

# 11.3 APPENDIX

Sprinkler System drawing approval guide



## Introduction

This guidance document has been developed to assist, amongst others, Sprinkler Contractors, Property Owners, Facilities Management Teams, Brokers, and Consultants.

Sprinkler design drawings are usually submitted to Aviva for review and approval prior to works commencing on site, however on occasion it is necessary to refer the submitted design drawings back to the sprinkler contractor due to errors, omissions or simply a lack of clarity in relation to the design proposals.

It is the responsibility of the sprinkler contractor to fully comply with all the requirements and codes of practice for the design, installation, testing and commissioning, together with any contractual requirements, in relation to the sprinkler works.

Notwithstanding these requirements, the sprinkler contractor also has the added benefit of familiarity with the site concerned and as such, the review and approval of design drawings by Aviva may ultimately be based on the level of detail and the accuracy of the information provided by the sprinkler contractor in their design drawings.

To compliment the requirements of the current sprinkler standards in terms of design drawings for sprinkler systems, the following guidance has been produced to both highlight key areas and to address the most common issues found when Aviva conduct reviews of sprinkler design drawings. Additionally, this guidance is neither exhaustive nor deemed to provide a minimum standard, but is instead intended to minimize the avoidable rejection of submitted sprinkler design drawings, to demonstrate the standards expected by Aviva and to improve service levels to Aviva's clients and their tenants.

### Note:

All works undertaken in relation to the sprinkler system should be carried out by a suitable sprinkler company, certified to an appropriate level within an independent 3<sup>rd</sup> party accreditation scheme, for example, 'LPS 1048: Requirements for the Approval of Sprinkler System Contractors in the UK & Ireland' or an equivalent scheme.

Where a sprinkler contractor's certified level requires that their design drawings are submitted for review by a 3<sup>rd</sup> party supervising body, this should be completed initially and the reviewed design drawings, together with any 3<sup>rd</sup> party review reports, should then be issued to Aviva for approval.

### Please Note

*This document contains general information and guidance and is not and should not be relied on as specific advice. The document may not cover every risk, exposure or hazard that may arise, and Aviva recommend that you obtain specific advice relevant to the circumstances. AVIVA accepts no responsibility or liability towards any person who may rely upon this document.*

## Sprinkler Design Drawings – Submission Guidance & Notes

1	All design drawings and supporting information are to be issued in a legible PDF format, by e-mail, with all non-relevant details removed, e.g. low-level fixtures, fittings, etc. DWG format design drawings should not be issued. <i>Note: Web-based / file-sharing sites cannot be used due to internal security measures.</i>
2	All design drawings need to be Construction or Approval issue and include a full description of the works being undertaken. Any design drawings that are Preliminary, Provisional, Subject To Survey, etc. should not be issued to Aviva for approval <i>Note: Where completion of design drawings is subject to, for example, the removal of existing suspended ceilings to allow a site survey to be undertaken, design drawings need to be issued as soon as is practicable following the commencement of works on site. This needs to be advised in writing, including an anticipated date of issue and the contract completion date.</i>
3	All design drawings need to be internally reviewed and verified by the sprinkler contractor prior to issue. <i>Note: This review needs to be evidenced on the design drawings and completed independently of the designer.</i>
4	Design drawings need to include, as far as is practicable, full details of any existing / retained sprinkler protection, including sprinkler spacing / location dimensions to demonstrate compliance with the current standards. <i>Note: It is the responsibility of the sprinkler contractor to review all existing / retained sprinkler protection, regardless of the extent of works. Any non-compliance(s) identified will need to be rectified in conjunction with the contract works. Where it is not possible to determine existing pipe work routes and sizes, e.g. where an existing plasterboard ceiling is being retained with no access above, then as a minimum the existing sprinkler location need to be detailed including full spacing / location dimensions, and any survey access restrictions need to be noted on the design drawings. Areas detailed as, for example, 'Not in Scope of Works' will not be accepted.</i>
5	All design drawings need to include comprehensive sprinkler spacing / location dimensions relative to the building structure, including beams, full height partitions, services, etc., all of which should be clearly identified. All pipe fabrication dimensions, unless separately detailed, need to be removed.
6	Wherever possible, sprinkler deflectors are to be installed between 75mm and 150mm from the structural ceiling in accordance with the current standards. <i>Note: The maximum distances of up to 300mm and 450mm (as applicable) should ONLY be used where circumstances make this unavoidable.</i>
7	Comprehensive, i.e. not typical or part, sectional details are required through each level of the unit / area, showing the distance of sprinkler deflectors from ceilings, structural features, voids depths, etc.
8	Sprinkler protection to floor openings, e.g. escalators and stairwells, and relative to open faces, mezzanine perimeters, combustible partitions, etc. is to be provided in accordance with the current standards.
9	A full schedule of the sprinkler heads needs to be provided including type(s), temperature rating(s), number of sprinklers, areas of protection, etc.
10	All equipment associated with the sprinkler protection, e.g. the type and location of all pipe work supports, isolation / zone valve(s), flow switch(s), zone check(s), etc. needs to be fully detailed. <i>Note: Any associated electrical works and the responsibility for such works also needs to be detailed, e.g. provision of a power supply, interface with the fire alarm system, etc.</i>
11	Where plasterboard or similar solid suspended ceilings are proposed, unless the requirements of TB227.2.4.2(k) can be complied with in full for each individual 2nd fix sprinkler head, the 2nd fix method employed will need to be 'hard pipe' and the design drawings must detail this. The presence of any existing flexible sprinkler connections is not to be considered as setting a precedent for their use or suitability. In all instances, any site-specific requirements or restrictions in relation to the 2nd fix method employed needs to be confirmed by the sprinkler contractor. <i>Note: In the case of re-fits requiring the re-positioning of 2nd fix sprinkler head locations, any existing flexible sprinkler connections will need to be scrapped and replaced with new. The repositioning / re-use of existing flexible sprinkler connections is NOT permitted.</i>
12	Full pressure loss calculations from the design point(s) back to the installation control valve / high rise zone valve (as applicable) need to be detailed. <i>Note: If, for example, the losses between the installation control valve and the connection point cannot be established, the pipe work between the connection and the design point and / or any remote array must be sized to the existing connection point.</i>
13	The fire rating / constructional details of floors, ceilings, roofs, exterior walls and any walls separating any sprinkler protected and non-sprinkler protected areas are to be detailed.
14	Any existing and / or potential non-compliance(s) identified need to be clearly detailed on the design drawings for consideration by Aviva.