

M6 j16-19 Overhead structure and service good practice

Since a previous incident, the project has put significant efforts in improving overhead structure and service awareness and protection, many of which fall under 'exemplar' in Raising the Bar 7.

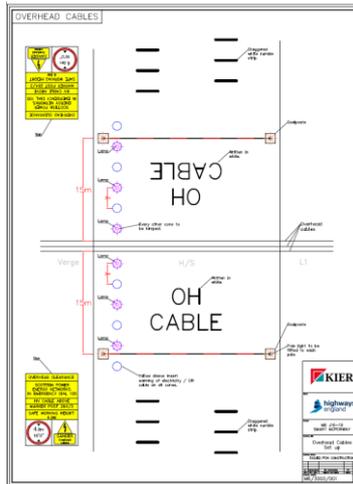
Overhead service and structures have been identified as a key risk to the project and is included in the site induction.

Communication with energy suppliers has been encouraged; two site visits have been undertaken by the energy suppliers, led by the project Section Manager. The site visit consisted of talking through newly implemented control measures and measuring cable heights as part of a validation exercise. The project has negotiated with the energy providers to potentially re-direct overhead services via underground routes for future schemes; this is a method to eliminate the hazard in this scenario.

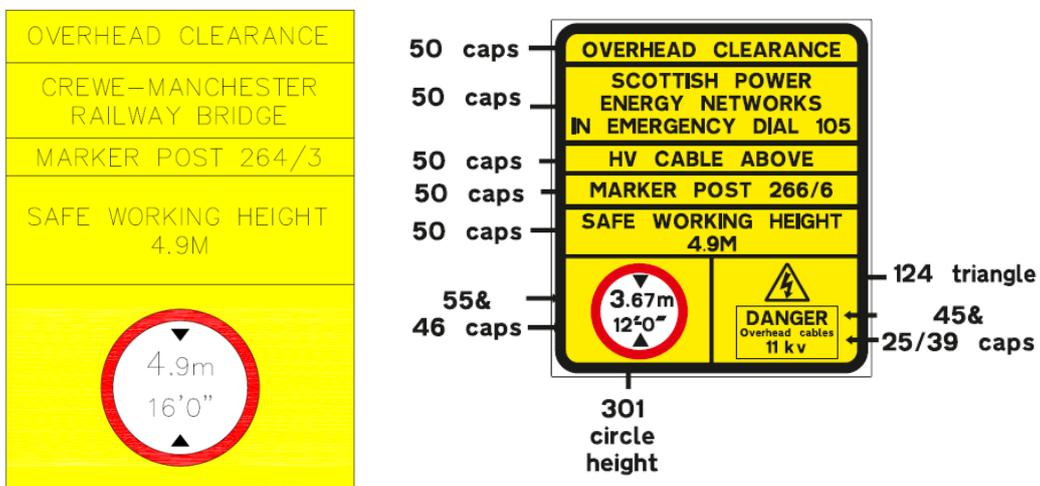
Blue cones are used within the works leading up to any overhead structure or service. White sleeves are used around blue cones leading to structures and fluorescent green sleeves are used around blue cones leading to services. Every other cone is lamped for improved visibility during night works.

A permit to work near overhead services is in place to disable any regular operations taking place in those areas when it can be undertaken elsewhere.

A member of staff from the Principal Contractor is within the safety action group is leading a proactive working group on overhead structure and service protection.



Overhead service protection design work.



Example of new overhead bridge sign (left).
Template for overhead service sign (right).



New signs have been made and placed on site, they state whether it is cables or structure above, outlines the minimum safe clearance height, identifies the marker post location, and emergency contact 'DIAL 105'.



White lining has been used on the ground prior to overhead services reading 'OH CABLE' for increased notification to plant operators and workers about to pass underneath it. White lining has also been used to create rumble strips underneath some GS6 goal posts. This causes plant and vehicles to vibrate whilst driving over them, encouraging deceleration and further notification to the driver that they are underneath an overhead service.

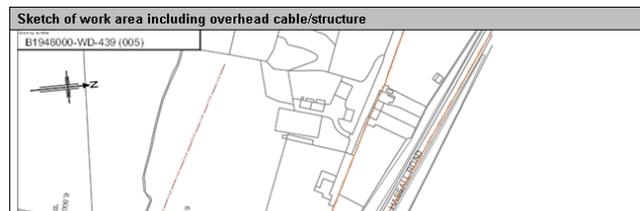


White line rumble strips underneath GS6 goal post.



Safety lights have been attached to GS6 goal posts at an eye level for workers and plant operatives to have increased visibility during evening and night works.

Permit to Work near overhead cables including GS6 establishment and overhead structures			
Project	M6 J16-19 Smart Motorway	RAMS ref:	119
Location	J17-16 SB verge CH 6090	Date:	13/04/18
Name of Contractor	Kier		
Activity	Installing new manhole 705.003 Slot Out		
Plant being used	Komatsu PC138 US	Maximum reach of machine	9.34m
Height of lowest conductor/cable	9.01m	System voltage	33kV
Height of goal posts	4.9m	Safety clearance	4.11m
Can the safe clearance be maintained without restriction on the machine	No		
Operator to set the height restrictor/limiter/Prolec system for the machine?	Yes. Set restrictor to 4.9m		
Methods employed to restrict the machines reach:			
4.11m minimum safety clearance to be maintained between excavator and powerlines at all times.			
No loading and unloading of plant and equipment underneath overhead powerlines. No loading of materials into muck wagons or similar. Ensure all movements are controlled and supervised by a banksman.			
Prolec height restrictor/limiter to be set to 4.9m before any work commences.			



Permit to work near overhead cables.

KIER Working on behalf of highways england				Overhead Services and Bridges Weekly Checklist																								
				1) Are the blue cones in place with 6 no. either side @ 3m c/c.	2) Are the lamps in place on every other cone.	3) Are the goal posts set back 15m for O/H and 6m for bridges.	4) Is the tickertape intact?	5) Is the lamp in place and working on each goal post (O/H ONLY).	6) Is it secure																			
Location			Overhead Cable or Bridge	Day/Night	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	
MP	N.B. Ch.	S.B. Ch.			D	N																						
290/0	30,340	1,905	Structure	D																								
289/8	30,165	2,085	Structure	D																								
JUNCTION 19																												
288/8	29,285	3,000	Structure	D																								
288/3	28,800	3,490	Structure	D																								
288/1	28,590	3,705	Structure	D																								
287/8	28,330	3,940	Structure	D																								
287/6	28,075	4,190	Structure	D																								

As well as auditing overhead service and structure protection during site safety inspections, there is a team who consistently travel around the works inspecting GS6 goal posts and other overhead protection controls.