



THIS DRAWING MAY BE USED ONLY FOR THE PURPOSE INTENDED AND ONLY WRITTEN DIMENSIONS SHALL BE USED



NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
2. THE GENERAL SPECIFICATION OF MATERIALS AND WORKMANSHIP FOR THE CONSTRUCTION OF THE ACCESS ROAD, FOOTPATHS AND OTHER AREAS OF HARDSTANDING SHALL BE THE MANUAL OF CONTRACT DOCUMENTS FOR HIGHWAY WORKS, VOLUME 1, SPECIFICATION OF HIGHWAY WORKS (SHW) PUBLISHED BY THE STATIONARY OFFICE, MARCH 1998 AND ALL SUBSEQUENT REVIEWS.
3. ALL MATERIALS UNLESS SPECIFIED OTHERWISE, SHALL COMPLY WITH RELEVANT BRITISH STANDARD. SOURCES OF MATERIALS ARE TO BE AGREED WITH THE ADOPTING AUTHORITY IN ADVANCE OF THE WORKS.
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ASSOCIATED ENGINEERS DRAWINGS AND DETAILS.
5. ANY DISCREPANCIES IN THE DETAILS SHOWN ON THIS DRAWING TO BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.

ROAD CONSTRUCTION

6. SUB-BASE AND CAPPING: THE CAPPING LAYER SHALL COMPLY WITH DETR SPEC CL 613 "SELECTED FILL IN CAPPING LAYER". THE SUB-BASE SHALL BE GRANULAR MATERIAL IN ACCORDANCE WITH DETR SPEC CL 803 ENSURE THAT ALL MATERIAL WITHIN 450mm OF THE FINISH ROAD SURFACE IS NOT FROST SUSCEPTIBLE AS REQUIRED BY SERIES 700 OF THE SPECIFICATION, AND TESTED TO BS 812: PART 124: 1980. THIS MAY BE ACHIEVED BY INCREASING THE SUB-BASE THICKNESS AS NECESSARY. GEOTEXTILES MAY BE USED IN ACCORDANCE WITH CL 609 OF THE SPECIFICATION FOR HIGHWAY WORKS WHERE GROUND CONDITIONS ARE POOR. SUBJECT TO THE PRIOR APPROVAL OF BIRMINGHAM CITY COUNCIL.
7. ANY SOFT SPOTS AT UNDERSIDE OF CAPPING LAYER TO BE TREATED BY OVERDIGGING AND REPLACEMENT WITH AN APPROVED COMPACTED GRANULAR MATERIAL.
8. THE FORMATION OF ROADS AND FOOTWAYS SHALL BE PREPARED BY REMOVING ALL UNSUITABLE MATERIAL AND AN APPROVED WEEDEKILLER SHALL BE SPRAYED ONTO THE SUBGRADE BEFORE LAYING THE SUB-BASE.
9. PRIOR TO CARRYING OUT ANY WORKS ON A PUBLIC HIGHWAY THE CONTRACTOR SHALL OBTAIN A ROAD OPENING PERMIT FROM THE HIGHWAY AUTHORITY.
10. TRAFFIC SAFETY MEASURES ON OR ADJACENT TO AN EXISTING HIGHWAY SHALL BE IN ACCORDANCE WITH CHAPTER 8 OF THE TRAFFIC SIGNS MANUAL.
11. WHERE NEW PAVEMENT MATERIALS ARE TO BE LAID AGAINST BOUND MATERIALS, THE EXISTING SURFACE SHALL BE SAW CUT TO A STRAIGHT EDGE AND THE VERTICAL FACE PAINTED WITH BITUMEN EMULSION SEALANT.
12. WHERE NEW PAVEMENT MATERIALS ARE TO BE LAID UPON EXISTING BOUND MATERIALS, THE SURFACE OF THE EXISTING MATERIAL SHALL BE SUCTION SWEEPED AND TACK COATED IN ACCORDANCE WITH CLAUSE 920 (SHW).
13. BEDDING AND BACKING TO KERB AND EDGING TO BE DESIGNATED MIX GEN 3 TO 8500-1.2002.
14. ALL BITUMINOUS MACADAM LAYERS SHALL BE COMPACTED TO ACHIEVE THE AIR Voids REQUIREMENTS SPECIFIED IN THE RELEVANT SECTIONS OF BS 4987.
15. CONCRETE MIXES INDICATED ON THIS DRAWING ARE DESIGNATED MIXES CONFORMING TO BS8500-1.2002.

KEY:

- SWS PRIVATE SURFACE WATER SEWER
- SWS PRIVATE FOUL SEWER
- SWS PRIVATE TRAPPED GULLY
- +68.300 PROPOSED SPOT LEVEL

REVISED TO SUITE COUNCILS MTC JUM 19.02.18 A
Revision Details By Check Date Suffix

Drawing Number J01750/A1/001

TUDOR DRIVE
PENLY

Drawing Title

ENGINEERING LAYOUT

Scale at A1 Detailed
1:200
Drawn RJS Tech Chk JUM Det Chk JUM
Date 10/01/18

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F1
CL 68.300
IL 68.300

STORM Network 1									
Pipe Code	Diameter (mm)	Gradient (1:)	Pipe Length	Upstream Manhole			Downstream Manhole		
				Number	Invert	Cover	Number	Invert	Cover
1.000	150	100	17.949	S1	68.000	68.600	S2	67.821	68.450
1.001	150	33	12.052	S2	67.821	68.450	S3	67.455	68.450
1.002	150	186	8.170	S3	67.455	68.450	S4	67.411	68.450
1.003	150	124	18.249	S4	67.411	68.450	S5	67.264	68.300
1.004	225	185	25.385	S5	67.189	68.300	S6	67.052	68.150
1.005	225	185	11.862	S6	67.052	68.150	S7	66.988	68.150
1.006	225	184	5.150	S7	66.988	68.150	S8	66.960	68.240
1.007	225	76	4.087	S8	66.960	68.240	S9	66.906	67.878
2.000	150	100	12.309	S10	67.750	68.450	S11	67.627	68.450
2.001	150	100	17.209	S11	67.627	68.450	S3	67.455	68.450
3.000	150	184	9.936	S12	67.420	68.300	S13	67.366	68.300
3.001	150	185	9.965	S13	67.366	68.300	S14	67.312	68.300
3.002	150	184	8.852	S14	67.312	68.300	S5	67.264	68.300
4.000	150	183	3.665	S15	67.332	68.300	S14	67.312	68.300
5.000	150	184	11.399	S16	67.189	68.150	S6	67.127	68.150
6.000	150	185	25.477	S17	67.201	68.150	S7	67.063	68.150

Hydro-Brake manhole with maximum discharge rate of 5 l/s. Downstream connection to existing culvert is subject to council approval as is within highway verge.

Proposed connection to existing foul manhole is subject to Section 106 discharge application and approval.

Attenuation lagoon designed not to flood in the worst case 1 in 100 year storm event + 35% for climate change. Attenuation lagoon has internal batter slopes of 1 in 2 and inlet and outlet head walls. Maximum lagoon top of bank level near outlet head wall to be 68.15m with spillway to boundary to divert any flooding away from dwellings in extreme flooding events. Refer to Micro Drainage simulation results for clarification of design.

