Environmental Report July 2025

Glashaboy Flood Relief Scheme

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Date of issue: 08/2025
Document code: FFEC-GFRS-2025-007

The following is the clients Ecological Clerk of Works (ECoW) monthly review of the Glashaboy River (Glanmire/Sallybrook) Drainage Scheme. It details observations made on site regarding environmental and ecological factors involved in the scheme. This formulates a monthly review to be submitted to the Environmental Monitoring Group (EMG).

Environmental Aspects – July 2025 included:

Area 1 – Permanent Sheet Piling Preparation

- Vegetation clearance required prior to works.
- Primary environmental concerns:
    - Biosecurity measures for Japanese Knotweed (JKW).
    - Bird nesting checks.
- Ongoing storage of JKW and other invasive plant material in the Sallybrook Temporary Holding Cell.

Area 2 – Hazelwood (Bridge Construction Works, Flood Defences Walls)

- Dewatering of abutment excavations requires silt management.
- Minor biosecurity concerns from two small JKW stands in this location.
- Further demolition works on the shopping centre bridge require debris management.
- Sand martins nesting in the Bean & Leaf revetment wall require close monitoring and protection.
- In-stream works commencing at this location require monitoring and management of water quality.
- Riverbank vegetation clearance and bank excavations require:

- Silt run-off management.
- Breeding bird surveys.
- Invasive plant surveys prior to clearance.

Area 3 – New Line (Rock armour installation and step pool construction)

- Works require supervision, monitoring, and management to control water quality and minimise impacts to the aquatic environment.

Area 4 – Ongoing Works (Flood Defence Walls, Pump Station, Roads & Footpaths)

- Prevalent ecological concern: widespread Japanese Knotweed.
- Extensive excavation works require supervision and management to ensure containment and correct handling of invasive plant material if encountered.

Table 1. Main table of the months ecological and environmental related activities

Item number	Date	Comment	Image	ECoW Action/Recommendation	Sorensens's Action response
7.1	01/07/2025	Sand martins were observed today investigating Hazelwood Shopping Centre Bridge, given that new openings are present underneath bridge due to its partial demolition for the new bridge to be built.	 	Liaised with site ecologist that sand martins were interacting with the bridge to prioritise blocking off as precaution.	The openings are considered unsuitable for Sand martins. However, as a precaution, expanding foam and terram were used to prevent entry and possibly establishing nesting which would delay works to complete demolishment of bridge and commencement of new bridge construction works.
7.2	01/07/2025	A nest under the Hazelwood Road Bridge was inspected and confirmed to be an active Swallow nest.		Periodic monitoring and liaising with site ecologist in relation to swallow nest activity.	Although this nest is not within the direct footprint of the works, it is located in between two work areas. Subsequently, it was communicated to workers and will be monitored periodically for its status.

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7.3	01/07/2025	One of the weep holes was blocked off in the Bean and Leaf revetment wall which is due to be demolished as part of the works.		Periodic monitoring and liaising with site ecologist in relation to weep hole nesting activity.	Blocking off was done in consultation with NPWS and only after weep hole was confirmed to be inactive by the previously nesting sand martins.
7.4	02/07/2025	Hazelwood works area, coir mesh deployed to exposed riverside banks to prevent run off and erosion. Entry ramp being dug for access into the river for instream works.		Coir mesh was inspected and adjusted where needed.	Good controls were in place to prevent run off. Adjustments were made as works progressed. Additional coir mesh installed upstream of Hazelwood Shopping Centre Bridge added on 08/07/2025.

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7.5	02/07/2025	Weep Hole F was blocked off this afternoon after young birds had fledged. There is still activity at Weep Hole A which was blocked on the evening of the 08/07/2025 after checks confirmed no nesting.		Periodic monitoring and liaising with site ecologist in relation to weep hole nesting activity.	Blocked off was done in consultation with NPWS and only after weep hole was confirmed inactive by previously nesting sand martins.
7.6	03/07/2025	Works at New Line involved the removal of the temporary berm and excavation of a toe trench to anchor the rock armour. Activities were carried out in semi-dry conditions.		The works were supervised on site, with close coordination between the machine operator and the site ecologist.	The works were supervised by the site ecologist. Silt curtain arrangements were in place around the active work area to minimise the release of suspended solids into the watercourse. Water quality sondes were installed both upstream and downstream to record and transmit key parameters, including NTU, pH, dissolved oxygen, temperature, and conductivity. Start-stop protocols were implemented and enforced as needed to manage and

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					regulate silt loading during the course of the works.
7.7	04/07/2025	New Line – Rock Armouring and Instream Enhancements: The rock armouring at the toe of the reinforced concrete wall was completed under dry working conditions. Adjustments were made to the existing rock armouring on the opposite bank to improve overall stability and flow conditions.		The works were supervised on site, with close coordination between the machine operator and the site ecologist.	The works were supervised by the site ecologist. Silt curtain arrangements were in place around the active work area to minimise the release of suspended solids into the watercourse. Water quality sondes were installed both upstream and downstream to record and transmit key parameters, including NTU, pH, dissolved oxygen, temperature, and conductivity. Start-stop protocols were implemented and enforced as needed to manage and

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					regulate silt loading during the course of the works.
7.8	05/07/2025	Area 4 – Demolition of Wall Adjacent to Japanese Knotweed Stands (JKW). Demolition works took place adjacent to known JKW stands. While biosecurity measures were in place, there is scope for improvement in their implementation to ensure full compliance with best practice standards and to prevent potential spread.		The area was inspected following demolition. Signage and demarcation were recommended to prevent unintended access or interference with the Japanese Knotweed stands.	Signage, barriers, cones, and ropes were installed to clearly demarcate the area and inform site personnel of the associated risks and designated exclusion zone.
7.9	07/07/2025	Installation of two step pools began at New Line.		Discussions were held regarding the design, including heights and configurations.	The works were supervised by the site ecologist. Silt curtain arrangements were in place around the active work area to minimise the release of suspended solids into the watercourse.

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					Water quality sondes were installed both upstream and downstream to record and transmit key parameters, including NTU, pH, dissolved oxygen, temperature, and conductivity. Start-stop protocols were implemented and enforced as needed to manage and regulate silt loading during the course of the works.
7.10	07/07/2025	During works in Area 4, activity encroached onto an adjacent area due to the absence of clearly defined site boundaries. Minor limb damage to surrounding vegetation was observed. Additionally, Himalayan balsam—a biosecurity concern—was identified in the area.		Liaised with site ecologist about the situation.	Appropriate measures were implemented: damaged limbs were cleanly cut with a chainsaw, and signage and barriers were installed to clearly demarcate the site boundary and highlight the biosecurity risk.

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7.11	08/07/2025	As part of preparatory works for the lifting of bridge beams from the old Shopping Centre Bridge, a road sweeper was deployed to remove dust and small debris, preventing these materials from entering the river.	  	Pre-works discussions were held to establish mitigation measures aimed at reducing the risk of material entering the watercourse during the operation.	Terram sheeting was also installed in the watercourse beneath the bridge to capture any falling debris during beam removal and to facilitate efficient retrieval once lifting operations are complete.
7.12	08/07/2025	Driving permanent sheet piles to accommodate a stitch onto the RC Wall. Piling took place from the river.		Supervised.	Tracking was minimised, and water quality was continuously monitored throughout the works. Biodegradable hydraulic oil was used in the tracked machinery to reduce environmental risk.

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7.13	09/07/2025	Bridge beams were lifted today. Some debris visibly entered the river but was largely contained by the previously installed Terram sheeting. Larger materials were moved to river margins where sheet piling for the cofferdam will create a dry working zone for removal during the upcoming abutment excavations.	 	Pre-works discussions were held to establish mitigation measures aimed at reducing the risk of material entering the watercourse during the operation.	Silt curtains were also in place downstream of Hazelwood Shopping Centre Bridge.

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7.14	09/07/2025	Excavation works for RC Wall continuing today in Area 4 and road barriers under supervision with regards to the potential for knotweed. Japanese knotweed was encountered at several locations. Contaminated soil material was relocated to a temporary stockpile within Area 4, pending further direction regarding its treatment or disposal.	  	Supervised works and locations for JKW.	The contaminated Japanese knotweed (JKW) soil was temporarily stockpiled within Area 4, pending the issuing of a licence from the NPWS to permit transport of the material on the public road network.

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7.15	09/07/2025	Dust control measures were implemented throughout the month as required. Particular attention was given to the Circus Field; due to its ongoing heavy use and its proximity to a coffee shop located directly across the road.		Recorded.	Dust control implemented as weather conditions necessitated.

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7.16	10/07/2025	A breach of biosecurity occurred when potential Japanese Knotweed (JKW) material was moved off-site without ecological supervision.	 	The issue was discussed with the site ecologist. An email was sent to the project manager outlining the seriousness of the situation and recommending that a formal Environmental Incident Report be completed.	This action was not in accordance with the biosecurity measures. However, subsequent supervision of the excavated area found no presence of Japanese knotweed which fortunately indicated that material moved off-site was clean material.

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7.17	10/07/2025	Area 2 – Overflow Culvert Works at Hazelwood Bridge Excavation commenced upstream of the overflow culvert to lower the existing riverbank and form a new channel for floodwater conveyance. A silt curtain was installed, though it was positioned retrospectively after initial groundworks had begun.	 	Works were supervised on site, with liaison carried out directly with the site foreman to implement appropriate silt control measures.	Particular attention was given to the potential for compounding effects, as concurrent works at the downstream bridge location on the same river were also generating silt. Measures were discussed and adjusted accordingly to manage cumulative impact on water quality
7.18	10/07/2025	Area 3 – Both steps pools have been installed, and rock armour work is nearing completion. Silt control measures may be removed if no further in-stream activities are planned.		Supervision of works and checks to design and final layout of step arrangement.	The works were supervised by the site ecologist. Silt curtain arrangements were in place and adjusted as needed. Water quality sondes monitored. Start-stop protocols were in operation.

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7.19	11/07/2025	Silt curtains were repositioned at Hazelwood Shopping Centre Bridge in preparation for vegetation removal from the old stone wall immediately downstream of the shopping centre bridge, to facilitate archaeological investigation.		Partial supervision. Discussed work methods with grounds crew and archaeologist.	Good implantation of ecological controls.
7.20	11/07/2025	Isolated pools of water beneath the Brooklodge culvert were inspected yesterday for trapped fish. Minnows were observed in a large pool near the downstream side of the culvert. To improve water flow and connectivity, deposited cobbles and gravels on the upstream side were removed, allowing fresh water to reach the pools.		Worked together with site ecologist to create outlet for trapped fish and freshwater circulation.	Appropriate measures were promptly undertaken once the situation was discovered.

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7.21	14/07/2025	Dewatering of the excavation at Area 4 was carried out, with discharge directed to a green, vegetated area on the riverbank. Effective attenuation measures were implemented to manage the discharge.		The discharge area was regularly inspected throughout the pumping period, which spanned several days.	A permit to pump was issued, taking into account various ecological factors to ensure full compliance with environmental requirements.
7.22	15/07/2025	Excavating continuing in Area 4 for RC Walls through a known potential JKW infested area.		Partial supervision was provided, with ongoing liaison between the ground crew and the site ecologist.	Biosecurity measures were in place. Most importantly supervision.

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7.23	16/07/2025	In-stream works involved the use of a small excavator to adjust and finalise the rock armour arrangement along the reinforced concrete wall downstream of the New Line bridge.		Sonde data was monitored, with particular attention to the difference in NTU levels upstream and downstream. The works were discussed with the site ecologist.	Three silt curtains set up downs stream in way that also allow fish passage. Additional curtains set up around the immediate works. Water quality was monitored which the sediment load remained mostly within acceptable limits, aside from a brief spike that quickly subsided.
7.24	16/07/2025	Heavy rainfall has caused silty water—originating at least in part from the circus field stockpile yard—to enter the drainage system via surface gullies and drains. This water is discharging into the in-stream works at the shopping centre bridge, contributing to the sediment load associated with the sheet pile driving activities.		Best practice would be to prevent silt from entering the surface water drainage network from Hazelwood Road, while still allowing water to flow to avoid flooding the roadway.	Although no preventive measures were implemented, water quality monitors were used to track NTU (turbidity) levels. The sediment load remained mostly within acceptable limits, aside from a brief spike that quickly subsided.

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7.25	16/07/2025	Earth material excavated within Area 4 for the reinforced concrete (RC) wall, which is contaminated with Japanese Knotweed (JKW), has been stockpiled on a floodplain. The associated risks were communicated to the SCE, who acknowledged and accepted liability for these risks.		Discussed with site ecologist.	SCE are willing to accept the low risk, considering the time of year and the unlikely combination of significantly elevated water levels and severe weather conditions that would be required for this area to flood. The material is expected to be removed within the next few weeks, once the Regulation 49(2) transport licence is issued by the NPWS.

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7.26	16/07/2025	Area 4: Pumping of excavation ground water was being pumping without a sump installed.		When observed the sump was being installed.	The discharge location for this silty water occurred onto vegetated ground set back from the watercourse, allowing for effective filtration of sediment.
7.27	16/07/2025	Heavily silt-laden water was observed discharging from an outlet just upstream of the work site in Area 4. The source of this sediment load was investigated but could not be definitively identified.		Investigated the source and communicated the incidents to SCE and CCC. Informed IFI local officer via email.	This sediment discharge originates from a third-party source and is not the responsibility of the main contractor.
7.28	16/07/2025	Pile cropper was observed in operation which resulted in a few chunks of concrete falling into the coffer dam where aquic species may be present.		Advised caution which was acknowledged.	This was a single test of the cropper, which will not be used again until the cofferdam has been closed and backfilled, following the completion of electrofishing.

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7.29	17/07/2025	A surface slick was observed on the water at Hazelwood, accumulating around the silt curtain installed to control sediment from the sheet piling works taking place today.		Investigated the source and communicated to site ecologist once found.	Bioversal and absorbent pads were deployed as control measures. The source was investigated and found to have originated, at least in part, from activities where shuttering for the reinforced concrete (RC) walls was being sprayed down with a hydrocarbon-based material. Once identified, absorbent pads were installed around the gully, and Bioversal was applied to all visible residues.
7.30	17/07/2025	Minor amount of earth material added to east coffer dam channel accidentally.		Advised caution to driver.	No more material was added. The material that was added to the channel was removed the same day.

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7.31	17/07/2025	Area 2, electro fishing was carried out on the eastern coffer dam channel at Hazelwood.		Discussed works and findings with site ecologist.	The e fishing was carried out professionally and in line with conditions granted by the license.
7.32	18/07/2025	Pumping commenced on the eastern coffer dam at hazelwood.		Inspected silt curtains and reviewed permit to pump.	The discharge at this location occurred on a grassed area near the Credit Union. Double silt curtains were installed to help attenuate the flow of silty water.

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7.33	18/07/2025	The eastern cofferdam was completed following electrofishing. Sheet piling was then carried out in dry conditions, rather than in the river, to minimise silt generation from the works.		Documented.	Good silt management practices were in place, including the use of downstream silt curtains and ongoing water quality monitoring.
7.34	18/07/2025	A build-up of scum and residue was observed at the upstream silt curtain in Hazelwood. This area receives washout from an outlet pipe located a few metres upstream on the opposite bank which originate from the western hazelwood shopping centre building site.		Raised issue to site ecologist.	The issue was actioned promptly, with Bioversal applied and fresh oil absorbent pads deployed.
7.35	18/07/2025	Works continued today on the downstream side of the structure at New Line. The activities resulted in unavoidable silt generation, as temporary rock armour had to be removed and replaced with permanent		Monitored the works and liaised with the driver and site ecologist to implement appropriate	A stop-start protocol was in place to manage silt loads in the Glanmore river. The river was monitored using sondes, with particular focus on dissolved oxygen, pH, and turbidity levels today. Silt curtains were installed to

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		rock armour, which required adjustment to achieve the correct placement. The presence of lean mix within the temporary rock armour contributed to a spike in pH only briefly.		mitigation measures.	slow the flow and help reduce turbidity. Mitigation measures were well applied, and the driver demonstrated good discipline in following the stop-start procedure and maintaining strong silt awareness.
7.36	18/07/2025	Japanese Knotweed (JKW) was encountered in Area 4. Biosecurity measures have been implemented to manage the risk of spread.		Liaised with site ecologist.	The material has been stored temporarily on the floodplain, pending the issuance of a licence from the NPWS. Storage is at the contractor's own risk.
7.37	21/07/2025	The access ramp into the river at Hazelwood was not ideal, as loose soil material was exposed adjacent to the watercourse, resulting in minor and avoidable sediment mobilisation. However, following the exit of the Movax from the river following sheet piling, the bank was scraped back and some stone was added,		Raised issue with site ecologist.	The situation was remedied as soon as possible. The ramp will receive regular maintenance as plant continues to enter and exit the river via this access point.

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		improving the condition and stability of the access point.			
7.38	21/07/2025	The attenuation area within the grounds of the Credit Union was inspected and found to be functioning poorly. However, progress was slow, and the outcome could have been improved with closer supervision, greater on-site oversight, and increased availability of materials. As completed, the measures still fell short of fully achieving their intended purpose.		Liaised with site ecologist regarding improvements and adjustments.	Additional silt curtains, ground cover, and silt fencing were deployed.

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7.39	21/07/2025	An electrofishing rescue was conducted at the western cofferdam prior to its closure from the river.		Discussed with site ecologist and monitored fish rescue operations.	A fish rescue was carried out under licence from Inland Fisheries Ireland, in full compliance with the conditions set out in the licence, including any specified temperature restrictions.
7.40	21/07/2025	Rock armouring works at New Line today.		Monitored some of the works, checks on silt curtain arrangement and liaised with site ecologist and driver.	Start stop protocols in place to manage silt loading of river which was informed by NTU readings being transmitted by the water sondes. Three downstream silt curtains were also in place to slow silt release into channel.
7.41	21/07/2025	Area 4 excavations for RC wall carried out under supervision of knotweed specialist/site ecologist.		Checks were carried out to ensure that works were undertaken in accordance with the SCE Biosecurity Plan, the works specifications.	Biosecurity measures are in place and functioning well. Any encountered Japanese Knotweed rhizomes are being removed and transferred to a temporary stockpile.

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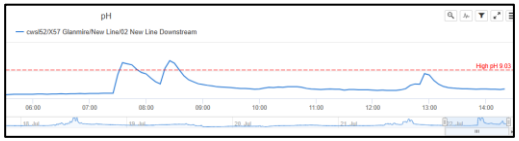
7.42	22/07/2025	Semi-wet concrete was used at New Line today, and an accidental spillage resulted in two brief pH spikes, exceeding the limit of 9.03 and reaching up to 9.30. Although the spikes were short in duration, this was not considered good practice.	 	Inspected the works area after the incident and liaised with the SCE and ER team to raise the issue.	Greater care was taken following the incident, and no further elevated pH readings were recorded at this location.
7.43	22/07/2025	Dewatering of the eastern abutment at Hazelwood, from the shopping centre to the Credit Union attenuation area, is not functioning effectively. The river appears visibly silty, despite no in-stream works taking place in this area. While some improvements have been		Liaised with the SCE and ER team and spoke with the General Operative (GO) to adjust the silt curtains and silt fencing.	Some adjustments were made to the silt curtains, which provided partial improvement. Within the cofferdam being dewatered, additional drainage stone was added to enhance filtration before the water reaches the pump. Excavation within the water

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		made, further action is needed, as this location is expected to serve as a long-term discharge point for occasionally highly turbid water.			inside the cofferdam was halted to reduce further disturbance.

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7.44	22/07/2025	In addition to the subpar attenuation setup for dewatering at the Hazelwood Shopping Centre bridge works area, there is a combined effect contributing to sediment issues. The heavy downpour has washed out fines along Hazelwood Road and works in hazelwood shopping centre originating from the works. This issue remains unaddressed, despite it being raised last week.		Ongoing monitoring of NTU levels via the online sondes data. Liaised with site foreman via shared Ecology Whats App.	Cobbles and boulders were used within the coffer dam channel to slow and filter the water. Ongoing efforts were made to reduce the water entering the coffer dam by sealing the sheet pile clutches. Digging was stopped on a number of occasions in effort to reduce the silt being generated from excavations and dewatering.
7.45	23/07/2025	In response to elevated silt levels observed on the evening of the 22nd, mitigation measures were improved to better control sediment entering the Glashaboy River from the works at the Hazelwood Shopping Centre Bridge site.		Ongoing monitoring of NTU levels via the online sondes data. Ongoing discussions with site ecologist regarding silt management.	The following measures were implemented as part of the silt control strategy. A large silt sock was attached to the hose outlet to filter discharged water. Coir mesh was installed within the drainage channel inside the cofferdam, as well as on the top of the bank at the location of the discharge point. A controlled release of

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					silt from the upstream silt curtain was carried out, and the curtain was subsequently adjusted to run parallel to the bank to improve its effectiveness.
7.46	23/07/2025	A road sweeper was deployed to the Hazelwood Shopping Centre Bridge works area to clean material from the road surface. This measure aims to prevent washout into stormwater gullies and, ultimately, into the Glashaboy River in the event of heavy rainfall.		Held discussions with the site ecologist regarding the planned works	This measure aims to prevent washout of fines materials into stormwater gullies and, ultimately, into the Glashaboy River in the event of heavy rainfall. Alternately, it reduces dust associated with the works during prolonged dry conditions.
7.47	23/07/2025	Improved ramp installed at Hazelwood to be used for plant entering river to complete approved instream works.		Discussed situation with site ecologist with general agreement ramp could be improved.	The introduction of a more gradually graded slope, along with the placement and compaction of stone material, effectively prevented washout that would have occurred if loose earth had been left exposed instead.

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7.48	23/07/2025	An active shallow nest under the Hazelwood Road bridge is receiving ongoing monitoring. The swallow chicks under Hazel Road Bridge were checked, with at least three visible. Fledging is likely to occur within the next week or two given the size of the chicks.		Periodic checks were undertaking and ongoing communication with site ecologist regarding the nest's activity.	An active swallow nest beneath the Hazelwood Road Bridge is being monitored regularly. While there is no immediate risk to the nest or chicks from current works, due to the proximity of nearby activity, care is being taken to ensure ground personnel are informed of the nest's presence to avoid any unintentional disturbance
7.49	23/07/2025	Two additional water crow foot plants were relocated from the toe of the Bean and Leaf revetment wall. These plants were to be unavoidably damaged from necessary works.		Relocated plants with hope they'll be able to be reinstated following works.	SCE were not asked to carry out this work but were informed it was taking place. No action was required.

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7.50	23/07/2025	JKW stem visible from riverbank at Credit Union within the footprint of the attenuation area.		Informed site ecologist.	The exposed JKW stem was removed to the temporary stockpile for contaminated material on the west side of the river.
7.51	23/07/2025	Enhancements were made to the attenuation area at Credit Union.	 	Ongoing monitoring of NTU levels via the online sondes data. Ongoing discussions with site ecologist regarding silt management.	Enhancements included silt curtain arrangements and increased silt sock on lay flat discharge point.
7.52	23/07/2025	There is a noticeable accumulation of fine material along Hazelwood Road. This		Liaised with site ecologist regarding the	This roadside material build up was targeted by a road sweeper deployed to address

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		material appears to originate from the Circus Field, which is currently being used for the stockpiling of various earth and rock materials. As a result, there is an increased risk of fine sediment being washed into the Glashaboy River via the stormwater gullies during periods of heavy rainfall.	 	need to remove the material prior to heavy rains occurring.	such issues across the scheme's sites.
7.53	23/07/2025	Blinding was placed over the rock armouring at New Line. Bean bags and Terram were installed as control measures to contain cementitious materials. Additionally, Terram was placed within the rock		Liaised with site ecologist regarding the mitigation measures required for these works.	Well-conceived and implemented control measures. Notable improvement on yesterday's performance.

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		armouring to prevent cementitious material from entering the marginal riverine habitat.			
7.54	24/07/2025	Rock armour works at New Line was carried out. This resulted in short spikes in the turbidity levels which was unavoidable given the intrusive nature of the works.		Checks were carried out to ensure that works were undertaken in accordance with works specifications and general best environmental practice.	Start-stop protocols were in place, alongside silt curtains and periodic supervision of the physical works. Continuous monitoring was maintained via the sondes and through ongoing communication with the excavator operator.

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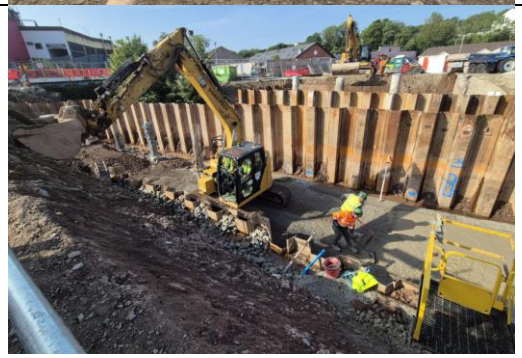
7.55	24/07/2025	The attenuation area in Credit Union lands was enhanced by the Installation of gravels to improve filtration This necessitated tracking in river. A vacuum tanker was deployed today to assist with dewatering operations at the western abutment excavation. This measure was implemented during a particularly intensive phase of excavation works, which generated highly silty water.		Informed by the site ecologist and recorded for documentation purposes.	Ongoing supervision of silt management was carried out by the site ecologist, with enhancements and adjustments implemented continuously as conditions required.
7.56	24/07/2025	A dry mix has been put in place along the length of the internal perimeter drainage channel to assist with containment of the concrete pour.		Measures should be in place to prevent concrete from entering the cofferdam channel during the pour scheduled for the morning of 24th July.	Positive measures were implemented to mitigate pH water quality risks from pour.

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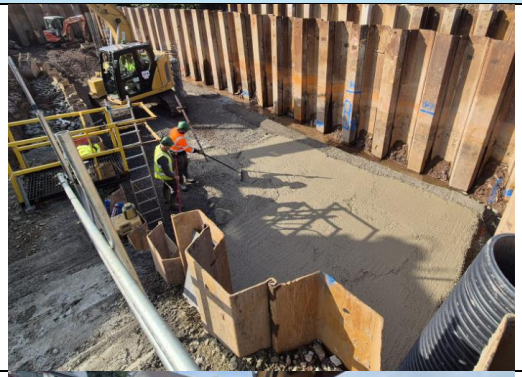
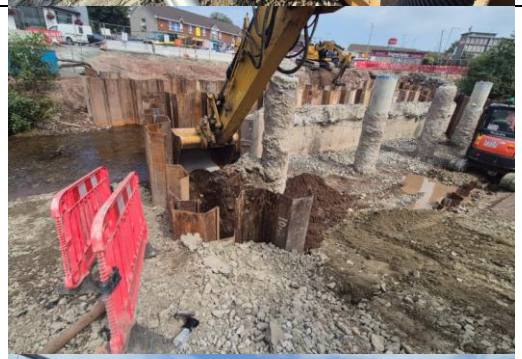
					
7.57	24/07/2025	Recovery of knotweed from Hazelwood Shopping Centre Bridge and storage at a temporary knotweed holding facility at Hazelwood Shopping Centre Bridge	 	Inspected stockpile.	Carried out under the appropriate supervision and guidance by the site ecologist.

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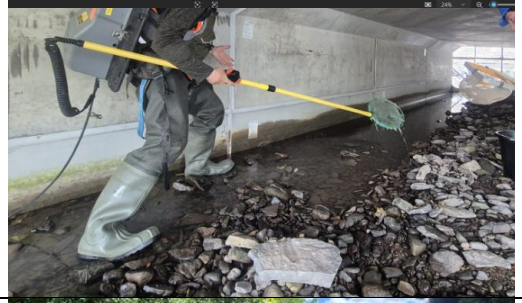
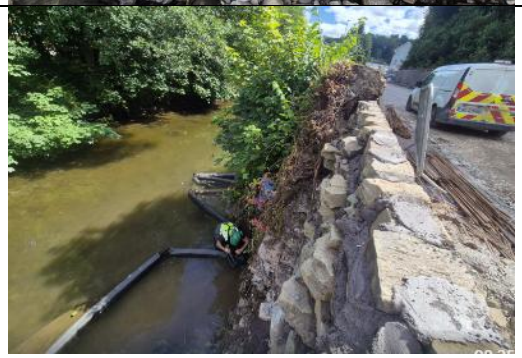
7.58	24/07/2025	Electrofishing activities were carried out in the overflow culvert at Brooklodge / Copper Valley Vue. Sandbags were installed to divert most of the water into the primary culvert, enabling effective fish rescue. Trout species were reportedly relocated following the electrofishing.	 	Discussed with site ecologist and area inspected.	The operation was undertaken due to the vulnerability of fish being potentially trapped in the overflow culvert during periods of rising temperatures and reduced flow levels. Also rescue required in advance of works to be carried out within and downstream of the overflow culvert.
7.59	28/07/2025	Area 4 Vegetation clearance from wet side of wall c. 15m.		Informed by the site ecologist regarding the scope of works and the mitigation measures in place to manage environmental risks.	Mitigation measures and ecological supervision were in place to ensure that the works proceeded in accordance with best environmental practice.

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7.60	28/07/2025	Area 2 – Removal of old rock armour in preparation for sheet piling was a source of siltation. Simultaneously, dewatering ongoing dewatering of the east and west abutment excavations to attenuation area on Credit Union grounds was also a source of siltation. Throughout the workday, NTU readings from the sondes reached the agreed short-duration upper threshold of 209 NTU. This limit was established as part of the three-month instream works period allowance, with the understanding that such elevated levels may occur briefly during high-intensity activities. Preceding and subsequent days recorded comparatively low NTU levels.	  	Ongoing monitoring of NTU levels via the online sondes data. Ongoing discussions with site ecologist regarding silt management.	Minor adjustments were made under supervision of the site ecologist to the attenuation area, including repositioning of some gravels, silt curtains, and separation of discharges - the clean water discharge from the east abutment did not require routing through the attenuation system or silt curtains arrangement. In combination, these measures reduced the levels of silt accessing the river. Start stop protocols were also in place regarding the rock armour works which temporalty reduced silt loading from these works.

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		By managing silt loading over a broader time frame, this approach allows for necessary, intrusive instream works to proceed while avoiding prolonged or repeated sediment shocks to the river environment.			
7.61	29/07/2025	Vegetation was removed from the east bank of Hazelwood to allow work on the pre-existing rock armour. This resulted in the exposure of bare soil, posing a siltation risk from potential washout. To mitigate this, coir mesh was installed as a control measure.		Notified of site activity by the site ecologist; recorded for documentation purposes.	Positive measure to prevent possible run off and avoidable siltation of watercourse until permanent works are carried out.

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7.62	29/07/2025	The upstream and downstream water quality sondes arrangement was modified to accommodate the progression of works downstream on the Glenmore river in Area 3, from New Line to Copper Valley Vue.		Checked the locations of the sondes and reviewed the online Workstation to assess operational efficiency.	Measures were carried out in accordance with the works specification, which requires monitoring of key parameters during in-stream works. The downstream water quality sondes were correctly positioned no more than 100 metres downstream from the active works area, as specified.
7.63	29/07/2025	Area 1 – Vegetation was cleared in preparation for a Change Order involving the replacement of 40m of flood embankment with a permanent sheet pile wall. Continued vegetation clearance and Japanese knotweed (JKW) supervision took place in Area 1. Where JKW was identified, it was left in place where possible for later treatment in accordance with the Biosecurity Plan		The status of a nearby otter holt was rechecked and found to be unchanged, with continued signs of no activity.	Appropriate control measures were implemented proactively to address the identified environmental risks. Vegetation was cleared under supervision from the site ecologist / IAPS (Invasive Alien Plant Species) Specialist, with checks for Japanese Knotweed and also bird nesting surveys conducted both prior to and during the works.

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7.64	29/07/2025	Ongoing dewatering of the east and west abutment excavations to attenuation area on Credit Union grounds. The situation requires ongoing monitoring and adjustment to manage silt loading into Glashaboy.	 	Ongoing checks are being carried out on the online water quality data transmitting NTU readings, along with inspections of the physical attenuation measures in place.	In this instance, adjustments were made to the coir mesh and the silt sock, which resulted in the water running clear.

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7.65	29/07/2025	River gravels continue to be stockpiled at the New Line site for proposed placement within the riverbed upstream of the new bridge. These gravels originate from abutment excavations at Hazelwood, where natural riverbed deposits were encountered.		Discussed gravel retrieval and reuse within the scheme with the site ecologist.	While the gravel may carry some silt (some of which will be naturally washout from rain), the material itself consists of Old Red Sandstone, which is not easily sourced through local quarries. As such, it is considered ideal for reuse within the scheme's riverworks and holds value as a resource

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7.66	30/07/2025	Japanese Knotweed recovery of additional knotweed vector material carried out in Area 4 under the supervision of the site ecologist / IAPS (Invasive Alien Plant Species) Specialist.		Checks were carried out to ensure that works were undertaken in accordance with the SCE Biosecurity Plan, the works specifications, and general best environmental practice.	Effective and professional implementation of Biosecurity Plan, and general best environmental practice.
7.67	30/07/2025	Area 3 Control measures in place at Copper Valley Vue in advance of installation of erosion matting Controlled release of silt (silt curtains were opened to permit fish passage) at Copper Valley Vue took place this evening		The position of downstream sondes was checked, and the silt curtain arrangement was inspected to ensure effectiveness.	A silt curtain arrangement was installed prior to the commencement of works. Following an initial burst of activity, the curtain was adjusted to improve its effectiveness. In advance of the works, water quality sondes were installed and set up by Capital Water Systems to monitor key parameters, including NTU (turbidity),

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					temperature, and dissolved oxygen. The works were carried out under the supervision of the site ecologist.
7.68	30/07/2025	A road sweeper was in operation across the works sites as part of dust control measures. This action also removes material from the road that if a heavy downpour was to occur would wash out into the Glashaboy contributing to elevated turbidity.		Notified of site activity by the site ecologist; recorded for documentation purposes.	Positive measures were implemented to control dust and prevent potential silt-laden material from entering watercourses.
7.69	31/07/2025	Reshaping of riverbank beside western abutment of bridge. Addition silt curtain in place.		Communicated with site ecologist regarding exposed riverbank.	Coir mesh was installed that day to control run off and erosion.

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7.70	31/07/2025	Silt control measures are to be reviewed and adjusted at the Copper Valley Vue site following elevated NTU readings that exceeded the 190 NTU threshold. While the turbidity levels were higher than desirable and resulted in visible water discolouration, other key water quality parameters—such as pH, dissolved oxygen (DO), and temperature—remained within healthy ranges for aquatic species. Additionally, the section of river where the in-stream excavations for the erosion matting installation were taking place did not contain attractive fish habitat, reducing the likelihood of any sensitive species being present in the immediate area.	 	Inspected works and mitigations – not working. Suggested alternate measure- river gravel bund along works to create dry area.	Silt curtains were deployed around the excavation area, and a controlled release of suspended solids was carried out periodically. However, this method proved ineffective in significantly reducing the high NTU levels entering the watercourse, but sediment loads were restricted to short duration spikes. A gravel bund was added upstream of the top silt curtain to deflect water from driving out sediment behind the curtains. Water quality parameters were monitored in real time via data from the installed sondes to inform live supervision and guide mitigation actions on site.