



# LEED Certification Review Report

This report contains the results of the technical review of an application for LEED® certification submitted for the specified project. LEED certification is an official recognition that a project complies with the requirements prescribed within the LEED rating systems as created and maintained by the U.S. Green Building Council® (USGBC®). The LEED certification program is administered by the Green Business Certification Inc. (GBCI®).

## Seoul International Business District

<b>Project ID</b>	TEMPND074
<b>Rating system &amp; version</b>	LEED ND: Plan v4
<b>Report Date</b>	08/30/18
<b>Level Awarded</b>	To Be Determined

### LEED for Neighborhood Development v4 SLL + NPD Prerequisite Final Review Report

#### ND: Plan - Letter of Support

CERTIFIED: 40-49, SILVER: 50-59, GOLD: 60-79, PLATINUM 80+

**ATTEMPTED: 0, AWARDED: 0, PENDING: 0, DENIED: 0 OF 110 POINTS**

AWARDED      PENDING

Project Information	
X	<p><b>PI Project Information</b> Possible points: 0</p> <p><b>Prerequisite Preliminary Review:</b> Pending clarification. The provided Project Information states:</p> <p><b>BUILDING AND LAND AREA:</b> The total project site is 200.95 hectares, including 119.20 hectares of buildable land and a total building floor area of 4,875,184 square meters. The project floor area is 2% residential, 98% nonresidential. Densities at full build-out will be 264.52 dwelling units per hectare and 0.56 FAR.</p> <p><b>TRANSIT:</b> The transit trips at all qualifying stops includes 23,339 total weekday trips and 17,888 total weekend average daily trips. 100% of dwelling unit and nonresidential use entrances are within walking distance of transit.</p> <p><b>LOCATION TYPE:</b> The project site has been determined to be a 100% previously developed site, and an infill site.</p> <p>The following issues must be addressed.</p> <ol style="list-style-type: none"> <li>1. Project boundary.               <ol style="list-style-type: none"> <li>a. Figures 2, 3, and 5 of the General Information narrative have project boundaries that differ on the north, east, and south perimeters, and only Figure 5 is consistent with mapping in the remainder of the submission. Revise the documentation to provide a consistent project boundary throughout the submission and ensure that the reported total land area of the project site reflects the consistent boundary.</li> <li>b. SLLp Wetland &amp; Water Body Conservation indicates that a marina that is possibly developed associated with the project is excluded from the project boundary. Please note that the LEED project boundary must include all contiguous land that is associated with the project and supports its typical operations. This includes land altered as a result of construction and features used primarily by the project’s occupants, such as hardscape (parking and sidewalks), septic or stormwater treatment equipment, and landscaping. The LEED boundary may not unreasonably exclude portions of the building, space, or site to give the project an</li> </ol> </li> </ol>

advantage in complying with credit requirements. Clarify the development plan of the marina facility. If there will be development associated with the project, Include it within the project boundary

2. Project land area and designations. Total buildable land is reported as 119.29 ha, but the sum of residential buildable land of 3.64 ha and non-residential buildable land of 197.31 ha is 200.95 ha. Additionally, circulation network rights-of-way east of Tancheon Stream have not been included as non-buildable lands, and it is unclear if all land east of Tancheon Stream has been accounted for as either buildable or non-buildable consistent with General Information narrative Figures 2, 3, and 5. It is noted that Figures 2, 3, and 5 describe the land east of Tancheon Stream as containing an existing or planned hotel, exhibition/convention center, for-profit subsidiary facilities, youth hostel, three professional sports stadiums, and an indoor multi-sports complex, rather than the “park” indicated on other maps. Provide the following: a) revise the Land Area table as needed to conform with a single consistent project boundary; b) ensure that all land and circulation network rights-of-way on the entire project site are mapped and accounted for as either buildable or non-buildable consistent with existing conditions and the project plan in the General Information narrative; c) ensure an accurate summation of project land areas by type; and d) ensure accurate mapping and documentation of existing and planned uses east of Tancheon Stream throughout the submission.

3. New buildings. The Building Area table reports 9 new buildings and 1 major renovation, for a total of 10 new buildings. However, the General Information narrative Figure 5 legend describes 14 new buildings and “several” additional new buildings in site sections C and D. The NPDp Walkable Streets prerequisite form also reports 14 new buildings. Provide the following: a) revise the documentation to use a consistent number of new buildings and building floor areas throughout the submission; and b) either confirm that “several” additional buildings in sections C and D are not included in the LEED ND project or provide data for those buildings.

4. Densities. Revise the calculation of residential and non-residential densities for the entire project site as needed based on the foregoing clarifications or revisions to project boundary, buildable land areas, and number of new buildings. Note that the Project Information Workbook has a known error that calculates non-residential FAR incorrectly; this must be over-written by a manual calculation and entry of a correct FAR.

5. Transit. The table of Entrances Within Walking Distance of Transit Stops does not contain information on non-residential uses. Provide the following: a) revise the table to include all buildings on the project site containing non-residential uses, including those east of Tancheon Stream; b) ensure consistency with the foregoing clarifications or revisions to the number of new buildings that may contain non-residential uses; and c) revise the calculation of percent of entrances within walkable transit distances as needed.

6. Circulation network.

a. The reported total circulation network length of 19,676 meters does not include network segments east of Tancheon Stream. All existing and planned circulation network segments serving the entire project site must be included in network calculations regardless of adjacent land use. Revise the documentation to include all motorized and non-motorized circulation network segments on the entire project site.

b. Nearly 50% of the reported circulation network length is alleys. However, it does not appear the categorization follows the LEED-ND definition of “alley” and “street”. In LEED-ND, an alley only provides “access to the side or rear of abutting properties for loading, parking, and other service functions, minimizing the need for these functions to be located along streets”. Roads accessing to main entrances of residential and commercial buildings cannot be categorized as alleys in LEED-ND rating system. “A street is suitable for primary entrances and provides access to the front and/ or sides of buildings and lots.” Revise the circulation network categorization and recalculate the length of each category.

7. Minimum Program Requirement: Control of project land area.

MPR states the project developer, which can include several property owners, should control a majority of the buildable land within the boundary, but does not have to control the entire area. It appears that Seoul

		<p>Metropolitan Government is one of the main owners of the project and the project developer. However, the maps appears to indicate that the public land (blue areas) is less than 50% of the total project area, and some new buildings are located in the private lands. A narrative states that Seoul Metropolitan Government sold some parts of the site to the private owners and intends to implement binding "District Unit Plan" and "Binding Guidelines (Design Guidelines)". The private owners will be controlled by "District Unit Plan" and "Binding Guidelines (Design Guidelines)" when they start to their project in the district.</p> <p>Provide further ownership information for the project land, and a calculation of the percentage of land controlled by the project developer. Clarify how the "Binding District Unit Plan" and "Binding Guidelines (Design Guidelines)" control the development at the private lands that are not owned by the project developer to ensure development goals of the entire project is met.</p> <p><b>Prerequisite Final Review:</b></p> <p>The additional documentation demonstrates compliance.</p>
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AWARDED	PENDING	DENIED	
0	0	0	<b>Smart Location and Linkage</b>
Y			<p><b>SLLp Smart Location</b> Possible points: 0</p> <p><b>Prerequisite Preliminary Review:</b> Awarded via Option 1: Infill Sites.</p>
Y			<p><b>SLLp Imperiled Species and Ecological Communities</b> Possible points: 0</p> <p><b>Prerequisite Preliminary Review:</b> Awarded via Case 1: Sites without Affected Species or Ecological Communities.</p>
n/a			<p><b>SLLp Wetland and Water Body Conservation</b> Possible points: 0</p> <p><b>Prerequisite Preliminary Review:</b> Pending clarification for Case 2: Sites with Sensitive Areas, Option 1: No Development on Wetlands and Water Bodies.</p> <p>A narrative states that a marina facility which is a private business with uncertain planning has been excluded from LEED boundary, because "projects may have enclaves of non-project properties that are not subject to the rating system, but cannot exceed 2% of the total project area and cannot be described as certified." However, only non-project properties can be excluded. The marina facility, if developed, is not a non-project property. The LEED project boundary must include all contiguous land that is associated with the project. Additionally, as noted in a previous communication with the project team, the marina facility will possibly expand with bigger footprint than the existing footprint.</p> <p>Please clarify the development plan of the marina facility. If there will be development associated with the project, the facility must be included in the project boundary and the project is required to meet the requirements of Case 2. Sites with Sensitive Areas. The existing facility may be replaced as long as the "replacement structure has the same or smaller footprint and a similar height." Ensure</p>

			<p>the planned development fall under any of the permitted options.</p> <p><b>Prerequisite Final Review:</b></p> <p>This prerequisite has been withdrawn from review by the project.</p>
Y			<p><b>SLLp Agricultural Land Conservation</b> Possible points: 0</p> <p><b>Prerequisite Preliminary Review:</b> Awarded via Option 1: Infill Sites.</p>
Y			<p><b>SLLp Floodplain Avoidance</b> Possible points: 0</p> <p><b>Prerequisite Preliminary Review:</b> Awarded via Case 2: Infill or Previously Developed Sites with Flood Hazard Areas, Option 1: American Society of Civil Engineers Standard.</p>

AWARDED      PENDING      DENIED

0	0	0	<b>Neighborhood Pattern and Design</b>
Y			<p><b>NPDp Walkable Streets</b> Possible points: 0</p> <p><b>Prerequisite Preliminary Review:</b> Pending clarification for Entryways, Building-Height-to-Street-Centerline (BHSC) Ratio, Continuous Sidewalks, and Garage Openings.</p> <p>The following issues must be addressed.</p> <ol style="list-style-type: none"> <li>1. Building entryways. The prerequisite form indicates 14 new buildings versus 10 new buildings reported in the Project Information Building table; and it is unclear if all new buildings east of Tancheon Stream have been included in calculations. Clarify or revise the documentation to map and calculate entry compliance for all planned buildings on the entire project site and ensure consistency with the number of buildings reported under Project Information.</li> <li>2. BHSC ratio. <ol style="list-style-type: none"> <li>a. It appears that a large number of streets are inappropriately categorized as alleys. See comments within Project Information and recalculate the block length of new and existing circulating networks and the block length in compliance.</li> <li>b. Documentation indicates 14 new buildings versus 10 new buildings reported in the Project Information Building table; and buildings and the circulation network east of Tancheon Stream have not been included in mapping and calculations. Revise documentation to map and calculate BHSC ratio compliance for all existing and planned buildings on the entire project site and ensure consistency with the number of buildings reported under Project Information.</li> </ol> </li> <li>3. Continuous sidewalks.</li> </ol>

		<p>a. It appears that a large number of streets are inappropriately categorized as alleys. See comments within Project Information and recalculate the continuous sidewalks or equivalent all-weather routes for walking.</p> <p>b. Documentation does not include mapping of sidewalks west of Tancheon Stream; and the circulation network and sidewalks east of Tancheon Stream have not been included in mapping and calculations. Revise documentation to map and calculate sidewalks for the total circulation network across the entire project site.</p> <p>4. Garage openings. Documentation does not include mapping of garage and service bay openings across the entire project site, nor calculation of openings for the circulation network east of Tancheon Stream. Additionally, it appears that a large number of streets are incorrectly categorized as alleys. See comments within Project Information and recalculate the block length of the project. Revise documentation to map and calculate garage and service bay openings facing the total circulation network across the entire project site.</p> <p><b>Prerequisite Final Review:</b></p> <p>The additional documentation demonstrates compliance.</p>
Y		<p><b>NPDp Compact Development</b> Possible points: 0</p> <p><b>Prerequisite Preliminary Review:</b> Pending clarification for Case 1: Projects with access to quality transit.</p> <p>The following issue must be addressed.</p> <p>1. Refer to comments under Project Information regarding clarification or revision of buildable land area and number of new buildings. Ensure those issues are resolved when resubmitting this prerequisite and ensure that density calculations include all existing and planned buildings on the entire project site. Provide a revised prerequisite form and supporting documentation as needed.</p> <p><b>Prerequisite Final Review:</b></p> <p>The additional documentation demonstrates compliance.</p>
Y		<p><b>NPDp Connected and Open Community</b> Possible points: 0</p> <p><b>Prerequisite Preliminary Review:</b> Pending clarification for Case 2: Internal connectivity.</p> <p>The following issues must be addressed.</p> <p>1. Documentation reports the total project site area to be 1.09 square kilometers, which is half of the total area reported under Project Information and only accounts for land west of Tancheon Stream. Provide revised mapping and calculation of internal intersection density for the entire circulation network and project site.</p> <p>2. The prerequisite form states no land area and none of the circulation network is gated. However, the internal intersection map indicates that the Gangnam Police Station access street is gated. Revise the form to reflect the land area accessed by the gated street, and the percent of total land area that is gated. Ensure consistency with total land area clarifications or revisions under Project Information as needed.</p>

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