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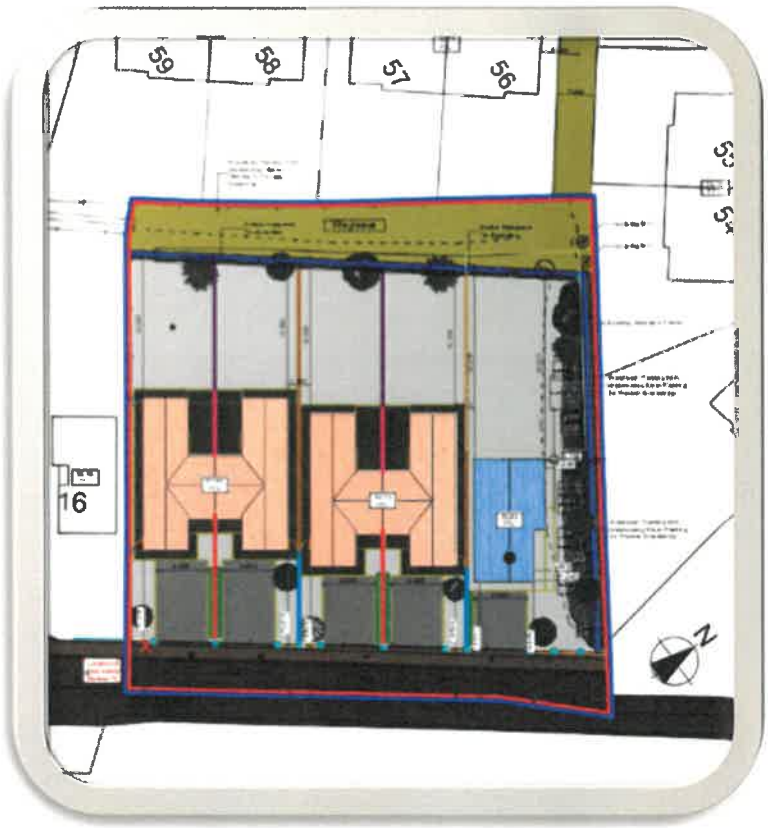


# Alan Traynor Consulting Engineers Ltd

Comhairle Chontae Liatroma
Leitrim County Council

# PROPOSED DEVELOPMENT AT MANORHAMILTON, CO.LEITRIM

## Foul and Surface Water Calculations & Details

**Foul sewer loadings for Development in Manorhamilton**

| DATA | | | | | | | SEWER DESIGN Ks = 1.50 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEWER REFERENCE | | HOUSES | UNITS/ HOUSE | UNITS | TOTAL UNITS | TOTAL FLOW | Size of drain (mm) | Gradient (1 in x) | Length (m) | Capacity (l/sec) | Pipe full Velocity (m/sec) | Actual Velocity (m/sec) | Half full velocity (m/sec) | Self cleansing at half full | Max Velocity (m/sec) | Depth of flow (mm) | Reserve capacity (l/sec) |
| From Manhole | To Manhole | No. | No. | No. | l/s | l/s | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| F1 | F2 | 5 | 14 | 70 | 70 | 3.662 | 150 | 20.0 | 38.262 | 34.715 | 1.964 | 1.267 | 1.964 | OK | 2.240 | 32.813 | 31.053 |
| F2 | F3 | 0 | 14 | 0 | 70 | 3.662 | 150 | 20.0 | 33.172 | 34.715 | 1.964 | 1.267 | 1.964 | OK | 2.240 | 32.813 | 31.053 |
| F3 | Fext | 0 | 14 | 0 | 70 | 3.662 | 150 | 20.0 | 4.565 | 34.715 | 1.964 | 1.267 | 1.964 | OK | 2.240 | 32.813 | 31.053 |

**Storm sewer loadings for development in Manorhamilton**

| DATA | | STORM WATER FLOW Modified Rational Method | | | Cr = 1.3 Cv = 0.7 | | | SEWER DESIGN Ks = 0.60 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEWER REFERENCE | | | | | Cumulative | Rainfall : I | Storm Water Flow | Size of drain (mm) | Gradient (1 in x) | Length (m) | Capacity (l/sec) | Pipe full Velocity (m/sec) | Actual Velocity (m/sec) | Half full velocity (m/sec) | Max Velocity (m/sec) | Depth of flow (mm) | Reserve capacity (l/sec) |
| From Manhole | To Manhole | Roads Area A1 | Roofs/yards Area A2 | Impervious Area | Impervious Area | (mm/hr) | Q=Ap*I*Cr*Cv*2.78 lt/sec | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | | 15 | 16 | 17 |
| | | | 0 | | | | | | | | | | | | | | |
| S1 | S2 | 0.000 | 0.030 | 0.030 | 0.030 | 50.00 | 3.79 | 225 | 20 | 23.895 | 116.82 | 2.94 | 1.36 | 2.94 | 3.33 | 27.69 | 113.02 |
| S2 | Snew | 0.000 | 0.020 | 0.020 | 0.050 | 50.00 | 6.32 | 225 | 20 | 23.895 | 116.82 | 2.94 | 1.58 | 2.94 | 3.33 | 35.16 | 110.49 |