



LONDON LOW EMISSION CONSTRUCTION PARTNERSHIP

24th March 2015

SUPPORTED BY
MAYOR OF LONDON



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10:30	Welcome	Adam Webber
10:35	Review of previous meetings minutes	David Green
10:45	LLECP Website update and launch	Daniel Marsh
11:00	NRMM database and website	Daniel Marsh
11:10	Developer meetings attended	Daniel Marsh
11:15	Local Authority Construction Projects	Daniel Marsh
11:30	Project Plan update	David Green
11:45	Finance/Signing off work	David Green
11:50	MAQF – the next round	Daniel Marsh
11:55	Date of next meeting	All
12:00	AOB	All



London Low Emission
Construction Partnership
Website

LLECP Website

- ⦿ A dedicated website containing information on the air pollution impacts from the construction industry and the available abatement measures.
- ⦿ Demonstrate best-in-class mitigation and abatement techniques
- ⦿ Provide a real-time pollution measurement platform on the project website

www.llecp.org.uk

What is required?

- Home page
- About LLECP and its Partners
- Emissions from demolition and construction
- Tools and resources – Best in Practice examples, guidance, documents and reports, equipment, health advice for public
- Projects – info, live data feed, web reports (pw protected area?)
- Contact details

What is my legal requirement?

From September 2015 the London Mayor will introduce new standards to reduce pollution emissions from the construction industry with tighter standards proposed for the start of the London Ultra Low Emission Zone in 2020.

[Read more...](#)



Working together to build a cleaner London

Are you a...



Project manager



Property developer



Local resident



Local authority officer

How do I find out about...



Health advice



LLECP construction projects



Non Road Mobile Machinery

Air Pollution Forecast

Today



[More information and health advice](#)

Tweets



Construction Dust UK @ConstructDustUK
New #NRMM #emission standards come into effect in #London from September 2015 - are you ready? #ULEZ
#construction pic.twitter.com/9zJEcXno1



Construction Dust UK @ConstructDustUK
#Air #Pollution Linked To Stroke: High #Particulate #Matter May Narrow The Arteries medicaldaily.com/air-pollution-...
#construction #health @TheBHF



Non-road mobile machinery website

London's LEZ for NRMM

Ultra Low Emission Zone

- Ultra Low Emission Zone (ULEZ)
- Ultra Low Emission Zone boundary
- Additional residents' discount area
- Main roads within the ULEZ



London's LEZ for NRMM

1st September 2015

- NRMM used across the 'central activity zone' & Canary Wharf will be required to meet stage IIIB of the directive as a minimum
- NRMM used on the site of any major development within Greater London will be required to meet stage IIIA of the directive as a minimum

London's LEZ for NRMM

1st September 2020

- NRMM used on any site within the 'central activity zone' and Canary Wharf will be required to meet stage IV
- NRMM used on any site within Greater London will be required to meet stage IIIB of the directive as a minimum

Non-road mobile machinery website

- Database driven website to inform manufacturers, suppliers, developers and their contractors about which equipment will be compliant for use within the new NRMM low emission zone (LEZ) for London
- Highlight equipment that is currently exempt from the policy
- Allow for policy change updates

- ① Construction site managers can register the type, geographical location and duration of NRMM equipment being used across individual projects in London
- ① Local authority officers will be able to remotely access data from developments within their boroughs to ensure LEZ compliance

- ◎ It will create a unique data resource that will add to the understanding of what NRMM equipment is currently being used and allow later assessment to demonstrate the uptake of higher emission standards
- ◎ It will allow for a more accurate London Atmospheric Emission Inventory (LAEI) to be developed

- ⦿ Developed as a 'micro-site' of the existing London Low Emission Construction Partnership (LLECP) website
- ⦿ Responsive design allows use across a variety of platforms (PC's, tablets, smart phones)
- ⦿ Secure site allowing flexible data entry and search facility of NRMM equipment and abatement technology
- ⦿ Allow for future expansion to incorporate other cities across the UK

A photograph of a man with grey hair, wearing a white surgical mask. He is looking down with a distressed expression, his hand near his face. He is surrounded by a thick, billowing cloud of dust or smoke, which fills most of the frame. The background is dark and indistinct.

Developer meetings
attended

Date attended	Developer name	Description of meeting	Outcomes
9 th October 2013	Jamie Eagles Nine Elms Delivery Authority	Construction Logistics and Air Quality on construction sites.	Pre-project launch date but met with several developers involved in the Nine Elms redevelopment to discuss emission reduction
18 th February 2014	Shane Lincoln, GVA Second London Wall 5th Floor , 80 Cheapside, London EC2V	VNEB - re-development of Market Towers Option to develop smart phone/tablet applications to improve communication of site issues that impact beyond the site boundary.	App development did not proceed due to short timescales for demolition and new building completion dates which would not allow any design/build time
27 th June 2014	Tom Perry, Lend Lease, Heygate Estate	Visit to view and discuss various demolition activities and stock pile formation, additionally to review NRMM used on site and see a mobile crusher unit in operation.	Shown various high dust generating activities across a major demolition site and viewed current mitigation techniques. Discussed how these could be improved.

28 th October 2014	Derek Ballard, Hanson Cement, Freight Lane, Camden	Promoting LLECP, site visit and outline of the Camden project in Freight Lane	Hanson Cement are now aware of the measurement and mitigation programme being carried out along Freight Lane
25 th November 2014	Ruth Calderwood – City of London	Discuss CoL developer/contractors scheme, best practice awards and setting up a meeting with all approved developers to gain industry feedback on best in practice mitigation.	Hoping to arrange an CoL 'approved' developers meeting to promote the aims of the LLECP
25 th November 2014	Hannah Kershaw, Lend Lease	Discuss best in practice mitigation from industry perspective and developer material review, early web design review. Discussed possible trials to be carried out at LL site in Deptford during 2015 (pre-planning)	

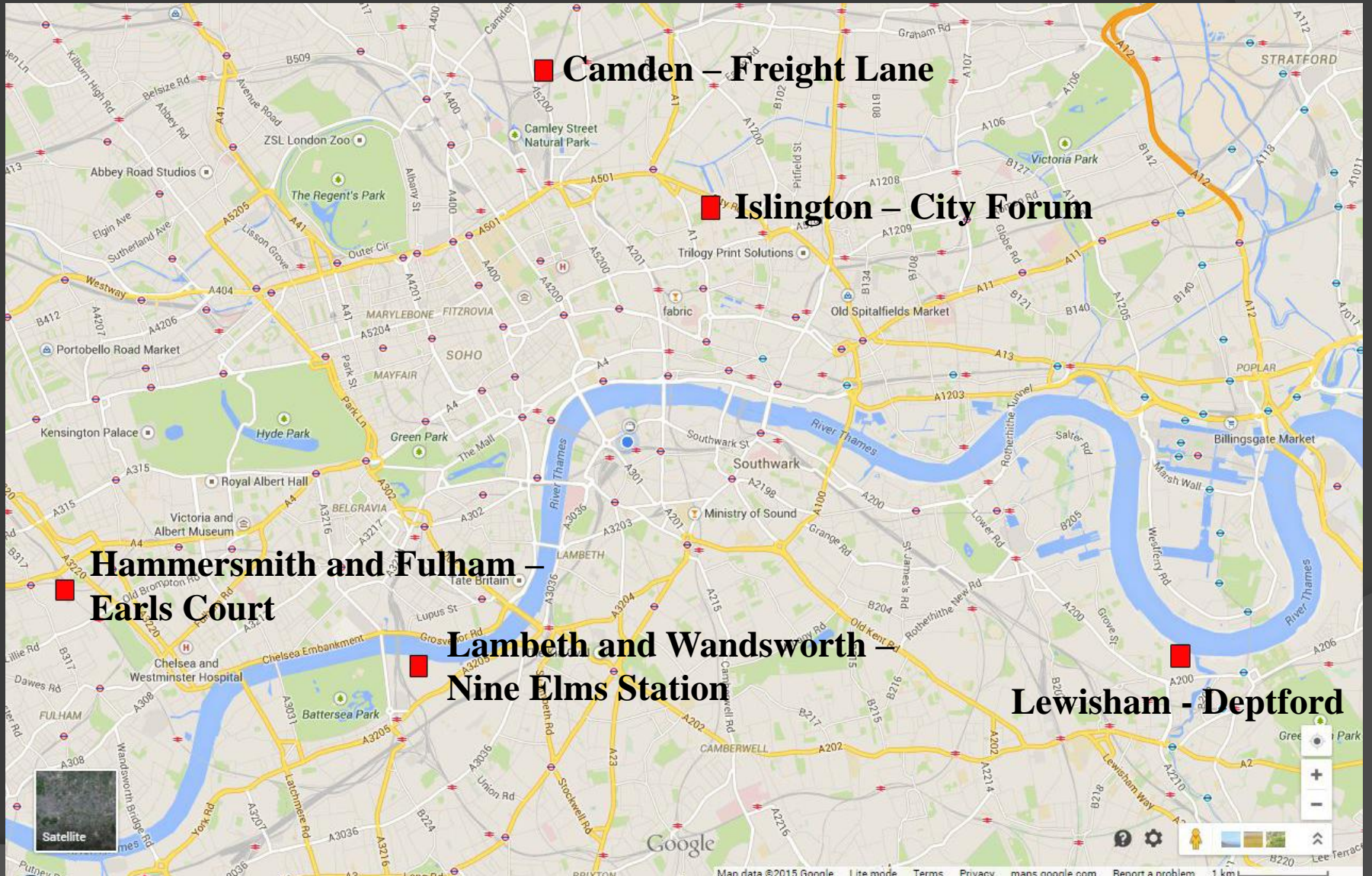
2 nd December 2014	Robin Marshall, LaFarge Tarmac, Freight Lane, Camden	Promoting LLECP, site visit and outline of the Camden project in Freight Lane	LaFarge Tarmac are now aware of the measurement and mitigation programme being carried out along Freight Lane as part of the LLECP project
9 th December 2014	Brendon Coen, Berkeley Homes – City Forum, 250 City Road, Islington	Promoting LLECP, site visit and outline of the Islington project in City Road	Assessment of site for potential use within the LLECP
7 th January 2015	Mike Attfield, Energenics	Envirox use in construction industry	Potential use in reducing BC emissions from NRMM on City Road Forum site.
13 th December 2015	Gordon Allison, HS2	Crossrail/Tideway/HS2 Lessons Learnt/London Low Emission Construction Partnership	
14 th January 2015	Barry O’Brien, GLA	To discuss NRMM – combined approach to NOx and PM emissions from heavy plant	
14 th January 2015	Anna Carver, Talking Edge Studios	Producing short film promoting GLA/MAQF projects	

20 th January 2015	Brendon Coen, Michael Nelson, Berkeley Homes – City Forum, 250 City Road, Islington	NRMM BC fuel additive and measurement proposal	
27 th January 2015	Rob McCarthy, Laing O’Rourke. Nine Elms Station	Discuss Lambeth and Wandsworth measurement programme	
5 th February 2015	Dave Rowe, Keltbray – Earls Court	Discuss Hammersmith and Fulham measurement programme	
19 th March 2015	GLA NRMM committee	LLECP presentation to GLA, EST, AECOMM and industry partners	
24 th March 2015	Anna Carver, Talking Edge Studios	Producing short film promoting GLA/MAQF projects	
31 st March 2015	Expanded – Laing O’Rourke Berkeley Homes – City Forum, 250 City Road, Islington	Setting up measurement programme for BC monitoring on NRMM	
April 21 st 2015	CIRIA (construction industry research and information association) Carbon reductions and management in infrastructure	This event aims to clarify approaches to carbon reduction in construction with specific emphasis on the infrastructure sector, discuss various carbon reduction recommendations and to illustrate the benefits of carbon savings through a series of innovative case studies.	
18th & 19th June 2015	London Build 2015	http://www.londonbuildexpo.com/	



LLCEP construction projects

Targeted construction sites



Local Authority	Project Title	Developer/ Contractor		Jan -15	Feb -15	Mar -15	Apr 15	May -15	Jun 15	Jul 15	Aug -15	Sep 15	Oct 15	Nov -15	Dec 15	Jan 16	Feb 16	Mar -16	Apr 16				
Camden	Concrete batching Freight Lane	Hansons/Lafarge Tarmac		[Red bar]																			
Hammersmith & Fulham	Earl's Court - EC1 demolition	Keltbray	Phase 1 Demolition	[Red bar]										[Red bar]									
			Phase 2 Demolition	[Red bar]															[Red bar]				
Islington	City Forum	Berkeley Group/ Laing O'Rourke	Piling Demolition	[Red bar]		[Yellow bar]																	
			Piling	[Yellow bar]																			
Lambeth & Wandsworth	Nine Elms	Laing O'Rourke	Phase 1 Demolition	[Red bar]						[Red bar]													
			Phase 2 Demolition	[Red bar]												[Red bar]							
			Piling	[Yellow bar]										[Yellow bar]									
Lewisham	Deptford	Lend Lease	Demolition	[Red bar]											[Red bar]								

London Borough of Camden

- Reducing trackout at two Cement Batching Plants using Calcium Magnesium Acetate (CMA) as a dust suppressant
- Assessing impact of CMA application
- Assessing seasonal variation on CMA impacts

LaFarge Tarmac Cement



Hansons Cement



Freight Lane, Camden





Trial method

- Targeted CMA application over an 10 week period (week on/week off)
- 3 months baseline monitoring completed
- Measurements made using two Osiris instruments on Freight Lane
- First phase of CMA trial has started with a second phase scheduled for June and July.

London Borough of Hammersmith and Fulham

- **Earls Court demolition**
- ◉ Keltbray demolition of Earls Court 1 (EC1) and Earls Court 2 (EC2)
- ◉ 22 month controlled demolition phases
- ◉ Involving removal of concrete/steel structures, floor slab and bridge removal
- ◉ Initial meeting with presentation completed and the demolition contractor are keen to be involved





Trial to assess the impact of using smart generators which automatically sense the load on a diesel generator and switches between battery power and diesel power accordingly.

- Assessment through BC and NO_x measurement
- Reduction in fuel consumption and also gives a carbon emission saving (research has found a 22 % reduction)

London Borough of Islington

- ◎ **City Forum**
- ◎ Site Location: 250 City Road, London, EC1V 2PU
- ◎ Dates: start January 2015 with 14 demolition schedule followed by 12 months earthworks
- ◎

NRMM BC emission reductions



Trial method

- Baseline BC measurements taken from NRMM running under constant load
- Addition of Cerium Oxide as a diesel fuel additive
- Ongoing measurements to assess impacts and rate of reduction
- Potential to bring emission reductions to NRMM that is exempt from the GLA LEZ (piling rigs/tower cranes)

Cerium Oxide based fuel additive

achieve up to:

- ⦿ 18% reduction in particulate matter (PM) emissions,
- ⦿ up to 60% smoke reduction
- ⦿ reduce fuel consumption by 5%.
- ⦿ It improves the efficiency of the diesel particulate filter (DPF) by allowing it to burn off the black carbon (soot) at a lower temperature.
- ⦿ Increases time between maintenance and reduces risk of damage to the engine
- ⦿ The product that we have proposed to trial is called Envirox DPF assist (Envirox E2), further information can be found at:

<http://www.energenics.co.uk/enviroxdpfassist/about/>



The **microAeth** is a self-contained, pocket-sized instrument with flow control, data storage, and battery and makes its analysis by collecting particulates on a replaceable filter strip and utilises the Aethalometer optical absorption technique to determine the mass concentration of Black Carbon in real time.

London Borough of Lewisham

- ④ **Deptford** based demolition and development of two tower blocks
- ④ Pre-planning access – start mid 2015
- ④ Site is under one developers control, Lend Lease, and they are still keen to assist the project
- ④ Possible trialling of new JCB hybrid NRMM for BC reduction with comparison to older NRMM

London Boroughs of Lambeth and Wandsworth

- **Nine Elms Station – Northern Line Extension**
- Dust Management Plan (DMP) supplied with two Osiris already on site.
- Demolition of existing structures and large amount of earthworks
- Laing O'Rourke are keen to get involved
- Awaiting NRMM procurement information

Nine Elms Station – Northern Line Extension

Key Activities	Start	Finish
Demolition		
Phase-1	Mar 2015	Jul 2015
Phase-2	Sep 2015	Dec 2015
Piling	Jul 2015	Jun 2016
Excavation	Jun 2016	May 2017
Station Construction	Jun 2016	Apr 2018
Fit out	Jun 2017	Dec 2018
Final Testing & Commissioning	Nov 2018	Feb 2019

Project plan / Finance / Scope of
works

Updated Project Plan

Area	Name	May-14	Jun-14	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016
Project Monitoring	Kickoff meeting GLA/TfL											
Project Monitoring	Project Team Meeting											
Project Monitoring	Develop/review communications strategy for stakeholders											
Project Monitoring	Risk Mapping / review											
Measures	Identification and review evidence (ongoing)											
Measures	Prepare / update developer comms material											
Measures	Developer meetings											
Measures	Measurement site identification and installation											
Measures	Data collection and management											
Measures	Equipment maintenance											
Measures	Application Programme - Planning and management											
Measures	Application Programme											
Measures	Evaluation of impact											
Construction Hub	Scoping											
Construction Hub	Content											
Construction Hub	Build and test											
Construction Hub	Launch											

Key deliverables and invoicing schedule

Deliverables	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016
Attend kickoff / steering committee meetings	X		X		X		X		X
Output communication strategy document	X				X				
Output project risk review document	X				X				
Output evidence review report		X			X			X	
Output developer communications material		X				X			
Attend developer meetings (2-3 per month)	X	X	X	X	X	X	X	X	X
Identify and install measurement sites		X	X						
Collect and disseminate data		X	X	X	X	X	X	X	X
Organise annual Osiris maintenance	X				X				
Design, programme and supervise agreed measures		X	X	X	X	X	X	X	X
Output evaluation of impact report				X					X
Produce design and specification document for web site	X								
Generate and update content for website		X		X		X		X	
Launch Website				X					
Invoice Value	£11,543	£52,891	£52,790	£44,172	£41,531	£44,979	£43,260	£51,854	£56,979

Q2 2014 Invoice

Q1_2015	Budget	Forecast	Forecast Variance	Budget to Date	Actual to Date	Variance to Date
Monitoring Staff	£ 18,036	£ 18,036	£ -	£ 61,271	£ 61,271	£ -
IT Staff	£ 573	£ 573	£ -	£ 18,292	£ 18,292	£ -
Developer communications material	£ -	£ 120	£ 120	£ 1,146	£ 802	£ -344
Equipment maintenance	£ -	£ 938	£ 938	£ 4,000	£ 2,809	£ -1,191
Emissions abatement measures	£ 25,563	£ 13,605	£ -11,958	£ 76,688	£ 13,605	£ -63,083
Total	£ 44,172	£ 33,271	£ -10,901	£ 161,396	£ 96,778	£ -64,618

MAQF – the next round

- ⦿ Due to be announced in April/May 2015
- ⦿ Potential to fund ongoing projects where they have shown excellent outputs and can demonstrate a very strong case for extension

Any other business?

- LLECP high-vis vests
- Date of next meeting