



Haigh Huddleston & Associates

Civil & Structural Engineering Consultants

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Our Ref: E18/7366/MH006

09/08/2021

FAO: Paul Farndale

Kirklees Land Drainage

Dear Sir,

Re: Development at Station Road, Skelmanthorpe for Yorkshire Country Properties

Please find attached our risk assessment in relation to the proposed temporary surface water management at the above site. Please note the temporary surface water management will evolve as the site construction progresses. This should be updated as construction progresses on site.

The development consists of a redevelopment of an open greenfield site. The site slopes South to North with residential properties to the North, and to the West of the site beyond Station Road, and fields to the South and East.

The development site frontage runs parallel with Station Road (adopted highway). An existing 225mm diameter Yorkshire Water combined sewer is located in Station Road and it is understood that the existing gullies discharge into this system.

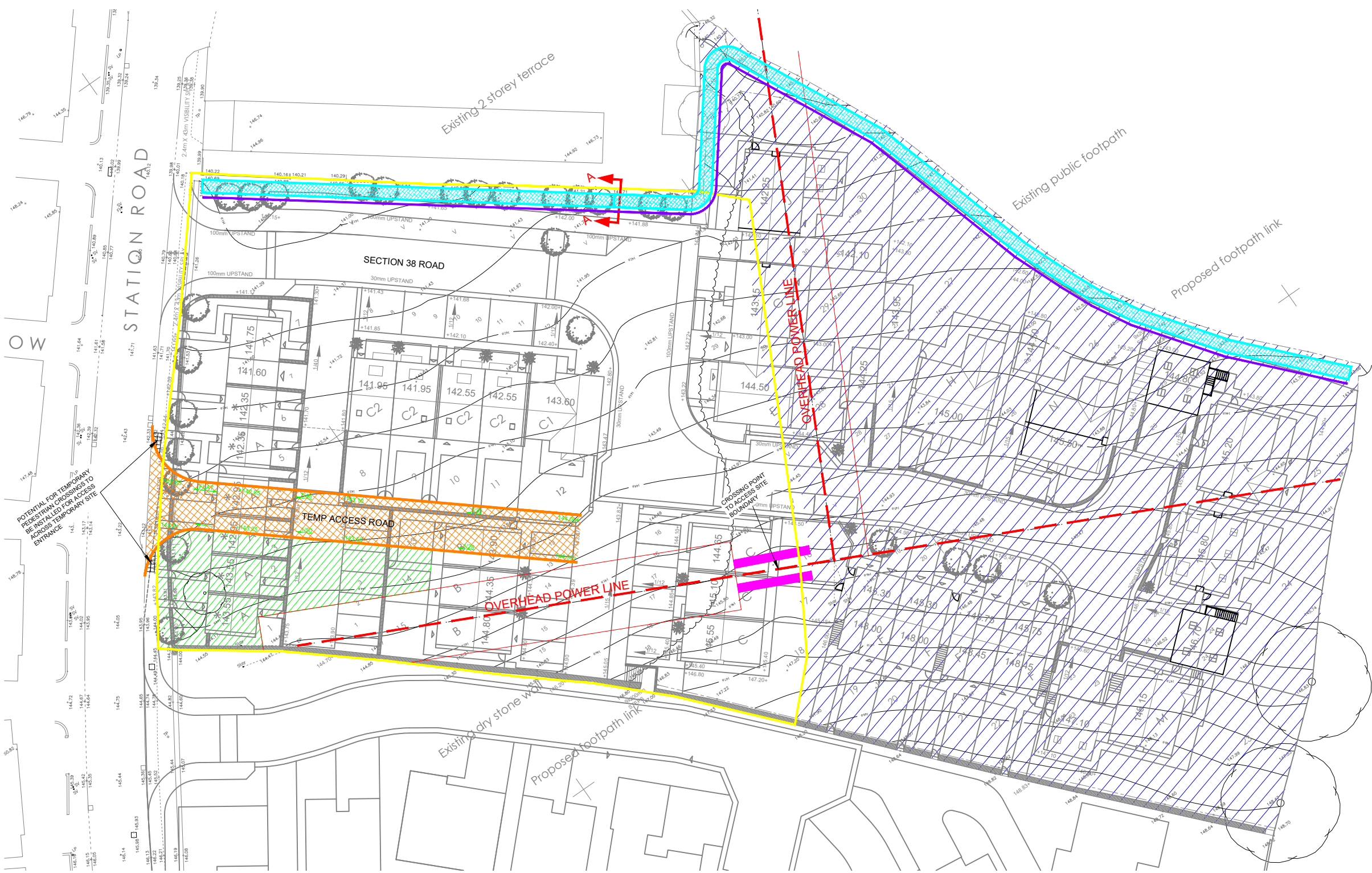
Yours sincerely,

MARTIN HUDDLESTON. MEng

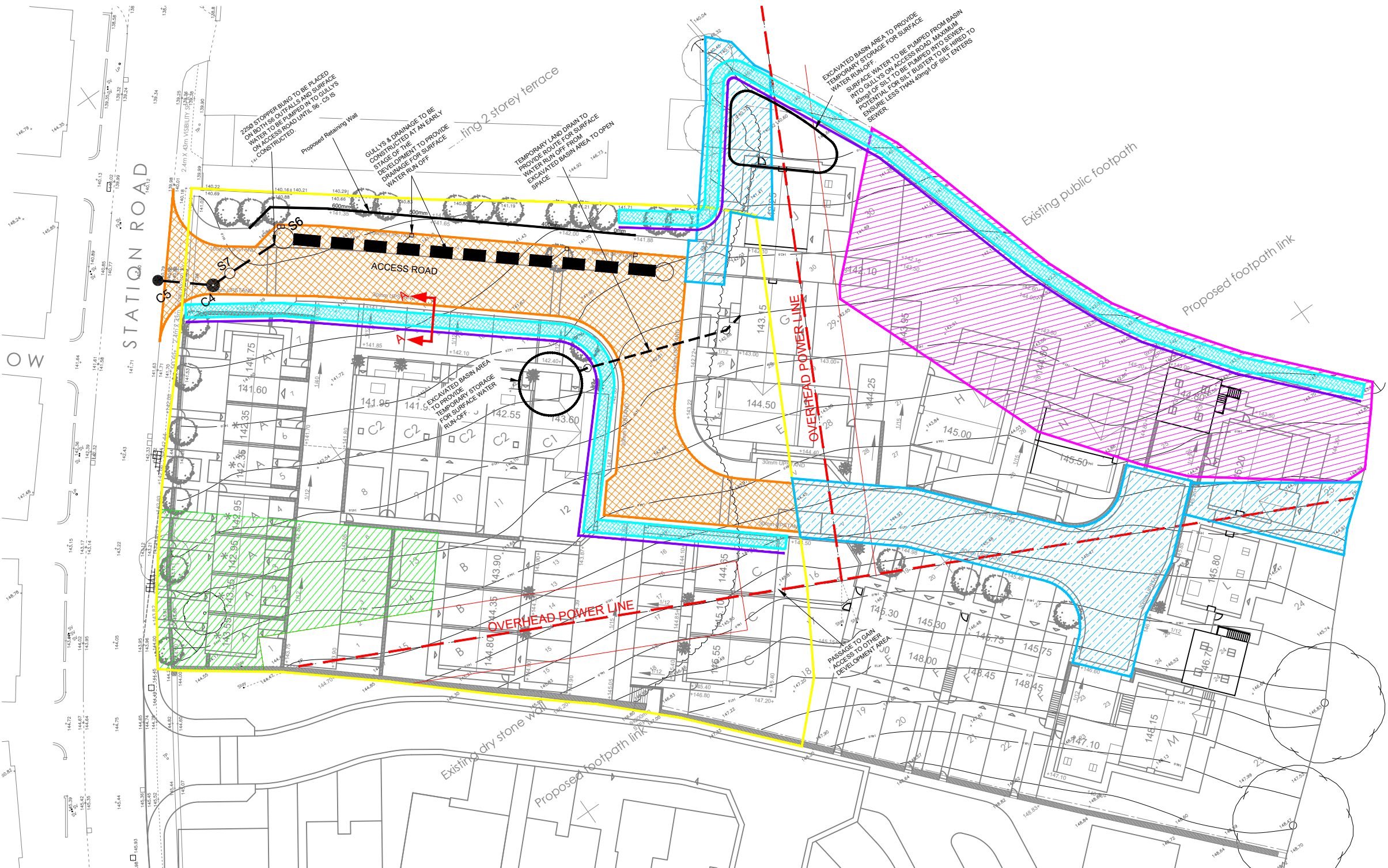
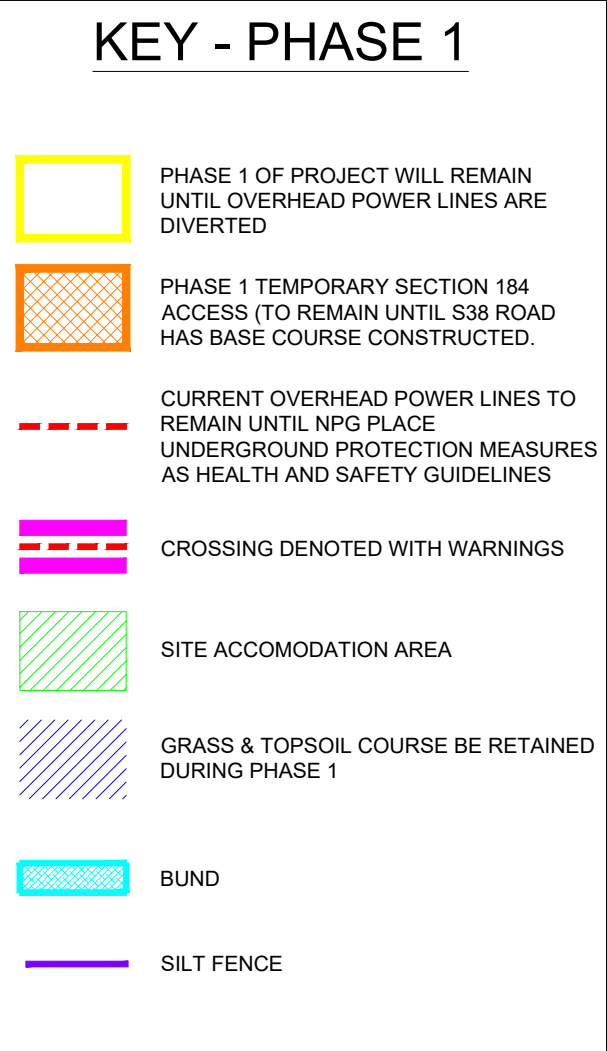
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<u>Activity</u>	<u>Risks Identified</u>	<u>Design Steps to Eliminate/Control Risk</u>	<u>Further Action Required</u>
1. Site clearance / earthworks and excavation	i) Off site flooding to third party land. ii) Silt pollution to adjacent water course. iii) Silt run-off to existing highway infrastructure.	i) Reduce area of initial site strip, thereby retaining existing grassed area to northern (lower) area of site. This will enable existing topsoil and grass to reduce off site flows and control silt. ii) To provide bunding and silt fencing to lower boundary to ensure any off-site water is controlled and free from excessive silt build up. iii) Downstream road gullies to be fitted with silt bags to prevent silt pollution to adoptable drainage systems.	i) Contractor to inspect bunding/silt fencing on a weekly basis to ensure it is satisfactory in place. ii) De-silt temporary basins as required. iii) Inspect off site watercourses and gullies to ensure free from silt.
2. Site Deliveries / traffic entering site	i) Off-site silt/mud on existing highway. ii) Increased risk of skidding under braking on existing highway. iii) Silt build up with existing gullies off-site.	i) Provide clean surfaced hardstanding areas for vehicles entering and leaving the site to minimise mud/silt being deposited on existing highway. ii) Wheel washing facilities to be used especially during wet weather and excavation operations to clean vehicle wheels prior to leaving site. iii) Use gully bags within off-site gullies to catch and retain any silt.	i) Monitor vehicles leaving site. ii) Limit entering to site during severe weather or during excavation operations. iii) Employ road sweeper to maintain condition of off-site highway. iv) Monitor existing gully silt bags and replace as required.
3. Existing / New Adopted Drainage on Site	i) Silt build up with gullies and new storage facility area constructed. ii) Flow control device installed. iii) Prolonged final adoption and transfer to Yorkshire Water.	i) Use terram with newly installed gullies to reduce silt run-off into new system. ii) Install flow control device at an early stage to control run-off to agreed levels. iii) Developer responsible to maintain system until finally adopted by Yorkshire Water.	i) Regular monitoring of on-site drainage system to ensure free from silt and operating successfully. Suggested inspection weekly and prior and following any heavy rainfall forecast. ii) De-silt storage attenuation facility prior to final adoption.

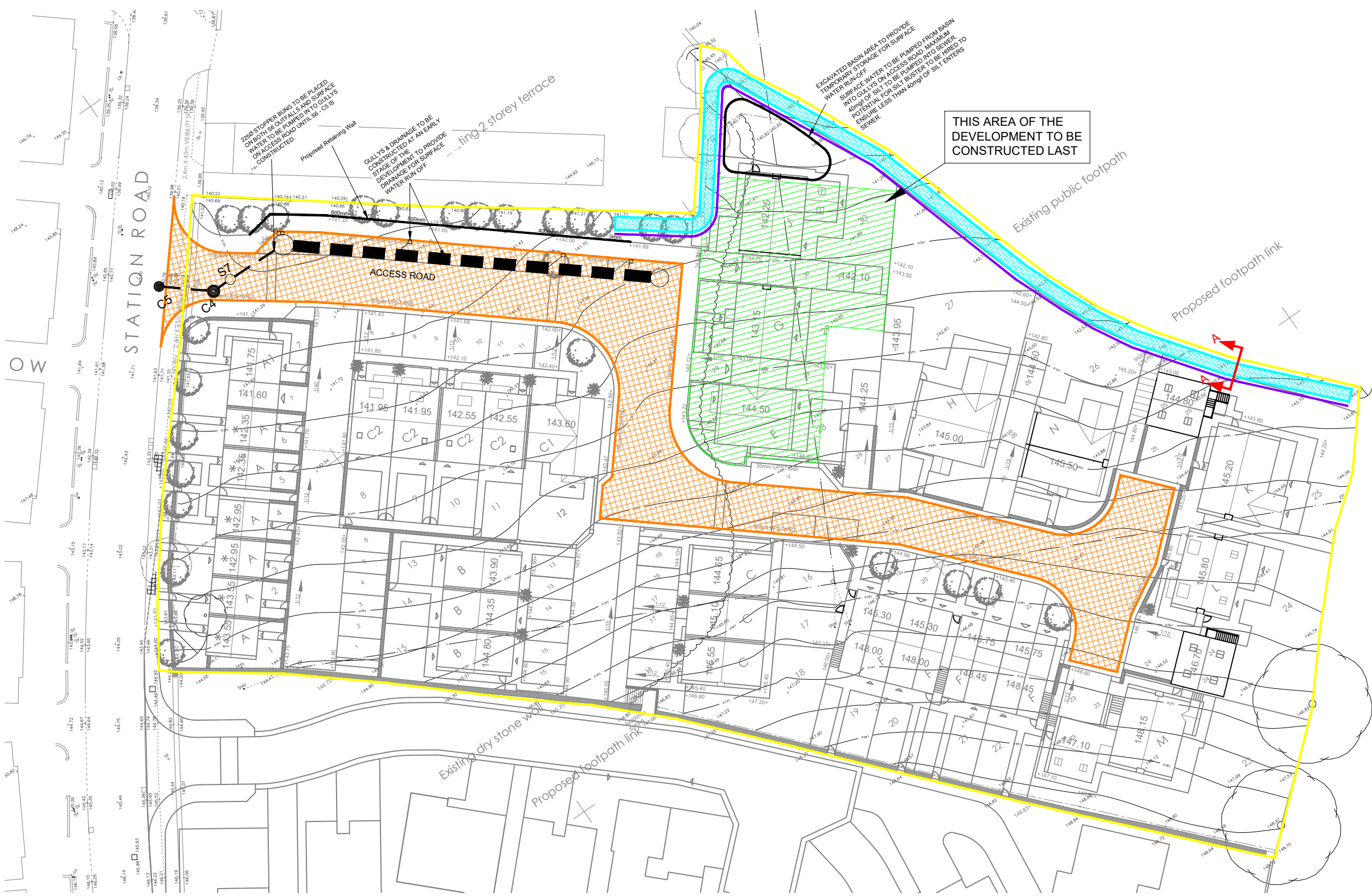
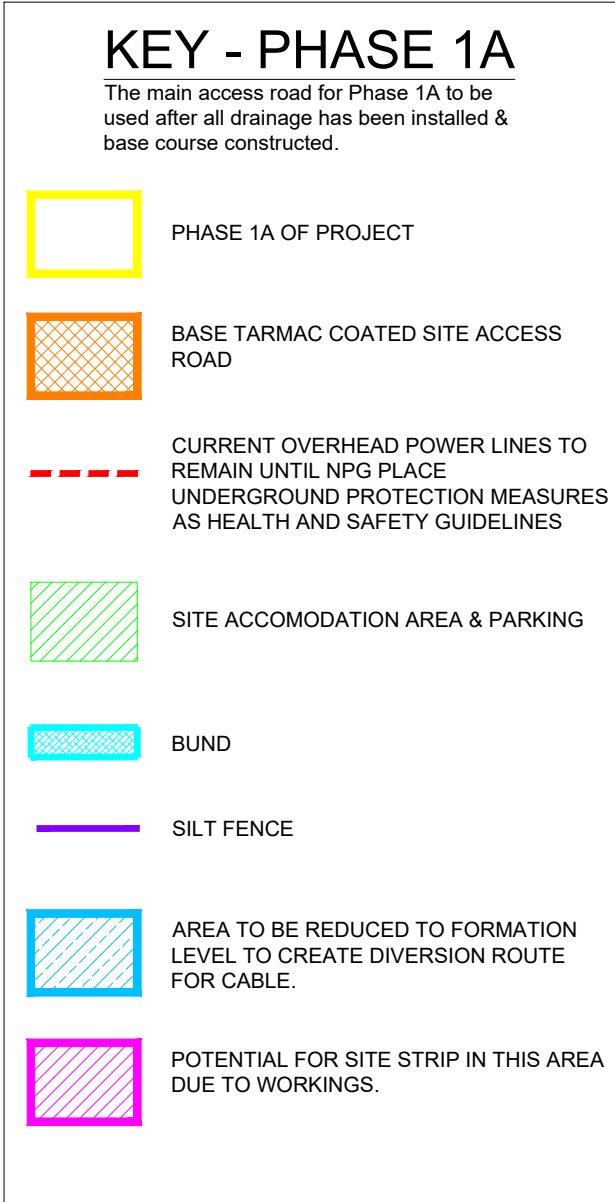
<u>Activity</u>	<u>Risks Identified</u>	<u>Design Steps to Eliminate/Control Risk</u>	<u>Further Action Required</u>
4. Land Drainage on Site	i) Poor maintenance following Plot sale. ii) Maintenance during and after construction on site.	i) Land drainage to be constructed as easy to access areas and kept as shallow as possible for maintenance purposes. ii) Silt traps included within land drainage design to intercept silt and provide location for regular maintenance.	i) Developer to highlight presence of any land drainage to new purchaser and notify of their responsibility in the future. ii) Developer to protect land drain once constructed on site to avoid construction damage prior to handover. iii) Developer to CCTV completed land drainage system prior to handover to ensure operating effectively.



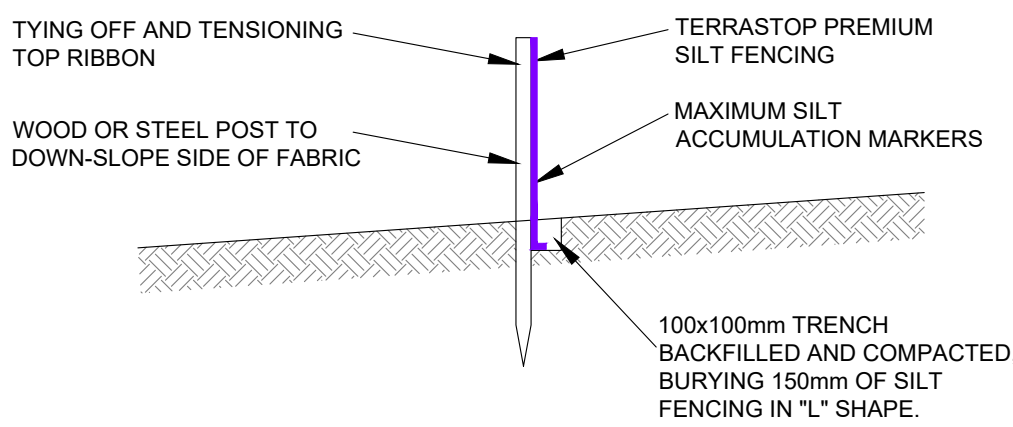
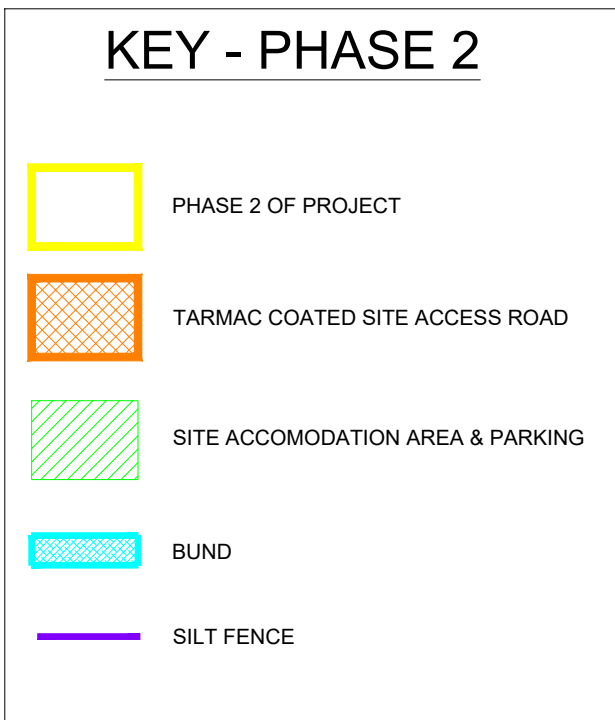
PHASE 1 - SCALE 1:500



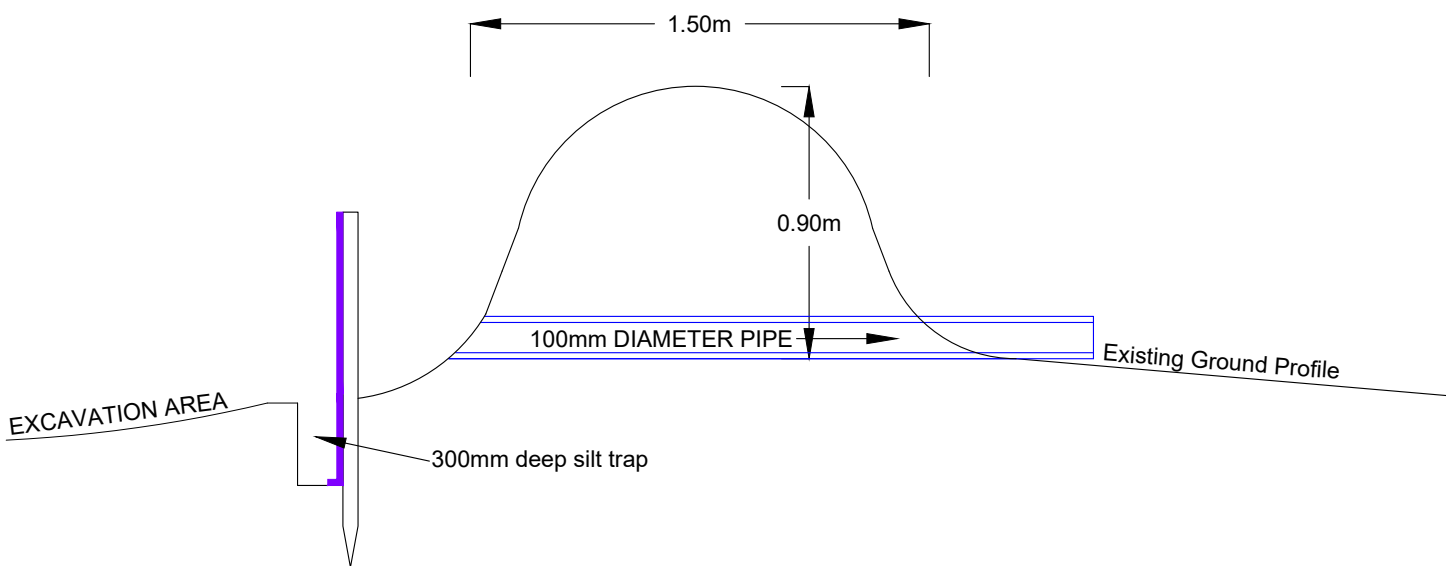
PHASE 1A - SCALE 1:500



PHASE 2 - SCALE 1:500



TYPICAL SECTION THRO' HY-TEX TERRASTOP SILT FENCING Scale 1:25



SECTION A-A THRO' PROPOSED BUND INC SILT FENCE Scale 1:50

EXISTING GULLIES TO BE FILLED WITH SILT SCREENS PROVIDED TO PREVENT SILT TRANSPORTATION. WEEKLY INSPECTION AND MAINTENANCE REQUIRED.

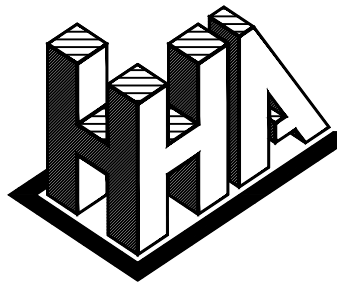
SURFACE WATER MANAGEMENT PLAN TO BE REASSESSED BEFORE EACH BUILD ROUTE.

WHEEL WASHING FACILITY TO BE PROVIDED AT SITE ENTRANCE TO PREVENT SILT TRANSPORTATION FROM SITE .

MAINTENANCE AND INSPECTION TO BE CARRIED OUT:
1) ON A WEEKLY BASIS
2) FOLLOWING A HEAVY RAINFALL
3) PRIOR TO A FORECAST HEAVY RAIN

LOGS TO BE PRODUCED AND ANY REMEDIAL WORKS NOTED THROUGHOUT TEMPORARY WORKS.

PUMP TO BE PROVIDED ON STAND BY IN CASE OF FAILURE TO TEMPORARY DRAINAGE WORKS. i.e. EXCESSIVE SURFACE WATER BUILD UP DURING EXTREME STORM EVENTS IN TEMPORARY BASINS & ON-SITE. EMERGENCY CONTACT NUMBER TO BE PROVIDED AT ALL TIMES.



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Client
YORKSHIRE COUNTRY PROPERTIES

Project
STATION ROAD, SKELMANTHORPE

Detail
SURFACE WATER MANAGEMENT PLAN

Dwn Chkd Date Scale Dwg No.
JF MH JUN-21 1:500@A1 E18/7366/042