

CDM Project Plan

NRP Section 278 Infrastructure Works – Hethersett Lane

June 2020

Job Nr 60633759

Contents

[Introduction and use](#)

[01 The Project and Principal Designer Arrangements](#)

[02 Client Arrangements](#)

[03 Site Constraints](#)

[04 Pre-Construction Information – Surveys and Investigations](#)

[05 Designer Risk Management](#)

[06 Construction Phase H&S Plan](#)

[07 Health & Safety File Requirements](#)

Appendices

[A Project Directory – Project Team](#)

[B Project Directory – Sub-Contractors with Design Responsibility](#)

[C Not Used](#)

[D Survey & Record Information Register and Design Risk Assessments](#)

[E Not Used](#)

[F Construction H&S Plan Checklist](#)

Quality information

Document name	Ref	Prepared	Checked	Verified
CDM Project Plan	60633759	L Baxter	G Wesby	R Tyrrell

Revision history

Revision	Date	Details	Revised by	Checked by	Verified by
01	03/06/2020	Initial issue	LB	GW	RT

This document has been prepared by AECOM Limited for the sole use of our client (the "Client") and in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM Limited and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM Limited, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM Limited.

Introduction and use

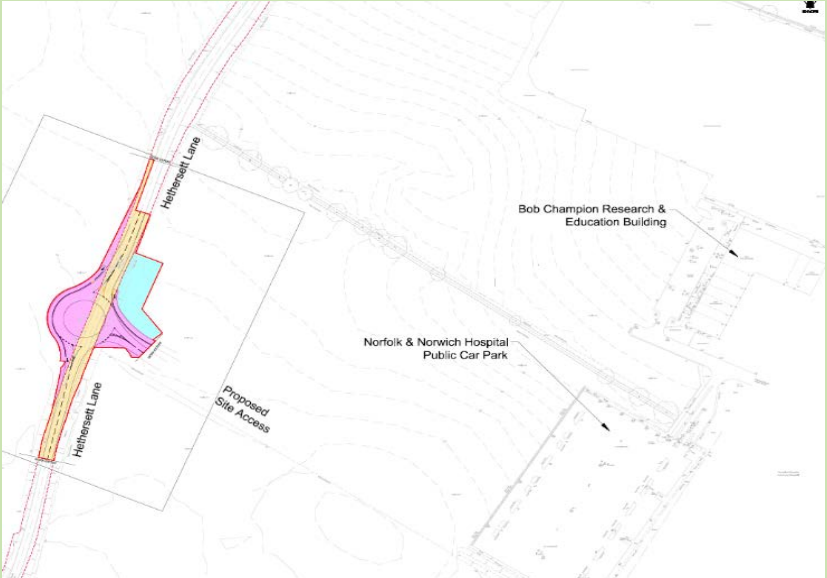
The CDM Project Plan has been prepared in accordance with the requirements of the Construction (Design and Management) Regulations 2015 (the CDM Regulations).

The purpose of this document is to capture the key project arrangements, monitor the pre- construction processes, including recording pre-construction information and significant design risk matters.

The overview deliverables table below outlines how AECOM will ensure a consistent delivery of the Principal Designer role which is split into two distinct work streams during the Principal Designer commission, the **Compliance Process (CP)** and **Design Risk Management (DRM)**.

<u>Compliance Process</u>		Process / Deliverables
1	Client engagement	<ul style="list-style-type: none"> • Briefing meeting / expectation • Scope and programme • Understanding the team • Management Arrangements • Health and Safety File requirements • Skills, Knowledge and Experience status
2	Project notification	<ul style="list-style-type: none"> • Review project against notification criteria • Issue notification / updates as required
3	Design team engagement	<ul style="list-style-type: none"> • Briefing meeting • Expectations and performance • Review of available design information e.g. drawings, reports
4	Site familiarization	<ul style="list-style-type: none"> • Site visit to identify risks and constraints • Photographic record
5	Pre-construction information (PCI)	<ul style="list-style-type: none"> • Review and record available information • Identify and record information required • Monitor information flows • Distribute information
6	Construction Phase Health and Safety Plan	<ul style="list-style-type: none"> • Review and advise on suitability including welfare • Obtain client authority to proceed
7	Health and Safety File	<ul style="list-style-type: none"> • 'Open' Health and Safety File during preconstruction phase • Update throughout the project • Issue to Client on project completion
<u>Design Risk Management Process</u>		
1	Identify initial significant project risks with design team	<ul style="list-style-type: none"> • Design reviews • Design team meetings • CDM Workshops
2	Ongoing design risk review and mitigation	<ul style="list-style-type: none"> • Design reviews / Design team meetings • CDM Workshops • Review risk updates from design team • Apply principles of prevention
3	Regular communication with design team and Principal Contractor	<ul style="list-style-type: none"> • Regular telephone or video conference • Convene interim meetings as required • Check design duty compliance
4	Key workshops (Examples)	<ul style="list-style-type: none"> • Access and maintenance strategy • Plant replacement strategy • Buildability / Logistics
5	Site visits	<ul style="list-style-type: none"> • Attend site progress meetings during construction (scope dependant)

01 - The Project and Principal Designer Arrangements

Project address (location plan)	<p>The site is located at: Norwich Research Park, NR4 7UG.</p> <p>Refer to C-0140 Site Location plan and C-0150 S278 Land Dedication Plan both of which confirm boundaries of the site. (Extract from C-0150 below), included within the Employer's Requirements.</p> 
Description of the project	<p>S278 Infrastructure Works comprising:</p> <ul style="list-style-type: none"> • The construction of new roundabout and roads including associated works; • New Services installations including street lighting; • BT Service Diversion; • The construction of foul and surface water drainage including basins, swales, ditches; • The installation of the new LV service supply. <p>For more details regarding scope, refer to 1992 – The S278 Infrastructure Works on Hethersett Lane at the Norwich Research Park Scope of Works – Version 1.0 included within Appendix C of the Employer's Requirements and associated drawings.</p>
Procurement	JCT Design and Build Contract 2016 Edition.
Client details	Bullen Developments Limited.
Principal Designer details (Including appointment date)	AECOM Ltd. Contact: Geraldine Wesby For PD appointment details refer to RUA email dated 20/05/20 with signed Bullen Appointment Letter.
Principal Contractor details (Including appointment date)	TBC
Mobilisation period	Refer to Employer's Requirements

Start on site	Refer to Employer's Requirements Site possession - 14 September 2020
Proposed duration (weeks)	Refer to Employer's Requirements TBC
Completion	Refer to Employer's Requirements TBC
Schedule of Services	Refer to Principal Designer Schedule of Services included within Aecom appointment letter dated 12/05/20.

Principal Designer Arrangements / Meeting attendance

Client briefing meeting(s)		
Venue / Title	Date	Overview
Liaison with RUA EA & AECOM Engineer	May & June 2020	Review of availability of PCI information and constraints prior to completion of CDM Project Plan for tender issue
Project / Design Team Kick Off meeting(s)		
Venue / Title	Date	Overview
TBC		
Project and design meetings		
Venue / Title	Date	Overview
Construction phase meetings		
Venue / Title	Date	Overview
CDM compliance visits		
Version	Date	Overview

02 - Client Arrangements

The client is accountable for the impact their decisions and approach have on health, safety and welfare on the project.

A client must make suitable arrangements for managing a project, including the allocation of sufficient time and other resources. To be suitable, the arrangements should focus on the needs of the particular project and be proportionate to the size of the project and risks involved in the work.

The client must also be fully aware of their duties.

Client confirmation of duties

Date	Evidence / Comments
-	Experienced client who is aware of CDM client duties and who has appointed a Principal Designer and experienced design team. Email re Client Duties to Bullen Developments Limited 16/10/17.

Client Brief

CDM 2015 Regulations 4 and 5 set out the Client's duty to make suitable arrangements for managing a project and maintaining and reviewing these arrangements throughout, so the project is carried out in a way that manages the health and safety risks.

The table below outlines the client arrangements specific to this project:

	Requirement	Arrangement / Document reference
1	Define the function and operational requirements of the finished project	The project seeks to provide new roundabout and associated roads and services & drainage as part of the overall infrastructure plan of the Norwich Research Park.
2	Outline how the project is expected to be managed including its health and safety risks	<p>The following expectations have been specifically defined by the client in respect of the management of this project:</p> <ul style="list-style-type: none">• Appropriate levels of engagement, information and communication will be entered into at the client's and / or PD's request at design, pre-construction and construction phases of the project.• Suitable and sufficient planning, time and resource will be allowed for throughout the project.• All stakeholders will demonstrate corporate and individual competencies in relation to their discipline for health, safety and environmental elements and hold relevant ISO18001 and ISO14001.• All personnel on site will hold relevant CSCS or affiliated scheme certification and be able to demonstrate sufficient training, competence and experience.• The Health and Safety File will be brought together by the PD throughout the contract and all information must be submitted by end of contract unless otherwise agreed by the Client and PD.

		<ul style="list-style-type: none"> • Welfare provision must be provided to meet at minimum the HSE minimum standards and will include showers and drying facilities. • Suitable and sufficient security provision will be made to protect members of the public. • Suitable and sufficient information, training will be delivered to all personnel pre-start on site. • Environmental legislation must be complied with in respect of waste management and pollution to land or air and demonstrable compliance to ISO14001 must be provided. • Materials should be procured from a sustainable resources and a sustainability policy must be provided. <p>The management of the project is supported by the appointment of a project manager and an experienced design team.</p> <p>Health and Safety risks will be managed by:</p> <ul style="list-style-type: none"> • Review of site wide constraints based on site visits, liaison with client & designers and review of available information; • Identification, collation and dissemination of relevant surveys and record information: A Survey & Record Information Schedule has been instigated and will be updated as the design development proceeds ; • Design Risk Management: Liaison with the design team, design reviews and the integration of an effective design risk management process into the overall development of the design proposals. As solutions to the various design parameters evolve they are evaluated against the general 'principles of prevention' as defined in the Management Regulations which provide a framework to identify risk and implement control measures, principally: <ul style="list-style-type: none"> – Elimination of hazards wherever reasonably practicable to do so. – Where elimination has not been possible the introduction of alternatives which reduce the risk presented by the hazards. – Determination of whether there are suitable means by which the potential for residual hazards to cause harm may be controlled during the installation of the works and future use. <p>The need for such reviews will continue throughout the project and their frequency and the level of detail covered should remain proportionate to the scale and complexity of the design work.</p>
--	--	---

3	Timeframe and budget	Client defined project budgets include for the allocation of sufficient time and resource. Budgets and programmes are continuously monitored and updated throughout the lifetime of the project.
4	Design standards / Client Policies and procedures	Roads / drainage to be designed to adoptable standards. Refer to AECOM Specification Ref – 60432496-XXXX-SP-0200 and Employer's Requirements.
5	Safety Goals	<p>The client's primary goals are to have Zero accidents and to ensure that everyone goes home safe. This will be achieved through engagement, consultation and communication with all stake holders.</p> <p>It is expected that a proactive safety culture will be demonstrated by every individual along with a willingness to uphold this culture and to apply the appropriate attitudes, competencies and resource for a successful project with zero harm.</p> <p>All accidents must be fully investigated and details reported as necessary under RIDDOR and to the Principal Designer.</p> <p>Covid 19 – Maintain Site Operating Procedures in line with latest government / CLC/ PHE guidance.</p> <p>The project shall not receive any HSE Improvement or Prohibition Notices.</p> <p>Good site order is critical including clear segregation of pedestrians and traffic.</p> <p>Project Priorities:</p> <p>Shattered Live Campaign - http://www.hse.gov.uk/shatteredlives/index.htm</p> <p>Hand Arm Vibration - http://www.hse.gov.uk/vibration</p> <p>Silica Risk - http://www.hse.gov.uk/construction/healthrisks/hsrespiratory.htm</p>

Management Arrangements

	Requirement	Arrangement	
1	Notification of project	Applicable (Y/N):	Y
		HSE Reference:	Will be issued once programme and PC confirmed
		Date(s) issued:	
		Issued by:	Aecom
2	Assembling the project team	<p>The project is being procured on a Design & Build basis. This procurement process will allow for the contractor to provide input on buildability and programme.</p> <p>There is no requirement for the client's concept design team to be novated to the appointed contractor.</p> <p>The Contractor will be responsible for the appointment of his own consultants to complete the design.</p>	
2.1	Principal Designer (PD)	AECOM Ltd. – Geraldine Wesby	
2.2	Principal Contractor	TBC.	
2.3	Designers	<p>Engineers (up to concept design): AECOM</p> <p>It is intended that AECOM will remain an appointed Consultant on behalf of the Employer to ratify Contractor Design Submissions and the like.</p> <p>Services / MEP: Lighting - TBC</p> <p>Refer to project directory included in Appendix A.</p>	
2.4	CDM Advisor (<i>as required</i>)	N/A	
2.5	Temporary Work Coordinator	TBC	
3	Roles, functions and responsibilities of the project team	Refer to project directory included in Appendix A .	
4	Project team communication, cooperation and coordination	<p>Systems are in place to ensure effective project team communication, cooperation and coordination.</p> <p>All parties are encouraged to communicate verbally with key decisions and actions being confirmed in writing via email, meeting minutes, project reports, technical notes etc. which are circulated to all members of the project team as required.</p> <p>Lead contacts have been defined within each organisation and a project directory is managed by the project manager.</p>	

5	Principal Designer and Principal Contractor comply with their duties	<p>Ongoing reviews and updates will be provided by the Principal Designer at key milestones in the design development process (e.g. RIBA Stages). Reports will be provided for project team meetings.</p> <p>The Principal Contractor will be required to include reports on compliance with CDM duties within contractor's progress reports and at project team meetings.</p> <p>Contractor's reports will include updates from his design team on the design risk management process at key stages e.g. risks identified; mitigation actions proposed; residual risks for client evaluation.</p>
6	Health and safety performance of designers and contractors is maintained	<p>Ongoing review and updates to be provided as required. The monitoring of designers' and contractors' performance will be achieved by:</p> <ul style="list-style-type: none"> • Including health & safety as a key agenda item within regular progress meetings with the designers, principal designer and principal contractor as appropriate to ensure that the project runs in line with defined expectations and meets legal requirements. • Health and safety reviews to be included within progress reports by designers and principal contractor • CDM Compliance Reports to be issued by Principal Designer at progress review meetings and at key project stages • Production by designers of Maintenance Access Strategy (Infrastructure & Services) and Major Plant Replacement Strategy , where relevant, for client sign-off at key stages, including updating during design development • Due consideration given to achieving compliance with the Workplace (Health Safety & Welfare) Regulations 1992, where relevant , and any derogations highlighted for client sign-off. • Fire Strategy both during the construction phase and for the completed design to be agreed with the client's responsible person under the RRFSO and signed off. • Temporary Works Procedures to be outlined and responsibilities defined (TW supervisor, co-ordinator, independent review of design where applicable etc.)

7	Site specific rules	Client site specific rules to be incorporated within the contractor's Construction Phase H&S Plan displayed on site and relayed to all operatives at site induction.
8	Suitable welfare facilities for the duration of construction work	<p>Principal Contractor to confirm that suitable welfare facilities which comply with CDM 2015 Schedule 2 requirements are in place before works start and are maintained for the duration of the works. Details to be included in the Construction Phase H&S Plan.</p> <p>Services to Welfare accommodation (water, electricity and drainage) to be provided from initial site set-up.</p> <p>Due consideration will need to be given to Covid 19 and adherence to site operating procedures as per latest Government and CLC guidelines relative to number of operatives on site.</p>
9	Construction Phase Health and Safety Plan	<p>The Construction Phase Plan is to be prepared by the Principal Contractor and issued to the Principal Designer for review prior to Works commencement.</p> <p>The Client is to authorise commencement of works following confirmation of receipt of satisfactory plan.</p> <p>Construction Phase plan to include Safety Measures & Site Procedures (as referred within CLC / CIF guidance)</p>
10	Health and Safety File	<p>The H&S File is to be opened by the Principal Designer during the pre-construction phase.</p> <p>The format of the H&S File is to be agreed with the client and procedures for compilation of information and technical sign-off of content by the contractor and design team to be agreed.</p>
11	Workplace (Health Safety & Welfare) Regulations 1992	<p>End Use of the Structure</p> <p>The roundabout and associated roads will be adopted and will not be subject to the requirements of The Workplace (Health, Safety and Welfare) Regulations 1992.</p>
12	Maintenance Access	Designers have obligations under the CDM Regulations to ensure that their designs are capable of being safely cleaned and maintained. Proposals to be provided by the design team for review by the Principal Designer and client agreement / sign-off.
13	Works by other Contractors	<p>As noted within the Employer's Requirements there are other contractors working in the vicinity of the site, including but not limited to:</p> <ul style="list-style-type: none"> • Bullen Developments (and R G Carter) constructing the Multi-Storey Car Park; • Suffolk County Council/Big Sky Developments (and R G Carter) constructing the building in the "Zone 4 Land" (adjacent the temporary car park constructed under a separate Contract; • Bullen Developments (and Walkers Construction) constructing extension to James Watson Road (heading south & west).

		<p>The Principal Contractor shall liaise closely with any other Contractors undertaking work adjacent to the site to ensure there is no conflict between them, and in particular their use of and access to their respective sites.</p>
14	Fire	<p>The Contractor is to take all necessary precautions to prevent personal injury or death, and damage to the Works or other property from fire.</p> <p>The Contractor is to ensure that adequate fire warning & protection systems remain in operation throughout the construction works and that means of escape routes are maintained.</p> <p>Comply with HSE guidance HSG 168 (Second edition published 2010) and latest edition of the Joint Code of Practice 'Fire Prevention on Construction Sites', published by the Construction Confederation and The Fire Protection Association (The 'Joint Fire Code').</p> <p>In accordance with the Joint Fire Code the Contractor is to appoint a competent person who will be responsible for assessing the degree of fire risk and for creating and regularly updating the Site Fire Safety Plan as construction proceeds or significant design changes occur.</p> <p>The Site Fire Safety Plan should form part of the Construction Phase Health & Safety Plan. The Plan must detail as a minimum:</p> <ul style="list-style-type: none"> • The organisation of and responsibilities for fire safety and arrangements for recording all training given to site operatives • General site precautions, fire detection and alarm systems and temporary emergency lighting • The requirements for a hot work permit regime • Temporary buildings and temporary accommodation – location, construction and maintenance • Fire escape and communications (including an effective evacuation plan and procedures for calling the fire brigade) • Fire brigade access, facilities and co-ordination • Instructions given to those on site of the required actions in case of fire • Security measures to minimize the risk of arson • A materials storage and waste control regime

03 - Site Constraints

1. <u>General Site Information</u>	
1.1 Site Description	<p>The site is a previously undeveloped parcel of arable land located on the northern side of the Bob Champion Building and on the north western side of the NNUH.</p> <p>As noted within the Employer's Requirements, access to the site is from the existing haul road off Hethersett Lane as indicated on AECOM Constraints Plan ref 60432496-SKE-C-0056.</p> <p>To the north and west of the site area is land currently in agricultural use with B1108 Watton Road to the north. To the south and east are the NNUH hospital grounds and Norwich Research Park along with the A47 southern bypass dual carriageway.</p>
1.2 Site History	The site is former arable farmland.
2. <u>Emergency Services details</u>	
2.1 Accident and Emergency Department	<p>Norfolk and Norwich University Hospital, Colney Lane, Colney, Norwich, Norfolk, NR4 7UY Tel: 01603 286286.</p>
2.2 Fire Service	<p>Fire Service (for project notification) Norfolk Fire Service, North Earlham, Ivy Road, North Earlham, Norwich, NR5 8BQ Tel: 01603 810351 (Brigade Headquarters)</p>

3. <u>Traffic Management</u>	
3.1 Site access / egress	<p>Vehicular access to the site will be provided via Hethersett Lane and the existing haul road. There is to be no access via the hospital site / James Watson Way and no interruption to the continued use of the adjacent car parks.</p> <p>All parking related to the site works shall be contained within the site compound. No parking will be permitted on the public highway or elsewhere.</p> <p>The contractor will be required to prepare a Traffic Management Plan indicating how the safe segregation of construction vehicular traffic will be managed and monitored.</p>
3.2 Access restrictions – width, weight, height, timings	<p>As noted within the Employer's Requirements there are other contractors working in the vicinity of the site, including but not limited to:</p> <ul style="list-style-type: none"> • Bullen Developments (and R G Carter) constructing the Multi-Storey Car Park; • Suffolk County Council/Big Sky Developments (and R G Carter) constructing the building in the "Zone 4 Land" (adjacent the temporary car park constructed under a separate Contract; • Bullen Developments (and Walkers Construction) constructing extension to James Watson Road (heading south & west). <p>The Principal Contractor is to ensure full co-ordination and co-operation with adjacent contractors to ensure appropriate phasing and programming of the works so that health and safety is not compromised by a conflict between any of these construction activities.</p>
4. <u>Adjoining / Adjacent Structures</u>	
4.1 General description	<p>To the north and west of the site area is land currently in agricultural use with B1108 Watton Road to the north. To the south and east are the NNUH hospital grounds and Norwich Research Park along with the A47 southern bypass dual carriageway.</p> <p>The Contractor is to liaise with the adjacent developers and contractors to facilitate access over the existing haul road and the Contractor's site area and is not permitted to refuse and/or restrict access through their Site unreasonably. The Contractor will not be permitted to prevent the adjacent Contractors use of the existing haul road, with the haul road to remain clear and free for use at all times.</p> <p>Access to the existing surface car parks must remain open at all times.</p>
4.2 Party Wall situation & restrictions	N/A
4.3 Flying freeholds / leaseholds	N/A
4.4 Shared structural elements	N/A

5. <u>Neighbours</u>	
5.1 Potential risk to site workers	None identified.
5.2 Vulnerable groups	<p>The site is located adjacent to the Norfolk & Norwich University Hospital where the safety of staff, patients and visitors is paramount. The Principal Contractor is to ensure safe and unimpeded access is maintained at all times to surrounding buildings.</p> <p>The contractor is to give full consideration to HSE Guidance HSG 151 'Protecting the public – Your next move'.</p>
6. <u>Site Security</u>	
6.1 Boundaries	<p>Contractor's working area is to be indicated on logistics drawing forming part of the Construction Phase H&S Plan.</p> <p>The Principal Contractor shall ensure that adequate security measures are implemented to prevent unauthorised access to the site area and appropriate control of materials and plant.</p> <p>Site boundaries to be defined and the Construction Phase Plan shall detail these measures.</p>
7. <u>Existing Structures</u>	
7.1 Existing buildings	There are no existing structures on the site.
8. <u>Ground Conditions</u>	
8.1 Topography and boundaries	<p>Refer to the following drawings included within the Employer's Requirements:</p> <p>Survey Solutions Topographical and Utilities and Services Investigation Sheets 1-3 ref 19329-01, 02 & 03 dated March 2017</p> <p>Requirement for update to be reviewed by PC.</p>
8.2 Previous ground / land use (industrial, etc?)	Currently grassed area with perimeter vegetation.
8.3 Site Investigations	<p>Refer to following documents included within the Employer's Requirements:</p> <p>AECOM Further Site Investigation Works Trial Pit Drawing - ref 60432496-SKE-C-0050 dated 01/10/19</p> <p>Ground Technology Services Location drawing ref GTS-17-904 and associated Trial Pit Records & CBR and BRE Test Results</p> <p>Requirement for update to be reviewed by PC.</p>

8.4 Contamination	<p>Refer to reports outlined in section 8.3 and included within the Employer's Requirements.</p> <p>Ongoing vigilance is required during groundworks for any suspect ground conditions. If encountered these should be reported immediately for further investigation.</p>
8.5 Instability or Subsidence – visual evidence	N/A
8.6 Old mine workings	N/A
8.7 Underground obstructions	N/A
8.8 Asbestos	<p>An Anglian Water asbestos concrete main has been identified on the eastern side of Hethersett Lane, within the existing verge. The design for the finished road has been revised to ensure there is a minimum 500mm cover from formation to pipe soffit with a finishes cover level of a minimum of 1m from road surface to pipe soffit. Refer to AECOM drawing ref 60432496-SKE-C-0055 dated 21/05/20 included within the Employer's Requirements.</p>
8.9 Flood risk	<p>The NRP South Flood Risk Assessment (Report Ref: C04079, September 2012A) produced for the masterplan outline planning permission (QI) is available upon request.</p>
9. <u>Existing Services</u>	
9.1 Existing Utilities / Drainage - Underground	<p>Refer to following documents included within the Employer's Requirements:</p> <p>Groundwise Utility Searches Report Ref 19322JS dated 23/02/17 including associated Utility Supplier Drawings and Correspondence (UKPN, Gas, Data, Water, BT etc) and GeoTec Desktop Mapping drawings ref 1703s004 sheets 1-4 dated March 2017.</p> <p>UKPN Estimate Letter dated 24/04/20 confirming proposal for HV point of connection works.</p> <p>BT Overhead lines present on the western side of Hethersett Lane to be diverted as part of the works.</p> <p>BT Openreach Correspondence dated 25/05/17 confirming BT quote, diversion proposals.</p> <p>An Anglian Water asbestos concrete main has been identified on the eastern side of Hethersett Lane. Refer to section 8.8 above.</p>
10. <u>Other observations / Sketches etc</u>	

04 - Pre-Construction Information

Pre-construction information is defined in the CDM 2015 Regulations as:

'Information in the client's possession or which is reasonably obtainable by or on behalf of the client, which is relevant to the construction work and is of an appropriate level of detail and proportionate to the risks involved'.

The pre-construction information includes information about the project, planning and management of the project, health and safety hazards, including design and construction hazards and how they will be addressed, and information in any existing health and safety file.

The pre-construction information also provides a basis for the preparation of the construction-phase plan and the subsequent management of risk during the construction phase.

The **Survey / Record Information** Schedule in [Appendix D](#) contains a record of all relevant pre-construction information. It is inclusive of relevant existing record information available relating to the site.

The schedule will also be used to track additional survey information which is reasonably obtainable to inform the design, aid design risk management and site based management of risk during development.

05 - Design Risk Management

All designers are required to provide significant design risk inputs through the design development with specific focus on risk updates at key project stages, for example RIBA Stages.

The Design Risk Register will be administered by the Principal Designer for the duration of the Principal Designer appointment, thus retaining full ownership of the design risk process through the pre-construction phases of the project.

The **Design Risk Information** is included in [Appendix D](#). Risk registers will be updated with inputs from the design team as the project progresses.

At this stage of the design development the following key risks have been highlighted by the design team:

- Managing interface between contractors working on adjacent sites (Multi Storey Car Park, other infrastructure projects).
- An Anglian Water asbestos concrete main has been identified on the eastern side of Hethersett Lane, within the existing verge. The design for the finished road has been revised to ensure there is a minimum 500mm cover from formation to pipe soffit with a finishes cover level of a minimum of 1m from road surface to pipe soffit. Refer to AECOM drawing ref 60432496-SKE-C-0055 dated 21/05/20 included within the Employer's Requirements.
- Unrecorded underground services
- BT Overhead lines present on the western side of Hethersett Lane to be diverted as part of the works
- Traffic Management/ Road Closures during roundabout works

Designers' Risk Assessments	Requested	Status
AECOM Engineer	01/06/2020	Pending

06 - Construction Phase Plan

A Construction Phase Plan must be drawn up by the Principal Contractor before the construction phase work starts.

A review process will be implemented by the Principal Designer to ensure that the Plan is suitable and sufficient using the Construction Phase Plan Checklist included in [Appendix F](#).

The checklist items must be addressed to the satisfaction of the Principal Designer. Client authority will be required so that the construction phase can commence.

CPHSP Issue / Works Stage	Aecom Review	Client Authority to Proceed

07 - Health & Safety File Requirements

The Health & Safety File shall be provided in accordance with Regulation 12 of the CDM Regulations 2015 and compliant with the requirements of Appendix 4, HSE publication L153 'Managing Health & Safety in Construction'.

The Client, Designers and Principal Contractor are responsible for providing information for the Health & Safety File to the Principal Designer immediately after design or construction work is completed.

The project team should note that the Designers must confirm the sufficiency and completeness of the technical content of the Building (O & M) manual element of the File.

Format	Electronic documents - PDF or Microsoft based. Designer drawings required in DWG and PDF formats. Operation and Maintenance manuals may also be required in paper format once technically approved.	
Quantity	Hard copy	TBC
	Electronic	TBC
Timescale	Information is required 2 weeks prior to completion; final certificates may follow closer to, or at, completion.	

Appendix A - Project Directory

Client	Bullen Developments Limited		
Name	Nigel Handley		
Address	Drayton, Norwich, Norfolk, NR8 6HA		
Telephone	01603 861145	Email Address	mail@bullengroup.co.uk

Principal Designer	AECOM		
Name	Geraldine Wesby		
Address	Cavell House, Stannard Place, St Crispins Road, Norwich, NR3 1YE		
Telephone	01603 953035	Email Address	Geraldine.wesby@aecom.com

Employer's Agent	Richard Utting Associates LLP		
Name	Myles Hughes		
Address	63c Thorpe Road, Norwich, Norfolk, NR1 1UD		
Telephone	01603 611281	Email Address	Myles.hughes@richarduttingassociates.com

Engineer	AECOM (Concept Design)		
Name	Nana Offe		
Address	Cavell House, Stannard Place, St Crispins Road, Norwich, NR3 1YE		
Telephone	07799 636294	Email Address	nana.offe@aecom.com

Principal Contractor	TBC		
Name			
Address			
Telephone		Email Address	

Appendix B - Project Directory

Sub-Contractors with Design Responsibility

To be completed as and when sub-contract appointments (Client & Principal Contractor) are confirmed

Sub-Contract package			
Name			
Address			
Telephone		Email Address	

Sub-Contract package			
Name			
Address			
Telephone		Email Address	

Sub-Contract package			
Name			
Address			
Telephone		Email Address	

Sub-Contract package			
Name			
Address			
Telephone		Email Address	

Sub-Contract package			
Name			
Address			
Telephone		Email Address	

Appendix C – Not Used

Appendix D – Survey & Record Information Register and Design Risk Assessments

Aecom CDM Survey and Record Information Tracker dated June 2020
AECOM Engineer - pending



Pre-Construction Information

Surveys and Record Information

Risk Key

Project Name:

NRP Section 278 Infrastructure Works – Hethersett Lane

Open

Ongoing Unresolved Design Risk

Prepared By:

Aecom PD

Closed

Eliminated Design Risk

Formal issue date:

Jun-20

Residual

Residual Construction Risk

Revision

Tender issue

H&S File

Transfer to H&S File

*Note: This document is intended to provide an overview of the status of project survey / record information plus identify further survey information required.
When commissioning new surveys it must be confirmed that the information provided by the survey company can be used and relied upon by a Main Contractor or 'Third Party'.*

No.	Raised By:	Date	Survey or Record Information / Hazard identification	Information provided	PD and Design Team Comments	Action Owner	Target Date	Date of Last Revision	Risk Status
1	PD	3/6/20	Topographical survey	Survey Solutions Topographical and Utilities and Services Investigation Sheets 1-3 ref 19329-01, 02 & 03 dated March 2017.	Requirement for update to be reviewed by PC.	PC			Open
2	PD	3/6/20	Arboricultural	James Blake Associates Ltd Arboricultural Implications Assessment and Arboricultural Method Statement ref JBA 12/191 AR03 dated September 2012 and associated JBA drawings.	Report confirms trees to be removed/ replaced and measures to be taken to protect Root Protection Areas during construction.	PC			Closed
3	PD	3/6/20	Ecology / Protected Species / Invasive Species (e.g. Japanese knotweed)	Hopkins Ecology: Ecology Assessment Spring 2017 dated 12/5/17	Requirement for update to be reviewed by PC.	Client / PC			Open
4	PD	3/6/20	Site Investigation Report	AECOM Further Site Investigation Works Trial Pit Drawing - ref 60432496-SKE-C-0050 dated 01/10/19 Ground Technology Services Location drawing ref GTS-17-904 and associated Trial Pit Records & CBR and BRE Test Results	Requirement for update to be reviewed by PC.	PC			Open
5	PD	3/6/20	Underground Services - On site / Off site	Groundwise Utility Searches Report Ref 19322JS dated 23/02/17 including associated Utility Supplier Drawings and Correspondence (UKPN, Gas, Data, Water, BT etc) and GeoTec Desktop Mapping drawings ref 1703s004 sheets 1-4 dated March 2017. UKPN Estimate Letter dated 24/04/20 confirming proposal for HV point of connection works. An Anglian Water asbestos concrete main has been identified on the eastern side of Hethersett Lane.		Client / PC			Open

No.	Raised By:	Date	Survey or Record Information / Hazard identification	Information provided	PD and Design Team Comments	Action Owner	Target Date	Date of Last Revision	Risk Status
6	PD	3/6/20	Utilities: Overhead Services	Groundwise Utility Searches Report Ref 19322JS dated 23/02/17 including associated Utility Supplier Drawings and Correspondence. BT Overhead lines present on the western side of Hethersett Lane to be diverted as part of the works. BT Openreach Correspondence dated 25/05/17 confirming BT quote, diversion proposals.					Closed
7	PD	3/6/20	Archaeology	Walker Construction NRP Excavation Survey Ref GLS_001 dated 11/05/20					Closed
8	PD	3/6/20	Archaeology	Pre Construct Archaeology Written Scheme of Investigation for Archaeological Watching Brief Ref CNF47144 dated April 2020					Closed
9	PD	3/6/20	UXO (Unexploded Ordnances)	Refer to Ramboll Geotechnical Desk Study ref. 61033039-GEO-001 Final dated 16/9/14, Cl.3.1 (report carried out for the adjacent QI site).	Re Adjacent QI site: A Zetica Regional UXB Risk Map for Norfolk indicates Norwich and the surrounding area to be high, however an assessment carried out by 6 AlphaAssociates for the REC Site Investigation indicated the site itself had a Rating of 2;low possibility of UXO encounter. 6 Alpha recommended no further action was necessary with regard to UXO risk at the site. The contractor should carry out his own risk assessment relative to the specific works site area.	PC			Open
10	PD	3/6/20	Flood Risk Assessment	Ramboll Flood Risk Assessment Rev.D ref. 61033039 dated 12/5/15 (Planning Issue)	Produced for the masterplan outline planning permission (QI) and is available upon request.	Client / PC			Open
11	PD	3/6/20	Asbestos	There is a buried 12" asbestos cement water main within the existing verge on the eastern side of Hethersett Lane.	Revisions to the finished road levels will ensure there is a minimum 500mm cover from formation to pipe soffit with a finished cover level of a min 1m from road surface to pipe soffit. Refer to AECOM drawing ref 60432496-SKE-C-0055 dated 21/05/20	PC			Closed
12	PD	3/6/20	Health and Safety File	Walkers Construction Information Pack (for works due to complete August 2020) will be issued by RUA.		Client			Open

Appendix E – Not Used

Appendix F - Construction H&S Plan Checklist

Construction-phase Plan Review

Regulation 4 of the CDM2015 Regulations requires that a client must ensure that, before construction work begins, a construction phase plan (CPP) is drawn up by the contractor if there is only one contractor, or by the Principal Contractor.

HSE Guidance document L153 requires clients to ensure that the construction phase plan adequately addresses the arrangements for managing the project risks (App.3, para.8).

This review process is intended to assess the suitability of the plan relative to the guidance outlined in L153 Appendix 3 and regulation 12(2) Schedule 3.

Job Number:		Job Title:	
CPP Document reference:		Principal Contractor:	
Date Received / Review Date:		Reviewer:	

Does the Construction Phase Plan adequately address the following:		Yes / No N/A	Location in CPP	Comments <i>Reviewer prompts in Red to be deleted prior to issue</i> <i>Reviewer comments to be added where applicable</i>
1.0	General Project Description and Information			
1.1	Project Address / Location			
1.2	Scope of Works			<i>Description of the type of work activities involved in the project. Check this describes the type of work activities, not simply 'what is to be constructed'.</i>
1.3	Details of Client, Principal Designer, Designers and other Consultants, Principal Contractor & Contractors.			<i>Identify which contractors also have design responsibility. CPP to include index to be updated as the job progresses</i>
1.4	Location and extent of existing records and drawings			<i>Check reference to information included within the PCI document</i>
1.5	Programme details			<i>Preferably showing principal activities, intermediate stages and what will be done in the early stages if the Plan is to be developed after works commence.</i>
1.6	Review / Update Record			<i>Record of regular plan reviews and updates (HSE Guidance L153, App.3, Cl.8(b)).</i>
2.0	Arrangements for management of Health and Safety, liaison and communication for all involved in the Construction Phase			
2.1	Management Structure			<i>Could include a project 'organigram' indicating those with specific H&S responsibilities.</i>
2.2	Management Responsibilities			<i>Allocation of individuals' responsibilities for Health and Safety.</i>

Does the Construction Phase Plan adequately address the following:		Yes / No N/A	Location in CPP	Comments <i>Reviewer prompts in Red to be deleted prior to issue</i> <i>Reviewer comments to be added where applicable</i>
2.3	Provision of adequate Site Supervision			<i>Details of site supervisor with overall responsibility for health & safety on site, including relevant experience and appropriate qualifications (e.g. SMSTS Cert.) (L153 Guidance, para.123(b)(iii); para. 169-172)</i>
2.4	Health & Safety Aims for the project including arrangements for monitoring			<i>Do they relate to client stipulated goals, targets, key performance indicators? These should be defined at initial client briefing meeting and recorded in the PCI. (Refer to CDM Compliance Delivery Plan)</i>
2.5	Monitoring and Review of Health & Safety performance / standards (including those of other contractors)			<i>Refer to L153 Guidance, para.129</i>
2.6	Regular liaison between parties on site and cooperation between contractors (Reg.13(3)(a))			<i>Organise cooperation between contractors, including successive contractors on the same site. (L153 Guidance, para.130). Regular planning meetings are an effective way of achieving this.</i>
2.7	The exchange of health and safety information between contractors			<i>Arrangements for identifying where works by one Contractor and their assessment / control of risk may affect the works of another.</i>
2.8	Liaising with other contractors / principal contractors off site, where applicable			<i>To ensure cooperation and coordination taking account of any shared interfaces between the activities of each project (e.g. shared traffic routes) (HSE Guidance L153, para.117, 132)</i>
2.9	Consultation and engagement with the workforce (Reg.14(b))			<i>Demonstrate measures are in place to secure the health, safety & welfare of the workers (HSE Guidance L153, para.143 - 146)</i>
2.10	Liaising with the Principal Designer (Reg. 13(5)).			<i>Arrangements for continuing interaction with the Principal Designer. (HSE Guidance L153, para.139 - 140)</i>
2.11	The exchange of design information between the client, designers, Principal Designer and contractors on site and handling of design changes during the project..			<i>Arrangements for continuing interaction with the client, Principal Designer and Designers when design is ongoing and where changes in design during construction have implications for H&S.</i>
2.12	The selection and control of contractors.			<i>Arrangements for ensuring appointed contractors have the requisite skills, knowledge & experience and organisational capability to carry out the work in a way that secures health & safety (HSE Guidance L153, para.58-62)</i>
2.13	Coordination of implementation by contractors of applicable legal requirements for health and safety (Reg.13(3)(b))			<i>Arrangements for ensuring co-ordination when complying with other health & safety standards (HSE Guidance L153, para.131)</i>
2.14	Checking competence of appointed designers (Reg.8(3))			<i>Arrangements for ensuring appointed designers have the requisite skills, knowledge & experience and organisational capability to carry out the work in a way that secures health & safety (HSE Guidance L153, para.58-62; 122) e.g. Design & Build contracts, Temporary Works, specialist sub-contractors</i>

Does the Construction Phase Plan adequately address the following:		Yes / No N/A	Location in CPP	Comments <i>Reviewer prompts in Red to be deleted prior to issue</i> <i>Reviewer comments to be added where applicable</i>
2.15	Site security (Reg.13(4)(b))			Arrangements to prevent access to the site by unauthorised persons. (HSE Guidance L153, para.135-136)
2.16	Site Induction (Reg.13(4)(a))			Site specific induction to be provided (HSE Guidance ml153, para. 133-134)
2.17	On-site or ongoing training (Reg.15(8))			Assessing training needs as an ongoing process during the project. (HSE Guidance L153, para 123(b)(ii); 165-168). Toolbox talks and job specific health & safety instruction
2.18	Information & Instruction (Reg. 15(8); Reg. 13(1) ...plan, manage and monitor the construction phase..)			Provision of information about hazards and risks involved and Instructions on agreed actions that must be followed to prevent or minimise those risks (L153 Guidance para.69-71; 123(b)(ii); 125(a); 173)
2.19	Welfare facilities (Reg.13(4)(c))			The extent of welfare provided on site should be in accordance with minimum requirements identified in Schedule 2 of CDM2015 Regulations. (Note that <u>contractors</u> also have a duty to provide welfare facilities SFAIRP for their own employees (Reg.15(11): HSE Guidance L153 paras. 176-178).
2.20	First Aid			Compliance with The Health and Safety (First-Aid) Regulations 1981 The extent of first aid provision, including qualified first aiders / appointed persons etc must be identified. Provide copy of First Aider's Certificate
2.21	The reporting and investigation of accidents and incidents, including near misses			Compliance with RIDDOR Regulations 2013 procedures
2.22	Risk Assessments & Method Statements: Production, approval and review process			Arrangements for preparing, reviewing, co-ordinating risk assessments and the production of suitable method statements. This should include sub-contractors and directly appointed contractors. (The initial CPP may include RAMS for early work packages / initial site set-up works only).
2.23	Site Rules (Reg. 12(2))			Site rules should cover, but not be limited to PPE, parking, use of radios and mobiles, smoking, restricted areas, hot works and emergency arrangements. Rules must be clear and understandable and be brought to everyone's attention. Special arrangements must also be considered, e.g. translations of the site rules.
2.24	Fire safety Arrangements (Reg. 32)			To include detailed fire risk assessment and fire plan (fire assembly points, extinguisher locations etc.) which shall be updated during construction works and co-ordinated with client arrangements.

Does the Construction Phase Plan adequately address the following:			Yes / No N/A	Location in CPP	Comments <i>Reviewer prompts in Red to be deleted prior to issue</i> <i>Reviewer comments to be added where applicable</i>
					<p>The site fire plan must implement the recommendations of:</p> <ul style="list-style-type: none"> - HSG 168 (second ed. 2010) Fire Safety on Construction Sites - Joint Fire Code (where applicable) <p>Close proximity of existing properties and the potential use of timber superstructure will promote the requirements for additional control measures to be identified in the plan:</p> <ul style="list-style-type: none"> - UKTFA Guidelines and Recommendations - 16 Steps to Fire Safety on Timber Frame Construction Sites
2.25	Emergency Procedures (Regs. 30 & 31)				Details of Emergency Procedures. Contact with emergency services e.g. Fire, Ambulance
2.26	Personal Protective Equipment – identification / assessment of need, storage and training etc.				Compliance with PPE at Work Regs. 1992 (as amended)
2.27	Display of relevant Notices / Forms / H&S information				F10, H&S poster. Electric Shock poster, Insurances
2.28	Site Inspections				The contractor should detail the type and frequency of site inspections, who is responsible for these and reporting procedures.
2.29	Contractor's Site Set-up drawing				Indicating alignment of contractor's compound and site hoarding; vehicle (incl materials delivery) and pedestrian routes- segregation and protection measures; site accommodation & welfare; skips; car parking; material storage etc.
3.0	Arrangements for controlling project risks				
3.1	Arrangements for controlling works that involve particular risks as identified in CDM2015 Reg.12(2) & Schedule 3				
3.1.1	Work which puts workers at risk of burial under earthfalls, engulfment in swampland or falling from a height, where the risk is particularly aggravated by the nature of the work or processes used or by the environment at the place of work or site.				Where has the Principal Contractor acknowledged hazards / risks outlined in the Pre-Construction information or CDM 2015 Schedule 3 – Work involving particular risks (Regulation 12(2)).
3.1.2	Work which puts workers at risk from chemical or biological substances constituting particular danger to the safety or health of workers or involving legal requirement for health monitoring				

Does the Construction Phase Plan adequately address the following:			Yes / No N/A	Location in CPP	Comments <i>Reviewer prompts in Red to be deleted prior to issue</i> <i>Reviewer comments to be added where applicable</i>
	3.1.3	Work with ionising radiation requiring the designation of controlled or supervised areas under regulation 16 of the Ionising Radiations Regulations 1999			
	3.1.4	Work near high voltage power lines			
	3.1.5	Work exposing workers to the risk of drowning (Reg. 26)			
	3.1.6	Work on wells, underground earthworks and tunnels			
	3.1.7	Work carried out by divers having a system of air supply			
	3.1.8	Work carried out by workers in caissons with a compressed air atmosphere			<i>Compliance with Work in Compressed Air Regulations 1996</i>
	3.1.9	Work involving the use of explosives (Reg. 21)			
	3.1.10	Work involving the assembly or dismantling of heavy prefabricated components			
3.2		Arrangements for controlling Other Project Risks that include, but are not limited to:			
	3.2.1	Traffic Management procedures and control of Vehicles (Regs.27 & 28)			<i>Proposed traffic management procedures including: Traffic Routes - access and egress arrangements; segregation of pedestrian and vehicular routes; deliveries and waste removal (incl. defined asbestos waste transit routes)</i>
	3.2.2	Energy Distribution Installations (Reg.25)			<i>Dealing with services - water, electricity and gas, including overhead services and temporary electrical installations</i>
	3.2.3	Stability of structures (Reg.19)			<i>Stability of structures whilst carrying out construction work, including temporary structures and existing unstable structures</i>
	3.2.4	Demolition and Dismantling (Reg.20)			<i>Method Statement to be in place prior to commencement of works</i>
	3.2.5	Excavations (Reg. 22)			<i>Prevention of materials, people, equipment falling into excavation; Overloading; Poor ground conditions – collapse. Inspection procedures</i>

Does the Construction Phase Plan adequately address the following:			Yes / No N/A	Location in CPP	Comments <i>Reviewer prompts in Red to be deleted prior to issue</i> <i>Reviewer comments to be added where applicable</i>
	3.2.6	Accommodating adjacent land uses			<i>Segregation / access issues; Noise, Dust, Vibration precautions</i>
	3.2.7	Control of lifting operations			<i>Compliance with Lifting Operations and Lifting Equipment Regulations 1998</i>
	3.2.8	Selection, Use and Maintenance of plant and equipment			<i>Compliance with Provision and use of Work Equipment Regulations 1998. HSE Guidance L153, para 123(b)(i); 125(c)</i>
	3.2.9	Dealing with contaminated land			
	3.2.10	Asbestos			<i>Compliance with Control of Asbestos Regulations 2012. Asbestos awareness training; Emergency procedures following uncontrolled release of asbestos</i>
	3.2.11	Dealing with Hazardous materials			<i>Compliance with COSHH Regulations 2002 (Amended)</i>
	3.2.12	Disposal of hazardous materials			
	3.2.13	Manual handling			<i>Compliance with Manual Handling Regulations 1992 Identify any issues during construction that have been highlighted by the designers</i>
	3.2.14	Noise & Vibration: Managing / Controlling / Reducing			<i>Compliance with Control of Noise at Work Regulations 2005, Control of Vibration at Work Regulations 2005 Information regarding the policy to be adopted for monitoring, where required</i>
	3.2.15	Dust			<i>Dust generation associated with demolition, earthworks, construction and track-out activities. Compliance with COSHH Regulations 2002 (Amended) Aspergillus risk in healthcare environments</i>
	3.2.16	Exposure to UV radiation (from the sun),			
	3.2.17	Temporary Works Procedures			<i>Compliance with Code of Practice for Temporary Works Procedures - BS 5975:2008</i>
	3.2.18	Cofferdams & Caissons (Reg. 23)			<i>Design, construction, maintenance, inspection procedures</i>

Does the Construction Phase Plan adequately address the following:			Yes / No N/A	Location in CPP	Comments <i>Reviewer prompts in Red to be deleted prior to issue</i> <i>Reviewer comments to be added where applicable</i>
	3.2.19	Other significant health & safety risks			<i>Identify?</i>
	3.2.20	Lighting (Reg. 35)			<i>Provision for suitable and sufficient lighting - identification of temporary lighting required / security lighting etc.</i>
	3.2.21	Work at Height			<i>Compliance with Work at Height Regulations 2005 (Amended)</i> <i>Guidance documents:</i> <ul style="list-style-type: none"> - <i>HSG 33 Health & Safety in Roofwork</i> - <i>ACR[CP]002:2005 Guidance Note for Safe work on Fragile Roofs</i> - <i>HSE Information Sheet GEIS5 Fragile Roofs Safe Working Practices</i>
	3.2.22	Lead			<i>Compliance with Control of Lead at Work Regulations 2002</i> <i>Exposure risk from lead containing paint, dust and fumes are most likely to occur in pre-1990 buildings especially during repair, maintenance, refurbishment and demolition.</i>
4.0	Health & Safety File				
4.1		Layout and format			
4.2		Arrangements for the collection and gathering of information and responsibilities during construction			
4.3		Handover procedures			

The Construction Phase Plan adequately addresses arrangements for managing project risks and is deemed suitable and sufficiently developed for work to commence	Yes / No:	Date:	Signed: Principal Designer On behalf of AECOM
---	-----------	-------	---

About AECOM

AECOM is the world's premier infrastructure firm, delivering professional services throughout the project lifecycle – from planning, design and engineering to consulting and construction management. We partner with our clients in the public and private sectors to solve their most complex challenges and build legacies for generations to come. On projects spanning transportation, buildings, water, governments, energy and the environment, our teams are driven by a common purpose to deliver a better world. AECOM is a Fortune 500 firm with revenue of approximately \$20.2 billion during fiscal year 2018. See how we deliver what others can only imagine at aecom.com and [@AECOM](https://www.instagram.com/AECOM)

Contact

Geraldine Wesby
Associate CDM Consultant
T +44 (0)1603 953035
E Geraldine.wesby@aecom.com

aecom.com