

## Hydraulic & Wet Fire Services Spatial Requirements

**Project:** Site 3, Sydney Olympic Park  
**Client:** Site 3 Development Company Pty Ltd  
**Project Number:** SY100082  
**Date:** 23/03/11  
**Engineer:** Jason Whitford

### Stormwater Drainage:

Item	Description	Area	Configuration	Comments
1	Sub-Soil Pump Station 1	4m <sup>2</sup>	2m x 2m inground	Inground concrete tank cast in-situ below basement level four slab.
2	Stormwater Connection 1	4m <sup>2</sup>	2m x 2m	Via a gross pollutant trap located inground and accessed from grates at ground level on Australia Avenue.
3	Sub-Soil Pump Station 2	4m <sup>2</sup>	2m x 2m inground	Inground concrete tank cast in-situ below basement level four slab.
4	Stormwater Connection 2	4m <sup>2</sup>	2m x 2m	Via a gross pollutant trap located inground and accessed from grates at ground level on Australia Avenue.

### Sanitary Drainage:

Item	Description	Area	Configuration	Comments
1	Sewer Pump Station 1	1.8m <sup>2</sup>	1.5m diameter	Inground polyethylene tank installed below basement level four slab.
2	Boundary Trap Connection	3m <sup>2</sup>	2m x 1.5m	Within basement level one.

### Tradewaste Drainage:

Item	Description	Area	Configuration	Comments
1	Grease Arrestor Room 1	15m <sup>2</sup>	5m x 3m	Plant room within basement level one below retail food tenancies Possible to locate directly below retail garbage room.
2	Grease Transfer Station 1	0.5m <sup>2</sup>	1m x 0.5m	Accessible point for grease waste truck connection within the loading dock.
3	Grease Arrestor Room 2	15m <sup>2</sup>	5m x 3m	Plant room within basement level one below retail food tenancies Possible to locate directly below retail garbage room.
4	Grease Transfer Station 2	0.5m <sup>2</sup>	1m x 0.5m	Accessible point for grease waste truck connection within the loading dock.

### Potable Cold Water Service:

Item	Description	Area	Configuration	Comments
1	Tower 1 - 150mm Site Backflow Prevention (RPZD)	2m <sup>2</sup>	2m x 1m	Northern end at building boundary facing Australia Avenue.
2	Tower 1 Meter Room	12m <sup>2</sup>	4m x 3m	Ground floor centrally next to the ramp – also includes reclaimed water meters and gas meters.
3	Tower 1 Potable triplex pump set	n/a	n/a	Basement 1 – Located in the pump room with fire hydrant, fire sprinkler & reclaimed water pumps.

				Adequate space allocated on current Architecture.
4	Tower 2 - Site 150mm Backflow Prevention (RPZD)	2m <sup>2</sup>	2m x 1m	Southern end at building boundary facing Australia Avenue
5	Tower 2 Meter Room	16m <sup>2</sup>	4m x 4m	Basement 1 Plantroom – also includes reclaimed water meters and gas meters.
6	Tower 2 Potable triplex pump set	n/a	n/a	Basement 1 Plantroom – Shared with meters as described above.

**Reclaimed Water Service:**

Item	Description	Area	Configuration	Comments
1	Tower 1 Meter Room	n/a	n/a	Same room as potable meters – see description above.
2	Tower 1 Reclaimed Triplex Pump Set	n/a	n/a	Same plantroom as potable pumps – see description above.
3	Tower 2 Meter Room	n/a	n/a	Same room as potable meters – see description above.
4	Tower 2 Reclaimed Triplex Pump Set	n/a	n/a	Same plantroom as potable pumps – see description above.

**Hot Water Service:**

Item	Description	Area	Configuration	Comments
1	Tower 1 Hot Water Plant Room	72m <sup>2</sup>	12m x 6m	Roof level plant room includes solar pre-heat storage and gas boosted hot water heaters. Sizes based on the cheaper less efficient plant which is larger.
2a	Tower 1 Solar Panels (option 1)	167m <sup>2</sup>	flexible	Rheem flat plate panels based on 16% annual contribution – 52 flat plates 2.0m x 1.6m
2b	Tower 1 Solar Panels (option 2)	337m <sup>2</sup>	flexible	Rheem flat plate panels based on 33% annual contribution – 105 flat plates 2.0m x 1.6m
2c	Tower 1 Solar panels (option 3)	66m <sup>2</sup>	flexible	Vacuum Tub – 15 Frames consisting of 30 u tubes per frame – Frame size is 2.2m x 2.0m (4.4m <sup>2</sup> ).
3	Tower 2 Hot Water Plant Room	108m <sup>2</sup>	12m x 9m	Roof level plant room includes solar pre-heat storage and gas boosted hot water heaters. Sizes based on the cheaper less efficient plant which is larger.
4a	Tower 2 Solar Panels (option 1)	199m <sup>2</sup>	flexible	Rheem flat plate panels based on 16% annual contribution – 62 flat plates 2.0m x 1.6m
4b	Tower 2 Solar Panels (option 2)	392m <sup>2</sup>	flexible	Rheem flat plate panels based on 33% annual contribution – 122 flat plates 2.0m x 1.6m
4c	Tower 2 Solar panels (option 3)	88m <sup>2</sup>	flexible	Vacuum Tub – 20 Frames consisting of 30 u tubes per frame – Frame size is 2.2m x 2.0m (4.4m <sup>2</sup> ).
5	Apartment hot water meters	TBA	TBA	Located within apartments under laundry tubs.

**Natural Gas Service:**

Item	Description	Area	Configuration	Comments
1	Primary Site Regulator	2.25m <sup>2</sup>	1.5m x 1.5m	Northern end at building boundary facing Australia Avenue.
2	Apartment gas meters	0.75m <sup>2</sup>	1.5m x 0.5m	Locate within central cupboards located within the core of each tower building.

**Fire Hose Reel Service:**

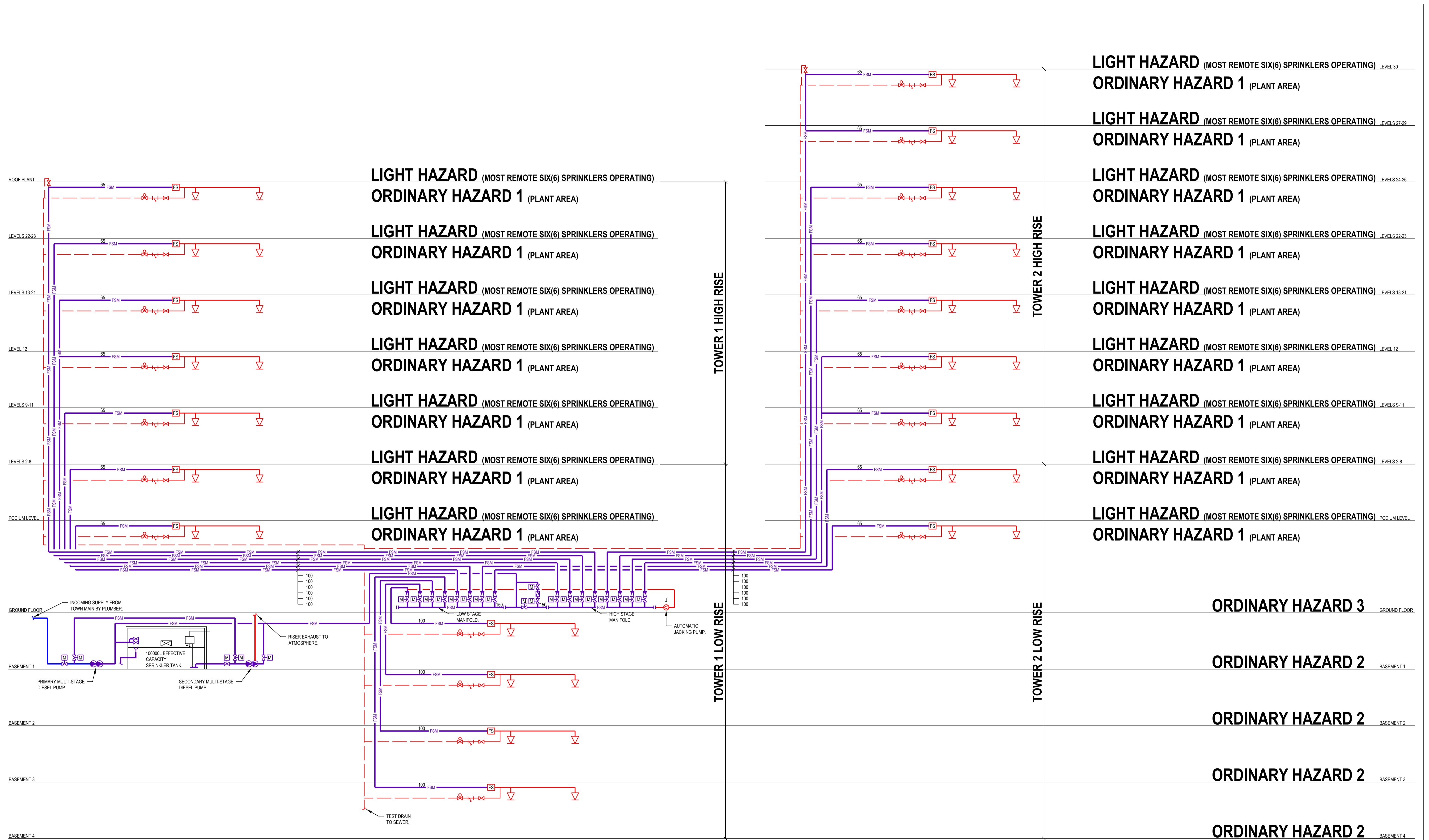
Item	Description	Area	Configuration	Comments
1	Fire Hose Reel Cupboards	0.54m <sup>2</sup>	0.9m x 0.5m	Fire hose reel cupboards located within 4m of the entry to every fire stair at every level within the building. combined with hot, cold & reclaimed isolation, pressure limiting and thermostatic mixing valves.

**Fire Hydrant & Fire Sprinkler Services:**

Item	Description	Area	Configuration	Comments
1	Combined Booster Valve Cupboard	4.5m <sup>2</sup>	4.5m x 1m x 1.8m high	Ground level within sight of the main entry
2	Fire Hydrant Tank	25m <sup>2</sup>	5m x 5m x 3m high	Basement 1. Hydrant storage tank with effective capacity of 50,000 litres
3	Fire Sprinkler Tank	96m <sup>2</sup>	12m x 8m	Basement 1. Sprinkler storage tank with effective capacity of 100,000 litres
3	Combined Fire Hydrant/ Sprinkler Pump Room	85m <sup>2</sup>	As shown on latest architecture	Basement level 1 within Tower 1. Plant room located adjacent to the fire tank with direct access via internal plantroom stairs to ground floor egress passage.
4	Tower 1 - Fire Hydrant Relay Pump Room	12m <sup>2</sup>	3m x 4m	Level 15 with direct egress via the fire stairs.
5	Tower 2 - Fire Hydrant Relay Pump Room	12m <sup>2</sup>	3m x 4m	Level 15 with direct egress via the fire stairs.
6	Fire Sprinkler Alarm Valve Room	66m <sup>2</sup>	Larger sized room to allow access to hydrant & sprinkler tanks.	Ground floor within tower 1. Valve room situated on the top floor of split level plantroom as described under item 3 above.

**Portable Fire Extinguishers:**

Item	Description	Area	Configuration	Comments
1	Portable Fire Extinguishers	n/a	n/a	Typically located within fire hose reel cupboards



CONCEPT DESIGN

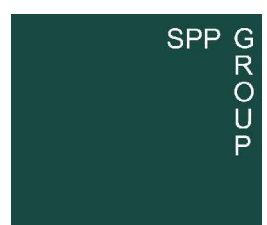
Issue	Date	Amendment	Int.	App.
A	23.03.11	CONCEPT DESIGN	ER	BL


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STAGES 2 & 3 - SITE 3  
SYDNEY OLYMPIC PARK

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FIRE SPRINKLER SERVICE  
CONCEPT SCHEMATIC DIAGRAM

North Point:

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Design: ED REA

Design Validated: BRETT LIPSCOMBE

Drawn: TROY PLAYER

Date: 28-02-2011

Scale: (A1) N.T.S.

Job No: SY100082

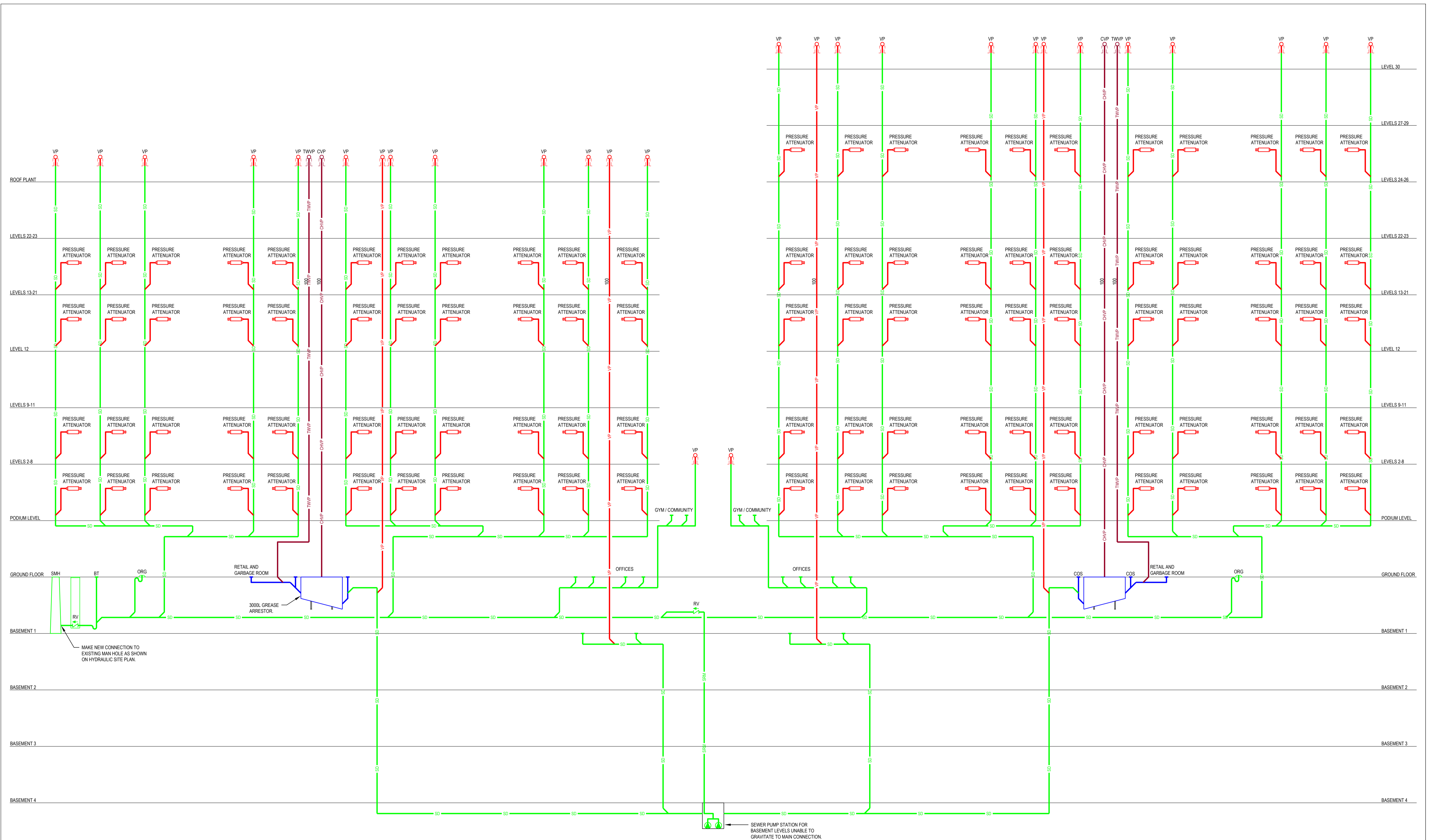
Dwg No: SKF-300

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Original Size: A1





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**Client:**  
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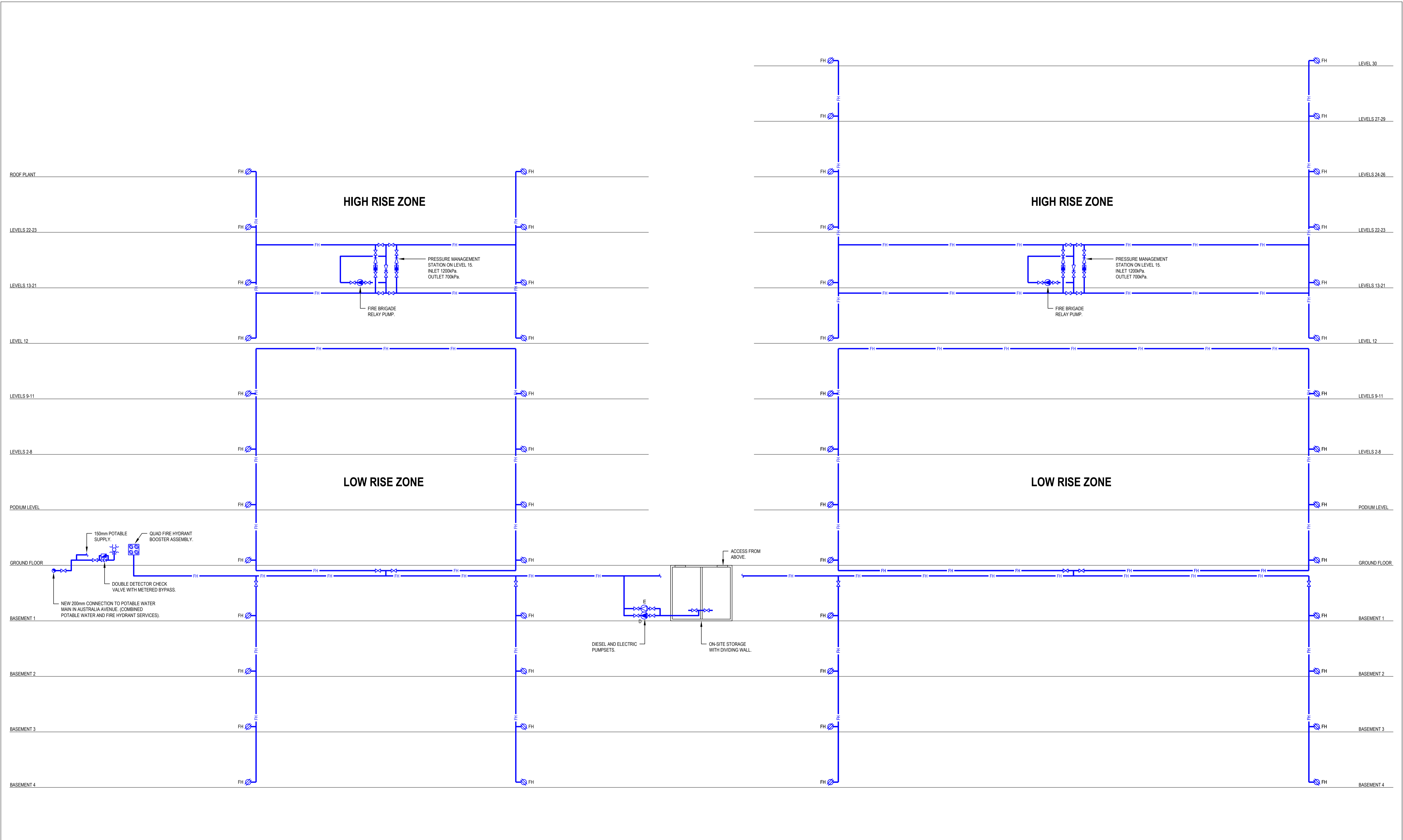
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**CONCEPT SCHEMATIC DIAGRAM**

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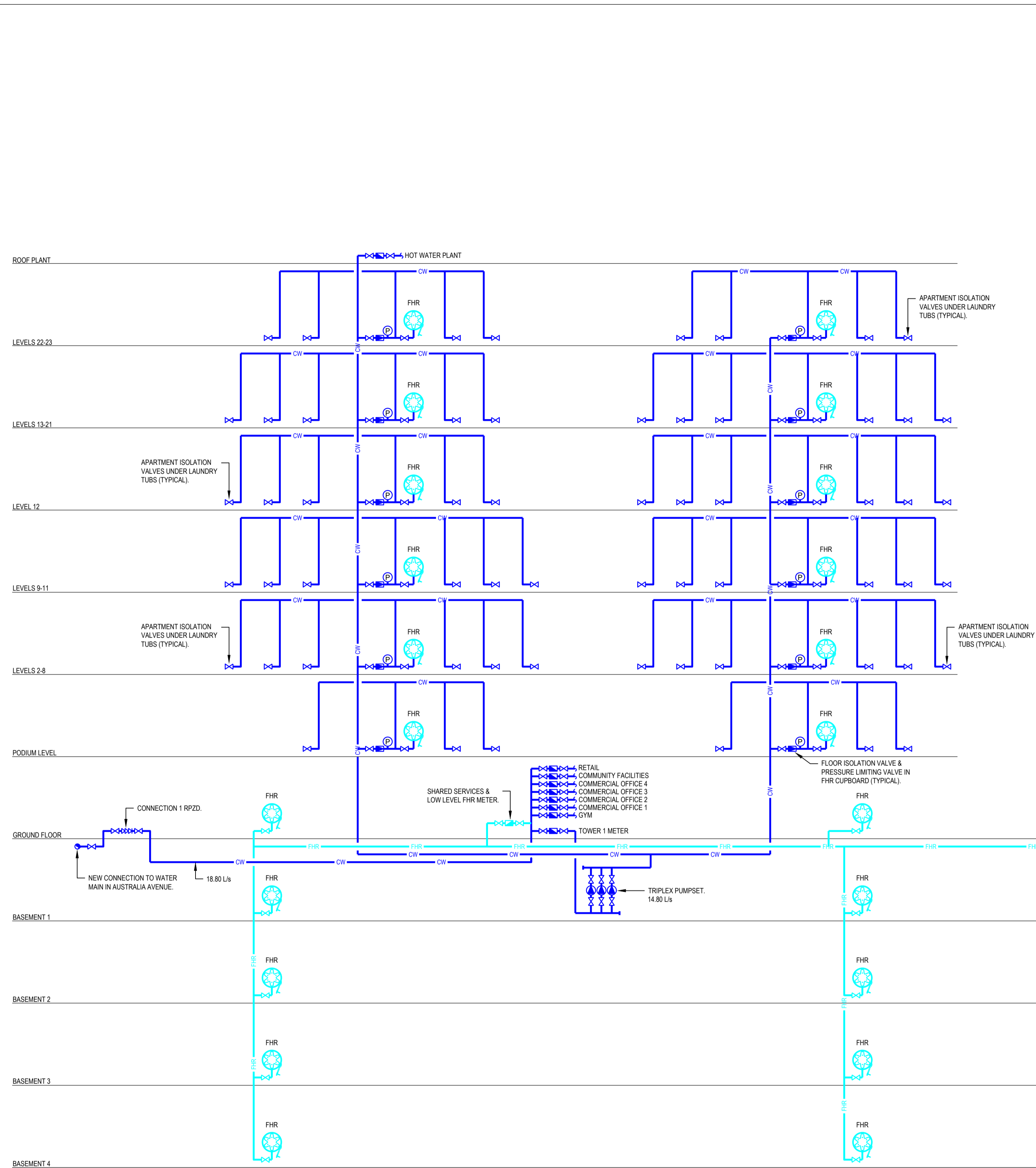
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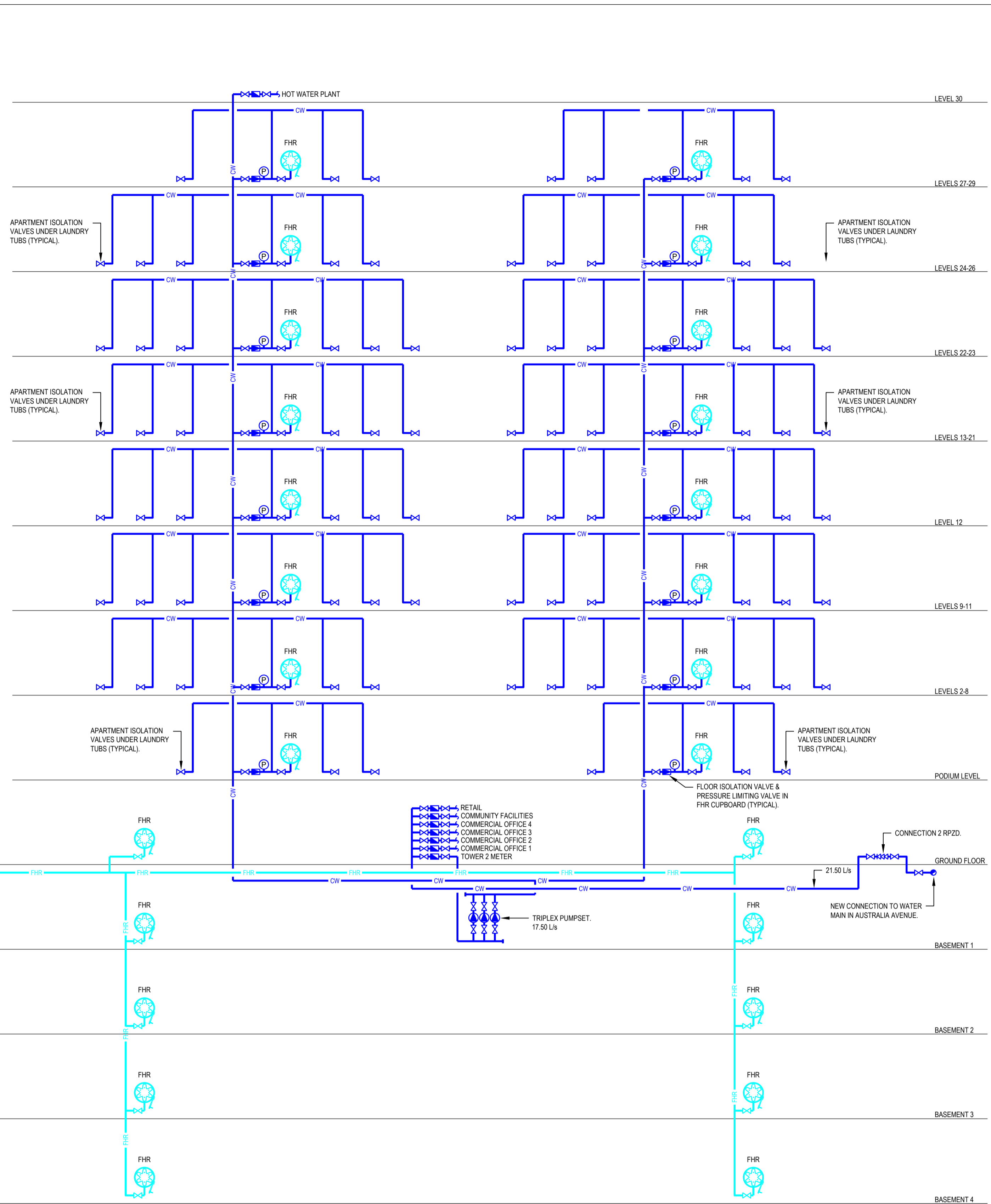
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**FIRE HYDRANT SERVICE  
 CONCEPT SCHEMATIC DIAGRAM**

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Job No: <b>SY100082</b>	Issue: <b>SKH-301 A</b>
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TOWER 1



TOWER 2

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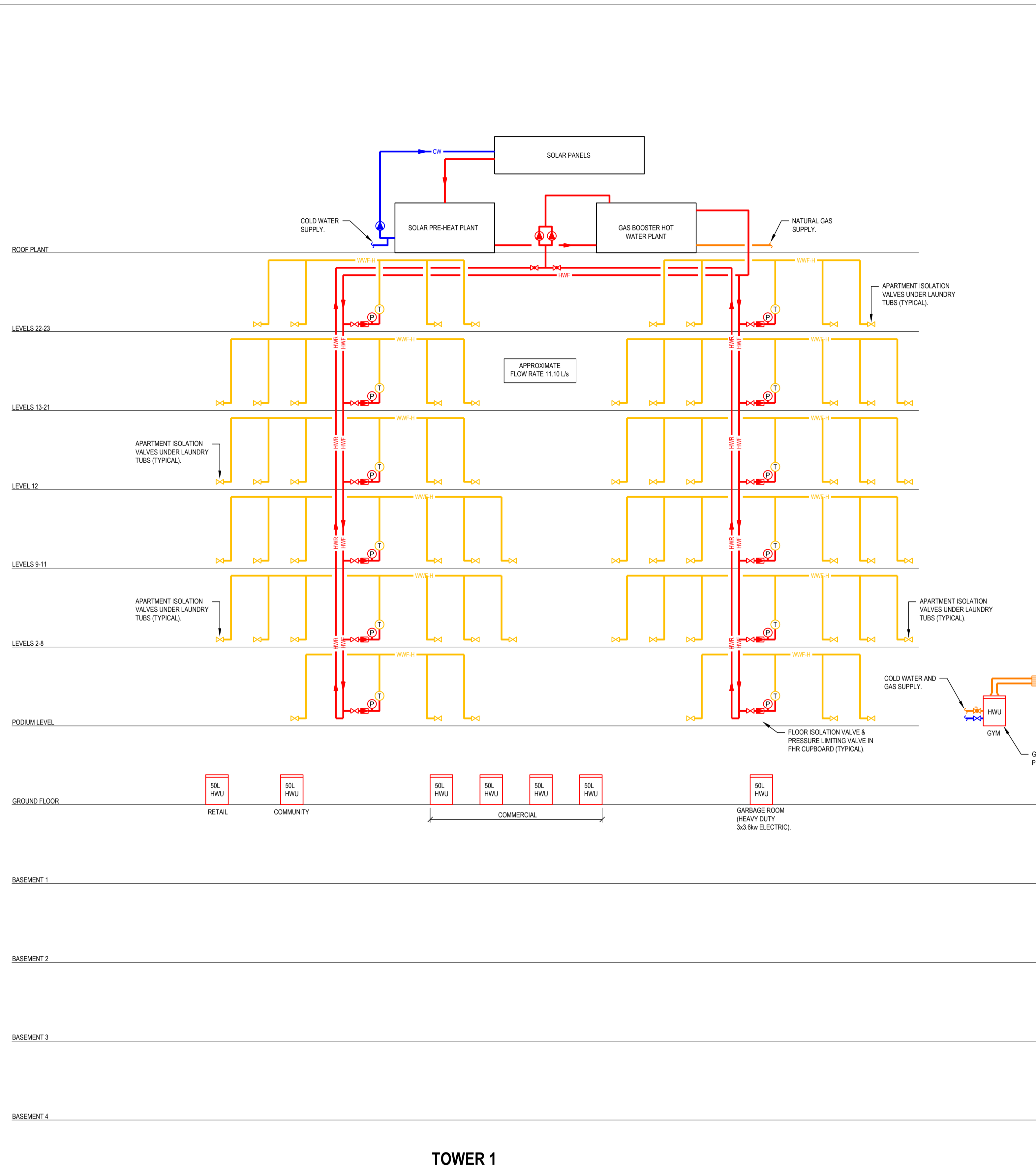
Project:
STAGES 2 & 3 - SITE 3 SYDNEY OLYMPIC PARK

Drawing Title:
POTABLE COLD WATER SERVICE CONCEPT SCHEMATIC DIAGRAM

North Point:
Date: 28-02-2011
Job No: SY100082

BSA License No.:
Design: JASON WHITFORD
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TOWER 1



TOWER 2

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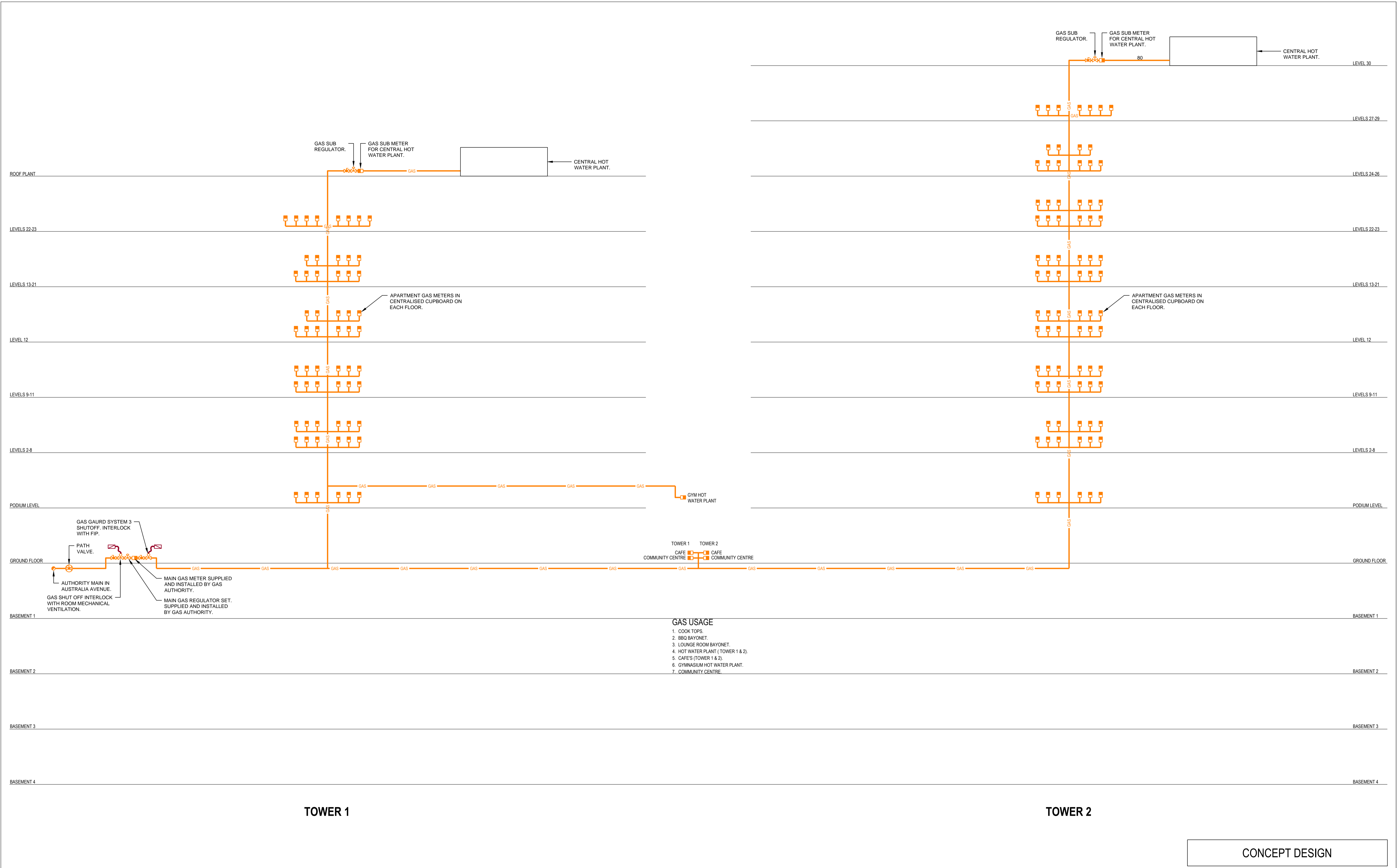
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POTABLE HOT WATER SERVICE CONCEPT SCHEMATIC DIAGRAM	
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Design:	JASON WHITFORD
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Issue:	
SKH-304 A	

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**NATURAL GAS SERVICE  
CONCEPT SCHEMATIC DIAGRAM**

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Job No: SY100082

Dwg No: SKH-305

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