

**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 2016/17 Construction, Maintenance and Environment Section work programme during February and early March 2017.

1 Construction Programme updates 2016/17

- 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 2017 with 38,750 m³ of sediment dredged at the prioritised sites. This represents 78% of the programmed target of at least 50,000m³.
- 1.2 As part of the enhancement project at Hickling Broad the planned dredging, reedswamp restoration and margin protection has now been completed. Agreement with Natural England and Norfolk Wildlife Trust was gained for an additional week of dredging into March was effectively used to finish the fill heights in the reedswamp restoration areas at Churchill's Bay and The Studio. A contractor with a small floating excavator then assisted in winning reed rhizome from an adjacent dyke, which was used to plant up the front face of both areas. 160 metres of wave barrier with goose guard netting on top has also been installed along the reed margin south of The Studio. This protection measure aims to trial an alternate way to promote vigorous reed margins in addition to the engineered reconstruction techniques employed using dredged sediment. This project has involved a high number of staff from the CM&E section working on various elements of the construction and monitoring work, often in challenging conditions.
- 1.3 Dredging at Rockland boat dyke and the small bar at the entrance to Langley dyke has also been completed. A total volume of 5,980 m³ was dredged from Rockland boat dyke itself and its entrance to the open broad. A much smaller but critical volume of 230 m³ was removed from the bar at the mouth of Langley Dyke. Much of the sediment at the start of the Rockland project near the broad was transported back to the Authority's licensed tip site at Postwick due to elevated mercury levels in the deeper sediments. The sediment in the boat dyke was however below threshold levels, so was able to be sidecast to a field and some taken to be used to strengthen the back of a floodbank along the Short Dyke.
- 1.4 Once the team had finished at Rockland, the Haddiscoe Cut was again targeted at the Reedham end. Sediment has been taken to fill a setback area between the swing bridge and the ferry.

- 1.5 For the first three weeks of February, the fen harvester was working at Burgh Common, contracted by the Poors Trust to achieve the levels of vegetation management expected, as part of their HLS agreement with Natural England.

2 Maintenance Programme Update 2016/17

- 2.1 Below are a few highlights of the projects and tasks undertaken by the Maintenance Team:
- 2.2 Refurbishment and repair work at the network of 24 hr moorings continues. Approximately 160 tonnes of aggregate has been used to fill voids behind the piling at Horning Marshes 24 hour mooring, where the soil and backfill has been progressively washed out and lost over the years. The areas were excavated and adequately lined with geotextile to prevent further loss in the future. Timber repiling has been carried out on one half of the moorings at Ranworth, in the small dinghy dyke and around towards the staithe frontage.
- 2.3 The first two weeks of February saw the finish of the annual programme of riverbank tree management. The focus area for staff and contractors this winter was along the River Bure at priority spots near Hoveton Broad and upstream of Wroxham. All work was carried out to the specifications Environment Officers had laid out, following consent for the work from both Natural England and the Environment Agency.
- 2.4 Major repairs to Irstead Billet started at the end of February. The Maintenance Team have re-piled the entire river frontage at the site and alongside the billet; contractors have installed protective “sleeves” over the supporting piles; a new storage shed is being installed; the timberwork and roof of the billet will be replaced; as well as a new access boardwalk. This is a significant investment, but completing all work at once has enabled best use of plant and materials transport to site.
- 2.5 An extension to the permissive path from How Hill staithe upstream towards Sharp Street has been started. Vegetation clearance along the floodbank folding has been completed and fence line to accommodate the path to meet up with Sharp Street needs to be moved. A “draw-bridge” style crossing over the dyke that separates the Authority’s land on the How Hill side and Sharp Street itself currently belongs to the Environment Agency, but discussions are underway to see if responsibility can be transferred to the Authority and gain full control of the structure and its operation.

3 Environment & Design Team update

- 3.1 Following completion of this winter’s riverbank tree management work, Environment Officers and Ranger teams are planning in April to review the mapping of the priority sites for reducing tree growth over and adjacent to the river. From this a detailed 5 year plan will be finalised and the consents from Natural England and Environment Agency applied for. From this landowners can be contacted and permissions gained for future years work.
- 3.2 The habitat risk assessment process to set the scope and conditions required to be able to carry out cutting a trial of water plants in Hickling Broad has started. Following the previous Appropriate Assessment that was completed

in 2000 for a similar trial, the methodology of cutting 20 x 20 m trial plots with an intensive monitoring programme has already been laid out. The trigger level of water plant coverage over the bed of the Broad to start the trial is 30% coverage. The water plants also need to be at a sufficient height above the bed (>50cm) to enable the cutting to be meaningful. This trial aims to provide some evidence of the impacts of cutting stoneworts and their subsequent growth, this evidence does not currently exist. To be able to demonstrate that the cutting activity has no significant effect on the plant community is the requirement and we have to prove this before any further or wider cutting could be considered.

- 3.3 Some joint work between the Rivers Engineer and Environment Officers to enable direct sediment placement on the reeded ronds in the lower river reaches has been progressed. An agreed working process that aims to temporarily store dredged arisings on the ronds, then re-use them for future floodbank work deals with the arisings. There is then also an opportunity to enhance the condition of the sites for commercial reed production, through liaison with landowners and local reed and sedge cutters. The first implementation of this process will be on the River Bure near Stokesby this spring.

Background papers: Nil

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Appendices: APPENDIX 1 – Dredging Progress 2016/17

Dredging Progress 2016/17 (April 2016 to end February 2017)

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
Mid Bure	Horning Church to Ranworth Dyke (Apr-mid Jun)	11/10	5,000	5,820	57,480	63,180
<i>Completed setback areas at Horning Hall</i>						
Bure Mouth	Contractor (April)	-	500	500	3,700	3,730
<i>Contractor completed plough/agitation dredging to clear a bar at Bure Mouth</i>						
Lower Waveney	Burgh Castle (Apr-May)	6/8	4,000	4,140	43,430	37,200
<i>Upstream and including Burgh Castle 24 hr moorings. Shoal at Burgh Flats not completed this year</i>						
Lower Yare	Seven Mile House to Berney Arms (June)	5/6	4,000	4,290	33,060	22,190
<i>Shoals planned for dredging were completed</i>						
Haddiscoe Cut	Haddiscoe and Reedham ends (End Jul–mid Nov)	14/16	14,000	6,410	94,790	105,100
<i>Completed the priority dredging at St Olaves & all along the island side of the Cut. Return to complete priority at the Reedham started end Feb</i>						
Yare - Whitlingham	Bends downstream of Whitlingham Broad (Aug-Oct)	9/12	5,000	6,200	61,100	19,180
<i>Completed the priority bends identified at Whitlingham. All material brought to Postwick Tip</i>						
Hickling	Marked channel north of Catfield channel (Nov-Jan)	13/15	6,000	5,180	129,250	136,080
<i>Completed. Total of 5,180 m³ dredged from marked channel. The two reedwamp restoration areas were completed.</i>						
Rockland Boat Dyke	Rockland and bar at Langley Dyke (Dec-Jan)	14/8	2,900	6,210	29,630	78,060
<i>Completed. Total of 5,980 m³ dredged from the boat dyke and its entrance and 230 m³ from the bar at the mouth of Langley Dyke</i>						
Limekiln Dyke	Gayes Staithe to Neatishead Staithe (Feb-Mar)	-/8	3,600		18,960	0
<i>CANCELLED FOR 2016/17 – Replacement equipment for Grab 7 and old Linkflotes will not be available before April 2017</i>						
Lower Bure	Bure Loop (Feb-Mar)	-/6	5,000	0	34,940	460
<i>Dredge site and re-use change to Stokesby starting in April 2017, as Lower Bure landowner issues couldn't be resolved in time for Feb 2017</i>						
TOTAL		72/95	46,400	38,750	506,340	465,180

^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.