

Mortar haunching to MH cover and frame

Minimum clear access in accordance with undertakers policy

On manholes less than 1.5m dia, reducing slab not to be used and P.C. rings to continue up to cover slab.

All in situ concrete to be ST4 with sulphate resisting cement unless agreed otherwise.

ladders only to Type A manholes

High strength concrete topping to be brought up to a dense smooth face neatly shaped and finished to all branch connections and to be 20mm thick.

Self cleaning toe holes to be provided where channel exceeds 600mm wide

Inverts to be formed using channel pipes

Joint to be as close as possible to face of manhole to permit satisfactory joint and subsequent movement

Minimum width of benching to be 500mm

Outgoing pipes should be fitted with guard bars, safety chains or other safety devices in accordance with undertakers policy

manhole covers must/shall have a clear opening of 675mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways

675mm x 675mm square access opening for maintenance

Cover and frame to be bedded on mortar

675mm max distance to first rung on ladder if provided

Class B engineering bricks, pre cast concrete masonry units or precast concrete cover frame seating rings

10mm uncompressed thickness of approved sealant to all horizontal

Precast concrete manhole sections and cover slab to be bedded with mortar proprietary bitumen or resin mastic sealant

Concrete surround 150mm thick

The bottom precast section to be built into base, min. 100mm thick concrete

Grano concrete benching min 20mm thick to be brought up to a dense smooth face neatly shaped and finished to all branch connections.

Benching slope to be 1/10 to 1/30

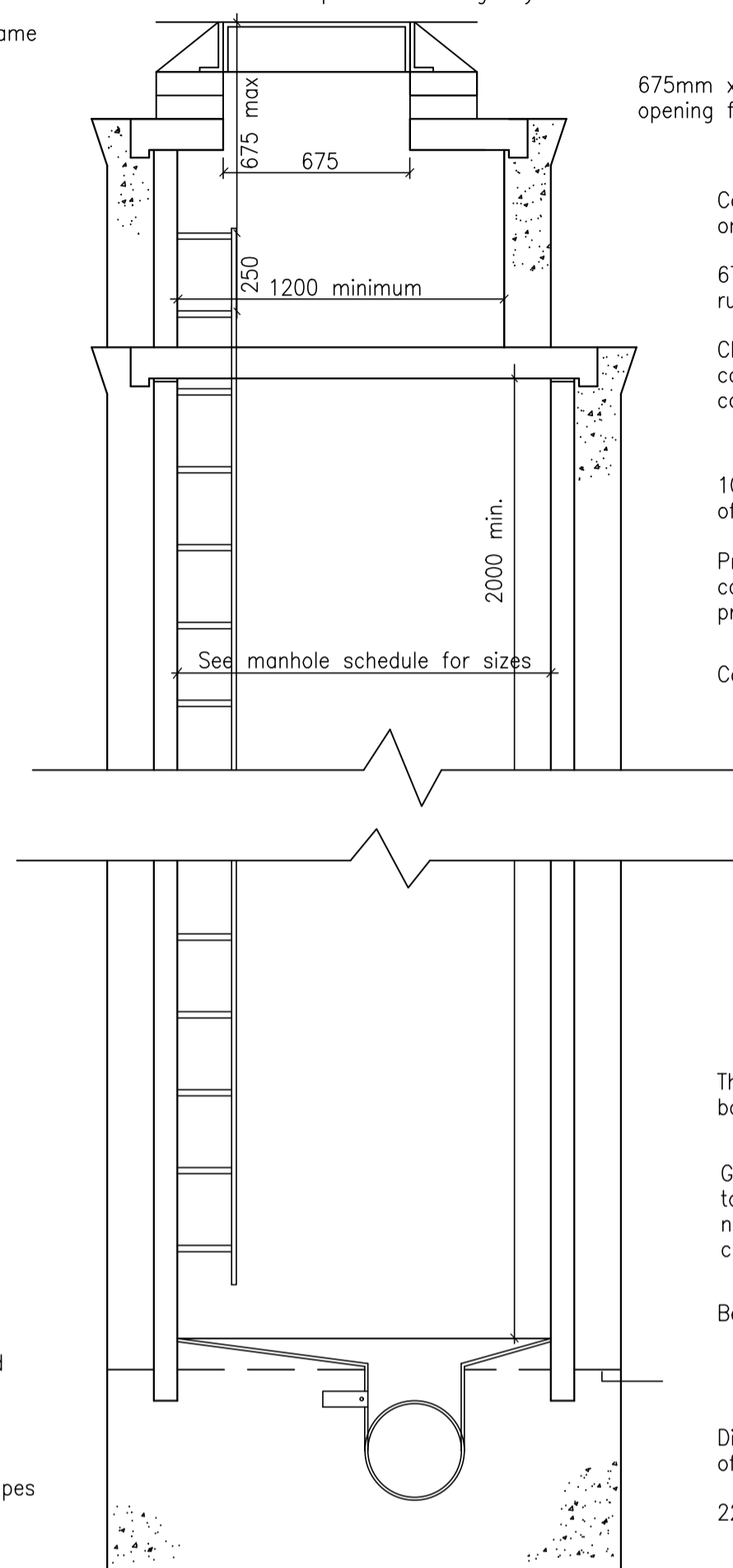
Distance between top of pipe and underside of precast section to be 100mm

225mm thick concrete to barrel of pipe

see Design and Construction Guidance for rocker pipe lengths

Minimum width of benching to be 225mm

Pipe joint with channel to be located minimum 100mm inside face of chamber



Typical manhole Type A1

Depth from GL to pipe soffit 3m to 6m

For 150 dia clay crushing strength from tables, 40KN/m suitable for depth > 6m with Class S bedding

For 225 dia clay crushing strength from tables, 45KN/m suitable for depth > 6m with Class S bedding

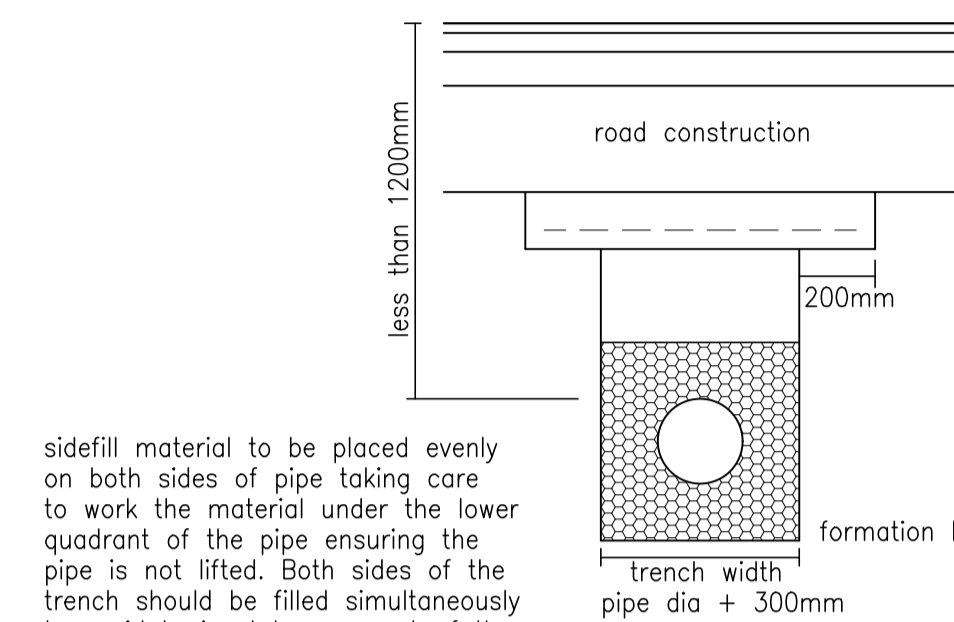
For 300 dia Class 120, Pipe crushing load = 36 KN/m Total design load for max depth to crown of 2.0m, main road conditions = 38.0 KN/m Bedding Factor, Fm = total design load/pipeline crushing load = 38.0/36 = 1.05, CLASS S SUITABLE

For 375 dia Class 120, Pipe crushing load = 45 KN/m Total design load for max depth to crown of 2.4m, main road conditions = 52.6 KN/m Bedding Factor, Fm = total design load/pipeline crushing load = (52.6/45) x 1.5 = 1.75, CLASS S SUITABLE

For 900 dia Class 120, Pipe crushing load = 108 KN/m Total design load for max depth to crown of 3.0m, main road conditions = 128 KN/m Bedding Factor, Fm = total design load/pipeline crushing load = (128/108) x 1.5 = 1.78, CLASS S SUITABLE

For 1200 dia Class 120, Pipe crushing load = 144 KN/m Total design load for max depth to crown of 3.0m, main road conditions = 163 KN/m Bedding Factor, Fm = total design load/pipeline crushing load = (163/144) x 1.7 = 1.70, CLASS S SUITABLE

For 1500 dia Class 120, Pipe crushing load = 180 KN/m Total design load for max depth to crown of 3.0m, main road conditions = 196 KN/m Bedding Factor, Fm = total design load/pipeline crushing load = (196/180) x 1.5 = 1.63, CLASS S SUITABLE



Concrete slab protection Typical detail

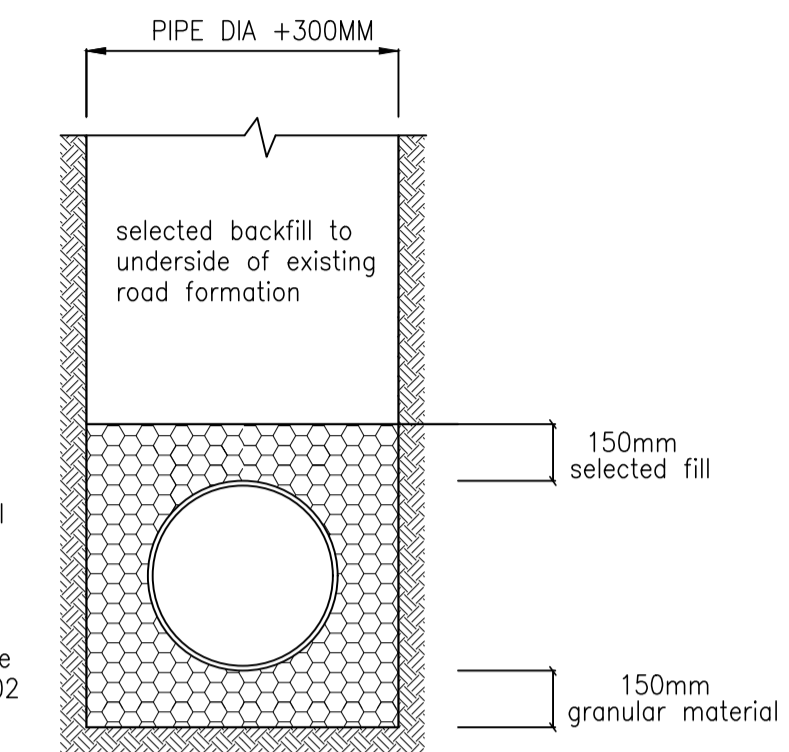
sidefill material to be placed evenly on both sides of pipe taking care to work the material under the lower quadrant of the pipe ensuring the pipe is not lifted. Both sides of the trench should be filled simultaneously to avoid horizontal movement of the pipe

150mm C20 concrete slab reinforced with A393 mesh reinforcement

note slab to be placed minimum 100mm above crown of pipe

mechanical compaction of main backfill material not to be commenced until a min 300mm of material has been placed above the pipe crown

bed and surround material to be single sized or graded gravel to WIS 4-08-02 table A2



Class S Bedding Typical detail

NOTE THAT MANHOLE COVER SLABS TO COMPLY WITH BS5911 PART 3/ BE EN 1917:2002 AND BE KITEMARKED

NOTE THAT IN THE ABSENCE OF COMPLIANCE TO BS5911/KITEMARKING, STRUCTURAL CALCULATIONS AND ACCOMPANYING DETAILED SHOULD BE PROVIDED

ALL WORKS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF DESIGN AND CONSTRUCTION GUIDANCE OR THAT IS FORCE AT TIME OF WORKS BEING UNDERTAKEN

Revision:

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Client: Harron Homes

Site: Retford Phase 3

Title: Manhole Construction : Type A

Date: Jan 21 Scales: 1/20, 1/10 Drawing No. M21/1006/1010

1. All work to be in accordance with the current Building Regulations 2. Only written dimensions to be used 3. Discrepancies and abnormalities to be reported 4. If in doubt ask.