



# RAMS - PLANNING

The RAMS pack is valid for 30 days from the date of signature or date of review

Ref no:	44394-PH1-RAMS-05	Rev:	3
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## PART P - PLANNING

PART P1 – General Details			
Title of method statement:	Installation of Fibre Optic Cable Link and On-Site Cameras at Doves Nest Farm		
Contract Name:	B1416 Fibre Connection and On-site Cameras	Contract Number:	44394
Site Address & Telephone No:	NMC Site Office, Doves Nest Farm, Off B1416, Sneatonthorpe	Start Date:	13/03/2017
		Finish Date:	31/03/2017
		Duration:	3 weeks
		Working Hours:	07:30 – 17:30 Mon – Fri 07:30 – 14:00 Sat
Location of Works:	A171 / B1417 Junction, along B1416 to existing farm access of Doves Nest Farm		
Scope of Works / Work Activity:	Installation of single-way BT duct and on-site cameras		

PART P2 – RAMS Sign Off, Consultation and Review					
	Signed	Print Name	Position / Status	Date	Notes
Prepared by		Alex Spencer	Preconstruction Manager	21/02/2017	To be completed by Person Preparing Method Statement or Sub-Contractor
Employee consultation		Chris Davis	Project Manager	21/02/2017	Persons carrying out the work MUST be consulted and sign here
Tech review by		Chris West	Operations Manager	21/02/2017	To be completed by a Competent Person or Sub-Contractor
H&S, Env review by		Selina Morson	Environmental Manager	21/02/2017	To be completed by a Competent Person
Authorised for construction (Principal Contractor / Peer review)		Geoff Poyzer	Contract Director	21/02/2017	To be completed by the Principal Contractor or a peer of the person preparing the RAMS
Rejected by					To be completed by the Principal Contractor or Competent Person

The RAMS must be reviewed by someone other than the person who has prepared it.

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## PART P3 – Personnel and Resources

Resources Required: (Including supervision)	Labour (Role/Trade and number of)	Qualification Required, to be shown at induction	
	1 x directional drill rig operator 2 x groundwork operatives 1 x Foreman 1 x Setting out Engineer	CPCS CSCS SSSTS Civil Engineering degree or similar	
Subcontractors	Traffic / Pedestrian Management Directional drilling Camera installations	NRSWA Supervisor / Operative CPCS / CSCS CSCS	
	How will they be supervised	NMC Foreman, Engineer and Site Agent	
Plant and Equipment:	Plant / Equipment Name	Rated Capacity / Size	Minimum Operator Qualification
	1 x directional drill rig	Vermeer 24/40 series 2	CPCS
	1 x Tipper van	3.5T	CPCS
	1 x plate compactor / trench rammer (compaction around inspection chambers)	N/A	CSCS
	Hiab lorry	N/A	CPCS
Materials:	Grey ducting (suitable for directional drilling) 915 x 445mm inspection chamber riser units c/w covers. Pedestrian barrier Grass seed Gas oil Camera column and equipment Concrete		

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## PART P4 – Key Operational Risks Identification

Key Operational Risks	Reference	Applicable to this activity Y/N
Site Access, Deliveries and removal of materials	OP8/1.3	Y
Avoidance of buried underground services	OP8/3.2	Y
Stability of structures	OP8/4.5	N
Demolition Operations	OP8/4.6	N
Temporary Works	OP8/4.5	N
Prevention of falls / work at height	OP8/4.2	N
Work near fragile materials	OP8/4.2	N
Control of lifting operations	OP8/5.1	N
Plant and machinery / Quick Hitches	OP8/5.2	N
Excavations	OP8/4.5	Y
Confined spaces	OP8/4.1	N
Working near water	NA	N
Work in caissons or cofferdams	OP8/4.5	N
Working with compressed air	NA	N
Cutting / Grinding Operations / breaking	NA	N
Personal protective equipment	PPUEP (Policy)	Y
Asbestos	WI6/6.22	N
Electrical (Severn Trent Water sites)	STSSOW (NMCN)	N
Working on Electrical Systems	OP6/6.20	N
Ionizing radiation / Exposure to UV radiation	NA	N
Contaminated land	NA	N
Manual handling	OP8/6.6	Y
Control of substances hazardous to health (COSHH)	COSHH Manual	N
Noise	OP8/6.3	Y
Vibration	OP8/6.2	N
Non-English Speakers	OP8/1.7	N
Sharps and Needle sticks	OP8/6.5	Y
Environment Risk Assessment	Aspects & Impacts on line	Y
Site Waste Management	OP9/1	Y
Site Pollution or Water Contamination	OP9/3	Y
Site Flooding	OP9/4	N
Site – Protected Animals	OP9/5	N
Site – Hedgerows	OP9/6	N
Oil Storage	OP9/7	Y
Refuelling	OP9/8	Y

Where Y has been selected, the item identified **MUST** be included in the risk assessment for this operation

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## PART P5 – Critical Risk Study

<b>Effect of Human Factors</b>  (Insert "Y" for those that apply, "N" for those that don't)	<b>Behavioural Issues</b>							
	Alpha	N	Time v Risk	N	Habit	N	7+/-2	N
	Repetitive tasks and high levels of competence increase the chance of alpha mode.		Potential for "time savers", lack of compliance due to shortcuts being taken.		Have those involved developed habits. I've always done it this way.		Overloading people with too much information, keep instruction simple, break down tasks,	
	<b>Human Factors</b>							
Workplace Layout	Y	Physical Capability	N	Environment	Y	Language	N	
People in ALPHA do not see above head height or below knee level, housekeeping, identified routes etc.		Are the people involved capable of doing the tasks, is special strength or size an issue		Housekeeping, heat, cold, weather, noise, air quality and lighting all create environmental hazards		Are any personnel involved whose first language is not English		
<b>PPE:</b>	List PPE provided in <b>ADDITION</b> to standard PPE for the task <b>AND</b> identified in the RA.							
<b>Demolition Operations</b>	Is demolition/dismantling required? (OP8/4.6 applies)?							<b>No</b>
	Description of demolition/dismantling required:							
	N/A							
	Using OP8/4.6 demolition operations have been identified as Category:							N/A
<b>Temporary Works:</b>	Is temporary works design required? (OP8.4 applies)							<b>No</b>
	What Level of Design?							N/A
<b>Temporary Work Coordinator (TWC)</b>	Name	N/A		Contact No.	N/A			
<b>Temporary Works Supervisor (TWS)</b>	Name	N/A		Contact No.	N/A			
<b>Access / Egress arrangements to specific place of work:</b>	Use of podiums, restricted access, chamber access, special requirements etc.							
	N/A							
<b>Work at Height:</b>	If work at height has been identified as part of this activity, how will the work be planned to reduce / control risks?							
	1. Avoid the need to work at height	2. Use an existing safe place of work	3. Provide work equipment to PREVENT falls	4. Mitigate distance / consequence of fall	5. Instruction and training	6. Other		
	Using OP8/4.2 ensure that work at height risks are included in the risk assessment							
<b>Lifting operations:</b>	Are mechanical lifting operations being carried out for this task?							
	1. Machine Lifts	2. Lorry Mounted (HIAB)	3. Simple Crane Lift	4. Complex Crane Lift				
	Unloading ducts	Unloading ducts / chambers	N/A		N/A			
<b>Manual Handling:</b>	Can manual handling be avoided? Yes. Mechanical lifts where possible							
	If NO, ensure that the manual handling risks are included in the risk assessment							





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## PART P6 – COSHH

COSHH Assessment									
	Explosive	Oxidising	Highly Flammable	Acutely Toxic	Corrosive	Hazardous to Environment / Aquatic Life	Skin / Eye Irritant	Long Term Health Hazard	Gas under Pressure
Applicable			Y			Y	Y		
COSHH ASSESSMENT MUST BE ATTACHED WHEREVER SUBSTANCES ARE IDENTIFIED									

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## PART P7 - Record of Amendments Form – Change 1

### To be used for recording MINOR changes:

(To be used to get the right balance between controlling the new risks and not unnecessarily holding up the work.  
For major changes a new / revised RAMS is required)

RAMS RECORD OF MINOR CHANGE

RAMS Ref:

Work Activity:

### DESCRIPTION / EFFECT

Proposed Change:

New Risks Considered / existing risks reduced:

Proposed / New Control Measures:

Requested By:

Signature:

Date:

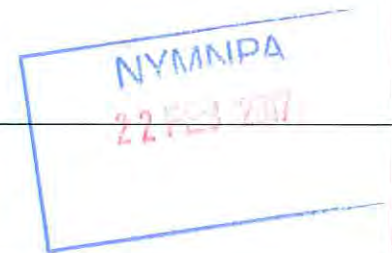
Time:

Agreed By:

Signature

Date:

Time:



## PART P8 - Record of Amendments Form – Change 2

### To be used for recording MINOR changes:

(To be used to get the right balance between controlling the new risks and not unnecessarily holding up the work.  
For major changes a new / revised RAMS is required)

RAMS RECORD OF MINOR CHANGE

RAMS Ref:

Work Activity:

### DESCRIPTION / EFFECT

Proposed Change:

New Risks Considered / existing risks reduced:

Proposed / New Control Measures:

Requested By:

Signature:

Date:

Time:

Agreed By:

Signature

Date:

Time:



# RAMS - PLANNING

## PART P9 - Record of Reviews of RAMS

### RAMS Review Record

The RAMS must be reviewed upon a significant change and after a maximum of every 30 days.  
Following each review the RAMS must be re-briefed to the team

Date of Review	Notes	Signature
15/02/17	Rev A - Draft	
16/02/17	Rev 1 – First Issue	
21/02/17	Rev 2 – Directional drilling methodology incorporated	
22/02/17	Rev 3 - Final for Issue	







# RISK ASSESSMENT

## PART RA1 – Risk Assessment

Activity / Task Individual elements of the task being carried out	Hazard Anything with the potential to cause harm.  Include H&S, Environmental, Operational / Process and Design hazards	People Affected E=employee S=Sub-contractor V=visitor P=public O=other	Potential Outcome e.g. injury, damage etc.	Pre-Control Risk Assessment			Control Measures required Control measures must be effectively implemented if they are to work as intended  Include the title and controls of the applicable Operating Procedures identified in Part P4	Post Control Risk Assessment Have risks been reduced as far as reasonably practical			Risk Ranking
				Likelihood 1-5	Severity 1-5	Risk Score 1-25		Likelihood 1-5	Severity 1-5	Risk Score 1-25	
Works in public areas	Construction works	P	Injury to the public	4	4	16	<ul style="list-style-type: none"> <li>Temporary traffic management to be erected to provide safe working area.</li> <li>All works to be undertaken within fenced-off areas.</li> <li>Works to be contained within fenced areas.</li> <li>All materials are to be stored either within the fenced-off area or within site vehicles.</li> </ul>	2	4	8	Medium
Access to site	Live traffic	E/S/V/P	Road traffic accident causing injury	2	5	10	<ul style="list-style-type: none"> <li>Traffic Management to be established by competent NRSWA-trained operator / supervisor.</li> <li>Traffic Management to be inspected regularly by a competent person to ensure the original set-up is appropriate to the conditions and well maintained.</li> <li>Only site vehicles with "Highway Maintenance" livery and flashing beacons are to access within Traffic Management.</li> </ul>	1	5	5	Low

LIKELIHOOD	RATING	SEVERITY - HEALTH	SEVERITY - SAFETY
Almost Certain (>90%)	5	Multiple worker deaths e.g. Asbestos / Silica dust	Fatal accident to member of public or worker
Probable (50% - 90%)	4	Single worker death / life shortening health effect e.g. Lung disease	Major injury (RIDDOR) resulting in lost time. Irreversible disability
Possible (10% - 50%)	3	Irreversible health effects e.g. Loss of hearing, HAVS, Serious dermatitis	Injury resulting in over 7 days lost time
Remote (1% - 10%)	2	Reversible health effects e.g. Minor dermatitis, respiratory, treatment off site	Injury resulting in 1 to 7 days lost time
Unlikely (<1%)	1	Minor health effect for short period, no lost time e.g. skin irritation	Injury requiring First Aid but no lost time

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Severity	5	4	3	2	1
	5	25	20	15	10
4	20	16	12	8	4
3	15	12	9	6	3
2	10	8	6	4	2
1	5	4	3	2	1
	Likelihood				
	1	2	3	4	5

RISK RANKING	ACTION REQUIRED
High (12 - 25)	Do NOT start task; either engineer or design out the hazard, look at alternative methods
Medium (7 - 11)	Do NOT start task; impose further control measures such as alternative methods or plant / materials
Low (1 - 6)	No additional control measures required





# RISK ASSESSMENT

## PART RA1 – Risk Assessment

Activity / Task Individual elements of the task being carried out	Hazard Anything with the potential to cause harm.  Include H&S, Environmental, Operational / Process and Design hazards	People Affected E=employee S=Sub-contractor V=visitor P=public O=other	Potential Outcome e.g. Injury, damage etc.	Pre-Control Risk Assessment			Control Measures required Control measures must be effectively implemented if they are to work as intended  Include the title and controls of the applicable Operating Procedures identified in Part P4	Post Control Risk Assessment Have risks been reduced as far as reasonably practical			Risk Ranking
				Likelihood 1-5	Severity 1-5	Risk Score 1-25		Likelihood 1-5	Severity 1-5	Risk Score 1-25	
Deliveries to site	Delivery vehicles block road or undertakes other dangerous manoeuvre while undertaking deliveries	E/S/V/P	Road traffic accident on site causing injury	4	4	16	<ul style="list-style-type: none"> <li>Deliveries directly to site to be undertaken when Traffic Management in place to provide safe pull-in / offloading area.</li> <li>All deliveries to be planned and the on-site team made aware of expected delivery times.</li> <li>Banksman to be employed to control all deliveries on site.</li> <li>No reversing to be permitted when exiting site.</li> </ul>	1	4	4	Low
Use of plant (including drill rig)	Plant	E/S/V/P	Severe injury or death	2	5	10	<ul style="list-style-type: none"> <li>All plant operators to hold relevant competency tickets (CPCS).</li> <li>Plant to be operated in line with manufacturer's guidance.</li> <li>All reversing on site to be controlled by a banksman.</li> <li>All plant to have reversing beepers.</li> <li>All people on site to wear high-visibility PPE.</li> </ul>	1	5	5	Low

LIKELIHOOD	RATING	SEVERITY - HEALTH	SEVERITY - SAFETY
Almost Certain (>90%)	5	Multiple worker deaths e.g. Asbestos / Silica dust	Fatal accident to member of public or worker
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		SEVERITY					RISK RANKING	ACTION REQUIRED
		5	10	15	20	25		
Likelihood	5	5	10	15	20	25	High (12 - 25)	Do NOT start task; either engineer or design out the hazard, look at alternative methods
	4	4	8	12	16	20		
	3	3	6	9	12	15	Medium (7 - 11)	Do NOT start task; impose further control measures such as alternative methods or plant / materials
	2	2	4	6	8	10		
	1	1	2	3	4	5		
		1	2	3	4	5	Low (1 - 6)	No additional control measures required

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# RISK ASSESSMENT

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				Likelihood 1-5	Severity 1-5	Risk Score 1-25		Likelihood 1-5	Severity 1-5	Risk Score 1-25	
Construction works	Slips, trips and falls	S/E/V	Injury	4	4	16	<ul style="list-style-type: none"> <li>Excavations to be backfilled as soon as possible, and fenced when open (refer to "open excavations" risk for more details).</li> <li>Materials and other equipment not in use are to be stored appropriately and not congest the working area.</li> <li>Loading/unloading to be carried out on level ground.</li> </ul>	1	4	4	Low
Excavation works	Open excavations	E/S/V/P	Injury caused by falling into excavation	3	4	12	<ul style="list-style-type: none"> <li>Excavations to be backfilled as soon as possible / at the end of each shift, if practicable.</li> <li>Excavations to be fenced locally using pedestrian barrier while works ongoing.</li> </ul>	1	4	4	Low
Directional drilling	Underground services	E/S	Damage to underground services causing injury	3	3	9	<ul style="list-style-type: none"> <li>Trial holes to be undertaken within the verge to confirm the position / absence of existing services.</li> <li>Existing BT service cable known to exist between the Welfare Access and Farm Access.</li> </ul>	1	3	3	Low

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	5	4	3	2	1
5	5	10	15	20	25
4	4	8	12	16	20
3	3	6	9	12	15
2	2	4	6	8	10
1	1	2	3	4	5
	1	2	3	4	5
	Likelihood				

RISK RANKING	ACTION REQUIRED
High (12 - 25)	Do NOT start task; either engineer or design out the hazard, look at alternative methods
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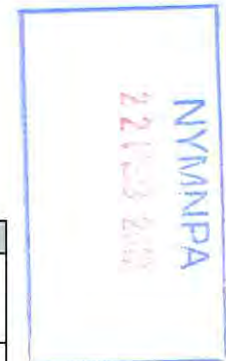
# RISK ASSESSMENT

## PART RA1 – Risk Assessment

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				Likelihood 1 - 5	Severity 1 - 5	Risk Score 1 - 25		Likelihood 1 - 5	Severity 1 - 5	Risk Score 1 - 25	
Lifting of heavy / bulky objects	Manual handling	E/S	Injury	4	3	12	<ul style="list-style-type: none"> <li>Manual handling to be avoided where practicable.</li> <li>Mechanical lifting of ducts in bulk.</li> <li>Materials to be uploaded as close as possible to the final location.</li> </ul>	2	3	6	Low
Cable installation	Various	E/S/V/P	Various	-	-	-	Risk assessments to be produced by BT's appointed contractors for fibre optic cable installation.	-	-	-	-

LIKELIHOOD	RATING	SEVERITY - HEALTH	SEVERITY - SAFETY
Almost Certain (>90%)	5	Multiple worker deaths e.g. Asbestos / Silica dust	Fatal accident to member of public or worker
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		Likelihood					RISK RANKING	ACTION REQUIRED
Severity		1	2	3	4	5		
5	5	5	10	15	20	25	High (12 - 25)	Do NOT start task; either engineer or design out the hazard, look at alternative methods
4	4	4	8	12	16	20		
3	3	3	6	9	12	15		
2	2	2	4	6	8	10	Medium (7 - 11)	Do NOT start task; impose further control measures such as alternative methods or plant / materials
1	1	1	2	3	4	5		
		1	2	3	4	5	Low (1 - 6)	No additional control measures required
		Likelihood						





# SAFE SYSTEM OF WORK

## PART MS1 – Contacts and Emergency

Emergency Contact Numbers	Name:	Contact Number:
Person Responsible For Works	Chris West	07970 136524
Supervisor	Chris Davis	07712324723
Hospital	Scarborough General (A&E) Whitby Community Hospital (medical treatment only)	01723 368111 (EMERGENCY 999/112) 01947 824208
First Aider	TBC	
Location of First Aid Box	On-site welfare unit, Site Office at Doves Nest Farm, NMC vans	
Process Impact Assessment Contacts	N/A	
Gas Emergency Call Out	National Grid	0800 111 999
Electricity Emergency Call Out	Northern Power Grid	0800 375 675
Water Emergency Call Out	Yorkshire Water	0800 57 35 53
Sewage Emergency Call Out	Yorkshire Water	0345 1242424
Emergency Procedures & Permits Required	Permit to Excavate	







# SAFE SYSTEM OF WORK

## PART MS2 – Management Arrangements, Emergency and Communication

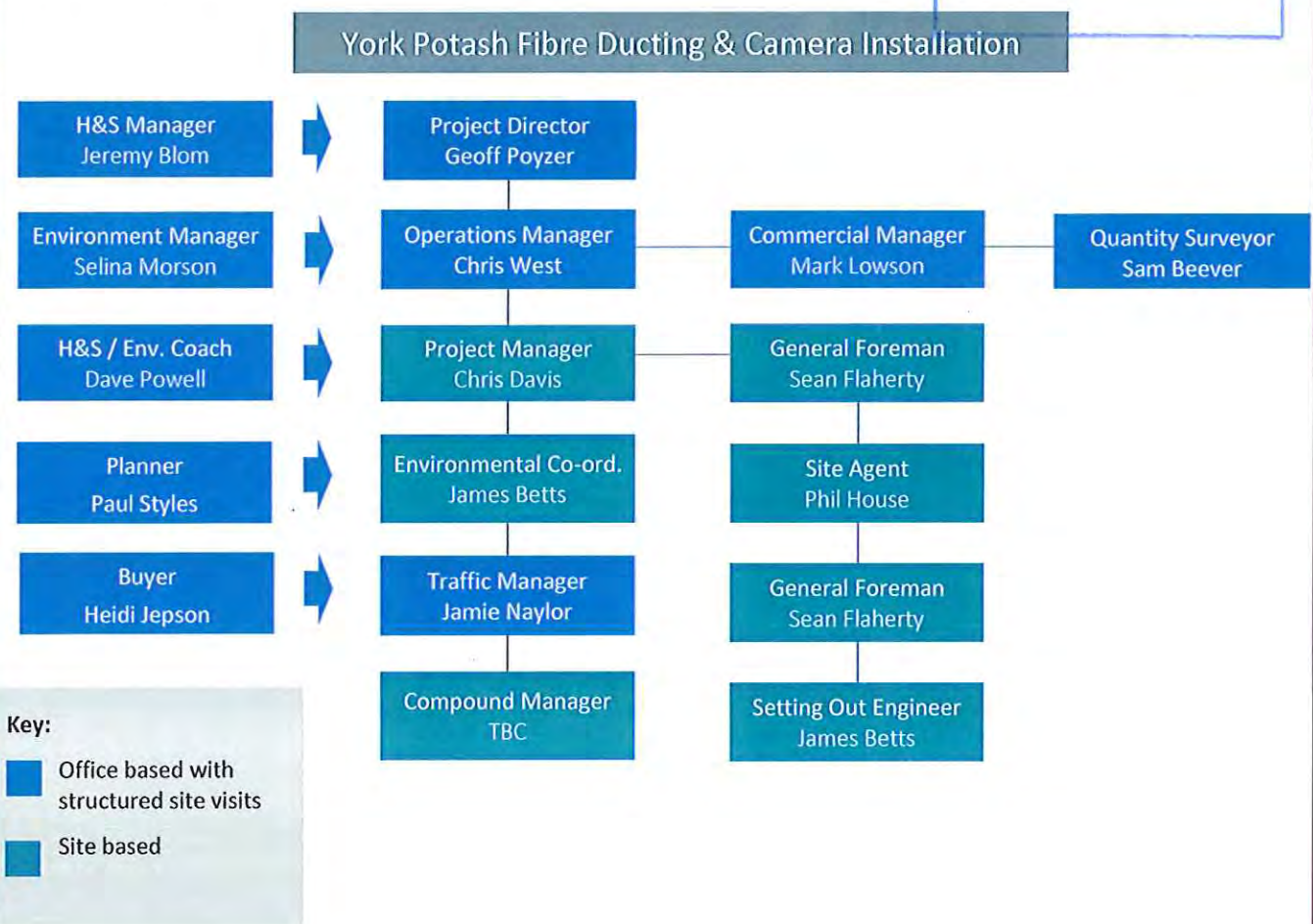
**Describe the management arrangements for undertaking the works:**

(including arrangements prior to the start of work, welfare, first aid, change sanctioning arrangements, inspection and testing arrangements and details of sub-contract arrangements, how sub-contractors will be managed)

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### NMC Management Team

The following shows the NMC management structure for this scheme:



### Site Inductions

Prior to accessing site, all operatives and visitors working on this scheme are to receive a site induction at NMC's Site Office.

### Welfare

Welfare facilities comprising toilets, washing facilities, canteen, and a drying room, are located at Doves Nest Farm. Access is via the Doves Nest Farm Access, off B1416. Please refer to the appended "Doves Nest Farm Compound Layout Plan" (44394-PH1-SK-01).





# SAFE SYSTEM OF WORK

## First Aid

First Aid equipment is located within the Site Office at Doves Nest Farm and within all NMC vans.

A First Aid-trained nominated person will be located either on site or at NMC's compound during working hours.

## Change Sanctioning

Changes to the method of work stipulated within this RAMS can only be sanctioned through completion of the "Record of Amendments Form" located within this RAMS, with the Project Manager's authorisation.

## Inspection & Test Arrangements

Inspection & Test forms for the following will be undertaken throughout construction of these works:

- Ducting.
- Column installation (for camera).

## Subcontract Arrangements

Specialist contractors will be appointed for the following elements of work.



- Directional drilling - AHUS.
- Fibre optic cable installation – BT.
- Installation of camera columns and camera equipment – TBC.

Works undertaken by specialist contractors will be subject to separate Method Statements covering each element of the above works.

## Describe the emergency arrangements for any special risks:

(Include any special arrangement with emergency services, work at height rescue, confined spaces rescue etc.)

N/A

## Describe how the safe system of work will be communicated to those undertaking the activity and any others needing to be informed:

(Including briefings, toolbox talks, KSAW and other forms of communication. Communication may increase based on risk of work being carried out)

## Communication of Safe System of Work

- This RAMS will be briefed to all operatives involved with this scheme, prior to commencing any associated works. Re-briefings will be undertaken for all changes to this RAMS, plus at least monthly.
- Daily "Keep Safe & Well" briefings will be undertaken at the start of each shift, summarising the works in hand plus associated hazards.
- Where applicable, toolbox talks will be given in order to update on changing risks that may arise as the work progresses (for example - hazards presented by changing weather conditions).



## PART MS3 – Step by Step Sequence incorporating control measures

**Provide a step by step sequence for the task, describing how the controls developed in the Risk Assessment are to be implemented:**

(Description should be concise and bullet pointed for use when briefing the workforce as to how the task will be undertaken safely without risk to their health, safety or the environment.

Include 'Hold Points' at the end of each activity or 7 +/- 2 bullets, to segregate phases.

There should be no jargon, abbreviations or acronyms. There should be no uncertainty about what needs to be done, how it is to be done and what is required. Taboo words and phrases like 'where necessary', 'as approved', 'as appropriate' etc. are **not acceptable**)

### Overview of Works

A fibre optic cable link is required for the functioning of the proposed on site time-lapse / security cameras at Doves Nest Farm. An existing fibre network is present at the A171 / B1416 junction. This project involves the installation of BT ducting between the junction and the Doves Nest Farm existing farm access road, within the existing north verge of the carriageway. The camera tower and the associated cameras will be erected on columns by a specialist contractor.

### Proposed Traffic / Pedestrian Management

- Road Space will be booked and Traffic Management proposals agreed with NYCC ahead of works starting.
- In general, works will be undertaken within the verge with narrow lanes established on the carriageway local to the area of works at the time.
- Stop-and-go boards will be used during the following activities:
  - During delivery of plant and materials to the working location.
  - At pinch-point locations where the site dictates that a safety zone of 600mm cannot be maintained with narrow lanes.
- Pedestrian barriers will be erected to the perimeter of all working areas as works progress; pedestrian barriers will be maintained around the work site until works are complete or made safe from slip / tip hazards.



Pedestrian barrier, used around all working areas and to fence-off the works until complete or made safe



## The Site

The following photograph shows a typical view of the site:



The verge in which the works will take place is maintained by mechanical mowing and is open to the adjacent carriageway; it therefore represents a frequently disturbed habitat of very low ecological value. As such, no special protection measures are proposed for the verge other than following the restoration methodology set out in this RAMS and following the Precautionary Method of Working for reptiles and breeding birds that has been approved for the Phase 1 Highways Improvement Schemes.

## Housekeeping

- This scheme is located in the North York Moors National Park, which makes good levels of housekeeping and site tidiness of particular importance.
- The local economy is heavily reliant on tourism so works must be undertaken and completed with minimum disruption to local road users and stakeholders.
- The site must be cleared of all waste and packaging at the end of each shift, with such items being taken to and appropriately stored at the Doves Nest Farm compound. This compound will have designated skips for disposal of various waste materials, plus designated laydown areas for materials.
- Mud on the road will not be tolerated. Only clean-wheeled vehicles are to access the public highway.

## Delivery and Storage of Materials

- The following materials will be delivered to the site compound:
  - Ducting.
  - BT chamber risers and lids.
  - Camera column and camera equipment.
  - Fuel.





# SAFE SYSTEM OF WORK

- Materials will be transported from the compound to site using a tipper van with “Highway Maintenance” livery and flashing beacons.
- Materials will be offloaded, by hand, for the works taking place that day; any surplus materials at the end of each shift are to be transported back to the compound.
- Re-fuelling of plant and equipment on site will be undertaken using a towable fuel bowser which will be stored at Doves Nest Farm.
- Re-fuelling will be undertaken in line with NMC’s Operating Procedure OP 9/8 “Re-Fuelling”.
- Re-fuelling will be undertaken on an area of hardstanding (i.e. not on verges) at least 5m away from any highway drain; a drip tray and spill-kit will be in place at all times during the re-fuelling operation.
- Should any spillages occur, the process of “Stop, Contain, Notify, Clean Up”, will be followed, as detailed within OP 9/8.

## Principal Items of Plant & Equipment

The following plant and equipment will be used to undertake these works:

### Mini-digger

- A mini-digger will be used for mechanical excavation works at the launch and receive pit locations.



### Tracked Horizontal Directional Drill Rig

- A directional drill rig will be used for duct installation works.



### 3.5T Tipper Vans

- Tipper vans will be used to transport materials to site, and spoil from site.







# SAFE SYSTEM OF WORK

## Hiab Lorry / Crane

- Used for the delivery of materials and installation of camera columns.



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## Setting Out

- All works will be undertaken to a line and level marked on site by NMC's Setting-out Engineer.

## Design

The ducting is to have a minimum of 350mm of cover in the verge and 600mm of cover under the carriageway.

## Methodology – Ducting (directional drilling)

- A Permit to Excavate will be issued ahead of all mechanical excavation / drilling works; the Permit will detail all known underground utilities and stipulate a safe system of work for excavation which includes CAT scanning and trail holes to locate all known services.
- "Launch pit" locations will be established along the route to accommodate the directional drill rig. Each location will be approximately 10m long x 2m wide.
- "Receive pit" locations will be established 100m from the launch pits, as ducts come in coils of 100m. Each receive pit location will be approximately 4m long x 2m wide.
- A mini-digger will be used to excavate the launch pit and receive pits. Excavations will be approximately 3m and 1m long respectively.
- Drilling will take place in either direction from each launch pit, so a total of 200m of ducting will be installed from each launch pit location.
- Pilot holes will be drilled as required.
- Grey single-way 100mm diameter ducting will then be installed along the agreed route.
- Inspection chambers will be constructed along the duct route at 200m intervals, which will, where possible, correspond with the launch pit locations, in order to minimise disturbance of the verge; chambers will be constructed using modular chambers on a concrete base. The chambers will be constructed in a 1000x1000mm square excavation and will be 600mm in depth. The edge of the lid will be at least 1200mm away from the edge line in accordance with BT's specification. The boxes will be 600x600mm in plan area and the arisings from the excavation will be used to reinstate around them. Any surplus arisings will be removed to the main site at Dove Nest Farm for reuse by grab wagon.
- Following completion of work at each chamber, launch pit and receive pit, the verge topsoil will be reinstated and re-seeded with a mix agreed with the North York Moors National Park Authority.





# SAFE SYSTEM OF WORK

- All works through areas of carriageway will be incorporated into the highway schemes currently ongoing at A171 / B1416 junction and on B1416 (Welfare Access).

## Methodology - Camera

- Installation of the camera columns and equipment will be undertaken by a specialist contractor in line with a separate site-specific Risk Assessment and Method Statement.

## PART MS4 –Documents Required as Part of the RAMS Pack

	Document	Required	Attached or Location	
Attached Documents	Environmental Risk Assessment (Aspects & Impacts)	Yes	Site office	
	Process Impact Assessment	No		
	Design Risk Assessment / Health & Safety File	No		
	Permits required for the work:			
	Confined Spaces	No		
	Hot Work	No		
	Electrical	No		
	Excavate and Break Ground	Yes	Issued for all excavations	
	Lifting Operations & Lift Plan	No		
	Demolition Operations	No		
	Restricted Access / Restricted Operations	No		
	Other	No		
	Drawings relevant to work taking place	Yes	Site Office	
	Emergency Procedures	Yes	Site Office	
Service drawings and other utility identification	Yes	Attached to Permit to Excavate, and in Site Office		





# SAFE SYSTEM OF WORK

## PART MS5 – Post Activity Review

Look at how the task was done, can we improve the method?

RAMS Ref No. 44394-PH1-RAMS-05

Rev:

3

Contract No. 44394

Contract Name:

B1416 Fibre Connection and On-site Cameras

Brief description of task

Are there any lessons for next time?

Did the task create any new hazards?

What could we change to make the task safer next time?







# BRIEFING RECORD

**REMEMBER TO RE-BRIEF THE WORKFORCE WHEN THINGS CHANGE OR A MAXIMUM OF EVERY 30 DAY**

<b>PART BR1 - Briefing Record for RAMS</b>	44394-PH1-RAMS-05	<b>Revision:</b>	3
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By signing this Briefing Record you are accepting that you:

1. Have had the briefing on the date stated,
2. Understand how the task is to be completed,
3. Will complete the task as described or **STOP** if it cannot be completed as described,

Name (Please Print)	Consulted Y/N	Job / Role (During Task)	Signature	Date	Briefed By	Position	Original, Change 1, Change 2, Review

NYMINIPA  
 22 FEB 2017

Personnel who are consulted in the preparation of the RAMS should indicate this by inserting Y in the consulted column.



Proposed Welfare Facilities at Doves Nest Farm for Phase 1 Highway Improvement Works (40m x 105m overall)



1. Site Office, meeting room, canteen / kitchen, toilets (3+1), washing facilities and drying room. (13m x 15m)
2. Materials delivery and offloading area. (6m x 45m)
3. Materials storage areas / disposal skips. (13m x 10m + 10m x 7m)
4. Fuel and COSHH storage, concrete wash-out and re-fuelling area. (10m x 13m)
5. Storage containers. (15m x 7m)
6. Storage area for excavated soils. (10m x 20m)
7. Car park, 14 x vehicles. (20m x 10m)
8. Overspill car park, 10 x vehicles. (20m x 8m)
9. Access / egress point. (Banksman to be used at peak times)
10. Layby / holding area for exiting vehicles. (10m x 3m)

NYMMPA

22 FEB 2017



## Technical Specification

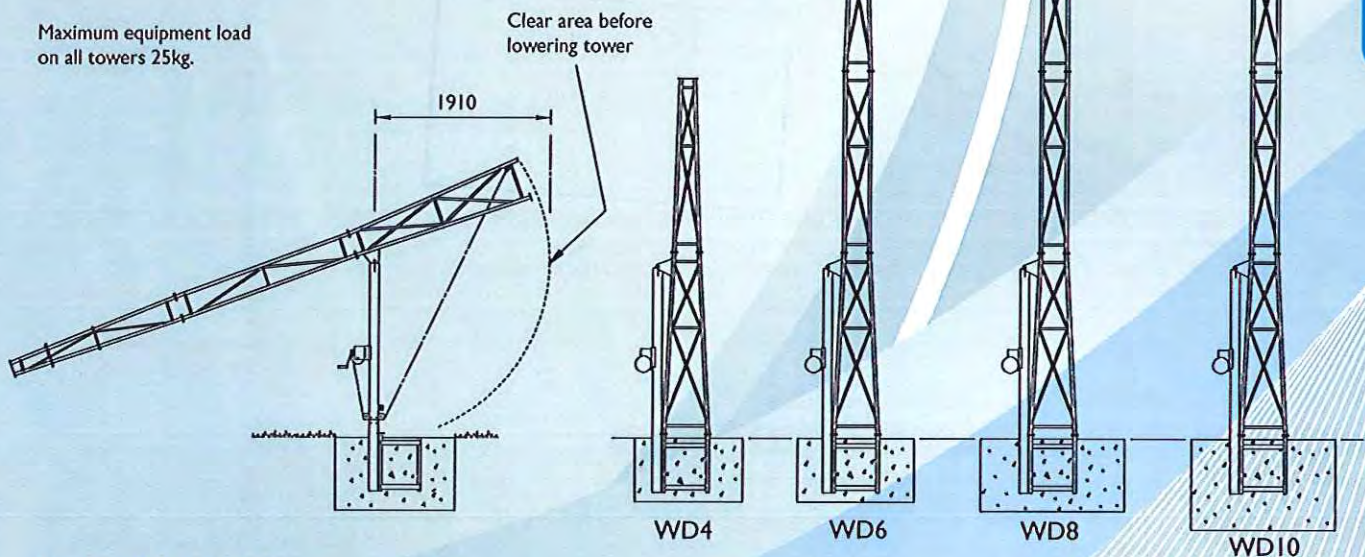
### General Specification

- Galvanized for maximum weather protection & low maintenance
- Standard pan and tilt fixings of 101.6 PCD
- Fixings included for telemetry receiver
- Built in cable entry and exit points
- Two and three metre sectional construction
- Equipment loading of up to 25kg
- Buried root or flange-mounted versions available
- Heights available from 4 to 12 metres
- Compatible with WEC adaptors and accessories

### Safety Notice

It is important that all operatives are familiar with all operating instructions and procedures.

Maximum equipment load on all towers 25kg.



### Standards Applicable

- Structural Steelwork: BS EN 10210-1:1994, BS EN 10210-2:1997
- General Steelwork: BS 1449:1991, BS 1387:1985, BS EN 10025:1993
- Hot Dipped Galvanized: BS EN ISO 1461:1999
- Welding Procedures: Comply with BS 5135:1984
- Fasteners: Grade 8.8 BS 3692:2001, BS 4190:2001, DIN 931, DIN 934
- Design Wind Loading: In accordance with CP3 chapter V Pt 2 & BS 6399 Pt 2:1997

Transferable winch unit allows reduced cost in multi-site servicing and secure installation.

WUA - Heavy duty  
WUB - Light duty

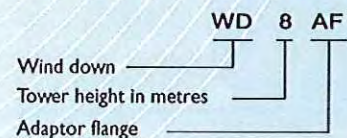
Ht.	Winch Selection	
4m	WUA	WUB
6m	WUA	WUB
8m	WUA	—
10m	WUA	—

### Removable Winches

Although the WUA auto brake winch is initially more expensive, it has the versatility to cover the range of WEC products and has a quicker operating action.

Accessories & Adaptors	
Part ref.	Description
WD/ACB1	Anti Climb Bracket
WD/ACB1-M	Security mesh welded in lower section
WD/Paint	Painting in BS4800 & RAL colours
WDAF	Adaptor Flange Version
WD/SDA	Swept Dome Adaptor
WD/SDA2	Swept Dome Adaptor Dual
WD/TCA	Tower Clamp Adaptor
WD/PT1/S2	1 Pan & Tilt c/w 2 Static Adaptors
WD/TPTA	Twin Pan & Tilt Adaptor
WD/4SA	Quadruple Static Adaptor
WD/3SA	Triple Static Adaptor
WD/2SA	Twin Static Adaptor
WD/1SA	Pan & Tilt - Single fixed
WD/CS150-300	Column Spacers 150mm-300mm
WD/ARB1	Anti ram bollard (cast-in)

### Product Ref & Ordering Information





**Base and Windload Specification**

Concrete Foundation Table X x Y x Z							
Model Ref	Ht.	Area of Country			Area of Town		
		A	B	C	A	B	C
WD4	4m	1.0x1.0x 0.5m Dp.	1.0x1.0x 0.5m Dp.	1.0x1.0x 0.5m Dp.	1.0x1.0x 0.5m Dp.	1.0x1.0x 0.5m Dp.	1.0x1.0x 0.5m Dp.
WD6	6m	1.2x1.2x 0.6m Dp.	1.3x1.3x 0.65m Dp.	1.3x1.3x 0.65m Dp.	1.2x1.2x 0.6m Dp.	1.2x1.2x 0.6m Dp.	1.2x1.2x 0.6m Dp.
WD8	8m	1.3x1.3x 0.65m Dp.	1.4x1.4x 0.7m Dp.	1.4x1.4x 0.7m Dp.	1.3x1.3x 0.65m Dp.	1.4x1.4x 0.7m Dp.	1.4x1.4x 0.7m Dp.
WD10	10m	1.4x1.4x 0.7m Dp.	1.5x1.5x 0.75m Dp.	1.6x1.6x 0.8m Dp.	1.5x1.5x 0.75m Dp.	1.5x1.5x 0.75m Dp.	1.6x1.6x 0.8m Dp.

A minimum soil bearing pressure of 75 KN/m<sup>2</sup> is assumed



**Installation Method**

1. From the map, select location of installation
2. Excavate as per recommended area and depth
3. Assemble root base as shown in fig. 1
4. Place cable duct in position, if required, and firmly secure
5. Support root in the excavation using locally supplied timber or similar
6. Ensure all three mounting pads are level and protruding 45mm to 50mm above finished concrete level
7. Pour in concrete, ensuring a mix of C35 to table 6 BS 81 10, tamp down and level surface
8. Check that all three pads are still level and leave to cure for a minimum of 72 hours prior to erecting the tower



**Technical Support**

Our in-house design facility enables us to manufacture towers to any customer specification. The technical sales department will offer expert advice on any exact requirements. Full training and instruction on the erection of towers, fixings, safe use and procedures is available on all WEC products. Project engineers, installation teams and service engineers, will all benefit from practical demonstrations, all of which can be shown on our own test site facility.

Foundation sizes are determined for three sets of wind speeds, which will cover most of the British Isles.

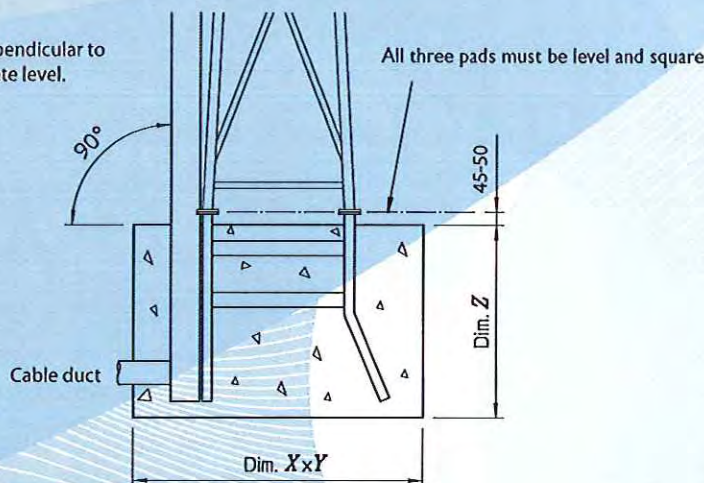
- Area A = 44m/s (98mph)
- Area B = 48m/s (107mph)
- Area C = 52m/s (116mph)

Maximum gust speed is likely to be exceeded on average once every 50 years at 10m above the ground in open level country.

fig. 1

**Buried Root Type (WD)**

Ensure mast is perpendicular to the finished concrete level.



**Adaptor Flange Mounted Type**

