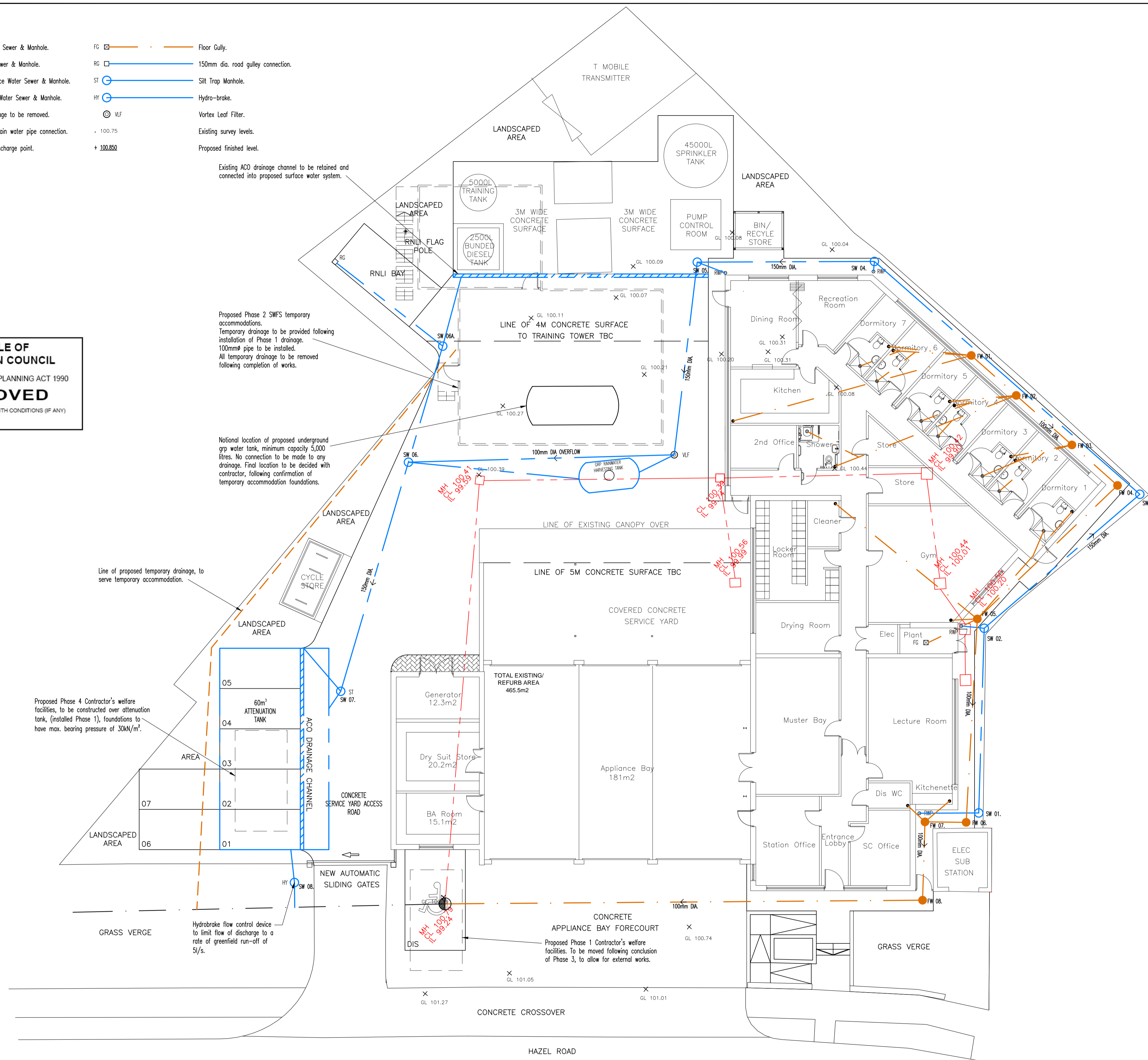


LEGEND

- Surface Water Sewer & Manhole.
- Foul Water Sewer & Manhole.
- Existing Surface Water Sewer & Manhole.
- Existing Foul Water Sewer & Manhole.
- Existing drainage to be removed.
- 100mm dia. rain water pipe connection.
- Foul water discharge point.
- Floor Gully.
- 150mm dia. road gully connection.
- Silt Trap Manhole.
- Hydro-brake.
- Vortex Leaf Filter.
- Existing survey levels.
- Proposed finished level.

**THE VALE OF
GLAMORGAN COUNCIL**
TOWN AND COUNTRY PLANNING ACT 1990
APPROVED
SUBJECT TO COMPLIANCE WITH CONDITIONS (IF ANY)



- GENERAL:**
- All dimensions are in millimetres. All levels are in metres.
 - Do not scale from this drawing - use figured dimensions only.
 - This drawing is to be read in conjunction with the latest Engineer's and Specialist's drawings and specifications.

- MATERIALS & WORKMANSHIP:**
- All work shall comply with the relevant British standards, the Building Regulations and the specifications shown.
 - Where drains run close to the building, trenches are to be backfilled with concrete to levels in accordance with Building Regulations Part H1.

- CONCRETE:**
- Blinding and infill concrete to be GEN1 to BS.5328.
 - Mass concrete surround to pipes, gullies and kerbs etc. to be GEN3 to BS.5328.
 - Mass concrete surround to manholes to be ST4 to BS.5328.
 - Concrete to benching to be mechanically scabbled to receive a 20mm thick granitic render trowelled hard with a steel trowel to provide a dense, durable smooth surface.

- PIPEWORK:**
- Pipework to conform to the following-
Vitrified clay systems with flexible joints to BS.65.
Precast concrete systems with flexible joints to BS.5911.
U.P.V.C. systems with flexible joints to BS.4660 or BS.5481.
 - Flexible joints shall be provided to all pipes within 600mm of inner face of manhole. Projecting pipes shall be surrounded with 150mm grade ST4 concrete cast monolithically with the manhole base.
 - Where pipes are encased in concrete the flexibility of the joints are to be maintained throughout the encasement. This should be provided by means of 20mm thick fibreboard, (or polystyrene), and positioned around the pipe at the centre of every joint at 6m centres max.
 - Pipes shall have granular bed and surround unless otherwise detailed. Granular material shall conform to BS.882:1983 (Table 1), and should be carefully placed and consolidated by hand in thin layers.
 - All pipework connections at manholes to be soffit to soffit.
 - The length of pipework between manholes to include for any short length pipes as necessary to achieve the configuration of rocker pipes and standard short length pipes at fixed manhole positions.
 - All pipework built into manholes to be either standard short lengths or cut lengths as appropriate.
 - Rocker pipes to be a maximum of 600mm long.
 - Maximum length of pipe within adoptable works to be 3m.
 - All saddle connections to be formed utilising proprietary junction sections.
 - All pipework beneath vehicular circulation areas and within 1m of such areas shall, where cover is less than 1200mm, receive a full concrete bed and surround, 900mm elsewhere.
 - All pipework beneath building footprint to receive full concrete bed and surround.
 - All down pipe connections to be 100mm nominal bore and all down pipes to have rodding access points approx. 1000mm above ground/finished floor level.
 - All road gully connections to be 150mm nominal bore.

- BRICKWORK:**
- Brickwork to manholes and gullies to be Class B Engineering brickwork to BS.3921 laid in English Bond with Class M1 mortar, flush pointed.
 - Minimum of 2 and maximum of 4 courses of brickwork to be provided under manhole cover, 3 courses is recommended.

- MANHOLE COVERS AND GRATINGS:**
- Covers shall be set at, or not more than 5mm below the surrounding level in paved areas. Inverts shall be within 5mm of given level, and may not cause the os-laid gradient of the pipes to vary from that given on the drawing by more than 10%.
 - All manhole covers in carriageway area shall comply with the relevant B.S EN 124, D400 kitemarked and they shall be of a non-rocking design which does not rely on the use of cushion inserts.
 - All manhole covers in footways, pedestrian areas and comparable locations shall comply with the relevant B.S EN 124, B125 kitemarked and they shall be of a non-rocking design which does not rely on the use of cushion inserts.
 - All manhole covers shall be the non-ventilating type and shall have closed keyways.
 - All internal manholes to be pressure tight double seal covers, recessed to suit Architectural finishes.

Rev.	Date	Revision
G	15.08.14	Foul water discharge points amended.
F	14.08.14	Foul water discharge points amended, GRP tank moved.
E	12.08.14	Hydrobrake note added.
D	07.07.14	Amended to suit layout.
C	04.07.14	Drainage amended to suit temporary accommodations.
B	07.02.14	GRP water tank relocated.
A	03.01.14	External Works Layout Revised to Suit Site Layout Revision.

This drawing is copyright.
All dimensions to be checked prior to construction or manufacture. Any discrepancy to be reported to the Engineers immediately.
Do not scale this drawing, work to figured dimensions only.

DRAWING ISSUE STATUS

- :- DESIGN DEVELOPMENT PRIOR TO TENDER ISSUE
- :- TENDER ISSUE
- :- DESIGN DEVELOPMENT PRIOR TO CONSTRUCTION ISSUE
- :- CONSTRUCTION ISSUE
- :- AS BUILT DRAWING

PROJECT :		SOUTH WALES FIRE SERVICE PENARTH FIRE STATION	
TITLE :		EXTERNAL WORKS LAYOUT	
DATE : NOV 13	DRAWN : MWD	PROJECT No. :	DRG. No. :
SCALE : 1:125	CHECKED : -	13.2960	100
			G

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