

**Construction, Maintenance and Environment Work Programme
Progress Update**

Report by Head of Construction, Maintenance & Environment

Summary: This report sets out the progress made in the delivery of the 2017/18 Construction, Maintenance and Environment Section work programme to date. A selection of images illustrating the work sites and tasks will be presented during the meeting.

1 Construction Team work programme update

- 1.1 The progress of the Construction and Maintenance work programme is described in this report. The detailed breakdown in Appendix 1 shows that up to the end of February 2018, 51,890 m³ of dredged sediment has been removed from the prioritised sites. This represents 98% of the programmed target of 53,000 m³.
- 1.2 Dredging on the Lower Bure is currently occurring between Three Mile House and Marina Quays. An off-loading location has been set up near Herringby, utilising a concrete pump to place the sediment directly at the base of the floodbank. On this stretch of river, the floodbank is at too great a distance from the river edge to reach with excavators. This work on the Lower Bure has been extended in time as the sites for placing the dredged material have proven very workable and the material will be put to good use in topping up the floodbanks.
- 1.3 Project planning and habitat mitigation work has been undertaken to establish forward dredging re-use sites in a setback area at Horning on the Bure (near Ant Mouth) and downstream of Beccles on the Waveney.
- 1.4 The first equipment purchases funded through the CANAPE Interreg North Sea Region project have been completed. The Authority now has its own concrete pump for moving sediment from wherries to the land. A new metal frame and access walkway to support the vibrating screener that sits above the concrete pump is being designed and fabricated prior to the units first usage on site.
- 1.5 The forward dredging plan for 2018/19 is summarised in Table 1. The complexity of the Hickling Broad Enhancement project set-up and time required to set up the geotextile bags, as well as the numerous site restoration requirements falling in this year, means that a lower total volume of sediment removal is planned for 2018/19 than in previous years.

Table 1 – 2018/19 forward dredging plan

River	Dredge Location	Timescale	Volume m ³
Bure	Three Mile to Marina Quays	Apr - Jun	8,000
Bure	Horning to Thurne Mouth	Apr – mid Jun	3,000
Bure	Oby to Acle	Mid Jun - Aug	2,000
Waveney	Aldeby to Burgh St Peter	Jul - Oct	11,000
Upper Thurne	Hickling Broad	Oct - Feb	5,000
Chet	Loddon to Pye's Mill	Nov-Feb	3,000
Bure	Marina Quays to Yacht Station	Mar 2018	8,000
River	Restoration Site	Timescale	
Bure	Stokesby ronds	May	
Yare	Postwick Tip	July	
Upper Thurne	Hickling mudpump lagoons	Sept	
Yare	Rockland Short Dyke	Sept	
		TOTAL	40,000

2 Maintenance Team work programme update

- 2.1 Work has been completed at Hoveton St John to replace the timberwork on the quay near the TIC and improve the footpath and on-site drainage. The Dinky Dyke at Ranworth Staithe has also had new timber capping and waling installed on the eastern side, to complete the whole dyke following other work over the previous two years. Other 24 hour mooring sites that have had repairs to the capping and waling timberwork are Rockland Staithe, Langley Staithe and Dilham Staithe. Topping up of wood chip surfaced moorings on the Ant and Bure was completed before Easter, as was gravel topping up at Geldeston and the Dutch Tea Gardens on Oulton Dyke. Filling of voids behind the piling at Haddiscoe demisting mooring and Boundary Farm was required. These sites with high tidal ranges required more significant import of crushed aggregate to bring them back to specification. Some capping and mooring posts were replaced at Worlingham.
- 2.2 The first phase of installation of the new design 24 hour mooring signs has been completed. Ten of the new look stainless steel sign frames have been installed. A further ten stainless steel frames are planned for install in spring 2018.
- 2.3 All of the electric charging points now have the new larger access windows and card recycling boxes installed on the pillars. This completes the transition to the new metering system and pillar modifications to support this switch.

- 2.4 Across Breydon Water, 14 replacement marker posts have been installed where old wooden posts had either snapped, rotted or simply disappeared. The work was carried out by a Yarmouth based firm, Technical Marine Services Ltd, who have a large work vessel with a crane able to remove and replace posts.
- 2.5 Norfolk County Council's contractors have replaced the fendering through under Ludham Bridge. The new hardwood fendering was successfully installed through the bridge hole in time for the Easter holidays. A temporary restriction to river traffic was put in place during working hours. The contractors opened up at lunchtime, and other times when there was a natural break in their work, so the few vessels on the river at that time were not overly disrupted. The wherry Maud made a successful passage through the bridge and had no issues with the width offered by the new fendering. Some remaining work to rebuild the top of the collapsed concrete retaining walls of the downstream bridge abutments will take place after the Easter holidays.
- 2.6 Due to the very poor condition and continuing deterioration of the piling at Burgh Castle 24 moorings, this site has been closed to the public and the lease agreement terminated with the landowner. All Authority signs have been removed and the supply to the electricity pillar disconnected.

3 Environment & Design Team work programme update

- 3.1 Mudpumping in a section of the marked channel of Hickling Broad and the access to Hickling Staithe has been completed. The contractor, Inland Dredging, achieved their contracted 4,900 m³ from priority areas identified in the area near Hickling village. All of the pumped sediment is now dewatering in lagoons on agricultural land. The final dredge volume removed was determined by the Environmental Permit that will allow the Authority to spread the material for arable benefit. Depending on weather and ground conditions, the lagoon walls and spreading of the sediment is aimed to take place before the end of September 2018. If a greater amount time is required for dewatering, the agreement with the landowner allows for this. Environment Officers will continue to monitor the site.
- 3.2 At the Thorpe ranger billet at the Dockyard piling and foundations for the replacement boatshed has been completed to the satisfaction of local Building Control officers. The erection of the steel framed shed will occur in mid April.

4 Plant and Equipment Team work programme update

- 4.1 Both weed harvesters (Megan and Harris) have had full services and Harris a very comprehensive refit of replaceable parts. Megan also now sports a new front conveyor. All of which should lead to an efficient cutting season and less on-site maintenance for the fitter team.
- 4.2 The full suite of launches, visitor trip boats and small dory's have all passed through the workshops at the Dockyard for their annual services and repairs

before the start of the season. The services on ranger launches Ant and Martin Broom were both completed, including a new gear box and prop shaft coupling on the latter.

Background papers: Nil

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Broads Plan ref: 2.1; 2.3; 3.1; 3.2; 4.2; 6.1
Appendices: APPENDIX 1 – Dredging Progress 2017/18

Dredging Progress 2017/18 (April 2017 to end February 2018)

APPENDIX 1

Project Title	Project Element	Active BA dredging weeks Completed (to end Feb / Planned)	Volume Removed m ³		Annual project Cost ^a	Actual project cost (Apr-Feb)
			Planned	Actual	Planned	Actual
Haddiscoe Cut	Reedham End (Mar 2017)	1 / 1	500	670	5,600	3,870
<i>Completed. Sediment into setback areas on the River Yare upstream of Reedham</i>						
Lower Bure	Phase 1. Stokesby to Three Mile House (Apr-Sep); Phase 2. Three Mile House to Marina Quay (Sep-Jan)	43/ 36	18,000	21,470	222,400	212,860
<i>Use of ronds for dewatering and a second location using a concrete pump to move sediment to the folding behind the floodbank</i>						
Oulton Broad	Phase 1 - North Bay (Apr-Aug); Phase 2 - North Bay (Sep-Oct)	22 / 22	16,000	20,750	104,800	100,000
<i>Completed. Suffolk Wildlife Trust setback area and Authority's own sediment lagoon filled at Horseshoe Point</i>						
Bure Mouth	Use of plough dredging to clear bars (Oct)	Contractor	2,000	-	15,000	7,830
<i>Work to be completed in March 2018</i>						
Hickling Broad	Mudpumping marked channel in North Bay (Nov-Feb)	Contractor	6,000	3,000	69,300	40,640
<i>Mudpumping continued into March 2018. £30k from NPG.</i>						
Limekiln Dyke	Gaye's Staithe to Neatishead Staithe (Nov-Jan)	7 / 12	3,500	3,500	33,300	13,260
<i>Completed. Sidecasting material to the bank clear of trees last year</i>						
River Chet	Shoals near Hardley Flood (Nov-Jan)	5 / 12	4,000	2,500	22,300	14,520
<i>Completed. Sidecasting to provide additional material onto the weak/low sections of riverbank</i>						
Mid Bure	Thurne Mouth (Mar 2018)	0 / 4	3,000	0	28,400	6,890
<i>Site set up for dredging in May 2018</i>						
Site restoration	Rockland, Acle, Hickling	-	-	-	21,190	45,710
<i>One bank completed at Rockland, remaining to be completed in 2018. Acle complete. Hickling on-going.</i>						
TOTAL		78 / 87	53,000	51,890	522,290	445,580

^a –project costs includes staff time for all elements (pre-works ecological mitigation, site set-up, active dredging & site restoration); BA plant; & budgetary expenditure (equipment hire, survey costs, contractor costs, mitigation works, materials & consumables etc); within the reporting period.