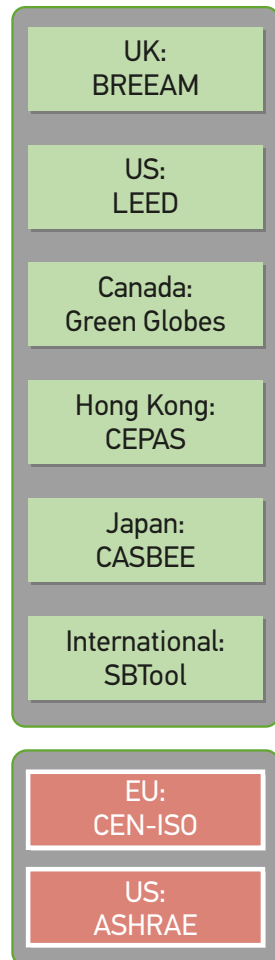
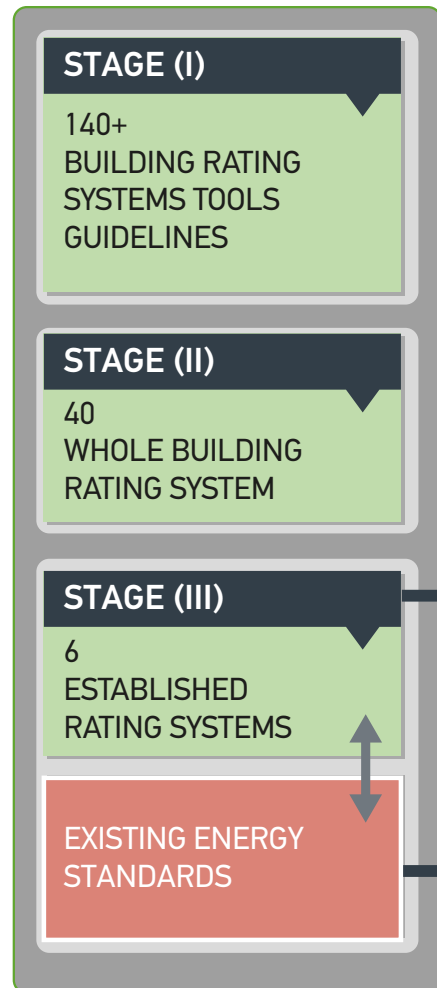


# Development of GSAS Framework



## Groundwork 2007- 2009

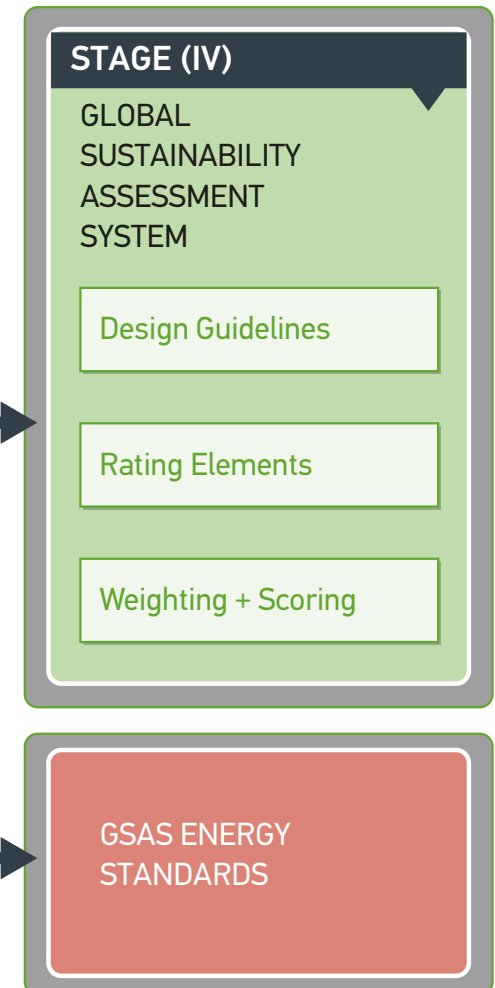


REGIONAL CONTEXT

## Development Teams



## New Rating System



# GSAS System Weighting Methodology



**MEASUREMENT  
METHODS\_**  
Criteria

**Percentage**  
(%)

**Unit**  
(m, m/sec, m², etc)

**Yes / No**  
(questionnaire)

Normalised Results

**SCORING\_**  
Criteria

**SCALE\_**  
Scale value  
for each  
criterion:

3

2

1

0 Baseline

-1

*a*

X

**CATEGORY\_**  
AHP (Analytic  
Hierarchy Process)  
determined  
weighting

**SCALE**

1. Equal Important

2. Moderate Important

3. Strong Important

4. Very Strong Important

5. Extreme Important

*x*

X

**CRITERIA\_**  
Impact weighting  
(Extend, Intensity, Duration)

Extend	Intensity	Duration
1. <10m or space	Weak	Transient
2. 10<100m or building	Low Single Impact	<25hr
3. Site	Low Multiple Impact	Weeks
4. Neighbourhood	Moderate Single Impact	months
5. Urban	Moderate Multiple Impact	Years
6. Regional / National	Strong Single Impact	Decades
7. Global	Strong Multiple Impact	Centuries

*z*

Weighting for each criterion

**Final Score  
for each  
Criterion**  
(=a x x x z)

# Integrated Life Cycle Approach of GSAS



## Integrated Project Life-Cycle Approach

DESIGN

CONSTRUCTION

OPERATIONS

### GSAS Categories

Urban Connectivity

Site

Energy

Water

Materials

Indoor/Outdoor Environment

Cultural & Economic Value

Management & Operations

### Environmental Challenges

Air Pollution

Land Use & Contamination

Fossil Fuel Depletion

Water Depletion

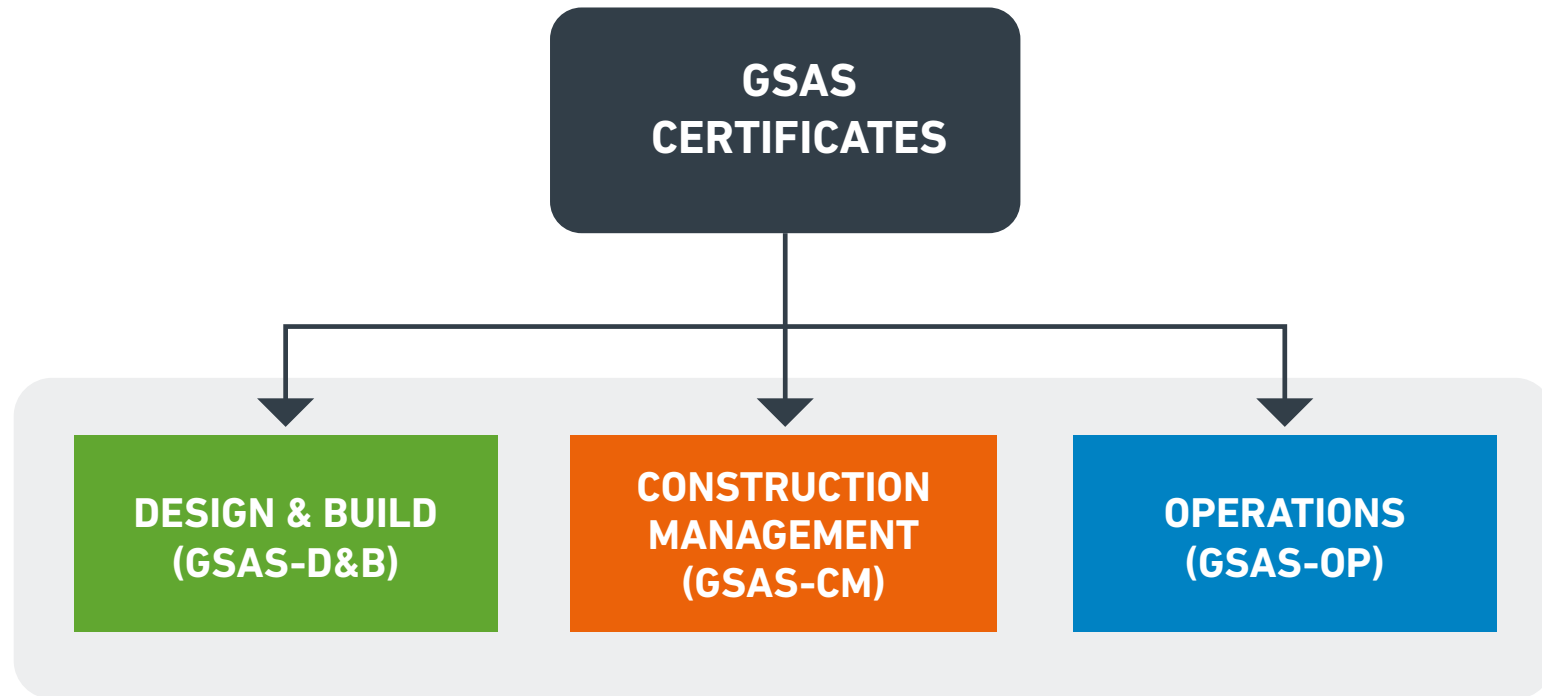
Water Pollution

Materials Depletion

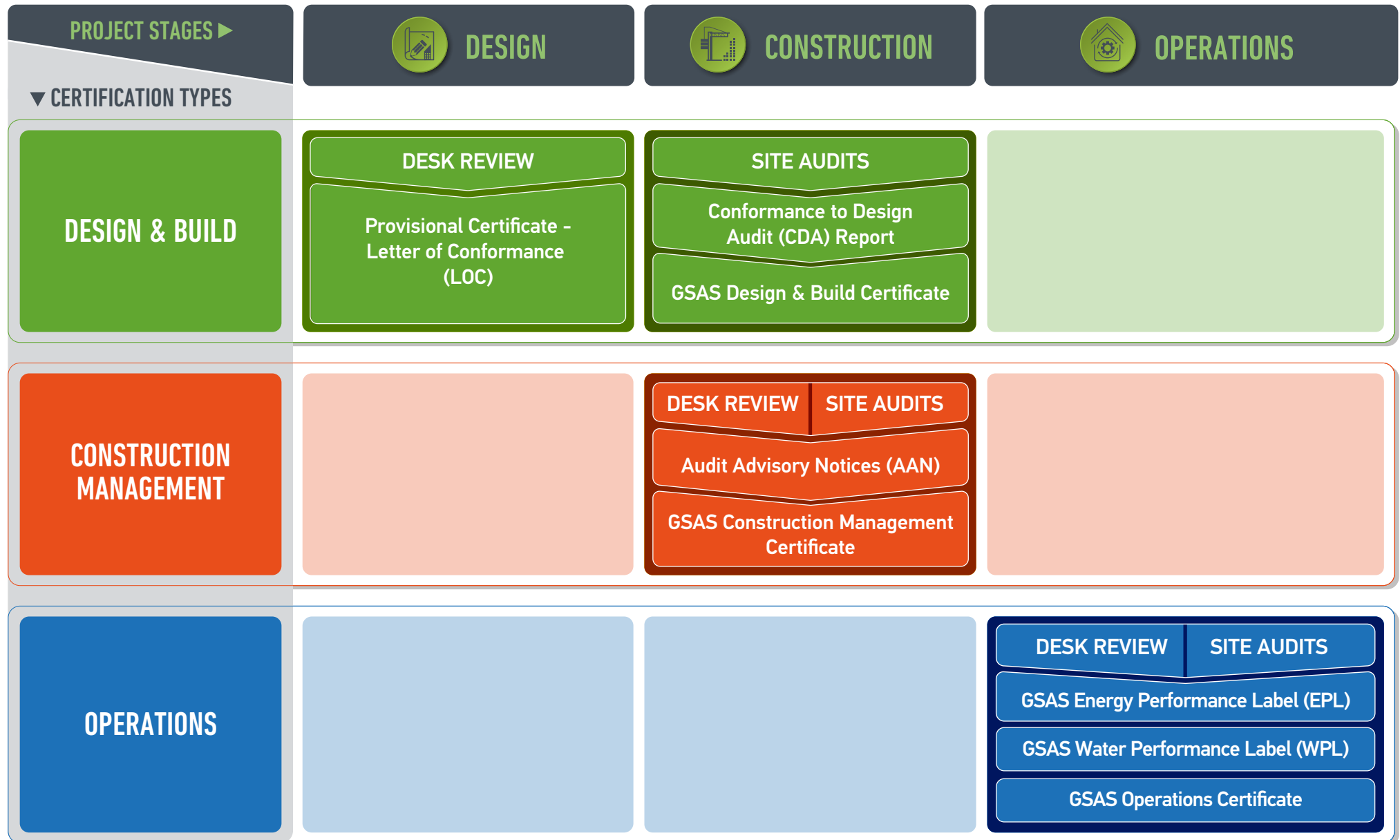
Human Health & Comfort

Climate Change

# Types of GSAS Certification



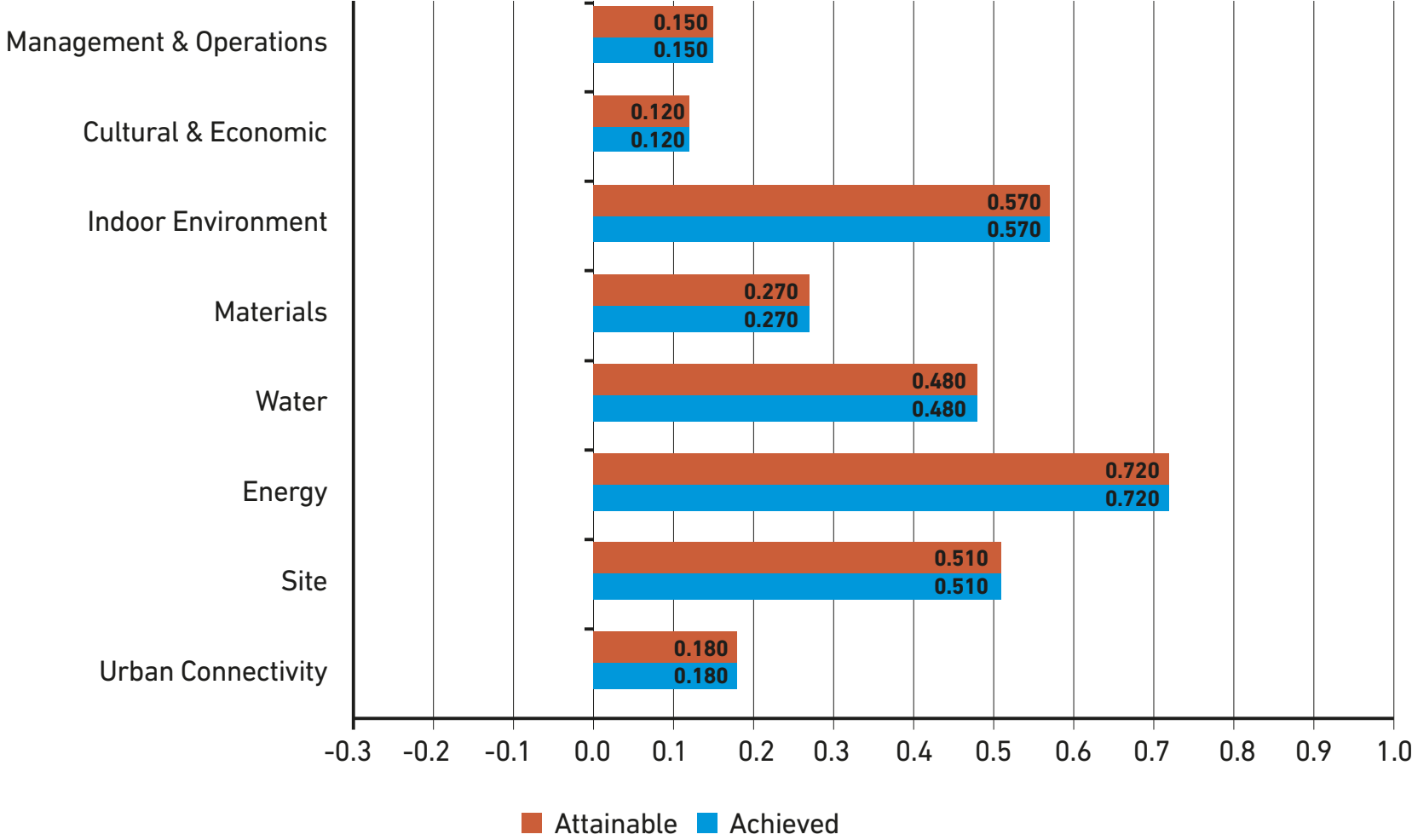
# GSAS Certification and Project Stages



# Bar Chart as Indicated in GSAS Scoring Sheet



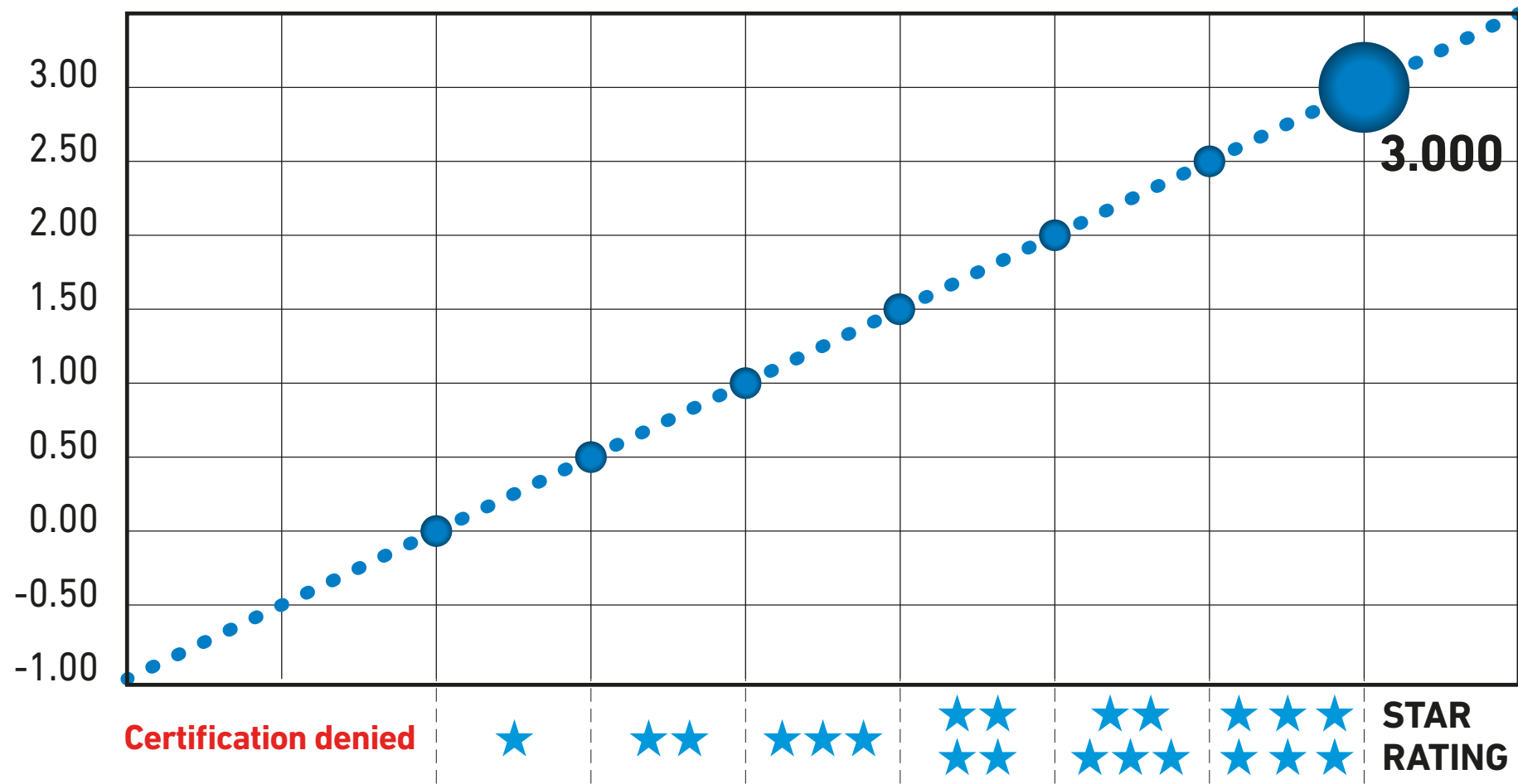
Categories Achieved Score vs. Attainable Score



# Line Chart as Indicated in GSAS Scoring Sheet



Overall Score



# GSAS Design & Build

## Tabulated Certification Scores and Ratings



SCORE	RATING
$X < 0$	Certification Denied
$0.00 \leq X \leq 0.50$	★
$0.50 < X \leq 1.00$	★ ★
$1.00 < X \leq 1.50$	★ ★ ★
$1.50 < X \leq 2.00$	★ ★ ★ ★
$2.00 < X \leq 2.50$	★ ★ ★ ★ ★
$2.50 < X \leq 3.00$	★ ★ ★ ★ ★ ★

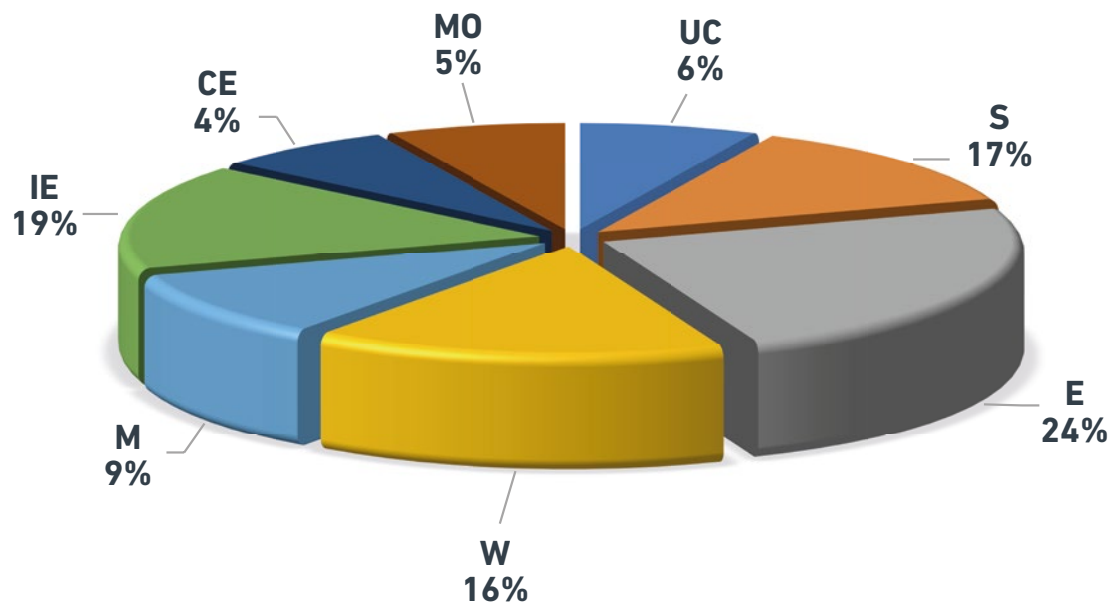


# GSAS Construction Tabulated Certification Scores and Ratings



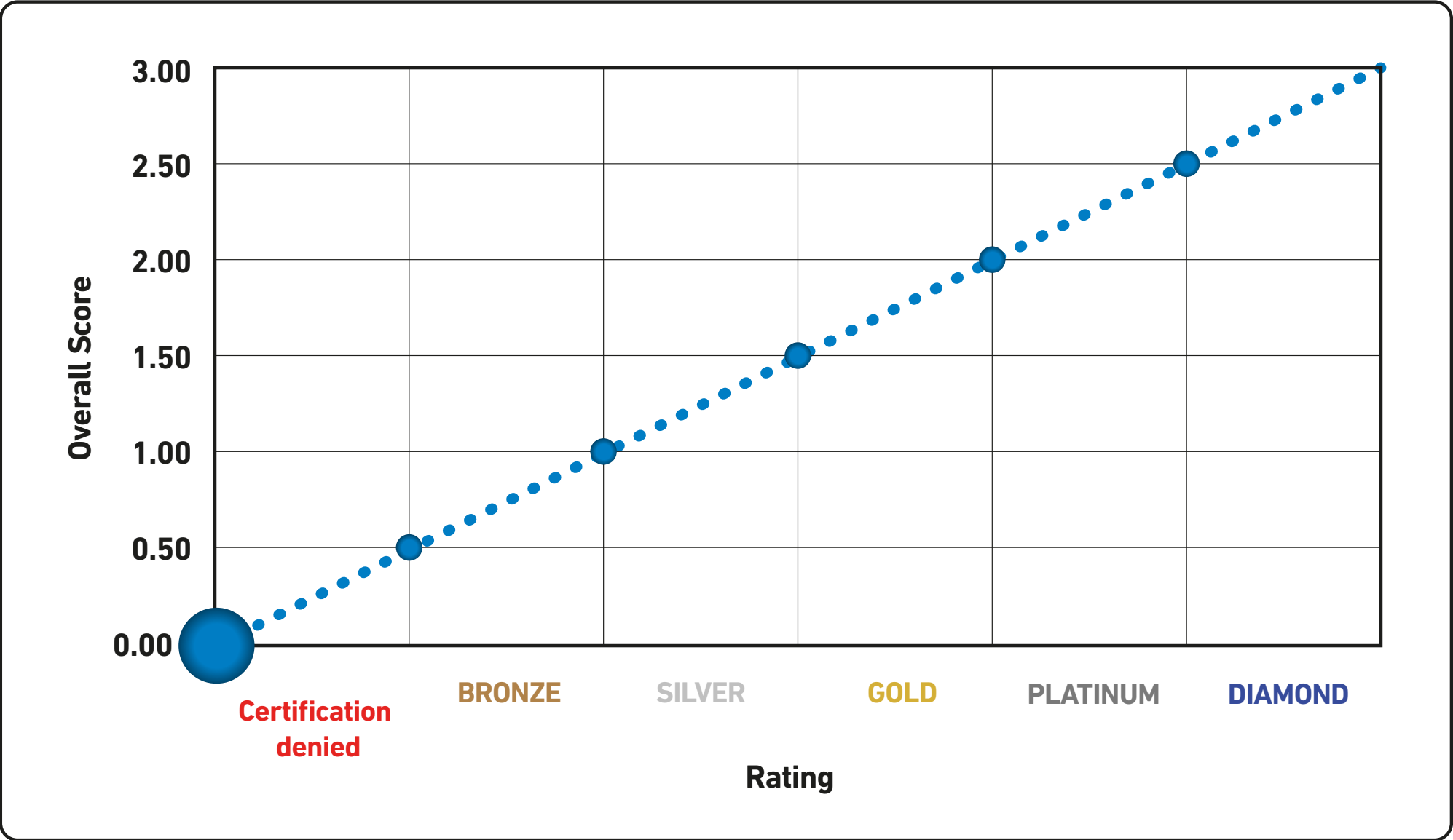
SCORE	RATING
$X < 0.5$	CERTIFICATION DENIED
$0.5 \leq X < 1.0$	CLASS D
$1.0 \leq X < 1.5$	CLASS C
$1.5 \leq X < 2.0$	CLASS B
$2.0 \leq X < 2.5$	CLASS A
$X \geq 2.5$	CLASS A★

# GSAS Design & Build Categories Weights



<div></div>	Urban Connectivity [UC]	6%
<div></div>	Site [S]	17%
<div></div>	Energy [E]	24%
<div></div>	Water [W]	16%
<div></div>	Materials [M]	9%
<div></div>	Indoor Environment [IE]	19%
<div></div>	Cultural and Economic Value [CE]	4%
<div></div>	Management and Operations [MO]	5%

# GSAS Operations Certification Rating



# GSAS Operations Tabulated Certification Scores and Ratings



SCORE	RATING
$X < 0.5$	CERTIFICATION DENIED
$0.5 \leq X < 1.0$	BRONZE
$1.0 \leq X < 1.5$	SILVER
$1.5 \leq X < 2.0$	GOLD
$2.0 \leq X < 2.5$	PLATINUM
$X \geq 2.5$	DIAMOND

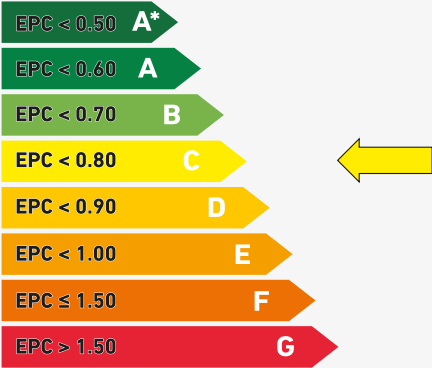
# GSAS Operations Energy & Water Performance Label (EPL / WPL)



## GSAS ENERGY PERFORMANCE LABEL - EPL

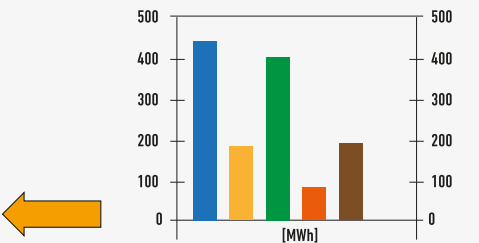
Country: XXXXX      Date: Oct / 21 / 2018  
Project ID: PO-CO-0000-0000  
Project Name: HEAD OFFICE #1  
Building Type: OFFICES

### BAND AS OPERATED



### AS BUILT

Breakdown of estimated energy consumption



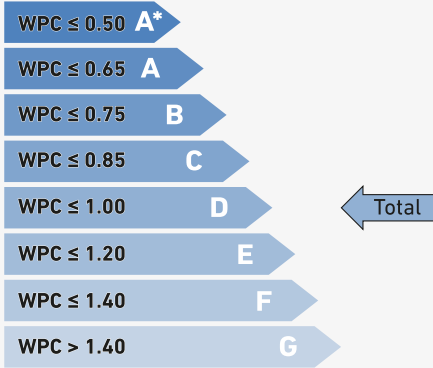
Cooling	Lighting	Auxiliaries	DHW	Others	Generation
442	190	403	88	197	0

EPC	Level	Band
0.78	2	C

## GSAS WATER PERFORMANCE LABEL - WPL

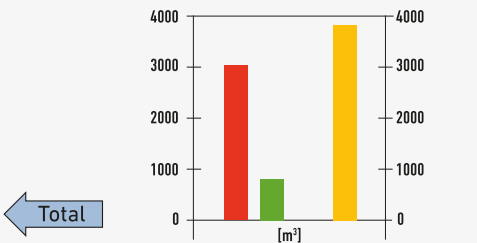
Country: XXXXX      Date: Oct / 21 / 2018  
Project ID: PO-CO-0000-0000  
Project Name: HEAD OFFICE #1  
Building Type: OFFICES

### BAND AS OPERATED



### AS BUILT

Breakdown of water consumption



Indoor-Use	Irrigation	Cooling Tower	Total
3008.65	816.91	0	3825.57

WPC Total	Level	Band
0.95	1	D

WPC Total	Level	Band
1.05	0	E

# GSAS Design & Build Assessment Schemes



## ASSESSMENT SCHEMES

Bespoke

Commercial

Districts

Education

Energy Centers  
(SEER)

Healthcare

Homes

Hospitality

Interiors

Light Industry

Mosques

Neighborhoods

Offices

Parks

Railways

Renovation

Residential

Sports

# Environment Challenges Resulting from Built Environment



# GSAS Design & Build Plaque of Recognition & Certificate





# GSAS Construction Plaque of Recognition & Certificate



# GSAS Operations Plaque of Recognition & Certificate



# GSAS Design & Build Categories



# GSAS Construction Categories



# GSAS Operations Categories



## DESIGN & BUILD CERTIFICATION

### PROVISIONAL CERTIFICATION (Design Stage)

Project Registration  
on GSASgate

Assessment of Design

Provisional  
GSAS Design & Build Certificate -  
Letter of Conformance (LOC)

### FINAL CERTIFICATION (Construction Stage)

Project Registration  
on GSASgate

Conformance to Design  
Audit (CDA)

GSAS Design & Build  
Certificate

# GSAS Design & Build Provisional Certification (LOC) Sample



Issuance Date: xx, xxxx  
Ref: LOC/QA 0505-0507

## GSAS Design & Build Provisional Certificate Letter of Conformance (LOC)

To	Company Name
Service Provider	Service Provide Name
GSAS Certificate	GSAS Design & Build (GSAS-D&B)
GSAS Version	GSAS 2019
Certification Stage	Letter of Conformance (LOC)
Project ID	PD-QA-xxxx-xxxx
Project Name	Project Name
GSAS Scheme	GSAS Neighborhood
Location	Qatar

This is to notify that GSAS Trust has assessed the project based on the submitted information. The project is found eligible to receive the Provisional GSAS-D&B Certificate in the form of "Letter of Conformance (LOC)"; achieving the following:

SCORE	STAR RATING
1.160	★★★

The summary of the obtained rating is attached herewith.

This letter is only the predecessor towards achieving the final GSAS-D&B Certificate and should not be considered as the final certificate. The project shall satisfy during the construction stage all the requirements of **Conformance to Design Audit (CDA)** which is a pre-requisite for the final GSAS-D&B Certificate as stipulated in GSAS Technical Guide, [www.gord.qa](http://www.gord.qa)

In the event of any future changes applied to the criteria pertaining to the issued LOC, the changes are required to be re-assessed once again.

Finally, Congratulations for partaking in this noble endeavor, and together let us build a healthy and a sustainable future.

Yours sincerely,

**Dr. Yousef Alhorr**  
Founding Chairman

SAMPLE ONLY, NOT FOR PRINT

Qatar Science & Technology Park | Tech 1 | Level 2  
Suite 203 | P.O. Box: 210162 | Doha - Qatar  
T: +974 4404 9010 F: +974 4404 9002

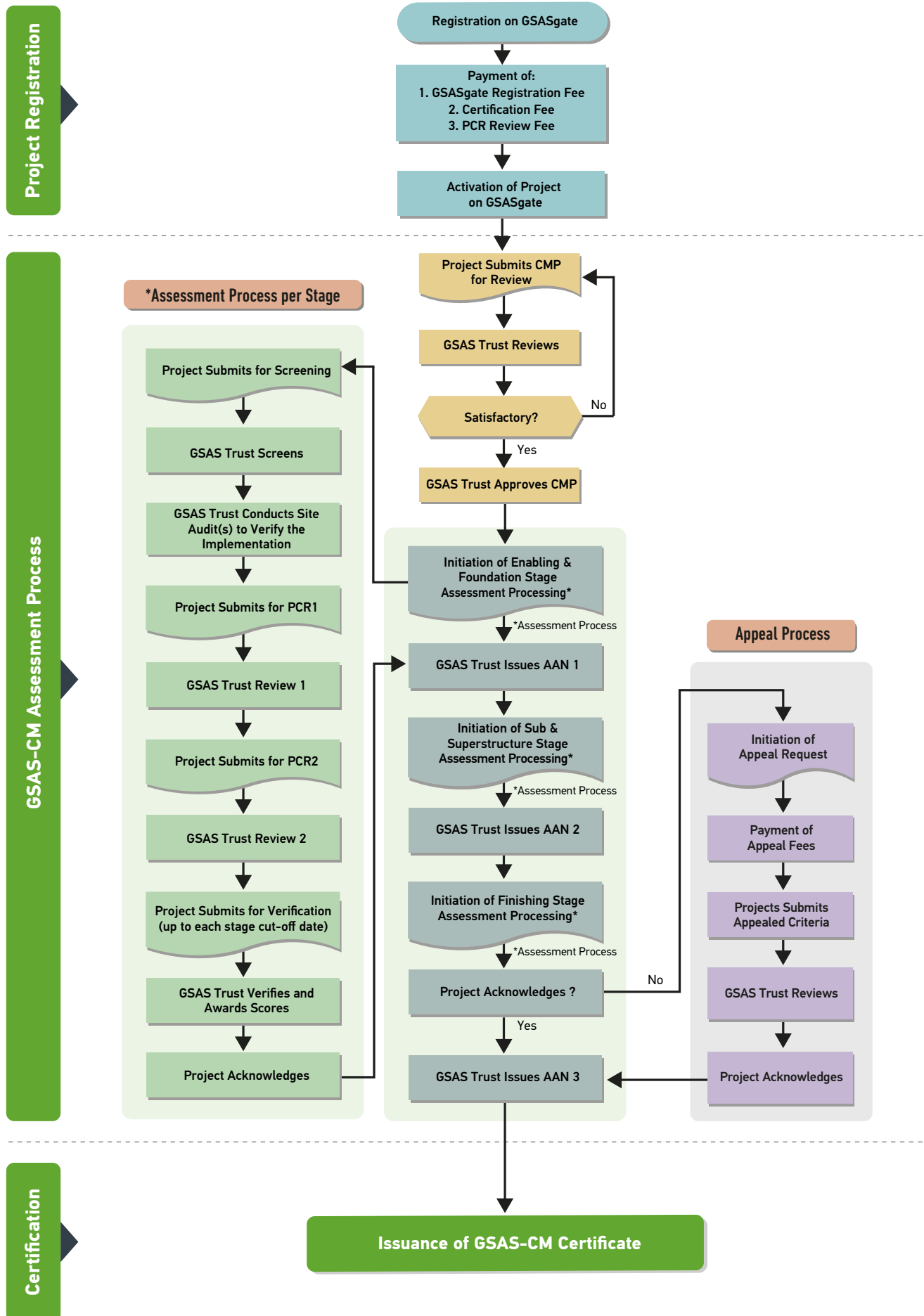
Crafting a Green Legacy

A member of Qatari Diar

واحة العلوم والتكنولوجيا في قطر | تك ١ | الطابق ٢  
الوحدة ٢٠٣ | ص.ب. ٢١٠١٦٢ | الدوحة - قطر  
ت: +٩٧٤ ٤٤٠٤ ٩٠١٠ ف: +٩٧٤ ٤٤٠٤ ٩٠٠٢  
عضو في الديار القطرية

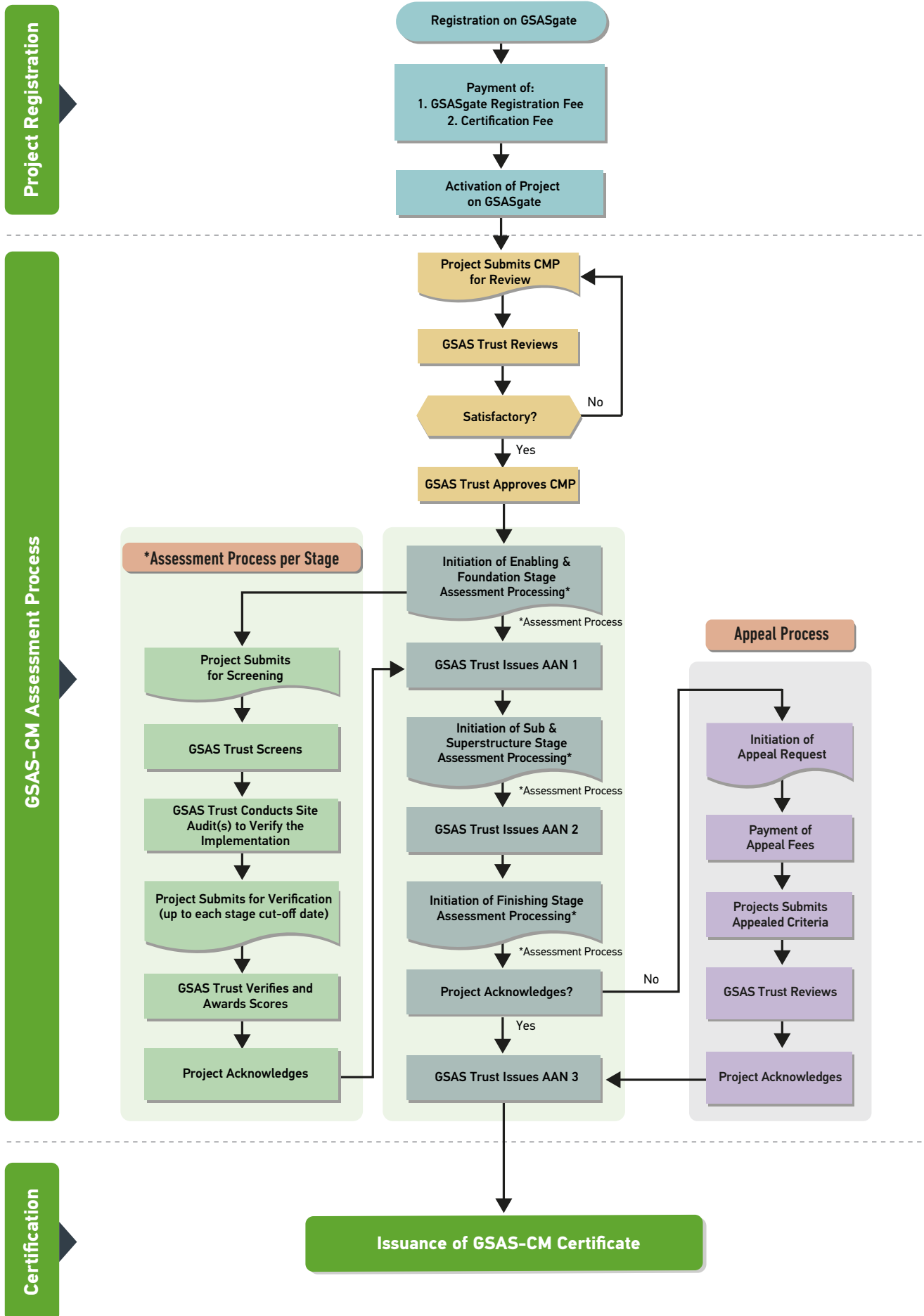
[www.gord.qa](http://www.gord.qa)

# GSAS Construction Certification Flowchart - PCR Route





# GSAS Construction Certification Flowchart – Standard Route



# GSAS Design & Build Provisional Certification (LOC) Sample



## Audits Plan:

The required number of routine and random audits for a project as outlined in Form - 08 shall be implemented during the following phases:

### Phase (A)

Envelop Construction Works  
(Walls, Windows, Claddings, etc.)

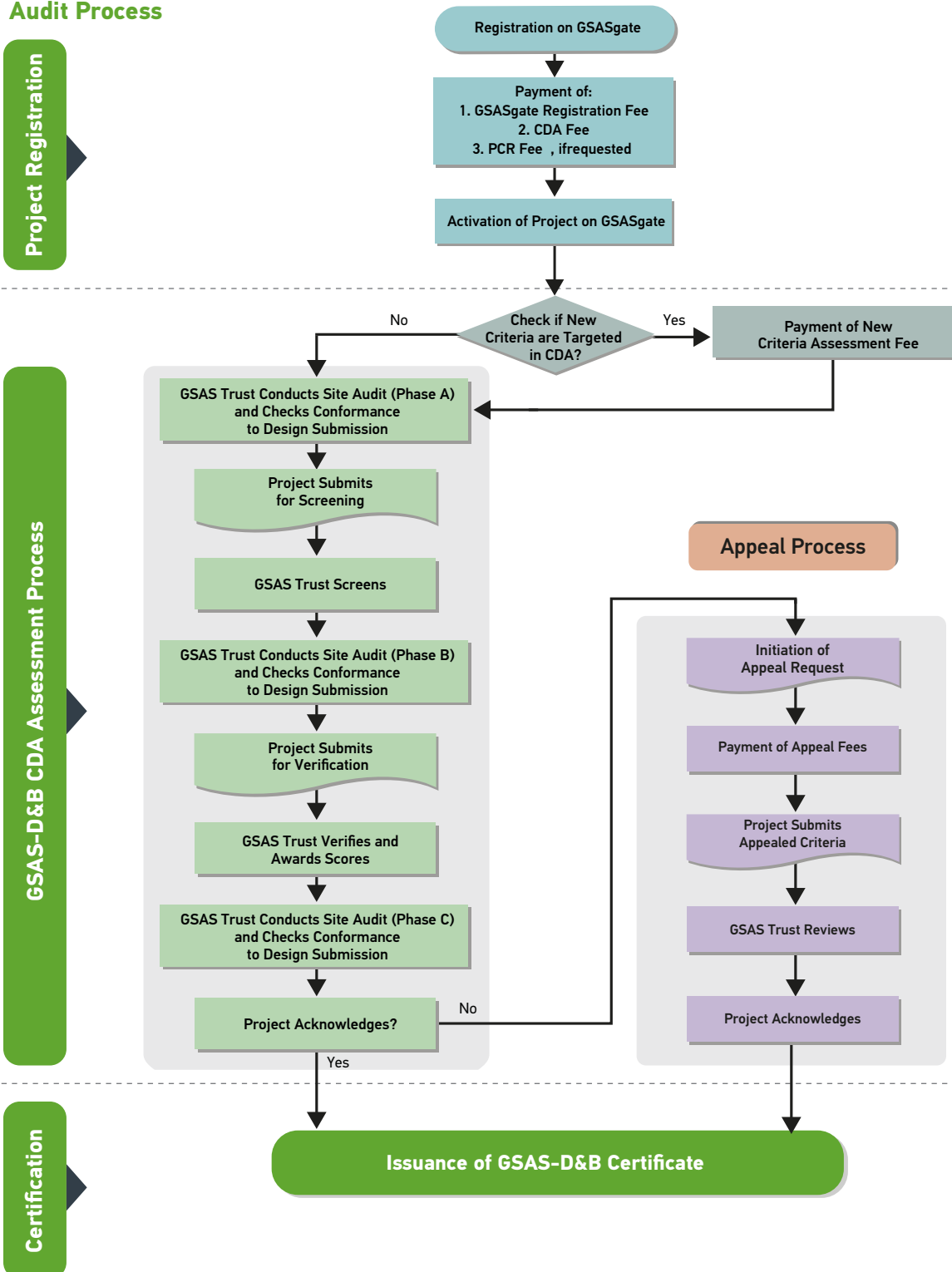
### Phase (B)

Systems Installation

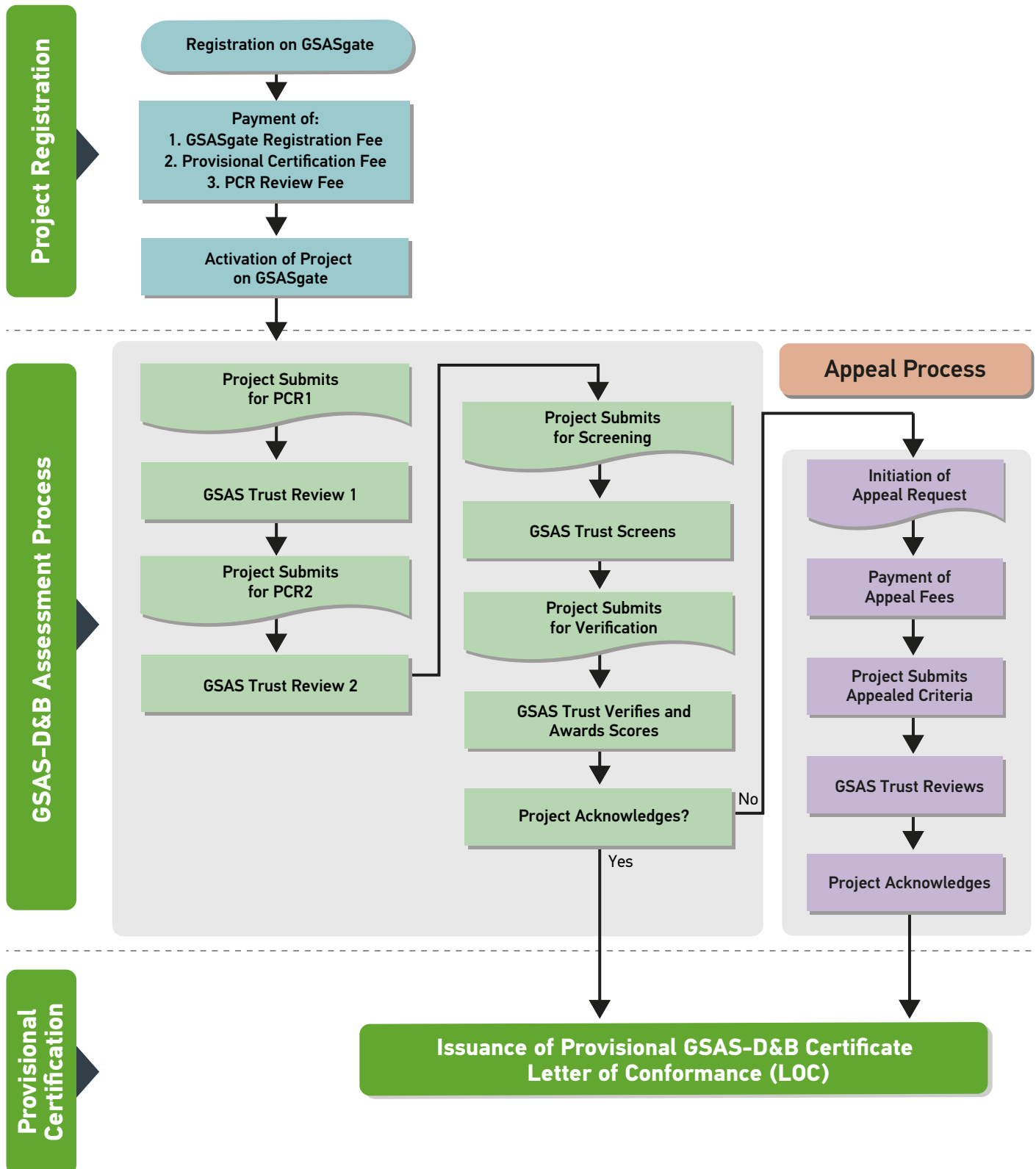
### Phase (C)

Commissioning Stage/Pre-occupancy

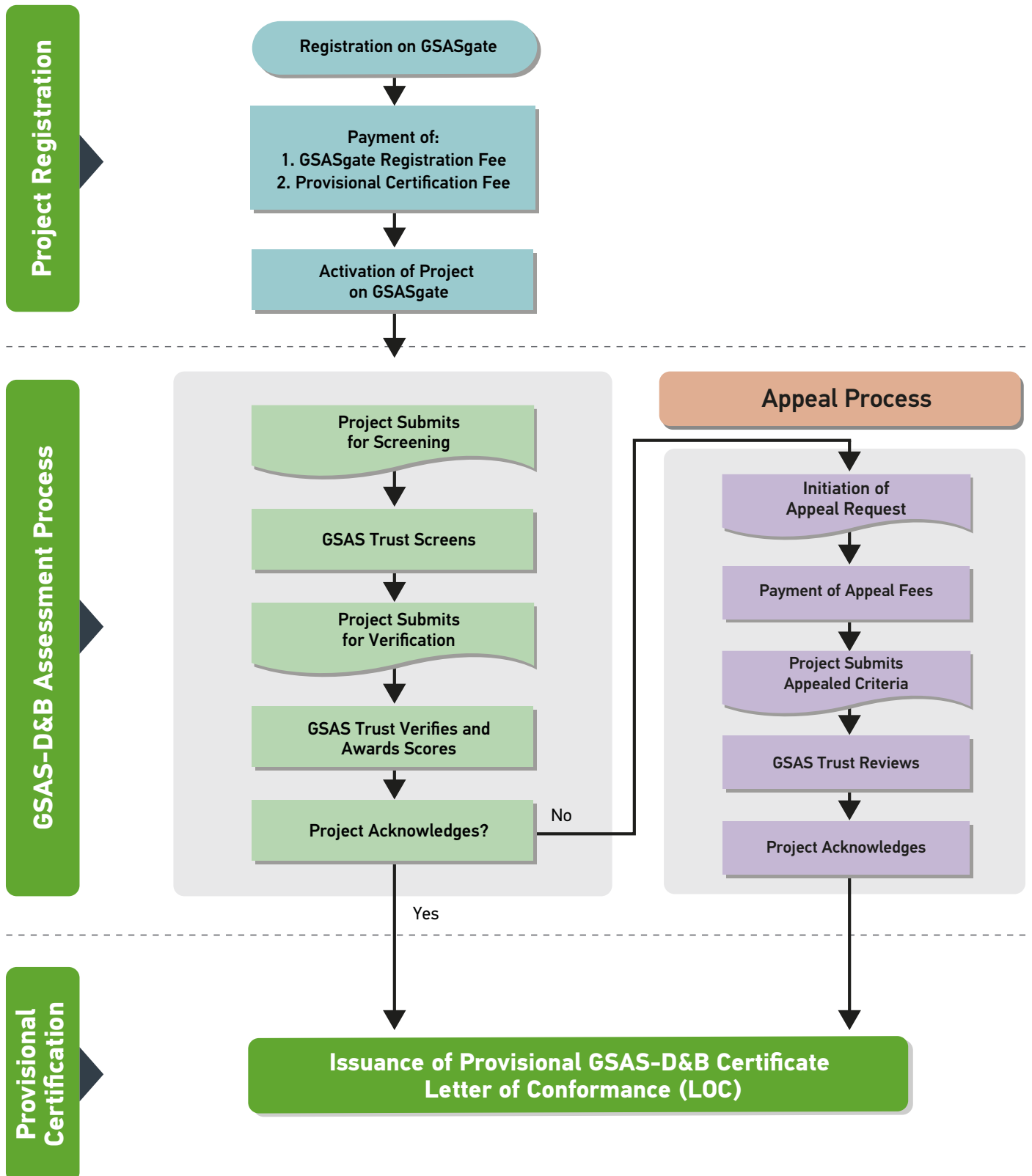
## Audit Process



# GSAS Design & Build Certification Flowchart - PCR Route



# GSAS Design & Build Certification Flowchart - Standard Route



# GSAS Operations Certification Flowchart

