Building and Construction Authority

Guidebook for Plans Submission and PTO Application of Fixed Installations

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Change Log

Version	Date Updated	Remarks
1.0	5 Jun 2025	First Version
1.1	16 Jun 2025	Update to implementation date of BC FI Regs

Contents

List of Abbreviations

FI – Fixed Installations

PTO – Permit to operate

MCPS – Mechanised Car Parking System

A/R – Alteration or Replacement

T&C – Testing & Commissioning

EITC – Examination, Inspection, Testing and Commissioning

QP – Qualified Person

CBC – Commissioner of Building Control

TOP – Temporary Occupation Permit

A&A – Alteration and Addition

PESSRAL – Programmable Electronic Systems in Safety Related Applications for Lifts

UCMP – Unintended Car Movement Protection

ACOP – Ascending Car Overspeed Protection

OEM – Original Equipment Manufacturer

ARD – Automatic Rescue Device

UPS – Uninterruptible Power Supply

1. **Objective**

From 1 Oct 2025, the Building Control (Fixed Installations) Regulations 2025 (BC (FI) Regs) will replace the Building Maintenance and Strata Management (Lift, Escalator and Building Maintenance) Regulations 2016 (LEBM Regs). These new regulations will govern legislative requirements for lifts, escalators, and mechanised car parking systems (MCPS), collectively defined as fixed installations (FIs).

Based on the BC (FI) Regs, FI plans submission will be required prior to the commencement of the works for fixed installation works that are:

i. carried out on or after **1 Oct 2025**; and
ii. not part of building works for which an application to the CBC for approval of plans of the building works was submitted before **1 Oct 2025**.

This guidebook describes the detailed technical documents and information required for plans submission and application for new permit to operate (PTO) /PTO after major alteration or replacement (A/R) works of fixed installations for such projects.

2. **Overview of Fixed Installation (FI) Regulatory Regime**

Sections **2.1** and **2.2** illustrate the processes for **new fixed installations (FI)** and **major A/R of FI** respectively, and the regulatory requirements at the various phases of such projects:

1. Design Phase
2. Installation/ Major A/R Phase
3. Testing & Commissioning (T&C)/ PTO Application Phase

The developer/owner will need to appoint a qualified person (QP) to fulfil the regulatory requirements at the design and T&C phases of the project. The QP to be appointed for the design phase is the “Plan Submission QP”, while that for the T&C phase is the “Supervisor QP”. The appointed QPs for these phases can be the same person.

Please refer to below summary of stakeholders affected by the regime changes and their respective key duties.

Developers

- Appoint plan submission QP to prepare FI plans for application.
- Appoint FI works contractor to carry out FI works.
- Notify the Commissioner of Building Control (CBC) of any contravention of the Regulations relating to those fixed installation works of which the developer knows or ought reasonably to know.

Plan submission QPs

- Ensure that the fixed installation works are designed in accordance with the Regulations.
- Check and confirm that the type testing certificates and reports are valid, correspond with the FI plans, complete, and comply with the requirements.
- Supply a copy of the approved FI plans to the supervisor QP and the FI works contractor.
- Notify the CBC of any contravention of the Regulations, in relation to those fixed installation works of which the QP knows or ought reasonably to know.

Supervisor QPs

- Be physically present to supervise that any EITC of the fixed installation by a FI works contractor is carried out in accordance with the standards and requirements.
- Ensure that the design, installation, operation and function of the fixed installation has been carried out in accordance with and complies with the Regulations and approved plans.

- Notify the CBC of any contravention of the Regulations in relation to the fixed installation works of which the QP knows or ought reasonably to know.

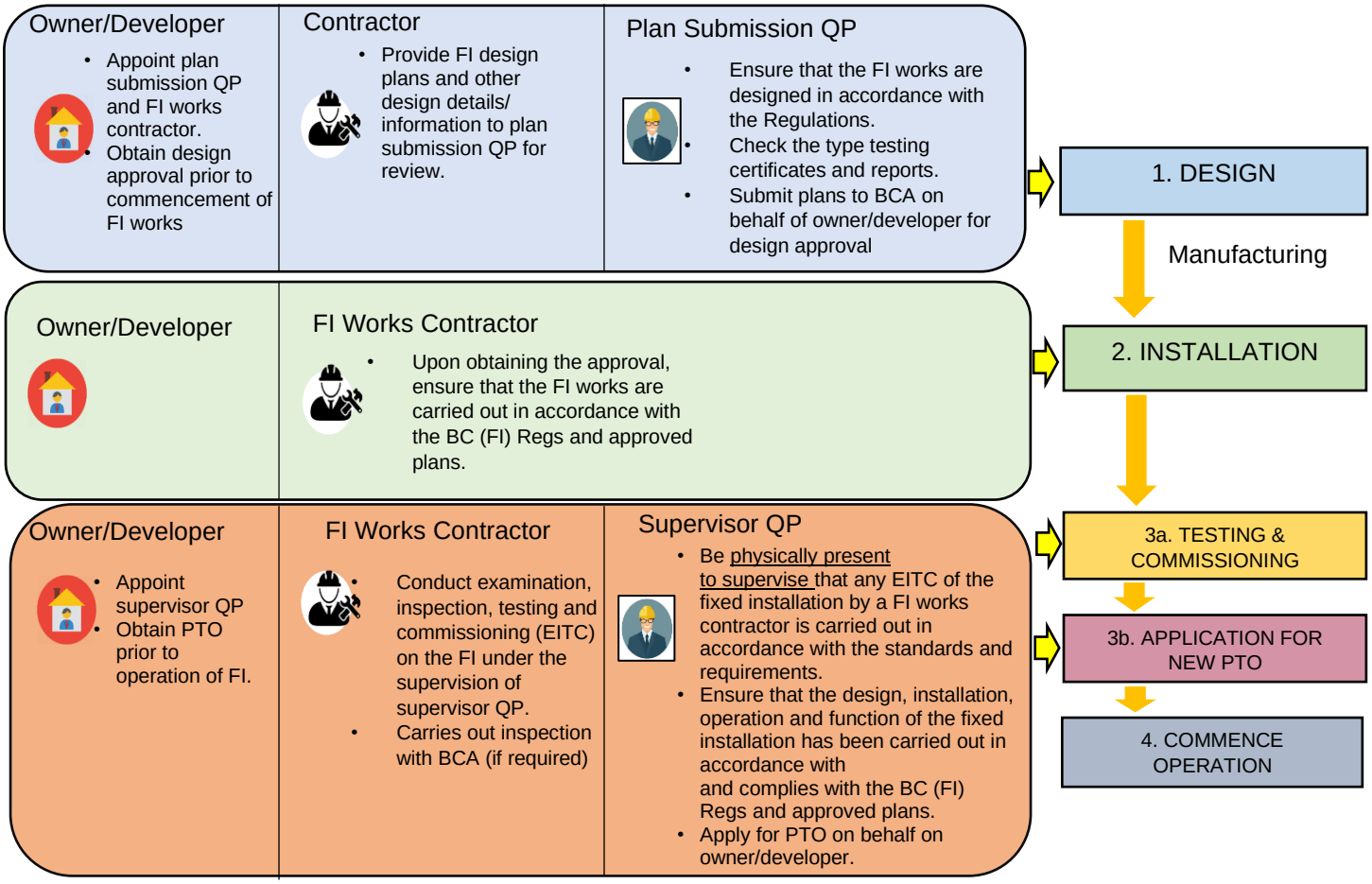
Builders

- Appoint plan submission QP, supervisor QP or FI works contractor, if they have not been appointed by the developer or owner.
- Notify the CBC of any contravention of the Regulations relating to those fixed installation works of which the builder knows or ought reasonably to know.

Fixed Installation Works Contractors

- Ensure that the FI works are carried out in accordance with the Regulations and approved plans.
- Conduct EITC on the FI under the supervision of the supervisor QP.
- To have adequate number of supervisors working under his/her direction to assist him/her to ensure that the above duties are complied with.
- To submit type test certificates to the plan submission QP for making FI plan application.
- Keep at the premises on which fixed installation works are carried out any approved plans of the fixed installation works.
- Appoint plan submission QP or supervisor QP, if they have not been appointed by the developer, owner or builder.
- Notify the CBC of any contravention of the Regulations relating to those fixed installation works of which the contractor knows or ought reasonably to know.

2.1. **New FI**



Changes to submitted/approved design prior to obtaining PTO may require submission of amendment plans (if they are classified as material changes) or as-built plans (if they are classified as immaterial changes).

Figure 1: Process for New FI

Such works will require plans submission (with plan submission QP certification on design) and approval prior to commencement of work, followed by EITC and application of new PTO (with plan submission QP certification on installation and T&C). PTO will be a prerequisite for the issuance of TOP for a new building.

A full FI replacement (e.g. a lift replacement which also include the change in guide rails and car cage among other works, while retaining the same lift shaft) will be considered as a new FI installation as well.

2.1.1. **Design Phase**

- At the start of the project, the owner/developer will appoint the plan submission QP and the FI works contractor. The Builder or the FI contractor can also appoint the plan submission QP on behalf of the owner/developer.

- The plan submission QP will be required to obtain the details of the FI design plan from FI works contractor, review them for design compliance and submit the documents and information for design approval.

- Please refer to **Chapter 3** for more details on **plans submission**.

2.1.2. Installation Phase

- After the plans are approved, the FI works contractor can proceed to carry out the installation of the FI.

2.1.3. Testing and Commissioning (T&C) Phase

- The owner/developer will appoint the supervisor QP. The Builder or the FI contractor can also appoint the supervisor QP on behalf of the owner/developer.

- On completion of all FI works, FI works contractor is to carry out the EITC under the supervisor QP's supervision.

- On completion of the above actions, the supervisor QP is required to certify that:

    - the FI works have been carried out in accordance with the Building Control Act, Regulations, approved plans, and any terms and conditions imposed by the Commissioner of Building Control; and

    - he has examined and inspected the FI works in accordance with the Building Control Act, Regulations, and any terms and conditions imposed by the Commissioner of Building Control.

    - the FI works had been tested in accordance with the Building Control Act, Regulations, and any terms and conditions imposed by the Commissioner of Building Control.

- Please refer to **Chapter 4** for more details on Application of New PTO/PTO after Major A/R works.

2.1.4. Deviations from Submitted/Approved Plans Prior to Obtaining PTO

- If there are any deviations from the submitted/approved plans at any stage prior to obtaining PTO, QP is to submit the following:
    - amendment plans, if the changes amount to material changes, or
    - as-built plans, if the changes amount to immaterial changes.

- Works related to any deviations from the submitted/approved plans amounting to material changes can only commence after the amendment plans are approved. Please refer to **Annex B** for the lists of material changes and **Annex C** for the lists of immaterial changes.

- Works related to any deviations from the submitted/approved plans amounting to immaterial changes can proceed without the need for prior design approval. As-built plans can be submitted after the completion of the relevant works, before the application for new PTO.

- If changes are made to the installation after the QP has certified (as per paras **2.1.3.**) on the installation works and/or EITC, the supervisor QP will need to re-certify on the installation works and the EITC. It may also require a repeat of a partial/full EITC.

2.2. **Major Alteration or Replacement Works**

There are two categories of major A/R works as follows:

a) Major A/R works that require submission and approval of plans before the works commence. Refer to **Annex D** for the full list.

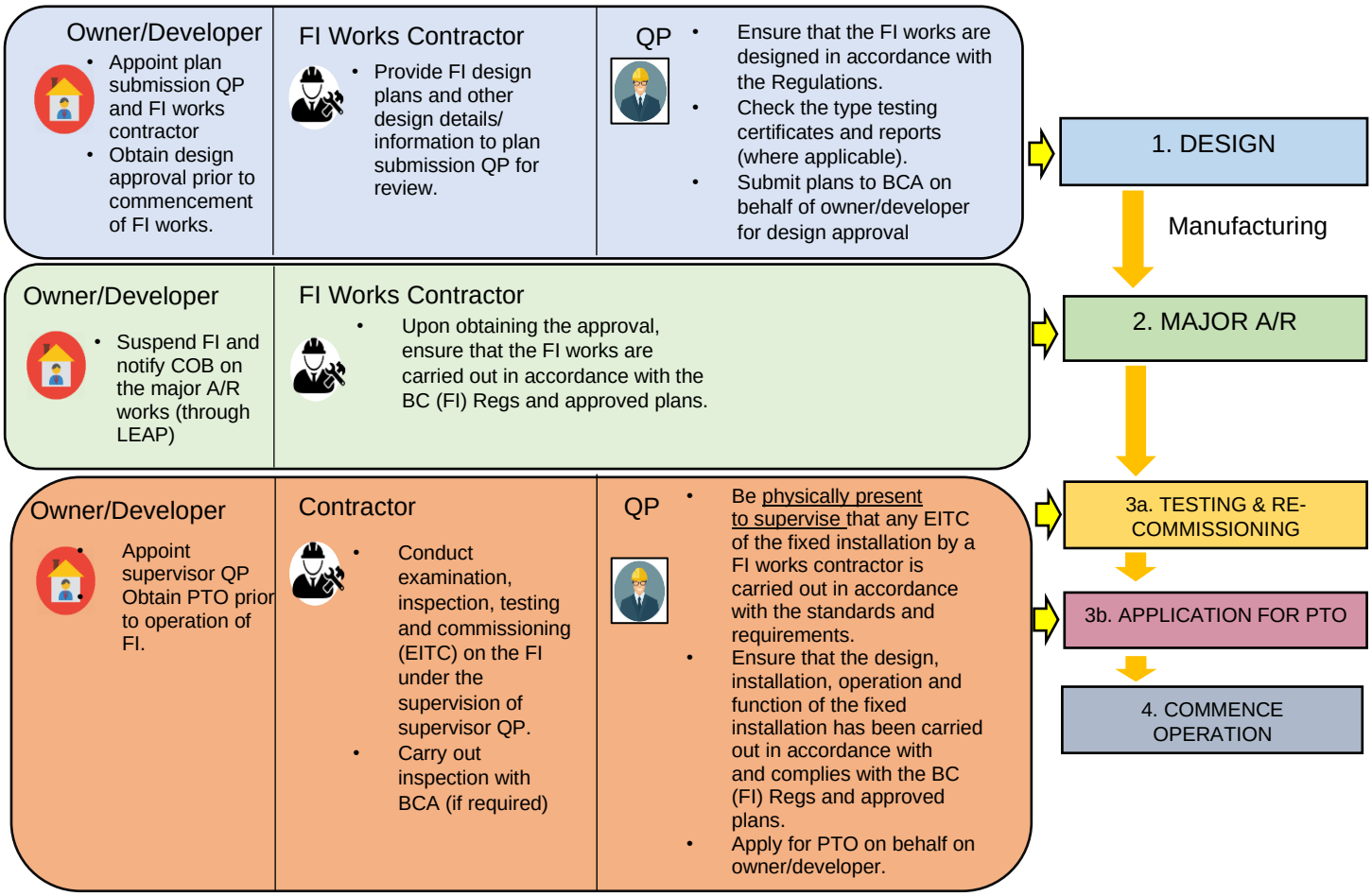
b) Major A/R works that do not require submission and approval of plans before the works commence. Refer to **Annex E** for the full list.

The details for the respective requirements for these two categories of major A/R works are provided in the sections below (**2.2.1** and **2.2.2**).

An FI replacement not amounting to a total system replacement (e.g. if the guide rails or the car cage of a lift are still retained) will be considered as a major A/R works instead of a new FI installation.

Owners are advised to maintain records and photographs of the existing lift to document accessibility features before commencing renovation works.

2.2.1. **Major A/R works that require submission and approval of plans before the works commence**



Changes to submitted/approved design prior to obtaining PTO may require submission of amendment plans (if they are classified as material changes) or as-built plans (if they are classified as immaterial changes)

Figure 2: Process for major A/R works that require submission and approval of plans before the works commence

Such works will require plans submission (with plan submission QP certification on design) and approval prior to commencement of work, followed by testing on the major A/R parts and application of PTO after major A/R works (with QP certification on major A/R works and testing). PTO will be a prerequisite for the issuance of TOP for a building (if the major A/R works are part of the A&A works of the building).

2.2.1.1. **Design Phase**

- At the start of the project, the owner/developer will appoint the plan submission QP(s) and the FI works contractor. The Builder or the FI contractor can also appoint the QP(s) on behalf of the owner/developer.

- The plan submission QP will be required to obtain the details of the FI design related to the major A/R works from the FI works contractor, review them for design compliance and submit the documents and information for design approval.

- Please refer to **Chapter 3** for more details on **plans submission**.

2.2.1.2. **Major A/R Phase**

- After the plans are approved, the FI works contractor can proceed to carry out the major A/R works of the FI.

2.2.1.3. **Testing & Re-Commissioning (T&C) Phase**

- The owner/developer will appoint the supervisor QP. The Builder or the FI works contractor can also appoint the supervisor QP on behalf of the owner/developer.

- On completion of all FI works, FI works contractor is to carry out the EITC under the supervisor QP's supervision.

- On completion of the above actions, the supervisor QP is required to certify that:

    - the FI works have been carried out in accordance with the Building Control Act, Regulations, approved plans, and any terms and conditions imposed by the Commissioner of Building Control; and

    - he has examined and inspected the FI works in accordance with the Building Control Act, Regulations, and any terms and conditions imposed by the Commissioner of Building Control.

    - the FI works had been tested in accordance with the Building Control Act, Regulations, and any terms and conditions imposed by the Commissioner of Building Control.

- Please refer to **Chapter 4** for more details on Application of New PTO/PTO after Major A/R works.

2.2.1.4. **Deviations from Submitted/Approved Plans Prior to Obtaining PTO**

- If there are any deviations from the submitted/approved plans at any stage prior to obtaining PTO, the plan submission QP is to submit the following:
  - amendment plans, if the changes amount to material changes, or
  - as-built plans, if the changes amount to immaterial changes.

- Works related to any deviations from the submitted/approved plans amounting to material changes can only commence after the amendment plans are approved. Please refer to **Annex B** for the lists of material changes and **Annex C** for the lists of immaterial changes.

- Works related to any deviations from the submitted/approved plans amounting to immaterial changes can proceed without the need for prior design approval. As-built plans can be submitted after the completion of the relevant works, just before the application for PTO.

- If changes are made to the installation after the supervisor QP has certified (as per para **2.2.1.3.**) on the major A/R works and/or testing, the supervisor QP will need to re-certify on the major A/R works and the testing. It may also require a repeat of a partial/full testing.

2.2.2. **Major A/R works that <u>do not require submission and approval of plans</u> before the works commence**

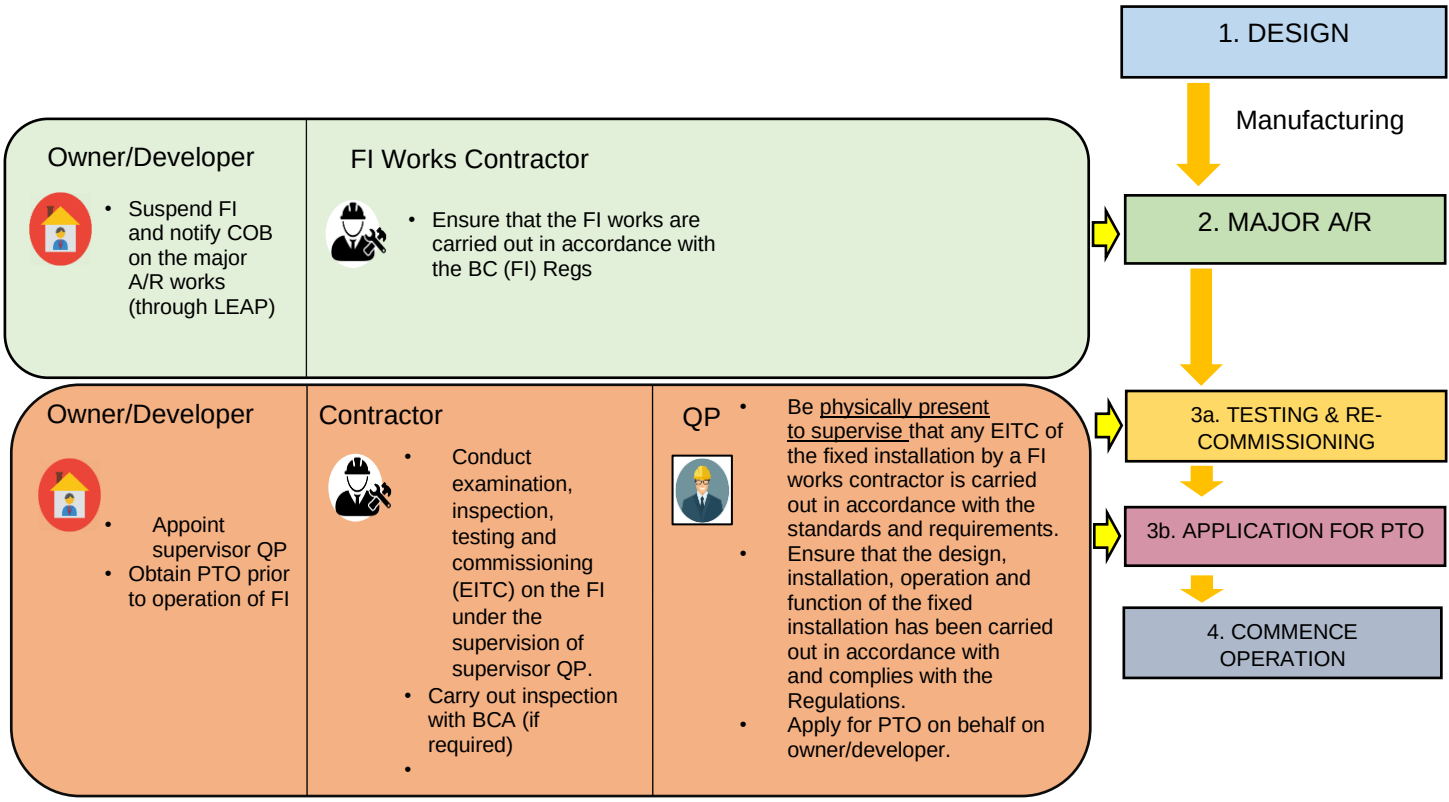


Figure 3: Process for major A/R works that <u>do not require submission and approval of plans</u> before the works commence

Such works may commence without the need of plans submission and approval, followed by testing on the major A/R parts and application of PTO after major A/R works (with supervisor QP certification on major A/R works and testing). PTO will be a prerequisite for the issuance of TOP for a building (if the major A/R works are part of the A&A works of the building).

Note: If unsure, the owner/developer can consider engaging a specialist professional engineer (lift and escalator) to assess the compliance of the design of such FI works prior to the commencement of work, even though there is no need for plans submission to BCA for approval.

2.2.2.1. **Design Phase**

- Plans submission and approval are not required for this category of major A/R works.

2.2.2.2. **Major A/R Phase**

- The owner/developer will appoint the FI works contractor.
- The FI works contractor will proceed to carry out the major A/R works of the FI.

2.2.2.3. **Testing & Re-Commissioning (T&C) Phase**

- The owner/developer will appoint the supervisor QP. The Builder or the FI works contractor can also appoint the supervisor QP on behalf of the owner/developer.
- On completion of all FI works, FI works contractor is to carry out the EITC under the supervisor QP's supervision.
- On completion of the above actions, the supervisor QP is required to certify that:
    - the FI works have been carried out in accordance with the Building Control Act, Regulations, and any terms and conditions imposed by the Commissioner of Building Control; and
    - he has examined and inspected the FI works in accordance with the Building Control Act, Regulations, and any terms and conditions imposed by the Commissioner of Building Control.
    - the FI works had been tested in accordance with the Building Control Act, Regulations, and any terms and conditions imposed by the Commissioner of Building Control.
- Please refer to **Chapter 4** for more details on Application of New PTO/PTO after Major A/R works.

3. **Plans submission**

The types of technical documentations and information required for plans submission include:

- Equipment Data
- Plans and Drawings
- Certificates and Reports

Sections 3.1 to 3.6 list down the full details of the documentations and information required to be submitted for each type of FI works.

After the plan submission QP's review of the FI works design documents and information, QP will certify them and make submission to BCA for design approval. In the submission to BCA, QP will be required to key in the equipment data and upload the documents, drawings, certificates and reports of the FI works. It is recommended that the files follow the naming convention mentioned in Section 3.7 to avoid any delay in processing time.

For FI works with no BP/ST plans submission:

- It is allowed to group FI works in different estates together in one project if they are in the same phase of installation/modification works.
- The developer, plan submission QP and contractor for FI works should be the same for each project.
- To be considered as being in the same phase, the commencement of such FI works should be not more than 1 year apart from one another.
- Given the above, each project should still be grouped according to the site locations as much as possible (i.e. the different estates in one project should be geographically close to one another)

For FI works with BP/ST plans, the scope of the project should follow that of the BP/ST plans.

BCA's approval on the FI works design plans must be obtained before carrying out any installation / major A/R works that require submission and approval of plans.

For **amendment plans**, **as-built plans** or **plans for major A/R works that require submission and approval of plans**, the plan submission QP may submit only the information and documents required from Section 3.1 to 3.6 that are relevant to the amendments to submitted/approved design or the major A/R works.

A separate guidebook will be provided for the procedures to make a plan submission through the online submission system (FormSG or CORENET X).

Note: The information in sections 3.1 to 3.7 is accurate as of the date of publication of this guide, in May 2025. Do refer to the BCA webpage (link given below) for the most updated submission fields templates/forms to be used and for the updates to any other detailed submission requirements. (https://www1.bca.gov.sg/regulatory-info/lifts-escalators/lifts-and-escalators-legislation/fixed-installation-regulations).

3.1. Traction Lifts (SS550)

3.1.1. Data to be submitted

The following data are required to be keyed into a form template:

1. Lift Number
2. Lift ID (for major A/R works)
3. Travel Height (m)
4. Number of Stops served
5. Brand Name
6. Lift System Model Number
7. Lift Type
8. Type of Drive System
9. Machine Room (MR)/Machine Roomless (MRL)
10. Geared/Gearless
11. Code of Practice
12. Maximum Passenger Capacity
13. Rated Load (kg)
14. Car Size - interior dimension (width x depth x height) without décor (mm)
15. Car Mass (kg)
16. Max allowable Décor Weight (kg)
17. Guide Rail Min. Running Surface Width (mm)
18. Guide Rail Blade width (mm)
19. Counterweight Runby (mm)
20. Rated Speed (m/s)
21. Buffer Stroke (mm)
22. Jump (mm)
23. Controller Model Number
24. Traction Machine Model Number
25. Machine Brake Type (Drum/Disc/Others)
26. Machine Brake Model Number
27. Brake Torque (Nm)
28. Suspension Type
29. Roping ratio
30. Single Wrap/Double Wrap
31. Underslung/Overslung

32. Rope/Belt Number
33. Rope/Belt Size (mm)
34. Rope/Belt Breaking Strength (kg)
35. Type Testing Details (Component OEM, Country of Manufacture, Component Model Number, Certificate Number, Expiry Date of Cert, Certification Body, Stopping Means (for ACOP and UCMP Stopping Means), Permissible Mass (kg) (for Lift Model, Safety Gears and Buffers), Rated Speed (m/s) and Mechanical Tripping Speed (m/s) (for Overspeed Governor), whether reduced buffer stroke used and Maximum Impact Speed (m/s) (for Buffers)) for:
    a) Lift Model
    b) Safety Circuits containing Electronic Components
    c) Safety Circuits containing Programmable Electronic Systems in Safety Related Applications for Lifts (PESSRAL) (if applicable)
    d) Unintended Car Movement Protection (UCMP) Detection Means
    e) UCMP Stopping Means
    f) Ascending Car Overspeed Protection (ACOP) Detection/Control Means
    g) ACOP Stopping Means
    h) Self-monitoring of ACOP and UCMP Stopping Means (if Traction Machine Brakes is used)
    i) Landing Door Locking Device
    j) Car Door Locking Device
    k) Safety Gears
    l) Overspeed Governor
    m) Car and Counterweight Buffers

3.1.2. **Drawings**

The following drawings (with at least 300 dots per inch resolution and dimensions in millimeters clearly marked):

1. one or more floor plans that collectively show —
    a) the location of any machine room and lift shaft;
    b) the plan, elevation and section views of the access path to the machine room;
    c) any ladder or staircase to the machine room level, any safety railing at the edge of any passageway leading to the machine room and the distance between the passageway and the edge of the roof or the building; and
    d) any occupancy space below pit (for example, an underground carpark);
2. one or more site plans that collectively show the matters referred to in paragraph (1)(a) to (d) and —
    a) the location and layout of the site with boundary lines clearly verged;
    b) the outline of the building which fixed installation works are to be carried out marked in colour or otherwise; and

c) the north point, or the geo reference, and the number and adjoining lots and the Mukim (MK) or Town Subdivision (TS) number of the lot;

3. a machine room layout plan showing —
   a) the plan, elevation and section views of the machine room, including dimensions of any entrance to the machine room; and
   b) the space around the controller and machinery;

4. one or more hoistway and lift car cross sectional plans that collectively show —
   a) all car top refuge spaces when the car is above the top landing with the counterweight buffer fully compressed (plan and section views);
   b) all car bottom refuge spaces when the car is at the lowest position and the car buffer is fully compressed (plan and section views);
   c) the dimensions and position of any pit ladder;
   d) the car and counterweight buffer strokes; and
   e) where the lift uses compensation tie-down — a table showing the actual jump value.

3.1.3. **Certificates and Reports**

The following documents are required to be submitted:

1. Type testing certificates and annex reports for the certificates (showing details including the models and specifications of other components that can be used with the certified lift model/component) for:
   a) Lift Model
   b) Safety Circuits containing Electronic Components
   c) Safety Circuits containing Programmable Electronic Systems in Safety Related Applications for Lifts (PESSRAL) (if applicable)
   d) Unintended Car Movement Protection (UCMP) Detection Means
   e) UCMP Stopping Means
   f) Ascending Car Overspeed Protection (ACOP) Detection/Control Means
   g) ACOP Stopping Means
   h) Self-monitoring of ACOP and UCMP Stopping Means (if Traction Machine Brakes is used)
   i) Landing Door Locking Device
   j) Car Door Locking Device
   k) Safety Gears
   l) Overspeed Governor
   m) Car and Counterweight Buffers

   Please refer to Annex A for the list of certification bodies for lift type testing recognised by BCA.

The lift model type test certificate or report must cover all configurations of the lifts under the same model. For example, if a lift model includes multiple variations in safety components, the certificate or report must cover all these variations that will be installed in Singapore. This ensures that the design of the entire lift, including its safety components, is thoroughly examined by the certification bodies and complies with the relevant codes before the lift is imported into Singapore.

If new safety components or configurations need to be added to the lift model, either:

- A **new certificate** of the lift model covering the additional details must be obtained from the acceptable certification body; or
- An **Annex** (please refer to Annex G) covering such additional details can be issued by the same certification body that issued the original lift model type examination certificate.

3.1.4. **Other documents**

The following documents are required to be submitted for passenger lifts/service lifts only (the submission of these drawings are for information on accessibility provision only and will not be part of the approval received on the FI plans):

1. Lift Interior Drawings:
   a) Lift Floor plan showing:
      i. Lift car internal clear dimensions (measured between finished surfaces)
      ii. Lift car door clear opening dimension
   b) Lift Elevation drawings showing:
      i. Details of Lift car operating panel (COP) with its mounting height
      ii. Grab bars locations and their mounting heights
      iii. Details of any other relevant accessible features e.g. mirror

   Note: All dimensions must be clearly indicated and measured from finished surfaces.

   All passenger lifts subject to alteration or replacement works must maintain compliance with barrier-free accessibility (BFA) requirements. In instances where existing BFA features are modified, such features must be replaced with accessibility provisions that minimally meet the original specifications.

3.2. **Hydraulic Lifts (SS550)**

3.2.1. **Data to be submitted**

The following data are required to be keyed into a form template:

1. Lift Number
2. Lift ID (for major A/R works)
3. Travel Height (m)
4. Number of Stops served
5. Brand Name
6. Lift System Model Number
7. Lift Type
8. Type of Drive System
9. Machine Room (MR)/Machine Roomless (MRL)
10. Number of Cylinder(s)
11. Code of Practice
12. Maximum Passenger Capacity
13. Rated Load (kg)
14. Car Size - interior dimension (width x depth x height) without décor (mm)
15. Car Mass (kg)
16. Max allowable Décor Weight (kg)
17. Guide Rail Min. Running Surface Width (mm)
18. Guide Rail Blade width (mm)
19. Rated Speed (m/s)
20. Buffer Stroke (mm)
21. Controller Model Number
22. Hydraulic Pump Model Number
23. Hydraulic Control Valve Model Number
24. Suspension Type
25. Rope/Belt Number
26. Rope/Belt Size (mm)
27. Rope/Belt Breaking Strength (kg)
28. Type Testing Details (Component OEM, Country of Manufacture, Component Model Number, Certificate Number, Expiry Date of Cert, Certification Body, Stopping Means (for UCMP Stopping Means), Permissible Mass (kg) (for Lift Model, Safety Gears and Buffers), Rated Speed (m/s) and Mechanical Tripping Speed (m/s) (for Overspeed Governor), whether reduced buffer stroke used and Maximum Impact Speed (m/s) (for Buffers)) for:
    a) Lift Model
    b) Safety Circuits containing Electronic Components
    c) Safety Circuits containing Programmable Electronic Systems in Safety Related Applications for Lifts (PESSRAL) (if applicable)
    d) Unintended Car Movement Protection (UCMP) Detection Means

e) UCMP Stopping Means
f) Self-monitoring of UCMP Stopping Means (if two electrically commanded hydraulic valves is used)
g) Landing Door Locking Device
h) Car Door Locking Device
i) Safety Gears (if applicable)
j) Overspeed Governor (if applicable)
k) Car Buffer
l) Rupture Valve/One-way Restrictor (if applicable)

Please refer to Annex F for the list of acceptable system configurations for hydraulic lifts in terms of the safety components provision.

Please refer to Annex A for the list of certification bodies for lift type testing recognised by BCA.

3.2.2. **Drawings**

The following drawings (with at least 300 dots per inch resolution and dimensions in millimeters clearly marked):

1. one or more floor plans that collectively show —
   a) the location of any machine room and lift shaft;
   b) the plan, elevation and section views of the access path to the machine room; and
   c) any ladder or staircase to the machine room level, any safety railing at the edge of any passageway leading to the machine room and the distance between the passageway and the edge of the roof or the building;

2. one or more site plans that collectively show the matters referred to in paragraph (1)(a) to (d) and —
   a) the location and layout of the site with boundary lines clearly verged;
   b) the outline of the building which fixed installation works are to be carried out marked in colour or otherwise; and
   c) the north point, or the geo reference, and the number and adjoining lots and the Mukim (MK) or Town Subdivision (TS) number of the lot;

3. a machine room layout plan showing —
   a) the plan, elevation and section views of the machine room, including dimensions of any entrance to the machine room; and
   b) the space around the controller and machinery;

4. one or more hoistway and lift car cross sectional plans that collectively show —
   a) all car top refuge spaces when the hydraulic ram is in its ultimate position achieved through the means of ram stroke limitation (plan and section views);
   b) all car bottom refuge spaces when the car is at the lowest position and the car buffer is fully compressed (plan and section views);
   c) the dimensions and position of any pit ladder; and
   d) the car buffer stroke.

3.2.3. **Certificates and Reports**

The following documents are required to be submitted:

1. Type test certificates and reports (showing details including the models and specifications of other components that can be used with the certified lift model/component) for:
   a) Lift Model
   b) Safety Circuits containing Electronic Components
   c) Safety Circuits containing Programmable Electronic Systems in Safety Related Applications for Lifts (PESSRAL) (if applicable)
   d) Unintended Car Movement Protection (UCMP) Detection Means
   e) UCMP Stopping Means
   f) Self-monitoring of UCMP Stopping Means (if two electrically commanded hydraulic valves is used)
   g) Landing Door Locking Device
   h) Car Door Locking Device
   i) Safety Gears (if applicable)
   j) Overspeed Governor (if applicable)
   k) Car Buffer
   l) Rupture Valve/One-way Restrictor (if applicable)

Please refer to Annex F for the list of acceptable system configurations for hydraulic lifts in terms of the safety components provision.

Please refer to Annex A for the list of certification bodies for lift type testing recognised by BCA.

The lift model type test certificate or report must cover all configurations of the lifts under the same model. For example, if a lift model includes multiple variations in safety components, the certificate or report must cover all these variations that will be installed in Singapore. This ensures that the design of the entire lift, including its safety components, is thoroughly examined by the certification bodies and complies with the relevant codes before the lift is imported into Singapore.

If new safety components or configurations need to be added to the lift model, either:

- A **new certificate** of the lift model covering the additional details must be obtained from the acceptable certification body; or
- An **Annex** (please refer to Annex G) covering such additional details can be issued by the same certification body that issued the original lift model type examination certificate.

3.2.4. **Other documents**

The following documents are required to be submitted for passenger lifts/service lifts only (the submission of these drawings are for information on accessibility provision only and will not be part of the approval received on the FI plans):

:

1. Lift Interior Drawings:
   c) Lift Floor plan showing:
      iii. Lift car internal clear dimensions (measured between finished surfaces)
      iv. Lift car door clear opening dimension
   d) Lift Elevation drawings showing:
      iv. Details of Lift car operating panel (COP) with its mounting height
      v. Grab bars locations and their mounting heights
      vi. Details of any other relevant accessible features e.g. mirror

   Note: All dimensions must be clearly indicated and measured from finished surfaces.

   All passenger lifts subject to alteration or replacement works must maintain compliance with barrier-free accessibility (BFA) requirements. In instances where existing BFA features are modified, such features must be replaced with accessibility provisions that minimally meet the original specifications.

3.3. **Vertical Platform Lifts**

3.3.1. **Data to be submitted**

The following data are required to be keyed into a form template:

1. Lift Number
2. Lift ID (for major A/R works)
3. Travel Height (m)
4. Number of Stops served
5. Brand Name
6. Lift System Model Number
7. Lift Type
8. Type of Drive System
9. Code Compliance
10. Platform Size (width x depth) (mm)
11. Rated Load (kg)
12. Rated Speed (m/s)
13. Platform Mass (kg)
14. Brake Torque (Nm)

3.3.2. **Drawings**

The following documents (with at least 300 dots per inch resolution and dimensions in millimeters clearly marked):

1. a location plan;
2. site plan showing —
   a) the location and layout of the site with boundary lines clearly verged;
   b) the outline of the building which fixed installation works are to be carried out marked in colour or otherwise; and
   c) the north point, or the geo reference, and the number and adjoining lots and the Mukim (MK) or Town Subdivision (TS) number of the lot;
3. a layout of the equipment, in elevation and plan view, that shows the lift car and lift way enclosure;

3.3.3. **Certificates and Reports**

Where applicable, the following documents on the lift's control system:

a) the test certificate relating to each E/E/PE (a device that is part of, and controls the safety circuit of a fixed installation; and contains any 2 or more of the following: (i) an electrical component; (ii) a non-programmable electronic

component; (iii) a programmable electronic component) of the lift (including any accompanying document);

b) the test procedure relating to each E/E/PE of the lift.

3.4. **Stairlifts**

3.4.1. **Data to be submitted**

The following data are required to be keyed into a form template:

1. Lift Number
2. Lift ID (for major A/R works)
3. Travel Height (m)
4. Number of Stops served
5. Brand Name
6. Lift System Model Number
7. Lift Type
8. Type of Drive System
9. Code Compliance
10. Carriage Size (width x depth) (mm)
11. Rated Load (kg)
12. Rated Speed (m/s)
13. Carriage Mass (kg)
14. Brake Torque (Nm)

3.4.2. **Drawings**

The following documents (with at least 300 dots per inch resolution and dimensions in millimeters clearly marked):

1. a location plan;
2. a site plan showing —
   a) the location and layout of the site with boundary lines clearly verged;
   b) the outline of the building which fixed installation works are to be carried out marked in colour or otherwise; and
   c) the north point, or the geo reference, and the number and adjoining lots and the Mukim (MK) or Town Subdivision (TS) number of the lot;
3. a layout of the equipment, in elevation and plan view, that shows the lift carriage size and clearance;

3.4.3. **Certificates and reports**

Where applicable, the following documents on the lift's control system:

1. the test certificate for each E/E/PE of the lift (including any accompanying document);
2. the test procedure relating to each E/E/PE of the lift.

3.5. **Escalators/Passenger Conveyors**

3.5.1. **Data to be submitted**

The following data are required to be keyed into a form template:

1. Escalator Number
2. Escalator ID (for major A/R works)
3. Rise of Escalator (m)
4. Brand Name
5. Escalator System Model Number
6. Escalator Type
7. Code Compliance
8. Inclination Angle (°)
9. Step or Pallet Widths (mm)
10. Rated Speed (Highest Speed) (m/s)
11. Balustrade Type (Glass/Metal)
12. Drive Chain Model Number
13. Drive Chain Type (Duplex/Triplex)
14. Number of E-stop Switches
15. Number of Flat Steps at Landing
16. Controller Model Number
17. Drive Machine Model Number
18. Drive Machine Brake Model Number
19. Brake Torque (Nm)
20. Auxiliary Brake Model Number

3.5.2. **Drawings**

The following drawings (with at least 300 dots per inch resolution and dimensions in millimeters clearly marked):

1. a location plan;
2. a site plan showing —
   a) the location and layout of the site with boundary lines clearly verged;
   b) the outline of the building which fixed installation works are to be carried out marked in colour or otherwise; and
   c) the north point, or the geo reference, and the number and adjoining lots and the Mukim (MK) or Town Subdivision (TS) number of the lot;
3. one or more design plans that collectively show the escalator's safety zone, clear height and structural support.

3.5.3. **Certificates and Reports**

one or more factory acceptance test reports that collectively show the following:

1. proof of calculation of sufficient breakage resistance of the step chains, racks, and any other parts directly driving the steps, pallets or belt of the escalator;
2. a calculation of the stopping distance for loaded moving walks with adjustment data;
3. proof testing of the steps or pallets;
4. proof of the belt’s breaking strength;
5. proof of the stopping distance and deceleration values of the escalator.

3.6. **Mechanised Car Park Systems (MCPS)**

3.6.1. **Data to be submitted**

The following data are required to be keyed into a form template:

1. MCPS Number
2. MCPS ID (for major A/R works)
3. Number of Car Park Lots
4. Number of Stacks
5. Brand Name
6. MCPS System Model Number
7. MCPS Type
8. Country of Manufacture
9. Code Compliance
10. Transfer Area (width x length) (mm)
11. Type of Operation – Automatic/Semi-Automatic/Manual (Hold to Run)
12. Maximum Size of Vehicle (width x length x height) (mm)
13. Maximum Load (kg)

3.6.2. **Drawings**

The following drawings (with at least 300 dots per inch resolution and dimensions in millimeters clearly marked):

1. a location plan that shows the location of the mechanised car parking system including but not limited to the following:
   a) the location of the transfer area (including where a vehicle will enter into or exit from, the transfer area);
   b) the location of control panel of the mechanised car parking system;
   c) the location of the sensors that are part of the man machine interface;
   d) the location of any user exit door for the transfer area;
   e) the location of any emergency door for the transfer area;

2. a site plan that shows —
   a) the matters referred to in paragraph (1);
   b) the north point, or the geo reference;
   c) the number and adjoining lots; and
   d) the Mukim (MK) or Town Subdivision (TS) number of the lot;

3. design drawings of the man machine interface of the mechanised car parking system (in plan view, elevation view and sectional view) showing —
   a) whether the mechanised car parking system operation type is automatic, semi-automatic or manual (hold-to-run);

b) the design of the transfer area, showing where a vehicle should be situated and the length, width and height of the transfer area;
c) where the control panel (that contains the hold-to-run button, start button and stop button) will be installed;
d) where an emergency stop button will be installed;
e) where a door protective device will be installed and its dimension and coverage;
f) where an anti-fall device will be installed and its dimensions; and
g) the coverage (within the transfer area) of sensors.

3.7. **Naming Convention of Submission Documents**

Drawings	**Naming Convention**
Plan, elevation and section views of the access path to the machine room	MR_ACC_Plan MR_ACC_Elevation MR_ACC_Section
Plan showing occupancy space below lift pit	OCC_Plan
Plan, elevation and section views of the machine room	MR_LO
Hoistway and lift car cross sectional plans	HSWY_Plan

Type Testing Certificates	**Naming Convention**
Lift System Model	LS_(model no. of lift system)_(certificate no.)
Landing door locking device	LDL_(model no. of component)_(certificate no.) E.g. LDL_A2345_BC67890X
Car door locking device	CDL_(model no. of component)_(certificate no.)
Safety gear	SG_(model no. of component)_(certificate no.)
Overspeed governor	OSG_(model no. of component)_(certificate no.)
Buffer	BF_(model no. of component)_(certificate no.)
Safety circuits containing electronic components/ Safety circuit containing programmable electronic systems in safety related applications for lifts (PESSRAL)	SC_(model no. of component)_(certificate no.) For safety circuit containing electronic components Or SCP_(model no. of component)_(certificate no.) For safety circuit containing PESSRAL
Ascending car overspeed protection means (ACOP) detection subsystem	
Ascending car overspeed protection means (ACOP) stopping subsystem	ACOPS_(model no. of component)_(certificate no.)
Unintended car movement protection means (UCMP) detection/control subsystem	UCMPD_(model no. of component)_(certificate no.)
Unintended car movement protection means (UCMP) stopping subsystem	UCMPS_(model no. of component)_(certificate no.)
Self-monitoring of brakes/hydraulic valves (if brakes or hydraulic valves	SM_(model no. of component)_(certificate no.)

are used as stopping subsystem for ACOP and/or UCMP)	
Rupture valve/one-way restrictor (for hydraulic lifts only)	RV_(model no. of component)_(certificate no.) For restrictor Or RS_(model no. of component)_(certificate no.) For one-way restrictor

3.8. **Lapse of FI Plans approval**

Once the plans approval is obtained, the approved works should commence within 24 months. Otherwise, the plans approval will be lapsed. In such event, a new plans submission will be required and a new approval will have to be obtained prior to the commencement of works. The new plans submission will have to comply to the regulatory requirements at the time of submission.

4. **Application of New PTO/PTO after Major A/R works**

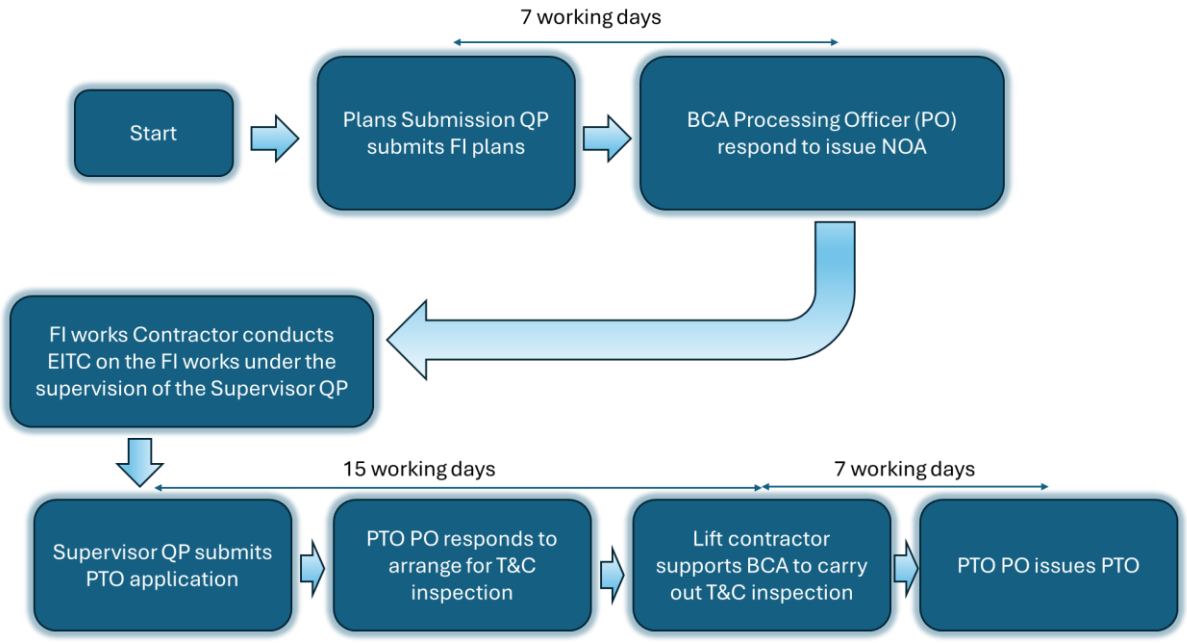
Valid PTO will have to be obtained before putting each FI into operation after installation or major A/R works. The supervisor QP is to submit the EITC inspection checklist for the FI and other documents as attachment to the PTO application.

Please refer to the EITC checklist templates in the T&C guide that the supervisor QP needs to fill in and submit and the other required submission documents and equipment data for each of the types of FI.

BCA may choose to conduct an inspection of the FI before the issuance of the PTO. A proposed inspection date should be provided during the PTO application.

Please refer to the LEAP user guides for the procedures to make a PTO application through the online PTO application system LEAP.

5. **Overall Process Flow**



Note: The above timeline is with the assumption that all submissions/applications/inspections are in order and does not include additional time that may otherwise be incurred for re-review/re-inspections and correspondences.

6. **Frequently Asked Questions**

Qn: Can the Plan Submission QP and the Supervisor QP be the same person?

Ans: While different persons can be appointed as the Plan Submission QP and the Supervisor QP respectively, it is also acceptable to appoint the same person for the two roles.

Qn: Who can appoint the Plan Submission QP and the Supervisor QP?

Ans: The QPs can be appointed by the developer or by the builder on behalf of the developer. If they are not appointed by either party, they can be appointed by the FI works contractor on behalf of the developer.

Qn: If I do not have any no BP or ST plan submission for my full lift replacement/major A/R works, do I still require FI plan submission?

Ans: As long as your FI works commence on or after 1 Oct 2025, you will require FI plans submission even if there are no BP or ST plan submission.

Qn: What is considered as a full lift/escalator replacement? Do I apply as a new installation or a major A/R works during plans submission for full lift replacement? What about the PTO application type?

Ans: A full lift replacement will involve the replacement of the entire lift system, including guide rails and car cage. Similarly, a full escalator replacement will involve the replacement of the entire escalator system, including the truss. Any scope of work less than that will be considered as a major A/R work. For a full FI replacement, the plan submission type will be under “new installation” and the PTO should be applied under “new PTO application”.

Qn: If my project has many phases and the first phase has already commenced work, will the other phases of the same project be excluded from the new regime?

Ans: If the other FI works in your project will only commence work on or after 1 Oct 2025, and there are no BP or ST plans submitted for these FI works before that date, FI plans submission will be required.

Qn: If the contract for my project has been awarded before 1 Oct 2025, can I be excluded from the new regime?

Ans: The implementation of the new regime will be based on the date of commencement of work physically on site, and is independent of any contractual date.

Qn: How do I know whether plans submission is required and what are the documents or data to be submitted for my major A/R works?

Ans: You may refer to the First Schedule for the list of major A/R works that require FI plans submission. The SPE will need to assess which are the affected data and documents relevant to the major A/R works that need to be submitted from within the list in Chapter 3.1 to chapter 3.7.

Qn: What should I look out for in the lift system type testing documentations?

Ans: The safety component models used for your lift should be within the listed component models in the lift system type testing certificate/report. The specifications of the installed lift system (rated load, rated speed etc) should also be covered by the type testing scope of the certificate/report.

Annex A – List of Certification Bodies Recognised by BCA

Lift Model and PESSRAL	Other Safety Components
• Liftinstituut B.V. • TUV SUD Industrie Service GmbH • Shenzhen Institute of Quality and Safety Inspection and research, **SIQS** (previously known as Shenzhen Institute of Special Equipment, SISE) • National Elevator Inspection and Testing Centre, **NETEC** • Shanghai Jiaotong University Elevator Test Centre, **SJUETC** • Guangdong Institute of Special Equipment Inspection and Research/National Elevator Quality Supervision and Inspection Centre (Guang Dong)	Accredited notified bodies (NoBo) in Europe and authorised certification bodies in China. List of NoBo for Lift in Europe: Link: (https://ec.europa.eu/growth/tools-databases/nando/index.cfm?fuseaction=directive.notifiedbody&dir_id=153562) List of Certification bodies in China: • Shenzhen Institute of Quality and Safety Inspection and research, **SIQS** (previously known as Shenzhen Institute of Special Equipment, SISE) • NETEC Inspection and Testing (Beijing) Co., Ltd. (National Elevator Inspection and Testing Centre), **NETEC** • Shanghai Jiaotong University Elevator Testing Centre, **SJUETC** • Guangdong Institute of Special Equipment Inspection and Research/National Elevator Quality Supervision and Inspection Centre (Guang Dong) • Zhejiang Institute of Special Equipment Inspection and Research/National Elevator Quality Supervision and Inspection Centre (Zhe Jiang) • Chongqing Institute of Special Equipment Inspection and Research/National Elevator Quality Supervision and Inspection Centre (Chong Qing) • China Special Equipment Inspection and Research Institute For the most updated list of accredited Chinese Certification Bodies, please refer to the website link below: https://www.samr.gov.cn/tzsbj/xxgs/

Annex B – Lists of Material Changes to Submitted/Approved Design

"Material change", in relation to fixed installation works, means any change to the fixed installation works that —

(a) affects the safety of the fixed installation during operations or maintenance, after the fixed installation works are completed; or
(b) relates to a component that is subject to type testing;

Any deviations to the approved design prior to obtaining the PTO that fall within the lists of material changes below will require the submission and approval of amendment plans before the commencement or works.

B1. Lifts (SS550)

Any changes to the approved design to increase the available car area, add a car entrance, add a landing entrance or change any of the following in relation to the lift:

a) the brake system;
b) the car mass by 5% or more;
c) the type of drive system;
d) the rated load;
e) the rated speed;
f) the travel distance;
g) the ascending car overspeed protection means;
h) the buffer;
i) the car bottom clearances and overhead clearances;
j) the door locking device type;
k) the guiderail size;
l) the number or size of a hoisting rope;
m) the overspeed governor;
n) the restrictor or one-way restrictor;
o) the rupture valve;
p) an E/E/PE;
q) the safety gear;
r) the traction sheave;
s) the unintended car movement protection means;
t) the access to the machinery spaces.

B2. Vertical Platform Lifts

Any changes to the approved design to add a landing entrance or change any of the following in relation to a vertical platform lift:

a) the brake system;

b) the platform mass by 5% or more;
c) the type of drive system;
d) the rated load;
e) the rated speed;
f) the pit depth;
g) the travel distance.

B3. Stairlifts

Any changes to the approved design to any of the following in relation to a stairlift:

a) the brake system;
b) the carriage mass by 5% or more;
c) the type of drive system;
d) the rated load;
e) the rated speed.

B4. Escalators/Passenger Conveyors

Any changes to the approved design to increase the maximum rated speed of an escalator or to change any of the following in relation to an escalator:

a) the auxiliary brake;
b) the brake system;
c) the drive system;

B5. MCPS

Any changes to the approved design to change any of the following in relation to the man machine interface of a mechanised car parking system:

a) the rated load;
b) the vehicle entrance and exit location;
c) the user exit door location;
d) the emergency door location;
e) the coverage of any sensor that detects or limits movement within the transfer area;

Annex C – Lists of Immaterial Changes to Submitted/Approved Design

“Immaterial change”, in relation to fixed installation works, means any change to the fixed installation works that is not a material change;

Any deviations to the submitted/approved design prior to obtaining the PTO that fall within the lists of immaterial changes below will require the submission of as-built plans. Works can proceed without the need to obtain design approval for the as-built plans.

C1. Escalators/Passenger Conveyors

Any changes to the approved design to any of the following in relation to an escalator:

a) Changing the step band (including step band and step type)

C2. MCPS

Any changes to the approved design to any of the following in relation to the man machine interface of a mechanised car parking system:

a) the design of the anti-fall device;
b) the position or coverage of the door protective device (light curtain/photo sensor)
c) the controls of and logic programming that affects the transfer area;
d) the dimension of the transfer area;

Annex D – Lists of Major Alteration or Replacement Works that require the Submission and Approval of Plans

D1. Lifts (SS550)

Any works to increase the available car area, add a car entrance, add a landing entrance or change any of the following in relation to the lift:

a) the brake system;
b) the car mass by 5% or more;
c) the type of drive system;
d) the rated load;
e) the rated speed;
f) the travel distance;
g) the ascending car overspeed protection means;
h) the buffer;
i) the car bottom clearances and overhead clearances;
j) the door locking device type;
k) the guiderail size;
l) the number or size of a hoisting rope;
m) the overspeed governor;
n) the restrictor or one-way restrictor;
o) the rupture valve;
p) an E/E/PE;
q) the safety gear;
r) the traction sheave;
s) the unintended car movement protection means;
t) the access to the machinery spaces.

D2. Vertical Platform Lifts

Any works to add a landing entrance or change any of the following in relation to a vertical platform lift:

a) the brake system;
b) the platform mass by 5% or more;
c) the type of drive system;
d) the rated load;
e) the rated speed;
f) the pit depth;
g) the travel distance.

D3. Stairlifts

Any works to change any of the following in relation to a stairlift:

a) the brake system;
b) the carriage mass by 5% or more;
c) the type of drive system;
d) the rated load;
e) the rated speed.

D4. Escalators/Passenger Conveyors

Any works to increase the maximum rated speed of an escalator or to change any of the following in relation to an escalator:

a) the auxiliary brake;
b) the brake system;
c) the drive system;
d) the step band.

D5. MCPS

Any works to change any of the following in relation to the man machine interface of a mechanised car parking system:

a) the design of the anti-fall device;
b) the controls of and logic programming that affects the transfer area;
c) the position or coverage of the door protective device (light curtain/photo sensor);
d) the emergency door location;
e) the rated load;
f) the dimension of the transfer area;
g) the coverage of any sensor that detects or limits movement within the transfer area;
h) the user exit door location;

Annex E – Lists of Major Alteration or Replacement Works that do not require the Submission and Approval of Plans

E1. Lifts (SS550)

Any works to change any of the following in relation to the lift:

a) the software in a manner that affects safety functionalities;
b) the type of the hoisting rope;
c) the landing door type;
d) the car door type;
e) the compensation system;
f) the hydraulic jack;
g) the pawl device;
h) the pressure relief valve.

E2. Vertical Platform Lifts

Any works to change any of the following in relation to a vertical platform lift:

a) the overspeed limitation device;
b) the software in a manner that affects safety functionalities;
c) an E/E/PE;
d) the guiderail size;
e) the number, size or type of the hoisting rope;
f) the landing door type;
g) the landing door locking device.

E3. Stairlifts

Any works to change any of the following in relation to a stairlift:

a) the overspeed limitation device;
b) the software in a manner that affects safety functionalities;
c) an E/E/PE.

E4. Escalators/Passenger Conveyors

Any works to change any of the following in relation to an escalator:

a) the balustrade;
b) the overspeed and reversal protection means;

c) the software in a manner that affects safety functionalities;
d) the truss;
e) an E/E/PE.

Annex F – Protection Means for Hydraulic Lifts (from SS550:2020 Table 12)

Table 12 – Protection means for hydraulic lifts

			Precautions against creeping in addition to re-levelling (5.12.1.4)		
	Type of lifts	**Alternative combinations to be selected**	Tripping of safety gear (**5.6.2.1**) by downward movement of the car (**5.6.2.2.4**)	Pawl device (**5.6.5**)	Electrical anti-creep system (**5.12.1.10**)
Precautions against free fall or descent with excessive speed	**Direct acting lifts**	Safety gear (**5.6.2.1**), tripped by overspeed governor (**5.6.2.2.1**)	X	X	X
		Rupture valve (**5.6.3**)		X	X
		Restrictor (**5.6.4**)		X	
	Indirect acting lifts	Safety gear (**5.6.2.1**), tripped by overspeed governor (**5.6.2.2.1**)	X	X	X
		Rupture valve (**5.6.3**) plus safety gear (**5.6.2.1**) tripped by breakage of suspension means (**5.6.2.2.2**) or by safety rope (**5.6.2.2.3**)	X	X	X
		Restrictor (**5.6.4**) plus safety gear (**5.6.2.1**) tripped by breakage of suspension means (**5.6.2.2.2**) or by safety rope (**5.6.2.2.3**)	X	X	

Annex G – Template of Annex to be issued for existing lift model type test certificate/report

The letter should begin with: "The following safety components can be used in lift model XXX (type test certificate XXX)". Any conditions that must be fulfilled for the use of specific safety components shall be clearly indicated in this Annex.

The annex should include all the safety components that can be used for that particular lift model certificate with the details listed below (refer to the table below)

The Annex needs to be stamped by the certification body.

1. Safety circuits containing electronic components and/or programmable electronic system (PESSRAL)

Model	Certificate No.	Certificate Body	Manufacturer

2. Unintended Car Movement Protection (UCMP) detection / control means

Model	Certificate No.	Certificate Body	Manufacturer

3. Unintended Car Movement Protection (UCMP) stopping means

Model	Certificate No.	Certificate Body	Permissible total weight [kg]	Manufacturer

4. Ascending car overspeed protection (ACOP) detection means

Model	Certificate No.	Certificate Body	Tripping speed (m/s)	Manufacturer

5. Ascending car overspeed protection (ACOP) stopping means

Model	Certificate No.	Certificate Body	Permissible total weight [kg]	Rated speed range [m/s]	Manufacturer

6. Locking device for landing doors

Model	Certificate No.	Certificate Body	Manufacturer

7. Locking device for car doors (if applicable)

Model	Certificate No.	Certificate Body	Manufacturer

8. Safety Gear

Model	Certificate No.	Certificate Body	Permissible total mass of car and rated load (P+Q) [kg]	Tripping speed [m/s]	Surface condition of guide rails	Manufacturer

9. Overspeed Governor

Model	Certificate No.	Certificate Body	Rated speed [m/s]	Mechanical Tripping speed [m/s]	Manufacturer

10. Car Buffer

Model	Certificate No.	Certificate Body	Max. total weight [kg]	Max. impact speed [m/s]	Manufacturer

11. Counterweight Buffer

Model	Certificate No.	Certificate Body	Max. total weight [kg]	Max. impact speed [m/s]	Manufacturer

12. Counterweight Overspeed Governor (if applicable)

Model	Certificate No.	Certificate Body	Rated speed [m/s]	Mechanical Tripping speed [m/s]	Manufacturer

13. Counterweight Safety Gear (if applicable)

Model	Certificate No.	Certificate Body	Permissible total mass of car and rated load (P+Q) [kg]	Tripping speed [m/s]	Surface condition of guide rails	Manufacturer

14. Rupture valve / One-way restrictor (if applicable)

Model	Certificate No.	Certificate Body	Manufacturer