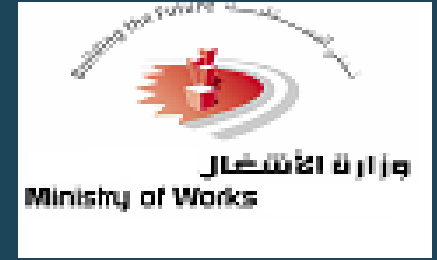


Kingdom of Bahrain

Ministry of Works

Strategic Projects Directorate



KHALIFA BIN SALMAN PORT & INDUSTRIAL AREA BAHRAIN ACCESS CHANNEL DREDGING

PRESENTATION

26 February 2009

HASKONING UK Ltd.

A Company of



ROYAL HASKONING

IN ASSOCIATION WITH

ايس - المؤيد

ACE ALMOAYED



CONSULTING ENGINEERS

BAHRAIN ACCESS CHANNEL DREDGING

NEED FOR PROJECT

- The channel has a present minimum depth of 12.8mCD, this places a constraint on the size of vessels that can serve the Ports.
- Need to accommodate larger container vessels with an increased draught
- With the privatisation of Khalifa Bin Salman Port, it is expected that more transshipment traffic, utilizing larger vessels, will be attracted.
- Worldwide trend for increasing vessel sizes continues

BAHRAIN ACCESS CHANNEL DREDGING

PROJECT DESCRIPTION

The Project is Divided in Two Distinct Phases:

- Phase 1 (this Contract) entails the dredging of all sand down to -15CD over the entire channel where possible and if not to the deepest available depth by removing of sand only.
- Phase 2 (Future Contract) will entail the removal of sand stone outcrops and possible silt stone to a final depth of -15m CD along the entire channel.

BAHRAIN ACCESS CHANNEL DREDGING

PROJECT DESCRIPTION

SCOPE OF WORKS PHASE 1

- Dredging and disposal of sand along the entire channel length (approximately 65 km)
- Dredging to a depth of -15CD where possible and if not to the deepest available by removal of the sand overlying rock.
- The channel shall be 260m wide and side slopes shall be 1 v to 5 h.
- Relocation of Existing Nav. Aids and Installation of new Nav. Aids
- Carry out bathymetric surveys before, during and after dredging.
- Execution of all required works to lower the two existing communication cables
- Execution of up to 50 No. of boreholes in the southern part of the channel to a depth of -18m

BAHRAIN ACCESS CHANNEL DREDGING PROJECT DESCRIPTION

Executing Authority for Works: **Ministry of Works**

Strategic Project Directorate (SPD)

Main End Users:

- General Organisation of Sea Ports (GOP)
- APM Terminals (KBSP)
- BAPCO
- ASRY
- GIIC
- ALBA
- GPIC
- Private Jetties

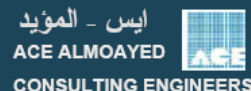
Main Contractor : Great Lakes Dredge & Docks Company

Contract Duration (Phase I) : 9 Months

Haskoning UK Ltd.

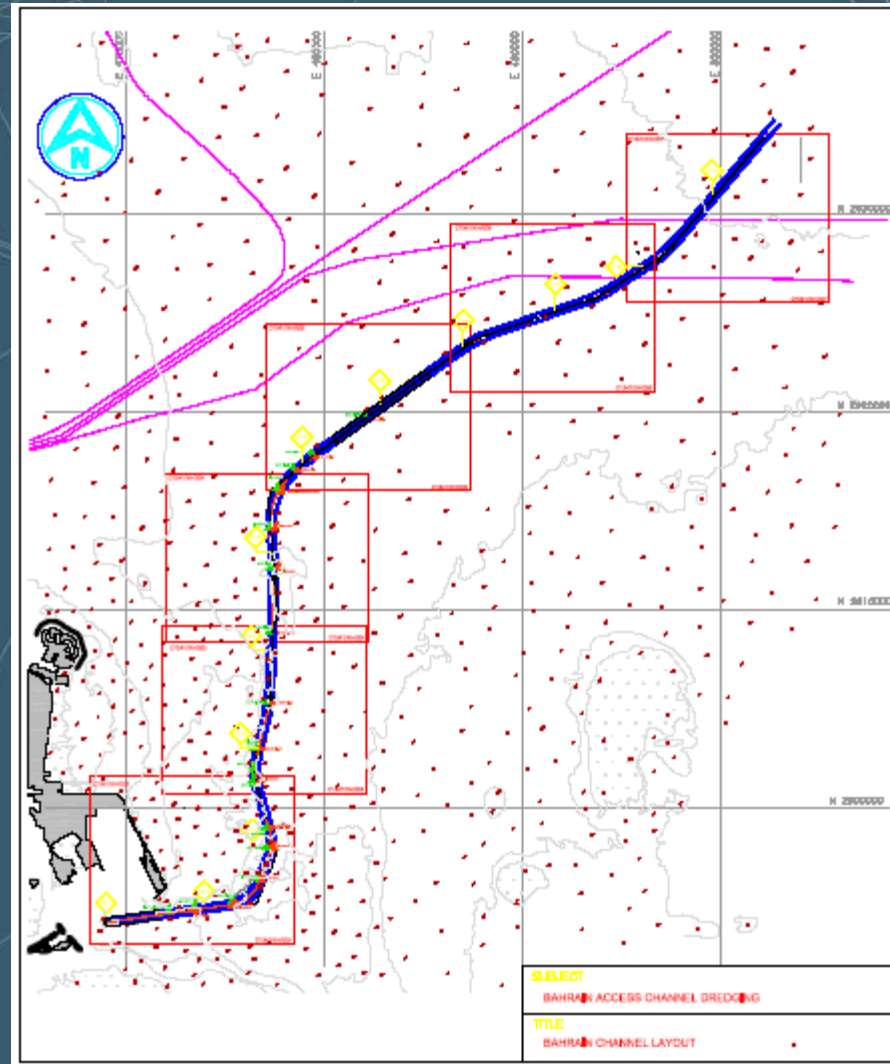


In association with



BAHRAIN ACCESS CHANNEL DREDGING

Channel Length
approx. 65 km



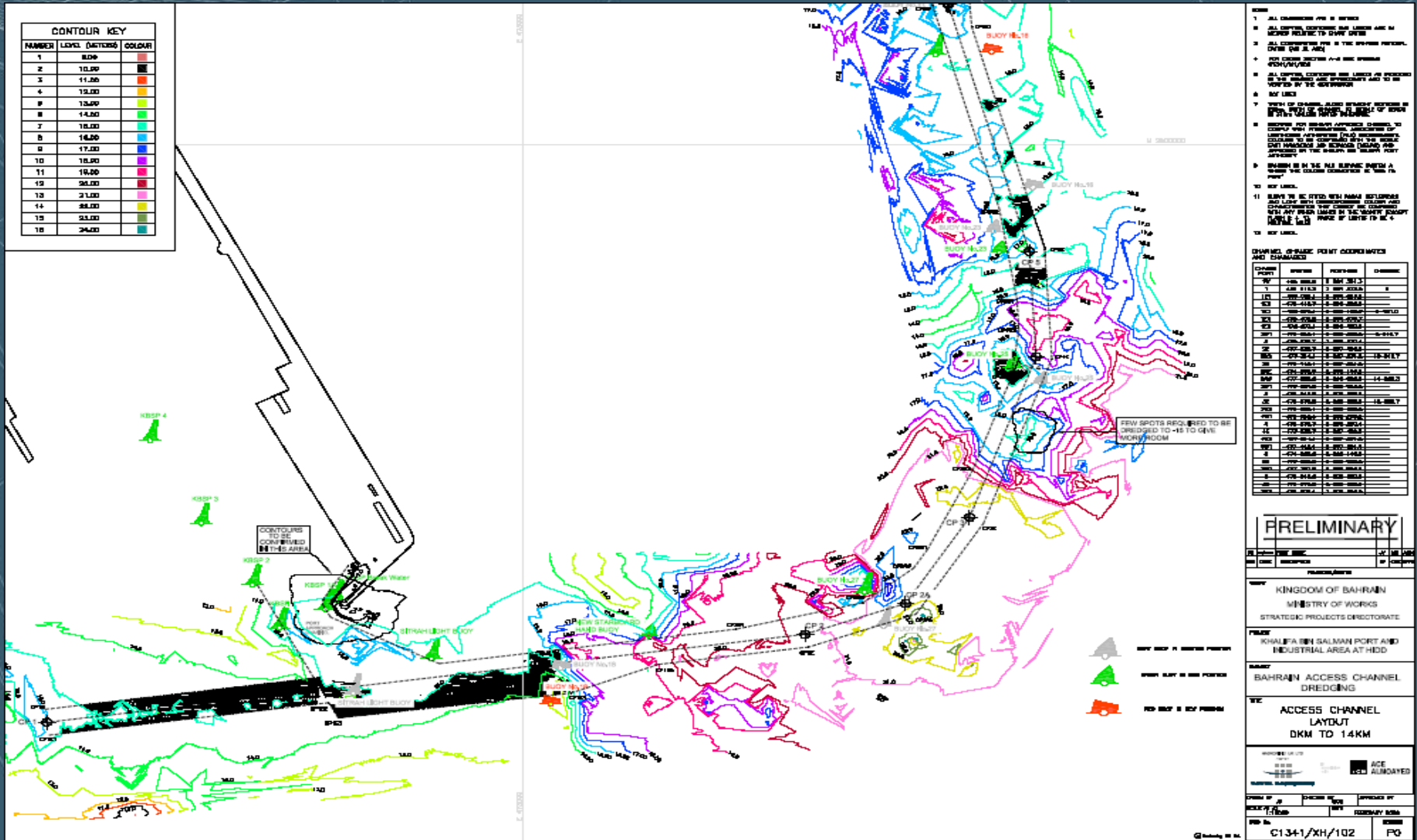
Haskoning UK Ltd.



In association with



BAHRAIN ACCESS CHANNEL DREDGING



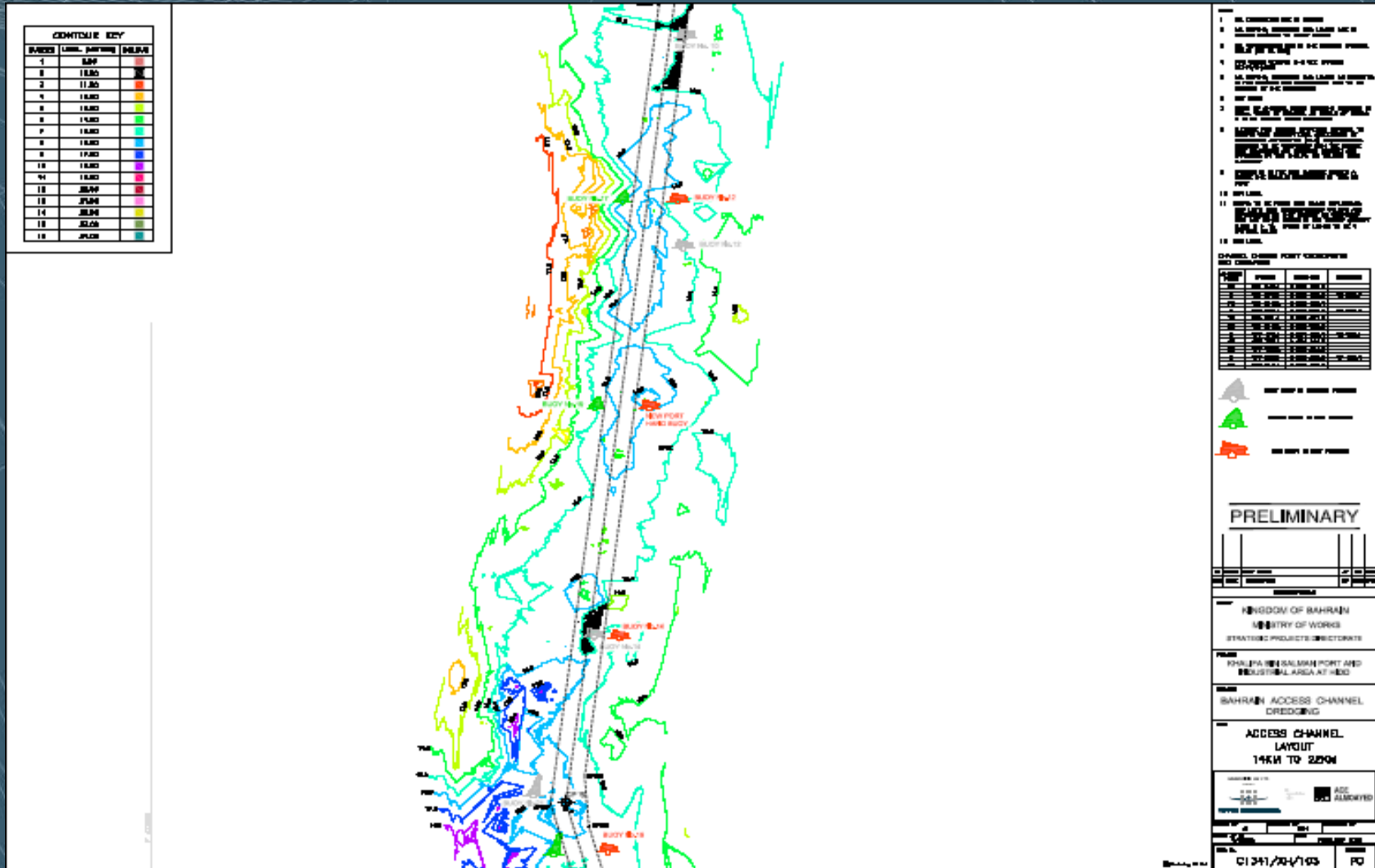
Haskoning UK Ltd.



In association with



KHALIFA BIN SALMAN PORT & INDUSTRIAL AREA BAHRAIN ACCESS CHANNEL DREDGING



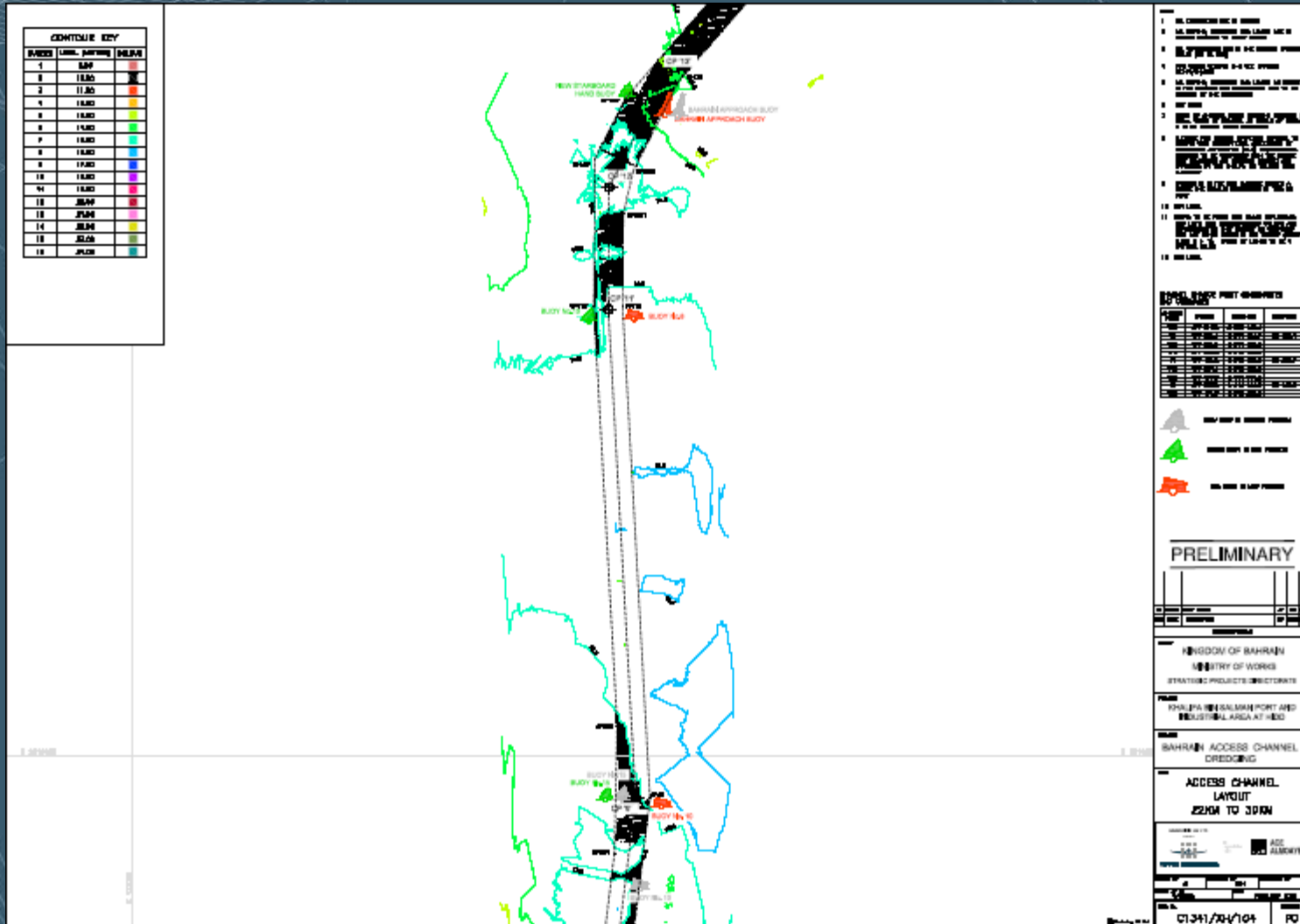
Haskoning UK Ltd.



In association with

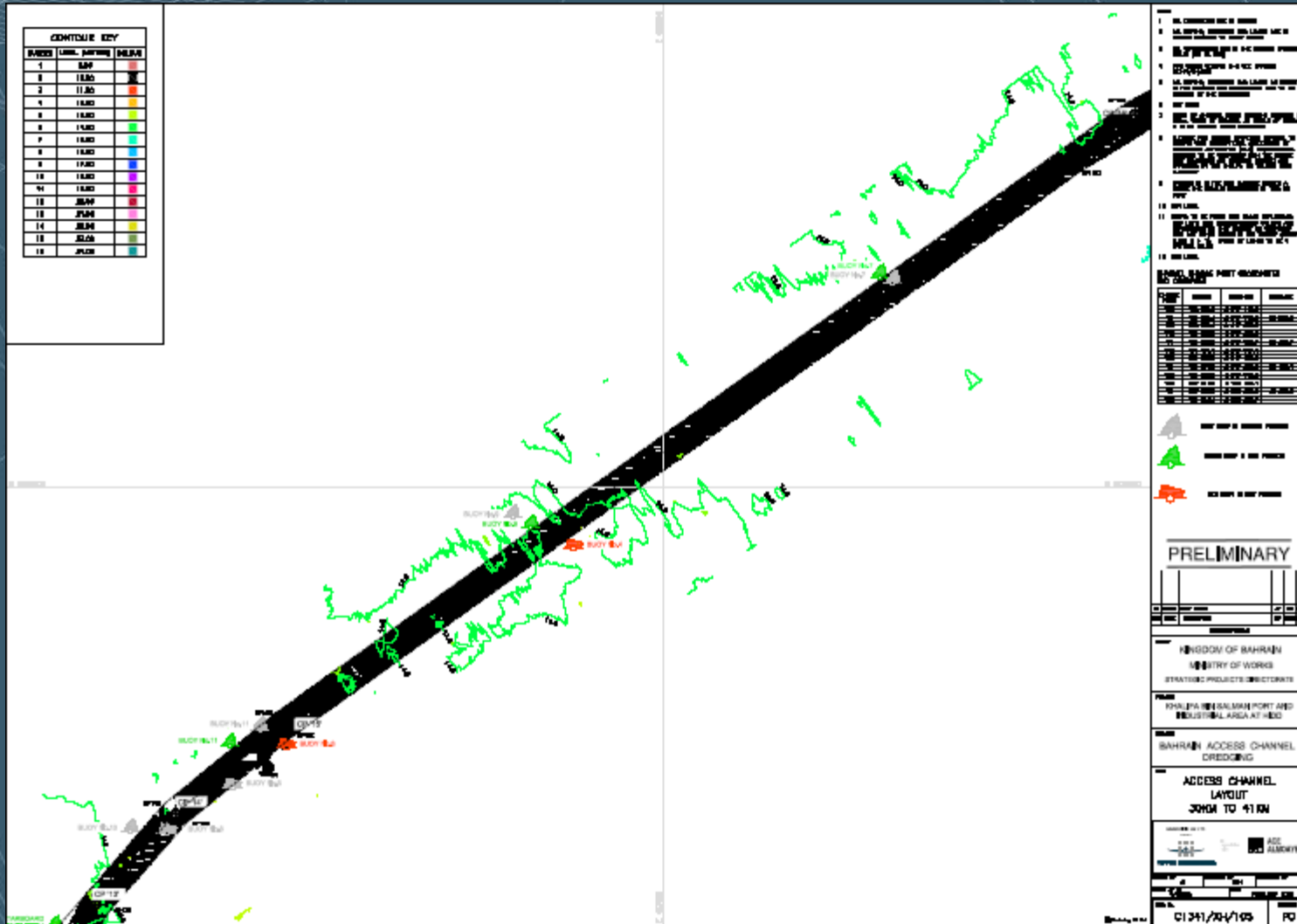


KHALIFA BIN SALMAN PORT & INDUSTRIAL AREA BAHRAIN ACCESS CHANNEL DREDGING



KHALIFA BIN SALMAN PORT & INDUSTRIAL AREA

BAHRAIN ACCESS CHANNEL DREDGING



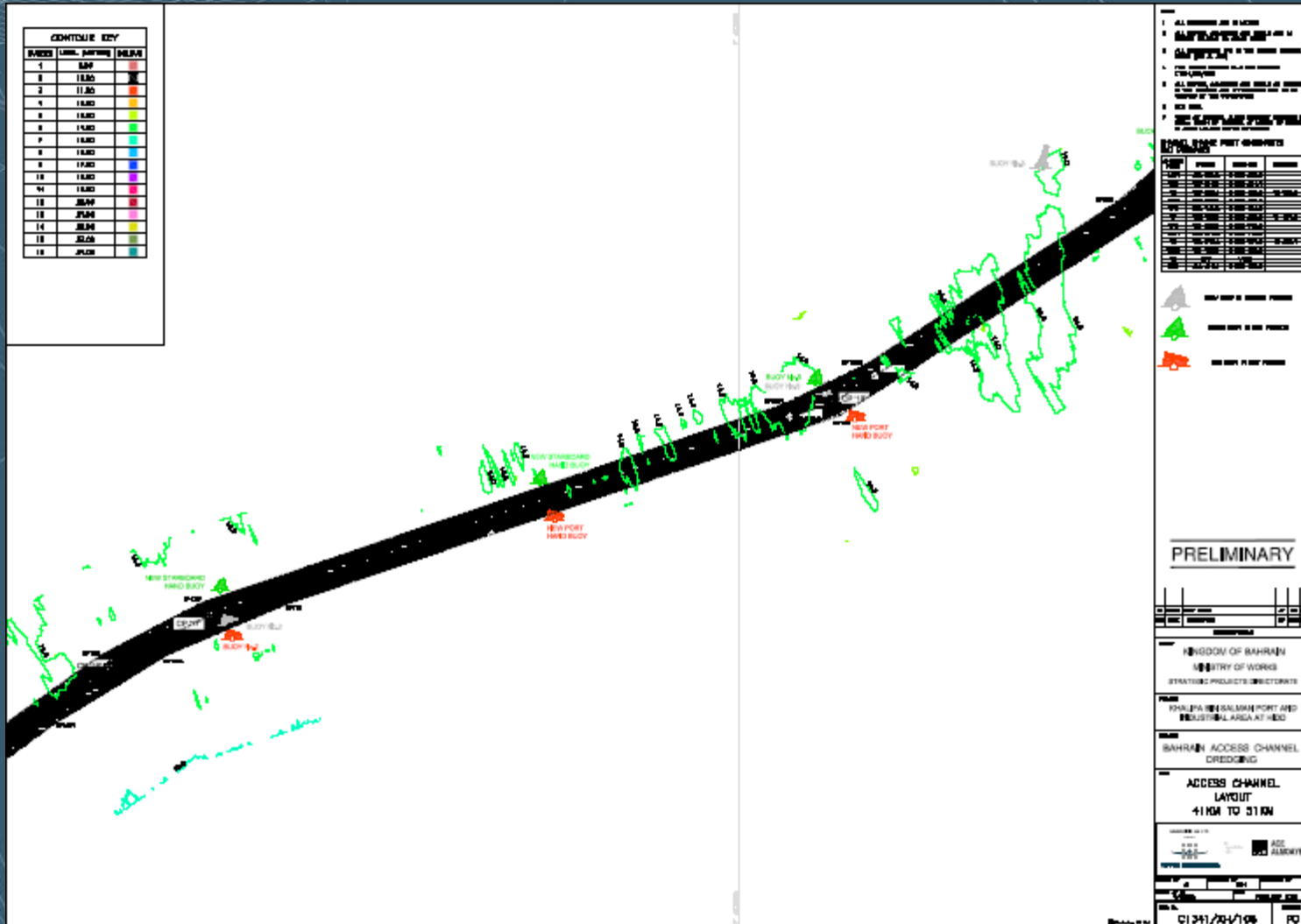
Haskoning UK Ltd.



In association with



KHALIFA BIN SALMAN PORT & INDUSTRIAL AREA BAHRAIN ACCESS CHANNEL DREDGING



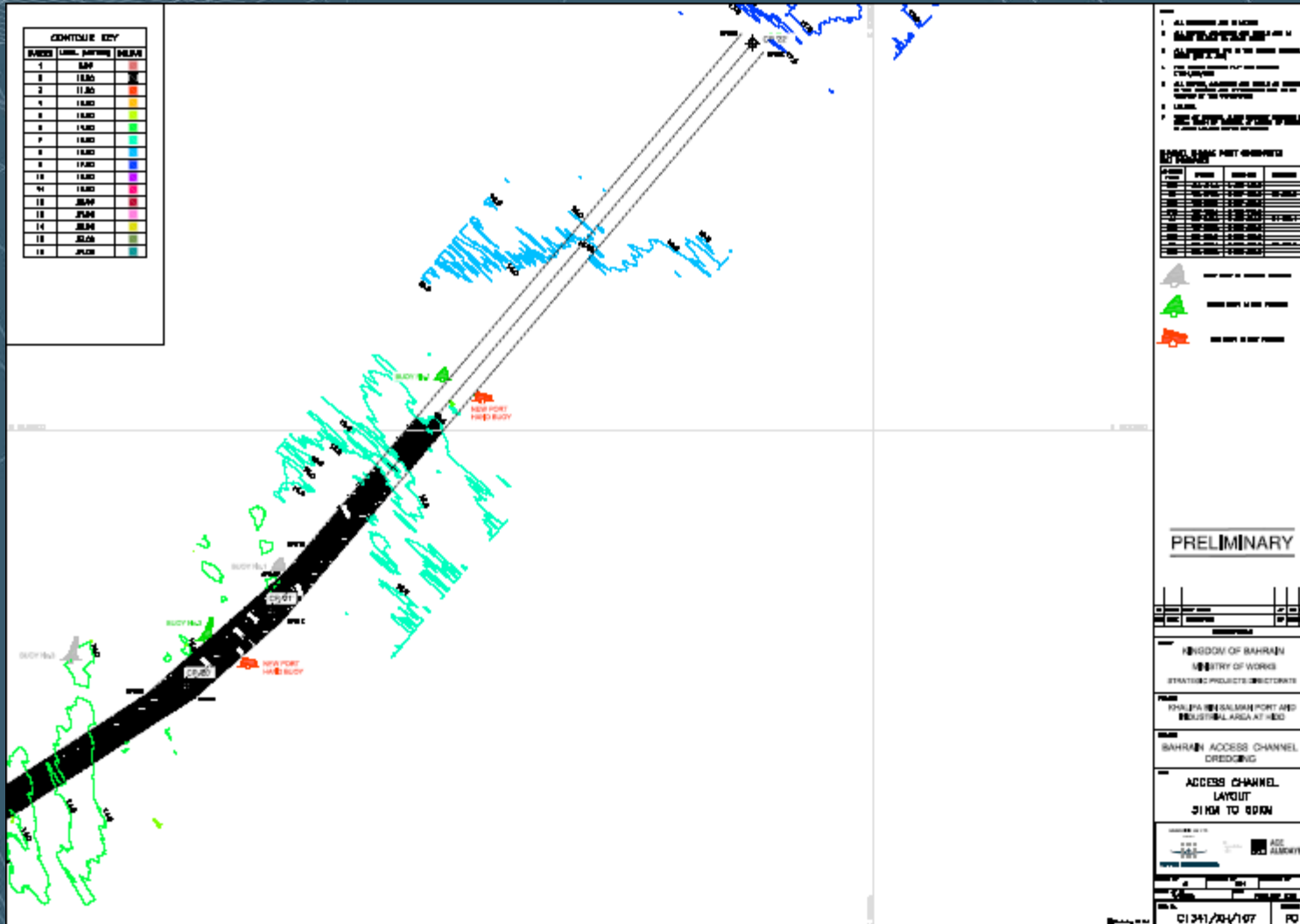
Haskoning UK Ltd.



In association with



BAHRAIN ACCESS CHANNEL DREDGING



Haskoning UK Ltd.



In association with



BAHRAIN ACCESS CHANNEL DREDGING

PROGRESS of the Works

Pre- Dredging Surveys - Commenced on 6th November 2008 and continued during the month. A total length of around 13Km has been surveyed todate.



BAHRAIN ACCESS CHANNEL DREDGING

DREDGING WORKS

- Estimated Quantity to be Dredged 3.4 Million M3
- Dredging Commenced on 30th January 2009
- Completed in excess of 160,000 M3 Between CP14 & CP16
- Average Production of 7,000 M3 per Day



TSHD Reem Island, Capacity 5,600 M3

Dredging in Progress

Haskoning UK Ltd.



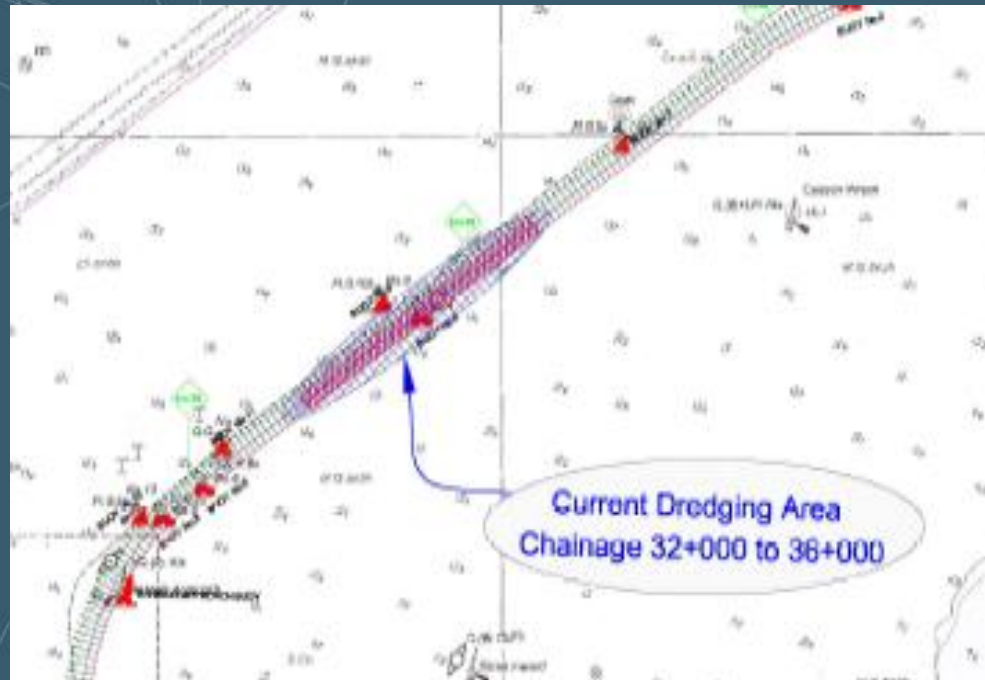
In association with

ايس - المؤيد
ACE ALMOAYED
CONSULTING ENGINEERS



BAHRAIN ACCESS CHANNEL DREDGING

DREDGING WORKS



Dredging Location