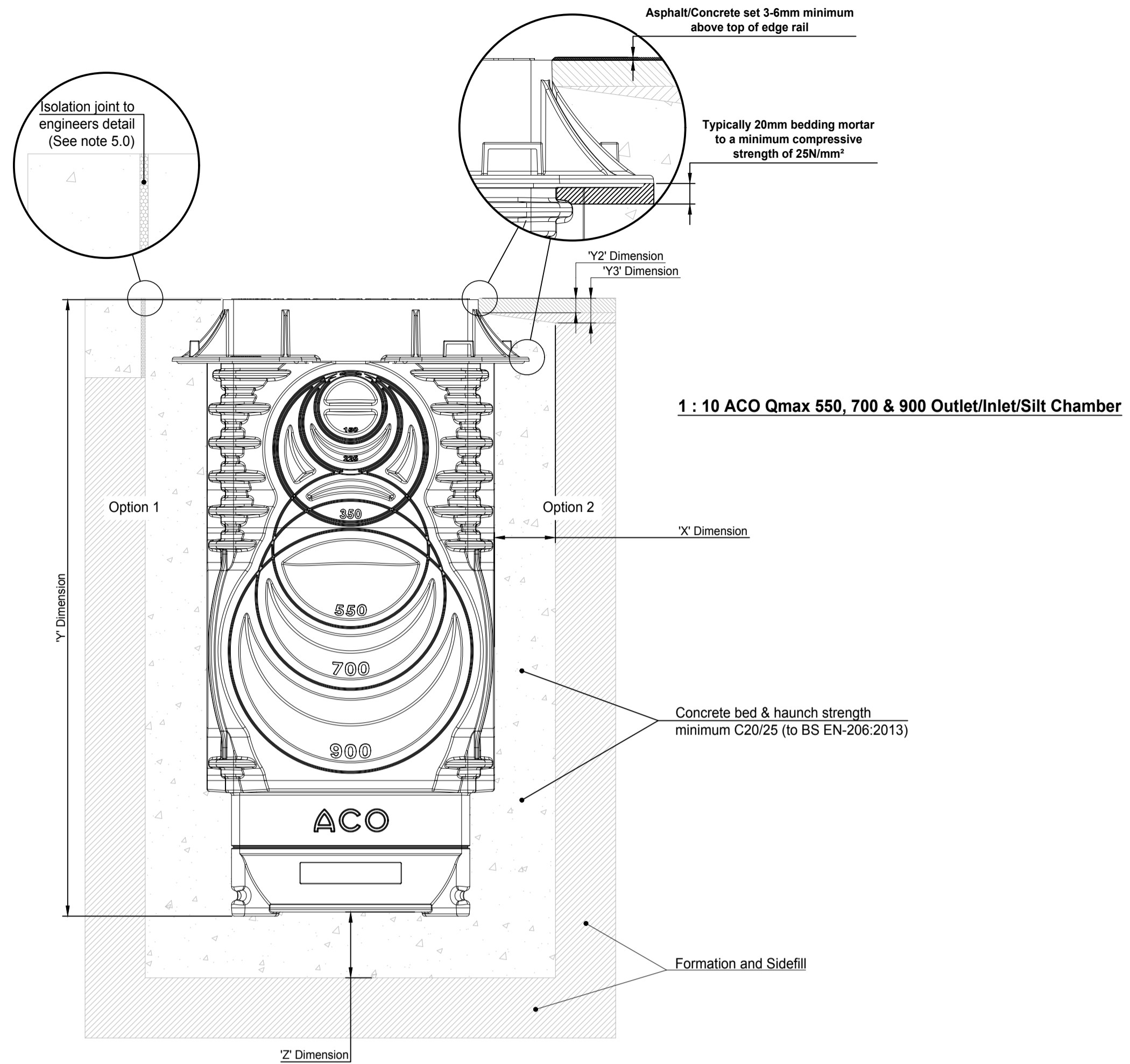


Load Class - D400	Qmax 550	Qmax 700	Qmax 900
Minimum	X 150	150	150
Dimensions (mm)	Y Full Chamber Height (Less Y2 where applicable)	150	150
	Z 150	150	150
Maximum	Y2 35	35	35
Dimensions (mm)	Y3 60	60	60
Reinforcement	NO	NO	YES
Load Class concrete	C20/25	C20/25	C30/37



1.0 Load Class
Installation recommendations shown are ACO minimum recommendations for BS EN 1433:2002 load class requirements.

2.0 Ground Conditions
The long term performance of a channel installation to sustain vertical and lateral loads depends upon A) ground conditions B) stability of the adjacent pavement and C) a durable concrete bed and surround. The recommended installation detail may require the minimum dimensions to be revised to achieve site specific load class requirements (referred to in 1.0 above).

3.0 Location and Connection with Sub Surface Drainage Guidance
The sump or gully should be positioned at the lowest channel invert point. With the base level, connect pipework, locate gully top if required and concrete the complete assembly in position. Any channels knockouts should remain until channel connection. The channels should then be selected (in numerical order from deepest to shallowest) starting from the outlet, to make up the length of channel required and lay out. Install channels in order from the outlet with the arrow on each unit pointing to the outlet (flow direction) and ensure the channels are butt together so that the male and female details locate positively.
Note: For any channel system, sump/gully unit end plates will need to be cut to match the invert depth of adjacent channel units.

4.0 Cutting and Joining
The 2000mm long channels may be cut to a shorter length of 400mm, 1000mm and 1400mm. Where possible 90° joints and T's should be formed so that rails do not have to be cut utilising ACO Qmax access/inlet/outlet/silt chambers. Angles can be formed by connecting them using proprietary pipework attached to ACO inlet/outlet endcaps. For further details please contact ACO Design Services Team. Where requested ACO can custom manufacture special connections to order.

5.0 Isolation Joints
The channel must be isolated from the surrounding environment. An isolation joint must be positioned up to 1500mm from the channel wall. Any dowel bars must be located no nearer than 150mm from the channel wall. Other isolation joints in surrounding slab must be continued through the channel. Additional crack control may be required to comply with specifier requirements.

6.0 Concrete Surround and Reinforcement
Ensure that the channels do not float while pouring the concrete.
The reinforcement required in the concrete surround varies with the installation group (load class) and channel size.
The combined depth of the asphalt pavement must not exceed the Y2 and Y3 dimensions given in the table. Ensure the edge rail anchors are well embedded into the concrete.

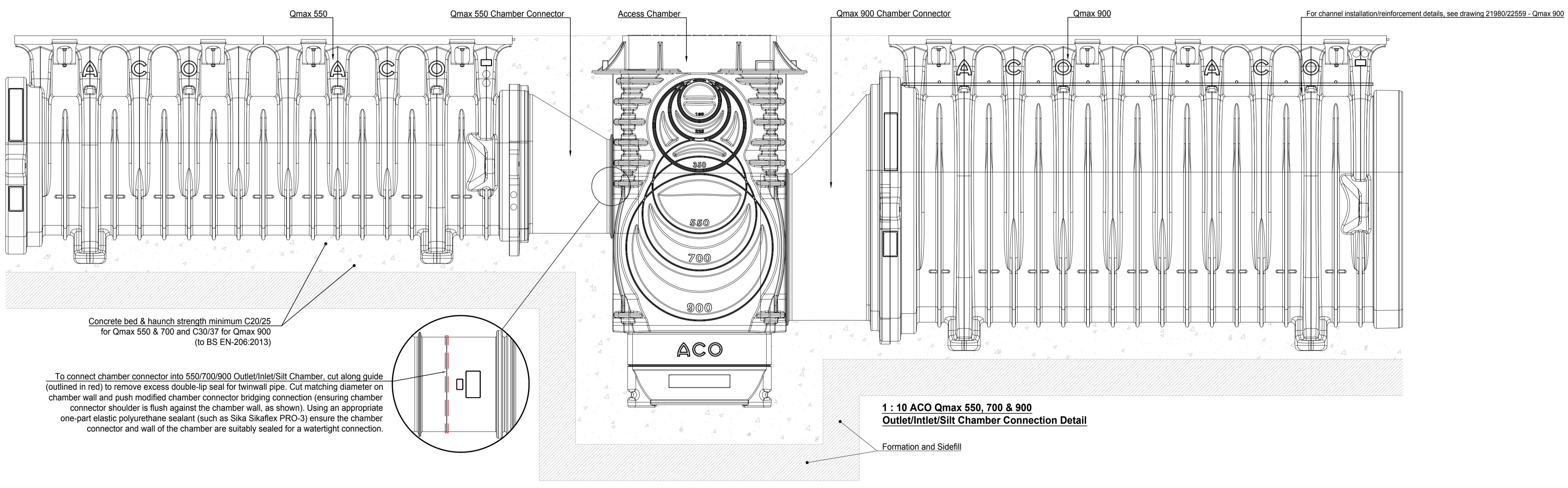
7.0 Temporary Installation
A channel installation is not complete until the final surfacing is laid. In any temporary condition, i.e. with the channel walls projecting above adjacent ground, site traffic should not cross channels. Loose boards, stone fill or cover plates will not protect the channel walls or grating. A temporary channel crossing should be formed by raising the ground level locally, to 3 - 6mm above top of edge rail, either side of a channel for a distance of 750 to 1000mm, to form ramps. Note that the channel load class should be adequate to carry the site traffic.

8.0 Block Pavements
The channel must be supported laterally. Blocks laid directly against a channel must be laid as a soldier course and restrained from movement by bedding securely on the concrete haunch e.g. by using a polymer modified mortar for bed and perpendicular joints (e.g. RONAFIX mortar mix C or similar). Blocks or slabs bedded on sand remote from the channel should be set at a higher level to compensate for possible settlement of the paving in service.

9.0 Channel Protection
Avoid contact between compaction equipment and top of ACO channel edge rail. The installer must ensure that the finished surface level lies above the top of the edge rail (by at least 3-6mm). Covering or protecting the rails, before concreting the haunch or laying blocks, removes the time and cost associated with cleaning the channel and grating of cement material and embedded stones. During site work ensure that the plastic protective strip (supplied with the galvanised steel edge rails) or the ductile iron edge rail protector (supplied separately) is not damaged or displaced, in order to prevent debris entering the channel during construction. Ensure the edge rail anchors are well embedded into the concrete.

10.0 Watertight Installation to BS EN 1433:2002
Where ACO Qmax channels are to be installed with watertight joints, the seal between channel units must be checked for cleanliness and then smeared with lubricant jelly such as proprietary pipe joining lubricant. Guidance on the preparation should be sought from the lubricant manufacturer. ACO Qmax channels are tested to confirm compliance with the watertightness requirements of BS EN 1433 when filled with water to the top of the channel bore (below the inlet arches). Installation must be in accordance with ACO's recommendations and the recommendations of the lubricant manufacturer. It is envisaged that the channel joints would not be subject to movement, but any movement of the joint might compromise the watertightness.

Note: Galvanised steel and iron products have good corrosion resistance to concrete and mortar products but may experience corrosion if high chloride and/or sulphate content is present. Use only good quality concrete and consider using corrosion inhibitors where necessary. The use of protective coatings, such as paint, can minimise the risk of corrosion.



NBS Specification:
ACO Qmax® should be specified in section Q10:170. Assistance in completing this clause can be found in ACO Technologies product entries in NBS Plus, or a model specification can be downloaded from www.aco.co.uk. For further assistance, contact the ACO Water Management Design Services Team.

Best Practice and Workmanship:
ACO can give guidance with respect to the most suitable methods of installation for each of the products in the ACO Qmax® range. ACO Qmax® should be installed using levels of workmanship that accord with the National Code of Practice (UK: BS8000-0:2014) and in keeping with BS EN 1433:2002 (Drainage channels for vehicular and pedestrian areas).

Detailed installation statements and methodologies will vary for all sites as each will have different aspects deserving particular consideration, consequently the relevant approvals should be sought from the consulting engineer and/or the installer.

B	19.8.2016	Revised to comments 15/03/16	TS
Version	Date	Description	Name
		ACO Business Park Hitchin Road Shefford Bedfordshire SG17 5TE, UK Tel: 01462 816666 www.aco.co.uk	Revision: B
Created by: IM		Released by: TS	Drawing Number: 21994
Created at: 14.1.2016		Released at: 19.8.2016	Title: ACO QMAX 550/700/900 ACCESS CHAMBER D400
Replacement for: E1-E01-069-1		Replaced by:	INSTALLATION DETAIL DRAWING
Projection: ISO-A		Units: mm	Format: A3
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