Administrative building for Pimpri Chinchwad New Town Development Authority

<table>
<thead>
<tr>
<th><strong>Location</strong></th>
<th>Akurdi, Pune</th>
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</thead>
<tbody>
<tr>
<td><strong>Site Area</strong></td>
<td>20344 sqm</td>
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<tr>
<td><strong>Built-up Area</strong></td>
<td>10835 sqm</td>
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<tr>
<td><strong>Air-conditioned Area</strong></td>
<td>607 sqm</td>
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<tr>
<td><strong>Non Air-conditioned Area</strong></td>
<td>10228 sqm</td>
</tr>
<tr>
<td><strong>Energy consumption reduction</strong></td>
<td>46% from GRIHA benchmark</td>
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<tr>
<td><strong>Water consumption reduction</strong></td>
<td>71.30% from GRIHA benchmark</td>
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<tr>
<td><strong>EPI</strong></td>
<td>17 kWh/sqm/year</td>
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<tr>
<td><strong>Occupancy hours</strong></td>
<td>8 hours</td>
</tr>
<tr>
<td><strong>Renewable energy installed on site</strong></td>
<td>100kWP</td>
</tr>
<tr>
<td><strong>GRIHA rating</strong></td>
<td>5 Stars</td>
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The following strategies were adopted to reduce the impact of the proposed building on natural environment:

**Sustainable Site Planning:**
- Barricading of the site to prevent air pollution.
- Existing trees are preserved and 247 trees of native and naturalized species are planted.
- Top soil is preserved and protected for later use.
- Minimum damage to the existing topography of the site.
- Natural contours of site are retained, creating stilt parking on the lower level, avoiding construction of basement.
- Net paved area is 17.20% of total site area and perviousness percentage of site is 56.46%.

**Reduction in water consumption (compared to GRIHA benchmark):**
- Reduction in building water consumption by use of low-flow fixtures: 71.30%.
- 56.34% reduction in landscape water consumption by using native species and efficient irrigation systems.
- Capacity of Sewage treatment plant installed on site is 50 kl/day.
- 50.11% of annual water demand is met by reusing treated wastewater for flushing and landscaping.

**Reduction in energy consumption (compared to GRIHA benchmark) while maintaining occupant comfort:**
- 46% reduction in annual energy consumption as compared to a conventional building.
- 63.2% of the total area is day-lighted.
- External shading and efficient glazing systems to reduce solar heat gain and glare-free day-light.
- ECBC compliant energy efficient artificial lighting system.
- ECBC Compliant envelope to reduce space conditioning loads.

**Renewable energy technologies installed on site:**
- Total installed rated capacity of renewable energy system is 100kWp. The annual power generated by the system is 156670 kWh.
- 82% of annual energy requirement for space conditioning and indoor artificial lighting met by solar energy.

**Use of low-energy/green materials:**
- 74% of total quantity of material used for subassembly, internal partitions, false ceiling and in built furniture is low energy material having recycled content.
- 62% of total flooring used is low energy material.
- Project has used flush doors and granite doorframes in order to reduce usage of hard wood in interiors.

**Integrated Design Team:**
- **Client**: Pimpri Chinchwad New Town development Authority
- **Architect**: Landmark Design Group, Pune
- **HVAC System**: Federal Consultant, Pune
- **Electrical Consultant**: Federal Consultant, Pune
- **Interiors**: Landmark Design Group, Pune
- **GRIHA Rating Consultant**: The Energy and Resources Institute, New Delhi