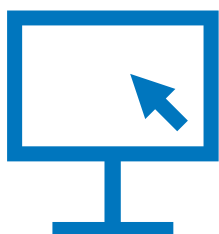


**GEBERIT PROPLANNER 2019**

# **TRAINING MANUAL**

## **SCHEMATIC PLANNING**



## **PROPLANNER LEGAL NOTICES**

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# 1 ABOUT THIS DOCUMENT

Use this Training Manual during training but also to repeat what you have already learned.






You will learn how to work with Geberit ProPlanner with the aid of planning examples.

The topics at a glance:

- User interface with toolbars
- Planning examples
- Keyboard shortcuts

## 1.1 CHARACTERS AND SYMBOLS

The following characters and symbols are used in this training manual:

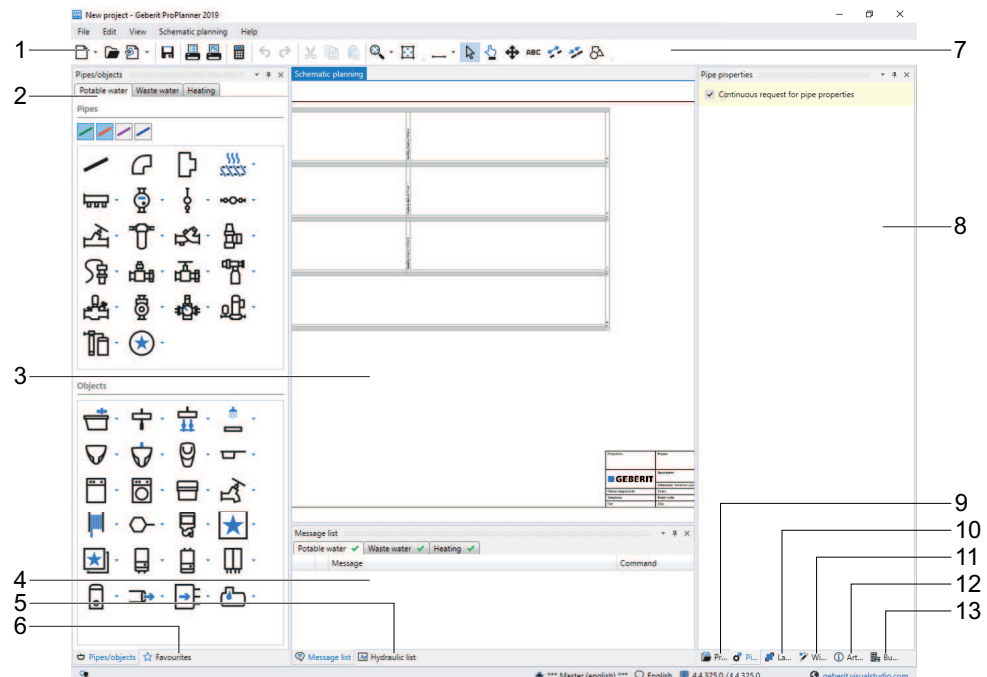
Symbol	Designation	Meaning
	Info	Reference to additional information on the subject under Help or in another training manual
	Hint	Hint for an easier or better approach
	Note	Basic information on a specific procedure
	Action	Instruction for action consisting of only one step
1. 2.		Instruction for action consisting of several steps
	Result	Result of an action



Find further information using the **Help** menu or by pressing **F1**.

## 2 USER INTERFACE

The following window appears once you have created a new project with the Schematic planning subproject:



- 1 General toolbar (see "General toolbar", page 10)
- 2 **Pipes/objects** window
- 3 Drawing area
- 4 **Message list** window
- 5 **Hydraulic list** window
- 6 **Favourites** window
- 7 Schematic planning toolbar (see "Schematic planning toolbar", page 11)
- 8 **Pipe properties** window
- 9 **Project** window
- 10 **Layer** window
- 11 **Wizards and settings** window
- 12 **Article information** window
- 13 **Building** window



The pipe types and objects available are dependent on the market.

### 2.1 PIPES/OBJECTS WINDOW

The **Pipes/objects** window contains pipes, bends, branch fittings, T-pieces and objects, which you can use for a potable water, waste water and heating installation.

## 2.2 DRAWING AREA

You can see the building in which you draw your Schematic planning in the drawing area. The number of floors and stacks corresponds to the settings in the Building.

The following commands can be performed:

- Place objects from the **Objects** window into the drawing area and thus equip the single installation units of the building.
- Connect objects to pipes.
- Edit objects used using the pop-up menu.
- Move walls, floors and ceilings.

## 2.3 MESSAGE LIST WINDOW

Depending on the calculation, the Message list displays a report that contains the calculation errors, warning notes and information. Error messages are displayed with a red symbol and warnings with a yellow symbol. Information does not have a symbol. The messages for each module can be called up via the tab.



Clicking on the error message enlarges the fault in the drawing area and highlights it in a colour corresponding to the degree of severity.

The same messages are displayed grouped together. Clicking on ► shows all grouped messages.

## 2.4 HYDRAULIC LIST WINDOW

The Hydraulic list provides information about the power, nominal width and pressure loss and shows the calculated values for the single flow paths.



Clicking on an entry in the **Hydraulic list** enlarges the object and the flow path in the drawing area and highlights them in a colour.

## 2.5 FAVOURITES WINDOW

The **Favourites** window contains all objects, assemblies and texts that have been saved as Favourites. You can select predefined favourites, depending on the market selection, to plan projects quickly and easily. Predefined favourites are shown in italics and cannot be deleted.

## 2.6 PIPE PROPERTIES WINDOW

You can define the pipe properties of your installation, such as the length and position of your pipes, in the **Pipe properties** window.

## 2.7 PROJECT WINDOW

The **Project** window displays the project currently open with its subprojects.

You can execute the following functions in the **Project** window:

- Enter Project Data and Subproject Data
- Add, delete Subprojects etc.
- Importing Subprojects from other projects

## 2.8 LAYER WINDOW

You can define the visualisation in the drawing area in the **Layer** window.

## 2.9 WIZARDS AND SETTINGS WINDOW

You can perform the following functions in the **Wizards and settings** window:

- Change installation type
- Enter project data
- Enter subproject data
- Define visualisation and labels
- Enter Building and calculation properties



## 2.10 ARTICLE INFORMATION WINDOW

As soon as a subproject has been calculated, you can call up views, dimensional sketches and installation manuals for articles from the Geberit product range in the **Article information** window. If available, you can call up installation videos on YouTube via a link. You need to be connected to the internet for this.

You can obtain the following information:

- Photo and drawing of a selected article
- Dimensional sketches
- Link to the Geberit product catalogue
- Installation manual and installation notes in PDF format
- ZIP file with CAD drawing in DWG or DXF format
- Links to YouTube videos

## 2.11 BUILDING WINDOW

The building in the **Building** window comprises floors, building stacks and installation units and can be extended as required. You can change the building structure and the calculation settings in the **Building** window.

The selected installation unit appears in the drawing area as soon as you click on an installation unit in the **Building** window.

You can also call up the **Building and calculation settings** window in the **Building** window.




---

Access additional information under Help at **Schematic planning > User interface**.

---


















## 2.12 TOOLBARS

### 2.12.1 GENERAL TOOLBAR

All basic functions of Geberit ProPlanner can be called up via the General toolbar.










Disabled buttons appear light-grey.

Button	Command
	Create new project
	Open available project
	Add subproject
	Save project
	Show/print lists
	Show/print graphics
	Calculate subproject
	Undo last command
	Redo undone command
	Cut object and copy to clipboard
	Copy object to clipboard
	Paste object from clipboard
	Zoom into drawing frame
	Extend drawing
	Reduce drawing
	Zoom in to all objects
	Select zoom area with the mouse
	Adapt drawing frame to drawing

### 2.12.2 SCHEMATIC PLANNING TOOLBAR

The following additional functions are available for the Schematic planning module.

Button	Function
	Select pipe highlighting
	Select objects
	Move drawing area
	Move objects
<b>ABC</b>	Insert free texts
	Delete connection
	Create connection
	Import image or CAD plan

### 3 'SCHEMATIC PLANNING' PLANNING EXAMPLES

Use the Schematic planning module to plan the potable water installation, waste water installation and heating installation in your building.

Schematic planning provides a detailed visual display of your plan. The display is not true to scale.

The designations for drinking water pipes are as follows:

Designation	Meaning
PWC	Potable Water Cold
PWH	Potable Water Hot
PWH-C	Potable Water Hot-Circulation
NPW	Non-Potable Water

With the aid of three planning examples, you will learn in steps how to create installations using the Schematic planning module.

In the first example, create a T-piece installation for a multi-storey building. In doing so, you will meet the basic functions for inserting objects and drawing pipes.

In the second example, you will then repeat and practise in more detail what you have learned from the first example. To do so, create a loop through installation for a multi-storey building.

In the third example you will then create a comprehensive installation with single tap positions and manifolds.

#### 3.1 ADAPTING THE USER INTERFACE

We recommend using the **Default window arrangement 1** when working with this training manual.



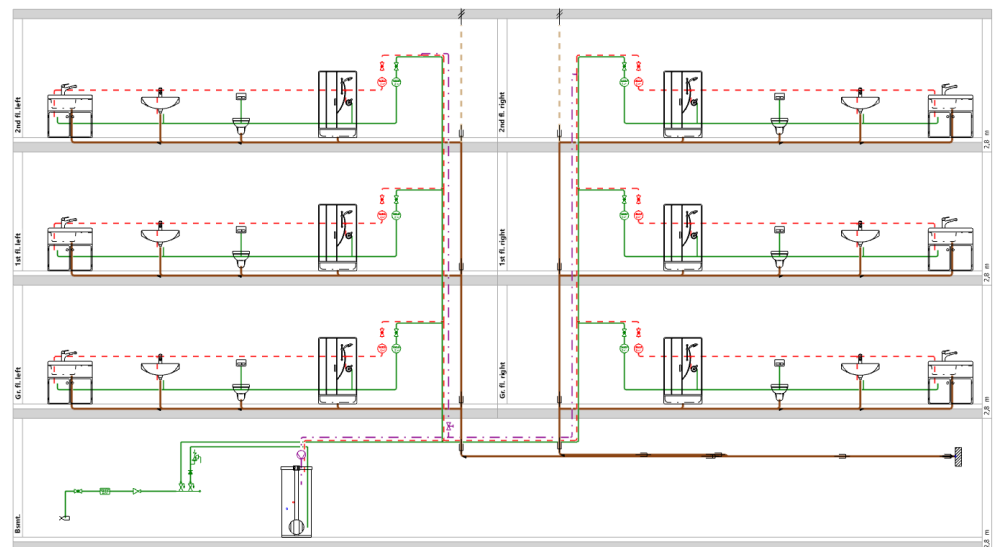
Find out in the **Installation and basic functions** training manual or under Help at **Basics > Window layout** how to call up and adapt this window layout.

## 3.2 T-PIECE INSTALLATION

This chapter covers the following topics:

- Renaming subprojects
- Entering building properties
- Entering settings for potable water
- Placing objects into an installation unit
- Drawing potable water pipes
- Placing water meters and shut-off valves
- Connecting a transfer point
- Calculating potable water installation
- Checking Flow Paths
- Entering settings for waste water
- Drawing waste water pipes
- Placing the weathering slate
- Calculating the potable water and waste water installation
- Adapting and showing labels
- Copying installation units
- Planning basement distribution
- Planning circulation and pressure settings

Once you have completed all of your planning steps, the installation will look like this:

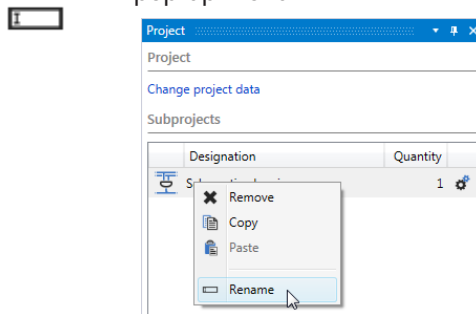


The visualisation may differ depending on the market.

### 3.2.1 RENAMING SUBPROJECTS

Geberit ProPlanner automatically names subprojects according to their respective type. Rename the subproject so that you can better plan and distinguish between different subprojects, e.g. several buildings in the same project.

1. Right-click on the **Subproject** in the **Project** window and select **Rename** in the pop-up menu.



2. Enter the designation **T-piece installation** and confirm with **Enter**.

### 3.2.2 ADAPTING BUILDING AND CALCULATION SETTINGS

Before the start of the plan, adjust the building size, the installation situation of the individual floors and the calculation settings for potable water and waste water.

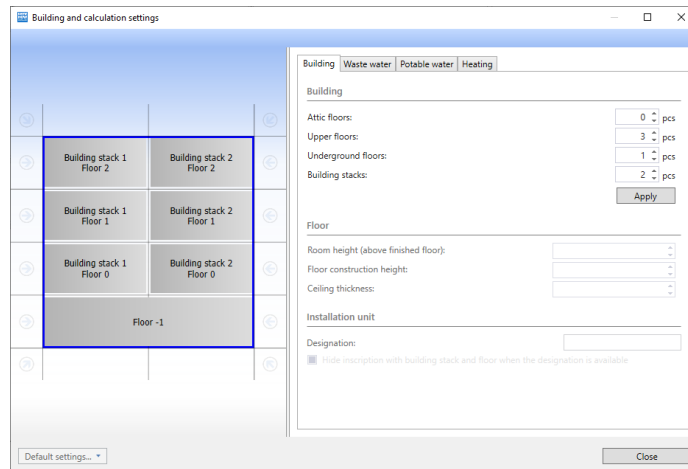
#### 3.2.2.1 DEFINING THE BUILDING SIZE

The size of the building is defined at the start of the plan.



1. Show the **Building** window.
2. Click on **Building and calculation settings**.  
✓ The **Building and calculation settings** window appears.
3. Enter the number of **Building stacks** as **2**, the number of upper floors as **3**, the number of **Underground floors** as **1** and the number of **Attic floors** as **0**.

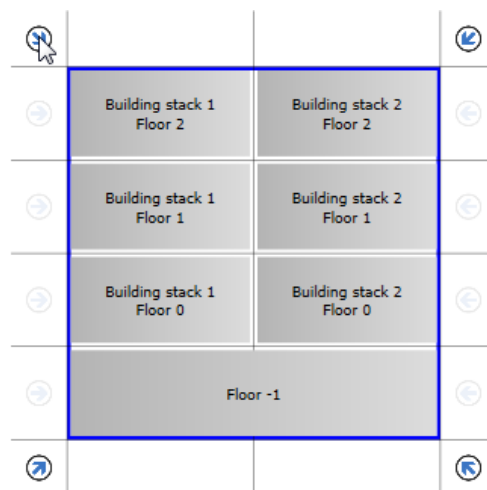
4. Click on **Apply**.



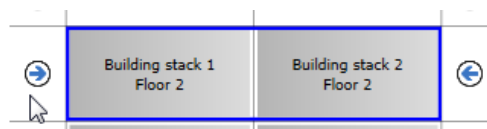
3.2.2.2 SELECTING THE BUILDING, FLOORS AND INSTALLATION UNITS

The building in the **Building** window consists of floors, building sections and installation units.

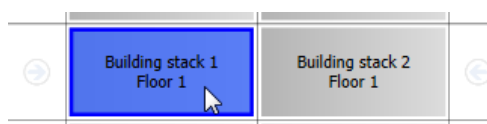
Click on one of the arrows at the corners of the building to select the building.



Click on one of the arrows on the right or left beside the floor to select a floor.



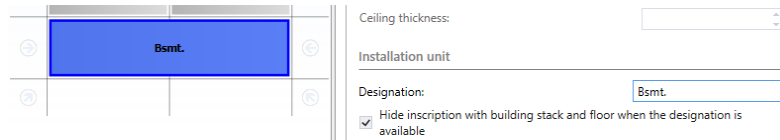
Click on the installation unit to select an installation unit.



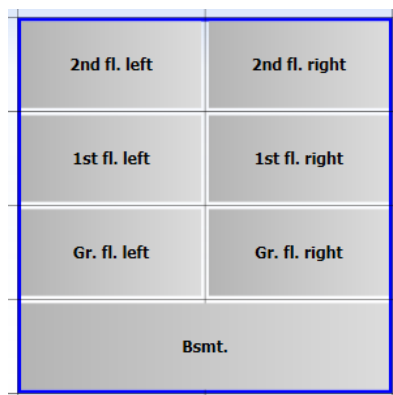
You can simultaneously select several installation units or floors by pressing **CTRL**.

### 3.2.2.3 NAMING INSTALLATION UNITS

1. Highlight the installation unit **Floor -1**.
2. Enter **UG** as the label for the underground floor in the **Designation** field in the **Label** area.



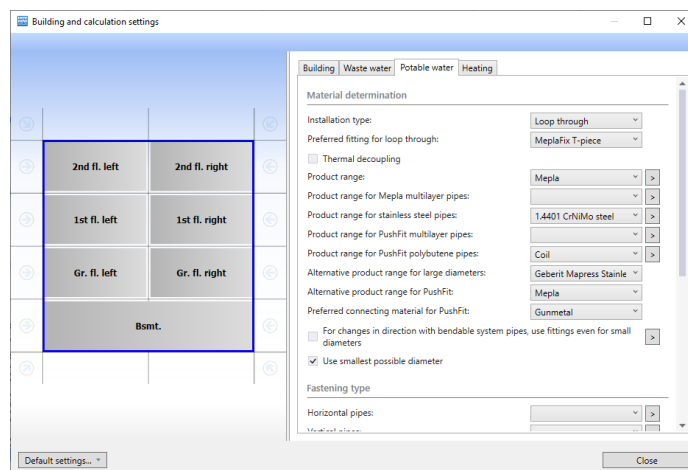
3. Activate **Hide inscription with building stack and floor when the designation is available** to hide the labels.
4. Name all the other installation units in this way as follows:



### 3.2.2.4 ADAPTING CALCULATION SETTINGS FOR POTABLE WATER

Before starting your plan, you need to define the settings for the assortment and for the dimensioning of the supply network in the **Building and calculation settings** window.

The settings in the **Building and calculation settings** window apply to the entire building complete with all floors and installation units. You can define different properties for the single floors and installation units, if need be. To do this, highlight the required floor or installation unit and enter the settings. The settings of the building and the settings of other floors and installation units are retained.



1. Select the **Potable water** tab in the **Building and calculation settings** window.



2. Select **T-piece installation** in the **Installation type** field.
3. Select **Mepla** in the **Product range** field.

Material determination

Installation type: Loop through

Preferred fitting for loop through: MeplaFix T-piece

☐ Thermal decoupling

Product range: Mepla

Product range for Mepla multilayer pipes: Mepla

Product range for stainless steel pipes: PushFit metal multilayer pipe

Product range for PushFit multilayer pipes: PushFit polybutene pipe

Product range for PushFit polybutene pipes: Geberit Mapress Stainless Steel

Product range for PushFit polybutene pipes: Geberit Mapress Copper



You can activate **Thermal decoupling** in the German market. If **Thermal decoupling** is activated, the material list for circulation and circular pipes for suitable objects is expanded by additional Mepla T-pieces. The visualisation of the plan in Geberit ProPlanner remains unchanged.

4. In the **Fastening type** area, select **None** for the **Horizontal pipes** and **Vertical pipes**.

Fastening type

Horizontal pipes: None

Vertical pipes: None



You can define the settings as default settings using the **Default settings** button if you wish to use the settings for other subprojects.



5. Click on the button with the arrow in the **Pipe position (above unfinished floor)** field in the **Calculation** area.
  - ✓ The pipe positions for the single floors appear.
6. Set a pipe position of **2.10 m** for all pipes in the underground floor.

7. Select a pipe position of **1.10 m** for all hot media (PWH, PWH-C) and a pipe position of **0.40 m** for all cold media (PWC, NPW) to minimise heat transfer between the hot and cold media.

Calculation

Use type: Residential building

Simultaneity factor (for user-defined use type): 0,20

Pipe position (above unfinished floor): > m

Maximum flow velocity (v max):

Ambient temperature:

☐ Floor installation in accordance with maximum flow velocity

Circulation

Maximum flow rate up to DN 20: 0,3

Maximum flow rate for DN 25 or greater: 0,7

Maximum temperature differential between PWH and P... 4,0

Maximum draw-off time: 30

Underground floor (PWC):	2,10	m
Underground floor (PWH):	2,10	m
Underground floor (PWH-C):	2,10	m
Underground floor (NPW):	2,10	m
Upper floor (PWC):	0,40	m
Upper floor (PWH):	1,10	m
Upper floor (PWH-C):	1,10	m
Upper floor (NPW):	0,40	m
Attic floor (PWC):	0,40	m
Attic floor (PWH):	1,10	m
Attic floor (PWH-C):	1,10	m
Attic floor (NPW):	0,40	m

8. Leave all other entries in the default settings.
9. Click on **Close** to apply the settings.

### 3.2.3 PLACING OBJECTS

At the start of the installation, place the shower, washbasin, WC and kitchen sink objects in the 2nd upper floor. Place a transfer point in the underground floor to simulate the domestic water supply connection, storage water heater etc.

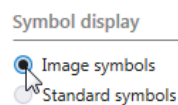
#### 3.2.3.1 SETTING THE SYMBOLS USED

Objects can be displayed as image symbols or as standard symbols in the Schematic planning module. Image symbols are used in this planning example.



Representation of the objects as image symbols (left) and standard symbols (right)

- Click on **Module settings** in the **Schematic planning** menu  
✓ The **Module settings** window appears.
- Select the **Image symbols** setting in the **Symbol display** area.



- Click on **Finish** to apply the setting.

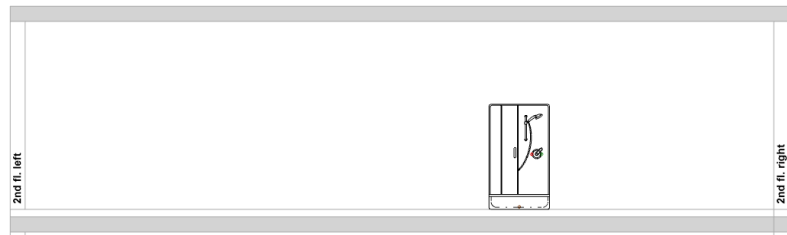
### 3.2.3.2 PLACING OBJECTS



- Use the mouse wheel to zoom into the plan in the drawing area.
- Hold down the mouse wheel to move the plan in the drawing area.

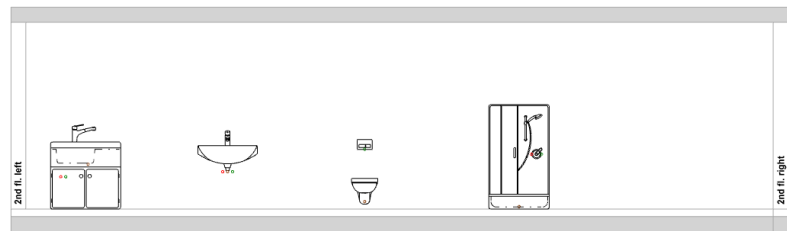


1. Activate the **Shower** in the **Objects** area of the **Pipes/objects** window.
2. Place the **Shower** into the **2nd left upper floor** installation unit and press **ESC**.

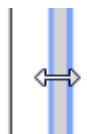


Objects are always placed at a standard height. The height at which an object is set in the drawing is immaterial. The object then jumps to the default height.

3. In this way, place the **WC**, **washbasin** and **kitchen sink** to the left of the shower.



- If need be, you can extend or reduce installation units by clicking on one side of the wall and, holding down the mouse key, drawing it to the left or right.



- Make sure that this does not affect the real lengths and values, as the drawing is not to scale.



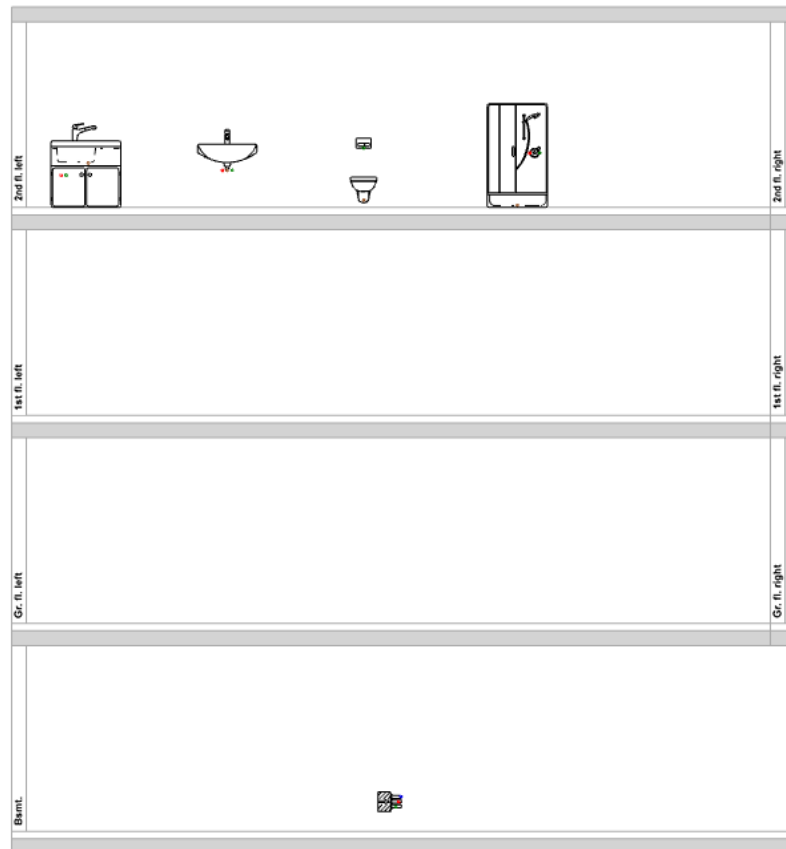
You can combine objects to create units in markets with DIN 1988-300-compliant calculation (see "Units", page 134).

### 3.2.3.3 PLACING TRANSFER POINTS

The transfer point replaces the domestic water connection and the storage water heater, among other things, and acts as the starting point for your calculation. An installation can therefore be simply checked and calculated at an early stage before creating a complete basement distribution system.



1. Select the **transfer point**.
2. Place the transfer point into the underground floor.



3. Press **ESC** to exit the function.

### 3.2.4 DRAWING POTABLE WATER PIPES

Once you have set the objects, the pipes for cold and hot potable water are drawn.



- Pipes are drawn at the height defined in the Building and calculation settings. The display of the pipes in the drawing is not true to scale.
- The horizontal or vertical alignment of a pipe is defined using the Pipe properties and can differ visually from the calculated alignment. A horizontally calculated pipe can be shown vertically and vice versa.

### 3.2.4.1 CONNECTING OBJECTS

You can simultaneously connect objects with pipes for **Cold potable water** and **Hot potable water**.



- The cursor signals whether a connection is possible at the current position and whether the connection is being made to an object or a port.
- The colour of the cursor signals which medium is being connected.



Cursor when connecting to an object (left, rectangular cursor) and when connecting to a port (right, circular cursor)

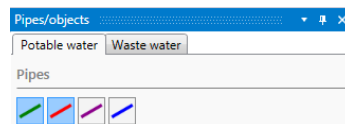


If, when drawing a pipe, you need to make sure that you are connecting directly to a port and the circular cursor needs to be active, this is signalled in this training manual by a corresponding symbol in the media colour.

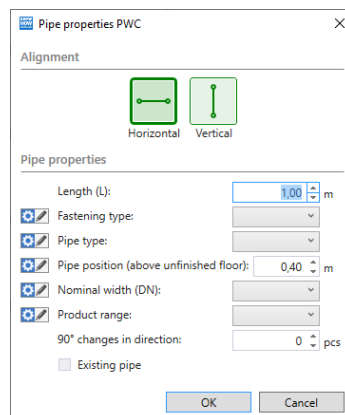


#### 3.2.4.1.1 CONNECTING THE KITCHEN SINK AND WASHBASIN

1. Activate the **Cold potable water** and **Hot potable water** media.

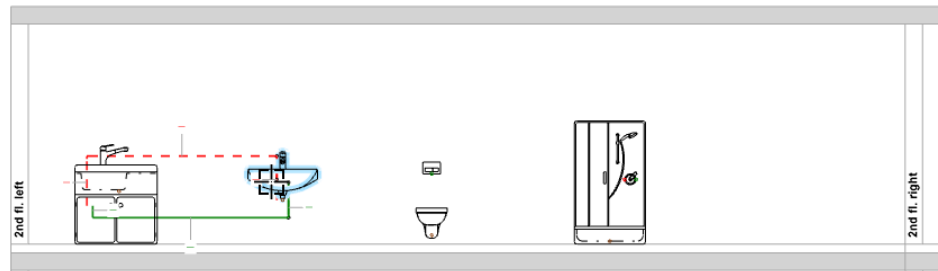


2. Select the **Pipe** function.
3. Click on the **kitchen sink** and draw the pipes to the washbasin.
4. Click on the washbasin as soon as the washbasin appears blue.  
✓ The **Pipe properties PWC** window appears.



5. Leave the length as 1 m and confirm the **Pipe properties PWC** window with **OK**.  
✓ The **Pipe properties PWH** window for hot potable water appears.

6. Apply the same settings as previously in the **Pipe properties PWC** window and confirm the **Pipe properties PWH** window with **OK**.



#### 3.2.4.1.2 CONNECTING THE WC

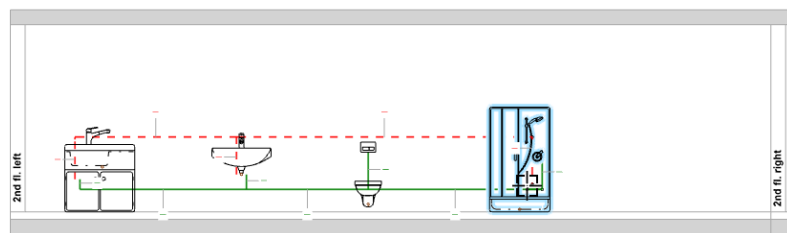
1. Click on the WC.  
✓ The **Pipe properties PWC** window appears.
2. Leave the **Length (L)** as **1.00 m** and confirm with **OK**.



No **Pipe properties PWH** window appears as the WC is only connected to **Cold potable water**.

#### 3.2.4.1.3 CONNECTING THE SHOWER

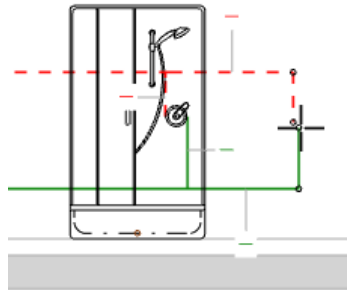
- Click on the shower and confirm the queries relating to pipe properties with **OK**.



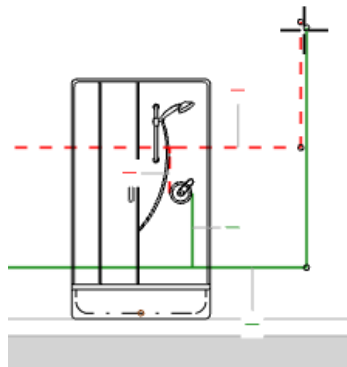
As the WC was previously not connected to **Hot potable water**, the suggested pipe length in the **Pipe properties PWH** window is 2 m and is 1 m in the **Pipe properties PWC** window.

#### 3.2.4.1.4 DRAWING PIPES TO THE TRANSFER POINT

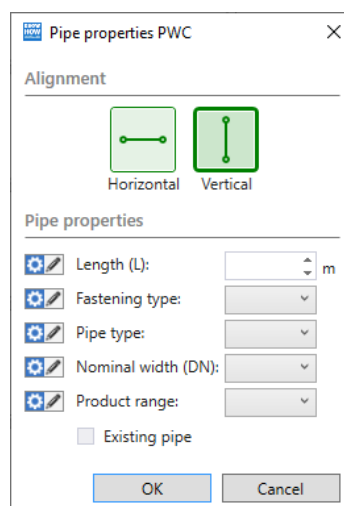
1. Draw the pipes to the right and click in the drawing area.



- ✓ The **Pipe properties PWC** window appears.
- 2. Select the value **0.50 m** as the **Length (L)**.
- 3. Confirm with **OK**.
  - ✓ The **Pipe properties PWH** window appears.
- 4. In the **Pipe properties PWH** window, select the same settings as previously in the **Pipe properties PWC** window.
- 5. Confirm with **OK** and draw the pipes upwards.



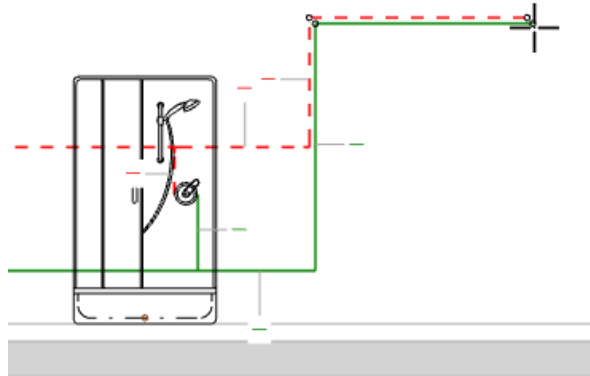
6. Click in the drawing area to draw two vertical pipes.
  - ✓ The **Pipe properties PWC** window appears.





The length of the vertical pipe is automatically calculated by the height difference of the pipe positions of the horizontal pipes.



7. Confirm with **OK**.
  - ✓ The **Pipe properties PWH** window appears.
8. Confirm with **OK**.
9. Draw the pipes to the right and click in the drawing area.



10. Select the value **0.50 m** as the **Length (L)** for the horizontal pipe and the value **1.50 m** as the **Pipe position (above unfinished floor)**.



Many values in the **Pipe properties** window are automatically calculated. The settings in the **Building and calculation settings** form the basis of the calculations.

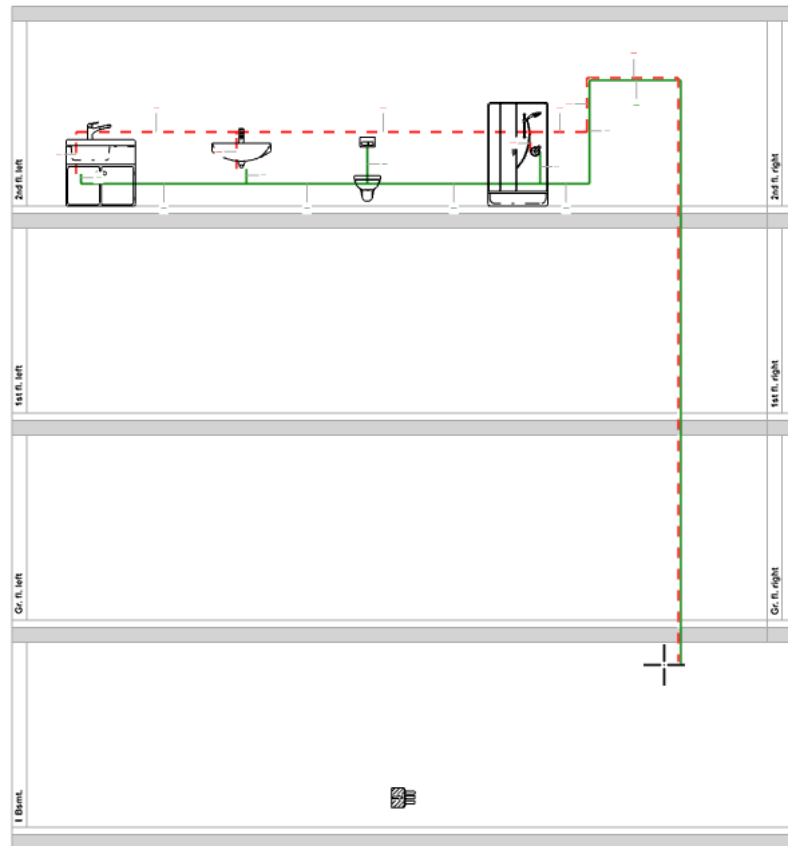
- Calculated values are indicated by the symbol **Calculate value** .
- Manually modified settings appear in bold and the **Value user defined** symbol  has a blue background.

Only change the values in the **Pipe properties** window in exceptional cases and check, if you need to, the settings in the **Building and calculation settings**.

11. Confirm with **OK**.
12. In the **Pipe properties PWH** window, select the same settings as previously in the **Pipe properties PWC** window.
13. Confirm with **OK**.

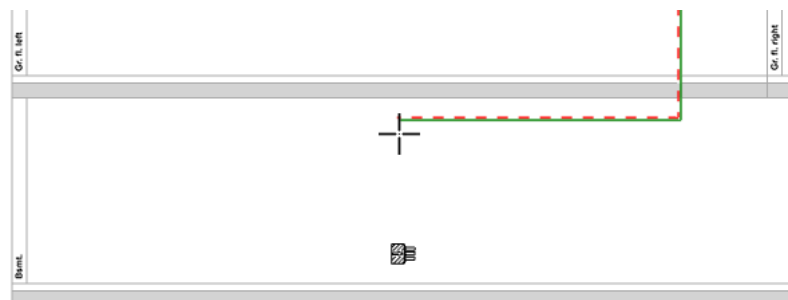


14. Draw the pipes into the underground floor and click in the drawing area beneath the ceiling.



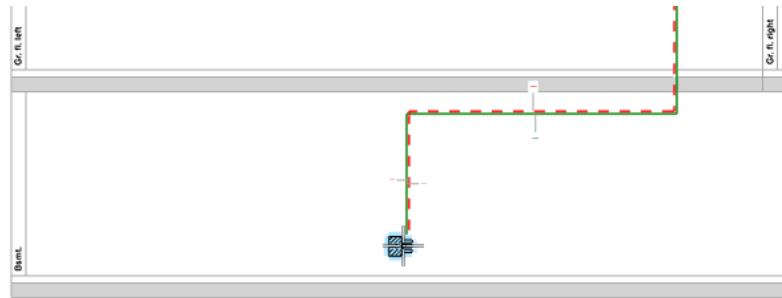
15. Confirm both the **Pipe properties PWC** and **Pipe properties PWH** windows with **OK**.

16. Draw the pipe to the left over the transfer point and click in the drawing area.



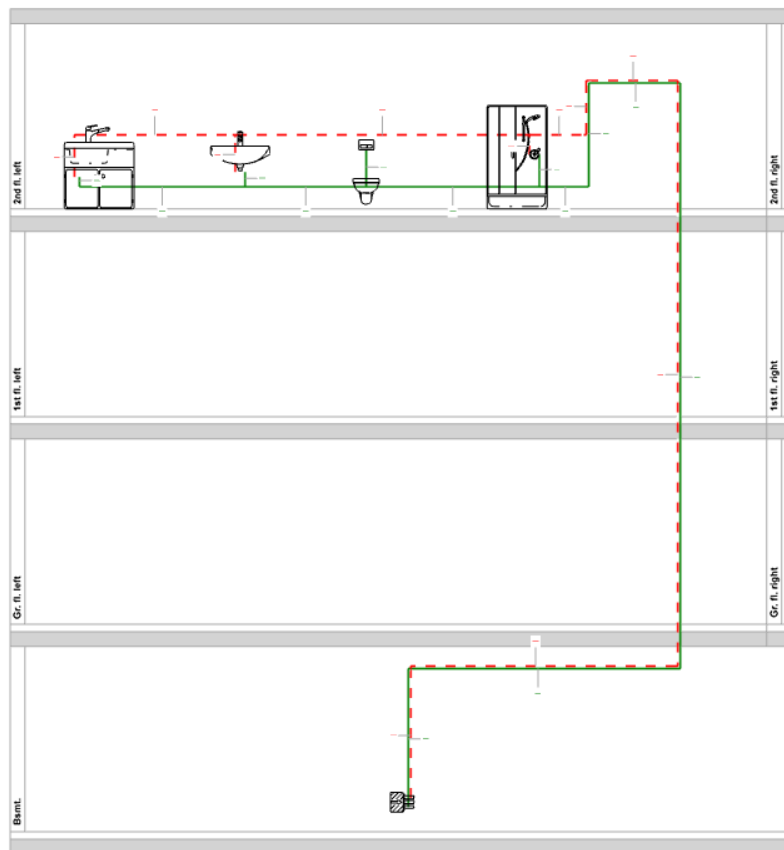
17. Confirm both the **Pipe properties PWC** and **Pipe properties PWH** windows with **OK**.

18. Click on the transfer point.



19. Confirm both the **Pipe properties PWC** and **Pipe properties PWH** windows with **OK**.

20. Press **ESC** to exit the function.



#### 3.2.4.1.5 HIDING LABELS

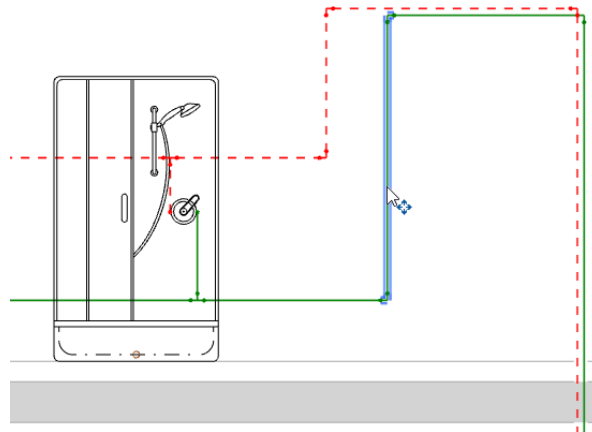
The pipe labels are hidden as they are troublesome for the following steps.

- Press **H** to hide the labels.

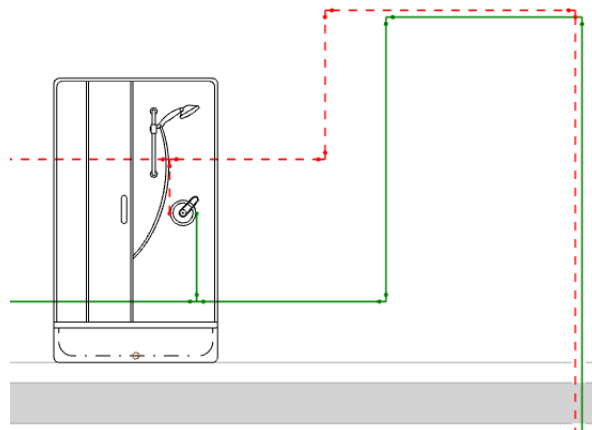
### 3.2.4.2 MOVING PIPES

The vertical pipe for **Cold potable water** is moved to later conveniently place the water meter and shut-off valves into the pipes. The actual lengths of the adjacent pipes are unaffected by this.

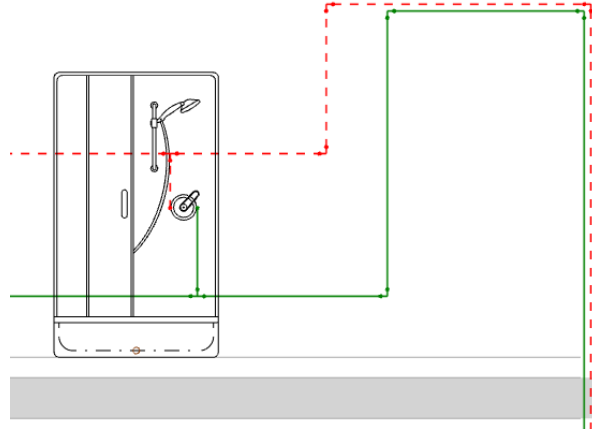
1. Click on the vertical pipe for **Cold potable water** and press and hold down the left mouse key for at least 1 second without moving the mouse.
  - ✓ All the connected pipes and connection points that lie in the same alignment are captured and can be moved together.



2. Press and hold down the left mouse key or use the keyboard arrow keys to the right to move the pipes and connection points entered.



3. In the same way, move the riser pipe for **Hot potable water** to the right beside the riser pipe for **Cold potable water** so that the pipes no longer intersect at the end of the riser pipe.



4. Press **ESC** to exit the function.

### 3.2.5 PLACING WATER METERS AND SHUT-OFF VALVES

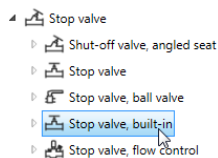
Once you have drawn the pipes, you can place the water meters and shut-off valves into the pipes for **Cold potable water** and **Hot potable water**.

#### 3.2.5.1 PLACING SHUT-OFF VALVES

1. Make sure that the **Cold potable water** and **Hot potable water** media are activated.

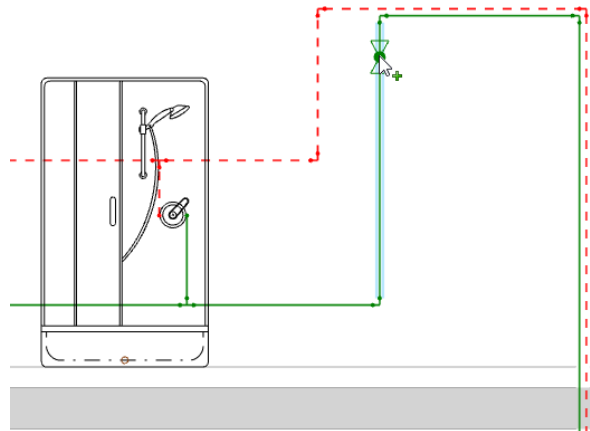


2. Expand the **Shut-off valve** tree structure and select the **Straight seat valve**.



- The medium of the object and the medium of the pipe must match to allow you to place an object in a pipe. An object for **Cold potable water** can now be inserted into a pipe for **Cold potable water**.
- If you have activated several media, you can switch to the medium for the object being inserted by pressing the **Tab** key.

3. Use your mouse to guide the green shut-off valve to the green pipe for **Cold potable water** until the pipe appears blue.



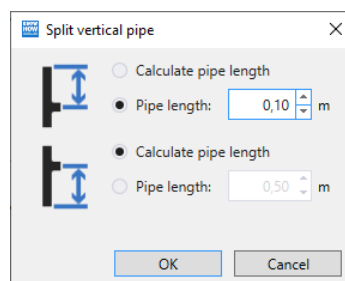
4. Click to place the shut-off valve in the green pipe for **Cold potable water**.  
✓ The **Split vertical pipe** window appears.



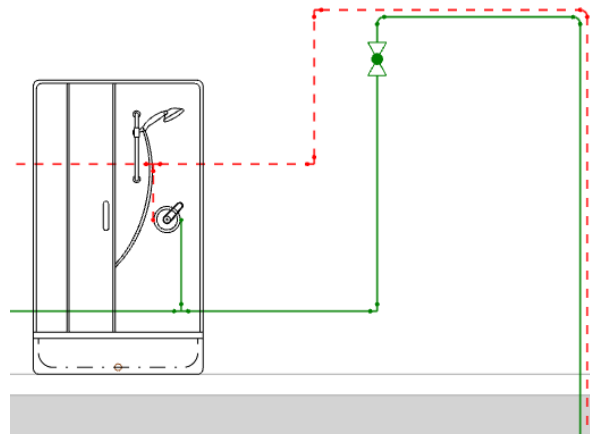
No request to split the pipe appears if the medium of the object does not match the medium of the pipe. You therefore have control that an object has been placed on the correct pipe.



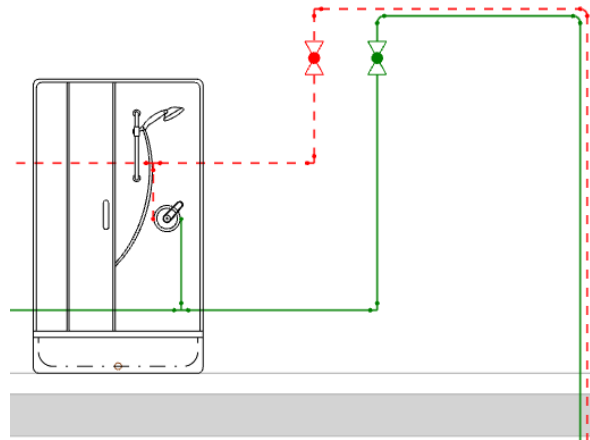
5. Activate the **Pipe length** option and enter the value **0.10 m** in the **Distance upwards** area.



6. Confirm the settings with **OK**.



7. In the same way, place the red shut-off valve into the red pipe for **Hot potable water**.



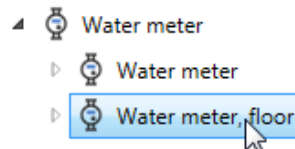
8. Press **ESC** to exit the function.

### 3.2.5.2 PLACING WATER METERS

1. Make sure that the **Cold potable water** and **Hot potable water** media are activated.



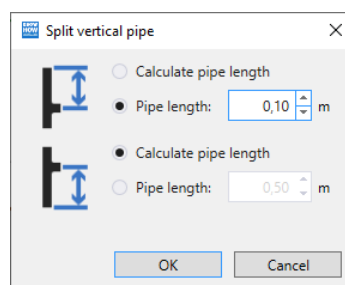
2. Expand the **Water meter** tree structure and select the **Floor water meter**.



3. Place the green water meter on the green pipe for **Cold potable water**.  
✓ The **Split vertical pipe** window appears.

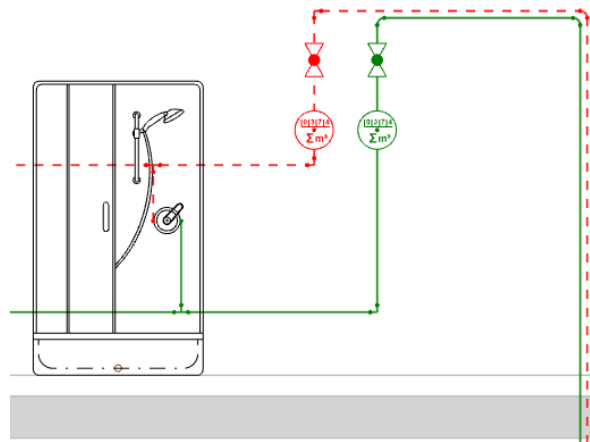


4. Activate the **Pipe length** option and enter the value **0.10 m** in the **Distance upwards** area.



5. Confirm the settings with **OK**.

6. In the same way, place the red water meter into the red pipe for **Hot potable water**.



7. Press **ESC** to exit the function.

### 3.2.6 CHECKING YOUR INSTALLATION

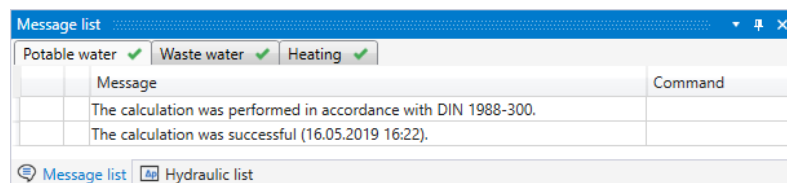
As soon as you have placed all the objects and drawn the pipes in the 2nd upper floor, you can calculate your installation. You should also perform a calculation if you have made changes in your plan.

A report appears in the **Message list** window after every calculation. The report contains calculation errors, warning notes and information. Clicking on an error message highlights in red the relevant element in the drawing.

There should be no errors displayed in the **Message list** window after the calculation.



- Click on **Calculate subproject** in the toolbar or press **F5**.
  - ✓ The installation is now calculated. Any information, warnings and errors are displayed in the **Message list**.
  - ✓ No error messages appear in the **Message list**.



In certain markets, warnings about the draw-off time appear in the **Potable water** tab. They are subsequently cancelled by the incorporation of a potable water circulation system.

### 3.2.7 ADJUSTING CALCULATION SETTINGS FOR WASTE WATER

You can call up the settings for **Waste water** in the **Building and calculation settings** window. Here you can, for example, select the **Product range**, set the pipe gradient or define the pipe positions for discharge pipes and ventilation pipes.



1. Show the **Building** window.
2. Click on **Building and calculation settings**.
3. Select the **Waste water** tab.
4. Click on the button with the arrow in the **Product range** field.  
✓ The pipe types appear.
5. Enter the following settings for the pipe types:



Calculation

Product range:	Silent-db20	>	
Use/discharge value (K):	Irregularly	0,50	
Slope (J):		1,00	
Pipe position for discharge pipes (above unfinished fl...):		0,00	
Pipe position for ventilation pipes (above unfinished...):		2,50	
Connection diameter of WC:	DN 90		
Sound insulation:	None		
Fastening type for horizontal pipes:	Sliding installation with		
Fastening type for vertical pipes:	Sliding installation with		
Connection:			
Proportion of electrofusion couplings:		30	

Single branch discharge pipe:	Silent-PP
Collector branch discharge pipe:	Silent-PP
Stack:	Silent-db20
Collector/underground pipe:	Silent-db20
Pressurized pipe:	Silent-db20
Ventilation pipe:	Geberit PE
Rainwater single branch discharge pipe:	Silent-db20
Rainwater collector branch pipe:	Silent-db20
Rainwater stack:	Silent-db20
Rainwater collector pipe:	Silent-db20



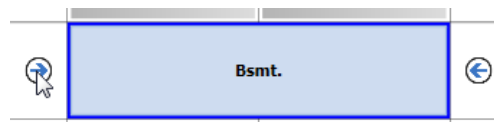
Use the **Silent-db20** setting if the **Silent-PP** setting is not available in your market.

6. Click in the **Building and calculation settings** window.  
✓ The pipe types disappear and the **Product range** field is empty. The empty field indicates that different assortments have been selected for the individual pipe types.



You can define a standardised product range for all pipe types by selecting a pipe type in the **Product range** field.

7. Highlight the underground floor.





8. Select the value **1.80 m** in the **Pipe position for discharge pipes (above unfinished floor)** field.

Calculation

Product range:		>
Use/discharge value (K):	Irregularl	0,50
Slope (J):	1,00	> %
Pipe position for discharge pipes (above unfinishe...)	1,80	m
Pipe position for ventilation pipes (above unfinish...)	2,50	m

9. Click on **Close** to apply the settings.

### 3.2.8 DRAWING DISCHARGE PIPES

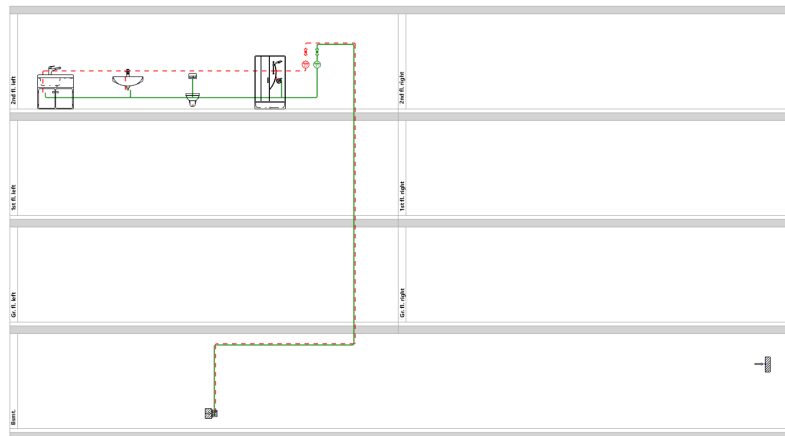
The waste water pipes are drawn once you have adjusted the settings,.

#### 3.2.8.1 PLACING THE SEWAGE CONNECTION

1. Select the **Waste water** tab in the **Pipes/objects** window.
2. Activate the **Sewage connection**.
3. Press **Z** to mirror the sewage connection.



4. Place the sewage connection into the underground floor.



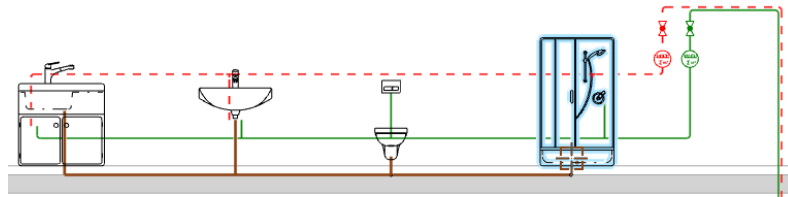
5. Press **ESC** to exit the function.

#### 3.2.8.2 CONNECTING OBJECTS

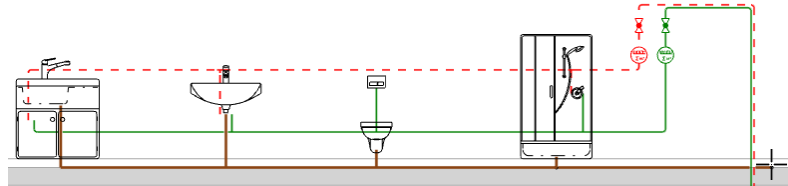


1. Select the **Pipe** function.
2. Click in the 2nd upper floor on the kitchen sink and draw the pipe to the washbasin.
3. Click on the washbasin.
4. Select the value **0.50 m** as the **Length (L)** in the **Pipe properties Waste water** window.
5. Confirm with **OK** and draw the pipe to the WC.
6. Click and confirm each request relating to pipe properties with **OK**.

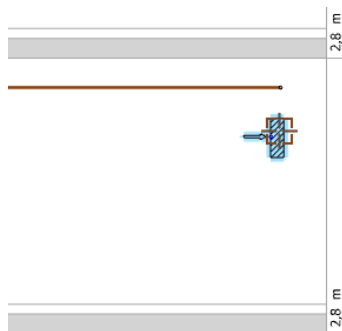
7. Connect the shower in the same way.



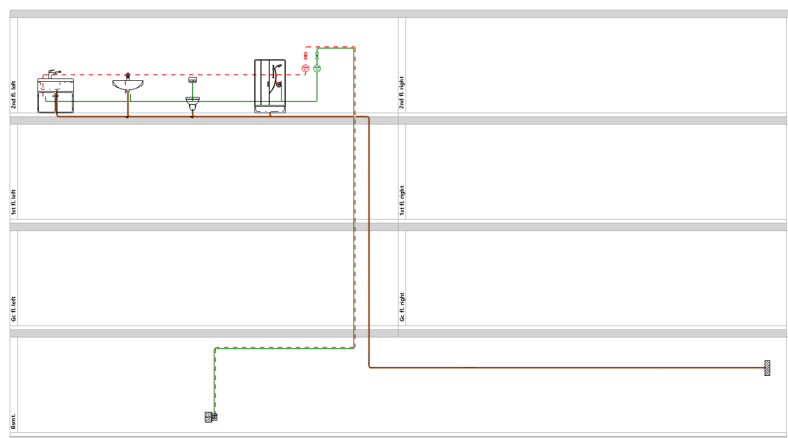
8. Draw the pipe to the right and click in the drawing area.



9. Confirm the pipe properties query with **OK** and draw the pipe into the underground floor.
10. Click in the underground floor below the ceiling into the drawing area and confirm the pipe properties query with **OK**.
11. Click on the sewage connection.



12. Select the value **15.00 m** as the **Length (L)** in the **Pipe properties Waste water** window.
13. Confirm with **OK**.
14. Press **ESC** to exit the function.



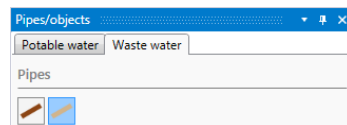
### 3.2.9 PLACING WEATHERING SLATES

The waste water stack must be vented through the roof to ensure that you can correctly calculate your installation.

1. Make sure that the **Waste water** tab is selected in the **Pipes/objects** window.



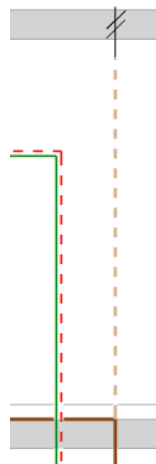
2. Activate the **Weathering slate**.
3. Place the roof penetration into the 2nd upper floor above the stack for waste water.
4. Press **ESC** to exit the function.
5. Activate the **Ventilation** medium.



6. Select the **Pipe** function.
7. Click on the weathering slate and draw the pipe downwards.



8. Click on the port of the existing discharge pipe bend as soon as the circular cursor appears.
9. Confirm the **Pipe properties Ventilation pipes** window with **OK**.
10. Press **ESC** to exit the function.



### 3.2.10 WASTE WATER CALCULATION

The installation can be calculated once you have finished planning all the installation units.

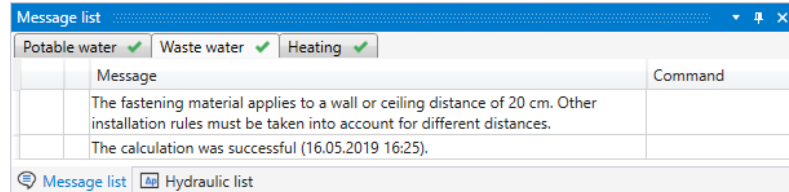
There should be no errors displayed in the **Message list** window after the calculation.



1. Press **F5**.
  - ✓ The installation is now calculated. Any errors are displayed in the **Message list**.

2. Click on **Waste water** in the **Message list** to call up messages on waste water calculations.

✓ No error messages appear in the **Message list**.



Message list		
Potable water	Waste water	Heating
✓	✓	✓
Message		Command
The fastening material applies to a wall or ceiling distance of 20 cm. Other installation rules must be taken into account for different distances.		
The calculation was successful (16.05.2019 16:25).		



In this planning example, the lengths of the discharge pipes in the installation unit have been selected so that no problems arise with the ventilation of the discharge pipes.

Branch ventilation can be planned if the error appears indicating that the maximum length of unvented single-branch discharge pipes or unvented collector branch pipes has been exceeded. Find out at the end of the training manual how branch ventilation can be created (see "Branch Ventilation", page 138)

In the "T-piece installation" planning example, you can generate an error message by setting all the lengths of the horizontal pipes in an installation unit to 5 m.

Message list

Potable water	Waste water

### 3.2.11 LABELS

You have the option of showing labels for pipes and objects. You can then select the display for the single pipe types, e.g nominal width and outer diameter. You can also adapt the visualisation of the labels.

#### 3.2.11.1 SHOWING LABELS

- Press **H** to show the labels again.

#### 3.2.11.2 ADAPTING PIPE LABELS

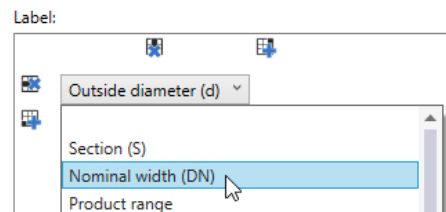
1. Click on **Module settings** in the **Schematic planning** menu.  
✓ The **Module settings** window appears.
2. Click on **Pipe labels**.





3. Select **Potable water** in the **Object type** field.



You can separately adjust the pipe label for each pipe type. The settings will be applied to all pipe types if you do not select a pipe type.

4. Open the first menu in the **Label** area and select **Nominal width (DN)**.



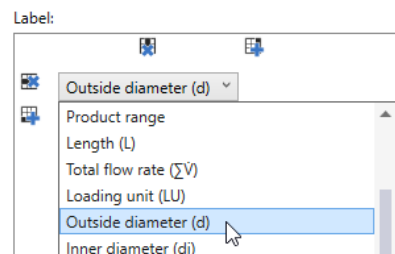
- Clicking on the symbol  or  lets you add as many fields horizontally or vertically to the label.
- Clicking on the symbol  or  lets you delete as many fields horizontally or vertically.

5. Select **Draw outer frame** and **Draw separating lines between the cells**.

- ☒ Draw outer frame
- ☒ Draw separating lines between the cells

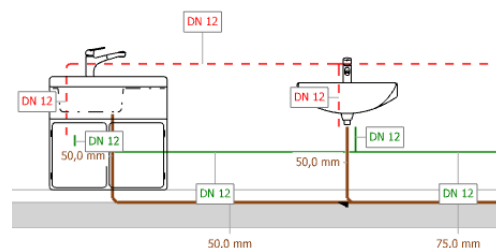
6. Select **Waste water** in the **Object type** field.

7. Open the first menu in the **Label** area and select **Outside diameter (d)**.



8. Click on **Finish** to apply the settings.

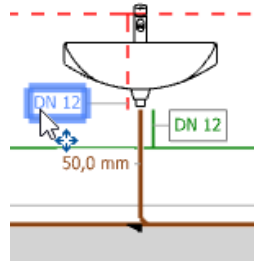
- ✓ The potable water pipes have been labelled with the nominal widths, and the discharge pipes with the outer diameter.



### 3.2.11.3 MOVING LABELS AND HIDING SUPERFLUOUS LABELS

You can move the labels and hide superfluous labels to obtain a better overview.

1. Click on a label and, holding down the left mouse key, draw the label to the required position.



2. Highlight a label and press **DEL** to hide the highlighted label.
3. Move all labels so that they are easily legible and hide any superfluous labels.



Use the arrow keys on the keyboard to move highlighted labels.



You can separately show and hide the label for each pipe or each object. To do so, right-click on a pipe and select **Hide label** or **Show inscription** in the pop-up menu.

### 3.2.12 INSERTING OBJECTS IN REVERSE ORDER INTO INSTALLATION UNITS

Once you have planned the potable water and discharge pipes in the first installation unit, you can then copy them into the opposite installation unit. The objects are to be inserted in reverse order. You do not have to plan each installation unit separately.

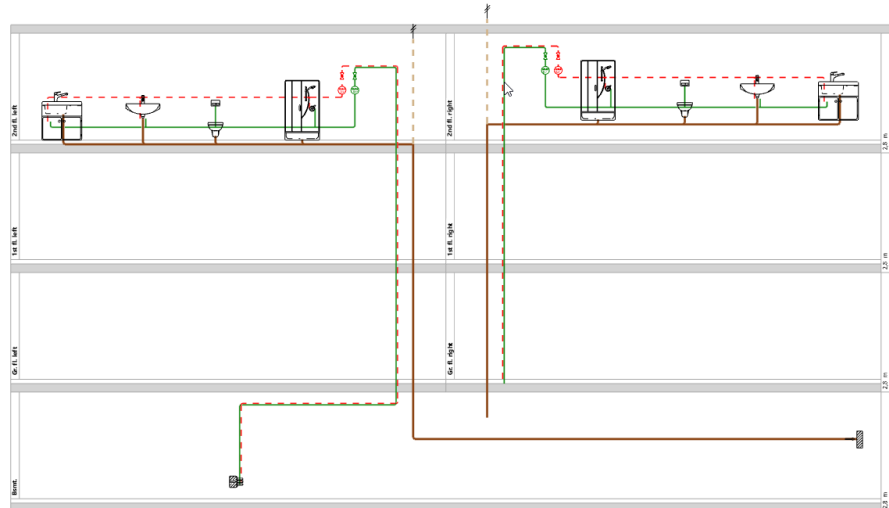
First of all, you must visually move the discharge pipe in the underground floor a little downwards to create space for the second waste water stack. The calculated or set pipe position remains unchanged.



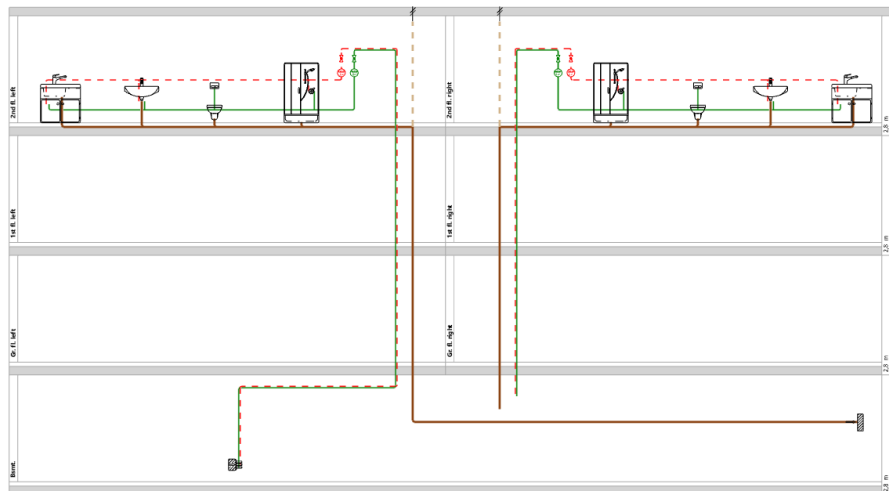
Planning errors and label positions are carried over when copying the installation unit. Therefore only copy error-free and fully drawn installation units.

1. Click on the horizontal discharge pipe in the underground floor and hold the left mouse key pressed for at least 1 second without moving the mouse.
2. Move the discharge pipe at least 3 grid points downwards.
3. Right-click in the **2nd left upper floor** installation unit and select **Copy installation unit** in the pop-up menu.

4. Right-click in the **2nd right upper floor** installation unit and select **Insert in reverse order** in the pop-up menu.
  - ✓ The content of the copied installation unit hangs from the cursor in reverse order.



5. Click on the **2nd right upper floor** installation unit to place the objects and pipes.
  - ✓ The content of the copied installation unit has been inserted in reverse order.



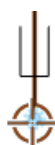
6. Activate the **Waste water** medium.



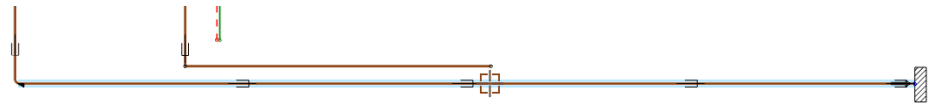
7. Select the **Pipe** function.



8. Click on the free end of the inserted stack as soon as the circular cursor appears.



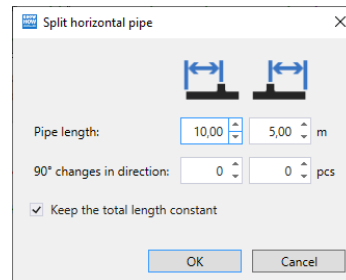
9. Draw the pipe to the right and click on the existing horizontal discharge pipe.



✓ The **Split horizontal pipe** window appears.



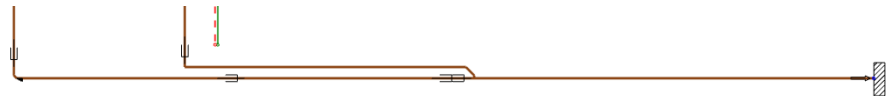
10. Activate the **Pipe length** option and enter the value **10.00 m** in the **Distance to left** area.



11. Confirm the settings with **OK**.

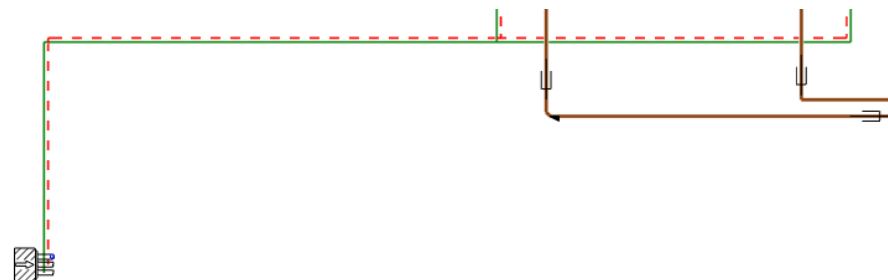
✓ The **Waste water Pipe properties** window appears.

12. Select the value **10.00 m** as the **Length (L)** in the **Pipe properties Waste water** window and confirm with **OK**.



13. Connect the discharge pipes in the underground floor to the existing drinking water pipes. Select the value **10.00 m** as the **Length (L)**.

14. Connect the discharge pipe in the underground floor to the existing discharge pipe. Select the value **10.00 m** as the **Length (L)**.



15. Calculate the subproject.

✓ The calculation does not indicate any errors.

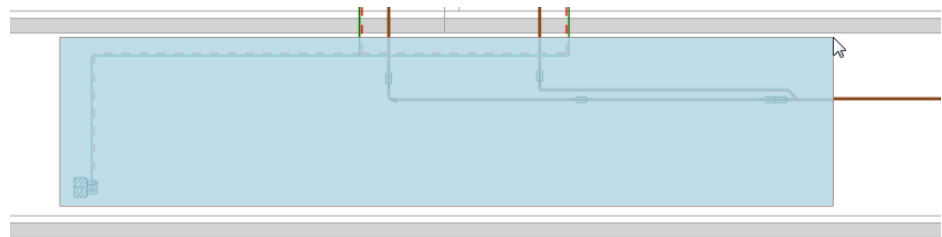
16. Adjust the positions of the labels in the **2nd right upper floor** installation unit.



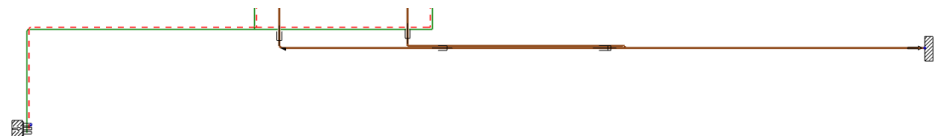
### 3.2.13 DISPLAYING PIPES AND OBJECTS AT THEIR CALCULATED HEIGHT

The horizontal potable water pipes are displayed at too low a height due to being connected to the transfer point. The pipe position is adapted to correct this and display the riser pipes in the underground floor with the correct length.

1. Press and hold down the left mouse key to draw open a selection rectangle so that all the pipes and the transfer point are selected in the underground floor.



2. Right-click on the highlighted pipes and select **Set the pipe at the pipe position** in the pop-up menu.  
✓ The pipes and transfer point are placed at the calculated pipe position.
3. Right-click on the sewage connection and select **Set to default height** in the pop-up menu.  
✓ The sewage connection is set at the default height.

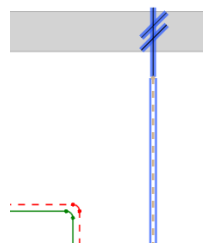


### 3.2.14 COPYING FLOORS

Once you have completed the planning in the 2nd upper floor, you can copy the content of this floor into the other floors. First of all the weathering slates and the ventilation pipes are deleted so that they are not copied.

#### 3.2.14.1 DELETING WEATHERING SLATES AND VENTILATION PIPES

1. Highlight the weathering slate and the ventilation pipe in the two installation units of the 2nd upper floor.

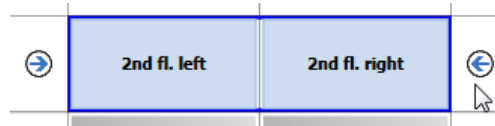


2. Press **DEL**.

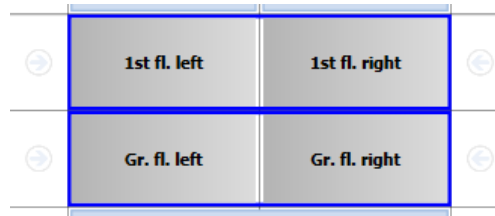
### 3.2.14.2 COPYING FLOORS



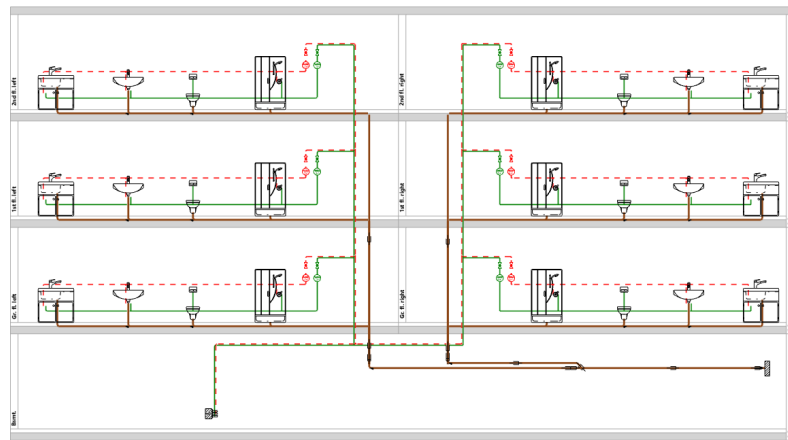
1. Show the **Building** window.
2. In the **Building** window, highlight the 2nd upper floor by clicking on the arrow beside the floor.



3. Right-click on the highlighted floor and select **Copy** in the pop-up menu.
4. Highlight the 1st upper floor.
5. Press and hold down the **SHIFT** key and highlight the ground floor.
  - ✓ Both floors have been selected.



6. Right-click on the highlighted floors and select **Paste** in the pop-up menu.
  - ✓ The contents of the 2nd upper floor have been inserted into the two floors.



### 3.2.14.3 PLACING WEATHERING SLATES AND VENTILATION PIPES

The weathering slates and ventilation pipes previously deleted need to be re-inserted in the 2nd upper floor to enable the planning example to be correctly calculated.

- Place the weathering slates and ventilation pipes into both installation units of the 2nd upper floor (see "Placing weathering slates", page 35).

#### 3.2.14.4 CALCULATING THE PROJECT



- Click on **Calculate subproject** in the toolbar or press **F5**.



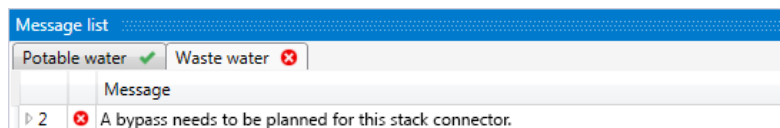
In certain markets, warnings about the draw-off time appear in the **Potable water** tab. They are subsequently cancelled by the incorporation of a potable water circulation system.



Geberit ProPlanner ensures that there are no discharge pipes in the connection-free area at the end of the stack.

A bypass can be planned to rectify this problem. Find out at the end of the training manual how a bypass can be created (see "Bypass", page 140).

In the "T-piece installation" planning example you can generate an error message by inserting two additional upper floors between the 1st upper floor and the 2nd upper floor. In the **Building** window, highlight the 1st upper floor and select **Insert upper floor above** in the **Building structure** pop-up menu.



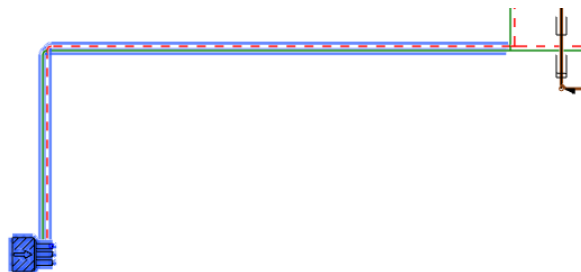
### 3.2.15 BASEMENT DISTRIBUTION

You have now simulated all connections for the potable water installation with the transfer point. Now all the connections (water heater, check valve, valves etc.) are singly placed in a basement distribution.

#### 3.2.15.1 DELETING THE TRANSFER POINT

To place the basement distribution, first delete the transfer point and all potable water pipes as far as the first riser pipe in the underground floor.

1. Highlight the transfer point and all potable water pipes as far as the first riser pipe.



2. Press **DEL** to delete the transfer point and all potable water pipes from the transfer point to the riser pipes.

### 3.2.15.2 PLACING THE DOMESTIC WATER CONNECTION AND ADAPTING THE PRESSURE

1. Select the **Potable water** tab in the **Pipes/objects** window.
2. Select the **Domestic water supply connection**.
3. Place the domestic water supply connection in the underground floor.



4. Press **ESC** to exit the function.
5. Right-click on the domestic water supply connection and select **Properties** in the pop-up menu.
  - ✓ The **Domestic water supply connection** window appears.
6. Select the **PWC** tab.
7. Activate **User-defined pressure at output** and select **6,000 hPa** and/or **600 kPa**.

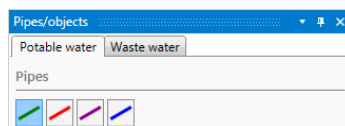


The supply pressure is selected to comply with municipal regulations.

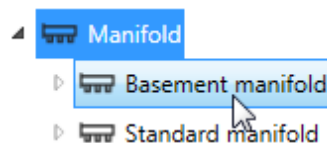
8. Confirm the settings with **OK**.

### 3.2.15.3 PLACING MANIFOLDS

1. Activate the **Cold potable water** medium and deactivate the **Hot potable water** medium.



2. Select the following manifold: **main manifold** or **main manifold without pressure reducing valve**.



3. Place the manifold in the underground floor.

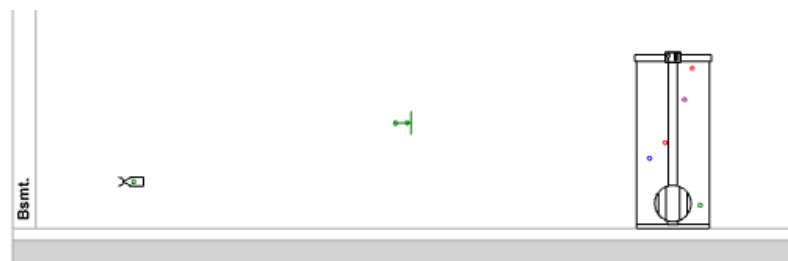


4. Press **ESC** to exit the function.

#### 3.2.15.4 PLACING WATER HEATERS



1. Activate the water heater.
2. Place the **Water heater** into the underground floor.

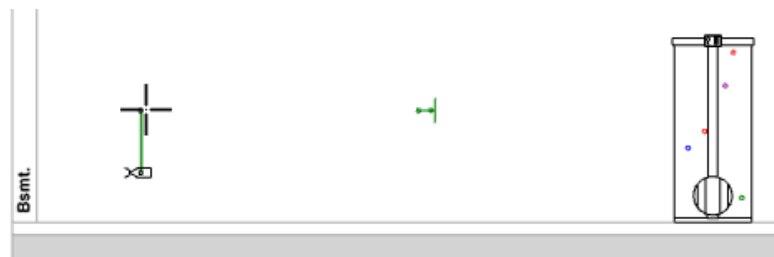


3. Press **ESC** to exit the function.

#### 3.2.15.5 CONNECTING COLD POTABLE WATER



1. Select the **Pipe** function.
2. Click on the domestic water connection and draw the pipe upwards almost to the height of the manifold.



3. Click in the drawing area and confirm the **Pipe properties PWC** window with **OK**.

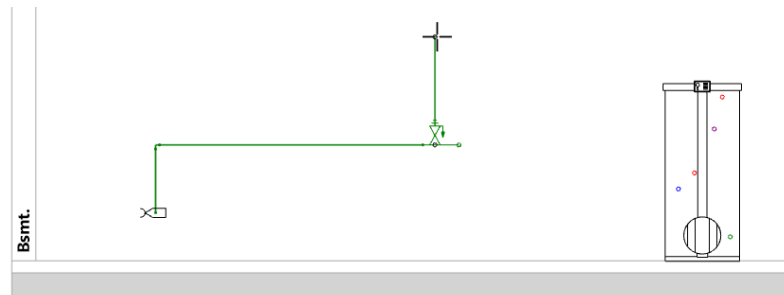


4. Draw the pipe to the right and click on the input port of the manifold.



5. Confirm the **Pipe properties PWC** window with **OK**.

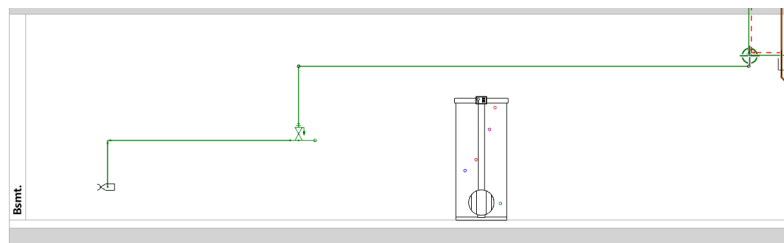
6. Draw the pipe upward from the manifold to the water heater and click in the drawing area.



7. Confirm the **Pipe properties PWC** window with **OK**.



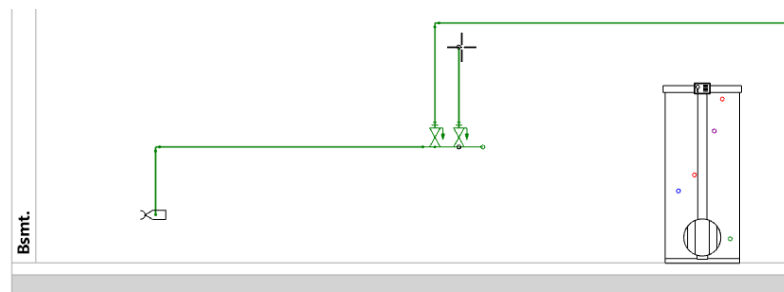
8. Draw the pipe horizontally to the right to the bend of the riser pipe for **Cold potable water** and click on the bend as soon as the circular cursor appears.



9. Confirm the **Pipe properties PWC** window with **OK**.

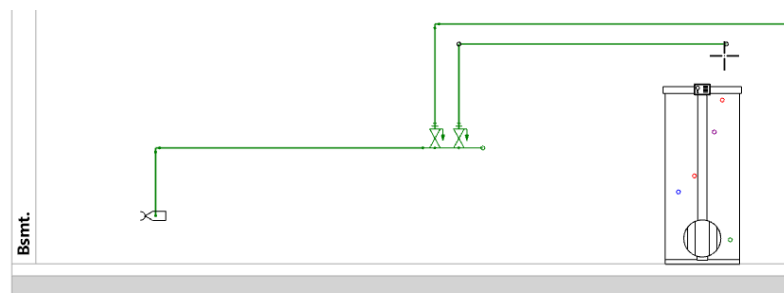


10. Click on the connection nipple for manifold port and draw the pipe upwards to a height above the water heater.



11. Click in the drawing area and confirm the **Pipe properties PWC** window with **OK**.

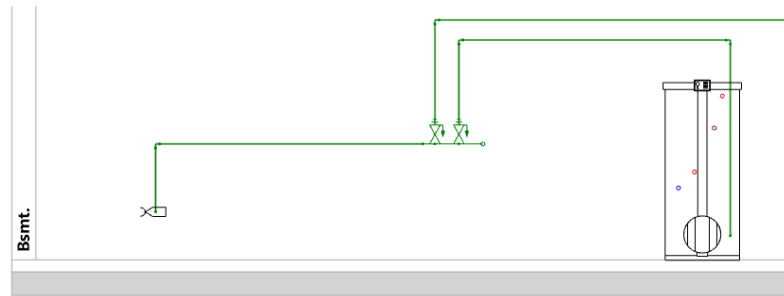
12. Draw the pipe horizontally to the right until it is above the water heater and click in the drawing area.



13. Confirm the **Pipe properties PWC** window with **OK**.

14. Draw the pipe downwards and click on the water heater.

15. Confirm the **Pipe properties PWC** window with **OK**.



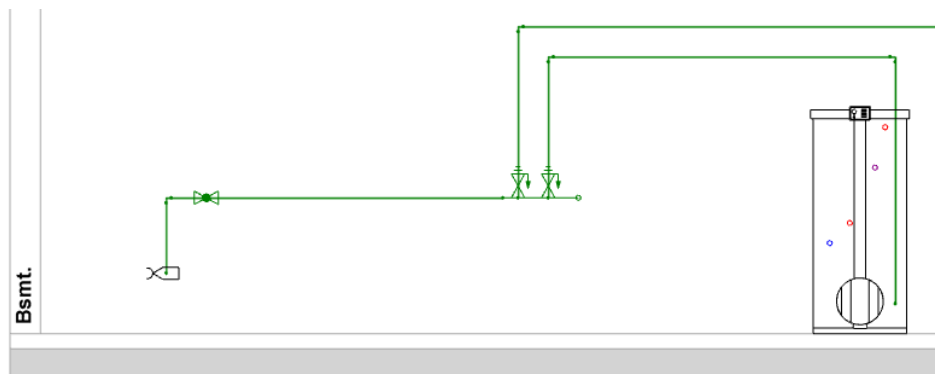
### 3.2.15.6 PLACING SHUT-OFF VALVES

1. Select the following shut-off valve: **Straight seat valve**.



- Stop valve
  - Shut-off valve, angled seat
  - Stop valve
  - Stop valve, ball valve
  - Stop valve, built-in**
  - Stop valve, flow control

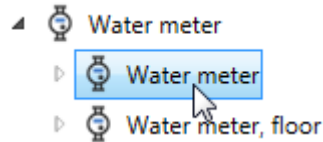
2. Place the shut-off valve between the domestic water connection and the manifold on the green pipe for **Cold potable water** and confirm the **Split horizontal pipe** window with **OK**.



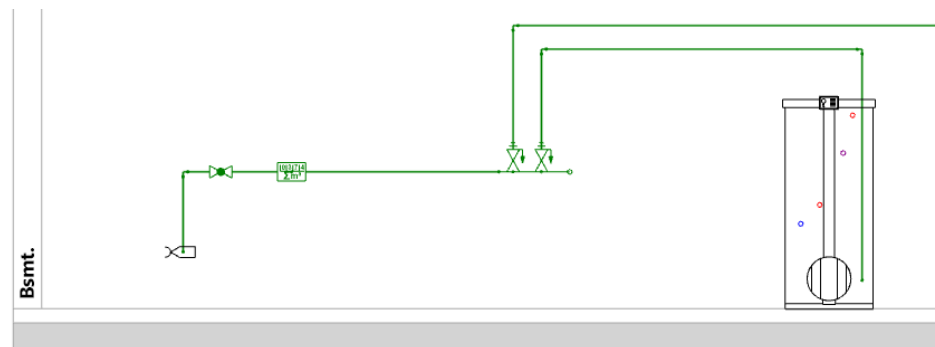
### 3.2.15.7 PLACING THE DOMESTIC WATER METER



1. Activate the following water meter: **Domestic water meter** or **Potable water meter**



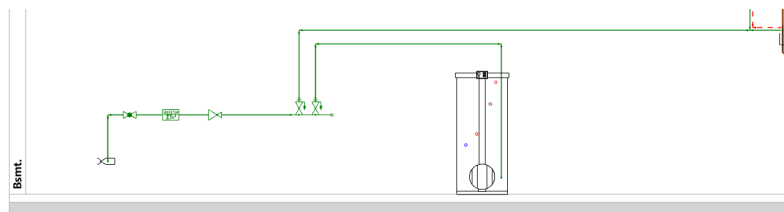
2. Place the domestic water meter between the domestic water connection and the manifold on the green pipe for **Cold potable water** and confirm the **Split horizontal pipe** window with **OK**.



### 3.2.15.8 PLACING THE WATER PRESSURE REDUCING VALVE



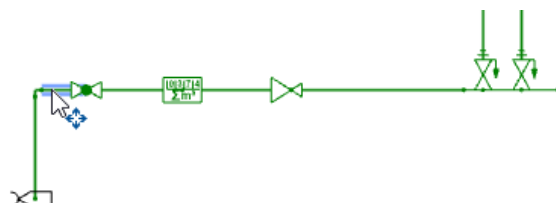
1. Activate the **Water pressure reducing valve**.
2. Place the water pressure reducing valve between the domestic water meter and the manifold and confirm the **Split horizontal pipe** window with **OK**.



3. Press **ESC** to exit the function.

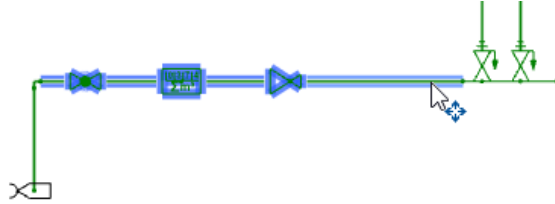
### 3.2.15.9 ADAPTING PIPE LENGTHS

1. Highlight the pipe upstream of the shut-off valve.



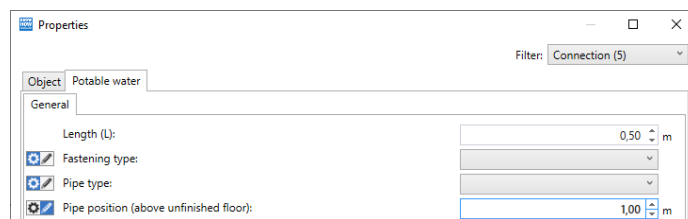


2. Press and hold down the **SHIFT** key and highlight the pipe upstream of the manifold.
- ✓ All the pipes and objects between the two objects are selected.



If objects are connected with several flow paths, clicking again while holding down the **SHIFT** key lets you switch between the flow paths.

3. Press **ALT** and **Enter** simultaneously to open the **Properties** window.
4. Enter the value **0.50 m** in the **Length (L)** field and the value **1.00 m** in the **Pipe position (above unfinished floor)** field.

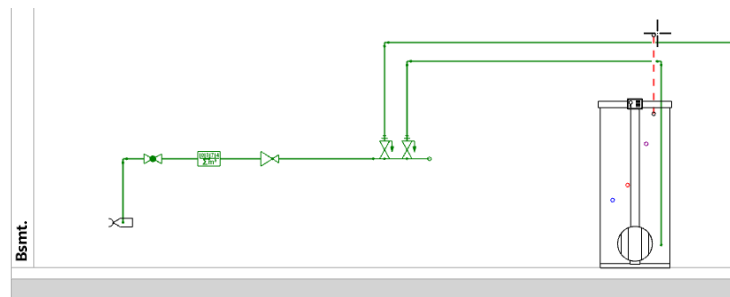


Only change the values in the **Properties** window in exceptional cases and check, if you need to, the settings in the **Building and calculation settings**.

5. Click on **OK** to apply the settings.

#### 3.2.15.10 CONNECTING HOT POTABLE WATER

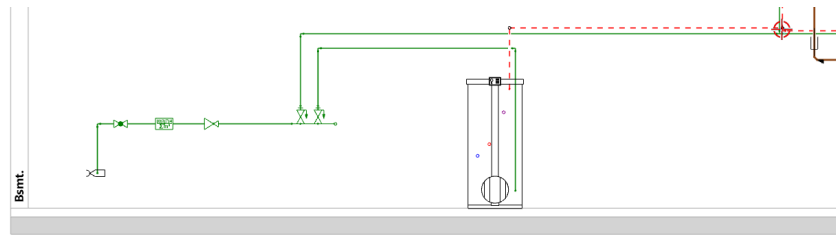
1. Activate the **Hot potable water** medium and deactivate the **Cold potable water** medium.
2. Select the **Pipe** function.
3. Click on the water heater and draw the pipe upwards.



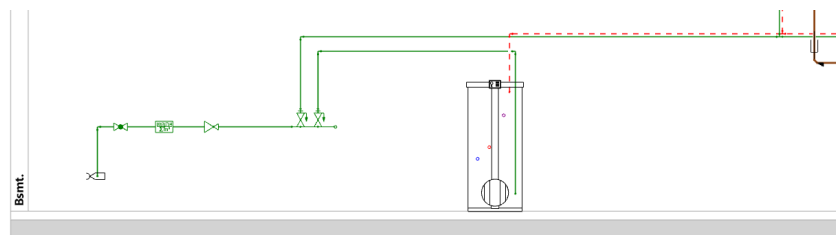
4. Click in the drawing area and confirm the **Pipe properties PWH** window with **OK**.



5. Draw the pipe horizontally to the right and connect the pipe to the bend of the riser pipe for **Hot potable water**.



6. Confirm the **Pipe properties PWH** window with **OK**.



7. Calculate the subproject.  
✓ The calculation does not indicate any errors. Warnings can be displayed in some markets.

### 3.2.15.11 PLACING THE RELIEF VALVE



You only need to place the relief valve if it was not automatically added in the calculation.

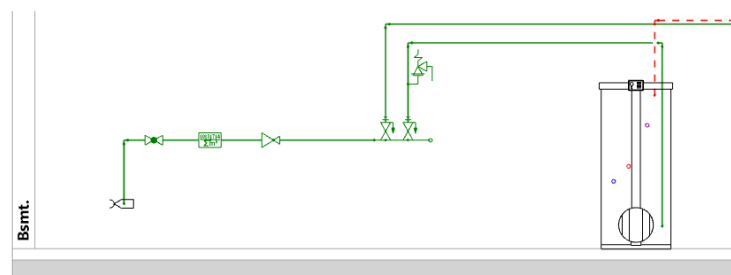
1. Activate the **Cold potable water** medium and deactivate the **Hot potable water** medium.



2. Activate the **relief valve**.
3. Press **Z** to mirror the relief valve.



4. Place the relief valve on the feed pipe to the water heater and confirm the **Split vertical pipe** window with **OK**.



5. Press **ESC** to exit the function.

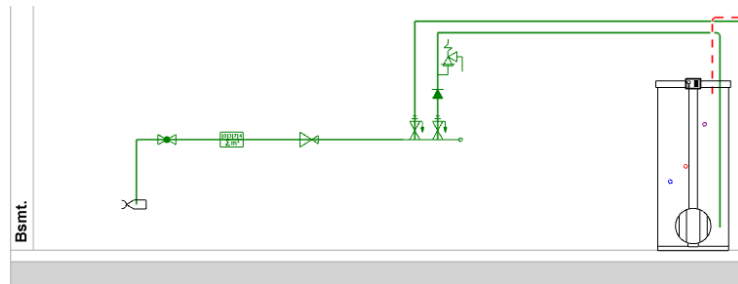
### 3.2.15.12 PLACING THE CHECK VALVE



You only need to place the check valve if it was not automatically added in the calculation.



1. Activate the **Check valve**.
2. Place the check valve on the feed pipe to the water heater and confirm the **Split vertical pipe** window with **OK**.



3. Press **ESC** to exit the function.

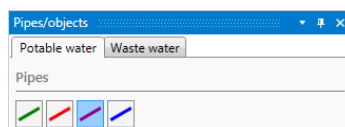
### 3.2.16 HOT WATER CIRCULATION

When calculating the installation, warnings about exceeding the draw-off time for hot potable water appear in the message list. A hot water circulation system is added in the planning to eliminate these warnings.

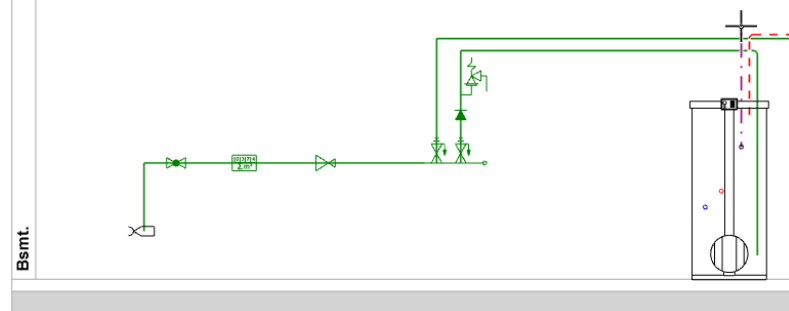
#### 3.2.16.1 DRAWING HOT WATER CIRCULATION PIPES

First draw the hot water circulation pipe for the left building section. Then draw the hot water circulation pipe for the right building section in the same way.

1. Activate the **Hot potable water circulation** medium and deactivate all other media.

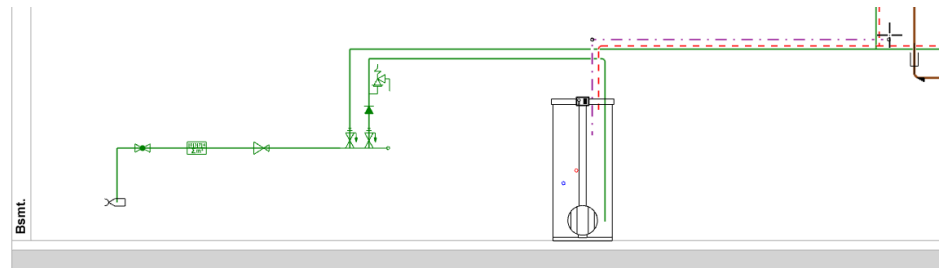


2. Select the **Pipe** function.
3. Click on the water heater and draw the pipe upwards to above the existing pipes.

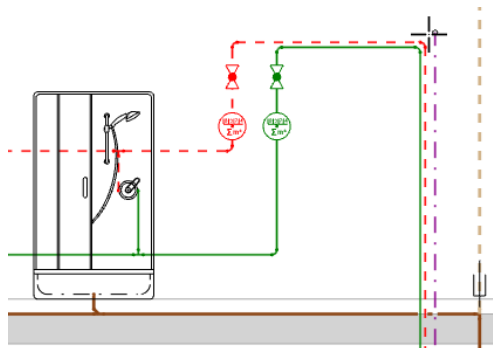


4. Click in the drawing area and confirm the **Pipe properties PWH-C** window with **OK**.

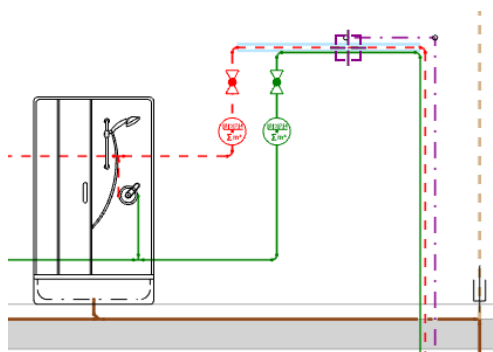
5. Draw the pipe horizontally to the right until it is behind the riser pipes and click in the drawing area.



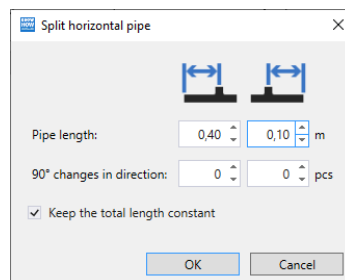
6. Confirm the **Pipe properties PWH-C** window with **OK**.
7. Draw the riser pipe to the 2nd upper floor and just above the **Hot potable water** pipe.



8. Click in the drawing area and confirm the query relating to pipe properties with **OK**.
9. Draw the pipe to the left and click on the horizontal pipe for **Hot potable water**.

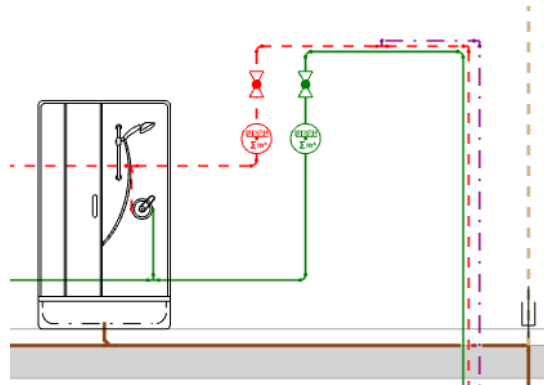


10. Enter the value **0.10 m** in the right field **Pipe length** in the **Split horizontal pipe** window and confirm with **OK**.

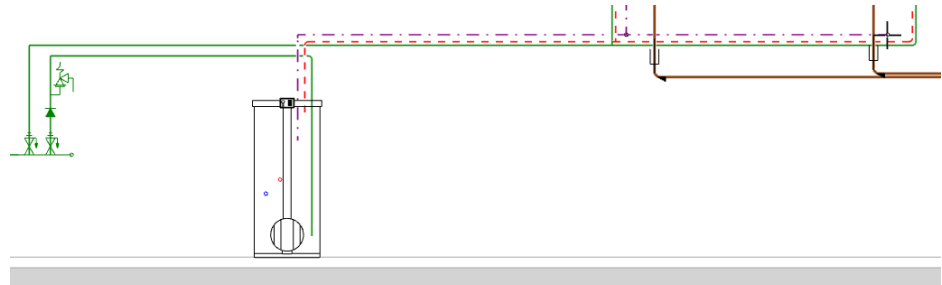


11. In the **Pipe properties PWH-C** window, select the **Horizontal** alignment and enter the value **0.10 m** in the **Length (L)** field.

12. Confirm the settings with **OK**.



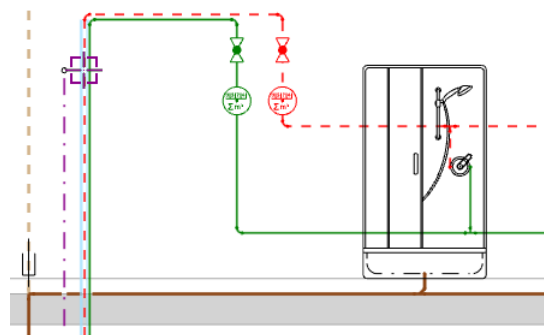
13. Click in the underground floor on the bend of the circulation line and draw the pipe horizontally to just in front of the stack of the right building section.



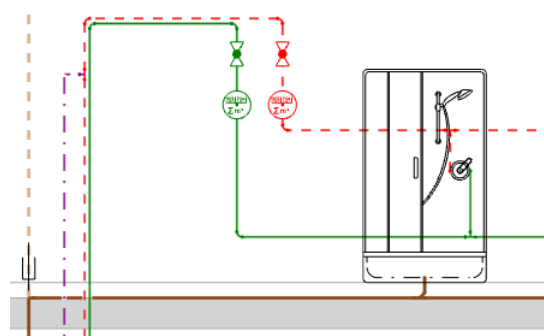
14. Click on the drawing area.

15. Enter the value **10.0 m** in the **Length (L)** field in the **Pipe properties PWH-C** window and confirm with **OK**.

16. Draw the riser pipe to the 2nd upper floor and click under the bend in the **Hot potable water** pipe.



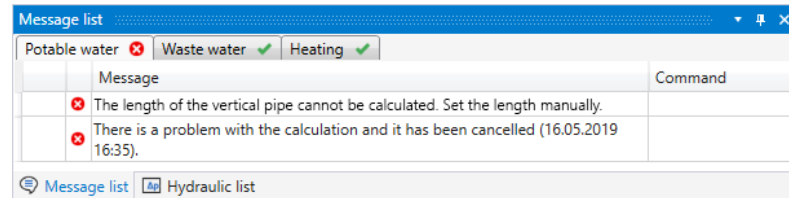
17. Confirm the **Pipe properties PWH-C** window with **OK**.





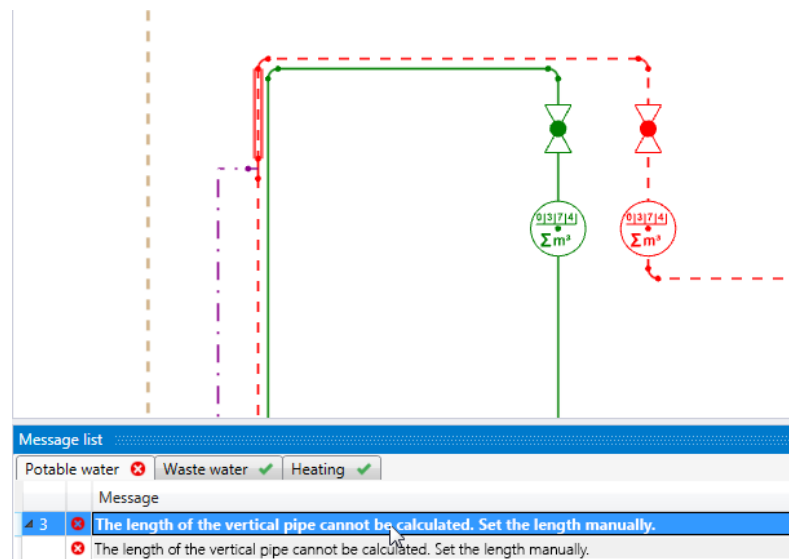
18. Calculate the subproject.

- ✓ The error that the length of the vertical pipe cannot be calculated appears in the message list. This will be rectified in the next section.



### 3.2.16.2 ADAPTING PIPE LENGTH

1. Click on the error message in the message list to identify the affected pipe.



2. Right-click on the pipe and select **Properties** in the pop-up menu.
3. Change the **Length (L)** of the pipe to **0.10 m** and confirm with **OK**.



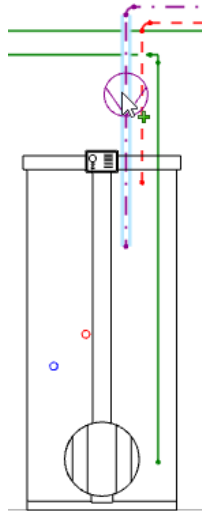
4. Recalculate the subproject.

- ✓ All pipes can now be calculated although the calculation now demands a circulation pump.

### 3.2.16.3 PLACING THE CIRCULATION PUMP



1. Activate the **Circulation pump**.
2. Place the circulation pump above the water heater in the **Hot potable water circulation** pipe and confirm the **Split vertical pipe** window with **OK**.



3. Press **ESC** to exit the function.



4. Calculate the subproject.

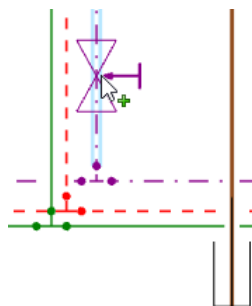
### 3.2.16.4 PLACING THE CIRCULATION CONTROL VALVE

If the calculation demands a circulation control valve once the circulation pump has been included, insert this in the underground floor.

1. Click on the message about the circulation control valve in the **Message list** window.  
✓ The affected line system is displayed.



2. Activate the **Circulation control valve**.
3. Place the **Circulation control valve** into the affected line system in the underground floor.



4. Enter the value **0.10 m** in the lower field **Pipe length** in the **Split vertical pipe** window and confirm with **OK**.

5. Press **ESC** to exit the function.



6. Calculate the subproject.

### 3.2.17 COMPLETING THE PLANNING EXAMPLE

At the end of the planning, calculate the project once more and adapt the positioning of the labels in the underground floor and on the riser pipes.



1. Press **F5**.

✓ The calculation does not indicate any errors or warnings.

Message list		
Potable water	✓	Waste water
	✓	Heating
	✓	
Message	Command	
The calculation was performed in accordance with DIN 1988-300.		
The calculation was successful (16.05.2019 16:22).		

2. Adapt the positioning of the labels in the underground floor and on the riser pipes.



At the end of the planning example, you can expand your planning with a special planning situations. You will find several examples of this at the end of this training manual (see "Special planning situations", page 134).

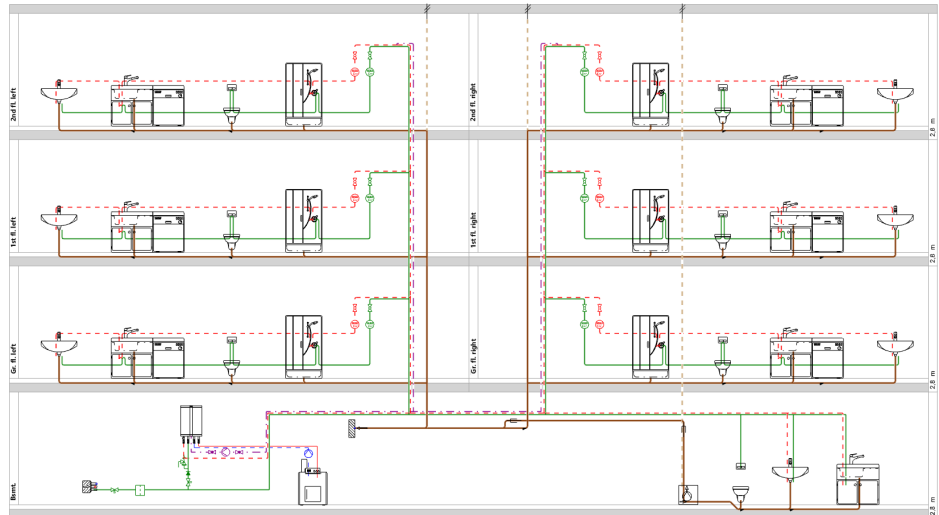


### 3.3 LOOP THROUGH INSTALLATION

This chapter covers the following topics:

- Repeat and practise the functions you have learned from the T-piece installation planning example
- Connect objects with the quick connection function

Once you have completed all of your planning steps, the installation will look like this:

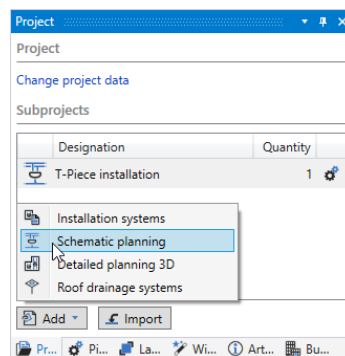


The visualisation may differ depending on the market.

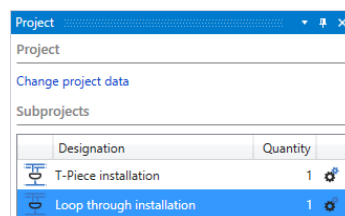
#### 3.3.1 CREATING A NEW SUBPROJECT



1. Show the **Project** window.
2. Click on **Add** and select **Schematic planning** to create a new Schematic planning subproject.



3. Rename the subproject **Loop through installation**.



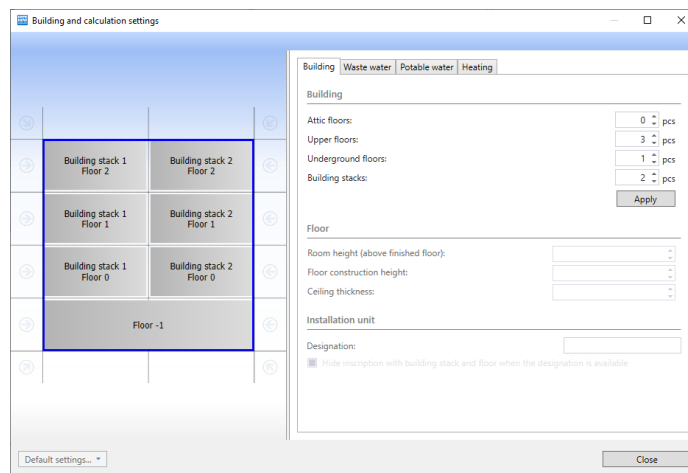
### 3.3.2 ADAPTING BUILDING AND CALCULATION SETTINGS

Before the start of the plan, adjust the building size, the installation situation of the individual floors and the calculation settings for potable water and waste water.

#### 3.3.2.1 DEFINING THE BUILDING SIZE

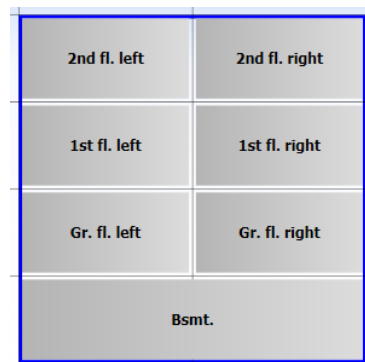


1. Show the **Building** window.
2. Click on **Building and calculation settings**.
3. Adapt the building size according to the planning example (see "Loop through installation", page 154).



#### 3.3.2.2 NAMING INSTALLATION UNITS

- Name the installation units, as described in the first planning example.



### 3.3.2.3 ADAPTING CALCULATION SETTINGS FOR POTABLE WATER

1. Select the **Potable water** tab in the **Building and calculation settings** window.
2. Select **Loop through** in the **Installation type** field.

#### Material determination

Installation type: T-piece installation  
 Preferred fitting for loop through: T-piece installation  
☒ Thermal decoupling



You can activate **Thermal decoupling** in the German market. If **Thermal decoupling** is activated, the material list for circulation and circular pipes for suitable objects is expanded by additional Mepla T-pieces. The visualisation of the plan in Geberit ProPlanner remains unchanged.



3. Expand the advanced settings in the **Product range** field and select **Geberit Mapress Stainless Steel** for all **Service connection pipe** and all **Distribution pipe** types of pipe.

#### Material determination

Installation type: Loop through  
 Preferred fitting for loop through: MeplaFix T-piece  
☐ Thermal decoupling

Product range: Mepla

Product range for Mepla multilayer pipes:   
 Product range for stainless steel pipes: 1.4401 CrNiMo steel  
 Product range for PushFit multilayer pipes:   
 Product range for PushFit polybutene pipes: Coil  
 Alternative product range for large diameters: Geberit Mapress Stainle  
 Alternative product range for PushFit: Mepla  
 Preferred connecting material for PushFit: Gunmetal

☐ For changes in direction with bendable system pipes, use fittings even for small diameters  
☒ Use smallest possible diameter

Fastening type

Horizontal pipes:   
 Vertical pipes:

Service connection pipe (PWC): Geberit Mapress Stainless Steel  
 Distribution pipe (PWC): Geberit Mapress Stainless Steel  
 Distribution pipe (PWH): Geberit Mapress Stainless Steel  
 Distribution pipe (PWH-C): Geberit Mapress Stainless Steel  
 Distribution pipe (NPW): Mepla  
 Riser pipe (PWC): Mepla  
 Riser pipe (PWH): Mepla  
 Riser pipe (PWH-C): Mepla  
 Riser pipe (NPW): Mepla  
 Floor pipe (PWC): Mepla  
 Floor pipe (PWH): Mepla  
 Floor pipe (PWH-C): Mepla  
 Floor pipe (NPW): Mepla  
 Draw-off pipe (PWC): Mepla  
 Draw-off pipe (PWH): Mepla  
 Draw-off pipe (NPW): Mepla  
 Circular pipe (PWC): Mepla  
 Circular pipe (PWH): Mepla  
 Circular pipe (NPW): Mepla

4. In the **Fastening type** area, select **None** for the **Horizontal pipes** and **Vertical pipes**.

#### Fastening type

Horizontal pipes: None  
 Vertical pipes: None

5. Click on the button with the arrow in the **Pipe position (above unfinished floor)** field in the **Calculation** area.  
✓ The pipe positions for the single floors appear.
6. Set a pipe position of **2.10 m** for all pipes in the underground floor.
7. Select a pipe position of **1.10 m** for all hot media (PWH, PWH-C) and a pipe position of **0.40 m** for all cold media (PWC, NPW) to minimise heat transfer between the hot and cold media.

Calculation

Use type: Residential building

Simultaneity factor (for user-defined use type): 0,20

Pipe position (above unfinished floor): > m

Maximum flow velocity (v max):

Ambient temperature:

☐ Floor installation in accordance with maximum flow velocity

Circulation

Maximum flow rate up to DN 20: 0,3

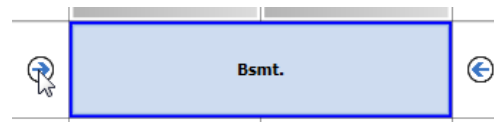
Maximum flow rate for DN 25 or greater: 0,7

Maximum temperature differential between PWH and P...: 4,0

Maximum draw-off time: 30

Underground floor (PWC):	2,10	m
Underground floor (PWH):	2,10	m
Underground floor (PWH-C):	2,10	m
Underground floor (NPW):	2,10	m
Upper floor (PWC):	0,40	m
Upper floor (PWH):	1,10	m
Upper floor (PWH-C):	1,10	m
Upper floor (NPW):	0,40	m
Attic floor (PWC):	0,40	m
Attic floor (PWH):	1,10	m
Attic floor (PWH-C):	1,10	m
Attic floor (NPW):	0,40	m

8. Leave all other entries in the default settings.
9. Highlight the underground floor.



10. Select **T-piece installation** in the **Installation type** field in the **Material determination** area for the underground floor.

11. Expand the advanced settings in the **Product range** field and select **Geberit Mapress Stainless Steel** for all **Draw-off pipe** types of pipe.

Material determination

Installation type: T-piece installation

Product range: [dropdown]

Product range for Mepla multilayer pipes: [dropdown]

Product range for stainless steel pipes: 1.4401 CrNiMo steel

Product range for PushFit multilayer pipes: [dropdown]

Product range for PushFit polybutene pipes: Coil

☐ For changes in direction with bendable system pipes, use fittings even for small diameters

Calculation

Use type: Residential building

Simultaneity factor (for user-defined use type): 0,20

Pipe position (above unfinished floor): 2,10

Maximum flow velocity (v max): [dropdown]

Ambient temperature: 10,0

Fastening type

Horizontal pipes: [dropdown]

Service connection pipe (PWC): Geberit Mapress Stainless Steel

Distribution pipe (PWC): Geberit Mapress Stainless Steel

Distribution pipe (PWH): Geberit Mapress Stainless Steel

Distribution pipe (PWH-C): Geberit Mapress Stainless Steel

Distribution pipe (NPW): Mepla

Floor pipe (PWC): Mepla

Floor pipe (PWH): Mepla

Floor pipe (PWH-C): Mepla

Floor pipe (NPW): Mepla

Draw-off pipe (PWC): Geberit Mapress Stainless Steel

Draw-off pipe (PWH): Geberit Mapress Stainless Steel

Draw-off pipe (NPW): Mepla

Circular pipe (PWC): Mepla

Circular pipe (PWH): Mepla

Circular pipe (NPW): Mepla

### 3.3.2.4 ADJUSTING CALCULATION SETTINGS FOR WASTE WATER

- Switch to the **Waste water** tab.
- Click on the button with the arrow in the **Product range** field.  
✓ The pipe types appear.
- Enter the following settings for the pipe types:

Calculation

Product range: [dropdown]

Use/discharge value (K): Irregularly 0,50

Slope (J): 1,00

Pipe position for discharge pipes (above unfinished fl...): 0,00

Pipe position for ventilation pipes (above unfinished...): 2,50

Connection diameter of WC: DN 90

Sound insulation: None

Fastening type for horizontal pipes: Sliding installation with

Fastening type for vertical pipes: Sliding installation with

Connection: [dropdown]

Proportion of electrofusion couplings: 30

Single branch discharge pipe: Silent-Pro

Collector branch discharge pipe: Silent-Pro

Stack: Silent-Pro

Collector/underground pipe: Silent-Pro

Pressurized pipe: Silent-db20

Ventilation pipe: Silent-Pro

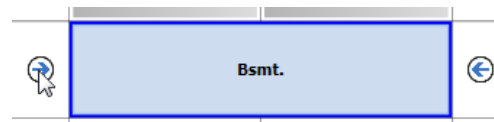
Rainwater single branch discharge pipe: Silent-Pro

Rainwater collector branch pipe: Silent-Pro

Rainwater stack: Silent-Pro

Rainwater collector pipe: Silent-Pro

- Highlight the underground floor.



- Select the value **1.80 m** in the **Pipe position for discharge pipes (above unfinished floor)** field.

Calculation

Product range: [dropdown]

Use/discharge value (K): Irregularly 0,50

Slope (J): 1,00 %

Pipe position for discharge pipes (above unfinished...): 1,80 m

Pipe position for ventilation pipes (above unfinished...): 2,50 m

- Click on **Close** to apply the settings.

### 3.3.3 PLACING OBJECTS

#### 3.3.3.1 HIDING LABELS

- At the start, hide the labels by pressing **H**.

#### 3.3.3.2 PLACING OBJECTS



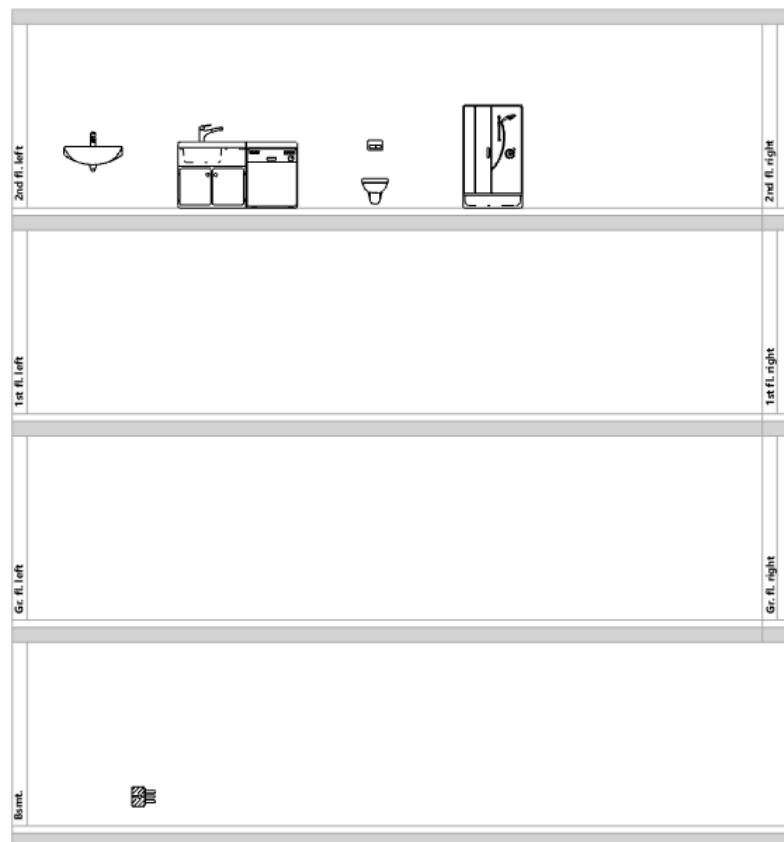
1. Show the **Pipes/objects** window.
2. Place a washbasin, kitchen sink with dishwasher, WC and shower into the **2nd upper floor on left** installation unit. Ensure that you leave sufficient distance between the shower and the wall to be able to subsequently draw riser pipes and stacks.



#### 3.3.3.3 PLACING TRANSFER POINTS



1. Activate the **Transfer point**.
2. Place the transfer point into the underground floor.



3. Press **ESC** to exit the function.

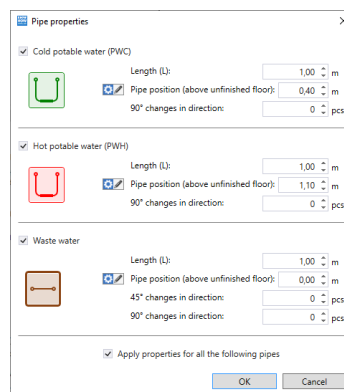
### 3.3.4 CONNECTING OBJECTS

You have manually connected the individual objects in turn in the first training example. You can automatically connect all Geberit ProPlanner objects below.

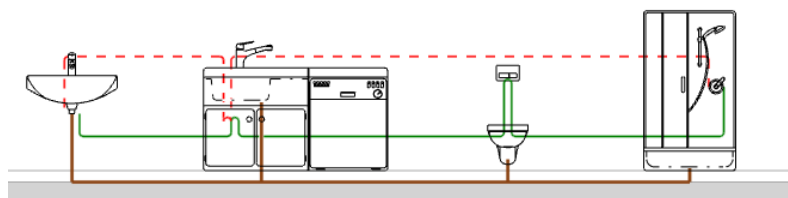
1. Highlight all objects in the installation unit.



2. Right-click on the highlighted objects and select **Connect unconnected objects** in the pop-up menu.  
✓ The **Pipe properties** window appears and shows the settings for all media available for the objects.



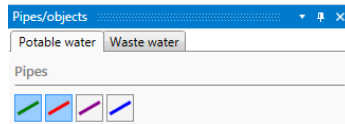
3. Make sure that the **Pipe position (above unfinished floor)** is correctly set for all media.
  - **Cold potable water:** 0.40 m
  - **Hot potable water:** 1.10 m
  - **Waste water:** 0.00 m
4. Activate **Apply properties for all the following pipes** and click on **OK**.  
✓ Geberit ProPlanner connects all the highlighted objects.



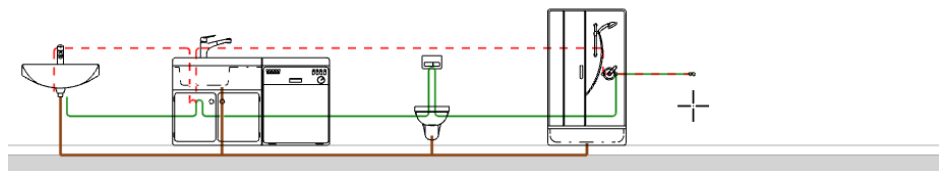
### 3.3.5 DRAWING POTABLE WATER PIPES

#### 3.3.5.1 DRAWING PIPES TO THE TRANSFER POINT

1. Activate the **Cold potable water** and **Hot potable water** media in the **Pipes/objects** window.



2. Select the **Pipe** function.
3. Click on the **Shower**.
4. Draw the pipes to the right and click in the drawing area.

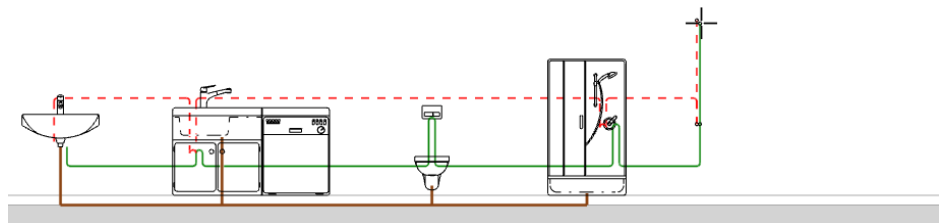


- ✓ The **PWC Pipe properties** window appears.

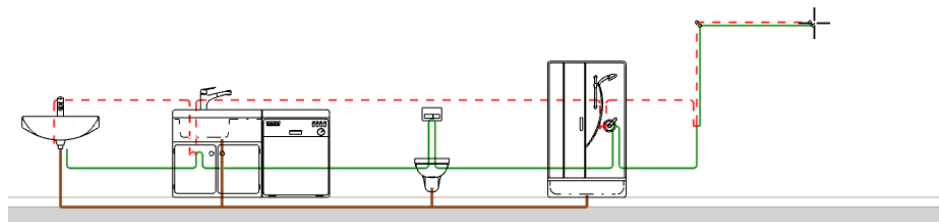
5. Select the value **0.50 m** as the **Length (L)** and confirm with **OK**.

- ✓ The **PWH Pipe properties** window appears.

6. In the **Pipe properties PWH** window, select the same settings as previously in the **Pipe properties PWC** window.
7. Confirm with **OK** and draw the pipes upwards.



8. Click in the drawing area and confirm the **Pipe properties PWC** and **Pipe properties PWH** windows with **OK**.
9. Draw the pipes to the right and click in the drawing area.



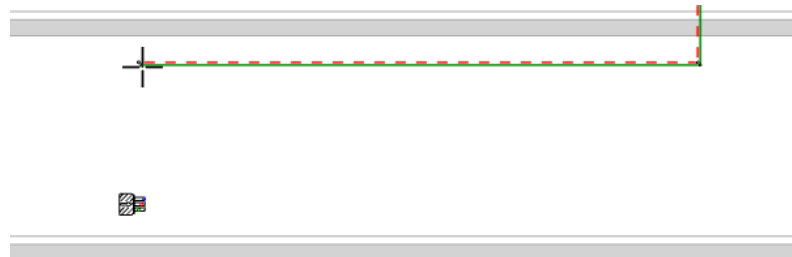
10. Select the value **0.50 m** as the **Length (L)** for the horizontal pipe and the value **1.50 m** as the **Pipe position (above unfinished floor)**.
11. Confirm with **OK**.



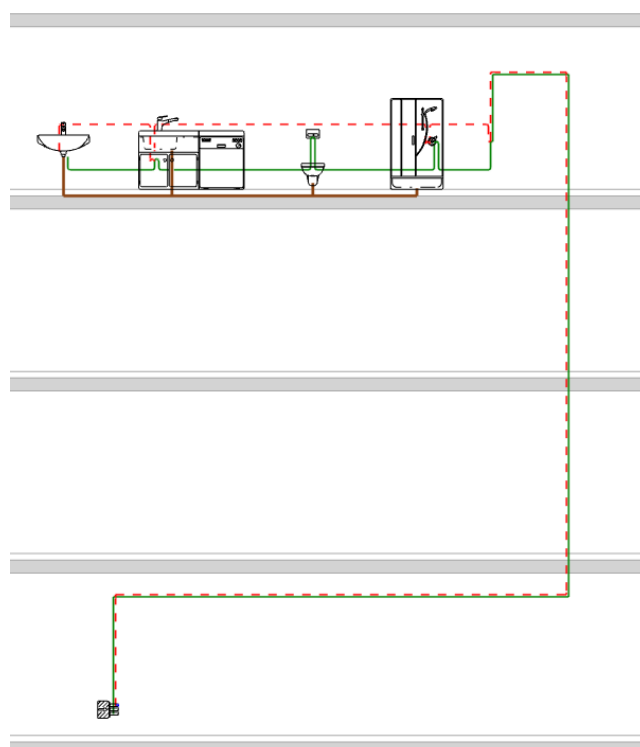
12. Select the same settings in the **Pipe properties PWH** window as previously in the **Pipe properties PWC** window and confirm with **OK**.
13. Draw the pipes into the underground floor and click in the drawing area beneath the ceiling.



14. Confirm both the **Pipe properties PWC** and **Pipe properties PWH** windows with **OK**.
15. Draw the pipe to the left over the transfer point and click in the drawing area.



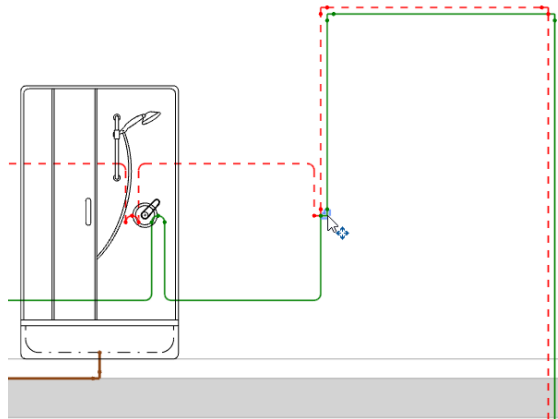
16. Confirm both the **Pipe properties PWC** and **Pipe properties PWH** windows with **OK**.
17. Click on the transfer point and confirm the **Pipe properties PWC** and **Pipe properties PWH** windows with **OK**.
18. Press **ESC** to exit the function.



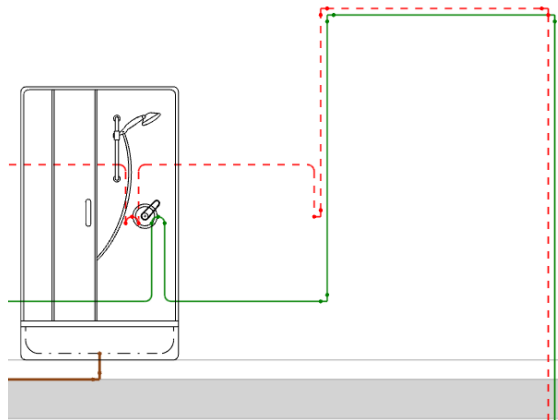
### 3.3.5.2 MOVING FITTINGS

Fittings were inserted and not ideally placed when drawing drinking water pipes. You can move these fittings to obtain a more attractive pipe routing to ensure that your plan remains clearly arranged. The actual lengths and positions of the pipes are unaffected by this.

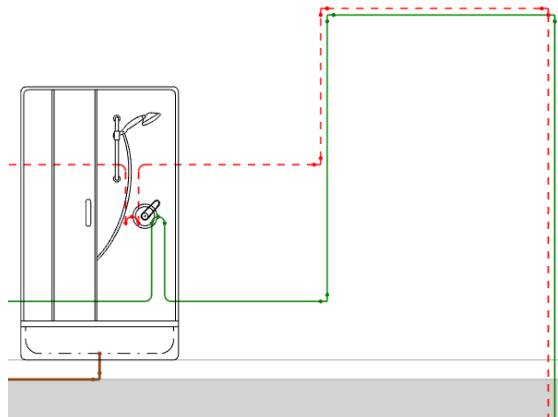
1. Highlight the fitting in the **Cold potable water** pipe.



2. Press and hold down the fitting or move it with the keyboard arrow keys to the height of the horizontal pipe.



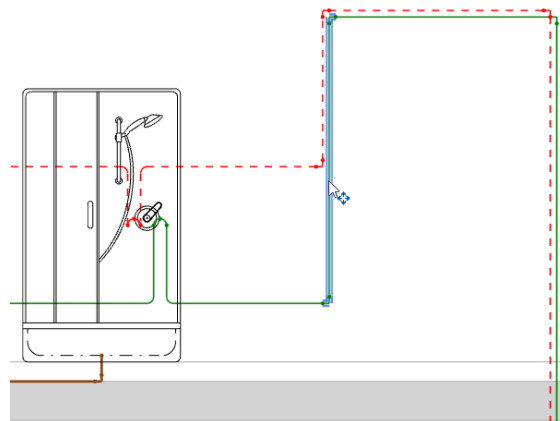
3. Move the fitting in the **Hot potable water** pipe in the same way.



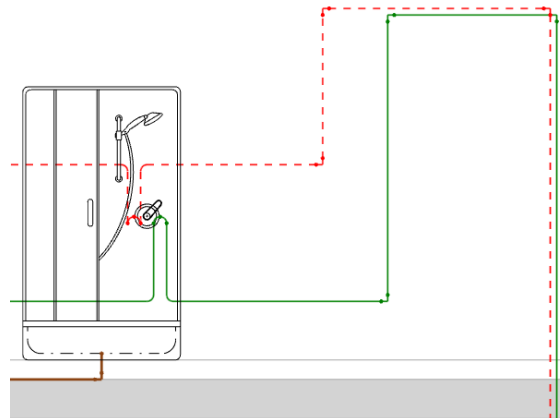
### 3.3.5.3 MOVING PIPES

The vertical **Cold potable water** pipe is moved to subsequently have sufficient room for inserting the water meters and shut-off valves. The actual lengths of the adjacent pipes are unaffected by this.

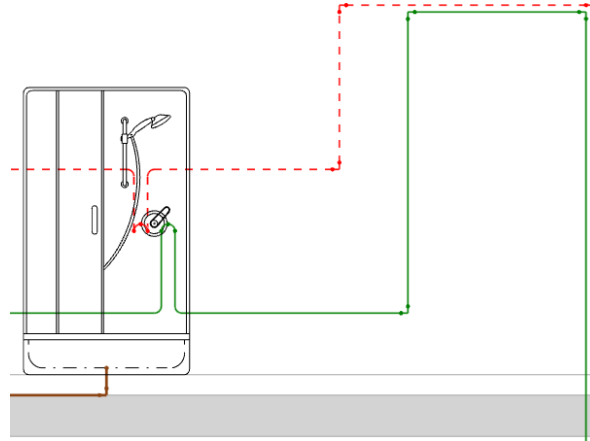
1. Click on the vertical pipe for **Cold potable water** and press and hold down the left mouse key for at least 1 second without moving the mouse.
  - ✓ All the connected pipes and connection points that lie in the same alignment are captured and can be moved together.



2. Press and hold down the left mouse key or use the keyboard arrow keys to the right to move the pipes and connection points entered.



3. In the same way, move the riser pipe for **Hot potable water** to the right beside the riser pipe for **Cold potable water** so that the pipes no longer intersect at the end of the riser pipe.

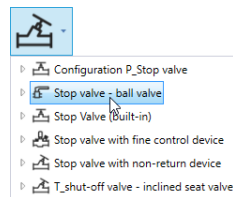


### 3.3.6 PLACING WATER METERS AND SHUT-OFF VALVES

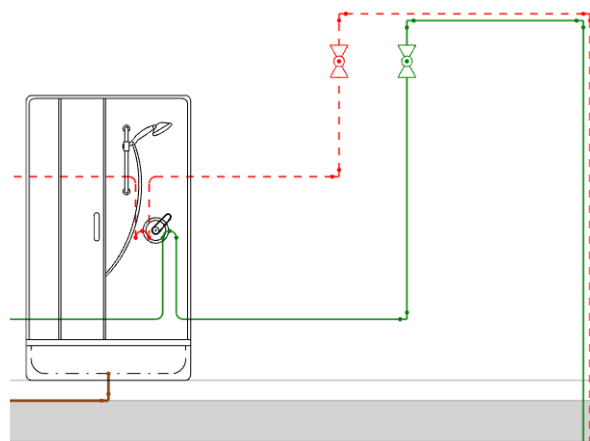
#### 3.3.6.1 PLACING SHUT-OFF VALVES



1. Expand the **Shut-off valve** tree structure and select the **Ball valve**.



2. Insert the ball valves into the pipes. Enter a **Distance up** of **0.10 m** in the **Split vertical pipe** window.

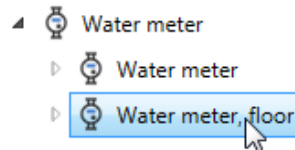


3. Press **ESC** to exit the function.

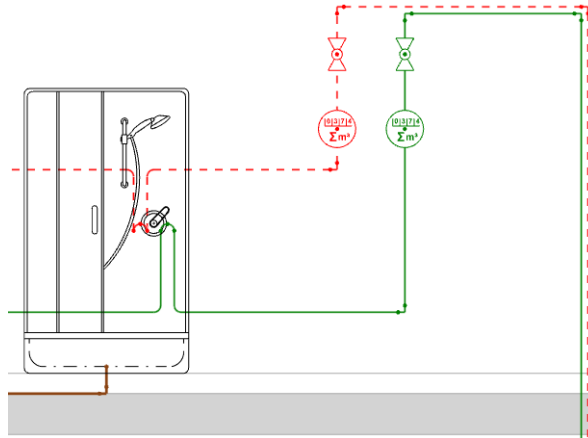
### 3.3.6.2 PLACING WATER METERS



1. Expand the **Water meter** tree structure and select the **Floor water meter**.



2. Place the water meters into the pipes in the same way as the shut-off valves.



3. Press **ESC** to exit the function.

### 3.3.7 DRAWING WASTE WATER PIPES

Once you have drawn the drinking water pipe in the underground floor, you can then complete the waste water installation in the next stages.

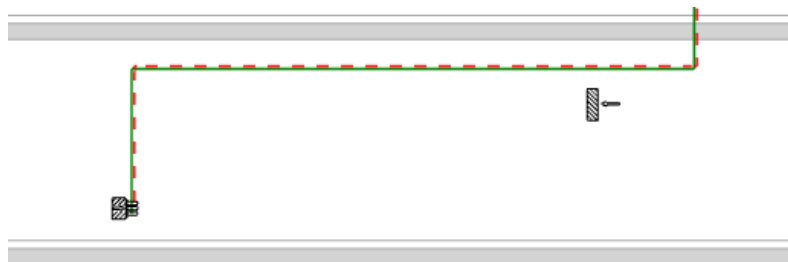
#### 3.3.7.1 PLACING THE SEWAGE CONNECTION

1. Select the **Waste water** tab in the **Pipes/objects** window.



2. Activate the **Sewage connection**.

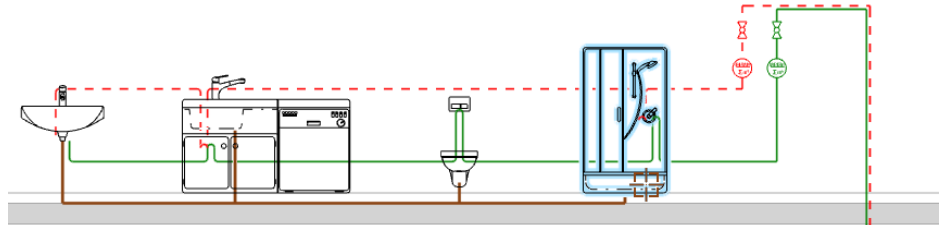
3. Place the sewage connection into the underground floor.



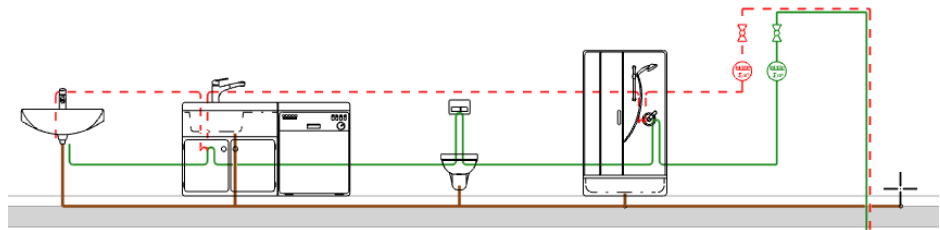
4. Press **ESC** to exit the function.

### 3.3.7.2 CONNECTING OBJECTS TO THE SEWAGE CONNECTION

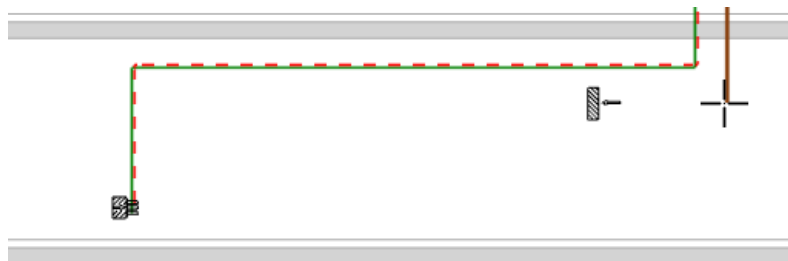
1. Make sure that the **Waste water** medium is activated.
2. Select the **Pipe** function.
3. Click on the shower.



4. Draw the pipe to the right until it is behind the drinking water pipes and click in the drawing area.

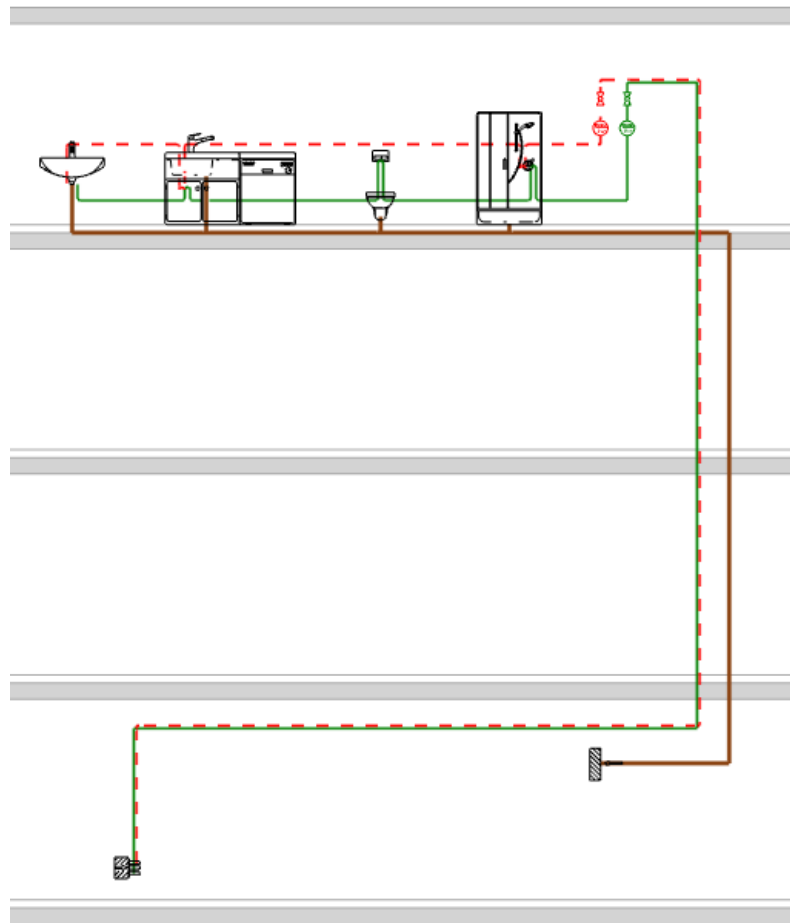


5. Confirm the **Pipe properties Waste water** window with **OK**.
6. Draw the pipe into the underground floor and click in the underground floor underneath the ceiling in the drawing area.



7. Confirm the pipe properties request with **OK**.

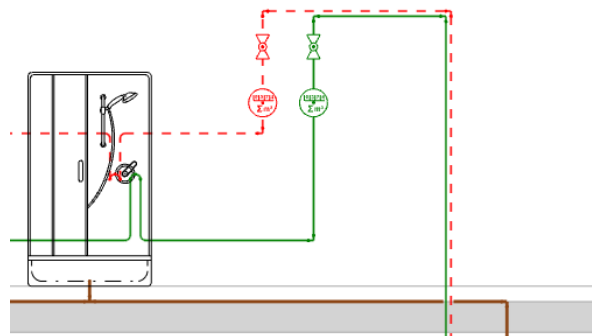
8. Click in the sewage connection and confirm the **Pipe properties** window with **OK**.



### 3.3.7.3 PLACING THE WEATHERING SLATE

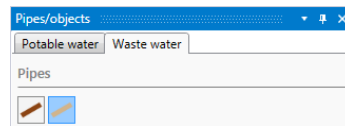


1. Activate the **Weathering slate**.
2. Place the roof penetration into the 2nd upper floor above the stack for waste water.

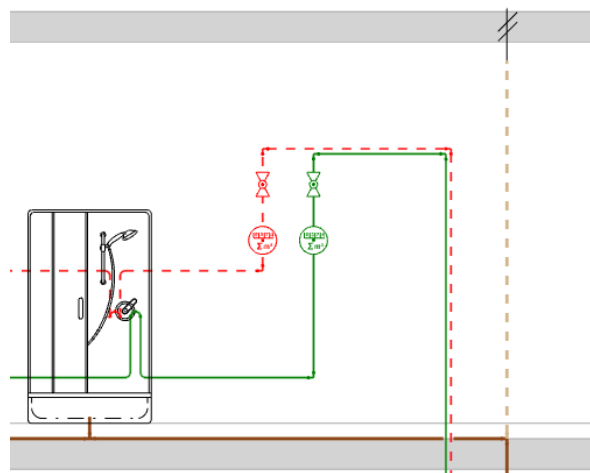


3. Press **ESC** to exit the function.

4. Activate the **Ventilation** medium.



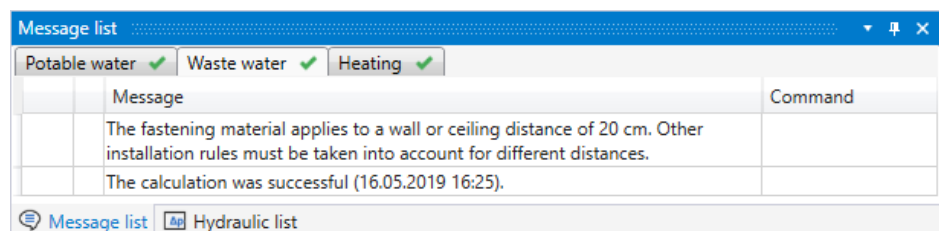
5. Select the **Pipe** function.
6. Click on the weathering slate and draw the pipe downwards.
7. Click on the port of the existing discharge pipe bend as soon as the circular cursor appears.
8. Confirm the **Pipe properties Ventilation pipes** window with **OK**.
9. Press **ESC** to exit the function.



### 3.3.8 CHECKING YOUR INSTALLATION



- Press **F5**.
  - ✓ The installation is calculated. Any errors are displayed in the **Message list**.
  - ✓ No error messages appear in the **Message list**.



In certain markets, warnings about the draw-off time appear in the **Potable water** tab. They are subsequently cancelled by the incorporation of a potable water circulation system.



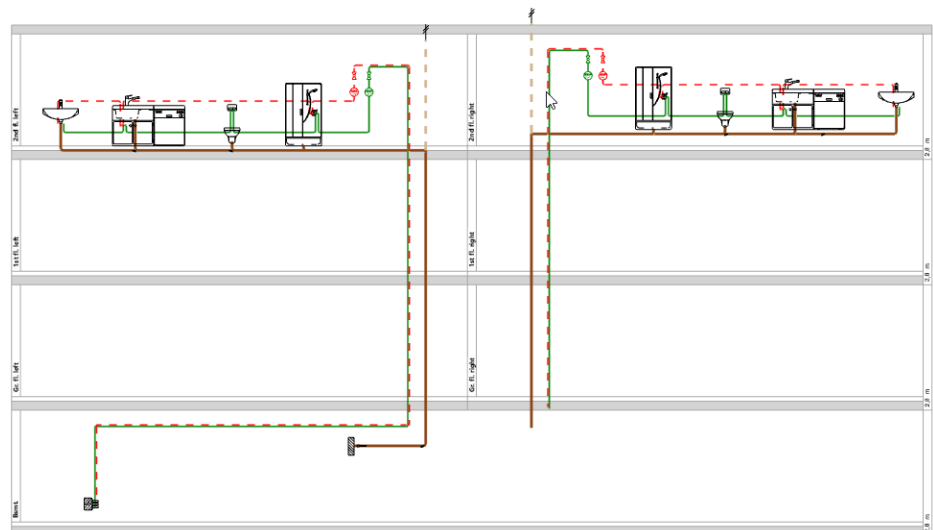
### 3.3.9 INSERTING OBJECTS IN REVERSE ORDER INTO INSTALLATION UNITS

Once you have completed the drinking water pipes plan in the first installation unit, copy the content of this installation unit in reverse order into the opposite installation unit.

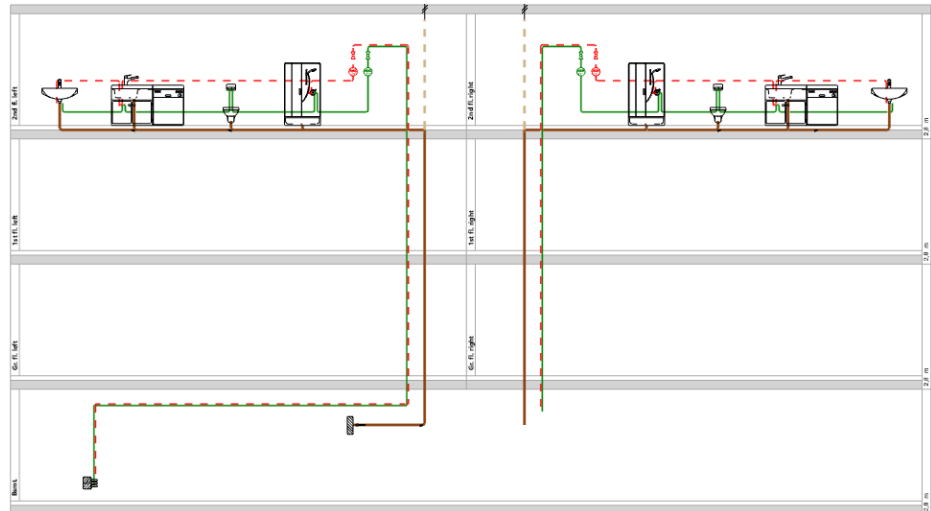


Planning errors and label positions are carried over when copying the installation unit. Therefore only copy error-free and fully drawn installation units.

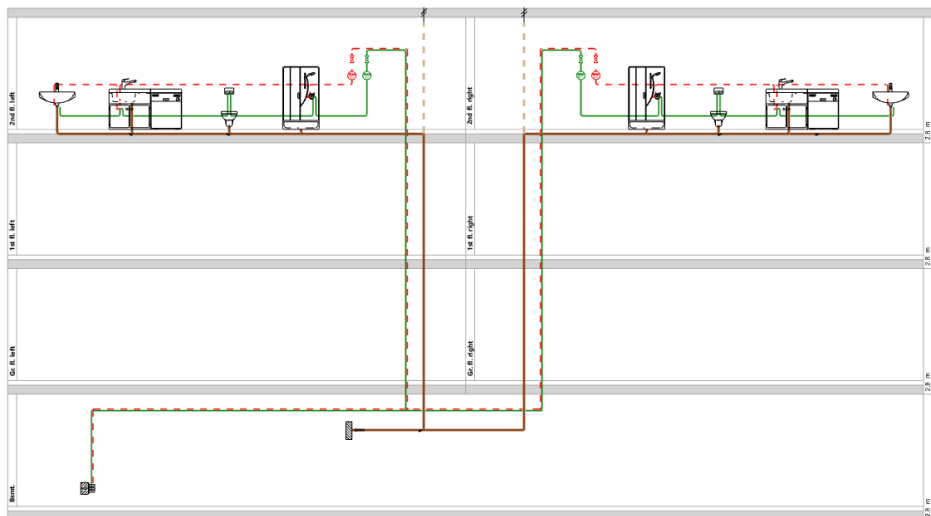
1. Right-click in the **2nd left upper floor** installation unit and select **Copy installation unit** in the pop-up menu.
2. Right-click in the **2nd right upper floor** installation unit and select **Insert in reverse order** in the pop-up menu.
  - ✓ The content of the copied installation unit hangs from the cursor in reverse order.



3. Click on the **2nd right upper floor** installation unit to place the objects and pipes.  
 ✓ The content of the copied installation unit has been inserted in reverse order.



4. Connect the drinking water pipes in the underground floor to the existing drinking water pipes and the discharge pipe with the existing discharge pipe. Select the value **10.00 m** as the **Length (L)**.



5. Calculate the subproject.  
 ✓ The calculation does not indicate any errors.



In certain markets, warnings about the draw-off time appear in the **Potable water** tab. They are subsequently cancelled by the incorporation of a potable water circulation system.

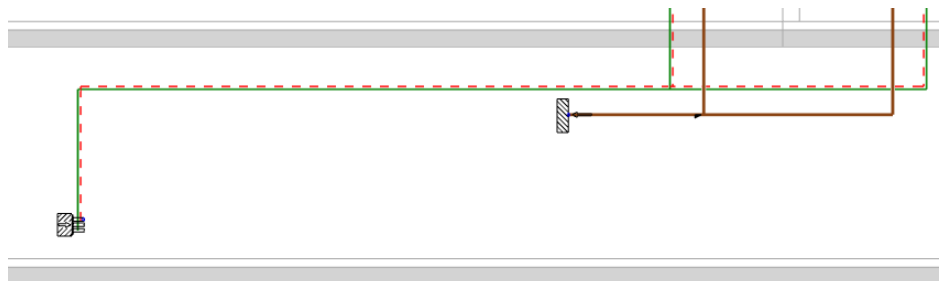
### 3.3.10 DISPLAYING PIPES AND OBJECTS AT THEIR CALCULATED HEIGHT

The horizontal drinking water pipes have been drawn at a random height in the underground floor. The pipe position is adapted to correct this and display the riser pipes in the underground floor with the correct length.

1. Press and hold down the left mouse key to draw open a selection rectangle so that all the pipes and the transfer point are selected in the underground floor.



2. Right-click on the highlighted pipes and select **Set the pipe at the pipe position** in the pop-up menu.  
✓ The pipes and transfer point are placed at the calculated pipe position.
3. Right-click on the sewage connection and select **Set to default height** in the pop-up menu.  
✓ The sewage connection is set at the default height.

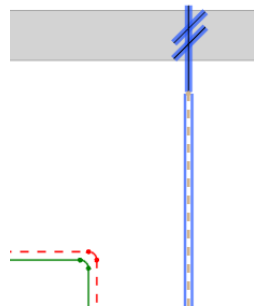


### 3.3.11 COPYING FLOORS

Once you have completed the planning in the 2nd upper floor, you can copy the content of this floor into the other floors. First of all the weathering slates and the ventilation pipes are deleted so that they are not copied.

#### 3.3.11.1 DELETING WEATHERING SLATES AND VENTILATION PIPES

1. Highlight the weathering slate and the ventilation pipe in the two installation units of the 2nd upper floor.

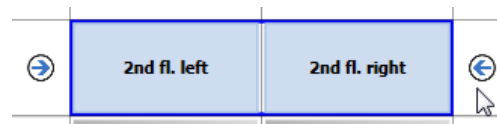


2. Press **DEL**.

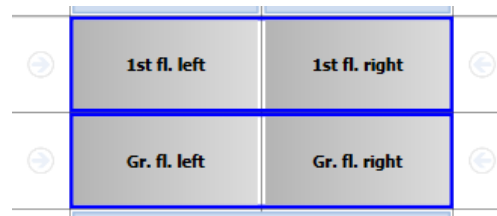
#### 3.3.11.2 COPYING FLOORS



1. Show the **Building** window.
2. In the **Building** window, highlight the 2nd upper floor by clicking on the arrow beside the floor.

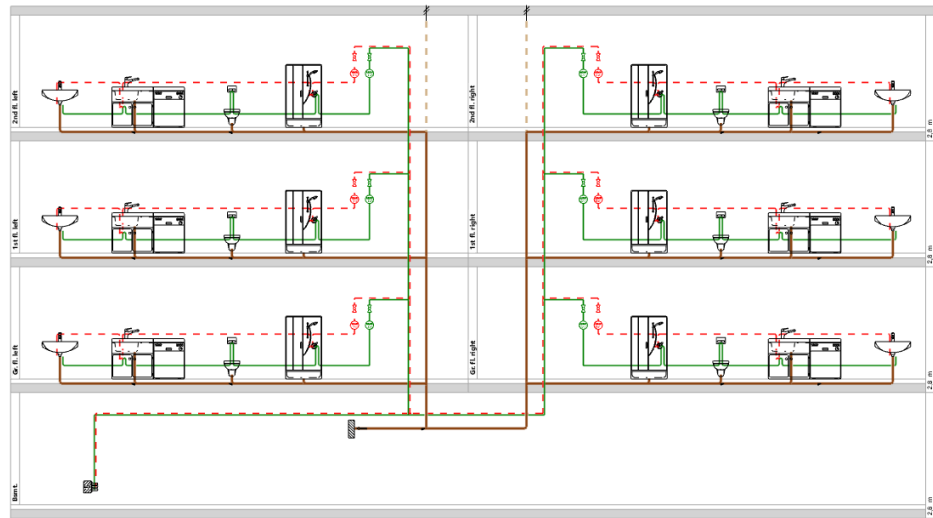


3. Right-click on the highlighted floor and select **Copy** in the pop-up menu.
4. Highlight the 1st upper floor.
5. Press and hold down the **SHIFT** key and highlight the ground floor.  
✓ Both floors have been selected.



6. Right-click on the highlighted floors and select **Paste** in the pop-up menu.  
✓ The contents of the 2nd upper floor have been inserted into the two floors.

7. Place the weathering slates and ventilation pipes into both installation units of the 2nd upper floor.



### 3.3.11.3 CALCULATING THE PROJECT



- Click on **Calculate subproject** in the toolbar or press **F5**.



In certain markets, warnings about the draw-off time appear in the **Potable water** tab. They are subsequently cancelled by the incorporation of a potable water circulation system.

### 3.3.12 BASEMENT INSTALLATION

You can now create the basement installation once the plans in the upper floors have been completed. To do so, first delete all drinking water pipes in the underground floor as far as the first riser pipe.

#### 3.3.12.1 DELETING PIPES IN THE UNDERGROUND FLOOR

1. Highlight all drinking water pipes in the underground floor as far as the first riser pipe.

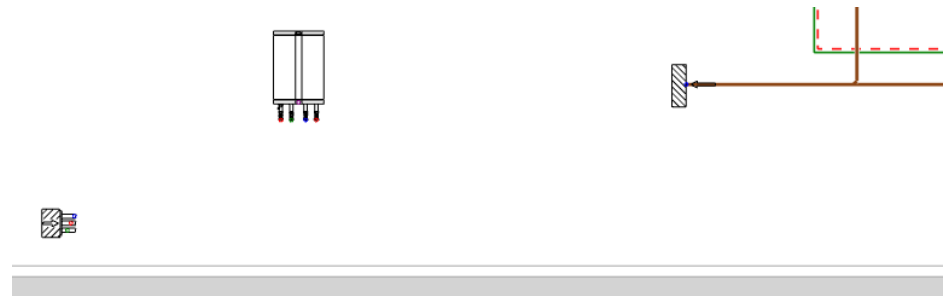


2. Press **ENTF (DEL)**.

### 3.3.12.2 PLACING THE FRESH WATER STATION



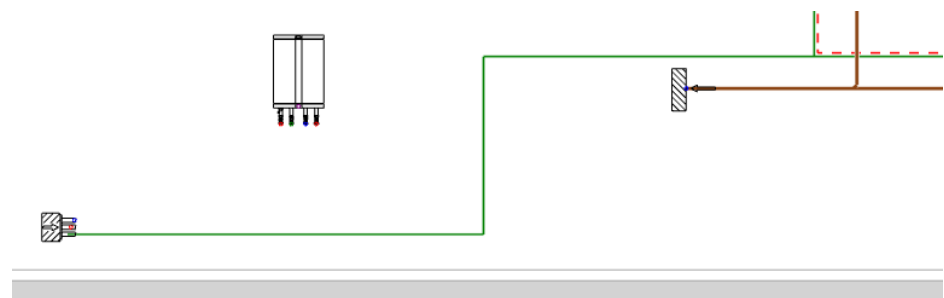
1. Switch to the **Potable water** tab in the **Pipes/objects** window.
2. Activate the **Fresh water station**.
3. Place the fresh water station into the underground floor.



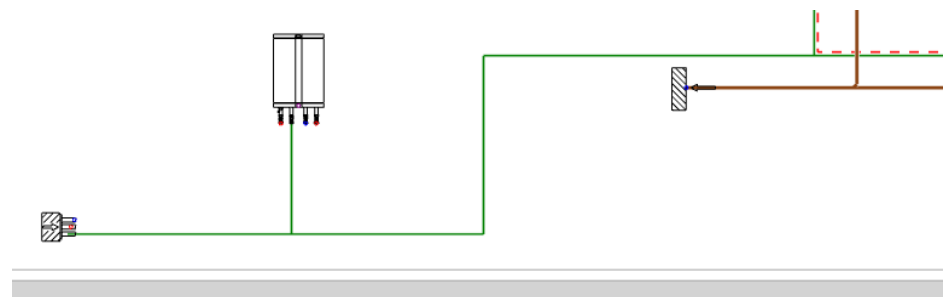
### 3.3.12.3 CONNECTING COLD POTABLE WATER



1. Activate the **Cold potable water** medium and deactivate all other media.
2. Connect the transfer point to the riser pipe for **Cold potable water** as shown. Click on the bend of the riser pipe as soon as the circular cursor appears.



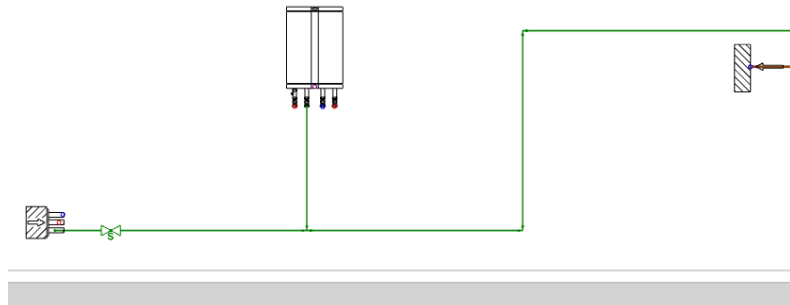
3. Connect the fresh water station to the **Cold potable water** pipe.



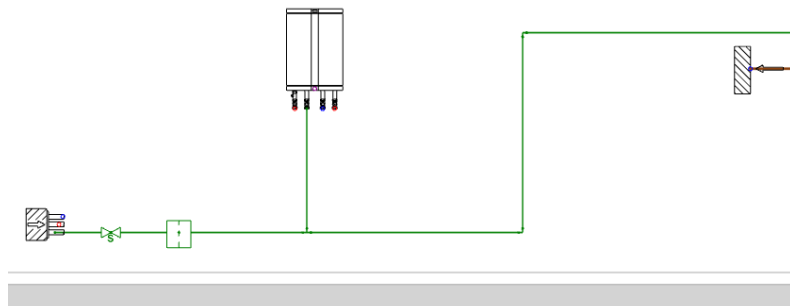
### 3.3.12.4 PLACING SHUT-OFF VALVES AND FILTERS



1. Place a shut-off valve into the horizontal pipe for **Cold potable water**.



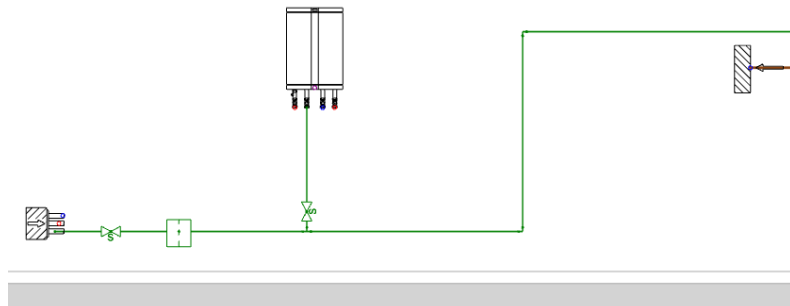
2. Place a filter into the horizontal pipe for **Cold potable water**.



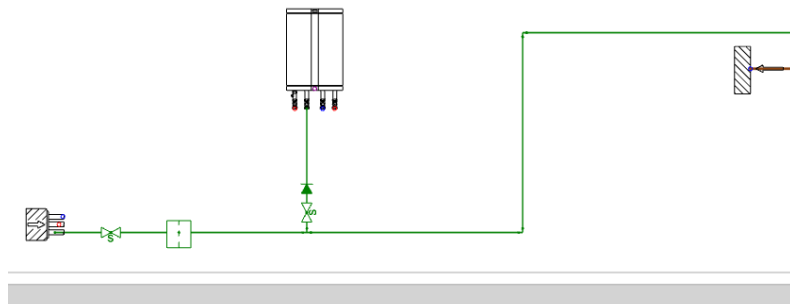
### 3.3.12.5 PLACING SHUT-OFF VALVES AND CHECK VALVES



1. Place a shut-off valve into the vertical pipe to the fresh water station.



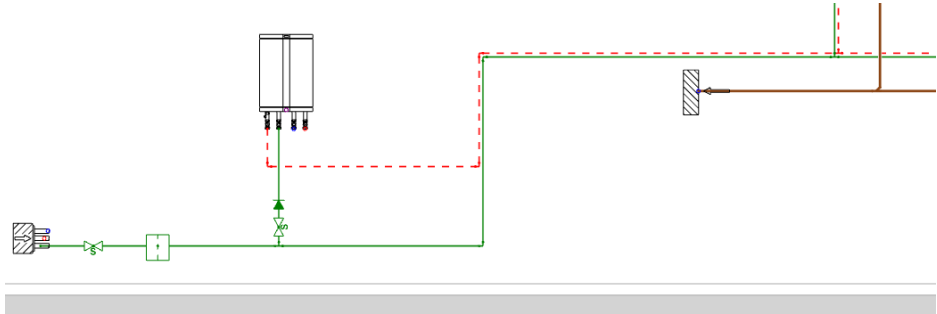
2. Place a check valve into the vertical pipe to the fresh water station.



### 3.3.12.6 CONNECTING HOT POTABLE WATER



1. Connect the fresh water station to the bend of the riser pipe for **Hot potable water** as shown.



2. Calculate the subproject.  
✓ The calculation does not indicate any errors. Warnings can be displayed in some markets.

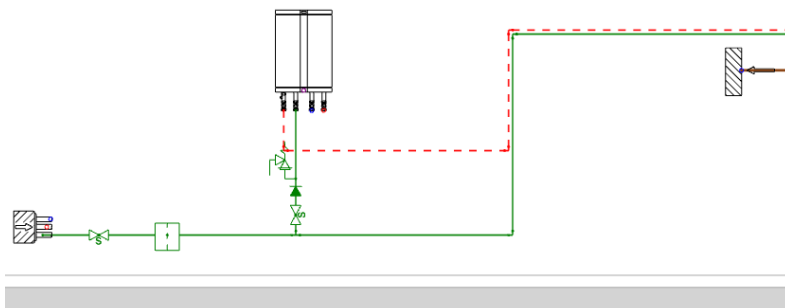
### 3.3.12.7 PLACING THE RELIEF VALVE



You only need to place the relief valve if it was not automatically added in the calculation.



- Place a relief valve into the vertical pipe for **Cold potable water** between the fresh water station and the check valve.

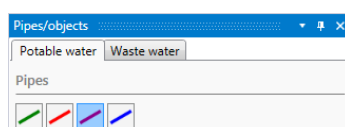


## 3.3.13 HOT WATER CIRCULATION

Add hot water circulation to the plan to cancel the warnings for exceeding the draw-off time for hot drinking water pipes.

### 3.3.13.1 DRAWING HOT WATER CIRCULATION PIPES

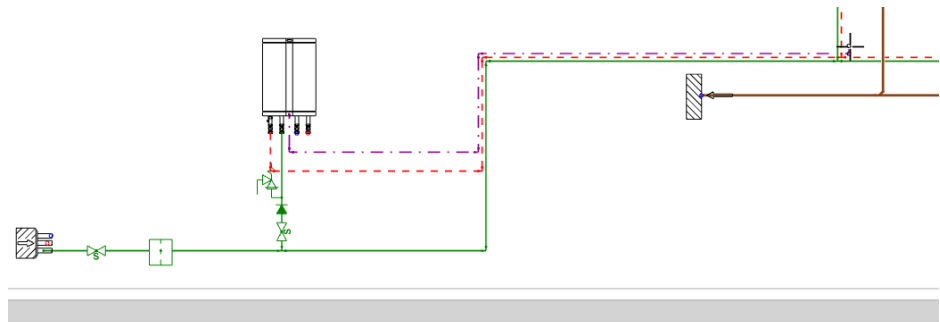
1. Activate the **Hot potable water circulation** medium and deactivate all other media.



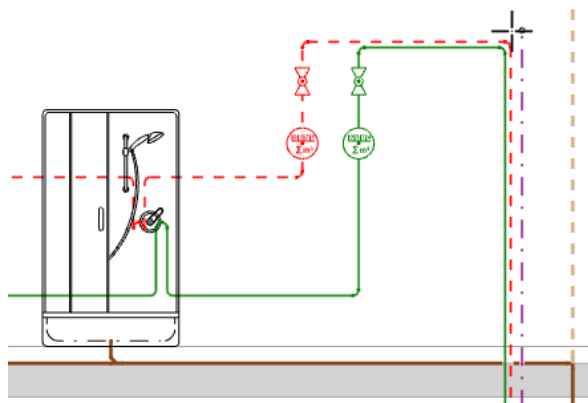
2. Select the **Pipe** function.



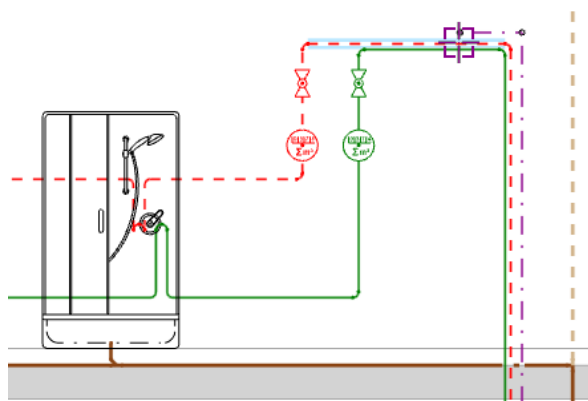
3. Click on the fresh water station and draw the hot water circulation pipe to behind the riser pipes as shown.



4. Draw the hot water circulation pipe as far as the 2nd upper floor and just above the **Hot potable water** pipe.

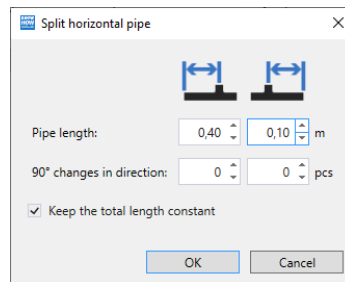


5. Click in the drawing area and confirm the query relating to pipe properties with **OK**.
6. Draw the pipe to the left and click on the horizontal pipe for **Hot potable water**.

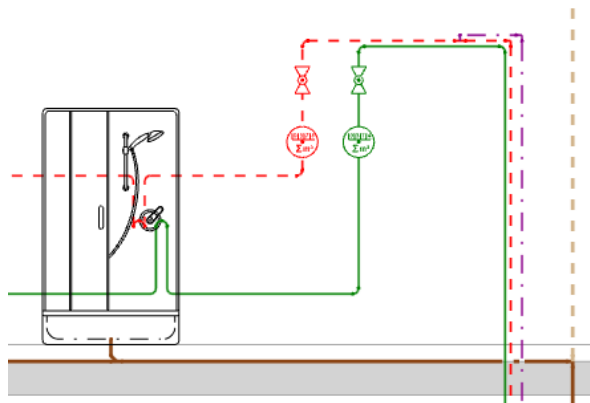




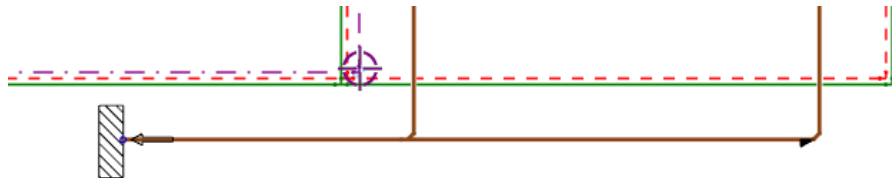
7. Enter the value **0.10 m** in the right field **Pipe length** in the **Split horizontal pipe** window and confirm with **OK**.



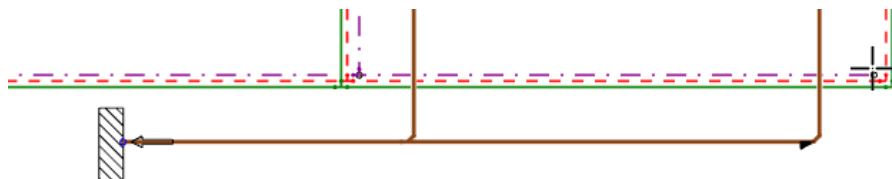
8. Confirm the **Pipe properties PWH-C** window with **OK**.



9. Click on the bend of the circulation line in the underground floor.

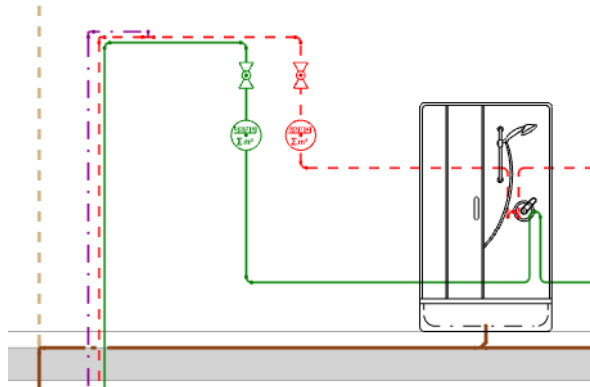


10. Draw the pipe horizontally as far as the riser pipes of the right building section and click in the drawing area.



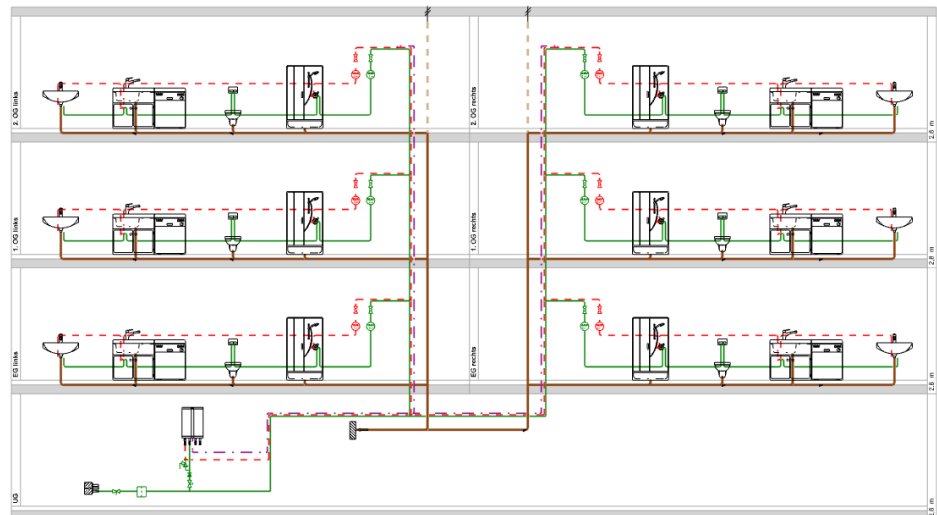
11. Enter the value **10.0 m** in the **Length (L)** field in the **Pipe properties PWH-C** window and confirm with **OK**.

12. Connect the circulation line in the same way as the circulation line in the left building section to the **Hot potable water** pipe in the 2nd upper floor.



13. Calculate the subproject.

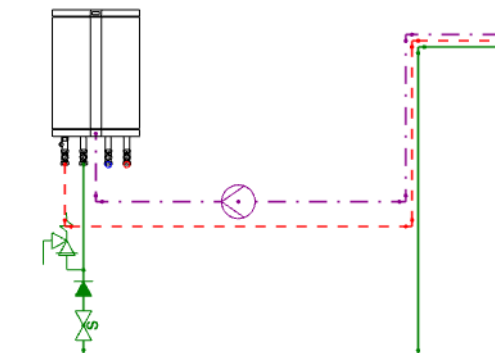
- ✓ The calculation does not indicate any errors. The calculation requires a circulation pump in some markets.



### 3.3.13.2 PLACING THE CIRCULATION PUMP AND SHUT-OFF VALVES

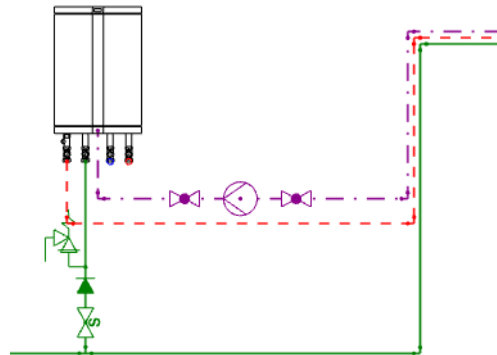


1. Place a circulation pump into the **Hot potable water circulation** horizontal pipe in the underground floor.





- Place two straight seat valves on the right and left beside the circulation pump.



- Calculate the subproject.  
✓ The calculation does not indicate any errors.

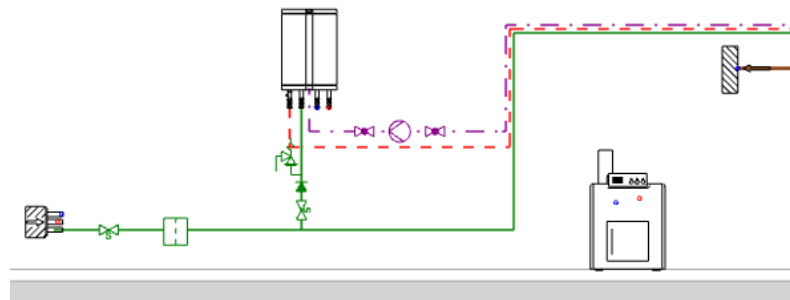
### 3.3.14 COMPLETING THE BASEMENT INSTALLATION

#### 3.3.14.1 PLACING THE HEATING TANK

- Switch to the **Heating** tab in the **Pipes/objects** window.

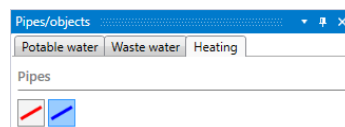


- Place a heating tank into the underground floor.

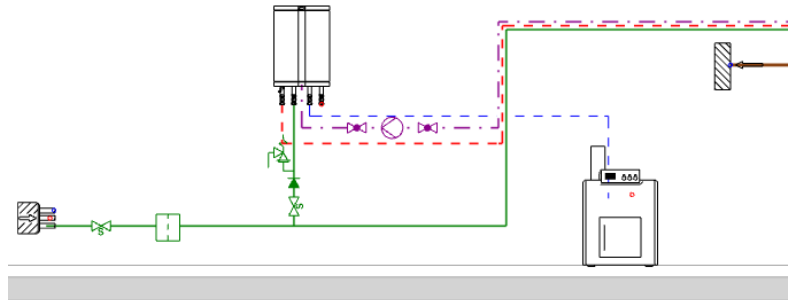


#### 3.3.14.2 CONNECTING THE RETURN PIPE

- Activate the **Return flow** medium and deactivate the **Inlet flow** medium.

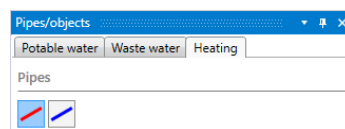


2. Draw a return pipe from the fresh water station to the heating tank.

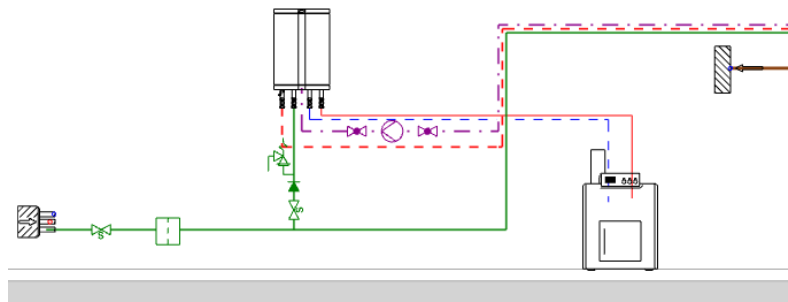


### 3.3.14.3 CONNECTING THE INLET FLOW PIPE

1. Activate the **Inlet flow** medium and deactivate the **Return flow** medium.



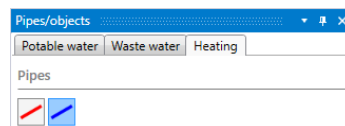
2. Draw an inlet flow pipe from the fresh water station to the heating tank.



3. Calculate the subproject.  
✓ A warning that no circulation pump was connected appears in the **Message list**. This warning will be cancelled in the next section.

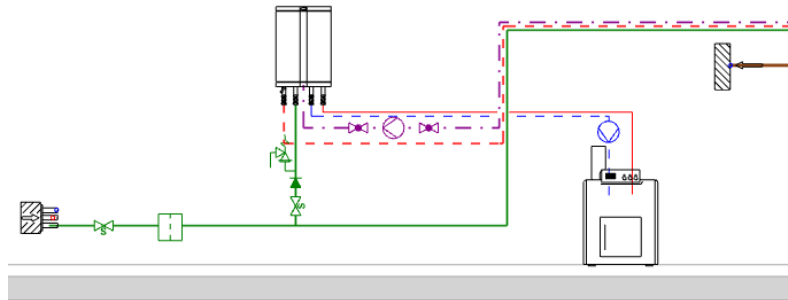
### 3.3.14.4 PLACING THE CIRCULATION PUMP

1. Activate the **Return flow** medium and deactivate the **Inlet flow** medium.



2. Activate the circulation pump.

3. Place the circulation pump into the return pipe.



4. Calculate the subproject.  
✓ The calculation does not indicate any errors.

### 3.3.15 APARTMENTS

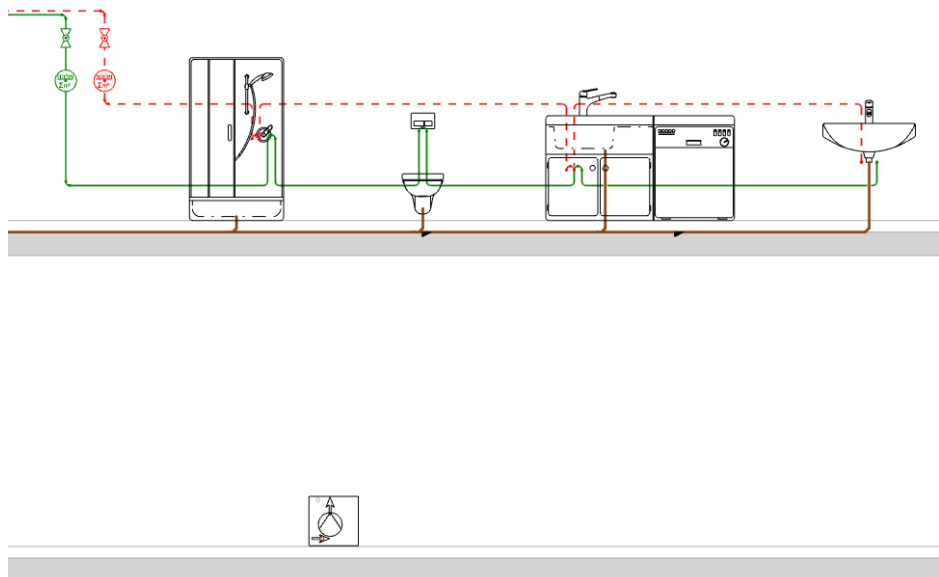
The objects and pipes of the apartment are added to the installation in the underground floor. A faeces lifting system is used which pumps waste water to the higher pipe position of the discharge pipes.

#### 3.3.15.1 PLACING OBJECTS

1. Switch to the **Waste water** tab in the **Pipes/objects** window.

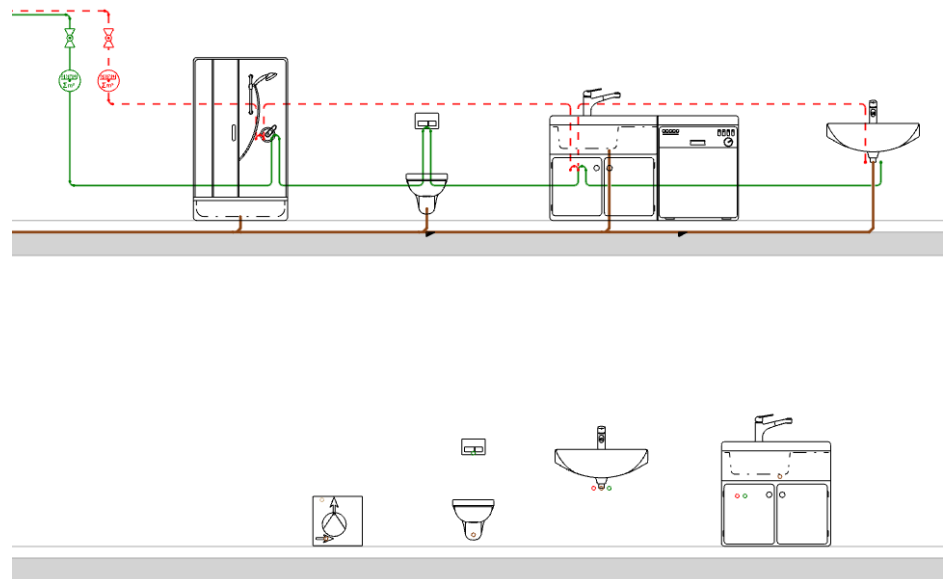


2. Place a faeces lifting system into the underground floor.



3. Switch to the **Potable water** tab.

- Place a WC, washbasin and a kitchen sink in the underground floor to the right of the faeces lifting system.

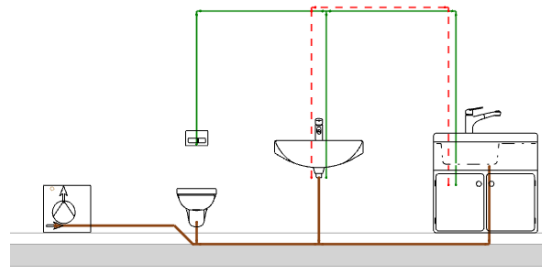


### 3.3.15.2 CONNECTING OBJECTS

- Highlight all objects in the apartment.
- Right-click on the highlighted objects and select **Connect unconnected objects** in the pop-up menu.  
✓ The **Pipe properties** window appears and shows all available media.
- Enter the value **0.00 m** in the **Pipe position (above unfinished floor)** field for the **Waste water** medium.
- Activate **Apply properties for all the following pipes**.

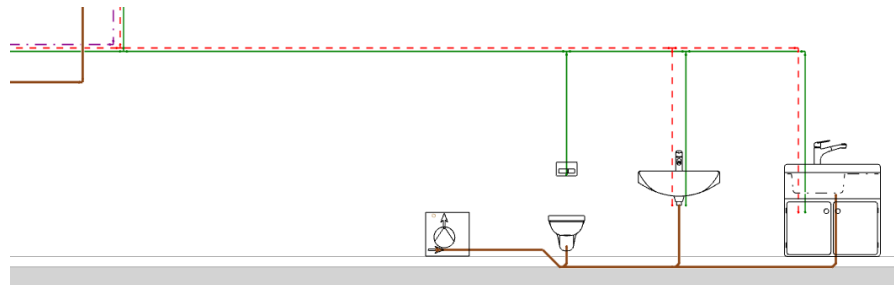
5. Confirm with **OK**.

- ✓ Geberit ProPlanner connects all the highlighted objects.

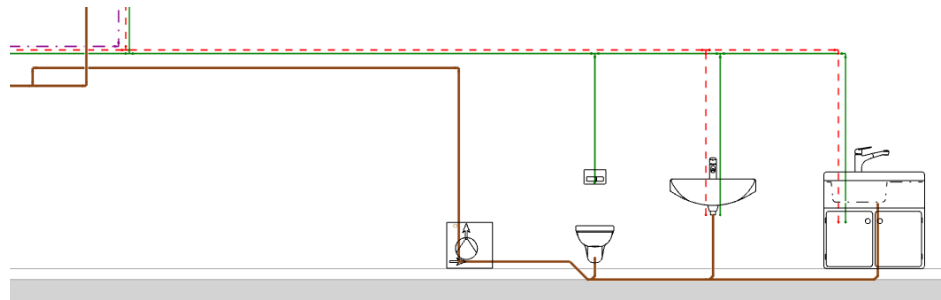


3.3.15.3 CONNECTING OBJECTS TO RISER PIPES

1. Connect the **Cold potable water** and **Hot potable water** pipes to the riser pipes in the underground floor as shown. Pay attention to the circular cursor.



2. Connect the **Waste water** pipe to the collector/underground pipe, as shown. Select a **Pipe position (above unfinished floor)** of **2.10 m** for the horizontal pipe.



3. Calculate the subproject.

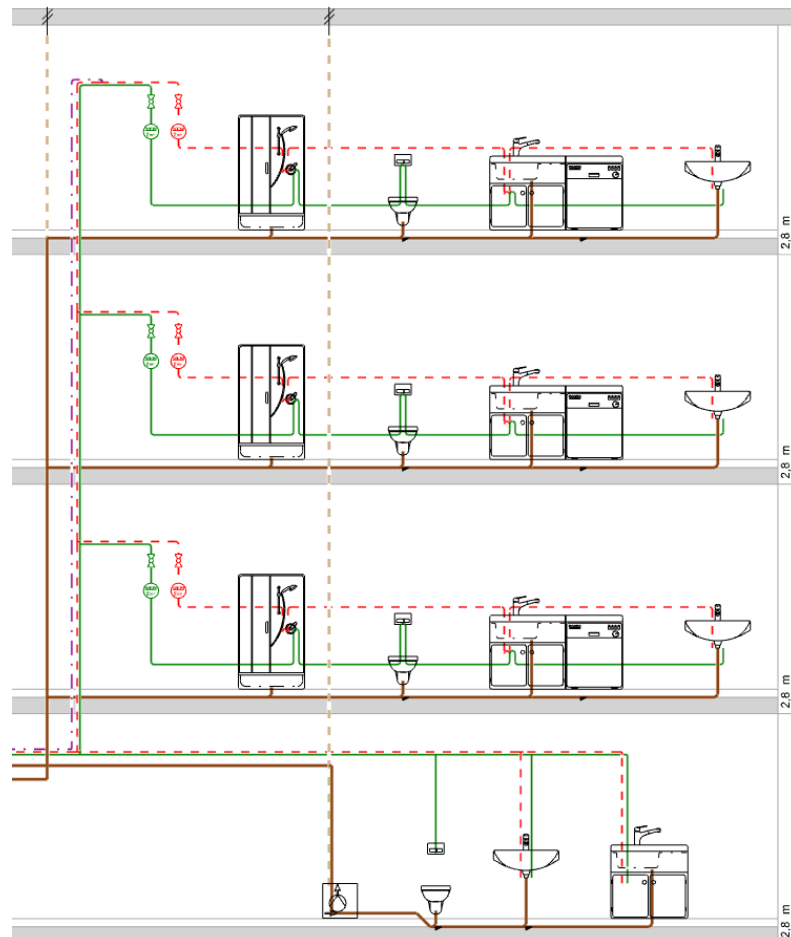
- ✓ A message that the faeces lifting system has to be vented through the roof in the **Message list**. Enter a weathering slate in the next section.



### 3.3.15.4 PLACING THE WEATHERING SLATE



1. Switch to the **Waste water** tab in the **Pipes/objects** window.
2. Activate the weathering slate.
3. Place the weathering slate into the installation unit **2nd right upper floor**.
4. Activate the **Ventilation** medium and connect the faeces lifting system in the apartment to the weathering slate in the **2nd right upper floor**.



5. Calculate the subproject.  
✓ The calculation does not indicate any errors.

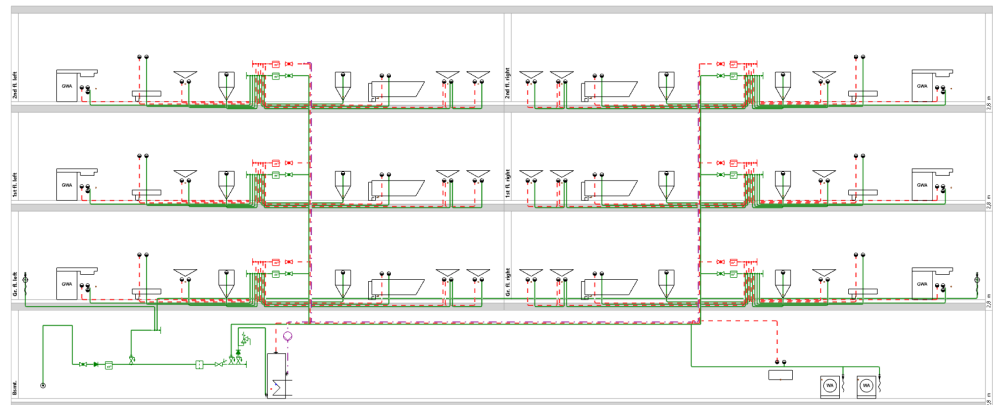
### 3.4 SINGLE TAP POSITION SYSTEM

The creation of a single tap position system is described in this planning example.

This chapter covers the following topics:

- Creating a project
- Adapting project settings
- Placing objects
- Placing manifolds
- Placing transfer points
- Drawing potable water pipes
- Adapting pipes
- Placing water meters and shut-off valves
- Connecting objects
- Testing the installation
- Copying installation units
- Planning basement distribution
- Planning a circulation
- Planning garden valves and a laundry room

Once you have completed all your planning steps, the installation will look like this:

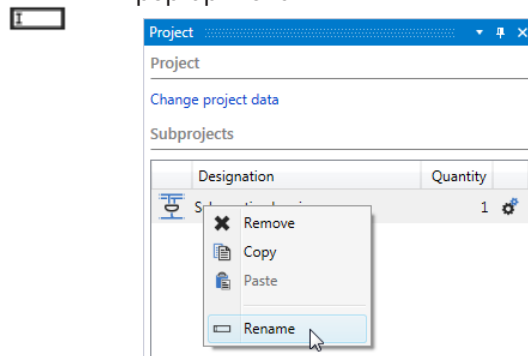


The visualisation may differ depending on the market.

### 3.4.1 RENAMING SUBPROJECTS

Geberit ProPlanner automatically names subprojects according to their respective type. Rename the subproject so that you can better plan and distinguish between different subprojects, e.g. several buildings in the same project.

1. Right-click on the subproject in the Project window and select **Rename** in the pop-up menu.



2. Enter the designation **Single tap position system** and confirm with **Enter**.

### 3.4.2 ADAPTING BUILDING AND CALCULATION SETTINGS

Before the start of the plan, adjust the building size, the installation situation of the individual floors and the calculation settings for potable water and waste water.

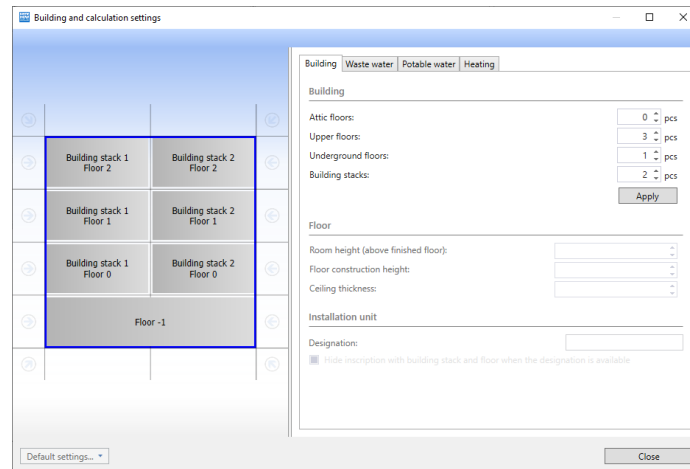
#### 3.4.2.1 DEFINING THE BUILDING SIZE

The size of the building is defined at the start of the plan.



1. Show the **Building** window.
2. Click on **Building and calculation settings**.  
✓ The **Building and calculation settings** window appears.
3. Enter the number of **Building stacks** as **2**, the number of upper floors as **3**, the number of **Underground floors** as **1** and the number of **Attic floors** as **0**.

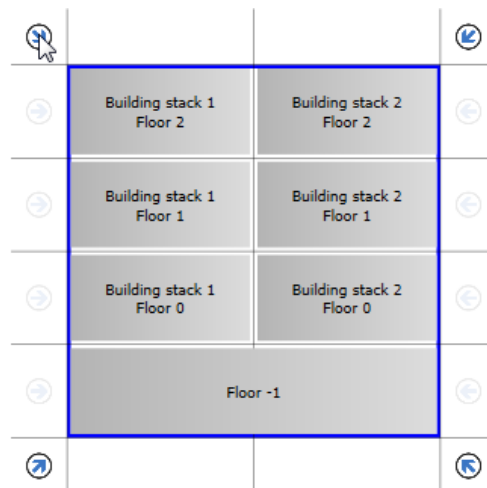
#### 4. Click on **Apply**.



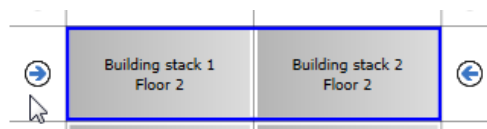
#### 3.4.2.2 SELECTING THE BUILDING, FLOORS AND INSTALLATION UNITS

The building in the **Building** window consists of floors, building sections and installation units.

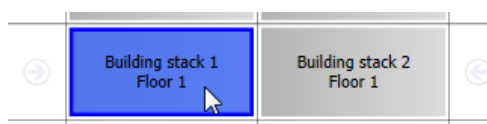
Click on one of the arrows at the corners of the building to select the building.



Click on one of the arrows on the right or left beside the floor to select a floor.



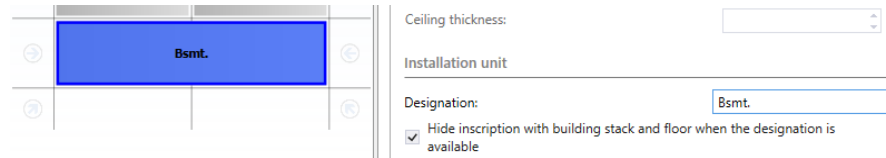
Click on the installation unit to select an installation unit.



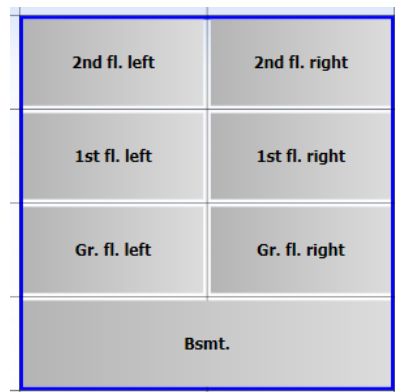
You can simultaneously select several installation units or floors by pressing **CTRL**.

### 3.4.2.3 NAMING INSTALLATION UNITS

1. Highlight the installation unit **Floor -1**.
2. Enter **UG** as the label for the underground floor in the **Designation** field in the **Label** area.



3. Activate **Hide inscription with building stack and floor when the designation is available** to hide the labels.
4. Name all the other installation units in this way as follows:

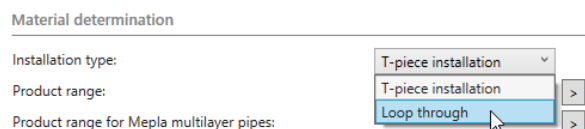


### 3.4.2.4 ADAPTING CALCULATION SETTINGS FOR POTABLE WATER

Before starting your plan, you need to define the settings for the assortment and for the dimensioning of the supply network in the **Building and calculation settings** window.

The settings in the **Building and calculation settings** window apply to the entire building complete with all floors and installation units. You can define different properties for the single floors and installation units, if need be. The settings of the building and the settings of other floors and installation units are retained. Deviating settings are defined for the underground floor for this planning example.

1. Select the **Potable water** tab.
2. Select **Loop through** in the **Installation type** field in the **Material determination** area.



3. Expand the advanced settings in the **Product range** field and select **PushFit polybutene pipe** for all **Floor pipe** and **Draw-off pipe** types of pipe.

Material determination

Installation type: T-piece installation

Product range: [dropdown]

Product range for Mepla multilayer pipes: [dropdown]

Product range for stainless steel pipes: 1.4401 CrNiMo steel

Product range for PushFit multilayer pipes: [dropdown]

Product range for PushFit polybutene pipes: Coil

☐ For changes in direction with bendable system pipes, use fittings even for small diameters

Calculation

Use type: Residential building

Simultaneity factor (for user-defined use type): 0.20

Pipe position (above unfinished floor): 2.10

Maximum flow velocity (v max): [dropdown]

Ambient temperature: 10.0

Fastening type

Horizontal pipes: [dropdown]

Service connection pipe (PWC): Mepla

Distribution pipe (PWC): Mepla

Distribution pipe (PWH): Mepla

Distribution pipe (PWH-C): Mepla

Distribution pipe (NPW): Mepla

Floor pipe (PWC): **PushFit polybutene pipe**

Floor pipe (PWH): **PushFit polybutene pipe**

Floor pipe (PWH-C): **PushFit polybutene pipe**

Floor pipe (NPW): **PushFit polybutene pipe**

Draw-off pipe (PWC): **PushFit polybutene pipe**

Draw-off pipe (PWH): **PushFit polybutene pipe**

Draw-off pipe (NPW): **PushFit polybutene pipe**

Circular pipe (PWC): Mepla

Circular pipe (PWH): Mepla

Circular pipe (NPW): Mepla



Use the **PushFit metal multilayer pipe** setting for floor pipes and discharge pipes if the **PushFit polybutene pipe** setting is not available in your market.

4. Expand the advanced settings in the **Horizontal pipes** field in the **Fastening type** area and select **Embedded in concrete** for all **Floor types** and **Draw-off pipe** types of pipe.

Fastening type

Horizontal pipes: [dropdown]

Vertical pipes: [dropdown]

Calculation

Use type: Residential building

Simultaneity factor (for user-defined use type): 0.20

Pipe position (above unfinished floor): [dropdown]

Maximum flow velocity (v max): [dropdown]

Ambient temperature: [dropdown]

☒ Floor installation in accordance with maximum flow velocity

☒ Take into account the correction factor in accordance with the W3 2013 guidelines for potable water installations

Circulation

Maximum flow velocity (v max): [dropdown]

Service connection pipe (PWC): Exposed

Distribution pipe (PWC): Exposed

Distribution pipe (PWH): Exposed

Distribution pipe (PWH-C): Exposed

Distribution pipe (NPW): Exposed

Riser pipe (PWC): Exposed

Riser pipe (PWH): Exposed

Riser pipe (PWH-C): Exposed

Riser pipe (NPW): Exposed

Floor pipe (PWC): **Embedded in concrete**

Floor pipe (PWH): **Embedded in concrete**

Floor pipe (PWH-C): **Embedded in concrete**

Floor pipe (NPW): **Embedded in concrete**

Draw-off pipe (PWC): **Embedded in concrete**

Draw-off pipe (PWH): **Embedded in concrete**

Draw-off pipe (NPW): **Embedded in concrete**

Circular pipe (PWC): Concealed in wall

Circular pipe (PWH): Concealed in wall

Circular pipe (NPW): Concealed in wall



Use the **Concealed in floor** setting for floor pipes and discharge pipes if the **Embedded in concrete** setting is not available in your market.

5. Highlight the underground floor.



6. Select **T-piece installation** in the **Installation type** field in the **Material determination** area for the underground floor.
7. Select the setting **Exposed** for all horizontal pipes in the **Horizontal pipes** field in the **Fastening type** area.



8. Click on **Close** to apply the settings.

### 3.4.3 PLACING OBJECTS

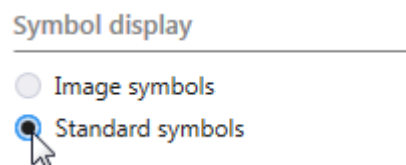
#### 3.4.3.1 SETTING THE SYMBOLS USED

Objects can be displayed as image symbols or as standard symbols in the Schematic planning module. Standard symbols are used in this planning example.



Representation of the objects as image symbols (left) and standard symbols (right)

1. Click on **Module settings** in the **Schematic planning** menu.  
✓ The **Module settings** window appears.
2. Select the **Standard symbols** setting in the **Symbol display** area.



3. Click on **Finish** to apply the setting.

#### 3.4.3.2 PLACING OBJECTS

At the start of the installation, the kitchen sink, washbasin, WC and bathtub objects are placed in the **2nd left upper floor** installation unit. The default object from the tree structure is always used.



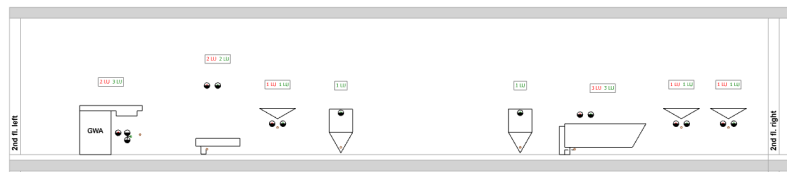
- Use the mouse wheel to zoom into the plan in the drawing area.
- Hold down the mouse wheel to move the plan in the drawing area.



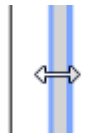
1. Activate the kitchen sink in the **Objects** area of the **Pipes/objects** window.
2. Place the kitchen sink into the **2nd left upper floor** installation unit and press **ESC**.



3. In the same way, place the following objects from left to right beside the kitchen sink. When placing objects, ensure that you leave a larger spacing between the two WCs to be able to subsequently draw manifolds, riser pipes and stacks.
  - Shower
  - Washbasin
  - WC
  - WC
  - Bathtub
  - Washbasin
  - Washbasin



- If need be, you can extend or reduce installation units by clicking on one side of the wall and, holding down the mouse key, drawing it to the left or right.



- Make sure that this does not affect the real lengths and values, as the drawing is not to scale.



- You can combine objects to create units in markets with DIN 1988-300-compliant calculation (see "Units", page 134).

### 3.4.4 PLACING TRANSFER POINTS

The transfer point replaces the domestic water connection and the storage water heater, among other things, and acts as the starting point for your calculation. An installation can therefore be simply checked and calculated at an early stage before creating a complete basement distribution system.



1. Select the **Transfer point**.



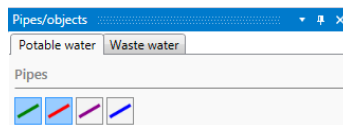
- Place the transfer point into the underground floor.



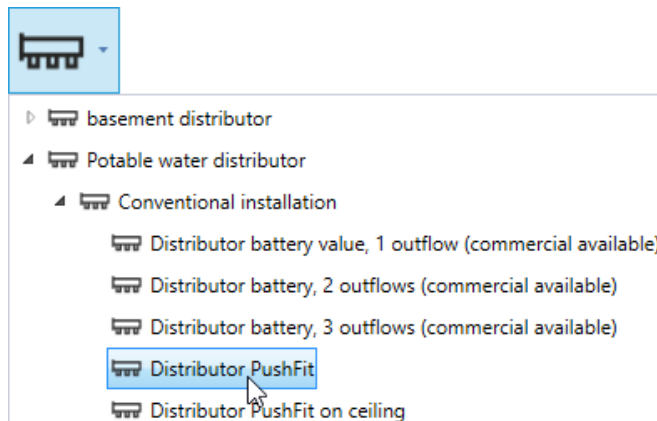
- Press **ESC** to exit the function.

### 3.4.5 PLACING MANIFOLDS

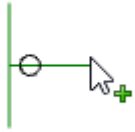
- Activate the **Cold potable water** and **Hot potable water** media.



- Expand the tree structure of the **Manifold** and select a **PushFit manifold** under **Multiple manifolds** or **TW manifold**.



- Press **Z** to mirror the manifold.



- Place the manifold for **Cold potable water** between both WCs in the installation unit.
- Place the manifold for **Hot potable water** slightly offset to the right above the manifold for **Cold potable water**. If necessary, press **Z** again to mirror the manifold.



- Press **ESC** to exit the function.

### 3.4.6 DRAWING MANIFOLD ADAPTER PIPES AND RISER PIPES



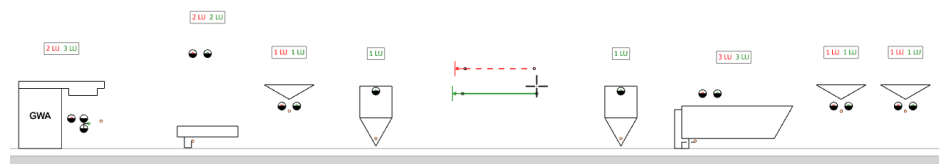
- Select the **Pipe** function.



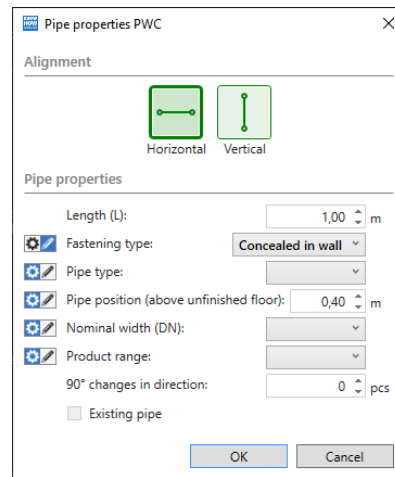
- Click in turn on the input port of the manifold for **Cold potable water** and the manifold for **Hot potable water**.



- Draw the pipes horizontally to the right and click in the drawing area.





- Enter the value **1.00 m** in the **Length (L)** field in the **Pipe properties PWC** and in the **Pipe properties PWH** window and select the setting **Concealed in wall** as the **Fastening type**.



- Confirm each one with **OK**.

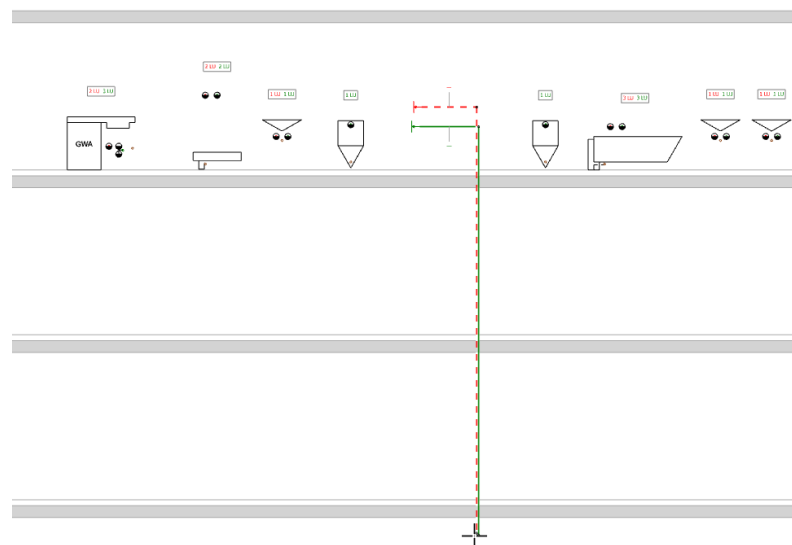


Many values in the **Pipe properties** window are automatically calculated. The settings in the **Building and calculation settings** form the basis of the calculations.

- Calculated values are indicated by the symbol **Calculate value** .
- Manually modified settings appear in bold and the **Value user defined** symbol  has a blue background.

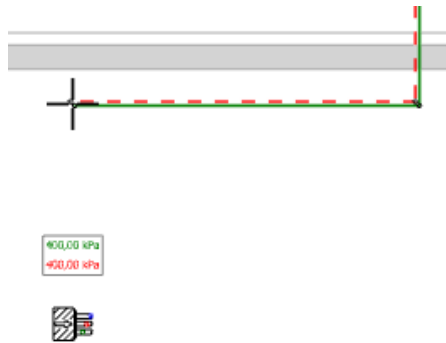
Only change the values in the **Pipe properties** window in exceptional cases and check, if you need to, the settings in the **Building and calculation settings**.

- Draw the pipes into the underground floor.



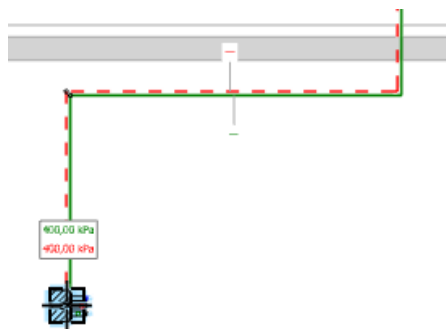
- Click in the underground floor.
- Confirm both the **Pipe properties PWC** and **Pipe properties PWH** windows with **OK**.

9. Draw the pipe to the left over the transfer point and click in the drawing area.



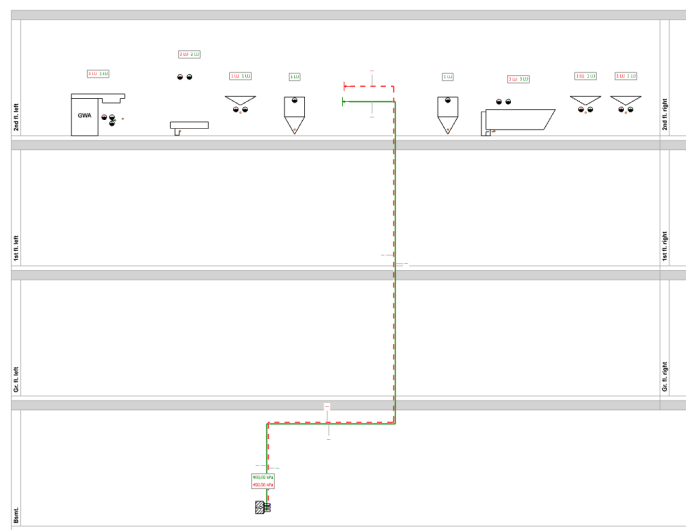
10. Confirm both the **Pipe properties PWC** and **Pipe properties PWH** windows with **OK**.

11. Click on the transfer point.



12. Confirm both the **Pipe properties PWC** and **Pipe properties PWH** windows with **OK**.

13. Press **ESC** to exit the function.

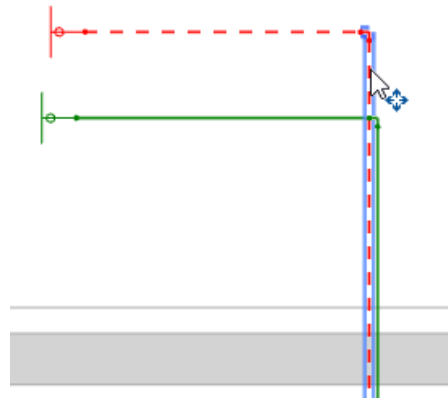


14. Press **H** to deactivate the pipe labels.

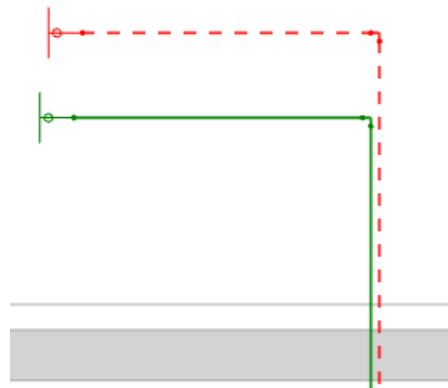
### 3.4.7 MOVING PIPES

The vertical **Hot potable water** pipe is moved so that in the subsequent planning the pipe for **Cold potable water** is not enclosed between the drinking water circulation pipe and the pipe for **Hot potable water**. The actual lengths of the adjacent pipes are unaffected by this.

1. Click on the vertical pipe for **Hot potable water** and press and hold down the left mouse key for at least 1 second without moving the mouse.
  - ✓ All the connected pipes and connection points that lie in the same alignment are captured and can be moved together.



2. Press and hold down the left mouse key or use the keyboard arrow keys to the right to move the pipes and connection points entered.

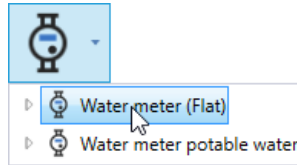


### 3.4.8 PLACING WATER METERS AND SHUT-OFF VALVES

#### 3.4.8.1 PLACING WATER METERS

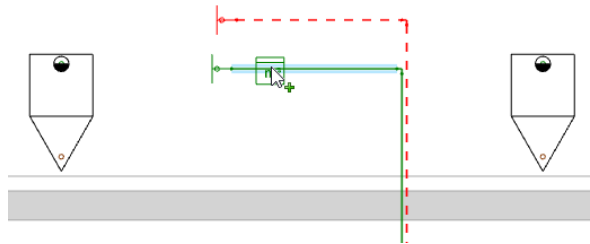


1. Select the following water meter: **Floor water meter**.

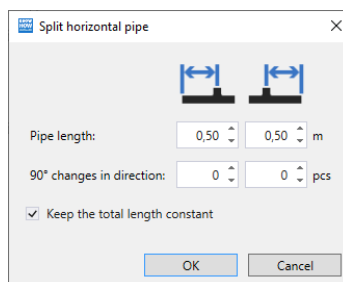


- The medium of the object and the medium of the pipe must match to allow you to place an object in a pipe. An object for **Cold potable water** can now be inserted into a pipe for **Cold potable water**.
- If you have activated several media, you can switch to the medium for the object being inserted by pressing the **Tab key**.

2. Use your mouse to guide the green water meter to the green pipe for **Cold potable water** until the pipe appears blue.

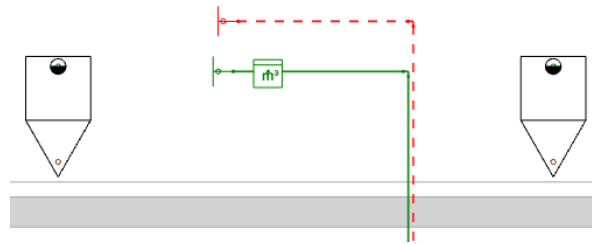


3. Click on the water meter to place the green pipe for **Cold potable water**.  
✓ The **Split horizontal pipe** window appears.



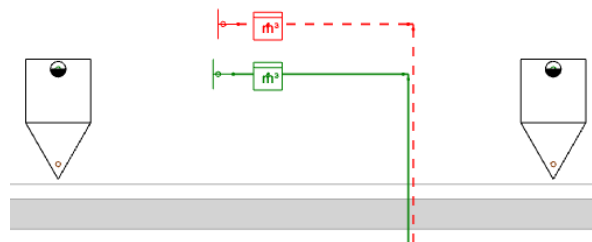
No request to split the pipe appears if the medium of the object does not match the medium of the pipe. You therefore have control that an object has been placed on the correct pipe.

4. Confirm the **Split horizontal pipe** window with **OK**.



5. Place the red water meter on the red pipe for **Hot potable water**.

6. Confirm the **Split horizontal pipe** window with **OK**.

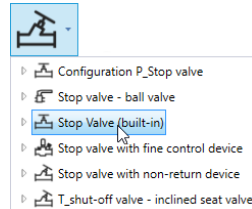


7. Press **ESC** to exit the function.

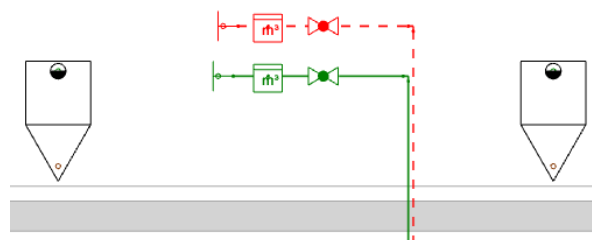
### 3.4.8.2 PLACING SHUT-OFF VALVES



1. Select the following shut-off valve: **Straight seat valve**.



2. Place the green shut-off valve to the right beside the water meter on the green pipe for **Cold potable water** and confirm the **Split horizontal pipe** window with **OK**.
3. Place the red shut-off valve above the water meter on the red pipe for **Hot potable water** and confirm the **Split horizontal pipe** window with **OK**.



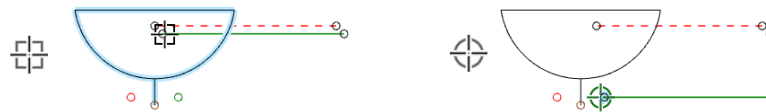
4. Press **ESC** to exit the function.

### 3.4.9 CONNECTING OBJECTS

You can connect objects singly or simultaneously connected multiple objects together in Geberit ProPlanner. In the following steps you will learn how to singly connect the objects in the right half of the installation unit. Several objects are simultaneously connected to each other in the left half of the installation unit.



- The cursor signals whether a connection is possible at the current position and whether the connection is being made to an object or a port.
- The colour of the cursor signals which medium is being connected.



Cursor when connecting to an object (left, rectangular cursor) and when connecting to a port (right, circular cursor)

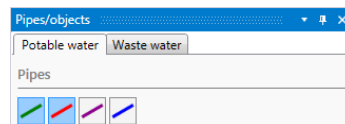


If, when drawing a pipe, you need to make sure that you are connecting directly to a port and the circular cursor needs to be active, this is signalled in this training manual by a corresponding symbol in the media colour.

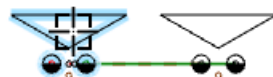


#### 3.4.9.1 CONNECTING OBJECTS SINGLY

1. Make sure that the **Cold potable water** and **Hot potable water** media are activated.



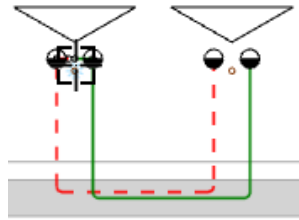
2. Select the **Pipe** function.
3. Click on the last washbasin and draw the pipe to the second washbasin.



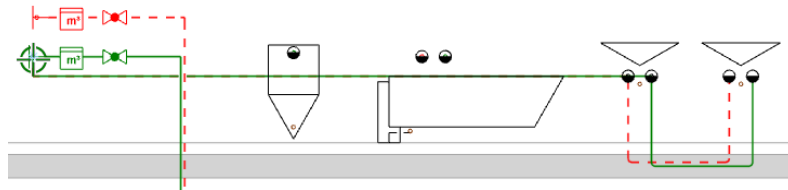
4. Click on the second washbasin.
5. Enter the value **1.00 m** in the **Length (L)** field of the **Pipe properties PWC** window and in the **Pipe properties PWH** window.



6. Confirm each one with **OK**.



7. Draw the pipes to the manifold for **Cold potable water** and click on the free outlet port of the manifold.

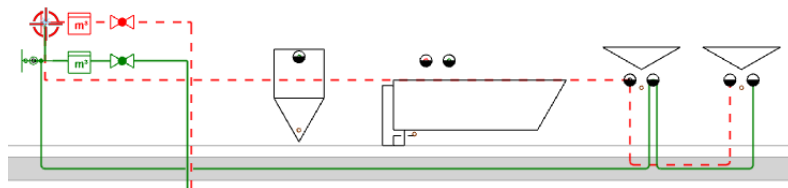


8. Enter the value **3.00 m** in the **Length (L)** field of the **Pipe properties PWC** window.

9. Confirm with **OK**.

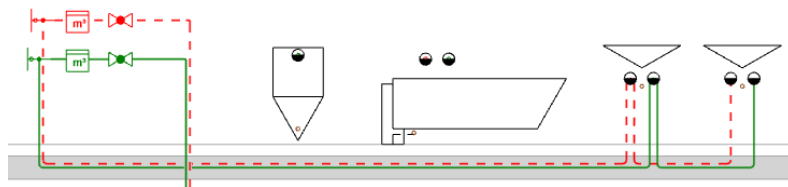


10. Draw the pipes to the manifold for **Hot potable water** and click on the free outlet port of the manifold.



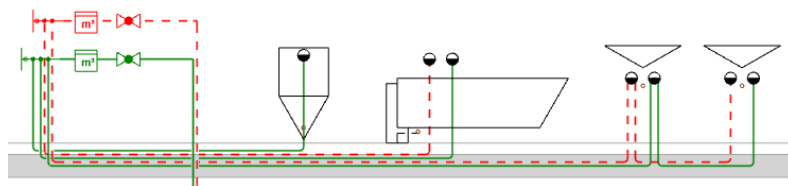
11. Confirm the **Pipe properties PWH** window with **OK**.

12. Press **ESC** to exit the function.



13. Connect the bathtub and the WC to the manifolds in the same way. Select the following pipe lengths:

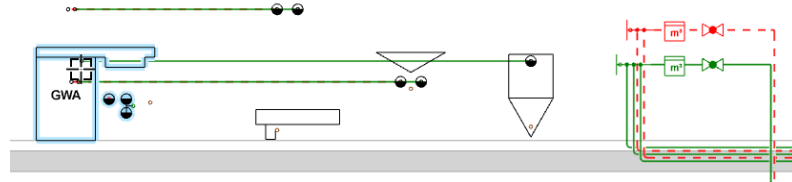
- Bathtub: 2.00 m
- WC: 1.00 m



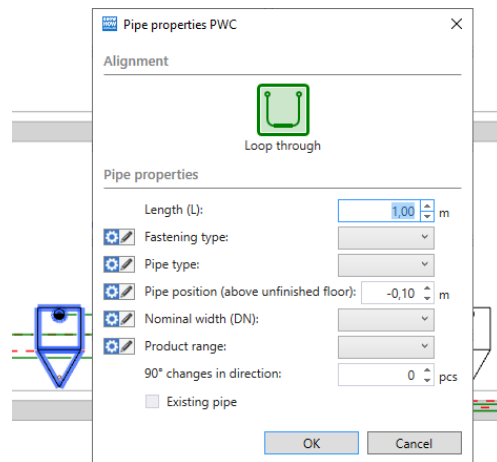
### 3.4.9.2 SIMULTANEOUSLY CONNECTING MULTIPLE OBJECTS



1. Select the **Pipe** function.
2. Click on the WC.
3. Press and hold down the **SHIFT** key and click on the washbasin, shower and kitchen sink in turn.

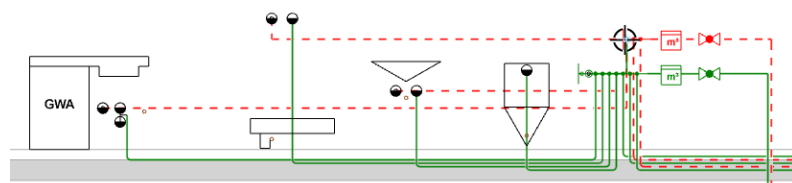


4. Release the **SHIFT** key and click on the free outlet port of the manifold for **Cold potable water**.  
✓ The **Pipe properties PWC** window for the WC, the washbasin, the shower and the kitchen sink appears one after another.



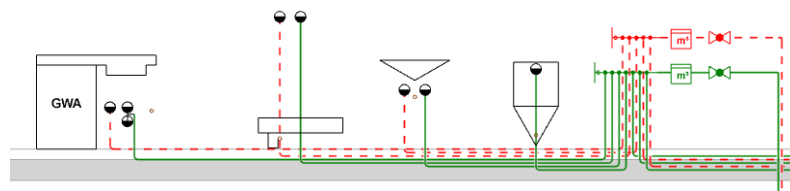
You can move the **Pipe properties PWC** to the side to see to which object the **Pipe properties PWC** window applies. Geberit ProPlanner highlights the respective associated object in the drawing.

5. Select the following pipe lengths for the objects in the **Pipe properties PWC** window:
  - WC: 1 m
  - Washbasin: 2 m
  - Shower: 3 m
  - Kitchen sink: 2 m
6. Confirm each one with **OK**.





7. Click on the free outlet port of the manifold for **Hot potable water**.  
✓ The **Pipe properties PWC** window for the washbasin, the shower and the kitchen sink appears one after the other.
8. Select the following pipe lengths for the objects in the **Pipe properties PWH** window:  
  - Washbasin: 2 m
  - Shower: 3 m
  - Kitchen sink: 2 m
9. Confirm each one with **OK**.
10. Press **ESC** to exit the function.



You can disentangle connecting pipes if they lie confusingly on top of each other at a manifold. To do so, call up the **Separate out branch discharge pipes** function in the manifold pop-up menu and redistribute the Geberit ProPlanner pipes.

### 3.4.10 CHECKING YOUR INSTALLATION

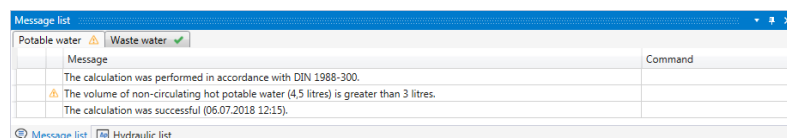
Calculate the installation before copying the installation unit. You should also perform a calculation if you have made changes in your plan.

A report appears in the **Message list** window after every calculation. The report contains calculation errors, warning notes and information. Clicking on an error message highlights in red the relevant element in the drawing.

There should be no errors displayed in the **Message list** window after the calculation.



- Click on **Calculate subproject** in the toolbar or press **F5**.  
✓ The installation is now calculated. Any information, warnings and errors are displayed in the **Message list**.



In certain markets, warnings about the draw-off time appear in the **Potable water** tab. They are subsequently cancelled by the incorporation of a potable water circulation system.

### 3.4.11 LABELS

You have the option of showing labels for pipes and objects. You can then select the display for the single pipe types, e.g nominal width and outer diameter. You can also adapt the visualisation of the labels.

#### 3.4.11.1 SHOWING LABELS

- Press **H** to show the labels again.

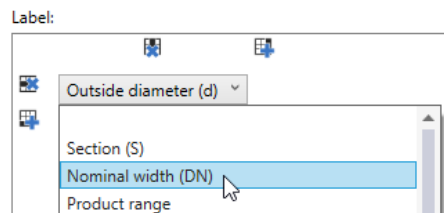
#### 3.4.11.2 ADAPTING PIPE LABELS





1. Click on **Module settings** in the **Schematic planning** menu.  
✓ The **Module settings** window appears.
2. Click on **Pipe labels**.
3. Select **Potable water** in the **Object type** field.



You can separately adjust the pipe label for each pipe type. The settings will be applied to all pipe types if you do not select a pipe type.

4. Open the first menu in the **Label** area and select **Nominal width (DN)**.



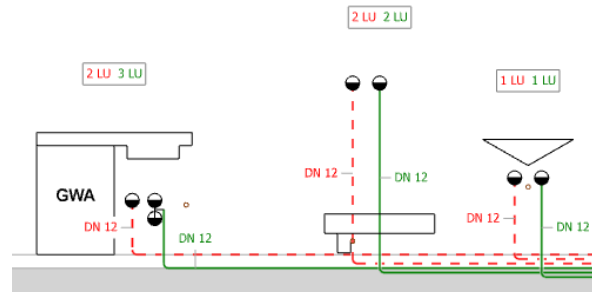
- Clicking on the symbol  or  lets you add as many fields horizontally or vertically to the label.
- Clicking on the symbol  or  lets you delete as many fields horizontally or vertically.

5. Deactivate **Draw outer frame** and **Draw separating lines between the cells**.

- ☐ Draw outer frame
- ☐ Draw separating lines between the cells

6. Click on **Finish** to apply the settings.

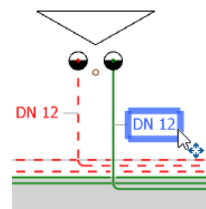
- ✓ The potable water pipes have been labelled with the nominal widths, and the discharge pipes with the outer diameter.



### 3.4.11.3 MOVING LABELS AND HIDING SUPERFLUOUS LABELS

You can move the labels and hide superfluous labels to obtain a better overview.

1. Click on a label and, holding down the left mouse key, draw the label to the required position.



2. Highlight a label and press **DEL** to hide the highlighted label.
3. Move all labels so that they are easily legible and hide any superfluous labels.



Use the arrow keys on the keyboard to move highlighted labels.



You can separately show and hide the label for each pipe or each object. To do so, right-click on a pipe and select **Hide label** or **Show inscription** in the pop-up menu.

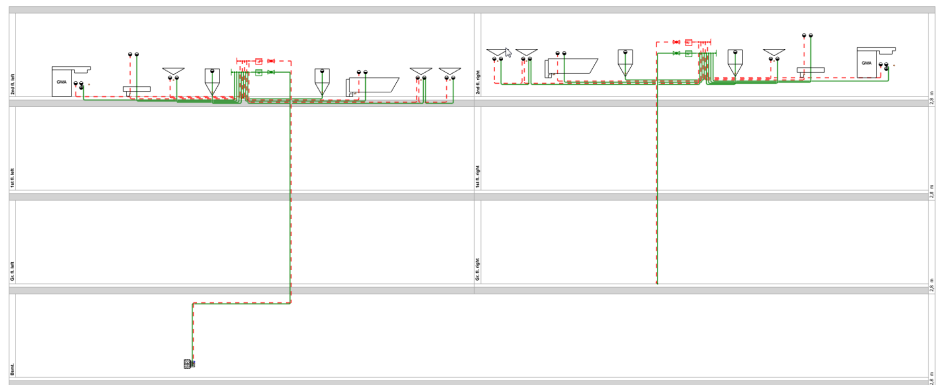
### 3.4.12 INSERTING OBJECTS IN REVERSE ORDER INTO INSTALLATION UNITS

Once you have planned the potable water pipes in the first installation unit, you can then copy them into the opposite installation unit. The objects are to be inserted in reverse order. You do not have to plan each installation unit separately.

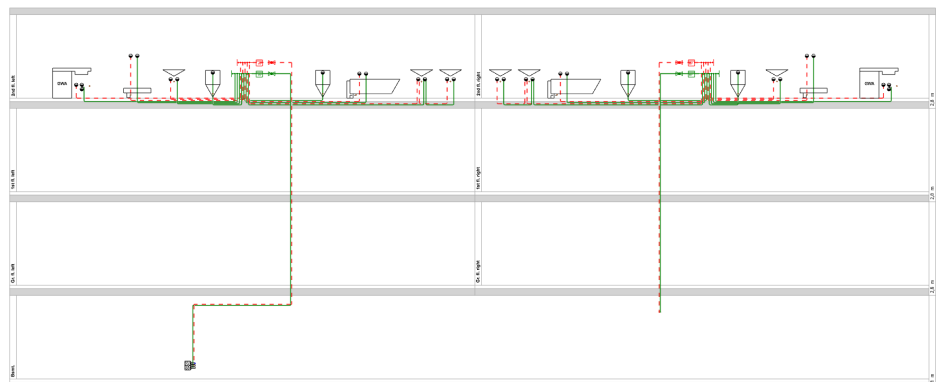


Planning errors and label positions are carried over when copying the installation unit. Therefore only copy error-free and fully drawn installation units.

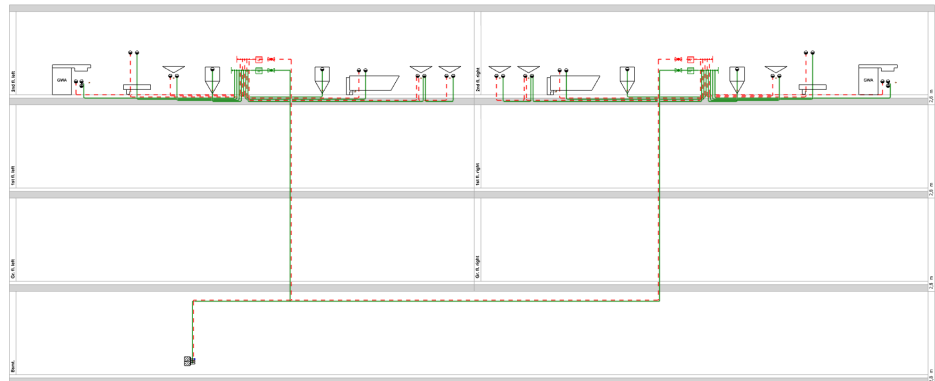
1. Right-click in the **2nd left upper floor** installation unit and select **Copy installation unit** in the pop-up menu.
2. Right-click in the **2nd right upper floor** installation unit and select **Insert in reverse order** in the pop-up menu.
  - ✓ The content of the copied installation unit hangs from the cursor in reverse order.



3. Click on the **2nd right upper floor** installation unit to place the objects and pipes.
  - ✓ The content of the copied installation unit has been inserted in reverse order.



4. Connect the riser pipes to the potable water pipes in the underground floor. Select the value **10.00 m** as the **Length (L)**.

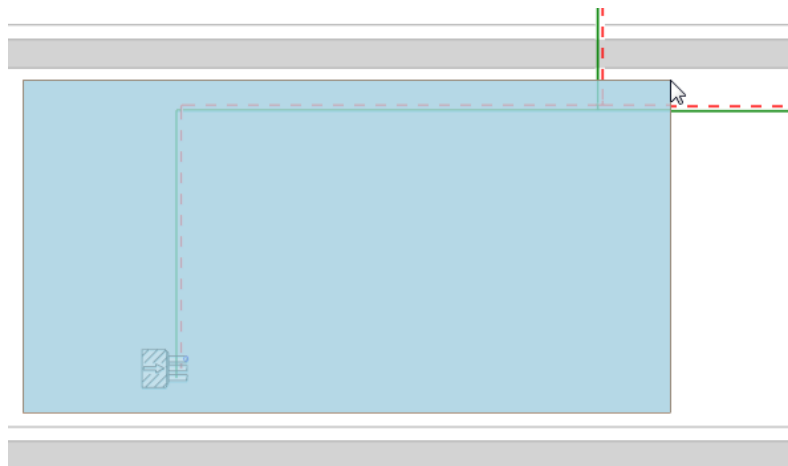


5. Calculate the subproject.
6. Adjust the positions of the labels in both installation units in the 2nd upper floor.

### 3.4.13 ADAPTING PIPE POSITIONS

The horizontal potable water pipes have been drawn at a random height in the underground floor. The pipe position is adapted to correct this and display the riser pipes in the underground floor with the correct length.

1. Press and hold down the left mouse key to draw open a selection rectangle so that all the pipes and objects in the underground floor are selected.



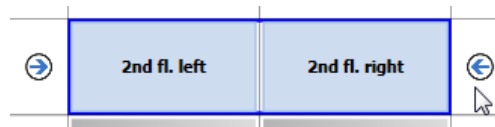
2. Right-click on the highlighted pipes and select **Set the pipe at the pipe position** in the pop-up menu.
  - ✓ The pipes are placed at the calculated pipe position.

### 3.4.14 COPYING FLOORS

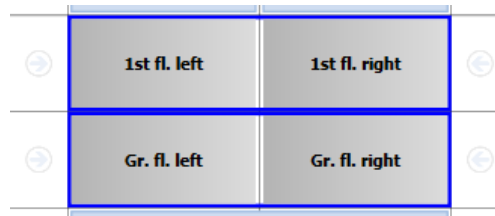
Once you have completed the planning in the 2nd upper floor, you can copy the content of this floor into the other floors.



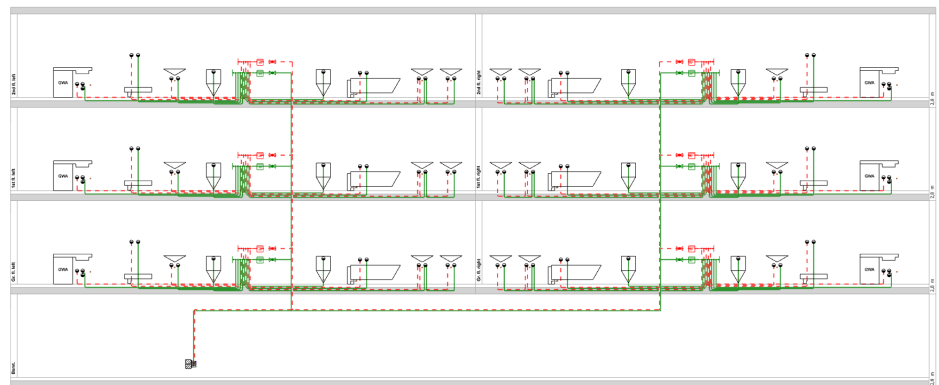
1. Show the **Building** window.
2. In the **Building** window, highlight the 2nd upper floor by clicking on the arrow beside the floor.



3. Right-click on the highlighted floor and select **Copy** in the pop-up menu.
4. Highlight the 1st upper floor.
5. Press and hold down the **SHIFT** key and highlight the ground floor.  
✓ Both floors have been selected.



6. Right-click on the highlighted floors and select **Paste** in the pop-up menu.  
✓ The contents of the 2nd upper floor have been inserted into the two floors.



7. Calculate the subproject.



### 3.4.15 BASEMENT DISTRIBUTION

You have simulated the potable water pipe in the building with the transfer point to test the installation. The distribution in the basement is now planned with the requisite objects.

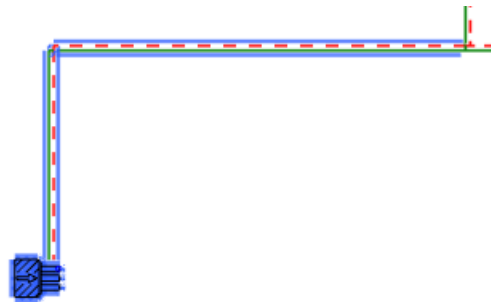
The objects in the basement distribution system were placed in the following order:

- Domestic water supply connection
- Manifold
- Filter
- Water meter
- Check valve
- Shut-off valve
- Water heater

#### 3.4.15.1 DELETING THE TRANSFER POINT

To place the basement distribution, first delete the transfer point and all potable water pipes as far as the first riser pipe.

1. Highlight the transfer point and all potable water pipes as far as the first riser pipe.

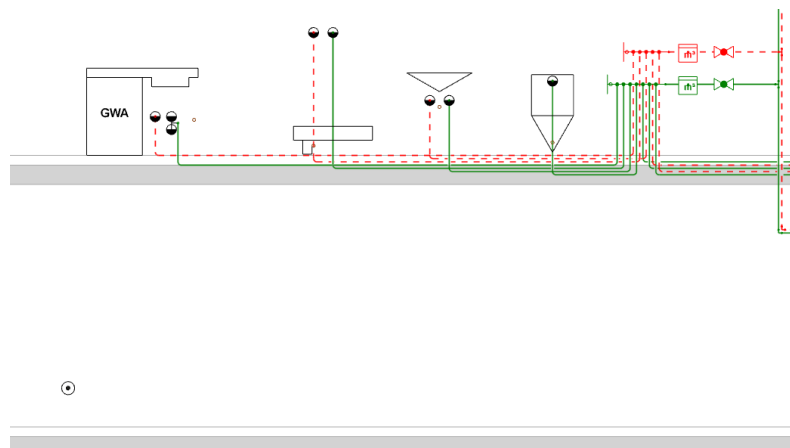


2. Press **DEL** to delete the transfer point and all potable water pipes from the transfer point to the riser pipes.

#### 3.4.15.2 PLACING THE DOMESTIC WATER CONNECTION AND ADAPTING THE PRESSURE



1. Activate the domestic water supply connection.
2. Place the domestic water supply connection in the underground floor.

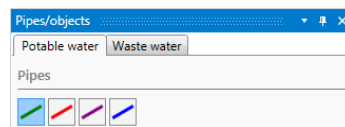


3. Press **ESC** to exit the function.

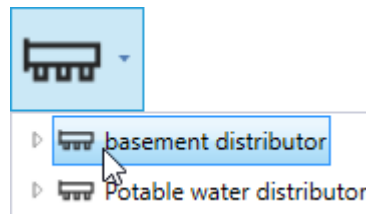
4. Right-click on the domestic water supply connection and select **Properties** in the pop-up menu.  
✓ The **Domestic water supply connection** window appears.
5. Select the **PWC** tab.
6. Activate **User-defined pressure at output** and select **6,000 hPa** and/or **600 kPa**.
7. Confirm your settings with **OK**.

#### 3.4.15.3 PLACING MANIFOLDS

1. Activate the **Cold potable water** medium and deactivate the **Hot potable water** medium.



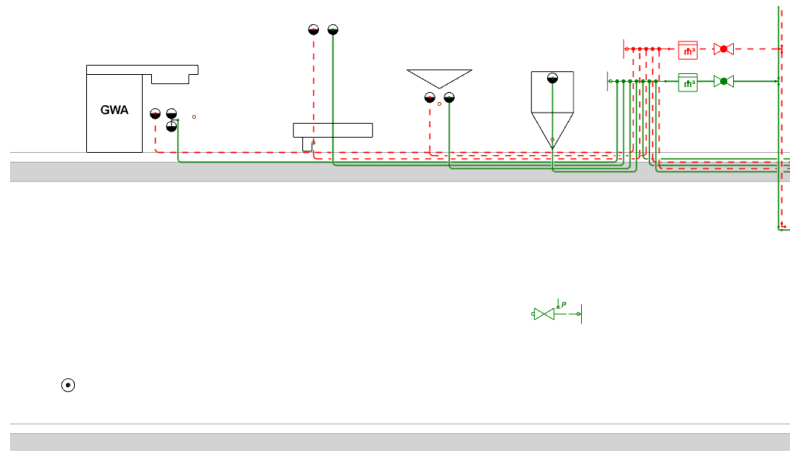
2. Select the following manifold: **Domestic water manifold > Conventional mounting > Distribution battery with pressure reducing valve**.



Use a normal basement distributor or main manifold if this manifold is not available in your market.

3. Place the manifold in the underground floor.

4. Press **ESC** to exit the function.



#### 3.4.15.4 PLACING WATER HEATERS



1. Activate the water heater.
2. Place the water heater into the underground floor.

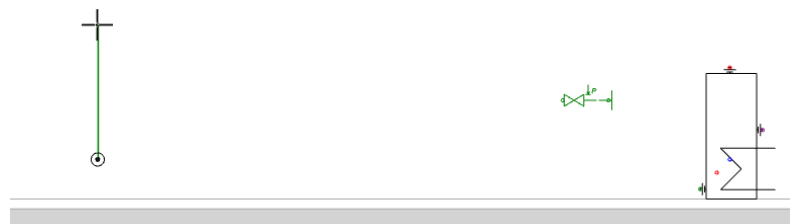


3. Press **ESC** to exit the function.

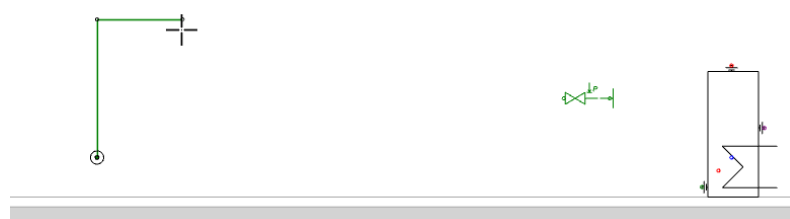
#### 3.4.15.5 CONNECTING COLD POTABLE WATER



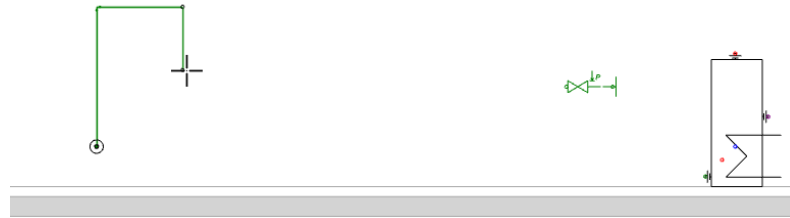
1. Select the **Pipe** function.
2. Click on the domestic water supply connection and draw the pipe upwards.



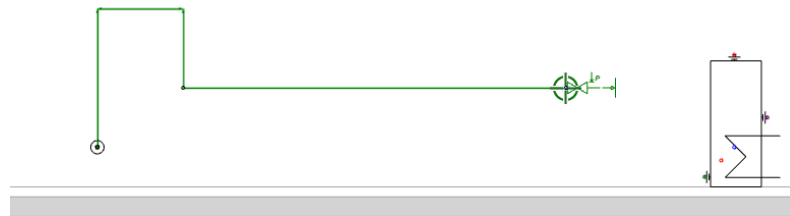
3. Click in the drawing area and confirm the **Pipe properties PWC** window with **OK**.
4. Draw the pipe to the right and click in the drawing area.



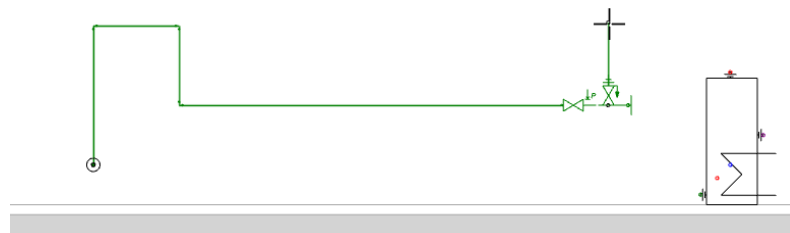
5. Confirm the **Pipe properties PWC** window with **OK**.
6. Draw the pipe downwards and click in the drawing area.



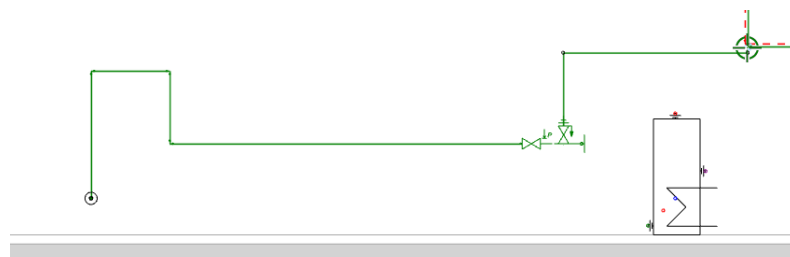
7. Confirm the **Pipe properties PWC** window with **OK**.
8. Draw the pipe to the right and click on the input port of the manifold.



9. Confirm the **Pipe properties PWC** window with **OK**.
10. Draw the pipe up from the manifold and click in the drawing area.



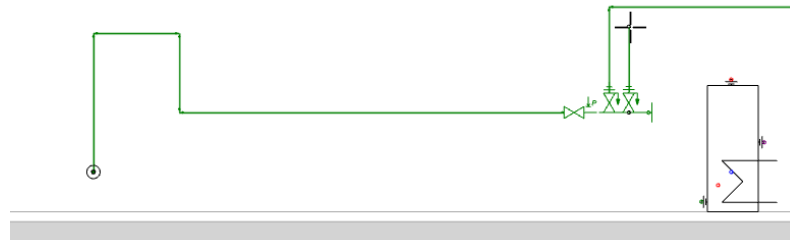
11. Confirm the **Pipe properties PWC** window with **OK**.
12. Draw the pipe horizontally to the right and click on the riser pipe port for **Cold potable water**.



13. Confirm the **Pipe properties PWC** window with **OK**.

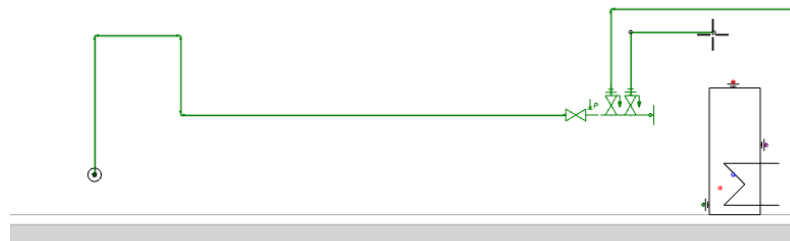


14. Click on the connection nipple for manifold port and draw the pipe upwards to a height above the water heater.



15. Click in the drawing area and confirm the **Pipe properties PWC** window with **OK**.

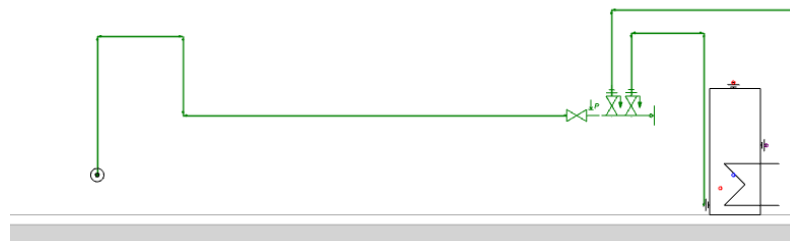
16. Draw the pipe horizontally to the right until it is above the water heater and click in the drawing area.



17. Confirm the **Pipe properties PWC** window with **OK**

18. Draw the pipe downwards and click on the water heater.

19. Confirm the **Pipe properties PWC** window with **OK**.



#### 3.4.15.6 PLACING OBJECTS

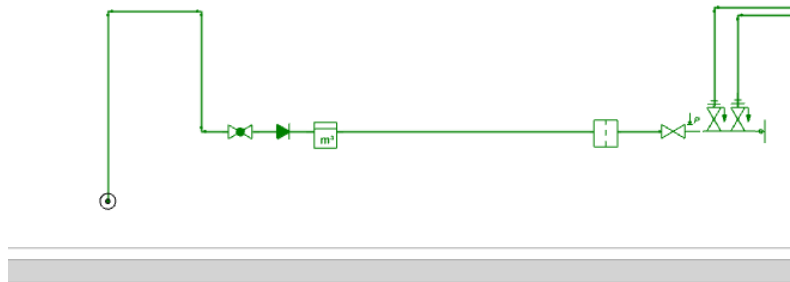
Calculate the plan before placing objects into the pipes. The calculation will fail as the PHW pipes are not yet connected. However, the calculation will define the direction of flow of the pipes. The inserted pipe objects are thereby automatically rotated correctly.



If necessary, you can manually rotate the pipe objects by pressing **L** or **R**.



1. Calculate the subproject.
2. Place the following objects beside the manifold into the **Cold potable water** pipe from right to left. Leave a larger distance between the filter and water meter:
  - Water pressure reducing valve (only if no **Distributor battery with pressure reducing valve** has been placed)
  - Filter
  - Water meter (domestic water meter)
  - Check valve
  - Shut-off valve (straight seat valve)

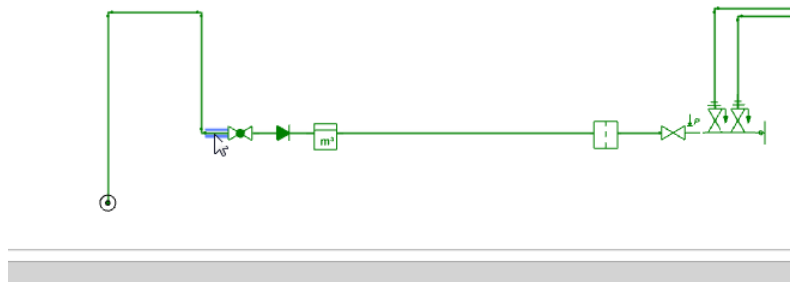


3. Press **ESC** to exit the function.

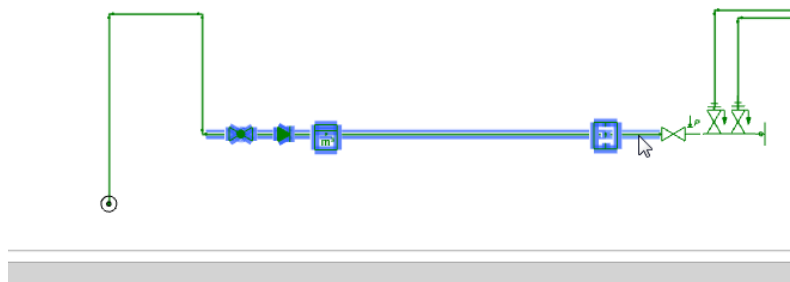
#### 3.4.15.7 ADAPTING PIPES

In the following, all the objects and pipes are placed at a standard height and the length between the objects is standardised.

1. Highlight the pipe upstream of the shut-off valve.



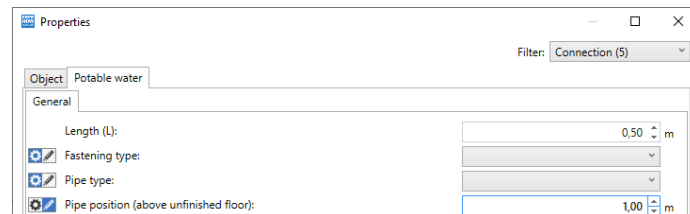
2. Press and hold down the **SHIFT** key and highlight the pipe upstream of the manifold.
  - ✓ All the pipes and objects between the two objects are selected.





If objects are connected with several flow paths, clicking again while holding down the **SHIFT** key lets you switch between the flow paths.

3. Press **ALT** and **Enter** simultaneously to open the **Properties** window.
4. Enter the value **0.50 m** in the **Length (L)** field and the value **1.00 m** in the **Pipe position (above unfinished floor)** field.



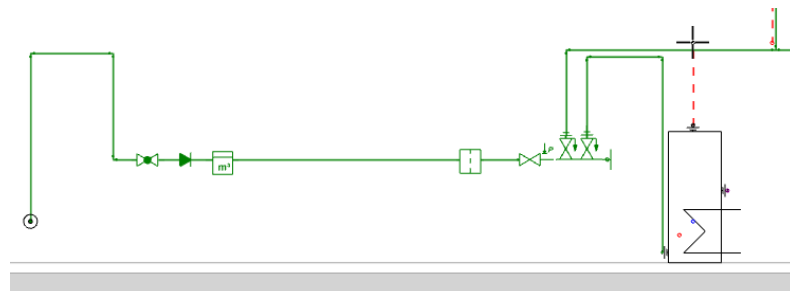
5. Click on **OK** to apply the settings.



Only change the values in the **Properties** window in exceptional cases and check, if you need to, the settings in the **Building and calculation settings**.

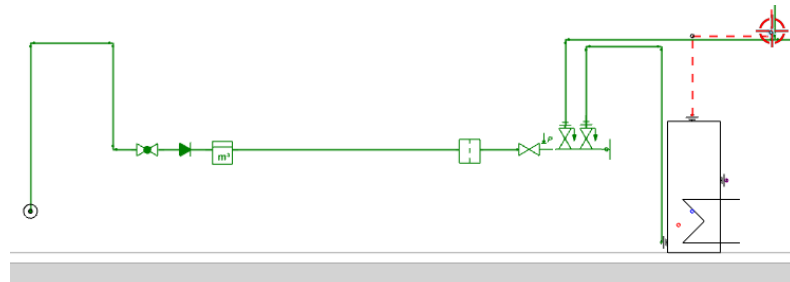
#### 3.4.15.8 CONNECTING HOT POTABLE WATER

1. Activate the **Hot potable water** medium and deactivate the **Cold potable water** medium.
2. Select the **Pipe** function.
3. Click on the water heater and draw the pipe upwards.

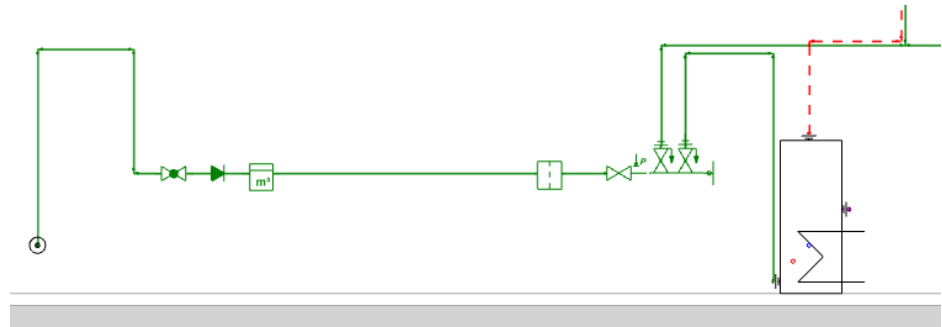


4. Click in the drawing area and confirm the **Pipe properties PWH** window with **OK**.

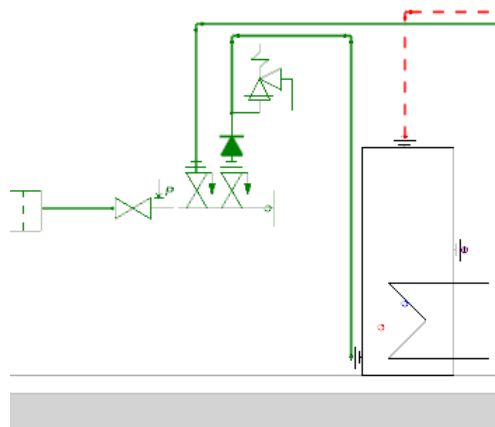
5. Draw the pipe horizontally to the right and connect the pipe to the riser pipe for **Hot potable water**.



6. Confirm the **Pipe properties PWH** window with **OK**.



7. Calculate the subproject.  
✓ The calculation has automatically generated a check valve and a relief valve.



The **Check valve** and the **Relief valve** are not automatically generated if you have not used a **Distributor battery with pressure reducing valve**. Warnings about missing objects appear in the **Message list** window. In this case, manually insert the **Check valve** and the **Relief valve** and recalculate the plan.

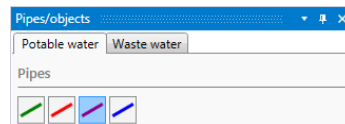


### 3.4.16 HOT WATER CIRCULATION

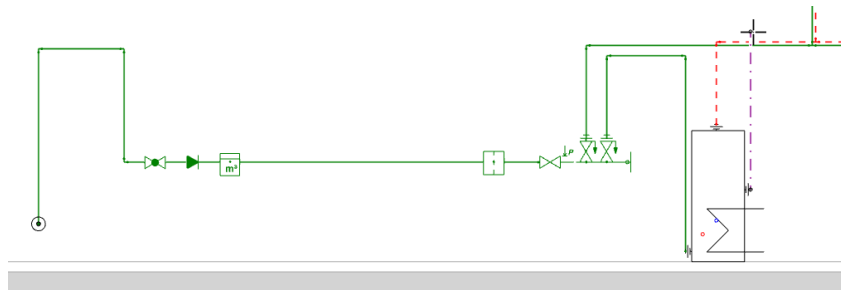
When calculating the installation, warnings about exceeding the draw-off time for hot potable water appear in the message list. A hot water circulation system is added in the planning to eliminate these warnings.

#### 3.4.16.1 DRAWING HOT WATER CIRCULATION PIPES

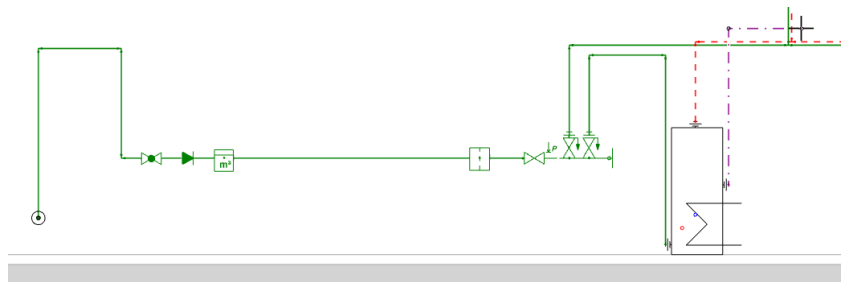
1. Activate the **Potable water circulation** medium and deactivate all other media.



2. Select the **Pipe** function.
3. Click on the water heater and draw the pipe upwards to above the existing pipes.

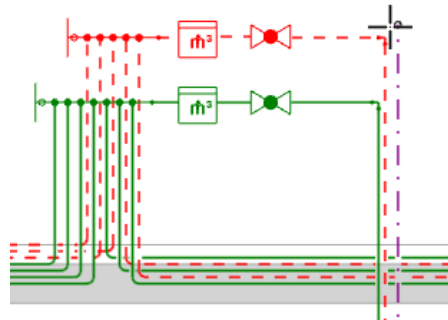


4. Click in the drawing area and confirm the **Pipe properties PWH-C** window with **OK**.
5. Draw the pipe horizontally to the right until it is behind the riser pipes and click in the drawing area.



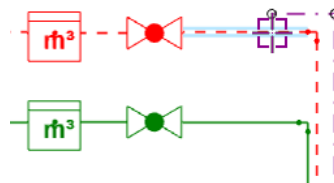
6. Confirm the **Pipe properties PWH-C** window with **OK**.

7. Draw the riser pipe to the 2nd upper floor and just above the **Hot potable water** pipe.



8. Click in the drawing area and confirm the query relating to pipe properties with **OK**.

9. Draw the pipe to the left and click on the horizontal pipe for **Hot potable water**.



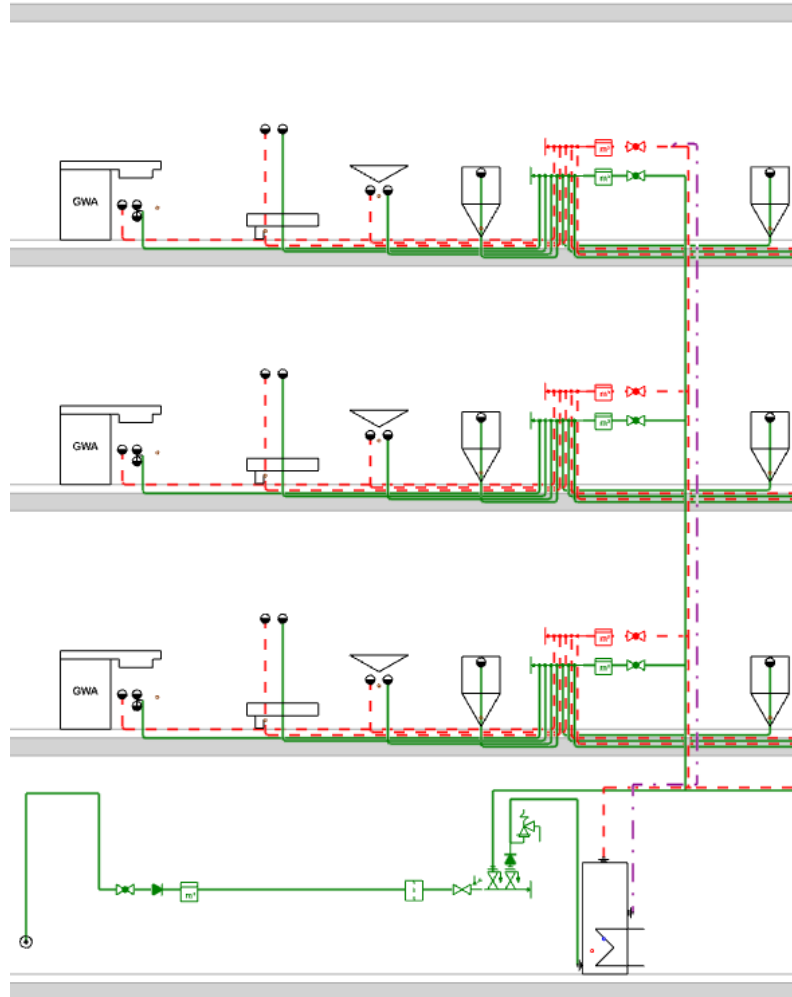
10. Enter the value **0.10 m** in the right field **Pipe length** in the **Split horizontal pipe** window and confirm with **OK**.

11. Enter the value **0.10 m** in the **Length (L)** field in the **Pipe properties PWH-C** window and select the setting **Concealed in wall** as the **Fastening type**.

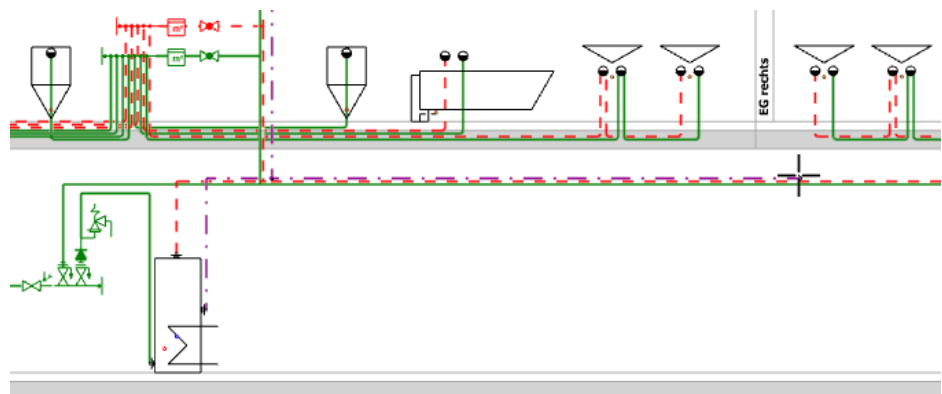


Only change the values in the **Pipe properties** window in exceptional cases and check, if you need to, the settings in the **Building and calculation settings**.

12. Confirm the settings with **OK**.

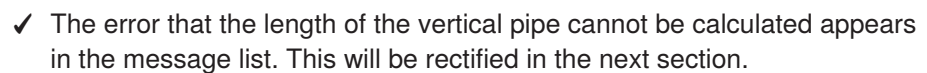


13. Click in the underground floor on the bend of the left circulation line and draw the pipe horizontally to the right building section.



- 
- The diagram illustrates a two-phase flow system. Two tanks on the left and right feed into a central manifold. The left tank's outlet is a green line that passes through a valve and a pump (labeled  $np$ ) before entering the manifold. The right tank's outlet is a green line that enters the manifold directly. The manifold has multiple outlets, each leading to a horizontal pipe. These pipes are shown with green and red dashed lines, representing different flow phases or conditions. A vertical dashed purple line is also present on the left side of the manifold.

- 



Message list

Potable water ☒ Waste water ☒

Message

3 ☒ The length of the vertical pipe cannot be calculated. Set the length manually.

☒ The calculation is incorrect and was cancelled (06.07.2018 10:34).

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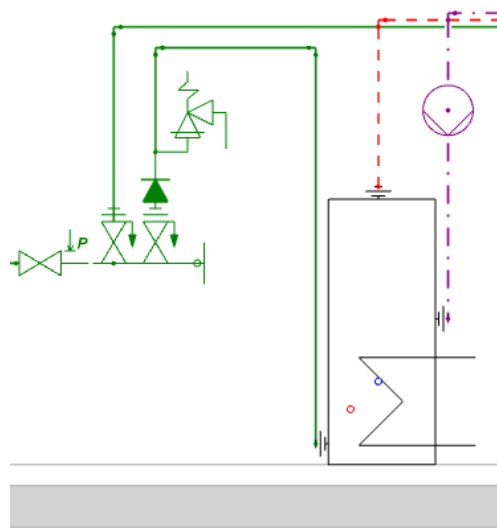
4. Recalculate the subproject.
  - ✓ All pipes can now be calculated although the calculation now demands a circulation pump.

#### 3.4.16.3 PLACING THE CIRCULATION PUMP

You will insert the requisite circulation pump in the following section.



1. Calculate the subproject.
2. Activate the **Circulation pump**.
3. Place the circulation pump above the water heater in the hot water circulation pipe and confirm the **Split vertical pipe** window with **OK**.



4. Press **ESC** to exit the function.



5. Calculate the subproject.

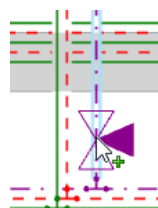
#### 3.4.16.4 PLACING THE CIRCULATION CONTROL VALVE

If the calculation demands a circulation control valve once the circulation pump has been included, insert this in the underground floor.

1. Click on the message relating to the circulation control valve in the **Message list** window.
  - ✓ The affected line system is displayed.



2. Activate the **Circulation control valve**.
3. Place the **Circulation control valve** into the affected line system in the underground floor.





4. Enter the value **0.10 m** in the lower field **Pipe length** in the **Split vertical pipe** window and confirm with **OK**.

5. Press **ESC** to exit the function.



6. Calculate the subproject.



If necessary, you can rotate the circulation control valve into the correct direction using the **L** or **R** key.



If warnings about the draw-off time still persist, you can possibly eliminate them with a trace heater (see "Trace heaters", page 137).

### 3.4.17 COMPLETING YOUR PLAN

Finally, the planning is completed with two garden valves on the ground floor and a laundry in the underground floor.

#### 3.4.17.1 GARDEN VALVES

##### 3.4.17.1.1 PLACING GARDEN VALVES

1. Activate the **Cold potable water** medium and deactivate all other media.



2. Activate the **Outlet valve**.

3. Place a garden valve on the left and right on the ground floor.

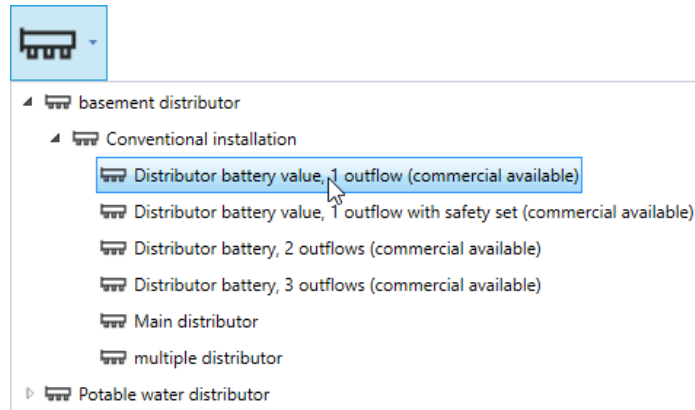


4. Press **ESC** to exit the function.

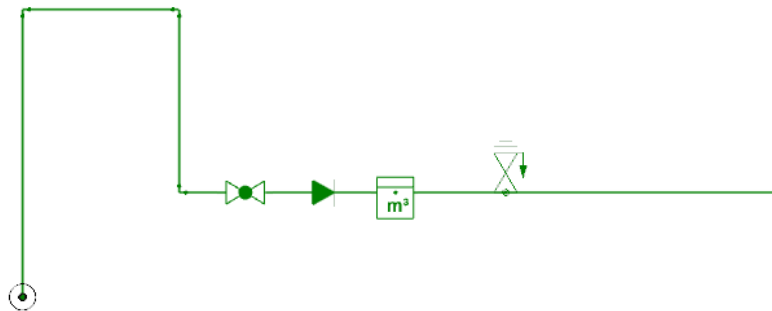
### 3.4.17.1.2 PLACING A SINGLE OUTLET



1. In the **Manifold** tree structure, select a **Distributor battery with 1 outlet**.



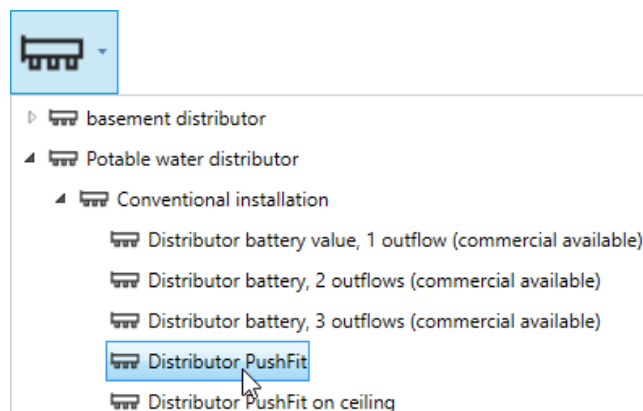
2. Place the manifold in the underground floor between the water meter and the filter.
3. Confirm the **Split horizontal pipe** window with **OK**.



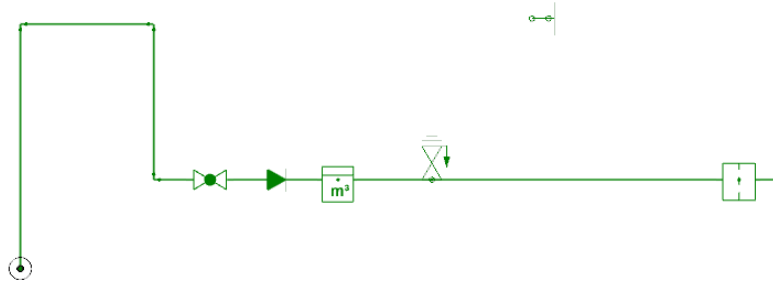
### 3.4.17.1.3 PLACING AND CONNECTING THE MANIFOLD



1. Expand the tree structure of the **Manifold** and select a **PushFit manifold** under **Multiple manifolds** or **TW manifold**.



2. Place the manifold on the right above the single outlet.



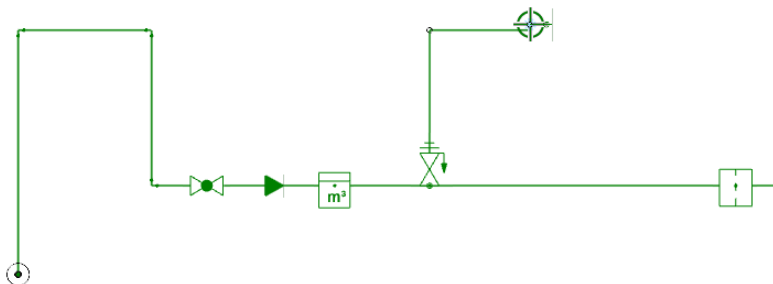
3. Select the **Pipe** function.



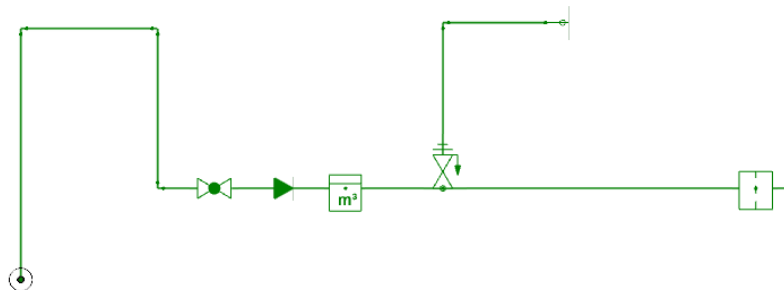
4. Draw a pipe upwards from the single outlet and confirm the **Pipe properties PWC** window with **OK**.



5. Draw the pipe horizontally to the right and click on the input port of the manifold.



6. Enter the value **0.10 m** in the **Length (L)** field in the **Pipe properties PWC** window and confirm with **OK**.



7. Press **ESC** to exit the function.



#### 3.4.17.1.4 CONNECTING GARDEN VALVES



1. Select the **Pipe** function.
2. Press and hold down the **SHIFT** key and click on the two garden valves one after the other.



3. Release the **SHIFT** key and click on the manifold.  
✓ The **Pipe properties PWC** window appears in turn for the garden valves.
4. Enter the value **5.00 m** in response to the **Pipe properties PWC** query in the **Length (L)** field.
5. Confirm with **OK**.
6. Press **ESC** to exit the function.

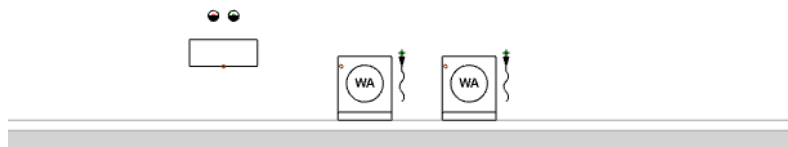
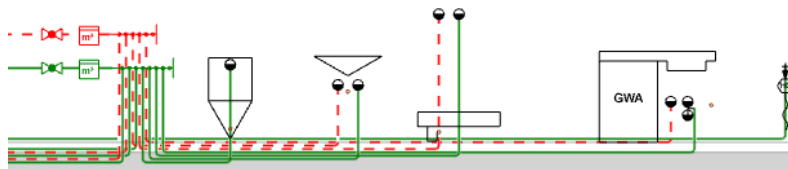


7. Calculate the subproject.

#### 3.4.17.2 LAUNDRY

##### 3.4.17.2.1 PLACING THE CLEANER SINK AND WASHING MACHINE

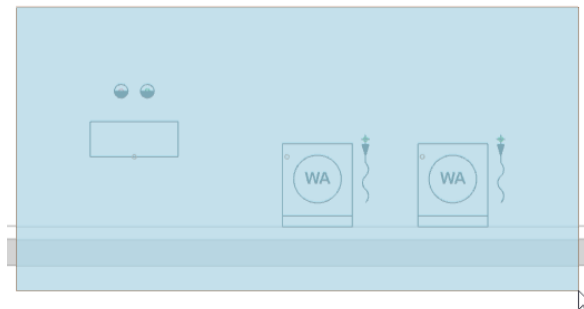
- Place a cleaner sink and two washing machines into the underground floor below the right building section.



### 3.4.17.2.2 CONNECTING CLEANER SINKS AND WASHING MACHINES

You have manually connected the individual objects in turn up to now. You can automatically connect all Geberit ProPlanner objects below.

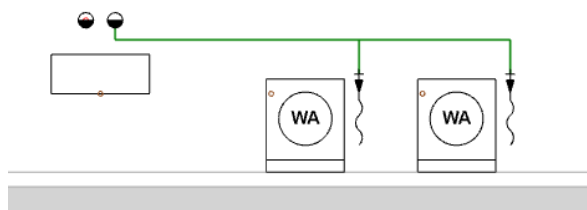
1. Highlight the cleaner sink and the two washing machines.



2. Right-click on the highlighted objects and select **Connect unconnected objects** in the pop-up menu.  
✓ The **Pipe properties** window appears and shows all available media.
3. Enter the value **1.00 m** in the **Pipe position (above unfinished floor)** field for the **Potable water** field in the **Length (L)** field.
4. Activate the **Waste water** medium and deactivate the **Apply properties for all the following pipes** medium.

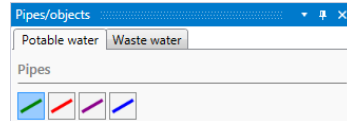
5. Confirm with **OK**.

✓ The cleaner sink and the washing machines were connected to each other.

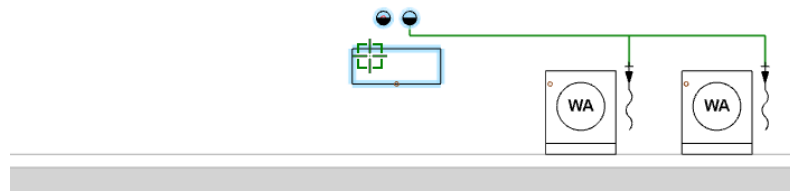


### 3.4.17.2.3 CONNECTING THE LAUNDRY ROOM TO RISER PIPES

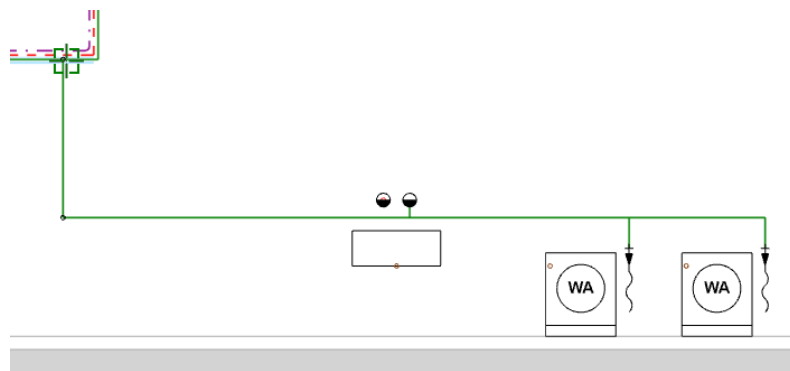
1. Make sure that the **Cold potable water** medium is activated and all other media are deactivated.



2. Activate the **Pipe** function and click on the cleaner sink.

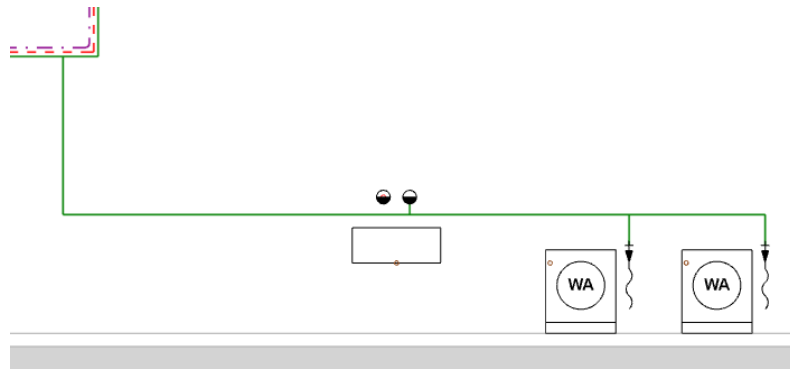


3. Draw the pipe from the cleaner sink further to the left to just under the horizontal riser connector for **Cold potable water** and click in the drawing area. Select the following settings in the **Pipe properties PWC** window:
  - Pipe length: 2.00 m
  - Pipe position: 1.00 m
4. Draw the pipe upwards and click on the horizontal riser connector for **Cold potable water**.

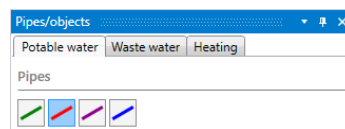


5. Enter the value **0.25 m** in the right field **Pipe length** in the **Split horizontal pipe** window and confirm with **OK**.

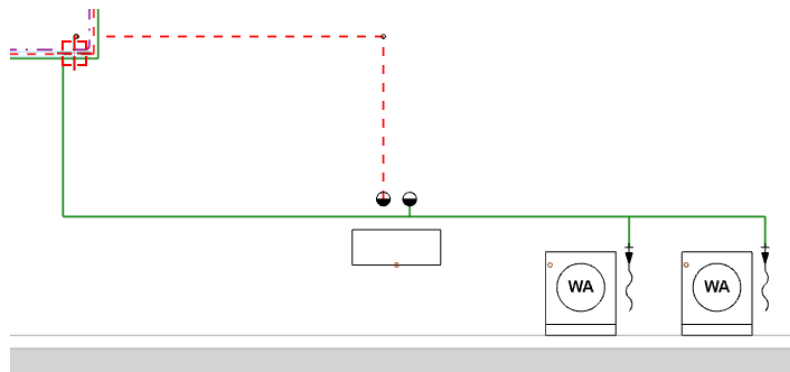
6. Confirm the **Pipe properties PWC** window with **OK** and press **ESC** to exit the function.



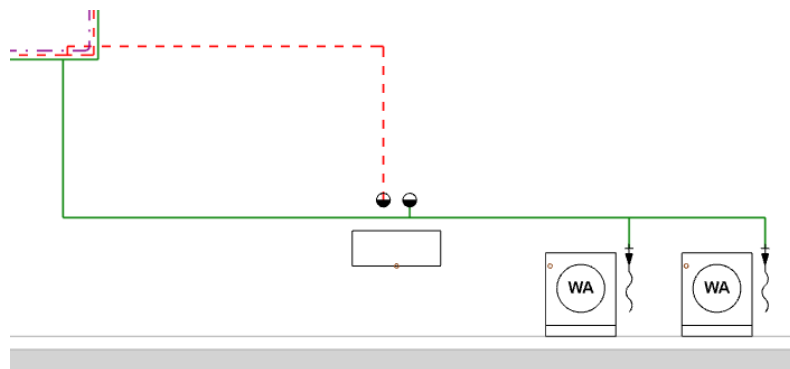
7. Activate the **Hot potable water** medium and deactivate the **Cold potable water** medium.



8. Select the **Pipe** function.
9. Draw a pipe upwards from the cleaner sink.
10. Draw the pipe horizontally to the right and click on the horizontal riser connector for **Hot potable water**.



11. Enter the value **0.25 m** in the right field **Pipe length** in the **Split horizontal pipe** window and confirm with **OK**.
12. Activate **Horizontal** alignment in the **Pipe properties PWH** window and select a pipe length of **2.00 m**.



13. Confirm with **OK** and press **ESC** to exit the function.



14. Click on **Calculate subproject** in the toolbar or press **F5** to calculate the subproject.

## 4 SPECIAL PLANNING SITUATIONS

### 4.1 SPECIAL POTABLE WATER PLANNING SITUATIONS

#### 4.1.1 UNITS

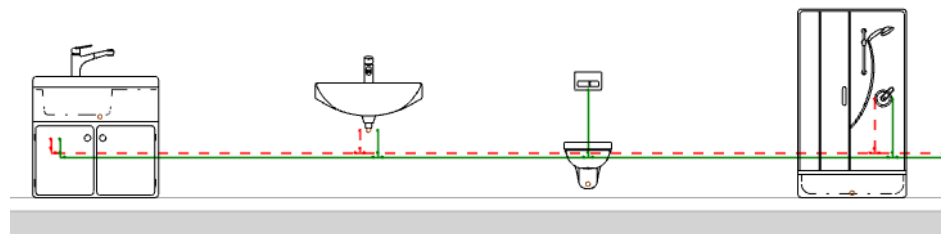


Units are only available in markets with calculations that comply with DIN 1988-300.

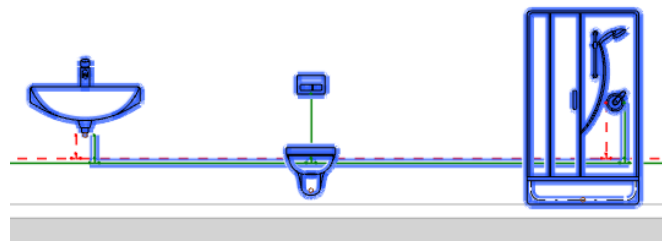
Different sanitary appliances can be combined to form a unit to optimise pipe dimensions for material calculations. Units can be defined for a room with points of use in a residential building (e.g. bathrooms, kitchen) or also in non-residential buildings (such as bathrooms in hotels or elderly care homes). Usage similar to that in residential buildings with a maximum of two simultaneously open points of use is always assumed.

##### 4.1.1.1 DEFINING UNITS

A washbasin, a WC and a shower are combined to form a unit in the following example. A kitchen sink should then form a second unit. The objects have already been placed and connected to drinking water pipes.

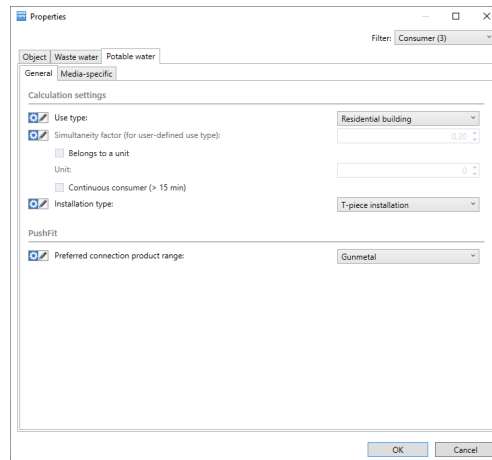


1. Press **STRG (CTRL)** and click on the washbasin, WC and shower one after another to highlight the objects.



2. Press **ALT** and **Enter** simultaneously to open the **Properties** window.

3. Select the **Potable water** tab in the **Properties** window.



4. Activate **Belongs to a unit** and select the value **1** in the **Unit** field.

☒ Belongs to a unit  
Unit:

5. Confirm with **OK**.
6. Double-click on the kitchen and select the **Potable water** tab in the **Kitchen sink** window.
7. Activate **Belongs to a unit** and select the value **2** in the **Unit** field.

☒ Belongs to a unit  
Unit:

8. Confirm with **OK**.

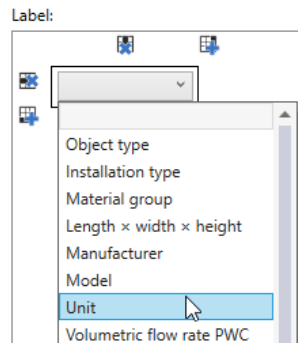


Units always apply to single installation units and cannot be linked to units of the same name in other installation units.

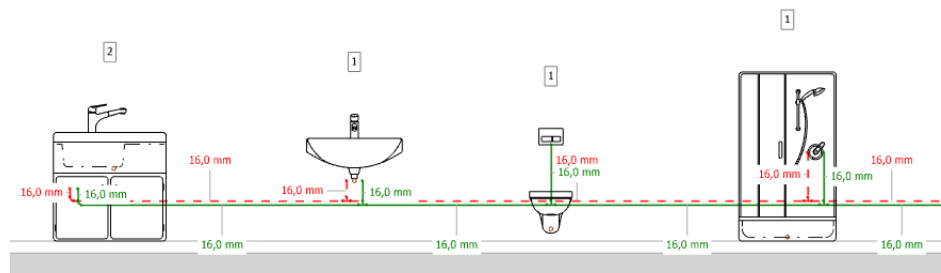
#### 4.1.1.2 DISPLAYED UNITS

1. Click on **Module settings** in the **Schematic planning** menu.  
✓ The **Module settings** window appears.
2. Click on **Object labels** in the **Module settings** window.

- Open the first menu in the **Label** area and select **Unit**.



- Click on **Finish** to apply the settings.



#### 4.1.2 RAIN SHOWERS

The raised amount of water for supply and drainage needs to be taken into account to operate high-power showers, like rain showers.

The following example assumes an existing system that has been calculated error-free.

- Right-click on the shower and select **Properties** in the pop-up menu.
- Select the **Potable water > Media-specific** tab.
- Raise the **Minimum flow pressure** to the value needed for the product (e.g. 3,000 hPa / 300 kPa).
- Set the resulting **Volumetric flow rate ( $\dot{V}$ )** in accordance with the data sheet for the rain shower (e.g. 0.6 l/s).

##### Calculation

Connection height (above finished floor):	1,05	>	m
Volumetric flow rate ( $\dot{V}$ ):	0,60	>	l/s
Minimum flow pressure (p fl min):	3.000,0	>	hPa
<input checked="" type="checkbox"/> Consider volumetric flow rate in collector pipes		>	

- Select the **Waste water** tab.



6. Raise the **Discharge unit (DU)** to the value needed for the product (e.g. 0.85 l/s).

Calculation

Connection height (above finished floor):	0,07 m
Discharge unit (DU):	<input type="text" value="0,85"/> l/s
Connection diameter:	<input type="text" value="DN 60"/>
<input type="checkbox"/> Continuous discharge	

- ✓ The supply and drainage side of the shower is connected with larger nominal widths in the calculation.

7. Click on **OK** to apply the settings.

On the potable water side, high-power showers require additional measures to be put in place, depending on the planning situation (e.g. pressure increase systems, water pressure reducing valves, separate connection with a higher pressure). It is sufficient to operate the system with higher pressure in the planning examples in this training manual.

8. Right-click on the water pressure reducing valve in the underground floor and select **Properties** in the pop-up menu.
9. Select the **User-defined pressure at output** option and enter a pressure of 2,900 hPa / 290 kPa.

Pressure at output

☐ Preset pressure at output (4000,0 hPa)  
☒ User-defined pressure at output:  hPa  
☐ Calculated pressure at output (0 hPa)

10. Click on **OK** to apply the settings.

### 4.1.3 TRACE HEATERS



Trace heaters are not available in all markets.

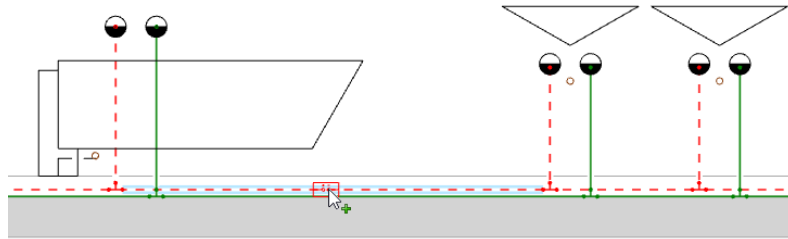
Problems relating to draw-off times that are too long can possibly be solved with a trace heater.

When using a trace heater, the pipes between the circulation end point and the trace heater end point are heated.

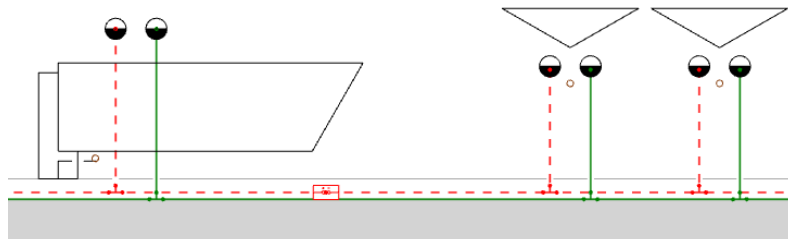
1. Activate the **Trace heater**.



2. Place the trace heater end point into the affected pipe.



3. Calculate the subproject.  
✓ Heated pipes are represented differently.

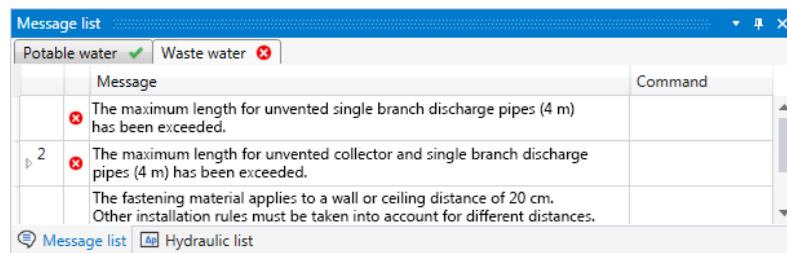


Heated pipes have to be provided with thicker thermal insulation.

## 4.2 SPECIAL WASTE WATER PLANNING SITUATIONS

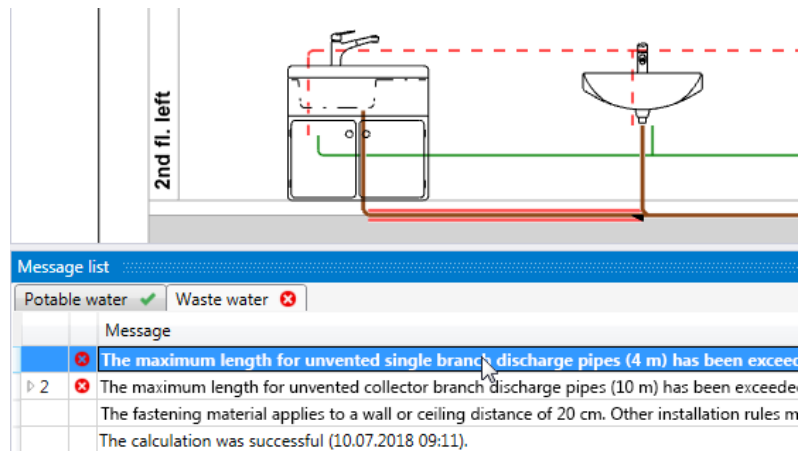
### 4.2.1 BRANCH VENTILATION

Single-branch discharge pipes and collector branch pipes above a certain length must be vented. Geberit ProPlanner checks this and displays an error if the maximum length of unvented single-branch discharge pipes or collector branch pipes is exceeded.

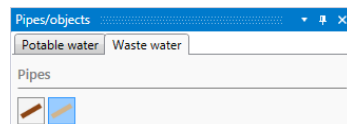


In the "T-piece installation" planning example, you can generate an error message by setting all the lengths of the horizontal pipes in an installation unit to 5 m.

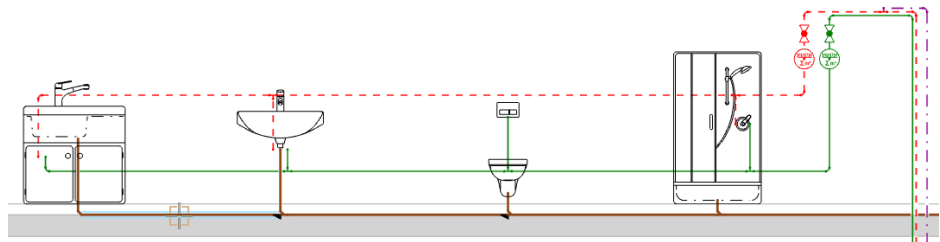
1. Click on the error message in the message list to identify the affected pipe.



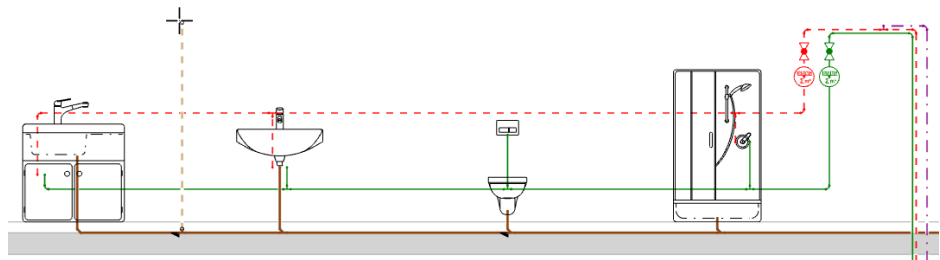
2. Activate the **Ventilation** medium.



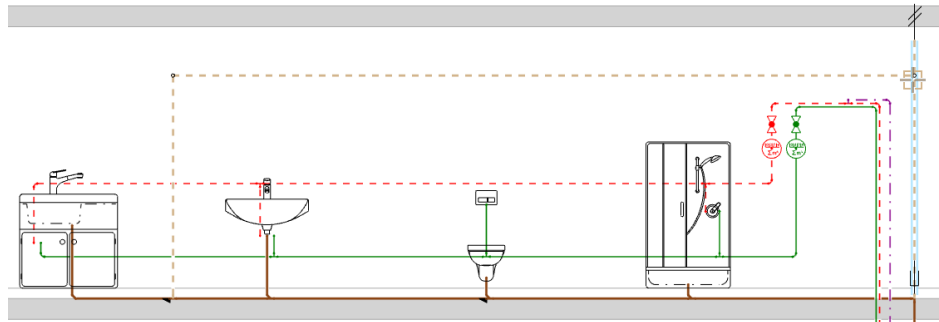
3. Select the **Pipe** function.
4. Click on the last horizontal pipe.



5. Confirm the **Split horizontal pipe** window with **OK**.
6. Continue drawing the pipe upwards and click in the drawing area.



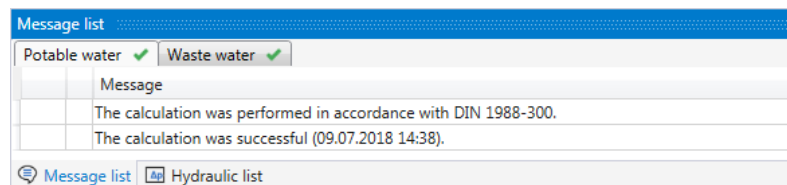
7. Continue drawing the pipe horizontally and click in a ventilation or discharge pipe.



8. Select a **Length (L)** of **18.00 m** for this example in the **Pipe properties Ventilation pipes** window.

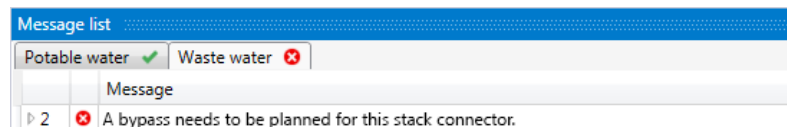


9. Recalculate your plan.  
✓ The error message indicating the unvented single-branch and collector branch pipes no longer appears.



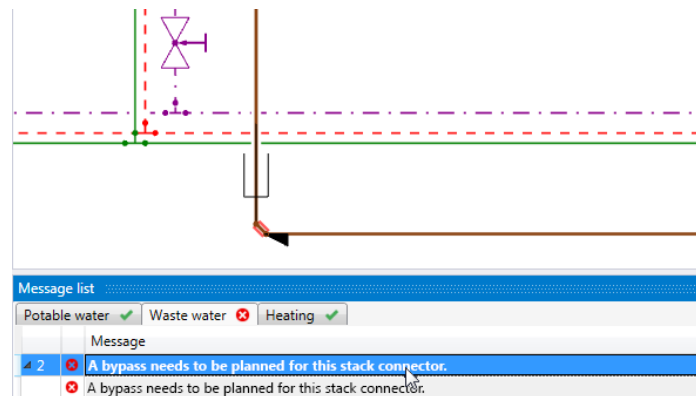
#### 4.2.2 BYPASS

No pipes may be connected at the lower end within a certain area above a certain stack height. A bypass must be planned in this case. Geberit ProPlanner makes sure that this rule is not infringed.

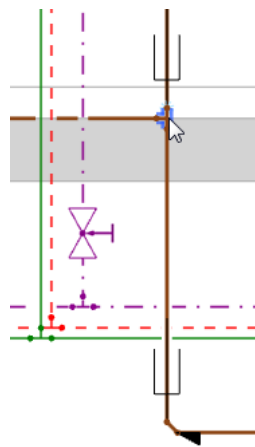


In the "T-piece installation" planning example you can generate an error message by inserting two additional upper floors between the 1st upper floor and the 2nd upper floor. In the **Building** window, highlight the 1st upper floor and select **Insert upper floor above** in the **Building structure** pop-up menu.

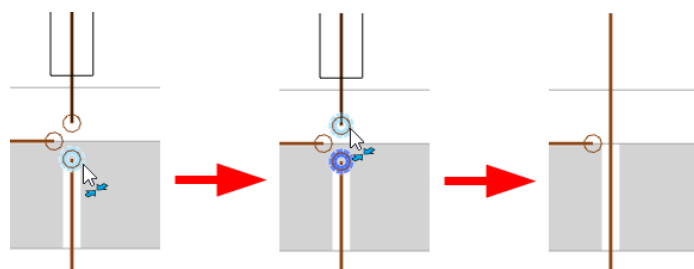
1. Click on the error message in the message list to identify the affected end of the stack.



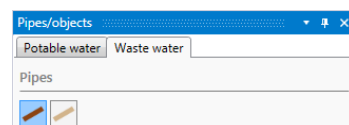
2. Highlight the T-piece above the end of the stack and press **ENTF** (DEL).



3. Click in the toolbar on **Create connection**.
4. Click on the two unconnected ends of the stack one after the other.



5. Activate the **Waste water** medium.



6. Click on **Pipe**.

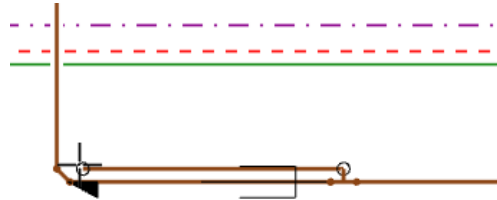
7. Click in the horizontal pipe downstream of the stack.



- ✓ The **Split horizontal pipe** window appears.

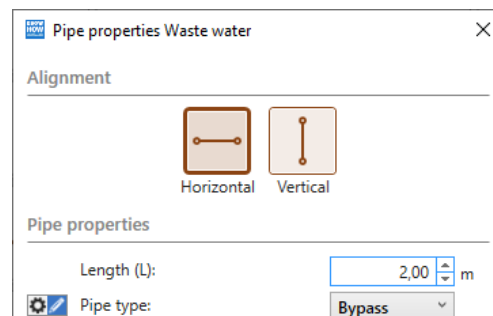


8. Activate the **Pipe length** option and enter the value **2.00 m** in the **Distance to left** area.
9. Confirm the settings with **OK**.
10. Draw the pipe to the left to the corner of the stack and click in the drawing area. Make sure that you do not click on an existing pipe or an existing fitting. No pipes or fittings should be highlighted when clicking.



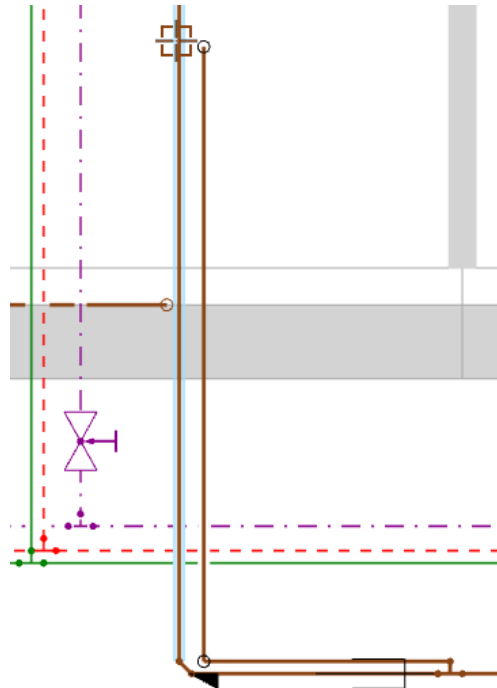
- ✓ The **Waste water Pipe properties** window appears.

11. In the **Pipe properties Waste water** window, select the value **2.00 m** as the **Length (L)** and the **Bypass** as the **Pipe type**.



12. Confirm the settings with **OK**.

13. Draw the pipe upwards and click in the stack above the horizontal collector branch pipe causing the conflict.

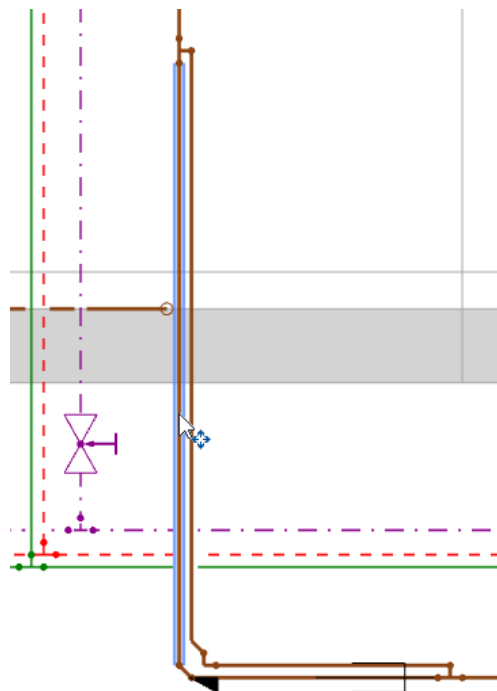


✓ The **Waste water Pipe properties** window appears.

14. Select the **Bypass** as the **Pipe type** in the **Pipe properties Waste water** window and confirm with **OK**.

15. Press **ESC** to exit the function.

16. Double-click on the stack.

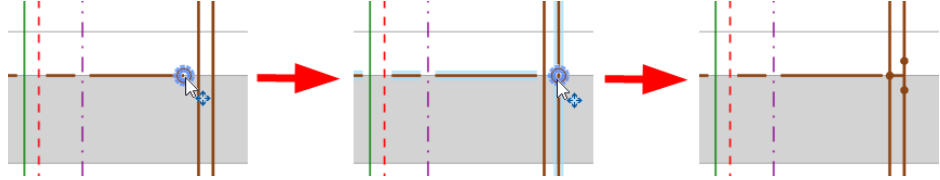


✓ The **Properties** window appears.

17. Change the **Length (L)** of the pipe to **2.00 m** and confirm with **OK**.



18. Click on the unconnected end of the horizontal collector branch pipe causing the conflict and, holding down the left mouse key, draw it to the bypass. When doing so, make sure that you click directly on the unconnected end of the collector branch pipe.

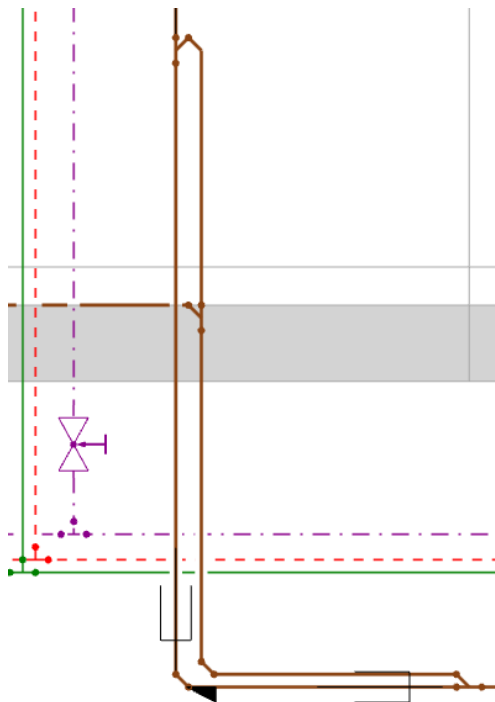


19. Recalculate your plan.



Make sure that you also plan a bypass in the second section of the building with the "T-piece installation" planning example to fully eliminate the error message.

20. Move the bypass if you need to.



The pipe type is automatically set if you use the **Draw bypass** function available in Geberit ProPlanner.

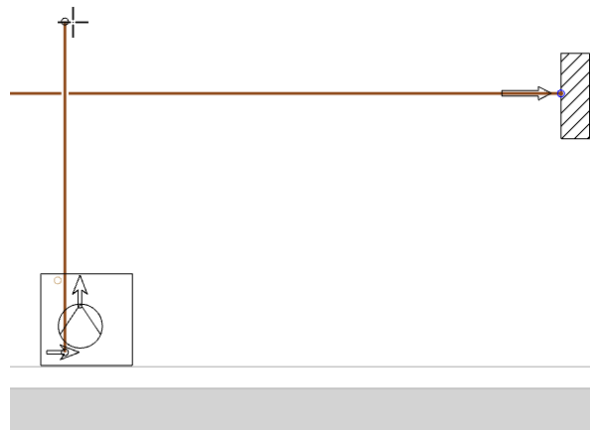


### 4.2.3 FAECES LIFTING SYSTEM

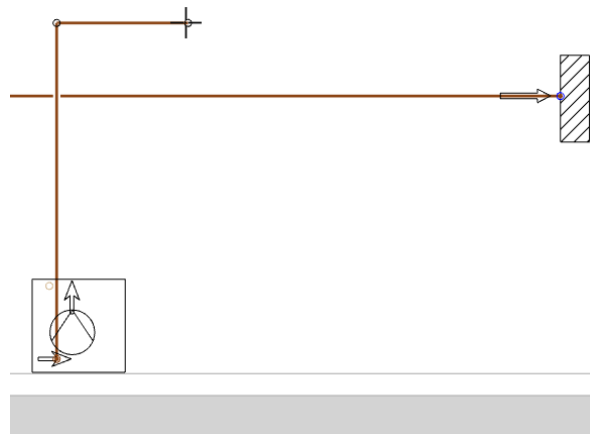
Faeces lifting systems are needed with basements and other underground installation units, which are drained into higher waste water discharge channels. Plan the pressurized pipe of the faeces lifting system above the flood level and connect it to the collector or underground pipe.



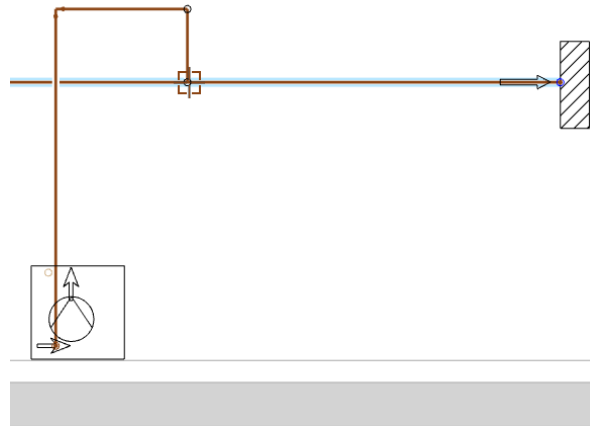
1. Position the faeces lifting system in the underground floor.
2. Draw the discharge pipe vertically from the faeces lifting system to above the flood level.



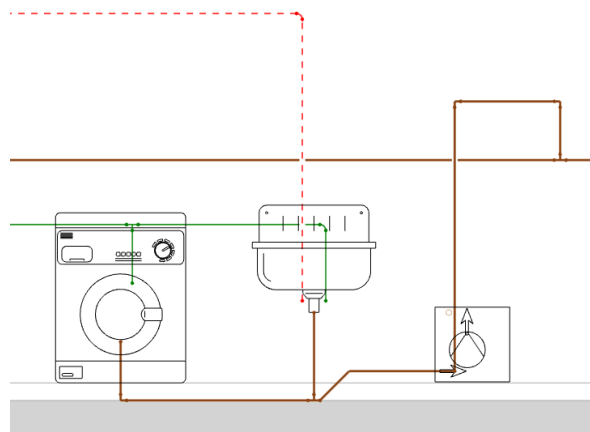
3. Continue drawing the discharge pipe horizontally and select a user-defined **Pipe position (above unfinished floor)** (above the collector/underground pipe, e.g. 2.30 m).



4. Connect the discharge pipe to the collector/underground pipe. Make sure that the connection-free area downstream of the stack is kept clear.



5. Connect the objects to be drained to the faeces lifting system. If necessary, use a user-defined **Pipe position (above unfinished floor)** (e.g. 0.00 m).



6. Move the pipes upwards and the faeces lifting system downwards to obtain correct visualisation of the pipes.



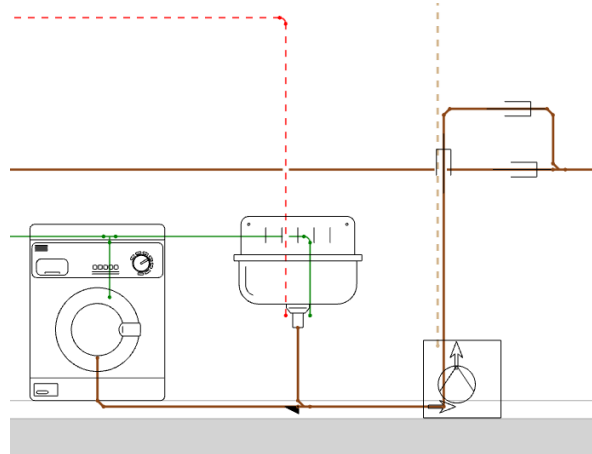
7. Calculate the subproject.



Geberit ProPlanner recognises whether ventilation is required, as the faeces lifting system differentiates between black water (waste water which contains excrement) and grey water (waste water not containing excrement). For example, ventilation is necessary when connecting a WC, but not necessary when connecting a shower.

An error message is displayed in the Message list if ventilation is missing.

8. If ventilation is needed for your plan, place a weathering slate into the upper floor and connect the faeces lifting system to the weathering slate by means of a ventilation pipe.



## 5 TROUBLESHOOTING

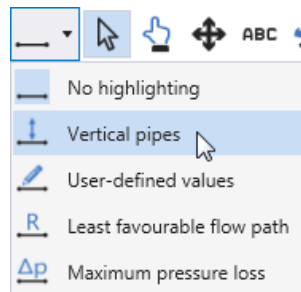
Geberit ProPlanner provides various ways of identifying the source of the error if errors should occur when calculating your plan.

### 5.1 USING PIPE HIGHLIGHTING

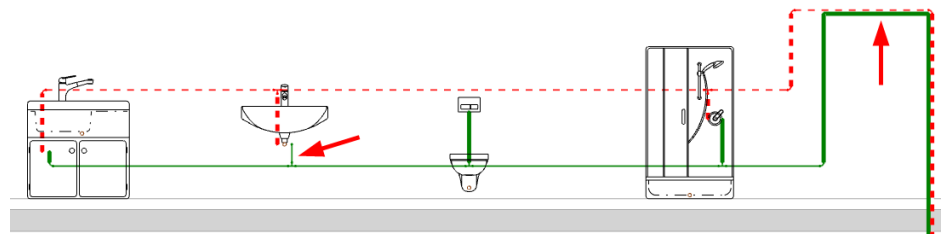
You can use pipe highlighting to highlight pipes which fulfil certain criteria with a thicker line.

Proceed as follows to find, for example, horizontal pipes calculated as vertical pipes.

1. In the toolbar, click on Pipe highlighting selection and select **Vertical pipes**.



- ✓ All pipes calculated as vertical are highlighted with a thicker line, while all pipes calculated as horizontal are displayed normal.
- ✓ Two pipes are calculated incorrectly in this example.



2. Correct the alignment of the affected pipes in the **Pipe properties** window to eliminate the errors.

This also lets you highlight an unfavourable flow path or quickly identify pipes with values incorrectly set as user-defined.

## 5.2 CHECKING FLOW PATHS

You can check flow paths and circulation circuits with the **Hydraulic list**. The Hydraulic list contains calculated values, e.g. for flow rate, flow velocity and pressure loss.



1. Click on **Window** in the **View** menu and select **Hydraulic list**.
2. Click on the **Potable water** tab.
3. Highlight a flow path in the Hydraulic list.  
✓ The flow path and the affected object appear bold.

The screenshot displays a 3D architectural model of a building with four floors. A blue line traces a flow path from a water supply point on the ground floor, through a vertical riser, and then horizontally across the second floor to a sink and toilet. The path is highlighted in blue, indicating it is selected in the hydraulic list.

**Hydraulic list**

Potable water | Waste water

Flow paths

FP	Consumer	Installation unit	Unit	Medium	p supply [hPa]	Δp geo [hPa]	Δp meter [hPa]	Δp fil [hPa]
<b>5</b>	<b>WC</b>	<b>2nd fl. left</b>	<b>—</b>	<b>PWC</b>	4000,0	885,7	0,0	0,0

S	Medium	Type	L [m]	ΣV [l/s]	V cont [l/s]	V wh [l/s]	V max [l/s]	DN	d [mm]
<b>8</b>	<b>PWC</b>	<b>Distribution pipe</b>	2,60	0,75	0,00	0,00	0,46	<b>DN 20</b>	<b>2</b>

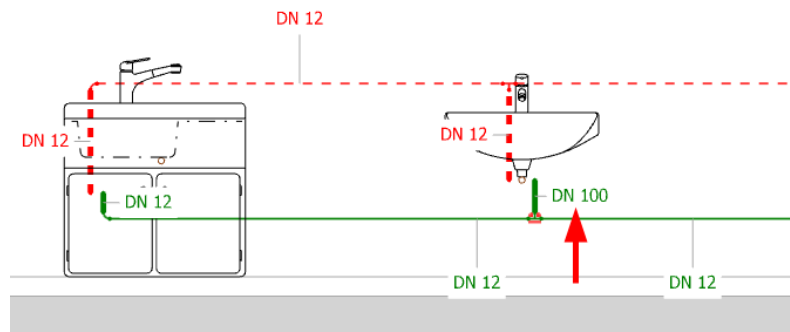


You can find additional information on the hydraulic lists in the Help at **Schematic planning > Hydraulic lists**.

## 5.3 SHOWING LABELS

Another option is adapting and showing the labels. This lets you display pipe lengths or diameters directly in the drawing.

1. Press **H** to show the labels.



2. Adapt, if necessary the information displayed in the labels in the module settings, to show the pipe length or other values instead of the diameter.



More information on labels is available in this training manual (see "Labels", page 36) and in the Help.

## 6 KEYBOARD SHORTCUTS

Use keyboard shortcuts to work faster with Geberit ProPlanner. Select from general keyboard shortcuts and combinations that apply to the specific module.

Country-specific keyboard shortcuts are not listed here and can be requested from the respective sales company's hotline.

Keyboard shortcuts for Swiss keyboards (English keyboard) are shown in brackets.

The keyboard shortcut for the respective functions is additionally displayed in brackets in the menus and tool tips.

### 6.1 GENERAL

Keyboard shortcut	Description
<b>STRG + C</b> ( <b>Ctrl + C</b> )	Copy: copy highlighted objects to clipboard
<b>STRG + A</b> ( <b>Ctrl + A</b> )	Select all
Hold down <b>Ctrl + LEFT MOUSE KEY</b>	Highlight several objects
<b>STRG + X</b> ( <b>Ctrl + X</b> )	Cut: remove highlighted objects and copy to the clipboard
<b>STRG + V</b> ( <b>Ctrl + V</b> )	Paste: paste objects from the clipboard
<b>ENTF</b> <b>Del</b>	Delete highlighted objects
<b>Rückschritttaste</b> <b>Backspace</b>	Delete highlighted objects
<b>Alt+Enter</b>	Open properties of highlighted objects
<b>Esc</b>	Cancel/Exit
<b>F5</b>	Calculate active subproject
<b>STRG + F5</b> ( <b>Ctrl + F5</b> )	Calculate all subprojects
<b>F1</b>	Call up the Help function
<b>F2</b>	Rename
<b>STRG + O</b> ( <b>Ctrl + O</b> )	Open existing document
<b>STRG + S</b> ( <b>Ctrl + S</b> )	Save
<b>STRG + P</b> ( <b>Ctrl + P</b> )	Print
<b>STRG + Z</b> ( <b>Ctrl + Z</b> )	Undo
<b>STRG + Y</b>	Redo

Keyboard shortcut	Description
<b>(Ctrl + Y)</b>	
Right mouse key	Open pop-up menu
<b>+/-</b> (on numerical keypad)	Zoom in, zoom out
Pressed <b>MOUSE WHEEL</b>	Move drawing area
Turn <b>MOUSE WHEEL</b>	Zoom in, zoom out
<b>W</b>	Zoom in
<b>S</b>	Zoom out
<b>POS1</b> <b>(HOME)</b>	Zoom in to all objects

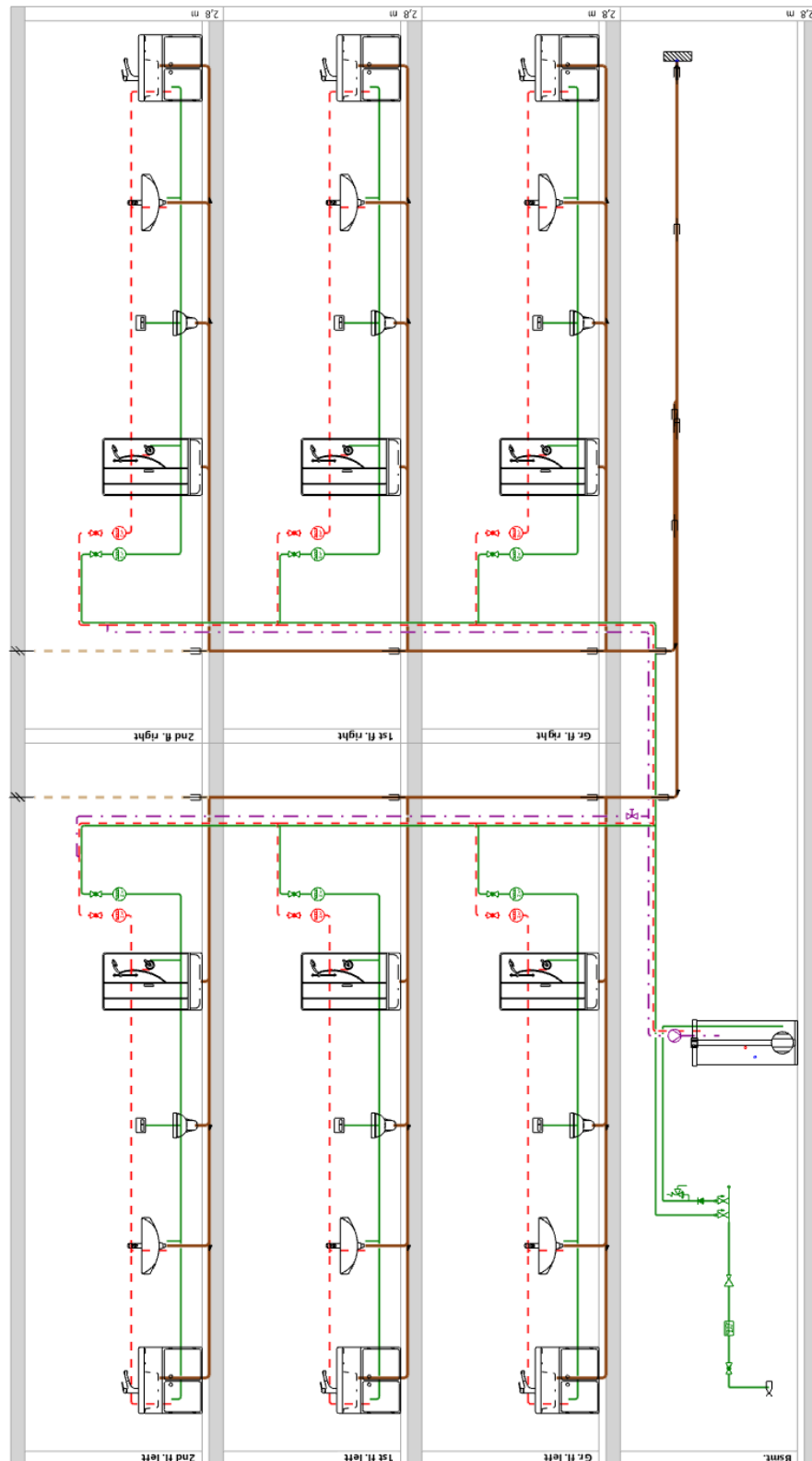
## 6.2 SCHEMATIC PLANNING

Keyboard shortcut	Prerequisite	Description
<b>+</b>		Zoom into drawing area
<b>-</b>		Zoom out of drawing area
<b>W</b>		Zoom into cursor / enlarge to defined view
<b>S</b>		Zoom into cursor / minimise to defined view
<b>R</b>	Highlighted object	Rotate to the right
<b>L</b>	Highlighted object	Rotate to the left
<b>X</b>	Highlighted object	Mirror horizontally
<b>Z</b>	Highlighted object	Mirror vertically
Arrow keys	Highlighted object	Move object
<b>P</b>	Pipe highlighted	Set the pipe at the pipe position
<b>H</b>		Show and hide labels
<b>F9</b>	Label highlighted	Reset label placement
<b>SHIFT</b> + left mouse key		Highlight pipe path between two objects
<b>SHIFT</b> + left mouse key	Pipe drawing active	Begin drawing pipes at several objects
<b>CTRL</b> + <b>SHIFT</b> + left mouse key <b>(CTRL + SHIFT + left mouse key)</b>		Highlight pipe path between several objects

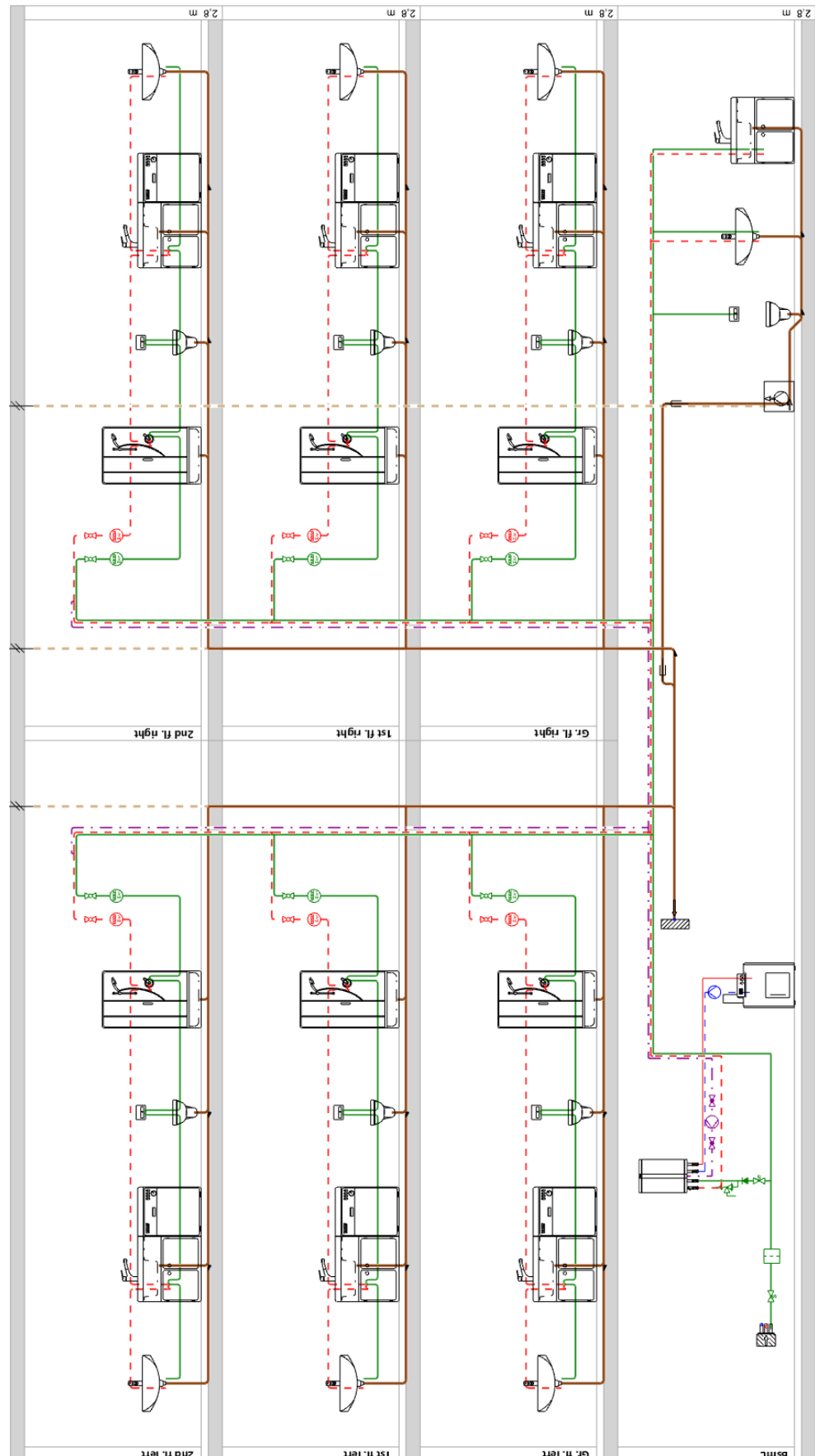


## 7 OVERVIEW OF PLANNING EXAMPLES

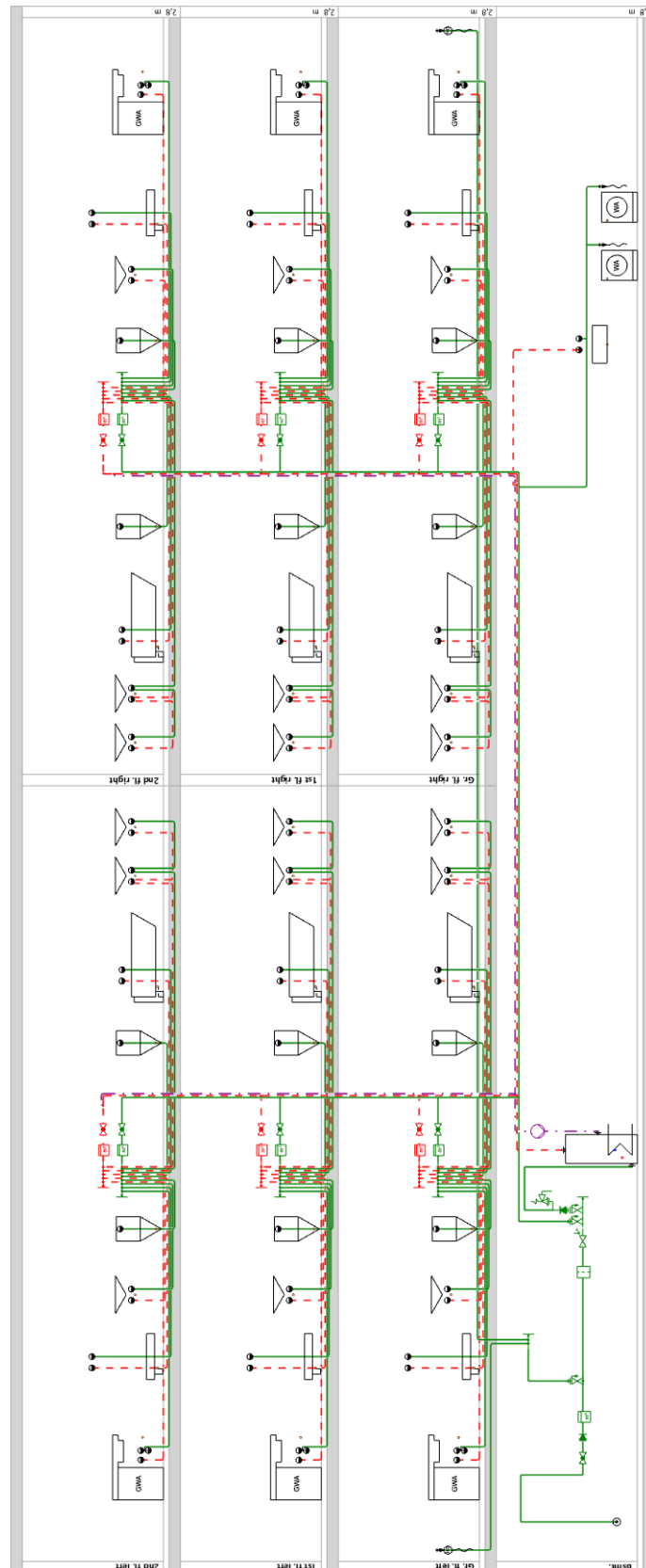
### 7.1 T-PIECE INSTALLATION



## 7.2 LOOP THROUGH INSTALLATION



## 7.3 SINGLE TAP POSITION SYSTEM



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