

Carbon Accounting Foot Print for all Section (i.e. Part 1 to 6) is required for Platinum project

ASSESSMENT CRITERIA		PTS	PREQUI-SITIES	
Maximum Cap of 50 points can be scored	Minimum 20 points to be scored	<b>Concept Brief (Prerequisite)</b>		
		<b>Approved Drawings (Prerequisite)</b>		
		<b>Part 1 - Material Resource</b>		
		1-1 Use recycled content material, salvaged and Environmentally Friendly Material	18	
		1-2 3R Management Plan	2	
		<b>Sub-total (Part 1)</b>	<b>20</b>	
		<b>Part 2 - Water Efficiency</b>		
		2-1 Irrigation System	4	
		2-2 Use of Water Efficient Fittings:	2	
		2-3 Storm-Water Management	12	
		<b>Sub-total (Part 2)</b>	<b>18</b>	<b>6</b>
		<b>Part 3 – Energy Efficiency</b>		
		3-1 Active Energy Systems	4	
		3-2 Passive Energy System:	7	
3-3 Electrical Sub Metering	1			
<b>Sub-total (Part 3)</b>	<b>12</b>	<b>6</b>		
Maximum Cap of 50 points can be scored ( <i>green Innovation not included</i> )	Minimum 30 points to be scored	<b>Part 4 - Greenery and Urban Ecology</b>		
		4-1 Conservation	15	
		4-2 Green Vs Grey	1	
		4-3 Greenery Provision	2	
		4.4 Native vs. Exotic	2	
		4-5 Biodiversity Enhancement (Wildlife species enhancement)	2	
		<b>Sub-total (Part 4)</b>	<b>22</b>	
		<b>Part 5 - Design For Ease Of Maintenance &amp; Accessibility</b>		
		5-1 Maintenance Accessibility	5	
		5-2 User's Accessibility	4	
		5-3 Amenities Cater for Profile of Demographic Design and Environmental Awareness	3	
		<b>Sub-total (Part 5)</b>	<b>12</b>	
		<b>Part 6 - Parks Development &amp; Construction Mgt</b>		
		6-1 Waste and Material Resource Management	4	
		6-2 Water Efficiency Management	3	
		6-3 Energy Efficiency Management	3	
		6-4 Environmental Sustainability Measure	3	
		6-5 Site Operation Management	3	
		<b>Subtotal (Part 6)</b>	<b>16</b>	<b>8</b>
<b>Part 7 - Other Green Initiatives</b>				
7-1 Green Initiative with positive Environmental Impact	10			
7-2 Renewable / Clean Energy	10			
<b>Subtotal (Part 7)</b>	<b>20</b>			
<b>GRAND TOTAL</b>		<b>120</b>		

PART 1 -MATERIAL RESOURCE	POINTS AVAILABLE	POINTS AWARDED	ASSESSORS' JUSTIFICATION
<p>1-1 Use recycled content material or salvaged material (to complete table provided Annex A)</p> <p>(a) Use of materials with more than 30% recycled content</p> <p>(b) Use of environmental friendly products</p> <ul style="list-style-type: none"> <li>• Use of environmental friendly products that are certified by Singapore Green Labeling Scheme (SGLS) or other equivalent certification members under Global Ecolabelling Network (GEN).</li> <li>• Use of products that are certified by other certification bodies outside GEN need to provide detailed criteria, which should be as stringent as SGLS.</li> </ul>	<p>Section 1 Capped at 20pts</p> <p>1pts for each material with extent of usage with less than 10% of applicable usage</p> <p>2pts for each material with extent of usage between 10% to 50% of applicable usage (eg 40% of park's walkway are made of recycled concrete)</p> <p>4pts for each material with extent of usage equal to or more than 50% of applicable usage</p> <p>1pt for each product with less than 10% usage</p> <p>2pts for each product with extent of usage between 10% to 50%</p> <p>3pts for each product with extent of usage equal to or more than 50%</p> <p><i>All materials and products cannot be double scored under 1-1 &amp; 1-2</i></p>		<p>Provide a worksheet identifying materials and products under 1-1 (a) and (b)</p> <p>Specify the extent of usage in terms of percentage on the worksheet for each material &amp; product</p> <p>Highlight on the drawings the location and application of each material and product. Specify legend used on the worksheet</p> <p>Certificates of materials and products should be attached and indexed properly on worksheet</p> <p>Provision of evidence (eg pictures &amp; etc) or documents certified by a 3<sup>rd</sup> party certification body</p> <p>The management plan should include but not limited to the following items:  Tender specification  Progress monitoring  Picture record  Provision of storage area for materials that could be recycled or reused</p>

1-2 3R Management Plan Provision of management plan on Reuse, Recycle and Reduce.	2pts		
Part 1 - Waste And Material Resource SUB-TOTAL:	20 POINTS		

PART 2 - WATER MANAGEMENT	POINTS AVAILABLE	POINTS AWARDED	ASSESSORS' JUSTIFICATION
<p>Irrigation</p> <p>2-1 Irrigation System</p> <p>Use of Non-potable water with efficient irrigation system</p> <p>Or</p> <p>Use of Non-potable water with manual irrigation</p> <p>Or</p> <p>Use of potable water with efficient irrigation system</p> <p><i>If different irrigation systems are used in the same park, prorate score according to irrigated area</i></p> <p>Zoning of plants according to water requirements and growth conditions</p> <p>Estimation of potable water saving based on the provided irrigation system</p>	<p><i>Up to 4 Points</i></p> <p>2pts</p> <p>(1.5pts)</p> <p>(0.5pt)</p> <p>1pt</p> <p>1pt &gt;= 50% - 1pt</p>		<p>To highlight on landscape drawings the types of irrigation system as indicated in a, b and c.</p> <p>Calculation of landscape area covered by different irrigation system</p> <p>Provision of specifications of the efficient irrigation system where applicable &amp; effluent control of system</p> <p>Provision of rainwater harvesting tank or pond where applicable</p> <p>Provision of NEWater pipe system where applicable</p> <p>Documentation showing the plants requirements on watering quantity and frequency</p> <p>Estimated saving derived from irrigation water demand and non-potable water usage based on the applied irrigation system</p>
<p>2-2 Use of Water Efficient Fittings:</p> <p>Encourage the use of water efficient fittings that are certified under the Water Efficiency Labeling Scheme</p>	<p><i>Up to 2 points</i></p> <p>3 ticks - 2pts 2 ticks - 1 pt</p>		<p>Provision of specifications of water fitting with WELS rating</p> <p>For water fittings not certified by WELS, provision of 3<sup>rd</sup> party certified flow rate</p>

<p>2-3 Stormwater Management</p> <p>(a) Provisions of any of the following to substitute concrete drainage to slow down the flow of stormwater discharge:</p> <ul style="list-style-type: none"> <li>• Rain Gardens</li> <li>• Grass /Vegetated Swales</li> <li>• Natural waterway</li> </ul> <p>(b) Provisions of any of the following ABC Water design features/system with suitable plants species to naturally cleanse stormwater</p> <ul style="list-style-type: none"> <li>• Bioretention swales / other Bioretention systems</li> <li>• Constructed wetlands</li> <li>• Cleansing biotopes</li> </ul> <p>(c) Provision of maintenance plan for any of the proposed design.</p>	<p>Up to 4pts</p> <p>4 pts if more than 20% of total runoff of the catchment areas are conveyed through these features</p> <p>2 pts if 10% to 20% of total runoff of the catchment areas are conveyed through these features</p> <p>Up to 6pts</p> <p>6pts if more than 20% of the total runoff of catchment areas is treated by the ABC Waters design</p> <p>4pts if 10% 50 20% of the total runoff of catchment areas is treated by the ABC Waters design</p> <p>2pts</p>		<p>Provision of plan showing drainage system</p> <p><i>Note: Singapore is adopting ABC Waters Management strategy where water will be retained and treated by natural means using plants and soil media for water quality improvement using the green features called “ABC Waters Design Features”.</i></p>
<p>Part 2 - Water Efficiency SUB-TOTAL:</p>	<p>12 POINTS</p>		

PART 3 - ENERGY EFFICIENCY	POINTS AVAILABLE	POINTS AWARDED	ASSESSORS' JUSTIFICATION
<p>3-1 Active Energy Systems:</p> <p>Use of energy efficient artificial lighting Baseline=Maximum lighting power budget stated in SS 530</p> <p>Use of energy efficient pumps for water features Baseline=Minimum nominal full-load efficiency of the motors in SS 530</p> <p>Other energy efficient features (eg lift, motion sensors, daylight sensors, CO sensors, 4-tick air-con).</p>	<p>Up to 4 points</p> <p>0.1 for every percentage improvement in the lighting power budget (Up to 2pts)</p> <p>0.2 for every percentage improvement in the motor efficiency (Up to 1 pt)</p> <p>1 pt for using either of these sensors or energy efficient features (coverage &gt; 90%)</p>	<p>Pro-rate (if NA)</p>	<p>Provision of the lighting schematic plan Provision of the product catalogue of light fittings Calculation of lighting power budget based on SS 530 Provision of tender documents specifying the light fittings used</p> <p>Provision of product catalogue of pumps used Provision of tender documents specifying the pumps used</p> <p>Provision of product catalogue Highlight on drawings the locations of these sensors</p>
<p>3-2 Passive Energy System:</p> <p>(a) Design for use of daylight in the following areas (example):</p> <ul style="list-style-type: none"> <li>• Shelters &amp; corridors</li> <li>• Staircases</li> <li>• Kiosks</li> <li>• Carpark</li> <li>• Other hardscape(below 2000Gfa)</li> </ul> <p>(b) Design for use of natural ventilation in the following areas (example):</p> <ul style="list-style-type: none"> <li>• Shelters &amp; corridors</li> <li>• Staircases</li> <li>• Kiosks</li> <li>• Carpark</li> <li>• Other hardscape(below 2000gfa)</li> </ul>	<p>Up to 7 points</p> <p><i>(Pro-ration applies when any of the item/s are not applicable)</i> One pt for each item, up to 3 pts</p> <p>One pt for each item, up to 4 pts <i>(Pro-ration applies when any of the item/s are not applicable)</i></p>	<p>Pro-rate (if NA)</p>	<p>Provision of architectural drawings that could demonstrate the use of day light in the areas stated</p> <p><i>(eg empirically daylight should be considered as adequate when the depth of space is less than 2.5 times of the window's height)</i></p> <p>Check layout of building/structure whether they have opening facing North-South (otherwise</p> <p>Sufficient openings should be provided in order to achieve adequate daylight level and ventilation purpose</p>

<p>3-3 Electrical Sub Metering Provision of Sub-metering for the following categories of usage where applicable:</p> <ul style="list-style-type: none"><li>• HVAC system</li><li>• Lighting</li><li>• Water pumps</li></ul>	1pt		Provision of electrical schematic diagram and highlight the locations of the sub meters
Part 3 - Energy Efficiency SUB-TOTAL:	12 POINTS		

Part 4 - GREENERY AND URBAN ECOLOGY	POINTS AVAILABLE	POINTS AWARDED	ASSESSORS' JUSTIFICATION
<p>4-1 Conservation (Nature &amp; Culture):</p> <p>(a) Design concept should incorporate the following:</p> <ul style="list-style-type: none"> <li>• Documentation and provision of greenery mapping showing data of previous vegetation, natural heritage of site and / or surrounding environment <span style="float: right;">3pts</span></li> <li>• Provision of BIA <span style="float: right;">1pt</span></li> <li>• (Pls see Annex A)</li> <li>• Subject Identified for conservation (eg tree, building) <span style="float: right;">2pt</span></li> <li>• Concept and its conservation strategy (i.e. impact assessment and mitigating measures) incorporating into Design (eg Key historical building, wetland etc) (Future). Link to Sec 5 Mgt Plan. <span style="float: right;">3pts</span></li> </ul> <p>(b) Soil survey (<i>not borehole survey</i>) <span style="float: right;">1pt</span></p> <p>(c) Appropriate soil recommendations for planting <span style="float: right;">1pt</span></p> <p>(d) Conservation/landscape (soft and hardscape) Mgt plan <span style="float: right;">3pts</span></p> <p>(e) Retain trees at existing location captured in topographic survey <span style="float: right;">1pt</span></p>	<p>Up to 15pts</p>		<p>Provision of documentation of a baseline map of site capturing nature, culture and historical feature</p> <p>2pts &gt;80% area/ physical character conserved during design and verify after development</p> <p><i>(Points will not be awarded if a biotope is not conducted. For heritage, based on documentation on conservation)</i></p> <p>Provision of biodiversity baseline survey (Existing) Provision of Biodiversity Impact study Mitigating measure</p> <p>Plan should include detail site before and after construction.</p> <p>Monitoring records and conservation plans of conserved developments and rare/threatened/vulnerable flora and fauna species</p> <p>1pt for soil survey to reflect the following: desire rooting depth Chemical, Physical and Biological (sampling technique based on each theme site (eg nature, turf &amp; etc))</p> <p>Conservation design intent captured in the management plan</p> <p>0.5pt for 20-40% retained; 1pt for 40-60% retained.</p>

<p>4-2 Green / Blue Vs Grey: Encourage other green design such as:</p> <p>(a) Green Ratio; <i>Green ratio &gt; 90%</i> (ii) <i>Green ratio &gt; 80% &lt; 89%</i></p>	<p>1 pt</p>		<p>Documentation to show green ratio.</p> <p>Full pts for 90% ratio 0.5pts &gt;80%&lt;90% <i>(green vs. grey - focus on ratio of green vs. built-up area)</i></p>
<p>4-3 Greenery Provision:</p> <p>Greenery provision (GNP) is calculated by considering the 3D volume covered by plants using the following Green Area Index (GAI): Grass GAI = 1; Shrubs / Aquatic plants GAI = 3; Palms Trees GAI = 4; Trees GAI = 6</p>	<p>Up to 2 pts</p>		<p>0.5pt for GnP = 2.0 &lt; 3.0 1pts for GnP = 3.0 to &lt;3.5 1.5pts for GnP = 3.5 to &lt; 4.0 2pts for GnP &gt; or = 4.0</p>
<p>4-4 Native vs. Exotic</p> <p>Encourage the use of native plants <i>(to encourage use of native plants to reduce maintenance and prevent exotic invasion)</i></p> <p><i>Plant : Trees and Shrubs</i></p>	<p>Up to 2 pts</p> <p>2pts - No. of native species of plants &gt;70% and the total quantity of these native species &gt; 70% of all new plants</p> <p>1pts - No. of native species of plants between 50% to 69% and the total quantity of these native species between 50% to 69% of all new plants</p>		<p>To provide a table capturing quantity &amp; species of trees and shrubs (by areas) based on new planting plan.</p> <p><i>(the above are assessed based on No. and number of species, S.E Asia in S'pore context )</i> <i>Refer to NParks website for Native Flora</i></p>
<p>4-5 (Biodiversity Enhancement) &amp; Habitat Creation</p> <p>Wildlife species enhancement:</p> <p><i>Show the potential increase in wildlife species over 5-10 yr period after establishment, and justified with records showing the travel patterns and GIS plans of habitats and species distribution</i></p>	<p>Up to 2 pts</p>		<p>1pt showing retention of</p> <p>1pt provision of document with recording of new species attracted, or showing potential of wildlife species enhancement.</p> <p><i>(The rest of the points will not be awarded if existing documentation records are not produced)</i></p>

Part 4 - Biodiversity SUB-TOTAL:	22 POINTS		

PART 5 - DESIGN FOR EASE OF MAINTENANCE & ACCESSIBILITY	POINTS AVAILABLE	POINTS AWARDED	ASSESSORS' JUSTIFICATION
<p>5-1 Maintenance Accessibility:</p> <p>(a) Provision of maintenance access to allow for machinery and vehicle (access route for maintenance area eg pruning, lamp post light replacement) to carry out maintenance work (Hardscape related)</p> <p>(b) Design for ease for Maintenance (Soft/hardscape related) Example:</p> <ul style="list-style-type: none"> <li>• Grouping (trees etc)</li> <li>• (example low maintenance tree/shrubs)</li> <li>• Self cleaning paint</li> </ul>	<p>Up to 5 points</p> <p>3pts</p> <p>2pts</p>		<p>1pt for provision of Plan drawing (site plan) for maintenance vehicular access route with minimum width &amp; recommendation on type of maintenance equipments used</p> <p>2pts if 50% of parks are designed to allow the use of machinery for maintenance. 1pt if &gt;30% &lt;50% 0pt if &lt;30%</p> <p>provision of plan and tree/plants &amp; etc to establish ease of maintenance</p>
<p>5-2 Accessibility &amp; Safety:</p> <p>(a) Sustainable Transport (i.e. Connectivity to public transport / PCN / Recreational Route / Bicycle route)</p> <p>(b) Safety</p>	<p><i>Up to 4 points</i></p> <p>2pts</p> <p>2pts</p>		<p>1.5pt &gt; 60% - &lt;80 % of stipulated</p> <p>1pt if distance from public transport / user catchments area to entrance is &lt; 250m.</p> <p>0.5pt if &gt; 250m -&lt;500m.</p> <p>0pt if &gt; 500m</p> <p>Provision of Pictures, drawing and narrative to describe and outline the safety design of Parks</p>
<p>5-3 Amenities Cater for Profile of Demographic Design and Environmental Awareness:</p> <p>(a) Design of Park's equipment should cater to the demand of surrounding community</p> <p>(b) Educational signage/ Interpretive Design on Green Messages</p>	<p><i>Up to 3 points</i></p> <p>2pts</p> <p>1pts - all categories of green initiatives (eg. Energy, Water, Conservation, Site Management, etc.) are</p>		<p>Design of Park's concept according to Demographic study to enhance future Parks utilization.</p> <p>Pictures, maps and documentation of interpretive/signage on green initiatives:</p>

	highlighted 1pt - 30% - 49% highlighted		
Part 5 -Environmental Quality & Conservation SUB-TOTAL:	12 POINTS		

PART 6 - PARKS DEVELOPMENT & CONSTRUCTION MANAGEMENT	POINTS AVAILABLE	POINTS AWARDED	ASSESSORS' JUSTIFICATION (DESIGN) + (CONSTRUCTION)
<p>6-1 Waste and Material Resource Management:</p> <ul style="list-style-type: none"> <li>• On-site recycling and amount re-used through recycling</li> <li>• Proper waste disposal measures</li> <li>• Topsoil and fill</li> <li>• Provision of storage for recycles material.</li> <li>• Treatment of recycled construction materials.</li> </ul>	<p>Up to 4 points</p> <p>1pt</p> <p>1pt</p> <p>1pt</p> <p>0.5pt</p> <p>0.5 pt</p>		<p>This section will be assessed under Design and Construction Stage:</p> <p>Following to be specify in tender for design and construction: Designer to specify when to access and site visit</p> <p>Client to identify on site material stored for recycling</p> <p>Verify storage area &amp; Recycling facilities (eg bins)</p> <p>Records on amount of waste recycled based on material stored on site saved (from need to transport out of site). Reduction of construction waste going to landfill) (eg log sheet,</p> <p>Records of onsite recycled materials used for the construction</p> <p>Documentation of sorted waste collected during construction and reused / recycled during construction</p> <p>Plan and calculation showing volume of fill on site and no exportation of fill off site</p>
<p>6-2 Water Efficiency Management:</p> <ul style="list-style-type: none"> <li>• Provide Water efficient management plan (use water efficient equipment, leak detection, monitoring &amp; etc)</li> <li>• Leak detection system</li> <li>• Alternative water sources</li> </ul>	<p>Up to 3 points</p> <p>1pt</p> <p>1pt</p> <p>1pt</p>		<p>Record of usage and monitoring of efficient water usage</p> <p>Leak detection Management &amp; <i>ECM filtration system towards non-chemical solution.</i></p> <p>1 pt for documentation of the extent of usage. 1 pt for storage system for existing usage (eg Tanker)</p>
<p>6-3 Energy Efficiency Management:</p> <ul style="list-style-type: none"> <li>• Provide energy efficient management plan (use energy</li> </ul>	<p>Up to 3 points</p> <p>2pts</p>		<p>Green &amp; Gracious Award Pointers: Refer</p> <p>1 pt for monitoring records of</p>

<p>efficient equipments, monitoring &amp; etc)</p> <ul style="list-style-type: none"> <li>Fuel efficient vehicle and machinery</li> </ul>	1pt		<p>energy efficiency management</p> <p>1 pt for inventory of energy efficient items</p> <p>1 pt for certification or proof of fuel efficiency.</p>
<p>6-4 Environmental Sustainability measure</p> <ul style="list-style-type: none"> <li>Implementation of Mitigating measure to minimize damage on Environmental</li> </ul>	Up to 3 points		<p>Documentation to show mitigating measure taken to minimize impact</p> <p>Documentations:</p> <p>EIA, Environmental statement &amp; mitigating measure (point will be deducted if summon were issued for EIA infringement)</p>
<p>6-5 Site Operation Management (Construction):</p> <ul style="list-style-type: none"> <li>Development/Construction Plan and maintenance plan for handing over. Plans should focus on sustainability</li> <li>Appointment of certified ISO 14000 contractor including certified ISA arborist &amp; horticulturist</li> </ul>	<p><i>Up to 3 points</i></p> <p><i>1.5 pt</i></p> <p><i>Up to 1.5pt</i></p>		<p>Maintenance operation should be listed in the guideline (e.g. Tree management plan, maintenance plan, water management plan, life-cycle maintenance &amp; cyclical maintenance Plan &amp; etc)</p> <p>0.3pt for each (i.e. Developer / Engineer / contractor / Arborist)</p> <p>Maximum 1 points</p>
<p>Part 6 - SITE PROJECT, DEVELOPMENT MANAGEMENT SUB-TOTAL:</p>	16 POINTS		



## Biodiversity Impact Assessment

### Part One

#### Information Sheet

1. Date of Information Sheet
2. Country of Park Site
3. Name of Park Site
4. Geographical Coordinates
5. Altitude
6. Area
7. Overview
8. Habitat Type Present
9. Outline Map of Park Site
10. Jurisdiction (Territorial and Functional)
11. Management Authority
12. Name, Address and Contacts of Compiler

### Part Two

#### Additional Information

13. General Location
14. Physical Features (Geology & Geomorphology, Hydrology, Water Quality, Depth, Fluctuation and Permanence of any Water Bodies, Tidal Variations, Climate)
15. Hydrological Values
16. Ecological Features
17. Noteworthy Flora
18. Noteworthy Fauna
19. Social and Cultural Values
20. Land Tenure and Ownership
21. Current Land Use
22. Adverse Factors Affecting the Ecological Character of the Site
23. Conservation Measures Taken
24. Other Conservation Measure Proposed
25. Current Scientific Research and facilities
26. Current Conservation Education (School Programmes, Public programmes, Volunteer Programmes, Corporate Programmes)
27. Current Recreation and Tourism
28. References