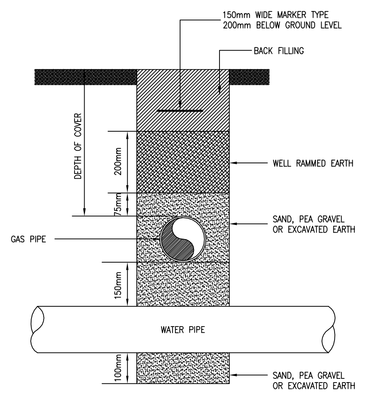
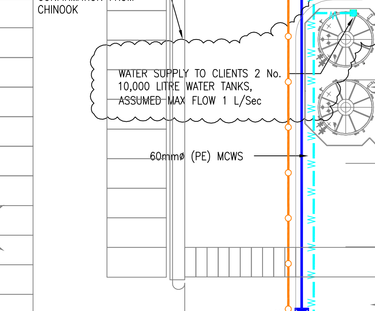
DETAIL A:
WATER & GAS SERVICES CROSSOVER



FIRE HYDRANT PIPE TRENCH DETAIL

DETAIL FOR ø125mm 110.9mm NOMINAL BORE H.P.P.E (HIGH PRESSURE POLYETHELENE – SDR11



DRAWPIT SCHEDULE:

REF	LENGTH	WIDTH	DEPTH	COVER TYPE
CM1	2000	2000	1500	HARD STANDING
CM2	2000	2000	1500	HARD STANDING
CM3	2000	2000	1500	HARD STANDING
CM4	1500	1500	1500	HARD STANDING
CM5	1500	1500	1500	HARD STANDING
CM6	2000	2000	1500	HARD STANDING
CM7	2000	2000	1500	HARD STANDING
CM8	1500	1500	1500	SOFT DIG
CM9	2000	2000	1500	SOFT DIG
CM10	2000	2000	1500	SOFT DIG
LV1	600	600	1000	HARD STANDING
LV2	1000	1000	1000	HARD STANDING
LV3	600	600	1000	HARD STANDING
LV4	600	600	1000	HARD STANDING
LV5	600	600	1000	LIGHTING COLUMN
LV6	600	600	1000	LIGHTING COLUMN
LV7	600	600	1000	HARD STANDING
LV8	600	600	1000	HARD STANDING
LV9	600	600	1000	SOFT DIG
LV10	–	–	–	OMITTED
LV11	600	600	1000	HARD STANDING
LV12	–	–	–	OMITTED
LV13	600	600	1000	SOFT DIG
LV14	600	600	1000	SOFT DIG
LV15	600	600	1000	HARD STANDING
LV16	–	–	–	OMITTED
HV1	1500	1500	1500	HARD STANDING
HV2	1500	1500	1500	HARD STANDING
HV3	1500	1500	1500	HARD STANDING
HV4	1500	1500	1500	HARD STANDING
HV5	1500	1500	1500	HARD STANDING
HV6	1500	1500	1500	SOFT DIG
HV7	1500	1500	1500	SOFT DIG
HV8	2000	2000	2000	SOFT DIG
HV9	1500	1500	1000	HARD STANDING
HV10	1500	1500	1500	SOFT DIG
HV11	1500	1500	1500	SOFT DIG
HV12	1500	1500	1000	SOFT DIG
HV13	1000	1000	1000	SOFT DIG
HV14	1500	1500	1000	HARD STANDING
HV15	1000	1000	1000	HARD STANDING
HV16	1500	1500	1000	HARD STANDING
HV17	1000	1000	1000	HARD STANDING
HV18	1500	1500	1000	HARD STANDING
HV19	1500	1500	1000	SOFT DIG
HV20	2000	2000	2000	SOFT DIG
HV21	2000	2000	2000	SOFT DIG

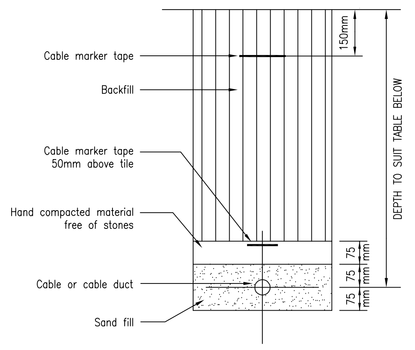
UTILITY SUPPLY SCHEDULE:

REF	DESCRIPTION	SUPPLY	MIN. PRESSURE	FLOW RATE
W1	TURBINE/CONDENSER MODULE #1	WATER	1bar	1.00 litres/s
W2	TURBINE/CONDENSER MODULE #2	WATER	1bar	1.00 litres/s
W3	NOX PROCESS WATER CONNECTION	WATER	1bar	0.59 litres/s
W4	NOX EMERGENCY SHOWER CONNECTION	WATER	1bar	1.67 litres/s
W5	STEAM BOILER #1	WATER	1bar	0.10 litres/s
W6	STEAM BOILER #2	WATER	1bar	0.10 litres/s
W7	STEAM BOILER #3	WATER	1bar	0.10 litres/s
W8	STEAM BOILER #4	WATER	1bar	0.10 litres/s
W9	ASR COOLER CONNECTION	WATER	1bar	0.67 litres/s
W10	IES OFFICE MAINS WATER STORAGE TANK	WATER	1bar	1.00 litres/s
G1	COMBUSTION CHAMBER #1	NATURAL GAS	20psi/1.38bar	1900m³/hr
G2	COMBUSTION CHAMBER #2	NATURAL GAS	20psi/1.38bar	1900m³/hr
G3	COMBUSTION CHAMBER #3	NATURAL GAS	20psi/1.38bar	1900m³/hr
G4	COMBUSTION CHAMBER #4	NATURAL GAS	20psi/1.38bar	1900m³/hr
G5	STEAM BOILER #1	NATURAL GAS	58psi/4.00bar	4100m³/hr
G6	STEAM BOILER #2	NATURAL GAS	58psi/4.00bar	4100m³/hr

ALL WATER CONNECTIONS W1 TO W10 TO TERMINATE WITH STOP COCK AT LOW LEVEL
ALL GAS CONNECTIONS G1 TO G6 TO TERMINATE WITH GAS COCK AT LOW LEVEL

FOR CONTINUATION OF ROUTES REFER TO EMCOR DRAWING 00(51)002

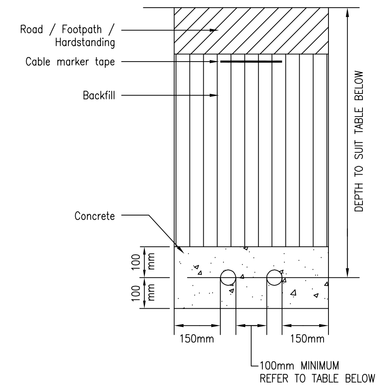
SECTION THROUGH CABLE/CABLE DUCT INSTALLATION BELOW OPEN GROUND



BURIED CABLE INSTALLATION DETAILS

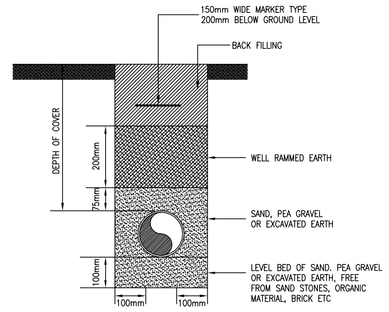
HORIZONTAL SPACING REQUIREMENTS (mm)				
SERVICE	HV	LV	ELV	PIPED SERVICES
HV	300	1000	1000	1000
LV	1000	300	300	300
ELV	1000	300	50	300

SECTION THROUGH CABLE/CABLE DUCT INSTALLATION BELOW HARDSTANDING AREAS (ROADS AND FOOTPATHS)



BURIED CABLE INSTALLATION DETAILS

MINIMUM DEPTH OF LAYING (mm)			
SERVICE	BURIED DIRECT IN GROUND	UNDER ROAD OR HARDSTANDING IN DUCTS	UNDER FOOTPATHS IN DUCTS
HV	900	900	500
LV	750	750	400
ELV	750	750	400



SERVICE:	DEPTH:
WATER	750mm (900mm BELOW ROADWAY)
GAS	600mm (750mm BELOW ROADWAY)

NOTE:

WHERE BURIED PIPEWORK IS NON-METALLIC PLASTIC MARKER TAPE. TO BE INSTALLED ABOVE PIPEWORK IN TRENCH

NOTES

1. This drawing shall not be used as a working drawing. All scaled dimensions shall be verified on site.
2. For architectural and structural details please refer to appropriate specialist drawings
3. Fire hydrant design assumes main supply is capable of providing 1500 lt/min minimum flow.
4. Gas and Water final connection details to be added
5. BT installation to be agreed with others
6. Routes detailed are indicative routes only, exact routes to be agreed / detailed on site

LEGEND

- RING 1 — HV RING REFERENCE NUMBER
- HV 5D — HIGH VOLTAGE, NUMBER OF 150mmø DUCTS
- LV 5D — LOW VOLTAGE, NUMBER OF 150mmø DUCTS
- CTRL 5D — CONTROLS CABLING (DATA) DUCTS, NUMBER OF 100mmø DUCTS
- WATER W1 — EXTERNAL SERVICES SUPPLY TYPE, CHINOOK SUPPLY REFERENCE
- DENOTES UNDER GROUND HV CABLE ROUTE
- DENOTES UNDER GROUND LV/CTRLS CABLE ROUTES AS DETAILED
- HV CABLE DRAW PIT, SEE SCHEDULE FOR SIZE DETAILS (TBC)
- LV CABLE DRAW PIT, SEE SCHEDULE FOR SIZE DETAILS (TBC)
- CM COMBINED HV/LV CABLE DRAW PIT, SEE SCHEDULE FOR SIZE DETAILS (TBC)
- DENOTES FIRE HYDRANT PIPEWORK
- DENOTES WATER MAIN BELOW GROUND ROUTE
- DENOTES GAS MAIN BELOW GROUND ROUTE
- H FIRE HYDRANT POSITION

INCOMING NATURAL GAS SUPPLY TO BE CAPABLE OF 91,000kW @ 4.5 BAR

FOR INTERNAL DUCT ROUTES TO IES BUILDING REFER TO EMCOR DRAWING 00(51)009

FIRE HYDRANT MAIN TO BE 180MMø SDR17 BELOW GROUND PIPEWORK

Rev	Description	Date	Eng
C3	POWER ISLAND 1 & 2 HV EXPORT DUCTS ADDED AND BASE DRAWING UPDATED	29.01.13	CJ
C2	GAS & WATER SUPPLY SIZES AMENDED, IES COLD WATER TANK LOCATION AMENDED. RODECS WATER SUPPLY & GAS ROUTES ROUTES AMENDED. ADDITIONAL WATER SUPPLY ADDED, CONNECTION DETAILS ADDED, GAS & WATER DISTRIBUTION ROUTES AMENDED. EMR GAS SUPPLY REINSTATED. GAS AND WATER UPDATED	09.01.13	SN
C1	RAISED TO CONSTRUCTION ISSUE	4.10.12	CJ
A1	FOR APPROVAL	19.9.12	CJ
P3	UPDATED BASE PLAN ADDED	14.8.12	CJ
P2	MECHANICAL SIZES ADDED	25.7.12	CJ
P1	ISSUED FOR APPROVAL	27.6.12	CJ

Client

VINCI CONSTRUCTION UK

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Project: IES OLDBURY

Title: EXTERNAL BUILDING SERVICES ROUTES SHEET 1 OF 2

Discipline: COMBINED

Status: CONSTRUCTION

Drawn	Checked	Size
CJ	KB	A0
Job No C00062	Scale 1:250	Date 27.06.12

Drawing No 00(51)001 Rev C3