

Correspondence received from

CGL require updated stockpile management plan following the reprofiling of stockpiles in the lagoon area.

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	11/12/2017	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 12:30	Bitterly cold with heavy rain, sleet and snow with moderate to high winds		

Site operations

Work in hand	CGL to undertake weekly ground and surface water monitoring
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Observations

Limited work was undertaken on site due to the adverse weather conditions, many workers had left site by mid-morning.

CGL completed half a day monitoring due to equipment failure, the low flow pump became inoperable after prolonged exposure to cold and wet conditions. The concluding half day will be completed later in the week. In-situ probe data was recorded by photographing the data screen rather than attempting to write in paper log books. Records of these are provided under 'photos'.

Sampling and/or testing undertaken or observed

Half ground and surface water monitoring round completed.

Site Observation Report Form



Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Correspondence requested by FMC

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Site Observation Report Form

SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	14/12/2017	VISIT BY:	CRG
WEATHER:			
Time	Description		
13:00 – 16:30	Bitterly cold, clear skies and sunshine		

Site operations

Work in hand	CGL to undertake remaining half of weekly ground and surface water monitoring
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Observations

CGL completed the concluding half of the weekly ground and surface water monitoring following the adverse weather conditions earlier in the week and equipment failure.

Sampling and/or testing undertaken or observed

Remaining water samples were submitted for laboratory analysis, samples were collected from the CGL office on Friday before the Christmas holiday period.

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Correspondence requested by FMC

Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	21/12/2017	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 15:30	Dull, overcast with drizzle		

Site operations

Work in hand

WGUC construction of final wing wall section
CGL to undertake weekly ground and surface water sampling

Observations

A full ground and surface water monitoring round was undertaken including all borehole locations and Yeading Brook.

BH4B was partially buried during works to step the WGUC bank, the borehole was salvable and sustained minimal damage.

Additional water samples taken from two extraction points in the lagoon to test missing parameters of discharge consent.

RAMS completed for window sampling works commencing tomorrow in detention basin.

Sampling and/or testing undertaken or observed

Full ground and surface water monitoring round completed

Additional water samples from lagoon extraction points

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Yeading Brook river level was high therefore submerging the surface water discharge point, no sample taken.

Correspondence requested by FMC

Approved RAMS for WS works

Correspondence received from

CGL require service clearance of WS locations, marking and breaking out.

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SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	21/12/2017	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 15:30	Overcast day with light winds		

Site operations

Work in hand	WGUC construction of final wing wall section Oakland SI carry out WS in detention basin WYB shuttering installed for wingwall construction EYB shuttering installed for wingwall construction
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Observations

Oakland Site Investigation inducted by FMC and CGL whilst three window sample locations are marked out. FMC used pecker to break ground at each location whilst Oakland set up.

A total of three shallow boreholes were excavated in the detention basin area to a maximum depth of 4.0m bgl. Ground conditions were similar to those encountered during the FCA trial pitting of shallow Made Ground overlaying Reworked London Clay, Lynch Hill Gravel Member and London Clay. Permeability testing was undertaken in two boreholes targeting the London Clay stratum, water levels in the falling head test did not change over a 90 minute testing period therefore the London Clay is likely relatively impermeable. Wells were backfilled with arising's and capped with concrete and compact.

Sampling and/or testing undertaken or observed

Environmental soil samples were obtained from each strata and submitted to the laboratory, it is anticipated that these will not be processed until after the Christmas holiday.

Additional London Clay core samples were taken from each borehole for geotechnical testing, if required.

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Correspondence requested by FMC

Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	02/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 15:30	Dull, overcast with heavy rain and light winds		
Round 17			

Site operations

Work in hand

Mobilisation of Cognition to commence cut and fill from FCA to zone 7
CGL to provide full ground and surface water monitoring
CGL to provide watching brief for earthworks

Observations

First day back following the Christmas holiday, all site works were postponed until Health and Safety inspections of the site were undertaken. Works were slow to progress and much of the day was spent reinstating equipment, machinery and draining floodwater from excavations.

Cognition awaiting delivery of plant and approval to commence earthworks, works to start tomorrow to remove topsoil in FCA.

CGL undertook full ground and surface water monitoring round to utilise Cognition standing time.

Sampling and/or testing undertaken or observed

Full round of ground and surface water samples taken and submitted for laboratory analysis

Testing schedule for previous monitoring round and Detention Basin WS submitted

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

CRG raised concern of single exceedance of Benzo(a)pyrene identified in FCA whilst trial pitting (FCTP6), topsoil removed from this area to be stockpiled separately

Correspondence requested by FMC

Assessment and approval of WYB pile mat by senior geotechnical engineer, email correspondence provided by Owen Flowers (CGL)

Correspondence received from

FMC cut and fill programme received

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	03/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 15:30	Dull, overcast and windy with strong persistent gusts		

Site operations

Work in hand	Cognition begin earthworks in FCA CGL to provide watching brief Newly imported 6N placed behind WYB abutment wall Surplus newly imported 6N stockpile in WYB area Shuttering dismantled from WYB and EYB wingwalls
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Observations

FCA - Cognition mobilise to FCA and begin topsoil removal from the extreme north, working south. Topsoil were arising's placed on the existing bank to the east running parallel to the River Crane. The topsoil was consistently a natural material with a slight organic odour and frequent rootlets. Meeting with CRG and Cognition (Terry), explained known contaminant in Made Ground/Topsoil to the south in FCTP6, advised that Made Ground excavated from within 5m of the trial pit will need to be stockpiled separately. A suitable location was agreed. Topsoil was approximately 0.4 to 0.7m bgl and removed to expose Lynch Hill Gravel, there were no visual or olfactory indicators of possible contamination. Limited rubble comprising of concrete and brick were observed in the topsoil towards the south. The slope was finished and an existing track road cut into the bank was reinstated. Generally, works were consistent, methodical and tidy limiting the mixing of strata and known contamination.

It appear that a number of trees within tree protection zones fall within the top boundary of the FCA under the latest design position?

WYB – Previous grey 6N ash removed from behind WYB and newly imported 6N (supplied by Royal London Group) imported and stockpiled in WYB area. New 6N placed behind abutment wall and well compact, 6N not benched into 6F5 pile mat boundary. Wingwall excavations were flooded with river water due to high discharge, these were pumped into Yeading Brook before backfilling commenced.

Sampling and/or testing undertaken or observed

Bulk samples of new 6N taken from stockpile for geotechnical testing and classification.

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

CRG raised concern of single exceedance of Benzo(a)pyrene identified in FCA whilst trial pitting (FCTP6), Made Ground/Topsoil removed from 5m radius of the trial pit to be stockpiled separately to topsoil.

Correspondence requested by FMC

Further email correspondence provided by Owen Flowers (CGL) approving filling in zone 7, site attendance likely on Friday or early next week.

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Correspondence received from

FMC cut and fill programme received

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	04/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 15:30	Dull and overcast with strong gusty wind		

Site operations

Work in hand	Cognition continue topsoil removal and haul road cut in FCA Cognition benching behind WYB abutment into 6F5 pile mat Backfilling front (river side) of WYB abutment with natural ground General maintenance to pump lane haul road
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Observations

FCA – Cognition continue to remove the topsoil in the FCA stockpiling to the extreme north and along the existing bank surface to the east. There continues to be no visual or olfactory indicators of contamination. The benzo(a)pyrene hotspot identified in FCTP6 during trial pitting works in the FCA has a 5m zone marked out around the trial pit location. Made Ground/ Topsoil within the exclusion zone will be stockpiled separately. Topsoil has also been removed from the existing haul road cut into the bank, there have been no indicators of slope instability such as slumping or tension cracking during works to improve the access road.

WYB

“Previous grey 6N ash removed from behind WYB and newly imported 6N (supplied by Royal London Group) imported and stockpiled in WYB area. New 6N placed behind abutment wall and well compact, 6N not benched into 6F5 pile mat boundary. Wingwall excavations were flooded with river water due to high discharge, these were pumped into Yeading Brook before backfilling commenced”.

Update on the above comment observed in SVR 78 (03.01.18):

Grey 6N ash has not been removed behind the WYB abutment, this was buried and temporally covered by newly imported 6N. Works commenced to remove all placed 6N and bench between levels on fill into the 6F5 pile mat edge. Cognition excavated loose material behind the WYB abutment benching into the remaining pile mat at 500mm X 500mm increments. The newly imported 6N placed on top of the grey 6N ash will be removed and recycled. All of the grey 6N will be removed and stockpiled separately for removal off-site. Benching works will continue along the length of the abutment wall between levels of fill of the new 6N and will be compact under compaction methods as per the design specification.

Backfilling continue in front of (river side) WYB abutment using natural arising's at 150mm layers and compaction in line with the design specification.

Sampling and/or testing undertaken or observed

Informed FMC of pending lab results due 09.01.18 for additional lagoon water testing and Detention Basin WS soil samples.

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Correspondence requested by FMC

FMC request approval from CGL (email) for fill works in zone 7 to commence on Monday.

Site Observation Report Form



Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	05/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 15:30	Dull and overcas		

Site operations

Work in hand	Cognition commence cut and fill from FCA following completion of topsoil strip Cognition benching behind WYB abutment into 6F5 pile mat Cognition removing 6N grey ash TAG installing shuttering to EYB wingwalls
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Observations

- 1) 6N grey ash removed from behind WYB abutment and stockpiled along Pump Lane haul road. 6N also removed from behind south wingwall therefore previous benching works removed and to be redone.
- 2) Yeading Brook water level was elevated and flooded WYB and EYB wingwall excavations, flood water pumped back into brook and samples taken to discount possible cross contamination from 6N grey ash in standing surface water.
- 3) FCA topsoil strip completed, hotspot area surrounding FCTP6 marked out. Minor surface works to Pump Lane haul road and Bailey bridge 3 ready for Moxy movements.
- 4) Delivery and stockpiling of new 6N in WYB pile mat area.
- 5) Clean natural arising's excavated from FCA used to backfill over excavation of WYB abutment and form 500mm X 500mm benching, temporally stockpiled adjacent to new 6N on remaining WYB pile mat.

Sampling and/or testing undertaken or observed

Surface water samples taken from flood water in WYB, EYB and Yeading Brook for possible cross-contamination of 6N grey ash to standing flood water and discount risk of pumping directly into channel.

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Correspondence requested by FMC

Site Observation Report Form



Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	09/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 16:00	Dull, overcast with drizzle		

Site operations

Work in hand	Cognition continue cut works in FCA Cognition benching behind WYB abutment into 6F5 pile mat & installing new 6N Asphalt and concrete removed from part of compound car park inside Zone 7 boundary TAG installing shuttering to EYB wingwalls and WGUC abutment wall TAG clearing WYB pile mat area of equipment ready for Zone 7 fill works Cognition sieving material in lagoon Concrete pour of wingwalls and abutment Delivery of 300t new 6N
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Observations

WYB (West Yeading Brook)

Remaining 6N grey ash behind WYB wingwalls was removed and stockpiled along Pump Lane haul road. Previous benching completed was removed during extraction of the 6N and being re-benched. All placed 6N grey ash has been removed from behind the WYB abutment and wingwalls. Large excavation backfilled with natural arising's from FCA cut, used to backfill over widened trench to 1.5m from abutment wall. FCA material was well compact at 150mm layers using excavator, rolled and benched into 6F5 at 500mm X 500mm steps. No visual or olfactory indicators of contamination were identified. Newly imported 6N delivered and stockpiled on remaining WYB pile mat, to be placed in 1.5m trench behind abutment on completion of benching works in line with design specification. Voids created from overhanging concrete during benching works were well backfilled and compact, concrete provided anchorage to shuttering support arms, approximately 0.2 to 0.4m thick and to remain in place. River level receded from Friday allowing for minimal water ingress to WYB and EYB, some pumping into river channel observed. Area of access road and compound car park within Zone 7 boundary was removed.

FCA (Flood Compensation Area)

Two Moxy's and an excavator working to remove cut material from FCA, material has been cut from the extreme north of the FCA moving south. Lynch Hill Gravels appear shallow to the north and comprised of a more cohesive sandy gravelly clay compared to observed ground during trial pitting further south. Benzo(a)pyrene hot spot in FCTP6 remains marked out and ready to be stockpiled separately (Only Made Ground/Topsoil required to be stockpiled separately).

EYB (East Yeading Brook)

Wingwall excavations drained and shuttering installed ready for wingwall concrete pour 10/01/2018, shuttering lifted into place using excavator.

Lagoon

Cognition widening existing haul road between stockpile 4 and 7 to accommodate soil treatment equipment. Material placed on existing stockpile south of the haul road. Wet cohesive soil was moved to aerate and dry as this is currently too wet to process. CRG advised Cognition lagoon workers of possible UXO/UXB in stockpile 4, source and content of each stockpiled material. CRG advised the location and purpose of the boreholes and drainage extraction points and the importance of preserving them during soil removal.

WGUC (West Grand Union Canal)

New 6N placed behind west wingwall raising ground level to wingwall base, material was installed at 150mm layers, rolled and well compact. Natural arisings from EYB were used to backfill in front of west wingwall and compact under the same method. Backfill follows the downslope step design of the west wingwall. Minor water ingress observed at the excavations lowest point. Shuttering installed along WGUC abutment wall ready for concrete pour 10/01/18, crane used to lift.

Sampling and/or testing undertaken or observed

Detention basin window sampling chemical results received

Remaining geotech testing for new 6N due 17/01/2018

Ground and surface water from weekly monitoring round 16 received

WYB standing surface water chemical results due 11/01/2018

Site Observation Report Form



Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Correspondence requested by FMC

Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	10/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 16:00	Dull, overcast with drizzle		

Site operations

Work in hand	Cognition continue cut works in FCA Cognition benching behind WYB abutment into 6F5 pile mat & installing new 6N TAG installing shuttering to EYB wingwalls and WGUC abutment wall Cognition machine grade lagoon stockpiles
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Observations

- Continue to use class 2 material from north extent of FCA cut to bench into the WYB 6F5 pile. Material rolls and compacts well forming good quality 500mm X 500mm benching. No visual or olfactory indicators of contamination were identified in the cut material.
- Cognition continue to cut material in FCA to design level, material is becoming possible class 1 as they excavate further south into the Lynch Hill Gravel Member. Minor cut works to the topsoil bank to form a turning circle for moxy movement. Northeast bank profiled into natural arisings to finish design and well compact. Current arising's now comprise a loose orange brown clayey gravelly coarse grained sand. Temporally stockpile within the FCA until benching works in WYB are completed.
- 6N-IBBA remains in place behind WGUC abutment and eastern wingwall and behind EYB abutment.
- Material in lagoon remains too wet to machine grade, foreign objects currently hand-picked and stockpiled separately to include, general rubble and concrete, rebar, plastic, timber and industrial refuse. CRG advised of possible UXO/UXB, asbestos and hydrocarbon impacted soil.

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Sampling and/or testing undertaken or observed

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Correspondence requested by FMC

Site Observation Report Form



Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	11/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 16:00	Dull, overcast with drizzle and some early fog		

Site operations

Work in hand	Cognition continue cut works in FCA Cognition machine grade lagoon stockpiles TAG steel installation on large WGUC wingwall CGL to undertake full ground and surface water monitoring round
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Observations

1. Benching in of WYB completed, Cognition begin embankment fill in Zone 7 using stockpiled cut material in FCA – possible class 1 natural strata of the Lynch Hill Gravel Member. No visual or olfactory indicators of contamination.
2. Continue to hand-pick stockpiled material in lagoon, excavator working the soil to aerate and dry out. Wet cohesive material in stockpile 16 spread further north to attempt to dry.
3. CGL undertook full ground and surface water monitoring (Round 18). River level recorded to be low compared to earlier in the week. BH2B on top of stockpile 3 now 0.5m bgl following profiling works to the stockpile height, possible risk of surface water from rainfall flowing freely into depression around the borehole. CRG to install a 1m extension pipe to raise BH level and prevent possible contamination.

Sampling and/or testing undertaken or observed

Ground and surface water samples submitted for laboratory analysis 19/01/2018

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Correspondence requested by FMC

Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	16/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 16:00	Bitterly cold day, clear skies and sunshine, windy		

Site operations

Work in hand	Cognition continue cut and fill works in WYB (Zone 7) Cognition machine grade lagoon stockpiles
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Observations

- 1) Section of stockpile 16 in the lagoon now dry enough to mechanically sieve. CRG advised that the output graded soil should not overtop the membrane edge or be removed from the lagoon until it has been chemically treated and had suitable verification. Machine appears to be grading wet clumps of clay as coarse material, some of the rejected wet clumps contain refuse, this will need to be re-graded once drier.
- 2) WYB embankment fill (Zone 7) underway, fill material sourced from the FCA and placed at 150mm increments before being well compact and rolled. Cognition subcontracting in-situ density testing and to communicate results to CGL. Newly imported 6N continues to be placed behind abutment and wingwalls. Embankment fill slopes gradually upslope towards the YB bridge road deck and slopes gradually downhill away from the wingwalls.
- 3) Shuttering removed from completed abutment wall WGUC and TAG continue steel work on wingwalls.
- 4) Barge and boat arrive on site and crane lifted into the canal ready for sheet piling works, a juvenile tree growing on the canal bank (WGUC) will need to be removed, roots appear embedded into the canal concrete lining therefore provision for possible water ingress should be made when removing the tree.
- 5) A series of geotechnical and chemical samples of the 6N-IBBA and 6F5 taken following meetings earlier in the week. 6N-IBBA sourced from behind EYB abutment and 6F5 sourced from exposed pile mat edge in EYB wingwall excavation.

Sampling and/or testing undertaken or observed

Five bulk samples of 6N-IBBA and five chemical samples.

Five bulk samples of 6F5 and five chemical samples.

Geotechnical testing to be established following feedback from Mondays meeting and to include shear box and BRE testing.

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Concern raised with standing water on the surface of the black River Crane silt leaching directly into the water coarse. The black River Crane silt still remains connected with the Yeading Brook channel. It is advised measures are taken to prevent possible cross contamination such as dewatering of the silt or removal.

Correspondence requested by FMC

Site Observation Report Form



Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	17/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 16:00	Cold with intervals of sunshine, windy		
SVR 85			

Site operations	
Work in hand	Cognition continue cut and fill works in WYB (Zone 7) Cognition cut material from FCA Cognition stockpile Made Ground in FCA TAG continue steel works on south EYB wingwall TAG concrete pour on north EYB wingwall
Observations	
1) Deeper Made Ground deposits have been identified in the Flood Compensation Area (FCA) during cut works to remove Class 2C and Class 1 material. Made Ground deposits deepen towards the southeast of the FCA comprising rubble, industrial refuse and concrete boulders. CRG advised that the material cannot be used as general fill in Zone 7 and will need to be mechanically and chemically treated. 2) Zone 7 fill works continue in line with the agreed earth works specification, placed material remains Class 2C Lynch Hill Gravels cut from the FCA. 3) Imported Royal London Rock 6N (not IBAA) placed behind WYB abutment and wingwalls. 4) CRG advised that standing water in EYB wingwall excavations is pumped to foul following chemical results from recent sampling, not to be discharged directly into YB watercourse.	
Sampling and/or testing undertaken or observed	
None taken	

Site Observation Report Form



Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Correspondence requested by FMC

Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	18/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 16:00	Cold, clear sunny day		
SVR 86			

Site operations	
Work in hand	Cognition continue cut and fill works in WYB (Zone 7) Import and place 6N behind WYB abutment and wingwalls TAG erect steelwork of large WGUC wingwall Sheet piling on FMC GUC bank FMC remove tree from GUC bank
Observations	
1) Tree removal from GUC concrete lining not advised as roots are established and interbedded with the concrete lining of the canal. Root removal will damage the lining and cause water ingress directly into the WGUC wingwall excavation. Advised to cut the tree and leave the roots intact with the sheet piling to be placed in front. 2) Excavated arisings from tree removal contain Minet Tip refuse and should be stockpiled in the lagoon. 3) Moderate clouding of the standing water downstream of the black silt material occupying the redundant River Crane channel, advised to monitor the potential for leaching out directly into the watercourse. Surface skin did break-up on contact suggesting an organic residue.	

Site Observation Report Form



Sampling and/or testing undertaken or observed

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Correspondence requested by FMC

Site Observation Report Form



Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	23/01/2018	VISIT BY:	CRG & ALC
WEATHER:			
Time	Description		
08:30 to 17:30	Bitterly cold, overcast with occasional rain		
SVR 87			

Site operations

Work in hand	CGL to undertaken up to five trial pits in the remaining WGUC pile mat
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Observations

CGL to undertake trial pitting in the remaining WGUC pile mat to establish underlying ground strength and condition. In-situ logging, sampling and hand shear vane testing will be undertaken where appropriate. CRG is accompanied by ALC (chartered senior engineer) to provide specialist geotechnical advice.

Trial pitting works did not commence until 2pm due to issues with access onto the pile mat, availability of equipment and general congestion of the confined area.

Only a single trial pit was excavated (WGUC-TP5) using a 14t excavator to a depth of 2.6mbgl into natural ground. The trial pit was benched to allow access to undertake hand shear vane testing in each strata boundary. kPa values were highly variable in the Made Ground/ Alluvium. The pile mat comprised of 6F5 down to 0.6mbgl and underlain with four layers of geotextile membrane. A shallow layer of Reworked Puddle Clay underlain the membrane to 0.9mbgl (kPa ranged from 38 to 80kPa). Dredged Made Ground/ Alluvium underlain the Reworked Puddle Clay from 0.9 to 2.5mbgl (kPa ranged from 27 to 40 kPa). The Made Ground/ Alluvium comprised largely of black mottled grey clayey sand or sandy clay with cobbles of brick, concrete, ceramic, metal and glass. The alluvium became denser from 1.8mbgl with kPa values between 38 to 80kPa. Upper Lynch Hill Gravels underlay the Made Ground/ Alluvium comprising a dark green brown very gravelly clay. Ground water ingress was limited to isolated perched water at 1.3mbg.

Sampling and/or testing undertaken or observed

A total of five bulk samples were taken from WGUC-TP5 for geotechnical testing as required

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Correspondence requested by FMC

Site Observation Report Form



Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	24/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 16:00	Cold, heavy and persistent rain all day, windy		
SVR 88			

Site operations

Work in hand	CGL to complete trial pitting in WGUC
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Observations

A further three trial pits were excavated in the remaining WGUC pile mat. Works were delayed by three hours due to adverse weather conditions and awaiting the removal of the crane and assembled shuttering, TAG were unable to crane lift shuttering sections due to high winds therefore available space on the WGUC pile mat was extremely limited.

WGUC-TP4 was positioned behind the abutment wall alongside the placed 6N-IBAA and dug to a depth of 2.8mbgl. The 6F5 pile mat was 0.7mbgl and underlain with four geotextile membrane layers and a shallow layer of brick gravel (0.7 to 1.10mbgl). The gravel was underlain with soft Reworked Alluvium/ Made Ground with kPa values between 22 and 46. The alluvium become denser from 2.4mbgl [27.50mAOD] with kPa values between 43 and 64. Natural Upper Lynch Hill Gravels were encountered at 2.6mbgl [27.30mAOD].

WGUC-TP2 was excavated near the remaining pile mat entrance, similar ground conditions and strength values were observed with the absence of brick gravel. A hollow metal tank was encountered at 1.6mbgl and removed from the arising's. Alluvium became denser from 2.10mbgl [27.80m AOD] with typical kPa values of 31 to 63. Natural strata of the Upper Lynch Hill Gravels was encountered from 2.50mbgl [27.40m AOD].

WGUC-TP1 was positioned approximately 3m south off the remaining pile mat boundary so to avoid the active haul road. The trial pit was cut into the north bank of the west wingwall excavation to a depth of 3.2mbgl. The ground conditions were consistent with the other trial pits with denser alluvium (kPa 31 to 63) at 2.10mbgl [27.80m AOD]. Natural gravels were encountered from 2.5mbgl [27.40m AOD].

Given the variability in the strength and extent of the Made Ground and soft Reworked Alluvium, it is likely this material will need to be removed and the soft alluvium material will need to be stabilised to achieve a consistent and denser base (>50kPa) for the embankment formation.

Sampling and/or testing undertaken or observed

Two further bulk samples were taken of the Alluvium clay for geotechnical testing as required

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Hollow metal tank found in WGUC-TP2 was not put back during reinstatement of the trial pit.

Correspondence requested by FMC

Trial pit logs, summary of ground conditions and recommendations to be provided by CGL by close of the week.

Site Observation Report Form



Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	25/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 16:30	Bitterly cold day, clear skies and sunshine		
SVR 89			

Site operations

Work in hand	CGL to undertake full ground and surface water monitoring round (round 20) CGL to sample newly imported 6N-IBAA material placed behind WYB abutment and wingwalls
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Observations

- 1) Standing water in contact with 6N-IBAA and concrete adhesive in the EYB wingwall excavations was pumped directly into the river channel. CRG advised that this should be pumped to foul only in conjunction with the Thames water discharge consent. Concrete adhesive was observed to be mixing with groundwater in WGUC and was pumped to the perimeter scrubland, Groundwater pumped from the WGUC must be pumped only to foul to avoid direct contamination to nearby controlled waters.
- 2) CGL undertook a full ground and surface water monitoring round (round 20)
- 3) CGL obtained bulk and environmental samples of newly imported 6N-IBAA, this material was placed behind WYB abutment and wingwalls on top of the existing London Royal Group 6N. This was rolled and compacted in line with the earthworks specification.

Sampling and/or testing undertaken or observed

Four bulk samples of 6N-IBAA for geotechnical classification
 Four chemical samples of 6N-IBAA for chemical screening
 Full ground and surface water samples

Site Observation Report Form



Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Correspondence requested by FMC

Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	30/01/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:00 to 16:00	Dry, clear spells of sunshine and cold		
SVR 90			

Site operations

Work in hand	Cognition scraping slurry and loose material from Pump Lane haul road Cognition moving FCA Made Ground east embankment to central area 300mm Type 1 capping layer installed on zone 7 embankment Infill of pond depression with Class 2C Placement of 6N-IBAA behind WYB abutment and wingwalls TAG continue steel and shuttering assembly of WGUC wingwalls Cognition spraying bacterial treatment to hydrocarbon impacted soils in lagoon CGL to complete full weekly ground and surface water monitoring round
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Observations

Flood Compensation Area (FCA)

Arising's from Pump Lane haul road scrape comprise a combination of Type 1 and topsoil. This was stockpiled with existing Made Ground stockpiled in the FCA. No visual or olfactory indicators of contamination were observed.

Topsoil and Made Ground encountered during the FCA cut works was stockpiled along the east bank, this was moved to the central area and the east bank was profiled to finish design specification. The MG and topsoil were visually separated out and stockpiled separately, larger items such as concrete boulders, tyres and masonry were also segregated. MG stockpile approx. 2250m³ topsoil approx. 900m³. CGL obtained a total of six soil samples of the MG stockpile for chemical testing (FCA -ES1 to FCA- ES6). Made Ground is comprised a soft dark brown fine to medium grained sandy gravelly clay. Gravel is angular to well-rounded fine to cobble sized concrete, brick, clinker, asphalt, tile, wood, metal, slate and ceramic with frequent industrial refuse including vehicle tyres, plastic, cloth, foam, wire and glass.

Main sewer pipeline identified during bank profiling works, manhole protrudes above finished design level. Service is live and appears to run north to south approximately 15m bgl.

West Yeading Brook (WYB)

Zone 7 embankment fill completed, 300mm capping layer of imported Type 1 placed and compact to protect embankment surface. Cognition grader off-hired. TAG using area as compound and storage.

Pond

Pond depression of redundant River Crane channel infilled, loose and wet arising's in remaining concrete liner and banks was removed. Concrete base of the redundant channel was exposed. Email correspondence provided by Mo of FMC (31.01.2018) confirms the concrete was drilled on a 2m grid as per design specification. Concrete underlying the road footprint was broken out. Ponding water was pumped into and contained with existing black silt. CRG advised that the water level in the silt settlement area should be monitored as this could overtop earth embankments and flow freely into the Yeading Brook channel. The pond banks were benched at approximately 700mm intervals and the area was backfilled using Class 2C sourced from the FCA. Material was placed in shallow layers <150mm and roller compact with 5 to 10 passes.

East Yeading Brook (EYB)

Watching brief provided by CGL whilst imported 6N-IBAA placed behind abutment and wingwalls. This was placed at 150mm layers and roller compact with. >8 passes. 6N-IBAA was only placed directly behind the walls in line with the agreed methodology.

West Grand Union Canal (WGUC)

TAG completing steel assembly and shuttering, concrete poured in completed sections of west wing wall. Groundwater ingress to low-lying area pumped into foul as per Thames Water discharge consent.

Sampling and/or testing undertaken or observed

Six soil samples of FCA MG, scheduled on 3 day turnaround and due 05.02.2018

Full round of ground and surface water samples taken

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

Concern raised with standing water on the surface of the black River Crane silt leaching directly into the water course. The black River Crane silt still remains connected with the Yeading Brook channel. It is advised measures are taken to prevent possible cross contamination such as dewatering of the silt or removal.

CGL undertook weekly ground and surface water monitoring (round 21), groundwater now consistently found in BH1B though this is likely surface water seepage. 1m extension pipe installed on BH2A as stockpile 3 now overtops the borehole surface and surface water freely flowed into outer casing.

Correspondence requested by FMC

FMC requested update of MG samples obtained from FMC in line with progress meeting.

Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	31/01/2018	VISIT BY:	TWF
WEATHER:			
Time	Description		
07:00 to 15:30	Overcast with frequent showers		
SVR 91			

Site operations	
Work in hand	Infilling of Area 7 with Class 2c material sourced from Flood Compensation area.
Observations Infilling of Area 7 up to finished levels to allow realignment of current Haul Road further to the south, away from the embankment. Infilled area to be used as new Haul Road following infilling. The infilling was undertaken in 0.225m layers (three layers total) were backfilled and rolled a minimum of 6 times with the Bomag BW216-DH. The three layers brought the area up from the previous day's earthworks to finished level. Backfilling ran from 8:00am to approximately 14:15pm. Approximately 3 loads of coarse grained recycled material was delivered around 9:00am. The stone was then placed at surface, on the backfilled material, in an approximately 4m wide strip along the route of the new temporary Haul Road.	
Sampling and/or testing undertaken or observed N/A	

Other comments and observations (ecological concerns? Water observations? Anticipated issues?)

The backfilled layers appeared to be in excess of 0.225m however, Cognition ensured CGL that the machinery was using its GPS to level to the correct thickness.

Served drainage channel was allowing water ingress from west into Area 7 during backfilling. A trench was left clear along the western boundary of the area and then loosely backfilled with pea shingle. It is assumed that the 'drainage channel' is temporary and will be removed, then backfilled with appropriate material and benched as required.

Backfilling of Area 4 to begin on 1st February 2018, using site won Class 2c from the Flood Compensation Area.

Correspondence requested by FMC

Correspondence received from

Site Observation Report Form



SITE:	Southall Western Access	JOB NO:	CG/28308
Date and time:	02/02/2018	VISIT BY:	CRG
WEATHER:			
Time	Description		
08:30 to 16:30	Dry, cold and sunny with light winds		
SVR 92			

Site operations

Work in hand	Cognition complete fill works to WYB and pond infill Cognition hand pick and bug spray lagoon stockpiles FMC place 6N-IBAA in EYB Removal of loose capping material to expose suitable formation level of remaining EYB pile mat TAG continue installation of steel/ shuttering in WGUC wingwalls
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Observations

- 1) Newly imported 6N-IBAA supplied by Day Aggregates was temporally stockpiled adjacent to the remaining EYB pile mat. 6N-IBAA was placed behind the abutment and wingwall structures at shallow 150mm layers and roller compacted with >15 passes in exceedance with the earthworks specification.
- 2) Loose deposits were scraped clear from the EYB remaining pile mat exposing placed 6F5, this was stockpiled in the FCA MG stockpile. The surface scrape was limited strictly to only the perimeter of the remaining EYB pile mat to allow fill of Class 2C and continued placement of the 6N-IBAA. The remaining formation will be excavated and inspected by a CGL geotechnical engineer to confirm if further stabilisation is required.
- 3) Infilling of the pond depression was completed using Class 2C sourced from the FCA as per the agreed earthworks specification, surface water from the jet wash was flowing freely down the western bank.
- 4) TAG continue steel/ shuttering assembly of WGUC wingwalls, concrete was spilt onto the haul road surface during pouring of completed wall sections, it is advised this is removed during excavation works to establish a suitable formation level.
- 5) Fill material in zone 4a to be cement stabilised in shallow layers and stabilisation to be verified by Cognition. Fill material sourced from the lagoon still contains coarse material, particularly in stockpile 4, including cobbles of concrete, brick, cloth, rope and metal. Hand-picking of the material will need to continue as the material is exposed and cut from the lagoon, similar to the removal of stockpile 9 into the River Crane channel.