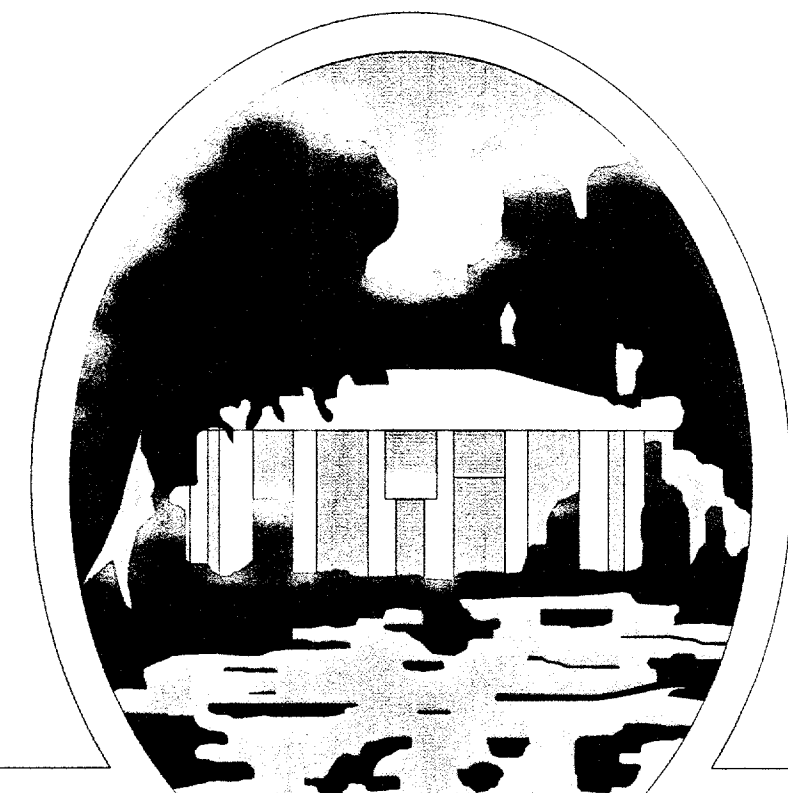


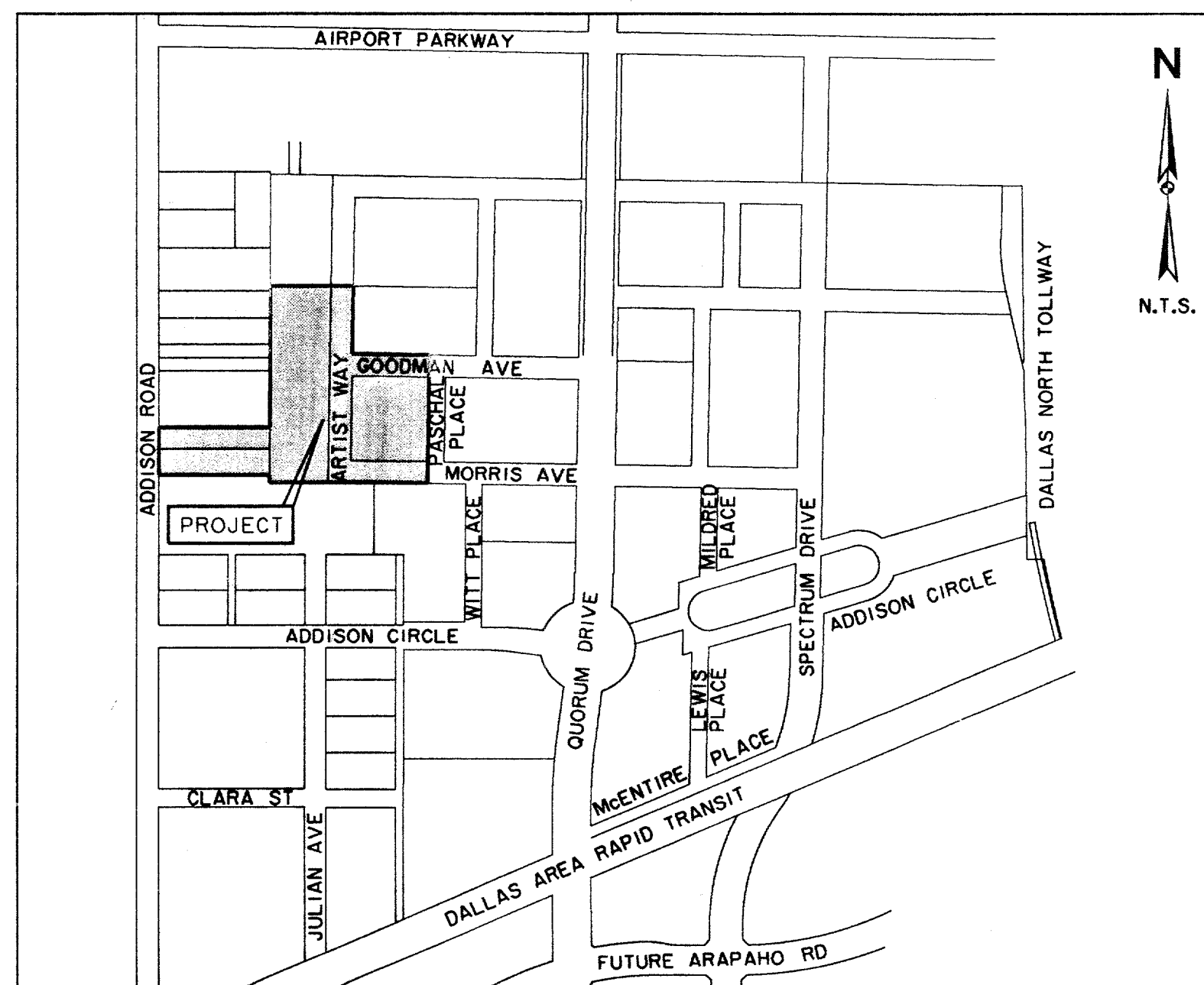
CIVIL AND LANDSCAPE PLANS FOR CONSTRUCTION OF
PAVING, STREETScape AND UTILITY IMPROVEMENTS

ADDISON CIRCLE PUBLIC INFRASTRUCTURE PHASE II-B



T O W N O F
ADDISON

SHEET NO.	INDEX OF DRAWINGS
	COVER SHEET
P1	LEGEND & ABBREVIATIONS
P2	HORIZONTAL CONTROL PLAN
P3	PAVING TYPICAL SECTIONS & RECOMMENDED UTILITY LOCATIONS
P4	DEMOLITION PLAN
P5	PAVING & STREETScape SITE PLAN
P6	SIGNAGE & STRIPING PLAN
P7-P11	PAVING PLANS & PROFILES
GRI-GR2	SIDEWALK GRADING PLANS
PI2	SLEEVING PLAN
PI3-PI4	PAVING DETAILS
ST1-ST2	STREETScape PLANS
ST3-ST6	STREETScape, LIGHT & SUBDRAIN DETAILS
SW1	DRAINAGE AREA MAP
SW2-SW3	STORM WATER CALCULATIONS
SW4	STORM WATER SITE PLAN
SW5-SW7	STORM WATER PLANS & PROFILES
SW8-SW9	STORM WATER DETAILS
W1	WATER & WASTEWATER SITE PLAN
W2-W5	WATER PLANS & PROFILES
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WW1	WASTEWATER PLAN & PROFILE
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PC1	POLLUTION CONTROL PLAN
PC2	POLLUTION CONTROL DETAILS
E1	ELECTRICAL DUCT BANK SITE PLAN
E2-E4	ELECTRICAL DUCT BANK PLANS & PROFILES
E5-E13	ELECTRICAL DUCT BANK DETAILS
E14-E15	STREET LIGHT POWER PLANS & DETAILS
PF1-PF2	PLANTING & FURNITURE PLANS
PF3	PLANTING DETAILS
IR1-IR2	IRRIGATION PLANS
IR3	IRRIGATION DETAILS



LOCATION MAP

RECORD DRAWINGS 11/17/00

THIS SET OF DRAWINGS HAS BEEN MODIFIED FROM THE ORIGINAL DESIGN DRAWINGS TO REFLECT THE FIELD CHANGES THAT OCCURRED DURING CONSTRUCTION WHICH WERE DOCUMENTED AND FINISHED TO THE ENGINEER BY THE CONTRACTOR. BASED ON THIS INFORMATION AND THE ENGINEER'S OBSERVATION OF CERTAIN CONSTRUCTION ACTIVITIES, TO THE BEST OF THE ENGINEER'S KNOWLEDGE AND BELIEF, THE PROJECT IS CONSTRUCTED IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS AND WILL FUNCTION AS DESIGNED.

OWNER:

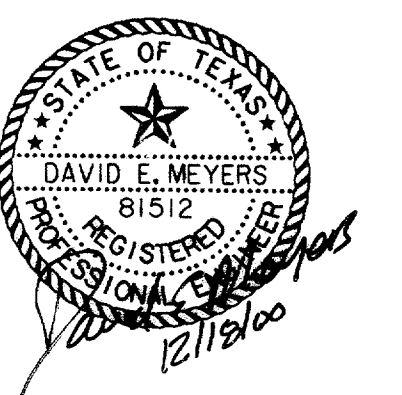
TOWN OF ADDISON
DEPARTMENT OF PUBLIC WORKS
16801 WESTGROVE
P.O. BOX 9010
ADDISON, TEXAS 75001
(972) 450-2871 FAX (972) 450-2837

ENGINEER & LANDSCAPE ARCHITECT:

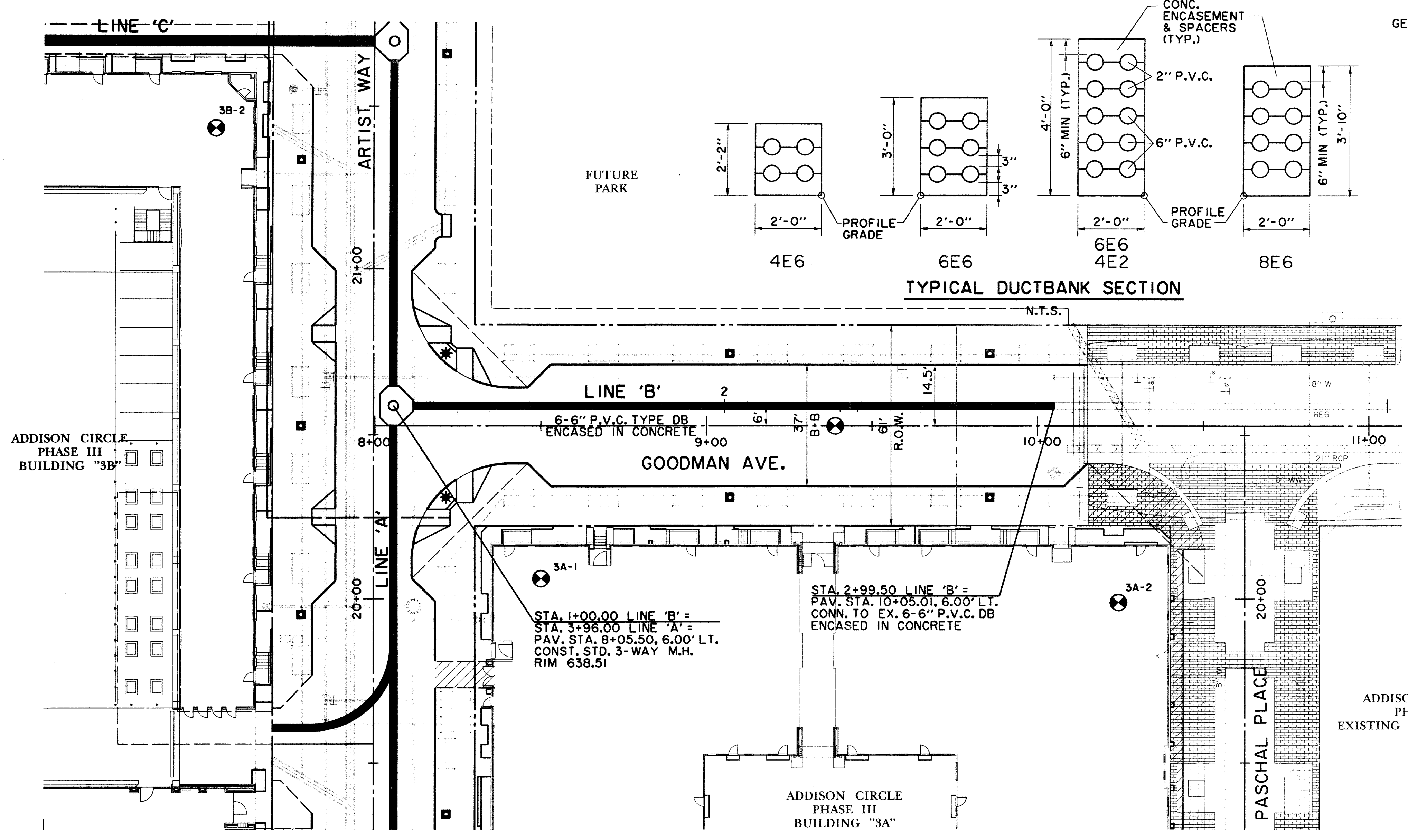
HUITT-ZOLLARS, INC.
3131 MCKINNEY AVE., SUITE 600
DALLAS, TEXAS 75204
(214) 871-3311 FAX (214) 871-0757
DAVID E. MEYERS, P.E.
TX. REG. NO. 81512
KAREN W. KOERTH, L.A.
TX. REG. NO. 1594

RECORD
DRAWING

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DAVID E. MEYERS, P.E. 81512

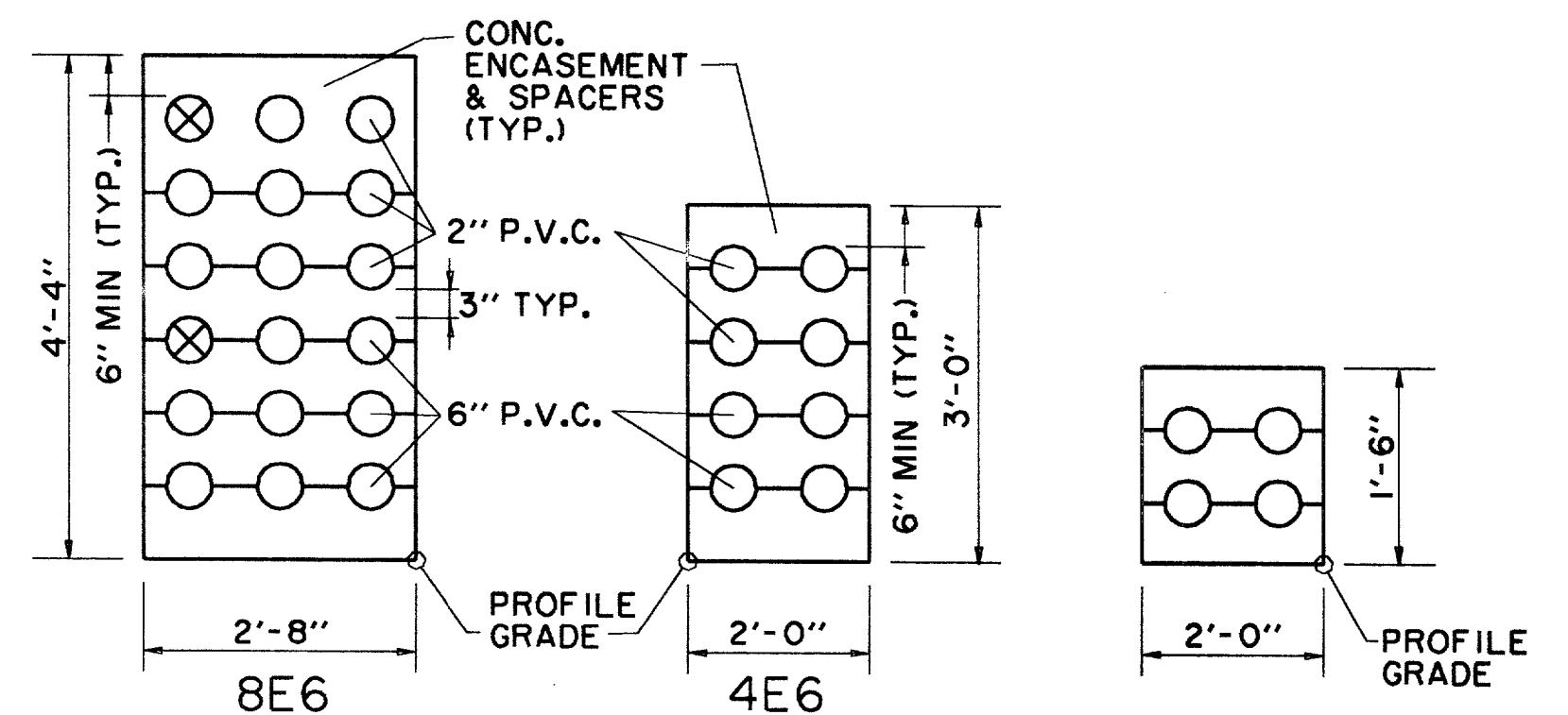
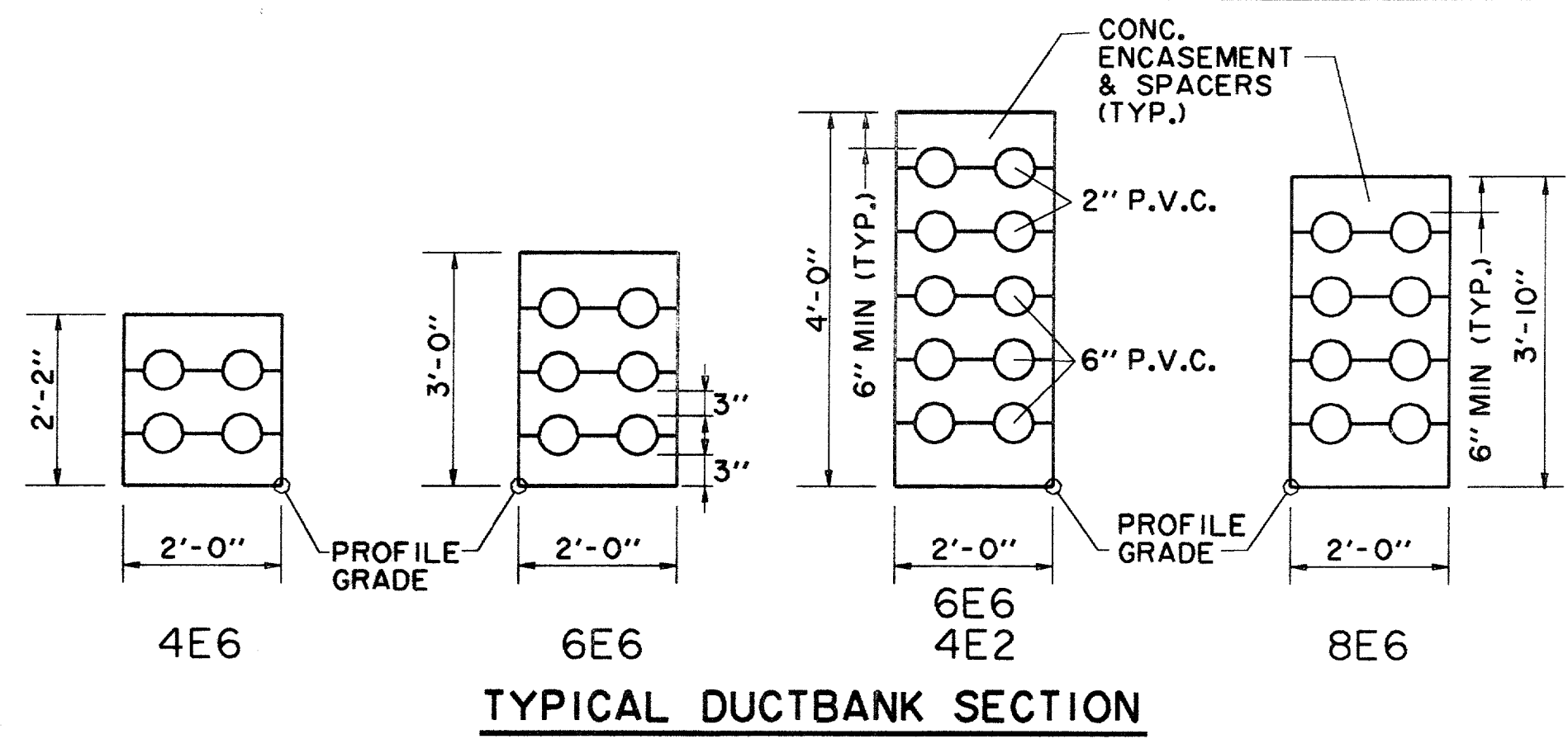
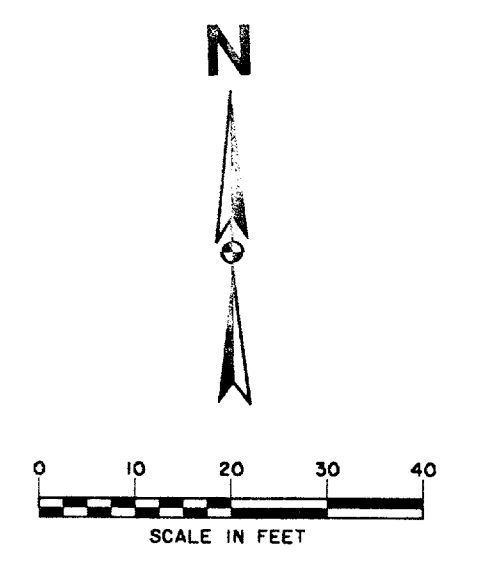


ISSUED FOR CONSTRUCTION 6/23/99



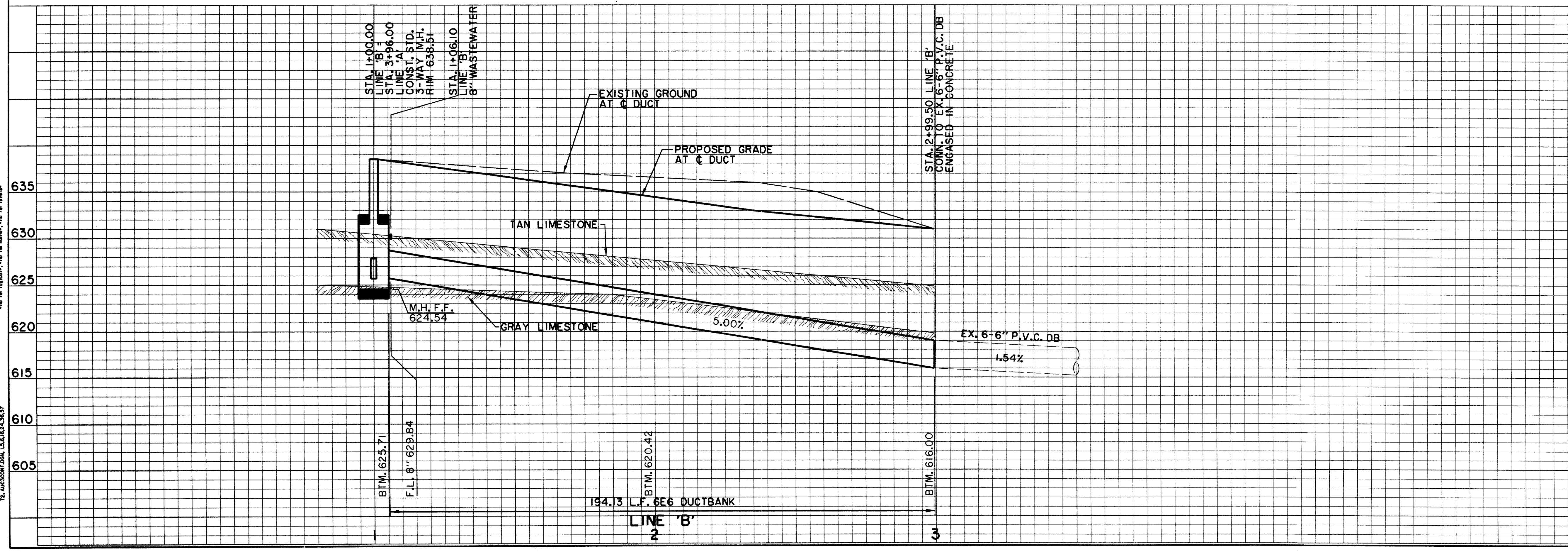
GENERAL NOTES:

1. CONDUIT TO BE 6" P.V.C., TYPE DB.
2. CONCRETE ENCASUREMENT: ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT TWENTY-EIGHT DAYS.
3. CONDUIT RUN BETWEEN MANHOLES TO BE INSTALLED WITH A MINIMUM SLOPE OF 4" PER 100 FEET TO DRAIN THROUGHOUT ITS ENTIRE LENGTH INTO A MANHOLE OR MANHOLES.
4. INSTALL 6" PVC, TYPE DB CONDUIT BENDS AND ADAPTERS ON ANGLES GREATER THAN 15°.
5. SPACERS (CARLON #288RLN [BASE] AND 289RLN [INTERMEDIATE]) ARE REQUIRED. THEY SHALL BE SPACED AT 5' INTERVALS AND ARE TO BE TIED TOGETHER BY NON-METALLIC TIE-WRAPPS. ALL SPACERS TO PROVIDE 3" VERTICAL AND HORIZONTAL SEPARATION BETWEEN CONDUITS.
6. WHEN COMPLETE, ALL CONDUIT WILL BE CHECKED BY PULLING A MANDREL/SWAB THROUGH ENTIRE LENGTH OF CONDUIT.
7. CONSTRUCTION PLANS SHOW APPROXIMATE RIM ELEVATION; HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL THE NECESSARY AMOUNT OF NECK TO BRING THE TOP OF THE COVER 2" ABOVE FINISHED GRADE OR FLUSH WITH STREET GRADE WHEN COVER IS IN STREET.
8. BACKFILL OPERATION SHALL BEGIN AFTER CONCRETE HAS HAD TIME TO CURE (CURING TIME IS AT THE DISCRETION OF TU'S INSPECTOR). BACKFILL SHALL HAVE NO ROCKS LARGER THAN 1" IN DIAMETER AND SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY BETWEEN 0% AND 3% OF OPTIMUM MOISTURE CONTENT.



TYPICAL DUCTBANK SECTION
N.T.S.

**RECORD
DRAWING**

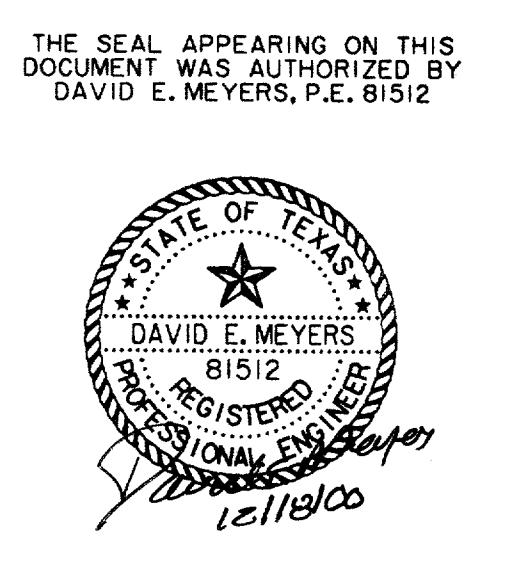


BENCHMARKS:

BM#5
"C" CUT ON 8' INLET ON NORTH CURB LINE OF GOODMAN AVE. ±75' EAST OF PASCHAL PLACE. ELEV. 629.98

BM#6
"C" CUT AT C & OF 8' INLET AT THE SOUTHWEST CORNER OF MORRIS AVE. AND WITT PLACE. ELEV. 627.29

BM#7
"C" CUT AT WEST CORNER OF ADDISON THEATRE CENTRE PARKING LOT, SECOND ENTRANCE NORTH OF ADDISON RD. ELEV. 637.66

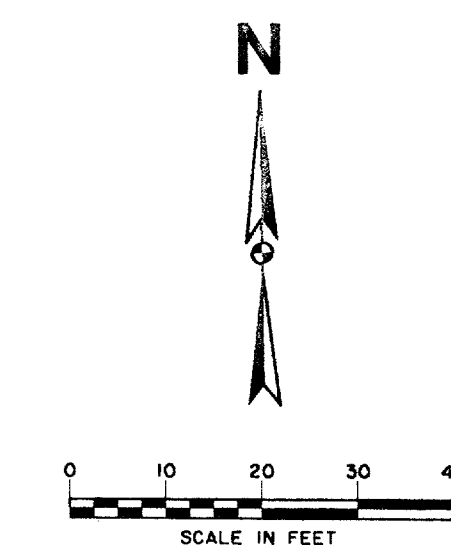


DATE	DESCRIPTION	REF NO.
6/23/99	ISSUED FOR CONSTRUCTION	N/A
5/17/99	ISSUED FOR BID	N/A

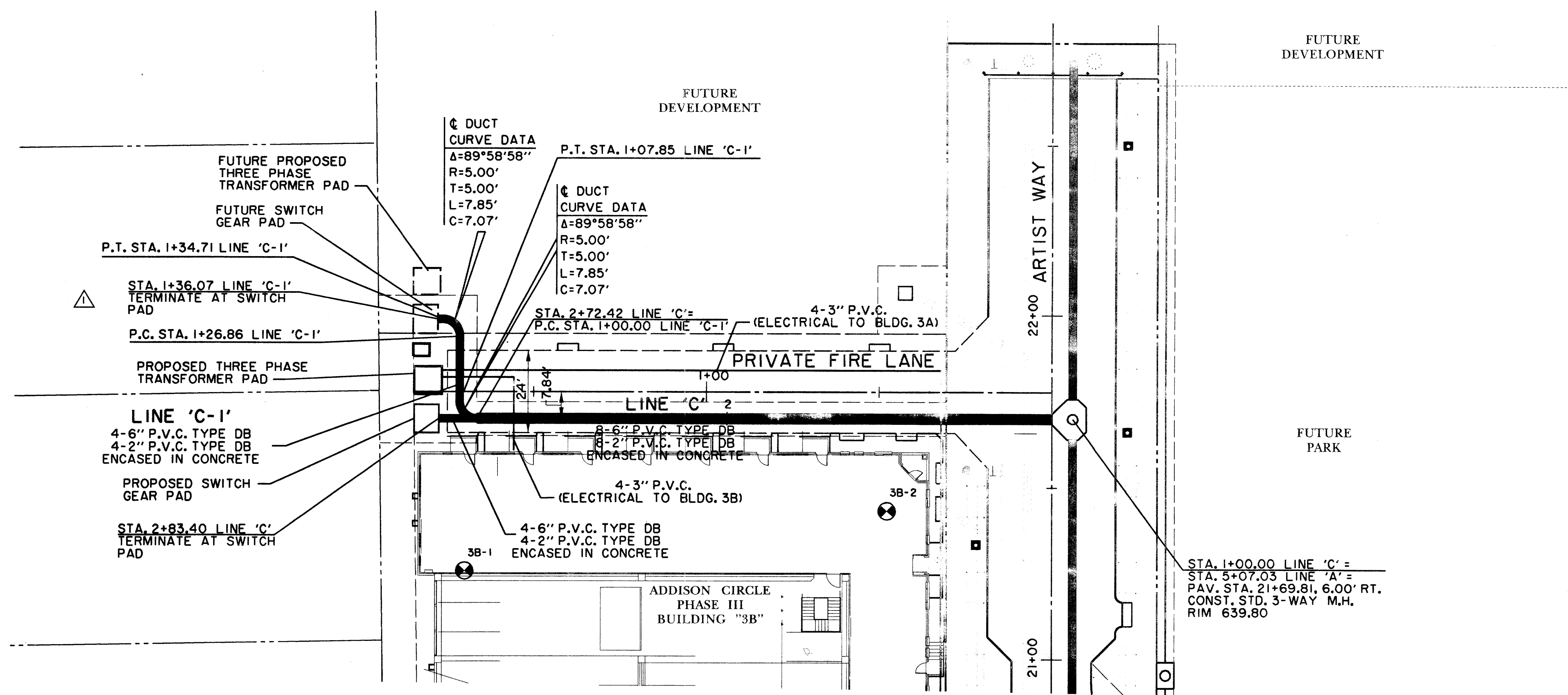
ELECTRICAL DUCTBANK PLAN & PROFILE
LINE 'B' - STA. 1+00.00 TO STA. 2+99.50
ADDISON CIRCLE
PHASE II-B PUBLIC INFRASTRUCTURE
TOWN OF ADDISON, TEXAS

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DEM	Ht 1"=20' Vt 1"=6'	MAR. 99	01-1822-50	E3

PROJECT NO. 01-1822-50
 DATE: 03/11/99
 DRAWN BY: HZI
 CHECKED BY: DEM
 PROJECT TITLE: ADDISON CIRCLE PHASE II-B PUBLIC INFRASTRUCTURE
 TOWN OF ADDISON, TEXAS
 PROJECT LOCATION: 3131 MCKINNEY AVE., SUITE 600, DALLAS, TX 75204
 PHONE: (214) 871-3311 / FAX: (214) 871-0757
 PROJECT NO.: 01-1822-50
 SHEET NO.: E3

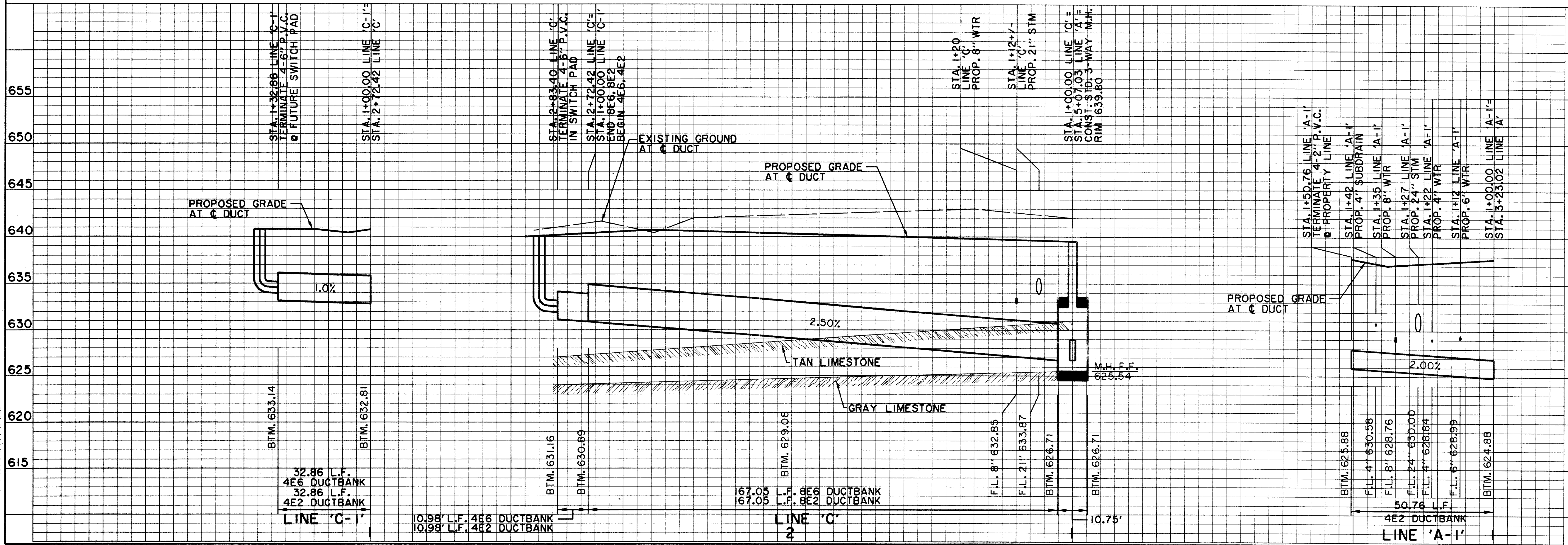


SEE SHEET NO. E3
GENERAL NOTES.

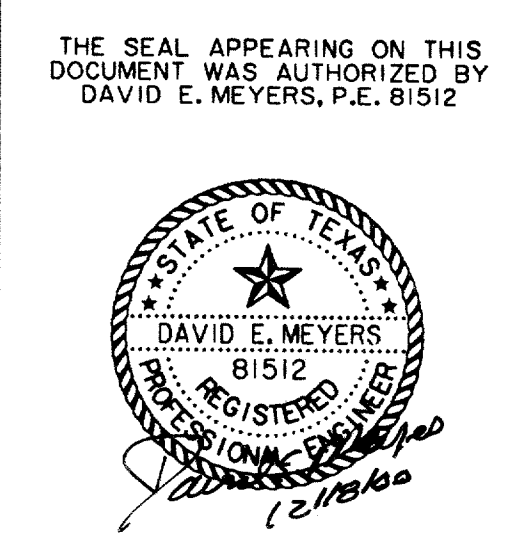


STA. 1+00.00 LINE 'C' =
STA. 5+07.03 LINE 'A' =
PAV. STA. 21+69.81, 6.00' RT.
CONST. STD. 3-WAY M.H.
RIM 639.80

RECORD DRAWING

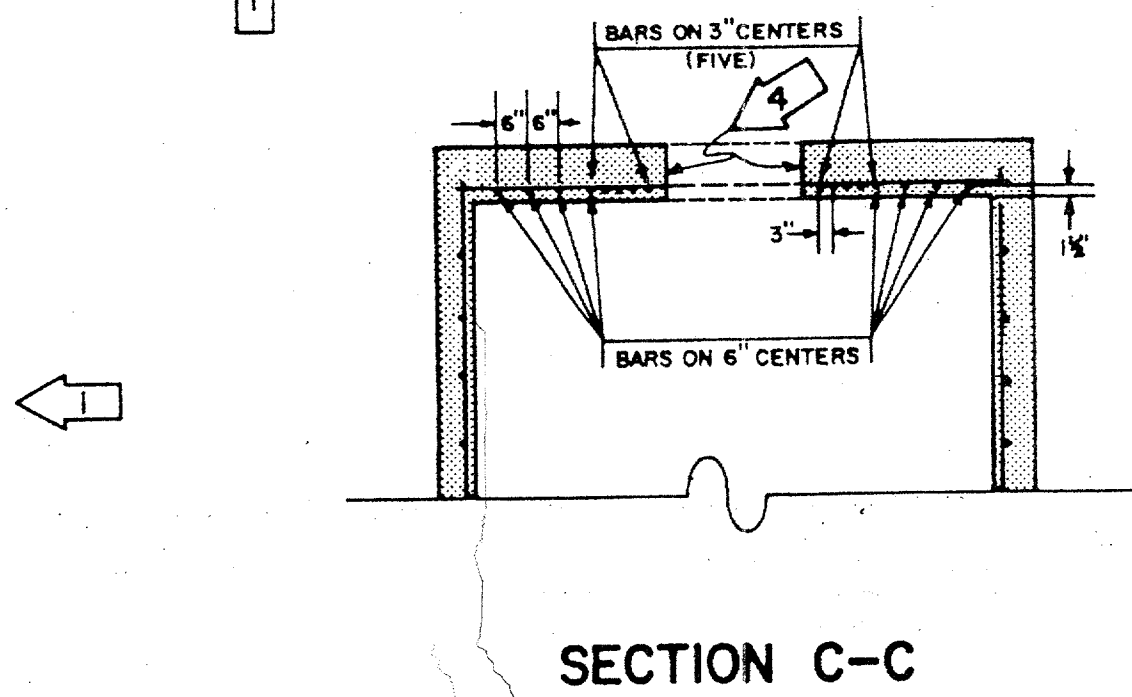
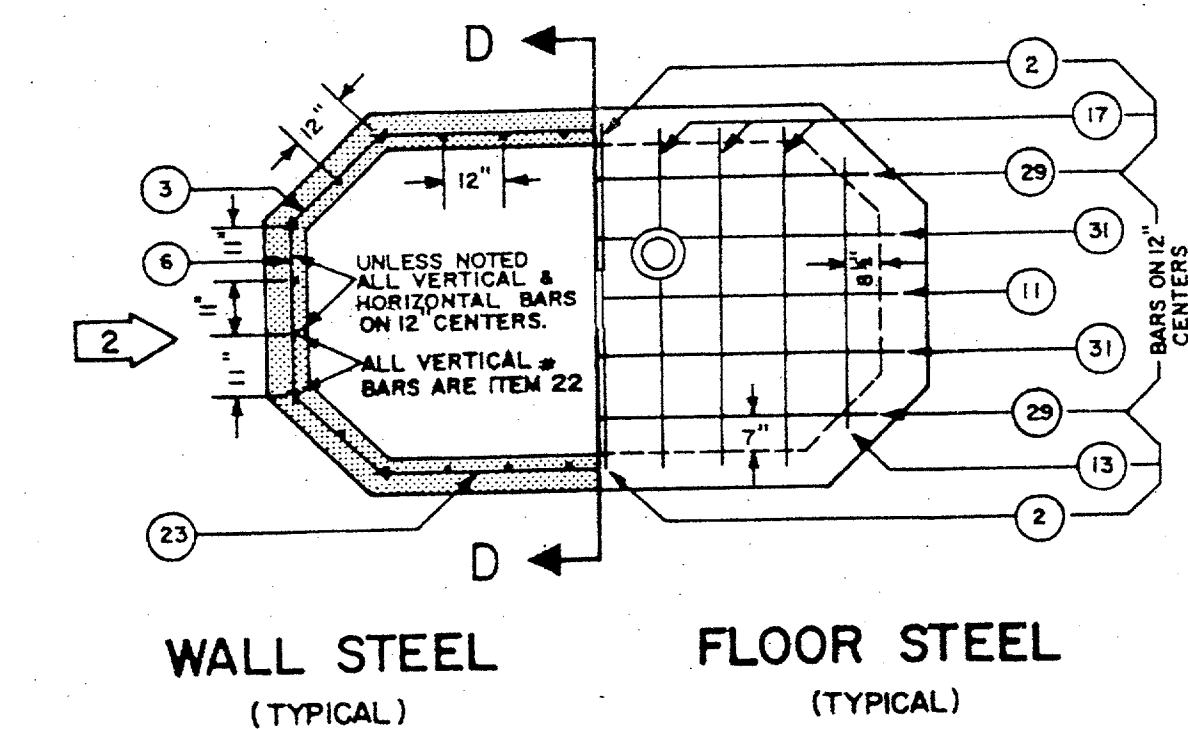
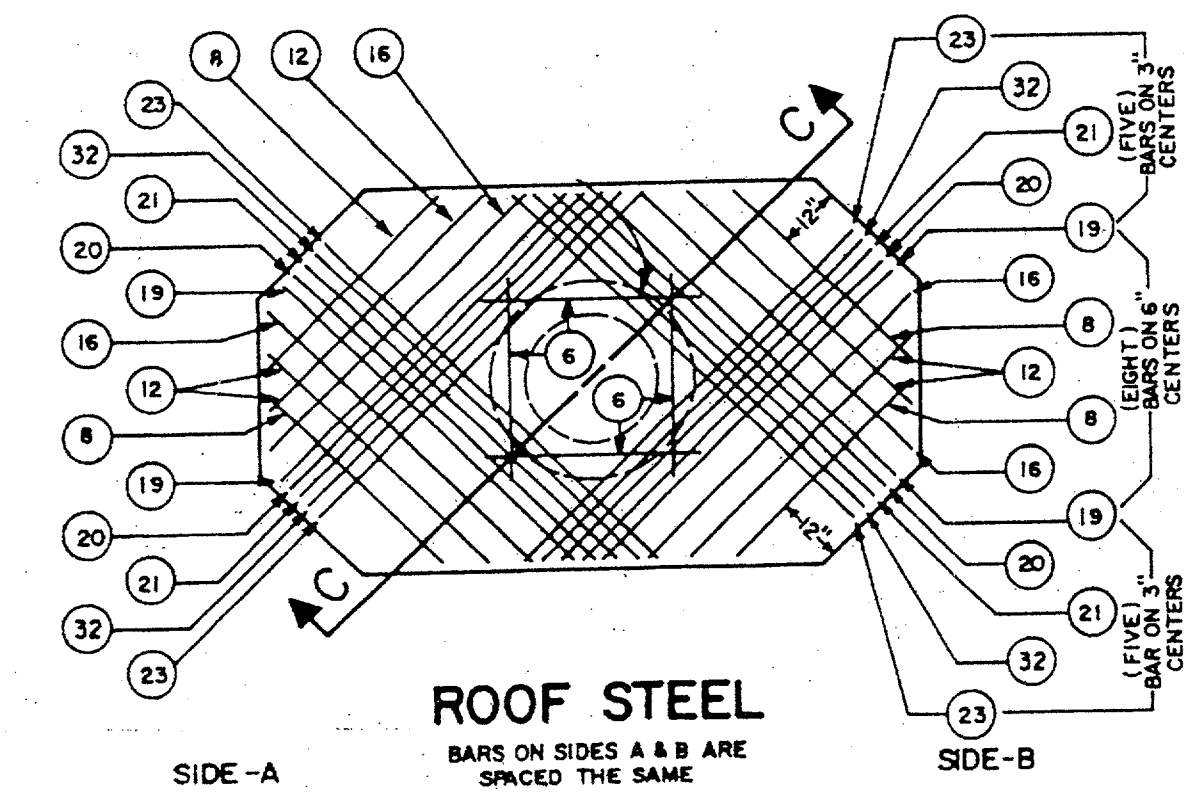
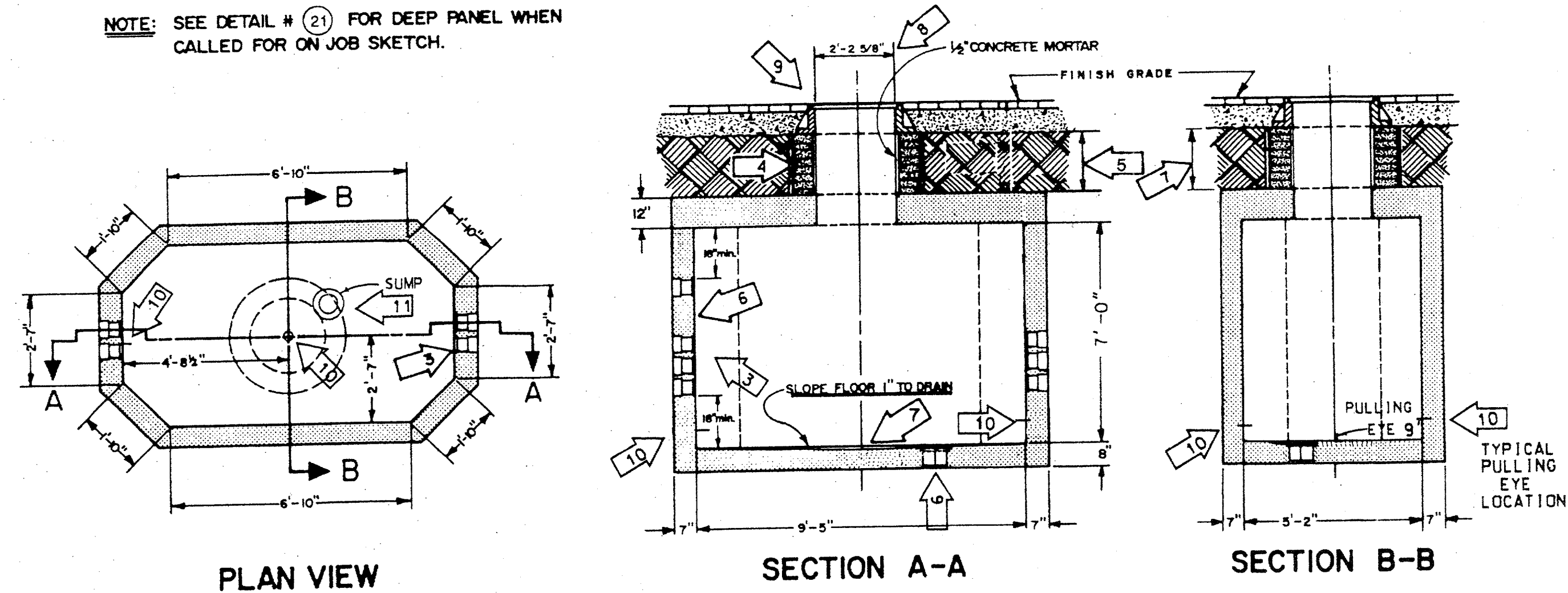


BENCHMARKS:						
655	BM#5	"I" CUT ON 8" INLET ON NORTH CURB LINE OF GOODMAN AVE. 175' EAST OF PASCHAL PLACE. ELEV. 629.98				
650	BM#6	"I" CUT AT @ OF 8" INLET AT THE SOUTHWEST CORNER OF MORRIS AVE. AND WITT PLACE. ELEV. 627.29				
645	BM#7	"I" CUT AT WEST CORNER OF ADDISON THEATRE CENTRE PARKING LOT, SECOND ENTRANCE NORTH OF ADDISON RD. ELEV. 637.66				
DATE	DESCRIPTION	REF. NO.				
6/23/99	ISSUED FOR CONSTRUCTION	N/A				
6/2/99	ADDENDUM #1	▲				
5/17/99	ISSUED FOR BID	N/A				
ELECTRICAL DUCTBANK PLAN & PROFILE LINE 'C' - STA. 1+00.00 TO STA. 2+83.40 ADDISON CIRCLE PHASE II-B PUBLIC INFRASTRUCTURE TOWN OF ADDISON, TEXAS						
<small>HUIIT - Zofors, Inc. 3131 McKinney Ave., Suite 600, Dallas, TX 75204 Phone: (214) 871-3311 Fax: (214) 871-0757</small>						
DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DEM	H: 1"=20' V: 1"=6'	MAR. 99	01-1822-50	E4



P:\PROJECTS\182250\DWG\AUC3E15.DWG
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 PLOT SCALE: 1"=20'
 PLOT SHEET: 1 OF 1
 PLOT BY: JLM
 PLOT FROM: 0

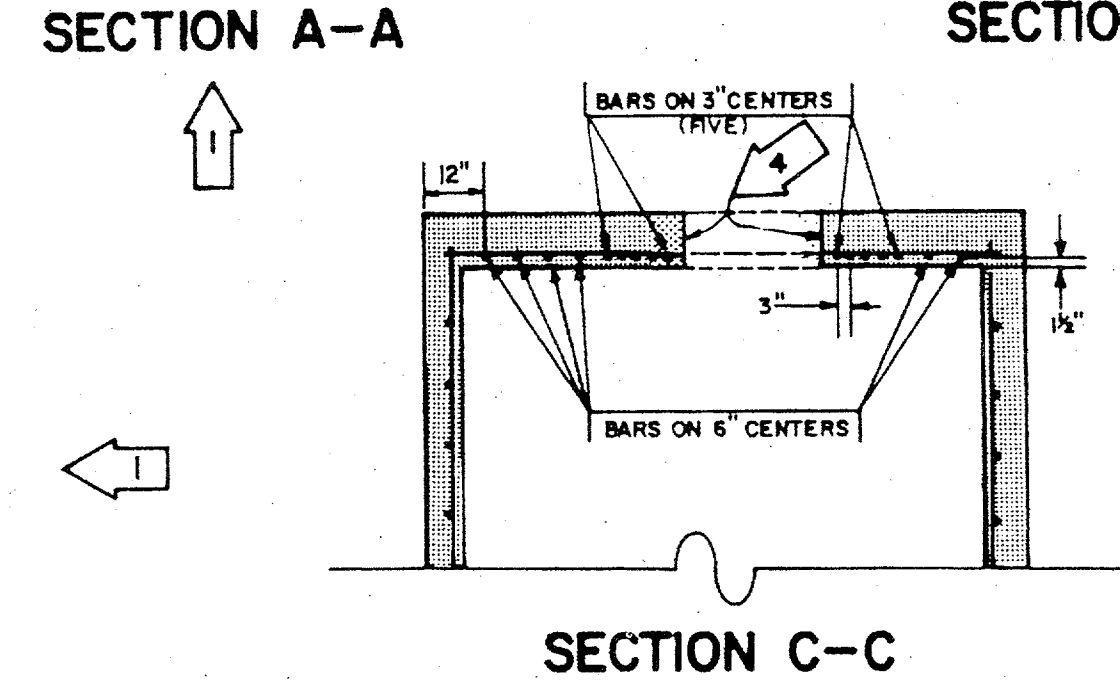
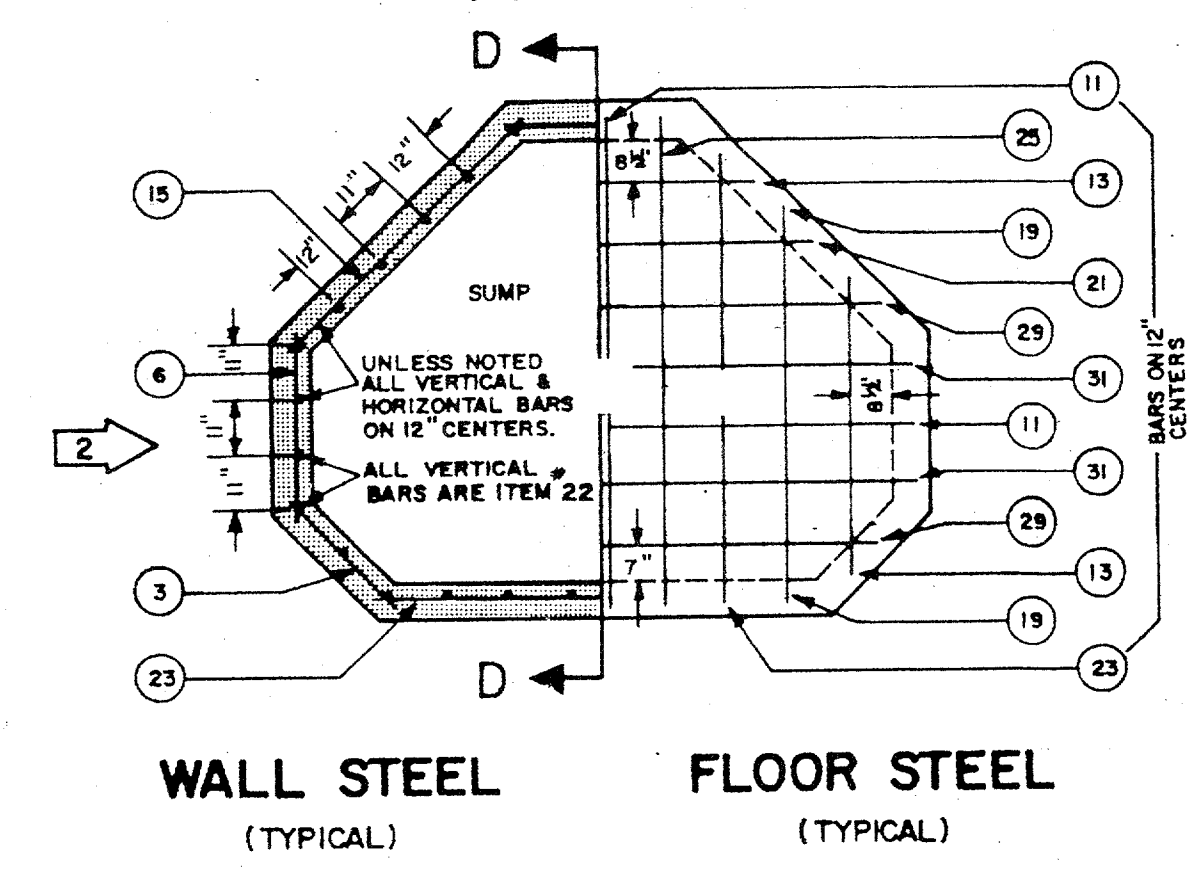
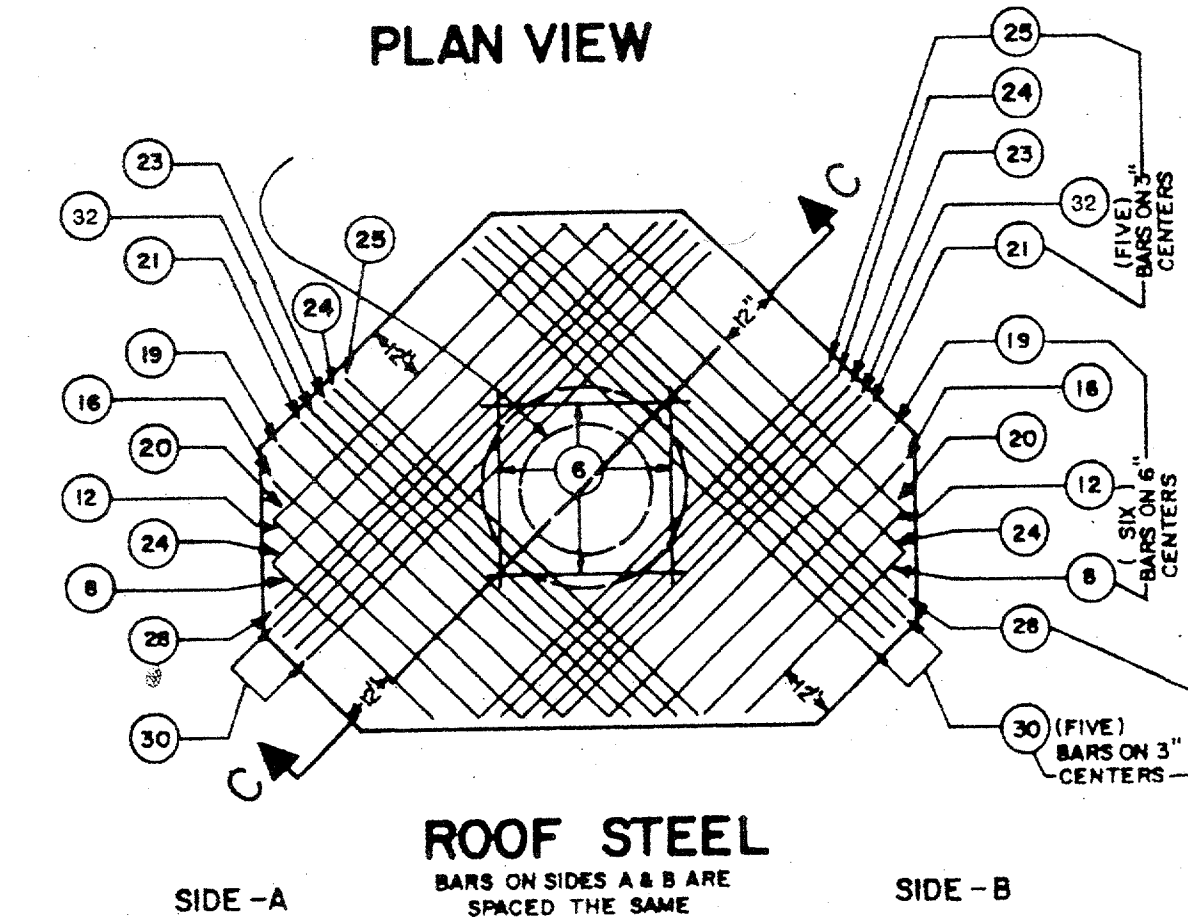
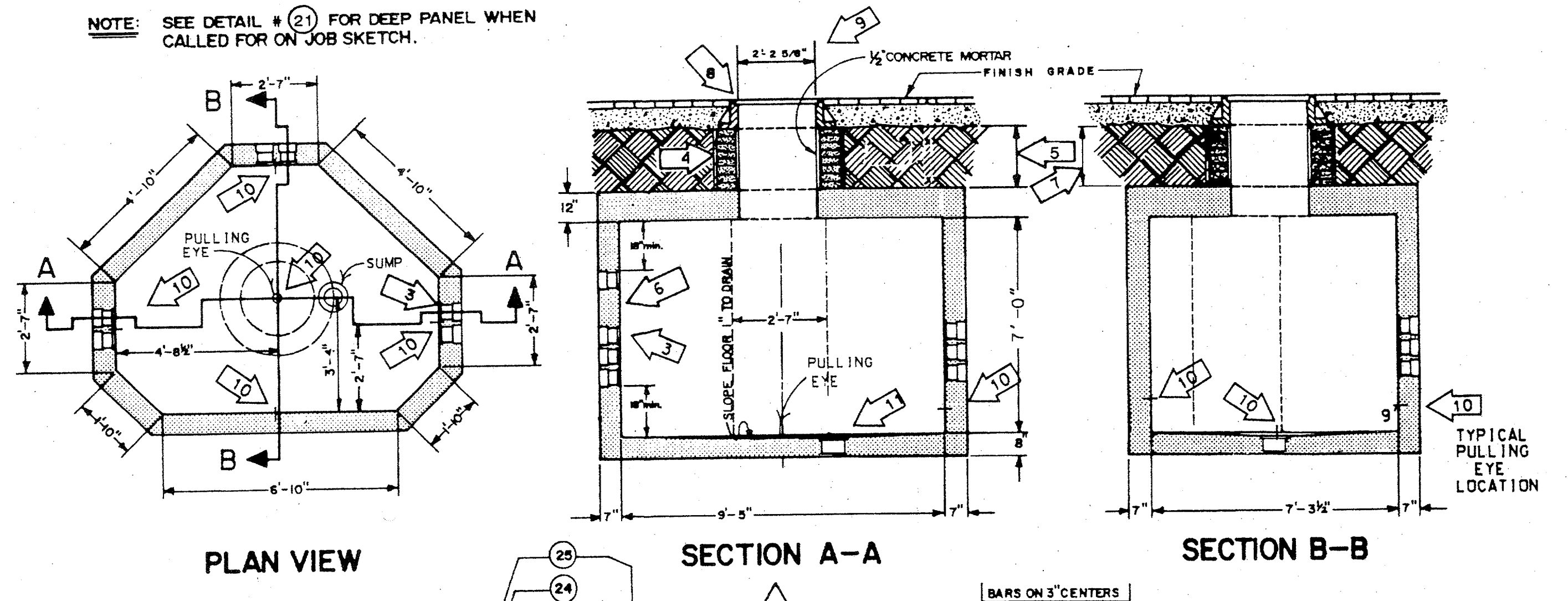
— TYPE "B" MANHOLE —
DETAIL #1



REINFORCING BARS					
ITEM	LENGTHS	QUANTITY			TOTAL
	FT. IN.	FLOOR	WALLS	ROOF	
2	2 3	2			2
3	2 6		24		24
6	3 3		12	4	16
8	3 9			4	4
11	4 6	2			2
12	4 9			4	4
13	5 0	2			2
16	5 9			4	4
17	6 0	6			6
19	6 6		4	4	4
20	6 9		4	4	4
21	7 0		12	4	16
22	7 10		28		28
23	7 6		12	4	16
29	9 0	2			2
31	10 3	2			2

STEEL TO CONFORM TO THE LATEST STANDARD SPECIFICATION FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT.
SEE DETAIL # (10) FOR CONCRETE SPECIFICATION

— TYPE "C" MANHOLE —
DETAIL #2



REINFORCING BARS						
ITEM	LENGTHS		QUANTITY			
	FT.	IN.	FLOOR	WALLS	ROOF	TOTAL
2	2	3	1			1
3	2	6		12		12
6	3	3		18	4	22
8	3	9			2	2
11	4	6	3			3
12	4	9			2	2
13	5	0	3			3
15	5	6		12		12
16	5	9			2	2
19	6	6	2		2	4
20	6	9			2	2
21	7	0	1		2	3
22	7	10		30		30
23	7	6	2	6	2	10
24	7	9		4	4	4
25	8	0	2		2	4
28	8	9		2	2	2
29	9	0	2			2
30	9	3		8	8	8
31	10	3	2			2

STEEL TO CONFORM TO THE LATEST STANDARD SPECIFICATION FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT.
SEE DETAIL # (10) FOR CONCRETE SPECIFICATION

— GENERAL NOTES —

- ALL GENERAL NOTES APPLY TO BOTH TYPE "B" & "C" MANHOLES
- 1 STANDARD HEADROOM - 7'-0" ALL REINFORCING BARS TO BE #5 DEFORMED BARS. ALL BARS TO HAVE MINIMUM COVER OF 1/2". ALL DIMENSIONS ARE TO C. OF BARS. SEE PLANS FOR EXTRA HEADROOM.
 - 2 FIELD CUT STEEL AS REQUIRED FOR TERMINATORS.
 - 3 NUMBER OF TERMINATORS SHOWN ON PLANS INSTALLED IN EACH END PANEL. SEE DETAIL # (8)
 - 4 BLOCK UP CASTING WITH BRICKS TO PAVE- MENT GRADE. BRICKWORK TO RECEIVE 1/2" MORTAR COATING INSIDE & OUTSIDE.
 - 5 1 1/2" MINIMUM CUSHION.
 - 6 FOR GROUNDING DETAILS SEE DETAIL # (17)
 - 7 A PRECAST REINFORCED CONCRETE NECK MAY BE USED WHEN 28" OR MORE. SEE DETAIL # (13)
 - 8 4'-4" x 4'-4" x 6" CONCRETE SLAB AROUND M.H. CASTING WHEN INSTALLED IN UNPAVED AREA. SEE DETAIL # (10)
 - 9 26 1/2" MH CASTING. SEE DETAIL # (15)
 - 10 PULLING EYE. SEE DETAIL # (12)
 - 11 SUMP. SEE DETAIL # (14)

RECORD
DRAWING

E5

TU ELECTRIC

CD

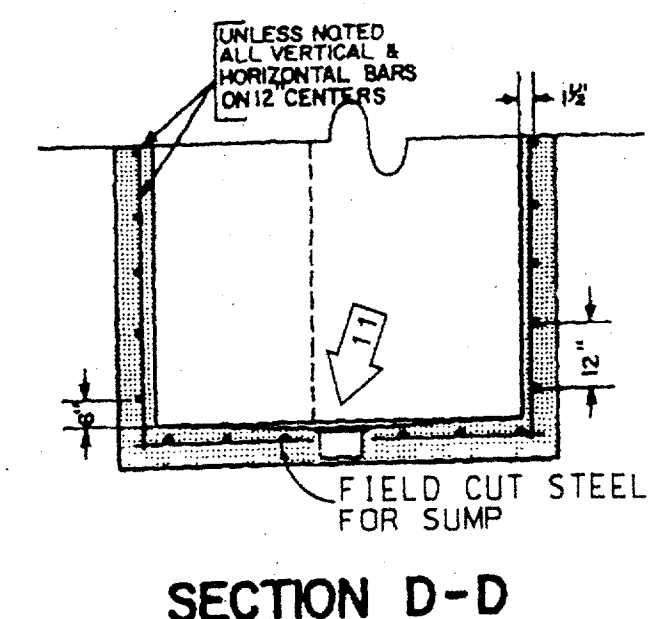
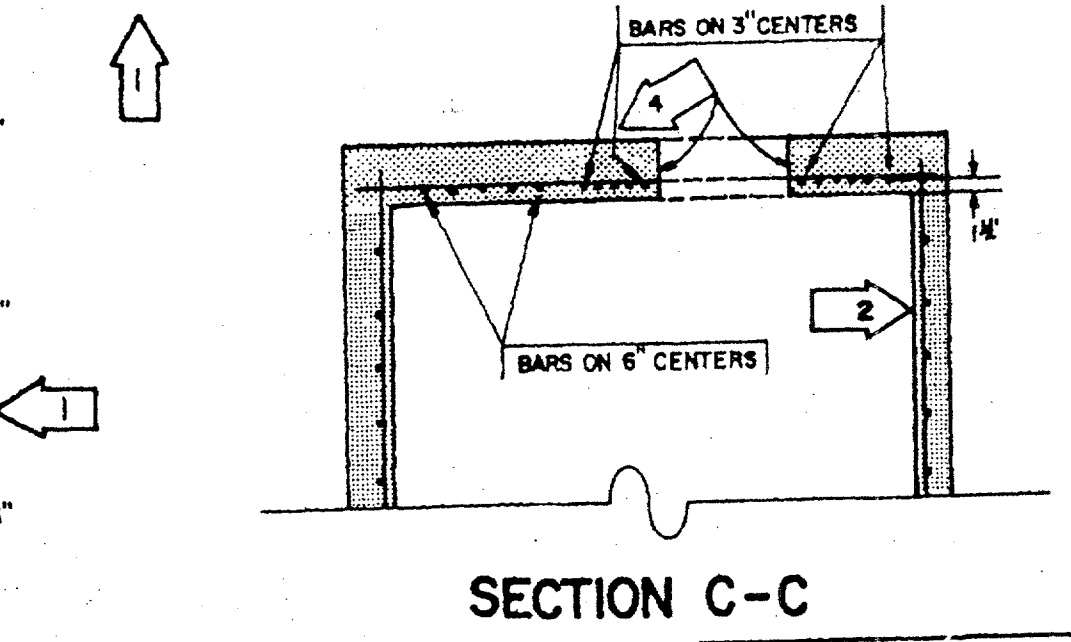
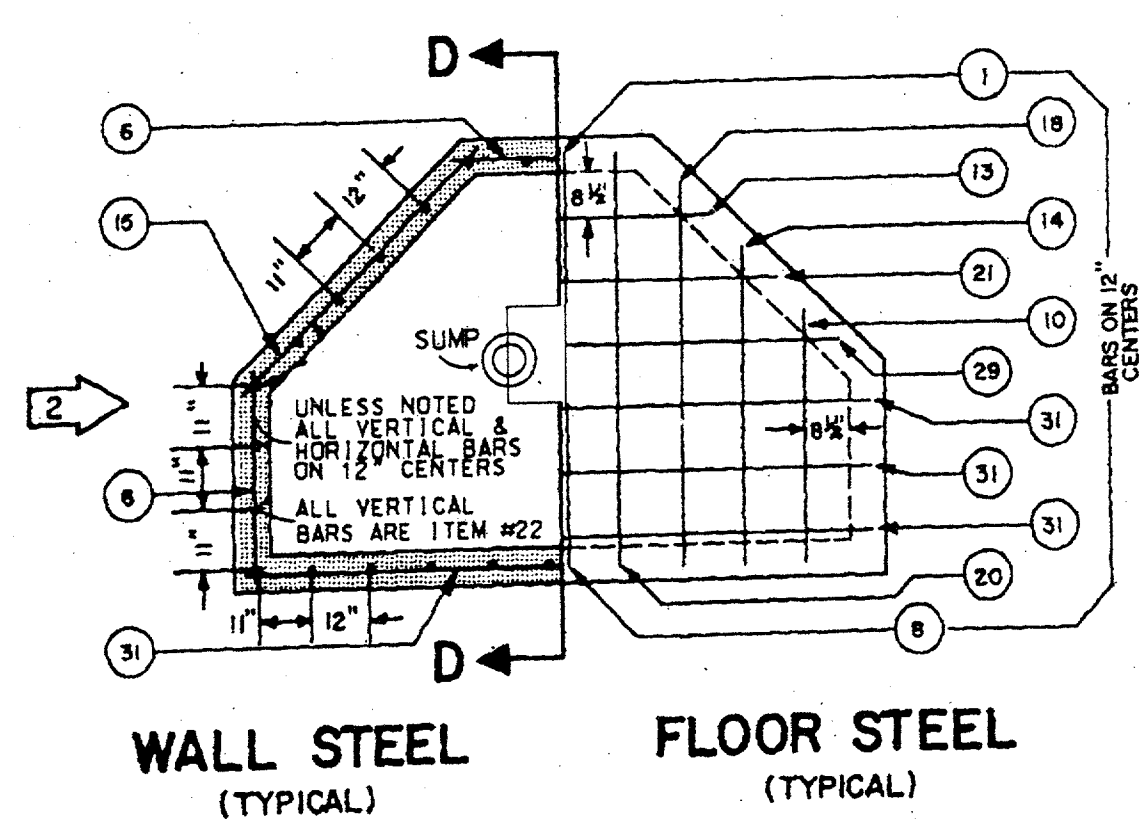
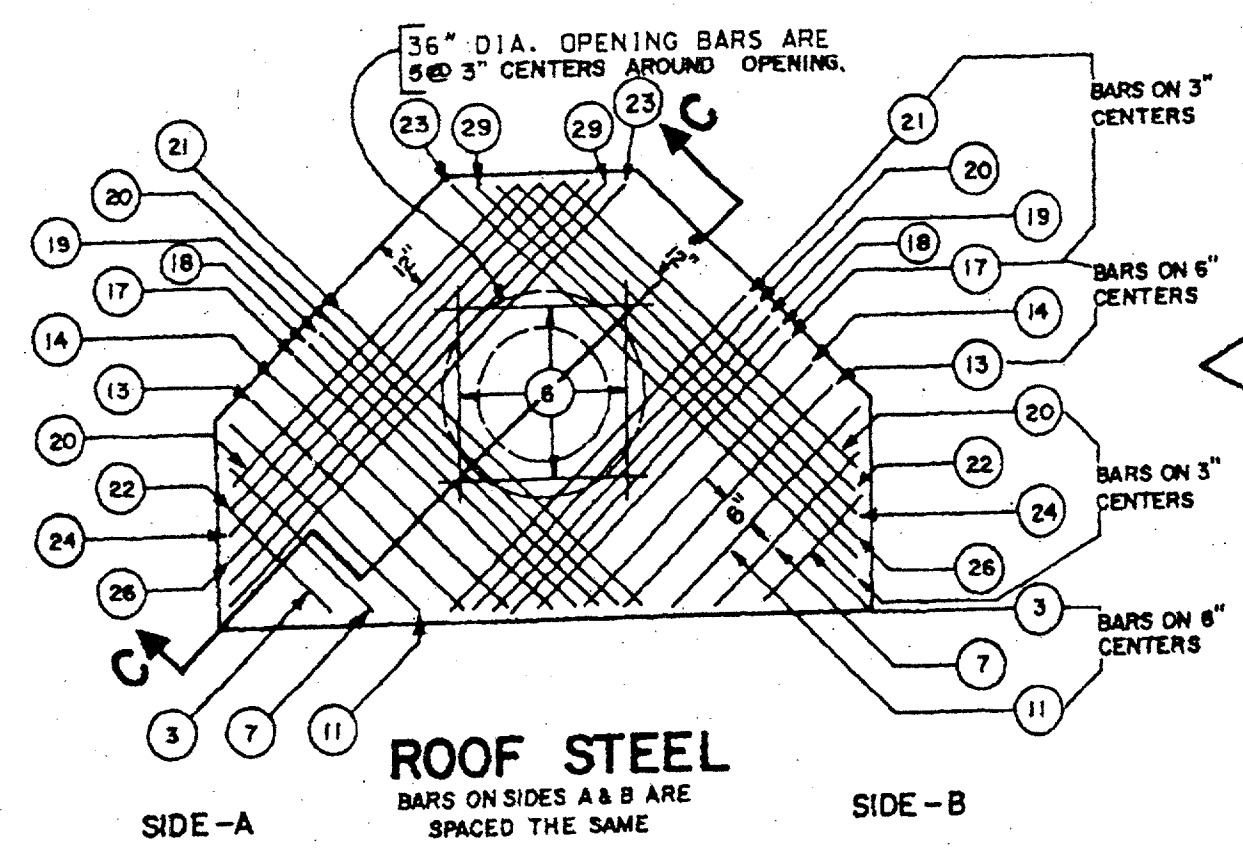
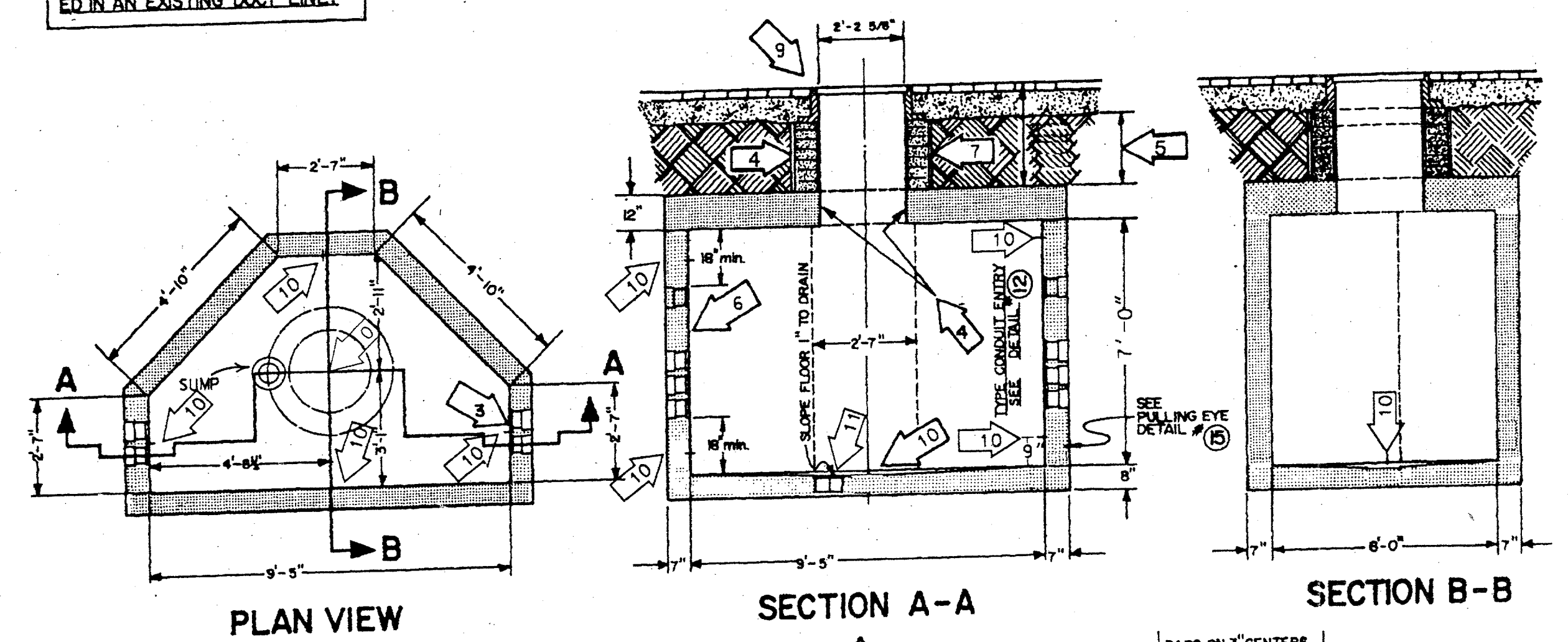
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NETWORK UNDERGROUND APPURTENANCE SHEETS MANHOLE DETAILS									
DATE	12-12-91	OWN. MED	CH. JRC	APP. JES	APP. PRN	NO.	DATE		

E NUA-1
SHEET NO. 1

NOTE: THIS MANHOLE IS DESIGNED FOR INSTALLATIONS WHERE A MANHOLE IS REQUIRED IN AN EXISTING DUCT LINE.

— SPECIAL "C" MANHOLE —

DETAIL #3

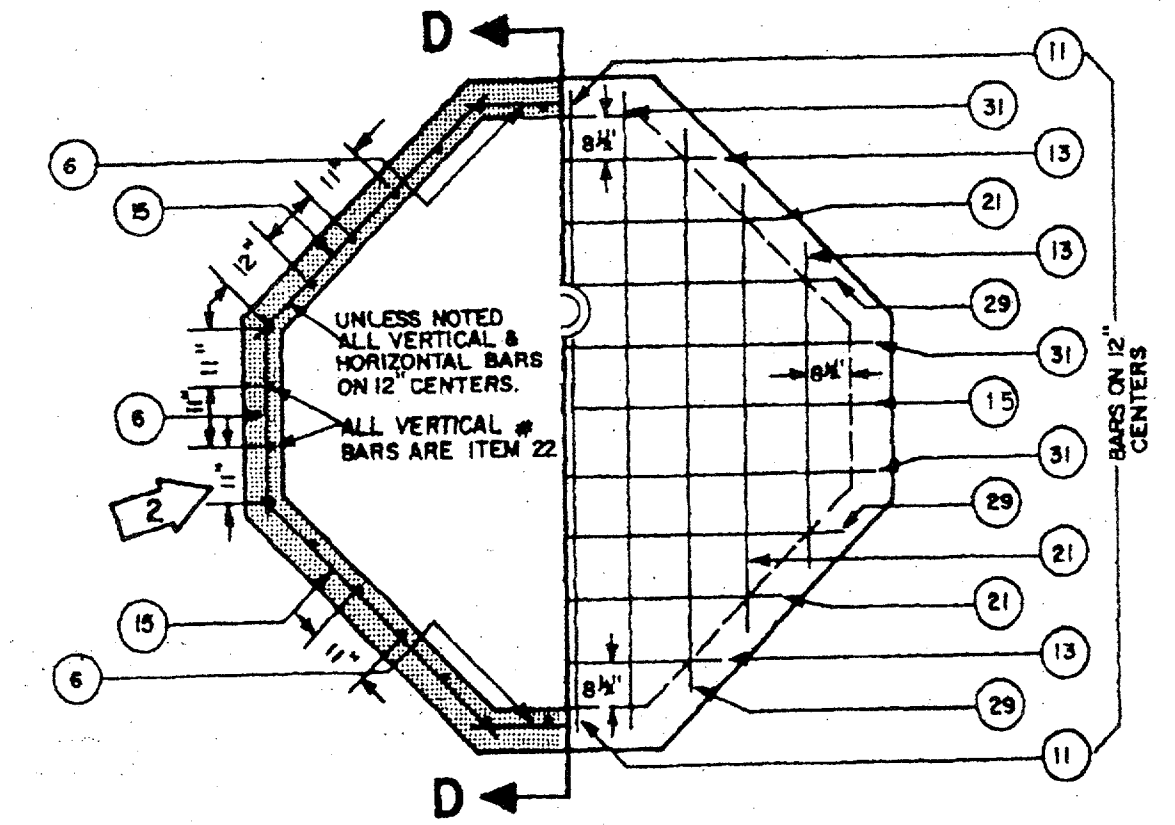
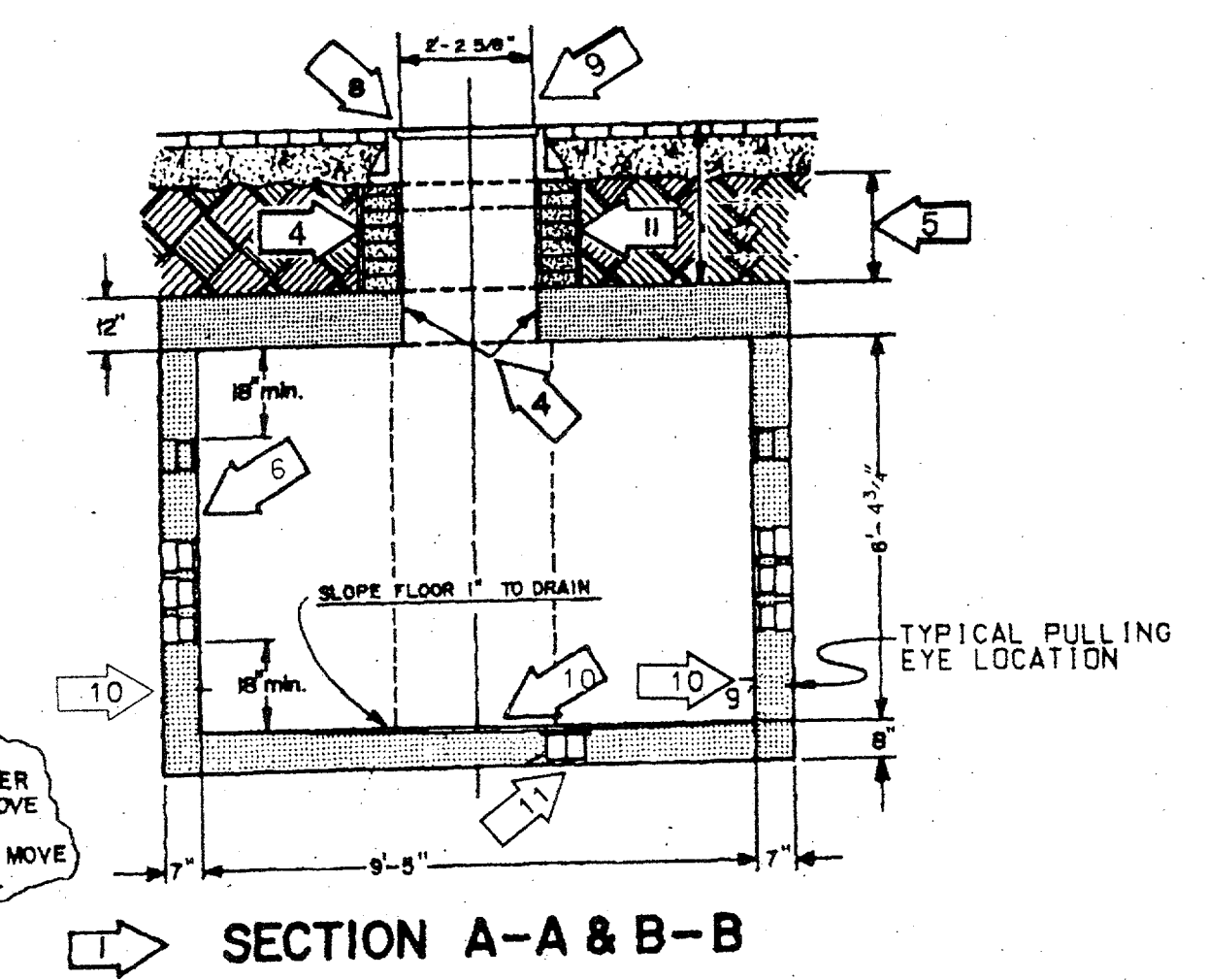
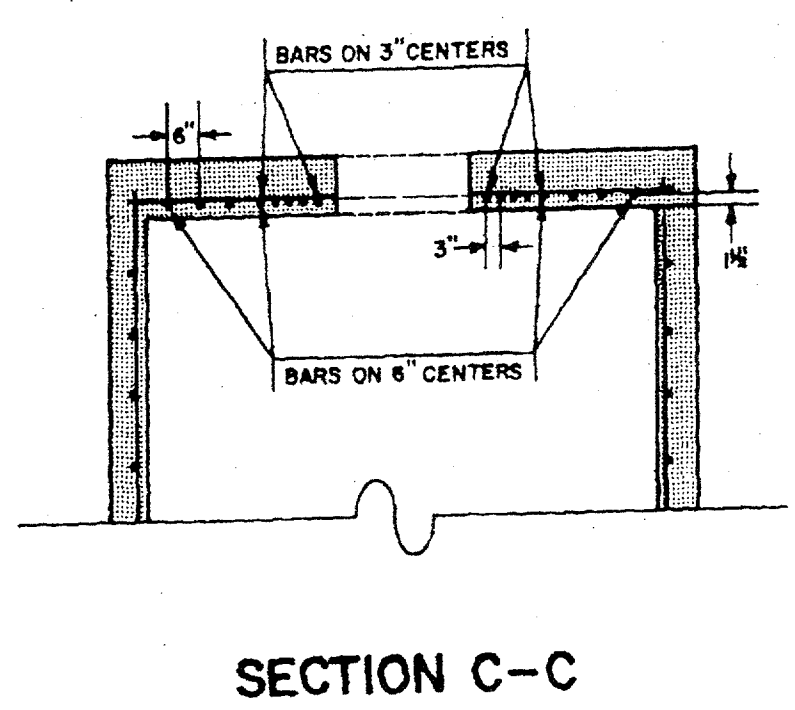
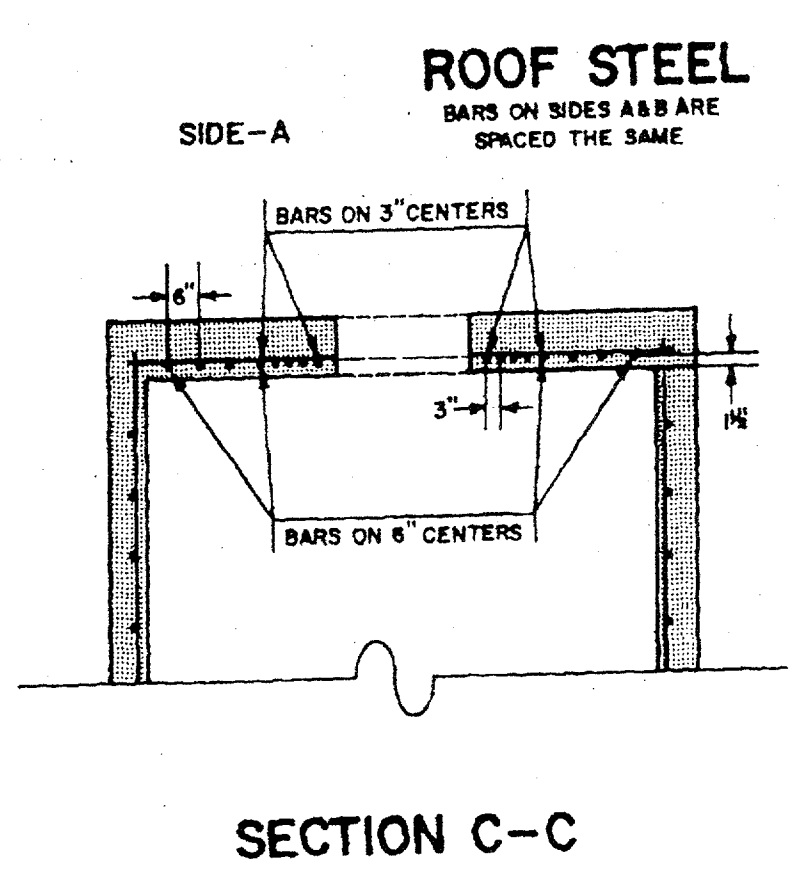
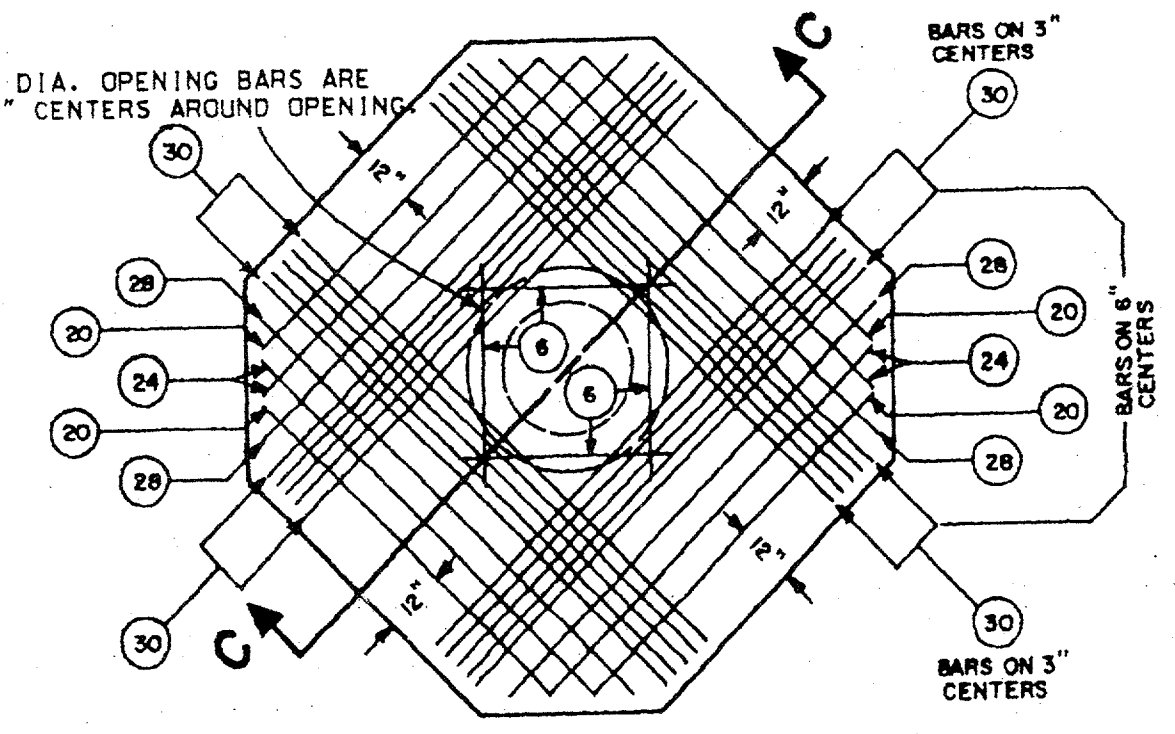
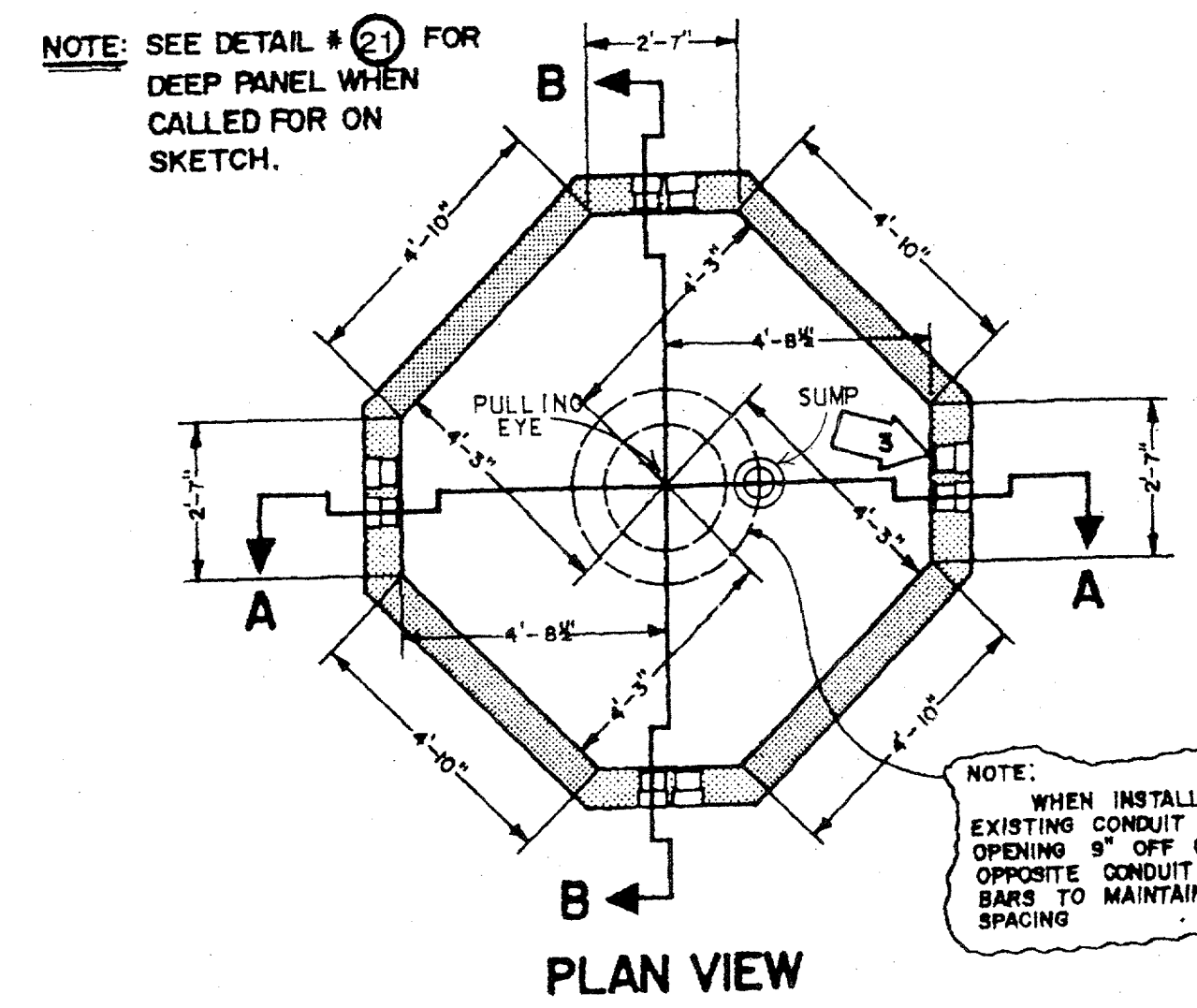


ITEM	LENGTHS		QUANTITY			
	FT.	IN.	FLOOR	WALLS	ROOF	TOTAL
1	2	0	1			1
3	2	6			2	2
6	3	3		18	4	22
7	3	6			2	2
9	3	9	1			1
10	4	3	2			2
11	4	6			2	2
13	5	0	1		2	3
14	5	3	2		2	4
15	5	6		12		12
17	6	0			2	2
18	6	3	2		2	4
19	6	6			2	2
20	6	9	2		4	6
21	7	0	1		2	3
22	7	10		29	4	33
23	9	3			2	2
24	7	9			2	2
26	8	3			2	2
29	9	0	1		2	3
31	10	3	3	6		9

ALL REINFORCING STEEL, DEFORMED, INTERMEDIATE GRADE, OPEN HEARTH, ASTM A 615 DESIGNATION.
SEE DETAIL # 19 FOR CONCRETE SPECIFICATIONS

— TYPE "D" MANHOLE —

DETAIL #4



ITEM	LENGTHS		QUANTITY			
	FT.	IN.	FLOOR	WALLS	ROOF	TOTAL
6	3	3		24	4	28
11	4	6	4			4
13	5	0	4			4
15	5	6		24		24
20	6	9			4	4
21	7	0	4			4
22	7	10		32		32
24	7	9			4	4
26	8	9			4	4
29	9	0	4			4
30	9	3			20	20
31	10	3	5			5

STEEL TO CONFORM TO THE LATEST STANDARD SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT.
SEE DETAIL # 19 FOR CONCRETE SPECIFICATIONS

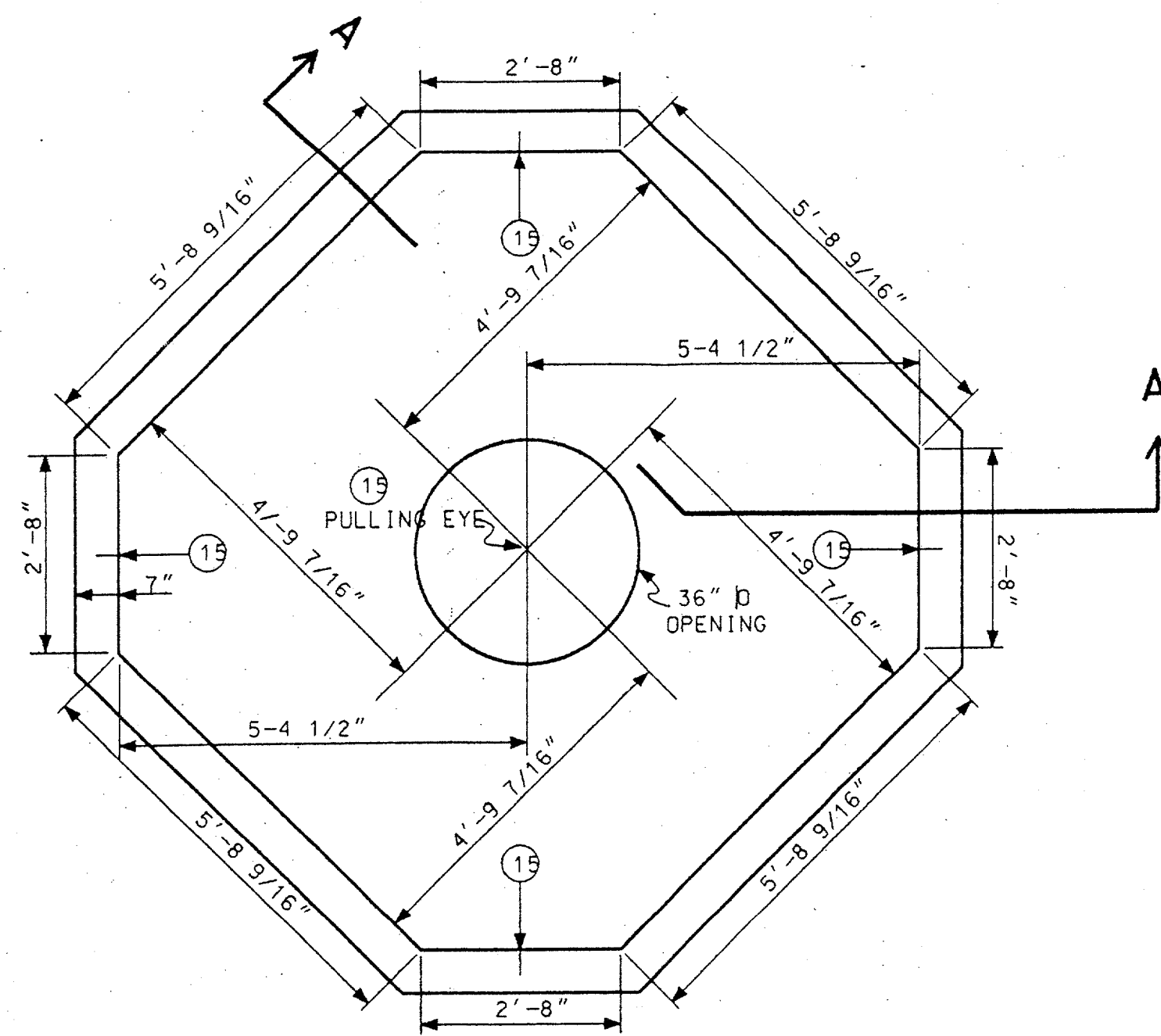
— GENERAL NOTES —
ALL GENERAL NOTES APPLY TO BOTH SPECIAL "C" & TYPE "D" MANHOLES

- 1 STANDARD HEADROOM 7'-0" ALL REINFORCING BARS TO BE #5 DEFORMED BARS. ALL BARS TO HAVE MINIMUM COVER OF 1/2". ALL DIMENSIONS ARE TO C. OF BARS. SEE PLANS FOR EXTRA HEADROOM.
- 2 FIELD CUT STEEL AS REQUIRED FOR TERMINATORS.
- 3 NUMBER OF TERMINATORS SHOWN ON PLANS INSTALLED IN EACH END PANEL. SEE DETAIL # 9
- 4 BLOCK UP CASTING WITH BRICKS TO PAVEMENT GRADE. BRICKWORK TO RECEIVE 1/2" MORTAR COATING INSIDE & OUTSIDE.
- 5 15 1/2" MINIMUM CUSHION.
- 6 FOR GROUNDING DETAILS SEE DETAIL # 17
- 7 A PRECAST REINFORCED CONCRETE NECK MAY BE USED WHEN 28" OR MORE. SEE DETAIL # 13
- 8 4'-4" x 4'-4" x 6" CONCRETE SLAB AROUND M.H. CASTING WHEN INSTALLED IN UNPAVED AREA. SEE DETAIL # 10
- 9 26 1/2" MH CASTING. SEE DETAIL # 15
- 10 PULLING EYE. SEE DETAIL # 12
- 11 SUMP. SEE DETAIL # 14

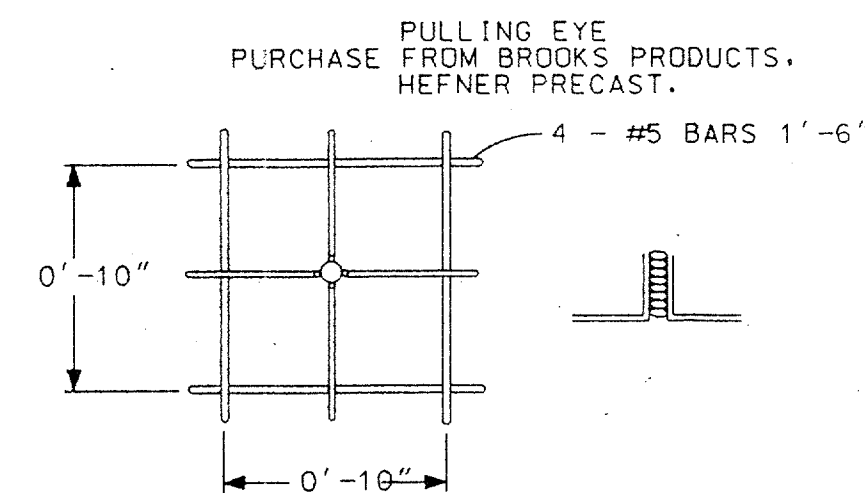
RECORD
DRAWING

SCALE (H=NO SCALE) (V=NO SCALE)	LIST OF DRAWINGS	W.A.	ESTIMATE	DWG. TYPE	UNIT ID	NO.	DATE	REVISION DESCRIPTION	CH.	APP.
	NETWORK UNDERGROUND APPEARANCE SHEETS MANHOLE DETAILS									

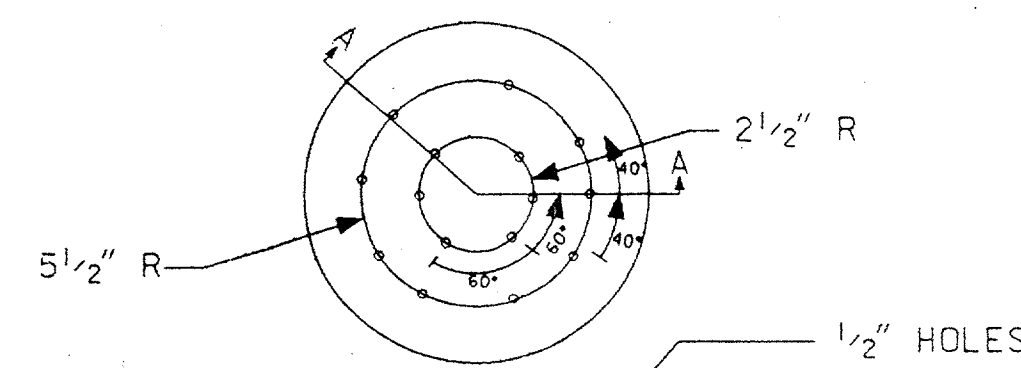
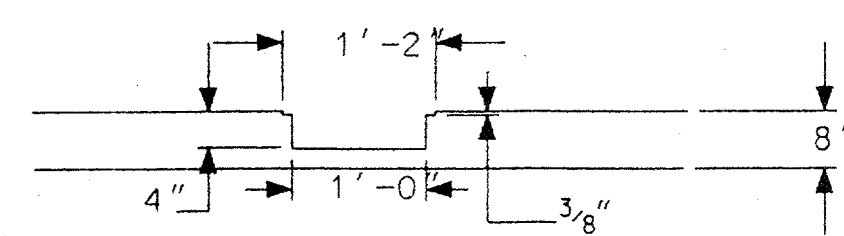
DETAIL # 5



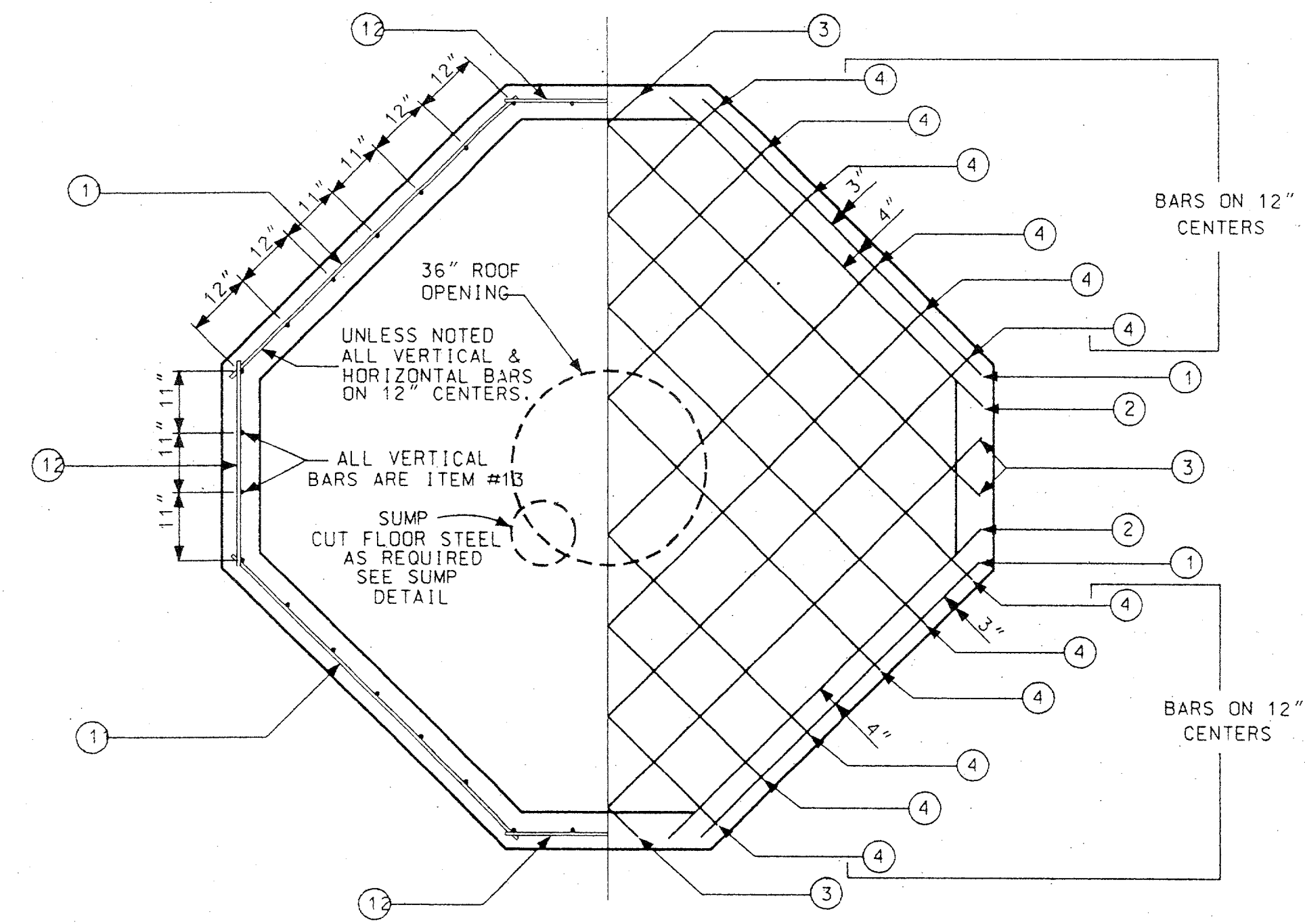
PLAN VIEW



PULLING EYE DETAIL
5 REQUIRED

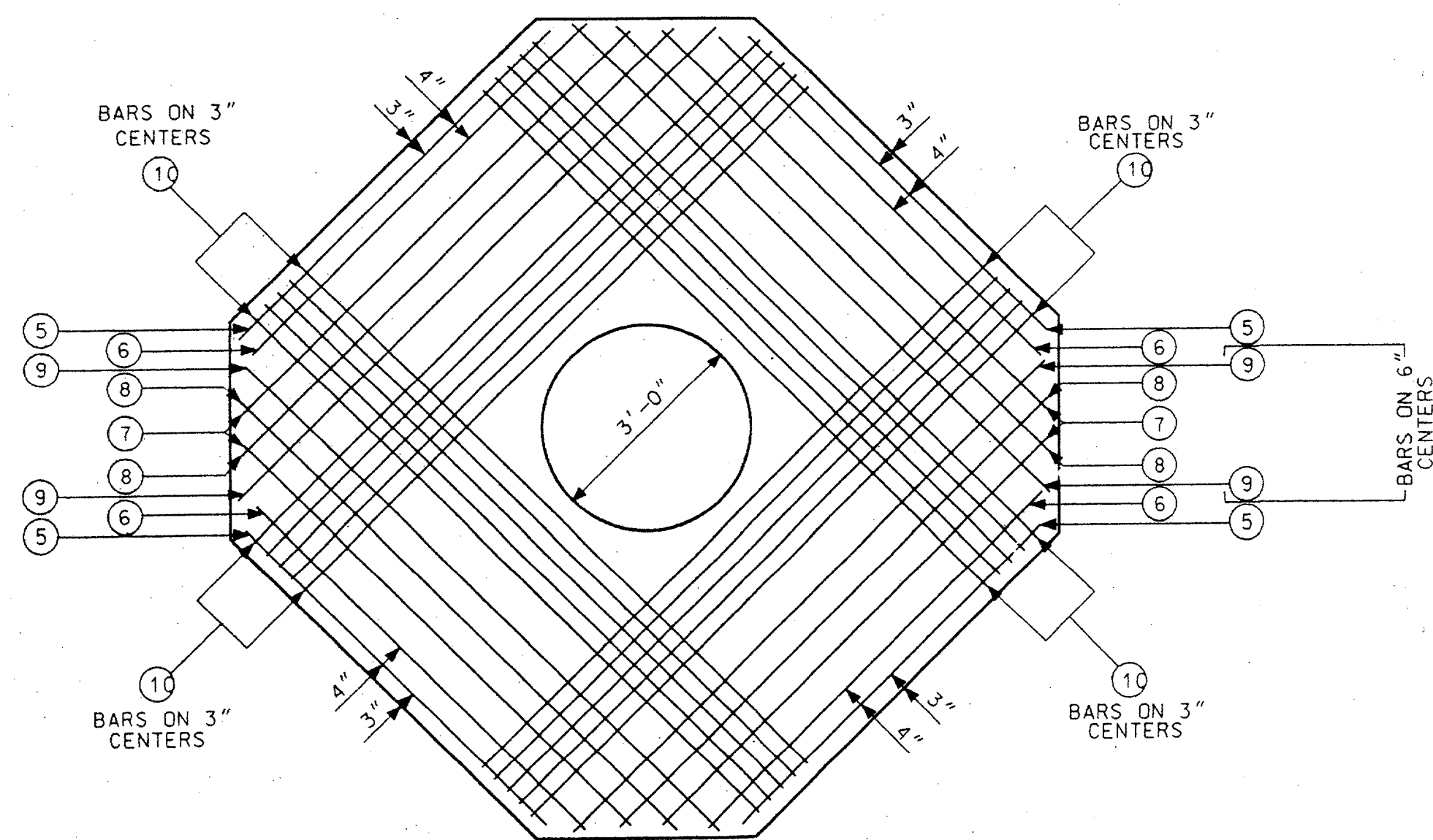


SUMP DETAIL

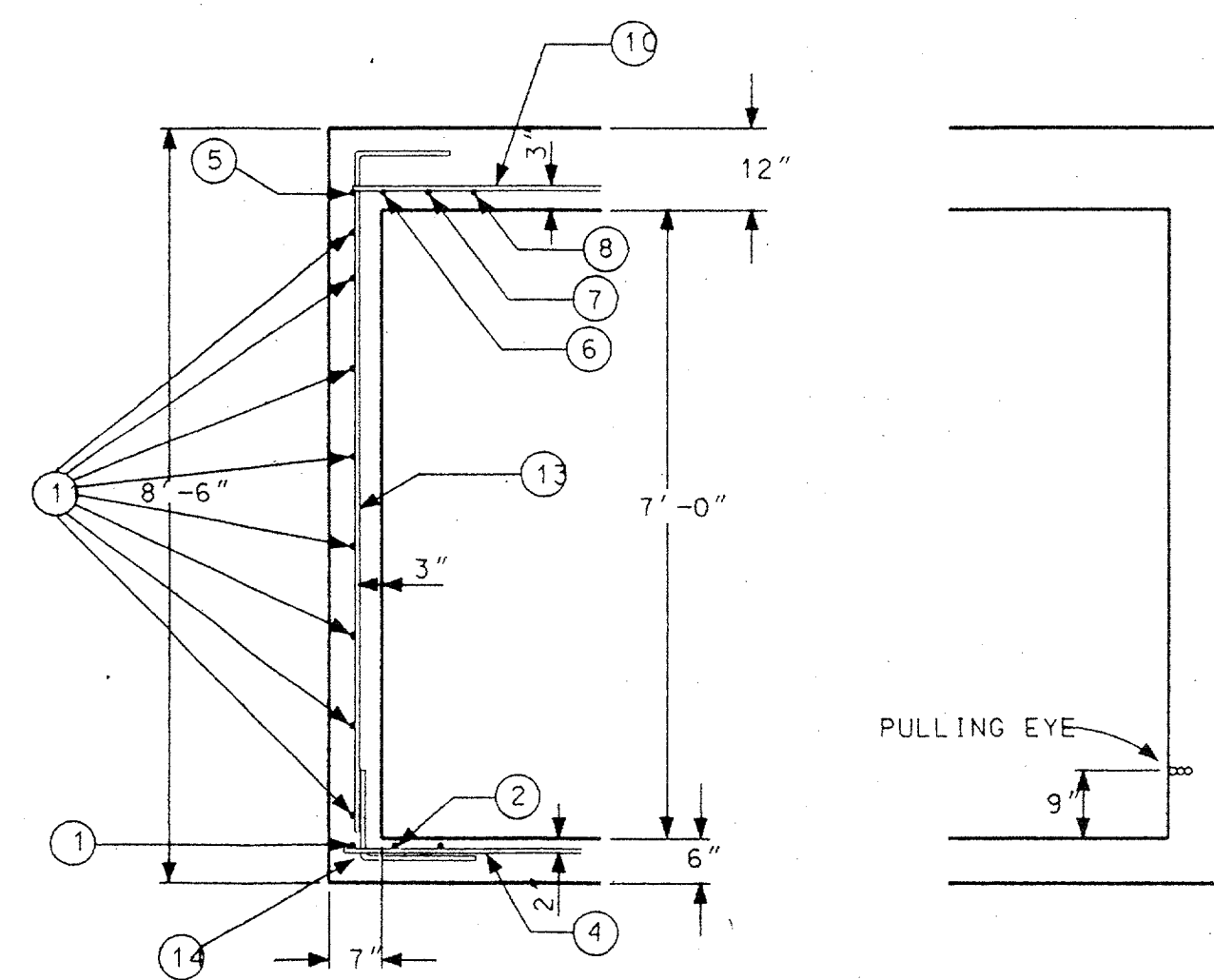


WALL STEEL

FLOOR STEEL



ROOF STEEL



SECTION A - A

MATERIALS FOR POURED IN PLACE MANHOLE

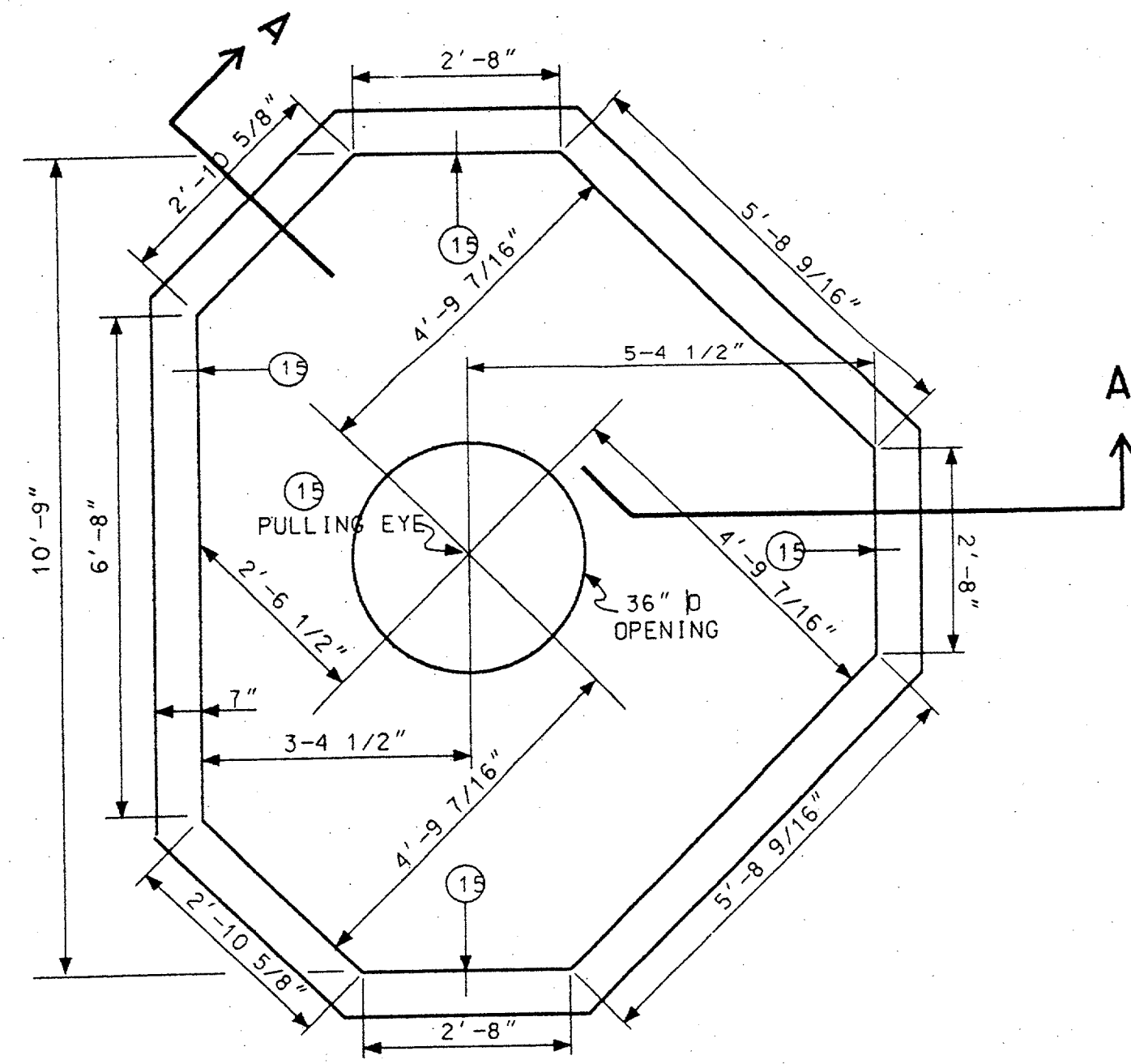
MARK	LENGTHS		QUANTITY				SHAPE	SIZE
	FT.	IN.	FLOOR	WALLS	ROOF	TOTAL		
1	6	1	4			24'-4"	ST.	#5
2	6	10	4			27'-4"	ST.	#5
3	8	10	4			35'-4"	ST.	#5
4	10	3	14			143'-6"	ST.	#5
5	6	1			4	24'-4"	ST.	#5
6	6	10			4	27'-4"	ST.	#5
7	7	10			4	31'-4"	ST.	#5
8	8	10			4	35'-4"	ST.	#5
9	9	10			4	39'-4"	ST.	#5
10	10	3			20	205'-0"	ST.	#5
11	6	3		32		200'-0"	ST.	#5
12	3	2		32		101'-4"	ST.	#5
13	8	9		36		315'-0"	7'-3"	#5
14	3	4	36			120'-0"	2'-1 1/4"	#5
15			1	4		5'-0"	PULLING EYE BOLT	1 1/2" X 6"
CONCRETE			1.94 CU.YD	35.35 CU.YD	3.85 CU.YD	11.14 CU.YD	3000 PSI	
MANHOLE COVER & FRAME TU STD 310-050			1 EA.			3'-0" OPENING		
VENDOR: WESTERN IRON WORKS, 21 EAST SIXTH ST. SAN ANGELO TX. 76903								
OR: HEFNER PRECAST, DIVISION OF BROOKS PRODUCTS, 2229 NORTH MAIN, CLEBURNE TX. 76031								
STEEL TO CONFORM TO THE LATEST STANDARD SPECIFICATION FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT.								
SEE DETAIL #9 FOR CONCRETE SPECIFICATION								
GENERAL NOTES SIMILAR TO TYPE "D" MANHOLE, SHEET #2.								

"TYPE - 4-WAY"
10'-9" X 10'-9" X 7'-0"

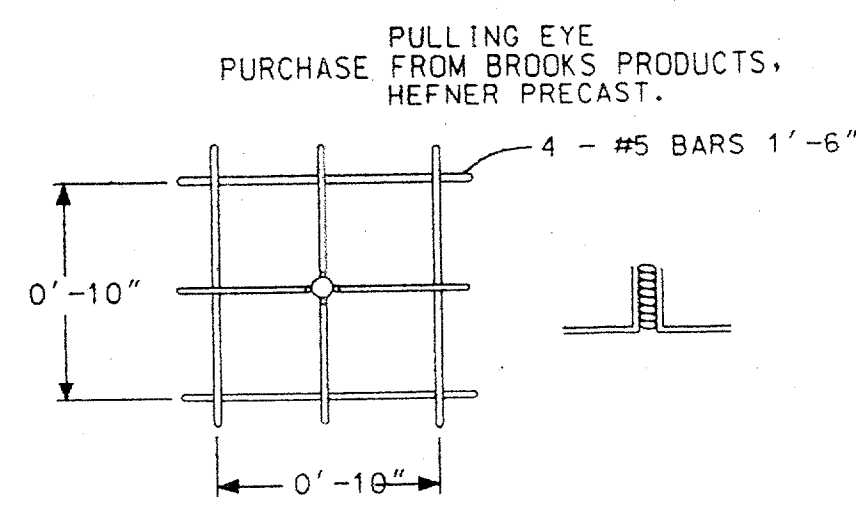
RECORD
DRAWING E7

W.A.	ESTIMATE	DWG TYPE	UNIT ID	REVISION DESCRIPTION	DATE	NO.	DATE	NO.	DATE

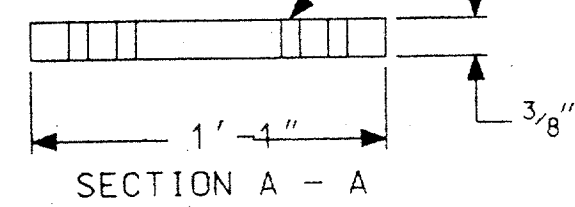
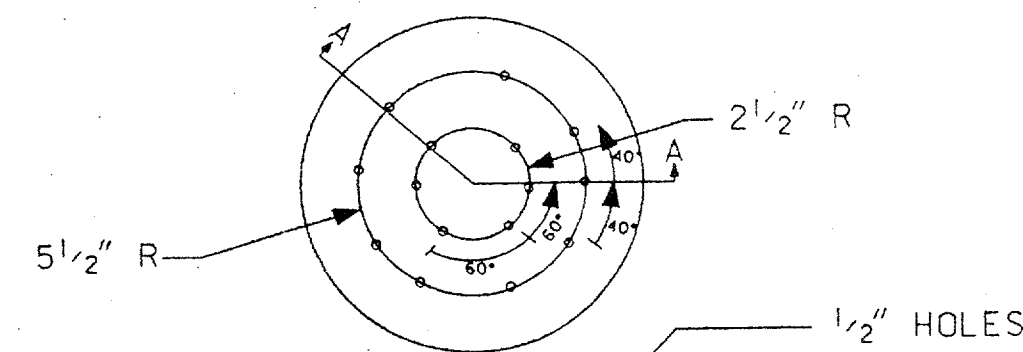
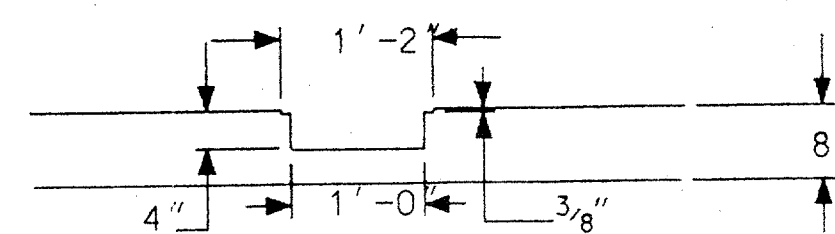
DETAIL # 6



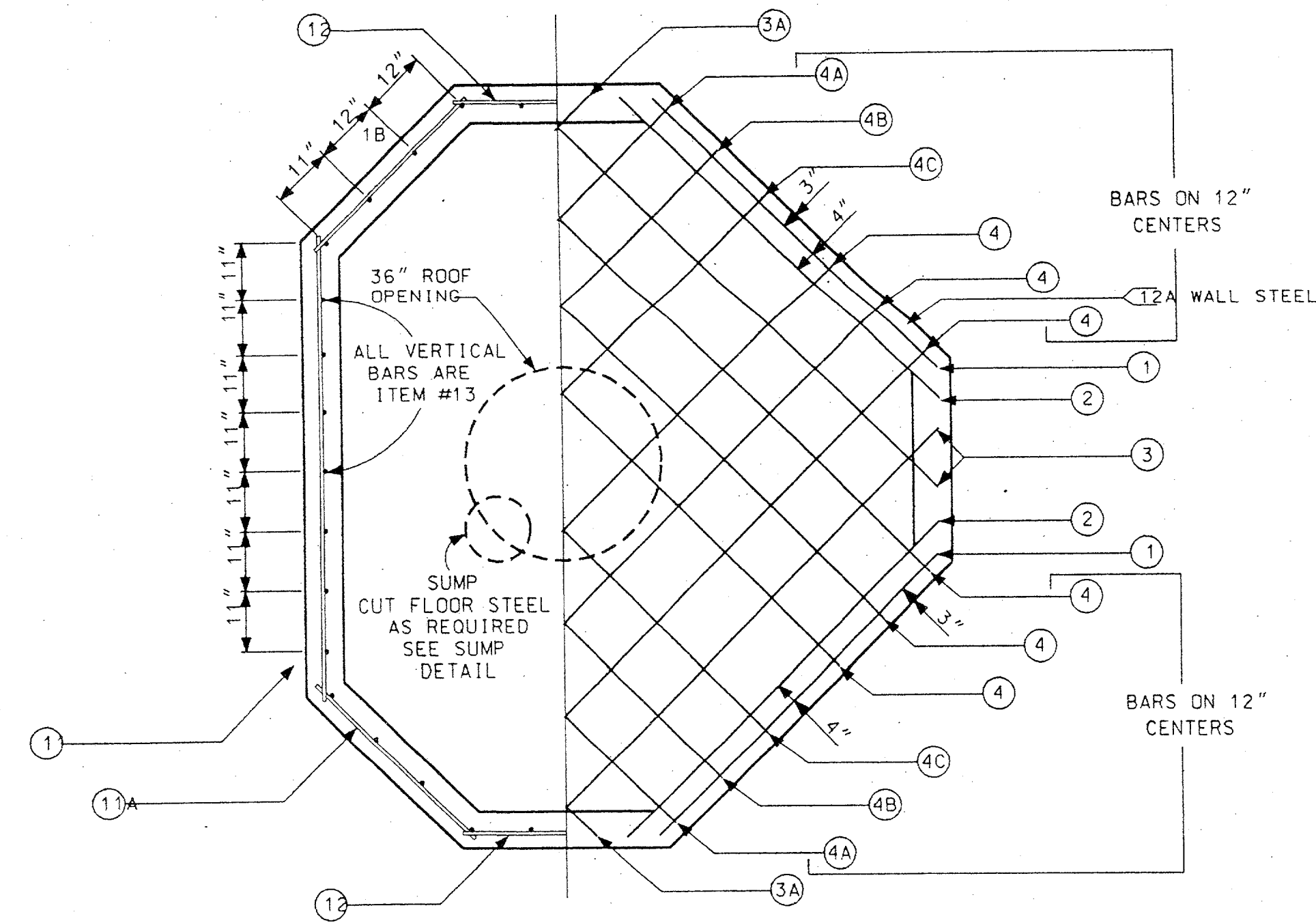
PLAN VIEW



PULLING EYE DETAIL
5 REQUIRED

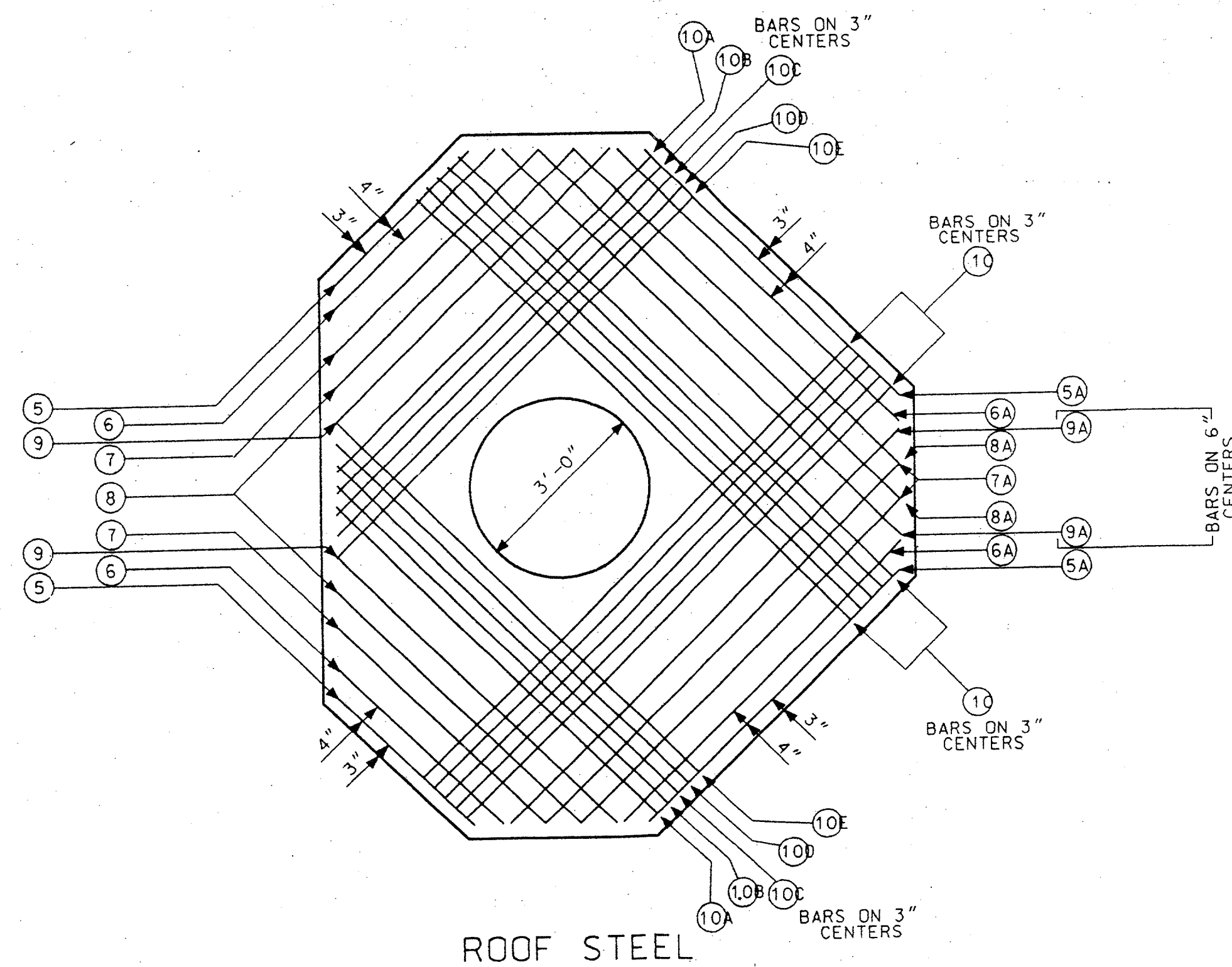


SUMP DETAIL

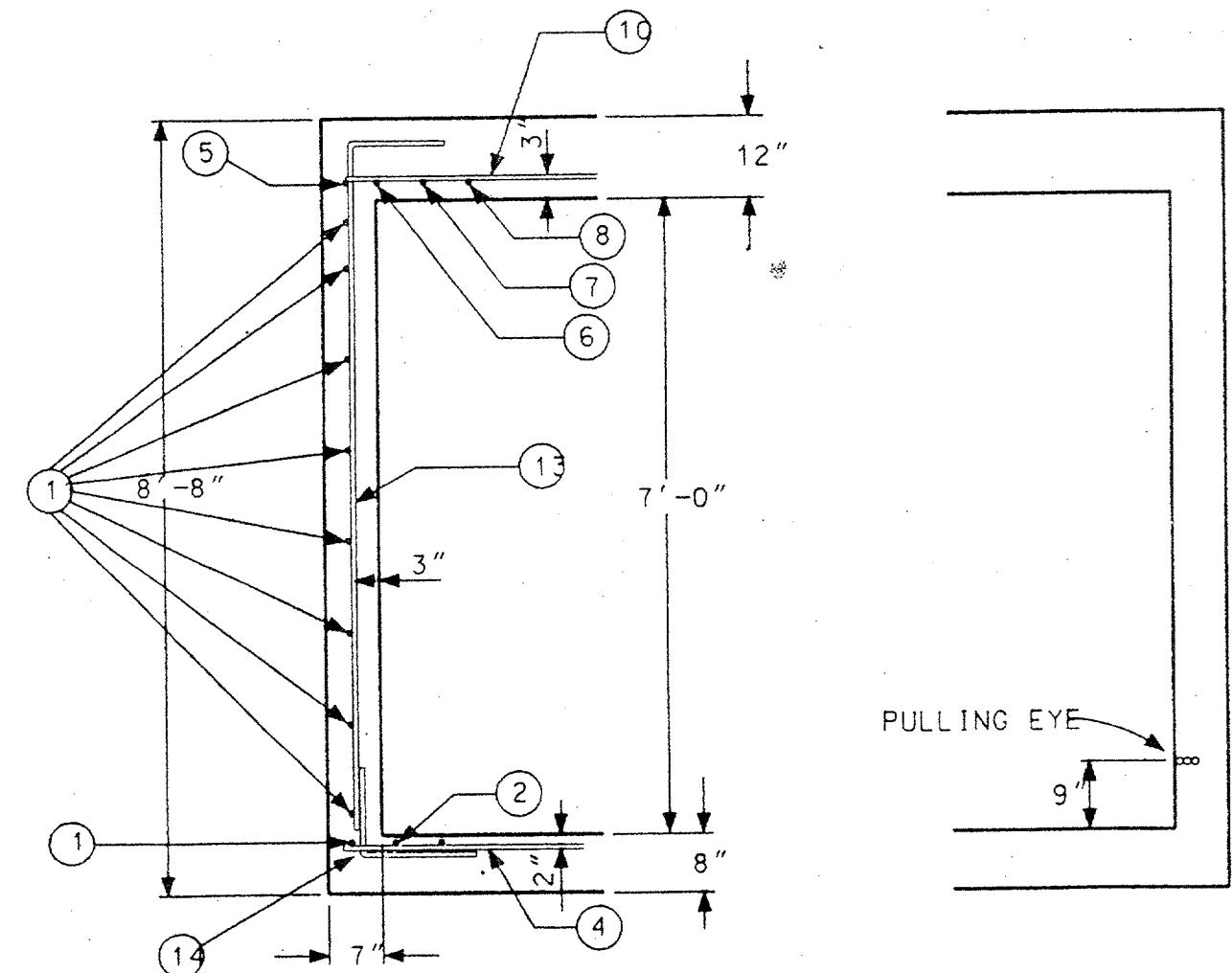


WALL STEEL

FLOOR STEEL



ROOF STEEL



SECTION A - A

MATERIALS FOR POURED IN PLACE MANHOLE

MARK	LENGTHS		QUANTITY				SHAPE	SIZE
	FT.	IN.	FLOOR	WALLS	ROOF	TOTAL		
1	6	1	2			12'-2"	ST.	#5
1A	3	1	2			6'-2"	ST.	#5
1B	3	6	2			7'-0"	ST.	#5
1C	7	3	1			7'-3"	ST.	#5
2	6	10	2			13'-8"	ST.	#5
2A	3	1	2			6'-2"	ST.	#5
2B	3	3	2			6'-6"	ST.	#5
2C	7	5	1			7'-5"	ST.	#5
3	8	10	2			17'-8"	ST.	#5
3A	5	11	2			11'-10"	ST.	#5
4	10	3	6			61'-6"	ST.	#5
4A	7	7	2			15'-2"	ST.	#5
4B	8	8	2			17'-4"	ST.	#5
4C	9	7	2			19'-2"	ST.	#5
5	3	1			2	6'-2"	ST.	#5
5A	6	0			2	12'-0"	ST.	#5
6	3	10			2	7'-8"	ST.	#5
6A	6	7			2	13'-2"	ST.	#5
7	4	10			2	9'-8"	ST.	#5
7A	7	8			2	15'-4"	ST.	#5
8	5	8			2	11'-4"	ST.	#5
8A	8	6			2	17'-0"	ST.	#5
9	6	6			2	13'-0"	ST.	#5
9A	9	5			2	18'-10"	ST.	#5
10	10	3			10	102'-6"	ST.	#5
10A	7	6			2	15'-0"	ST.	#5
10B	7	9			2	15'-6"	ST.	#5
10C	8	0			2	16'-0"	ST.	#5
10D	8	3			2	16'-6"	ST.	#5
10E	8	6			2	17'-0"	ST.	#5
11	7	4		8		58'-8"	ST.	#5
11A	3	6		16		56'-0"	ST.	#5
12	3	2		24		76'-0"	ST.	#5
12A	6	1		16		97'-4"	ST.	#5
13	8	9		36		315'-0"	ST.	#5
14	3	4		36		120'-0"	2" X 1'-4"	#5
15			1	4		5'-0"	PULLING EYE	1 1/2" X 6" 80:1
CONCRETE			1.94 CU. YDS	5.35 CU. YDS	3.85 CU. YDS	11.14 CU. YDS	3000 PSI	

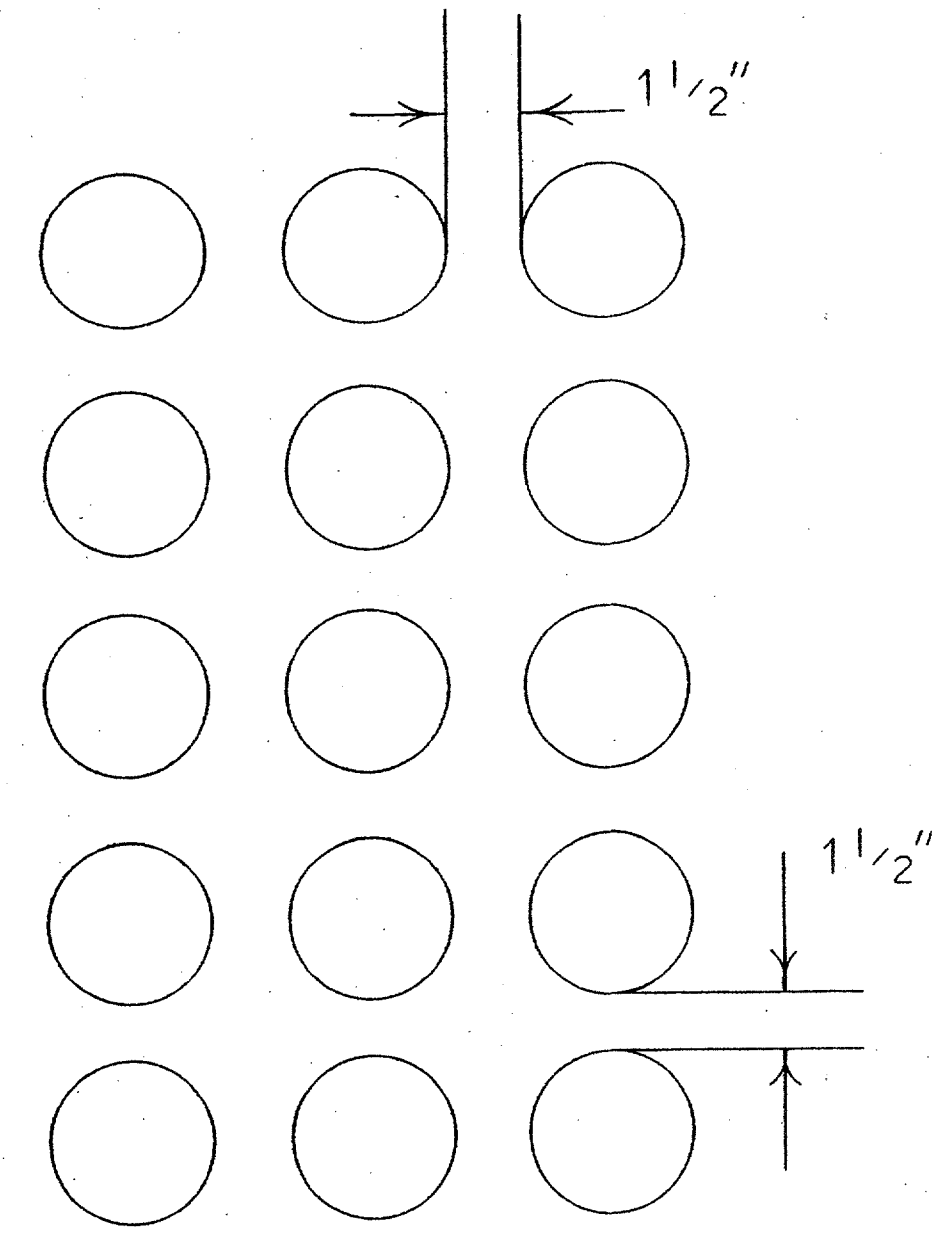
MANHOLE COVER & FRAME TU STD 310-050 1 EA.
 VENDOR: WESTERN IRON WORKS, 21 EAST SIXTH ST. SAN ANGELO TX. 76903
 DR: HEFNER PRECAST, DIVISION OF BROOKS PRODUCTS, 2229 NORTH MAIN, CLEBURNE TX. 76031

STEEL TO CONFORM TO THE LATEST STANDARD SPECIFICATION FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT
 SEE DETAIL #9 FOR CONCRETE SPECIFICATION.
 GENERAL NOTES SIMILAR TO TYPE "C" MANHOLE, SHEET #1

"TYPE - 3-WAY"
 10'-9" X 8'-9" X 7'-0"

RECORD
 DRAWING

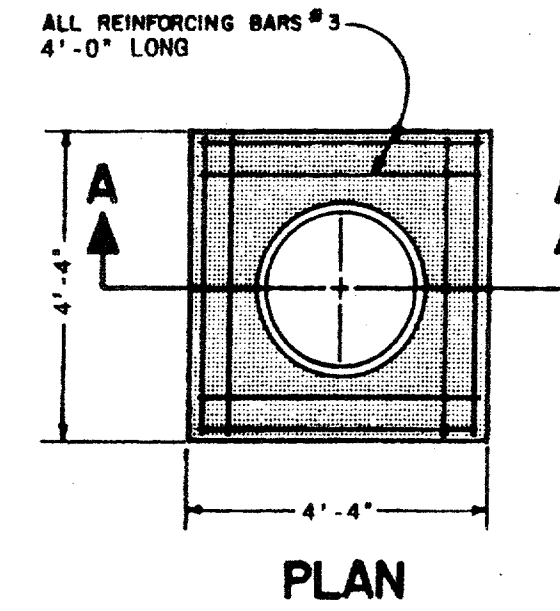
SCALE (H=)	LIST OF DRAWINGS	W.A.	ESTIMATE	UNIT ID	REVISION DESCRIPTION	DATE	NO.	APP. PRN	APP. JES	ENG. JRC	CH. JRC	DWN. MED	DATE 05-12-92
	NETWORK UNDERGROUND APPURTENANCE SHEETS MANHOLE DETAILS												



15 - 5" OR 6"
TERMINATOR INSTALLATION
IN MANHOLES

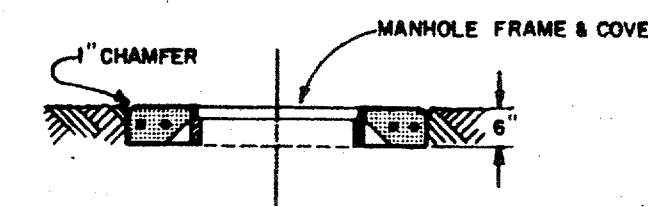
SEE JOB SKETCH FOR
NUMBER OF TERMINATORS
TO BE INSTALLED

DETAIL # 8



PLAN

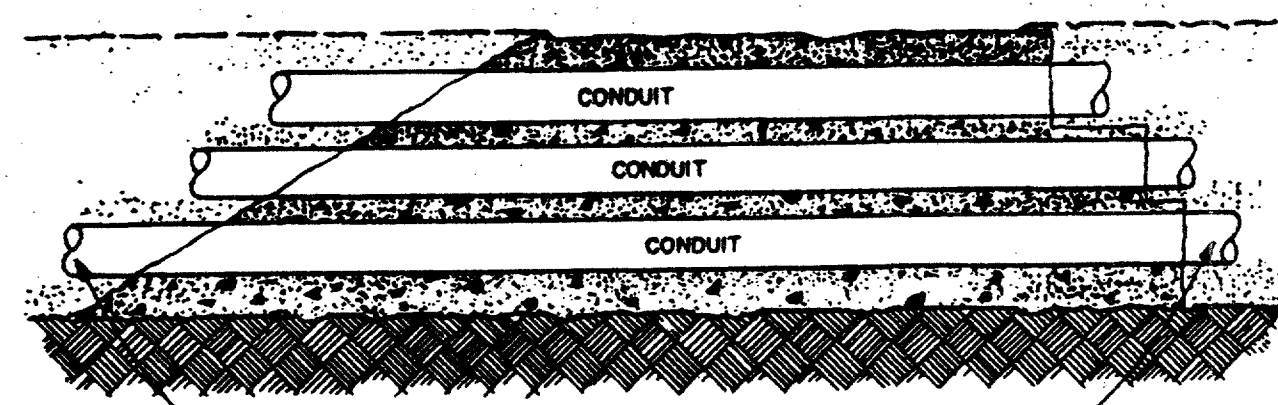
NOTE: SEE DETAIL # 8 FOR CONCRETE SPECIFICATION



SECTION A-A

— CONCRETE SLAB FOR MANHOLE—
CASTING

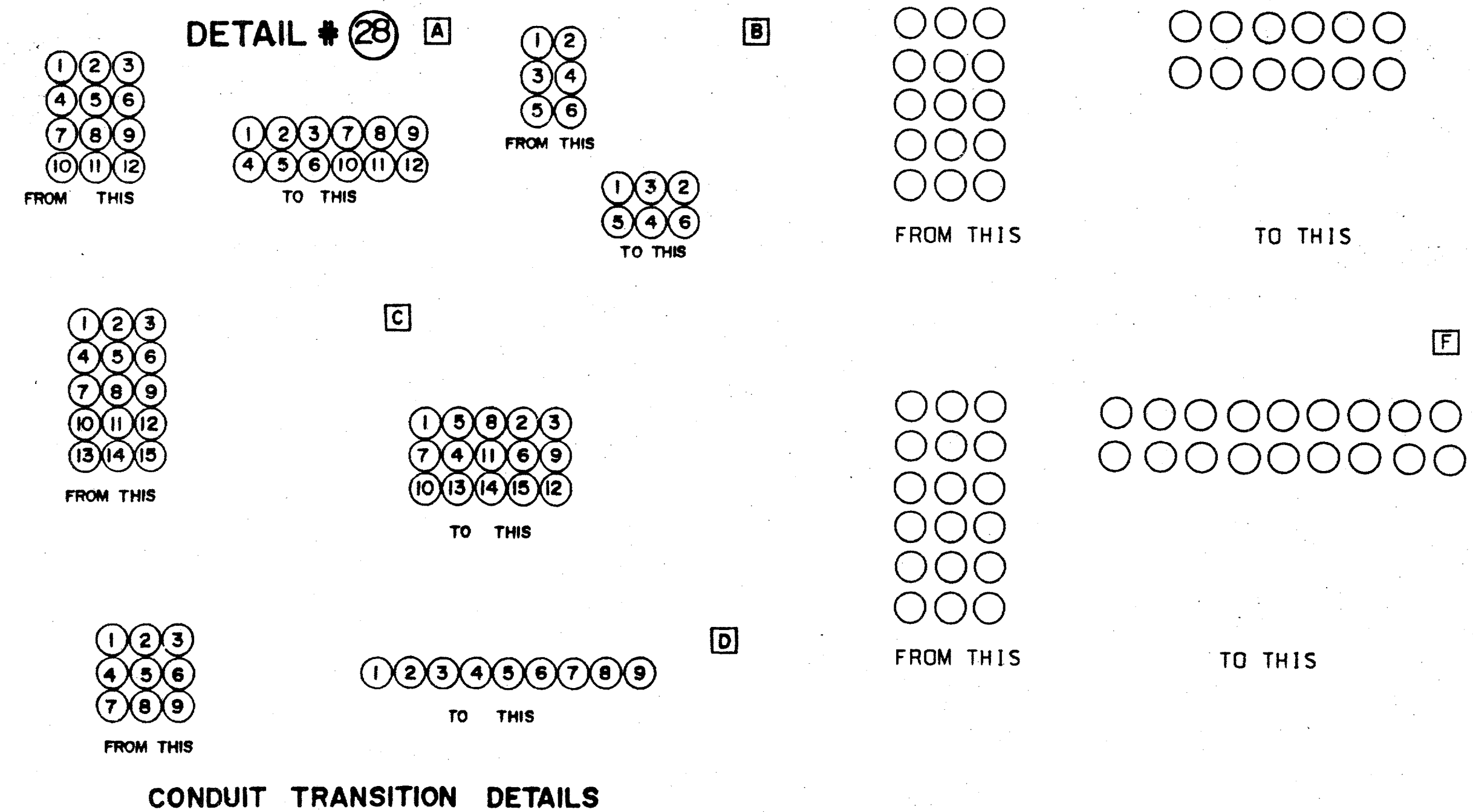
DETAIL # 11



— SLOPED AND STAIR STEPPED—
COLD JOINTS

DETAIL # 24

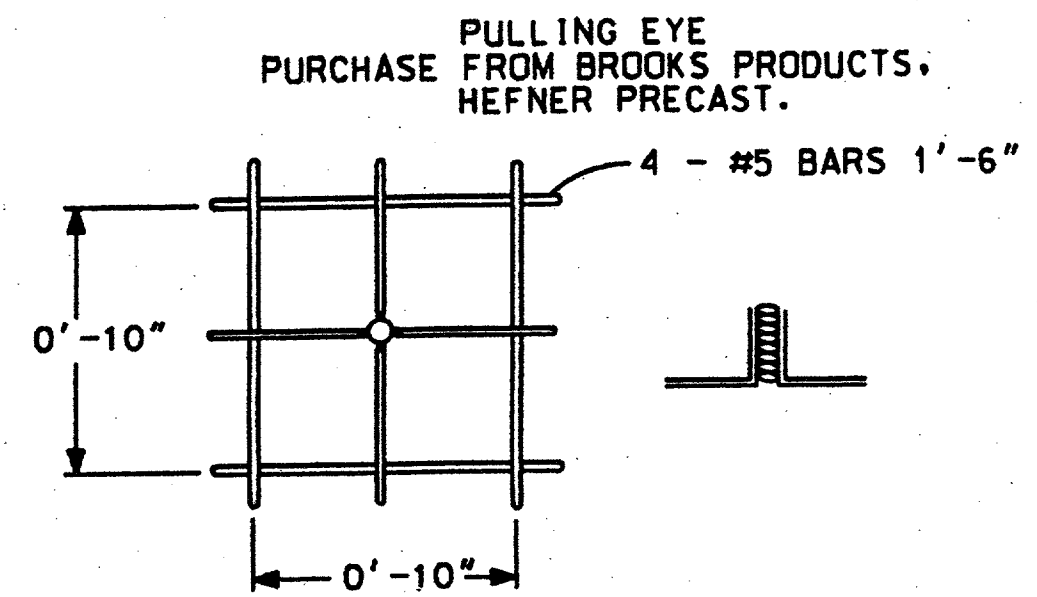
EXTEND CONDUITS 8 TO 10 INCHES PAST THE CONCRETE ENVELOPE
SEAL EACH CONDUIT WITH CONDUIT PLUG.



CONDUIT TRANSITION DETAILS

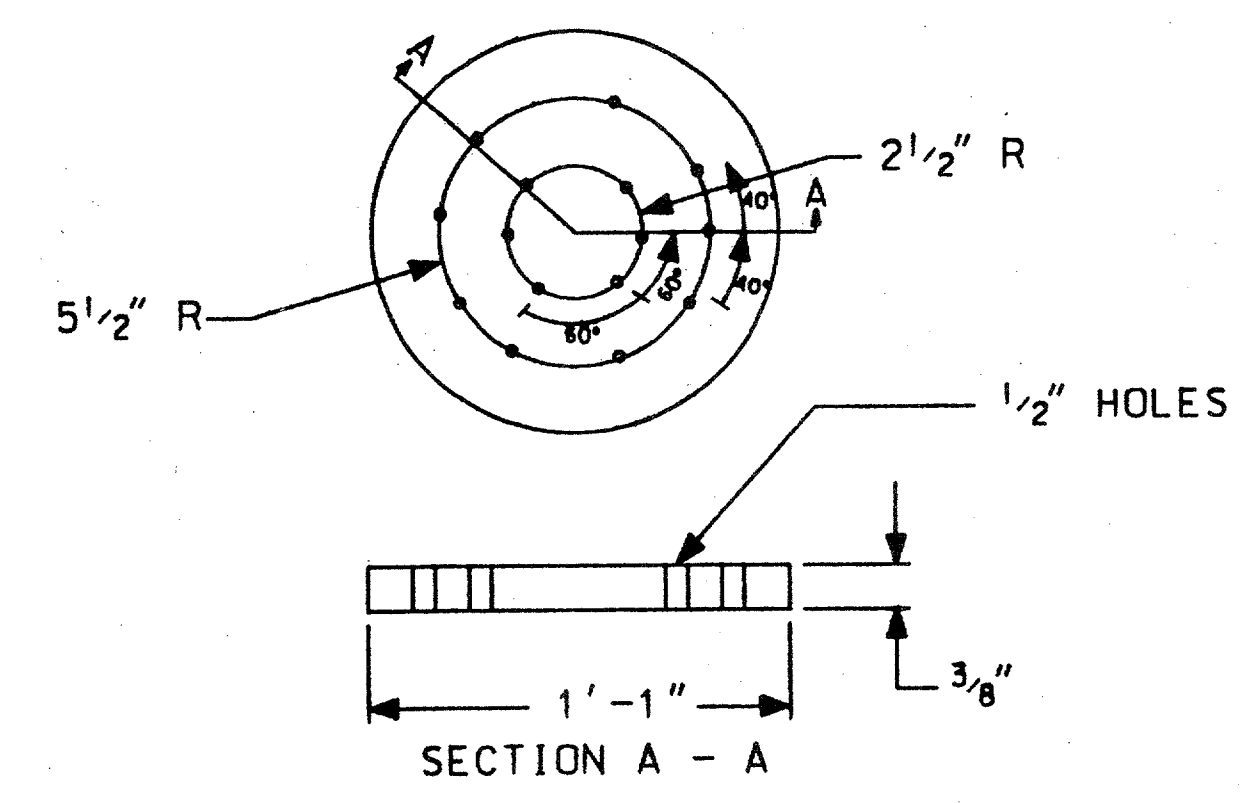
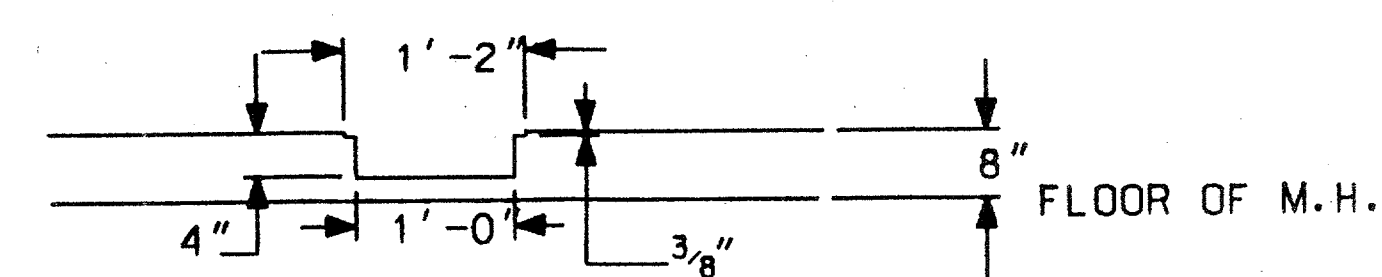
TU ELECTRIC		CD
DATE: 05-12-92	DWN. MED	CH. JRC
ENG. JRC	APP. JES	APP. PRN
W.A.	W.A.	NO.
ESTIMATE	DATE	REVISION DESCRIPTION
DWG TYPE	UNIT ID	DRAWN CH. APP.
SCALE (H#D SCALE) (V#D SCALE)	LIST OF DRAWINGS	APP. APP.
NETWORK UNDERGROUND APPURTENANCE SHEETS MISCELLANEOUS DETAILS		
RECORD DRAWING		

DETAIL # 12

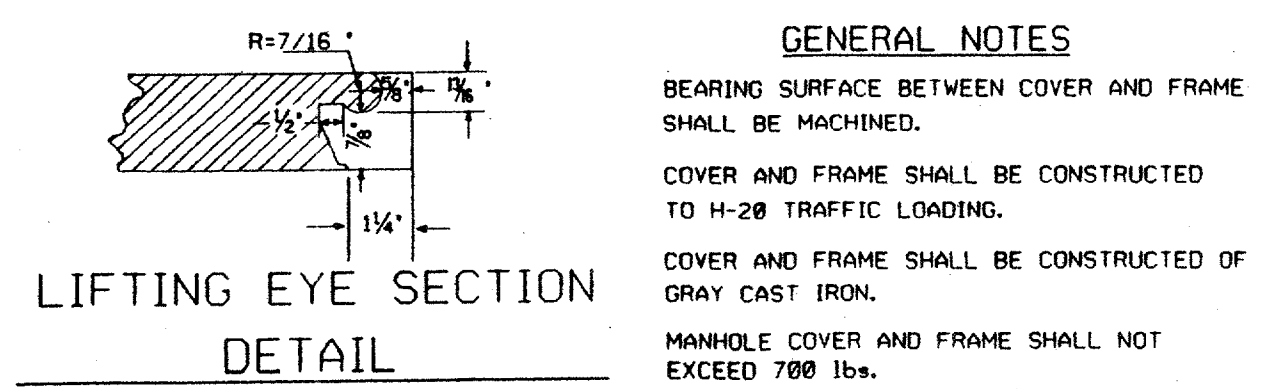
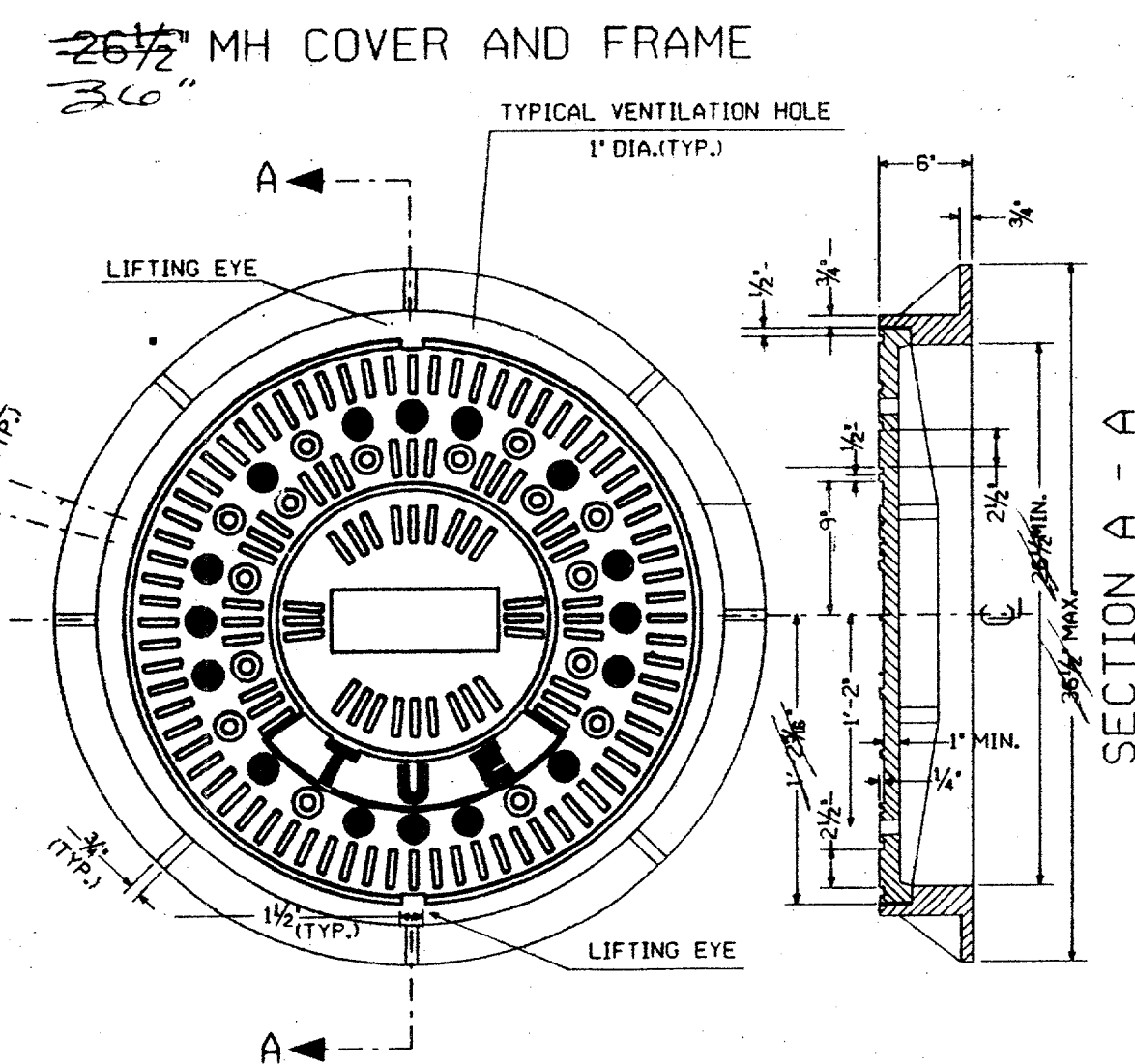


PULLING EYE DETAIL

DETAIL # 14



DETAIL # 15



GENERAL NOTES

BEARING SURFACE BETWEEN COVER AND FRAME SHALL BE MACHINED.

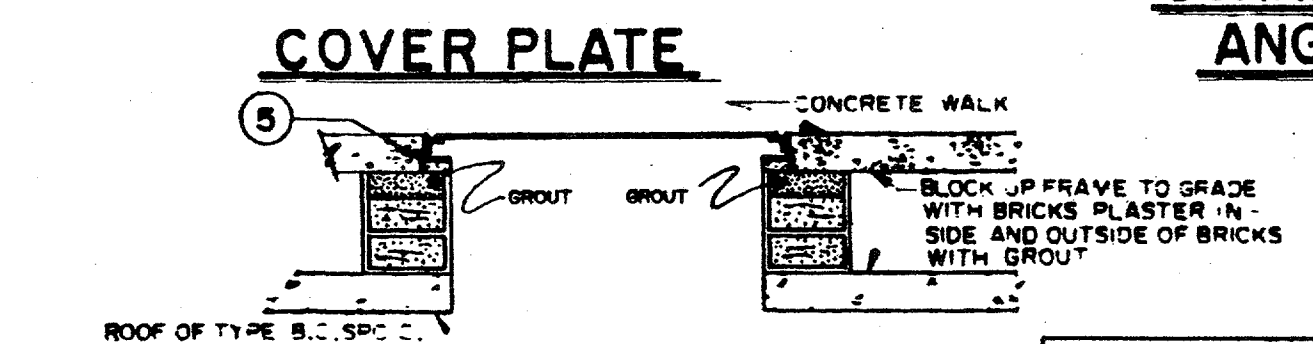
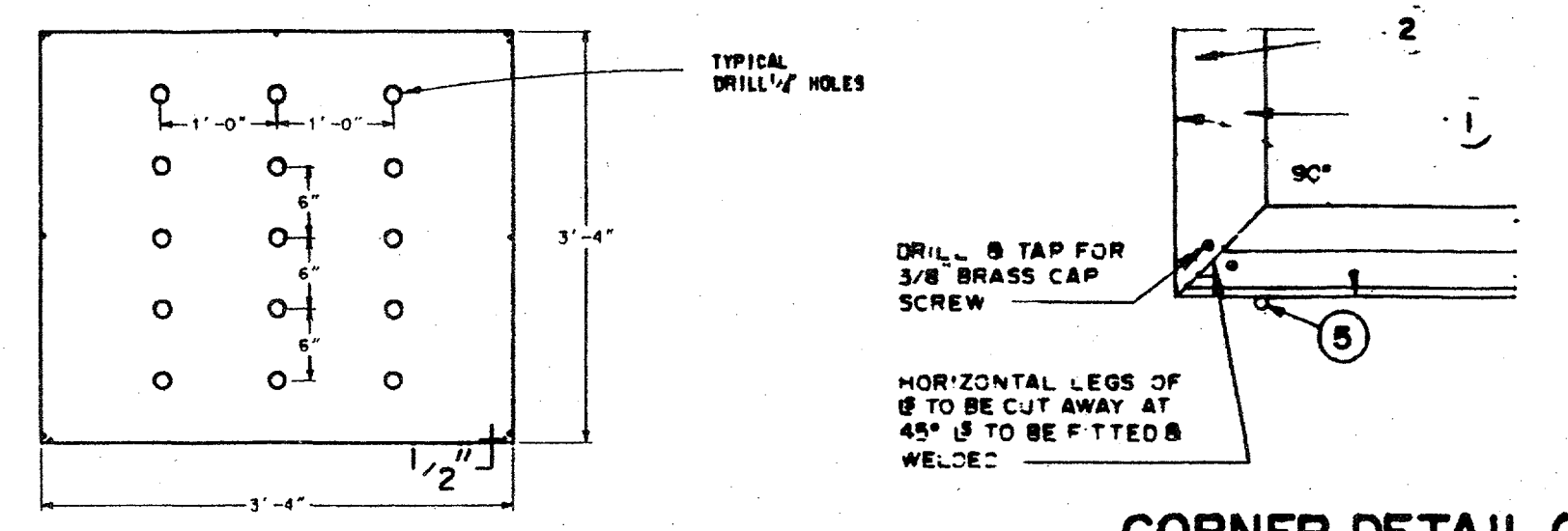
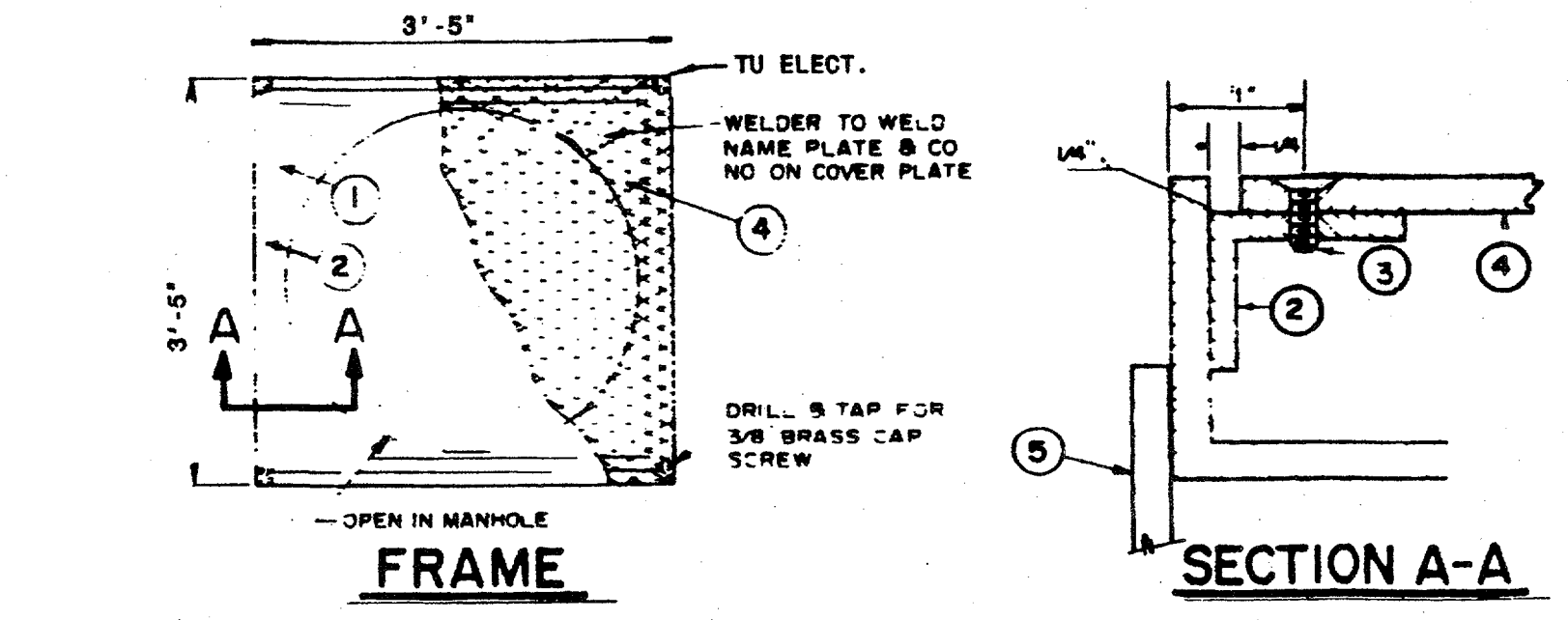
COVER AND FRAME SHALL BE CONSTRUCTED TO H-20 TRAFFIC LOADING.

COVER AND FRAME SHALL BE CONSTRUCTED OF GRAY CAST IRON.

MANHOLE COVER AND FRAME SHALL NOT EXCEED 700 lbs.

DETAIL # 16

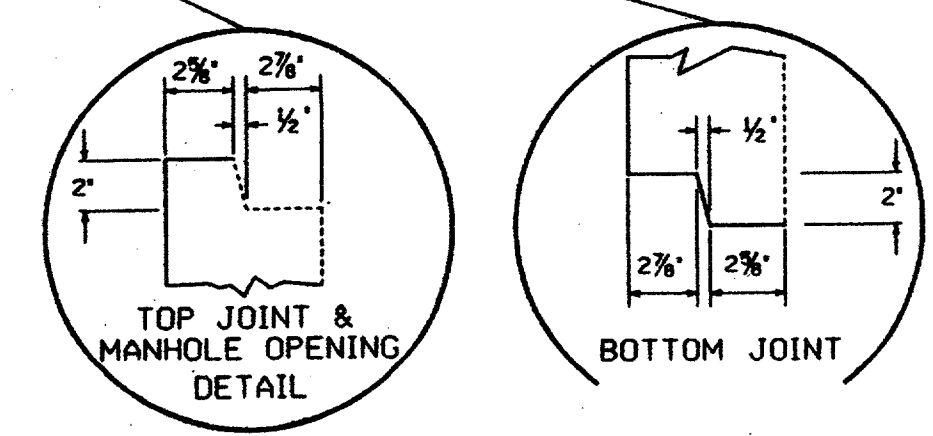
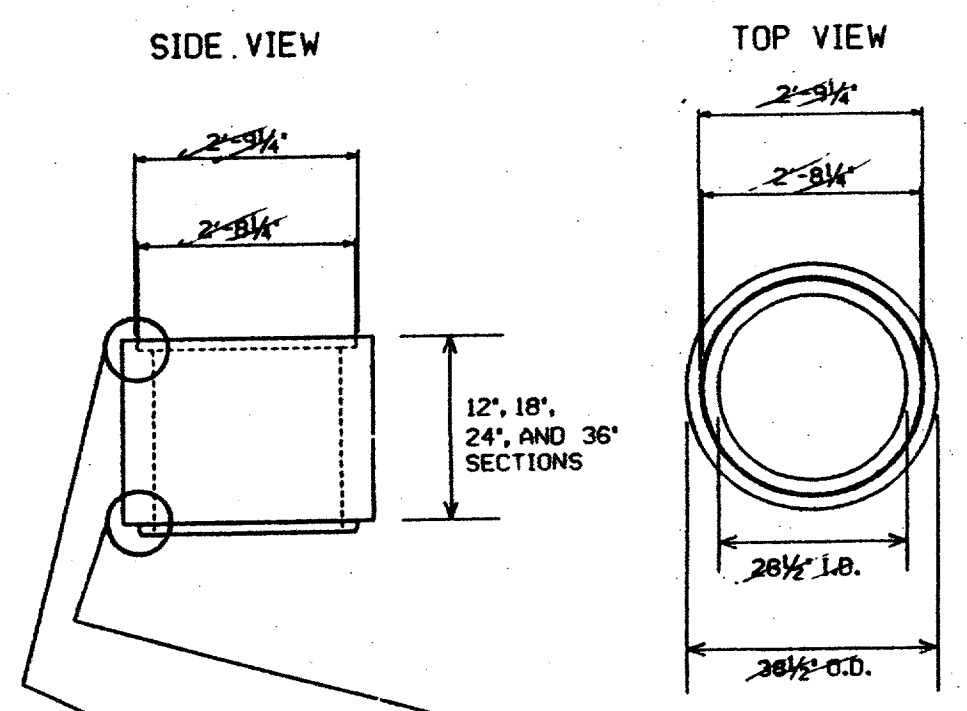
FABRICATION & INSTALLATION DETAILS FOR SIDEWALK MANHOLE COVER



BILL OF MATERIAL			
ITEM	QTY	DESCRIPTION	STR. NO.
1	4	2 1/2" x 2 1/2" x 1/2" x 3'-3" LOW	
2	4	1 1/2" x 1 1/2" x 1/2" x 3'-4" LOW	
3	2	1/2" x 1/2" x 3 BRASS CAP SCREWS PLAT HEADS	
4	1	3'-4" x 3'-4" x 3' 10" NO SKID STEEL PLATE	
5	4	#5 BAR - 2'-7"	

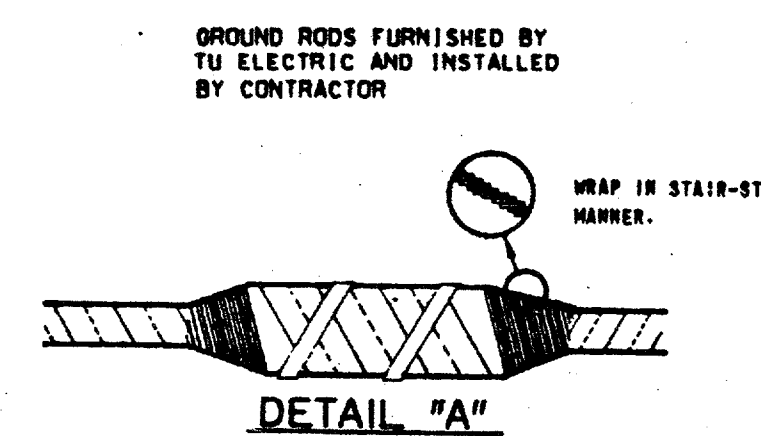
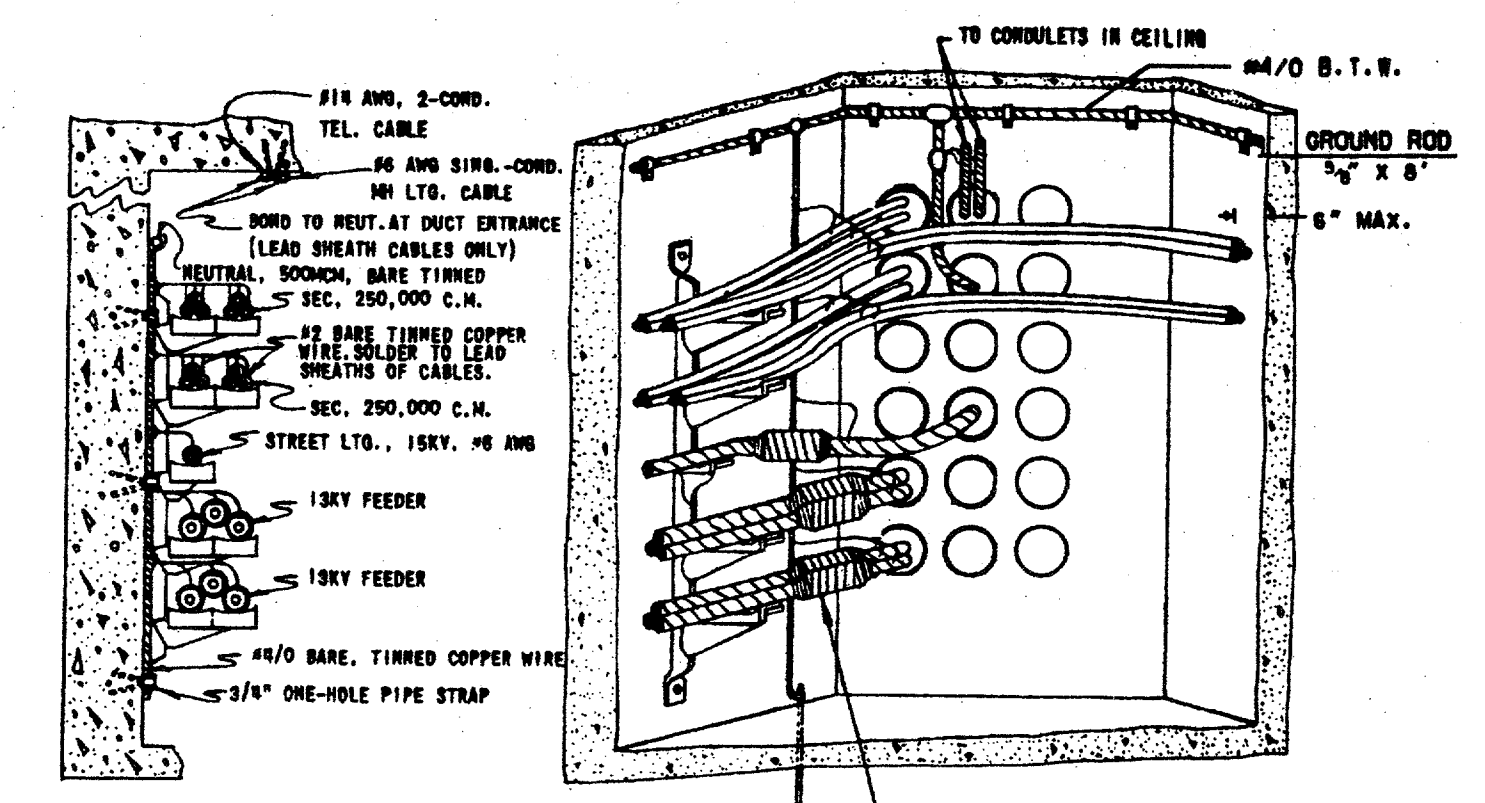
DETAIL # 13

36" NECK DETAIL (PRECAST)

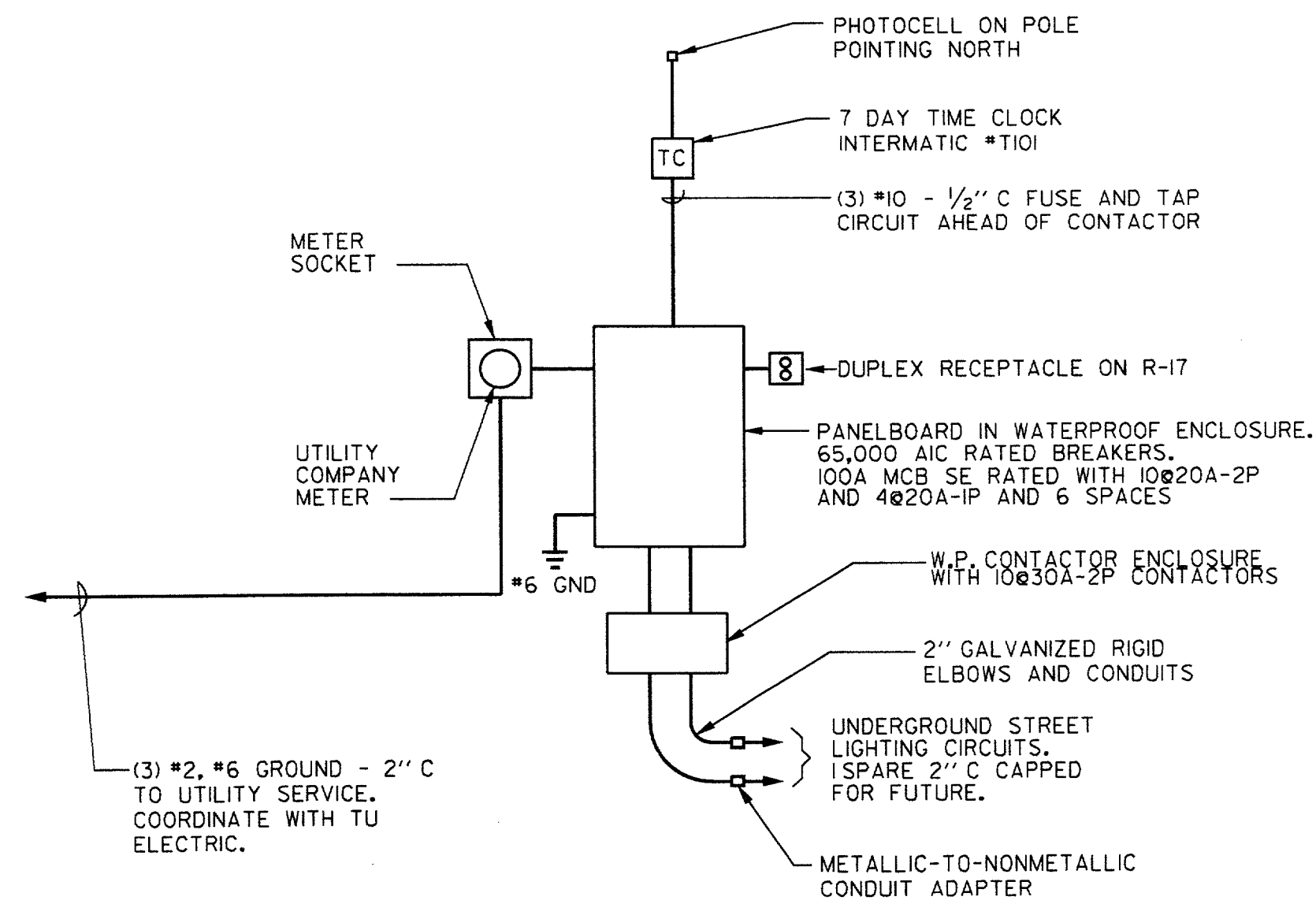


DETAIL # 17

TYPICAL MANHOLE SHOWING GROUNDING DETAILS



SCALE (H=NO SCALE) (V=NO SCALE)	LIST OF DRAWINGS	W.A.	ESTIMATE	UNIT ID	DATE	NO.	W.A.	NO.	DATE	REVISION DESCRIPTION	CH.	APP.
	NETWORK UNDERGROUND APPURTENANCE SHEETS MISCELLANEOUS DETAILS											



1 TYPICAL PANEL RISER DIAGRAM AT SERVICE POINT R
N.T.S.

NOTE:

1. PROVIDE ALL INSTALLATION HARDWARE INCLUDING UNISTRUT FRAMEWORK FOR SECURE INSTALLATION.
2. TERMINAL BLOCK CAN TO HAVE BLOCKS AND SPACE FOR MIN. OF 12 MORE CIRCUITS FOR FUTURE EXPANSION.
3. EXACT LOCATION OF PANEL TO BE DETERMINED AT PROJECT SITE.
4. SERIES RATING FOR CIRCUIT BREAKERS SHALL BE 65K AIC.
5. ENTIRE INSTALLATION TO BE RATED FOR OUTDOOR INSTALLATION. PANEL AND SWITCH SHALL HAVE PROVISIONS FOR LOCKING.
6. EXACT LOCATIONS OF EQUIPMENT SHALL BE DETERMINED AT THE PROJECT SITE.
7. PROGRAM LIGHTS 'ON' BY PHOTO CELL AND 'OFF' BY TIME CLOCK.

LIGHT FIXTURE SCHEDULE					
TYPE	DESCRIPTION	LAMP	MANUFACTURER	CATALOGUE NO.	FINISH
A	CUSTOM STYLE	175 MH	BEGA	980IMH	BLACK
A-POLE	15'-8" ROUND		BEGA	1508HR	BLACK
B	CUSTOM STYLE	175 MH	BEGA	980IMH (2 PER POLE)	BLACK
B-POLE	15'-8" ROUND		BEGA	1508HR	BLACK

NOTES:

1. PROVIDE REINFORCED CONCRETE BASE, ANCHOR BOLTS AND REQUIRED ACCESSORIES.
2. BID SHALL BE BASED UPON THE ABOVE LISTED FIXTURES TO MATCH PHASE I FIXTURES.
3. PROVIDE MATCHING BASE COVER FOR EACH FIXTURE.
4. ALL FIXTURES ARE 240 VOLT AND REQUIRE DOUBLE FUSING.
5. A CUSTOM HINGED POLE IS REQUIRED FOR FIXTURE TYPE A & B (45° HINGED).
6. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
7. FIXTURES TYPE B TO BE INSTALLED 90° APART.



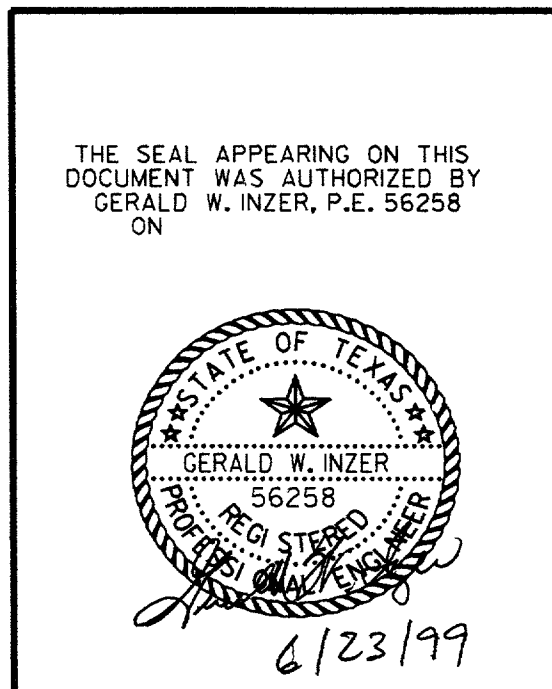
GENERAL NOTES		CIRCUIT SCHEDULE				
NUMBER	DESCRIPTION	CONDUIT DESIGNATION	CIRCUIT NUMBERS	PANELBOARD	CIRCUIT BREAKER	CONDUCTORS
1	THE TERM 'PROVIDE' SHALL MEAN FOR THE CONTRACTOR TO FURNISH AND INSTALL A COMPLETE OPERATING SYSTEM.		R-1, 3 R-5, 7 R-9, 11 R-13, 15	PANEL "R"	20 AMP, 2 POLE	(2) #8
2	REFER TO PHASE I PUBLIC INFRASTRUCTURE DRAWINGS FOR ADDITIONAL INFORMATION ON TREE LIGHTING CONDUIT LOCATIONS.		R-2, 4 R-6, 8 R-10, 12 R-14, 16	100 AMP M.C.B. 120/240 VOLT 1PHASE, 3 WIRE W/ GROUND 10-20A-2P C.B. 2-20A-1P C.B.	20 AMP, 2 POLE 20 AMP, 2 POLE 20 AMP, 2 POLE 20 AMP, 2 POLE	(2) #8 (2) #8 (2) #8 (2) #8 (1) #8 GROUND (2) #10 P.E.C.
KEY NOTES (SEE E14)						
NUMBER	DESCRIPTION					
1	TU ELECTRIC TRANSFORMER WITH SINGLE PHASE TRANSFORMER FOR STREET LIGHTING. VERIFY POINT OF CONNECTION WITH TU ELECTRIC.					
2	PROVIDE 120/240 VOLT, 1PHASE, 3 WIRE, W/GND PANELBOARD WITH MAIN CONTACTOR. CONNECT TO ELECTRIC UTILITY AT DESIGNATED SERVICE POINTS. SEE DETAIL 10N SHEET E15.					
3	STREET LIGHT FIXTURE TYPE A. INSTALL CONCRETE BASE, POLE, FIXTURE AND CONNECTIONS. REFER TO SHEET ST5 FOR POLE BASE DETAIL.					
4	CIRCUIT TO STREET LIGHTS OF 3 #8 - 2" C UNLESS NOTED OTHER WISE ON CIRCUIT SCHEDULE.					
5	ROUTE CIRCUITRY THROUGH CONDUITS AND PULL BOXES. MAKE SPLICE IN MAIN FEEDERS USING HIGH COMPRESSION SPLICE FITTING.					
6	PHOTO ELECTRIC CELL ON TOP OF POLE FACING NORTH.					
7	LOCATE EXISTING CAPPED CONDUIT AND EXTEND TO NEW FIXTURE(S). INSTALL WIRE BACK TO EXISTING FIXTURE AND CONNECT CIRCUIT.					
8	CAP CONDUIT FOR FUTURE EXTENSION.					
ELECTRICAL LEGEND						
SYMBOL	DESCRIPTION					
HH	2" CONDUIT FOR STREET LIGHTING CIRCUITS FROM PANELBOARD TO EACH PULL BOX AND TO EACH STREET LIGHT FIXTURE.					
(RI)	PULL BOX. (12" W x 12" D x 18" L)					
R-2,4	CONDUIT IDENTIFICATION FOR NEW MAIN FEEDERS.					
←	CIRCUIT NUMBERS FROM PANELS AT SERVICE POINTS INDICATED IN DRAWING E14.					
→	HOME RUN TO PANEL. PROVIDE CONDUIT AND WIRE FROM PULL BOX TO PANELBOARD.					
●	STREET LIGHT FIXTURE TYPE 'A'.					
★	STREET LIGHT FIXTURE TYPE 'B'.					

(RI)
TWO-2" CONDUITS (ONE SPARE)

- NOTES TO CIRCUIT SCHEDULE:**
1. MAINTAIN ABOVE CONDUCTORS THROUGHOUT ALL PULL BOXES.
 2. CONDUIT DESIGNATIONS ABOVE ARE ALL 2" CONDUITS.

GENERAL ELECTRICAL NOTES FOR THIS PROJECT WHICH APPLY TO DRAWING E14:

1. LOCATIONS OF ALL LIGHT FIXTURES, PULL BOXES AND ROUTING OF CONDUITS SHALL BE IDENTIFIED ON THE SITE BY STAKES AND PAINT PRIOR TO ANY EXCAVATION. REQUIREMENTS FOR CONDUIT ROUTING ARE PROVIDED ON DRAWINGS AND SPECIFICATIONS. OWNER WILL REVIEW AT THE SITE AND PROVIDE DIRECTIONS ON FIELD ADJUSTMENTS OF UP TO 10 FEET FROM LOCATIONS SHOWN ON THE DRAWINGS.
2. CONTRACTOR SHALL COORDINATE STORM WATER, WASTEWATER, WATER, IRRIGATION AND ELECTRICAL CONDUIT TRENCHING AND INSTALLATION TO MINIMIZE THE DISTURBANCE OF EXISTING TREE ROOTS.
3. ALL PULL BOXES ARE 12" X 18" X 12" DEEP CONCRETE BOX WITH BOLT ON CONCRETE COVER SIMILAR TO T.U. SUBSURFACE SECONDARY BOX. INSTALL CONDUITS NEAR CORNER OF BOX TO ALLOW CONDUCTORS TO LOOP THROUGH BOX.



DATE	DESCRIPTION	REF NO.
6/23/99	ISSUED FOR CONSTRUCTION	N/A
5/17/99	ISSUED FOR BID	N/A

STREET LIGHT NOTES & DETAILS
ADDISON CIRCLE
PHASE II-B PUBLIC INFRASTRUCTURE
TOWN OF ADDISON, TEXAS

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DEM	N.T.S.	MAR. 99	01-1822-50	E15

RECORD DRAWING

TYPICAL CONDUIT INSTALLATION FOR PVC ENCASED MAJOR CONDUIT LINE

DETAIL #18

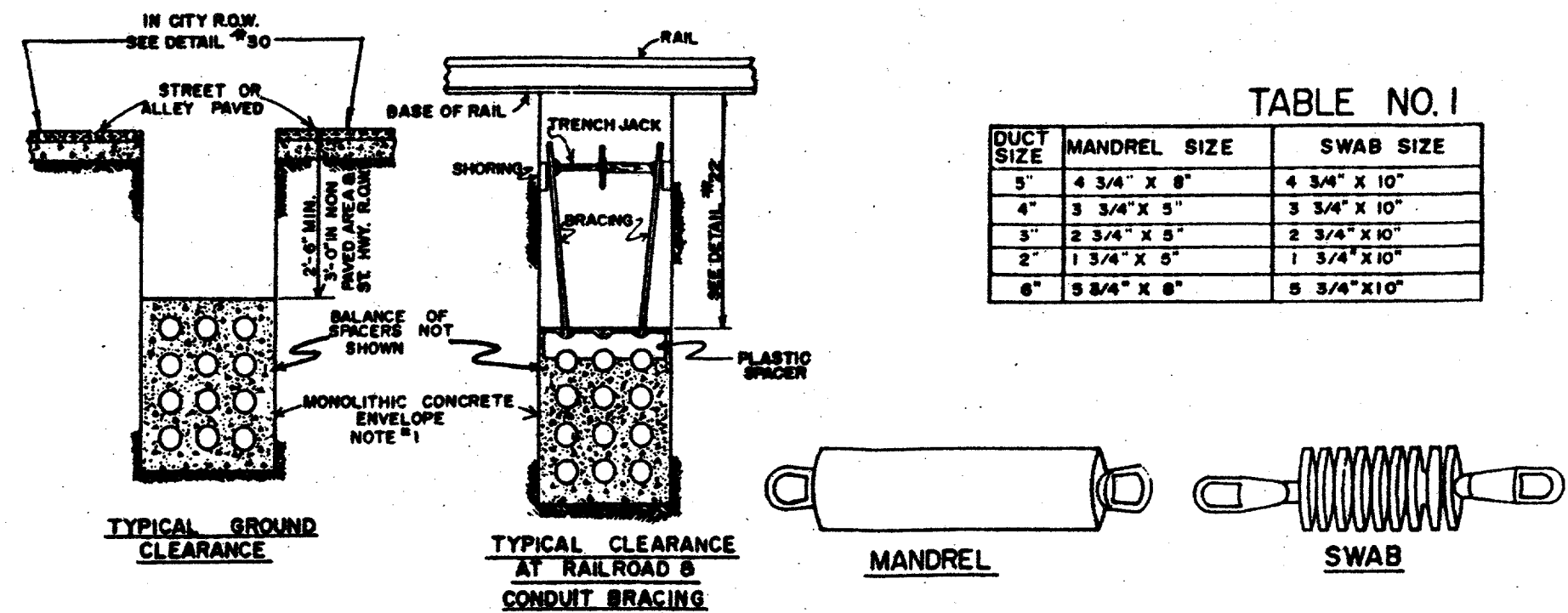
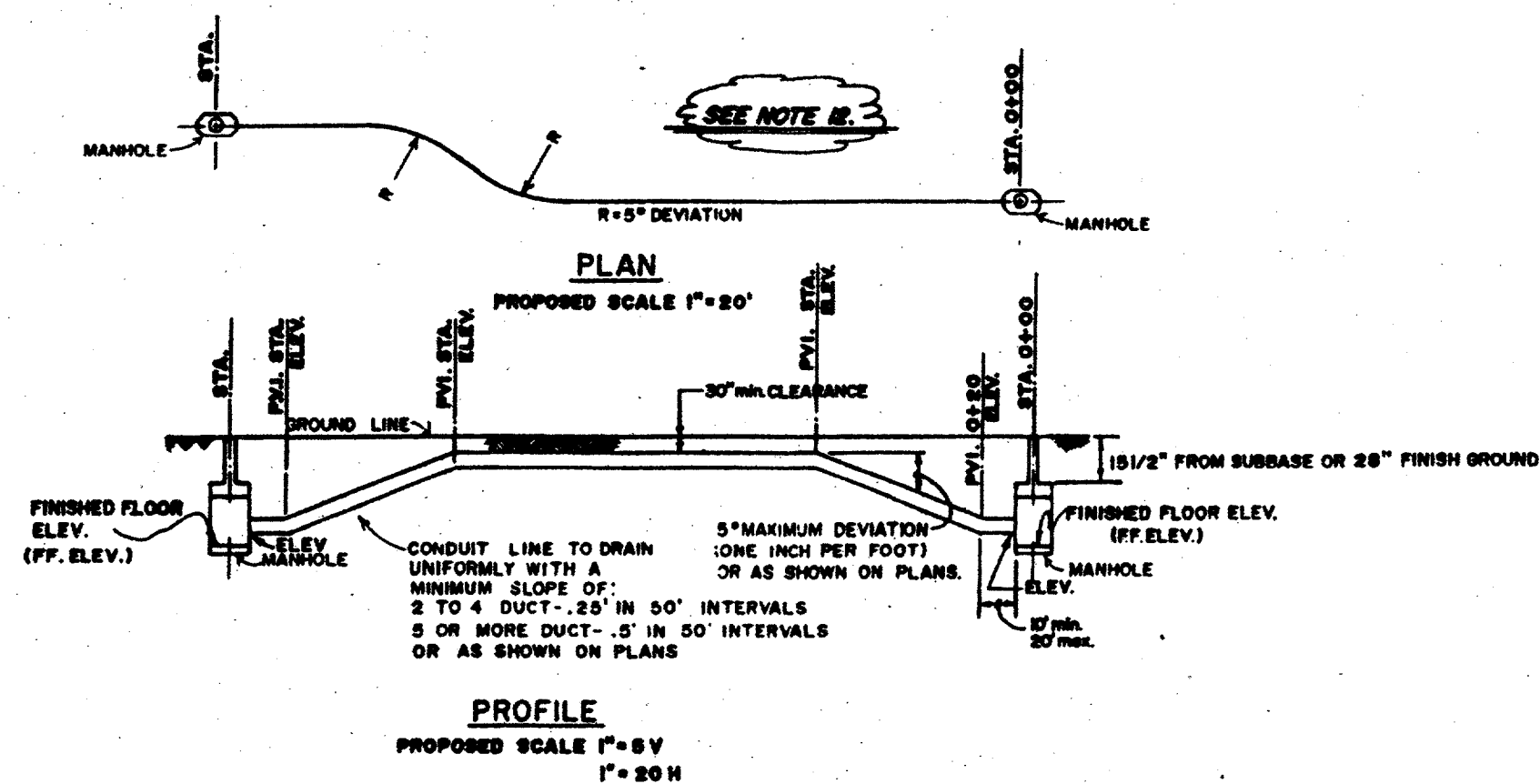


TABLE NO. 1

DUCT SIZE	MANDREL SIZE	SWAB SIZE
5"	4 3/4" X 8"	4 3/4" X 10"
4"	3 3/4" X 8"	3 3/4" X 10"
3"	2 3/4" X 8"	2 3/4" X 10"
2"	1 3/4" X 8"	1 3/4" X 10"
6"	5 3/4" X 8"	5 3/4" X 10"



NOTES:

1. ALL SECTIONS OF THE CONDUIT WILL BE RUN IN A STRAIGHT LINE AS CONDITIONS WILL PERMIT. DEVIATIONS WILL BE LAID OUT BY THE POWER COMPANY ENGINEER.
2. THE CONDUIT & FITTINGS WILL BE COATED LIBERALLY WITH PVC CEMENT, PUSH CONDUIT AND FITTING TOGETHER UNTIL CONDUIT BUTTS AGAINST FITTING SHOULDER. TWIST CONDUIT 1/4 TURN TO ASSURE SMOOTH SPREADING OF CEMENT. MINIMUM MIN. COVER TO BE 50".
3. WHEN COMPLETE, EACH CONDUIT OF A MAIN DUCT LINE WILL HAVE A MANDREL AND SWAB PULLED THROUGH THE ENTIRE LENGTH & EACH CONDUIT OF A LATERAL LINE WILL HAVE A SWAB PULLED THROUGH THE ENTIRE LENGTH TO CHECK FOR BLOCKAGES OR OTHER UNDESIRABLE CONDITIONS. SEE TABLE NO. 1 FOR MANDREL AND SWAB SIZE FOR CORRESPONDING CONDUIT SIZE.
4. ALL DITCH CUTS WILL BE IN ACCORDANCE WITH EXISTING SAFETY REGULATIONS IN EFFECT.
5. ALL CONDUIT RUNS ON L.H. & STATE HWY. R.O.W. WILL REQUIRE A MINIMUM OF 5' CONCRETE COVER FROM THE UPPERMOST DUCT AND MIN. 30" COVER, FROM FINISH GRADE.
6. SEE PLANS FOR CONDUIT ARRANGEMENT.
7. FOR NUMBER, FORMATION, AND SIZE OF CONDUITS SEE JOB PLANS.
8. HIGH EARLY STRENGTH CEMENT PROHIBITED.
9. SHOW DITCH ELEVATION @ 50' INTERVALS @ EACH GRADE CHANGE AND AT MANHOLE ENTRANCE.
10. SHOW MANHOLE FINISH FLOOR ELEVATION.
11. ALL CONDUIT TO BE TYPE II, D.B. UNLESS OTHERWISE NOTED ON PLANS.
12. STATION EVERY 100 FT. IN PLAN VIEW AND EVERY 50 FT. WITH ELEVATION IN PROFILE PLUS STATION AND ELEVATION AT EACH GRADE CHANGE.

SECTIONS OF TYPICAL FORMATION

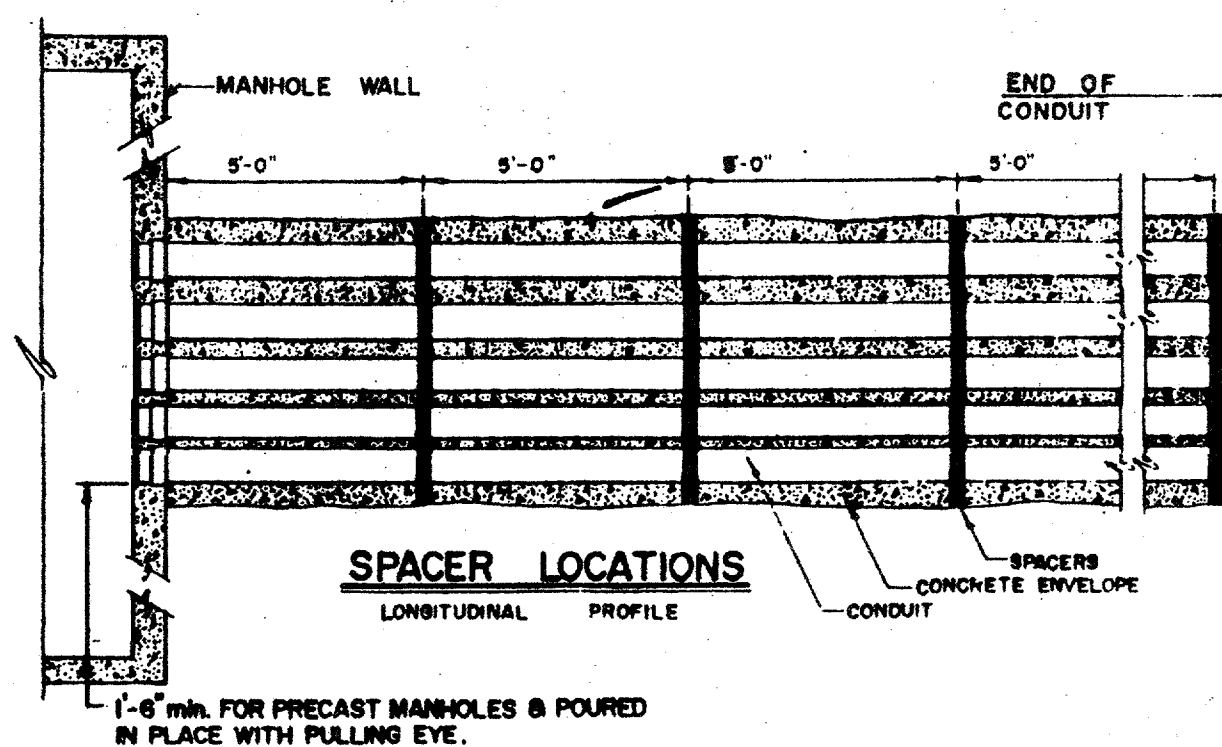
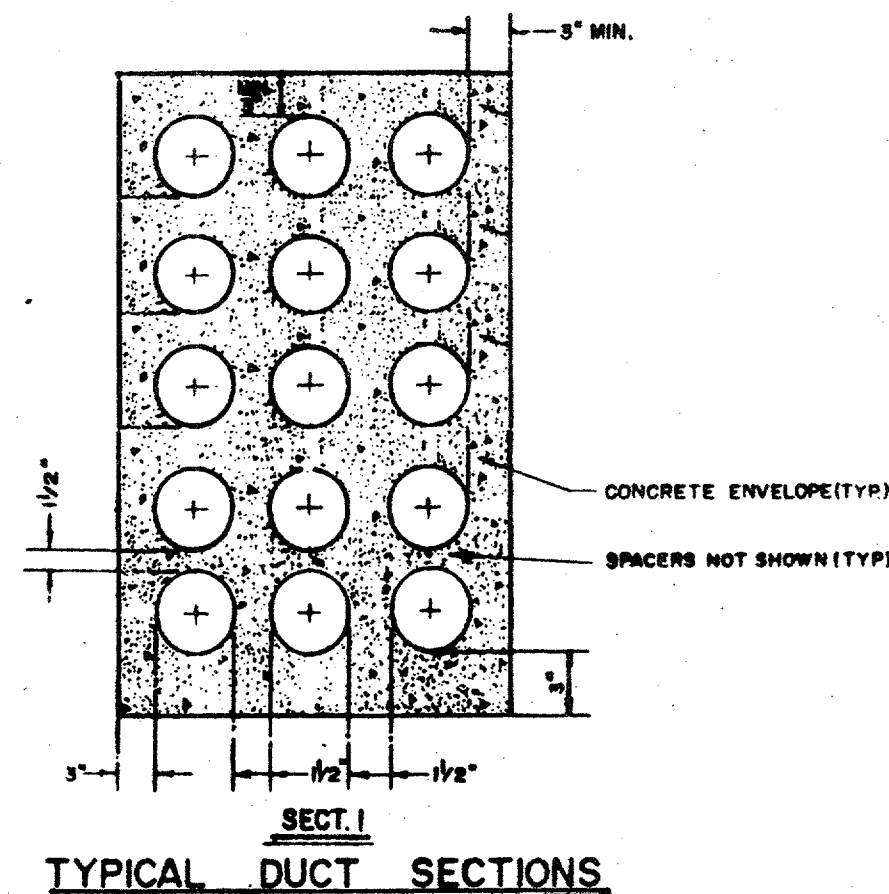


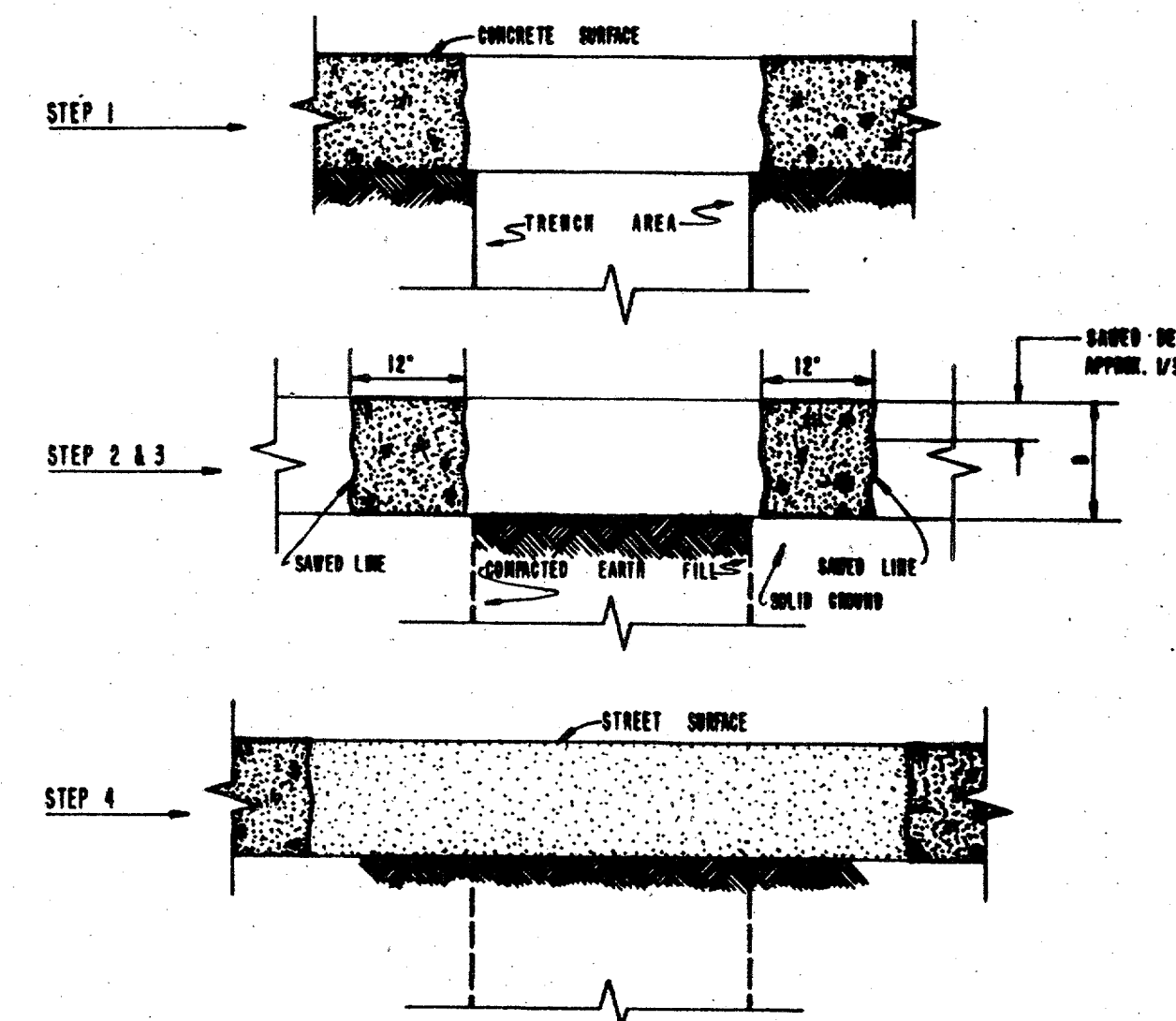
TABLE 2

CONDUIT SIZE	OUTSIDE DIAMETER	TYPE
2"	2.38"	PVC
3"	3.50"	PVC
4"	4.50"	PVC
5"	5.50"	PVC
6"	6.50"	PVC
PVC CEMENT		

DETAIL #20

SEQUENCE OF CONSTRUCTION

- STEP 1: SUFFICIENT CONCRETE WILL BE REMOVED TO PERMIT TRENCH EXCAVATION.
- STEP 2: UPON COMPLETION OF THE INSTALLATION OF THE CONDUIT LINE, THE TRENCH WILL BE BACKFILLED AND COMPACTED TO THE REQUIRED DENSITY UP TO THE BASE OF PAVEMENT.
- STEP 3: THE CONCRETE PAVEMENT WILL BE SAVED TO A DEPTH OF APPROXIMATELY ONE THIRD OF THE DEPTH OF PAVEMENT PARALLEL TO THE LINE OF TRENCH ONE FOOT BACK OF SOLID GROUND. PAVING BREAKERS CAN THEN BE USED TO BREAK THE EXCESS CONCRETE.
- STEP 4: THE EXPOSED EDGES OF THE CONCRETE WILL BE CLEANED SO A GOOD BOND CAN BE OBTAINED WHEN VOID IS FILLED.



NOTE: ASPHALT DRIVING SURFACES;
SEQUENCE OF CONSTRUCTION ON CONCRETE STREETS WITH ASPHALT DRIVING SURFACES WILL BE THE SAME AS SEQUENCE, EXCEPT STEP 3, THE ASPHALT WILL BE CUT IN A STRAIGHT LINE USING METHODS ACCEPTABLE WITH THE CITY SPECIFICATIONS. SAWING OF THE CONCRETE WILL NOT BE REQUIRED.

STREET BREAKING AND REPLACEMENT DETAILS

DETAIL #19
CONCRETE SPECIFICATION

I. GENERAL

THESE SPECIFICATIONS APPLY TO MANHOLE, VAULT, AND DUCT LINE CONSTRUCTION ON THE UNDERGROUND SYSTEMS IN THE DOWNTOWN NETWORK. THE CONCRETE SHALL BE OF ONE OF THE CLASSES SPECIFIED ON THE DRAWINGS FOR THE TYPE OF WORK UNDER CONSTRUCTION. THE RATIO OF SAND TO GRAVEL SHALL BE USED SO AS TO OBTAIN AS DENSE AND ECONOMICAL CONCRETE AS POSSIBLE WITH THE MATERIALS AVAILABLE AND FOR THE CLASS OF WORK UNDER CONSTRUCTION. BUT IN NO CASE SHALL THE RATIO OF CEMENT TO THE INERT CONTENTS BE LESS THAN THE CLASS OF CONCRETE SPECIFIED.

II. SPECIFICATIONS FOR MATERIALS

- CEMENT: THE CEMENT SHALL CONFORM TO "STANDARD SPECIFICATIONS FOR PORTLAND CEMENT" ASTM C-150 FOR TYPE I NORMAL PORTLAND CEMENT AND TYPE III, HIGH-EARLY-STRENGTH PORTLAND CEMENT. THE CEMENT SHALL BE PROPERLY PROTECTED FROM THE WEATHER UNTIL USED AND SHALL BE DRY AND FREE FROM LUMPS WHEN PLACED IN THE MIXER.
- SAND: THE SAND SHALL CONSIST OF HARD SILICEOUS MATERIAL, FREE FROM VEGETABLE MATTER, ORGANIC MATTER, OR SURFACE COATING, THAT IS INHABITOUS TO CONCRETE. THE GRAINS SHALL BE GRADDED IN SIZE FROM ONE-FOURTH (1/4) INCH DOWN, WITH NOT MORE THAN TWENTY-FIVE PER CENT BY WEIGHT UNDER NO. 20 AND NO. 40 SIEVES, PASSING A 20 MESH PER LINEAL FOOT SIEVE, AND NOT MORE THAN FIVE PER CENT PASSING A 100 MESH PER LINEAL FOOT SIEVE. THREE PER CENT BY WEIGHT OF CLAY OR LOAM, OR A COMBINATION OF THE TWO, WILL BE PERMITTED PROVIDED THEY ARE WELL PULVERIZED AND DISTRIBUTED THROUGHOUT THE MIX. THE FINERNESS MODULUS SHALL NOT BE LESS THAN 2.5 AND NOT MORE THAN 3.0.
- GRAVEL: THE GRAVEL SHALL CONSIST OF CLEAN, HARD, TIGHT STONES FREE FROM VEGETABLE MATTER, ORGANIC MATTER, OR SURFACE COATING, RANGING IN SIZE FROM ONE-HALF (1/2) INCH DOWN, BUT NOT MORE THAN FIVE PER CENT BY WEIGHT UNDER NO. 20 AND NO. 40 SIEVES, PASSING A SCREEN HAVING FOUR MESHES PER LINEAL INCH AND NO INTERMEDIATE SIZES SHALL BE REMOVED.
- CONDUIT GRAVEL: THE GRAVEL SHALL CONSIST OF CLEAN, TIGHT STONES, FREE FROM VEGETABLE MATTER, ORGANIC MATTER, OR SURFACE COATING, RANGING IN SIZE FROM ONE-HALF (1/2) INCH DOWN, BUT NOT MORE THAN FIVE PER CENT BY WEIGHT UNDER NO. 20 AND NO. 40 SIEVES, PASSING A SCREEN HAVING FOUR MESHES PER LINEAL INCH AND NO INTERMEDIATE SIZES SHALL BE REMOVED.
- WATER: THE WATER USED FOR MIXING OR SPRINKLING CONCRETE SHALL BE CLEAN AND FREE FROM EARTH, SILT, ALKALI, SALT, OR OTHER DETRIMENTAL IMPURITIES. WHEN POSSIBLE CITY WATER WILL BE USED.
- STEEL: METAL REINFORCEMENT BEFORE BEING PLACED SHALL BE FREE FROM LOOSE RUST SCALE, GREASE, CLAY OR OTHER COATINGS THAT WILL DESTROY OR REDUCE THE BOND. THE STEEL SHALL CONFORM TO THE LATEST EDITION OF "SPECIFICATION FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT" (ASTM A-615.)

III. FIELD TEST FOR MATERIALS

FIELD TESTS SHALL BE MADE AS OFTEN AS IS NECESSARY TO INSURE THE MATERIALS CONFORMING TO THE FOREGOING SPECIFICATIONS. THE METHOD OF MAKING THESE TESTS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE AMERICAN SOCIETY FOR TESTING MATERIALS FOR CONCRETE AND CONCRETE AGGREGATES.

IV. CLASSES OF CONCRETE AND MIX DESIGN

A. TABLE 1	A	B	C
CLASS OF CONCRETE:	2000 psi	3000 psi	3000 psi
WATER CONTENT (INCLUDING FREE SURFACE MOISTURE)			
RATIO OF WATER TO CEMENT BY WEIGHT	.60	.58	.58
BALLONS PER SACK	7.5	6.5	6.5
MINIMUM CEMENT CONTENT POUNDS PER CUBIC YARD	275	320	320
SACKS PER CUBIC YARD	6	5.5	5.5
TYPE CEMENT	I	I	III (HIGH EARLY)
ALLOWABLE SLUMP	5"-6"	4"-5"	5"-6"
MINIMUM FINE AGGREGATE CONTENT	405	395	375
MINIMUM AGGREGATE SIZE	1/2"	1 1/2"	1 1/2"

1. FOR DUCT LINE INSTALLATION USE CLASS A (2000+1) CONCRETE, OR AS SPECIFIED ON PLANS.
 2. FOR MANHOLE AND VAULT INSTALLATIONS USE CLASS B (3000+1) CONCRETE.
 3. FOR STREET WALK REPAIR USE CLASS C (3000+1) CONCRETE.
- READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE LATEST EDITION OF "SPECIFICATIONS FOR READY-MIX CONCRETE" ASTM C-94.
- CONCRETE MADE BY VOLMETRIC BATCHING AND CONTINUOUS MIXING SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE LATEST EDITION OF "SPECIFICATIONS FOR CONCRETE MADE BY VOLMETRIC BATCHING AND CONTINUOUS MIXING" ASTM C-495.
- ALL CONCRETE SHALL BE PLACED WITHIN ONE HOUR AFTER MIXING.

V. DESIGN AND MIXING OF MORTAR AND CONCRETE MORTAR MIXES

- MORTAR DESIGN: MORTAR SHALL BE COMPOSED OF ONE PART TYPE I PORTLAND CEMENT TO 2 3/4 PARTS GRADED STANDARD SAND BY VOLUME. THE SAND SHOULD NOT BE EXCESSIVELY WET OR ENTIRELY DRY WHEN MEASURED.
- CONCRETE MORTAR MIX DESIGN FOR SMALL JOBS: THE FOLLOWING RATIOS REFER TO THE VOLUMES, RESPECTIVELY, OF CEMENT, SAND, AND AGGREGATE TO BE USED FOR EACH MIX.
 - (1:1:2 1/4) FOR USE WITH MAXIMUM AGGREGATE SIZE OF 1/2".
 - (1:1:2 1/8) FOR USE WITH MAXIMUM AGGREGATE SIZE OF 1 1/2".
- MIXING OF CONCRETE: THE CEMENT AND NATURAL MIXED AGGREGATE SHALL BE MEASURED IN SUITABLE CONTAINERS. THE MIXTURES SHALL BE PROPORTIONED BY VOLUME, EACH ITEM BEING MEASURED, LOOSE AND SEPARATELY. IF MACHINE MIXED IN A ROTARY TYPE BATCH MIXER, THE SPEED OF THE OUTSIDE EDGE OF THE DRUM SHALL BE ABOUT 120 FEET PER MINUTE. DRY MIX THE CEMENT AND AGGREGATES UNTIL OF UNIFORM MIXTURE. WATER SHALL THEN BE ADDED UNTIL A WORKABLE MIXTURE IS PRODUCED. EACH BATCH OF CONCRETE SHOULD BE USED IMMEDIATELY AFTER MIXING.
- MIXING OF MORTAR: THE CEMENT AND SAND SHALL BE MIXED DRY UNTIL OF UNIFORM COLOR. WATER SHOULD THEN BE ADDED AND THE MIXTURE TURNED UNTIL IT FORMS A UNIFORM AND WORKABLE PASTE. EACH BATCH OF MORTAR SHOULD BE USED IMMEDIATELY AFTER MIXING.

VI. PLACING OF CONCRETE

- DUCT LINES: THE CONCRETE FOR CONDUIT LINES SHALL BE PLACED MONOLITHICALLY IMMEDIATELY AFTER MIXING. THE CONCRETE WILL BE SO TAMPED OR PULDED SO AS TO MAKE A DENSE CONCRETE ENVELOPE AROUND THE DUCTS. IF NECESSARY TO JOIN A NEW CONDUIT LINE ONTO ONE IN WHICH THE CONCRETE HAS SET, THE OLD SURFACE SHALL BE CLEANED, ROUNDED AND WETTED.
- MANHOLES AND TRANSFORMER VAULTS: THE CONCRETE FOR MANHOLES AND VAULTS SHALL BE PLACED IMMEDIATELY AFTER MIXING. THE CONCRETE SHALL BE PLACED SO AS TO KEEP THE SURFACE OF THE CONCRETE LEVEL TO PREVENT ANY FLOWING OF THE CONCRETE IN THE FORMS. THE CONCRETE SHALL BE CONTINUOUSLY SPADED TO EXPEL AIR BUBBLES. THE TOP OF THE WALLS SHALL BE WELL CLIPPED, ROUNDED AND WETTED IMMEDIATELY BEFORE POURING THE ROOF SLAB.
- STREET PAVEMENT: SEE DETAIL #20

VII. PROTECTION OF FRESH CONCRETE

CONCRETE SHALL BE KEPT MOIST BY SPRINKLING WITH WATER FOR A PERIOD SUITABLE TO THE CONTRACTOR OF THE STRUCTURE. WALKING OR WORKING OVER FINISHED SURFACES SHALL NOT BE PERMITTED UNTIL SAND HAVE SUFFICIENTLY SET. FINISHED STREET SURFACES SHALL BE WELL AND PROTECTED FOR AT LEAST FORTY-EIGHT HOURS AFTER PLACEMENT. FORMS AND BRACINGS FOR WALLS OF MANHOLES AND TRANSFORMER VAULTS SHALL NOT BE DISTURBED DURING THE FIRST THIRTY-SIX HOURS AFTER CONCRETE HAS BEEN PLACED. FORMS AND BRACINGS FOR ROOFS OF MANHOLES AND TRANSFORMER VAULTS SHALL NOT BE REMOVED FOR AT LEAST SEVEN DAYS AFTER CONCRETE HAS BEEN PLACED.

VIII. FINISH

UNLESS ESPECIALLY CALLED FOR, NO WORK IS TO BE DONE BY WAY OF FINISHING CONCRETE TO SURFACES AFTER THE FORMS ARE REMOVED, EXCEPT THAT SERIOUS FAULTS IN THE CONCRETE SURFACE SHALL BE CHISELED OUT AND POCKET FURNISHED AND FILLED WITH CEMENT MORTAR IN SUCH A MANNER THAT THE PATCH IS SECURELY KEPT INTO THE CONCRETE SURFACE.

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SCALE (H=NO SCALE) (V=NO SCALE)	LIST OF DRAWINGS	W.A.	ESTIMATE	UNIT ID	DWG TYPE	REVISION DESCRIPTION	DATE	NO.	APP. PRN	APP. JES	ENG. JRC	CH. JRC	DWN. MED	DATE 05-12-92
	NETWORK UNDERGROUND APPURTENANCE SHEETS MISCELLANEOUS DETAILS													

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SHEET NO. 8