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Mr Steven Newton

Poplar Farm
Briestfield Road, Dewsbury
Surface water drainage

DRAWN BY rob

SCALE 1:500

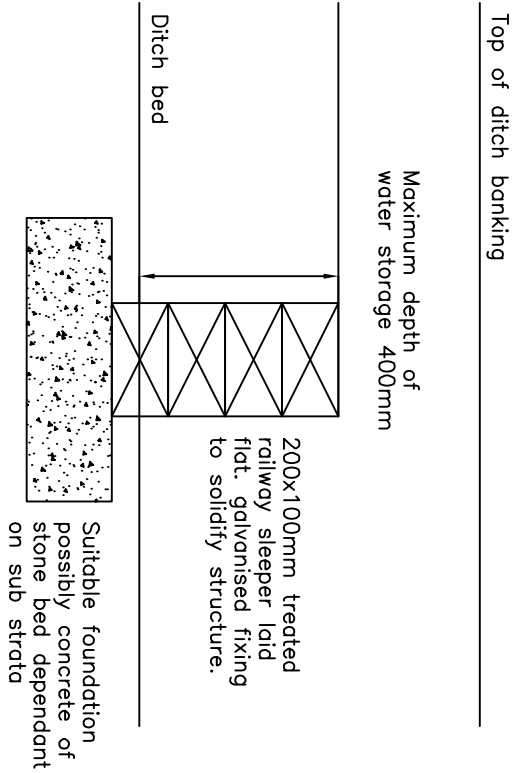
DRAWING No 1081-1

DATE Feb17

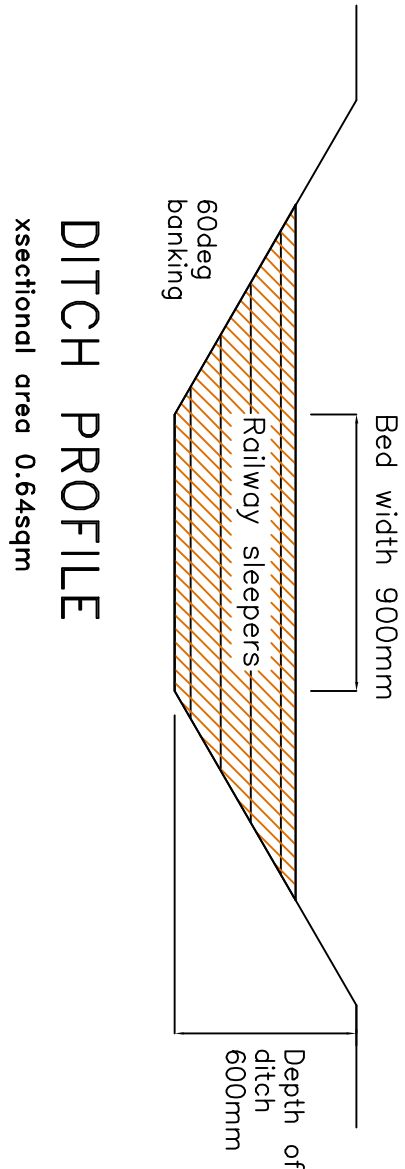
REV

Further to to the client enquiry we have considered the surface water drainage to the development. We understand infiltration testing has not satisfied the required level to utilize standard soakaway construction however this brings a wonderful opportunity to create a SUDS feature beneficial to the local wildlife. We understand the clients land ownership extends to the watercourse southeast of the proposed development some 140m away. It is intended to construct a shallow ditch, 900mm wide at the bed with 60degree bankings, from a small headwall on the development boundary to the existing watercourse. Obviously a free discharge to this ditch will increase flows in the watercourse and may result in problems down stream. Therefore we propose to use a series of weirs throughout the length of the ditch, these weirs will be constructed using treated railway sleepers such that the maximum height above the bed is 400mm. The slope of the ditch will dictate the location and amount of weir constructions. As an example we have calculated the storage volume for a ditch constructed at 1:25, the storage volume is 10m x 2.4sqm x (0.64sqm/2) = 7.7cum. If we now consider the runoff from the development, the impermeable area of the site is 930sqm therefore based on 75mm rainfall over the development impermeable area the volume of surface water created is 930sqm x 0.075m = 70cum. If we compare this with the indicative ditch volume calculation we find the 9 weirs will be sufficient to accommodate the runoff volume without any discharge to the watercourse. We appreciate that infiltration has failed, however in the we have created sufficient volume of storage we suggest that the limited infiltration that will take place along with evaporation will create both a satisfactory surface water design as well as creating semi-wet habitat beneficial to the diversity of local plant and animal life

Site supervisions is paramount in order to create the required storage volume, it may be prudent to increase the amount of weirs in order to create a safety buffer.

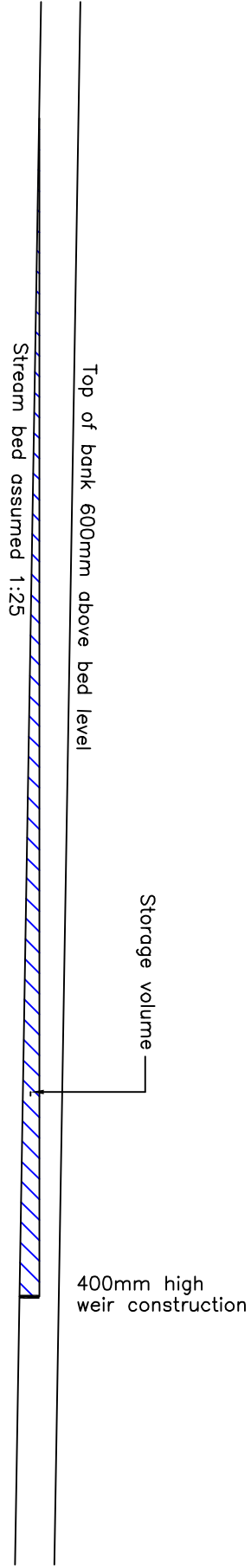


WEIR DETAIL



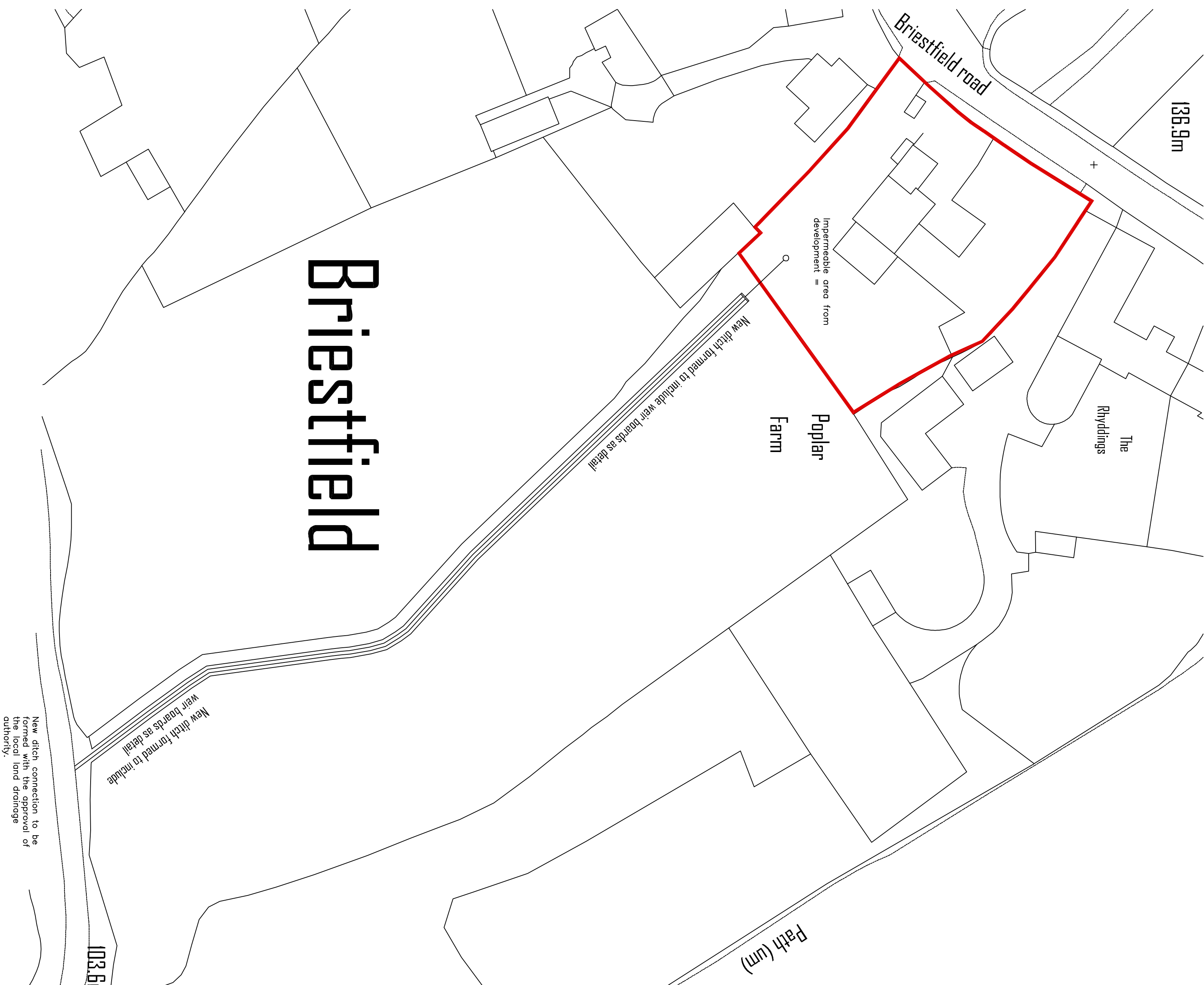
DITCH PROFILE

xsectional area 0.64sqm



LONGITUDINAL PROFILE

storage area 2.4sqm based on 1:25 gradient



Briestfield