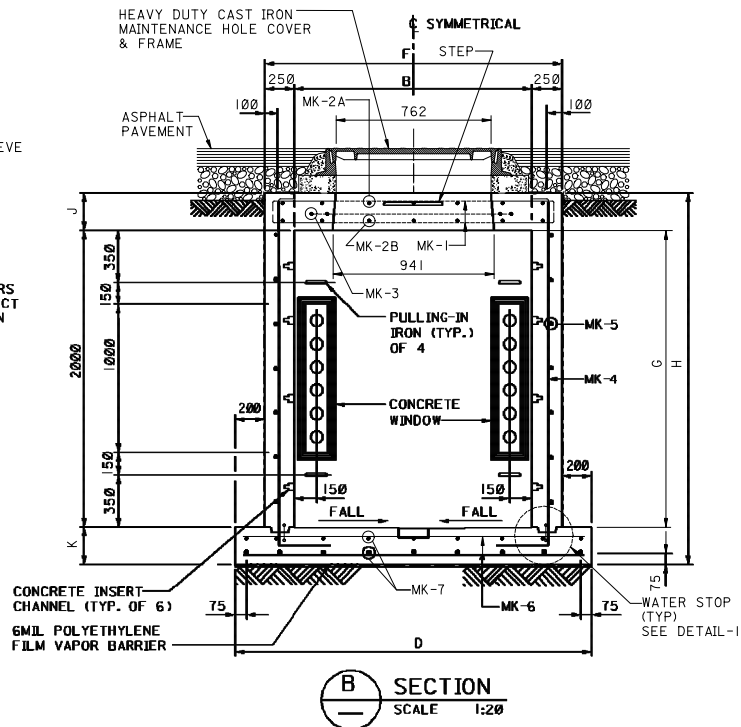
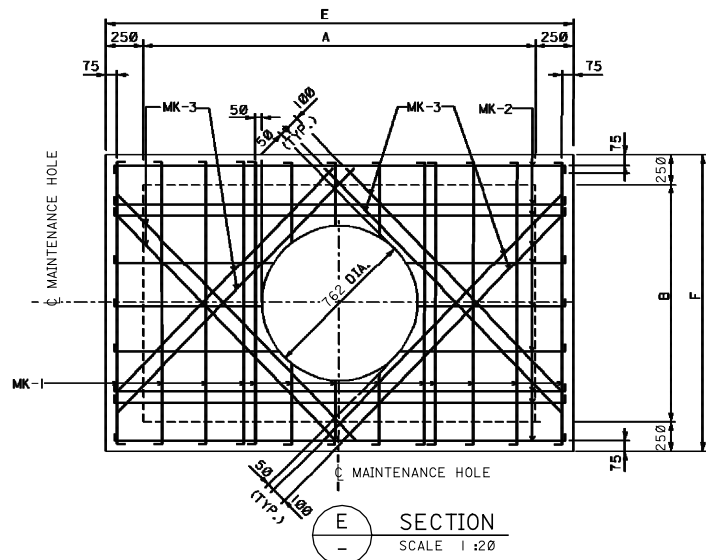
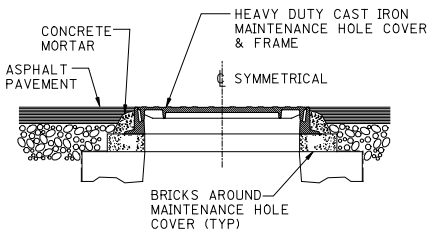
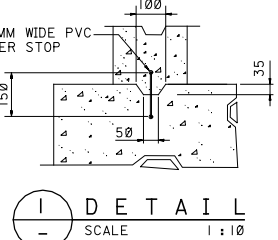
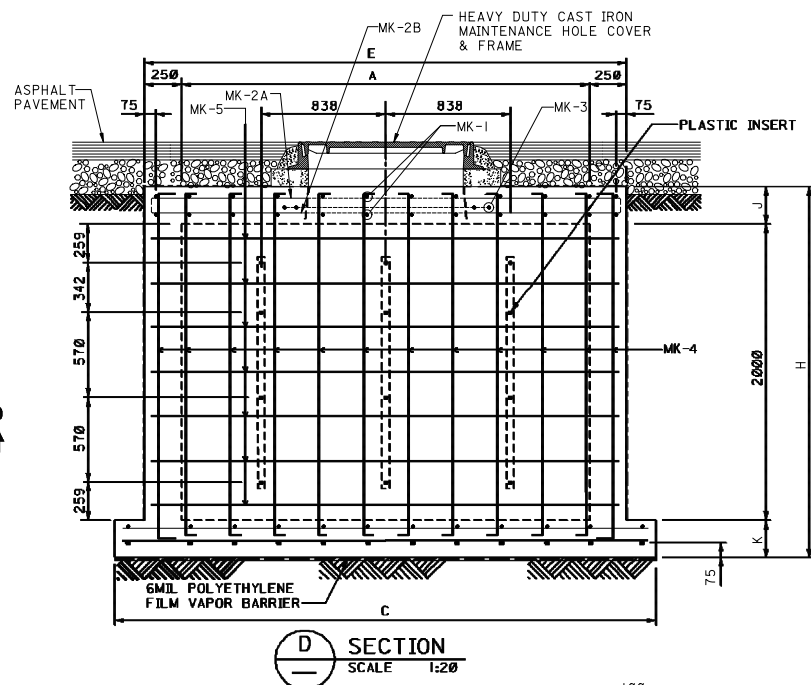
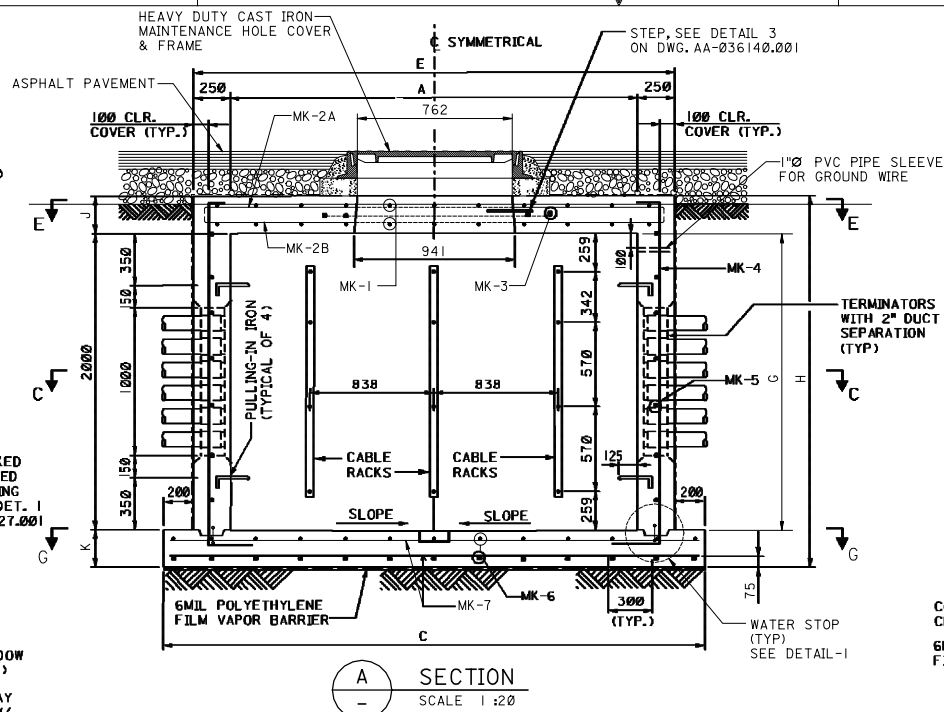
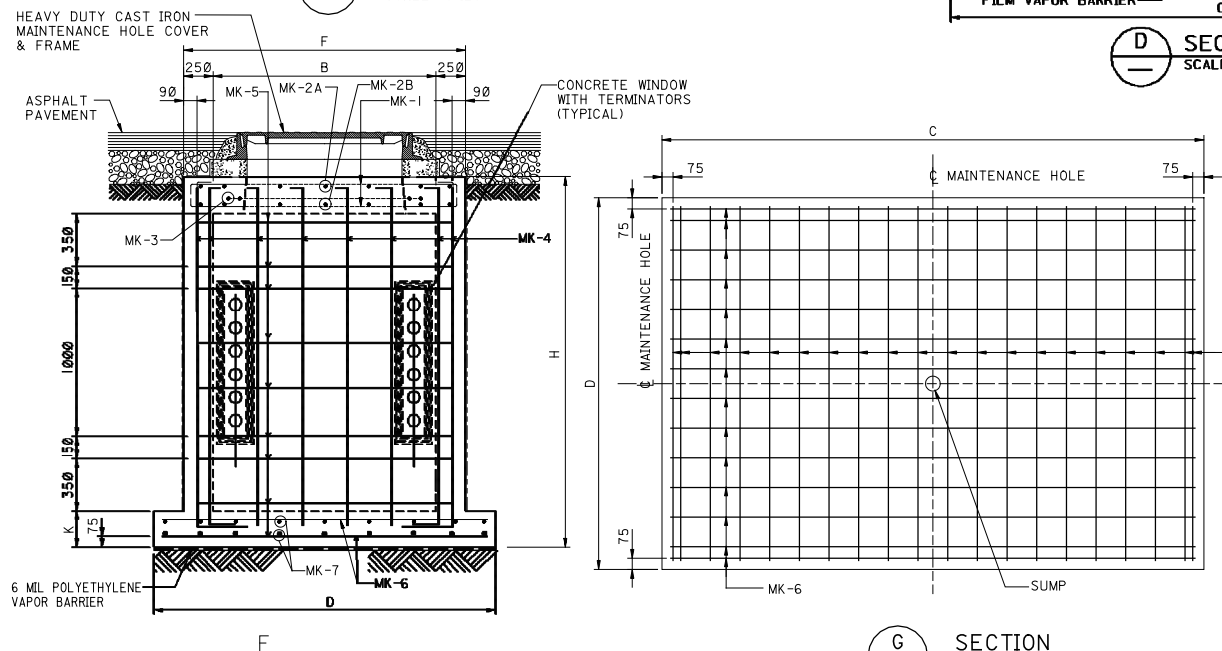




NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. DESIGN, FABRICATION, AND CONSTRUCTION SHALL COMPLY WITH SAES-0-001. PRECAST CONCRETE SHALL ALSO COMPLY WITH SAES-0-012.
3. EXCAVATION AND BACKFILL SHALL COMPLY WITH SAES-A-114.
4. ORIGINAL DESIGN LOADING WAS CALCULATED USING A CLASS H-20-40 TRUCK WITH MAXIMUM AXLE LOAD OF 85 KN (19.07 KIPS).
5. REVISED DESIGN LOADING WAS CALCULATED USING A CLASS HS-20 TRUCK WITH MAXIMUM WEIGHT OF 40 TONS & AXLE LOAD OF 170.06 KN (38.14 KIPS).
6. 10mmØ ROUND STEEL BAR STEPS SHALL BE SET SO THAT LEGS EXTEND THROUGH BRICKWORK OR GRADE RINGS.
7. TYPE V PORTLAND CEMENT SHALL BE USED.
8. REINFORCING STEEL SHALL CONFORM TO ASTM-615 GRADE 50 WITH A MINIMUM YIELD STRENGTH, $F_y=345$ MPa (50,000 PSI). BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH 09-SAMSS-106. ALL REINFORCING BARS SHALL COMPLY WITH SASO SSA2/ 1979.
9. FABRICATION AND INSTALLATION OF FBE COATED REBAR SHALL BE IN ACCORDANCE WITH SAES-0-001 AND 09-SASS-106.
10. REBAR SPACING MAYBE ADJUSTED SLIGHTLY IN THE FIELD TO AVOID CUTTING THE REBARS DUE TO PLACEMENT OF TERMINATOR BANKS.
11. REBAR SHALL BE CUT ONLY BY BAR CROPPER OR HACKSAW.

LEGEND

TYP	TYPICAL
EQ	EQUAL
OC	ON CENTER
CLR	CLEAR
T&B	TOP & BOTTOM

REFERENCE DRAWINGS

NOTES: (CONTINUATION)

12. SAND OR SELECT MARL HAVING NO ROCKS EXCEEDING 5mm Ø SHALL BE USED FOR BACKFILL.
13. CONCRETE SHALL NOT BE PLACED UNTIL THE FORMS REINFORCING STEEL, BRAID, PLASTIC INSERT CHANNELS, DUCT TERMINATORS, PULLING-IRONS, STEP FOR HOOKED LADDER ETC. HAVE BEEN INSPECTED BY THE ARAMCO COMMUNICATION INSPECTOR.
14. TWO LAYERS OF BITUMINOUS COATING SHALL BE APPLIED TO ALL SURFACES, IN DIRECT CONTACT WITH SOIL OF REINFORCED CONCRETE ELEMENTS BEFORE GRADE AFTER 14 DAYS (MIN) CURING.
15. 6ML (Ø.15mm) THK POLYETHYLENE SHEET VAPOR BARRIER SHALL BE PLACED UNDER THE SLABS IN DIRECT CONTACT WITH SOIL.

REINFORCING BARS		
BAR MARK	MAINTENANCE HOLE TYPE	
	I-(A)	I-(B)
MK-1	16Ø @ 200 O.C. T.&B	16Ø @ 200 O.C. T.&B
MK-2A	16Ø @ 200 O.C.	16Ø @ 200 O.C.
MK-2B	20Ø @ 200 O.C.	20Ø @ 200 O.C.
MK-3	2-16Ø	2-16Ø
MK-4	16Ø @ 250 O.C.	16Ø @ 250 O.C. E.F.
MK-5	12Ø @ 250 O.C.	12Ø @ 250 O.C. E.F.
MK-6	16Ø @ 200 O.C. T.&B	16Ø @ 200 O.C. T.&B
MK-7	20Ø @ 200 O.C. T.&B	20Ø @ 200 O.C. T.&B

TABLE : MAINTENANCE HOLE TYPE-I DETAILS

TABLE : MAINTENANCE HOLE TYPE-I DETAILS											
TYPE-I	SIZE L x W x D (METERS)	DIMENSIONS (mm.)									
		A	B	C	D	E	F	G	H	J	K
I-(A)	2.75x1.85x2.00	2750	1850	3650	2750	3250	2350	2000	2825	400	425
I-(B)	3.10x1.85x2.00	3100	1850	4000	2750	3600	2350	2000	2900	450	450

REVISION VALIDATION

THIS REVISION NO. 04 IS COVERED, FOR ALL APPROVAL AND CERTIFICATION REQUIREMENTS, PER SAEP-334, UNDER DRAWING COMPLETION CERTIFICATE NO:

DESIGN CERTIFICATION (DESIGN AGENCY)		REVIEW FOR KEY DRAWINGS (AS REQUIRED)		OTHER	
ENGR./DATE	CERTIFIED BY/DATE	CONST. AGENCY/DATE	OPERATIONS/DATE	BY/DATE	
NAK 06/15/09	AMH 06/15/09				
REV.NO./DATE		REVISION DESCRIPTION			
04 06/15/09		ISSUED FOR REVIEW			
JOB ORDER/EWO NO. 04-04752-0000			THIS REVISION IS NOT TO BE USED FOR CONSTRUCTION UNTIL CERTIFIED AND DATED		

SAUDI ARABIAN OIL COMPANY

STD COMMS MAINTENANCE HOLE	DRAWING TYPE EQA
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ANCE HOLE TYPE I (4

PLAN AND SECTION

STD. DWG.		SAUDI ARABIA		
PLANT NO.	INDEX	DRAWING NUMBER	SHT. NO.	REV. NO.

990	T	AA-036140	002	04
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Saudi Aramco 2615 ENG. (05/05)

Saudi Aramco 2615 ENG.(05/05)

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