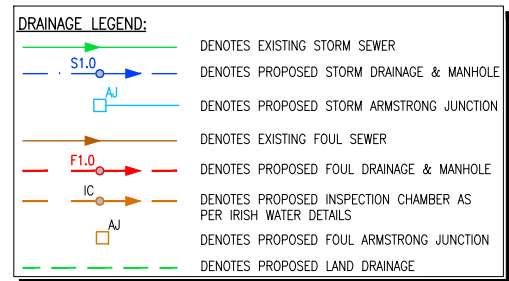


LAND DRAINS AT THE BASE OF ALL RETAINING WALLS TO BE CONNECTED TO THE PROPOSED STORM DRAINAGE NETWORK WITH 225MM Ø STORM DRAINAGE PIPE AT 1:150 GRADIENT.

ALL GULLIES TO BE CONNECTED TO MAIN DRAINS WITH 150MM Ø STORM PIPE @ 1:80 GRADIENT.

ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH 'RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS', DEPARTMENT OF THE ENVIRONMENT.

CONCRETE PROTECTION WILL BE PROVIDED OVER PIPES WHERE THE DEPTH OF COVER TO PIPES UNDER ROADS IS LESS THAN 1200MM & 900MM UNDER GRASSED/PAVED AREAS.



GENERAL DRAINAGE NOTES:

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
- ALL LEVELS ARE IN METRES ABOVE DATUM UNLESS OTHERWISE NOTED.
- ALL PIPE DIAMETERS ARE NORMAL.
- THE CONTRACTOR MUST CONTACT THE RELEVANT AUTHORITIES PRIOR TO CONSTRUCTION WORK, & SATISFY HIMSELF IN RESPECT TO THE LOCATION OF ALL EXISTING SERVICES.
- ALL SEWER & DRAIN PIPES ARE CLASS SN4 STORM AND SN8 FOUL UNLESS OTHERWISE STATED.
- ALL BEDDING TO SEWERS IS CLASS 'B' UNLESS OTHERWISE NOTED.
- ALL MANHOLES CAN BE EITHER PRECAST CONCRETE RING MANHOLES OR BLOCKWORK UNLESS OTHERWISE STATED.
- 600mm MAX. LENGTH ROCKER PIPES ARE TO BE PROVIDED ON SEWER WHERE:
 - (A) A PIPE ENTERS A MANHOLE OR PUMPING STATION.
 - (B) A PIPE LEAVES A MANHOLE.
 - (C) A PIPE ENTERS CONCRETE ENCASUREMENT.
 - (D) A PIPE LEAVES CONCRETE ENCASUREMENT.
 - (E) ANY OTHER LOCATION AS DIRECTED BY THE ENGINEER.
- ALL SEWER ROCKER PIPES ARE TO BE FORMED BY CUTTING & TRIMMING A LENGTH OF SPIGOT & SOCKET PIPE TO FORM A SPIGOT AT THE CUT END, THEREBY FORMING SPIGOT & SOCKET JOINTS AT BOTH ENDS OF THE ROCKER PIPE.
- WHERE SEWER PIPES OR RISING MAINS CONNECT TO EXISTING MANHOLES, THE CONTRACTOR IS REQUIRED TO:
 - (A) CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.
 - (B) MAKE GOOD THE EXISTING CHAMBER WALL AT THE PROPOSED POINT OF PENETRATION & ADJUST THE EXISTING BENCHING TO THE SATISFACTION OF THE ENGINEER.
- WHERE SEWER PIPES, RISING MAINS OR ROAD GULLY DRAINS CROSS EXISTING ROADS, THE CONTRACTOR IS REQUIRED TO:
 - (A) CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.
 - (B) MAKE GOOD THE EXISTING ROAD TO ITS ORIGINAL SPECIFICATION AS APPROVED BY THE ENGINEER.
- MINIMUM FALLS INDICATED ON DRAINAGE PIPES, LEVELS TO BE REVISED IF MANHOLE LOCATIONS ARE MODIFIED BY CONTRACTOR.
- CONCRETE PROTECTION TO BE PROVIDED AROUND ALL PIPES UNO.
- ALL BRANCH & PERIMETER DRAINAGE ARE TO BE DETAILED BY ARCHITECT.
- PROPRIETARY ACCESS JUNCTIONS TO BE USED TO DEPTHS OF 600MM OR LESS.
- 450x450mm INSPECTION CHAMBERS TO BE USED AT DEPTHS OF 600-1000mm.
- MANHOLES TO DETAILS TO BE USED AT DEPTHS OVER 1000mm.
- ROAD GULLIES TO BE PROVIDED SO THAT MAX AREA CONTRIBUTING TO A SINGLE GULLY IS 180m².
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH 'RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS', DEPARTMENT OF THE ENVIRONMENT.
- ALL STORM MANHOLE BASES TO BE PRECAST CONCRETE PRE-BENCHED OFF SITE.

Pipe Section

| | U/S CL (m) | U/S IL (m) | D/S IL (m) | Pipe Dia. (mm) |
|-----------------|------------|------------|------------|----------------|
| * F1.0 to F1.1 | 85.215 | 84.275 | 83.420 | 150 |
| F1.1 to F1.2 | 86.210 | 83.420 | 82.980 | 225 |
| F1.2 to F1.3 BD | 87.120 | 82.980 | 82.775 | 225 |
| F1.3 to F1.4 | 86.160 | 82.275 | 82.125 | 225 |
| F1.4 to F1.5 | 85.280 | 81.900 | 81.615 | 225 |
| F1.5 to F1.6 | 83.745 | 80.715 | 80.415 | 225 |
| F1.6 to F1.7 | 82.415 | 80.415 | 80.315 | 225 |
| F1.7 to Basting | 80.950 | 80.315 | | |
| * F2.0 to 2.1 | 84.820 | 83.735 | 83.410 | 150 |
| F2.1 to F2.2 | 85.105 | 83.410 | 83.195 | 150 |
| F2.2 to F1.3 | 86.325 | 83.195 | 82.980 | 150 |
| F3.0 to F2.2 | 85.910 | 83.400 | 83.195 | 150 |

NOTE
 * = CONCRETE PROTECTION WILL BE PROVIDED OVER PIPES
 uPVC PIPES ASSUMED AS THE DRAINAGE MATERIAL, PLEASE NOTIFY ENGINEER IF DIFFERENT.
 BD = Back Drop Manhole

| SD Pipe Section | US MH CL [mod] | US MH IL [mod] | DS MH IL [mod] | Length [m] | Pipe Diameter [mm] | Pipe Grad 1 in | Notes |
|-----------------|----------------|----------------|----------------|------------|--------------------|----------------|-------|
| S1.0 to S1.1 | 85.015 | 83.890 | 83.535 | 56.825 | 225 | 160 | |
| S1.1 to S1.2 | 86.125 | 83.535 | 83.290 | 51.800 | 225 | 211 | |
| S1.2 to S1.3 | 87.200 | 83.290 | 83.060 | 23.300 | 225 | 101 | |
| S1.3 to S1.4 | 86.210 | 83.060 | 82.945 | 11.750 | 300 | 102 | |
| S1.4 to S1.5 | 85.570 | 81.745 | 81.685 | 6.200 | 300 | 103 | BD |
| S1.5 to S1.6 | 85.350 | 81.685 | 81.655 | 5.885 | 300 | 196 | |
| S1.6 to Attn | 85.350 | 81.655 | 81.635 | 0.955 | 225 | 48 | BD |
| Attn to S1.7 | 85.300 | 81.535 | 81.515 | 1.000 | 225 | 50 | |
| S1.7 to S1.8 | 85.150 | 81.515 | 81.400 | 12.650 | 225 | 110 | BD |
| S1.8 to S1.9 | 84.435 | 80.500 | 79.984 | 60.200 | 225 | 117 | |
| S1.9 to S1.10 | 82.135 | 79.984 | 79.865 | 17.900 | 225 | 150 | |
| S1.10 to Ex MH | 81.800 | 79.865 | 79.681 | 35.950 | 225 | 195 | |
| S2.0 to S2.1 | 84.820 | 83.730 | 83.565 | 32.500 | 225 | 197 | |
| S2.1 to S2.2 | 85.800 | 83.565 | 83.480 | 16.500 | 225 | 194 | |
| S2.2 to S1.2 | 86.575 | 83.480 | 83.290 | 19.000 | 225 | 100 | |
| S3.0 to S2.1 | 85.920 | 83.650 | 83.565 | 12.350 | 225 | 145 | |

NOTES:
 uPVC PIPES ASSUMED AS THE DRAINAGE MATERIAL, PLEASE NOTIFY ENGINEER IF DIFFERENT
 * = CONCRETE PROTECTION WILL BE PROVIDED OVER PIPES
 BD = Denotes Backdrop Manhole
 Sump = Denotes 0.5m deep sump below pipe invert

NOTES:

GENERAL NOTES:

- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICE ENGINEERS DRAWINGS & SPECIFICATIONS.
- ALL LEVELS ARE STRUCTURAL UNLESS NOTED OTHERWISE.
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING REGULATIONS.
- DO NOT SCALE - WORK TO FIGURE DIMENSIONS ONLY.

QUALITY
 ISO 9001:2000
 NSI Certified

ENGINEERS IRELAND
 cpd ACCREDITED COMPANY

Issue register

| Rev. | Date | Description | En | Chkd | Apprvd. |
|------|----------|-------------------|----|------|---------|
| F11 | 26.03.20 | PRELIMINARY ISSUE | EH | NP | NP |
| F12 | 14.10.20 | PRELIMINARY ISSUE | EH | NP | NP |
| F13 | 22.12.20 | PRELIMINARY ISSUE | EH | NP | NP |
| PL1 | 14.05.21 | PLANNING ISSUE | EH | NP | NP |

LAOIS COUNTY COUNCIL

Job Description: **OGP UNITS AT STRADBALLY, Co. LAOIS**

Status: **PLANNING**

Drawing Title: **PROPOSED DRAINAGE LAYOUT**

Project No: **19KK018** Drawing Ref: **C-020** Rev: **PL1**

Date: **25.03.20** Scale: **AS SHOWN**

Drawn By: **E.HOARE** Checked By: **M.CARR** Approved By: **N.PATTERSON**

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