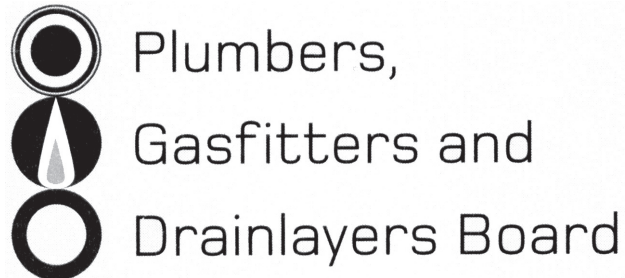


No. 9198



REGISTRATION EXAMINATION, NOVEMBER 2018
CERTIFYING DRAINLAYER

ANSWER SCHEDULE

ANSWER 1

Any THREE (1 mark each)

- Make sure any plants in the area are suitable.
- Do not allow stock or heavy machinery/vehicles to have access to the mounds.
- Have the septic tank pumped out regularly.
- Do not flush unsuitable products into the system.
- Ensure surface water is diverted from the mound.
- Clean filters regularly.

Total 3 marks

ANSWER 2

(a)	Description of work	Notifiable Work Y / N
	Working in an area where the temperature exceeds 45°C	N
	Working in a confined space	N
	Working on a scaffold which is over 5 metres high	Y
	A trench which is 4 metres deep and 3 metres wide at the top	Y
	Work in which a person wears a face mask with filter canisters	N
	Working on a residential property which is known to contain asbestos containing materials	N

(½ mark each, 3 marks)

(b) WorkSafe (1 mark)

(c) 24 hours (1 mark)

(d) Any FIVE (1 mark each)

- Nature of work.
- Address of worksite.
- Contractor details.
- Brief description of work.
- Due date of commencement.
- Estimated time to complete.

(5 marks)

Total 10 marks

ANSWER 3

(a) Any EIGHT (1 mark each)

- Harmful solids and material which can combine with water to form a cemented mass.
- Oils, fats, grease.
- Paint.
- Liquid containing asbestos.
- Flammable or explosive material.
- Genetic wastes.
- Medical wastes.
- Highly radioactive material.
- Waste containing toxic materials such as cyanide or arsenic.
- Pesticides.
- Chlorine.
- Organic waste.

(4 marks)

(b) Any THREE (1 mark each)

- Settling.
- Intercepting traps.
- Neutralizing.
- Grease arrestors.
- Dilution systems.
- Cooling systems.

(3 marks)

Total 7 marks

ANSWER 4

(a) Main drain vent correct.

(2 marks)

5 branches with no vent and 1 with a vent.

(3 marks)

(5 marks)

(b)

Drain	Minimum diameter	Minimum gradient
A	65 mm (1 mark)	2.5% OR 1:40 (½ mark)
B	80 mm (1 mark)	1.65% OR 1:60 (½ mark)
C	100 mm (1 mark)	1.65% OR 1:60 (½ mark)
D	65 mm (1 mark)	2.5% OR 1:40 (½ mark)
E	65 mm (1 mark)	2.5% OR 1:40 (½ mark)
F	100 mm (1 mark)	1.65% OR 1:60 (½ mark)

(9 marks)

Total 14 marks

ANSWER 5

Drawing to show:

- Inspection or rodding points at
- A
- C or D 50 m rule
- sewer connection.

(2 marks each)

Total 6 marks

ANSWER 6

- (a) Inspections. (6, ½ mark each), (3 marks)
Venting (2 marks)
ORG. (1 mark)
Drain within property. (1 mark)
Type I 90 mm sump. (1 mark)
Economical. (1 mark)

(9 marks)

- (b) Total fall = 413 mm (25 m at 16.5 mm/m) (2 marks)
Depth of X below finished floor level = 1313 mm (413 + 500) (1 mark)

(3 marks)

Total 12 marks

ANSWER 7

Length of pipe sections		
Pipe section	Distance (m)	Fall (mm)
A - B	13 metres	210 mm
B - C	30 metres	500 mm
C - Y	15 metres	250 mm

(1 mark each fall)

Ground level correct. (3 marks)

Depth of drain invert below datum. (3 marks)

Depth of drain invert below ground level. (3 marks)

Total 12 marks

ANSWER 8

(a) Diagram to show:

- Bubble up chamber (1 mark)
- Outlet higher than inlet (1 mark)
- Corbel (1 mark)
- Lid (1 mark)
- Silt trap (1 mark)

(5 marks)

(b) Where a surface water drain level is below the network utility operator's connection point. (1 mark)

Total 6 marks

ANSWER 9

Any THREE (1 mark each)

- Excavation Safety.
- Guide for safety with underground services.
- Excavations and shafts for foundations.
- Confined spaces: planning entry and working safely in a confined space.
- Any asbestos-related guide.
- Any heights-related guide.

Total 3 marks

ANSWER 10

(a) Diagram to show:

- Inlet and outlet (1 mark)
- Cascade (1 mark)
- Lids (1 mark)
- Dividing wall/holes (1 mark)

(b) Diagram to show:

- Inlet dish (1 mark)
- 3 m maximum distance between wall and trap (1 mark)
- Inspection opening (1 mark)

(c) 100 litres

(1 mark)

Total 8 marks

ANSWER 11

Any THREE (1 mark each)

- Retaining silt on site
- Any archaeological finds
- Dust
- Noise
- Land stability
- Any protected trees

Total 3 marks

ANSWER 12

Diagram to show:

- Downpipe seated (1 mark)
- Charged pipework (1 mark)
- Gravity pipework (1 mark)
- Inspection opening (1 mark)
- Flushing point (2 marks)

Total 6 marks

SECTION B

1. D 3 months.
2. B 12 months.
3. C When the notification is received by the Board.
4. B Hydrogen sulphide.
5. E 9.60 m.
6. E 2.500 m.
7. A To stop the waste cooling and fats solidifying on the internal wall of the pipe.
8. E Junctions of drains serving a single downpipe that are less than 2.0 m long.
9. D Changes in gradient of greater than 45°.
10. D An easement.

Total 10 marks