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  - Drainage works to be carried out in accordance with Civil Engineering Specification for the Water Industry 6th Edition, published by WRc plc 2004.
  - Manholes to be constructed from precast concrete rings (unless otherwise stated / approved) to IS EN 1917 & BS 5911-3 with a D400 heavy duty cover for driveway/carpark and B125 for remaining surface (in accordance with IS EN 124:1994).
  - Pipes to be uPVC to IS EN 1401-1 for sizes Ø100 & Ø150mm.
  - Pipes to be uPVC to WIS 4-35-01, for sizes Ø225 & Ø300mm.
  - Pipes for storm drainage to be proprietary plastic twin wall design
  - All measurements shown are in meters, and all levels are to ordnance datum unless otherwise indicated.
  - All Coordinates are to Irish Grid, unless otherwise noted.
  - For indicative location for all sewers and services please see Existing Site Services drawings. It shall be the contractor's responsibility to verify position and level prior to commencing construction. The contractor shall also be responsible for the arrangement of all necessary permits as required prior to commencement.
  - Min cover to Clay / Concrete drainage Pipes to be 1200mm under roads/footpaths and 600mm under landscaping. Min cover to Thermoplastic drainage Pipes to be 900mm under roads/footpaths and 600mm under landscaping. Where adequate cover cannot be provided pipes are to be protected with a lean mix concrete surround.
  - Changes in invert levels at a manhole (not requiring a drop manhole) shall be graded evenly through the manhole in order to avoid an abrupt change in invert level.
  - Where concrete surround is specified for pipes the pipes shall be first wrapped with an approved plastic membrane. Flexibility at joints shall be maintained by insertion of 25mm compressible joint board at each joint to break the continuity of the concrete surround. However the plastic membrane shall be continuous at these locations to protect rubber jointing rings from ingress of grout. The minimum thickness of the concrete surround should be 150mm or the diameter of the pipe whichever is the greater.
  - Compressible boards to be laid between crossing pipes where cover between pipes limited.
  - All in-cultrage pipes to be minimum Ø100mm unless otherwise indicated.
  - A drain which is at a level lower than the foundations of a building should either
    - where the trench is within 1m of the foundations, be filled with concrete up to the level of the underside of the foundations,
    - where the trench is more than 1m from the foundations, be filled with concrete up to a level, below the level of the underside of the foundations, equal to the distance from the foundations less 150mm.
  - Existing sewers to be maintained and kept in service at all times.
  - This drawing should be read in conjunction with proposed drainage schedule drawings, construction details drawings and all other relevant drawings.
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P4	05/03/2024	Site Layout Amended	PC
P3	26/02/2024	Amendments to Accommodate Bridge	PA
P2	25/02/2024	Minor Amendments	PA
Rev	Issue Date	Description	App

Status: **FOR PLANNING**

Client: **Cavan County Council**

Project: **Cavan Regional Sports Campus**

Drawing: **Proposed Drainage Layout - Sheet 1**

Scale: **1:500 @ A1**

**McAdam**  
ENHANCING LOCAL COMMUNITIES

Contact Details: 1c Montgomery House, 478 Castlereagh Road, Belfast, BT5 6BQ. T: 028 9040 2000. E: admin@mcadamdesign.co.uk, www.mcadamdesign.co.uk

Drawn: JG	Checked: PA	Approved: PA
Date: 23/02/2024	Date: 23/02/2024	Date: 23/02/2024

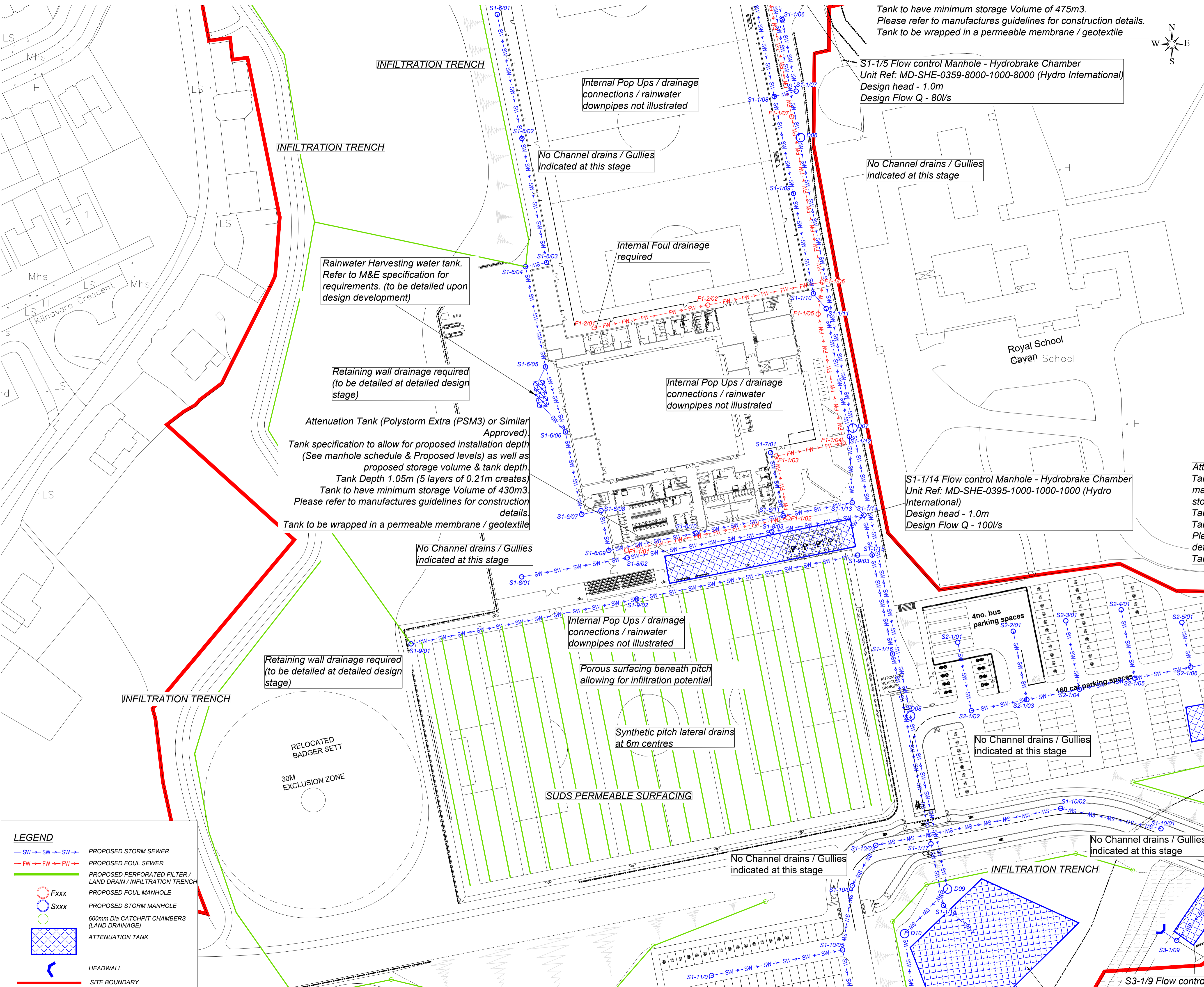
Project: CRSP - MCA - 00 - 00 - DR - C - 2001 - P4

Project Number: A2156 | Status code & Description: S4

All dimensions are in metres. Figured dimensions to be taken in preference to scale dimensions. Dimensions to be checked on site. © 2021 McAdam Design Ltd.

**LEGEND**

- SW → SW → SW → PROPOSED STORM SEWER
- FW → FW → FW → PROPOSED FOUL SEWER
- PROPOSED PERFORATED FILTER / LAND DRAIN / INFILTRATION TRENCH
- Fxxx PROPOSED FOUL MANHOLE
- Sxxx PROPOSED STORM MANHOLE
- 600mm Dia CATCHPIT CHAMBERS (LAND DRAINAGE)
- ATTENUATION TANK
- ↪ HEADWALL
- SITE BOUNDARY



Tank to have minimum storage Volume of 475m3.  
Please refer to manufactures guidelines for construction details.  
Tank to be wrapped in a permeable membrane / geotextile

S1-1/5 Flow control Manhole - Hydrobrake Chamber  
Unit Ref: MD-SHE-0359-8000-1000-8000 (Hydro International)  
Design head - 1.0m  
Design Flow Q - 80l/s

No Channel drains / Gullies indicated at this stage

S1-1/14 Flow control Manhole - Hydrobrake Chamber  
Unit Ref: MD-SHE-0395-1000-1000-1000 (Hydro International)  
Design head - 1.0m  
Design Flow Q - 100l/s

Attenuation Tank (Polystorm Extra (PSM3) or Similar Approved).  
Tank specification to allow for proposed installation depth (See manhole schedule & Proposed levels) as well as proposed storage volume & tank depth.  
Tank Depth 1.05m (5 layers of 0.21m creates)  
Tank to have minimum storage Volume of 430m3.  
Please refer to manufactures guidelines for construction details.  
Tank to be wrapped in a permeable membrane / geotextile

**LEGEND**

- SW → SW → SW → PROPOSED STORM SEWER
- FW → FW → FW → PROPOSED FOUL SEWER
- PERFORATED LINE — PROPOSED PERFORATED FILTER / LAND DRAIN / INFILTRATION TRENCH
- Fxxx PROPOSED FOUL MANHOLE
- Sxxx PROPOSED STORM MANHOLE
- 600mm Dia CATCHPIT CHAMBERS (LAND DRAINAGE)
- ▭ ATTENUATION TANK
- HEADWALL
- SITE BOUNDARY

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  - To achieve invert levels of the foul drainage network all WC internal infrastructure must be connected via backdrop manhole (if required) as per construction details drawings, or similar approved.
  - All back inlet bottle gullies for foul drainage to be capped with closed lid with same strength class as adjacent manholes. Perforated lids will not be suitable.
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Rev	Issue Date	Description	App
P4	05/03/2024	Site Layout Amended	PC
P3	26/02/2024	Amendments to Accommodate Bridge	PA
P2	25/02/2024	Minor Amendments	PA

Status	FOR PLANNING
Client	Cavan County Council
Project	Cavan Regional Sports Campus
Drawing	Proposed Drainage Layout - Sheet 2
Scale	1:500 @ A1

**McAdam**  
ENHANCING LOCAL COMMUNITIES

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Drawn	JG	Checked	PA	Approved	PA
Date	23/02/2024	Date	23/02/2024	Date	23/02/2024

Project: CRSP - MCA - 00 - 00 - DR - C - 2002 - P4

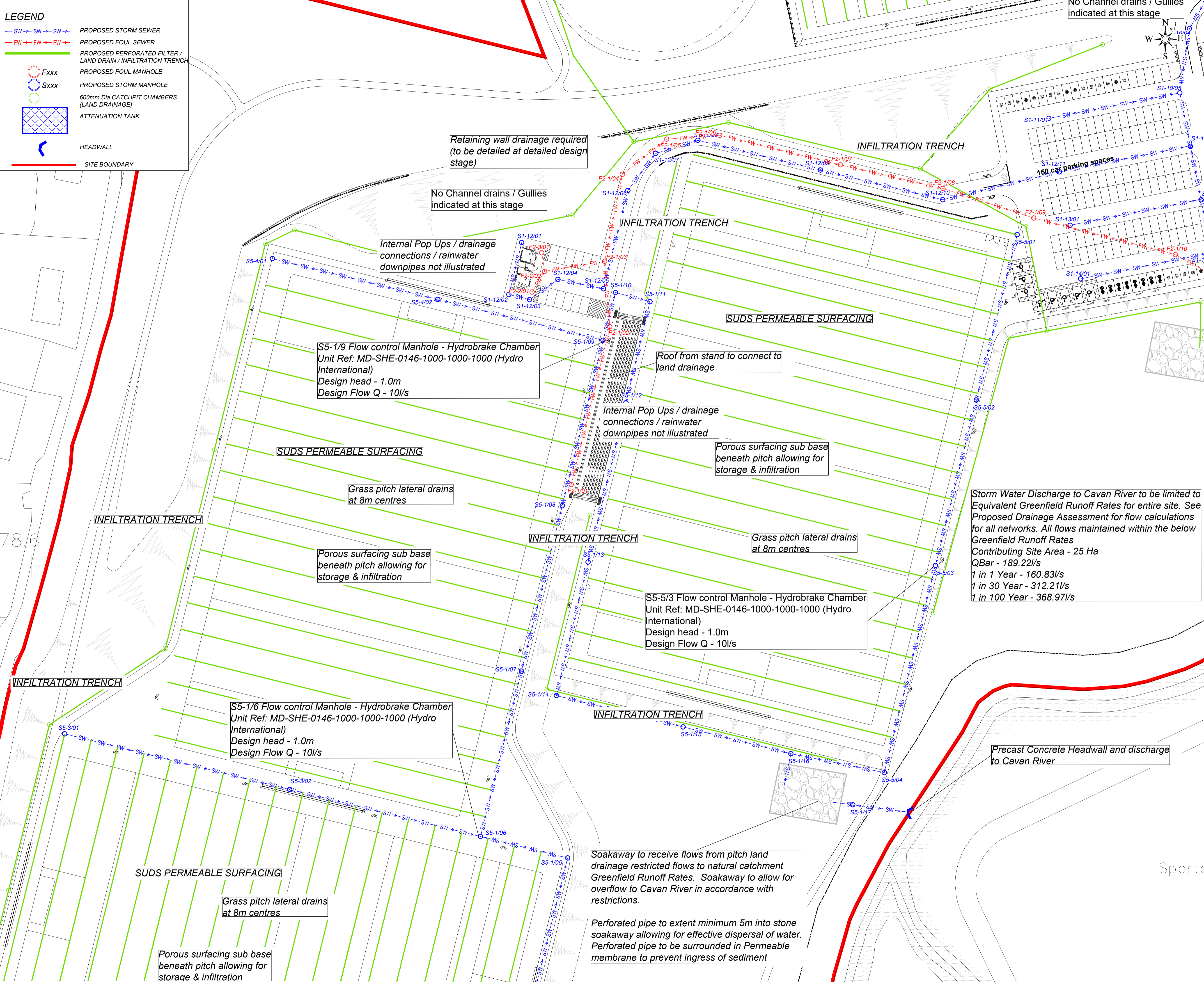
Project Number: A2156 | Status code & Description: S4

All dimensions are in metres. Figured dimensions to be taken in preference to scale dimensions. Dimensions to be checked on site. © 2021 McAdam Design Ltd.



**LEGEND**

- SW → SW → SW → PROPOSED STORM SEWER
- FW → FW → FW → PROPOSED FOUL SEWER
- [Green Line] — PROPOSED PERFORATED FILTER / LAND DRAIN / INFILTRATION TRENCH
- Fxxx PROPOSED FOUL MANHOLE
- Sxxx PROPOSED STORM MANHOLE
- 600mm Dia CATCHPIT CHAMBERS (LAND DRAINAGE)
- [Blue Hatched Box] ATTENUATION TANK
- [Blue Arrow] HEADWALL
- [Red Line] SITE BOUNDARY



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**Storm Water Discharge to Cavan River to be limited to Equivalent Greenfield Runoff Rates for entire site. See Proposed Drainage Assessment for flow calculations for all networks. All flows maintained within the below Greenfield Runoff Rates Contributing Site Area - 25 Ha**

QBar - 189.22l/s  
 1 in 1 Year - 160.83l/s  
 1 in 30 Year - 312.21l/s  
 1 in 100 Year - 368.97l/s

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P2	25/02/2024	Minor Amendments	PA

Status	FOR PLANNING
Client	Cavan County Council
Project	Cavan Regional Sports Campus
Drawing	Proposed Drainage Layout - Sheet 4
Scale	1:500 @ A1

**McAdam**  
ENHANCING LOCAL COMMUNITIES

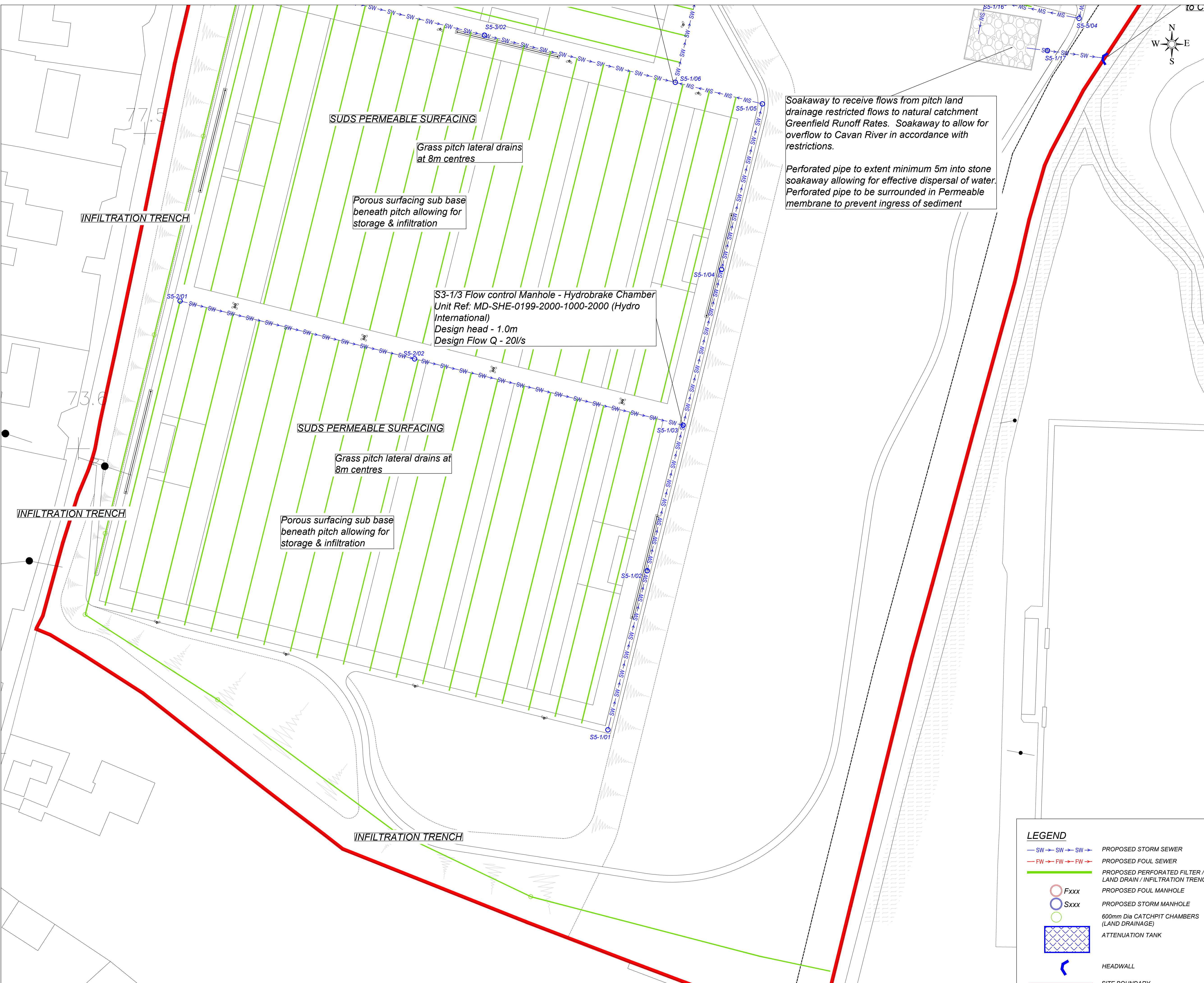
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Drawn	JG	Checked	PA	Approved	PA
Date	23/02/2024	Date	23/02/2024	Date	23/02/2024

Project: CRSP - MCA - 00 - 00 - DR - C - 2004 - P4

Project Number: A2156 | Status code & Description: S4

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Soakaway to receive flows from pitch land drainage restricted flows to natural catchment Greenfield Runoff Rates. Soakaway to allow for overflow to Cavan River in accordance with restrictions.

Perforated pipe to extent minimum 5m into stone soakaway allowing for effective dispersal of water. Perforated pipe to be surrounded in Permeable membrane to prevent ingress of sediment

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P2	25/02/2024	Minor Amendments	PA
Rev	Issue Date	Description	App

Status: **FOR PLANNING**

Client: **Cavan County Council**

Project: **Cavan Regional Sports Campus**

Drawing: **Proposed Drainage Layout - Sheet 5**

Scale: 1:500 @ A1

McAdam  
ENHANCING LOCAL COMMUNITIES

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Date	23/02/2024	Date	23/02/2024	Date	23/02/2024

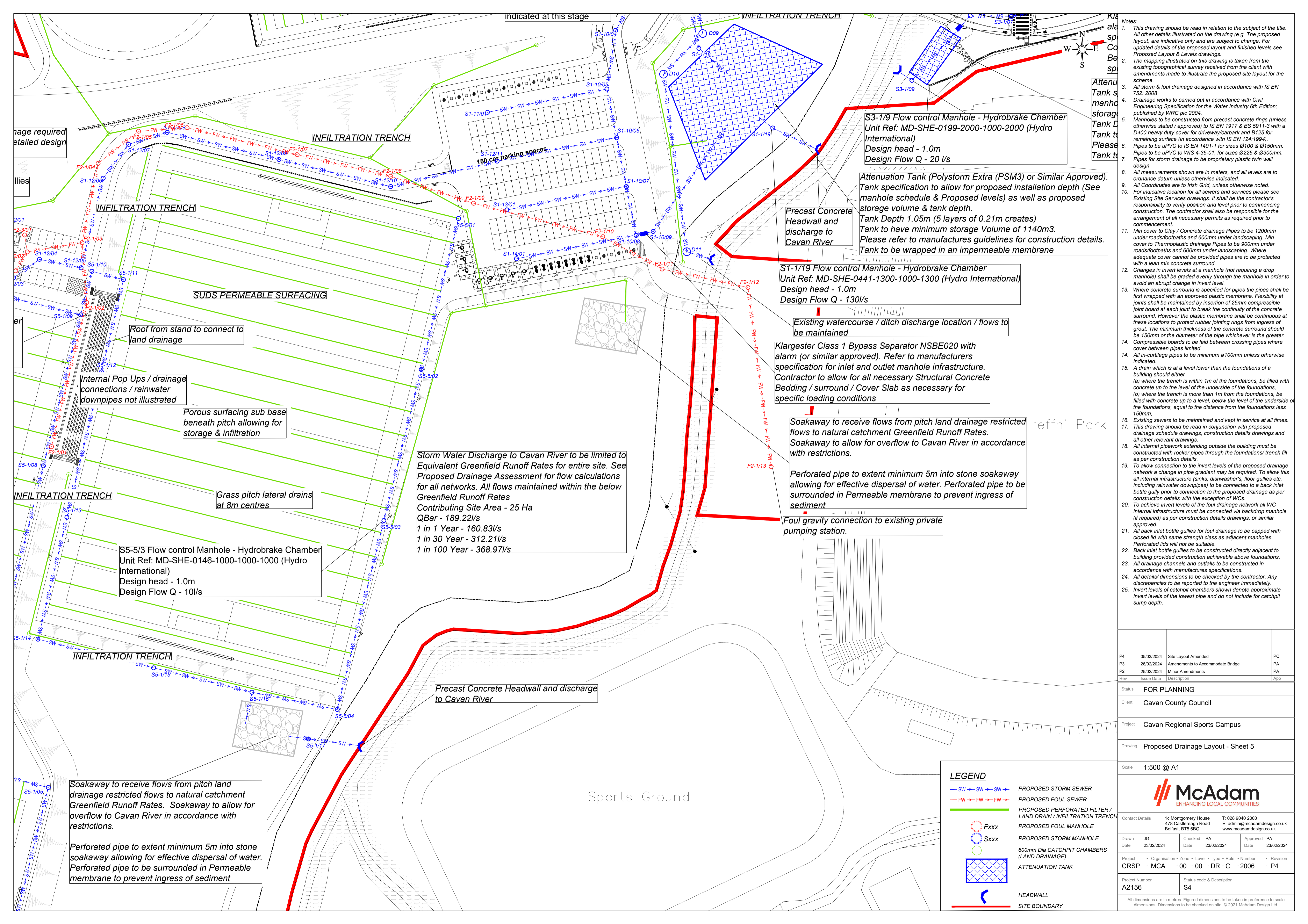
Project: CRSP - Organisation - Zone - Level - Type - Role - Number - Revision  
MCA - 00 - 00 - DR - C - 2005 - P4

Project Number: A2156 | Status code & Description: S4

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**LEGEND**

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- FW → FW → FW → — PROPOSED FOUL SEWER
- — — PROPOSED PERFORATED FILTER / LAND DRAIN / INFILTRATION TRENCH
- Fxxx PROPOSED FOUL MANHOLE
- Sxxx PROPOSED STORM MANHOLE
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- ▒ ATTENUATION TANK
- ⤵ HEADWALL
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  - Compressible boards to be laid between crossing pipes where cover between pipes limited.
  - All in-culvert pipes to be minimum Ø100mm unless otherwise indicated.
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    - where the trench is within 1m of the foundations, be filled with concrete up to the level of the underside of the foundations,
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**S3-1/9 Flow control Manhole - Hydrobrake Chamber**  
 Unit Ref: MD-SHE-0199-2000-1000-2000 (Hydro International)  
 Design head - 1.0m  
 Design Flow Q - 20 l/s

**Attenuation Tank (Polystorm Extra (PSM3) or Similar Approved)**  
 Tank specification to allow for proposed installation depth (See manhole schedule & Proposed levels) as well as proposed storage volume & tank depth.  
 Tank Depth 1.05m (5 layers of 0.21m creates)  
 Tank to have minimum storage Volume of 1140m3.  
 Please refer to manufactures guidelines for construction details.  
 Tank to be wrapped in an impermeable membrane

Precast Concrete Headwall and discharge to Cavan River

**S1-1/19 Flow control Manhole - Hydrobrake Chamber**  
 Unit Ref: MD-SHE-0441-1300-1000-1300 (Hydro International)  
 Design head - 1.0m  
 Design Flow Q - 130l/s

Existing watercourse / ditch discharge location / flows to be maintained

**Klargester Class 1 Bypass Separator NSBE020 with alarm (or similar approved)**. Refer to manufactures specification for inlet and outlet manhole infrastructure. Contractor to allow for all necessary Structural Concrete Bedding / surround / Cover Slab as necessary for specific loading conditions

Soakaway to receive flows from pitch land drainage restricted flows to natural catchment Greenfield Runoff Rates. Soakaway to allow for overflow to Cavan River in accordance with restrictions.

Perforated pipe to extent minimum 5m into stone soakaway allowing for effective dispersal of water. Perforated pipe to be surrounded in Permeable membrane to prevent ingress of sediment

Foul gravity connection to existing private pumping station.

Storm Water Discharge to Cavan River to be limited to Equivalent Greenfield Runoff Rates for entire site. See Proposed Drainage Assessment for flow calculations for all networks. All flows maintained within the below Greenfield Runoff Rates  
 Contributing Site Area - 25 Ha  
 QBar - 189.22l/s  
 1 in 1 Year - 160.83l/s  
 1 in 30 Year - 312.21l/s  
 1 in 100 Year - 368.97l/s

Precast Concrete Headwall and discharge to Cavan River

**S5-5/3 Flow control Manhole - Hydrobrake Chamber**  
 Unit Ref: MD-SHE-0146-1000-1000-1000 (Hydro International)  
 Design head - 1.0m  
 Design Flow Q - 10l/s

Soakaway to receive flows from pitch land drainage restricted flows to natural catchment Greenfield Runoff Rates. Soakaway to allow for overflow to Cavan River in accordance with restrictions.

Perforated pipe to extent minimum 5m into stone soakaway allowing for effective dispersal of water. Perforated pipe to be surrounded in Permeable membrane to prevent ingress of sediment

**LEGEND**

- SW → SW → SW → PROPOSED STORM SEWER
- FW → FW → FW → PROPOSED FOUL SEWER
- Fxxx PROPOSED PERFORATED FILTER / LAND DRAIN / INFILTRATION TRENCH
- Sxxx PROPOSED FOUL MANHOLE
- Sxxx PROPOSED STORM MANHOLE
- 600mm Dia CATCHPIT CHAMBERS (LAND DRAINAGE)
- ATTENUATION TANK
- HEADWALL
- SITE BOUNDARY

Rev	Issue Date	Description	App
P4	05/03/2024	Site Layout Amended	PC
P3	26/02/2024	Amendments to Accommodate Bridge	PA
P2	25/02/2024	Minor Amendments	PA

Status	FOR PLANNING
Client	Cavan County Council
Project	Cavan Regional Sports Campus
Drawing	Proposed Drainage Layout - Sheet 5

Scale: 1:500 @ A1

**McAdam**  
 ENHANCING LOCAL COMMUNITIES

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Drawn	JG	Checked	PA	Approved	PA
Date	23/02/2024	Date	23/02/2024	Date	23/02/2024

Project: Organisation - Zone - Level - Type - Role - Number - Revision  
 CRSP - MCA - 00 - 00 - DR - C - 2006 - P4

Project Number: A2156 | Status code & Description: S4

All dimensions are in metres. Figured dimensions to be taken in preference to scale dimensions. Dimensions to be checked on site. © 2021 McAdam Design Ltd.