## Action and Limit Levels for Air Quality

| Parameters | Action Level | Limit Level |
|---|---|---|
| 1-hour TSP Level in µg/m$^3$ | [1]For baseline level $\leqslant$ 384 µg/m$^3$, Action level = (baseline level * 1.3 + Limit level)/2;<br><br>For baseline level > 384 µg/m$^3$, Action level = Limit level | 500 µg/m$^3$ |

Notes:
1. The Action Level for 1-hour TSP Level:
a) AM1 = (63*1.3 + 500) / 2 = 291 µg/m$^3$;
b) AM2 = (70*1.3 + 500) / 2 = 296 µg/m$^3$.

## Action and Limit Levels for Construction Noise

| Time Period | Action Level | Limit Level |
|---|---|---|
| 0700 - 1900 hours on normal weekdays | When one documented complaint is received | 75 dB(A) * |

Notes:
1. If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.
2. Correction of +3 dB(A) shall be made to the free field measurements.

## Action and Limit Levels for Water Quality

| Parameters | Action Levels | Limit Levels |
|---|---|---|
| **Construction Phase Water Quality Monitoring** | | |
| DO in mg/L (Surface, Middle & Bottom) [2] | Surface & Middle<br>5%-ile of baseline data for surface and middle layer.<br><br>Bottom<br>5%-ile of baseline data for bottom layer. | Surface & Middle<br>4 mg/L or 1%-ile of baseline data for surface and middle layer.<br><br>Bottom<br>2 mg/L or 1%-ile of baseline data for bottom layer. |
| SS in mg/L (depth-averaged [1]) [3] | 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day | 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day |
| Turbidity in NTU (depth-averaged [1]) [3] | 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day | 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day |

Notes:
1. "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths;
2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits;
3. For SS and turbidity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits

**Action and Limit Levels for Ecology**

Active Ardeid Night Roost Survey

As there are no specific guidelines on noise thresholds for roosting ardeids, the Action and Limit levels specified in below table were based on study conducted on exploring behavioural responses of shorebirds to impulsive noise (Wright et al. 2010).

| Time Period | Action Level | Limit Level |
|---|---|---|
| after 17:30 during dry season<br>after 18:00 during wet season | 65.5 dB(A)[1] | 72.2 dB(A)[2] |

Notes:
1. Behavioural response of some kind more likely to occur
2. Flight with abandonment of the site becomes the most likely outcome of the disturbance

Ecological Monitoring of Birds

| Method | Parameters | Action Level[3] | Limit Level[3] |
|---|---|---|---|
| Transect | Abundance of all avifauna species (including but not only limited to overwintering waterbirds) in the community | Significant decline[1,2] in any of these parameters during the current monitoring month relative to the corresponding month during the baseline survey. | Significant decline in any of these parameters for three consecutive months. |
| | Species diversity of all avifauna species (including but not only limited to overwintering waterbirds) in the community | | |
| | Abundance of species with conservation importance only | | |
| | Species diversity of species with conservation importance only | | |
| Point Count | Abundance of all avifauna species (including but not only limited to overwintering waterbirds) in the community | | |
| | Species diversity of all avifauna species (including but not only limited to overwintering waterbirds) in the community | | |
| | Abundance of species with conservation importance only | | |
| | Species diversity of species with conservation importance only | | |

Notes:
1. Significant decline in abundance will be determined using two-tailed t-test, $\alpha = 0.05$.
2. Significant decline in species diversity will be determined using the Hutcheson t-test, two tailed.
3. Response will be triggered if any of the above level is reached for each parameter