Guide to Building Application Water Layouts / Schematics

The following guidance is provided on what is to be considered and included in the design and presentation of a water layout being included in a building application submitted to the eThekwini Municipality for consideration.

Minimum Information for Design Purposes

The following information, as necessary, shall be obtained from the owner of the premises or from the water supply authority (*SANS 10252-1*) in order to undertake the design of a water layout for any building :

a) a plan of the site, showing contours, proposed and existing floor or terrace levels (all related to geodetic datum) and the location and description of any existing services on the site;

b) the intended function of the premises and the types of activities to be carried out on the premises;

c) drawings of buildings, showing
   1) points that require water supply, and
   2) the proposed type of sanitary fixtures and apparatus;

d) a schedule of sanitary fixtures and apparatus that require a water supply;

e) the design population of the premises and the times that the premises will be occupied;

f) the quantity of water and the water pressures required;

g) the nature of the subsoil on the site;

h) the quality of the water obtainable from the supply mains;

I) the static and, where possible, residual pressures in the water supply mains;

j) water quantities and flow rates obtainable from the water supply main for the various types of water demand;

k) if applicable,
   1) a schedule of acceptable pipes and water fittings, and the size of the water meter,
   2) requirements for drawings, and other information that has to be submitted in order to obtain approval for the water installation,
   3) any special precautions to be taken for the crossing of any other services on the premises, and
   4) details of any existing connections and services;

l) the location of the point of connection to the water supply main, or of the communication pipe;

m)details on the metering of the water installation; and

n) if the owner has to connect the water installation to the water supply, the following details:
   1) if the installation is to be connected either to the mains or to the communication pipe, details about the size and the type (material) of piping; and
   2) if the installation is to be connected to a water meter, details about the size and type of outlet from the meter.

Water Layout Content

The minimum information to be shown on a water layout (domestic & fire) should include the following:

a) the position and size of the communication pipe(s) serving the premises;

b) details of the water meter to be installed;

c) details of any booster connections or pumping equipment installed;

d) the location and size of every water fitting (incl. fire equipment);
[*water fitting : any component of a water installation, other than a pipe or pipe connection, through which water passes or in which water is stored*]

e) the layout, material and size of the water pipe(s) (above and below ground);

f) the position and material of insulation (where required) applied to pipes(s);

g) the location and capacity of every storage tank (for domestic or fire purposes);

h) the location and capacity of every water heater, heat pump, solar water heater and secondary storage (where applicable), etc.;

j) the pressure for which the installation has been designed; and

k) the position of overflows.

Additional Considerations

In addition to the requirements contained in SANS 10252-1 cognisance is also to be taken of (but not limited to) the requirements in:

SANS 1352, The installation, maintenance, replacement and repair of domestic air source water heating heat pump systems

SANS 10106, The installation, maintenance, repair and replacement of domestic solar water heating systems.

SANS 10254, The installation, maintenance, replacement and repair of fixed electric storage water heating systems.

Municipal Water Supply Pressure

For design purposes the Municipal water supply pressure should be taken as 25 m or the measured pressure available at the point at which the water connection occurs / will occur, whichever the lesser pressure. Calculations based upon a measured or assumed peak supply pressure may yield a water design that is not fit for its intended purpose.

Where any doubt exists around the available municipal water supply or available supply pressures the eThekwini Water and Sanitation is to be consulted.

Prepared by:
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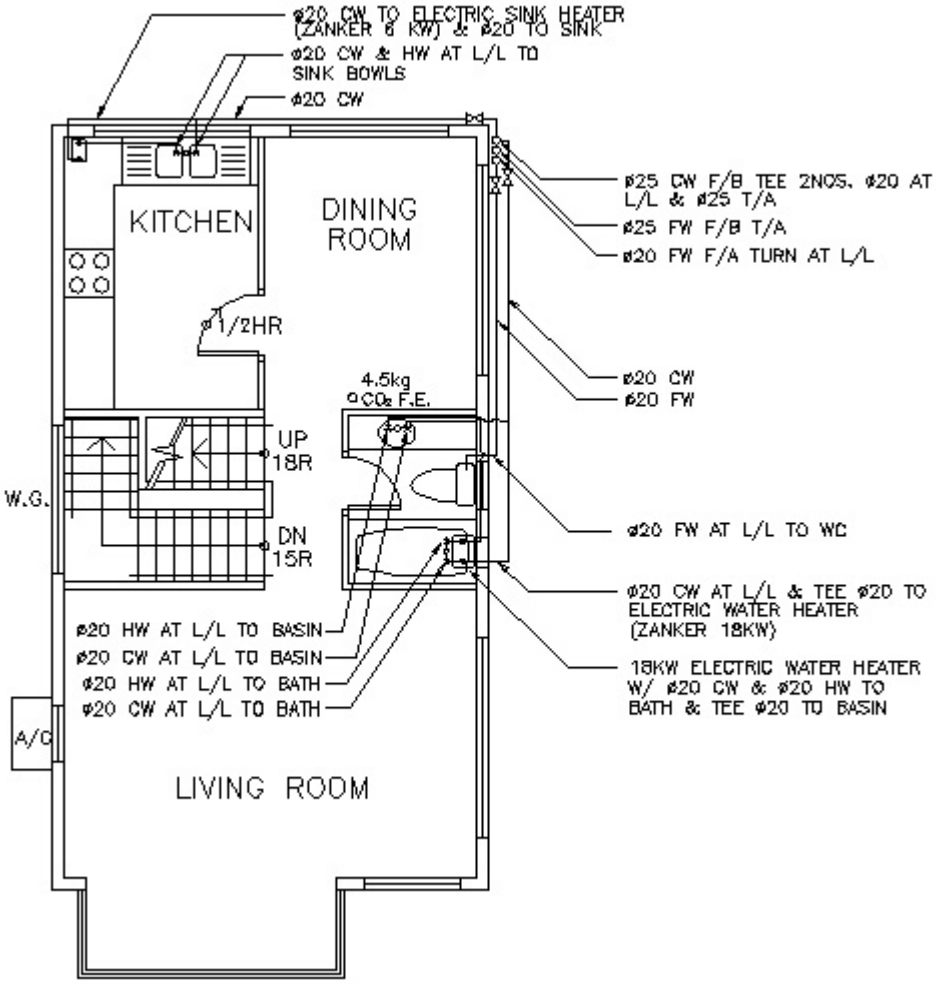
Sample Water Layout Drawing

The included diagrams provide examples of how a water layouts / schematics could be represented in a building application. The information does not necessarily require separate layout / schematic drawings, although for clarity this may be preferrable. **NO** design must be based upon the content of the diagrams, they are illustrative only.

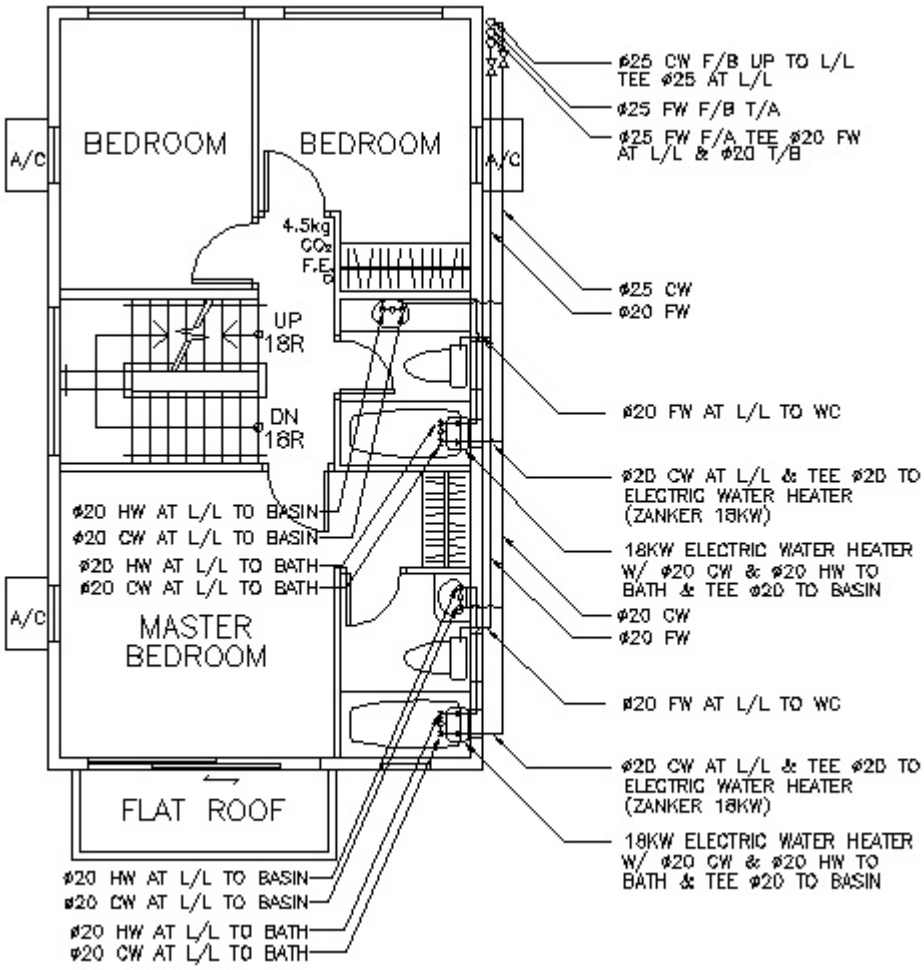
Water layout design, symbology and abbreviations used is to be in accordance with **SANS 10252-1 : Water supply and drainage for buildings**.



First Floor Layout

Diagrams provided for illustrative purposes only.

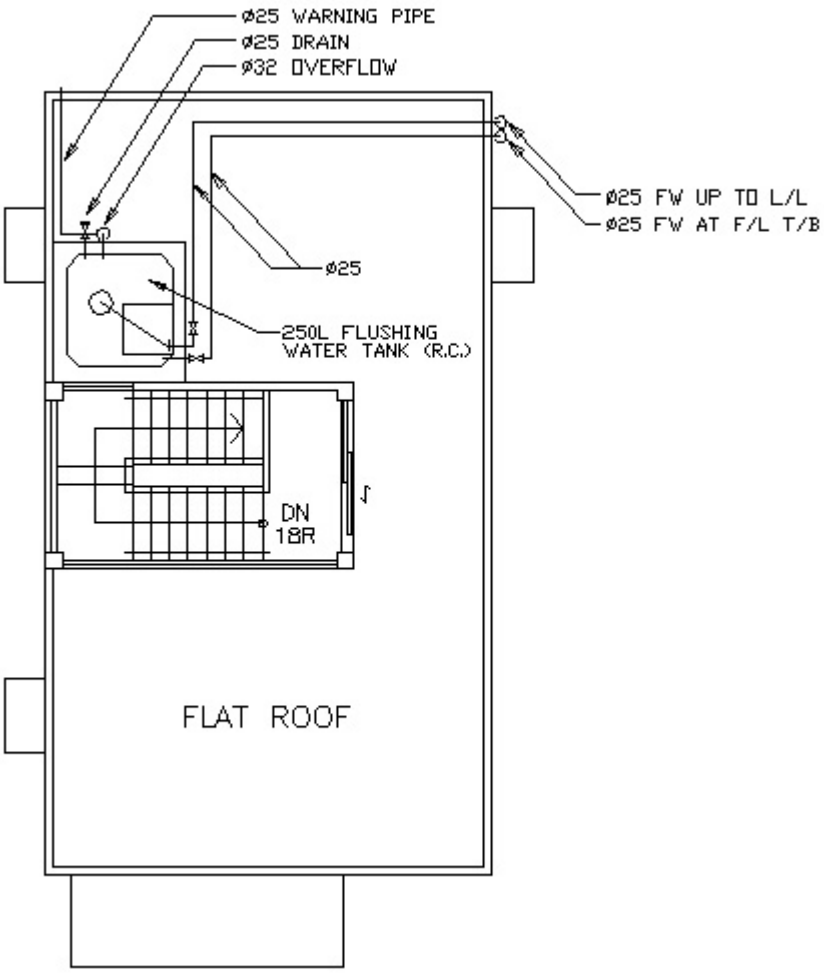
Water layout design, symbology and abbreviations used is to be in accordance with **SANS 10252-1 : Water supply and drainage for buildings**.



Second Floor Layout

Diagrams provided for illustrative purposes only.

Water layout design, symbology and abbreviations used is to be in accordance with
SANS 10252-1 : Water supply and drainage for buildings.



Roof Layout

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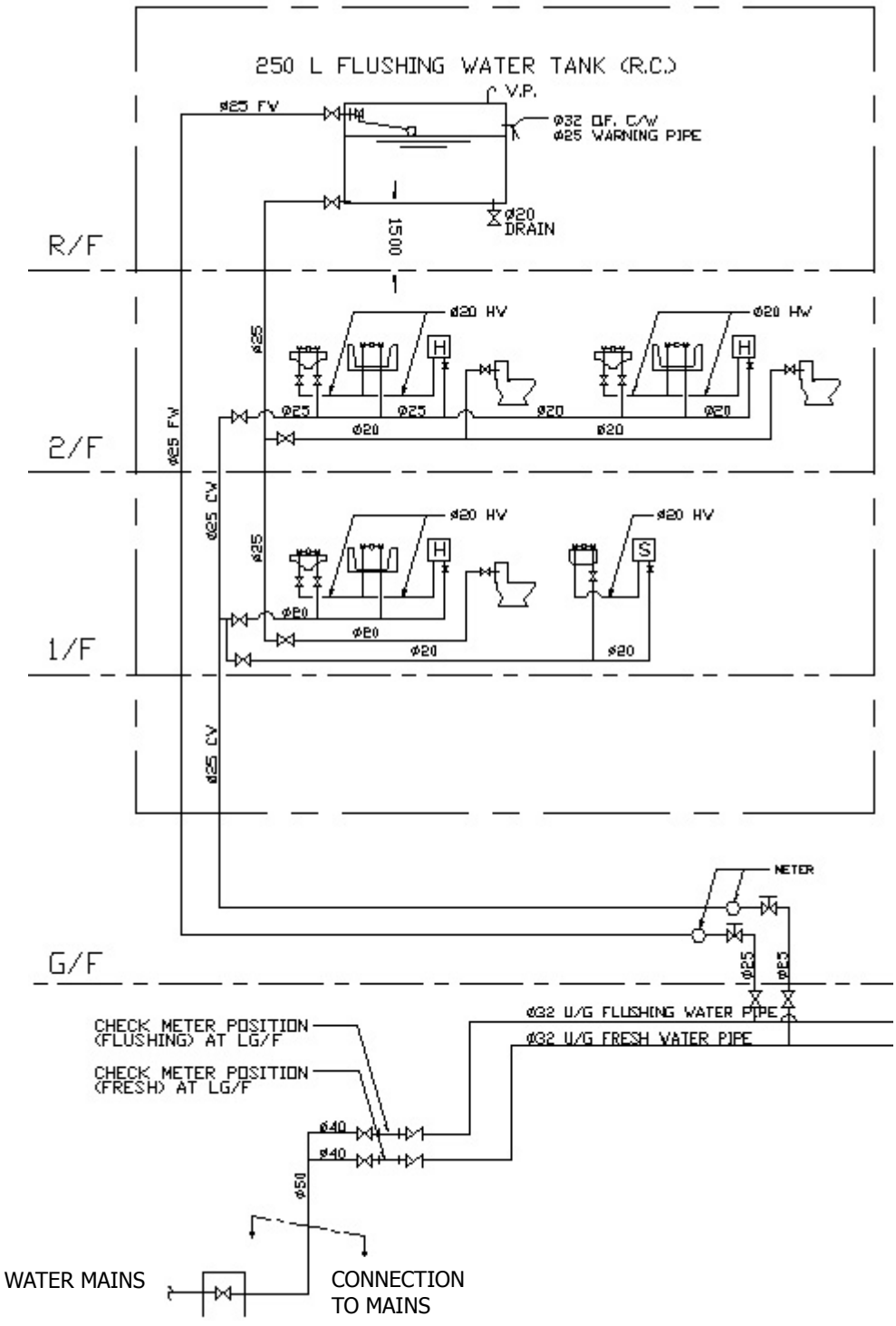

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SANS 10252-1 : Water supply and drainage for buildings.