

NORTHSTOWE PHASE 3A

Groundwater Management Note

AUGUST 2021

VERSION CONTROL

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Version	Date	Author	Checker	Approver	Changes
01	30/07/2020	Madelaine Davies	Steve A Davies	Janice Hughes	First Issue
02	12/08/2021	Madelaine Davies	Steve A Davies	Janice Hughes	Final for Issue

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2 Post Development Groundwater Impact

- 2.1.1 Changes in the drainage regime as part of the development proposals may alter groundwater recharge across the site and therefore ongoing ground water monitoring around the site is proposed.
- 2.1.2 Based on modelling undertaken to date a change in groundwater level as a result of the completed development is not predicted to occur east of the Phase 3A site perimeter drainage towards Oakington, but as noted above this will be verified through ongoing groundwater monitoring.
- 2.1.3 **Figure 4** below is a location plan showing a number of sections that have been modelled through the site showing ground water levels anticipated pre and post development as a result of the change in impermeable areas and the positive drainage systems.

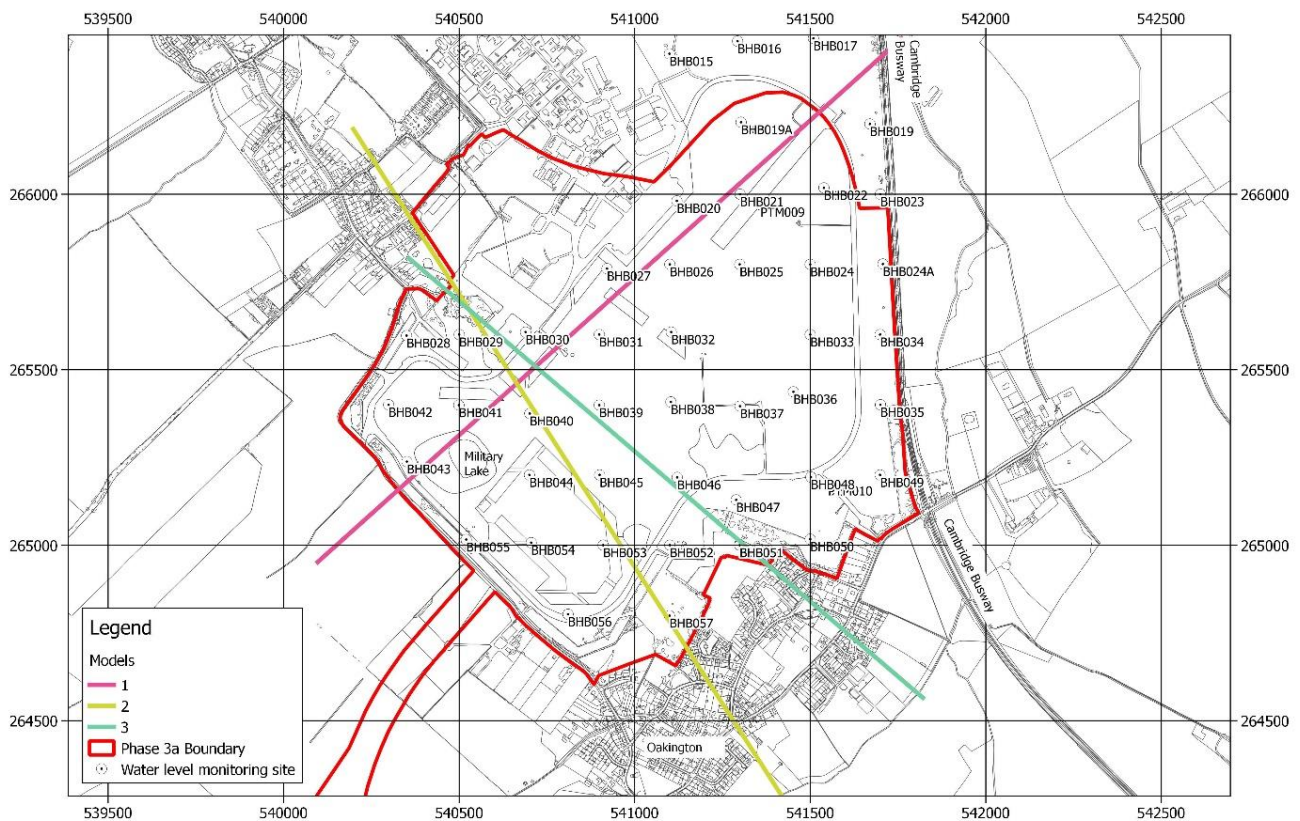


Figure 4: SEEP/W Groundwater Section Location Map

- 2.1.4 These sections have been located to show anticipated impact in the change in groundwater levels towards Oakington and towards the east in line with the groundwater hydraulic gradients identified in **Figure 3** above.
- 2.1.5 Section 1 set out below in **Figure 5** (pink section shown on **Figure 4**), shows the anticipated reduction in groundwater within the site towards the Cambridge Guided Busway. Whilst this shows a reduction in levels within the site, the topography across the site indicates that groundwater levels will remain similar on the Cambridge Guided Busway boundary and therefore will not have an impact downstream towards the Beck Brook.

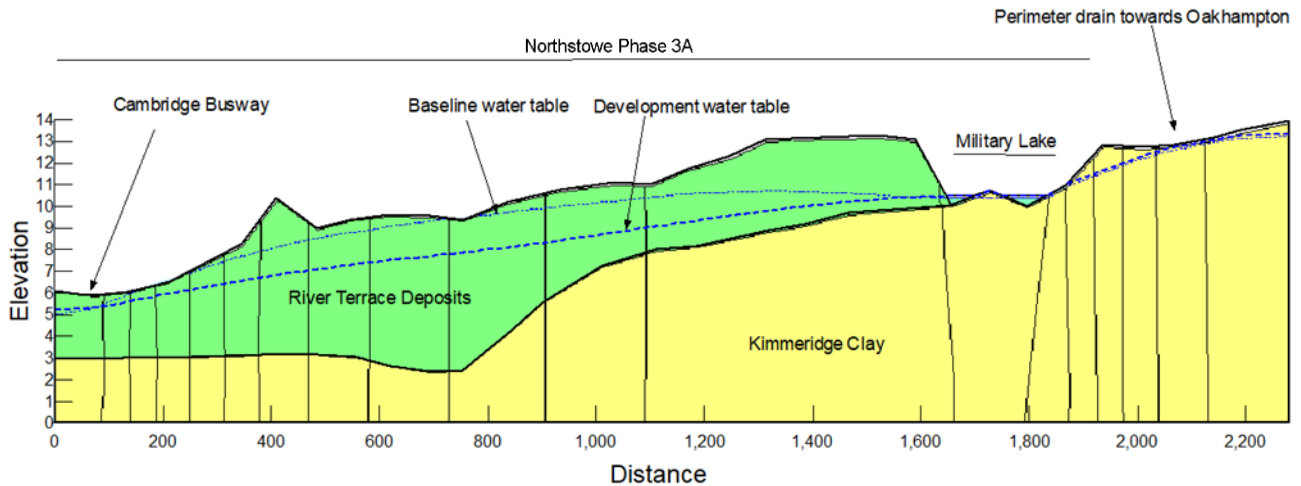


Figure 5: Phase 3A Groundwater Section 1 - Development Impact

2.1.6 Section 2 set out below in **Figure 6** (yellow section shown on **Figure 4**), shows the anticipated reduction in groundwater within the site through the area of the site with Kimmeridge Clays. Again, whilst this shows a reduction in levels within the River Terrace Deposits; the topography across the site, the overlap with the Kimmeridge Clay and the perimeter ditch mean that the future groundwater levels within Longstanton and towards Oakington will remain similar beyond the southern boundary of the site and therefore will not have an impact downstream towards the Oakington Brook.

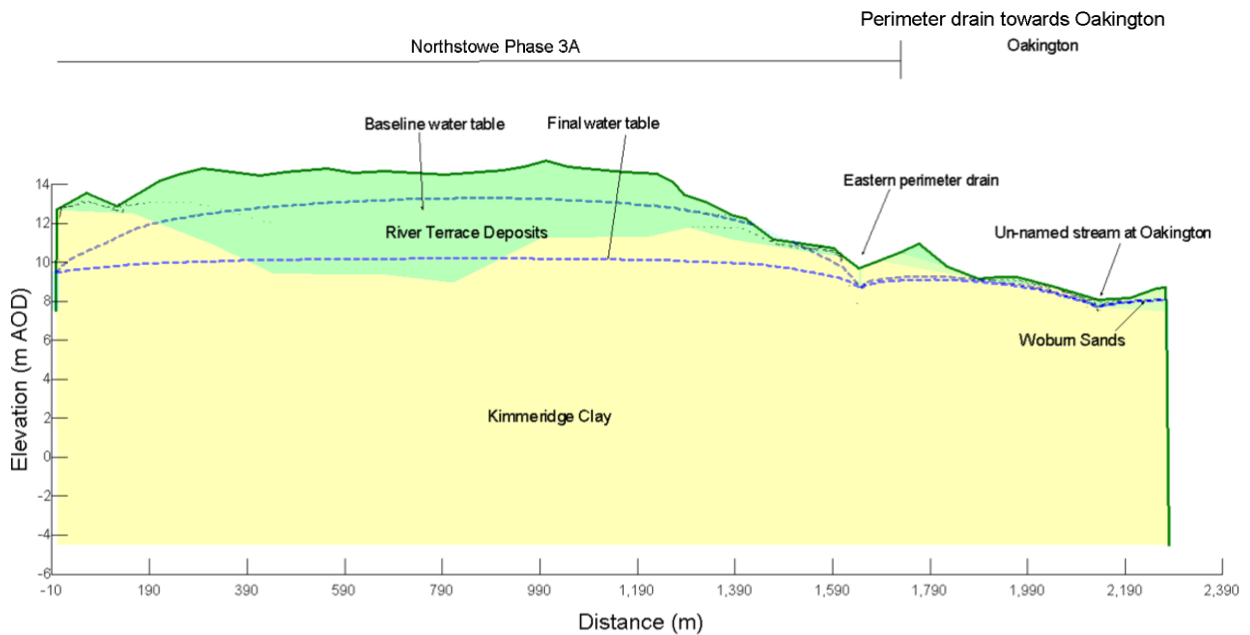


Figure 6: Phase 3A Groundwater Section 2 - Development Impact

2.1.7 Section 3 set out below in **Figure 7** (green section shown in **Figure 4**) shows the anticipated reduction in groundwater within the site through the area of the site with River Terrace Deposits along the southern site boundary. Again, whilst this shows a reduction in levels within the River Terrace Deposits within the Application Site, the topography across the site, and the perimeter ditch mean that the future groundwater levels within Longstanton and towards Oakington will remain similar beyond the southern boundary of the site and therefore will not have an impact downstream towards Oakington and Oakington Brook.

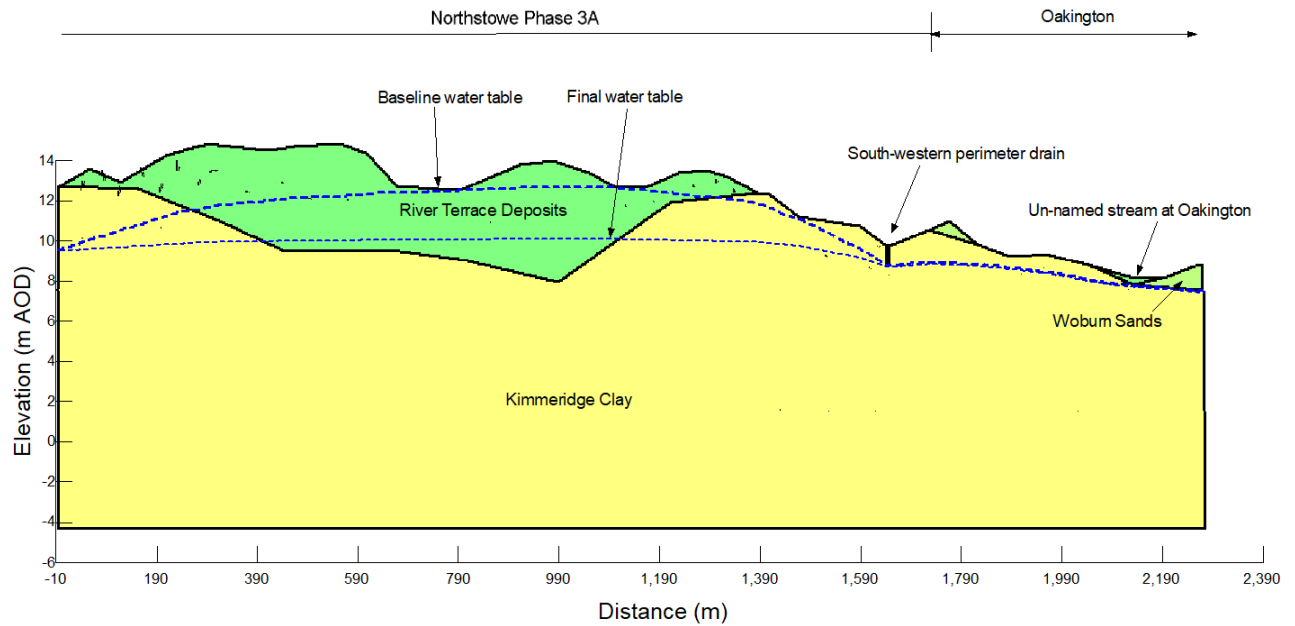


Figure 7: Phase 3A Groundwater Section 3 - Development Impact

- 2.1.8 As can be seen from the modelling undertaken to date, whilst the change in impermeable area and drainage regime, as a result of the development proposals, will have a localised impact on ground water levels within the site boundary, these are not anticipated to change ground water levels within the wider area (i.e. within Longstanton, Oakington or to the east of the Cambridge Guided Busway).
- 2.1.9 Onsite, the opportunity for incorporating SuDS that allow groundwater recharge will be considered where feasible and appropriate. **Appendix A** contains further detail on the principles of the SuDS strategy as well as Drawing 10019646-AUK-NS-P3-DR-IE-64-01. which highlights where these SuDS features are proposed.
- 2.1.10 In addition, the Military Lake sits within an area of largely unproductive strata and therefore ground water contributions are thought to be a relatively small proportion of inflow to this feature. However open space will be provided around the Military Lake to allow for runoff from these greenspaces towards the Military Lake. Whilst this feature is not required to form part of the proposed onsite drainage strategy for the site, ground water recharge opportunities into this feature will be sought through use of SuDS throughout the area, wherever feasible.