

NORTH LONDON WASTE AUTHORITY

REPORT TITLE: NORTH LONDON HEAT AND POWER PROJECT UPDATE AND REPORTS

REPORT OF: PROGRAMME DIRECTOR

FOR SUBMISSION TO: PROGRAMME COMMITTEE

DATE: 02 NOVEMBER 2020

SUMMARY OF REPORT:

This report provides the Programme Committee with an update on progress of the North London Heat and Power Project (NLHPP).

RECOMMENDATIONS:

The Committee is recommended to note the contents of the report.

A handwritten signature in black ink, appearing to read 'David Peden', is written over a light blue rectangular background.

SIGNED: Programme Director

DATE: 21 October 2020

1. INTRODUCTION AND PURPOSE

- 1.1. The North London Heat and Power Project (NLHPP) is the programme of works authorised by Development Consent Order (DCO) granted in February 2017 through which the existing energy from waste (EfW) plant at the Edmonton EcoPark will be replaced with a new Energy Recovery Facility (ERF). The programme of works includes provision of a Resource Recovery Facility (RRF) for reception and transfer of waste incorporating a public Reuse and Recycling Centre, and EcoPark House (EPH), a visitor centre which will be used to provide community / education space and back up office space. In preparing for and carrying out the works in the NLHPP programme, the management team is working closely with LondonEnergy Ltd (LEL) the operators of the EcoPark and the current EfW plant.
- 1.2. This status report provides Members with an update on progress of the NLHPP. The report structure provides a narrative in the main body with a dashboard.
- 1.3. The progress data provided within the report, including the status dashboard in Appendix A, reflects the status of the programme on the 28 August 2020. This is the most recent reporting period for which project-approved data is available at the time of preparing this status report to Members. Where significant progress updates have occurred since this date, a narrative update has been included in this report.

2. PROGRAMME DIRECTOR'S SUMMARY

Summary Programme Status

- 2.1. The NLHPP programme is on track to deliver to its cost and programme objectives as defined in the agreed programme baseline.
- 2.2. A major achievement was reached on 9 October 2020 with the issue of the tender stage documentation for the Engineer, Procurement and Construct (EPC) contract for the Energy Recovery Facility. A total of 459 documents were issued:
 - 2.2.1. 258 documents in the tender folders,
 - 2.2.2. 148 Site Information documents,
 - 2.2.3. 53 "Redline" documents indicating changes made from the original drafts.
- 2.3. This was a major undertaking by the extensive multi-disciplinary team, working remotely because of COVID-19 restrictions, and was achieved 4 weeks earlier than originally planned in order to meet the accelerated ERF procurement programme.
- 2.4. Other notable successes in the previous period included:

- 2.5. Taylor Woodrow have commenced work on the E3a contract and have been mobilising their team and supply chain. Limited co-location with the NLHPP team, with COVID safe practices in place, has benefited initial on-boarding activities and good collaboration has been observed in all areas of interaction to date.
- 2.6. The invitation to tender for the first stage of the Northern Area Clearance project was issued. This is for the first demolition contract under this project and will incorporate removal of the In-Vessel Composting (IVC) and ash reprocessing plants. This will ultimately clear the western section of the future ERF footprint.
- 2.7. Construction activities have continued safely in the recent period, and a key milestone was completed, with the handover of a critical site location (known as “Manhole A”) from Galldris to Barhale who will sink a shaft in this location to as part of the diversion of Thames Water’s sewer.

Current Key Activities

- 2.8. Following the update in the last report (Authority Meeting 24 September 2020), a cost and risk share agreement has been reached subject to Member approval, between Authority officers and Energetik (the trading name of the Lee Valley Heat Network) to support deconflicting their sewer improvement programme with the NLHPP sewer diversion by incorporating both sections into a single integrated contract between the contractor, Barhale, and the Authority. Approval from Members to enter into this agreement is the subject of a separate decision within the Programme Update (Part 2) paper, provided alongside this report. Officers plan to issue a Project Manager’s Instruction on receipt of the approval.
- 2.9. With Barhale commencing site-based activities for the sewer diversion works this month, and Taylor Woodrow due to begin mobilising to site in the new year, there is a recognised need to enhance the management and coordination of site logistics in parallel. This is needed to maintain safe and undisrupted delivery of operational and construction activities. The upcoming works will in particular bring an increased volume and complexity of traffic into and around the EcoPark. A steering group is being established to guide activities in this area and ensure engagement takes place with all parties on site. Key actions are also taking place to assess and model the level of future traffic movements and identify where new processes and/or rules are required to ensure the logistics can be managed safely.

3. PROJECT DELIVERY SUMMARY

- 3.1. This section summarises the status of each project element that comprise the delivery of the North London Heat and Power Project.
- 3.2. Overall construction of the preparation works has progressed as planned taking into account the shutdown due to Covid-19 over the summer. Although this means that preparation works are completing later than the baseline the knock-on impact

on the building of the RRF and ERF is being mitigated by further overlapping activities. This is being done whilst maintaining safe separation between activities for safety.

- 3.3. Procurement and design development of the sewer diversion, RRF and ERF has progressed on schedule.
- 3.4. The successful delivery of the project overall depends on two changes which are a change in the alignment of the new Enfield sewer by repositioning it upstream shaft C and early relocation of Bulky Waste operations in the ERF footprint.

Laydown Area and Eastern Access (Project E1a2)

- 3.5. Construction work has made good progress on site against the updated plans post Covid-19 shutdown. The off-site manufacture of the modular welfare block has started following the acceptance of the detailed layouts. The new Eastern Access is expected to be completed by the end of December taking LEL visitor traffic away from the EcoPark's Eastern Road and enabling the EcoPark South construction area to be established. The modular welfare block units start to arrive on site in November and will be available for occupation by the EcoPark South Construction contractor and project team in late February 2021. This is later than originally planned but can be accommodated.

Northern Access (Deephams Farm Road) (Project E1b)

- 3.6. Construction has made good progress against updated plans post Covid-19 shutdown with the completion of the piled retaining wall to Salmons Brook. This has enabled the relocation of a power cable, continuation of the ground stabilisation works ahead, remaining utility service ducts and road construction. The focus has been on co-ordination of the civil engineering works with the utility company's diversion works. Deephams Farm Road will be available for use as the northern entrance to the EcoPark before the end of December.

Transport Yard Relocation (Project E2a)

- 3.7. Construction at the Hawley Road site has made good progress against updated plans post Covid-19 shutdown and plans to move operations have been developed with LEL. The power supply connection by UKPN was delayed due to UKPN's circumstances outside the project. Commissioning the site starts imminently with the occupation of the Hawley Road site expected to start in early November.

Sewer Diversion Enabling Works (Project E2b)

- 3.8. Construction has been focussed on the clearing of services in preparation for the construction of shaft A which is where the sewer will be tunnelled. The temporary bypass road around shaft B and C is under construction. Overall the enabling works

are scheduled to progress just in time for the main sewer work, but this remains under continuous review to maintain this schedule interface.

Sewer Diversion Main Works (Project E2c)

- 3.9. The contractors detailed design has been completed and is with Thames Water to confirm that they have no objection to it, based on the continuous engagement that the team has had with them. The contractor has been mobilising on site to take over the work site for shaft A from the enabling works contractor (as above). The feasibility of changing the Enfield leg of the sewer has concluded that shaft C should be repositioned to the west which will enable concurrent works including those for the future district heating (by Energetik) to proceed. The teams focus is to confirm the relocation of shaft with all involved in the next month and integrate the sewer contractor into the site working arrangements on the EcoPark. Shaft A excavation is expected to start early in 2021.

EcoPark South (Project E3a)

- 3.10. The first phase of the design and construction contract is underway with the development by the contractor of the design. The NLHPP project team and technical advisers are co-locating with the contractor in their offices to promote collaboration and sharing information. The worksite in the EcoPark is expected to be established in January 2021 at which point the site traffic arrangement around the EcoPark moves into its next phase. The team is focussing on modelling scenarios of peak in traffic to test sensitivity and avoid congestion issues.
- 3.11. The forecast completion of the RRF is currently 6 weeks later than the target date. If unmanaged, this could have a consequential impact on the relocation of the bulky waste operations into the new RRF which ultimately enables clearance of the ERF footprint. Opportunities to recover this time are being investigated by the team involving more detailed planning of how the sewer diversion overlap with the RRF construction and facility handover.

Northern Area Clearance (Project E3b)

- 3.12. The initial work to demolish the redundant facilities in the western side of the future ERF footprint is being tendered by demolition specialists and tenders will be assessed by the team leading to a contract award before the end of December.
- 3.13. The project is proceeding with the development of a design for temporary bulky waste facility that will enable current operations to vacate the area in time for the ERF footprint to be cleared. The agreement to invest project funds in this and procure its construction is pending authorisation which will be sought in December once the scope and outline design has been completed. This measure will enable the ERF construction to start on time and is therefore critical to the success of the project.

Utility Corridor & Main Distribution Network Operator (DNO) connections (Project E4)

- 3.14. The detailed design of the future incoming gas supply main has been progressed by Cadent and will lead to the procurement in 2021 of the installation works.
- 3.15. The co-ordination of utilities continues with the work on the utility master plan and survey works on site to verify the position of existing services assumed in the overall design.

Energy Recovery Facility (ERF) (Project E7)

- 3.16. The procurement of the works to deliver the ERF have progressed on time with the accelerated procurement plan and the process has completed the supplier questionnaire assessments. This has resulted in three organisations being invited to submit initial solutions for dialogue and recommendation for an award of contract in December 2021.
- 3.17. Detailed planning and modelling continue to look at how the construction work will be sequenced whilst the EcoPark waste management operations continue, and thereby mitigating risks of disruption.

EfW demolition & decommissioning (Project E8) and Southern Access Widening (Project E9)

- 3.18. On the basis that this work comes after the completion of the ERF after 2028, there has been no further work on these projects in the period.

4. HEALTH, SAFETY & WELLBEING

- 4.1. August and September were positive months for Health, Safety and Wellbeing (HSW) performance with zero reportable incidents on site.
- 4.2. The three incidents that occurred in July, in the form of a service strike, and two security incidents, have been investigated and closed out with relevant mitigation actions to prevent reoccurrence and support improvements.
- 4.3. Independent site HSW audits undertaken by the HSW team has yielded 93% plus compliance across 4 sites and 31 audits in the periods.
- 4.4. On the 1 October, a cable strike on a live low voltage cable occurred on the future Transport Yard location at the Hawley Road site, whilst digging out for a fence post base. There was no injury caused. Records of the location and a permit to work were in place to ensure a safe system of work, however rubble backfill made the task difficult and the cable was partially compromised by a spade. Investigations towards the root cause and any lessons to be learnt are ongoing to ensure improvements are made.

- 4.5. Compliance with the Construction, Design & Management (CDM) Regulations 2015 across the programme has been assessed confirming high performance and compliance using a tracker developed by the team. This tracker will now be run as a constant check and report for legislative compliance.
- 4.6. The HSW action plan aimed at continuous improvement of the NLHPP HSW culture and leadership has been. The improvement programme has been given an identity in the form of the “Wellbeing 4 Life” programme, focusing on six core areas of development as shown in Figure 1.



Figure 1 - Wellbeing for life core development areas

- 4.7. Recent progress in this area has included:
- 4.7.1. The HSW Working Group terms of reference have been re-established with a fresh agenda and the first session took place in September. The session was well attended and focused towards continual improvement and the purpose of the forum.
- 4.7.2. The HSW Coordination Manual defines the approach to HSW management across the programme. The document has been included in the Northern Area Clearance tender and will be incorporated into the EcoPark South and the ERF contracts.

- 4.7.3. The “Safety First” induction programme has been completed and is ready for approval and roll out.
- 4.7.4. Development of a digital tool is well underway to assist and simplify safety observations, incident management, Senior Management Safety Tours and collation of Contractor performance metrics.
- 4.7.5. Ten weekly health & safety snapshots have recently been issued across the NLHPP team, including all advisers and contractors, across a range of practical HSW topics relevant to the environment and operations being undertaken at site.

5. RISK SUMMARY

- 5.1. Risk management activity has continued through the period with monthly project level risk reviews progressing.
- 5.2. The following risks continue to be key “high-impact” risks, i.e. having significant schedule and/or cost impact. The table below provides a detailed update on actions against each “high-impact” risk.

Risk description: Further works may be identified as the programme of works progresses and matures as a result of different levels of design maturity and incomplete site information.	Mitigation update: Sitewide intrusive, non-intrusive and ecological surveys are being carried out to inform site conditions.
Risk description: Unknown impacts of BREXIT to the programme (potential funding constraints and additional procurement costs).	Mitigation update: Through contracts, outline risks and implications to NLHPP. Scrutinise contractor arrangements in impacted areas.

- 5.3. The following risks continue to be the key “proximity” risks, i.e. they will either occur or require significant mitigating actions in the **next 6 months**. The table below provides a detailed update on actions against each “proximity” risk.

Risk description: The works on site conflicts with unforeseen underground services and/or assets that have the potential to cause harm/damage and/or disruption to people or operations.	Mitigation update: Continued build up information base of underground services and their condition through non-intrusive and intrusive surveys. Utilise NLHPP GIS (Geographic Information System) model to capture and present relevant information in accessible way. HSW to monitor contractors permitting process to verify latest information and
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	appropriate methodology.
Risk description: Interim/temporary conditions (e.g. road diversions, temporary weighbridges etc) required to maintain LEL operations during EcoPark South Construction (EPSC) may not be in place pre-contract start. This will result in a delay to the Contractor.	Mitigation update: Close management of preceding works contracts. Continue delivery of Weighbridge procurement and build to meet EPSC schedule.
Risk description: Programme interfaces with LEL operations significantly impact construction / delivery beyond known constraints.	Mitigation update: Leverage 4D model to incorporate site-wide phasing and project information to establish better management decision making toolkit. At site Level continuing close and regular engagement between LEL/Contractors/NLHPP through site working group. Establish programme task force (which includes LEL) to review the long-term issues with focus on de-bugging the programme.

- 5.4. At the end of the period, there were 361 live risks. In the period, two risks were raised, and twelve risks closed. The new risks are related to BT delaying Openreach works on the LEL Transport Yard relocation and additional works to the western down ramp on the Laydown Area West and Eastern access. Of the twelve risks closed, three were related to completion of the sewer diversion enabling works and completion of Transport Yard construction. The remaining nine risks are related to temporary and additional works requirements on the laydown area or utility and services scope on the EcoPark South Construction works.

6. SOCIAL VALUE

Northern Access Works contract

- 6.1. Galldris are progressing with the appointment of their second apprentice to support the Northern Access Works, this will be a Groundworker apprentice. Due to Covid-19, Galldris' original course provider, the Kidbrooke Construction Skills Centre, postponed their course start date to February 2021. Galldris have found an alternative training provider for the apprenticeship. They have procured Multi Trades Training as the course provider. The apprentice will start with Galldris in November.
- 6.2. Galldris are working with Capital City College Training (CCCT) to deliver their training placements towards the end of October and in November. The training

placements will involve one week of CSCS card and employability training followed by a week placement on the Galldris NLHPP sites.

Eco Park South contract

- 6.3. Following on from the acceleration of the advertisement and recruitment of apprenticeships for the Eco Park South contract during August, six apprentices have been appointed on the contract. Five of the apprentices have started with Taylor Woodrow and one apprentice has started with RLB. There are three Quantity Surveying apprentices and three Civil Engineering apprentices. Without the early recruitment apprentices would not have been able to start on the contract until September 2021.

Laydown Area West

- 6.4. Buckingham were required to create three apprentices on this contract and have recruited the three apprentices through Evolve. They have recruited two on-site apprentices and one business administration apprentice. Once the two on-site apprentices have completed their placements with Buckingham on the Laydown West contract, it has been agreed that they will move onto the Sewer Diversion Main Works contract with Barhale. Work is being undertaken to ensure that the business administration apprentice has onward placement on the NLHPP.
- 6.5. Buckingham partnered with CONEL college to deliver a construction sector-based academy to facilitate the delivery of their required 15 training placements. In the first week the candidates benefited from employability skills training, supported by Buckingham's attending and delivering session on interview techniques. The 2nd week was focussed on getting the participants ready to pass the CITB CSCS card and an onsite training session that provided them with knowledge on drainage and surveying. Buckingham delivered 22 placements – 13 from Haringey, 3 Enfield, 1 Waltham Forest, 3 Islington and 2 Barnet.
- 6.6. Officers have been in liaison with LB Enfield to develop a school's programme, so that it can be presented to schools for comment and feedback with the aim of rolling out the programme in January 2021.

7. COMMUNICATION

- 7.1. Communication of the availability and benefits of the apprenticeship programme has taken place, to encourage applications. This work will continue, in conjunction with the contractors who will be taking on the apprentices, so that awareness and take up of the opportunities is maximised.
- 7.2. The first digital Community Liaison Group (CLG) took place in October. While restrictions on physical meetings remain, online meetings will continue, to maintain contact with the members of the group, who include local ward councillors,

representatives of resident's organisations in the area, and representatives of local businesses and landowners. This will help CLG to maintain a good understanding of the project and its progress and allow the project team to hear from them when there are local issues arising. Particular concerns have been raised in the past about traffic increase and about ensuring that the local employment benefits are realised.

- 7.3. There has been ongoing communication with those raising issues about the project relating in particular to public health and air quality. In addition to direct responses, the information available on these topics is updated on the website so that it is available for anyone interested. In the period, responses have reiterated that the contribution of the ERF to local residents' exposure to air pollutants will be extremely small. The clear scientific consensus, supported by Government's independent public health advisors, and the associated body of scientific evidence, is that modern, well run and regulated municipal waste incinerators like ours are not a significant risk to public health. We are investing in the world's best technologies for controlling emissions. This will ensure the new ERF performs even better than the existing plant, which is well within the stringent limits set by the Environment Agency. In relation to particulates, the UK Air Quality Expert Group, which advises the Government, is clear that modern ERFs are very effective at controlling particulates and there are multiple studies to back this up. For the large majority of the year, the ERF's contribution of particulates at ground level will be effectively zero. It would only be for a few hours a year that the contribution would be measurable, and this would only be at levels of less than 2% of the relevant air quality standard

- 7.4. Two new videos are now available, one sharing what health, safety and wellbeing mean to those working on the project construction sites [here](#), and the other providing an update on construction progress [here](#). These are both available on the project YouTube account. Plans are now being progressed to set up time lapse cameras on the site, so that the day to day progress, in particular for the building construction of the RRF and ERF, can be captured and be available for the public to see.

8. EQUALITIES IMPLICATIONS

- 8.1. There are no impacts on equality to be noted arising from the content of this report.

9. COMMENTS OF THE LEGAL ADVISER

- 9.1. The Legal Adviser has been consulted in the preparation of this report and comments have been incorporated.

10. COMMENTS OF THE FINANCIAL ADVISER

- 10.1. The Financial Adviser has been consulted in the preparation of this report and comments have been incorporated

Contact officer:

David Cullen
Unit 1b Berol House
25 Ashley Road
London N17 9LJ
020 8489 2112

APPENDIX A PROGRAMME SUMMARY



Programme Committee 2nd November 2020

Appendix A – Programme Summary



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Please note that this dashboard report and project reports contained in Appendix A of the Programme Update (Part II) reflect the most recent period-end of 28/08/2020



Programme Summary (end of August reporting period)



Completed within previous period:	Look ahead for next period:
<ul style="list-style-type: none">• EcoPark South – Contract awarded to Taylor Woodrow on schedule.• Apprentice Recruitment – Six new apprentices have been recruited as part of the EcoPark South works (five with Taylor Woodrow, one with RLB supporting client side cost management).• Northern Area Clearance - The submission of the discharge requirements to LB Enfield for this project works was completed, a further step towards commencing demolition works in early 2021.• Datahub - A supplier was selected for the digital PPM Datahub tool and contract discussions have now commenced.• Cadent – contract completed to deliver the design study for the ERF's incoming gas supply.	<ul style="list-style-type: none">• EcoPark South – The first submission of Taylor Woodrow's programme for acceptance is expected.• Northern Area Clearance - Further development of the scope and design of a Temporary Bulky Waste facility to enable early ERF site access.• GIS - The implementation and testing of the newly developed GIS (geographical information system) which will play an important role in safe working on and around site services and utilities.• Construction – key milestones anticipated for the Transport Yard (construction works complete), Sewer Enabling works (handover of Manhole A to Barhale and Northern Access (Completion of the piled retaining wall to Salmons Brook).
Not achieved in previous period:	Issues for resolution:
<ul style="list-style-type: none">• No items of note within this period.	<ul style="list-style-type: none">• Energetik - Confirmation of the relocation of "Manhole C" and agreement with Energetik (sanctioned by Members) is a continued focus of management.• Unchartered Services – This continues to receive attention following a number of previously unidentified services being uncovered, with the aim of developing a rapid response service with LEL to manage any future incidents.

Project Health Check

Project	Cost		Schedule		Risk		H&S		Overall	
	In-period	Period Trend	In-period	Period Trend	In-period	Period Trend	In-period	Period Trend	In-period	Period Trend
Laydown Area (East) - E1a1	n/a		n/a		n/a		n/a		n/a	
Laydown Area (West) & Eastern Access - E1a2	●	→	●	↑	●	→	●	→	●	→
Northern Access - E1b	●	→	●	→	●	↑	●	↑	●	→
Transport Yard - E2a	●	→	●	↑	●	→	●	→	●	↓
Sewer Diversion (Enabling Works) - E2b	●	↑	●	↑	●	↑	●	↑	●	→
Sewer Diversion (Main Works) - E2c	●	↑	●	↑	●	↑	●	→	●	↑
EcoPark South – E3a	●	→	●	→	●	→	●	→	●	→
Northern Area Clearance – E3b	●	→	●	→	●	→	●	→	●	→
Utility Corridor and Main DNO connections - E4	●	→	●	→	●	↓	●	→	●	↓
Energy Recovery Facility (ERF) - E7	●	↑	●	↑	●	→	●	→	●	→
EfW demolition and decommissioning - E8	n/a		n/a		n/a		n/a		n/a	
Southern Access Widening - E9	n/a		n/a		n/a		n/a		n/a	

See next two slides for key to RAG status



Project Health Check – Key (1 of 2)



Key	Cost	Schedule	Overall
	Is on or below the Overall Project Cost Baseline	When the project completion date is on time or early	If all project discipline metrics are green (no action required) If there is a mix of green and amber but not action required by MPSR members, or further actions to address amber scores are needed
	Exceeds the Overall Project Cost Baseline by less than 15%	One of more project milestones is late by more than a day	If one of more individual metric is amber and this requires action to be agreed with MPSR members, or further amber scores actions are needed
	Exceeds the Overall Project Cost Baseline by more than 15%	A critical path milestone is late	If the performance of the project is going to impact the NLHPP bringing ERF into service on time or £1.13bn capital cost being exceeded or If one or more individual metric is red

Key	Context
	No material change in status between the current and previous period
	Adverse change in status between the current and previous period
	Positive change in status between the current and previous period

Projects with an overall Red status have been included in the deep-dive section of the Part II report.

Key	Risk			
	Periodic Variance	Action Status	Impact / Significance	Overall Project Risk Indicator
	Risk exposure variance between the current and previous period is less than 5%	Over 80% of planned in-period actions have been completed	No new RED* risks raised	If the majority of indicators are 'Green' without any 'Red' indicators
	Risk exposure variance between the current and previous period is between 5% - 10%	Between 50% - 80% of planned in-period actions have been completed	One new RED* risk raised	If two or more of the indicators are 'Amber' but none are 'Red'
	Risk exposure variance between the current and previous period is greater than 10%	Less than 50% of planned in-period actions have been completed	More than one new RED* risk raised	If one or more of the indicators are 'Red'

* RED risks are those identified in the Project Risk Register by their qualitative RAG impact rating (cost, time, reputation)



Project Health Check – Key (2 of 2)



Key	Health and Safety			
	Leading Indicators	Lagging Indicators	COVID-19 Performance	Overall
●	Senior leadership engagement, Positive Behaviours and Safety Observations noted and recorded	No recorded incidents, accidents or near misses. Any issues are outside the Project's control	Complete compliance with CLC SOPs and additional NLHPP suggestions. Visible promotion of excellent practice.	Project will receive a Green RAG if all three indicators are green
●	Only normal scheduled HS&W advisor site visits and weekly HS&W Snapshots published	Any recorded accident, lost time or otherwise, or occupational disease	Occasional failures to comply with CLC SOPs but are promptly remedied	Project will receive an overall Amber RAG if one or more indicators are Amber
●	None recorded	Any RIDDOR incident	Consistent failures to comply with CLC Site Operating Procedures version 4	Project will receive a Red RAG if two or more indicators are Red



Schedule Dashboard



Milestone (Critical)	Baseline Date	Forecast Date	Deviation to Baseline	Interface	Recovery Plan
Complete works to Hawley Road site (Temp long term LEL Transport Yard)	06-Jul-20	25-Sep-20	-12	Enables the existing EcoPark transport yard to be handed over to construction of EcoPark South in January 2021.	The interface is not time critical, and the work is nearing completion which means little opportunity for bringing the completion date forward.
Complete Laydown Area	11-Nov-20	10-Feb-21	-12	Enables new Eastern Access road to open to light traffic.	The critical activity driving the delay is manufacture of offices and welfare, which are in production off site. The EcoPark South contractor is working out of their own offices in Watford in the meantime.
Sewer Diversion Enabling works - Galldris Remove Hoarding form works area for MH A	17-Jun-20	23-Sep-20	-14	Handover of Shaft A worksite	The September start date has been accepted and incorporated into the sewer diversion programme without impact.
Complete Sewer Diversion Enabling Works	23-Oct-20	11-Feb-21	-15	Enables access to the Sewer Diversion Main Works contractor.	The sewer diversion enabling works activities have been rescheduled to give the sewer diversion contractor access to shaft construction areas when required.
Start Sewer Diversion Main Works on site	23-Sep-20	23-Sep-20	0	Requires enabling works to Shaft A area to be completed	N/A
Start EcoPark South Works on site (with some restrictions)	25-Jan-21	26-Jan-21	0	Access to sewer shaft construction area not available until December 2021	
Complete Sewer Diversion work	27-Sep-21	27-Sep-21	0	Enables access to full EcoPark South work site	
Operational Commencement of RRF	26-Oct-22	07-Dec-22	-6	Enables transition of existing operations and completion of the Northern Area Clearance.	Following award of works to Taylor Woodrow, a detailed programme is due to be submitted in September which will be the basis for exploring with them how to achieve the baseline date.
Northern Area Clearance - Remediation Complete	31-Mar-23	15-May-23	-6	Enables the commencement of ERF construction works	Dependant on the RRF operational milestone being brought forward as above.
ERF – Commissioning – Take over (O&M engaged in operations)	19-Dec-25	19-Dec-25	0	Clarification - Take Over starts with First Fire on Waste forecast in Dec 2025,	A detailed review of the ERF construction, testing and commissioning has reset dates so that commercial operations will be able to commence in late 2025, enabling Take Over certificate to happen in March 2026.
ERF – Laydown Area Re-Instatement	19-Jun-30	11-Sep-30	-12	Enables new Eastern Access road to open to light traffic.	These dates will be re-assessed in due course as part of the more detailed planning of post ERF Take Over works.
Southern Access Road – Works Complete	14-May-31	17-Jul-31	-9	Requires relocation of Transport Yard to Hawley Road	

Risk Dashboard (1 of 2)

Risk Register Summary Statistics

Summary Statistics	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20
In-period active risks	365	362	375	366	371	361
Risks raised in period	6	0	15	4	24	2
Risks closed in-period	3	3	2	13	19	12

Risk count by RAG (score) categorisation

		Risk distribution (Probability x Impact)				
Probability	VH	5	9	7	2	1
	H	0	17	21	15	3
	M	15	23	29	27	17
	L	20	33	23	16	16
	VL	14	19	12	7	1
		VL	L	M	H	VH
		Impact				

Key risks by impact

Project	Risk Event	Mitigation Control Plan
Programme Wide	Unknown impacts of BREXIT to programme (potential funding constraints and additional procurement costs)	Through contracts outline risks and implications to NLHPP Scrutinize contractor arrangements in impacted areas
Programme Wide	Further works may be identified as the programme of works progresses and matures as a result of different levels of design maturity and incomplete site information	Sitewide intrusive, non-intrusive and ecological surveys are being carried out to inform site conditions
Programme Wide	Exchange rate may have adverse effects on the contract prices for the ERF	Agree strategy to manage currency risk Clarify whether ability to hedge exists within the authority

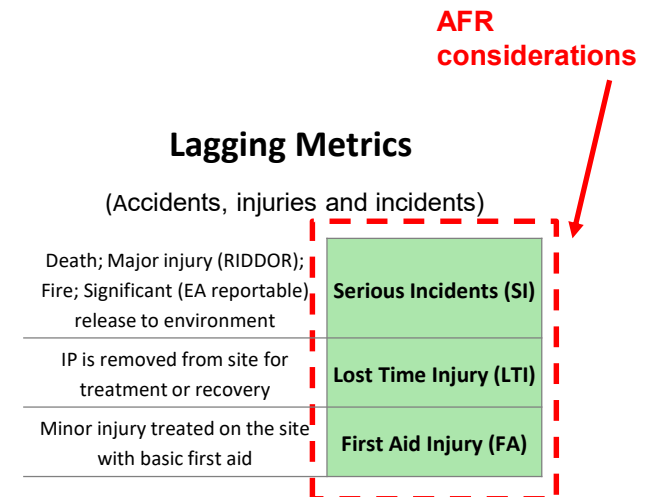
Risk Dashboard (2 of 2)

Key risks by proximity (next 6 months)

Project	Risk Event	Mitigation Control Plan
Programme Wide	The works on site conflicts with unforeseen underground services and/or assets that have the potential to cause harm/damage and/or disruption to people or operations	Continued build up information base of underground services and their condition through non-intrusive and intrusive surveys Utilise NLHPP GIS model to capture relevant information in accessible way HSW to monitor contractors permitting process to verify latest information and appropriate methodology
E3a (EcoPark South Construction)	Interim/temporary conditions (e.g. road diversions, temporary weighbridges etc) required to maintain LEL operations during EcoPark South Construction may not be in place pre-contract start. This will result in a delay to the Contractor.	Close management of preceding works contracts. Continue delivery of Weighbridge procurement and build to meet EPSC schedule
Programme Wide	Programme interfaces with LEL operations significantly impact construction / delivery beyond known constraints	Leverage 4D model to incorporate site-wide phasing and project information to establish better management decision making toolkit At site Level, continuing close and regular engagement between LEL/Contractors/NLHPP through site working group. Establish programme task force (which includes LEL) to review the long-term issues with focus on de-bugging the programme

Health, Safety & Wellbeing Dashboard (1 of 5)

Terminology	Definition	Further Explanation
Leading Metrics	Actions that help to prevent accidents, injuries and incidents	The Health & Safety Executive's (HSE) and others' research has shown that increasing awareness and noting of both good and bad health, safety and wellbeing issues by <u>any and all of</u> the workforce (leading indicators) has shown a significant effect on the reduction in lost time accidents and other untoward events (lagging indicators).
Lagging Metrics	Accidents, injuries and incidents	
Accident Frequency Rate (AFR)	$\left[\frac{\text{Number of injuries in the period}}{\text{Total hours worked during the period}} \right] \times 1,000,000$ <p>i.e. the number of injuries per million hours worked.</p>	The AFR takes into account the first 3 lagging metrics: Serious Incident (SI), Lost Time Injury (LTI) and First Aid Injury (FA), as highlighted in an exert from the Lagging Metrics table.





Health, Safety & Wellbeing Dashboard (2 of 5)



Leading Metrics

		Period August 2020						Period July 2020	Total to Date**
		E1A2	E1B	E2A	E2B	E4A	Total		
Any action or suggestion, idea, behaviour that is 'above and beyond' compliance	Positive Behaviour (PB)	1	0	1	1	0	3	5	111
Anything volunteered and not resulting from a formal assessment or audit. Positive or negative.	Safety Observation (SO)	3	3	13	8	0	27	5	99
Site visits by Senior Leadership	Leadership Engagement	1	1	1	1	1	5	1	11
Weekly site inspection visits by H&S advisors	Site Inspection Visits	5	5	4	4	0	18	18	94

Health, Safety and Wellbeing Alerts

	Period August	Period July	Total to Date*
HS&W Snapshots	6	6	26

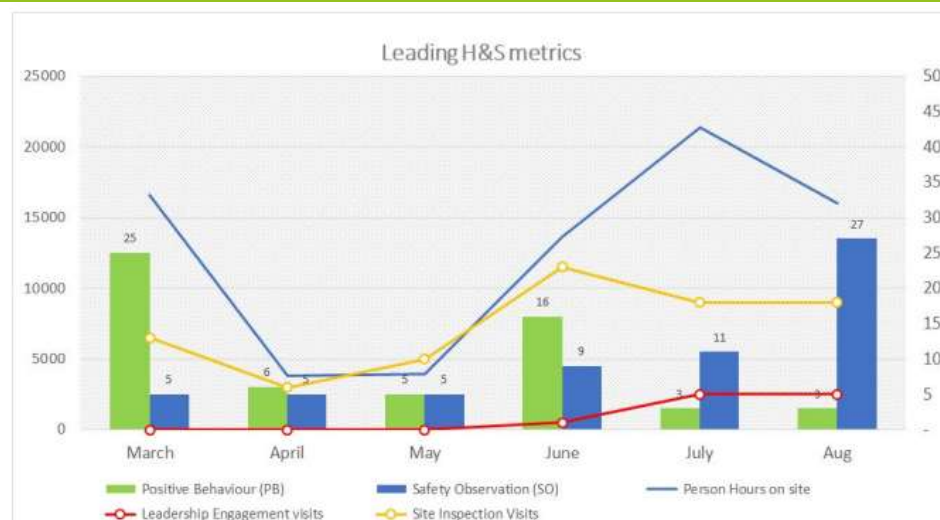


Figure represents the total hours worked on site against leading H&S metrics for each reporting period

HS&W Snapshot	Date Issued
Remaining safe in high temperatures	07th August 2020
Traffic Marshall vs Banksman	14th August 2020
COVID-19 Testing	18th August 2020
Understanding the Safety Culture	21st August 2020
Preventing damage to underground cables	25th August 2020
Principles of the Wellbeing 4 Life Programme	28th August 2020

Total to date: from April 2019 to the end of the reporting period , *Construction Leadership Council Site Operating Procedures

Health, Safety & Wellbeing Dashboard (3 of 5)

Lagging Metrics		Period August 2020						Period July 2020	Total to Date**
		E1A2	E1B	E2A	E2B	E4A	Total		
Death; Major injury (RIDDOR); Fire; Significant (EA reportable) release to environment	Serious Incidents (SI)	0	0	0	0	0	0	0	0
IP is removed from site for treatment or recovery	Lost Time Injury (LTI)	0	0	0	0	0	0	0	1
Minor injury treated on the site with basic first aid	First Aid Injury (FA)	0	0	0	0	0	0	0	17
An event not causing harm, but has the potential to cause injury or ill health	Near Miss / Close Call (NM)	0	0	0	0	0	0	5	26
As RIDDOR	Dangerous Occurrence (DO)	0	0	0	0	0	0	0	4
Something outside Project control that causes us to take action e.g. nearby fire, flood, site protest,	External Event with Impact (EXT)	0	0	0	0	0	0	1	36
A set of conditions or circumstances that have the potential to cause injury or ill health, including poor	Undesired Circumstance (UC)	0	0	0	0	0	0	24	117
Abuse, physical threats or actions short of violence	Threatening Behaviour (TB)	0	0	0	0	0	0	0	0

**Total to date: from April 2019 to the end of the reporting period

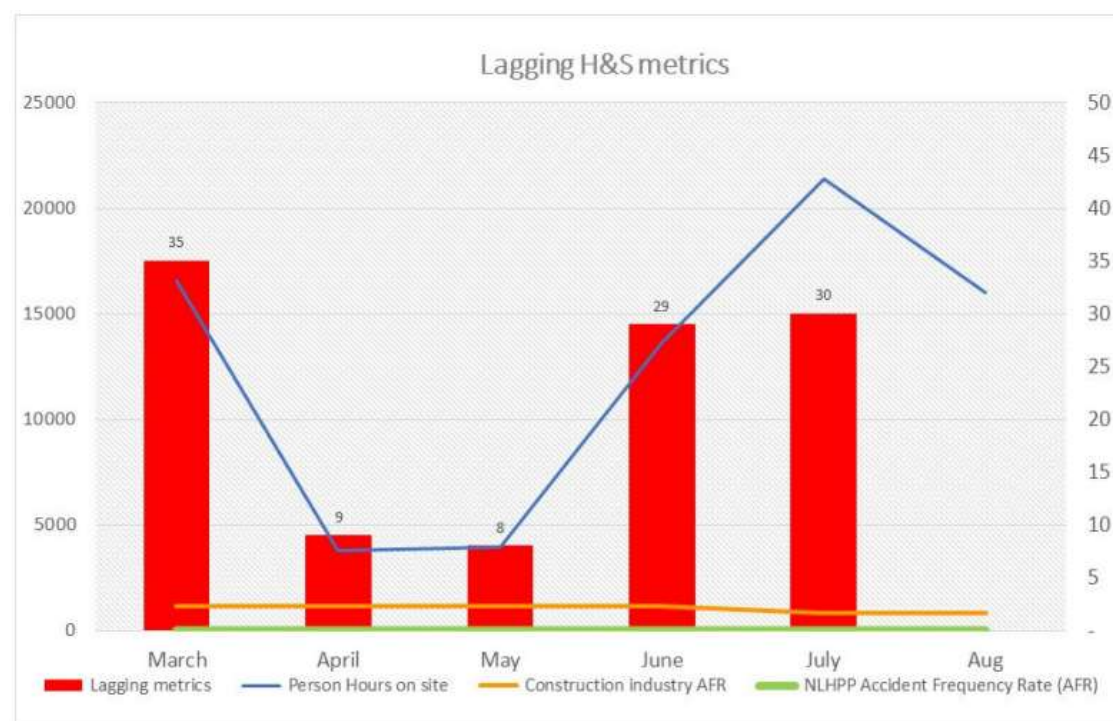


Figure represents the total hours worked on site against lagging H&S metrics for each reporting period and the NLHPP Accident Frequency Rate (AFR) comparing to the Construction industry AFR

Accident Frequency Rate (AFR^{***})

AFR for Reporting Period

NLHPP

0.00

Construction Industry

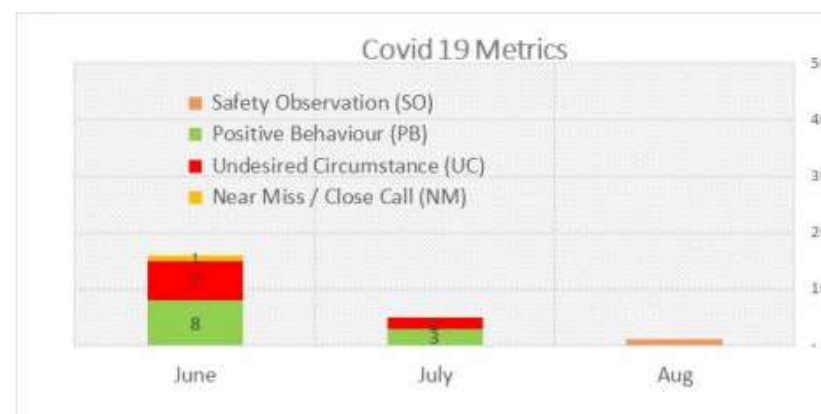
1.64

^{***} The Accident Frequency rate enables comparison of accident rates against hours worked rather than the number of accidents. The calculation is (number of accidents) / (number of hours worked on site) x 100 000. Thus, a project with 1 million hours worked and 3 LTIs would have an AFR of 0.3. The values shown

COVID – 19 RELATED (according to CLC SOP****)

Incidents/Observations related to COVID-19 (positive, negative or observations)—already accounted for in the above incident reporting categories

	Period June 2020							Period May 2020	Total to Date ***
	E1A2	E1B	E2A	E2B	PCE*	E4A	Total		
COVID –19 related	0	0	1	0	0	0	0	5	56



This figure represents the COVID-19 related metrics for each reporting period

^{**}Total to date: from April 2019 to the end of the reporting period , ^{****}Construction Leadership Council Site Operating Procedures



Health, Safety & Wellbeing Dashboard (5 of 5)



Examples of the identified key incidents on site, including those deemed of particular note by the Health and Safety Team for August, have been tabulated along with their respective response actions.

Site	Key Incidents on Site	Response/Action
E1A2 - Laydown West	Tethering rope was not attached to lifting chains on first beam installation. Chain was released and swung freely.	Shouted warning was given to all within close proximity but the chain swung safely away from all without needing to move. Tethering rope immediately attached.
	Steel wire protruding out of ground in 3 No. locations within LDAW	Informed BGCL sub-agent who ensured wire was either cut to well below ground level or pulled out.
E1B - Northern Access	Site Engineer working in trench unsupported @ 188m (Temporary Work design to 1.3m only)	Operative was removed from trench but immediately re-entered and had to be removed again. (Repeat item requiring Galldris discipline action)
E2A - Transport Yard	Scaffold boards fallen from scaffold around workshop	Immediately set up exclusion zone and reported to Konnect (M&E) who employed scaffolders. - Eventually scaffolders on site and secured boards.
	Scaffolder not clipped and working at height, 1st lift. Subcontractor for Konnect	Reported to ganger man immediately who stop works and verbally disciplined operative. Warned not to repeat or be removed from site.
E2B - Sewer Diversion Enabling works	Old manhole discovered during the excavation works. Cover found in bad condition	Stop work. Install new cover. Install barriers and signage.
	Dry surface along the site	Operatives briefed to water the working area (dust suppression with jet wash)
	Road barriers collapsed due to wind.	Barriers picked up and sand bags placed on barriers feet.
E4a - Site Wide Intrusive Works	No incidents reported in the period	