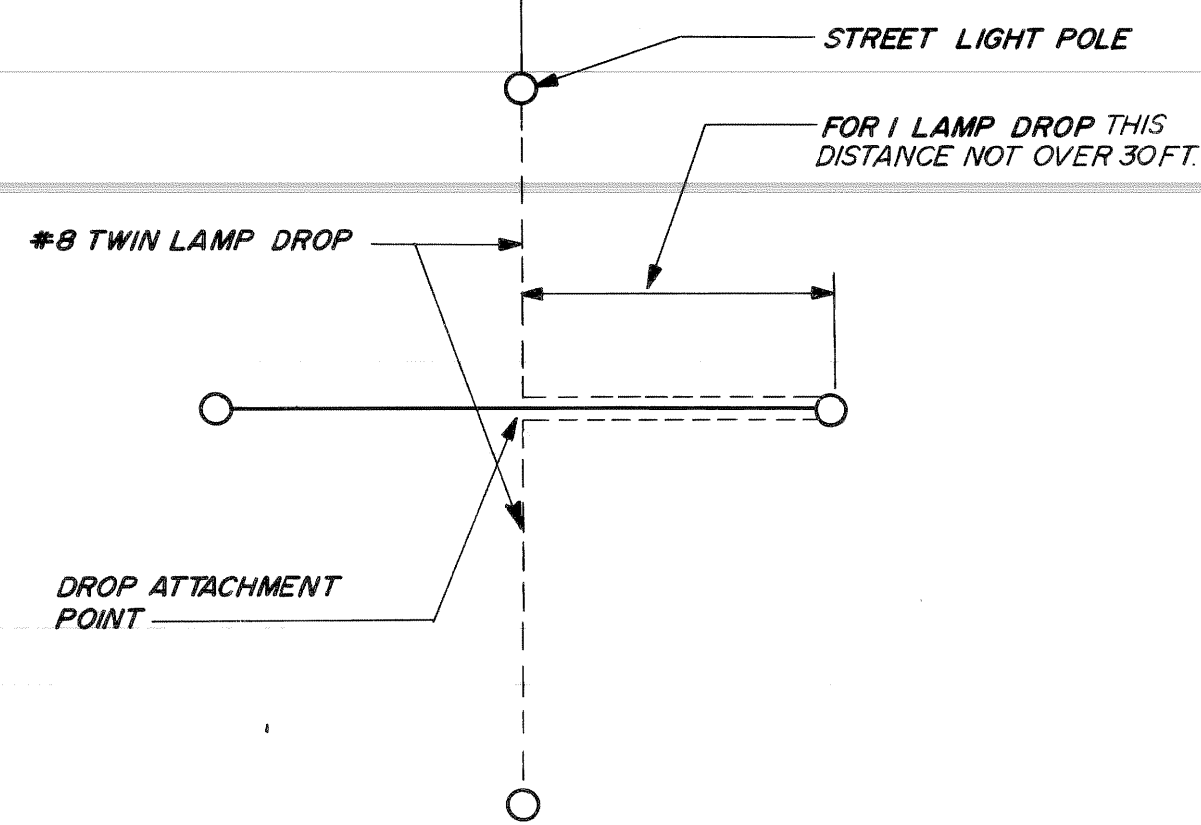
MULT. ST. LTG. TRANSFORMER POLE  
DETAIL "B"  
N.T.S.



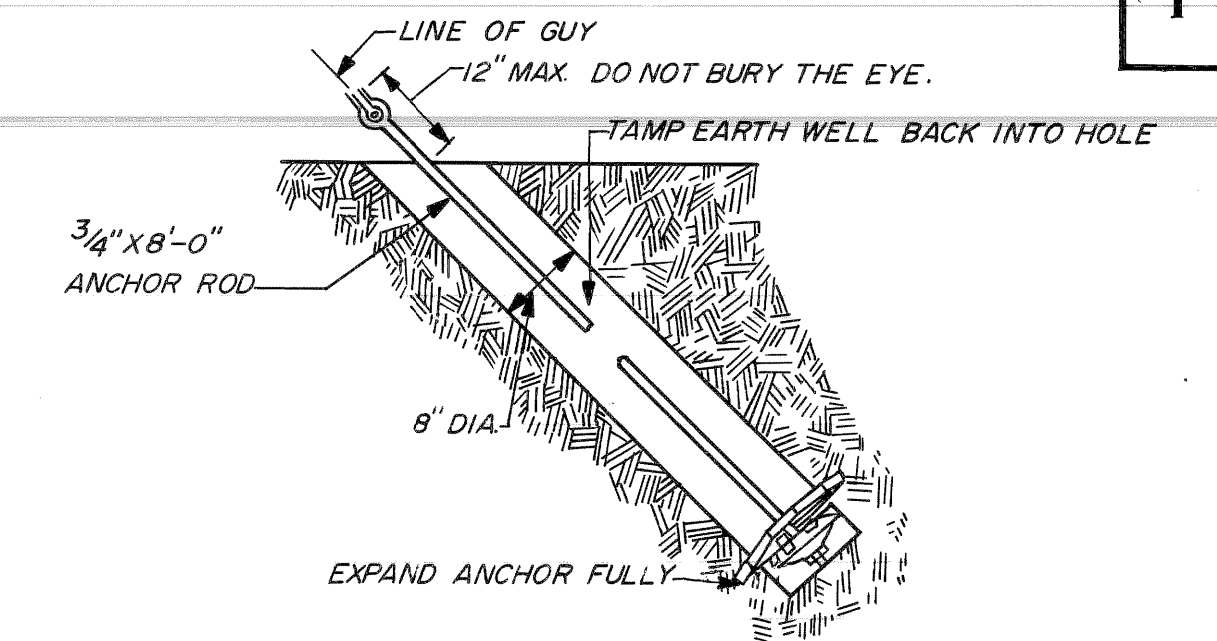
COMB. TRANSF. POLE, MULT. ST. LTG. TRANSF. POLE, MULT. ST. LTG. & SEC. CABLE POLE (CLUSTER MOUNT - TYP.)  
DETAIL "C"  
N.T.S.

DETAIL ITEMS	
①	LIGHTNING ARRESTER
②	OVERHEAD TRAINING WIRE
③	#2 GROUND WIRE UNDER MOULDING
④	LEAD WEATHERCAP & GALV. BUSHING
⑤	FOUR SCREW CONNECTOR
⑥	4" PLASTIC CONDUIT
⑦	3" G.I.P. RISER
⑧	3"X4" REDUCER ADAPTER

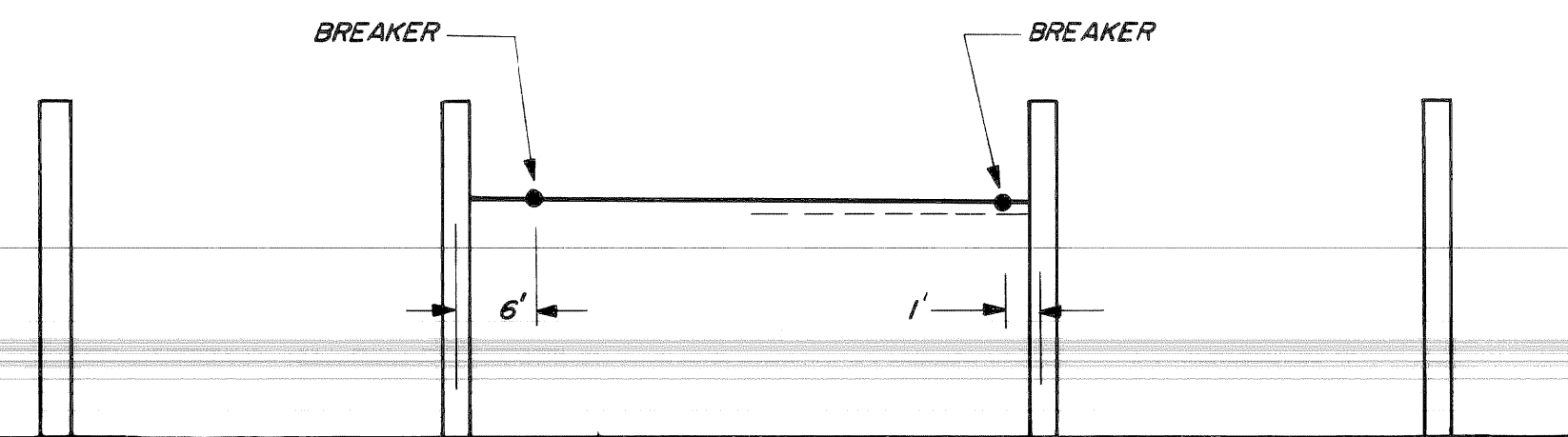




SLOPE LIMITS FOR ANCHOR GUYS



EXPANDING ANCHOR

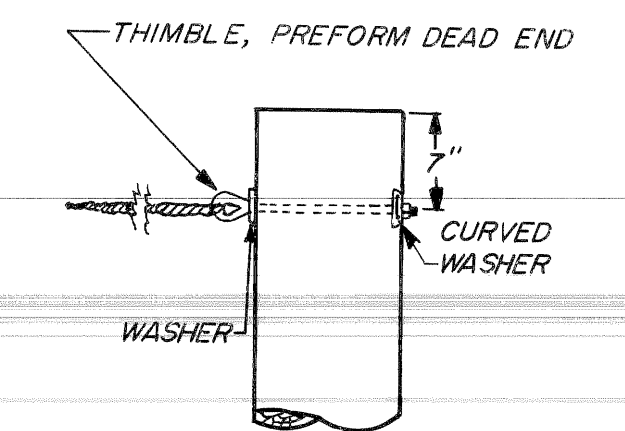


N.T.S.

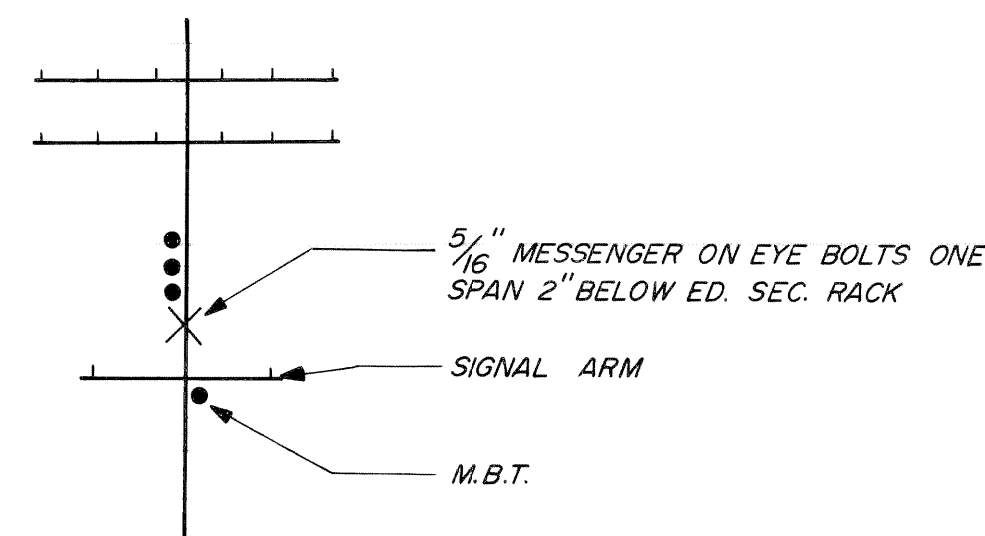
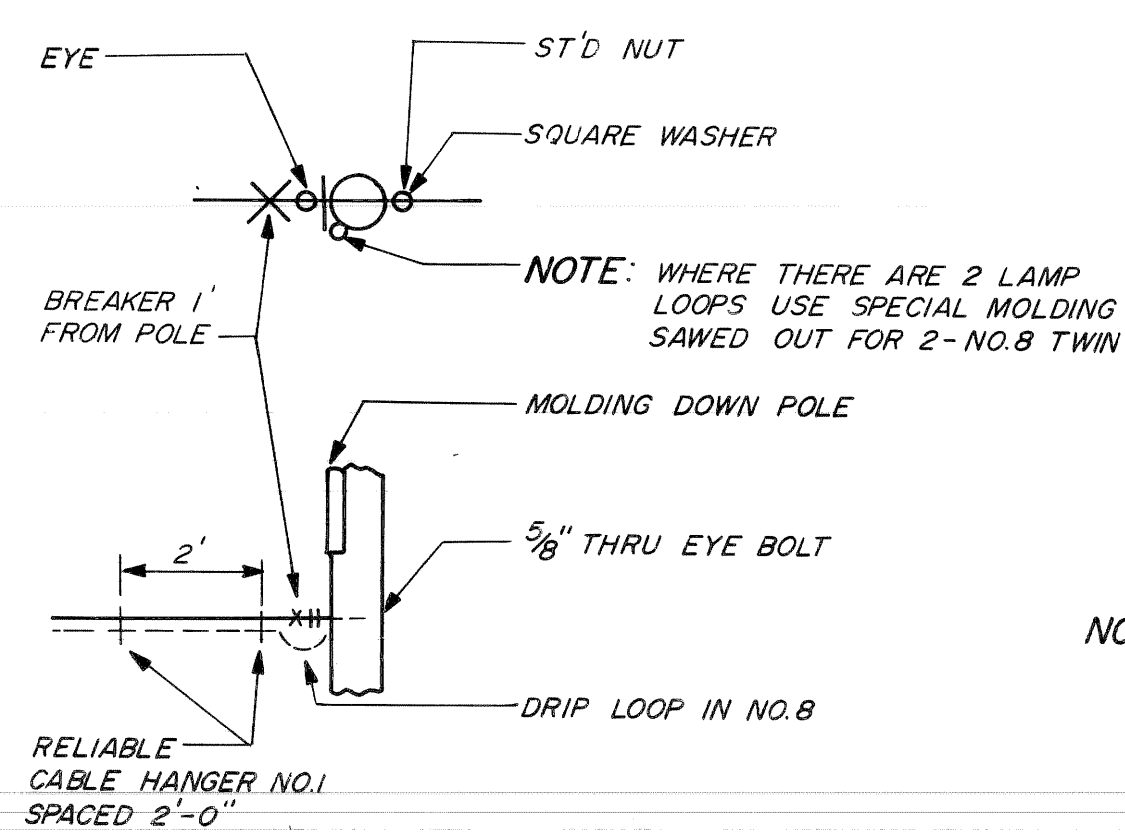
NOTE "A"  
THIS DIMENSION TO BE 10' UNLESS OTHERWISE SPECIFIED BUT IN NO CASE LESS THAN 8'

POLE HEIGHT	SETTING DEPTH
30'	6.0'
35'	6.0'
40'	6.0'
45'	6.5'
50'	7.0'
55'	7.5'
60'	8.0'

TYPICAL POLE SETTING DEPTH



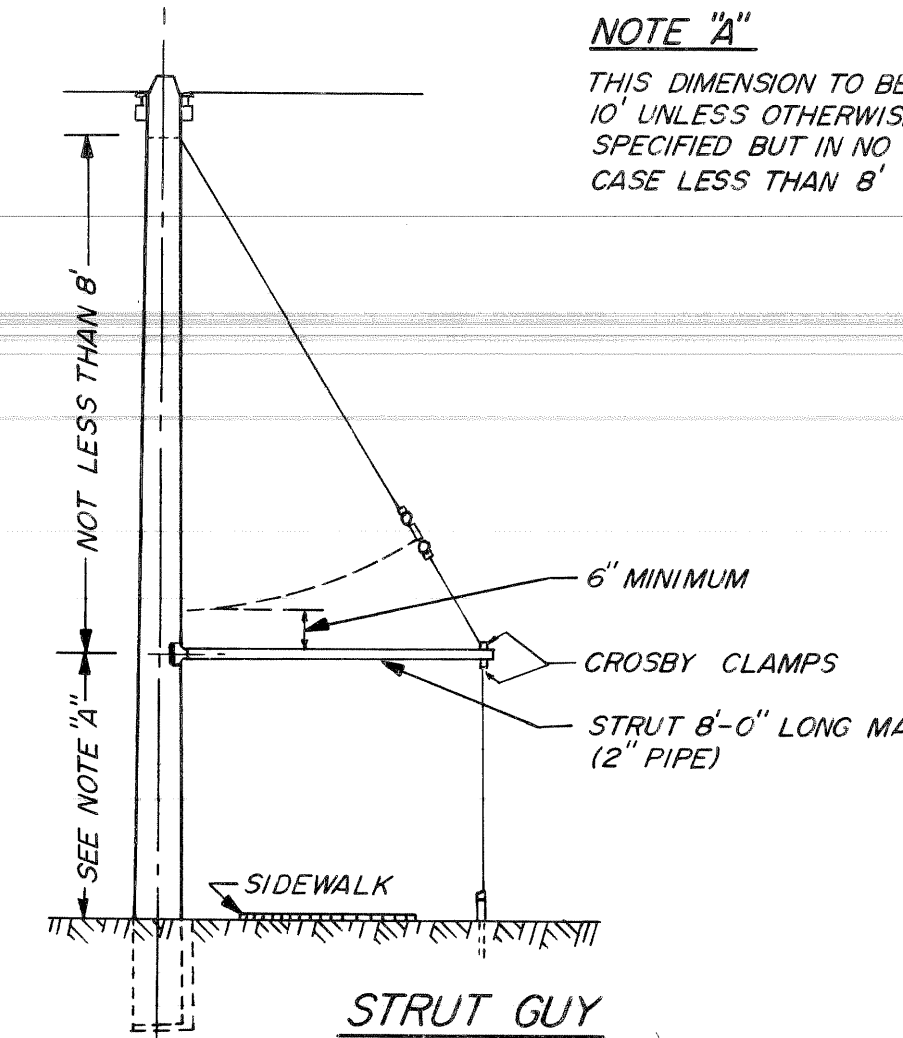
POLE GUY



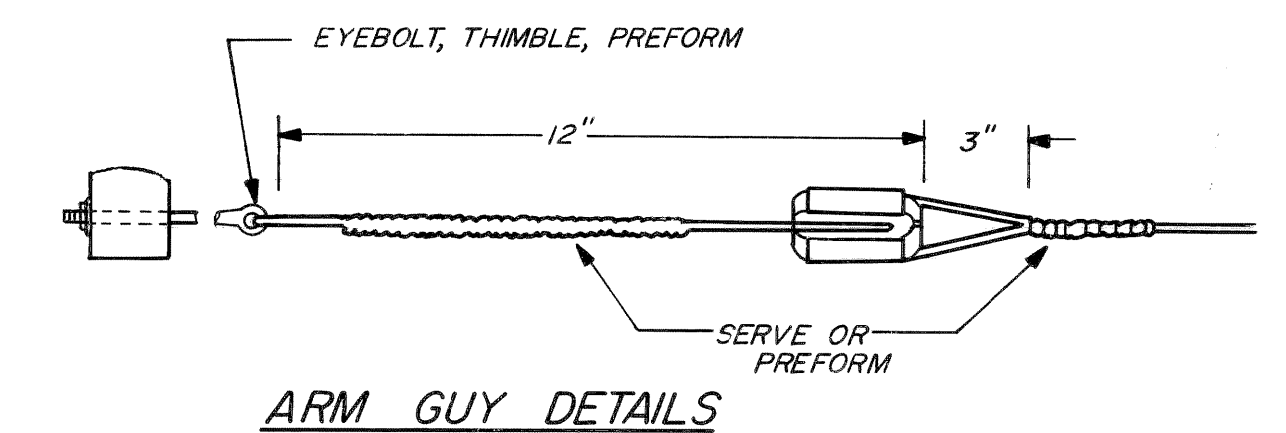
NOTE: INSTALL 3/8" MESSENGER SPAN FIRST WITH SAME SAG AS EDISON SEC THEN INSTALL NO.8 TWIN DROPS. IN THE CASES WHERE THERE IS A SINGLE DROP AND THE ATTACHMENT POINT IS PULLED OUT AND UP READJUST SAG AT EYE BOLT.

(POLE DETAIL)

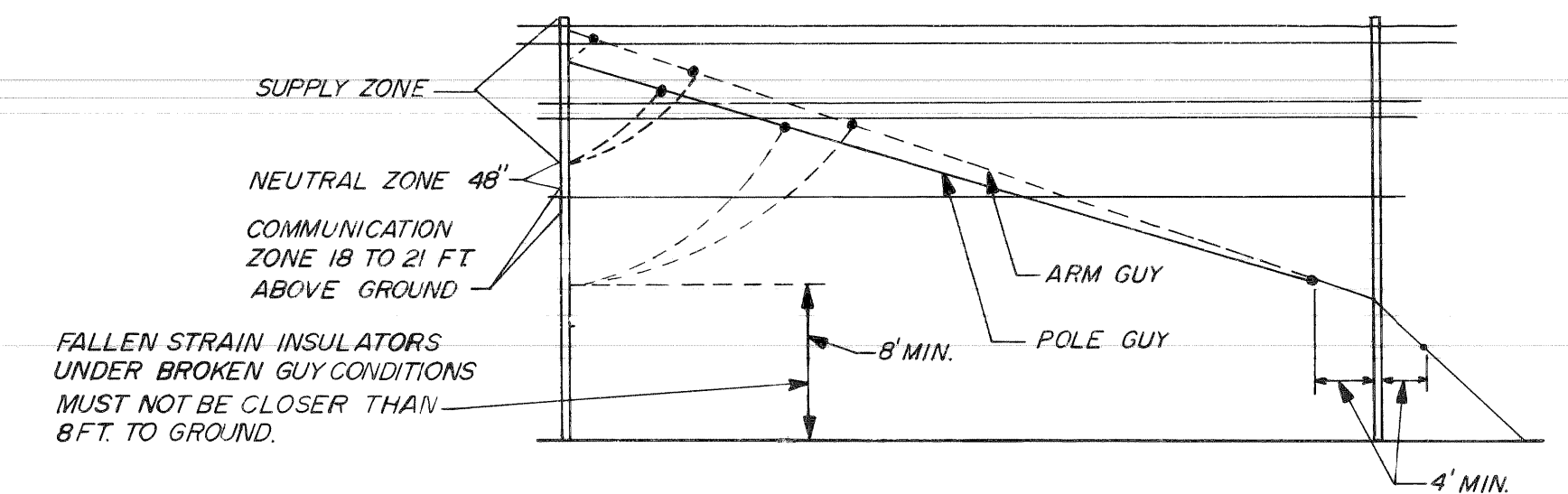
MESSENGER WIRE LAMP DROP SUPPORT: STANDARD INSTALLATION METHOD



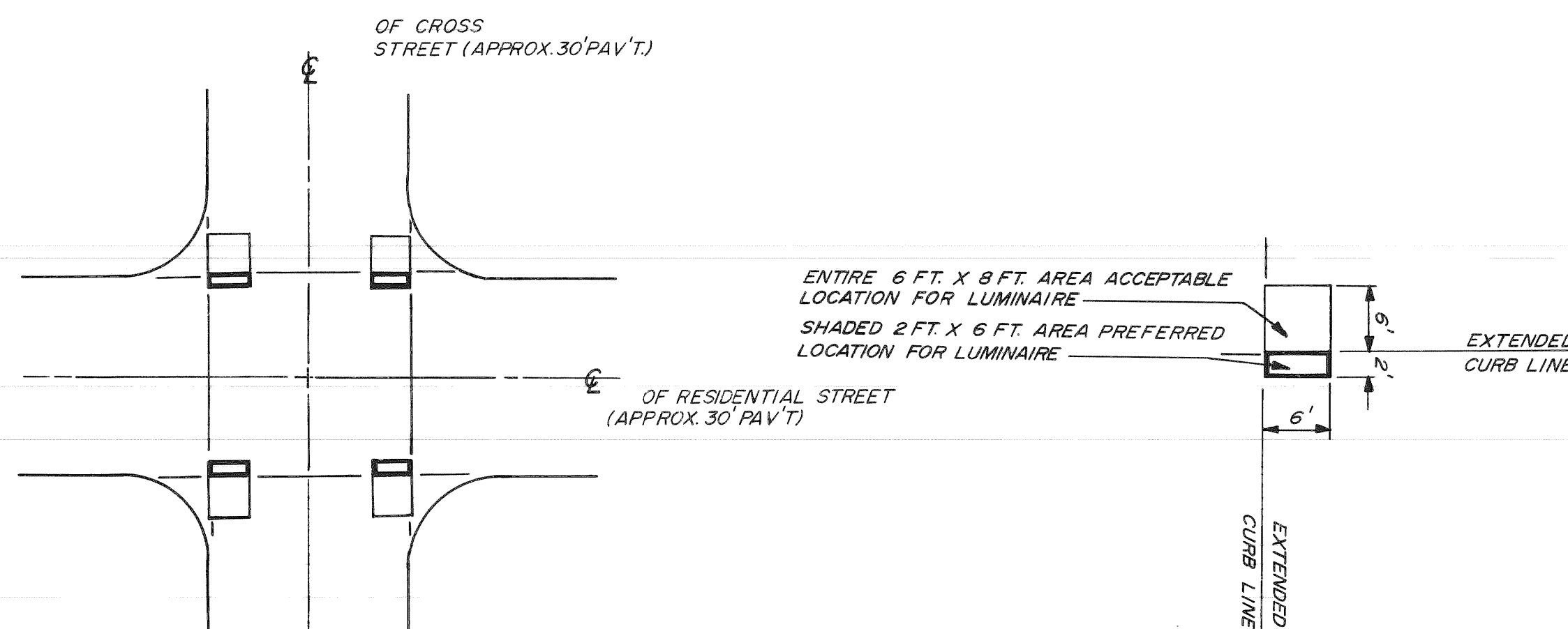
STRUT GUY



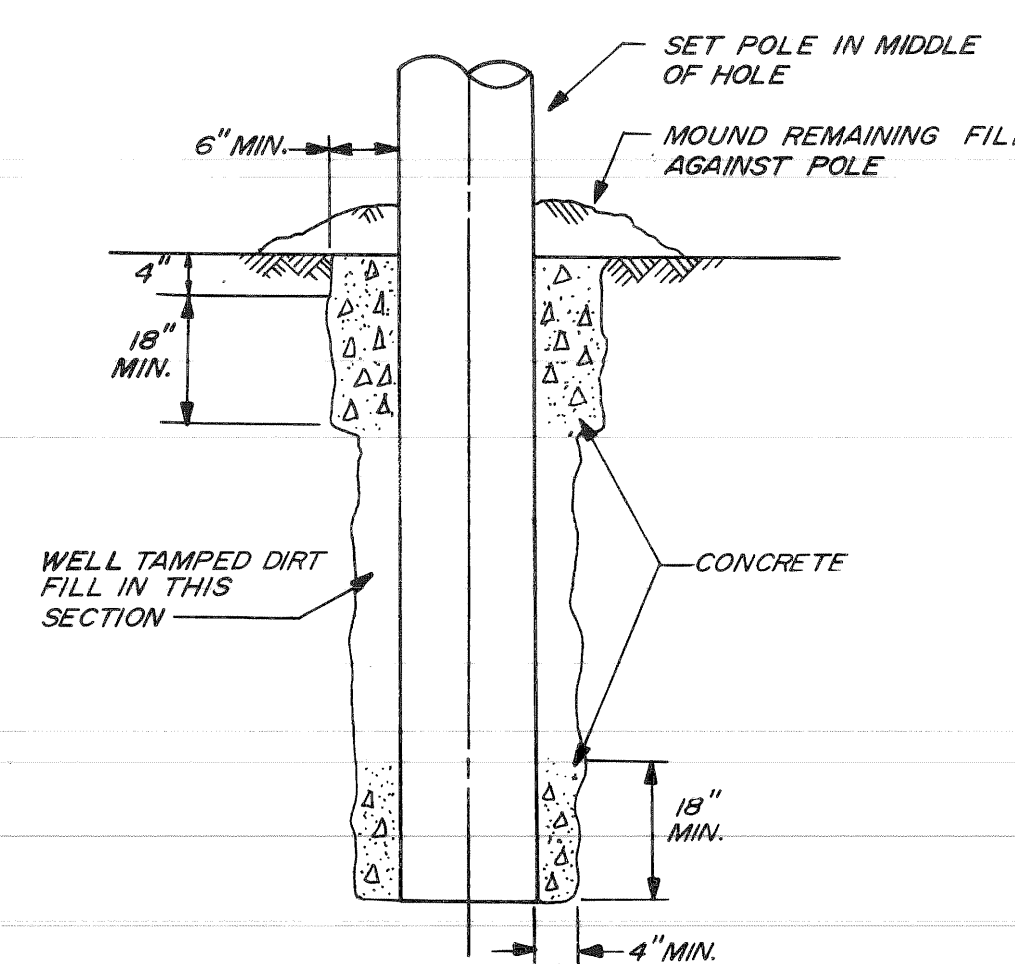
ARM GUY DETAILS



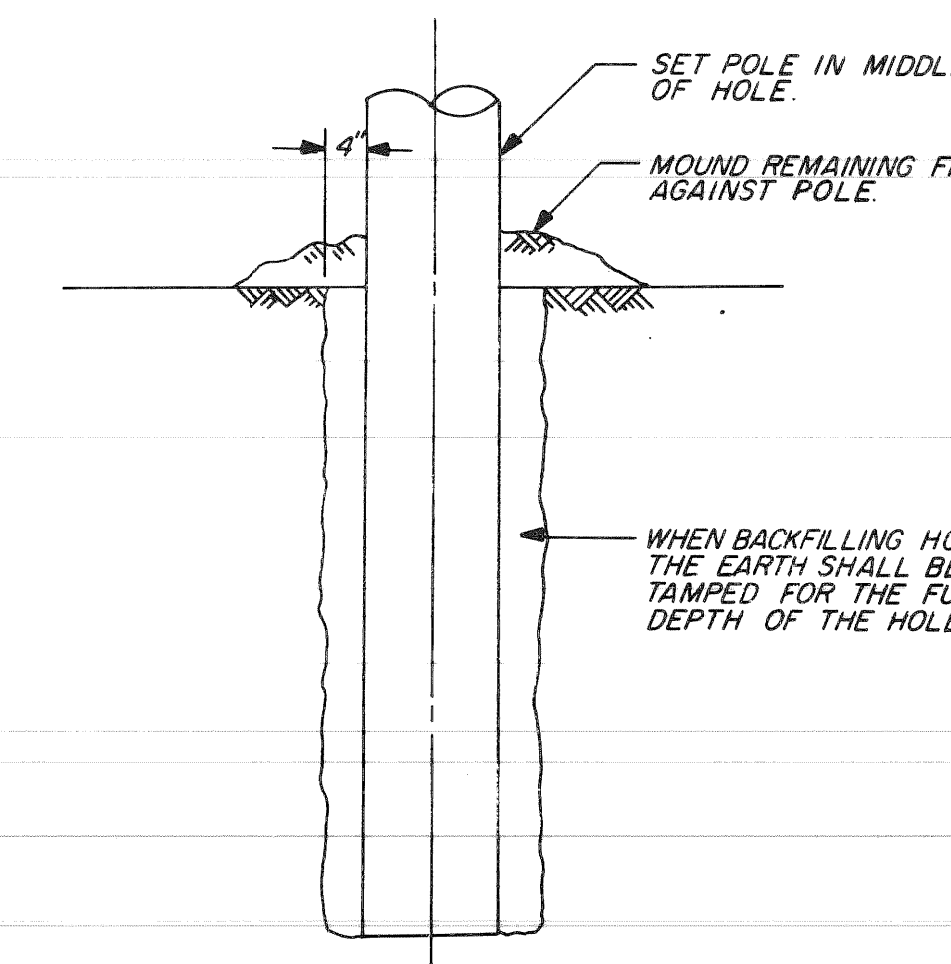
STRAIN INSULATOR POSITIONS IN GUY WIRES



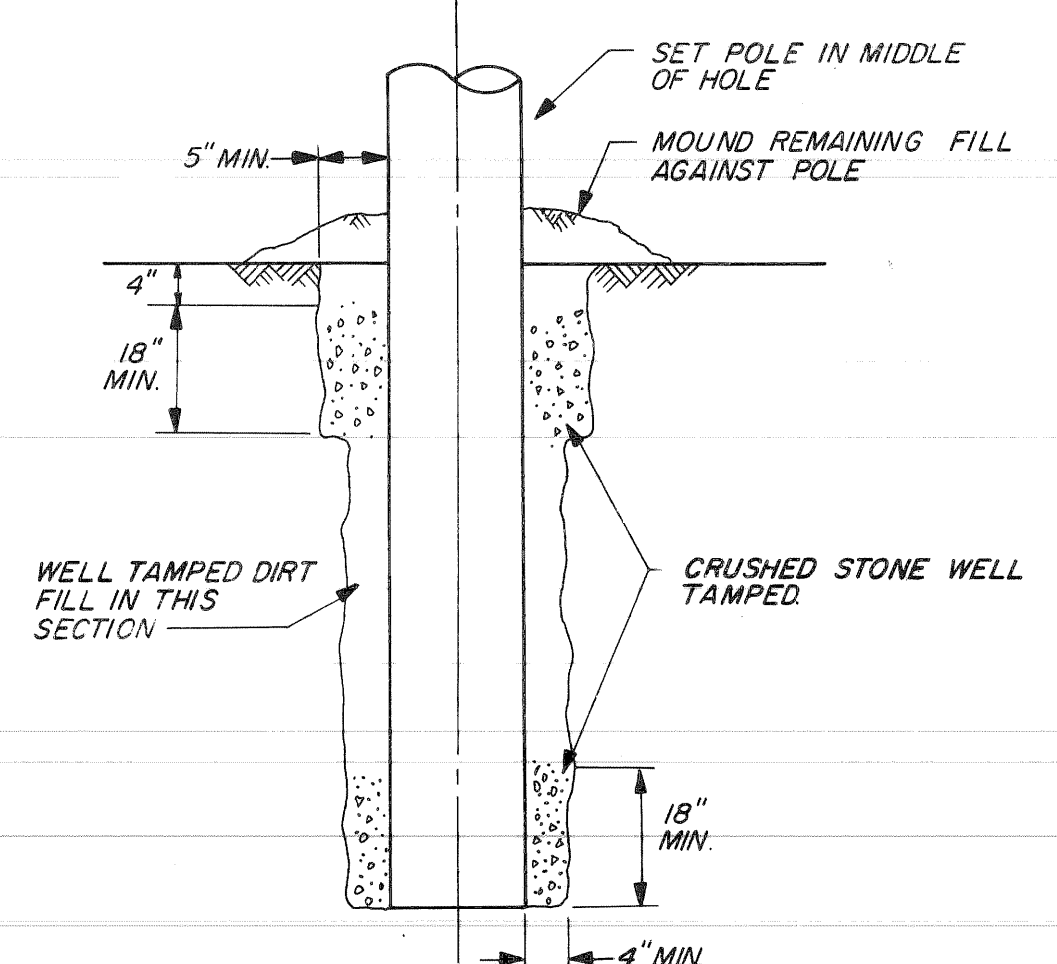
INSTALLATION OF RESIDENTIAL M.V. O.H. LUMINAIRE  
N.T.S.



WOOD POLE IN CONCRETE



WOOD POLE INSTALLATION



SELF-SUPPORTING WOOD POLE IN CRUSHED STONE

DATE	DESCRIPTION	CHKD. BY

M.L. KING JR. BLVD. RECONSTRUCTION  
WABASH AVE. TO LINCOLN AVE.  
MESSENGER WIRE INSTALLATION & MISC. DETAILS

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

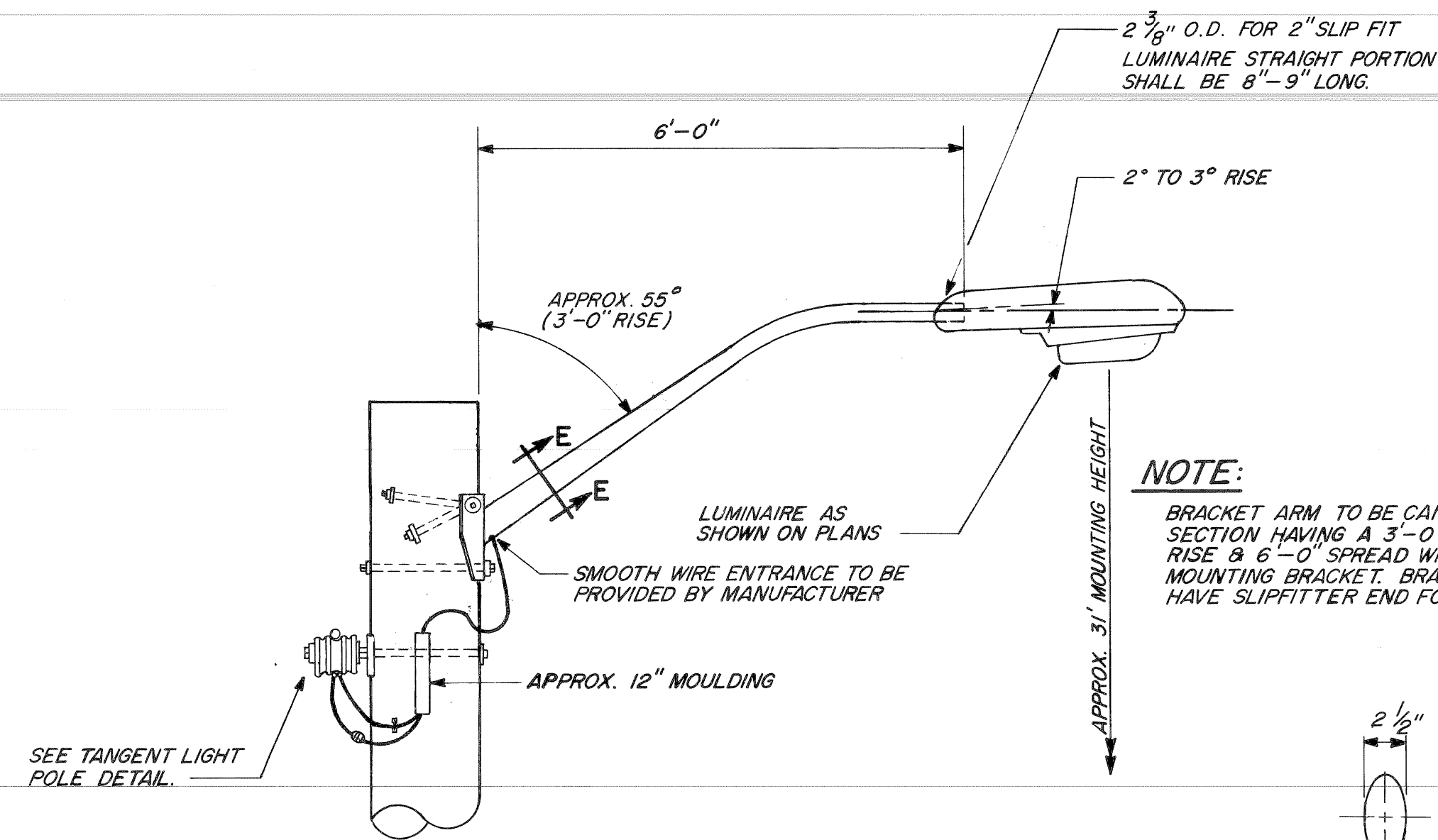
CITY OF DETROIT  
CITY ENGINEERING DEPARTMENT

DRAWN BY CEA	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED BY [Signature]	16580 WYOMING DETROIT, MICH. 48221
APPROVED BY [Signature]	DRWG. NO. 32 OF 41
DATE AUG 1984	FILE NO. CEA 1098

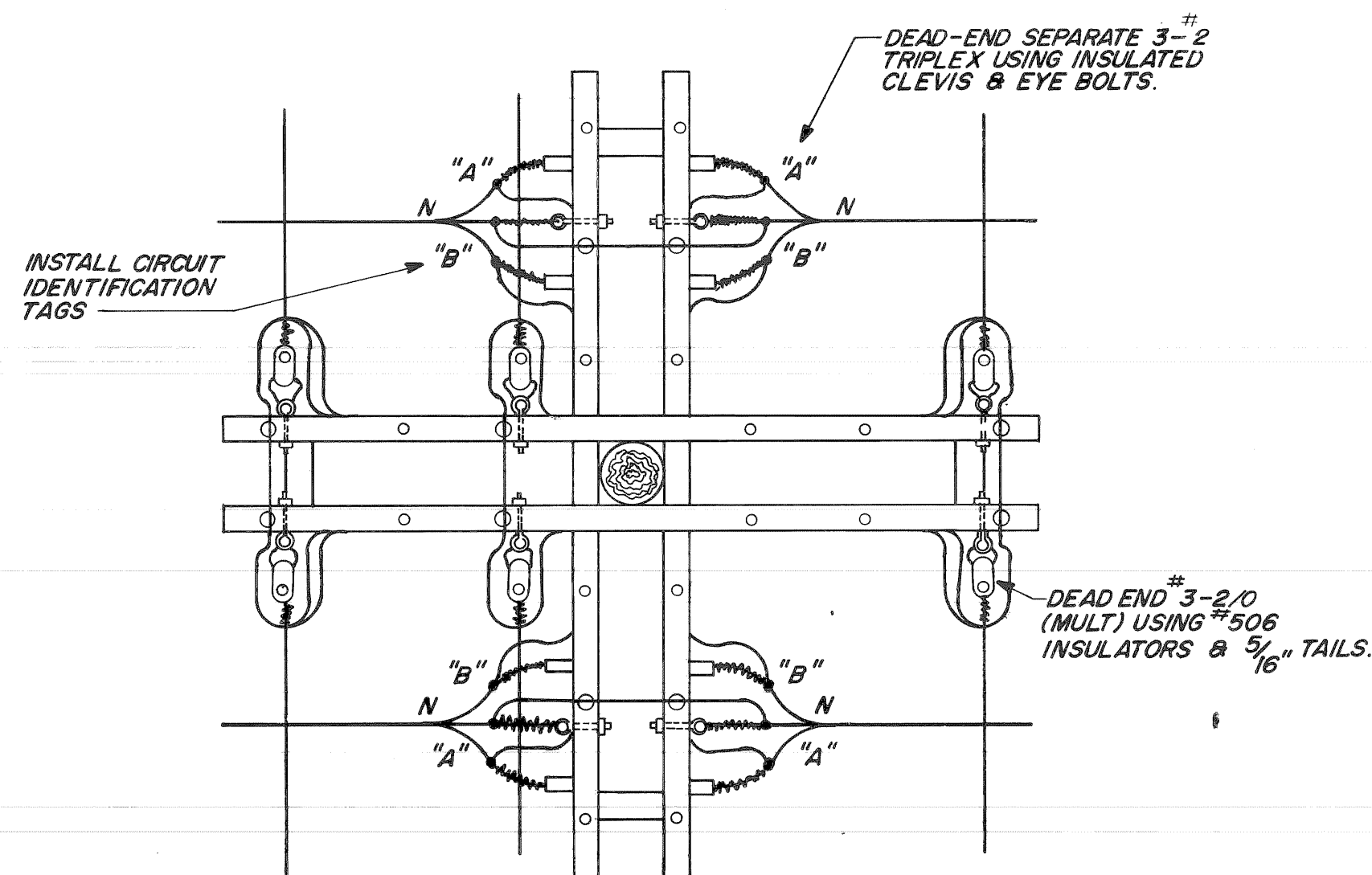
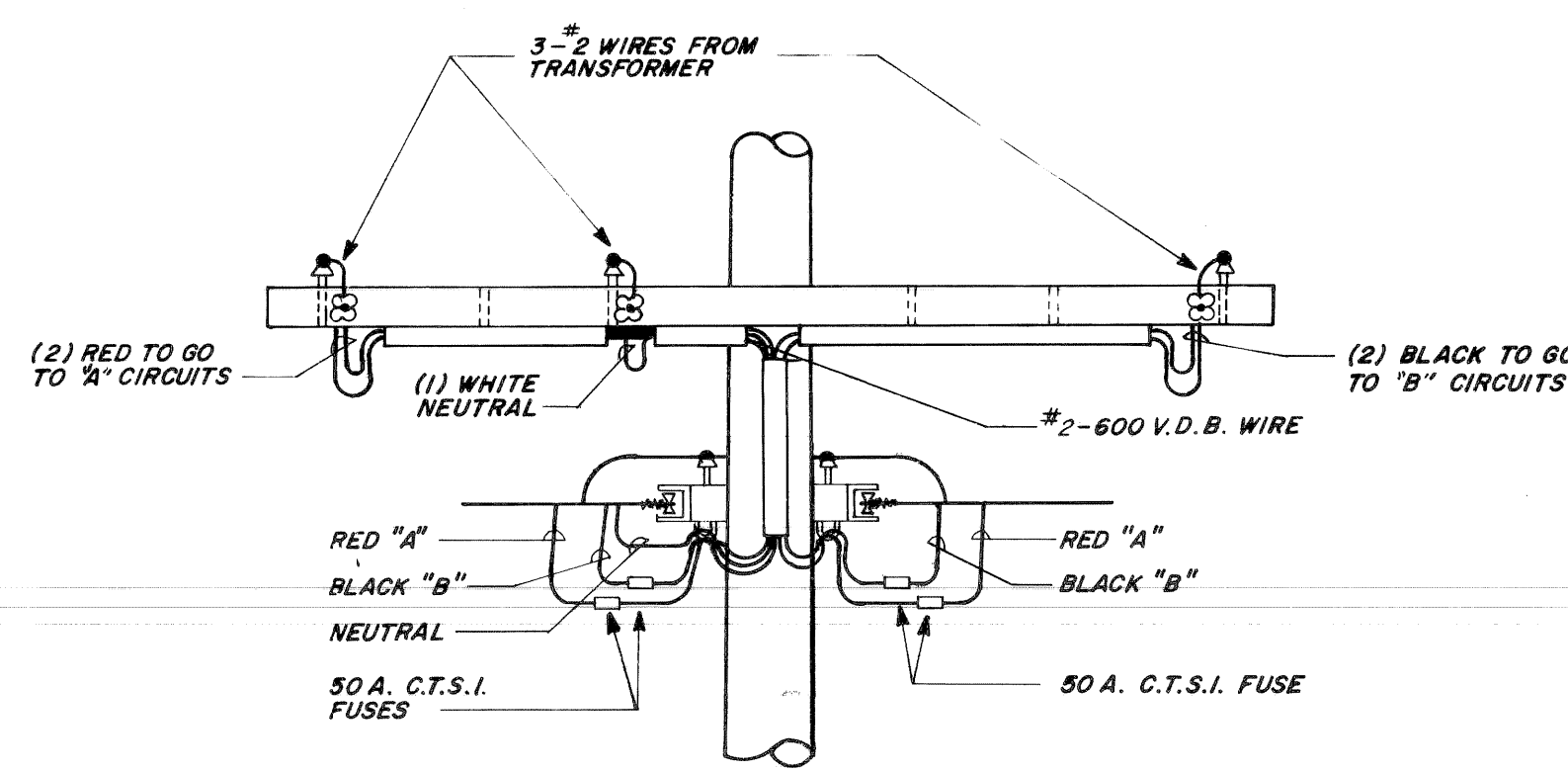
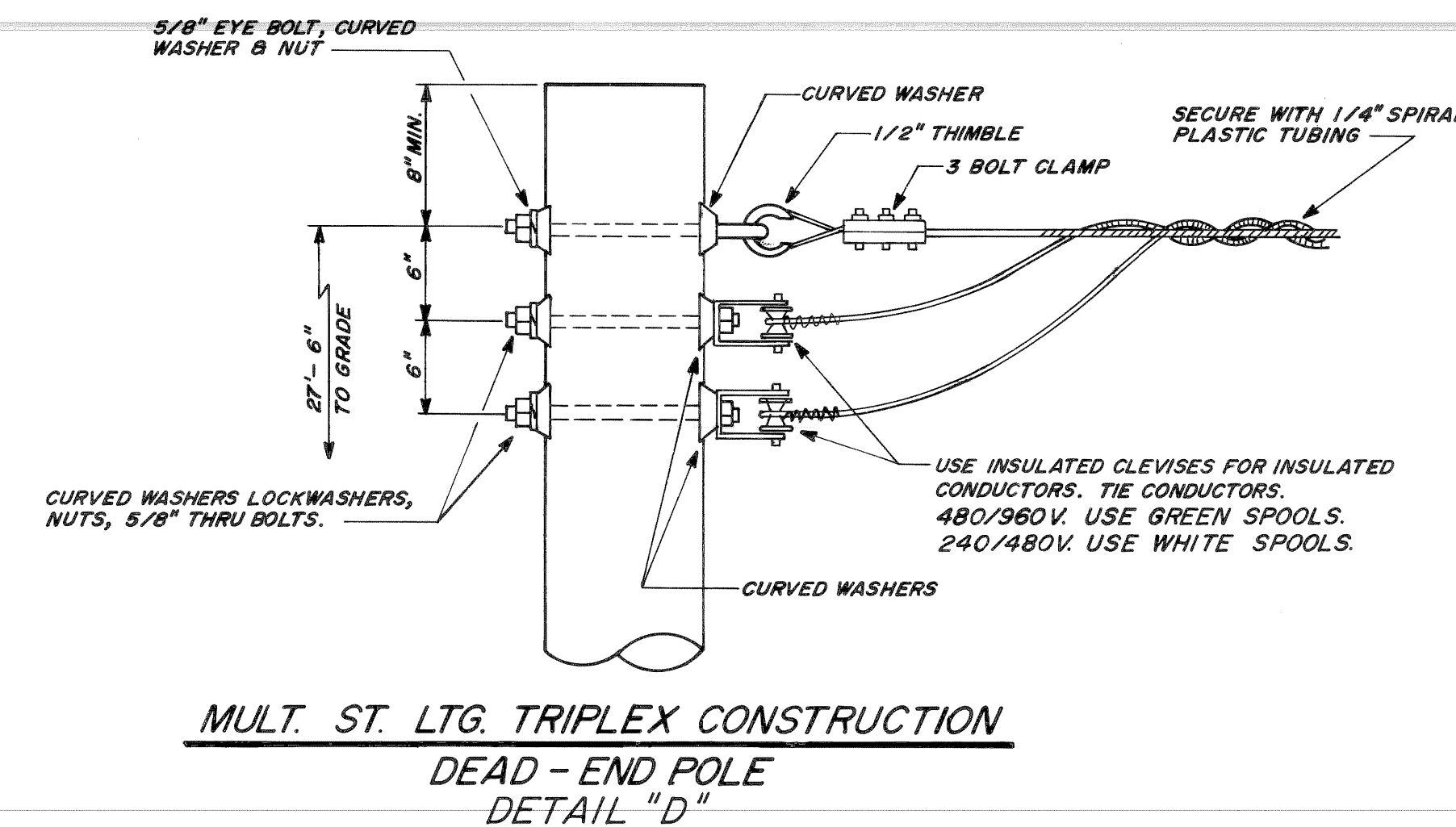
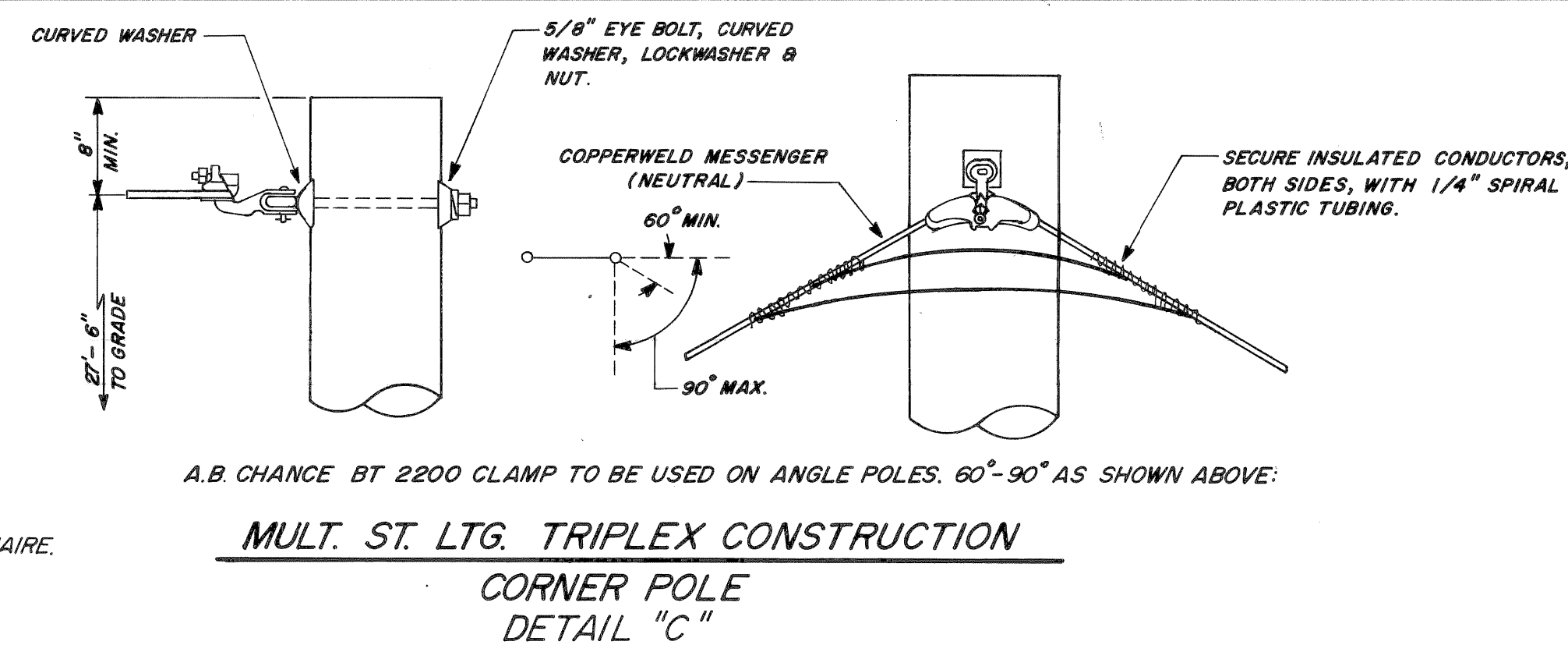
PUBLIC LIGHTING COMMISSION  
CITY OF DETROIT

FILE NO. 51-0585
SHEET NO. 62 OF 71
DATE AUG 1984

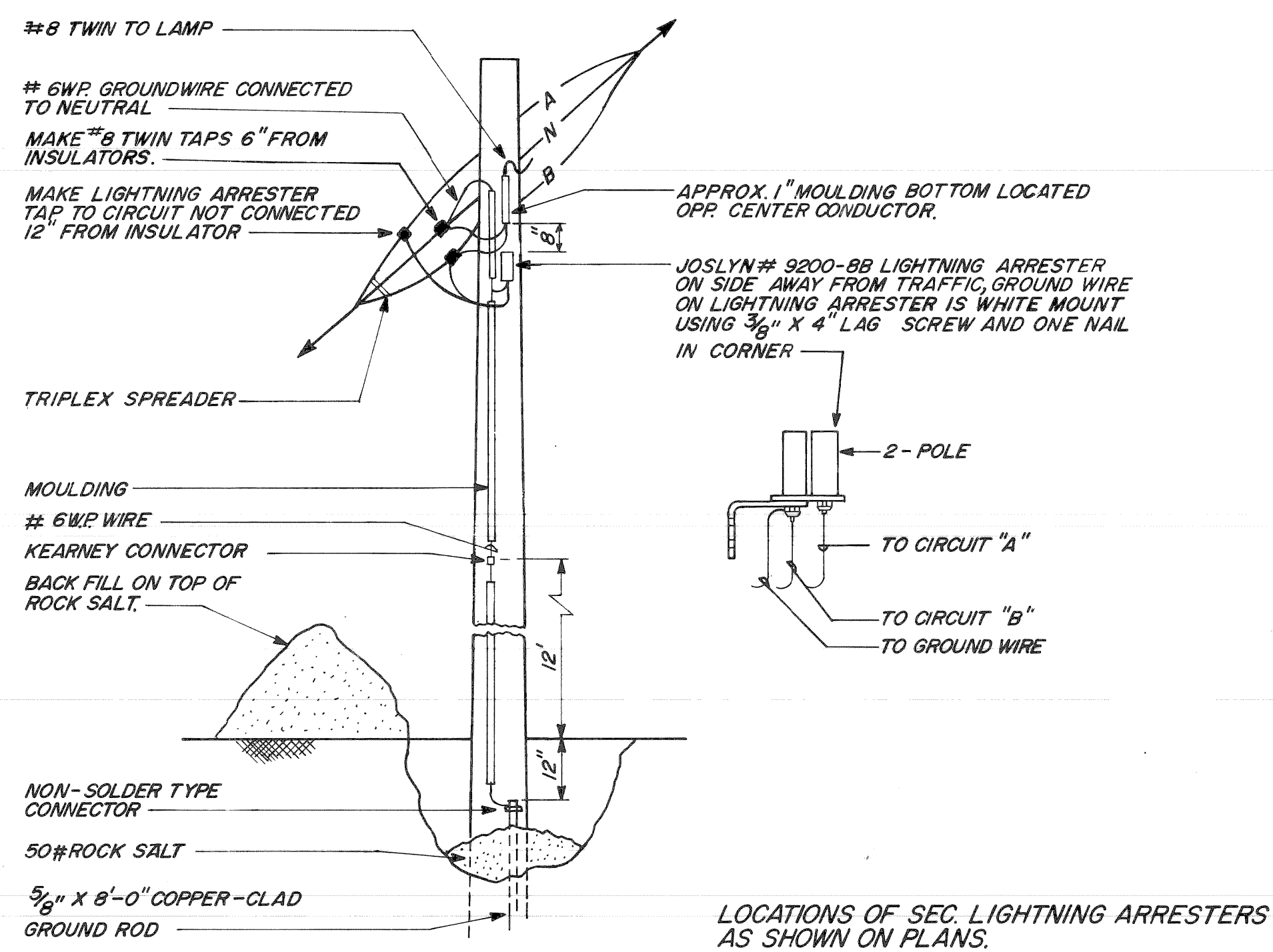
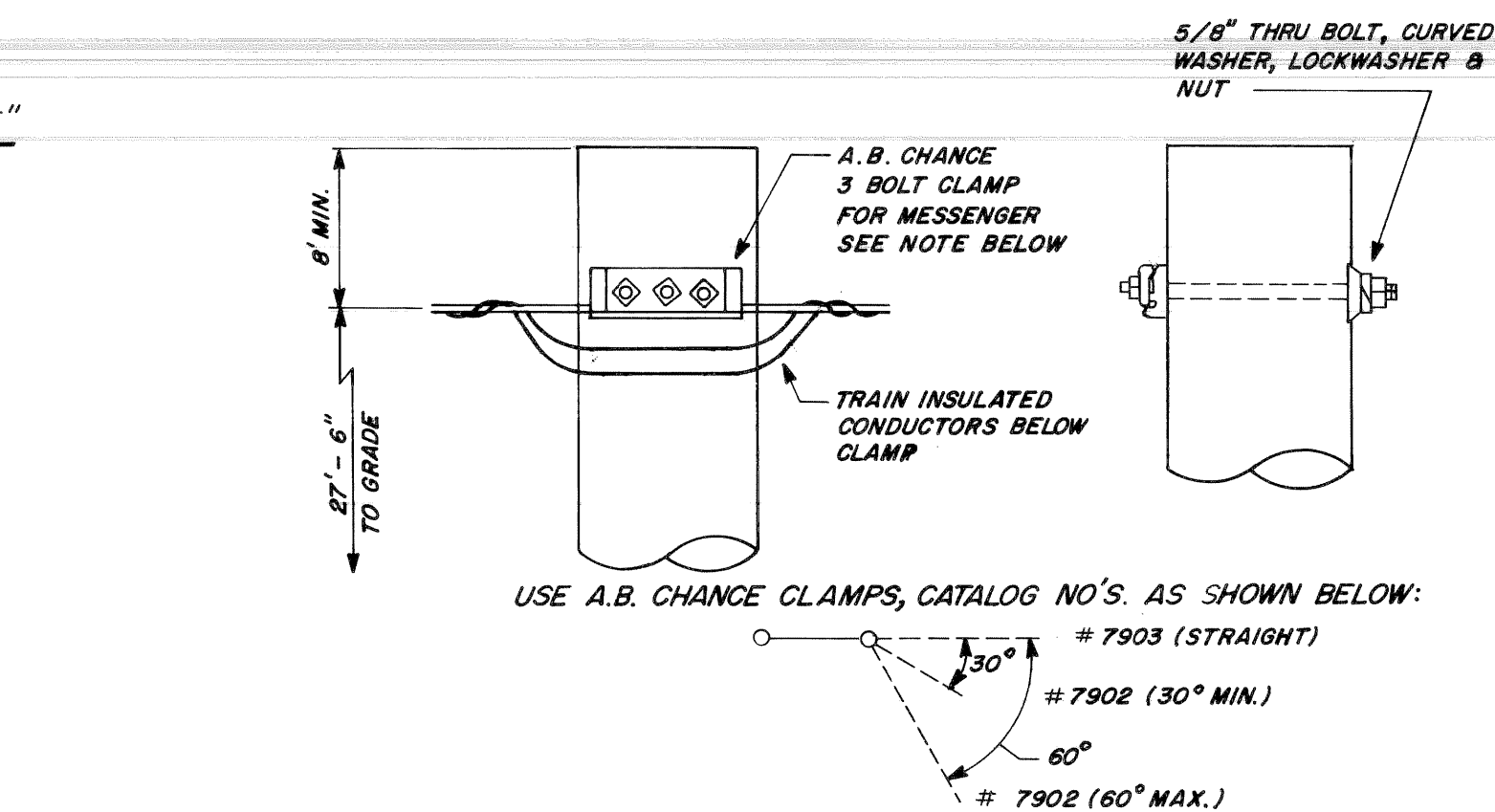




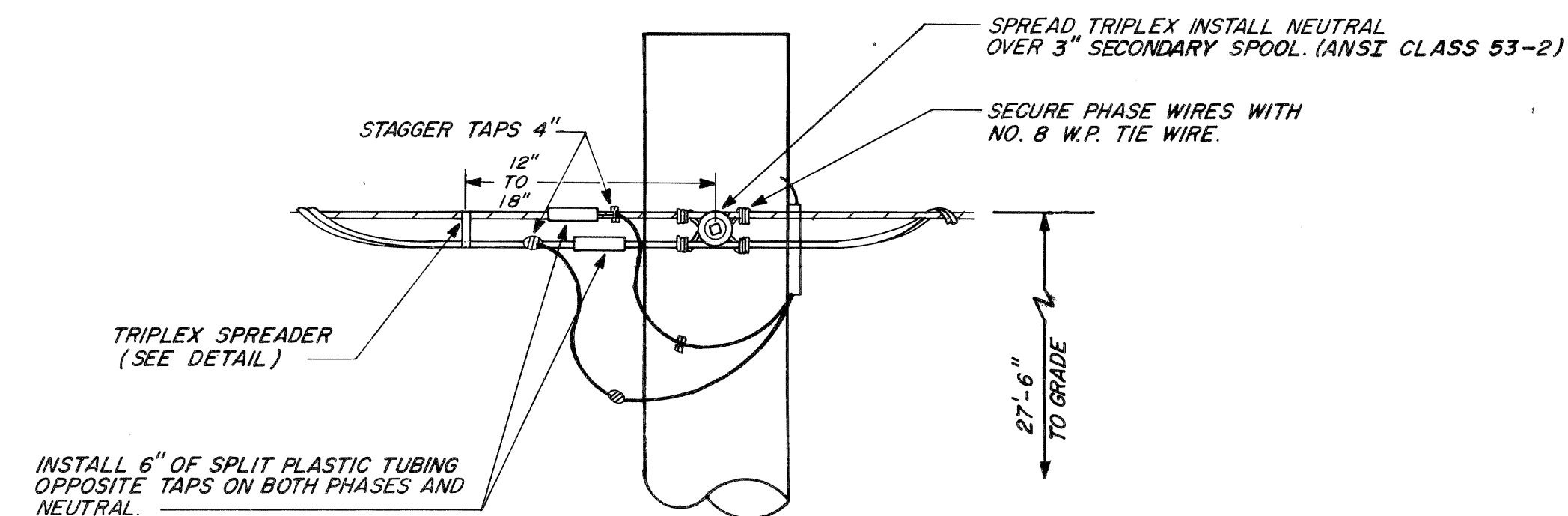
**SPECIAL O.H. ST. LTG. UNIT MOUNTING**  
240/480V. MULTIPLE FEED  
SODIUM VAPOR OR MERCURY VAPOR, INTEGRAL BALLAST  
(USE ONLY WHEN CALLED FOR ON PLANS)



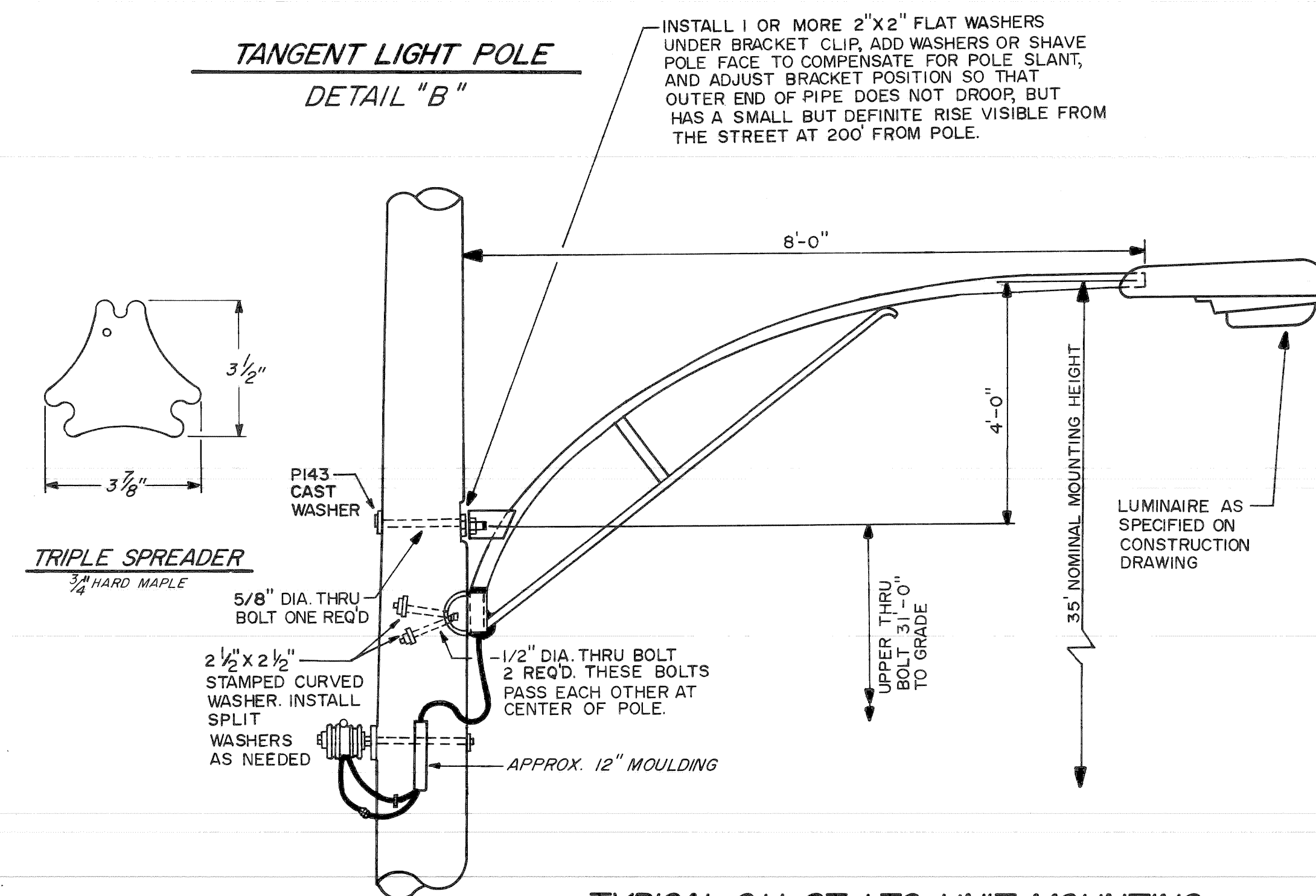
DETAIL SHOWING FUSING & CONNECTION OF 3-2 TRIPLEX MULT.  
ST. LTG. CIRCUITS TO 3-2 240/480V. MULT. ST. LTG. FEEDER



TYPICAL MOUNTING OF JOSLYN 2-POLE #9200-8B SEC. LIGHTNING ARRESTERS



**TANGENT LIGHT POLE  
DETAIL "B"**



**TYPICAL O.H. ST. LTG. UNIT MOUNTING**  
240/480V. MULTIPLE FEED  
SODIUM VAPOR OR MERCURY VAPOR, INTEGRAL BALLAST

DATE	DESCRIPTION	CHKD. BY

**M.L. KING JR. BLVD. RECONSTRUCTION**  
**WABASH AVE. TO LINCOLN AVE.**  
MULT. ST. LTG. DETAILS (TRIPLEX)

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

CITY OF DETROIT  
CITY ENGINEERING DEPARTMENT

DRAWN <b>CEA</b>
CHECKED <i>ep</i>
APPROVED <i>MA</i>
DATE AUG 1984

PLAN PREPARED BY  
CONSULTING ENGINEERING ASSOCIATES INC.  
ENGINEERING CONSULTANTS  
16580 WYOMING DETROIT, MICH. 48221

DRWG. NO.  
33 OF 41

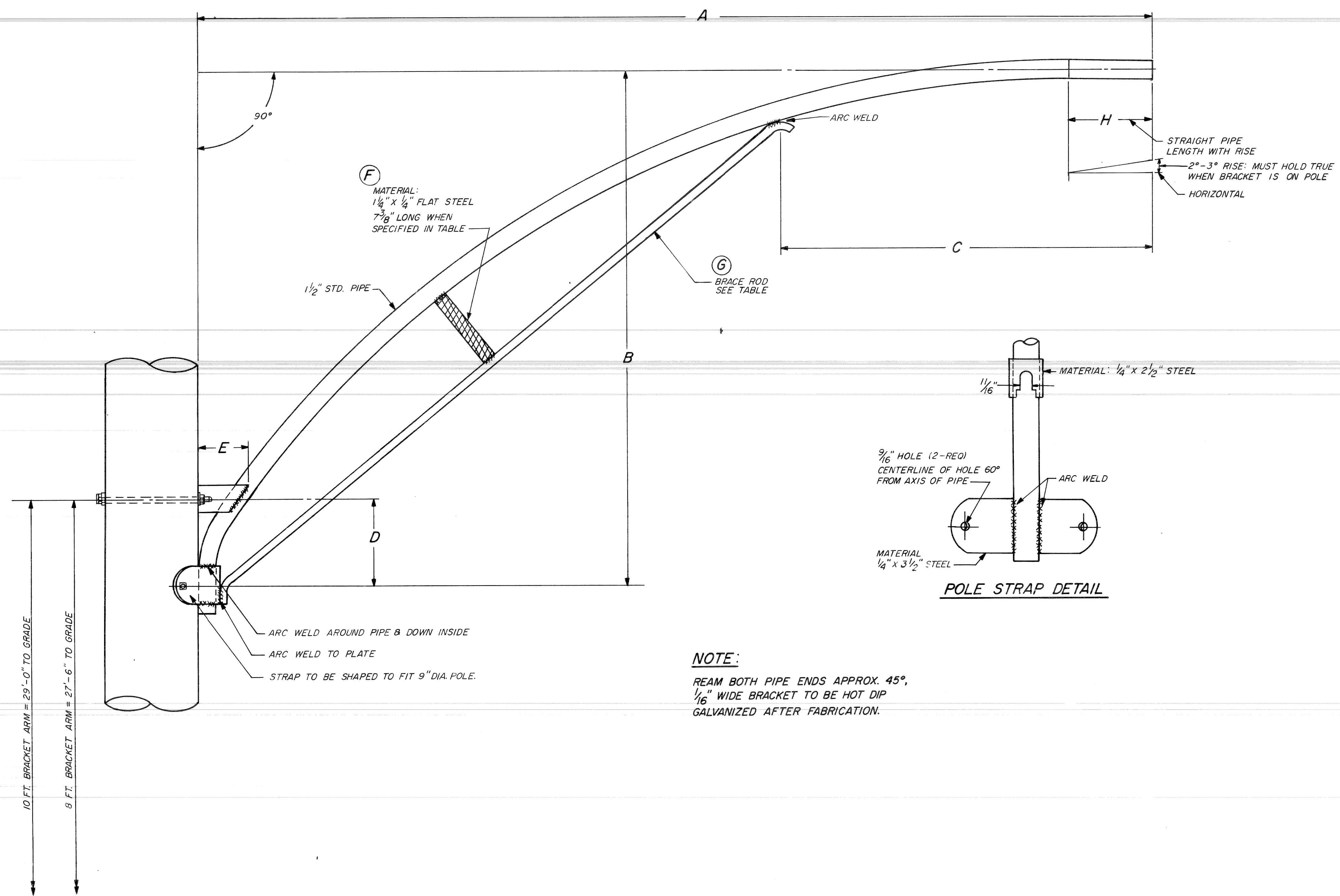
FILE NO.  
CEA 1098

CHECKED BY
APPROVED

PUBLIC LIGHTING  
DEPARTMENT  
CITY OF DETROIT

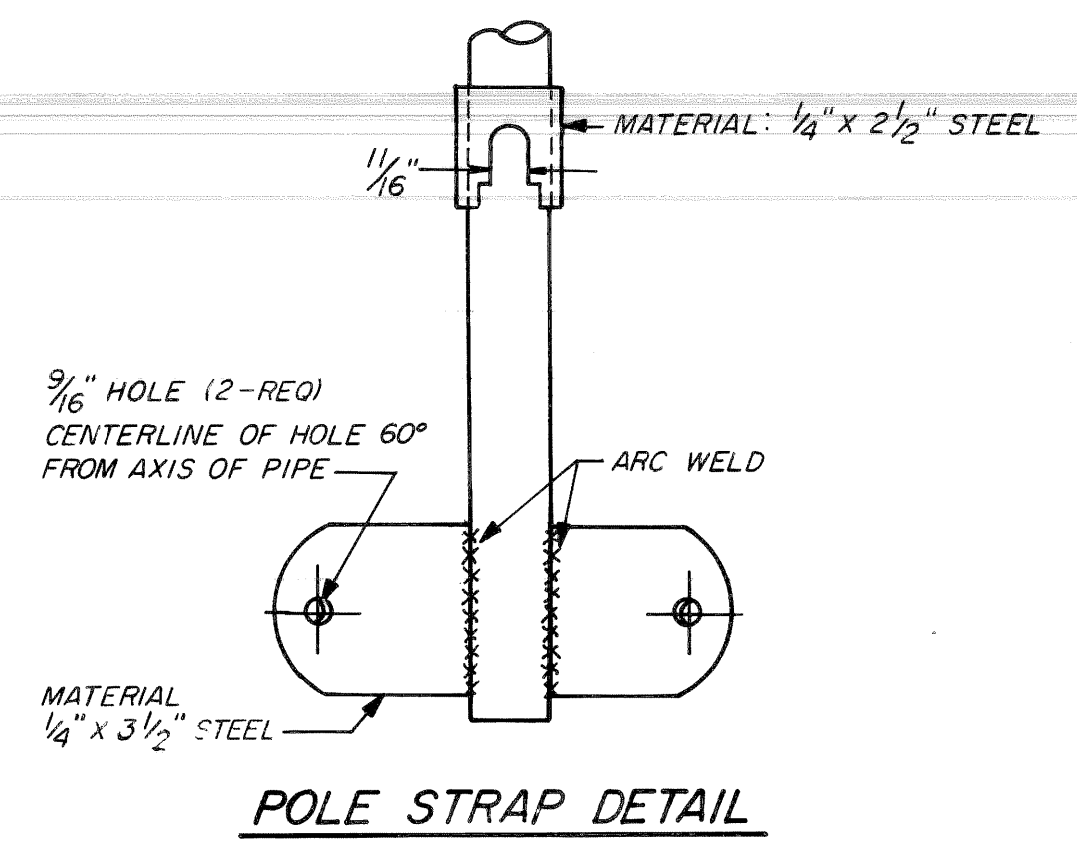
FILE NO. 51-0585
SHEET NO. 63 OF 71
DATE AUG 1984





DIMENSION TABLE									
TYPE	A	B	C	D	E*	F	G	H	
6 FT.	6'-0"	2'-8"	2'-5"	8 <sup>3</sup> / <sub>4</sub> "	5 <sup>1</sup> / <sub>2</sub> "	NO	NONE	1'-2"	
8 FT.	7'-8"	4'-0"	3'-0"	8 <sup>3</sup> / <sub>4</sub> "	4 <sup>1</sup> / <sub>2</sub> "	YES	1" SOLID	8"	
10 FT.	10'-2"	2'-9"	3'-6"	8 <sup>7</sup> / <sub>8</sub> "	8"	NO	1" SOLID	2'-0"	

\* THIS DIMENSION IS APPROXIMATE



**NOTE:**  
 REAM BOTH PIPE ENDS APPROX. 45°,  
 1/16" WIDE BRACKET TO BE HOT DIP  
 GALVANIZED AFTER FABRICATION.

DATE	DESCRIPTION	CHG BY
		47

**M.L. KING JR. BLVD. RECONSTRUCTION**  
**WABASH AVE. TO LINCOLN AVE.**  
 STREET L.T.G. BRACKETS, UPSWEEP, MAIN STREET L.T.G. DETAILS

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

**CITY OF DETROIT**  
 CITY ENGINEERING DEPARTMENT

DRAWN CEA
CHECKED ep
APPROVED [Signature]
DATE AUG 1984

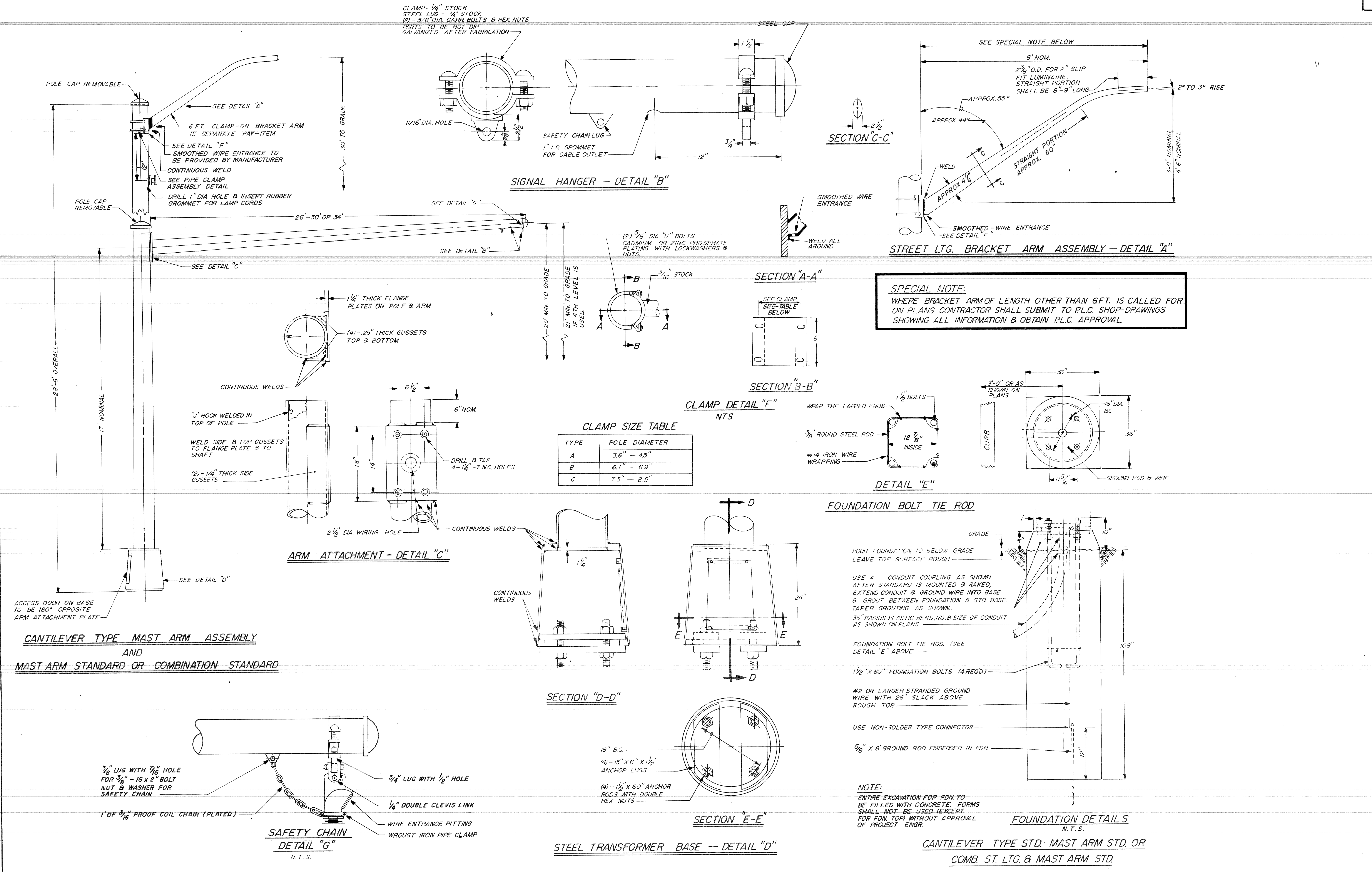
PLAN PREPARED BY:  
 CONSULTING ENGINEERING ASSOCIATES INC.  
 ENGINEERING CONSULTANTS  
 16580 WYOMING DETROIT, MICH., 48221  
 DRWG. NO. 34 OF 41 FILE NO. CEA 1098

CHECKED BY
APPROVED BY

**PUBLIC LIGHTING COMMISSION**  
 CITY OF DETROIT

FILE NO. 51-0585
SHEET NO. 64 OF 71
DATE AUG 1984





**CANTILEVER TYPE MAST ARM ASSEMBLY AND MAST ARM STANDARD OR COMBINATION STANDARD**

**STEEL TRANSFORMER BASE -- DETAIL "D"**

**CANTILEVER TYPE STD. MAST ARM STD. OR COMB. ST. LTG. & MAST ARM STD.**

DATE	DESCRIPTION	CHKD. BY
		51

**M.L. KING JR. BLVD. RECONSTRUCTION WABASH AVE. TO LINCOLN AVE.**  
T.S. CANTILEVER TYPE MAST ARM ASSEMBLY DETAILS

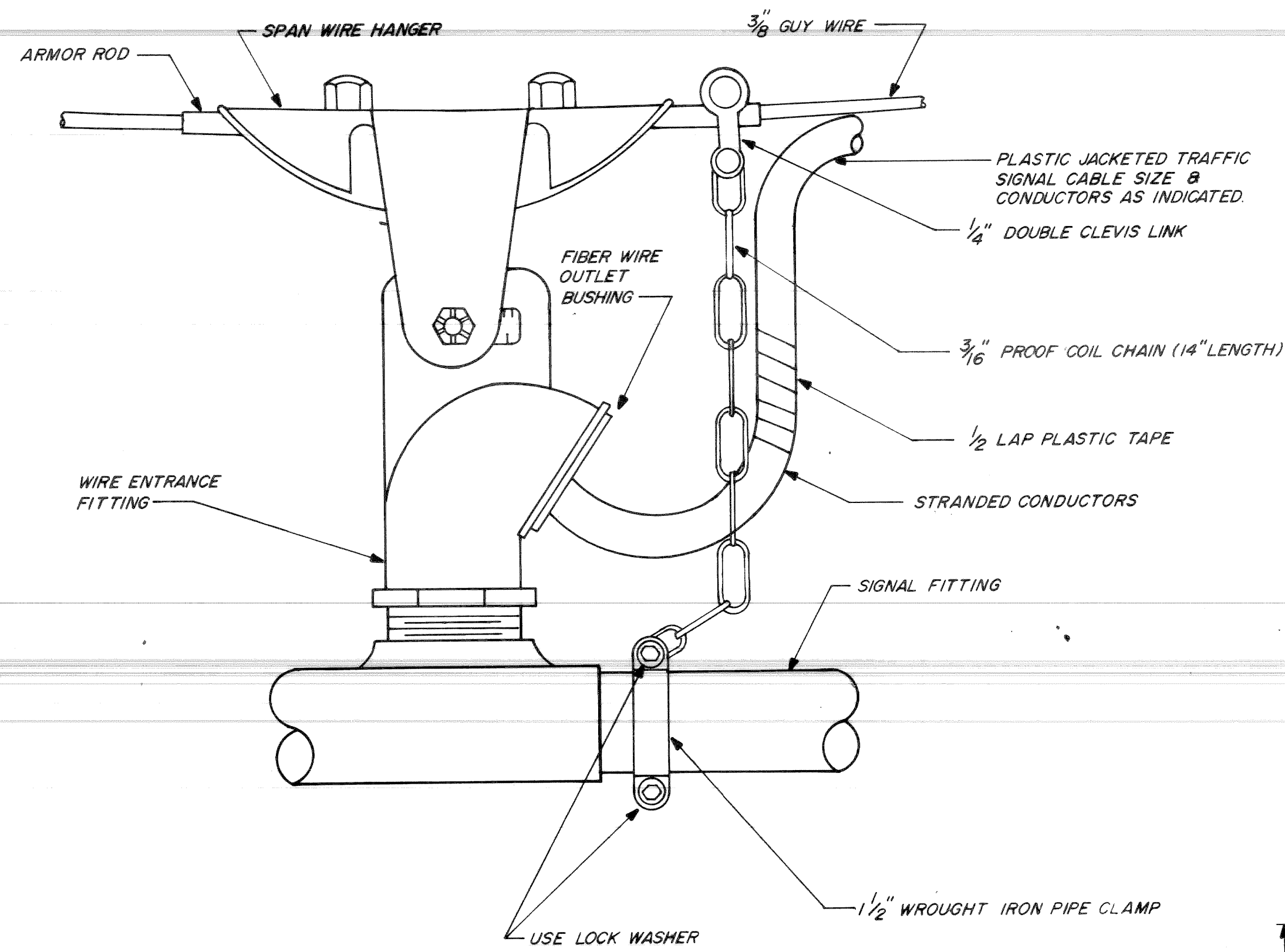
SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

**CITY OF DETROIT**  
CITY ENGINEERING DEPARTMENT

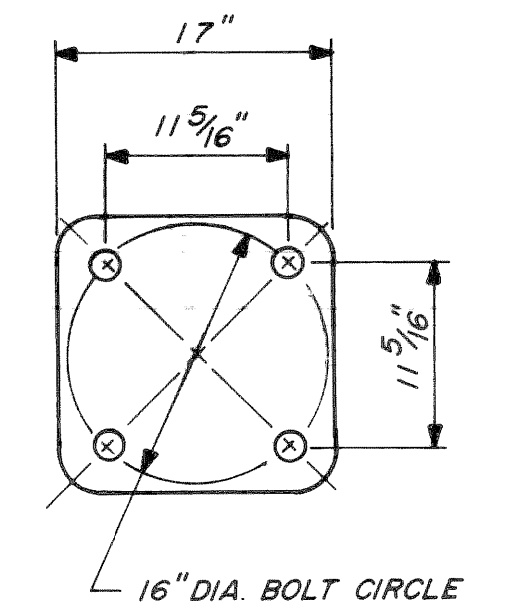
DRAWN BY: CEA	PLAN PREPARED BY: CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED BY: [Signature]	16580 WYOMING DETROIT, MICH. 48221
APPROVED BY: [Signature]	DATE: AUG 1984
	DRWG. NO. 35 OF 41
	FILE NO. CEA 1098

CHECKED BY:	PUBLIC LIGHTING COMMISSION	FILE NO. 51-0585
APPROVED BY:	CITY OF DETROIT	SHEET NO. 65 OF 71
		DATE AUG 1984

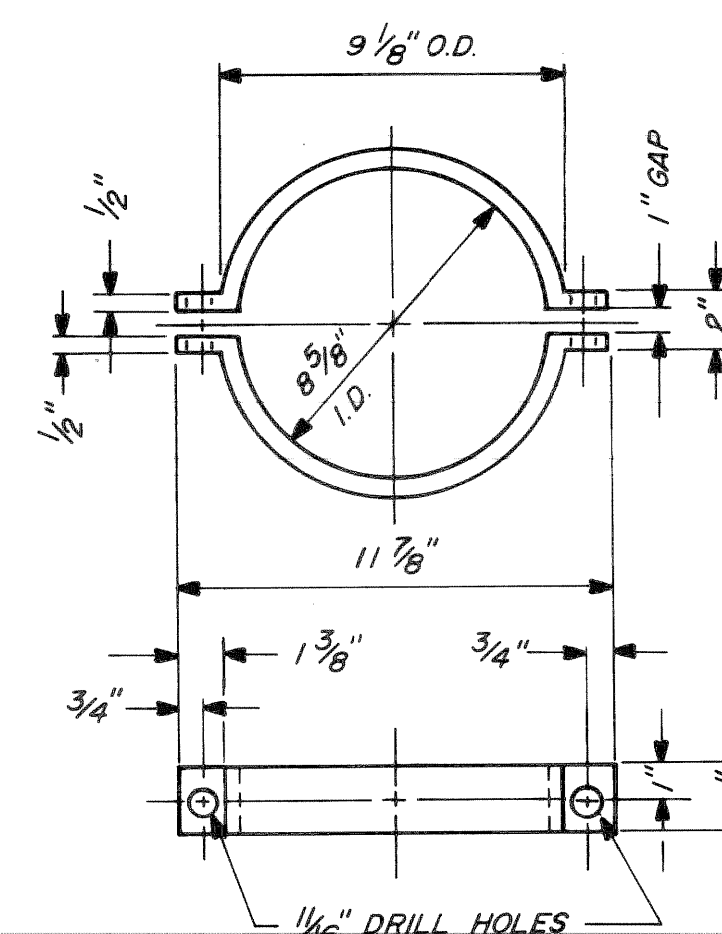




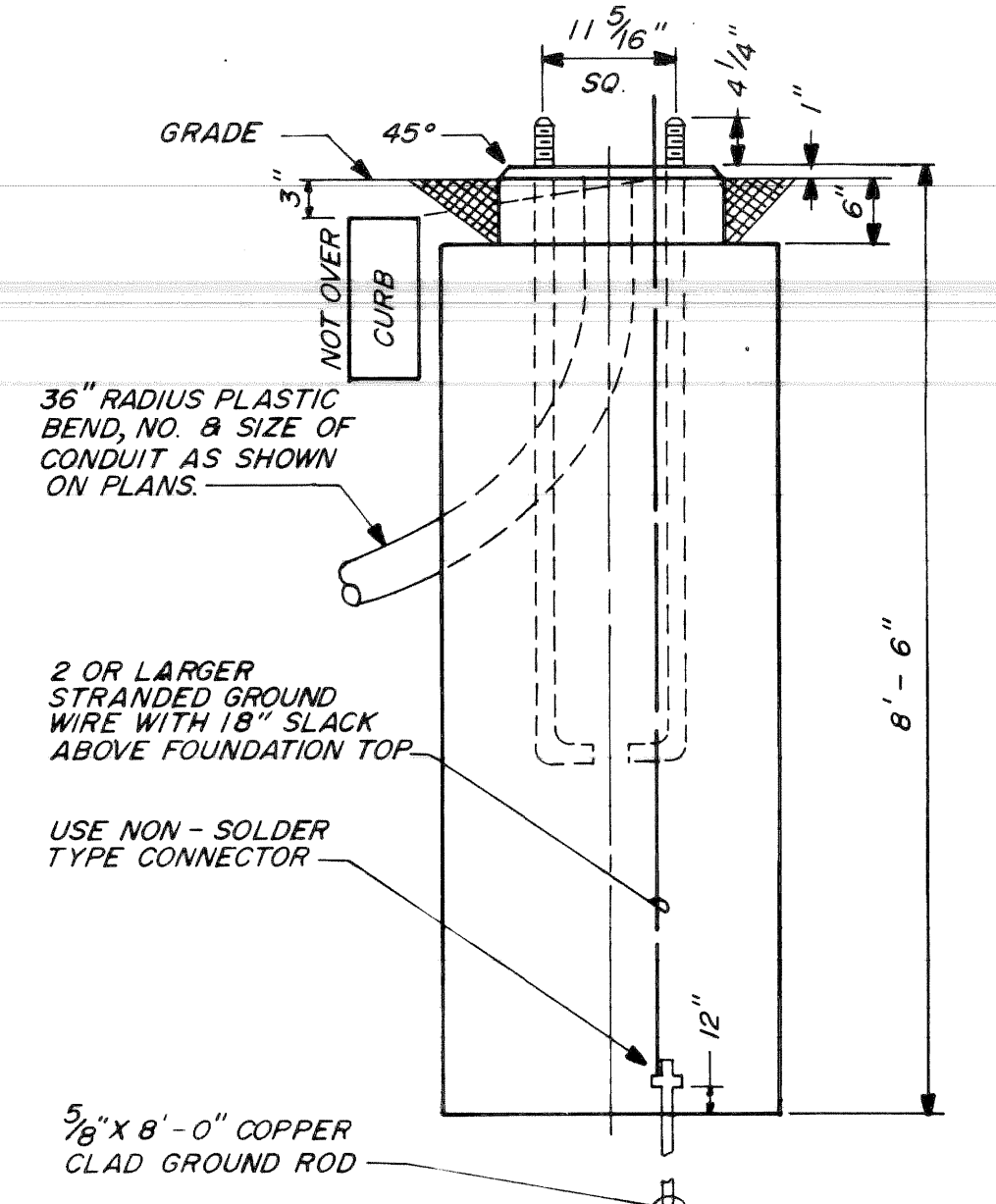
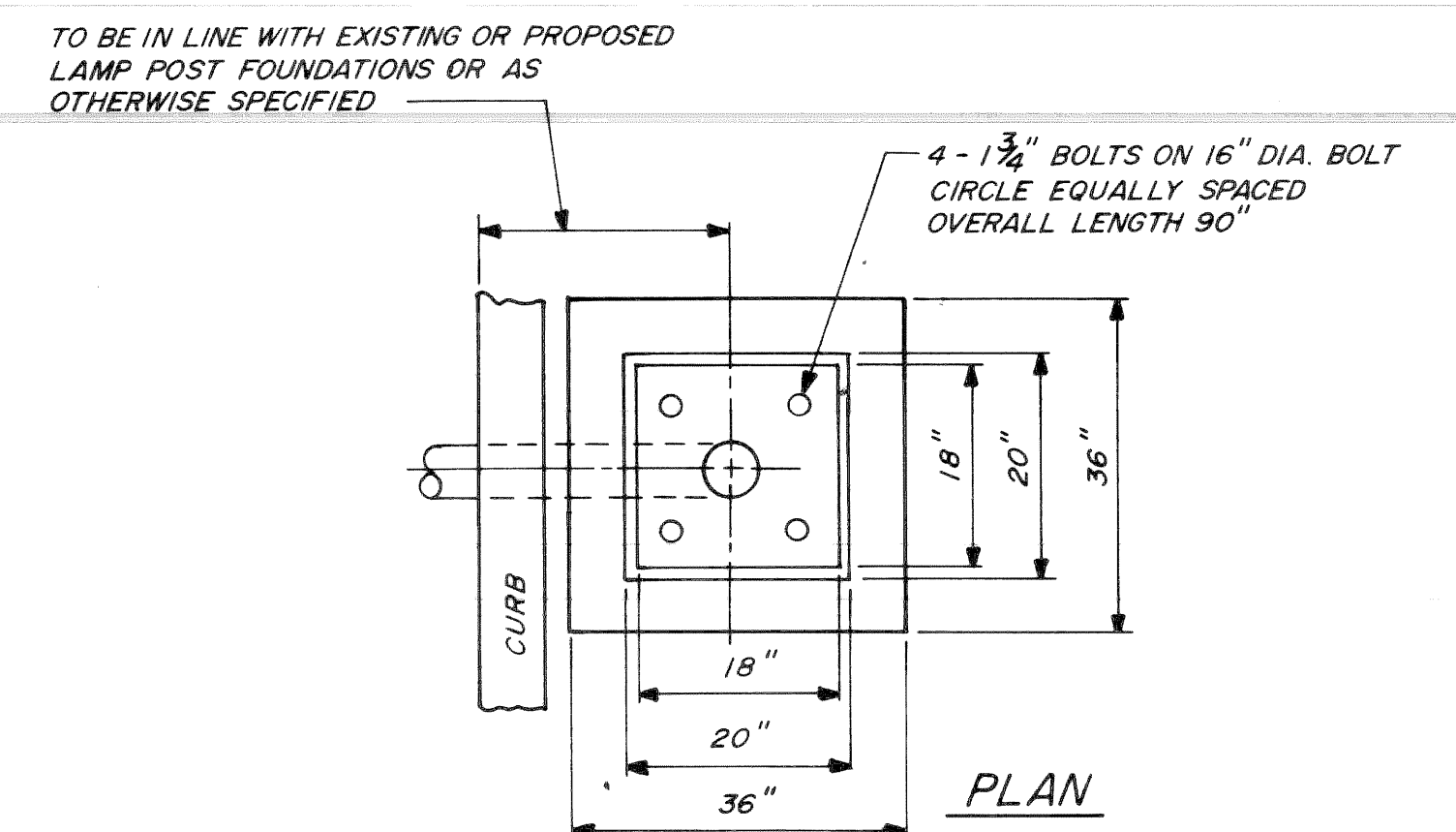
**SPAN WIRE FITTING & WEATHER CAP**  
N.T.S.



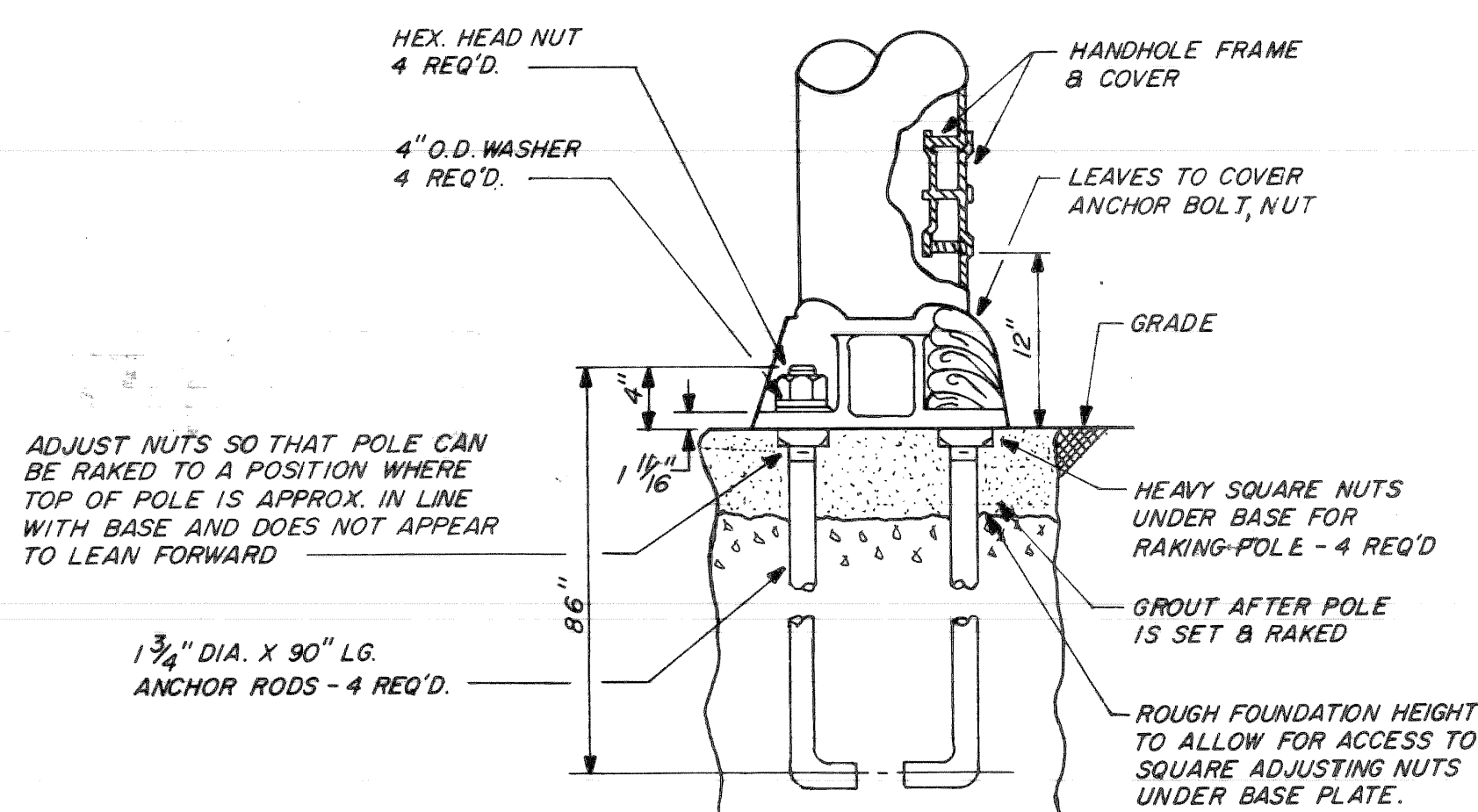
**ANCHOR BOLT PLAN**  
N.T.S.



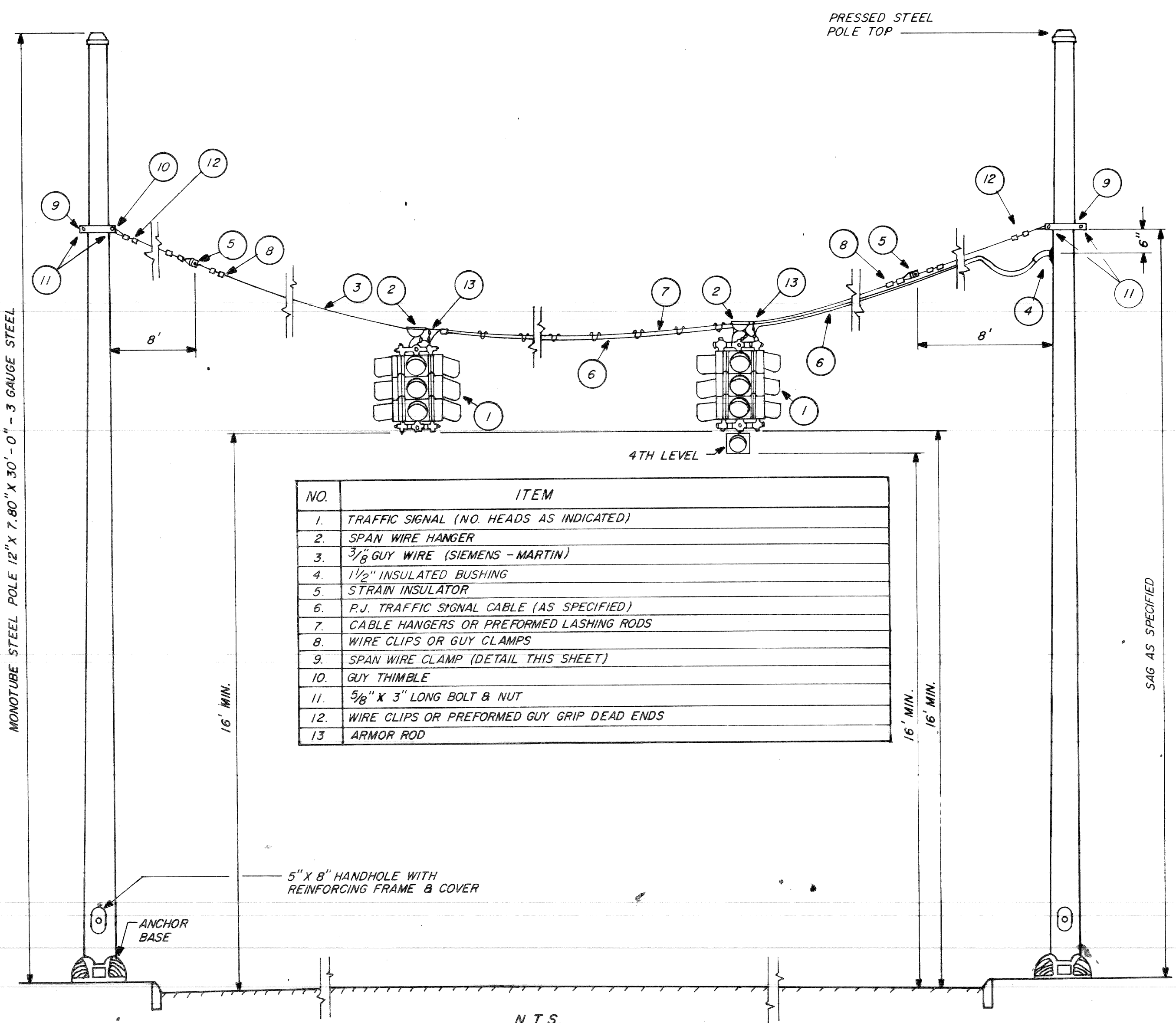
**SPAN WIRE CLAMP**  
N.T.S.  
MATERIAL: 1/2\"/>



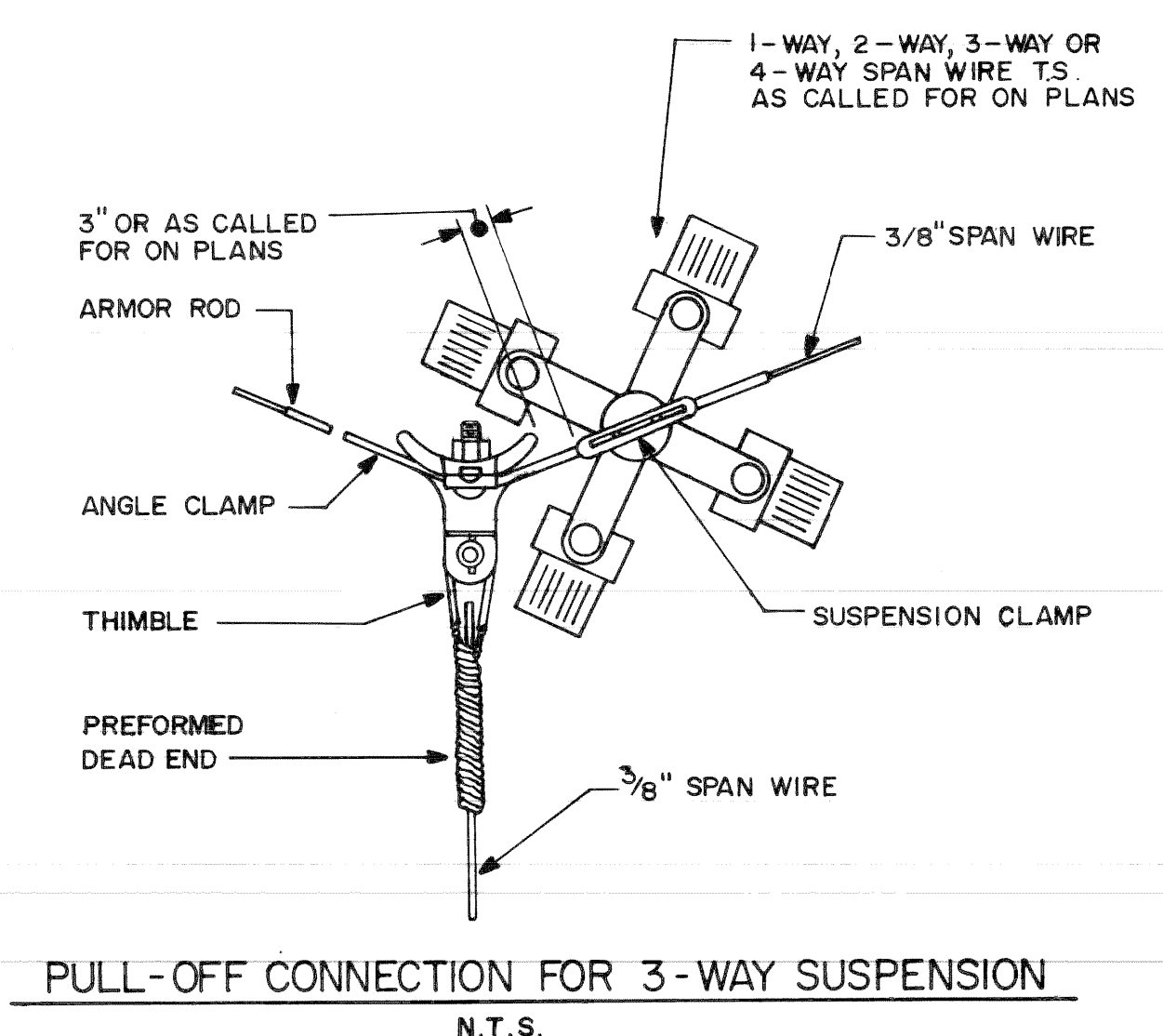
**SPAN WIRE STEEL POLE FOUNDATION**  
N.T.S.



**BOLT LAYOUT FOR SPAN-WIRE FOUNDATION**  
N.T.S.



NO.	ITEM
1.	TRAFFIC SIGNAL (NO. HEADS AS INDICATED)
2.	SPAN WIRE HANGER
3.	3/8 GUY WIRE (SIEMENS - MARTIN)
4.	1/2\"/>
5.	STRAIN INSULATOR
6.	P.J. TRAFFIC SIGNAL CABLE (AS SPECIFIED)
7.	CABLE HANGERS OR PREFORMED LASHING RODS
8.	WIRE CLIPS OR GUY CLAMPS
9.	SPAN WIRE CLAMP (DETAIL THIS SHEET)
10.	GUY THIMBLE
11.	5/8\"/>
12.	WIRE CLIPS OR PREFORMED GUY GRIP DEAD ENDS
13.	ARMOR ROD



**PULL-OFF CONNECTION FOR 3-WAY SUSPENSION**  
N.T.S.

DATE	DESCRIPTION	CHKD. BY

**M.L. KING JR. BLVD. RECONSTRUCTION**  
**WABASH AVE. TO LINCOLN AVE.**  
STEEL POLE SPAN WIRE INSTALLATION  
DETAILS

SHEET	OF	SHEETS
JOB NO.		
ASSIGNMENT NO.		
DATE		

**CITY OF DETROIT**  
**CITY ENGINEERING DEPARTMENT**

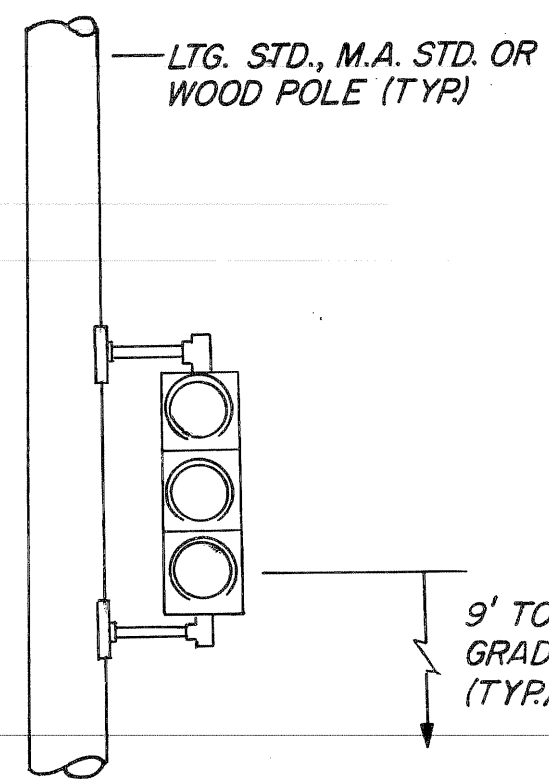
DRAWN CEA  
CHECKED [initials]  
APPROVED [initials]  
DATE AUG 1984

PLAN PREPARED BY  
CONSULTING ENGINEERING ASSOCIATES INC.  
ENGINEERING CONSULTANTS  
16580 WYOMING DETROIT, MICH., 48221  
DRWS. NO. 36 OF 41  
FILE NO. CEA 1098

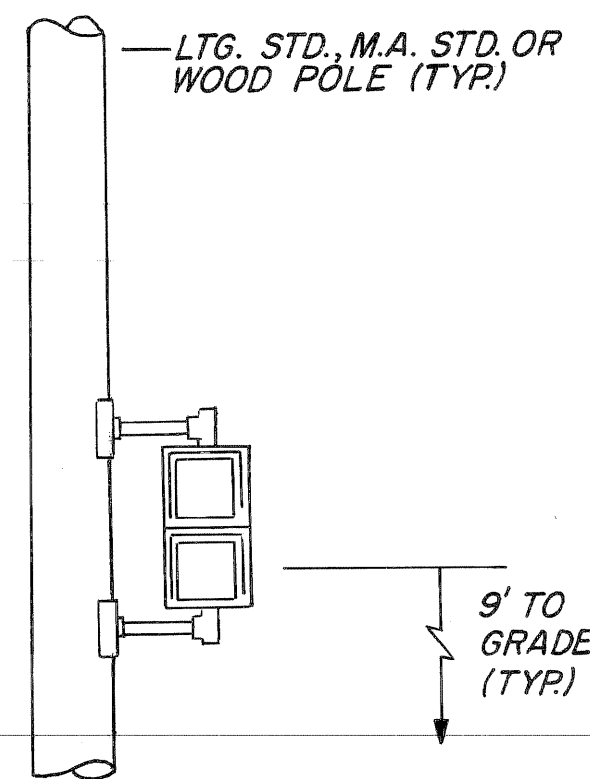
CHECKED BY  
APPROVED  
PUBLIC LIGHTING DEPARTMENT  
CITY OF DETROIT

507  
FILE NO. 51-0585  
SHEET NO. 66 OF 71  
DATE AUG 1934

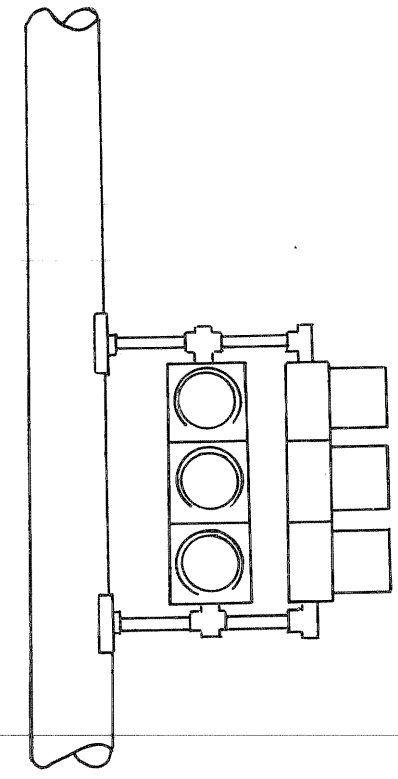




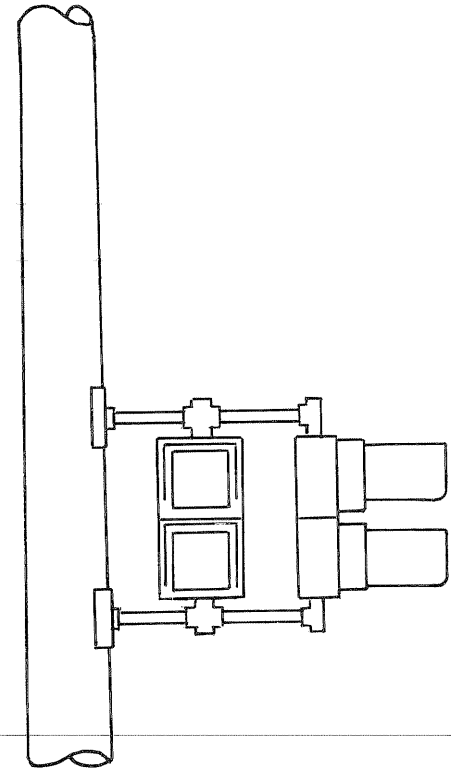
DETAIL "A-1"



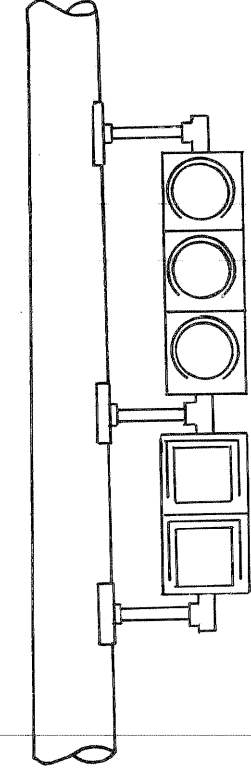
DETAIL "B-1"



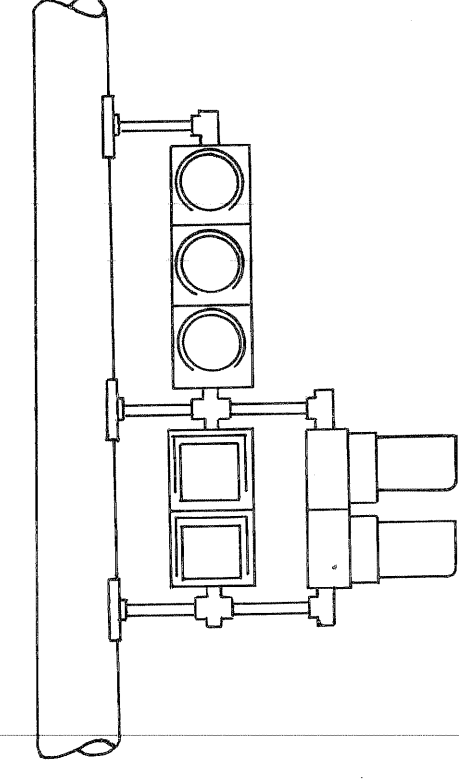
DETAIL "C-1"



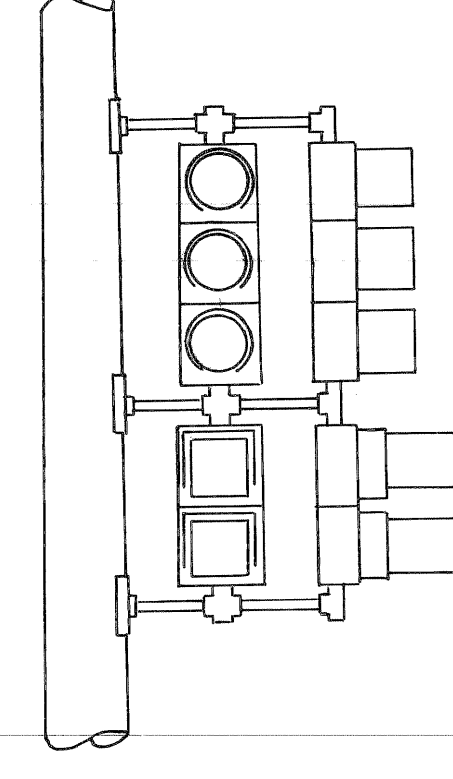
DETAIL "D-1"



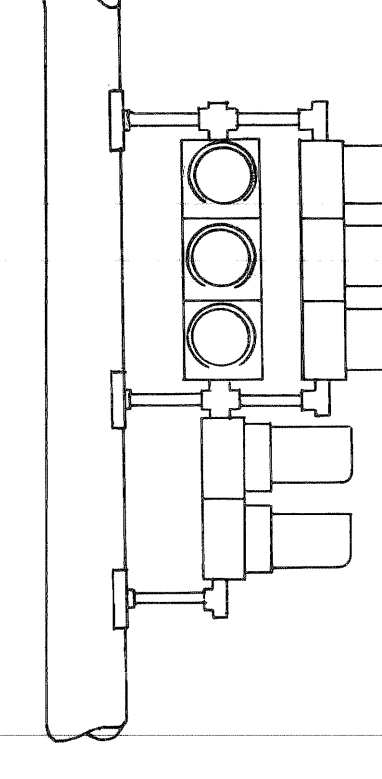
DETAIL "E-1"



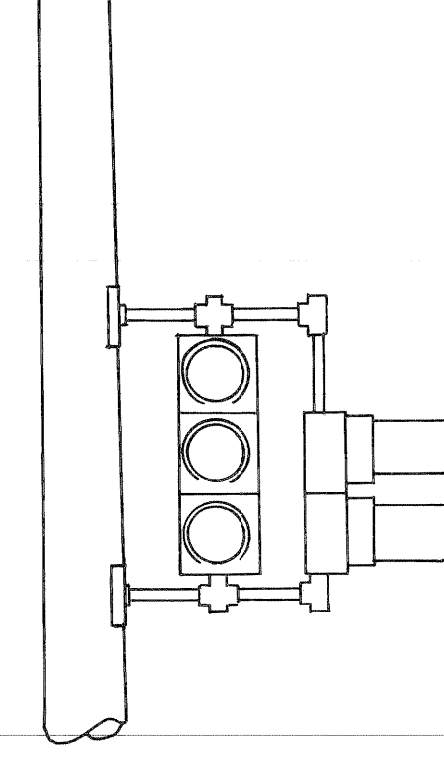
DETAIL "F-1"



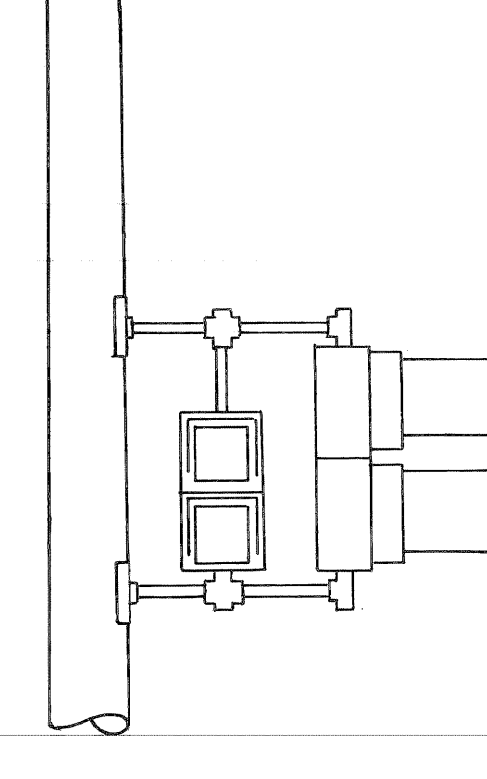
DETAIL "G-1"



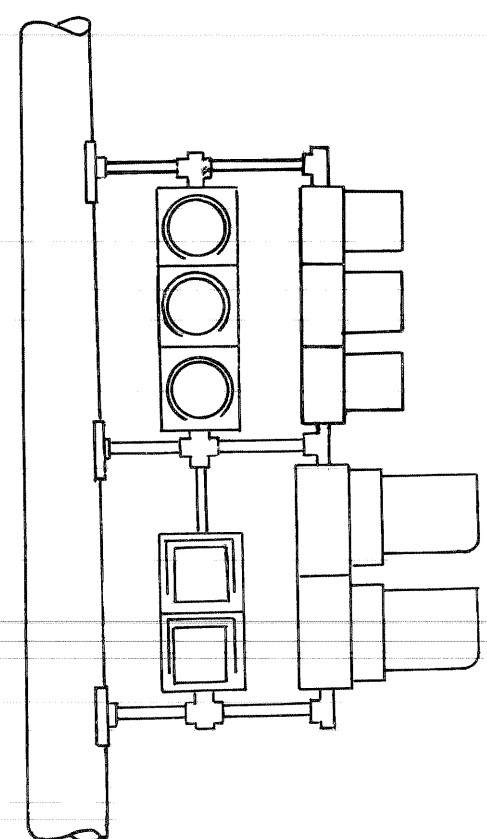
DETAIL "H-1"



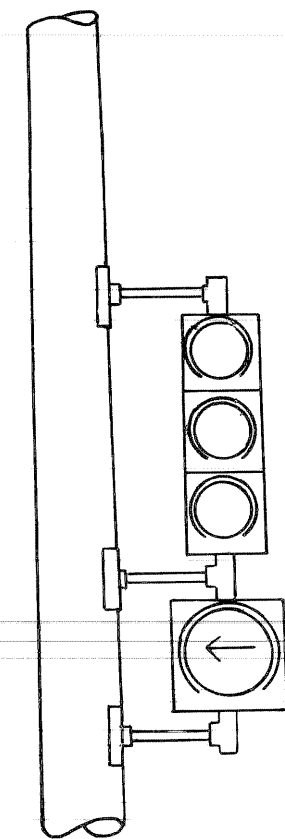
DETAIL "J-1"



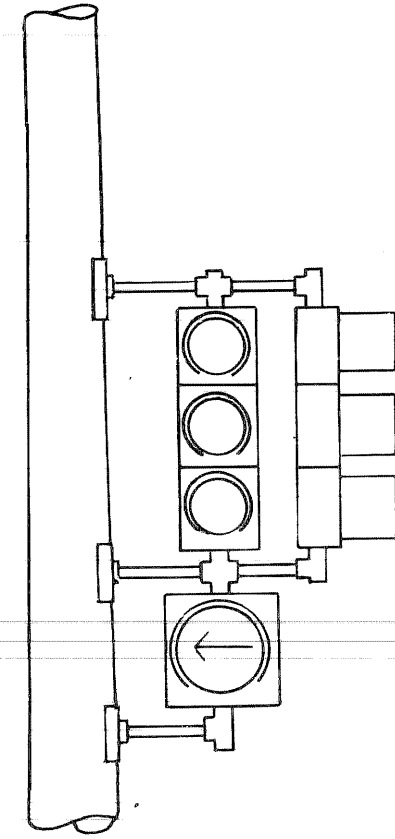
DETAIL "K-1"



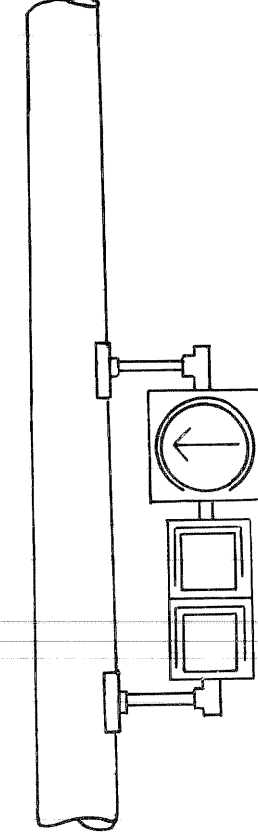
DETAIL "L-1"



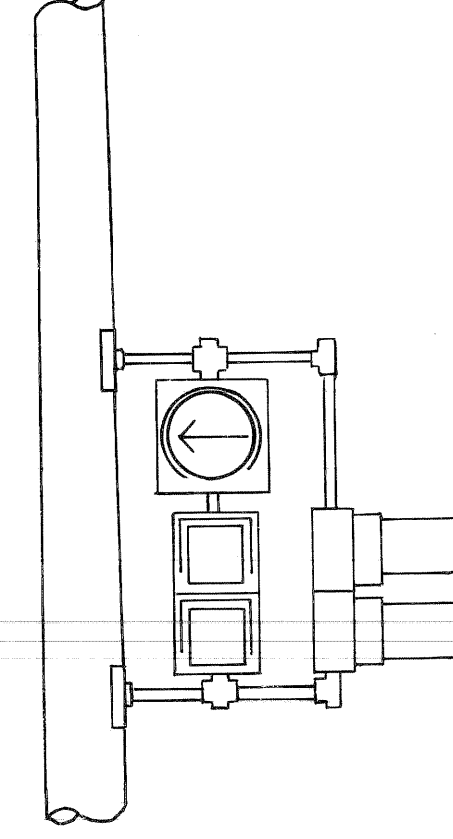
DETAIL "M-1"



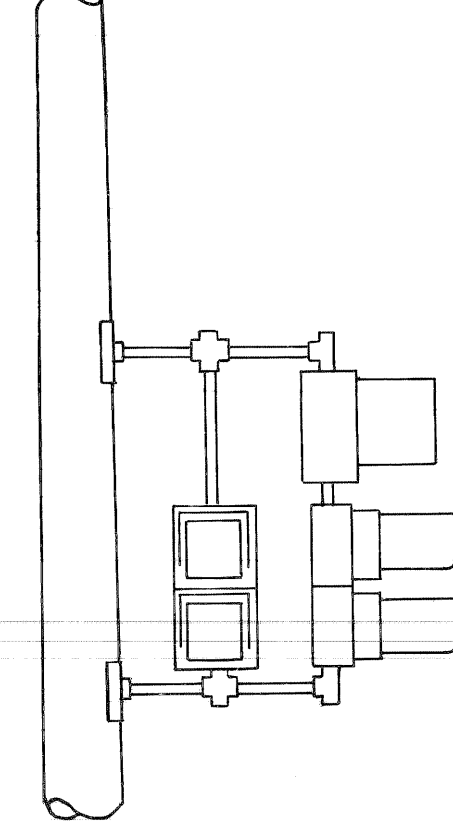
DETAIL "N-1"



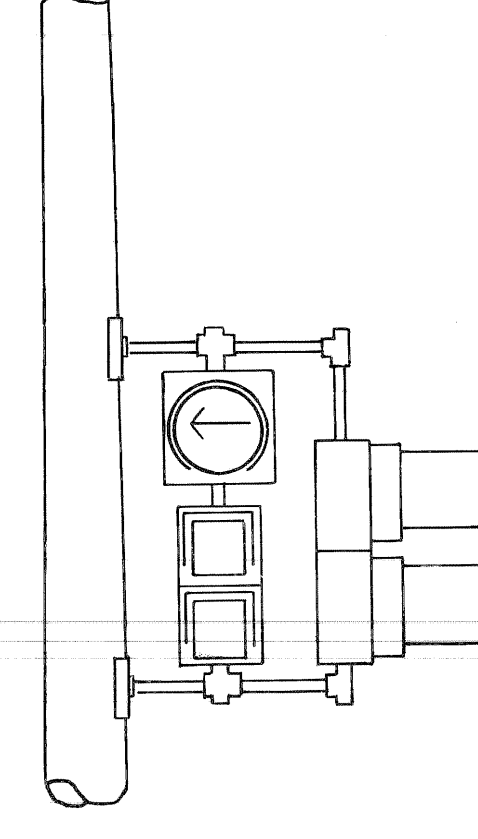
DETAIL "P-1"



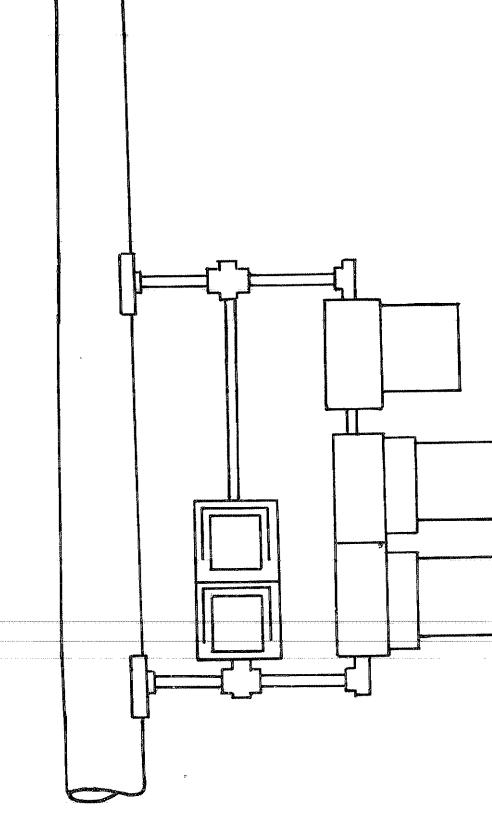
DETAIL "Q-1"



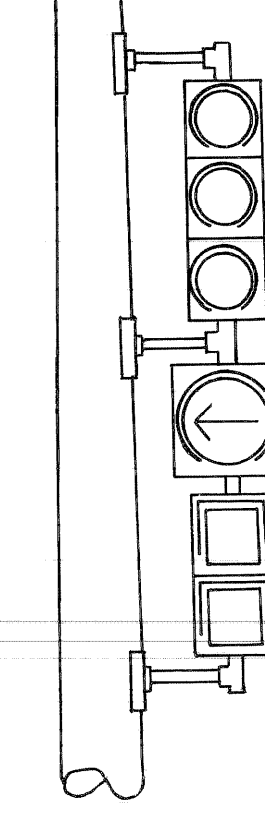
DETAIL "R-1"



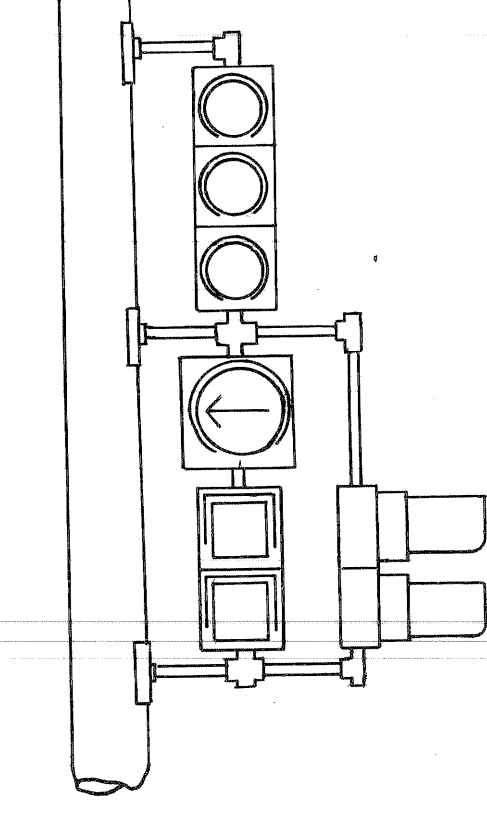
DETAIL "S-1"



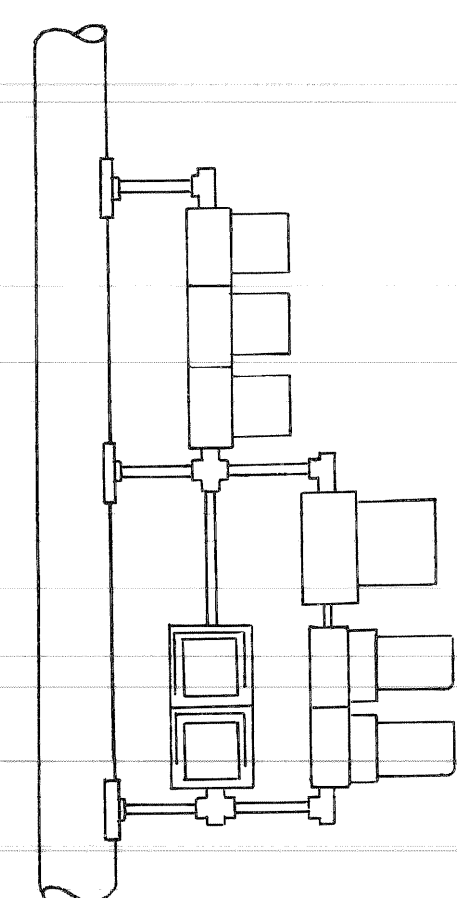
DETAIL "T-1"



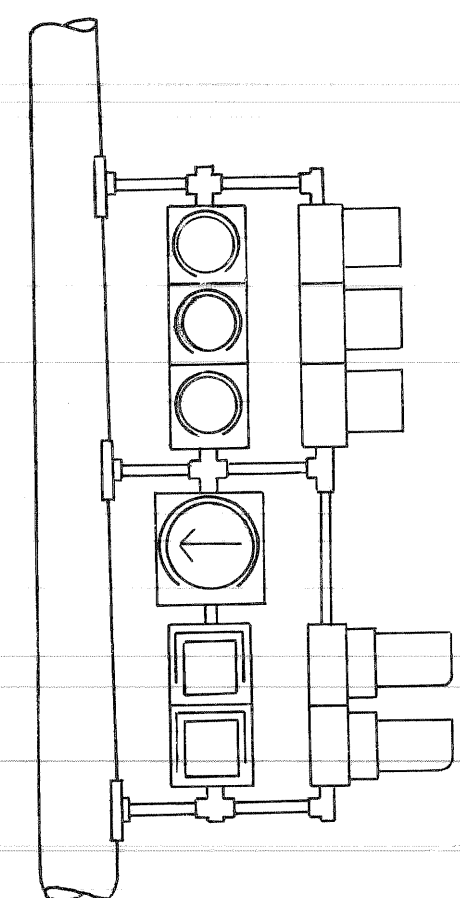
DETAIL "U-1"



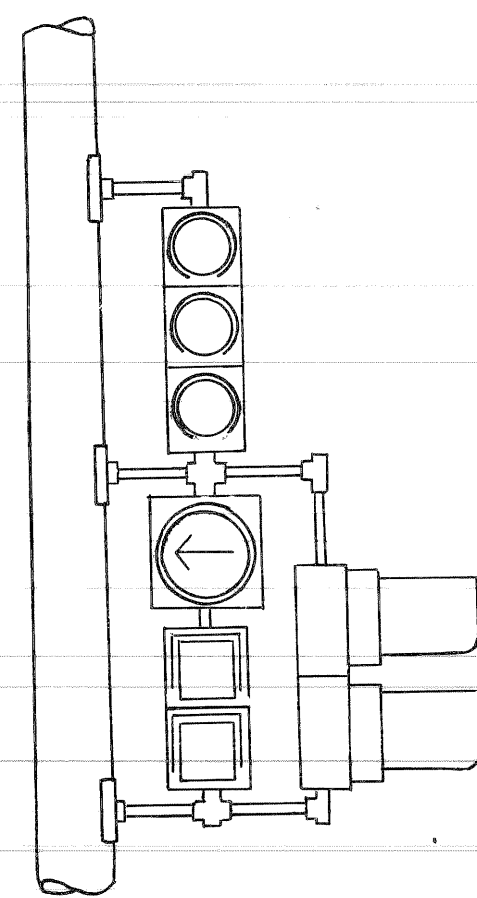
DETAIL "V-1"



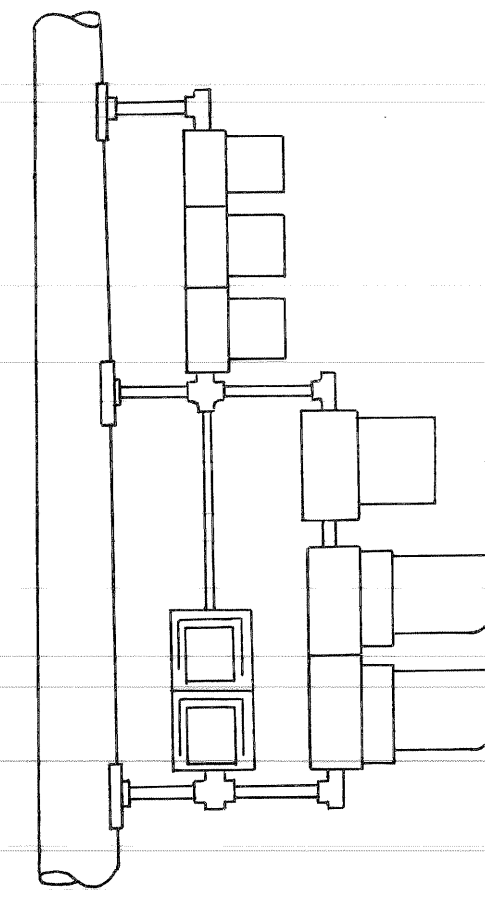
DETAIL "W-1"



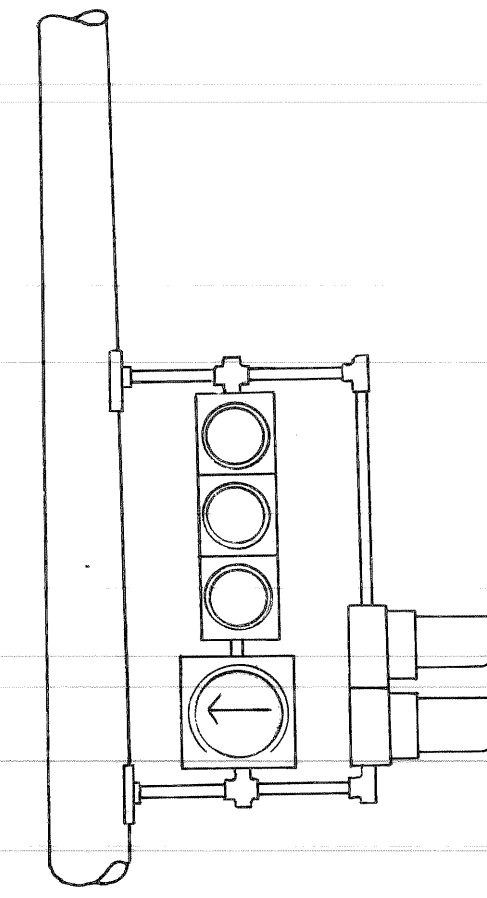
DETAIL "X-1"



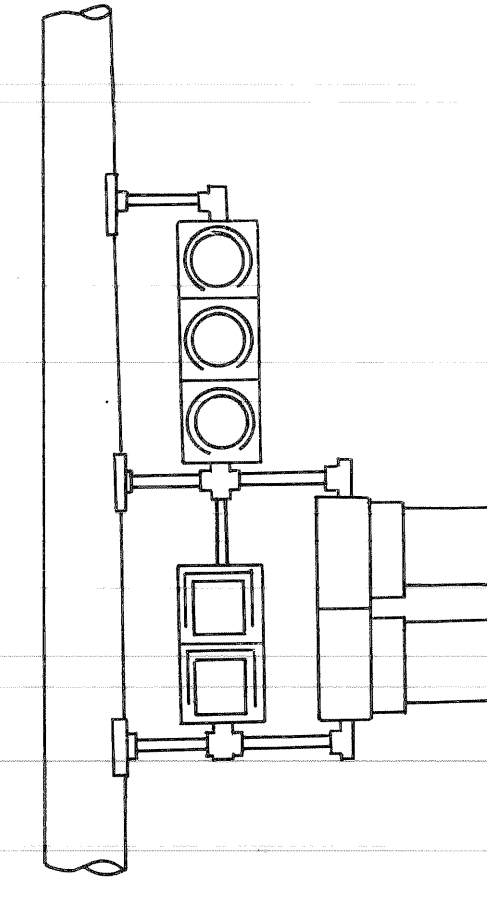
DETAIL "Y-1"



DETAIL "Z-1"



DETAIL "A-A-1"



DETAIL "B-B-1"

**NOTE:**  
THE RELATIVE POSITION OF 2-WAY T.S. & PEDESTRIAN BRACKET ARM SIGNALS WITHIN THE BRACKET ASSEMBLY SHALL BE REVERSED (I.E. THE SIGNAL NEAREST THE POLE GOES TO THE OUTSIDE OF THE BRACKET ASSEMBLY & THE OUTSIDE SIGNAL GOES INBOARD OR NEAREST TO POLE) ACCORDING TO THE PLAN VIEW TO PROVIDE CLEAR VEHICULAR AND PEDESTRIAN VIEWING.

**NOTE:**  
PIPE ASSEMBLY SHALL BE OF SUCH LENGTH AND HEIGHT AS TO ACCOMMODATE TRAFFIC SIGNALS AND PEDESTRIAN SIGNALS FOR PROPER MAINTENANCE AND CLEAR VEHICULAR AND PEDESTRIAN VIEWING.

DATE	DESCRIPTION	CHKD BY
		58

M.L. KING JR. BLVD. RECONSTRUCTION  
WABASH AVE. TO LINCOLN AVE.  
T.S. BRACKET ARM ASSEMBLY DETAILS

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

CITY OF DETROIT  
CITY ENGINEERING DEPARTMENT

DRAWN	CEA
CHECKED	ep
APPROVED	[Signature]
DATE	AUG 1984

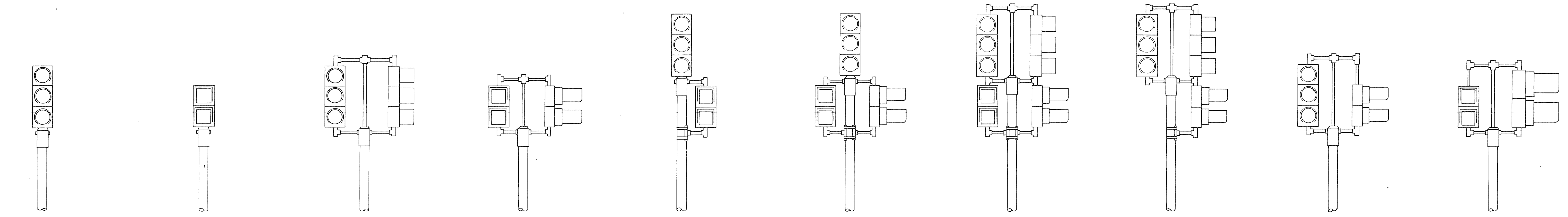
PLAN PREPARED BY:  
CONSULTING ENGINEERING ASSOCIATES INC.  
ENGINEERING CONSULTANTS  
16580 WYOMING DETROIT, MICH., 48221

CHECKED BY
APPROVED BY

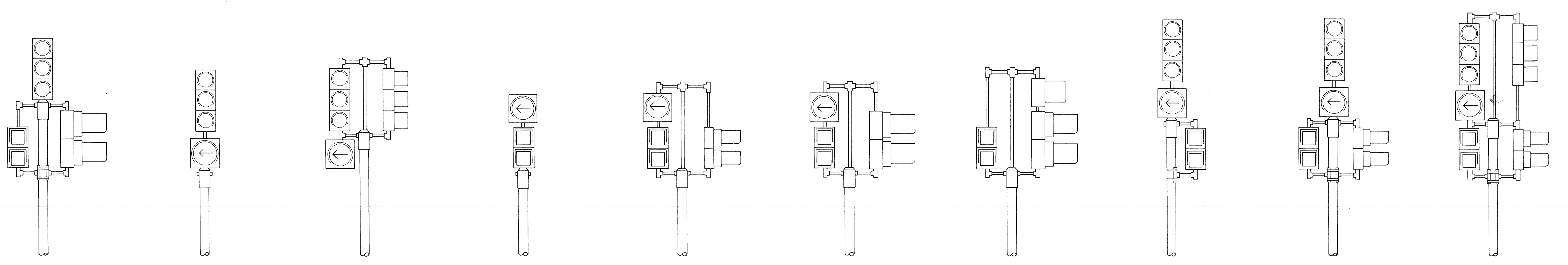
PUBLIC LIGHTING  
COMMISSION  
CITY OF DETROIT

FILE NO.	51-0585
SHEET NO.	67 OF 71
DATE	AUG 1984

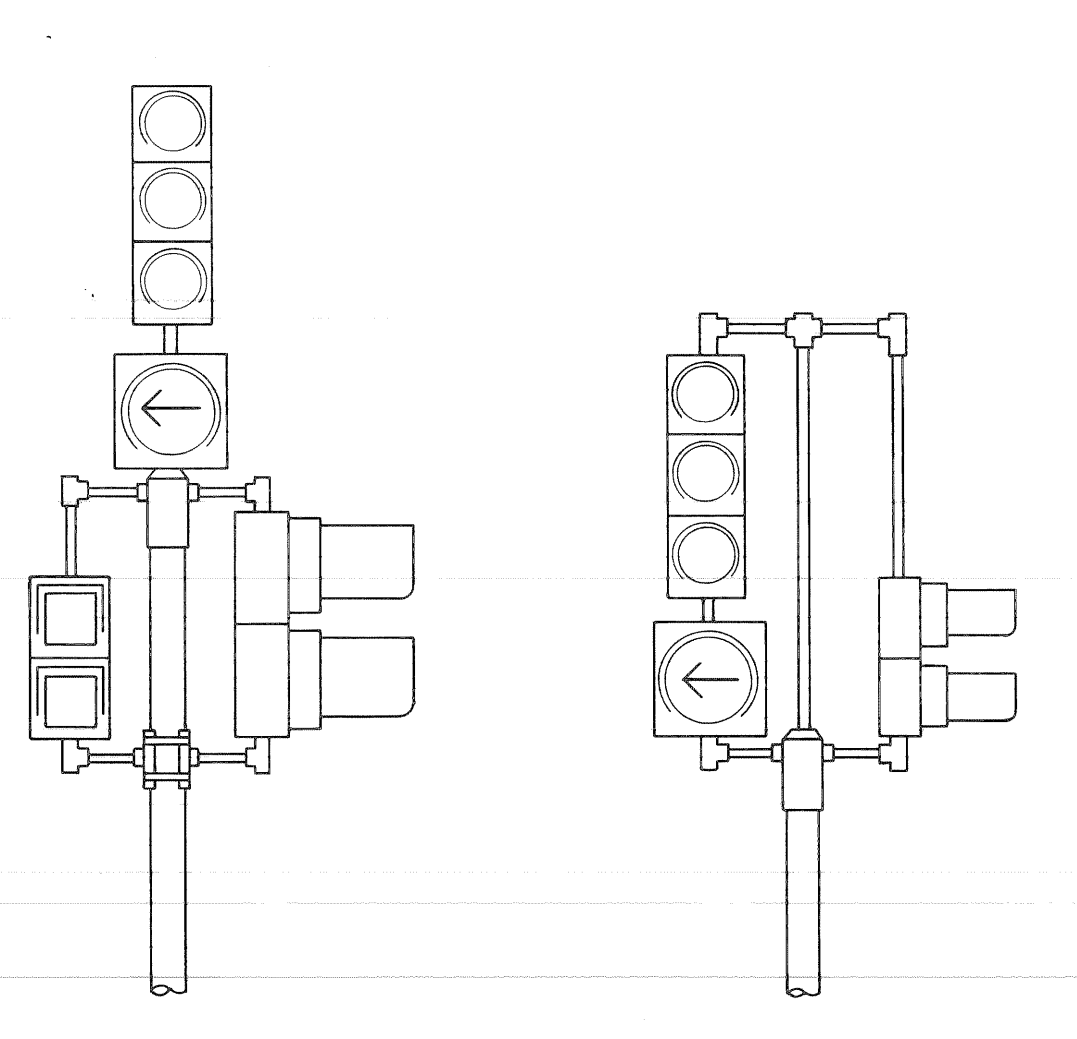




DETAIL "A-2"      DETAIL "B-2"      DETAIL "C-2"      DETAIL "D-2"      DETAIL "E-2"      DETAIL "F-2"      DETAIL "G-2"      DETAIL "H-2"      DETAIL "J-2"      DETAIL "K-2"



DETAIL "L-2"      DETAIL "M-2"      DETAIL "N-2"      DETAIL "P-2"      DETAIL "Q-2"      DETAIL "R-2"      DETAIL "S-2"      DETAIL "T-2"      DETAIL "U-2"      DETAIL "V-2"



DETAIL "W-2"      DETAIL "X-2"

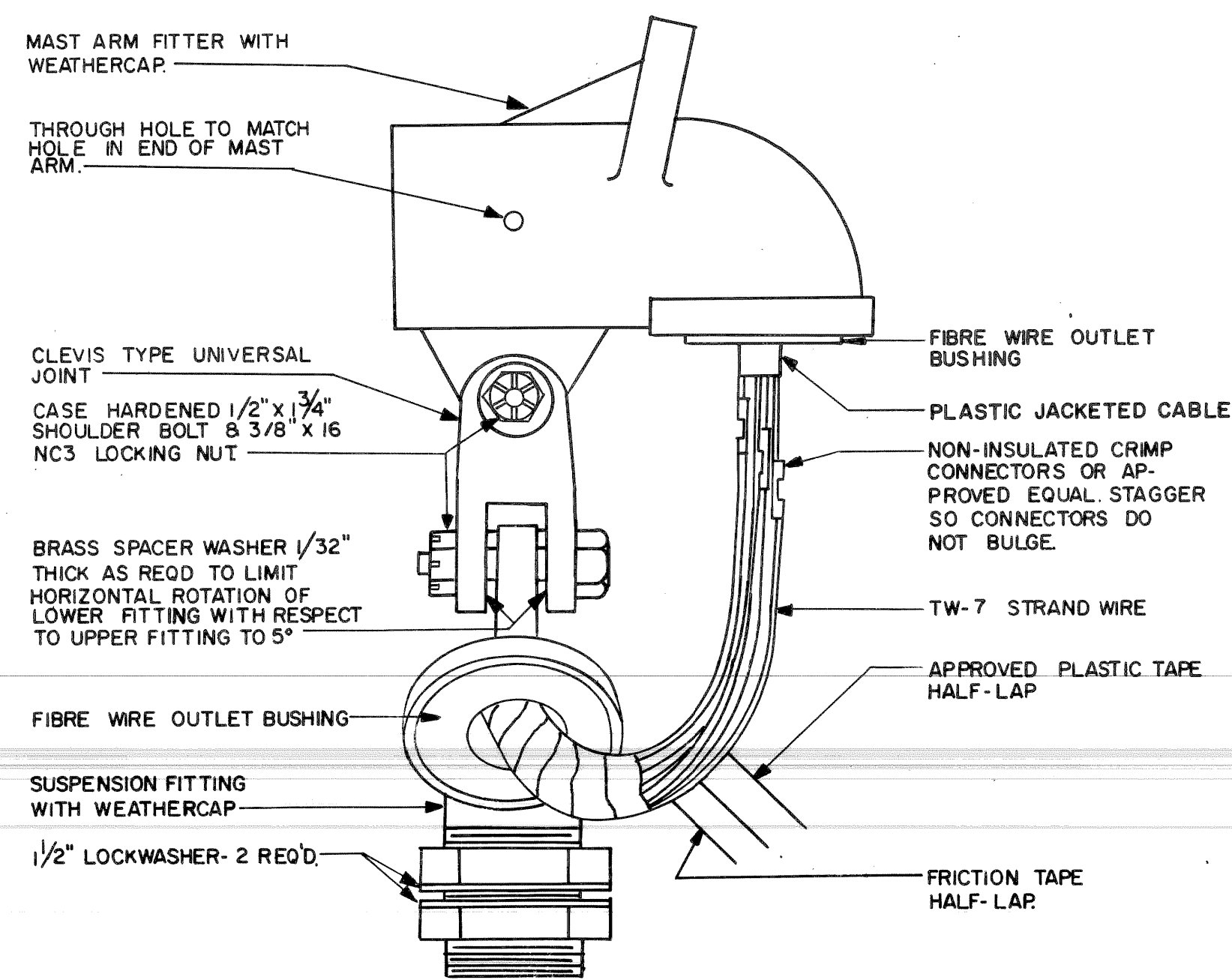
**NOTE:**  
 PIPE ASSEMBLY SHALL BE OF SUCH LENGTH AND HEIGHT AS TO ACCOMMODATE TRAFFIC SIGNALS AND PEDESTRIAN SIGNALS FOR PROPER MAINTENANCE AND CLEAR VEHICULAR AND PEDESTRIAN VIEWING.

<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="width:10%;">DATE</td><td style="width:10%;">DESCRIPTION</td><td style="width:10%;">CHKD BY</td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	DATE	DESCRIPTION	CHKD BY																59	<b>M.L. KING JR. BLVD. RECONSTRUCTION</b> <b>WABASH AVE TO LINCOLN AVE.</b>  T.S. PEDESTAL ASSEMBLY DETAILS	SHEET _____ OF _____ SHEETS JOB. NO. _____ ASSIGNMENT NO. _____ DATE _____	CITY OF DETROIT  CITY ENGINEERING DEPARTMENT	DRAWN BY <b>CEA</b> CHECKED BY <i>[Signature]</i> APPROVED BY <i>[Signature]</i> DATE <b>AUG 1984</b>	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	DRAWING NO. <b>38 OF 41</b> FILE NO. <b>CEA 1098</b>	PUBLIC LIGHTING COMMISSION CITY OF DETROIT	FILE NO. <b>51-0585</b> SHEET NO. <b>68 OF 71</b> DATE <b>AUG 1984</b>
DATE	DESCRIPTION	CHKD BY																									





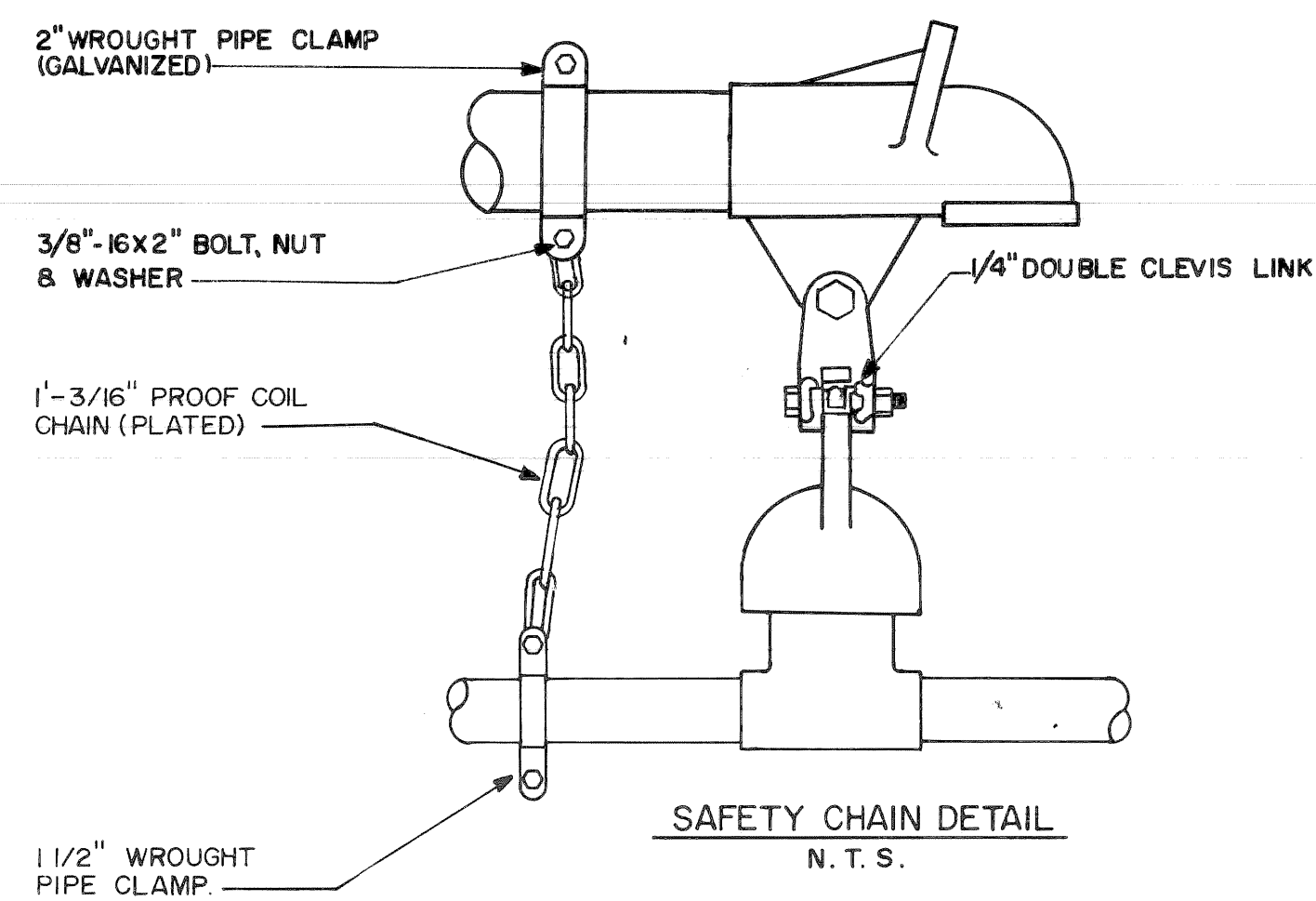




NOTE:

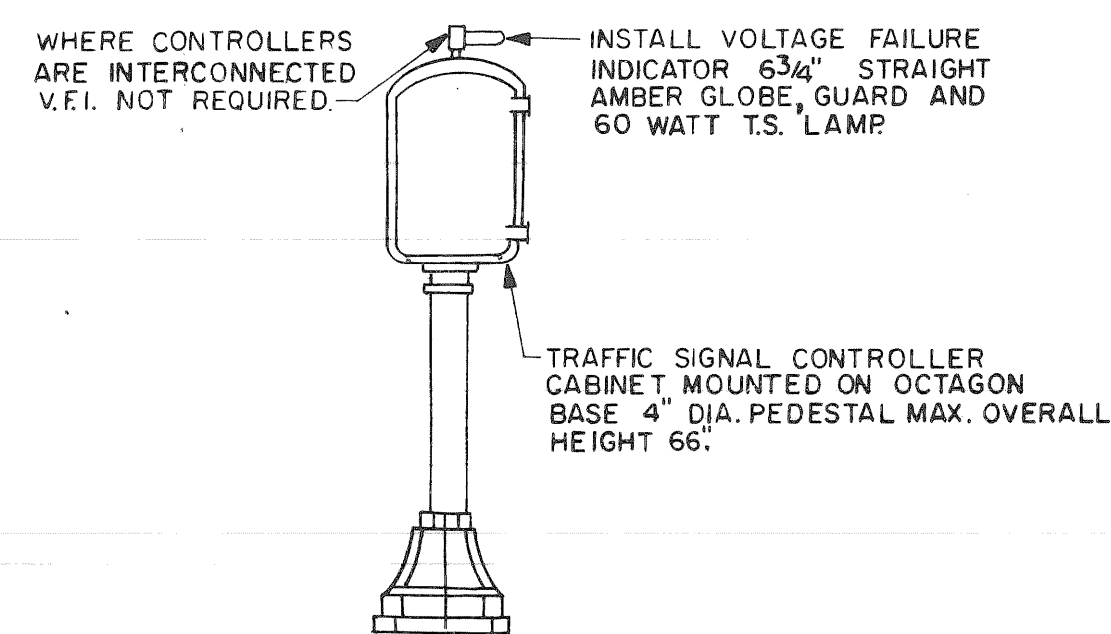
INDIVIDUAL CONNECTION TO BE TAPED WITH APPROVED PLASTIC TAPE.

N.T.S.



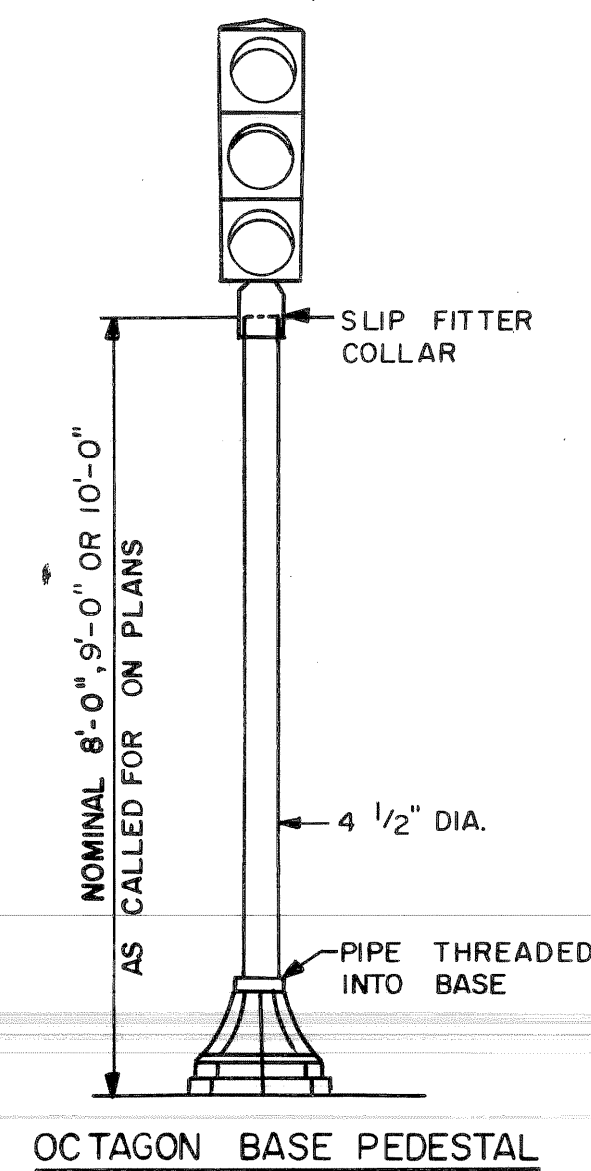
SAFETY CHAIN DETAIL

N.T.S.

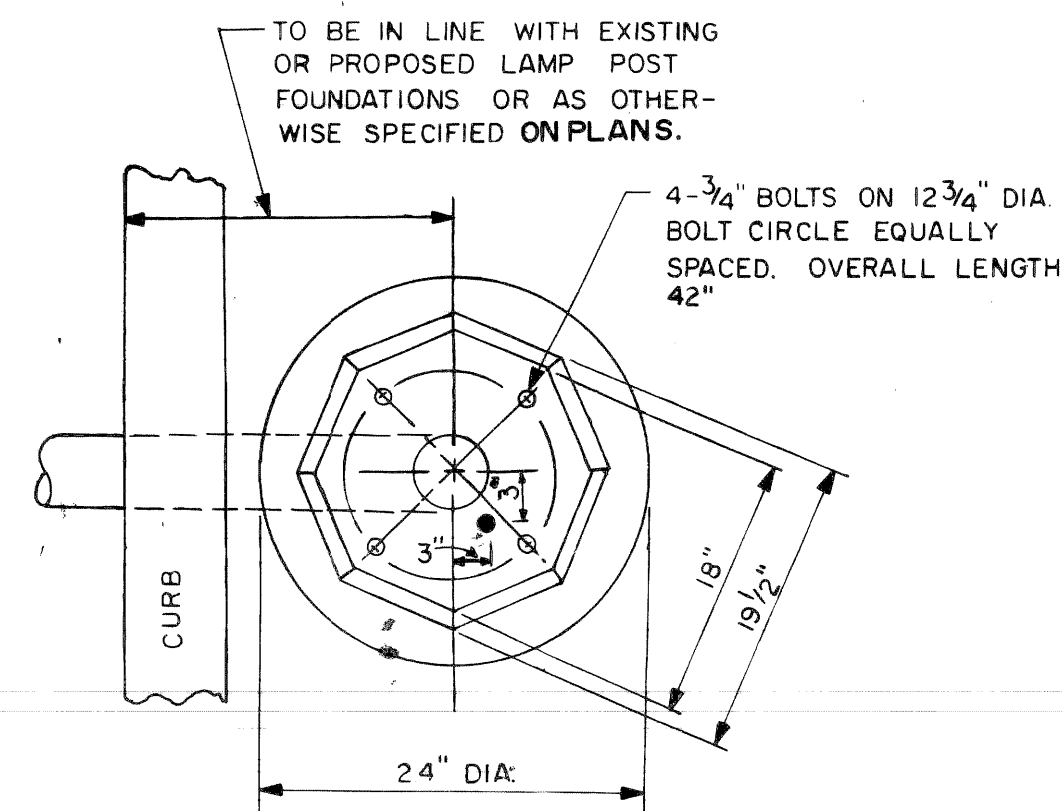


SINGLE CABINET CONTROLLER OCTAGON BASE

N.T.S.

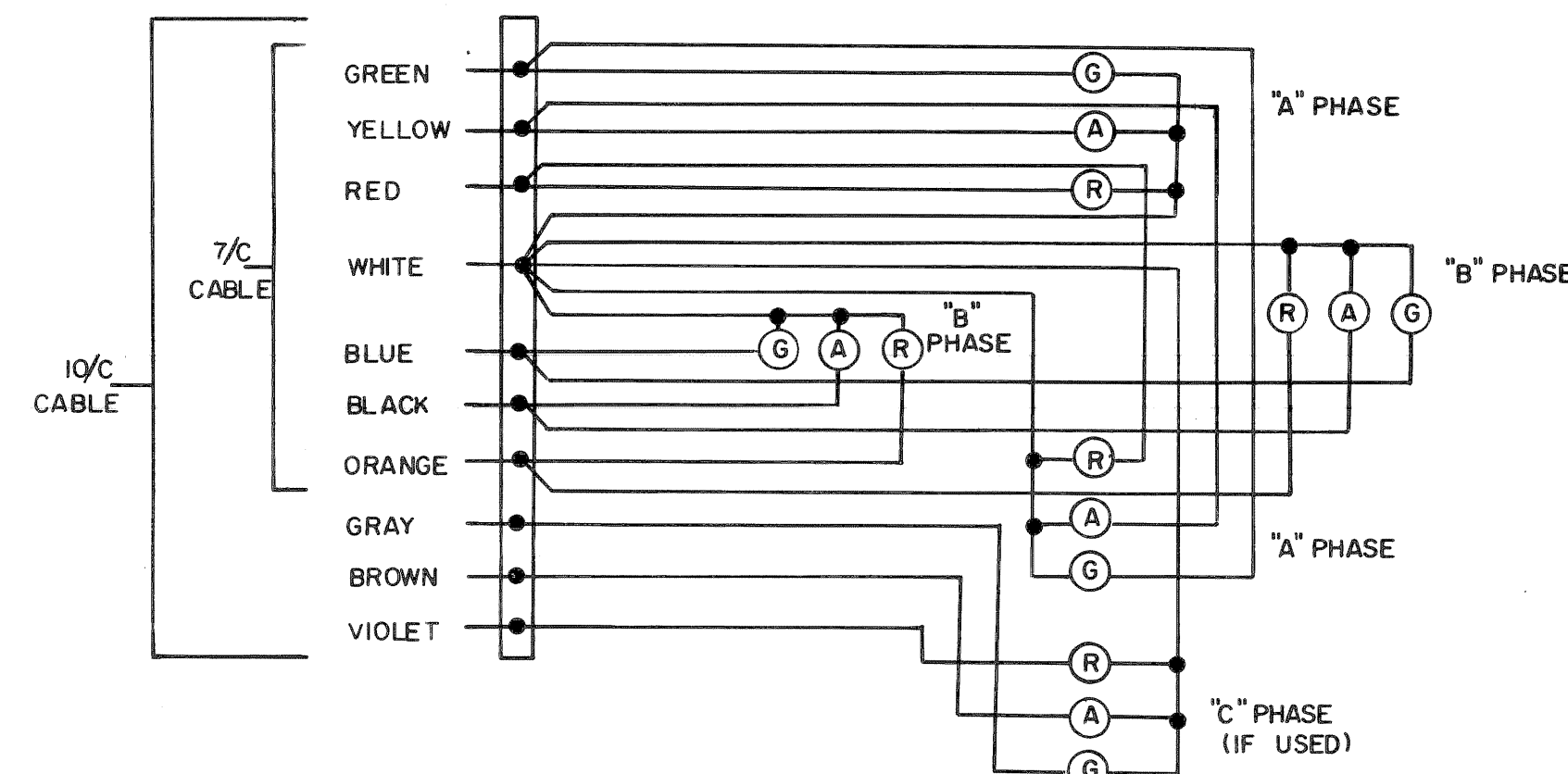


OCTAGON BASE PEDESTAL



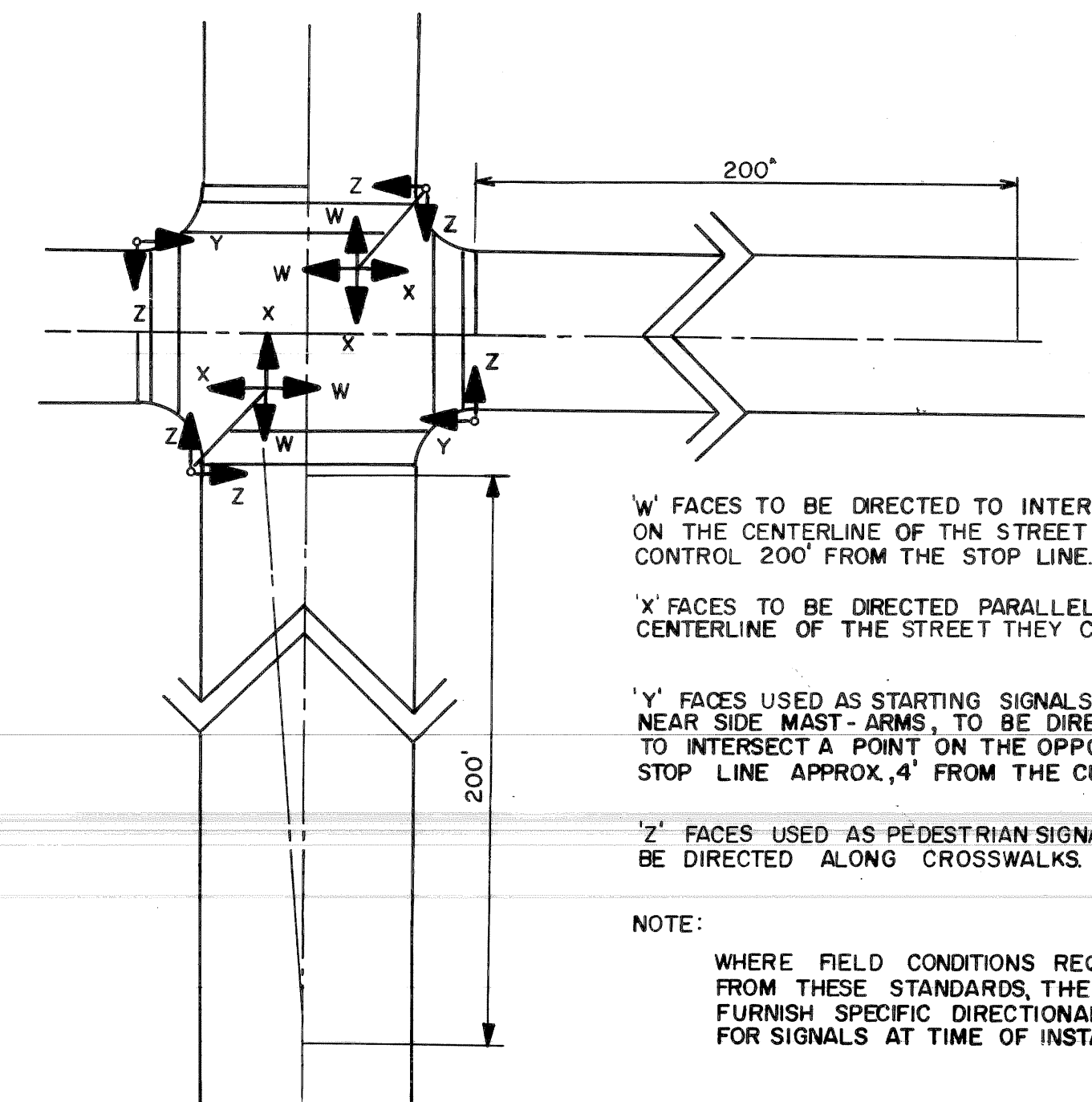
FOUNDATION FOR OCTAGON BASE PEDESTAL FOR TRAFFIC SIGNALS OR CONTROLLER

N.T.S.



THE INCOMING CABLE FROM THE CONTROLLER IS TO BE CONNECTED TO THE TERMINAL BLOCK IN ONE FACE OF THE SIGNAL ASSEMBLY. THE OTHER FACES IN THE ASSEMBLY ARE TO BE CONNECTED TO THIS TERMINAL BLOCK BY #14 TW WIRES THROUGH THE ASSEMBLY FRAMEWORK.

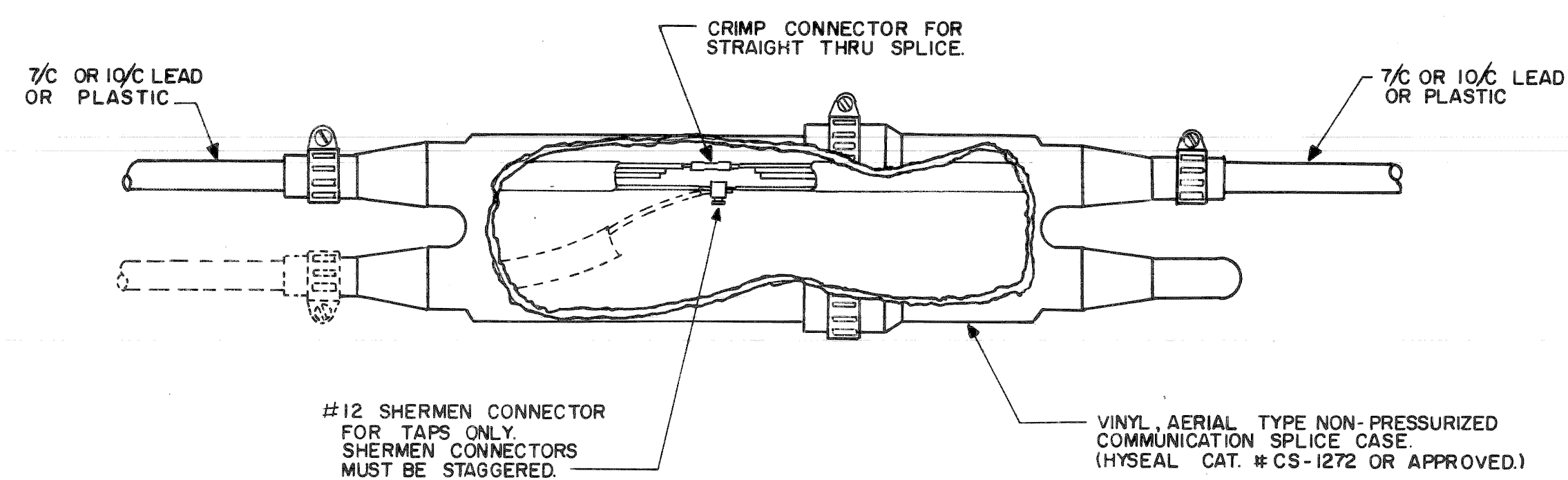
COLOR CODING & CABLE CONNECTIONS FOR TRAFFIC SIGNAL LAMPS



STANDARDS FOR DIRECTIONAL SETTINGS OF TRAFFIC SIGNALS

NOTE:

WHERE FIELD CONDITIONS REQUIRE DEVIATION FROM THESE STANDARDS, THE P.L.C. WILL FURNISH SPECIFIC DIRECTIONAL SETTINGS FOR SIGNALS AT TIME OF INSTALLATION.



TRAFFIC SIGNAL CABLE SPLICE DETAIL

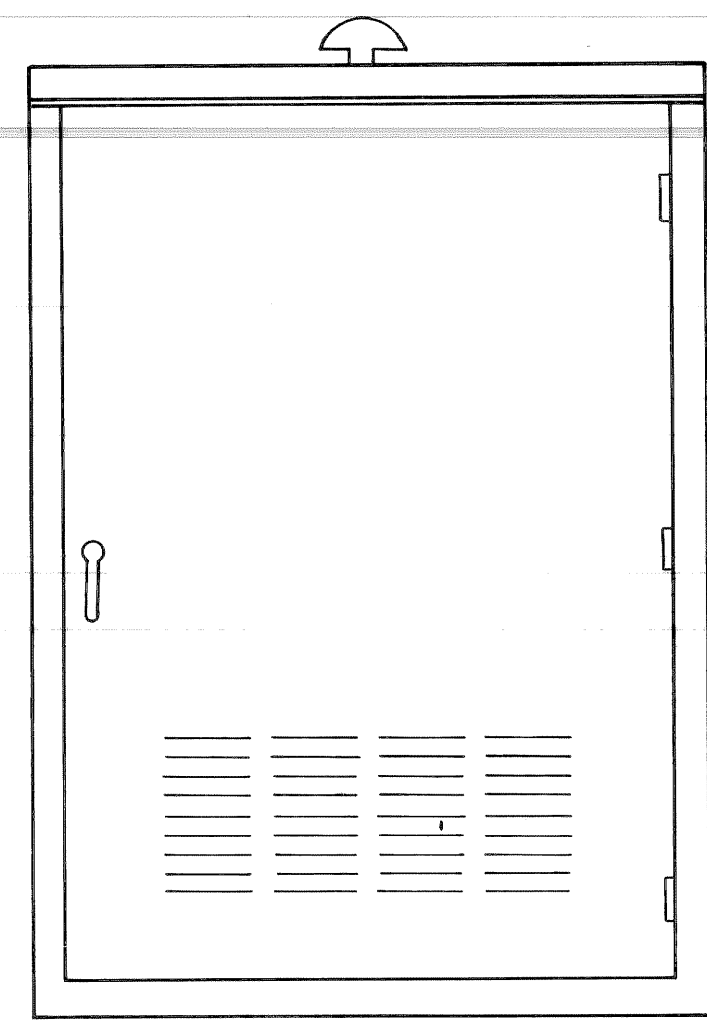
NOTE:

INDIVIDUAL CONNECTORS TO BE TAPED WITH 3-LAYERS OF APPROVED PLASTIC TAPE & OVERALL ONE LAYER OF HALF-LAP APPROVED PLASTIC TAPE.

HEAT SHRINKABLE CABLE SPLICE AS PER P.L.D. SPECIFICATION MAY BE USED IN PLACE OF HYSEAL SPLICE

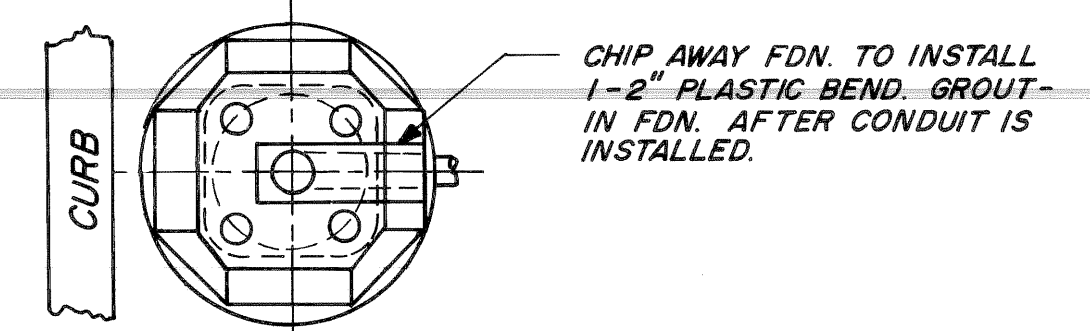
DATE	DESCRIPTION	CHKD. BY	M.L. KING JR. BLVD. RECONSTRUCTION WABASH AVE. TO LINCOLN AVE. MISCELLANEOUS TRAFFIC SIGNAL, DETAILS	SHEET ____ OF ____ SHEET	CITY OF DETROIT CITY ENGINEERING DEPARTMENT	DRAWN BY	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	CHECKED BY	PUBLIC LIGHTING COMMISSION CITY OF DETROIT	FILE NO.
				JOB NO.		40 OF 41		51-0585		
				ASSIGNMENT NO.		CEA 1098		70 OF 71		
				DATE		AUG 1984		AUG 1984		



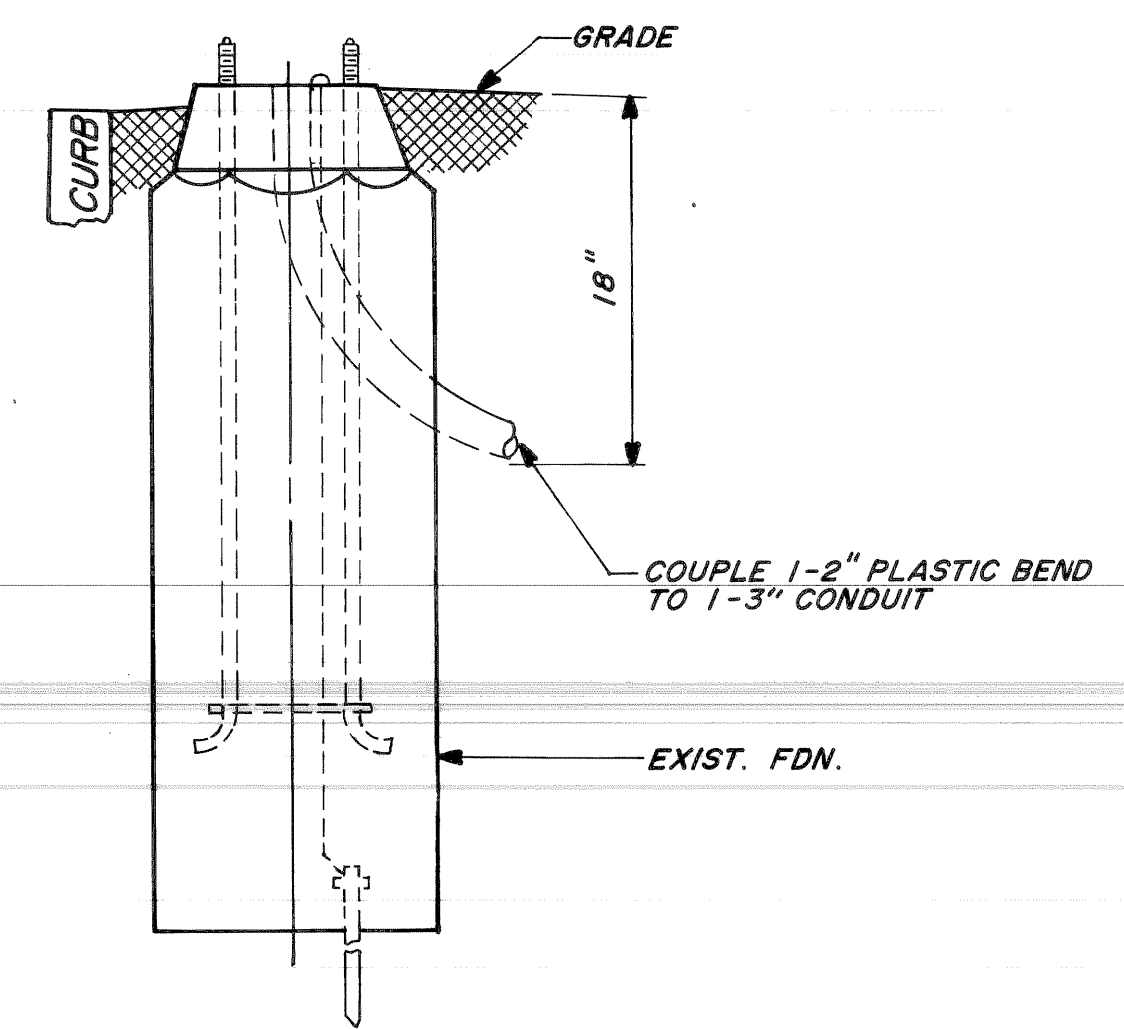


VENTED ALUMINUM CABINET WITH BASE MOUNTING SHALL BE 34" W. X 17" D. X 48" H.

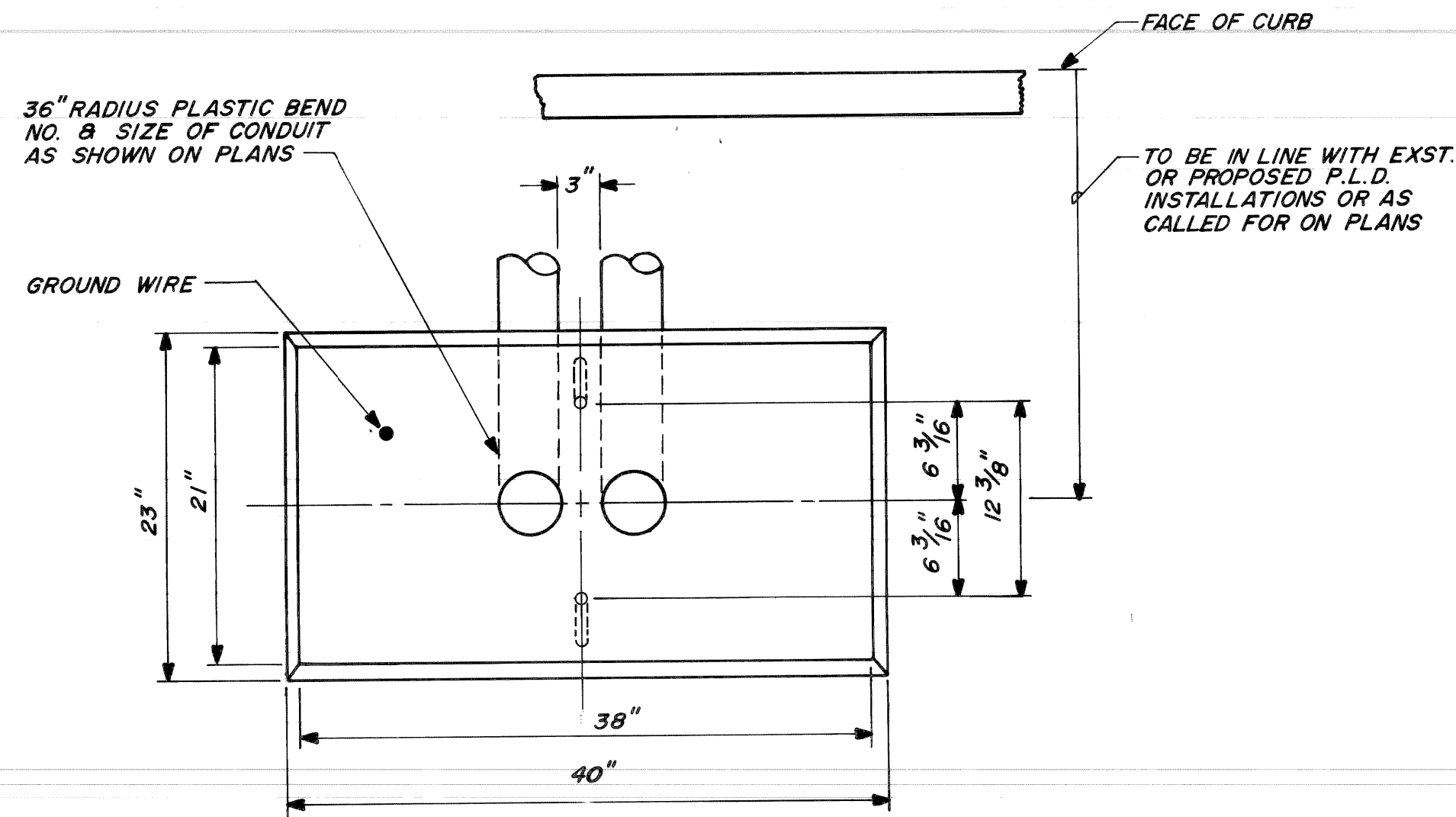
**BASE MOUNTED TRAFFIC SIGNAL CONTROLLER & CABINET**  
N.T.S.



CHIP AWAY FDN. TO INSTALL 1-2" PLASTIC BEND. GROUT IN FDN. AFTER CONDUIT IS INSTALLED.

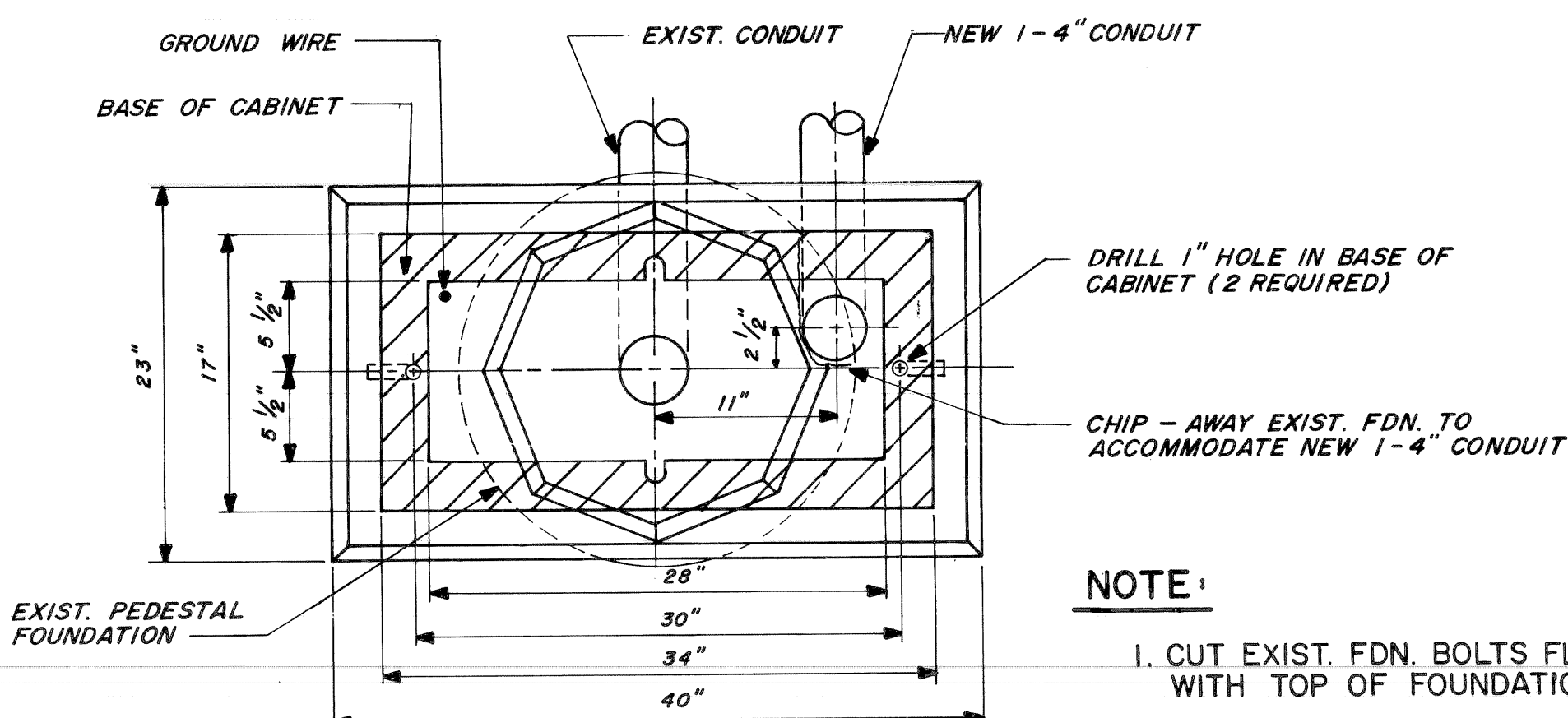


**DETAIL OF INSTALLING CONDUIT INTO EXISTING FDN.**  
N.T.S.



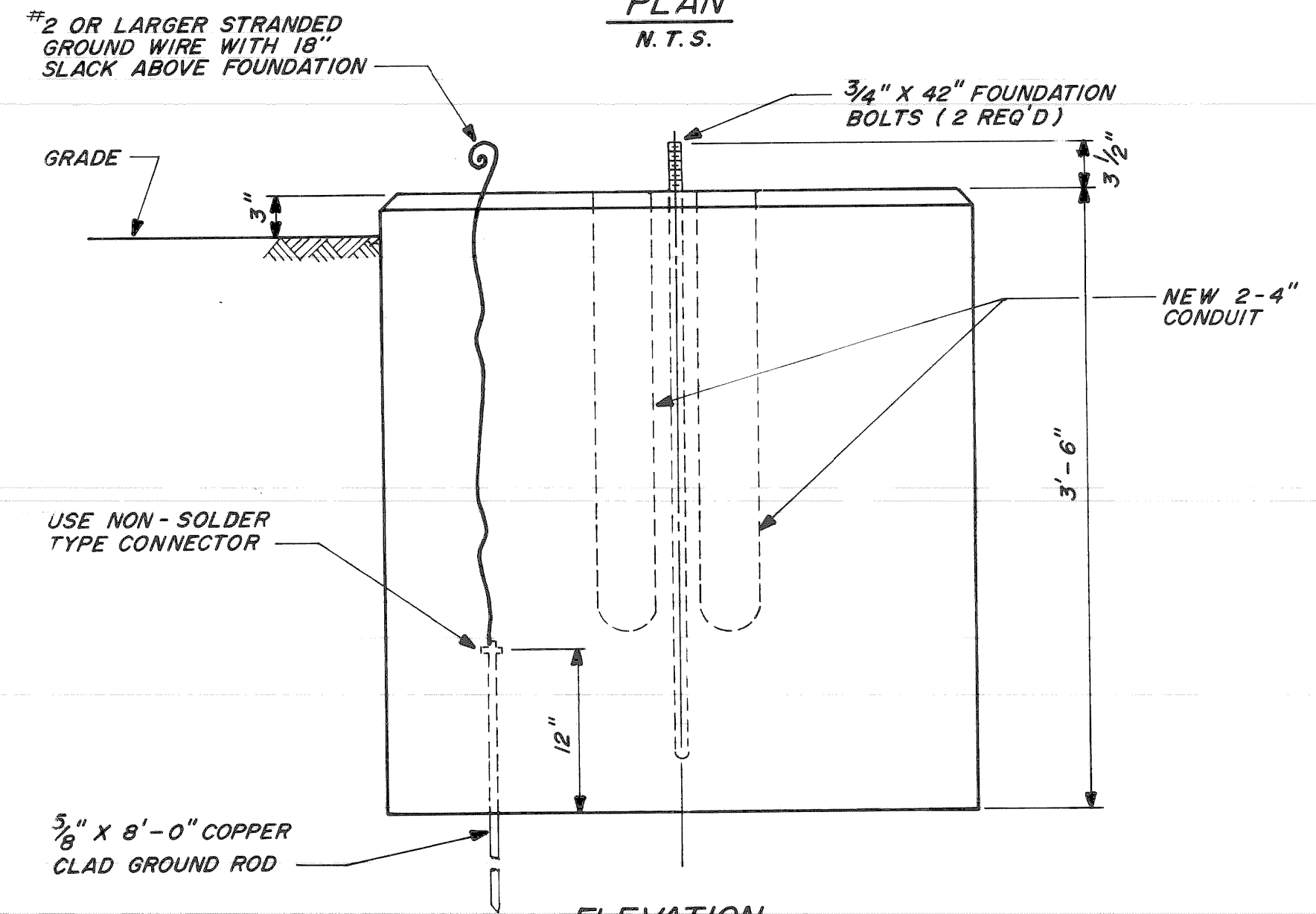
TO BE IN LINE WITH EXST. OR PROPOSED P.L.D. INSTALLATIONS OR AS CALLED FOR ON PLANS

**PLAN**  
N.T.S.



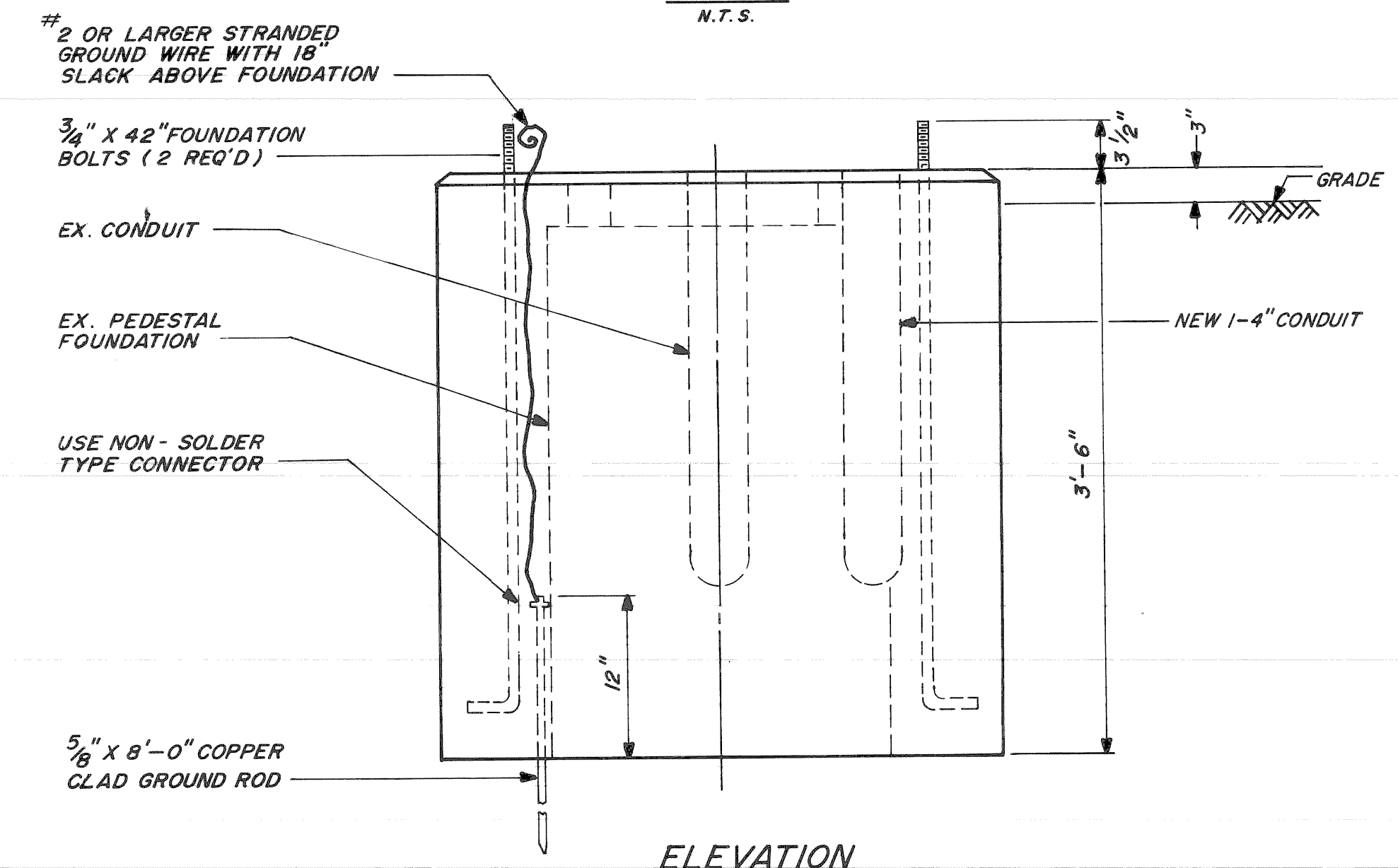
**NOTE:**  
1. CUT EXIST. FDN. BOLTS FLUSH WITH TOP OF FOUNDATION.

**PLAN**  
N.T.S.



**ELEVATION**  
N.T.S.

**FOUNDATION FOR BASE MOUNTED T.S. CONTROLLER & CABINET**



**ELEVATION**  
N.T.S.

**MODIFICATION OF PEDESTAL FDN. FOR BASE MOUNTED T.S. CONTROLLER**

DATE	DESCRIPTIONS	CHKD. BY

**M.L. KING JR. BLVD. RECONSTRUCTION**  
**WABASH AVE. TO LINCOLN AVE.**  
**BASE MOUNTED T.S. CONTROLLER CABINET & FOUNDATION**  
**DETAILS**

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

**CITY OF DETROIT**  
**CITY ENGINEERING DEPARTMENT**

DRAWN C.E.A.
CHECKED Ep
APPROVED [Signature]
DATE

PLAN PREPARED BY  
**CONSULTING ENGINEERING ASSOCIATES INC.**  
ENGINEERING CONSULTANTS  
16580 WYOMING DETROIT, MICH., 48221

CHECKED BY
APPROVED

**PUBLIC LIGHTING DEPARTMENT**  
**CITY OF DETROIT**

FILE NO.	51-0585
SHEET NO.	71 OF 71
DATE	AUG 1984