



**DAN MURPHY'S  
FORMAT MASTERPLAN 2022.1 KIT  
LARGE STORE FORMAT  
FIRE SPECIFICATION**

REVISION A  
ISSUE DATE - 20.10.2021



## REVISIONS

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## CHANGES

Section	Description
<b>Error! Reference source not found.</b>	New section – “Inspection of Site”

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# FIRE PROTECTION SERVICES

## 1. GENERAL CLAUSES

### 1.1. GENERAL

The Liquor Outlet shall be provided with Fire Protection Services and Systems as required by the Building Code of Australia, all Acts and Building Regulations which are applicable, and this Fire Protection Specification Brief.

This Specification is to be read in conjunction with the General Conditions of Contract, the Preliminary Clauses and other Technical Sections of the Dan Murphy's Design Brief Kit prepared by Woolworths Limited.

**Note:** No approach shall be made to any Authorities for variations/dispensations to/from any Act or Building Regulations without the consent of Dan Murphy's. In particular, the use of Performance based /Fire engineered approach must have PRIOR Dan Murphy's approval. Full details must be submitted.

### 1.2. SCOPE OF WORKS

This Fire Protection Specification Brief covers the following fire protection services.

- a. Fire extinguishers
- b. Fire detection system
- c. Fire sprinkler services – including water supply
- d. Manual call points (breakglass alarms)
- e. Building occupant warning systems(sprinklers, fire alarms and smoke exhaust)
- f. Fire and smoke alarms associated with smoke control including fire fan control panel.

**Note:** Items indicated (\*) must be provided where required by BCA or Statutory Authority. Not all items listed are required in a project. The intent is to comply with BCA and Local Authorities' requirements.

### 1.3. WORKS BY OTHERS

#### 1.3.1. Mechanical

1. Provision of Volt Free contacts on the Main Mechanical Control Panel for 'Fire Trip' control wiring
2. Provision of air flow pressure switches on Smoke Exhaust Fans and Supply Air Fans to AS1668 Parts 1 & 2 where required.
3. Provision of contacts on the Main Mechanical Control Panel to enable 'Auto Off-On' control of Smoke Exhaust and Supply Air Fans by attending fire authority where required.

#### 1.3.2. Electrical

1. Provision of single phase power to FIP and sprinkler jacking pump where installed.

### 1.4. REGULATIONS, AUSTRALIAN STANDARDS ETC

All works associated with fire protection shall comply with the current amendments of the Building Code of Australia inclusive of the relevant State Appendices, all relevant Australian Standards referred to in the Building Code of Australia and all other relevant Acts and Building Regulations.

Where fire protection or fire detection equipment/system is to be installed which is not to a Building Code of Australia or Building Regulation requirement, this equipment/system shall be installed to the requirements of the Australian Standards referred to in the current amendment in the Building Code of Australia (all to the approval of Dan Murphy's).

Where there is no Australian Standard referred to in the Building Code of Australia, the current published Australian Standard by Standards Australia shall be applicable.

**Additional Note:**

It shall be the responsibility of the fire systems designer to acquire a copy of the following project specific information:

1. The most current fire engineering report (where alternative solutions are used to comply with the performance requirements of the BCA) to verify what, if any alternatives are proposed that may impact upon the fire services design and/or compliance with standards and codes;
2. Conditions and Development Approval, as issued by the Consent Authority
3. Conditions of Building Approval or Construction Certificate as issued by the Principal Building Certifier or Approval Authority.

## **1.5. AUTHORITIES' REQUIREMENTS**

In addition to the requirements of 'Regulations, Australian Standards, etc, all works associated with this Fire Protection Brief shall comply with the relevant Regulations and requirements of the following Authorities.

- Council and/or Government Body having jurisdiction over the works
- Fire Authority
- Water and Sewerage Authority
- Electrical Supply Authority
- Relevant State Department of Labour and Industry having jurisdiction over the works
- All other Authorities having jurisdiction over the works

## **1.6. PAYMENT OF FEES**

All Authorities fees associated with works covered by this Fire Protection Specification Brief shall be paid by the Installer and/or the Contractor. These include (but not limited to):

- All Fire Protection Reports from the relevant Fire Authority
- All Inspection, Approval and Compliance Report fees for fire protection equipment on completion of a project inclusive of tester fees, Fire Authority fees, Water Authority fees, Local Government fees,  
NB: Above fees exclude payments to Independent Fire Inspection Certifiers who will be engaged and paid for by Dan Murphy's direct.

## **1.7. INSPECTION of SITE**

Inspect the site and be conversant with all visible existing conditions, including externally and conditions of access. Anything likely to affect the execution or performance of the contract must be allowed for in the tender

## **1.8. APPROVALS PRIOR TO COMMENCEMENT OF WORK ON SITE**

Prior to commencement of work on site, all approvals for the work shall be obtained, including the following:

- Construction Certificate

### **1.9. DAN MURPHY'S APPROVAL PRIOR TO COMMENCEMENT OF WORK ON SITE**

Written approval for the fire protection system design shall be obtained from Dan Murphy's representative or other approved Certifier prior to the commencement of any system installation. A copy of the certifier's approval must be submitted to Dan Murphy's

Prior to commencement of work on site, the locations of all fire extinguishers, fire indicator panels, manual call points, warden intercom phones, etc., shall be submitted for approval by Dan Murphy's.

Unless written approval is obtained from Dan Murphy's for the locations of the above equipment, it will be the Installers and/or the Contractors' responsibility to remove and/or relocate this equipment at no cost to Dan Murphy's should the locations of the equipment be deemed to be unacceptable to Dan Murphy's.

### **1.10. APPROVAL ON COMPLETION OF THE INSTALLATION**

On completion of the works, all fire protection equipment regardless of the locations of the equipment on the site, shall be inspected and tested.

Fire detection and alarm systems, fire extinguishers, fire sprinklers and emergency warning systems shall be inspected, tested and approved by the relevant Fire Authority/Council having jurisdiction over the works and to the satisfaction of Dan Murphy's nominated fire inspection certifier.

All inspections and approvals of fire protection equipment shall be completed prior to application for Certificate of Occupancy to the relevant Authority to occupy the building. The Installer and/or Contractor shall allow for this approval to occur in stages and to pay all fees associated with Reports and Approvals.

Prior to approval to occupy the building a copy of all certificates and reports shall be forwarded to Dan Murphy's for record purposes. These reports must not contain any defects list or uncompleted/outstanding works.

### **1.11. HANDOVER REQUIREMENTS**

At shopfitters handover, the fire detection and alarm system must be operational and direct brigade alarm connected to Fire Brigade Station or Dan Murphy's approved fire alarm monitoring service provider, depending upon the State Legislation.

If above cannot be met, the contractor must advise the Dan Murphy's Project Manager and acceptable alternative arrangements made, e.g. a 24 hour Security Service Company, which will then report any fire alarm to the local Fire Station.

## **2. FIRE EXTINGUISHERS (By Dan Murphy's)**

### **2.1. GENERAL**

Portable fire extinguishers shall be supplied and installed by Dan Murphy's in accordance with the requirements of the BCA Clause E1.6, the relevant Authorities requirements and AS2444 - Portable Fire Extinguishers - Selection and Location.



### 3. FIRE DETECTION & ALARM SYSTEM

#### 3.1. GENERAL

Provide a fire detection and alarm system complying with AS 1670 throughout every Liquor Outlet unless the Dan Murphy store is a tenancy in a larger shopping centre which is required to have fire sprinklers throughout the centre including the Liquor outlet.

#### 3.2. EXTENT OF WORK

Provide all labour, materials, plant and equipment necessary for the construction, testing, commissioning and subsequent maintenance during the defects liability period of the system which shall include but not be limited to:

- a) Fire indicator panel (FIP)
- b) Alarm signalling equipment/.direct Brigade alarm
- c) Smoke detectors
- d) Thermal detectors for areas such as the truck dock where vehicle fumes are present
- e) Manual call points
- f) Occupant warning system
- g) Air sampling probe type smoke detectors in both the supply and return air ductwork of the trading area air conditioning system.
- h) Air conditioning system shut down – Fire Trip
- i) Fire alarm bells
- j) All associated wiring

Where required by Building Regulations and Authorities provide the following additional systems/equipment. These items will normally not be required for a “stand alone” liquor outlet but may be required when the outlet is a tenancy in a larger shopping centre.

- a) Smoke detectors for smoke control systems to BCA part E2.
- b) Emergency warning and intercom system – EWIS e.g. when the Liquor Outlet is in a major shopping complex.
- c) Smoke exhaust fan control switches to the requirements of AS 1668 Parts 1.
- d) Proof of flow indication from smoke exhaust fans.
- e) Supply air fan control switches to the requirements of AS 1668.1 & 2.
- f) Fan control circuits between FFCP fan control switches and Mechanical Services switchboard, for Fire Brigade override operation.

#### 3.3. FIRE INDICATOR PANEL

The fire indicator panel (FIP) shall comply with AS1670- Automatic Fire Detection and Alarm Systems, and all relevant Building Regulations.

Segregated sections of the fire indicator board/panel for smoke control shall comply with AS1668.1 and the emergency warning and intercommunication system shall comply with AS2220 - Rules for Emergency Warning and Intercommunication Systems for Buildings.

For a stand-alone Liquor outlet the FIP shall be located in a position acceptable to Dan Murphy's and the local Fire Authority.

Where the Liquor outlet forms part of a larger shopping centre the portion of the FIP serving the Dan Murphy Liquor Outlet may be located in the Fire Control Centre provided for the shopping centre.

### 3.4. ALARM SIGNALLING EQUIPMENT

Provide direct alarm transmission to Dan Murphy's nominated signal monitoring provider or to the local Fire Brigade whichever is applicable for the locality in which the liquor outlet is located.

(i) Free Standing Liquor Outlets

On notification of acceptance of contract, the Contractor shall within two weeks, forward to Dan Murphy's an application for Telstra Nos. lines with direct connection to the monitoring provider or Fire Authority as applicable. Dan Murphy's will forward the application once all the required information is obtained from the Contractor. Costs associated with the connection fee and initial twelve (12) months charges, including charges by the monitoring provider, the Fire Authority and Telstra, must form part of the Works by the Contractor.

(ii) Shopping Centre Complex

Should the liquor outlet be part of a larger complex the above applications will be between Developer and Contractor with advice to Dan Murphy's that the above has been completed.

### 3.5. WIRING

All wiring associated with smoke detectors, heat detectors, breakglass alarms, etc. shall comply with AS1670 and the requirements of the relevant Building Regulations.

Wiring associated with 'Warden Intercom System' must comply with the requirements of AS2220 and the requirements of the relevant Building Regulations.

Wiring associated with smoke detectors in return air and supply air ductwork and for control circuits between the FIP and mechanical services switchboard, shutdown of mechanical services switchboard and proof of flow cabling from smoke exhaust fans shall be in fire rated cable to the requirements of AS1670, AS1668 and the requirements of the relevant Building Regulations.

All wiring shall also comply with AS3000 - Electrical Installations - Buildings, Structures and Premises.

### 3.6. FIRE DETECTION & ALARM EQUIPMENT

The installation of all smoke detectors, heat detectors, breakglass alarms, air flow switches, indicators etc, shall comply with the requirements of AS 1670 and the relevant Building Regulations, Australian Standards and local Authorities.

**Note:** A smoke detector (air sampling probe type suitable for ductwork installation) must be provided in the supply air and the return air ductwork of the main Trading Floor air conditioning system, irrespective of Code requirements, to shut down the air conditioning system in case of smoke detection.

### 3.7. OCCUPANT WARNING SYSTEM

#### 3.7.1. General Requirements

An Occupant Warning System is to be provided for all liquor outlets even if not required for BCA compliance where EWIS systems are not installed (Refer Cl. C.8.2).

The system shall comply with requirements of BCA Specification E2.2a Clause 6, the local authority and all Australian Standards including but not limited to AS 2220, AS 1670 and AS 1668.

The system shall comprise but not limited to the following.:

- a. Separate panel with power supply and battery backup or incorporated in the FIP.
- b. Manual call points adjacent to hose reels, other exit locations or as required by local authority or approved Fire Engineered Solution report.
- c. Speakers complying with AS 2220. Refer to C.7.2 below.
- d. Wiring complying with AS 2220 and AS 3000.
- e. Connection to fire detection, sprinkler and smoke exhaust systems as applicable.
- f. Block plan and operating instructions adjacent to panel.

### 3.7.2. Ceiling and Horn Speakers

- a. Ceiling and horn speakers shall comply with the requirements of AS 2220.

DEDICATED SPEAKERS SHALL BE INSTALLED AND MUST NOT BE COMBINED WITH THE PA SYSTEM UNLESS OTHERWISE APPROVED BY DAN MURPHY'S.

- b. In all areas with ceilings, provide a flush mounted type speaker, i.e. – Trading, Offices, Amenities, etc.
- c. In areas having no ceilings i.e. stock area, plantrooms etc. provide horn type speakers.
- d. The location of speakers and sound levels must comply with AS 2220.

### 3.7.3. Signal Actuation

Upon actuation of an alarm signal from a fire detector, a pressure switch on the sprinkler control valves or manual call point, the warning signal must be automatically activated throughout the building.

## 3.8. EMERGENCY WARNING & INTERCOMMUNICATION SYSTEM

### 3.8.1. General

Where required by Building Regulations or other authority, the emergency warning system must instruct the building occupants through alert and action signals to follow a predetermined course of action, in accordance with AS2220 -Rules For Emergency Warning And Intercommunication Systems for Buildings and the relevant Building Regulations.

### 3.8.2. Warning Signals

- a. Audible signals must be provided in accordance with AS 2220.
- b. Where an EWIS system is not provided an audible alarm system is required complying with BCA Specification E2.2a Clause 6.

### 3.8.3. Signal Actuation

Upon actuation of an alarm signal from a fire detector, a pressure switch on the sprinkler control valves or manual call point, the warning signal must be automatically activated throughout the building.

Make provision to manually activate the signals from the Master Emergency Control Panel (MECP).

3.8.4. Master Emergency Control Panel

In buildings requiring an FIP the MECP shall be located in a segregated section of the FIP or as a separate stand alone panel.

3.8.5. Warden Intercommunication Point (WIP)

Where required by the relevant Building Regulations a WIP shall be located at each hydrant and hose reel, and at any other required location in consultation with Dan Murphy's Project Manager.

3.8.6. Ceiling and Horn Type Speakers

DEDICATED SPEAKERS SHALL BE INSTALLED AND MUST NOT BE COMBINED WITH THE PA SYSTEM UNLESS OTHERWISE APPROVED BY DAN MURPHY'S.

See Clause 3.7.2 for locations and types of speakers. Speakers are required in Plant Rooms.

**3.9. THERMAL DETECTORS**

Thermal Detectors must be installed in and adjacent to loading docks to avoid false alarms, in lieu of smoke detectors where a smoke detection system is installed.

## 4. FIRE SPRINKLER SERVICES

### 4.1. GENERAL

When a Dan Murphy's Liquor Outlet is a tenancy in a larger shopping centre required by Building Regulations or other Authorities to be provided with a sprinkler system, the store shall have a sprinkler system equivalent to that in the main centre, but not less than the minimum standard set out in this Brief.

The sprinkler system shall fully comply with AS2118.1 - Automatic Fire Sprinkler Systems.

### 4.2. WATER SUPPLY

In general, sprinkler installations shall have a Grade 3 water supply as a minimum, or greater if required by the relevant Authorities and AS 2118.

### 4.3. CLASSIFICATION OF FIRE SPRINKLER SYSTEM OCCUPANCIES

Trading Area - Ordinary Hazard Group 3 (Cat.1 – Goods)

Stock and Storage Areas - Ordinary Hazard Group 3 (Cat.1 Goods) with storage height limitations 3.5 metres as set out in Table 11.1.3.2(B) of AS 2118.

Concealed Roof & Floor Spaces - These spaces are required to be protected generally in accordance with Clause 5.6 of AS 2118.

### 4.4. SPRINKLER HEADS

#### 4.4.1. Layout

- i. The layout of sprinkler heads shall be designed to form a symmetrical pattern. Due consideration must be given to light fittings, air conditioning, ducts and registers, structural and architectural construction.
- ii. Sprinkler heads in panel ceiling should be located in the centre line of the short side of the ceiling panels and not less than 200mm from the ends of the long sides of the ceiling panels.
- iii. Provide sprinkler protection to signage bulkhead at front of the liquor outlet and inside shopfront shutters, fed from store sprinkler system. The locations of these sprinklers shall be co-ordinated with any sprinklers outside the shopfront shutters by stagger spacing or other method to ensure sprinklers are not too close to each other.

#### 4.4.2. Spacing of Heads

The locations of heads shall conform to the requirements of AS2118.

#### 4.4.3. Type of Heads

Types of heads stated below shall be installed as follows:

- a) Chrome plate standard type with chrome two piece or one piece escutcheon plate in trading areas and all ceilings exposed to view such as in offices and amenities. (5 mm bulb)
- b) Standard type unplated in all concealed spaces, plantrooms, car parking areas, stock areas and the like. (5mm bulb)
- c) Chrome plated standard type with stainless steel escutcheon plate or chrome single or two piece in all coolrooms.

It shall be the responsibility of the fire systems designer to acquire a copy of the fire engineering report (where alternative solutions are used to comply with the performance requirements of the BCA) to verify what, if any, are proposed that may impact upon the fire services design and/or compliance with standards and codes.

Note: 3 mm bulbs (fast response sprinklers) must be used in some installations to comply with the recommendations of Fire Engineering solution for fire safety/smoke hazard management.

#### 4.4.4. Sprinkler Heads General

All sprinkler heads must be of an approved type, with orifice sizes to suit the specified risk areas.

The temperature rating of all heads and the quantity of replacement sprinklers (suitably stored), must conform to the requirements of AS2118.

Sprinkler heads must be the miniature type glass bulb or fusible alloy strut type without protruding links or levers.

Provide shields where necessary to prevent sprinkler heads from discharging directly onto electrical switchgear or open motors. Provide guards to protect sprinkler heads from damage where clearance is less than 2140mm from finished floor level or where sprinkler heads may be liable to damage.

Locate sprinkler heads so that exposed beams, surface mounted light fittings, etc., will not cause a baffle to the water spray pattern.

**Note:** All recessed escutcheon plates to be screwed type to prevent slippage. Press on type not acceptable.

### 4.5. PLANTROOM

Roof level sprinkler protection required.

### 4.6. SUB-STATION OR MAIN SWITCH ROOMS

These rooms require MJC heads or smoke detector. When a MJC is used, the drain must be run to waste to an appropriate location. If the discharge is not visible from within the building, a sight glass must be installed in the drain line.

### 4.7. FIRE SPRINKLER SYSTEM PIPEWORK

All fire sprinkler system pipe work shall comply with the requirements of AS2118, the relevant Building Regulations and the relevant Authorities.

### 4.8. SPRINKLER CONTROL VALVE

Dan Murphy's require their Liquor outlet to have its own independent sprinkler control valve with no other sections of the remainder of the building connected to this control valve.

### 4.9. SUPERVISED OR MONITORED VALVES

Dan Murphy's require all system isolation valves inclusive of pump and main isolation valves to be supervised/monitored in accordance with AS 2118 for monitored valves.

#### **4.10. IDENTIFICATION OF PIPEWORK**

All exposed fire sprinkler pipe work shall be painted with one coat of zinc primer and two coats of red oil and petrol resistant enamel and identified as fire sprinkler pipe work to the requirements of the relevant Authorities.

Concealed pipe work may be painted and accepted with primer coat only.

Below ground pipe work shall be identified with location markers to the satisfaction of the relevant Fire Authorities and Water Authorities requirements.

#### **4.11. PROHIBITION ON WELDING**

Welding or flame producing equipment must not be used within the building except with prior approval from Dan Murphy's and the main Contractor

For welding outside the building, all possible fire precautions must be taken, including those set out in AS1674 - Fire Prevention in Cutting and Welding Operations.

#### **4.12. BLOCK PLANS**

Provide block plans indicating all water supply information, sprinkler control valves, flow switches, etc., plus all other information required in AS2118.

#### **4.13. FIRE TRIP OF AIR CONDITIONING & VENTILATION**

Control arrangements shall be provided to automatically enable air conditioning and ventilation systems to go into fire mode on the operation of the sprinkler system and/or any smoke detector.

Once tripped, air conditioning and ventilation systems shall be prevented from being started again by either automatic or manual means until a 'fire-trip' device with manual reset in the sprinkler system has been reset.

#### **4.14. SIGNAGE**

Appropriate signs (2 off) one each end of stock area shall be provided indicating:-

- a) Hazard protection - Ord. Haz. Group 3, Cat.1 Goods
- b) Maximum storage height permissible
- c) Minimum clearance ie. 500 mm between top of storage and sprinkler head over.

## **5. DRAWINGS AND INSTRUCTIONS**

### **5.1. DRAWINGS & INSTRUCTIONS**

The Liquor Outlet shall be provided with Fire Protection Services and Systems as required by the Building Code of Australia, all Acts and Building Regulations which are applicable, and this Fire Protection Specification Brief.

Block plans and operating and emergency instructions must be provided in accordance with AS2118 and AS1670 which include the following:

- a. Water tapping locations
- b. Sprinkler control valves
- c. Flow switches
- d. Smoke exhaust fans
- e. Smoke detector circuits
- f. Warning Systems.

These plans shall be in colour located behind perspex screens.

### **5.2. AS INSTALLED DRAWINGS**

Provide to Dan Murphy's all design drawings and shop drawings covering the following:

- a. Fire service hydrants and hose reels.
  - b. Fire sprinkler system.
  - c. Emergency warning and intercom system.
  - d. Smoke detectors, breakglass alarms, supervised valves, pressure/flow switches, etc.
- As built drawings to be 2 hard copies and 1 disk copy for in house record.

### **5.3. OPERATION & MAINTENANCE MANUALS**

Provide to Dan Murphy's three (3) copies of operation and maintenance manuals covering the complete fire protection system.

### **5.4. INSTRUCTION OF STAFF**

The Contractor must provide instruction and staff training for Dan Murphy's representatives on site as to the operation of the system and ensure that the instructions are clearly understood by the appropriate Dan Murphy's personnel.



## **6. COMMISSIONING TESTS**

Upon completion of the works and prior to handover to the Traders the Contractor, must demonstrate satisfactory operation of the following:-

- a) A/C fire trip shut down and warning systems operation actuated from smoke/thermal detection systems (and sprinkler system where applicable).
- b) Smoke detector and smoke exhaust fans operation and associated warning alarm and emergency evacuation systems.(if applicable)
- c) Sprinkler system flow and pressure tests.
- d) Equipment/instruments required for the above tests shall be provided by the Fire Services Contractor.

## **7. SCHEDULE OF DRAWINGS**

### **7.1. GENERAL**

The following are the standard drawings are to be used for tendering purposes and for guidance only, in preparing the fire protection design.

The dimensions shown are approximate and may vary for different projects.

All drawings shall be read in conjunction with the architectural store layout and structural design applicable to each project.

### **7.2. REFERENCE DRAWINGS**

The 2017 Dan Murphy's Briefing Kit drawings should be particularly referred to, as to enable a clear understanding as to the level of fire protection required to liquor outlet.