Minutes of the 94th Goa State Expert Appraisal Committee (Goa-SEAC) meeting held on 14th June 2018 at 2.30 p.m. in the Conference Room of the EIA Secretariat, O/o Goa State Pollution Control Board (GSPCB), Patto-Panaji.

The ninety fourth meeting of the Goa-SEAC was held on 14th June 2018 in the Conference room of the GSPCB at 2.30 p.m. under the Chairmanship of Prof. Suhas Godse. The list of members who attended the meeting is at ñ*Annexure – 1*ò.

At the beginning Chairman welcomed the members and requested Secretary, SEAC to proceed as per the Agenda items (*refer Annexure – 2*).

1. Accordingly, a proposal submitted by the **Captain of Ports (COP), Government of Goa,** Panaji on 24th May 2018 seeking Terms of References (ToRôs) for re development of nine coastal jetties at Goa, a detailed presentation was presented by the officials from the Captain of Ports Department. The Committee noted that the project is under 8a (B2) category of EIA Notification 2006.Consolidated statements, Form I and IA , project specific presentation and plans submitted are taken on the record. The Committee after detailed discussion and deliberation decided to conduct site inspection of the proposed re development of jetties prior to issuing Terms of references (TORôs).
2. Representative of M/s Excel Envirotech consultancy, Goa made the project-specific presentation on behalf of PP w.r.t. project proposal seeking environmental clearance (EC) for the proposed construction of building and construction project at chalta No. 98 & 93 Panaji City Goa**"** by **Green land co-operative Society Ltd"** . The project Proposal was discussed on the basis of presentation made and documents submitted by the proponent. All issues related to environment including air, land, soil, ecology and biodiversity and social aspects were discussed. Committee noted that the project is under **8a (B2) category of EIA Notification 2006** *(building & constructions)*.Further documents like Consolidated statements, Form I and IA, project specific presentation and plans submitted are taken on the record. Brief extract of the project details submitted by Project Proponent is as below:

Sr.No.	Description	Details
1	Name & location of the project	Re-Development of existing residential complex by Greenland Co-Operative Housing Society Ltd. Location: P.T.Sheet no.78,Chalta no.98 &P.T.Sheet no.78,chalta no.93 of Panaji City Latitude: 15.492671° Longitude: 73.818901°
2	Plot Area	5208.25 m2
3	Net plot Area	4433.30 m2
4	FSI Area Non-FSI Area Total construction Area Building configuration & Height of the building	FSI Area: 12985.47 m2 Non FSI Area: 10,009.15 m2 Total Built up Area: 22994.62 m2 Building Configuration: 99 flats ï 3 BHK Height of Building: Basement + Stilt + 10 floor
5	No. of shops	Nil
6	Total water requirement (Construction/operation phase)	Construction phase: 32.47KLD Operation phase: 44.83KLD
7	Sewage generation	**Construction phase:**Sewage generation: 2.2KLD **Operation phase:** Grey water: 36 KLD (Treated in Grey Water Treatment Plant of capacity 40 KLD). (Total water available for re-use ï 32 KLD, Reuse: Flushing- 22 KLD; Gardening ï 6 KLD; Other utilities ï 4 KLD) Black water/Sewage generation: 26.83 KLD (Will be connected to sewerage line of Panaji City)
8	STP Capacity/Grey water treatment plant capacity	40 KLD
9	Total Solid Waste Quantities	**Construction phase:** A) Debris from demolition of existing buildings: 4,000 m3 B) Debris from excavation, foundation work of proposed buildings: 5000 m3 **Operation phase:** Total Solid Waste: 247.5 Kg/day
10	RG Area	650 m2

11	No. of trees	Existing: 24 nos.
12	Energy Efficiency	Solar water heaters, LED lights, Solar lights, Solar PV Panels
13	Parking 4 W and 2W	140 nos. of car parking space (considering visitors parking)
14	Power requirement	1152.05 KW
15	D.G set Capacity	82.5 KVA
16	RWH tank capacity	Nil
17	EMP cost (including DMP cost)	2 Cr
18	No. of trees to be cut	13 nos.
19	No. of tress to be planted on site	53 nos.
23	CRZ status	Not applicable

However, based on inspection held on 05th May 2018 and subsequent to the project specific presentation, Committee sought compliance with regard to the following:

1. Project proponent has to submit detailed revised traffic management plan showing vehicle movement during peak hour.
2. Identification of 53 nos. of tress locality
3. Project Proponent has to submit provision for construction and demolition waste along with detailed Debris Management plan.
4. PP has to submit Disaster Management plan/storm water Management plan.
5. PP has to submit details on proposed initiative in cleaning and maintenance of nallah/creek adjacent to the proposed project.
6. Project Proponent (PP) should necessarily make appropriate provision while constructing the roof-tops at the time of construction stage only to enable installation of solar panels towards south facing walls as and when made applicable in future.
7. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system should be done.
8. Submit dust control measures during construction and demolition.
9. Details on emergency and fire safety during construction and post construction.
10. Proposed Safety and health of workers during construction.
11. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the building plan.

3. Representative of M/s Excel Envirotech consultancy, Goa made the project-specific presentation on behalf of PP w.r.t. project proposal seeking environmental clearance (EC) for proposed construction of residential and commercial project at Sy. no. 13/1-C Panelim, Tiswadi Goa by **M/s Naiknavare Constructions** The project Proposal was discussed on the basis of presentation made and documents submitted by the proponent. All issues related to

environment including air, land, soil, ecology and biodiversity and social aspects were discussed. Committee noted that the project is under **8a (B2) category of EIA Notification 2006** *(building & constructions)*.Further documents like Consolidated statements, Form I and IA, project specific presentation and plans submitted by the Project Proponent are taken on the Proponent is as below:

<table>
<tr><th>Sr.No.</th><th>Description</th><th>Details</th></tr>
<tr><td>1</td><td>Name & location of the project</td><td>Construction of Residential & Commercial project by Naiknavare Constructions Pvt. Ltd.

Location: Survey no.13/1-C of Panelim Village, Tiswadi Taluka, Goa
Latitude: 15.492196°
Longitude: 73.894333°</td></tr>
<tr><td>2</td><td>Plot Area</td><td>1,13,468.00 m2</td></tr>
<tr><td>3</td><td>Net plot Area</td><td>1,01,139.00 m2</td></tr>
<tr><td>4</td><td>FSI Area
Non-FSI Area
Total construction Area
Building configuration & Height of the building</td><td>FSI Area: 72579.56 m2
Non FSI Area: 17330.44m2
Total Built up Area: 89910.00 m2
Building Configuration:
<table>
<tr><th></th><th>Building</th><th>Type</th><th>Nos.</th><th>Building Height</th></tr>
<tr><td rowspan="2">Phase 1</td><td>Row Houses</td><td>3 BHK</td><td>177</td><td>6.5m</td></tr>
<tr><td>Studios Apartments</td><td>1 BHK</td><td>384</td><td>14.35m</td></tr>
<tr><td rowspan="4">Phase 2 & 3</td><td>1BHK Flats</td><td>1 BHK</td><td>448</td><td>14.85m</td></tr>
<tr><td colspan="4"></td></tr>
<tr><td>Studios</td><td>1HK</td><td>90</td><td>14.35m</td></tr>
<tr><td>Offices</td><td>77.95Sqm</td><td>160</td><td>12.5m</td></tr>
<tr><td>Shops</td><td>173.2sqm</td><td>40</td><td>12.5m</td></tr>
</table>
Note: Shops and offices are in the same building which is of 12.5m height.</td></tr>
<tr><td>5</td><td>No. of shops</td><td>160 nos.</td></tr>
<tr><td>6</td><td>Total water requirement (Construction/operation phase)</td><td>Construction phase: 40.4KLD
Operation phase: 338.43KLD</td></tr>
<tr><td>7</td><td>Sewage generation</td><td>Construction phase:Sewage generation: 4KLD

Operation phase:
Phase 1: Sewage generation -119.48 KLD (Treated in STP of capacity 130 KLD)

Phase 2 & 3:
Grey water: 202.824 KLD (Treated in Grey Water Treatment Plant of capacity 220 KLD).

Black water/Sewage generation: 139.131 KLD (Treated in STP of capacity 150 KLD)</td></tr>
</table>

8	STP Capacity/Grey water treatment plant capacity	Phase 1: STP of capacity 130 KLD Phase 2 & 3: Grey Water Treatment Plant of capacity 220 KLD and STP of capacity 150 KLD
9	Total Solid Waste Quantities	**Construction phase:** Total Solid Waste: 40 Kg/day **Operation phase:** Total Solid Waste: 2113Kg/day
10	RG Area	18,093.00 m2
11	No. of trees	Existing: 563 nos.
12	Energy Efficiency	Solar water heaters, LED lights, Solar lights, Solar PV Panels
13	Parking 4 W and 2W	1753 nos. of car parking space (considering visitors parking)
14	Power requirement	10644.324 KW
15	D.G set Capacity	250 KVA
16	RWH tank capacity	1200 KL (300 KL X 2 nos; 600 KL X 1 no.)
17	EMP cost (including DMP cost)	20 Lakhs
18	No. of trees to be cut	216 nos.
19	No. of tress to be planted on site	749 nos.
23	CRZ status	Not applicable

However, based on inspection held on 05th May 2018 and subsequent to the project specific presentation, Committee sought compliance with regard to the following:

1. Project Proponent (PP) has to submit provision for disposal of construction and demolition waste along with detailed Debris Management plan.
2. PP has to submit Disaster Management plan/storm water Management plan.

3. Project Proponent (PP) should necessarily make appropriate provision while constructing the roof-tops at the time of construction stage only to enable installation of solar panels towards south facing walls as and when made applicable in future.
4. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system should be done.
5. Project proponent has to submit detailed report of biodiversity at site.
6. Proposed facility for workers /labours working at construction site and safety for workers including health cards.
7. Submit dust control measures during construction and demolition.
8. Details on emergency and fire safety during construction and post construction.
9. PP has to provide report of facilities provided to workers /labourers at construction site and safety provisions, including health cards.

4. **Representative from Mormugao Port Trust (MPT)** presented a brief project specific presentation for requesting terms of reference for EIA for handling of cargo at mooring dolphins No. 4, 5 and 6 at MPT, Goa. The project Proposal was discussed on the basis of presentation made and documents submitted by the proponent. All issues related to environment including water, air, ecology and biodiversity and social aspects were discussed. Further documents like Consolidated statements, Form I and IA, project specific presentation

and plans submitted are taken on the record. However, based on inspection held on 29th May 2018 and subsequent to the project specific presentation, Committee decided to seek following compliances :

1. Detailed biodiversity study report carried out by Authorised agency of the proposed site.
2. Air quality modelling study at the proposed site.
3. Comparison of air quality pre closure of SWPL and mooring dolphin and post closure at fuse call centre at MPT and Sada junction.

5. With regards to the project specific compliances submitted by **M/s Naik navare "Esmeralda"** at **survey No. 14/1-B, 15/1-B at Panelim, Goa**. The Committee perused the said compliance report submitted by project proponent and after detailed discussions and deliberations, the Committee decided to recommend the proposal to the Authority for the grant of prior environmental clearance (EC) with <u>following specific conditions</u>.

i. PP should prioritize the issues related to health and hygiene in complying with the matters related to waste disposal and treatment / air and water pollution / waste-water management.

ii. PP needs to ensure that no treated water or any waste sewage shall be discharged into any water body.

iii. E-waste shall be disposed through Authorised vendor as per E-waste (*Management and Handling*) Rules, 2011.

iv. Project Proponent (PP) should necessarily make appropriate provision while constructing the roof-tops at the time of construction stage only to enable installation of solar panels towards south facing walls as and when made applicable in future.

v. The Project Proponent shall utilise fly ash bricks in masonry works.

vi. The PP shall use construction debris for land filling wherever applicable.

vii. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.

viii. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.

ix. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the building plan.

x. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning, etc. shall be done.

xi. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.

xii. Solar based electric power shall be provided to each unit for at least two bulbs/light and one fan. As proposed, central lighting and street lighting shall also be based on solar power.

xiii. The project proponent will provide landscape bed of 600mm wide X 600mm deep along the periphery of the plot to carry out plantation of trees. The treated water from the sewage treatment plant will be pumped through high flow drips on these beds to prevent outflow of treated sewage water outside the premises.

xiv. PP shall make provision for charging points for electronic vehicles in the parking area.

xv. PP should implement Dust mitigation measures for construction activities such as:

a. Roads leading to or at construction sites must be paved and blacktopped (i.e. metallic roads).
b. No excavation of soil shall be carried out without adequate dust mitigation measures in place.
c. No loose soil or sand or Construction & Demolition Waste or any other construction material that causes dust shall be left uncovered.
d. Wind-breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided.
e. Water sprinkling system shall be put in place.
f. Dust mitigation measures shall be displayed prominently at the construction site for easy public viewing.
g. New serial number ó107ô has been inserted which relates to Mandatory Implementation of Dust Mitigation Measures for all Construction and Demolition Activities:
h. Grinding and cutting of building materials in open area shall be prohibited.
i. Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.
j. No uncovered vehicles carrying construction material and waste shall be permitted.
k. Construction and Demolition Waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site.

6. With regards to the project specific compliances submitted by ñ**MANGLAM CASA AMORA"** Proposed Group Housing and Commercial Project at Survey No. 20/3-A, Village Bainguinim, Taluka Tiswadi, Goa of **M/s. Manglam Build Developers Ltd.** Committee perused compliance report submitted by project proponent and after detailed discussions and deliberations, the Committee decided to recommend the proposal to the Authority for the grant of prior environmental clearance (EC) with <u>following specific conditions</u>.

i. The project proponent should give undertaking and inform the occupants that no government waste management site will come to nearby area of your project siteò

ii. Project Proponent should refer the proposed drainage plan to the Water Resources Department (WRD) for their examination and recommendations.

iii. PP should prioritize the issues related to health and hygiene in complying with the matters related to waste disposal and treatment / air and water pollution / waste-water management.

iv. PP needs to ensure that no treated water or any waste sewage shall be discharged into any water body.

v. E-waste shall be disposed through Authorised vendor as per E-waste (*Management and Handling*) Rules, 2011.

vi. Project Proponent (PP) should necessarily make appropriate provision while constructing the roof-tops at the time of construction stage only to enable installation of solar panels towards south facing walls as and when made applicable in future.

vii. The Project Proponent shall utilise fly ash bricks in masonry works.

viii. The PP shall use construction debris for land filling wherever applicable.

ix. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.

x. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.

xi. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the building plan.

xii. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning, etc. shall be done.

xiii. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.

xiv. Solar based electric power shall be provided to each unit for at least two bulbs/light and one fan. As proposed, central lighting and street lighting shall also be based on solar power.

xv. The project proponent will provide landscape bed of 600mm wide X 600mm deep along the periphery of the plot to carry out plantation of trees. The treated water from the sewage treatment plant will be pumped through high flow drips on these beds to prevent outflow of treated sewage water outside the premises.

xvi. PP shall make provision for charging points for electronic vehicles in the parking area.

xvii. PP should implement Dust mitigation measures for construction activities such as:

- **a.** Roads leading to or at construction sites must be paved and blacktopped (i.e. metallic roads).
- **b.** No excavation of soil shall be carried out without adequate dust mitigation measures in place.
- **c.** No loose soil or sand or Construction & Demolition Waste or any other construction material that causes dust shall be left uncovered.
- **d.** Wind-breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided.
- **e.** Water sprinkling system shall be put in place.
- **f.** Dust mitigation measures shall be displayed prominently at the construction site for easy public viewing.
- **g.** New serial number ó107ô has been inserted which relates to Mandatory Implementation of Dust Mitigation Measures for all Construction and Demolition Activities:
- **h.** Grinding and cutting of building materials in open area shall be prohibited.

i. Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.

j. No uncovered vehicles carrying construction material and waste shall be permitted.

k. Construction and Demolition Waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site.

The meeting ended with vote of thanks to the Chair.

Dr. Purushotam Pednekar _____*Sd/-*_____

Dr. Nitin Sawant _____*Sd/-*_____

Sd/-
Shri. Sanjeev Joglekar)
(Secretary Goa-SEAC)

Sd/-
Shri. Suhas Godse
(Chairman Goa-SEAC)

Place: Patto, Panaji
Date: June 2018

ANNEXURE – I

List of members who attended the 94th Goa –SEAC meeting held on 14th June 2018

1. Shri. Suhas Godse, Taleigao - *Chairman (Goa-SEAC)*
2. Dr. Purushotam Pednekar, Mapusa - *Member (Goa-SEAC)*
3 .Dr. Nitin Sawant - *Member (Goa-SEAC*
4. Shri. Sanjeev Joglekar, Panaji - *Secretary (Goa-SEAC)*