# **July 2015**



# ESTABLISHMENT PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

2015-07

(Issue 1)

August 2015

|              | Name                        | Signature |
|--------------|-----------------------------|-----------|
| Prepared by: | Ida YU                      | Salph     |
| Reviewed by: | David STANTON               | - Dala    |
| Date:        | 3 <sup>rd</sup> August 2015 |           |

Job Ref.: 09/319/177 LCA-NIMW

### **CONTRACT EP/SP/58/08 SLUDGE TREATMENT FACILITIES**

### ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN 2015-07

#### 1 INTRODUCTION

- 1.1.1 Following the completion of construction of the Sludge treatment Facilities in July 2015 Option 2 Item D1.2 of the AEC Consultant Agreement, that is inspection and advice on management after pond construction during the construction phase has now been completed.
- 1.1.2 This report details the findings of the establishment phase ecological monitoring of grebe pond in accordance with the approved Habitat Creation and Management Plan (HCMP) following PO# HKSTF-VWVE-Q-PO-15-093 issued 20th March 2015.
- 1.1.3 This report covers the monitoring and proposed management activities of the establishment phase of the Grebe Pond (hereafter known as 'Pond').

#### 2 SITE INSPECTION

- 2.1.1 The first inspection with the representatives from VLJH, VW-VES, Site Contractor and the IC (Mott MacDonald) was carried out on 6<sup>th</sup> October 2014. Little Grebe Pond was visited. The first and finalised Inspection Record summarizing the comments from AEC Ltd. and IC was issued in early November 2014.
- 2.1.2 The following recommendation on the management and maintenance works is issued to VLJH by AEC Ltd. on 11 August 2015. **Table 1** summarizes the observations and recommended management work required in the Grebe Pond as inspected during the site inspection on 24<sup>th</sup> July 2015.

**Table 1** Summary of the required management activities in land parcels.

|                            | Management Activities Required  | Action |            |
|----------------------------|---|--------|------------|
| Minor<br>remedial<br>work: | <ul> <li>The pond was full after the recent rainstorms (Plate 1). No fish fry were observed. Apple Snails and egg masses were still noted along the pond edge and on the emergent plants in the wetland (Plate 2).</li> </ul>   | •      | NA         |
|                            | <ul> <li>The Landscape Contractor should remove all snails and destroy<br/>egg masses during their routine maintenance work in the Grebe<br/>Pond. Weekly removal of Apple Snails is recommended.</li> </ul>  | •      | Contractor |
|                            | <ul> <li>As reported in the last inspection record, the naturally established herb Conyza sumatrensis was weeded by the landscape contractor as a routine maintenance practice.     However, some of these uprooted plants were not removed (Plate 3). The landscape contractor is reminded to dispose the cut vegetation away from the pond.</li> </ul>                                | •      | Contractor |
|                            | <ul> <li>As a routine maintenance practice, the landscape contractor<br/>should remove the unwanted climbers (Mikania micrantha and<br/>Acacia concinna (Plate 4)) and the self-seeded seedlings of small<br/>tree Tamarix chinensis (Plate 5) located along the eastern and<br/>southern parts of the pond. All vegetation should be disposed<br/>away from the Grebe Pond.</li> </ul> | •      | Contractor |
|                            | <ul> <li>A path has developed along the western side of the Grebe Pond;</li> </ul>  | •      | Contractor |

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|                       | a result of excessive, unauthorized access. This path has  |                                |
|-----------------------|--|--------------------------------|
|                       | developed some cover from creeping wetland herbs, but some sections of the path are still bare ground ( <b>Plate 6</b> ). Remedial planting work is still required to provide suitable riparian habitat by planting creeping wetland herbs and emergent vegetation. This area should be restricted from general access. Instruction for planting wetland herbs will be provided to the landscape contractor in early July. |                                |
| Minor                 | Access to the Grebe Pond via the northwestern corner and main  | • Contractor                   |
| Comments:             | gate was unobstructed, with neither end closed off ( <b>Plate 7</b> ) during the site inspection on 23 <sup>rd</sup> July 2015. The Contractor should regularly inspect the condition of the barriers and remind the workers not to enter the Grebe Pond unless routine pond and landscape maintenance.  |                                |
|                       | <ul> <li>The densities of the floating vegetation and wetland plants on<br/>the islands and creeping herbs planted along the riparian zone<br/>have been improved.</li> </ul>  | • NA                           |
|                       | <ul> <li>Less rubbish was noted in the Grebe Pond area. The Contractor<br/>should remove the rubbish during the routine maintenance<br/>work.</li> </ul>   | <ul> <li>Contractor</li> </ul> |
|                       | <ul> <li>Excessive rainwater was trapped in a low-lying area at the eastern boundary of the Grebe Pond (Plate 8). Such condition is regarded as temporary, but the Contractor may need to review if this may influence the normal operation of the civil structure underneath.</li> </ul>  | <ul> <li>Contractor</li> </ul> |
| Water quality checks: | <ul> <li>Water quality checks will normally form part of the<br/>Establishment Phase monitoring of the Grebe Pond as per<br/>Section 8, Table 7 of the Habitat Creation and Management Plan.</li> </ul>  | • NA                           |
|                       | <ul> <li>The measured water quality parameters are within Action Level<br/>of the Contingency Plan (Table 8 in HCMP) (see Table 2 below).</li> </ul>   | • NA                           |
|                       | <ul> <li>The level pole showed that the water level of the pond almost<br/>reached +5.6mPD as inspected on July 2015.</li> </ul>   | • NA                           |
|                       | <ul> <li>As a reminder, only freshwater can be pumped into the Grebe<br/>Pond. The contractor should regularly check the salinity level of<br/>the pumped water and avoid pumping water with high salinity<br/>level.</li> </ul>   | • Contractor                   |

**Table 2.** Water quality data on 24<sup>th</sup> July 2015, Grebe Pond, Nim Wan Sludge Treatment Facilities.

| Sample No. | Temp. (°C) | рН   | Cond (ppt) | DO (mg/L) |
|------------|------------|------|------------|-----------|
| 1          | 27.77      | 7.24 | 0.203      | 7.58      |
| 2          | 27.75      | 7.37 | 0.206      | 7.16      |
| 3          | 27.72      | 7.43 | 0.187      | 7.47      |
| Mean       | 27.75      | 7.35 | 0.200      | 7.40      |

Plate 1The Grebe Pond is fully filled after the recent rainstorm.



Plate 2

Apple Snails were sometimes noted along the pond edge.



#### Plate 3

Naturally established herb *Conyza sumatrensis* was uprooted by the landscape contractor as a routine maintenance practice, but the removed plant debris was not disposed away from the Grebe Pond.



Plate 4

The landscape contractor should remove the unwanted climbers *Acacia concinna* located at the southern edge of the pond.



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### Plate 5

The landscape contractor should remove the seedlings of small tree *Tamarix chinensis* in the whole Grebe Pond area.



Plate 6

The path was progressively covered by the creeping wetland herbs, but some sections of the path were still as a bare ground.



### 2015-05 (Issue 1)

### Plate 7

The barriers at the northwestern corner of the Grebe Pond were opened as observed on 24<sup>th</sup> July 2015.



Plate 8

Excessive rainwater was trapped in a low-lying area at the eastern boundary of the Grebe Pond.



### August 2015



# ESTABLISHMENT PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

2015-08

(Issue 1)

September 2015

|              | Name                           | Signature |
|--------------|--------------------------------|-----------|
| Prepared by: | Philip TANG                    | hijkang.  |
| Reviewed by: | David STANTON                  | - John    |
| Date:        | 2 <sup>nd</sup> September 2015 |           |

Job Ref.: 09/319/177 LCA-NIMW

Contract EP/SP/58/08 Sludge Treatment Facilities Establishment phase ecological monitoring of grebe pond in accordance with the approved habitat creation and management plan

Job Ref.: 09/319/177 LCA-NIMW

2015-05 (Issue 1)



### **CONTRACT EP/SP/58/08 SLUDGE TREATMENT FACILITIES**

## ESTABLISHMENT PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

#### 2015-08

#### 1 INTRODUCTION

- 1.1.1 Following the completion of construction of the Sludge treatment Facilities in July 2015 Option 2 Item D1.2 of the AEC Consultant Agreement, that is inspection and advice on management after pond construction during the construction phase has now been completed..
- 1.1.2 This report details the findings of the establishment phase ecological monitoring of grebe pond in accordance with the approved Habitat Creation and Management Plan (HCMP) following PO# HKSTF-VWVE-Q-PO-15-093 issued 20th March 2015.
- 1.1.3 This is the eight report covering the monitoring and proposed management activities of the establishment phase of the Grebe Pond (hereafter known as 'Pond').

#### 2 SITE INSPECTION

- 2.1.1 The first inspection with the representatives from VLJH, VW-VES, Site Contractor and the IC (Mott MacDonald) was carried out on 6<sup>th</sup> October 2014. The finalised Inspection Record summarizing the comments from AEC Ltd. and IC was issued in early November 2014.
- 2.1.2 The following recommendations on the management and maintenance works are issued to VLJH by AEC Ltd. on 2<sup>nd</sup> September 2015. **Table 1** summarizes the observations and recommended management work required in the Pond as inspected during the site inspection on 31<sup>st</sup> August 2015.

**Table 1** Summary of the required management activities in land parcels.

|                            | Management Activities Required  | Action            |
|----------------------------|---|-------------------|
| Minor<br>remedial<br>work: | <ul> <li>The Pond was full (Plate 1). No fish or fry were observed.</li> <li>Apple Snails and egg masses were observed in large numbers along the pond edge and on the emergent plants in the wetland.</li> </ul>   | NA     Contractor |
|                            | The Landscape Contractor should remove all snails and destroy egg masses during their routine maintenance work in   | • Contractor      |
|                            | the Pond. At least weekly removal of Apple Snails is recommended.   | Contractor        |
|                            | <ul> <li>As a routine maintenance practice, the landscape contractor<br/>should remove the unwanted climbers (<i>Mikania micrantha</i><br/>and <i>Acacia concinna</i>) and the self-seeded seedlings of the</li> </ul>  |                   |
|                            | small tree <i>Tamarix chinensis</i> . All vegetation should be disposed away from the Grebe Pond.   | Contractor        |
|                            | <ul> <li>A path has developed along the western side of the Pond; a<br/>result of excessive, unauthorized access. Remedial planting<br/>work is still required by planting creeping wetland herbs and<br/>emergent vegetation. This area should be restricted from</li> </ul> |                   |
|                            | general access.   |                   |



Job Ref.: 09/319/177 LCA-NIMW

2015-05 (Issue 1)

|                             | <ul> <li>A Red Imported Fire Ant (RIFA) nest was observed at the northwestern corner of the Grebe pond (Plate 2). Any RIFA nest observed on site should be treated with pesticide as soon as possible to prevent spreading.</li> <li>Access to the Pond via the northwestern corner and main gate was unobstructed, with neither end closed off during the site inspection on 31<sup>st</sup> August 2015. This gate should be locked and a suitable barrier erected in the NW corner as the presence of humans will reduce the potential for the Pond to be utlised by Little Grebes. There should be no unauthorized access.</li> </ul> | • | Contractor     |
|-----------------------------|---|---|----------------|
| Minor<br>Comments:          | <ul> <li>Less rubbish was noted in the Pond area. The Contractor<br/>should remove the rubbish during the routine maintenance<br/>work.</li> </ul>  | ٠ | Contractor     |
| Water<br>quality<br>checks: | Water quality checks will normally form part of the     Establishment Phase monitoring of the Grebe Pond as per     Section 8, Table 7 of the Habitat Creation and Management   | • | NA             |
|                             | Plan.  The measured water quality parameters are within Action  | • | NA             |
|                             | Level of the Contingency Plan (Table 8 in HCMP) (see Table 2 below).  | • | NA             |
|                             | <ul> <li>The level pole showed that the water level of the pond almost reached +5.6mPD as inspected on July 2015.</li> <li>As a reminder, only freshwater can be pumped into the Grebe Pond. The contractor should regularly check the salinity level of the pumped water and avoid pumping water with high salinity level.</li> </ul>  | • | Contractor     |
| Avifauna<br>monitoring      | <ul> <li>Common Kingfisher Alcedo atthis was the only waterbird<br/>species recorded in August 2015 within the Pond area.</li> </ul>  | • | NA             |
|                             | <ul> <li>Crested Myna Acridotheres cristatellus and Eurasian Tree         Sparrow Passer montanus were recorded in close proximity to the Pond.     </li> </ul>   | • | NA             |
|                             | <ul> <li>Bird numbers and diversity are unlikely to increase if access to<br/>the Pond remains open. Access Points should be locked and<br/>unauthorized access prevented at all times. Human presence<br/>should only be for management/monitoring purposes</li> </ul>   | • | VUH/Contractor |

**Table 2.** Water quality data on 31<sup>st</sup> August 2015, Grebe Pond, Nim Wan Sludge Treatment Facilities.

| Sample No. | Temp. (°C) | рН   | Cond (ppt) | DO (mg/L) |
|------------|------------|------|------------|-----------|
| 1          | 29.75      | 8.04 | 0.153      | 6.03      |
| 2          | 30.01      | 7.91 | 0.149      | 6.42      |
| 3          | 29.91      | 8.09 | 0.15       | 6.89      |
| Mean       | 29.89      | 8.01 | 0.15       | 6.45      |



Plate 1

The Grebe Pond is fully filled after the recent rainstorm.



Plate 2
Red Imported Fire Ant (RIFA) nest was observed at the northwestern corner of the Grebe Pond.



## September 2015



# ESTABLISHMENT PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

2015-09

(Issue 1)

September 2015

|              | Name                         | Signature |
|--------------|------------------------------|-----------|
| Prepared by: | Philip TANG                  | hilling.  |
| Reviewed by: | David STANTON                | - John    |
| Date:        | 2 <sup>nd</sup> October 2015 |           |

Job Ref.: 09/319/177 LCA-NIMW

### **CONTRACT EP/SP/58/08 SLUDGE TREATMENT FACILITIES**

### ESTABLISHMENT PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

#### 2015-09

#### 1 INTRODUCTION

- 1.1.1 Following the completion of construction of the Sludge treatment Facilities in July 2015 Option 2 Item D1.2 of the AEC Consultant Agreement, that is inspection and advice on management after pond construction during the construction phase has now been completed.
- 1.1.2 This report details the findings of the establishment phase ecological monitoring of grebe pond in accordance with the approved Habitat Creation and Management Plan (HCMP) following PO# HKSTF-VWVE-Q-PO-15-093 issued 20th March 2015.
- 1.1.3 This is the ninth report covering the monitoring and proposed management activities of the establishment phase of the Grebe Pond (hereafter known as 'Pond').

#### 2 SITE INSPECTION

- 2.1.1 The first inspection with the representatives from VLJH, VW-VES, Site Contractor and the IC (Mott MacDonald) was carried out on 6<sup>th</sup> October 2014. The finalised Inspection Record summarising the comments from AEC Ltd. and IC was issued in early November 2014.
- 2.1.2 The following recommendations on the management and maintenance works are issued to VLJH by AEC Ltd. on 2<sup>nd</sup> October 2015. **Table 1** summarises the observations and recommended management work required in the Pond as inspected during the site inspection on 24<sup>th</sup> September 2015.

**Table 1** Summary of the required management activities in land parcels.

|                            | Management Activities Required   | Action            |
|----------------------------|--|-------------------|
| Minor<br>remedial<br>work: | <ul> <li>The Pond was full (Plate 1). No fish or fry were observed.</li> <li>Apple Snails and egg masses were observed in large numbers along the pond edge and on the emergent plants in the</li> </ul>   | NA     Contractor |
|                            | <ul> <li>wetland.</li> <li>The Landscape Contractor should remove all snails and destroy egg masses during their routine maintenance work in the Pond. At least weekly removal of Apple Snails is</li> </ul>   | Contractor        |
|                            | recommended.  • As a routine maintenance practice, the landscape contractor should remove the unwanted climbers ( <i>Mikania micrantha</i> and <i>Acacia concinna</i> ) and the self-seeded seedlings of the small tree <i>Tamarix chinensis</i> . All vegetation should be disposed away from the Grebe Pond. | • Contractor      |
|                            | A path has developed along the western side of the Pond; a result of excessive, unauthorized access. Remedial planting work is still required by planting creeping wetland herbs and emergent vegetation. This area should be restricted from general access (Plate 2).  | • Contractor      |



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| Minor<br>Comments:     | <ul> <li>Less rubbish was noted in the Pond area. The Contractor<br/>should remove the rubbish during the routine maintenance<br/>work.</li> </ul>   | • | Contractor      |
|------------------------|--|---|-----------------|
|                        | <ul> <li>Dry leaves were observed on four trees Pongamia pinnata<br/>along the western side of the pond (Plate 3). The Contractor<br/>should irrigate these trees regularly.</li> </ul>  | • | Contractor      |
| Water                  | Water quality checks will normally form part of the  | • | NA              |
| quality<br>checks:     | Establishment Phase monitoring of the Grebe Pond as per Section 8, Table 7 of the Habitat Creation and Management Plan.  |   |                 |
|                        | <ul> <li>The measured water quality parameters are within Action<br/>Level of the Contingency Plan (Table 8 in HCMP) (see Table 2<br/>below).</li> </ul>   | • | NA              |
|                        | <ul> <li>The level pole showed that the water level of the pond almost<br/>reached +5.6mPD as inspected on July 2015.</li> </ul>   | • | NA              |
|                        | <ul> <li>As a reminder, only freshwater can be pumped into the Grebe<br/>Pond. The contractor should regularly check the salinity level<br/>of the pumped water and avoid pumping water with high<br/>salinity level.</li> </ul>   | • | Contractor      |
|                        | <ul> <li>A water sample has been taken during the site visit for detail<br/>analysis at the STF laboratory, as required once every six<br/>months by the HCMP.</li> </ul>  | • | NA              |
| Avifauna<br>monitoring | <ul> <li>Common Sandpiper Actitis hypoleucos was the only waterbird<br/>species recorded in September 2015 within the Pond area.</li> </ul>  | • | NA              |
|                        | <ul> <li>Crested Myna Acridotheres cristatellus and Eurasian Tree<br/>Sparrow Passer montanus were recorded in close proximity to<br/>the Pond.</li> </ul>   | • | NA              |
|                        | <ul> <li>Bird numbers and diversity are unlikely to increase if access to<br/>the Pond remains open. Access Points should be locked and<br/>unauthorized access prevented at all times. Human presence<br/>should only be for management/monitoring purposes.</li> </ul> | • | VLJH/Contractor |

**Table 2.** Water quality data on 24<sup>th</sup> September 2015, Grebe Pond, Nim Wan Sludge Treatment Facilities.

| Sample No. | Temp. (°C) | рН   | Sal (ppt) | DO (mg/L) |
|------------|------------|------|-----------|-----------|
| 1          | 31.9       | 7.25 | 0.07      | 3.78      |
| 2          | 32.2       | 7.38 | 0.07      | 3.11      |
| 3          | 32.2       | 7.61 | 0.07      | 3.15      |
| Mean       | 32.1       | 7.41 | 0.07      | 3.35      |



Plate 1
The Grebe Pond was full at the time of the monitoring visit.

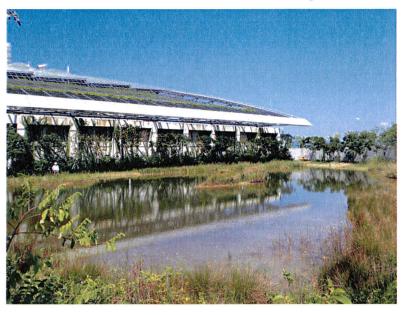
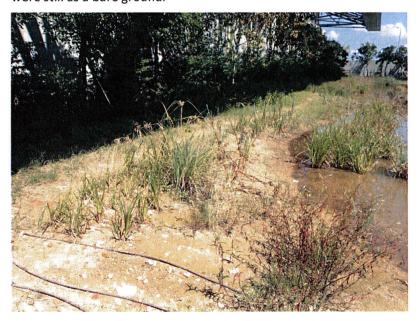


Plate 2

The path was progressively covered by the creeping wetland herbs, but some sections of the path were still as a bare ground.



Job Ref.: 09/319/177 LCA-NIMW

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Plate 3

Dry leaves were observed on four trees *Pongamia pinnata* along the western side of the pond.





### October 2015

# ESTABLISHMENT PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

2015-10

(Issue 1)

October 2015

|              | Name                          | Signature |
|--------------|-------------------------------|-----------|
| Prepared by: | Philip TANG                   | hili kung |
| Reviewed by: | David STANTON                 | - Dala    |
| Date:        | 30 <sup>th</sup> October 2015 |           |



### CONTRACT EP/SP/58/08 SLUDGE TREATMENT FACILITIES

## ESTABLISHMENT PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

#### 2015-10

#### 1 INTRODUCTION

- 1.1.1 Following the completion of construction of the Sludge treatment Facilities in July 2015 Option 2 Item D1.2 of the AEC Consultant Agreement, that is inspection and advice on management after pond construction during the construction phase has now been completed.
- 1.1.2 This report details the findings of the establishment phase ecological monitoring of grebe pond in accordance with the approved Habitat Creation and Management Plan (HCMP) following PO# HKSTF-VWVE-Q-PO-15-093 issued 20th March 2015.
- 1.1.3 This report covers the monitoring and proposed management activities of the establishment phase of the Grebe Pond (hereafter known as 'Pond').

#### 2 SITE INSPECTION

- 2.1.1 The first inspection with the representatives from VLJH, VW-VES, Site Contractor and the IC (Mott MacDonald) was carried out on 6<sup>th</sup> October 2014. The finalised Inspection Record summarising the comments from AEC Ltd. and IC was issued in early November 2014.
- 2.1.2 The following recommendations on the management and maintenance works are issued to VLJH by AEC Ltd. on  $30^{th}$  October 2015. **Table 1** summarises the observations and recommended management work required in the Pond as inspected during the site inspection on  $22^{nd}$  October 2015.

Table 1 Summary of the required management activities in land parcels.

|                   | Management Activities Required  | Action     |
|-------------------|---|------------|
| Minor<br>remedial | <ul> <li>No fish or fry were observed in the Pond (Plate 1).</li> <li>Apple Snails and egg masses (Plate 2) were observed</li> </ul>  | • NA       |
| work:             | along the pond edge and on the emergent plants in the wetland.  | Contractor |
|                   | <ul> <li>The Landscape Contractor should remove all snails and<br/>destroy egg masses during their routine maintenance<br/>work in the Pond. At least weekly removal of Apple<br/>Snails is recommended.</li> </ul>   | Contractor |
|                   | <ul> <li>As a routine maintenance practice, the landscape<br/>contractor should remove the unwanted climbers<br/>(Mikania micrantha and Acacia concinna) and the self-<br/>seeded seedlings of the small tree Tamarix chinensis.</li> <li>All vegetation should be disposed away from the Grebe</li> </ul>          | Contractor |
|                   | <ul> <li>Pond.</li> <li>A path has developed along the western side of the Pond; a result of excessive, unauthorized access.</li> <li>Remedial planting work is still required by planting creeping wetland herbs and emergent vegetation. This area should be restricted from general access (Plate 3).</li> </ul> | Contractor |

| Minor      | Less rubbish was noted in the Pond area. The   | Contractor                |
|------------|--|---------------------------|
| Comments:  | Contractor should continue to remove the rubbish   |                           |
|            | during the routine maintenance work.   |                           |
|            |  |                           |
|            |  |                           |
| Water      | Water quality checks will normally form part of the  | • NA                      |
| quality    | Establishment Phase monitoring of the Grebe Pond as  |                           |
| checks:    | per Section 8, Table 7 of the Habitat Creation and   |                           |
|            | Management Plan.   |                           |
|            | Salinity and dissolved oxygen are within Action Level of      Salinity and dissolved oxygen are within Action Level of | Contractor – add          |
|            | the Contingency Plan (Table 8 in HCMP) (see Table 2  | water to +5.6mPD<br>level |
|            | below). Temperature and pH have reached the action level (>30 $^{\circ}$ C), (pH 6.5 – 8.0).                           | levei                     |
|            | <ul> <li>The level pole showed that the water level of the pond</li> </ul>   | Contractor- add           |
|            | is below the +5.6mPD sign.   | water to level            |
|            | As a reminder, only freshwater can be pumped into the  | Contractor                |
|            | Grebe Pond. The contractor should regularly check the  | 30110 40101               |
|            | salinity level of the pumped water and avoid pumping   |                           |
|            | water with high salinity level.  |                           |
|            | <ul> <li>A water sample was taken in the September site visit</li> </ul>   | • NA                      |
|            | and set for detail analysis. Water quality report from   |                           |
|            | ALS Laboratory Group (Table 3) shows the all the   |                           |
|            | parameters are within the Action Level of the  |                           |
|            | Contingency Plan (Table 8 in HCMP).  |                           |
| Avifauna   | <ul> <li>No waterbird species was recorded in October 2015</li> </ul>  | • NA                      |
| monitoring | within the Pond area.  |                           |
|            | <ul> <li>Crested Myna Acridotheres cristatellus, Eurasian Tree</li> </ul>  | • NA                      |
|            | Sparrow Passer montanus and White Wagtail Motacilla  |                           |
|            | alba were recorded in close proximity to the Pond.   | \/\\\\/\C==\\\\           |
|            | Bird numbers and diversity are unlikely to increase if   | VUH/Contractor            |
|            | access to the Pond remains open. Access Points should  |                           |
|            | be locked and unauthorised access prevented at all   |                           |
|            | times. Human presence should only be for   |                           |
|            | management/monitoring purposes.  |                           |

**Table 2.** Water quality data on 22<sup>nd</sup> October 2015, Grebe Pond, Nim Wan Sludge Treatment Facilities.

| Sample No. | Temp. (°C) | рН   | Sal (ppt) | DO (mg/L) |
|------------|------------|------|-----------|-----------|
| 1          | 30.3       | 8.53 | 0.11      | 6.38      |
| 2          | 31.31      | 8.46 | 0.08      | 8.56      |
| 3          | 30.84      | 8.48 | 0.07      | 9.39      |
| Mean       | 30.82      | 8.49 | 0.09      | 8.11      |

 Table 3. Water quality result from ALS Laboratory Group for sample taken in September 2015.

| Sample No. | Ammonia as<br>N | Nitrate + Nitrite<br>as N | Reactive<br>Phosphorus as P | Total Phosphorus as P |
|------------|-----------------|---------------------------|-----------------------------|-----------------------|
| 1          | 0.5 mg/L        | 1.0 mg/L                  | 0.5 mg/L                    | 0.5 mg/L              |

Plate 1
The Grebe Pond.



Plate 2

Apple Snails and their egg masses were observed along pond.



Plate 3

The path was progressively covered by the creeping wetland herbs, but some sections of the path were still as a bare ground.



### November 2015

# OPERATIONAL PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

<u>2015-11</u>

(Issue 1)

November 2015

|              | Name                           | Signature  |
|--------------|--------------------------------|------------|
| Prepared by: | Philip TANG                    | hill king. |
| Reviewed by: | David STANTON                  | - John     |
| Date:        | 27 <sup>th</sup> November 2015 |            |



Job Ref.: 09/319/177 LCA-NIMW

### **CONTRACT EP/SP/58/08 SLUDGE TREATMENT FACILITIES**

## OPERATIONAL PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

#### 2015-11

#### 1 INTRODUCTION

- 1.1.1 Following the completion of construction of the Sludge treatment Facilities in July 2015 Option 2 Item D1.2 of the AEC Consultant Agreement, that is inspection and advice on management after pond construction during the construction phase has now been completed.
- 1.1.2 The 12 months establishment phase monitoring (October 2014 October 2015) has been completed. The operational phase commenced in November 2015.
- 1.1.3 This report details the findings of the operational phase ecological monitoring of grebe pond in accordance with the approved Habitat Creation and Management Plan (HCMP) following PO# HKSTF-VWVE-Q-PO-15-093 issued 20th March 2015.
- 1.1.4 This report covers the monitoring and proposed management activities of the establishment phase of the Grebe Pond (hereafter known as 'Pond').

#### 2 SITE INSPECTION

- 2.1.1 The first inspection with the representatives from VLJH, VW-VES, Site Contractor and the IC (Mott MacDonald) was carried out on 6<sup>th</sup> October 2014. The finalised Inspection Record summarising the comments from AEC Ltd. and IC was issued in early November 2014.
- 2.1.2 The following recommendations on the management and maintenance works are issued to VLJH by AEC Ltd. on 27<sup>th</sup> November 2015. **Table 1** summarises the observations and recommended management work required in the Pond as inspected during the site inspection on 23<sup>rd</sup> November 2015.

**Table 1** Summary of the required management activities in land parcels.

|                   | Management Activities Required   | Action     |
|-------------------|--|------------|
| Minor             | No fish or fry were observed in the Pond (Plate 1).  | • NA       |
| remedial<br>work: | <ul> <li>Apple Snails and egg masses (Plate 2) were observed<br/>along the pond edge and on the emergent plants in the<br/>wetland.</li> </ul>   | Contractor |
|                   | <ul> <li>The Landscape Contractor should remove all snails and<br/>destroy egg masses during their routine maintenance<br/>work in the Pond. At least weekly removal of Apple<br/>Snails is recommended.</li> </ul>  | Contractor |
|                   | <ul> <li>As a routine maintenance practice, the landscape<br/>contractor should remove the unwanted climbers<br/>(Mikania micrantha and Acacia concinna) and the self-<br/>seeded seedlings of the small tree Tamarix chinensis.</li> <li>All vegetation should be disposed away from the Grebe</li> </ul> | Contractor |



|                             | Pond.   |                                |
|-----------------------------|---|--------------------------------|
| Minor<br>Comments:          | <ul> <li>Less rubbish was noted in the Pond area. The<br/>Contractor should continue to remove the rubbish<br/>during the routine maintenance work.</li> </ul>  | • Contractor                   |
|                             | <ul> <li>The path developed along the western side of the Pond<br/>from unauthorised access has been recovered (Plate 3).</li> <li>General access should continue to be restricted in this<br/>area to minimise the level of disturbance to the Pond.</li> </ul>        | <ul> <li>Contractor</li> </ul> |
| Water<br>quality<br>checks: | <ul> <li>Water quality checks will normally form part of the<br/>Operational Phase monitoring of the Grebe Pond as per<br/>Section 8, Table 7 of the Habitat Creation and<br/>Management Plan.</li> </ul>   | • NA                           |
| -                           | <ul> <li>Temperature and pH level has reached the action level<br/>in October; therefore two visits were made in<br/>November to monitor the water quality (Table 2). The<br/>two parameters have now returned to the normal<br/>range.</li> </ul>                      | • NA                           |
|                             | <ul> <li>The water level of the pond is currently at the +5.6mPD<br/>level.</li> </ul>  | • NA                           |
|                             | <ul> <li>As a reminder, only freshwater can be pumped into the<br/>Grebe Pond. The contractor should regularly check the<br/>salinity level of the pumped water and avoid pumping<br/>water with high salinity level.</li> </ul>  | <ul> <li>Contractor</li> </ul> |
| Avifauna monitoring         | Two Common Sandpiper Actitis hypoleucos were<br>recorded in November 2015 within the Pond area.   | • NA                           |
|                             | <ul> <li>Crested Myna Acridotheres cristatellus, Eurasian Tree<br/>Sparrow Passer montanus and White Wagtail Motacilla<br/>alba were recorded in close proximity to the Pond.</li> </ul>  | • NA                           |
|                             | <ul> <li>As a reminder, access points to the Pond should remain<br/>locked, as numbers and diversity of bird species are<br/>unlikely to increase if access to the Pond is opened.<br/>Human presence should only be for<br/>management/monitoring purposes.</li> </ul> | • VLJH/Contractor              |

**Table 2.** Water quality data for November 2015, Grebe Pond, Nim Wan Sludge Treatment Facilities.

### 10<sup>th</sup> November 2015

| Sample No. | Temp. (°C) | рН   | Sal (ppt) | DO (mg/L) |
|------------|------------|------|-----------|-----------|
| 1          | 27.1       | 8.46 | 3.9       | 0.11      |
| 2          | 27.1       | 8.9  | 4.07      | 0.11      |
| 3          | 26.8       | 8.72 | 4.29      | 0.11      |
| Mean       | 27.0       | 8.7  | 4.1       | 0.1       |

### 23<sup>rd</sup> November 2015

| Sample No. | Temp. (°C) | рН   | Sal (ppt) | DO (mg/L) |
|------------|------------|------|-----------|-----------|
| 1          | 29.6       | 6.43 | 0.16      | 5.33      |
| 2          | 29.2       | 6.73 | 0.14      | 5.25      |
| 3          | 29.3       | 7.06 | 0.14      | 5.29      |
| Mean       | 29.37      | 6.74 | 0.15      | 5.29      |



Plate 1
The Grebe Pond.



Plate 2

Apple Snails and their egg masses were observed along pond.



Plate 3

The path along the western side of the Pond from unauthorised access has recovered.



### December 2015

# OPERATIONAL PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

2015-12

(Issue 1)

December 2015

|              | Name                         | Signature |
|--------------|------------------------------|-----------|
| Prepared by: | Philip TANG                  | hilipang. |
| Reviewed by: | David STANTON                | J. Wale   |
| Date:        | 4 <sup>th</sup> January 2016 |           |

Job Ref.: 09/319/177 LCA-NIMW



### **CONTRACT EP/SP/58/08 SLUDGE TREATMENT FACILITIES**

### OPERATIONAL PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

### 2015-12

#### 1 INTRODUCTION

- 1.1.1 Following the completion of construction of the Sludge treatment Facilities in July 2015 Option 2 Item D1.2 of the AEC Consultant Agreement, that is inspection and advice on management after pond construction during the construction phase has now been completed.
- 1.1.2 The 12 months establishment phase monitoring (October 2014 October 2015) has been completed. The operational phase commenced in November 2015.
- 1.1.3 This report details the findings of the operational phase ecological monitoring of grebe pond in accordance with the approved Habitat Creation and Management Plan (HCMP) following PO# HKSTF-VWVE-Q-PO-15-093 issued 20th March 2015.
- 1.1.4 This report covers the monitoring and proposed management activities of the establishment phase of the Grebe Pond (hereafter known as 'Pond').

#### 2 SITE INSPECTION

- 2.1.1 The first inspection with the representatives from VLJH, VW-VES, Site Contractor and the IC (Mott MacDonald) was carried out on 6<sup>th</sup> October 2014. The finalised Inspection Record summarising the comments from AEC Ltd. and IC was issued in early November 2014.
- 2.1.2 The following recommendations on the management and maintenance works are issued to VLJH by AEC Ltd. on 4<sup>th</sup> January 2016. **Table 1** summarises the observations and recommended management work required in the Pond as inspected during the site inspection on 29<sup>th</sup> December 2015.

**Table 1** Summary of the required management activities in land parcels.

|                            | Management Activities Required  | Action   |
|----------------------------|---|--|
| Minor<br>remedial<br>work: | <ul> <li>No fish or fry were observed in the Pond (Plate 1).</li> <li>Apple Snails and egg masses (Plate 2) were observed along the pond edge and on the emergent plants in the wetland.</li> <li>The Landscape Contractor should remove all snails and destroy egg masses during their routine maintenance work in the Pond. At least weekly removal of Apple Snails is recommended.</li> <li>As a routine maintenance practice, the landscape contractor should remove the unwanted climbers (Mikania micrantha and Acacia concinna) and the self-seeded small tree Tamarix chinensis. All vegetation should be disposed away from the Grebe Pond.</li> </ul> | <ul> <li>NA</li> <li>Contractor</li> <li>Contractor</li> <li>Contractor</li> </ul> |
| Minor<br>Comments:         | <ul> <li>Less rubbish was noted in the Pond area. The         Contractor should continue to remove the rubbish         during the routine maintenance work.</li> <li>The path developed along the western side of the Pond         from unauthorised access has been recovered (Plate 3).</li> </ul>  | Contractor     Contractor  |



|                             | <ul> <li>General access should continue to be restricted in this area to minimise the level of disturbance to the Pond.</li> <li>A permanent fence has been put in place to restrict general access (Plate 4)</li> </ul>   | • NA                           |
|-----------------------------|--|--------------------------------|
| Water<br>quality<br>checks: | <ul> <li>Water quality checks will normally form part of the<br/>Operational Phase monitoring of the Grebe Pond as per<br/>Section 8, Table 7 of the Habitat Creation and<br/>Management Plan. Summarised water quality results<br/>are shown in Table 2 below.</li> </ul> | • NA                           |
|                             | <ul> <li>The water level of the pond is currently two bars lower<br/>than the +5.6mPD level, pumping is required to fill the<br/>Pond.</li> </ul>  | <ul> <li>Contractor</li> </ul> |
|                             | <ul> <li>As a reminder, only freshwater can be pumped into the<br/>Grebe Pond. The contractor should regularly check the<br/>salinity level of the pumped water and avoid pumping<br/>water with high salinity level.</li> </ul>   | <ul> <li>Contractor</li> </ul> |
| Avifauna                    | No waterbirds were recorded in December 2015 within  | • NA                           |
| monitoring                  | <ul> <li>the Pond area.</li> <li>Crested Myna Acridotheres cristatellus, Eurasian Tree         Sparrow Passer montanus, Barn Swallow Hirundo         rustica and White Wagtail Motacilla alba were         recorded in close proximity to the Pond.</li> </ul>             | • NA                           |
|                             | <ul> <li>As a reminder, access points to the Pond should remain<br/>locked, as numbers and diversity of bird species are<br/>unlikely to increase if access to the Pond is opened.<br/>Human presence should only be for<br/>management/monitoring purposes.</li> </ul>    | V⊔H/Contractor                 |

**Table 2.** Water quality data for December 2015, Grebe Pond, Nim Wan Sludge Treatment Facilities.

| Sample No. | Temp. (°C) | рН   | Sal (ppt) | DO (mg/L) |
|------------|------------|------|-----------|-----------|
| 1          | 19.78      | 7.19 | 0.14      | 9.96      |
| 2          | 20.4       | 6.97 | 0.14      | 10.04     |
| 3          | 20.58      | 7.04 | 0.14      | 10.28     |
| Mean       | 20.25      | 7.07 | 0.14      | 10.06     |



Plate 1
The Grebe Pond.



Plate 2

Apple Snails and their egg masses were observed along pond.



Plate 3

The path along the western side of the Pond from unauthorised access has recovered.



Plate 4A permanent fence has been installed to restrict general access to the Pond.



# January 2016

# OPERATIONAL PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

2016-01

(Issue 1)

January 2016

|              | Name                          | Signature |
|--------------|-------------------------------|-----------|
| Prepared by: | Philip TANG                   | Military. |
| Reviewed by: | Ida YU                        | Eda Yh    |
| Date:        | 29 <sup>th</sup> January 2016 |           |



# OPERATIONAL PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

#### 2016-01

#### 1 INTRODUCTION

- 1.1.1 Following the completion of construction of the Sludge treatment Facilities in July 2015 Option 2 Item D1.2 of the AEC Consultant Agreement, that is inspection and advice on management after pond construction during the construction phase has now been completed.
- 1.1.2 The 12 months establishment phase monitoring (October 2014 October 2015) has been completed. The operational phase commenced in November 2015.
- 1.1.3 This report details the findings of the operational phase ecological monitoring of grebe pond in accordance with the approved Habitat Creation and Management Plan (HCMP) following PO# HKSTF-VWVE-Q-PO-15-093 issued 20th March 2015.
- 1.1.4 This report covers the monitoring and proposed management activities of the establishment phase of the Grebe Pond (hereafter known as 'Pond').

#### 2 SITE INSPECTION

- 2.1.1 The first inspection with the representatives from VLJH, VW-VES, Site Contractor and the IC (Mott MacDonald) was carried out on 6<sup>th</sup> October 2014. The finalised Inspection Record summarising the comments from AEC Ltd. and IC was issued in early November 2014.
- 2.1.2 The following recommendations on the management and maintenance works are issued to VLJH by AEC Ltd. on 29<sup>th</sup> January 2016. **Table 1** summarises the observations and recommended management work required in the Pond as inspected during the site inspection on 27<sup>th</sup> January 2016.

**Table 1** Summary of the required management activities in land parcels.

|                            | Management Activities Required  | Action            |
|----------------------------|---|-------------------|
| Minor<br>remedial<br>work: | <ul> <li>No fish or fry were observed in the Pond (Plate 1).</li> <li>The Landscape Contractor should remove all snails and destroy egg masses during their routine maintenance work in the Pond. At least weekly removal of Apple</li> </ul> | NA     Contractor |
|                            | Snails is recommended.  • As a routine maintenance practice, the landscape  | Contractor        |
|                            | contractor should remove the unwanted climbers ( <i>Mikania micrantha</i> and <i>Acacia concinna</i> ) and the self-seeded small tree <i>Tamarix chinensis</i> . All vegetation should be disposed away from the Grebe Pond.                  |                   |



|                             | <ul> <li>Around ten Red Imported Fire Ant (RIFA) nests were<br/>observed around the Grebe pond and at the trees<br/>(Plate 2). Any RIFA nest observed on site should be<br/>treated with pesticide as soon as possible to prevent<br/>further spreading.</li> </ul>   | • Contractor   |
|-----------------------------|---|--|
| Minor<br>Comments:          | <ul> <li>Rubbish was noted in the Pond area (Plate 3). The<br/>Contractor should remove the rubbish during the<br/>routine maintenance work.</li> </ul>   | Contractor   |
| Water<br>quality<br>checks: | <ul> <li>Water quality checks will normally form part of the Operational Phase monitoring of the Grebe Pond as per Section 8, Table 7 of the Habitat Creation and Management Plan. Summarised water quality results are shown in Table 2 below.</li> <li>The water level of the pond is currently at the +5.6mPD level, no water level adjustment is required.</li> <li>As a reminder, only freshwater can be pumped into the Grebe Pond. The contractor should regularly check the salinity level of the pumped water and avoid pumping water with high salinity level.</li> </ul> | <ul><li>NA</li><li>Contractor</li><li>Contractor</li></ul> |
| Avifauna<br>monitoring      | <ul> <li>No waterbirds were recorded in January 2016 within the Pond area.</li> <li>Crested Myna Acridotheres cristatellus, Eurasian Tree Sparrow Passer montanus, Barn Swallow Hirundo rustica and White Wagtail Motacilla alba were recorded in close proximity to the Pond.</li> <li>As a reminder, access points to the Pond should remain locked, as numbers and diversity of bird species are</li> </ul>  | <ul><li>NA</li><li>NA</li><li>VLJH/Contractor</li></ul>    |
|                             | unlikely to increase if access to the Pond is opened. Human presence should only be for management/monitoring purposes.   |  |

**Table 2.** Water quality data for January 2016, Grebe Pond, Nim Wan Sludge Treatment Facilities.

| Sample No. | Temp. (°C) | рН   | Sal (ppt) | DO (mg/L) |
|------------|------------|------|-----------|-----------|
| 1          | 11.94      | 7.74 | 0.13      | 6.16      |
| 2          | 11.78      | 7.32 | 0.13      | 6.75      |
| 3          | 11.81      | 7.14 | 0.13      | 6.47      |
| Mean       | 11.84      | 7.4  | 0.13      | 6.46      |



Plate 1
The Grebe Pond.



Plate 2
Red Imported Fire Ant (RIFA) nests were observed around the Little Grebe pond.





Plate 3
Rubbish was noted near the northwestern corner of the Pond.



# February 2016

# OPERATIONAL PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

2016-02

(Issue 1)

February 2016

|              | Name                           | Signature |
|--------------|--------------------------------|-----------|
| Prepared by: | Philip TANG                    | hili kung |
| Reviewed by: | David STANTON                  | o Black   |
| Date:        | 26 <sup>th</sup> February 2016 |           |

# OPERATIONAL PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

#### 2016-02

#### 1 INTRODUCTION

- 1.1.1 Following the completion of construction of the Sludge treatment Facilities in July 2015 Option 2 Item D1.2 of the AEC Consultant Agreement, that is inspection and advice on management after pond construction during the construction phase has now been completed.
- 1.1.2 The 12 months establishment phase monitoring (October 2014 October 2015) has been completed. The operational phase commenced in November 2015.
- 1.1.3 This report details the findings of the operational phase ecological monitoring of grebe pond in accordance with the approved Habitat Creation and Management Plan (HCMP) following PO# HKSTF-VWVE-Q-PO-15-093 issued 20th March 2015.
- 1.1.4 This report covers the monitoring and proposed management activities of the establishment phase of the Grebe Pond (hereafter known as 'Pond').

#### 2 SITE INSPECTION

- 2.1.1 The first inspection with the representatives from VLJH, VW-VES, Site Contractor and the IC (Mott MacDonald) was carried out on 6<sup>th</sup> October 2014. The finalised Inspection Record summarising the comments from AEC Ltd. and IC was issued in early November 2014.
- 2.1.2 The following recommendations on the management and maintenance works are issued to VLJH by AEC Ltd. on 26<sup>th</sup> February 2016. **Table 1** summarises the observations and recommended management work required in the Pond as inspected during the site inspection on 23<sup>rd</sup> February 2016.

**Table 1** Summary of the required management activities in land parcels.

|                   | Management Activities Required   | Action     |
|-------------------|--|------------|
| Minor             | No fish or fry were observed in the Pond (Plate 1).  | • NA       |
| remedial<br>work: | <ul> <li>The Landscape Contractor should remove all snails and<br/>destroy egg masses during their routine maintenance<br/>work in the Pond. At least weekly removal of Apple<br/>Snails is recommended.</li> </ul>  | Contractor |
|                   | <ul> <li>As a routine maintenance practice, the landscape<br/>contractor should remove the unwanted climbers<br/>(Mikania micrantha and Acacia concinna) and the self-<br/>seeded small tree Tamarix chinensis. All vegetation<br/>should be disposed away from the Grebe Pond.</li> </ul> | Contractor |
|                   | A few Red Imported Fire Ant (RIFA) nests were observed around the Grebe pond and at the trees (Plate 2). Any RIFA nest observed on site should be  | Contractor |



| Minor<br>Comments:    | <ul> <li>treated with pesticide as soon as possible to prevent further spreading.</li> <li>Less rubbish was noted in the Pond area. The Contractor should continue to remove the rubbish during the routine maintenance work.</li> </ul>  | Contractor   |
|-----------------------|---|--|
| Water quality checks: | <ul> <li>Water quality checks will normally form part of the Operational Phase monitoring of the Grebe Pond as per Section 8, Table 7 of the Habitat Creation and Management Plan. Summarised water quality results are shown in Table 2 below.</li> <li>The water level of the pond is approximately at the +5.6mPD level, no water level adjustment is required.</li> <li>As a reminder, only freshwater can be pumped into the Grebe Pond. The contractor should regularly check the salinity level of the pumped water and avoid pumping</li> </ul> | <ul><li>NA</li><li>Contractor</li><li>Contractor</li></ul> |
| Avifauna              | <ul> <li>water with high salinity level.</li> <li>No waterbirds were recorded in February 2016 within<br/>the Pond area.</li> </ul>   | • NA   |
| monitoring            | <ul> <li>Crested Myna Acridotheres cristatellus, Eurasian Tree<br/>Sparrow Passer montanus, Barn Swallow Hirundo<br/>rustica and Sooty-headed Bulbul Pycnonotus aurigaster<br/>were recorded in close proximity to the Pond.</li> </ul>   | • NA   |
|                       | <ul> <li>As a reminder, access points to the Pond should remain<br/>locked, as numbers and diversity of bird species are<br/>unlikely to increase if access to the Pond is opened.<br/>Human presence should only be for<br/>management/monitoring purposes.</li> </ul>   | V⊔H/Contractor   |

**Table 2.** Water quality data for February 2016, Grebe Pond, Nim Wan Sludge Treatment Facilities.

| Sample No. | Temp. (°C) | рН   | Sal (ppt) | DO (mg/L) |
|------------|------------|------|-----------|-----------|
| 1          | 17.1       | 6.87 | 0.13      | 11.31     |
| 2          | 16.9       | 6.78 | 0.12      | 11.71     |
| 3          | 16.8       | 6.92 | 0.12      | 11.25     |
| Mean       | 16.93      | 6.86 | 0.12      | 11.42     |



Plate 1
The Grebe Pond.

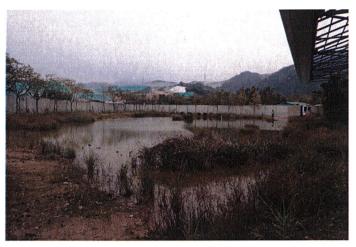


Plate 2
Red Imported Fire Ant (RIFA) nests were observed around the Little Grebe pond.





# March 2016

# OPERATIONAL PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

2016-03

(Issue 1)

March 2016

|              | Name                        | Signature |
|--------------|-----------------------------|-----------|
| Prepared by: | Philip TANG                 | hillang.  |
| Reviewed by: | David STANTON               | · Dala    |
| Date:        | 31 <sup>st</sup> March 2016 |           |

# OPERATIONAL PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

#### 2016-03

#### 1 INTRODUCTION

- 1.1.1 Following the completion of construction of the Sludge treatment Facilities in July 2015 Option 2 Item D1.2 of the AEC Consultant Agreement, that is inspection and advice on management after pond construction during the construction phase has now been completed.
- 1.1.2 The 12 months establishment phase monitoring (October 2014 October 2015) has been completed. The operational phase commenced in November 2015.
- 1.1.3 This report details the findings of the operational phase ecological monitoring of grebe pond in accordance with the approved Habitat Creation and Management Plan (HCMP) following PO# HKSTF-VWVE-Q-PO-15-093 issued 20th March 2015.
- 1.1.4 This report covers the monitoring and proposed management activities of the establishment phase of the Grebe Pond (hereafter known as 'Pond').

### 2 SITE INSPECTION

- 2.1.1 The first inspection with the representatives from VLJH, VW-VES, Site Contractor and the IC (Mott MacDonald) was carried out on 6<sup>th</sup> October 2014. The finalised Inspection Record summarising the comments from AEC Ltd. and IC was issued in early November 2014.
- 2.1.2 The following recommendations on the management and maintenance works are issued to VLJH by AEC Ltd. on 31<sup>st</sup> March 2016. **Table 1** summarises the observations and recommended management work required in the Pond as inspected during the site inspection on 30<sup>th</sup> March 2016.

**Table 1** Summary of the required management activities in land parcels.

|                   | Management Activities Required  | Action       |
|-------------------|---|--------------|
| Minor             | No fish or fry were observed in the Pond (Plate 1).   | • NA         |
| remedial<br>work: | <ul> <li>The Landscape Contractor should remove all snails and<br/>destroy egg masses during their routine maintenance<br/>work in the Pond. At least weekly removal of Apple<br/>Snails is recommended.</li> </ul>                       | Contractor   |
|                   | <ul> <li>As a routine maintenance practice, the landscape<br/>contractor should remove the unwanted climbers<br/>(Mikania micrantha and Acacia concinna) and the self-<br/>seeded small tree Tamarix chinensis. All vegetation</li> </ul> | • Contractor |
|                   | <ul> <li>should be disposed away from the Grebe Pond.</li> <li>A few Red Imported Fire Ant (RIFA) nests were</li> </ul>   | Contractor   |
|                   | observed around the Grebe pond and at the trees ( <b>Plate 2</b> ). Any RIFA nest observed on site should be  |              |



| treated with pesticide as soon as possible to prevent further spreading.   |   |
|--|---|
| <ul> <li>Less rubbish was noted in the Pond area. The<br/>Contractor should continue to remove the rubbish<br/>during the routine maintenance work.</li> </ul>   | • Contractor  |
| <ul> <li>Water quality checks will normally form part of the<br/>Operational Phase monitoring of the Grebe Pond as per<br/>Section 8, Table 7 of the Habitat Creation and<br/>Management Plan. Summarised water quality results<br/>are shown in Table 2 below.</li> </ul> | • NA  |
| <ul> <li>The water level of the pond is approximately at the +5.6mPD level, no water level adjustment is required.</li> <li>As a reminder, only freshwater can be pumped into the Grebe Pond. The contractor should regularly check the</li> </ul>                         | <ul><li>Contractor</li><li>Contractor</li></ul>   |
| salinity level of the pumped water and avoid pumping water with high salinity level.   |   |
| <ul> <li>One Little Egret Egretta garzetta was recorded in<br/>March 2016 within the Pond area.</li> </ul>   | • NA  |
| <ul> <li>Crested Myna Acridotheres cristatellus, Eurasian Tree<br/>Sparrow Passer montanus, Barn Swallow Hirundo<br/>rustica and Little Bunting Emberiza pusilla were<br/>recorded in close proximity to the Pond.</li> </ul>  | • NA  |
| <ul> <li>As a reminder, access points to the Pond should remain<br/>locked, as numbers and diversity of bird species are<br/>unlikely to increase if access to the Pond is opened.<br/>Human presence should only be for</li> </ul>  | VUH/Contractor  |
|  | <ul> <li>Less rubbish was noted in the Pond area. The Contractor should continue to remove the rubbish during the routine maintenance work.</li> <li>Water quality checks will normally form part of the Operational Phase monitoring of the Grebe Pond as per Section 8, Table 7 of the Habitat Creation and Management Plan. Summarised water quality results are shown in Table 2 below.</li> <li>The water level of the pond is approximately at the +5.6mPD level, no water level adjustment is required.</li> <li>As a reminder, only freshwater can be pumped into the Grebe Pond. The contractor should regularly check the salinity level of the pumped water and avoid pumping water with high salinity level.</li> <li>One Little Egret Egretta garzetta was recorded in March 2016 within the Pond area.</li> <li>Crested Myna Acridotheres cristatellus, Eurasian Tree Sparrow Passer montanus, Barn Swallow Hirundo rustica and Little Bunting Emberiza pusilla were recorded in close proximity to the Pond.</li> <li>As a reminder, access points to the Pond should remain locked, as numbers and diversity of bird species are unlikely to increase if access to the Pond is opened.</li> </ul> |

Table 2. Water quality data for March 2016, Grebe Pond, Nim Wan Sludge Treatment Facilities.

| Sample No. | Temp. (°C) | рН   | Sal (ppt) | DO (mg/L) |
|------------|------------|------|-----------|-----------|
| 1          | 22.9       | 6.27 | 0.1       | 10.22     |
| 2          | 22.8       | 6.25 | 0.09      | 10.08     |
| 3          | 22.8       | 6.28 | 0.09      | 9.66      |
| Mean       | 22.83      | 6.27 | 0.09      | 9.99      |



### Plate 1

The Grebe Pond.



Plate 2
Red Imported Fire Ant (RIFA) nests were observed around the Little Grebe pond.





# **April 2016**

# OPERATIONAL PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

2016-04

(Issue 1)

April 2016

|              | Name                         | Signature |  |
|--------------|------------------------------|-----------|--|
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| Date:        | 25 <sup>th</sup> April, 2016 |           |  |

# OPERATIONAL PHASE ECOLOGICAL MONITORING OF GREBE POND IN ACCORDANCE WITH THE APPROVED HABITAT CREATION AND MANAGEMENT PLAN

#### 2016-04

#### 1 INTRODUCTION

- 1.1.1 Following the completion of construction of the Sludge treatment Facilities in July 2015 Option 2 Item D1.2 of the AEC Consultant Agreement, that is inspection and advice on management after pond construction during the construction phase has now been completed.
- 1.1.2 The 12 months establishment phase monitoring (October 2014 October 2015) has been completed. The operational phase commenced in November 2015.
- 1.1.3 This report details the findings of the operational phase ecological monitoring of grebe pond in accordance with the approved Habitat Creation and Management Plan (HCMP) following PO# HKSTF-VWVE-Q-PO-15-093 issued 20th March 2015.
- 1.1.4 This report covers the monitoring and proposed management activities of the establishment phase of the Grebe Pond (hereafter known as 'Pond').

#### 2 SITE INSPECTION

- 2.1.1 The first inspection with the representatives from VLJH, VW-VES, Site Contractor and the IC (Mott MacDonald) was carried out on 6<sup>th</sup> October 2014. The finalised Inspection Record summarising the comments from AEC Ltd. and IC was issued in early November 2014.
- 2.1.2 The following recommendations on the management and maintenance works are issued to VLJH by AEC Ltd. on 25<sup>th</sup> April 2016. **Table 1** summarises the observations and recommended management work required in the Pond as inspected during the site inspection on 18<sup>th</sup> April 2016.

**Table 1** Summary of the required management activities in land parcels.

|                   | Management Activities Required   | Action       |
|-------------------|--|--------------|
| Minor             | <ul> <li>No fish or fry were observed in the Pond (Plate 1).</li> </ul>  | • NA         |
| remedial<br>work: | The Landscape Contractor should remove all snails and destroy egg masses during their routine maintenance work in the Pond. At least weekly removal of Apple Snails is recommended.                      | Contractor   |
|                   | As a routine maintenance practice, the landscape contractor should remove the unwanted climbers (Mikania micrantha and Acacia concinna) and the self-seeded small tree Tamarix chinensis. All vegetation | • Contractor |
|                   | should be disposed away from the Grebe Pond.  • A few Red Imported Fire Ant (RIFA) nests were  | Contractor   |
|                   | observed around the Grebe pond and at the trees (Plate 2). Any RIFA nest observed on site should be  | 2 Contractor |



| Minor<br>Comments:          | treated with pesticide as soon as possible to prevent further spreading.  The padlock on Pond gate has gone missing (Plate 3). Contractor should replace the padlock as soon as possible.  Less rubbish was noted in the Pond area. The Contractor should continue to remove the rubbish during the routine maintenance work.   | Contractor     Contractor                                  |
|-----------------------------|---|--|
| Water<br>quality<br>checks: | <ul> <li>Water quality checks will normally form part of the Operational Phase monitoring of the Grebe Pond as per Section 8, Table 7 of the Habitat Creation and Management Plan. Summarised water quality results are shown in Table 2 below.</li> <li>The water level of the pond is approximately at the +5.6mPD level, no water level adjustment is required.</li> <li>As a reminder, only freshwater can be pumped into the Grebe Pond. The contractor should regularly check the salinity level of the pumped water and avoid pumping water with high salinity level.</li> </ul> | <ul><li>NA</li><li>Contractor</li><li>Contractor</li></ul> |
| Avifauna<br>monitoring      | <ul> <li>No waterbird was recorded within the Pond area.</li> <li>Crested Myna Acridotheres cristatellus, Eurasian Tree Sparrow Passer montanus and Long-tailed Shrike Lanius schach were recorded in close proximity to the Pond.</li> <li>As a reminder, access points to the Pond should remain locked, as numbers and diversity of bird species are unlikely to increase if access to the Pond is opened. Human presence should only be for management/monitoring purposes.</li> </ul>  | <ul><li>NA</li><li>NA</li><li>VUH/Contractor</li></ul>     |

**Table 2.** Water quality data for April 2016, Grebe Pond, Nim Wan Sludge Treatment Facilities.

| Sample No. | Temp. (°C) | рН   | Sal (ppt) | DO (mg/L) |
|------------|------------|------|-----------|-----------|
| 1          | 28.3       | 7.79 | 0.07      | 8.43      |
| 2          | 28.3       | 8.22 | 0.07      | 9.15      |
| 3          | 28.3       | 8.4  | 0.07      | 9.41      |
| Mean       | 28.30      | 8.14 | 0.07      | 9.00      |



Plate 1

The Grebe Pond.



Plate 2
Red Imported Fire Ant (RIFA) nests were observed around the Little Grebe pond.



Plate 3



