

Design Rockflow step-by-step plan

1. Determining the required volum of Rockflow

Rockflow (m³) = (Runoff surface (m²) x Storage requirement (m) / Hollow space % Rockflow (%))

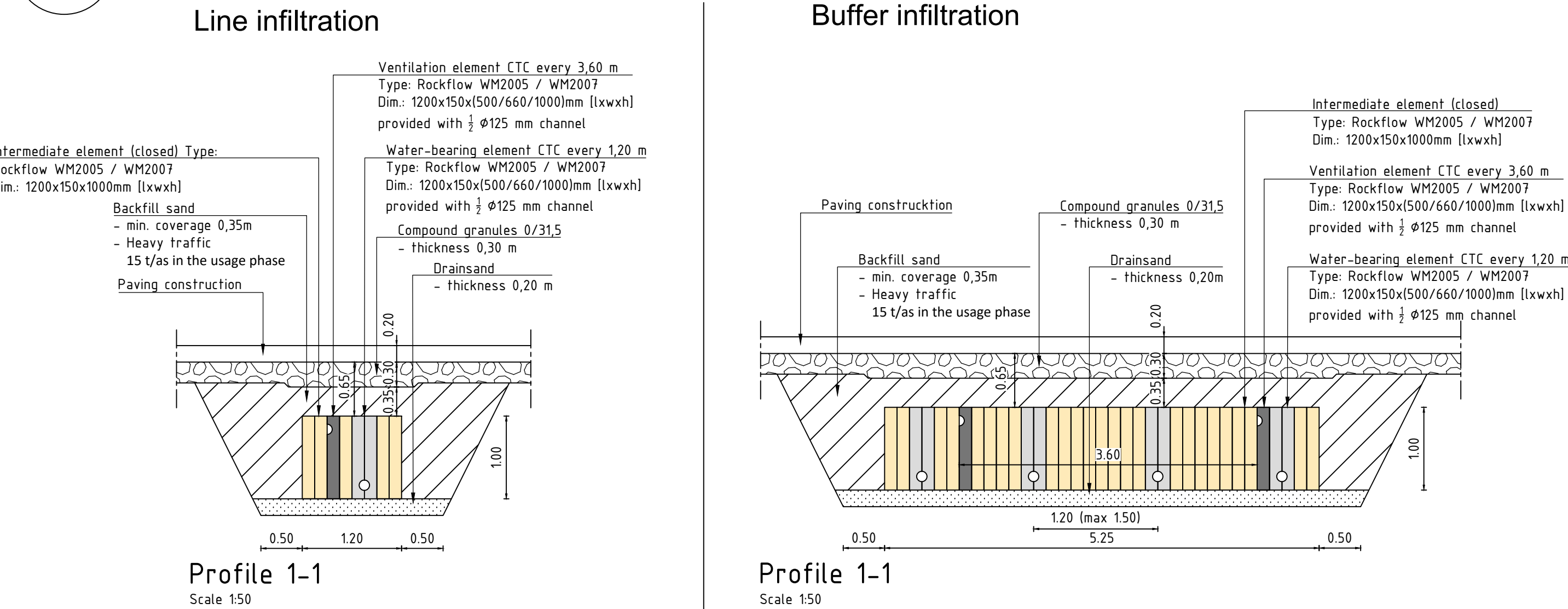
Runoff area (m²) = Roof area (Frontside) + driveways + pavement + roadway + gardens/greenery (50%) + etc.
Storage requirement (m) = Determine precipitation intensity using thoeretical design rainfall
Hollow space % Rockflow (%) = Assume 95%

Example calculation for a storage requirement of 60mm:

Rockflow (m³) = (10.000 (m²) x 0.06 (m) / 95%)
Rockflow (m³) = 600m³ / 95%

Rockflow (m³) = 632 m³

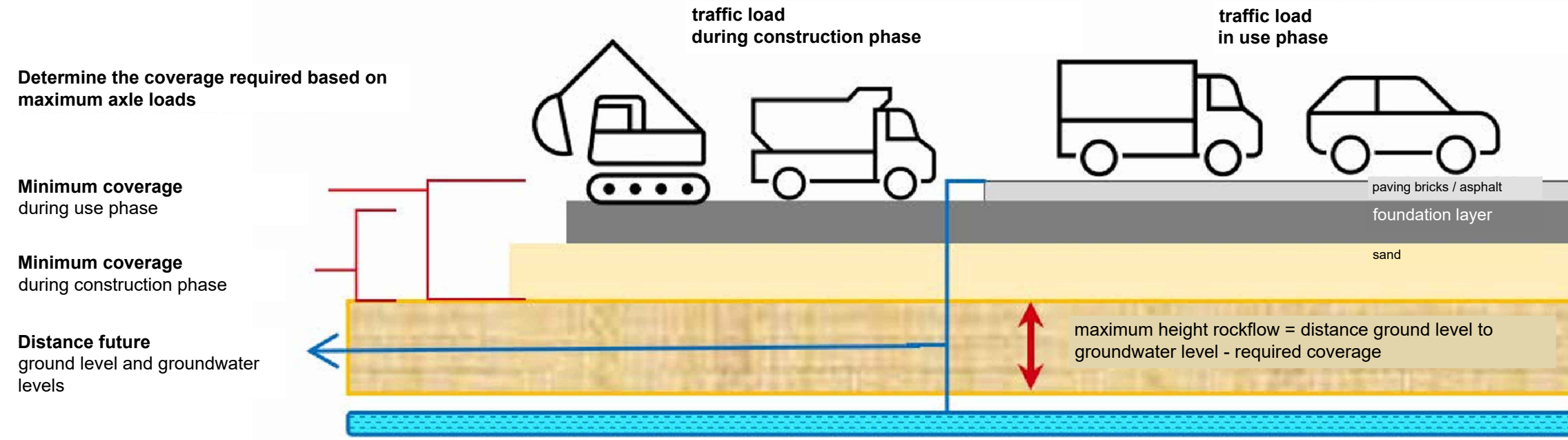
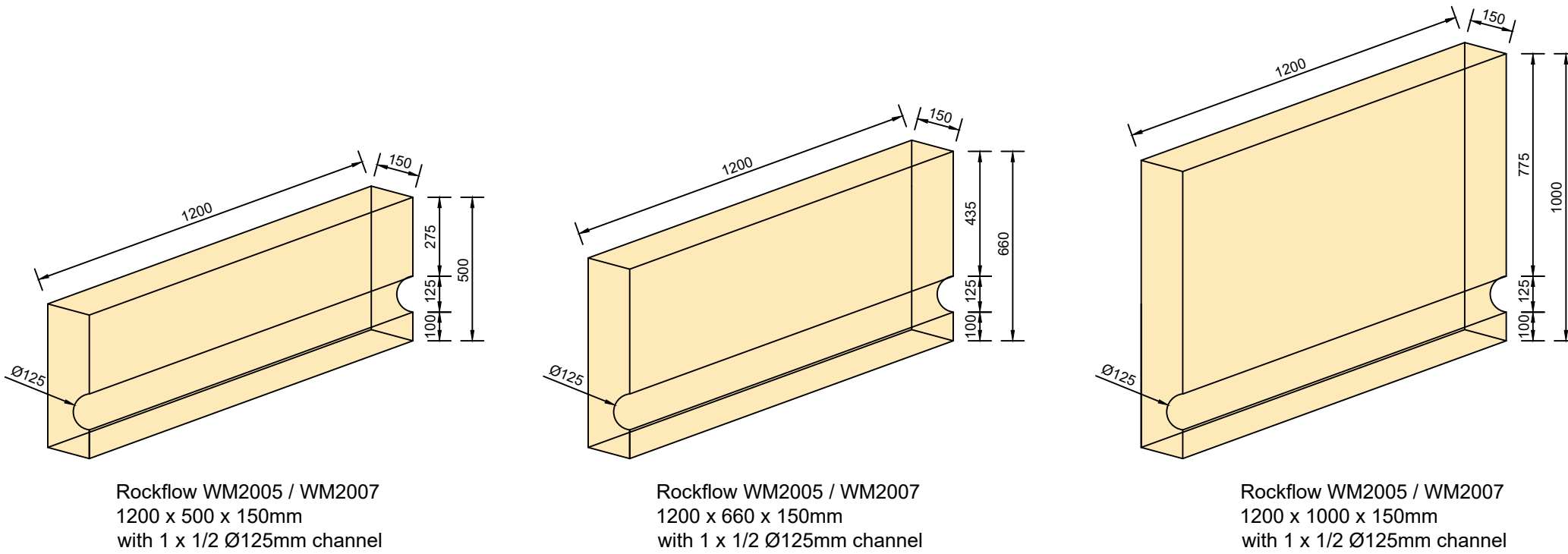
2. Choise of location and type of Rockflow system



Rule of thumb:
Where is possible, install a line or several small buffers.
This allows you to buffer rainwater where it falls and infiltrate it on site.
Due to the relatively short distance between the gully/water drain and the Rockflow package, a smaller pipe diameters is sufficient. This is more economical in execution and costs.
Congestion in the system are rare. A Rockflow buffer will always fill up quickly.

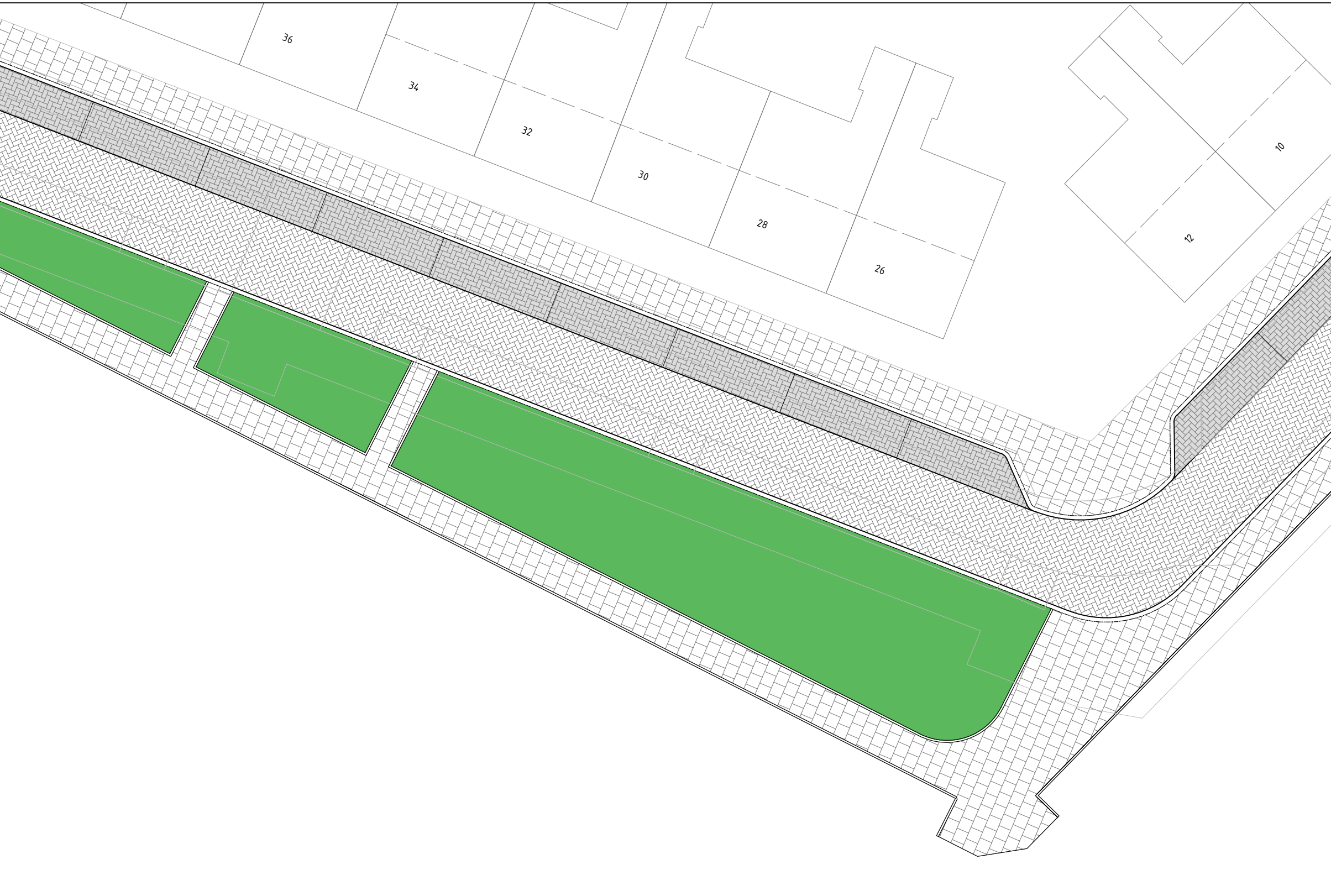
3. Determine maximum buffer height and element selection

Example line infiltration
Volume Rockflow: 632m³
Average Groundwater Level (AGL) : 2m - ground level
Element type: assuming from Rockflow WM2005
Length = a multiple of 1.20m
Width = a multiple of 0.15m (assuming 8 pieces per package)

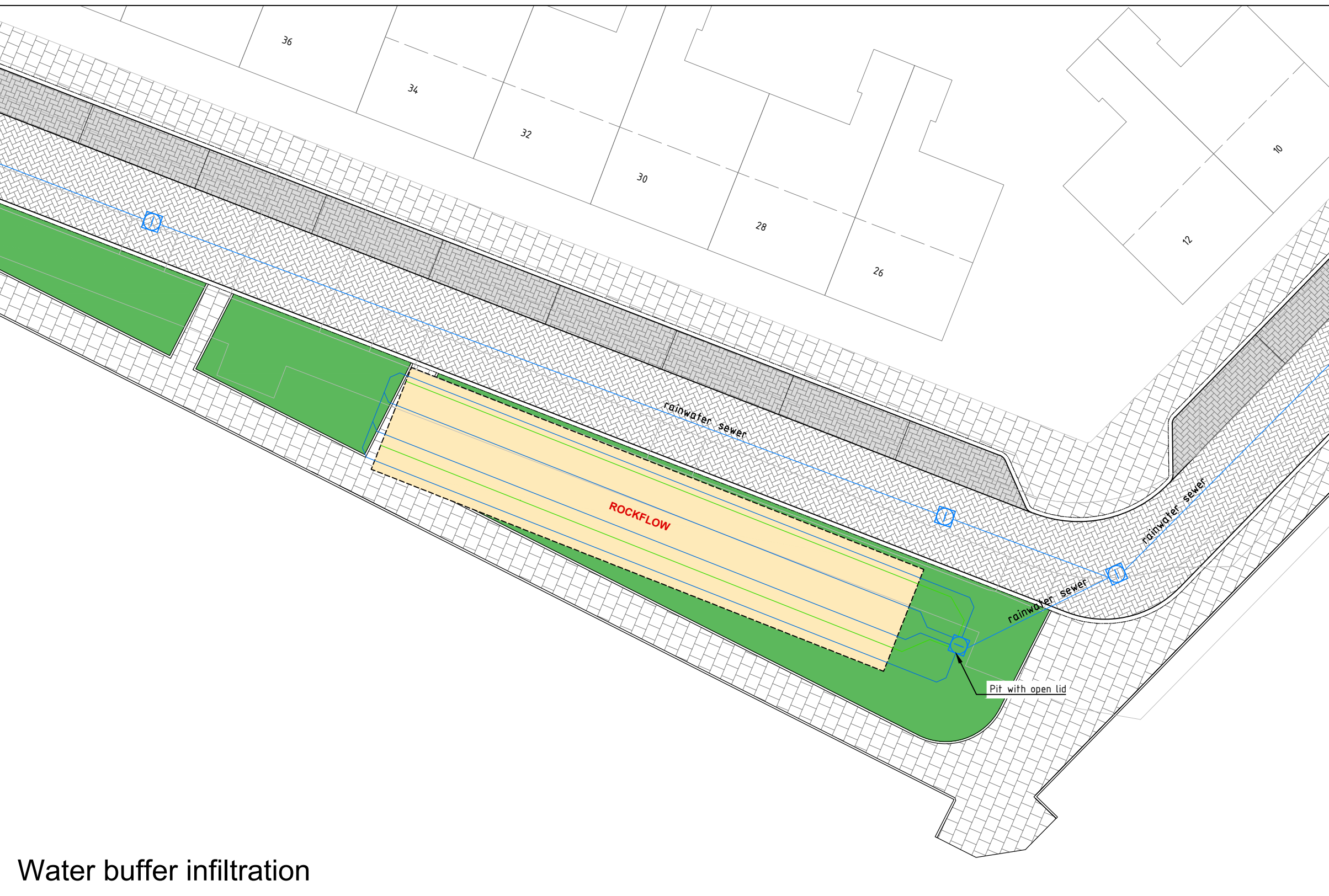


For buffers and line infiltration, the following applies:
- Passable during construction phase, coverage construction phase (see Design Guide)
- Passable during construction and usage phase, coverage construction phase (see Design Guide)
- Not passable during construction and usage phase, coverage usage phase (see Design Guide)

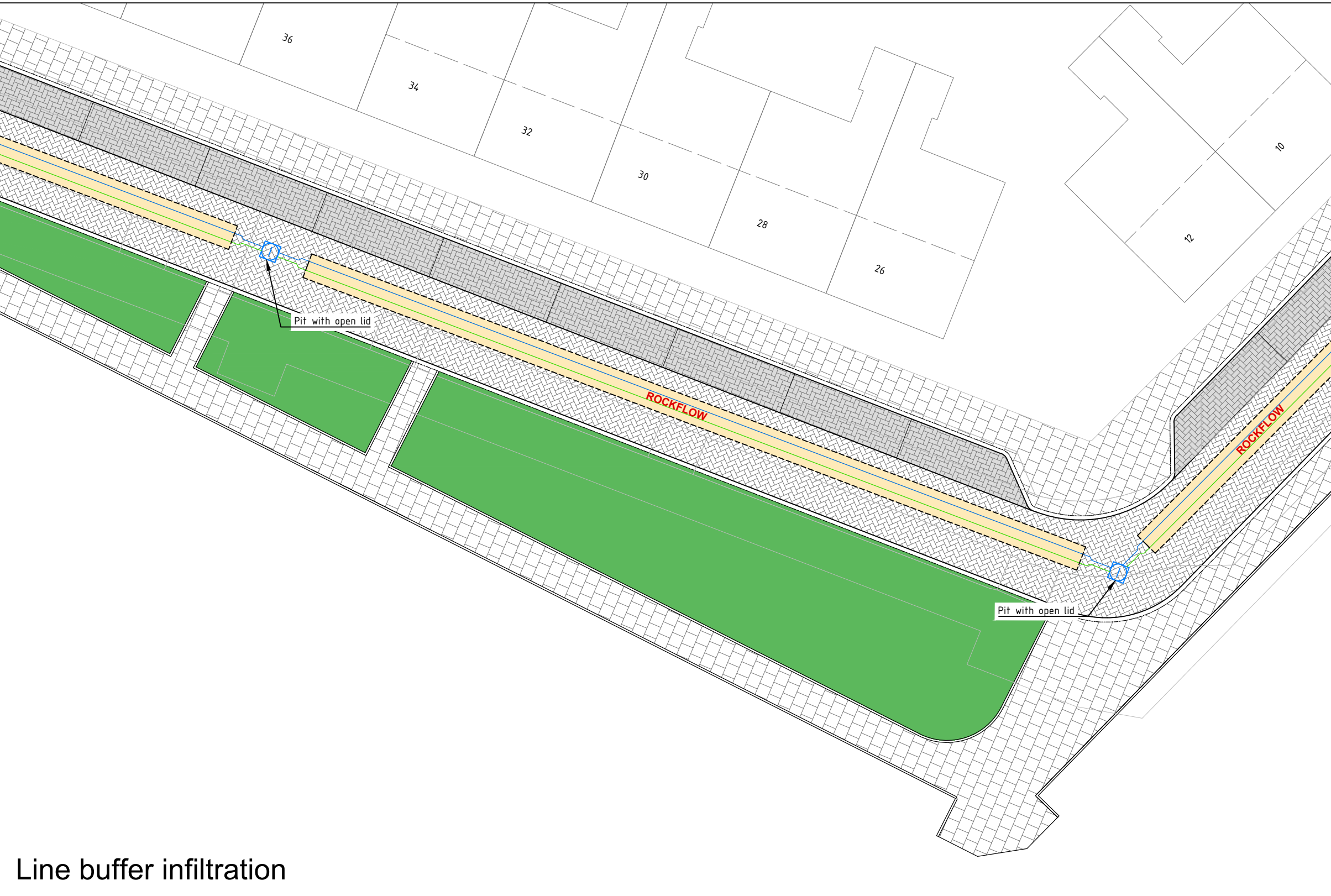
1. Determining the required volume of Rockflow



2. Choice of location and type of Rockflow system



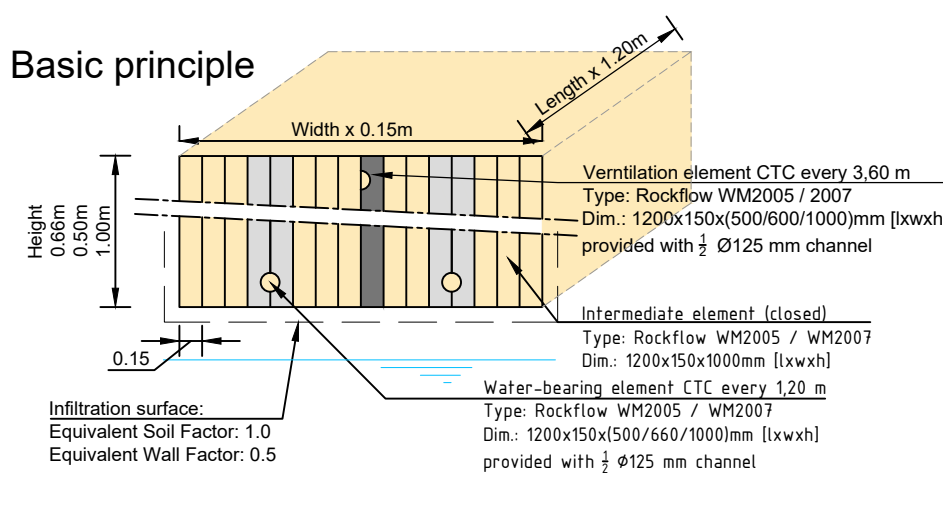
Water buffer infiltration



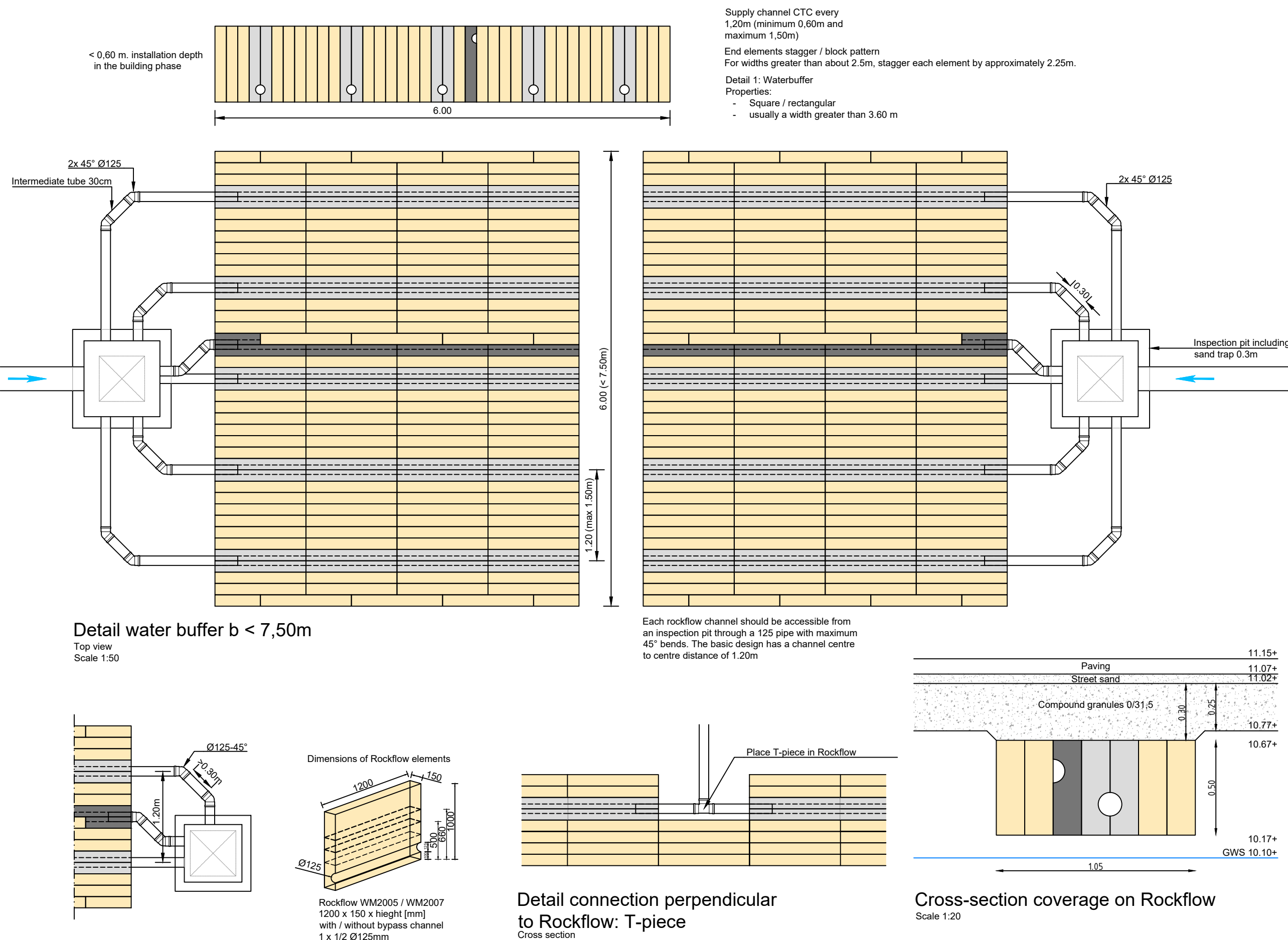
Line buffer infiltration

3. Determine maximum buffer height and element selection

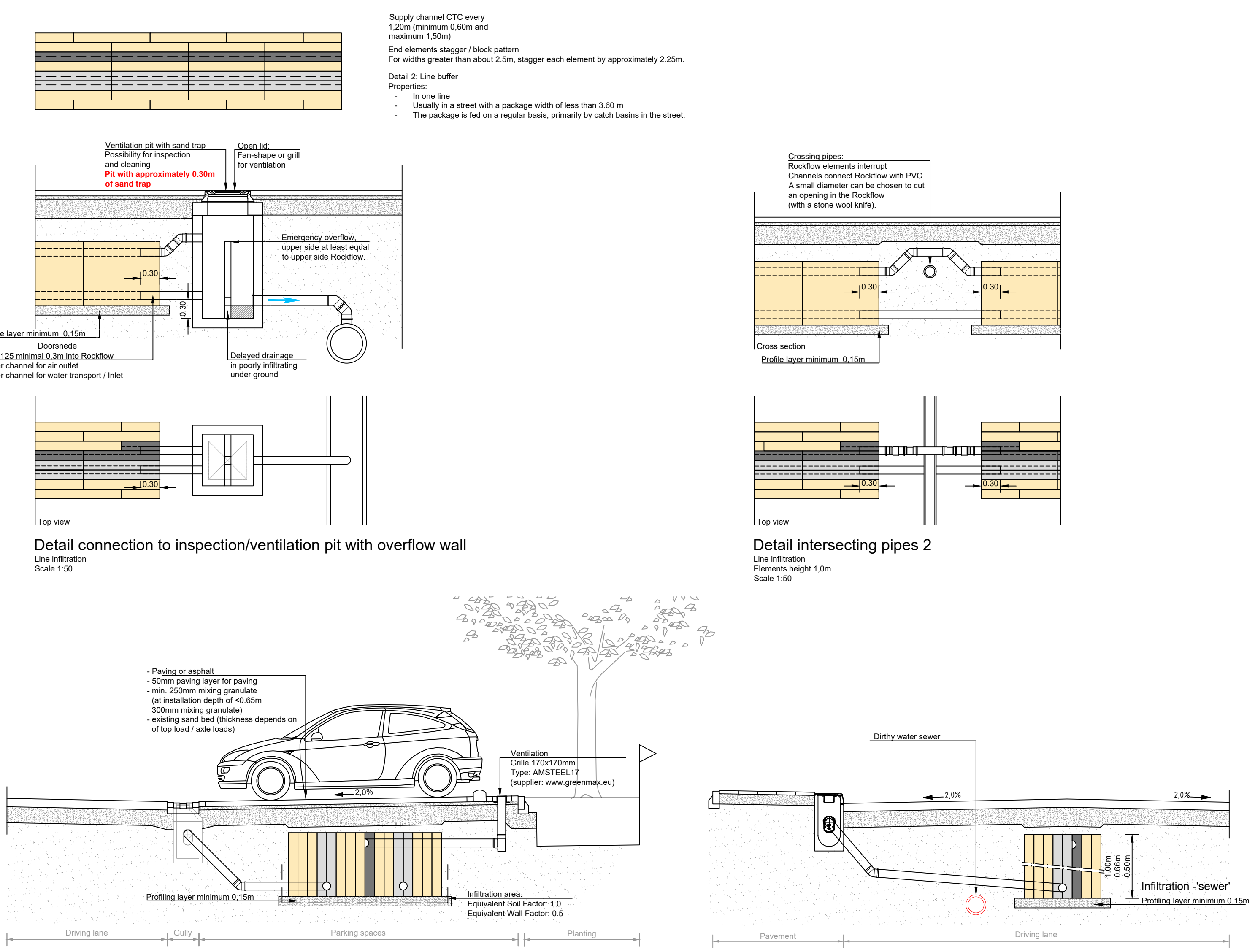
The buffer height and element choice depend on the groundwater level, the element choice, and the traffic load during the construction phase.



Other details water buffer infiltration facilities



Other details line buffer infiltration facilities



Rockflow design:
Designing a Rockflow system, how?
Rockflow installation:
This is how Rockflow works: Rockflow - YouTube
How to install Rockflow: Installation Guide Rockflow
Maximum permeable vehicle area: 1200mm Line Buffer
Project in progress, 28 second movie: Rockflow installation

Rockflow design principles / checks:

| Check | Requirement | Check | Requirement |
|-------|---|-------|--------------------------|
| 1 | Surface covered to be discussed | 17 | AGL or groundwater level |
| 2 | Drain slope (1:100) | 18 | AGL or groundwater level |
| 3 | Drainage or design element (1:100) | 19 | AGL or groundwater level |
| 4 | Requested capacity to buffer in m³ | 20 | AGL or groundwater level |
| 5 | Availability of buffer area (m²) | 21 | AGL or groundwater level |
| 6 | Height of buffer (m) | 22 | AGL or groundwater level |
| 7 | Height of buffer (m) | 23 | AGL or groundwater level |
| 8 | Groundwater level | 24 | AGL or groundwater level |
| 9 | Date between ground level and GWS/GWL | 25 | AGL or groundwater level |
| 10 | Type of pavement above Rockflow | 26 | AGL or groundwater level |
| 11 | Design (width) load above Rockflow | 27 | AGL or groundwater level |
| 12 | Maximum axle loads on foundation during | 28 | AGL or groundwater level |
| 13 | Maximum axle loads on foundation during | 29 | AGL or groundwater level |
| 14 | Maximum axle loads on foundation during | 30 | AGL or groundwater level |
| 15 | Advice for type Rockflow element | 31 | AGL or groundwater level |
| 16 | Advice regarding (specified) structure above Rockflow | 32 | AGL or groundwater level |
| 17 | Infiltration into soil possible / desired | 33 | AGL or groundwater level |
| 18 | AGL or groundwater level | 34 | AGL or groundwater level |
| 19 | AGL or groundwater level | 35 | AGL or groundwater level |
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| 84 | AGL or groundwater level | 100 | AGL or groundwater level |

Version: Date: Name: Description:

Project: Datum: Sheet size: A0
Scale: 1:1
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Rockwool