

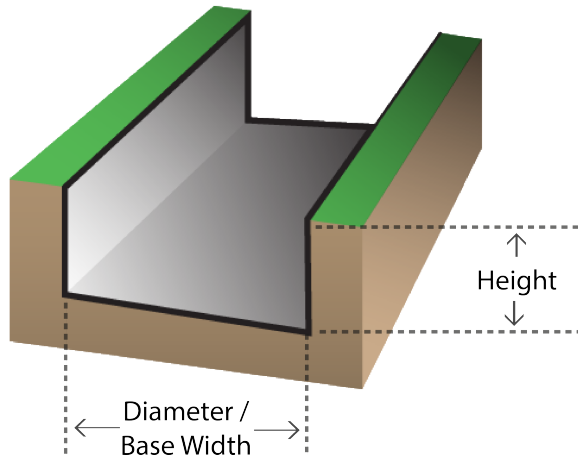
Rectangular Channel

Rectangular Channel is an open channel with a rectangular cross section. The flow routing through a Channel Connection is described in [Analysis of Connections](#).



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Rectangular Channel



Parameters to specify:

Length, Slope, either Manning's n or Colebrook-White Roughness, Diameter/Base Width, Height, see [Connections Inputs](#).

Upstream (US) Cover Level, Upstream Invert Level, Downstream (DS) Cover Level and Downstream Invert Level.

Entering a value for Manning's n or Colebrook-White Roughness will clear the value of the other. Manning's n is used by default.

If the Slope or Downstream Invert Level are changed by the user, the other variable will be updated to match.

If the Height or Upstream Invert Level are changed by the user the other variable will be updated to match.

Automatic Setting of Levels

Where possible connection levels are automatically set from [Surface Data](#) data, existing [Stormwater Controls - SWC](#) and existing [Junctions](#). This is done following the rules below but can be overruled by the user. Where levels have been overruled by the user or by the Pipe Sizing procedure the values will be shown in red to indicate they are no longer following the rules below and will not be automatically updated.

US Cover Level

- If the US coordinate is on a surface then set the US Cover Level to be the surface level at the US coordinate (in the case of a Stormwater Control this may be at the location of an Inlet or Outlet).
- If the US coordinate is not on a surface (either a surface is not loaded or the US coordinate is not on a surface) then set the US Cover Level to the Cover Level of the upstream Manhole or the Exceedance Level of the upstream Stormwater Control.

DS Cover Level

- If the DS coordinate is on a surface then set the DS Cover Level to be the surface level value at the DS coordinate (in the case of a Stormwater Control this may be at the location of an Inlet or Outlet).

Section Pages

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Workflow - What's next...?



Inflows connect to either **Junctions** or **Stormwater controls** via **Inlets**. Specify an **Rectangular Channel** on these objects then choose to connect to another Junction or Stormwater Control.

- If the DS coordinate is not on a surface (either a surface is not loaded or the DS coordinate is not on a surface) then set the DSCL to the Cover Level to the Cover Level of the downstream Manhole or the Exceedance Level of the downstream Stormwater Control.

Invert Levels

- The Invert Level is set from the Height parameter, if already specified, i.e. from a Template.
- If the Height is not specified then the Height is first set from the US item variables. For Simple Junctions, this is 0. For Manholes, this is the Cover Level - Invert Level. For Stormwater Controls this is Exceedance Level - Base Level.