

**Contract HK 12/02**  
**Central Reclamation Phase III – Engineering Works**  
**Environmental Permit No.: FEP- 01/122/2003**

**Certification and Verification for Change of FEP Condition 3.2 –  
Increased Dredging Rate at FRAW, Concurrent Dredging/ Filing at FRAW & FRAE**

**ET Leader's Certification**

We refer to the proposal by Leighton – China State – Van Oord Joint Venture (hereinafter referred to as the JV) to conduct concurrent dredging/ filling at FRAW & FRAE, or dredging at increased rate at FRAW only. [Letter to the Engineer's Representative on 16<sup>th</sup> July 2007 of reference H2189/C1/26081/MP/EY/GL/ST/ec, which requested dredging at FRAW at a maximum dredging rate not exceeding 260m<sup>3</sup>/hour, which is above the rate of 184m<sup>3</sup>/hour allowed in the FEP-01/122/2003, or dredging/ partial filling at FRAW together with or without various stages of sand filling at FRAE]

The JV's proposal differs from the dredging and filling sequence prescribed in Figure 5 and Clause 3.2(a & b) of the FEP which states: -

*"3.2 Dredging and filling works shall be carried out in phases for the Project(s) in accordance with:*

*(a) the sequence shown in Figure 5 to avoid formation of embayed water bodies and prevent water pollution problems; and*

*(b) the specified maximum dredging and filling volumes together with the maximum hourly dredging rates for each phase of activities shown in Table 1.*

Any changes to the dredging and filling requirements in items (a) and (b) above shall be certified by the ET Leader and verified by the IC(E) as conforming to the recommendations contained in the EIA report. The changes shall be immediately documented in the following monthly EM&A report and be made available to the public, following the requirements in Conditions 5.2 and 5.3 below, via internet access in the shortest possible time and in no event later than 2 weeks after the changes have been certified "

The JV has proposed three dredging and filling packages as being necessary for the project to mitigate programme slips. Also proposed are additional measures to reduce the potential for water quality impacts.

The intended dredging and filling packages are described below. The JV can carry out only one of the packages at a time until further notice.

**Package A: Independent sand filling at FRAE and dredging at FRAW (Sketch A refers)**

FRAE	AND	FRAW
Stage 1: Sand filling (1m sand blanket on dredged sea bed together with removal of armour rocks and underlayer for eastern seawall of FRAE) OR Stage 2: Sand filling up to -6.7mPD OR Stage 3: Sand filling up to +2.5mPD together with temporary diversion of Culvert K	AND	Dredging at Area 3 OR 4 OR 5 at maximum dredging rate not exceeding 184m <sup>3</sup> /hour

**Package B: Concurrent Dredging and Filling at FRAW (Sketch B refers)**

FRAW	FRAE
Sand filling in Area 4 together with sand slope stabilization by Type A materials + concurrent dredging at Area 3 AND / OR 5 at maximum dredging rate not exceeding 184m <sup>3</sup> /h	NO concurrent sanding filling at FRAE

**Package C: Dredging at FRAW (Sketch C refers)**

FRAW	FRAE
Dredging at FRAW with total dredging rate not exceeding 260m <sup>3</sup> /hour. No concurrent sandfilling at FRAW.	NO concurrent sanding filling at FRAE

The ET has accepted the proposed mitigation measures and requires the following additional measures to be included as conditions of this certification:

(1) The JV shall implement mitigation measures to reduce water quality impacts as stated in their referenced letter with regard to use of framed type silt curtain enclosing the area being dredged and floating curtains at the front and rear enclosing the gap between dredger and hopper barge.

(2) For Packages A and B, dredging at FRAW shall not exceed the maximum rate of 184m<sup>3</sup>/hour prescribed in the FEP. This should be defined as the cumulated total from all dredgers, if applicable.

(3) For sand filling works at FRAW or FRAE, two overlapping silt curtains with an opening for vessels movement shall be installed to enclose the sand filling area down to the seabed to avoid dispersion of fill materials as shown in Sketch A & B. These silt curtains shall be regularly inspected and fixed.

(4) Fill materials from pelican barges should be thoroughly wetted on board before being discharged. When working near shore, the JV shall ensure that there is no wind blown dust nuisance.

(5) The JV shall undertake additional water quality monitoring at 2 locations (i.e. A & B) within 50m of the immediate openings of two sets of silt curtains at FRAW and FRAE immediately after completion of filling / dredging works each day. The parameter to be analysed shall cover suspended solids (SS) only and shall be undertaken by a HOKLAS accredited laboratory with the results reported within 48 hours of sampling to all relevant parties. If results are not provided within 2 working days, this certification will become void until such time the results are provided again. At each of these stations A & B, water samples shall be collected in duplicate at 3 depths, viz. 1m below surface, mid depth and 1m above seabed, except where the water depth is less than 6m, the mid depth shall be omitted. Should the water depth is less than 3m, only the mid-depth is required.

(6) During this period, should there be any exceedance of the Action Level in 2 consecutive occasions or exceedance of the Limit Level in one occasion for the SS in the water samples at any of the seawater intakes (including but not limit to M6, M5B, M4B and M2A), concurrent dredging / filling rates at FRAE and FRAW may need to be reduced or possible cessation of works, whereas for Package C, dredging rate at FRAW should be reduced to the original rates of 184m<sup>3</sup>/hour as prescribed in the FEP or cessation of works. In such cases, additional mitigation measures shall be provided by the JV to the satisfaction of the ET and IC(E) before works can resume.

(7) For works at FRAW, sand filling should be limited to Area 4 together with the necessary fill slope stabilisation by Type A materials only. Further restrictions on filling works in the FEP - Clause 3.3 shall apply.

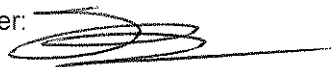
(8) The mouth of the temporarily diverted Culvert K should be enclosed with silt curtain to avoid increase in SS levels discharged near M6.

(9) The Contractor shall ensure that works do not exceed the Water Quality Objectives for Victoria Harbour. In particular, with regard to the aesthetic appearance, there should be no discoloration of the water (visible sediment plumes) outside the Works Site Boundary Area. Should visible sediment plumes be present outside works area, the works shall cease.

(10) This shall supersede all previous certifications and verifications concerning dredging and filling works.

With the implementation of the above measures in full, the ET Leader and the Independent Environmental Checker have no objection to the changes proposed to FEP Condition 3.2(a) for concurrent dredging/filling works at FRAW & FRAE.

Susana Bezy, Environmental Team Leader:



Date: 27 July 2007

### IC(E) Verification

I hereby verify the above information.

Bill Douglas, Independent Checker (Environment):

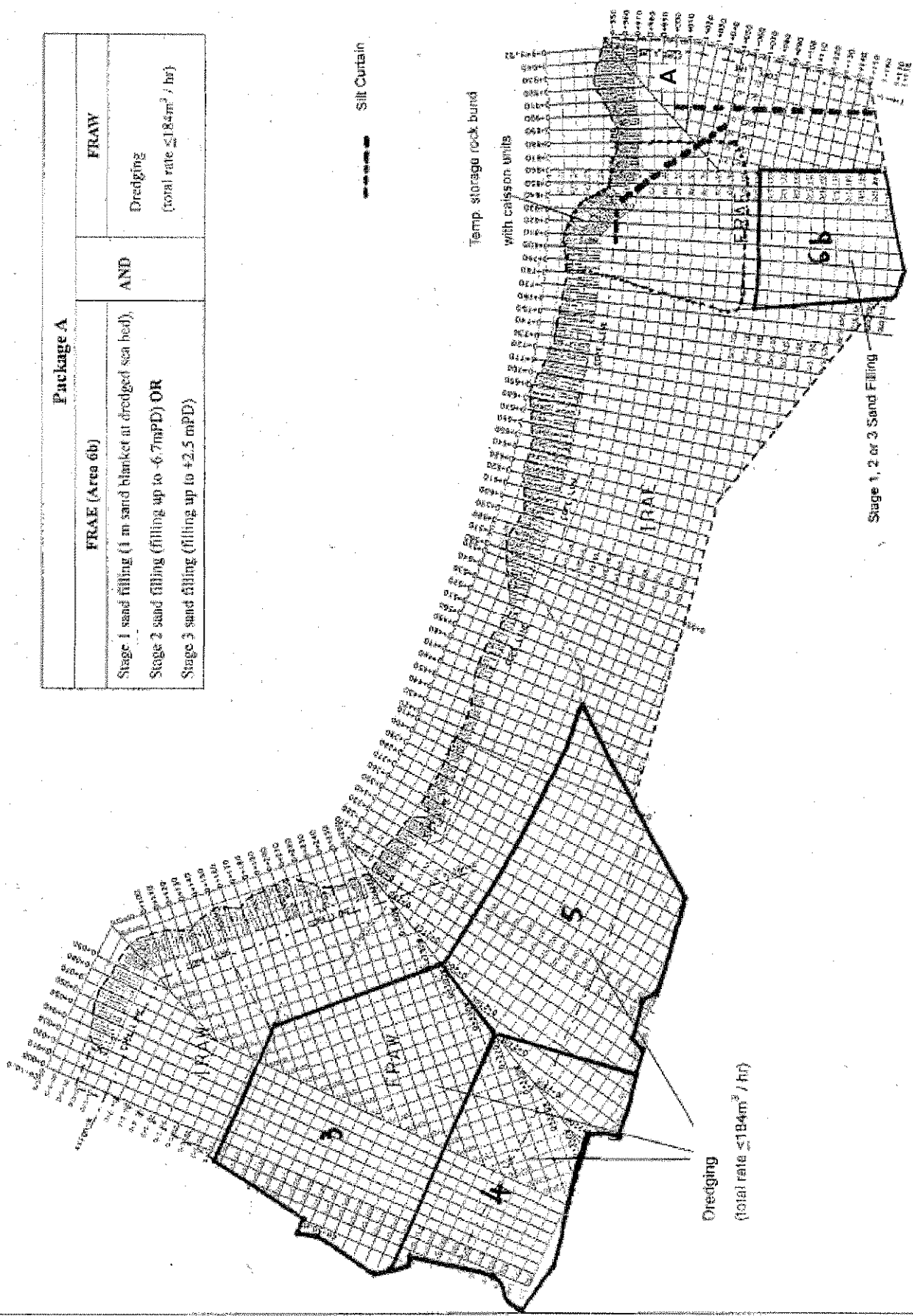


Date: 27 July 2007

Package A	
FRAE (Area 6b)	FRAW
Stage 1 sand filling (1 m sand blanket at dredged sea bed), Stage 2 sand filling (filling up to -6.7mPD) OR Stage 3 sand filling (filling up to +2.5 mPD)	Dredging (total rate $\leq 184m^3/hr$ )

Silt Curtain

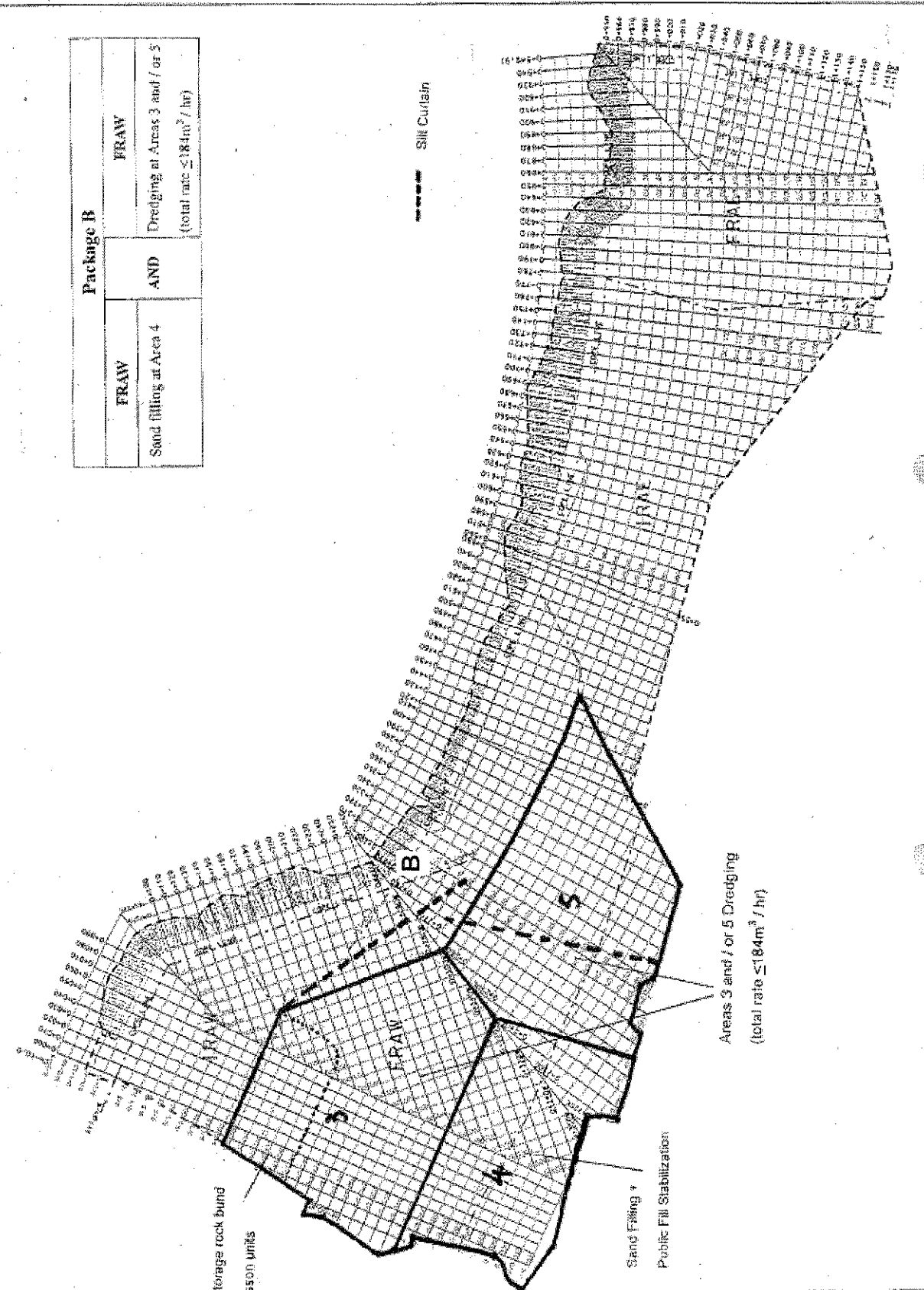
Temp. storage rock bund  
with caisson units



Sketch A

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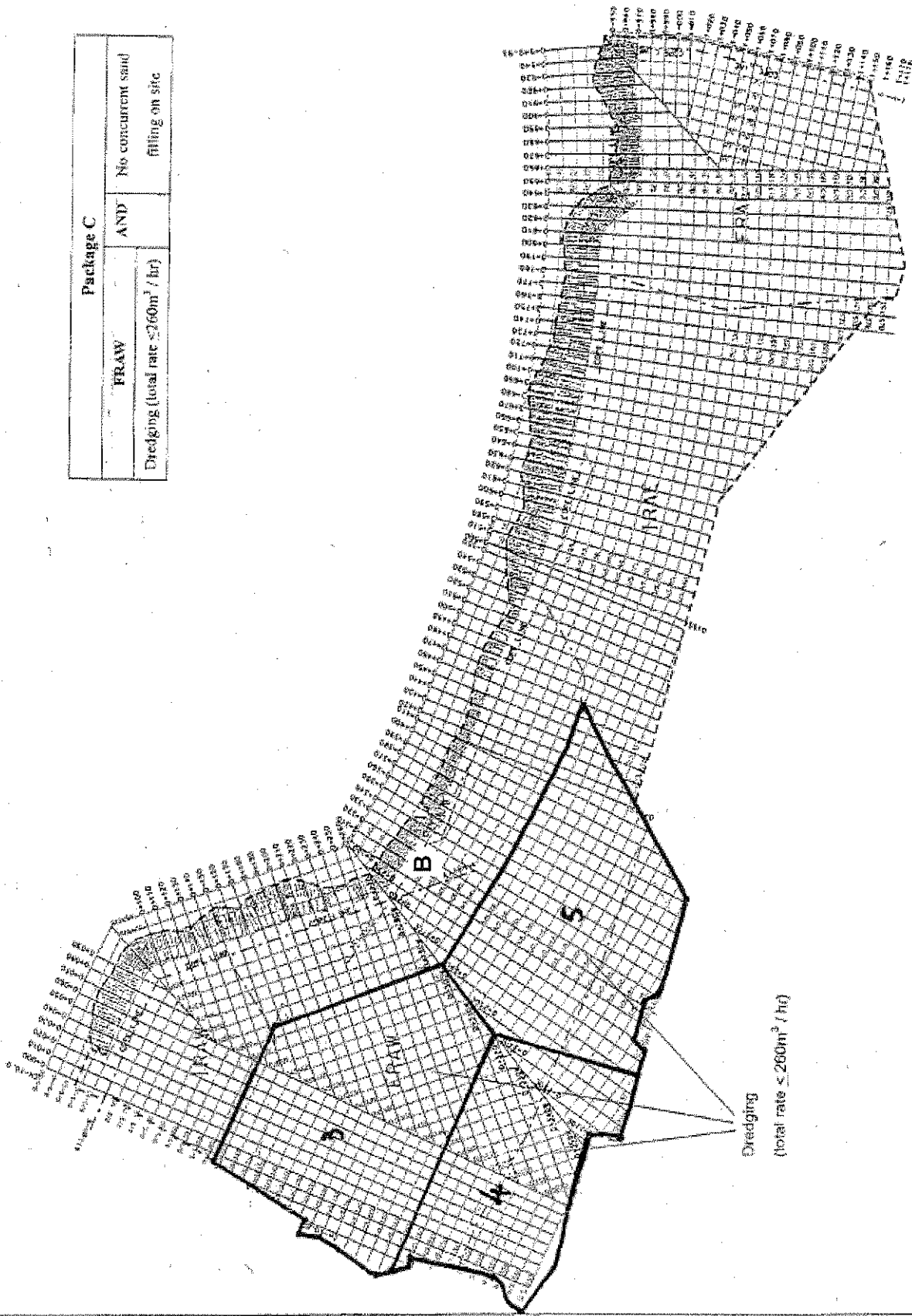
Package B		
FRAW	AND	FRAW
Sand filling at Area 4		Dredging at Areas 3 and / or 5 (total rate $\leq 184 \text{ m}^3 / \text{hr}$ )



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Sketch B

Package C	
FRAW	AND
Dredging (total rate $\leq 260m^3/hr$ )	No concurrent sand filling on site



Sketch C

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