

INNOVATION GROUP

JULY 20TH 2006

The bad news
.....staring
into the abyss



The good news.....innovation pays



AGENDA

11 - 11.45	Introduction and Open discussion – How can we get the best out of the Innovation Group?
11.45 - 12.30	Current Innovation Register for Subsidence Forum web site Key areas; - Technical R&D - Tree Root Protocol
13.00 - 13.30	Sandwiches
13.30 - 14.15	Input into October 2006 Subsidence Day at BRE
14.15 - 14.45	Content of quarterly Innovation Newsletter and how do we make the most of the website Programme and structure of innovation review process
15.00	AOB, Summary, Next Meeting and Depart

How can we get the best out of the Innovation Group?

The Forum shall have the following objectives –

- a) To improve public awareness of subsidence issues
- b) To promote the subsidence industry;
- c) To improve lines of communication between all parties involved in subsidence;
- d) To improve quality and standards throughout the industry;
- e) To encourage the use of competent suppliers;
- f) To encourage the use of warranties and guarantees where appropriate
- g) To establish a centre of shared knowledge and exchange of non-competitive information.

How can we get the best out of the Innovation Group?

John Patch comments on behalf of ASUC (abridged by ND)

Underpinners tend to embrace innovation ... innovative products, systems, techniques and processes is often the only way to provide the competitive edge that is so very necessary in a highly competitive marketplace.

It has been a long held view that innovation within a Contracting arena is a means to cut cost and increase margin...Within the industry in recent years we have seen another factor affecting innovation... safety.

Underpinning is an inherently dangerous activity....Innovation within the underpinning industryis geared the majority of the time to ensuring an improved working environment for the workforce rather than providing financial benefit.

The view of ASUC is that we must all, and will all, continue to embrace all aspects of innovation as this will benefit the industry at large but the motives for doing so need to be clearly understood by all parties within the Subsidence Forum; Innovations Group. Innovation is not a meal-ticket for cheaper subsidence repair.

M4i Vision and Mission Statement

“Our vision is for the whole UK construction industry to create an environment of self-sustaining continuous improvement leading to world class performance and better profitability to lead radical improvement in value for money, profitability, reliability and respect for people, through demonstration and dissemination of innovation and best practice”

Innovation (n): a new idea, method, etc,
a change.



■ Committed Leadership

- understand client's needs, refocus or restructure the business, drive change through the organisation from the top

■ Focus on the Customer

- education, refine customer's functional needs, measure performance & satisfaction

■ Respect for People

- site conditions, fair wages, health, safety, training, improving image, attracting the best, no-blame culture

■ Integrated Processes and Teams

- planning, procurement, delivery, whole life performance, feedback

■ Quality Driven Agenda

- zero defects, right first time, delivery on time / budget, innovation, adding value

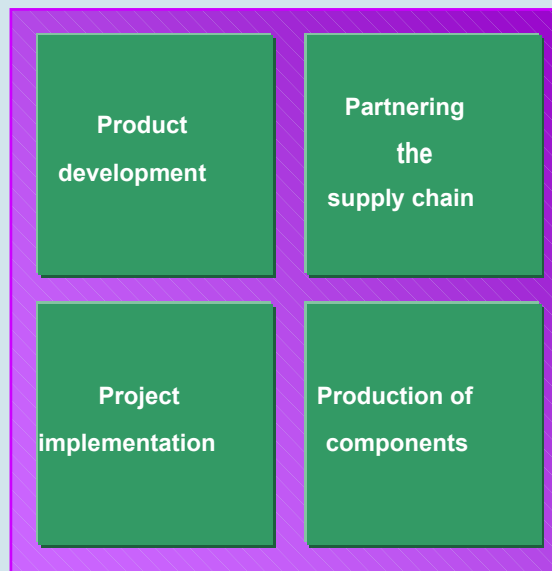
M4i Model Process



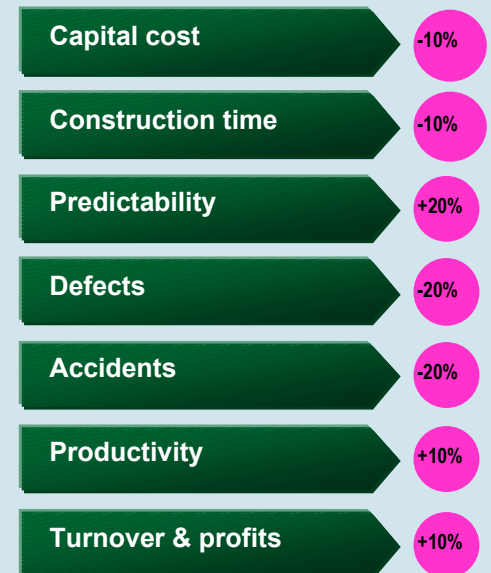
Drivers for Change



Improving the Project Process



Targets for Improvement



M4i Core Values

- **Bring together those committed to “rethinking construction”**
- **Encourage openness, sharing and learning**
- **Develop benchmarking and co-operation**
- **Demonstrate innovation and best practice**
- **Disseminate to the whole of the industry**

Subsidence Key stage management *process line*

Engineer Appraisal

In House Engineers

External Engineers

Supply Chain - Phase 1

Ground Investigation

Monitoring

Drainage

Arborist Survey (Mitigation)

Soils Lab

Supply Chain - Phase 2

Repair scope and cost

Underpinning

Specialist services (CDM, Party Wall)

Removals

Recoveries

Solicitors

Notification



Visit and Appraisal



Investigation



Scoping and
Pricing



Mitigation



Repair

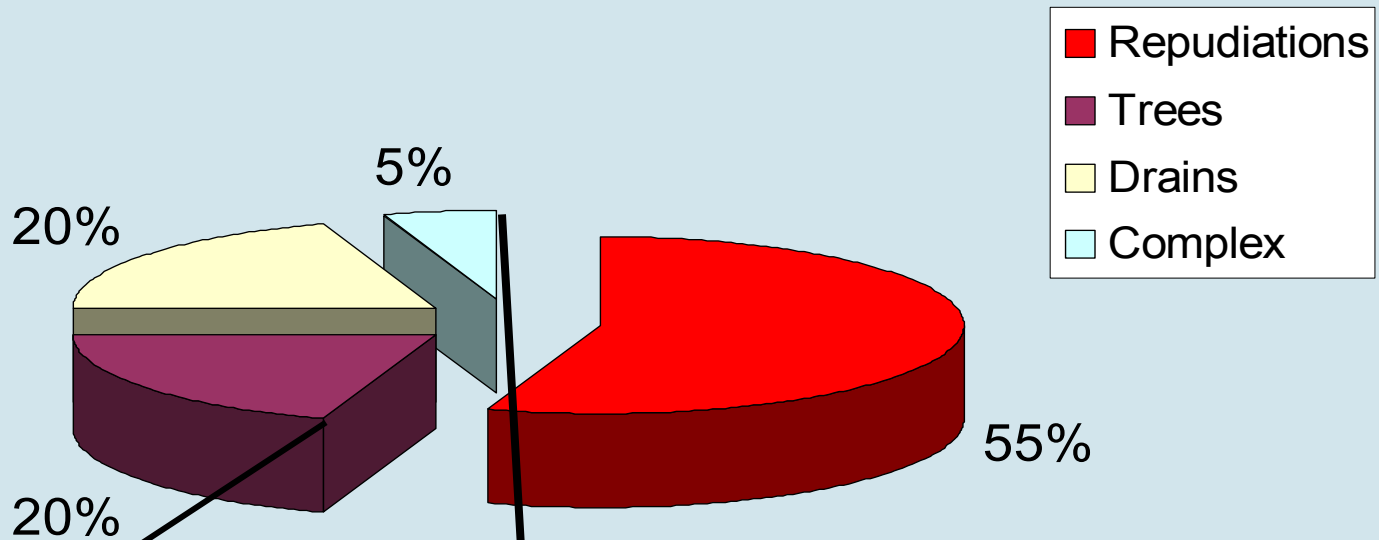


Closure



Recovery

Subsidence - Typical mix in non Event Year



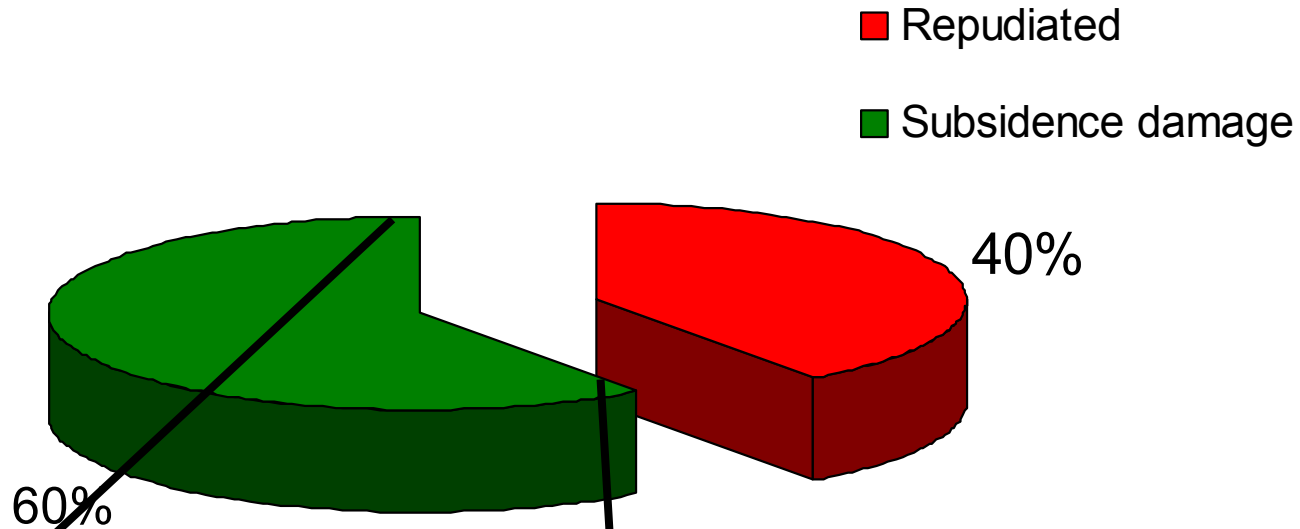
Live subsidence claims

45% trees

55% other/drains

Low volume - Low Average Cost

Subsidence - Typical claims mix in Event Year



Live subsidence claims

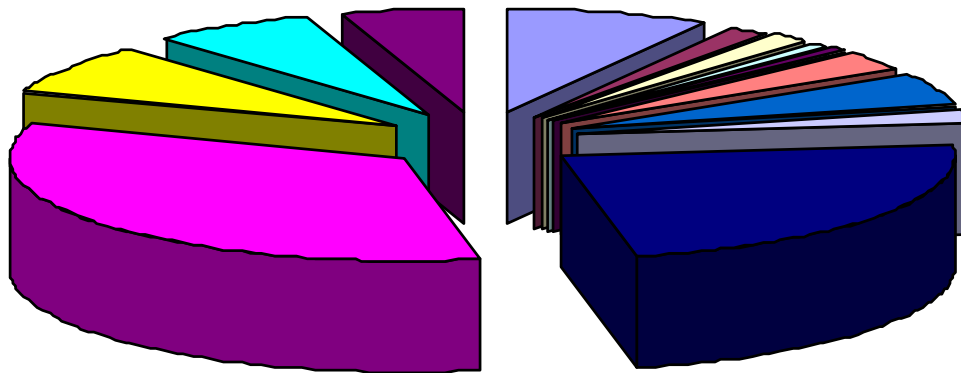
75% trees

25% other/drains

High volume - High Average Cost

Subsidence claim cost build up

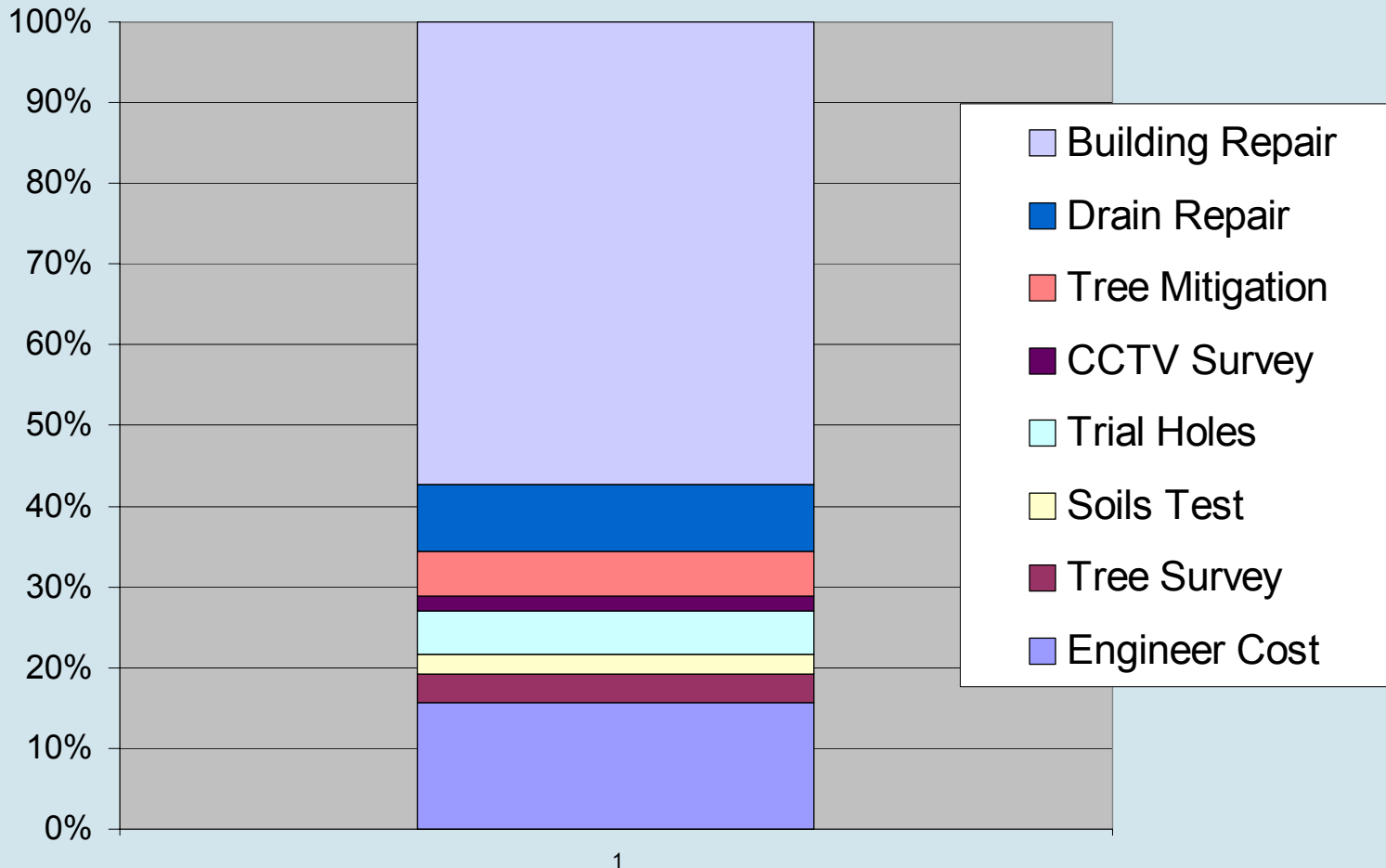
- Engineer
- Arborist
- Trial Holes
- Soil Test
- Drainage CCTV
- Tree Surgery
- Drain repair
- TPO Management
- Building Repair
- Underpinning
- Temporary Acc
- Removals
- Solicitor



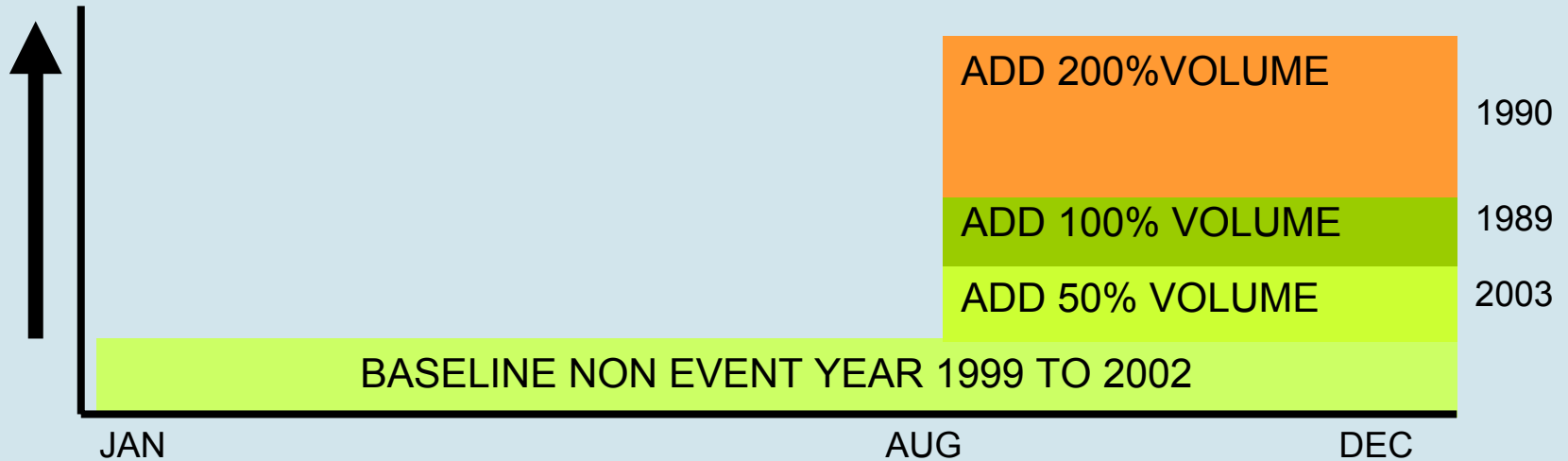
Claim cost build up varies from claim to claim but can be complex.

Where does the money go?

Typical cost profile with no underpin



Event Management



- ▶ **EARLY PLANNING**
- ▶ **EVENT FORECASTING**
- ▶ **RESOURCE MANAGEMENT**
- ▶ **PROCESS AND COST MANAGEMENT**

Question 1;

What do the group see as the key drivers for Innovation in Subsidence?

- a) Over the next 12 months
- b) Over the next 3 years
- c) Over the next 10 years

Question 2;

What do the group feel is the most effective way for the Subsidence Forum Innovations Group to support the development of industry Innovations?

Feedback

Current Innovation Register for Subsidence Forum web site

Key areas;

- Technical R&D
- Tree Root Protocol

Areas Covered

- Risk Management
- Claims management
- Site Investigation
- Monitoring
- Repair Techniques
- Mitigation
- Recoveries

SUBSIDENCE FORUM - INNOVATION

KNOWN AREAS OF R&D AND PROTOCOLS

V2; 11th May 2006

TOPIC	PROCESS AREAS	ORGANISATION(S)	COMMENTS
Clay Research Group	VARIOUS	For further information see www.theclayresearchgroup.org	Research areas include <ul style="list-style-type: none"> ➤ ERT; Electrical Resistivity Tomography ➤ Tilt sensors for monitoring of domestic properties ➤ Data modeling of soils ➤ Risk modeling of houses ➤ Finite Difference modeling ➤ Plant physiology ➤ Soil treatment
Geographical Information Systems (GIS)	SITE INVESTIGATION CLAIM MANAGMENT	British Geological Survey; www.bgs.ac.uk Ordnance Survey; www.ordnancesurvey.co.uk	Use of digital maps for site survey and investigation. BGS developing GHASP mapping system to aid risk and claims management
Risk modeling	RISK MANAGEMENT	Various but including; Infront Solutions; www.infront-solutions.com Mapflow; www.mapflow.com Risk Management Solutions; www.rms.com	Development of Subsidence Specific risk models to enable insurers to improve identification of high risk properties
Soils data usage in lieu of site investigations	SITE INVESTIGATION	Crawfords; www.crawfordandcompany.com Infront Solutions; www.infront-solutions.com GAB Robins; www.gabrobins.co.uk	Virtual site investigations using soils databases to reduce resource requirements of ground investigation.
LIDAR for mapping	RISK MANAGEMENT CLAIM MANAGEMENT	Various including; Infoterra; www.infoterra.co.uk Map Mechanics; www.mapmechanics.com	Building and tree height measurement using Light Detection and Ranging (LIDAR) - an airborne mapping technique. Data can be used to reduce site survey and measurement time.

Web based claims management tools	CLAIM MANAGEMENT	Various including; www.withersnet.net www.gabrobins.co.uk	Web based claim and supplier management tools to improve communications and controls in day to day subsidence claim management
Remote monitoring equipment	MONITORING	Contact Ben Harker; www.technicalsystems.co.uk Contact Paul McGee; www.sensopad.com	Digital and remote monitoring devices to reduce site costs and improve accuracy of data collection
Photogrammetry for building surveys	SITE INVESTIGATION	Various specialist survey companies	Façade and terrestrial surveys using photogrammetric techniques
Satellite measurement of clay swelling	RISK MANAGEMENT	EnviroScience Research at; http://web.onetel.net.uk/~enviros	London clay mapping showing shrinkage and swelling using satellite radar.
Masonry reinforcement	REPAIR TECHNIQUES	Various including; Helifix; www.helifix.co.uk Bersche-Rolt; www.bersche-rolt.co.uk	Usage of helical stainless steel reinforcement to repair masonry cracking
Lightweight helical piling	REPAIR TECHNIQUES	Various including; Screwfast; www.screwfast.com Van Elle; www.van-elle.co.uk	Low displacement lightweight steel piling systems.
Compaction grouting and resin injection	REPAIR TECHNIQUES	Various including; Keller; www.keller-ge.co.uk Uretek; www.uretek.co.uk	Compaction grouting and resin injection to stabilise loose and voided ground, and swallow features.
Foundation void formers	REPAIR TECHNIQUES	Withers; www.withers-group.co.uk	A void system for both piled rafts and knock down and re-builds which has up to a 30% cost saving as it obviates the need for Cellcore or clayboard.

Post tensioned masonry	REPAIR TECHNIQUES	Van Elle; www.van-elle.co.uk	Hoopsafe patented repair process using post tensioned concrete beams to repair subsidence damaged buildings
Drainage no dig repair Systems	MITIGATION	Various including; www.ukdrainagenetwork.co.uk	Specialist techniques to line or repair damaged drains without the need for disruptive excavation
Hortlink Tree research	MITIGATION	Details via; BRE and DEFRA websites http://www.bre.co.uk/filelibrary/Controlling_water_use_of_trees_to_alleviate_subsidence_risk_final1.pdf http://defra.farmingandfoodscience.csl.gov.uk/ni/floatingpage.cfm?id=2	Research by Horticulture LINK (project 212) – controlling the water use of trees to alleviate subsidence risk.
Tree root protocol	MITIGATION RECOVERY	Property Claims Forum and Subsidence Forum	Subsidence Tree Root Mitigation Protocol is currently under review to improve handling of subsidence claims associated with local authority trees.
Tree root mediation	MITIGATION RECOVERY	High hedges; legislation and disputes http://www.odpm.gov.uk/index.asp?id=112782 Tree preservation orders http://www.odpm.gov.uk/index.asp?id=1127778 Mediation Zone www.tree-ig.com	Legislation to assist management of tree mitigation in subsidence cases – details available on ODPM site (now Department for Communities and Local Government). Marishal Thompson web based management of tree mitigation enabling access to insurers, engineers and third party insurers to enhance process management
Subsidence Agreements	MITIGATION RECOVERY	ABI Subsidence Agreements http://www.abi.org.uk/Display/default.asp?Menu_ID=1140&Menu_All=1.946.1140&Child_ID=405	ABI members have signed up to ABI Domestic Subsidence Agreement and ABI Domestic Subsidence Claims Tree Root Agreement.

Climate Change	RISK MANAGEMENT	UK Climate Impacts Programme www.ukcip.org.uk DEFRA http://www.defra.gov.uk/Environment/climatechange	Research by UKCIP to assess impacts of climate change on businesses – includes focus on risk of increase in subsidence damage.
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VERSION CONTROL

DATE	NEW VERSION	CHANGE	BY WHOM
10 th May 2006	V2	Added GABR to Web based management tools Added Withers "With-a-void" as Repair Techniques	ND
21 st May 2006	V3	Added Marishal Thompson tree mitigation mediation process	ND

Subsidence Tree Root Mitigation Protocol

Preamble

The Protocol is intended to reflect the spirit of the Civil Procedure Rules and aims to ensure that before the commencement of any proceedings:

- **Pre action contact and exchange of information are encouraged**
- **Improved quality evidence and information is presented in support of the claim**
- **Both parties have provided sufficient clear evidence and information regarding their position on the matter**
- **Each party has had the opportunity to consider the evidence and information**
- **Each party can accept or reject the claim or each other's position at the earliest possible stage**
- **Each party can modify its own position at the earliest possible stage**
- **The time period between notification and completion of co-operation or rejection of the claim is reduced**
- **The issue of tree removal / reduction / replanting is completed on a non-adversarial and ecologically friendly basis**
- **There is an opportunity for both parties to meet informally without prejudice to liability and resolve disputed cases**

Protocol

First Notification

When the insurer first becomes aware of a potential claim for subsidence damage resulting from tree root encroachment, they will, within 7 days of identifying the tree controller, notify the tree controller of the situation by letter providing detail of the address of the damaged property and general identification of the subject tree(s).

The letter requests the following information from the tree controller within 21 days:

- a) Contact details of the individual / department responsible for the control of the tree, along with any reference, to assist communication regarding tree management and liability.
- b) Contact details of their liability insurer if appropriate.

Evidence

Within 60 days of giving notice to the tree controller the insurer (or their adjusters on their behalf) will submit either:

- a) A letter of apology confirming withdrawal of the case and that the file should be closed.
(Failure to do so in cases not being taken forward is not professional).
- b) A "Submission of Evidence" per Appendix A.

The "Submission of Evidence" should normally present full "Summary Evidence" and thus be conclusive with regard to causation, damage, and mitigation requested. It is appreciated that occasionally specific evidence such as tree root identification or soil analysis may be delayed and in such cases the submission should clearly identify its "Interim Evidence" status and the date of expected submission of the "Summary Evidence" report. Any subsequent "Summary Evidence" submission will be fully inclusive, not supplementary, per Appendix A.

(Submissions of Evidence to be copied to Property insurer)

Consideration

If the tree controller does not accept the full scope of the mitigation request set out in the "Summary Evidence" then the protocol encourages immediate 'without prejudice discussion' between the tree controller and the insurer (or their appointed handler/advisor) with the aim to achieve agreement to the scope of mitigation works.

Rejection

If agreement to the full scope of the mitigation request set out in the "Summary Evidence" or any revised scope as may have been proposed under 'Consideration' above is not achieved within 28 days of submission of the "Summary Evidence" then the case then falls outside this protocol.
(It is expected that Insurers will set SLAs for their adjusters to achieve % recovery cases managed within the Protocol)

Mitigation

Having been provided with the "Summary Evidence" under the terms of the protocol, mitigation should be carried out and completed within 13 weeks of the date of submission of the "Summary Evidence".

The mitigation will be undertaken on a "without prejudice" basis to avoid any delay created by debate over liability.

Liability and Quantum

Following completion of mitigation on the agreed basis, liability and quantum may be reviewed:

- Any claim will be based on the principles of law and indemnity applicable to England & Wales acknowledging insurer's rights and duties of contribution and subrogation.
- Without prejudice to subrogation rights the tree controller should be given notice of the start date, scope and estimated costs, before works start. All substantial variations in repair costs compared to the initial estimate must be explained by the Insurer / Adjuster.
- Without prejudice to rights at law Insurers may waive rights of recovery if the tree is removed within the protocol period. This will be negotiated on a claim by claim basis.
- Failure to complete the requested or agreed mitigation works within the protocol period will result in appropriate remedial works including stabilization being carried out to the property without further delay.
- Building Insurers will proceed in the spirit of the Civil Procedure Rules and Part 36 offers may be made in an effort to settle.
- Agreement as to the scope of mitigation does not affect responsibility at law regarding liability for ongoing Nuisance. Any future claim in respect of further damage due to continuing or repeated Nuisance will not be reduced by any suggestion of contributory negligence in having agreed a scheme of mitigation. The duty of abatement remains with the tree controller.
- Neither party will recover costs regarding the appointment of solicitors with regard to progressing mitigation on cases conducted under this protocol
- For the purposes of trialing this protocol this protocol will only apply to Local Authority owned trees

Tree Root Protocol Submission of Evidence

Submission of Evidence

Date of Submission	17-12-2004	Interim	Summary	✓
Statutory Authority	Any Town Council			
Property Owner	A.N.Other			
Damage Address	Address: 2 The Avenue Any Town SX1 5PH			
Area of Damage	Stepped cracking to front lounge, entrance hall stairs, plus front two bedrooms.			Category per BRE 251 3
Site Plan <small>To include all relevant vegetation and significant drain layout. Plan to indicate position of rooms</small>	Attached. Drainage to rear not detailed as remote beyond any potential significance.			
Photographs <small>These are indicative and are not a complete record of the full extent of the damage</small>	Attached – showing general situation, policyholder's hedge and Local Authority street tree			
Arboricultural report	Not obtained			
Details of Statutory Authority Third Party Vegetation	One - Street tree within pavement to front right of house			
Details of Policyholder Vegetation	Beech hedge 2m high 3m from corner of house			
Details of Other Third Party Vegetation	None			
Root Analysis	Plane (confirms subject tree) 1.5m below fdn			
Foundation depth	750mm below ground level			
Subsoil	Clay - see attached analysis			
Factors indicating clay shrinkage	Pattern of damage shows rotation towards the street tree Timing of damage - started late summer, not now progressive Attached site investigation data indicates desiccation to 3.00M as shown by the soil suction profile, compares with root profile to 2.70M			
Date damage discovered	September 2004			
Monitoring	Not obtained. All evidence obtained clearly demonstrates influence of the street tree			
Drains	None to front of property			
Estimated cost of repairs	Protocol Mitigation	Delayed / Rejected Mitigation		
Investigation	£ 800	£ 1,400		
Substructure	Not anticipated	£ 8,300		
Superstructure	£ 6,800	£ 7,400		
Alt Accn	Not anticipated	Not anticipated		
Fees & Expenses	£ 1,900	£ 2,100		
Total	£ 9,500	£19,200		
Mitigation Request	Immediate removal of street tree			
Comments	Customer's beech hedge not considered relevant and all roots sampled were Plane			

10th October 2006

Subsidence Day at BRE

Innovations Group will form part of the day

Options for discussion;

- Presentations
- Trade stands
- Workshops

Subsidence Forum Innovation Group - do we need a newsletter?

What level of detail
 and sophistication?

Case study reports?

Review of innovations
 - benefits study?

The Subsidence Forum Innovation Group
 SUBSIDENCE - IMPROVING INDUSTRY SKILLS



Supported by



Innovation Newsletter



CLAY RESEARCH GROUP
 UPDATE

A joint venture between Marishal Thompson and Royal and Sun Alliance has won the prestigious Claims Initiative of the Year Award at the 2006 British insurance awards held at the Albert Hall on July 5th.

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TREE ROOT PROTOCOL UPDATE