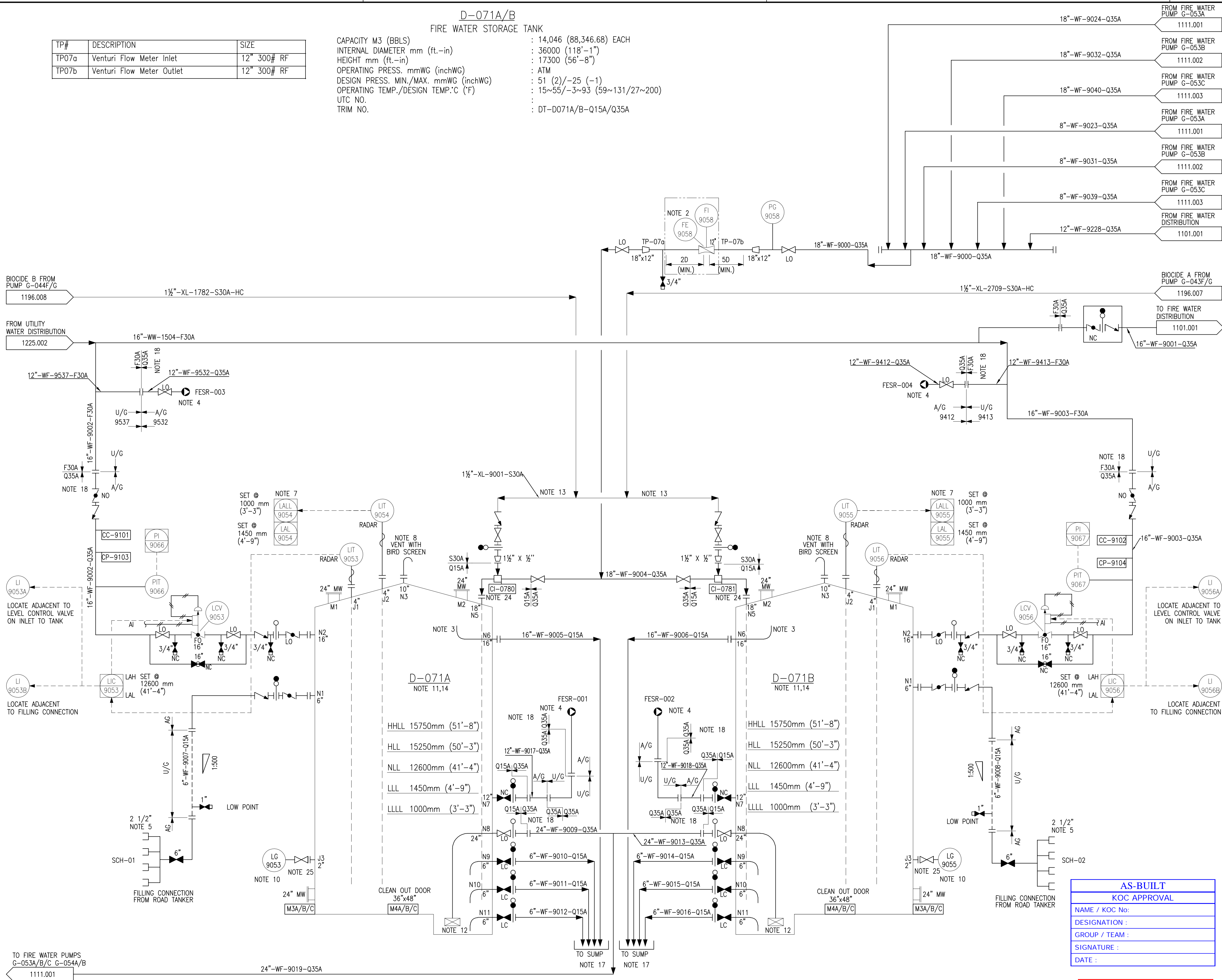


TP#	DESCRIPTION	SIZE
TP07a	Venturi Flow Meter Inlet	12" 300# RF
TP07b	Venturi Flow Meter Outlet	12" 300# RF

**D-071A/B**  
FIRE WATER STORAGE TANK

CAPACITY M3 (BBLs) : 14,046 (88,346.68) EACH  
INTERNAL DIAMETER mm (ft.-in) : 36000 (118'-1")  
HEIGHT mm (ft.-in) : 17300 (56'-8")  
OPERATING PRESS. mmWG (inchWG) : ATM  
DESIGN PRESS. MIN./MAX. mmWG (inchWG) : 51 (2)/-25 (-1)  
OPERATING TEMP./DESIGN TEMP. °C (°F) : 15~55/-3~93 (59~131/27~200)  
UTC NO. :  
TRIM NO. : DT-D071A/B-Q15A/Q35A



## GENERAL NOTES:

- FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001 & 1104.002.
- ALL EQUIPMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 530-.
- FOR TYPICAL INSTRUMENT CONNECTION SBDV, XV, MOV, & ESDV DETAILS SEE DRAWING NOS. 50489-530-020-PID-1106.001 TO 004, 006 & 007.
- FOR MISCELLANEOUS PIPING DETAILS SEE DRAWING 50489-530-020-PID-1108.001.
- FOR TYPICAL VALVING, DRAINAGE AND GENERAL ARRANGEMENT OF LEVEL INSTRUMENTATION, PUMPS AND CONTROL VALVES SEE DRAWING 50489-530-020-PID-1108.001 TO 010.
- DRAWING NUMBERS SHOWN IN P&ID CONTINUATION BOXES ARE ABBREVIATED SHOWING DRAWING SEQUENTIAL NUMBERS ONLY. THE FULL FORM OF THE DRAWING NUMBER IS 50489-530-020-PID-XXXX.SHT. NO.
- ALL INSTRUMENT TAG NO. SHOWN ON THE P&ID ARE PRECEDED BY 030.
- PAINTING/COATING SHALL BE IN ACCORDANCE WITH KOC-P-001.

## NOTES:

- CATHODIC PROTECTION IS INSTALLED, REFER KOC-L-015 & 015-WH-1006.
- FLOW INDICATOR FOR FIRE WATER PUMPS RUNNING TEST. INDICATOR IS SIZED FOR 175% OF FIRE WATER PUMP RATED CAPACITY.
- TOP OF PIPE OF OVERFLOW NOZZLE IS AT HIGH HIGH LEVEL.
- FIRE ENGINE SUCTION RISER. IS PROVIDED AS PER KOC-L-009 APPENDIX 3.
- 4WAY SUCTION COLLECTION HEAD HAVING A 6" ROUND THREAD FEMALE SWIVEL OUTLET CONNECTED. IT IS INSTALLED WITH CENTER LINE OF OUTLET A MINIMUM OF 1000 mm AND A MAXIMUM OF 1200 mm ABOVE GRADE.
- DELETED
- THE FIRE WATER STORAGE TANK LOW LOW LIQUID LEVEL IS FOR ALARM ONLY.
- BIRD SCREEN IS REQUIRED.
- FILLING RATE OF TANKS TO BE AS PER CLAUSE 7.2.3. OF KOC STANDARD KOC-L-009 Rev.4
- LOCAL LEVEL INDICATOR (DIAL GAUGE TYPE) TO BE PROVIDED ON EACH TANK AT EYE LEVEL
- TANKS ARE TO BE RATED FOR 100% OF THE MAXIMUM FIRE DEMAND BASED ON CLAUSE 7.2.1. OF KOC-L-009 Rev. 4
- VORTEX PLATES ARE INSTALLED AT THE INTAKES TO THE PUMP SUCTION LINES FROM THE FIREWATER STORAGE TANKS
- HYDRAULIC SYMMETRY REQUIRED TO ENSURE EQUAL DISTRIBUTION TO BOTH TANKS
- DELETED
- NET WORKING CAPACITY IS MEASURED FROM HLL TO LLL IS 14046 M<sup>3</sup> (88,346.68 BBLs)
- MAXIMUM TANK CAPACITY IS MEASURED FROM HHLL TO BOTTOM OF TANK IS 16032 M<sup>3</sup> (100,838.2 BBLs)
- ROUTED TO STORM WATER SEWER/SWALE.
- INSULATING GASKET KIT IS INSTALLED AT CONNECTING PIPES MADE OF DISSIMILAR METALS & AT PIPING UG/AG INTERFACE.
- UNDERGROUND SECTION OF METALLIC PIPE/PIPELINE ARE ELECTRICALLY ISOLATED FROM ABOVE GROUND STRUCTURES, EQUIPMENTS THAT REQUIRE ELECTRICAL GROUNDING, REINFORCEMENT BARS & OTHER EXISTING PIPE/STRUCTURE AS PER CLAUSE 7.11 OF KOC-L-015.
- SHIFTED TO NOTE NO. H OF GENERAL NOTES.
- ALL FIRE WATER PIPING ABOVE 3" THAT REQUIRE INTERNAL COATING ARE WITH FLANGED CONNECTION.
- DELETED
- NOZZLE N7 (FIRE ENGINE SUCTION RISER) IS LOCATED AT LLLL LEVEL.
- FOR CHEMICAL INJECTION NOZZLE DETAIL SEE STANDARD DWG. 50489-530-020-PID-1108.001
- DBB SHALL BE PROVIDED.

REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE
20	ISSUED FOR AS-BUILT	HSB/HSB	NIJ	SRA	RAK	09.08.18
01	RE-ISSUED FOR CONSTRUCTION	HSB/HSB	NIJ	SRA	RAK	16.07.16
0	ISSUED FOR CONSTRUCTION	HSB/HSB	NIJ	SRA	RAK	15.03.16
F	ISSUED "INCORPORATED CLIENTS COMMENTS"	HSB/HSB	NIJ	SRA	RAK	16.01.16
E	ISSUED FOR VENDOR HAZOP	PAK/HSB	NIJ	SRA	RAK	13.10.15
D	ISSUED "INCORPORATED CLIENTS COMMENTS"	PAK/HSB	NIJ	SRA	RAK	25.08.15
C	ISSUED "INCORPORATED CLIENTS COMMENTS"	PAK/HSB	NIJ	SRA	RAK	05.05.15
B	ISSUED "INCORPORATED CLIENTS COMMENTS"	PAK/HSB	NIJ	SRA	RAK	21.02.15
A	ISSUED FOR APPROVAL	PAK/HSB	NIJ	SRA	RAK	01.01.15

## CONTRACTOR REVISION

**KUWAIT OIL CO.**  
K. S. C.

شركة نفط الكويت  
ش.م.ك.

ايسو شريك في شركة نفط الكويت  
A Subsidiary of Kuwait Petroleum Corporation

## CONTRACTOR DETAILS:-

**LARSEN & TOUBRO LIMITED**  
FARIDABAD

## PROJECT TITLE:-

NEW GATHERING  
CENTRE GC-30 IN NORTH KUWAIT

## DOCUMENT TITLE:-

PIPING & INSTRUMENTATION DIAGRAM  
FIRE WATER TANKS (D-071A/B)

PROJECT NO.	DRAWING NO.
CONTRACTOR DRG. NO. 50489-530-000-PID-1112	REV. KOC DRG. NO.
SHEET NO. 1 OF 1	ZO
COMPANY DRG. NO. EF1902-530-DBO-PID-0112.001	REV.
SHEET NO.	A5

**AS-BUILT**  
**KOC APPROVAL**

NAME / KOC No: \_\_\_\_\_

DESIGNATION : \_\_\_\_\_

GROUP / TEAM : \_\_\_\_\_

SIGNATURE : \_\_\_\_\_

DATE : \_\_\_\_\_

**AS-BUILT**  
**LARSEN & TOUBRO LIMITED**

NAME : VAIBHAV VERMA

DESIGNATION : AGM

SIGNATURE : \_\_\_\_\_

DATE : 09-Aug-2018

DEPT/ DIVISION : ENGINEERING