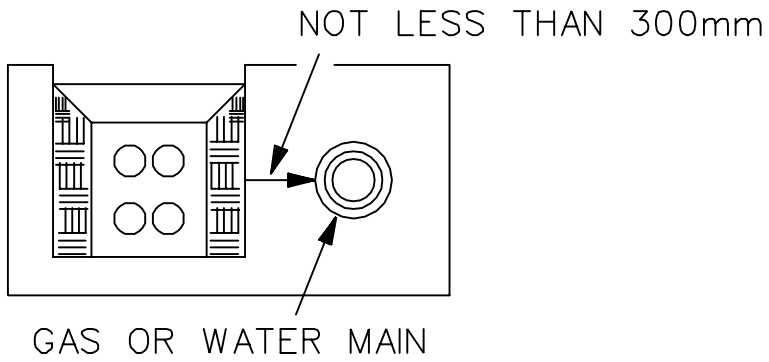
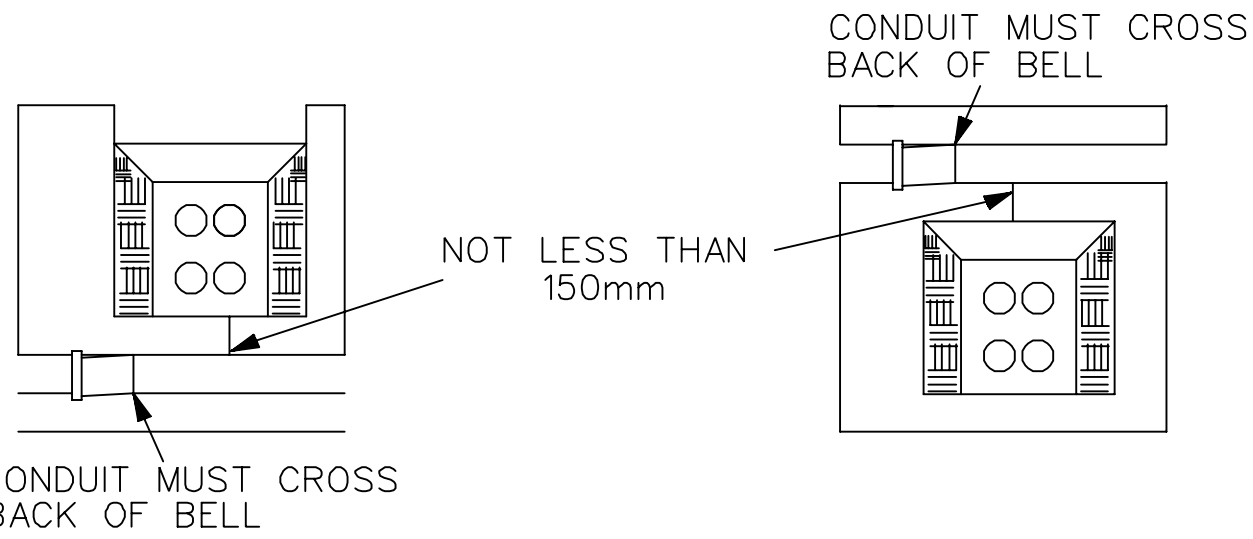
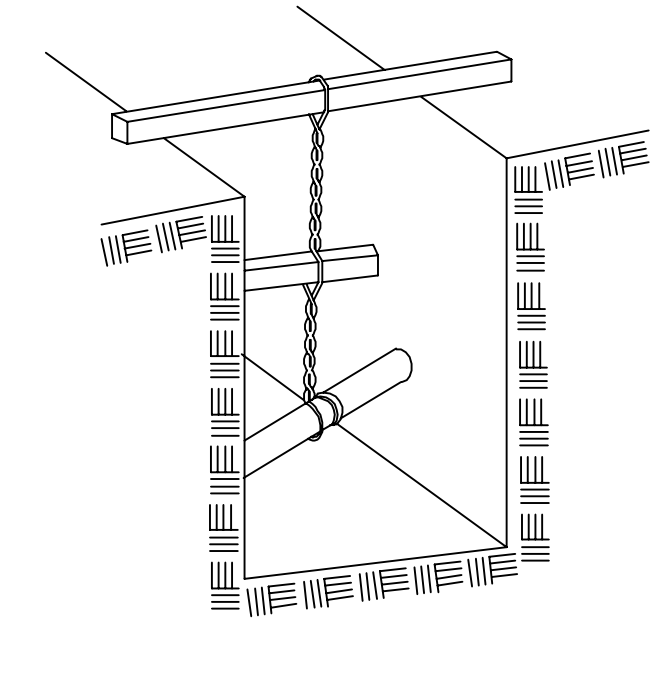
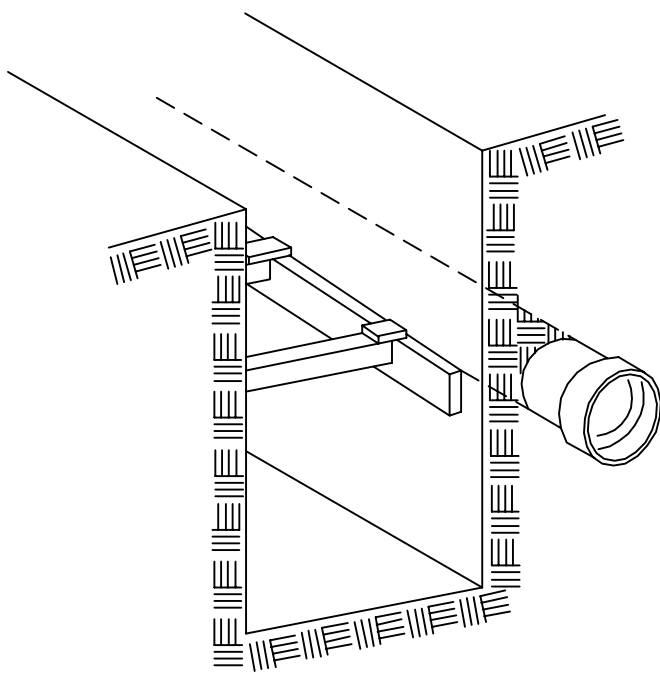


FIRE HYDRANTS

FIRE HYDRANTS MUST BE ACCESSIBLE AT ALL TIMES. IF NECESSARY TO MAINTAIN ACCESSIBILITY, BRIDGE THE TRENCH WITH METAL PLATES STRONG ENOUGH TO SUPPORT FIRE APPARATUS. DO NOT PLACE MATERIALS IN FRONT OF A FIRE HYDRANT. LEAVE A CLEAR SPACE OF 3048mm (10 FEET OR MORE, IF REQUIRED BY MUNICIPAL OR OTHER REGULATIONS) ON ALL SIDES OF FIRE HYDRANTS.

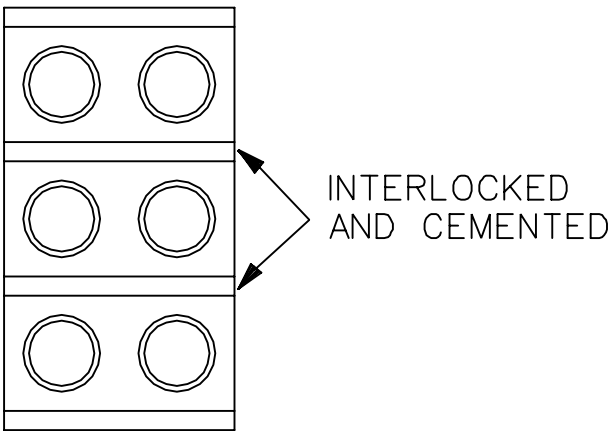


DETAIL 1

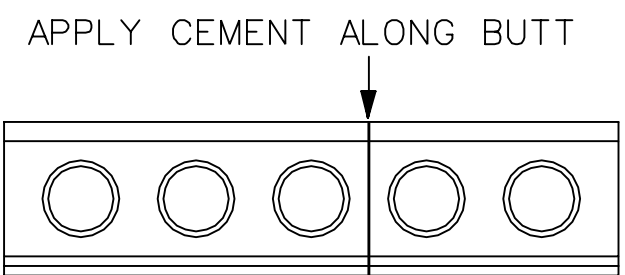


ACS-T-622-105-200

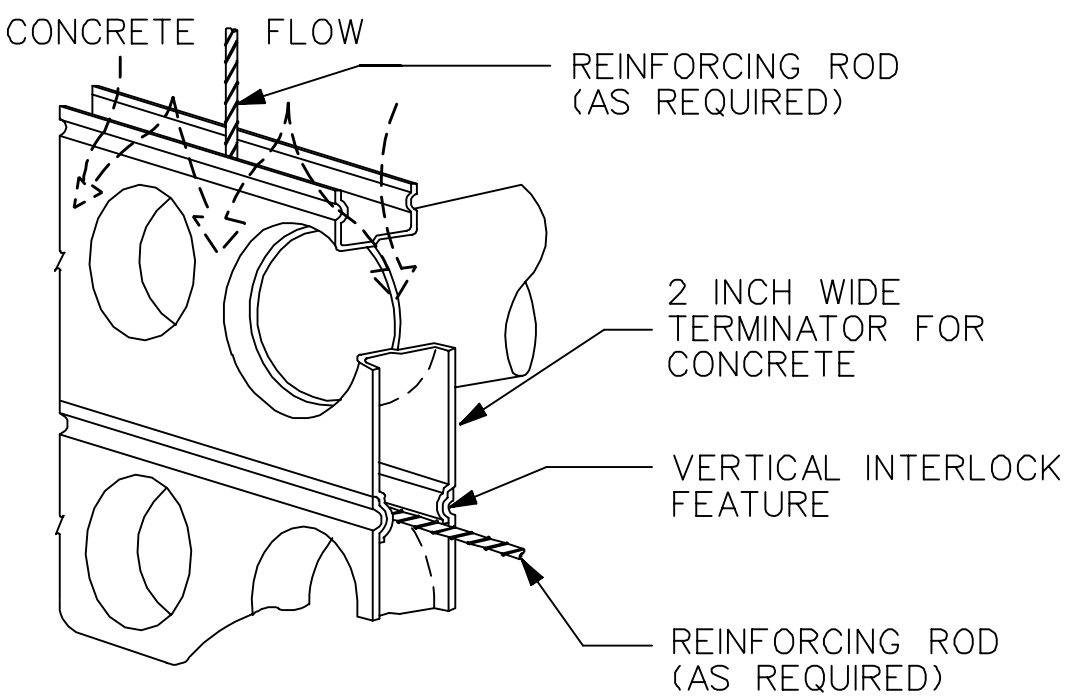
DETAIL 2



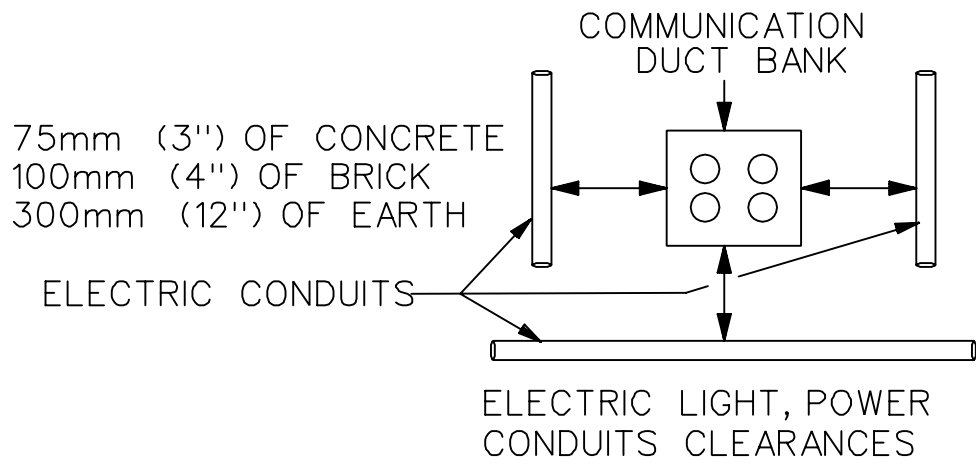
TYPICAL TERMINATOR BANK - THREE TIERS OF TWO-WAY DUCT TERMINATORS



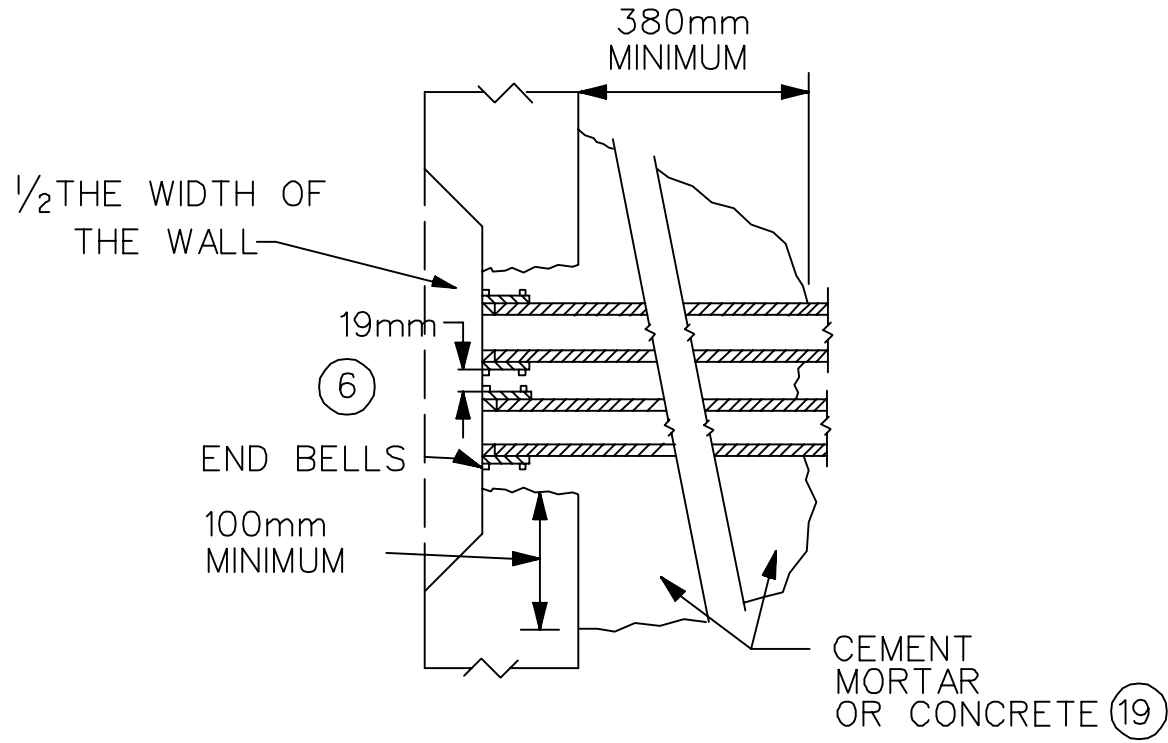
BUTTED TERMINATORS



PLASTIC DUCT TERMINATORS



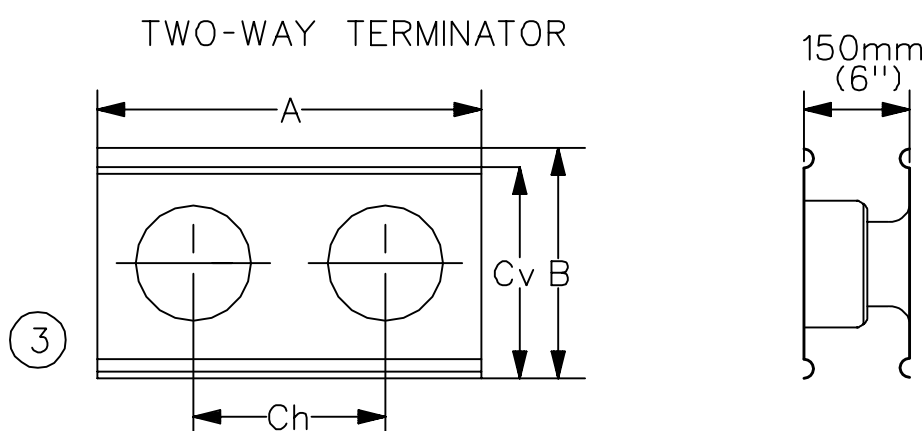
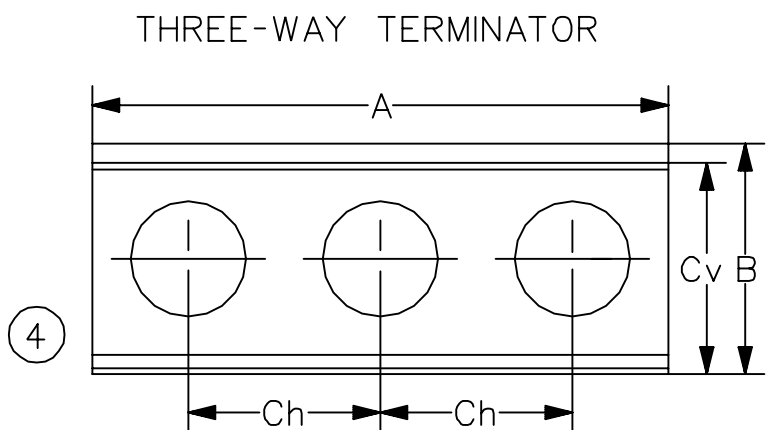
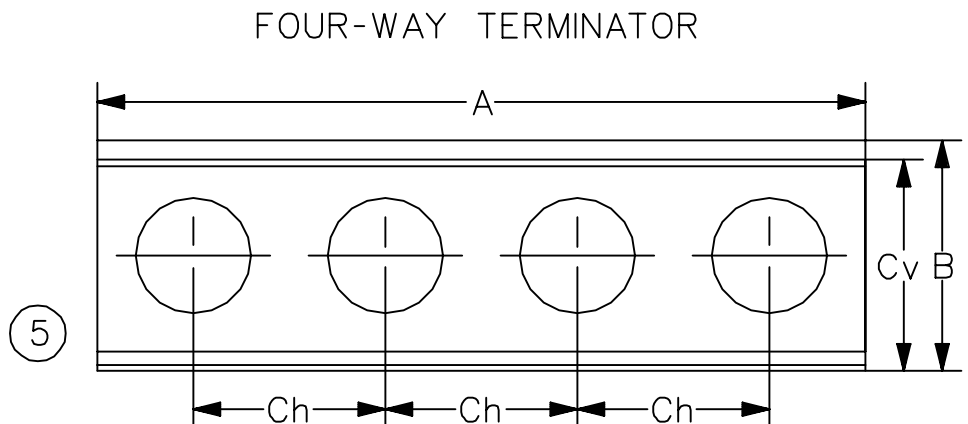
DETAIL 3



TYPICAL CONDUIT TERMINATION WITH END BELLS WITH RELEASE

ACS-T-622-105-207

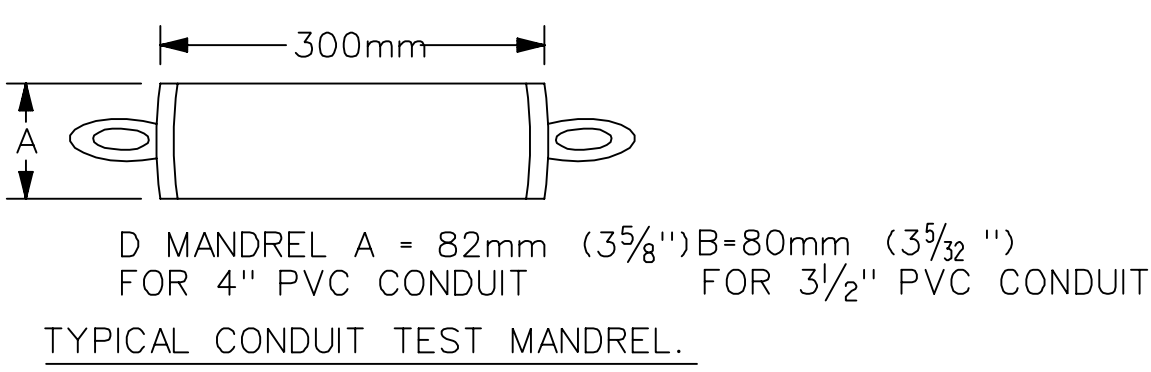
DETAIL 4



ACS-T-622-105-208

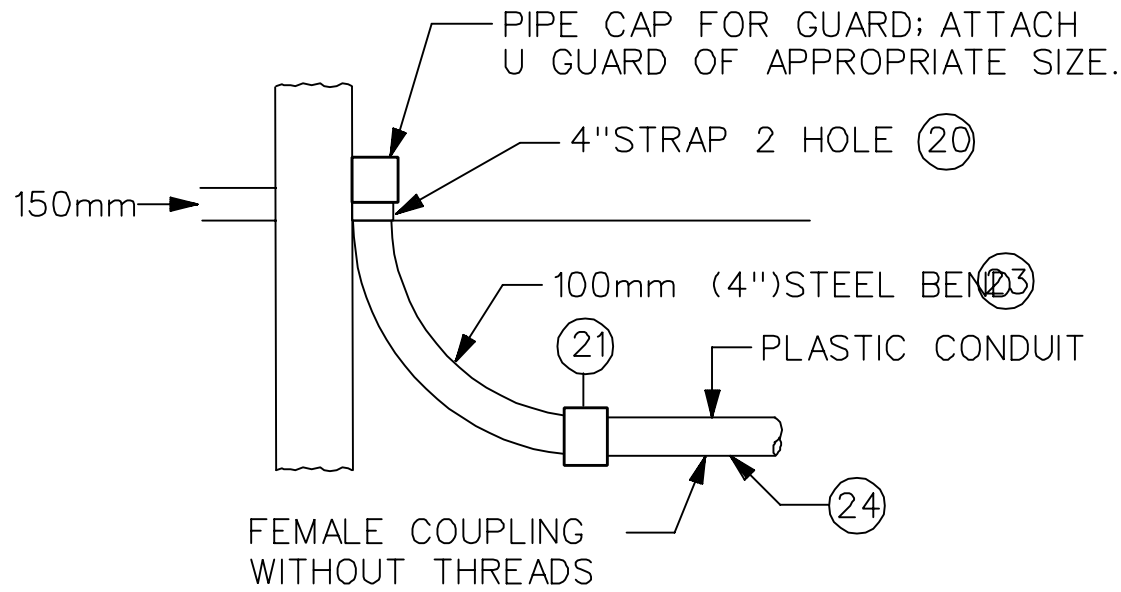
DETAIL 5

25mm (1") NOMINAL DUCT SEPARATION - AT MANHOLES, BUILDINGS, AND CABLE VAULTS											
DUCT SIZE		A				CH		CV		B	
		2 - WAY		3 - WAY		4 - WAY					
mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES
50	(2)	187	(7 3/8)	275	(10 13/16)	362	(14 1/4)	87	(3 3/16)	106	(4 1/8)
75	(3)	244	(9 5/8)	360	(14 1/8)	476	(18 3/4)	116	(4 5/8)	135	(5 3/8)
100	(4)	295	(11 5/8)	437	(17 1/8)	578	(22 3/4)	141	(5 5/8)	160	(6 3/8)
125	(5)	349	(13 3/4)	518	(20 3/8)	700	(27 1/2)	168	(6 5/8)	187	(7 3/8)
150	(6)	403	(15 7/8)	600	(23 5/8)	807	(31 3/4)	195	(7 7/8)	214	(8 3/8)

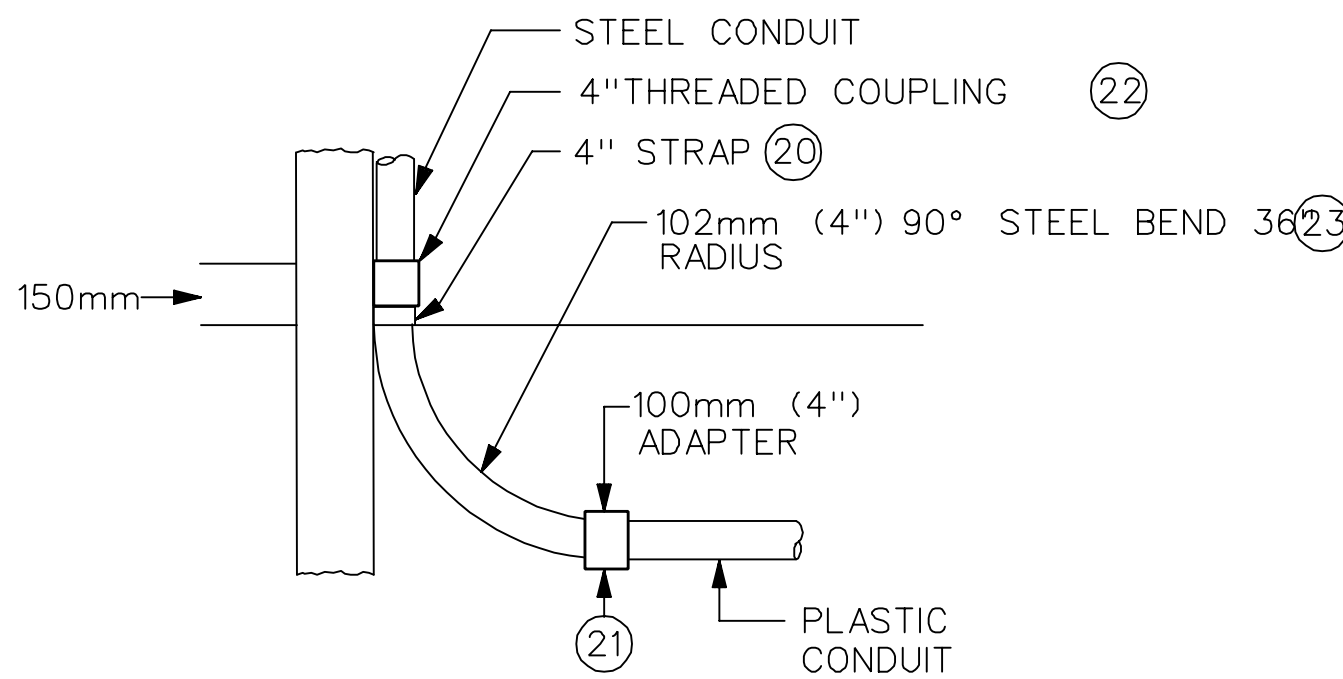


ACS-T-622-105-206

DETAIL 6



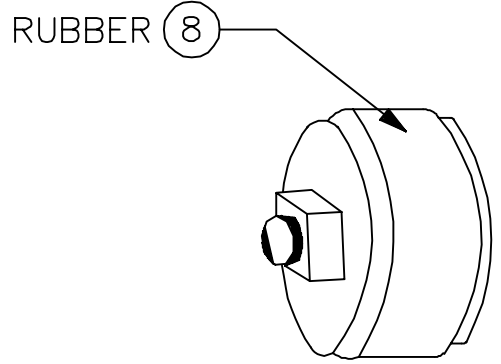
STEEL BEND WITH PLASTIC CONDUIT.



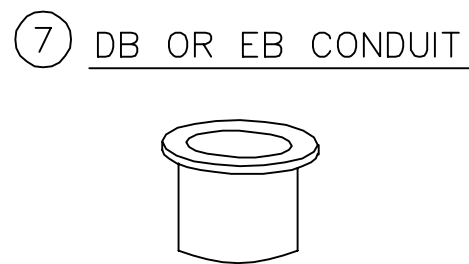
PLASTIC CONDUIT AND STEEL BEND ATTACHED TO STEEL CONDUIT.

ACS-T-622-301-200

DETAIL 7



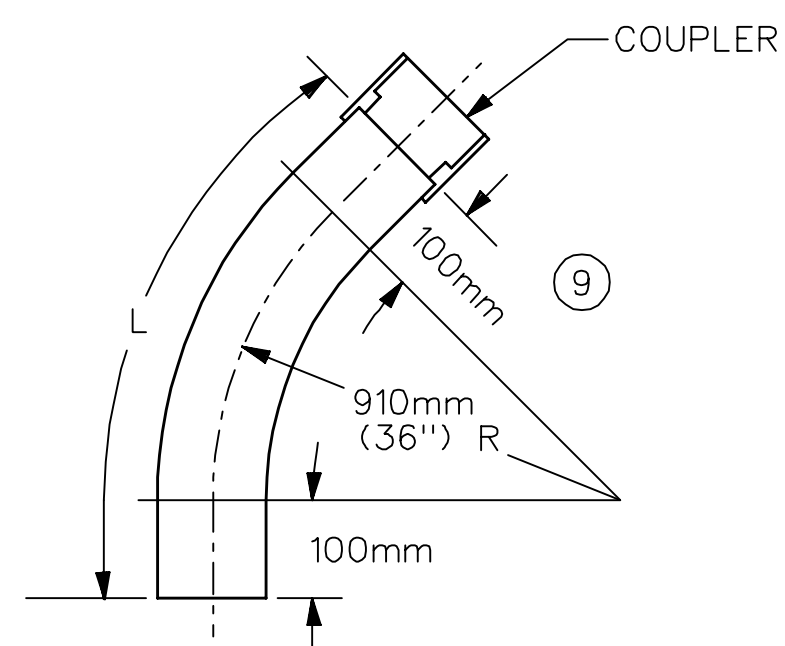
AMS-18-062-193 100mm (4") CONDUIT RUBBER PLUG



AMS-15-466-409 = 100mm (4") AMS-15-466-413 = 150mm (6") CONDUIT END PLUG - PLASTIC

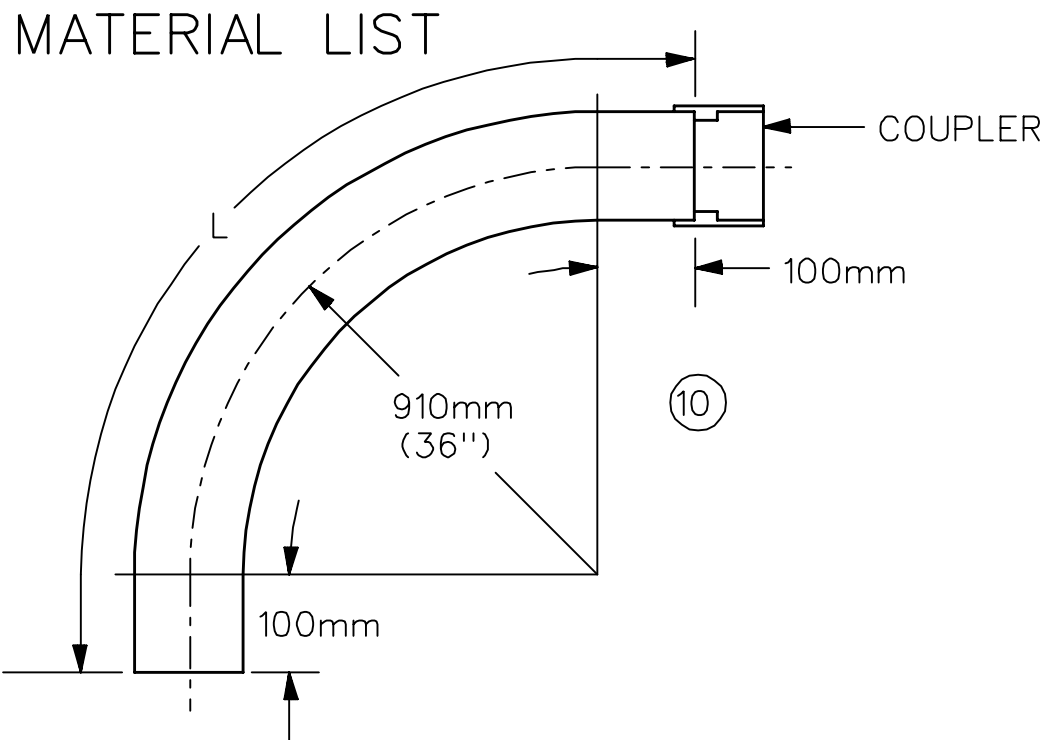
ACS-T-622-105-208

DETAIL 8



45° BEND, 910mm RADIUS

DETAIL 9



45° BEND, 910mm RADIUS

DETAIL 10

NOTE: 45° & 90° BENDS TO BE USED ONLY IN SHORT SUBSIDIARY RUNS, AND WHERE LARGE SIZE CABLES NOT REQUIRED ACS-T-622-020-100

MATERIAL LIST

KEY DWG NUMBER	ITEM	AMOUNT	AMS STOCK NUMBER
1	6 METERS LONG (DB) THICKWALL 4" CONDUIT, DIRECT BURIAL 6"	1-PER 6 METERS	15-312-017
2	6 METERS LONG (EB) THINWALL 4" CONDUIT, ENCASED BURIAL 6"	1-PER 6 METERS	15-312-037
3	DUCT, TERMINATOR 2-WAY 4"	1-PER 6 METERS	15-312-013
4	DUCT, TERMINATOR 3-WAY 4"	1-PER 6 METERS	15-312-033
5	DUCT, TERMINATOR 4-WAY 4"	1-PER 4 DUCTS	15-350-025
6	BELL, END CONDUIT	1-PER 1 DUCT	15-350-030
7	PLUG, CONDUIT (PLASTIC)	1-PER 4 DUCTS	15-274-409
8	PLUG, CONDUIT (RUBBER) SOLID 4"	1-PER 1 DUCT	15-274-413
9	45° (36") RADIUS ELBOW, CONDUIT (CURVE)	1-PER DUCT TERM	15-466-409
10	90° (36") RADIUS ELBOW, CONDUIT (CURVE)	1-PER DUCT TERM	15-466-413
11	SINGLE UNIT -(EB) THINWALL COUPLING, CONDUIT (DB)	1-PER DUCT	18-062-193
12	SPACER, CONDUIT - BASE	1-PER 3.7M	15-366-717
13	SPACER, CONDUIT-INTERMEDIATE	1-PER 3.7M	15-366-725
14	SINGLE UNIT -(EB) THINWALL COUPLING, CONDUIT (EB)	1-PER 3.7M	15-366-721
15	CEMENT, LIQUID (PVC TO PVC) 1 QT. CANS	1-PER 3.7M	15-366-729
16	CEMENT, SOLVENT WELDING (PVC TO ABS) 1 QT. CANS	1-PER 3.7M	15-333-809
17	USE WITH ITEM 16 - PRIMER, ADHESIVE 1 QT. CAN	1-PER 3.7M	15-333-813
18	SAND, SWEET	1-PER 3.7M	15-509-001
19	CONCRETE,	1-PER 3.7M	15-509-017
20	STRAP, 4" CONDUIT	1-PER 3.7M	15-509-005
21	ADAPTER, PLASTIC TO STEEL CONDUIT.	1-PER 3.7M	15-509-021
22	COUPLING, THREADED	1-PER DUCT	15-333-770
23	BEND, STEEL 36" RADIUS	1-PER DUCT	15-333-780
24	COUPLING, FEMALE	1-PER DUCT	15-333-780
25	STRAPPING, 3/4"	1-PER DUCT	15-333-780

A=AS REQUIRED

CONSTRUCTION NOTES

- CONSTRUCTION DETAILS ON "STANDARD" INSTALLATION OF DIRECT BURIED (TYPE DB) AND ENCASED BURIED (EB) PLASTIC SINGLE BORE CONDUITS FOR NON-HAZARDOUS AREAS ONLY.
- PRIOR TO CONSTRUCTION ALL PERMITS REQUIRED BY ARAMCO GENERAL INSTRUCTIONS 2.100 SHALL BE OBTAINED AND MADE READILY AVAILABLE.
- TRENCH CONSTRUCTION FOR VARIOUS TYPES OF SOILS, SHORING, PROTECTION, AND SAFETY SHALL BE CONSTRUCTED AS REQUIRED BY ARAMCO STANDARD DRAWING AB-36899.
- THERE ARE 2 SHEETS IN THIS STANDARD. SHEETS 1 OF 2 LIST OF MATERIALS. DETAIL "1" CLEARANCES DETAIL "2" SUPPORTING OTHER FOREIGN UTILITIES. DETAIL "3" CONDUIT CLEARANCES DETAIL "4" END BELL PLACEMENT. DETAIL "5" DUCT TERMINATORS. DETAIL "6" MANDRELL DETAIL "7" TERMINATION OF CONDUITS AT POLES. DETAIL "8" DUCT PLUGS RUBBER AND PLASTIC. DETAIL "9" 45° BEND DETAIL "10" 90° BEND SHEET 2 OF 2 DIRECT BURIED (TYPE DB) CONDUIT. DETAIL "11" 2-WAY DUCT CONFIGURATION. DETAIL "12" 3-WAY DUCT CONFIGURATION. DETAIL "13" 4-WAY DUCT CONFIGURATION. DETAIL "14" TYPICAL ENCASED CONDUIT IN CONCRETE. DETAIL "15" WOOD ALIGNMENT STAKES REQUIREMENT OF CONDUIT PRIOR TO PLACEMENT IN TRENCH. DETAIL "16" ENCASED BURIED (TYPE EB) CONDUIT INTERLOCKING DEVICES, (SPACERS) DETAIL "17" SLIP-JOINT COUPLINGS
- GRADE OF TRENCH IN RELATION TO GRADE OF STREET - SEE ARAMCO STANDARD DRAWING AG-36297
- BENDS OF 910mm (36") LIMITED TO LATERAL CONDUITS ONLY. ALL MAIN CONDUIT SHALL HAVE BENDS LARGER THAN 15 METERS (50 FT) RADIUS.
- ALL CONDUITS SHALL BE MANDRELLED OR RODDED PRIOR TO BACKFILL, TO THE SATISFACTION OF THE ARAMCO COMMUNICATION INSPECTOR.
- ALL DUCTS SHALL BE PLUGGED WITH EITHER PLASTIC PLUGS, OR EXPANDABLE RUBBER PLUGS SHOWN IN DETAIL "8"
- IF UNFORESEEN OBSTRUCTIONS ARE ENCOUNTERED SUCH AS HEAVY CONJESTION OF OTHER UNDERGROUND UTILITIES OR HEAVY ROCK FORMATION, CONDUIT DESIGN CONFIGURATION MUST BE APPROVED BY THE COMMUNICATION ENGINEERING DEPARTMENT.
- KEY DRAWING NUMBER REFERENCE ON MATERIAL LIST.
- ALL DUCTS SHALL BE SPLAYED ENTERING MANHOLE EXCEPT AS SHOWN ON 3-WAY DRAWING #2.

04.10.85	MHJ	COMPLETELY REDRAWN FOR CLARITY.									
REV. NO.	DATE	BY	DESCRIPTION	CH'K'D	CERT.	APP'D.					
FOR ARABIAN AMERICAN OIL COMPANY											
DRAWN BY A.B.M.S. CHECKED BY JW SCALE N.T.S.											
DATE STARTED DATE COMPLETED											
OPRG DEPT. ENG. DEPT											
FIRE & SAFETY											
THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OR FOR ORDERING MATERIAL UNTIL CERTIFIED AND DATED										CERTIFIED DATE	M.M.SALAMA
POLYVINYL CHLORIDE (P.V.C.) PLASTIC											
DIRECT BURIED/ENCASED CONDUIT IN CONCRETE											
METRIC TYPICAL INSTALLATION DRAWING											
TID. SAUDI ARABIA											
PLANT NO.	INDEX	DRAWING NO.	SHEET NO	REV NO							
990	T	AA-036373	001	01							