

# **Visual guide: Inspecting a suburban auto repair shop**

## Inspecting a suburban auto repair shop

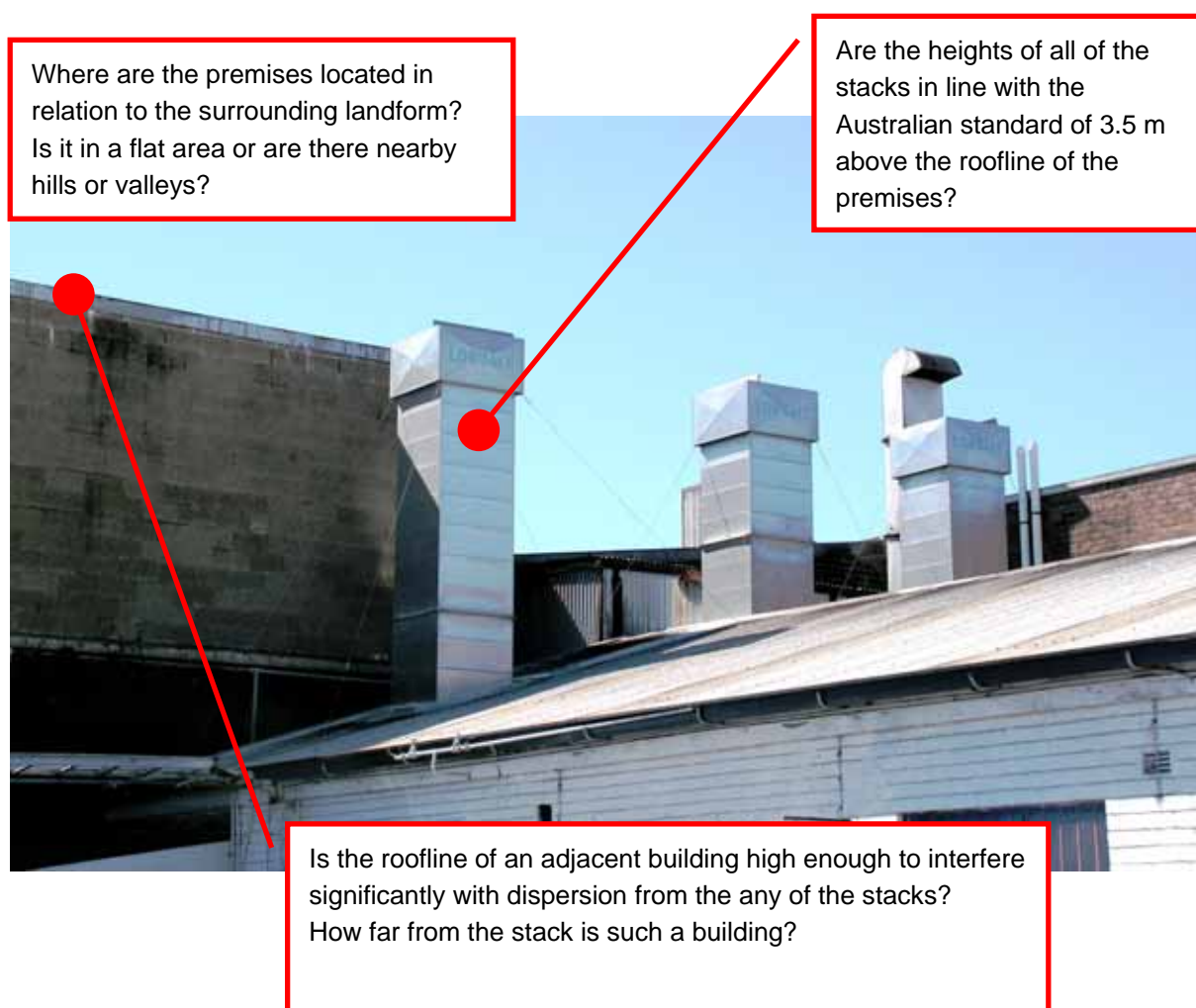
### Paint odour

A complaint of 'paint odour' is received from a resident across the road from an auto repair shop that is located in an area of mixed residential, commercial and residential land uses in the Sydney metropolitan area.

What should be checked during a consequent site inspection by a local council officer?

### Height and location of stacks

The first photograph shows typical stacks venting spray painting booths in an auto repair shop that is located in such an area of mixed land use.



## Management of used solvents

Another possible source of nuisance odour near an auto repair shop is from the evaporation of used solvents if they are not properly managed.

The photographs on the next page show two contrasting examples of how used solvents and washings from brushes and spray guns can be managed—the first is an example of poor management, the second one of good management.



Here all used solvents and the washings from painting equipment have simply been put into an open container in the workshop with no method of containing the vapours.

- Overnight the vapours will probably drift into the immediate area around the shop and cause a nuisance.
- They also contribute to the total VOC load that is discharged into the regional air shed.

Here the washings from the painting equipment are captured using a simple venturi vacuum system and forced into a sealed container for collection and then appropriate disposal.

- Notice that a spare container is on hand so that there is no time when the system is not operational.
- Fugitive emissions of solvent vapour from the shop are significantly reduced by using this sort of equipment.



## Fall out of paint droplets

A common problem associated with auto paint shops is the fall out of very small paint droplets resulting from overspray. This may occur when the equipment installed to capture this material is either not properly installed or maintained.

### Spray booth installation, operation and maintenance

The installation, operation and maintenance of spray booths (and any preparation booths) are all important in minimising the discharge of particulates; that is, very small paint droplets from overspray. However, spray booths are not very efficient in removing the solvent vapours that contribute to odours outside the premises.



### Wall mounted fabric filter

The photograph below shows a typical fabric filter fitted on the rear wall of a spray booth.

Are there any gaps:

- between the filter frame and the booth wall?
- between the filter fabric and the filter frame?



Is the filter fabric in need of replacement?

- Has too much paint accumulated to allow enough air flow for efficient removal and trapping of overspray?

The air flow rate can be estimated by holding a clean light cotton handkerchief about 30 cm in front of the filter while the extractor fans are working.

- A suitable flow rate should deflect the handkerchief about 10 cm—anything less probably indicates that the flow rate is too low.



### In-floor fabric filter

The next two photographs show a typical fabric filter in the floor of a spray booth.

