Party Walls- For Engineers Simon Pole BSc CEng FIStructE MICE MRICS

- What is The Party Wall Etc Act 1996 ?
- Why important for engineers?
- Challenges for engineers.
- Best practice for design engineers.
- Design details good and bad !
- Basements and special foundations in detail... if time allows.



Show of hands; questions for you

Anyone not I.Struct. E or ICE members ?

Who is a Chartered Engineer ?

Who acts as a Party Wall Surveyor ? (Any Engineers?)

Who acts as Advising Engineer to the Adjoining Owner / Surveyor?

Anyone familiar with Special Foundation case of Chaturachinda v Fairholme 2015 ?



Quiz question for you !

Who decides whether Special Foundations are permitted or not?

Is it either;

A) The neighbour (unilaterally)

B) The Party Wall Surveyors? (By award under section 10, taking both owners' interests into account)

Answer...

The neighbour !

Without having to give reason / be reasonable.

Not decided by Party Wall Surveyors as a tribunal, by award.

But most neighbours and many PWS don't know the issues.

Most neighbours and PWS will need an Engineer to advise.

Therefore "Advising Engineers" need to know PWeA and Law (Very important if not to be sued !).

Scope of Act for Engineers

- Works TO party walls AND party floors.
- Raising
- Lowering (underpinning)
- Cutting into party wall for beams and padstones etc.
- Adding load.
- Adjacent excavation
- Party Structures, ie party floors (but not works immediately below!)
- Building new party walls for extensions etc.

What is the Party Wall Etc Act 1996

- Simple legislation
- England and Wales only.
- Keeps most disputes out of the courts.
- To protect BOTH parties.
- Not just an enabling Act for developers.
- Rights of Adjoining Owner often overlooked.



- Short and easy to read document of just 15 pages.
- Engineers need to know about 5 pages only ! (No excuse not to!)

What triggers party wall legislation?

- Onus on developer clients to notify neighbours of NOTIFIABLE work.
- Most clients don't know the Act, particularly home owners.
- Onus therefore on design team; engineer mainly to assist notification.
- Particularly important Engineers know when the Act applies.

- Reminder of terms;
- Developer is the BUILDING OWNER who appoints the BOS.
- Neighbour is the ADJOINING OWNER who appoints AOS.
- Party Wall Surveyors don't have clients they have Appointing owners.
- Advising Engineer advises the AOS (not a checking engineer !)

Process of forming dispute or not...

- Building Owner serves notice on Adjoining Owner to undertake PW notifiable works
 (1 month notice for 3m and 6m and 2 months for party wall itself).
- Adjoining Owner receives notice and has several options;
 - Respond in writing approving works and no need for a PWS
 Respond in writing proposing an Agreed Surveyor
 Respond in writing insisting on own PWS.
 Do nothing, and after 14 days (3) applies.
- 3rd Surveyor appointed in case others cannot agree.

Any combination involving a PWS requires an award to decide "disputed" matters AND the manner in which the works will take place. (Hence, need temporary works ASAP ! See later)

What do Party Wall Surveyors do?

Wear 2 hats (!) - Advising appointing owners (not clients)
 Resolve disputes between parties (section 10)

- Deal with NOTIFIABLE work only.
- Act as "arbitrators".
- Both surveyors must act impartially except re Special Foundations.

Wide ranging powers re incidental works.

Which bits important for Engineers

- Section 20 Definitions eg foundation, Special Foundation etc.
- Section 10 Understanding remit of Party Wall Surveyor and generally, particularly the AOS and AOS Advising Engineer.
- Section 2 Repairs and underpinning.
- Section 6 Excavation and adjacent foundation works (3m and 6m notices)
- Section 7 Rights of both parties The big one !
- Other essentials
- P and T Green book guide to the Act. (New out! Via www.partywalls.org £36)
- Risk assessments (Pyramus and Thisbe Club; guidance notes 7 and 10)
- BRE Digest 251 revised 1995, Categories of damage
- The Law And Practice Of Party Walls by Nicholas Isaac 2014

Section 6 Excavation, 3m and 6m notices

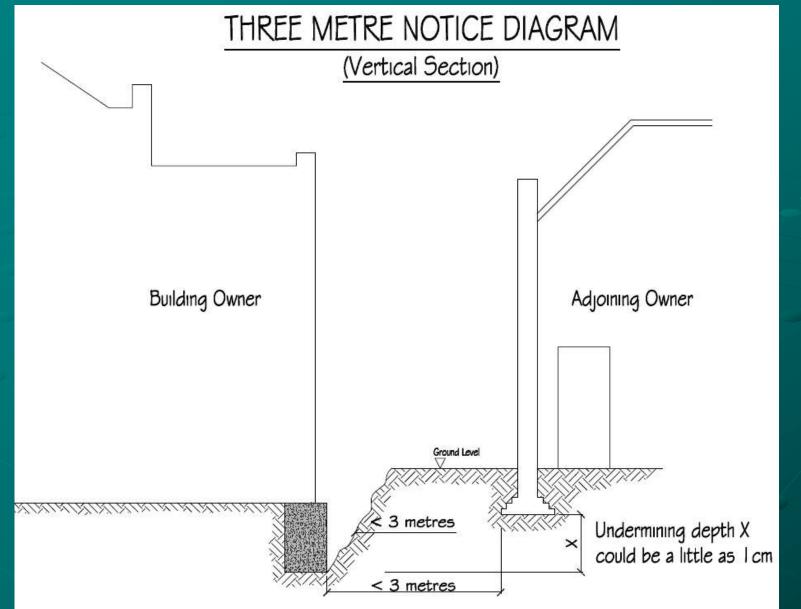
Adjacent excavation and construction

Adjacent excavation and construction. 6.—(1) This section applies where—

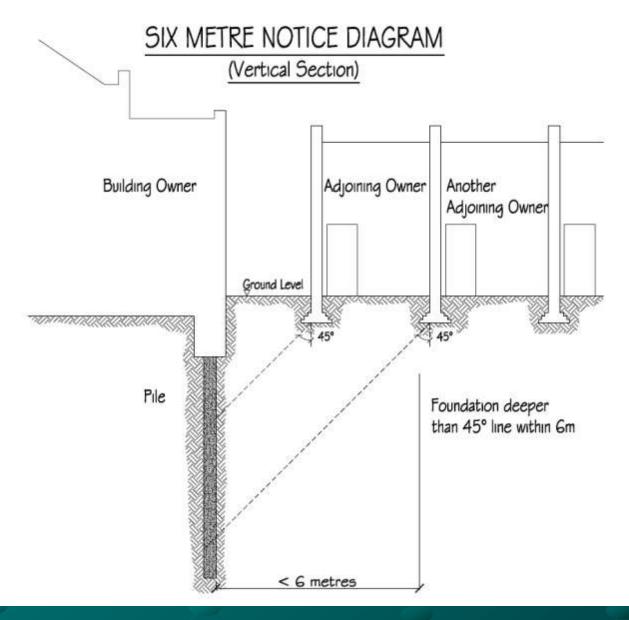
- (a) a building owner proposes to excavate, or excavate for and erect a building or structure, within a distance of three metres measured horizontally from any part of a building or structure of an adjoining owner; and
- (b) any part of the proposed excavation, building or structure will within those three metres extend to a lower level than the level of the bottom of the foundations of the building or structure of the adjoining owner.
- (2) This section also applies where—
 - (a) a building owner proposes to excavate, or excavate for and erect a building or structure, within a distance of six metres measured horizontally from any part of a building or structure of an adjoining owner; and
 - (b) any part of the proposed excavation, building or structure will within those six metres meet a plane drawn downwards in the direction of the excavation, building or structure of the building owner at an angle of forty-five degrees to the horizontal from the line formed by the intersection of the plane of the level of the bottom of the foundations of the building or structure of the adjoining owner with the plane of the external face of the external wall of the building or structure of the adjoining owner.

(3) The building owner may, and if required by the adjoining owner shall, at his own expense underpin or otherwise strengthen or safeguard the foundations of the building or structure of the adjoining owner so far as may be necessary.

3m notice.



Six metre notice



Section 7 is KEY; Loss ,damage, compensation

Rights etc.

7.—(1) A building owner shall not exercise any right conferred on him Compensation etc. by this Act in such a manner or at such time as to cause unnecessary inconvenience to any adjoining owner or to any adjoining occupier.

(2) The building owner shall compensate any adjoining owner and any adjoining occupier for any loss or damage which may result to any of them by reason of any work executed in pursuance of this Act.

(3) Where a building owner in exercising any right conferred on him by this Act lays open any part of the adjoining land or building he shall at his own expense make and maintain so long as may be necessary a proper hoarding, shoring or fans or temporary construction for the protection of the adjoining land or building and the security of any adjoining occupier.

(4) Nothing in this Act shall authorise the building owner to place special foundations on land of an adjoining owner without his previous consent in writing.

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- (5) Any works executed in pursuance of this Act shall-
 - (a) comply with the provisions of statutory requirements; and
 - (b) be executed in accordance with such plans, sections and particulars as may be agreed between the owners or in the event of dispute determined in accordance with section 10;

and no deviation shall be made from those plans, sections and particulars except such as may be agreed between the owners (or surveyors acting on their behalf) or in the event of dispute determined in accordance with section 10.

Why important for Engineers?

Engineering works complex and dangerous notifiable work.

- Clients and architects rely on the design engineer.
- The ENGINEERING often triggers the need to serve PW notices.
- Examples:
 - Simple extensions within 3m of period buildings.
 - Loft conversions (beams in party walls)
 - Removing chimney breasts

Picture frames/ goal post frames perpendicular, on new foundations.

Why important for Engineers? 2

- Embarrassing re architects and client facing issues if don't know the Act.
- Major delays to projects design time, fees, site delays.
- Potential PI claims from delays or poor advice.

 Special Foundations - understanding them and the power of the neighbour (!)
 MAY CHANGE YOUR DESIGN CONSIDERABLY-EMBARRASSING

Understand role of AOS and AOS Advising Engineer. (not here)

Why important for Engineers? 3Special Foundations -

Complexity

Right of the neighbour to simply say no without reason.

Major issues; misunderstood post Chaturachinda v Fairholme Sept 2015.

Design repercussions- alternative designs, architectural implications for space, fees, delays to design and construction programme.

Areas of dispute.... the big one !!!!!

Section 7 is the key section of the Act.

- Rights of the parties
- 7.1 Unnecessary Inconvenience
- 7.2 Loss, damage and Compensation
- 7.4 Special Foundations.

Important engineers understand basics of these headings in LAW and in practice.

Engineering determines outcome of the Award and the law

• THE CRUX OF THE ISSUE !!!!!!!

Areas where Engineering might determine matters of unnecessary inconvenience, loss damage and compensation.

Design - complex, those which compromise the AO now or later.

Designs with increased risks of damage. Eg changing a terrace of strip foundations into a raft or piles.

- hard spots differential settlement etc.

Forms of construction which are a cause of nuisance ("unnecessarily inconvenient") or increase risk of damage.

THE KEY WORDS..... Loss , damage and compensation

Rights etc.

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7.1 Unnecessary Inconvenience 1

Unnecessary Inconvenience approx means "Nuisance" in law.

Necessary Inconvenience is permitted (building work is inconvenient!).

Test of reasonableness regarding proposed works and whether alternatives are reasonable, of similar quality, time and cost etc.

Inappropriate construction method

Leading to foreseeable damage, e.g. excessive cracking or longer duration of construction leading to nuisance.

Inappropriate design solution

Compromises the neighbours' interests. E.g. increased risk of movement with deep underpinning where piling might be more appropriate.

Complex / Special Foundations which restrict future use or add significant cost to subsequent works by the neighbour.

7.2 Loss and damage

- Any type of loss, not simply due to the physical building work.
 E.g. not noisy radios or building site dust.
- Financial loss now or in the future.
- Prejudicing neighbours future rights; Can they still easily do something similar like increase the height of the party wall
- Diminution of property price NOW as a consequence of more expensive or practical restrictions on subsequent re development of neighbouring property.
- Designers beware !

 Put yourselves in shoes of neighbour. Does your design complicate the future use of the party wall, AO building

Examples of Engineering "loss "

Extra build costs.

Future use of the wall; eg loft wall raised in timber frame on half wall thickness, preventing raising in brick in future.

Steel frames "raising on a cantilever" above a party wall.

Damage arising

Integral underpinning (raft) which is likely to cause damage to the neighbour via differential or seasonal movement.

Prejudicing future use.

Complex piling and cantilever support of party wall which does not realistically allow further strengthening.

See later drawings

Compensation

- The amount due to neighbour to compensate loss.
- E.g. Diminution in value of property as a result of complex construction.
- Increased cost of subsequent works, eg the need for further underpinning/ strengthening works.
- Ensure you notify your developer client, architect and party wall surveyor of risks/ costs.



Potential PI Issues not yet addressed by professions.

- Engineers generally not expert in law of party walls.
- PWS don't understand engineering.
- Many complex cases arise but too few tested in courts....yet.

<u>Consequences/ risks are;</u>

- Neighbours suffering un-awarded losses may sue Developers.
- Developer will sue design engineers.
- Neighbours will sue their party wall surveyor/ Advising Enginee
- AO Surveyor will sue AOS Engineer as sub consultant In summary we all have a looming problem......!

Temporary works ;

Surveyors need to decide / award the manner in which the works will be executed.

Very important.

Possibly as important as permanent works.

Of no value later (i.e. post award). Need it now !

Could delay award if not procured early.

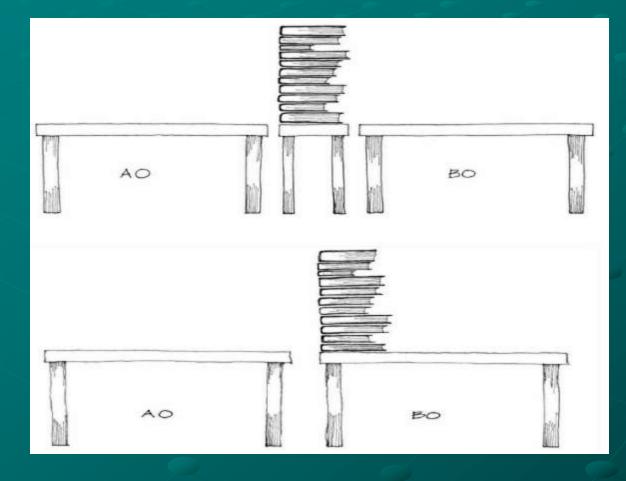
Examples of poor practice

Reminder that while the Act is "facilitating"

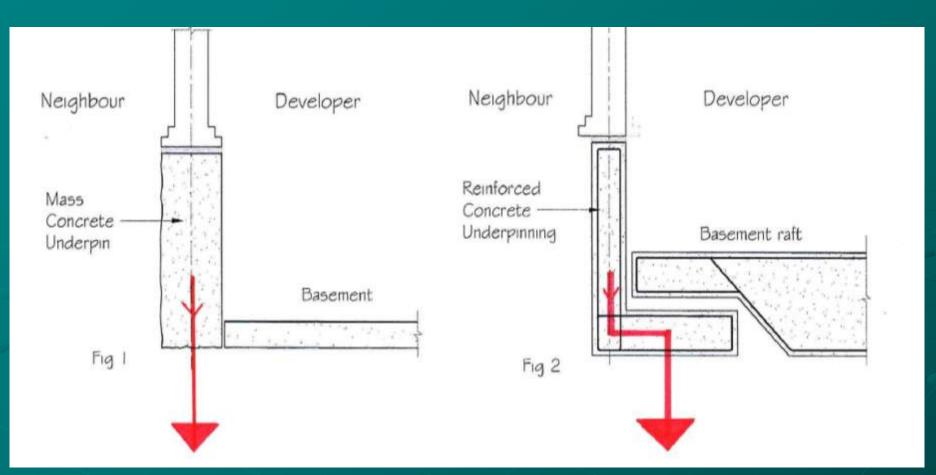
(for repairs when the London Building Acts were written) the spirit of the Act is to keep matters "equitable" so that the long term use of the shared ownership party wall is not compromised; avoiding the need to award compensation for loss and damage caused by poor design and construction detailing.

Engineers share this responsibility.

Analogy of load transfer onto developers land (wall and loads no longer equitable between parties.)

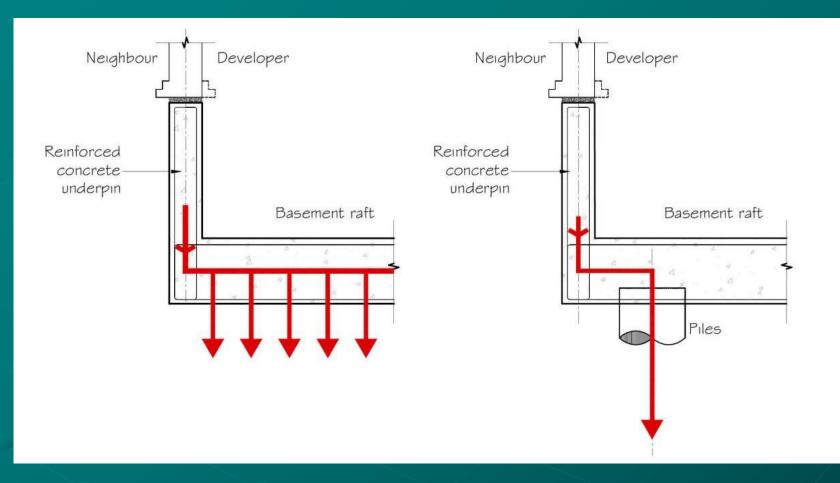


Distributing load 1



OK. No reinforcement Independent, axial, simple. Probably requires internal RC liner wall. OK ish, Special Found. Independent, not axial.

Distributing load 2

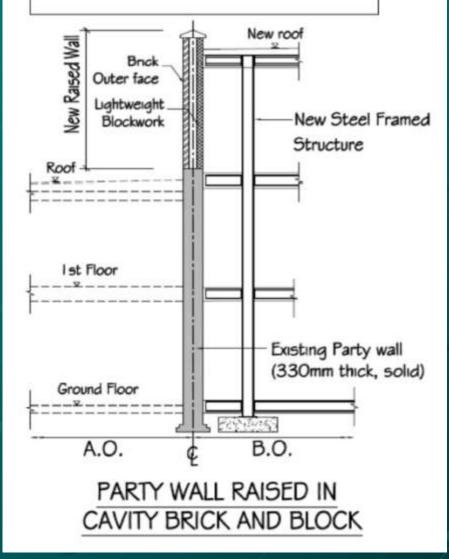


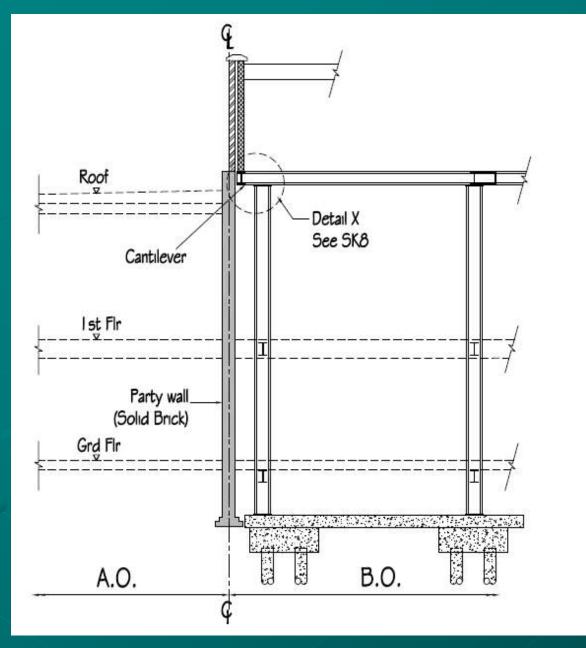
INTEGRAL foundation system entirely owned by BOLoad 'distributed' into BO substructure.Party wall relies on "BO" building remaining in place.

1. Wall Composition

- Should a raised Party wall be of equal strength and durability as the rest of the wall?
 - It should be of uniform composition 'across' the width of the wall.
 - Worrying trend noted in London for Party Walls to be raised in this way.
 - Very restrictive for current AO if they want to raise and use as loadbearing (E.g. non framed structure)

- Wall is no longer strong (loadbearing) where raised,
- Wall has unequal properties across its width.

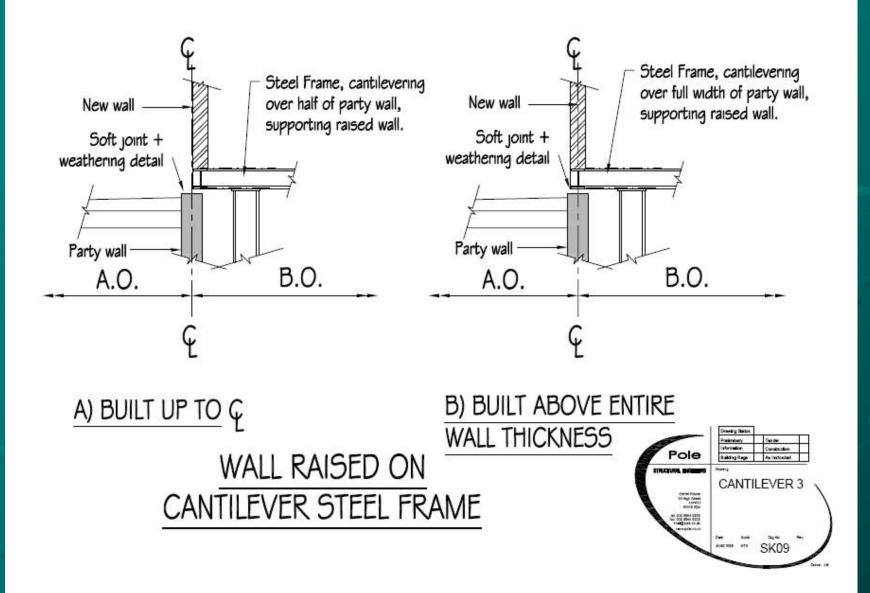




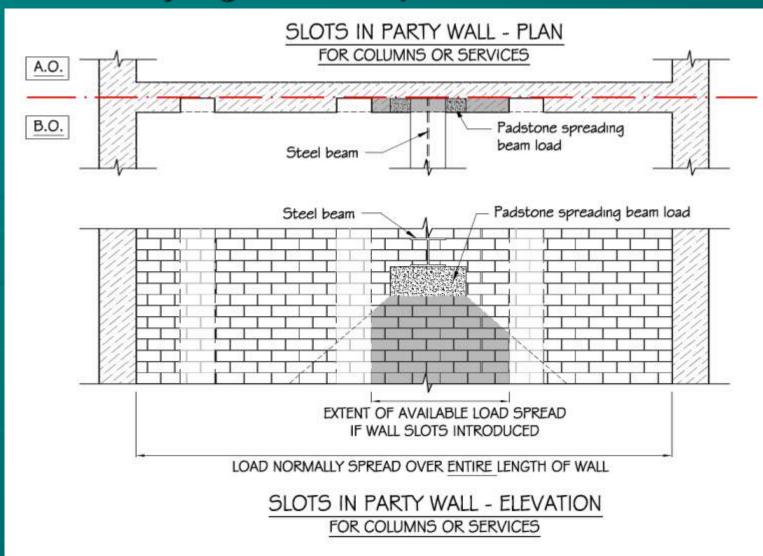
PARTY WALL RAISED PARTLY ON STEEL FRAME AND PART ON PARTY WALL

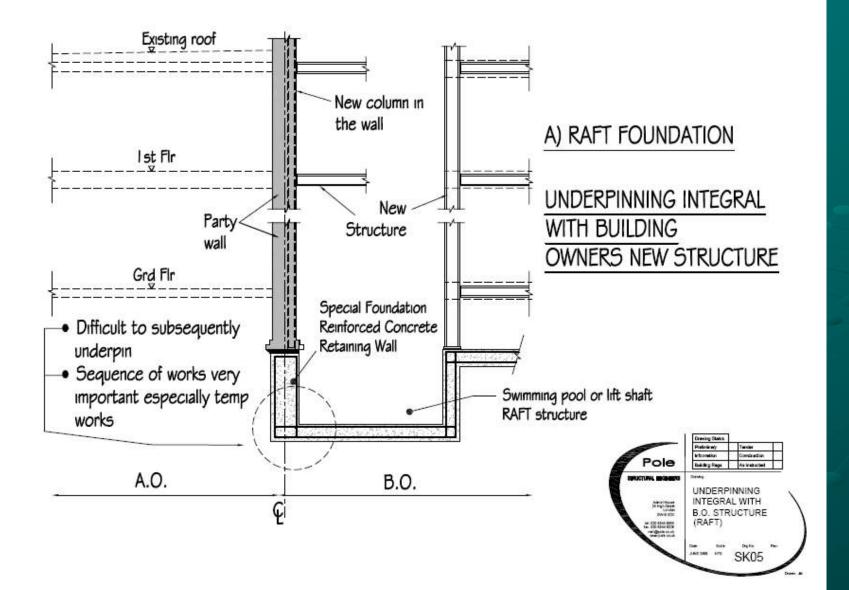


Cantilever supports



Vertical slots and chases in party walls. Destroying load dispersion of wall.





Summary of engineering problems !

- Changes in foundation type/ Compatability.
 - from shallow strip footings to deep foundations, rafts.
- Differential settlement / Differential Subsidence

 Loadings; including from area remote from party wall.
 Seasonal movement in clays, trees etc
- Party Wall supported on developers land
 Reliance on developers building for support of party wall.

Restrictions on future use

- Difficult to determine party wall foundation or loadings in future.
- Building in future redundancy / complication for current AO.
- Imagine how meaningless a future trial pit would be with a raft !

Pitfalls And problems generally

Engineers not aware of PW Act generally (ISE part 3 interview)

- Poor submission by design engineers (not aware of AOS Eng role and Pyramus And Thisbe Club; Best Practice Guidance Notes 7 and 10).
- Project delays if you don't know the Act- design and construction.
- Special Foundations; generally. Seek early approval in writing.
- Adversarial approach of some PWS and confusion on law not helps!
- DESIGNERS ACTING AS PARTY WALL SURVEYORS; POOR FORM !

Best practice; as designers. 1

- Know the Act, generally, role of PWS, AOS and AOS Engineer.
- Identify whether your design contains notifiable works or not? If so, shout !
- Keep party foundation design as simple as possible, ideally independent of developers substructure.
- Agree any Special Foundations as soon as possible. (Have an alternative design to SFs up your sleeve and advise client /architect of implications.
- Present party wall "design" like a report/ risk assessment to PWS/ Engr.
 (Not just Building Regulations pack- not helpful !)

Best practice; as designer. 2

- Remember AO, AOS and AOS Eng do not know your project !
- Send only relevant calcs and drawings.
- Existing and proposed drawings incl site plan. Photographs.
- Site specific soil report (for basements), exploratory works.
- Show you have considered neighbouring property/risk of damage and category of damage to BRE 251 if basement. CIRIA 580 etc.
- Offer to meet the AOS and AOS Engineer.
- Temporary works and method statements essential (no good later as surveyors will not award "conditionally" !)

Put yourself in the shoes of the neighbour (For major schemes !).
 What reassurance would you expect to see?

Best Practice guidance

Royal Borough of Kensington and Chelsea Residential Basement Study Report December 2012



S.Pole 2012 paper to IStructE and PWS.

- Pointed out engineering complications for basements integral with party walls.
- Highlighted problems with party wall process and interpretation of the law.
- Suggested neighbouring interests not being looked after.
- Creating future redundancy in our building stock.
- Storing up criticisms and claims against Surveyors and engineers for future.

Basements and Subterranean development: It's time for engineers to engage with duty of care and Party Wall matters



Neighbour

Mass

concrete

underpin

49

Simon Pole provides a personal view of the current Party Wall issues surrounding retrofit basements, and offers some suggestions for how both the Institution and industry might respond to the challenges.

Opinion

Vewpoint

The following is my personal opinion regarding retrofit basement designs to suburban houses and the associated Party Wall and neighbourly implications (Fig. 0, This article specifically raises concerns for those designs which support Party Walls on basement rafts and piled structures instead of independent underpinning which maintains the strip foundation system and a shared Party Wall status. Some basements are creating future redundancy in our building stock and seriously compromising the rights of neighbours. We are inadvertently creating a problem for future generations. My opinions are based on studying hundreds of Party Wall engineering proposals each year on behalt of Adjoining Owners. Surveyors, under the Party Wall Etc Act 1996. This article assumes the reader has some knowledge of the Act¹ (applicable to England and Wales) but I'm sure that the wider 'duty of care' issues will also resonate with international readers.

TheStructuralEngineer

March 2012

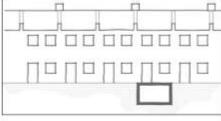


Figure 1 Typical terrace of houses with retrofit besement introduced bene one house

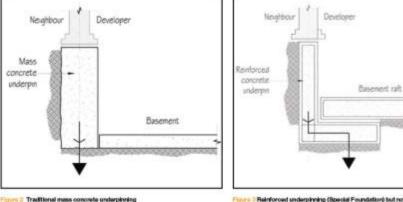


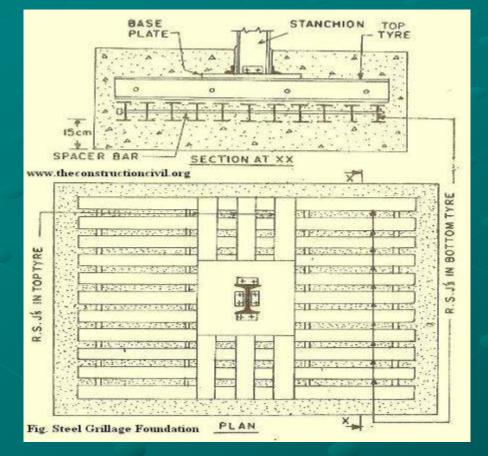
Figure 3 Reinforced underpinning (Special Foundation) but not integral with benament reft

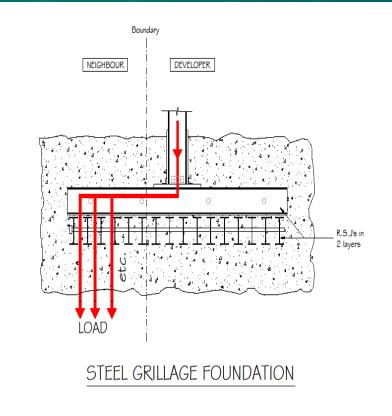
Special Foundations..a particular problem !

- Definition "means foundation in which an assemblage of beams or rods is employed for the purpose of distributing any load....
- The definition of a "SF" does not convey why they are a problem.
- It is NOT the rebar that is the problem but the potential for unnecessary inconvenience, loss and damage.
- NB it is not the position of the rebar on neighbouring land that requires neighbours consent but the entire Special Foundation containing rebar.



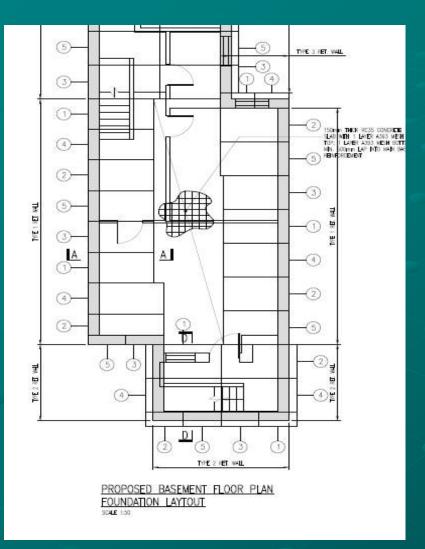
Grillage Foundation 1920s/ 30s steel frames-The original Special Foundation protruding onto neighbouring land

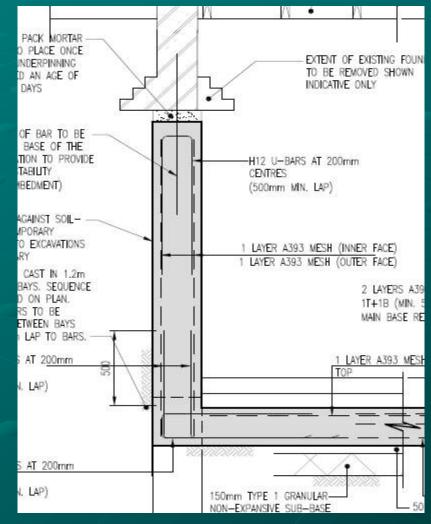




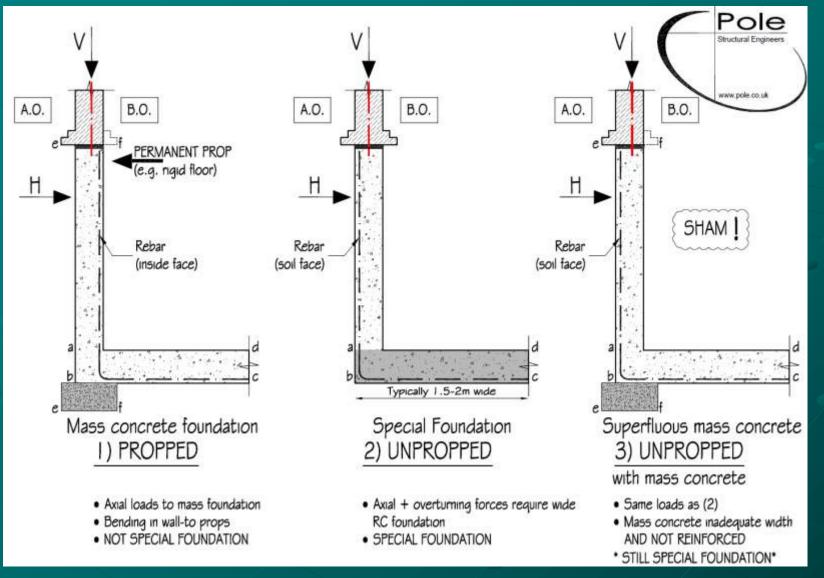
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Today's Special Foundations





Today's Special Foundations post Chaturachinda v Fairholme 2015.



Chaturachinda v Fairholme Sept 2015

- Simon Pole Expert in legal case.
- A rare Party Wall case in the County Courts.
- Unusual case with existing basements already next door.
- No lateral loads in two thirds of the project
 Zone A and Zone B within house.
- Problem area was Zone C in the rear garden.
 - Is the wall detail either; a) unpropped cantilever or b) horizontal waling beam ?

Special Foundations – The issues !

- Is the design a Special Foundation requiring consent of AO or not.
- Does the Special Foundation compromise the rights of the AO or lead to "loss and damage", hence compensation to the AO. (regardless of whether AO approves use or not).
- Is the engineering design at risk (to being declined or leading to a "loss" and risk of delays or PI claim etc.).
- What are the concerns for the Adjoining Owner.
 (Decided by the Advising Engineer so role very important).

Special Foundations – Advantages...

- Advantages mainly to the Building Owner;
- Space saving with thinner underpinning.
- Enhanced water tightness from monolithic construction.

Advantage to Adjoining Owner only if they intend similar basement.

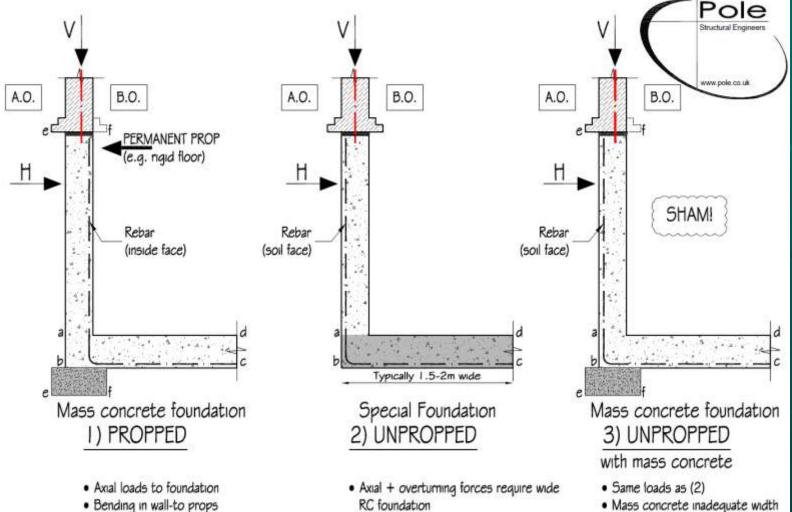
Maximises space upon subsequent excavation.

Disadvantage to Adjoining Owner

0

- Complex construction removes independence of foundation.
- Could lead to differential subsidence issues.
- Could be difficult to further raise or lower wall.
- (Generally little to be gained unless planning basement)

Today's Special Foundations post Chaturachinda v Fairholme 2015.



NOT SPECIAL FOUNDATION

SPECIAL FOUNDATION

· Mass concrete inadequate width AND NOT REINFORCED

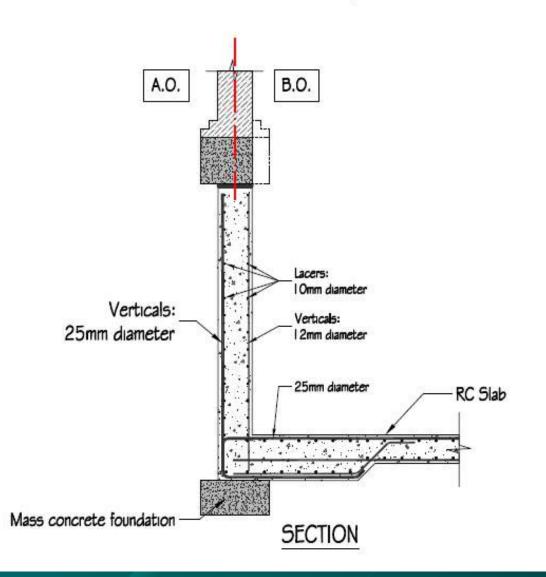
Post Chaturachinda

The underpin stem is a WALL not a foundation.

- The foundation design and construction method MUST BE GENUINE and not an artifice or sham.
- IF the underpin "wall" is permanently propped at the top, loads are axial and mass concrete foundations can be used.
- IF there is no prop at the top and the "wall" cantilevers from the foundation (or the underpin wall cannot instead, span as a walling beam, horizontally), the foundation requires reinforcing, will distribute load on the AO land and will be a special foundation.

Chaturachinda v Fairholme Special Foundations.

Chaturachinda v Fairholme Special Foundations



Special Foundation tips

- Always have an alternative design, avoiding Special Foundations.
- Obtain early consent for Special Foundations in writing.
- Provide good design risk assessment.
- Put yourself in the shoes of the neighbour.
- Advise your client of the risks, loss of space, potential delays and additional design fees if SF's declined.
- As an Advising Engineer to the neighbour/ Surveyor; ensure you point out the risks, entitlements, pros and cons etc. Ask appropriate questions of the design engineer.

Summing Up

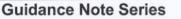
- Know the Act in general terms
- Awareness of law of nuisance, (loss and damage).
- Be proactive when PWS issues arise
- Put yourself in the neighbours' shoes
- Think about the design and whether it might compromise the Adjoining Owner.
- Advise your client..... to protect your PI etc.

Questions ?









THE ROLE OF THE ADVISING ENGINEER

Number 10

Guidance Note

September 2010

The purpose of this Guidance Note is to provide best practice guidance on the role of an engineer advising a surveyor appointed by an adjoining owner under Section 10 of the Party Wall etc. Act 1996. The limitations of the Guidance Note Series are set out in the separate Introduction sheet.

The Basis of Appointment

romoting excellence

party wall practice

The normal basis for appointment of an advising engineer is to provide the adjoining owner's surveyor with advice restricted to matters covered by the Act.

(If appointed to advise the adjoining owner, and/or advice going beyond matters covered by the Act, the building owner's surveyor may well refuse to consider comments made by the engineer, or accept the engineer's fees as a necessary cost in the making or obtaining of an Award).

Typically the advising engineer would:

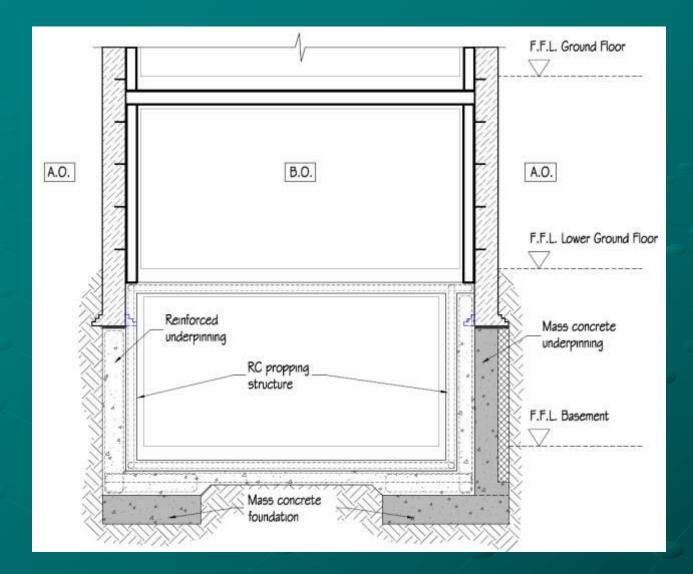
- establish how the proposals are likely to affect the structure or foundations of the party wall or the
 adjoining owner's building, and review the temporary and/or permanent works that are proposed to
 minimise those effects, and comment on issues of practicality.
- establish that the proposals are adequate and practical (without going into minute detail) and are based on sound principles, and can be carried out as simply and quickly as possible with the minimum of inconvenience to the adjoining owner.
- consider the principles and assumptions on which calculations are based (without checking calculations in detail), and to consider the conclusions. If the principles and assumptions are dubious, or are too optimistic, or if the conclusions appear inconsistent, ask for the calculations to be re-worked on an agreed and more realistic or more conservative basis.
- make a site inspection (if necessary) to see the building/s to assist the understanding of the proposals. (It may also be desirable to accompany the building owner's engineer on inspections of exploratory work and/or trial holes, but it should not be necessary to witness all such matters, unless requested to do so, if inconsistencies are expected, or there are deficiencies in the information provided).
- check that the building owner's advisors are doing their work properly using encouragement if needed (without doing it for them).
- check that the building owner's engineer is acting safely and responsibly in all matters which affect the structure of the adjoining owner's building.
- consider carefully if the structural work proposed prejudices the adjoining owner's future rights (from a structural viewpoint) and advise accordingly.



if desirable, make at least one, and possibly more, site inspections of the work in progress to see that it is proceeding generally in accordance with the agreed details, method statements and sequence.

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Section 20 Of PWeA 1996

20. In this Act, unless the context otherwise requires, the following expressions have the meanings hereby respectively assigned to them—

- "adjoining owner" and "adjoining occupier" respectively mean any owner and any occupier of land, buildings, storeys or rooms adjoining those of the building owner and for the purposes only of section 6 within the distances specified in that section;
- "appointing officer" means the person appointed under this Act by the local authority to make such appointments as are required under section 10(8);
- "building owner" means an owner of land who is desirous of exercising rights under this Act;
- "foundation", in relation to a wall, means the solid ground or artificially formed support resting on solid ground on which the wall rests;

"owner" includes-

(a) a person in receipt of, or entitled to receive, the whole or part of the rents or profits of land;

(b) a person in possession of land, otherwise than as a mortgagee or as a tenant from year to year or for a lesser term or as a tenant at will;

(c) a purchaser of an interest in land under a contract for purchase or under an agreement for a lease, otherwise than under an agreement for a tenancy from year to year or for a lesser term;

- "party fence wall" means a wall (not being part of a building) which stands on lands of different owners and is used or constructed to be used for separating such adjoining lands, but does not include a wall constructed on the land of one owner the artificially formed support of which projects into the land of another owner;
- "party structure" means a party wall and also a floor partition or other structure separating buildings or parts of buildings approached solely by separate staircases or separate entrances;

"party wall" means-

(a) a wall which forms part of a building and stands on lands of different owners to a greater extent than the projection of any artificially formed support on which the wall rests; and

(b) so much of a wall not being a wall referred to in paragraph (a) above as separates buildings belonging to different owners;

- "special foundations" means foundations in which an assemblage of beams or rods is employed for the purpose of distributing any load; and
- "surveyor" means any person not being a party to the matter appointed or selected under section 10 to determine disputes in accordance with the procedures set out in this Act.

