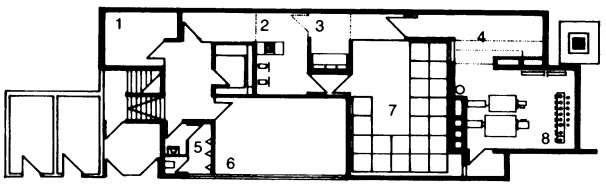
FIRE STATIONS

Fire stations which serve districts, and are in contact with accident and emergency medical departments, can often usefully be linked to a motorway. They can also serve as education and training centres, and should be equipped with all the necessary maintenance, support and repair facilities for constant readiness. Hose storage and maintenance equipment should be provided as well as a drying tower which also serves as a practice tower with ladder access points.

Clear functional areas are necessary for preparing the fire engines for operation: all preparation rooms should be ranged along one axis leading towards the fire-engine hall.

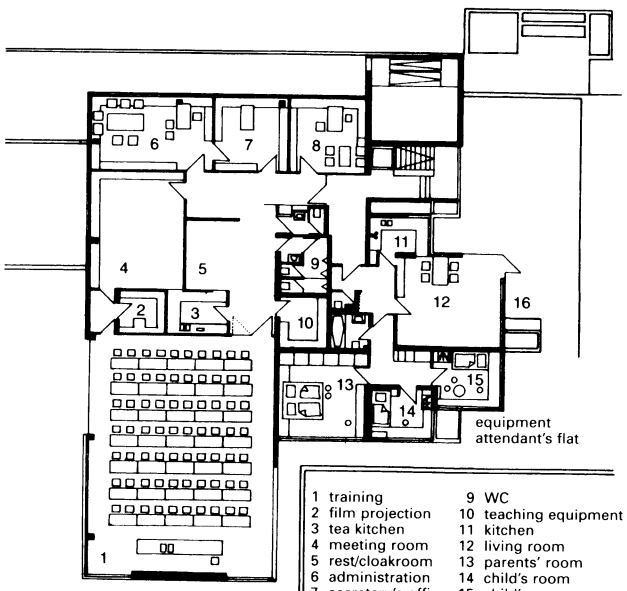
Vehicles returning from incidents drive around the complex to the equipment, hose and tool return department, and retake their place in the fire-engine hall after being cleaned and prepared for operation.

A fire station can act as emergency medical communication centre as well as district or regional control centre in the event of a large-scale emergency → ① - ⑤.



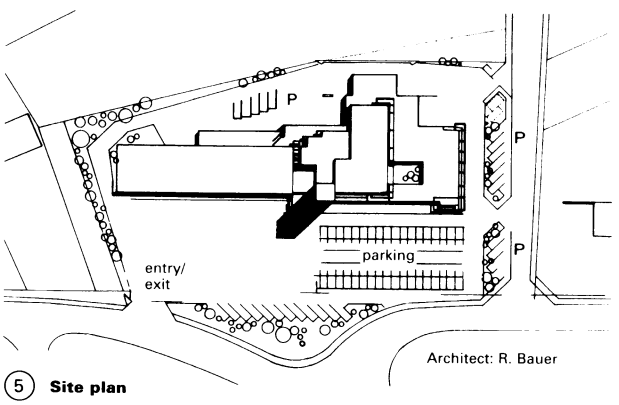
1 equipment room
2 work room
3 control room
4 ventilation: filter room
5 WC
6 group room
7 practice area
8 heating plant room

① **Basement** → ② - ④

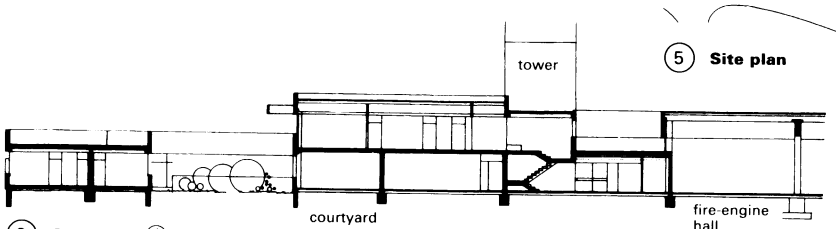


1 training
2 film projection
3 tea kitchen
4 meeting room
5 rest/cloakroom
6 administration
7 secretary's office
8 meeting room
9 WC
10 teaching equipment
11 kitchen
12 living room
13 parents' room
14 child's room
15 child's room
16 terrace

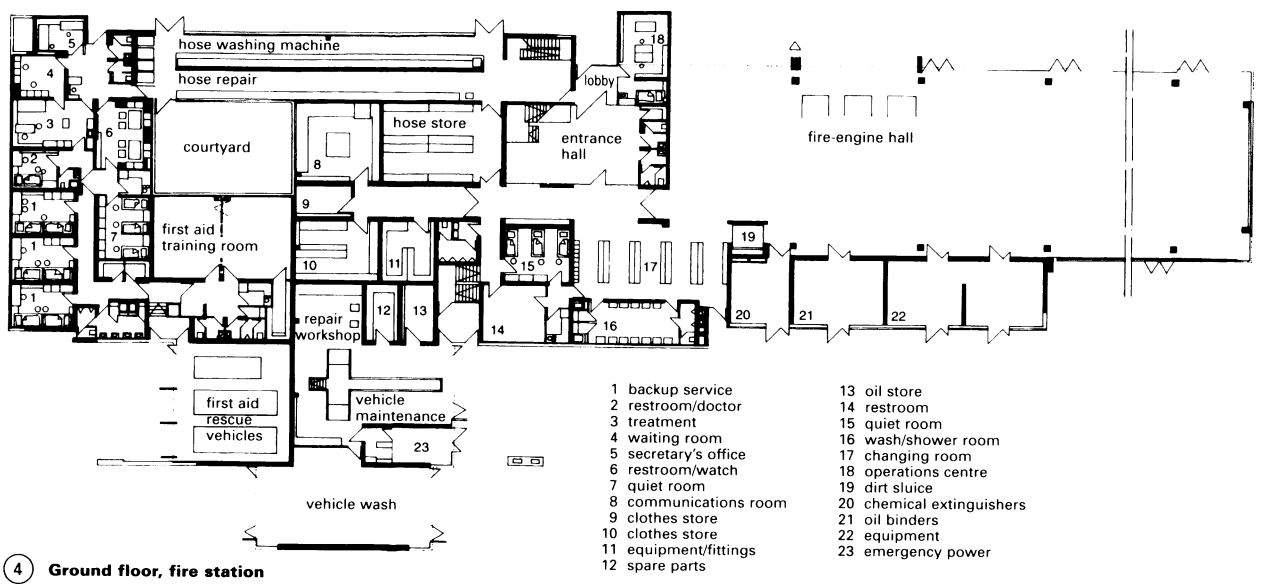
② **Upper floor**



⑤ **Site plan**



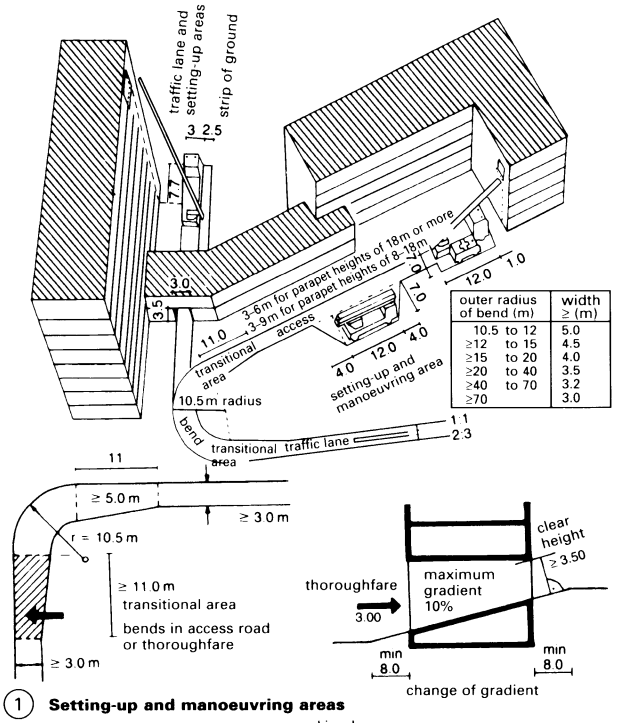
③ **Section** → ④



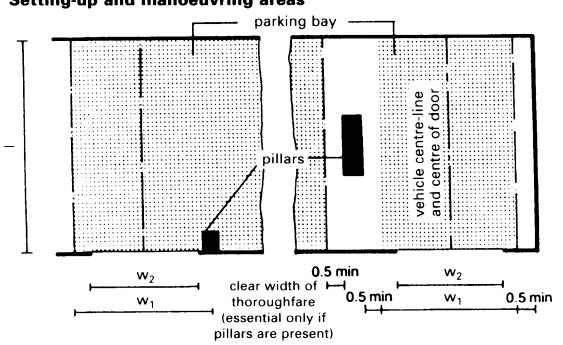
1 backup service
2 restroom/doctor
3 treatment
4 waiting room
5 secretary's office
6 restroom/watch
7 quiet room
8 communications room
9 clothes store
10 clothes store
11 equipment/fittings
12 spare parts
13 oil store
14 restroom
15 quiet room
16 wash/shower room
17 changing room
18 operations centre
19 dirt sluice
20 chemical extinguishers
21 oil binders
22 equipment
23 emergency power

④ **Ground floor, fire station**

FIRE STATIONS



① **Setting-up and manoeuvring areas**



② **Parking bays and doors**

parking bay size	width w¹ min.	length l min.	door (passage width w² × passage height)
1 to be avoided whenever possible	4.5	8	3.5 × 3.5
2	4.5	10	3.5 × 3.5
3	4.5	12.5	3.5 × 3.5
4	4.5	12.5	3.5 × 4
note: there are some very large new appliances in use: these might require larger bay areas and door widths			

③ **Dimensions of parking bay** → ②

appliances	gross vehicle weight (kg)	wheelbase (mm)	turning circle Ø (mm)	length (mm)	width (mm)	max. height with loaded roof (mm)
fire tender LF 8	5450 (5800)	2600	11700 (S)	5650	2170	2800
fire tender LF 8	7490 (7490)	3200	15050 (F)	6400	2410	2950
fire tender LF 16	11300 (11500)	3750	16100 (F)	8000 with powered hose reel	2470	3090
fire tender LF 16-TS	10200 (11000)	3750	16100 (F)	7600	2470	3100
water tender + tank TLF 8/18	7490 (7490)	3200	14800 (F)	6250	2410	2850
water tender + tank TLF 16/25	10700 (11500)	3200	14400 (F)	6450	2470	2990
water tender + tank TLF 24/50	15900 (16000)	3500	15400 (F)	6700	2500	3270
foam tender with tank Tro TLF 16	11500 (12000)	3750	16100 (F)	7000	2470	2990
foam tender 1000	7300 (7490)	3200	14800 (F)	6100	2410	3250
foam tender 2000	10100 (11600)	3200	14400 (F)	6450	2410	3300
turntable ladder DL30	12550 (13000)	4400	18600 (S)	9800 with powered hose reel	2430	3250
turntable ladder LB30/5 with cradle	20200 (21000)	3800 × 1320	19900 (F)	9800	2490	3300
equipment truck RW1	7200 (7490)	3200	14800 (F)	6400	2420	2850
equipment truck RW2	10850 (11000)	3750	16100 (F)	7600	2480	3070
hose truck SW 2000	10200 (11000)	3200	14400 (F)	6500	2500	2980

④ **Dimensions of current fire service appliances, from one of the largest German fire-equipment manufacturers (S = street vehicle, F = all-wheel drive)**

A typical local fire station can be set out based on the following units (U):

- four bays for the fire tenders (4U)
- an appliance room and storeroom for special equipment (1U)
- a training room and a multipurpose room for
  - administration and control room staff (5U)
  - rest and recreation rooms (3U)
  - and a plant room (1U)

A fire station for both local and area support operations, providing, for example, fire prevention and technical services, central workshop, catering, training and practice facilities, can contain:

- up to 16 fire engine bays (16U)
  (with ambulance service, an additional 4U)
- an appliance room and storeroom for special equipment (4U)
- a training room (7U)
- rest and recreation rooms, including washroom, shower, WC, changing room and drying room (4U)
- rooms such as a duty room, restroom and small kitchen (3U)
- administration room and room for the station commander (1U)
- vehicle and equipment workshop and plant room (2U)
- an operations control room (4U)
- and a central workshop (as required).

Where no central hose servicing workshop is available, a hose servicing workshop (9U) should be included and, likewise, a workshop for servicing breathing apparatus (4U) will be needed if there is no centralised service. Where central workshops are available, additional suitable storage rooms are to be included.

Areas of the rooms → ③

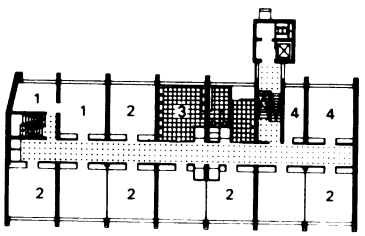
The size of a fire station can be estimated using units (U) based on the largest parking bay (55 m² or above). This gives an indication of the minimum sizes of the component rooms.

Appliance room	1U
Storage room for special equipment	1U
Training room	4U
ancillary space requirement	1U
Rest and recreation rooms:	
washroom, shower, WC, changing and drying rooms	3U
watch room, restroom and mess room	3U
Administration	1U
station commander's room	1U
Control room	1U
Workshops:	
hose service workshop, hose wash and test room (at least 26m long and 3m wide)	8U
hose store	1U
hose drying tower with practice wall[a]	
clear height inside tower, minimum 23m	1U

If a horizontal hose drying installation is provided in place of a hose drying tower, it must be housed in the hose wash and test room. The minimum area of this room must then be 9U and its clear height at least 3m.

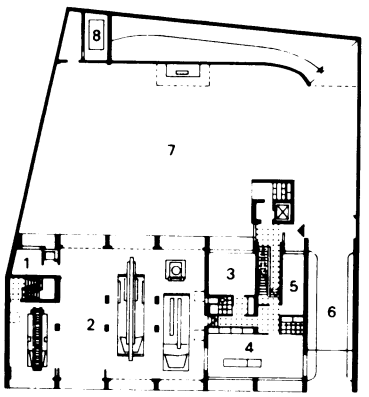
Breathing apparatus workshop	4U
Service, repair, storage including that for radioactive protection gear and diving gear[b]	
Room for breathing apparatus servicing	4U
Vehicle and appliance workshop, including battery charging point, linked to an existing parking bay	2U
Vehicle wash bay	4U
Services:	
heating and fuel storage rooms	1U

[a] according to local fire regulations
[b] not for breathing apparatus training



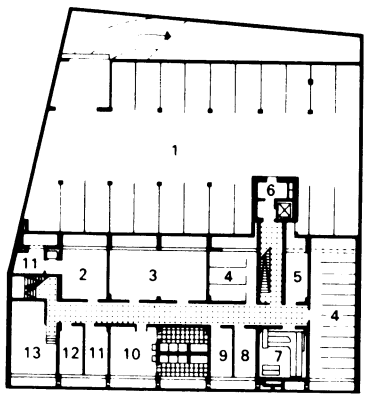
1 watch room
2 bedroom
3 washroom
4 station commander

(1) First floor



1 battery charging room
2 fire-appliance hall
3 bedroom
4 control centre
5 apparatus room
6 passage
7 yard
8 oil store

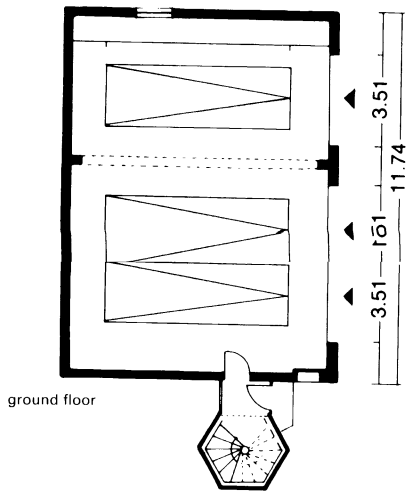
(2) Ground floor



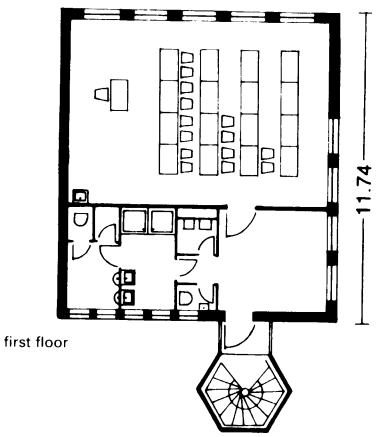
1 underground garage
2 day stores
3 hose room
4 cellar
5 ventilation
6 sluice
7 main control room
8 emergency power supply
9 pump room
10 changing room
11 store
12 gas and water supply
13 generator and central heating room

Architect: Ackermann and Partners

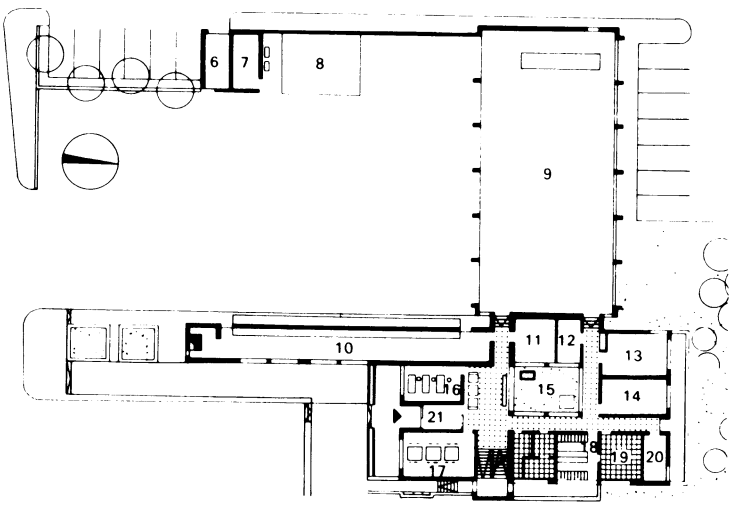
(3) Basement at Fire Station No. 4, Munich

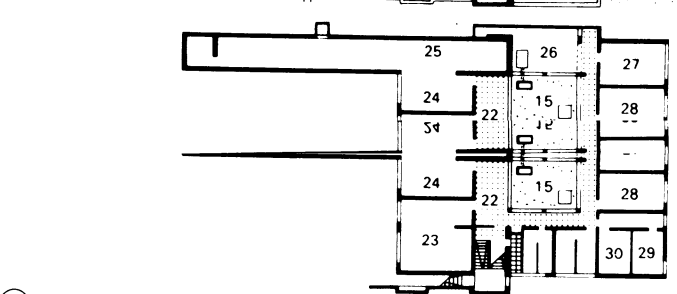


(4) Fire station for two appliances



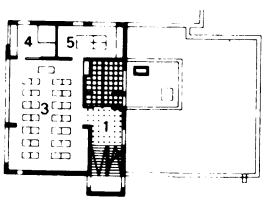
(5) → (4) Design by the Structural Engineering Dept., Cologne City Council



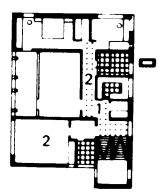


1 landing
2 flat
3 training room
4 training material
5 meeting room
6 garage
7 oil store
8 vehicle wash
9 fire-appliance hall
10 hose wash
11 hose store
12 parts store
13 workshop
14 breathing apparatus
15 courtyard
16 station commander
17 duty room
18 changing room
19 washroom
20 locker room
21 porch
22 lobby
23 recreation room
24 practice room
25 breathing apparatus training room
26 heating plant
27 ventilation plant
28 store
29 battery room
30 telephone/radio room

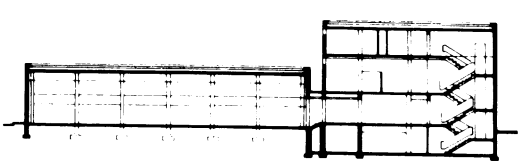
(6) Basement and ground floors, fire station



(7) First floor → (6)



(8) Second floor → (6)



(9) Section → (6)