

# FSI Drawings Submission 消防裝置圖則審批

CAP. 572  
香港法例第572章

# Relevant Documents for Vetting

- Fire Safety Directions (FSDns) under Cap. 572
- Codes of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installations and Equipment  
[March 1994 ]
- FOC Rules (29<sup>th</sup> Edition)/ LPC Rules
- FSD Circular Letters

# Documents to be provided in the submission

- **Consent / Employment / Nomination letter(s)** from the Incorporated Owners (I.O.) / Owner(s) of Non-domestic Purposes
- Complete and accurate information on **Form FSI/314C**
- **Letter of consent / approval from Buildings Department (BD)**
  1. New FS water tank(s)
  2. Conversion of existing water tank(s) to serve as FS water tank
  3. Pump plinth and housing ... etc
- Confirm with Water Supplies Department (WSD) on “**minimum water pressure**” available from the water town mains
  - **Improvised Sprinkler Installation & Direct Feed to FS water tank**

# Documents to be provided in the submission

- Letter of consent from Incorporated Owners / Owner(s) on the **location of FS equipment**
  1. FS Inlet / Sprinkler Inlet
  2. Sprinkler Control Valve set
  3. New FS water tank(s)
  4. New transfer / up-feed water tank
  5. FS pump(s) / sprinkler pump(s) / booster pump(s) / transfer water pump(s)
- Letter of consent from I.O. / Owner(s) for any **additional / voluntary FS improvement work** other than FSDn requirements

# Documents to be provided in the submission

- **Electrical schematic diagram** (copies with WR2)
- **Agreement** from I.O. / Owner(s) for **connection to the main FS system**
  1. Piping connection to the main FS systems (i.e. FH/HR & sprinkler)
  2. Fire signal connected to the existing MFA system

# Flexible and pragmatic approach (Cap. 572)

- **Reduced capacity FS water tank**  
(9,000 litres effective volume for FH/HR system)
- **Improvised sprinkler system**
  1. Direct Town Main (DTM)
  2. Connection from existing FS water tank

# Application for Relaxation of FS Installation

- Spatial, and/or other constraints (**justifications including site photos**):-
  1. FS / Sprinkler Inlet(s) at principal face of building facing the main road or EVA
  2. Sprinkler Control Valve set at main entrance
  3. Hose reel, alarm bell and MFA call point in common areas immediately on that floor
  4. MFA panel at main entrance (unavailable of caretaker / management office)

# Application for Relaxation of FS Installation (For Consideration and Assessment)

- **Approval from BD regarding Structural Constraints**
  1. Approval on the SAR report
  2. Unavailable Building Structure Record Plan

**And**

- **Objection letter** from R/F Owner(s) in private owned areas



# Structural Appraisal Report (SAR)

- Prepared by **Authorized Person [AP(RSE)]**
  - Submission to Buildings Department (BD) directly
  - Submission through FSD
- (**Two copies** of SAR report for onward submission to BD)

# Contents of Structural Appraisal Report (SAR)

- Location of FS water tank

Consider the **best** place where,

1. There are **adequate existing supporting structural columns** underneath to sustain all the additional structural loading, or
2. The **span of existing / new supporting beam / columns** underneath to sustain the additional structural loading, or
3. It can be **feasible to add structural steel beams or supporting steel members / frames** to sustain the additional structural loading

# Contents of Structural Appraisal Report (SAR)

- Calculation Procedure

1. Detailed **structural calculations** and procedures
2. Structural framing plan and architectural layout plan with all **possible locations** to accommodate the new FS water tank
3. The calculation procedure shall not only include the predetermined capacity (effective) of the new FS water tank but it shall include calculations for each step up size tank of **500 litres increment** up to **utmost capacity**

# Contents of Structural Appraisal Report (SAR)

- Calculation Procedure (cont'd)

4. A **summary table** showing the comparison of all the existing column loadings, spare loading / capacity on existing columns and all the newly added column loadings should be included for BD assessment
5. The report shall be **signed** by [AP(RSE)]

# Contents of Structural Appraisal Report (SAR)

- Additional Sections

1. Recommendation

- ✓ FS water tank of the utmost size \_\_\_\_\_ litres

2. Certification

AP(RSE)'s Certification with Profession Qualification in abbreviation format

Full Name

Registered Structural Engineer

BSc(Eng), MSc(Eng), PhD,

MIStructE, MHKIE etc...

# Requirements of FSI Drawings (General)

- Complete set of submission shall include **Diagrams of Piping schematic, MFA schematic, Electrical schematic and Floor layout plan**
- **Names of surrounding street(s) / road(s)** should be indicated on G/F plan
- All FS equipment (i.e. FS / sprinkler inlet, sprinkler control valve & etc. ) shall be **located within building boundary / Lot**
- **Do not colour the pipes for water supply system** (i.e. between the water town mains & the inlet of the Sprinkler / FH/HR / HR tank)
- Ensure that the **means of escape (MoE) is not obstructed** by any fire service installations

# Requirements on FSI Drawings (FH/HR)

- Hose reel, MFA call point and fire alarm bell shall be **located in common area** and immediately outside the occupied unit on that floor
- Integral **cockloft** with G/F area, the Hose reel, MFA call point and fire alarm bell may not be required for cockloft if the **covering distance** from G/F hose reel is **justifications**
- If the **cockloft** with an exit / opening to the staircase / corridor or with independent staircase discharge to street, the cockloft shall be **treated as individual floor**. Hose reel, MFA call point and fire alarm bell shall be provided

# Requirements on FSI Drawings (FH/HR)

- FH/HR, MFA call point and fire alarm bell would **not** be required to be installed on **Open Roof without any accommodation**
- A hose reel, a MFA call point and a fire alarm bell should be installed **inside** each of the shop
- FSD may consider the proposal of using a **common** set of hose reel, MFA call point and fire alarm bell for the shops and have the set to be **located in the common area at the main entrance** provided that :-
  - a) written consent / confirmation letter submitted by the I.O. / Owner(s)
  - b) the hose reel and MFA call point are accessible to the shops at all times **without obstruction** by any types of lockable gate



# Requirements on FSI Drawings (Improvised Sprinkler System)

- **Design point(s)** for friction loss not exceeding **500 mbar** shall be indicated on the layout plan for pre-calculated installation
- The **pipe size** shall work in accordance with Table 4122.1, **FOC** for OH(1) and/or Tables 57 & 58, **LPC Rule** of pre-calculated method
- The sprinkler inlet, anti-pollution valve and sprinkler control valve shall be located **within the building boundary** which can be **readily accessible by F.S. Personnel**

# Requirements on FSI Drawings (Electrical Schematic)

- All fixed fire pumps, sprinkler pumps, jockey pumps and FS control panel shall be connected from both **primary and secondary source** of power supply
- **Fire resisting cables** to BS 6387 Cat. AWX or SWX or BS 6207 or BSEN 60702 shall be used for **new fire alarm system**
- Only FS equipment be permitted for connection after the essential auto changeover switch
- Protection device for fixed fire / sprinkler **pump(s)** shall be of **HRC fuse**
- The power supply cables for FS pumps should follow the **CoP for the Electricity (Wiring) Regulations, EMSD**

# Requirements on FSI Drawings (VAC)

- **Schematic air flow diagram** showing the air-side arrangement
- All HVAC equipment under VAC control should be **coloured** in the **schematic diagram** and **layout plans**
- **Designed flow capacities** of HVAC equipment should be indicated
- **Method(s) for VAC control system** shall be stated
- The **manual override switch** and **fire alarm control panel** should be incorporated with the schematic of VAC control system
- **Location** of manual override switch and FS main panel

# FSI Drawings Vetting Process

- The vetting of FSI drawings adopt **First-come-first-serve principle**
- **Initial Checking Process** with Checklist
- Detail checking Process

## Remark:

Approval shall **not** be given to those **non-functioned FSI systems**

(i.e. hose reel or sprinkler inside individual unit as building system could not be function properly (cases under Cap 572))

# FSI Drawings Submission & Vetting (Result)

- **Rejected cases**

1. Result would notify the **FSIC / Consultant** with comment sheet
2. Separate notification to **I.O. / Owner(s)** without comment sheet

- **Accepted / Approved cases**

1. **Minor corrections** may be arranged with **FSIC / Consultant** accordingly
2. **Fire Certificate** (F.S. 161) on approval of FSI Drawings to be issued to **FSIC / Consultant**
3. **Result** would notify **I.O. / Owner(s)**

# Priority Vetting

- Priority vetting for FSI plan only be **granted under the following conditions:**
  1. Case under **court order**
  2. OBB/HS/other **Loan scheme cases** reaching the **final appeal board**
- The **application** shall **apply** to case Officer under separate submission
- Approval granted from **Senior Officials**

# Other points to note

- FSIC / Consultant shall **notify** their employer(s) /owner(s) / related parties for the status of FSI drawing submission
- FSIC / Consultant shall indicate the status of submission (i.e. new or re-submission)

# Technical Enquiry

Building Improvement Division 1,  
(North Point Office)

Principal Technical Officer  
Mr. WONG Po-keung  
Tel: 2807 9166

Building Improvement Division 2,

Principal Technical Officer  
Mr. YIM Chi-wai  
Tel: 2117 6503



# General Aspect – Use of Form

**Out-dated**  
**FSI/314C**

FSI/314C

To : Director of Fire Services  
(Attn: Building Improvement and Support Division)

Fire Service Installation Plans for  
\*Composite Building / Domestic Building at

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This is to certify that the details and specifications of all installations shown on the attached fire service installation plans are as prescribed by the Fire Services Department under the Fire Safety (Buildings) Ordinance and in accordance with the relevant Rules and Codes of Practices, as may be applicable, e.g. :-

- \* Rules of Loss Prevention Council for Automatic Sprinkler Installation
- \* Fire Offices' Committee for Automatic Sprinkler Installation (29<sup>th</sup> Edition)
- \* Code of Practice for Minimum Fire Service Installations and Equipment, Fire Services Department

Signed \_\_\_\_\_

\_\_\_\_\_  
(Full Name of FSI Contractor/Consultant)

Date \_\_\_\_\_

\*To be deleted as appropriate



# >>Forms can be downloaded from FSD web Site<<

The screenshot displays the Fire Services Department website interface. At the top, the logo of the Fire Services Department and the Government of the Hong Kong Special Administrative Region are visible, along with the 'HONG KONG' logo. The navigation bar includes 'GovHK 香港政府一站通', language options (繁體版, 简体版), a search bar, and links for 'SITE MAP' and an email icon. The left sidebar contains a list of menu items: Home, What's New, About Us, Press Release, Publication, Access to Information, Events, Organisation, Contact Us, Tender, Information Release, Recruitment, Photo Gallery, FAQ, Download, Electronic Services, Links, and Mobile Application. The 'Download' item is circled in red. The main content area features a 'Download' header and a breadcrumb trail 'Home > Download'. Below this, a box contains two links: 'Downloadable Forms' and 'Downloadable Software'. At the bottom, there is a footer with copyright information (2003©), links for 'Important Notices' and 'Privacy Policy', and the last revision date (22-02-2016).



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[Home](#) > [Downloads](#) > Downloadable Forms

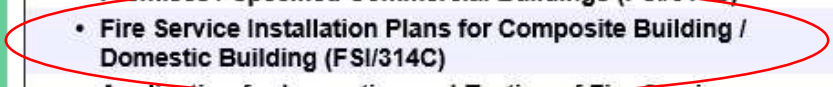
### General Form

- [Application for Access to Information](#)
- [Application Form for Inclusion in the FSD Supplier Lists](#)
- [Application Form for Fire Services Department Public Liaison Group](#)
- [Application for Fire Safety Talk / Evacuation Drill / Exhibition / Pamphlets Distribution / Mobile Publicity Unit / Fire Safety Education Bus](#)
- [Application Form for Employment with the Government of the Hong Kong Special Administrative Region \(GF340\)](#)
- [Fire Safety Checklist](#)
- [Personal Data \(Privacy\) Ordinance Data Access Request Form \(OPS003\)](#)

### Fire Service Installation Contractor (FSIC)

- [Application for Change of Particulars - Fire Services Department Fire Service Installation Contractor \(FSIC\)](#)
- [Application for Registration as Class 1 and/or Class 2 Fire Service Installation Contractor \(FS250A\)](#)
- [Application for Registration as Class 3 Fire Service Installation Contractor \(FS250B\)](#)
- [Fire Service Installation Schematic Drawings / As-fitted Layout Drawings \(FSI/314\)](#)
- [Fire Service Installation Plans \(FSI/314A\)](#)
- [Fire Service Installation Plans for Prescribed Commercial Premises / Specified Commercial Buildings \(FSI/314B\)](#)
- [Fire Service Installation Plans for Composite Building / Domestic Building \(FSI/314C\)](#)
- [Application for Inspection and Testing of Fire Service Installations and Equipment \(FSI/501\)](#)

Tick here to download



FSI/314C

To: Director of Fire Services  
(Attn: Building Improvement Division) \* 1 / 2

Fire Service Installation Plans for  
\*Composite Building / Domestic Building at

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This is to certify that the details and specifications of all installations shown on the attached fire service installation plans are as prescribed by the Fire Services Department under the Fire Safety (Buildings) Ordinance and in accordance with the relevant Rules and Codes of Practices, as may be applicable, e.g. :-

- \* Rules of Loss Prevention Council for Automatic Sprinkler Installation
- \* Fire Offices' Committee for Automatic Sprinkler Installation (29th Edition)
- \* Code of Practice for Minimum Fire Service Installations and Equipment, Fire Services Department

Full Name of FSI \*Contractor/ Consultant : \_\_\_\_\_

Contact Person : \_\_\_\_\_

Address : \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Tel. : \_\_\_\_\_

Signed : \_\_\_\_\_

Date : \_\_\_\_\_

\* To be deleted as appropriate

# General Aspect – Use of Form

## **Inappropriate items**

- i) **BI office division number** (i.e. 1 or 2)
- ii) **Type** of the subject building
- iii) Adopted **standards & trade** of the applicant
- iv) **Address** of the subject building is not in line with that as stated in **Fire Safety Direction**

# General Aspect – Supporting Documents

## a) **No related document**

- i) **Employment / Nomination** letter from Incorporated Owners (I.O.) or Owners
- ii) **Letter of consent** from I.O. / Owner on the locations of FS installations (e.g. sprinkler control valve set, FS water tank and pumps)
- iii) Letter from **WSD** showing **water supply pressure**, size and **location of tee-off pipe** for improvised sprinkler system fed from direct water town main
- iv) Approval /consent from **Building Department**

# General Aspect – Supporting Documents

**b) Common errors found in Employment / Nomination letter from I.O. or Owners**

**i) No company chop**

**ii) Missing full name or signature of I.O. / Owners**

# General Aspect – Supporting Documents

**Good Practice -**

**Covering letter specifying the contents of submission**

- **Drawing numbers**
- **Nos. of set of drawings**
- **Supporting documents attached**



# General Aspect – FSI Drawings

- i) Incorrect scale of FSI layout plans are shown.
- ii) Scale of FSI layout plans are not drawn in minimum S.I. Metric ratio **1:100**
- iii) Texts and symbols are **too small** to read / **low colour contrast** between text/symbols and the drawing
  - >> All texts and symbols shown on drawings shall be min. size **2.5mm** height

**FSD Circular Letter No. 4/96 Part I Clause 3.6.1**

# General Aspect – FSI Drawings

- iv) **New F.S. pipes have not been colored with appropriate colour**
- v) **Locations of FS water tank and FS pumps are not in line with those as indicated on approved building plans / building record plans**

# **General Aspect – FSI Drawings**

**For some FSI submissions, only part plan(s) are provided.**

**A clear indication of the location should be submitted**

# Technical Aspect – FH/HR System

- i) Hose reels are not placed at **immediately outside** occupied units/areas
  - >> To provide justification (e.g. photos showing spatial constraint and proposed new position)
- ii) No **jockey pump** or other priming facilities provided for F.S. water tank located below the highest fire hydrants/hose reels
- iii) Fail to provide **independent water inlets and outlets** for each water tank in a multi-water tanks arrangement

# Technical Aspect – Automatic Sprinkler System

Improvised sprinkler system fed from Direct Town's Main (DTM)

- **No letter from WSD showing water supply pressure and location of tee-off pipe**
- **No hydraulic calculations provided (Pre-calculated)**
- **No design point provided or incorrect design point**

>>To provide hydraulic calculations (Pre-calculated)

- a) **Friction loss (<0.5bar) from sprinkler control valve (“C” Gauge ) to the design point**
- b) **Required running pressure at low flow (375 L/min) and high flow (540 L/min)**

# Technical Aspect – Automatic Sprinkler System

- **Non-functional** building sprinkler system is provided  
(e.g. without connection of any sprinkler heads)

# Technical Aspect – Automatic Sprinkler System

- Sprinkler inlet c/w anti-pollution valve are not placed at the **main entrance** of the building
  - >> i) To provide justifications
  - ii) An **indication plate** showing the location of the sprinkler inlet and affixed at the **main entrance** of the building

# Technical Aspect – Manual Fire Alarm System

- i) **MFA/FS control panel** is not placed at the caretaker's or management office or main entrance of the building  
  
>>To provide justifications
  
- ii) Fail to arrange manual fire alarm call points in '**floor zoning**' basis for a new MFA system
  
- iii) Fail to provide **fire resisting cables** for power supply to **fire alarm bells and FS control panel**



# Technical Aspect – Electrical Power Supply

1. **No protection device** for secondary power supply or the power rating of protection device not in order
2. **Power ratings** of protection device and isolator not consistent
3. **No isolating device** between kWh meter and change-over switch
4. **No distribution board** is provided for F.S. pump set

# Technical Aspect – VAC Control System

- i) Fail to state the **tripping method** (A, B or C)
- ii) Fail to provide the required information
  - Air flow schematic diagram
  - VAC control wiring diagram
  - To **colour** the ventilation fans to be shut down by the VAC control system

**FSD Circular Letter No. 4/96 Part I Clause 3.7.2**

# Structural Appraisal Report (SAR)

## Common errors found in SAR submission

i) **Only 1 copy of SAR attached**

ii) **Signature missed**

>>**2** copies of signed SAR shall be attached for SAR submission through Building Improvement Divisions

iii) **Insufficient justification**

>>**All common areas** shall be considered for seating a new FS water tank and fixed fire pumps

# Structural Appraisal Report (SAR)

## Common errors found in SAR submission (Cont'd)

- iv) **Address** of the subject building is not in line with that as stated in Fire Safety Direction
- v) **Utmost size** of the FS water tank
- vi) **Type** of the FS water tank (concrete / fibre glass)