

Effective Working Relationships Revision

**Level 2
Plumbing Technical Certificate**

Construction Industry

- It's estimated that 165,500 companies operate within the construction industry.
- 90% employ between 1 & 13 people
- 4% employ between 14 & 229 people
- 1% employ 300 plus people.
- 80% of Plumbing Businesses employ between 1&4 people!
- Generally the majority of these companies operate under a **Sole Trader** structure.

Site Manager

- General site management
- Safety on site
- Co-ordinating the work of different crafts

Work Programmes

- Often put together on construction projects, in the form of a chart.
- They provide a clear indication to sub-contract trade bosses when the contract starts & finishes.
- It would enable a Plumbing company boss to programme labour for first & second fix, by looking at the chart details & start & finish times of activities the plumber covers.

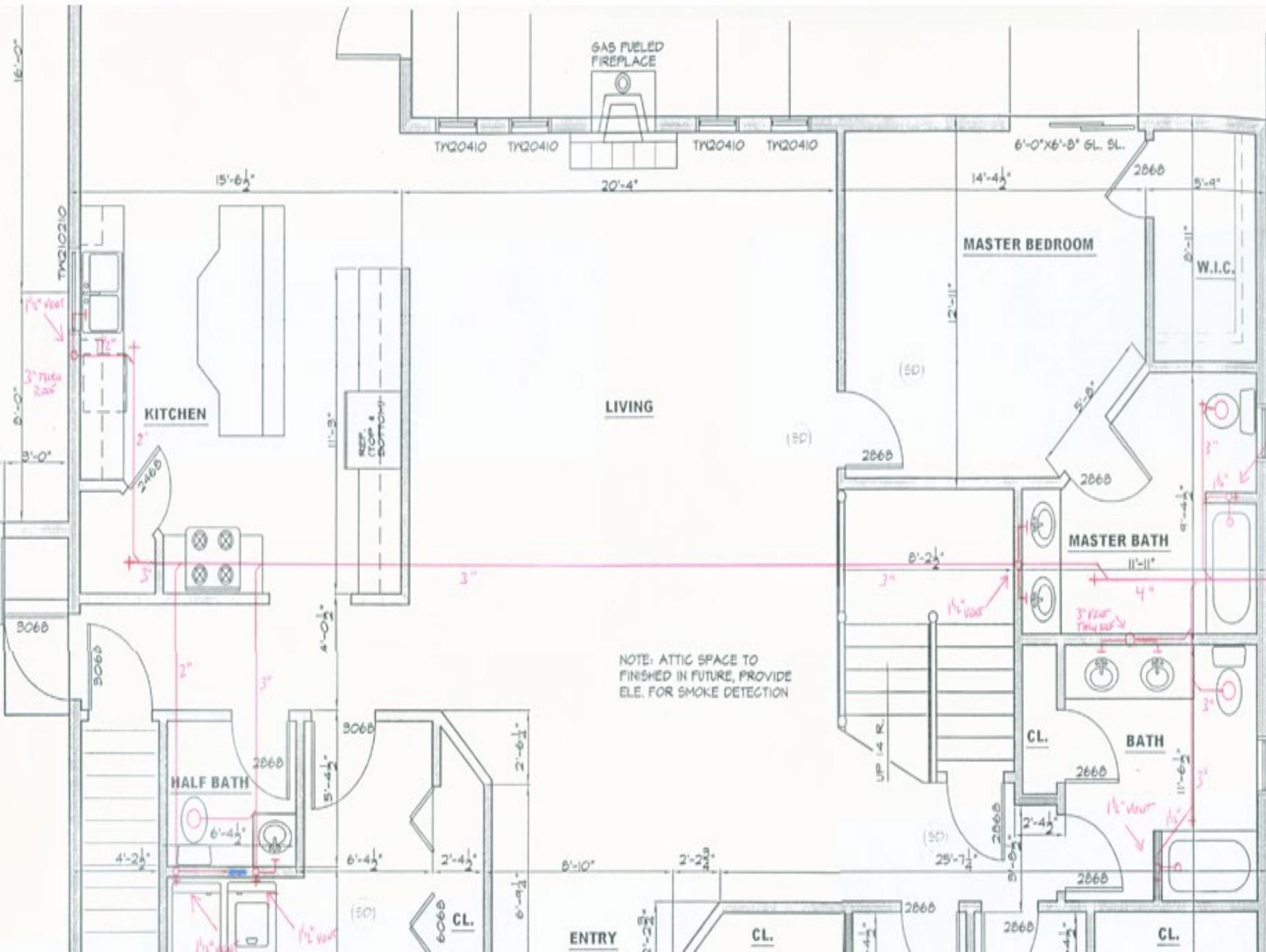
Activity		Time												
		1	2	3	4	5	1	2	3	4	5	1	2	3
Plot 1	TD													
First Fix	AD													
Plot 1	TD													
Second Fix	AD													
Plot 1	TD													
Gas	AD													
Plot 1	TD													
Test	AD													
Plot 1	TD													
Snagging	AD													
Plot 1	TD													
Hand over	AD													
Plot 2	TD													
First Fix	AD													
Plot 2	TD													
Second Fix	AD													

TD = Target Date

AD = Achieved Date

Construction Documents

- Building plans allow craft operatives & customers to see exactly where appliances will be fitted, & how large the rooms will be!
- Service layout plans are helpful to other trades too. It shows where pipes will run in floors & allows e.g. carpenters to make provisions for pipe routeing.
- Site Plans are often scaled at 1:500 but generally bathroom suite's would have a separate drawing scaled to 1:10
- Job specifications are used along side site plans & outline details, type & the number of components needed for an installation together with types of sanitary ware radiators etc.
- Building Service Drawings: Would be checked by a plumber to find out the exact route of services in a building.
- Manufacturers instructions: should include spare parts lists commissioning servicing and installation instructions.



Benchmarking Scheme

- “Benchmark” has been introduced into part L of the building regulations via commissioning of hot water & heating appliances.
- All appliance instruction packs must be left with the customer!
- The plumber will need to fill out the bench mark certificate & tick a variety of boxes making sure that all central heating & hot water controls are correctly set to best suit a customers needs.
- Once this is completed at the commissioning stage the plumber should walk the customer around the installation & explain how the product works and what should be touched & what shouldn't regarding the controls & what temperature settings there should be on certain thermostats / valves

Clerk of Works

- Normally employed by Architects, Local Authorities or as a consultant.
- Ensure work is carried out to a specification laid down by Architects.
- Also monitor the quality of work on behalf of the Architects.
- Once employed any variations /alterations from the original job specification for example on large office buildings, would be ordered by the Clerk of Works.

Quantity Surveyor

Main Responsibilities:

- Measure all materials used on an installation & prepare interim invoices.
- Work out quantities of materials
- Prepare material schedules
- Generally they work closely with the estimator & the buyer.
- Occasionally a company plumbing representative will visit the site instead of the QS to measure the amount of material installed to prepare interim invoices for stage payments

Building Control Officers

- These generally work for the Local Authorities!

Main Responsibilities:

- Check plans & keeping Records of projects inspect oil fired installations for non registered plumbers making sure the installation complies with Part L1 of the building regulations.
- Carry out inspections on Foundations, Drainage etc to make sure they comply to Building Regulations.
- Survey potentially dangerous buildings

Planner

Main responsibilities :

- Ensure projects are completed on time & within budget
- Reschedule projects as necessary
- Works closely with the estimators to establish working methods & costs
- Plan the most effective use of time, people, plant & equipment
- Schedule events in a logical sequence
- Visit site to monitor progress

Structural Engineer

Main responsibilities:

- Responsible for all the technical aspects of the construction project, such as designing & working out load bearings of beams.
- Key role: ensure things are installed correctly & to right quality.
- Liaise with the workforce & subcontractors on practical matters.
- Inspect quality & measurements.
- Interpret drawings & documents.



Buyers

- Buyer is someone who is responsible for purchasing all the construction materials needed for a job.
- Sometimes known as the 'Procurement Officers'
- Identify suppliers of materials
- Obtain quotations from suppliers
- Negotiate on price & delivery etc

Estimator

- Estimates & calculates how much a project will cost, taking into account plant, materials & labour costs!
- Main responsibilities include:
- Identifying the most cost effective construction methods for the job.
- Establishing costs for labour, plant, equipment & materials.
- Liaising with other construction professionals in preparing the final tender.

Site Engineers

- Site Engineers are generally responsible for making sure the technical aspects of the construction project are correct.
- Their work includes:
- Providing 'as built' details.
- Setting out on site so the building details are in the correct positions.
- Inspections to check measurements and other building details.

Limited Company

- Most companies start as sole traders with the business owner doing quotations. When they are established, to protect assets, they apply for LTD company status.
- The advantage of being a limited company, is you get **tax benefits**
- The business must be registered with companies house and a company secretary needs to be employed. You cannot trade share on the stock market.
- the owner of the company is only liable for a trading loss of the companies assets.
- The business is run by a board of directors, on large companies the board of directors would normally make the final decision on a tender costing for a large contract.

Public Ltd Companies



- Otherwise known as PLC's.
- Major companies such as Barrett's are PLC'S.
- The company must have a share capital of at least £50-000.
- They can then float/ trade their shares on the stock market.

Regulations & British Standards

- BS 6700 is the British standard for hot and cold water it covers design, installation, testing and maintenance.
- Water supply (water fitting) regulations 1999: is the statutory regulation for hot and cold water supplies it prevents misuse and contamination of water supplies
- BS 8000: Provides a specification for workmanship in the construction industry.
- Building Regulations Part P: Covers electrical safety in dwellings.
- Building Regulations Part J: Covers heat producing appliances

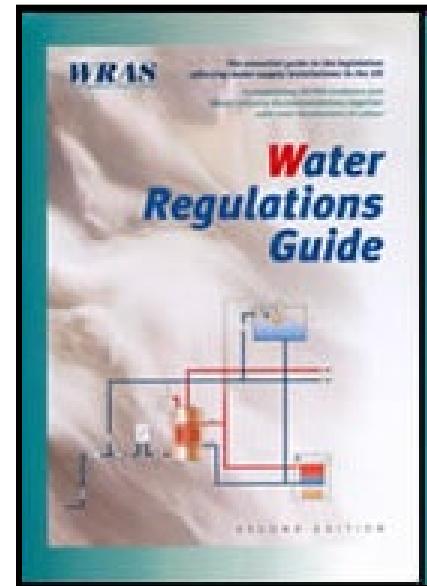
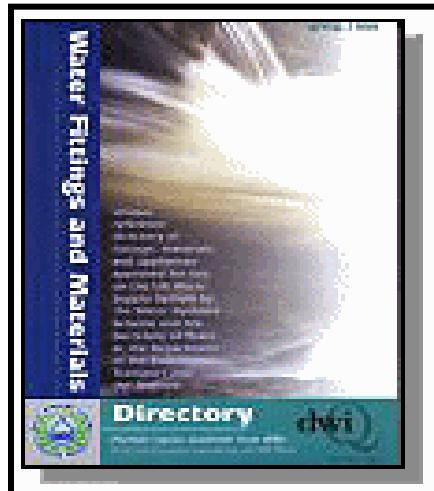
Regulations & British Standards

- Building Regulations Part H: Covers drainage and waste disposal.
- Building regulations Part L: has now been divided up in to the following categories:
 - L1A = New dwellings
 - L1B = Existing dwellings
 - L2A = New buildings other than dwellings
 - L2B = Existing buildings other than dwellings



WRAS

- WRAS = Water Regulation Advisory Scheme.
- They produce books on water regulation approved fittings in their directory, & a water regulation guide, enabling an easier understanding of the water regulations, outlining for example heights above cisterns for maintenance purposes depths of underground main services etc.



Job Titles

- Most industrial or commercial premises employ a Facilities manager to look after the buildings.
- Skilled trades man such as bricklayers are classified as craft operatives.
- Tillers and glaziers are classified as Specialist operatives.
- General building operatives cover drain layers or labourers.
- These will all be supervised by the general foreman

Other Trades

- Plasterers: are responsible for plastering the internal walls and ceilings and dry lining studwork in some dwellings.
- Bricklayers: construct houses with bricks and blocks and also fit the lintels above doorways and windows.
- Carpenters & Joiners: are responsible for all the timber first and second fix in dwellings including the second fix of doors, skirting and architrave.
- Electricians: Are responsible for all the first and second fix wiring in dwellings including fixing and bending conduit
- Sub contractors: should liaise and make all decisions regarding work with the main contractor who has overall responsibility on site.
- Building Services Technician: will design systems and produce job specifications and working drawings for MES contracts.

Building Engineering Services Sector

- This is now operated & Governed by the "Summit Skills" & covers the following industries and their professional development:
- Electrical
- Plumbing
- Heating & Ventilation
- Gas - Domestic & Industrial & Commercial
- Refrigeration & air conditioning



Construction Documents

- Building plans allow craft operatives & customers to see exactly where appliances will be fitted, & how large the rooms will be!
- Service layout plans are helpful to other trades as well as plumbers as it shows where pipes will run in floors & allows e.g carpenters to make provisions for pipe routeing.
- Site Plans are often scaled at 1:500 but generally bathroom suite's would have a separate drawing scaled to 1:10

Effective working Relationships on site

- Good working relationships rely on effective communication this should be maintained when working with other plumbers on site.
- This can often be implemented with new employees through a thorough induction by informing them how to prepare for site work.
- Plumbing trainees should not get involved in giving the customers technical information on site, they should advise the customers they are unsure & give the customer a name of someone who can help, or try to obtain that person.
- Good managers will often organise team building and development exercise events as well as encouraging the team to socialise outside work time.
- Breakdown in working relationships is often because of poor communication.

Effective working Relationships on site

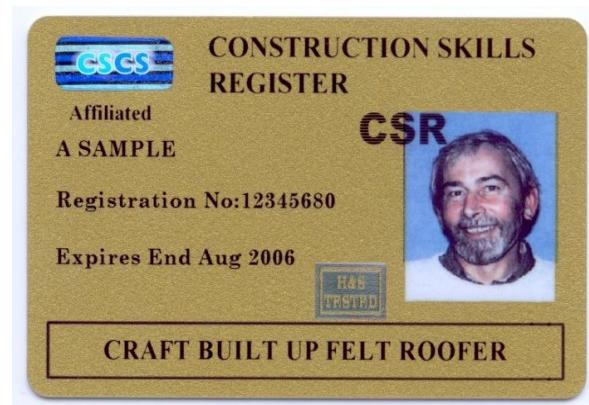
- Very often trainee plumbers require witness testimonies from the plumber supervising them for their NVQ qualifications, the minimum standard for a qualified plumber is NVQ level 2.
- Any trades man on site should seek advise from immediate supervisors before agreeing to remove alter or change anything for other trades
- The designated Plumbers responsible for the apprentice should only get directly involved in disputes if an argument breaks out between a trainee & a customer as any conflict can mean a reduction in productivity.
- The trainee should be encouraged to treat the customers property with respect.
- Careful planning and integration of the various trades by the site manager and foreman can maintain good working relationships.

Disagreements between Employees & Employers!

- In the event that a dispute erupts on site between an employee & an employer, on large sites the matter would generally be resolved with a union representative acting on your behalf.
- If the dispute cannot be settled a meeting is normally set up with a neutral person chosen by both parties, this is known as Arbitration.
- Any formal complaints are best put in writing!
- Impartial advice on Conflict on site can be obtained from ACAS (Advisory, Conciliation & Arbitration Services).
- At all times personal information must be kept confidential to avoid misuse & contravention of the data protection Act.
- Joint industry board JIB for PMES generally helps sort out disputes between members and their employers. Such as implementing unfair pay structures.

On Site Safety

- **CSCS cards** have been introduced which need to be updated every 5 years. They implement site safety. A formal Gola on line test is undertaken & in lots of cases trade operatives & plumbers need to have passed the exam & hold a card before they are allowed on site.



- Designated plumbers will have the added responsibility to look after trainee apprentice plumbers through there formal apprenticeship & possibly act as work based recorders for there NVQ qualifications which are assessed on site!

Communication on Site

- When working in occupied dwellings / offices its important to establish a good working relationship with the customers at all times.
- Generally politeness goes a long way to gaining respect on site.
- Effective working relationships on site are generally implemented by the construction manager or foreman through regular site meetings, tool Box talks.
- A confrontation or outbreaks of violence or racial, sexual, or bullying abuse should always be reported to your supervisor.
- Effective Communication between all parties will prevent any long term conflicts in the work place.
- Any work that a apprentice plumber is unable to carry out should be reported to their supervisor or manager.

Communication Cont

- Checking for delivery times & dates are best checked via telephone calls.
- Employment terms and conditions are normally legally binding as they are put in a written contract.
- Oral communication has 2 key factors listening and speaking if the person is present gives the main advantage of instant feed back.
- However care should be taken important issues should be addressed in writing so a permanent record/ hard copy can be kept, a quicker form of this is to send an e-mail.
- One skill needed to manage or chair a meeting is good negotiation skills.

Licensed plumbers



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Association of plumbing and heating contractors

Customer Charter

APHC Licensed Members must comply with a code of practice setting standards that are to be observed in their dealings with customers. Members are obliged to provide clients with clear information on services offered, pricing policy and a timetable in respect of work to be carried out.

<http://www.competentpersonsscheme.co.uk>



- The institute of plumbing and heating engineers
- The Chartered Institute of Plumbing and Heating Engineering (CIPHE) is the UK's professional and technical body for all plumbing and heating professionals.

It originated in 1906 as The Institute of Plumbers and since 1957 was known as The Institute of Plumbing (IoP). IPHE came into being on 4 June 2004 when IoP corporate members agreed that the new title better reflects their scope of work and firmly identifies plumbing and heating as an engineering discipline. The Institute was granted a Royal Charter and added the word Chartered to its title on 1 July 2008.

CIPHE has a membership of over 12,400, some 3,500 of whom are listed in a Member Directory where a local Registered Plumber can be found by simply entering a postcode. All members listed have had to prove their competence through recognised qualifications or extensive experience.

JIB for PMES



Plumbing JIB for PMES

Joint Industry Board for Plumbing Mechanical Engineering Services in England and Wales



**Wage Rates & Allowances
2005**

Construction & Contracting

Rates of Pay and Allowances 2005

Effective from Monday 3rd January 2005 (2nd Year of two year agreement).

1. Basic Rates of Hourly Pay

The Basic Hourly Rates of Pay – *inclusive of Tool Allowance*

(a) Operatives:

Technical Plumber & Gas Service Technician	£12.02
Advanced Plumber & Gas Service Engineer	£10.82
Trained Plumber & Gas Service Fitter	£9.28

(b) Apprentices: (See Note Below)*

4 th Year of Training with NVQ Level 3*	£8.99
4 th Year of Training with NVQ Level 2*	£8.13
4 th Year of Training	£7.16
3 rd Year of Training with NVQ Level 2*	£7.08
3 rd Year of Training	£5.82
2 nd Year of Training	£5.16
1 st Year of Training	£4.51

(c) Adult Trainees:

3 rd – 6 months of employment	£8.10
2 nd – 6 months of employment	£7.76
1 st – 6 months of employment	£7.25

* Note: Where Apprentices have achieved NVQs, the appropriate rate is payable from the date of attainment except that it shall not be any earlier than the commencement of the promulgated year of training in which it applies.

Joint Industry Board for plumbing and mechanical services in England & Wales provide employers with information on industry pay rates and working conditions.