



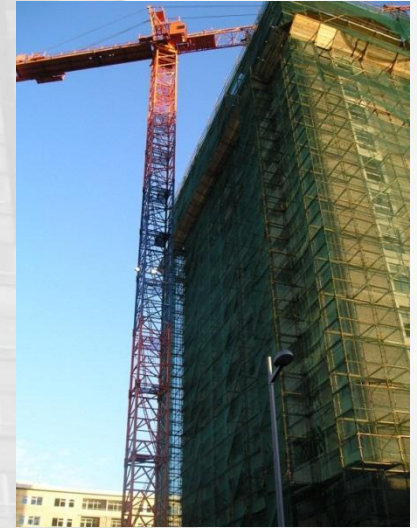


**DEMOLITION OF A HIGH RISE  
TOWER BLOCK.  
BY THE CONTROLLED USE OF  
EXPLOSIVES.**

**PRESENTER, DICK GREEN**

# *Methods of Demolition*

- Deconstruct (floor by floor)



# *Methods of Demolition*

- Long Reach Machines



# *Methods of Demolition*

- Explosive Demolition



# *Methods of Demolition*

## *Combination, Conventional & Explosives*



# *Other Methods*



# *CHANTREY TOWER, SHEFFIELD, ENGLAND*







Shelter

DYCHE PLACE

67

77

DYCHE ROAD

ESS

110 173

D

Hazlehurst

105 110





# Building Construction



# WHAT IS THE CRITERIA FOR A TEXT BOOK EXPLOSIVES DEMOLITION

- Important Criteria
- 1, Nobody gets hurt
- 2, building comes down
- 3, No damage to surrounding area
- 4, Project makes money
- 5, Project completed on time
- 6, Client is happy, (repeat business)

***PRIOR TO STARTING EXPLOSIVE PREPARATION WORKS  
THE FOLLOWING INFORMATION HAD TO BE SUPPLIED TO  
CLIENT***

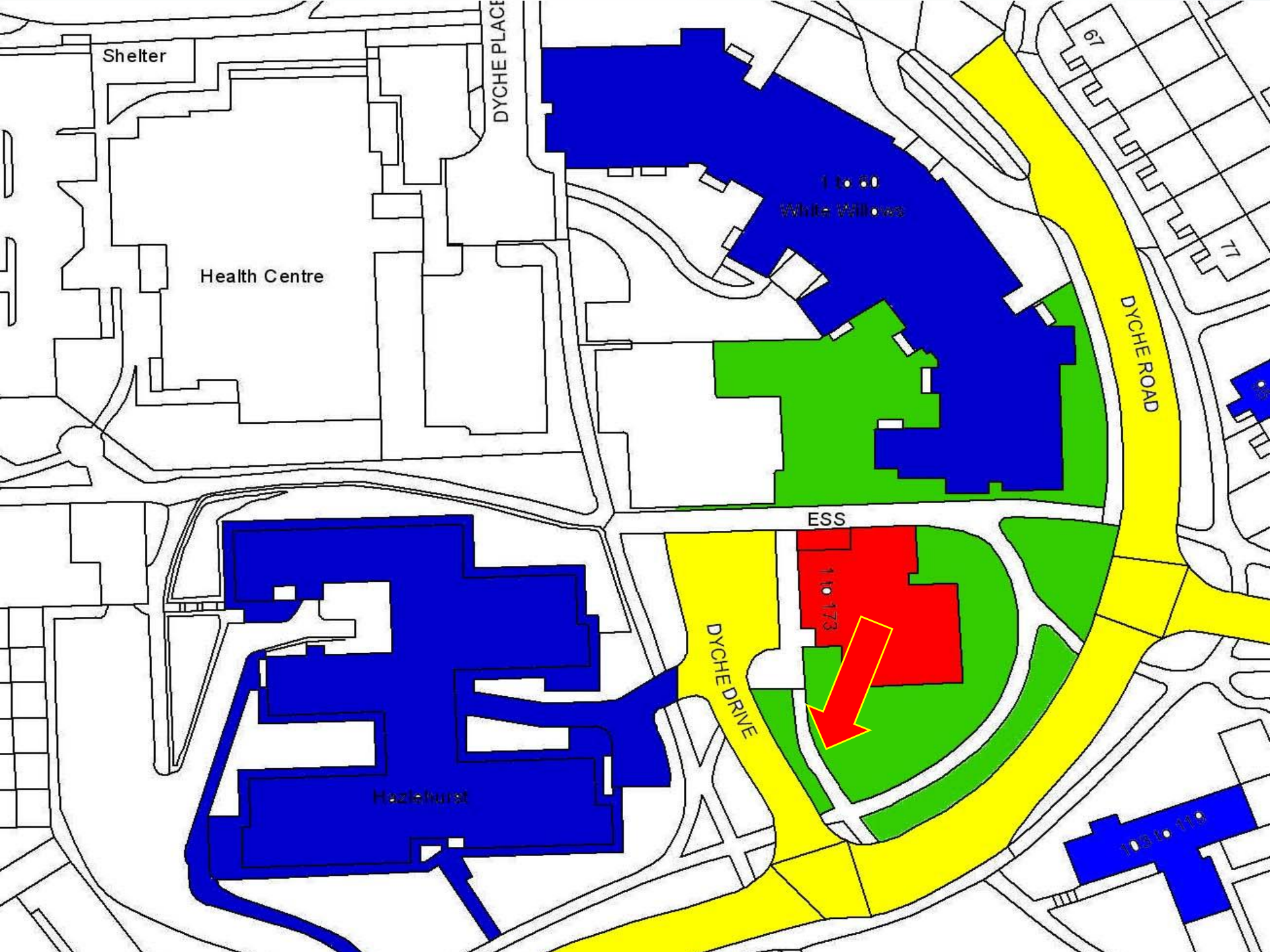
- Detailed methods of works , including
- Collapse Design mechanism
- Type of explosives
- Initiation system
- Protection details
- Exclusion zone
- Contingency plans



**Checked by Independent Auditors**

# Method of Collapse





Shelter

Health Centre

DYCHE PLACE

110-173  
White Willows

67

7

DYCHE ROAD

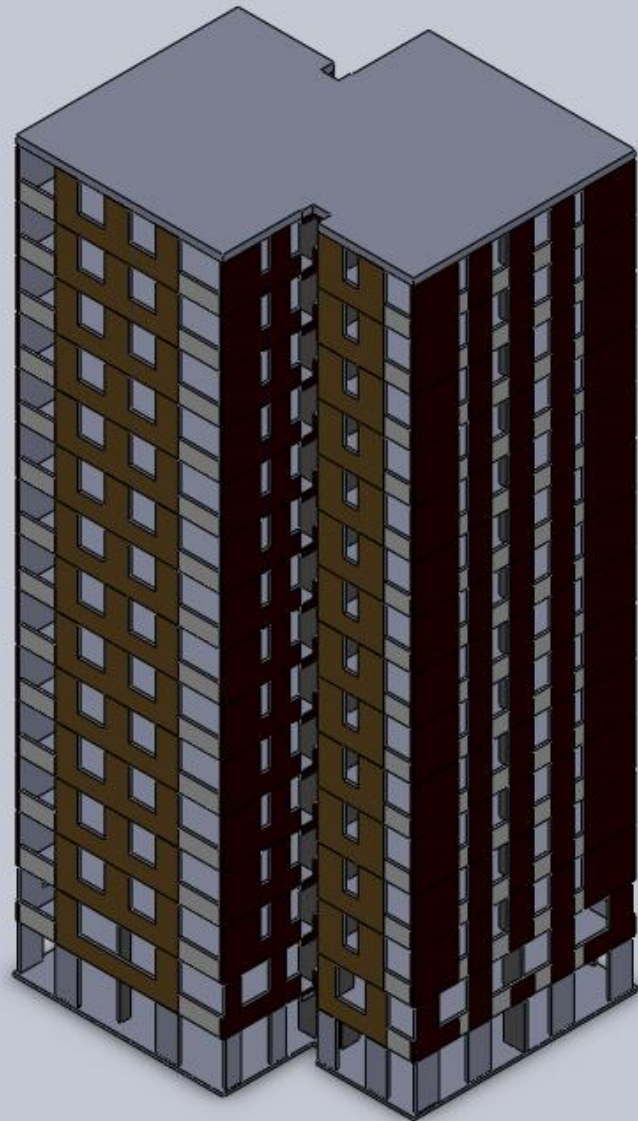
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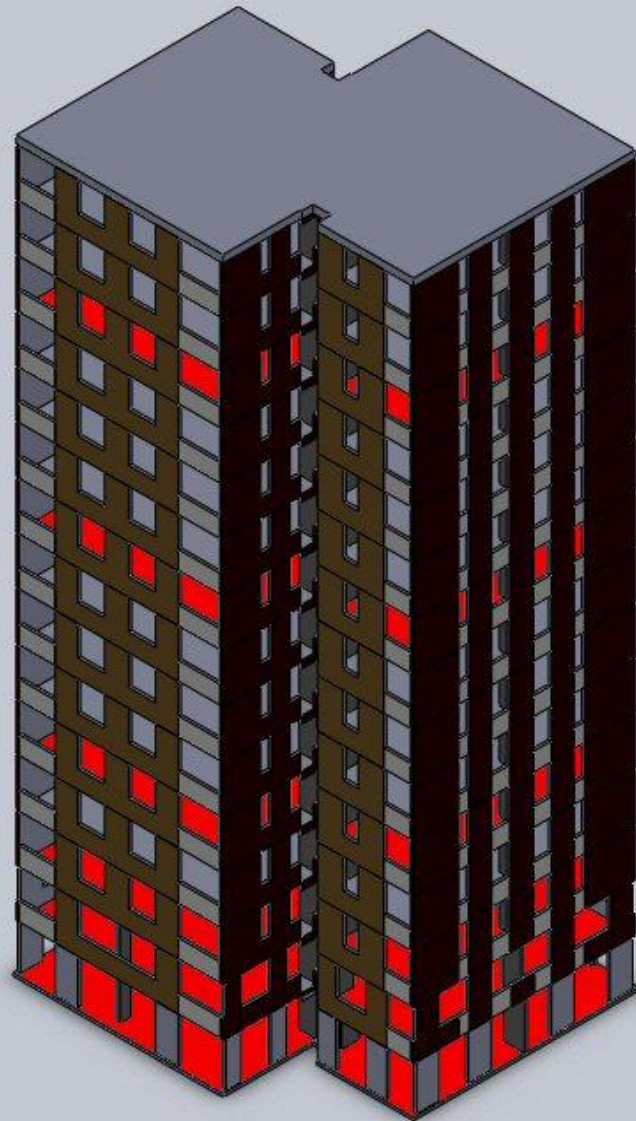
110-173

DYCHE DRIVE

Hazelhurst

103-110





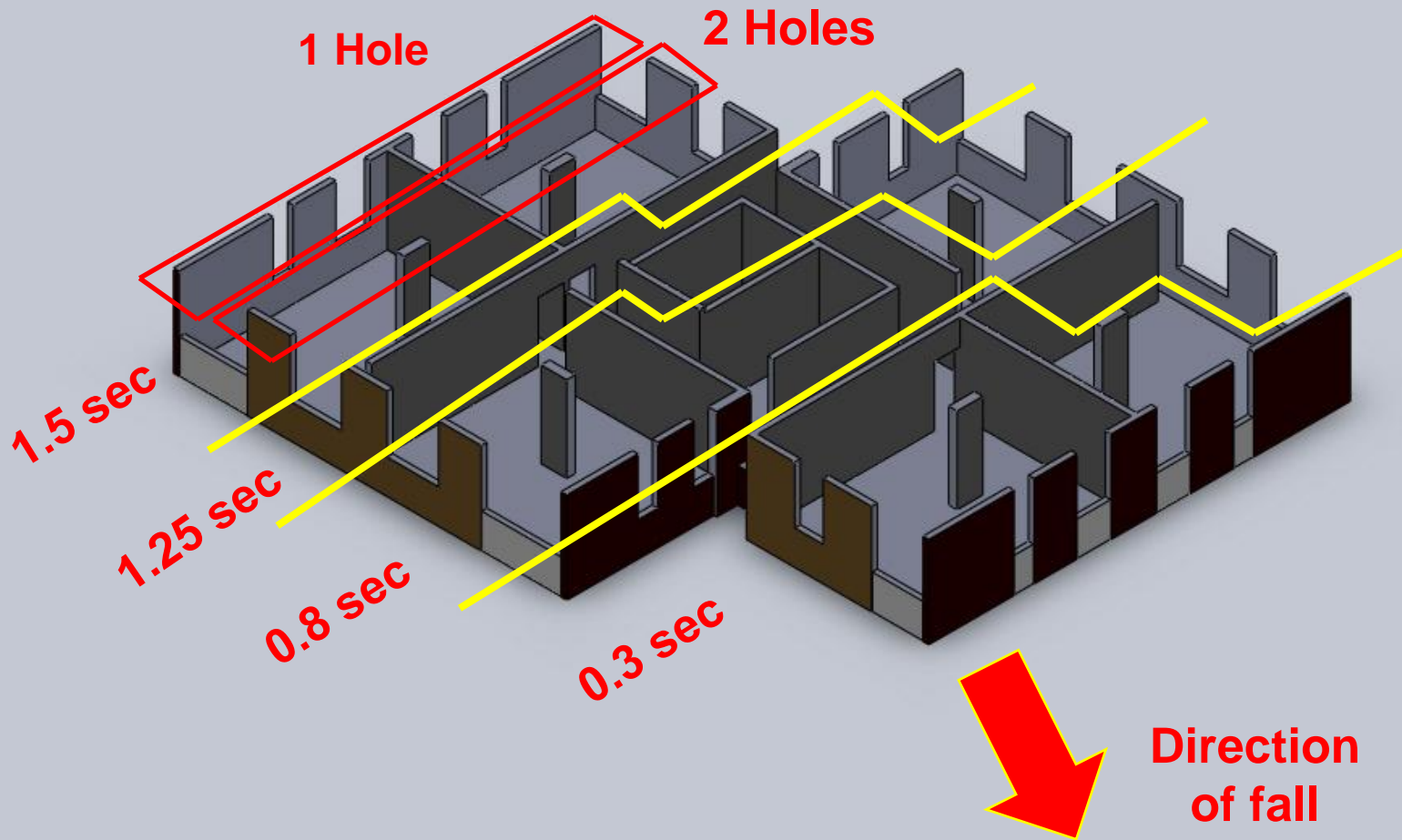




<h1>IndEX</h1>	
TITLE BLAST FLOOR PLAN Ground Floor	
PROJECT CHANTREY TOWER	
CLIENT DEMEX	
DWG NO DEMEX 1	REV A
DRAWN BY RIG	DATE 13th Jan 12
SCALE Not to scale	

- Breakouts, leave 1m upstand around lift shafts
- No Fines Walls to be broken out on blast floors leave 1m upstand on external walls.
- Columns/ walls to be blasted.
- Breakouts, leave 1m upstand around lift shafts
- Rebar in Columns to be cut through on inner face.

# Ground Floor Plan

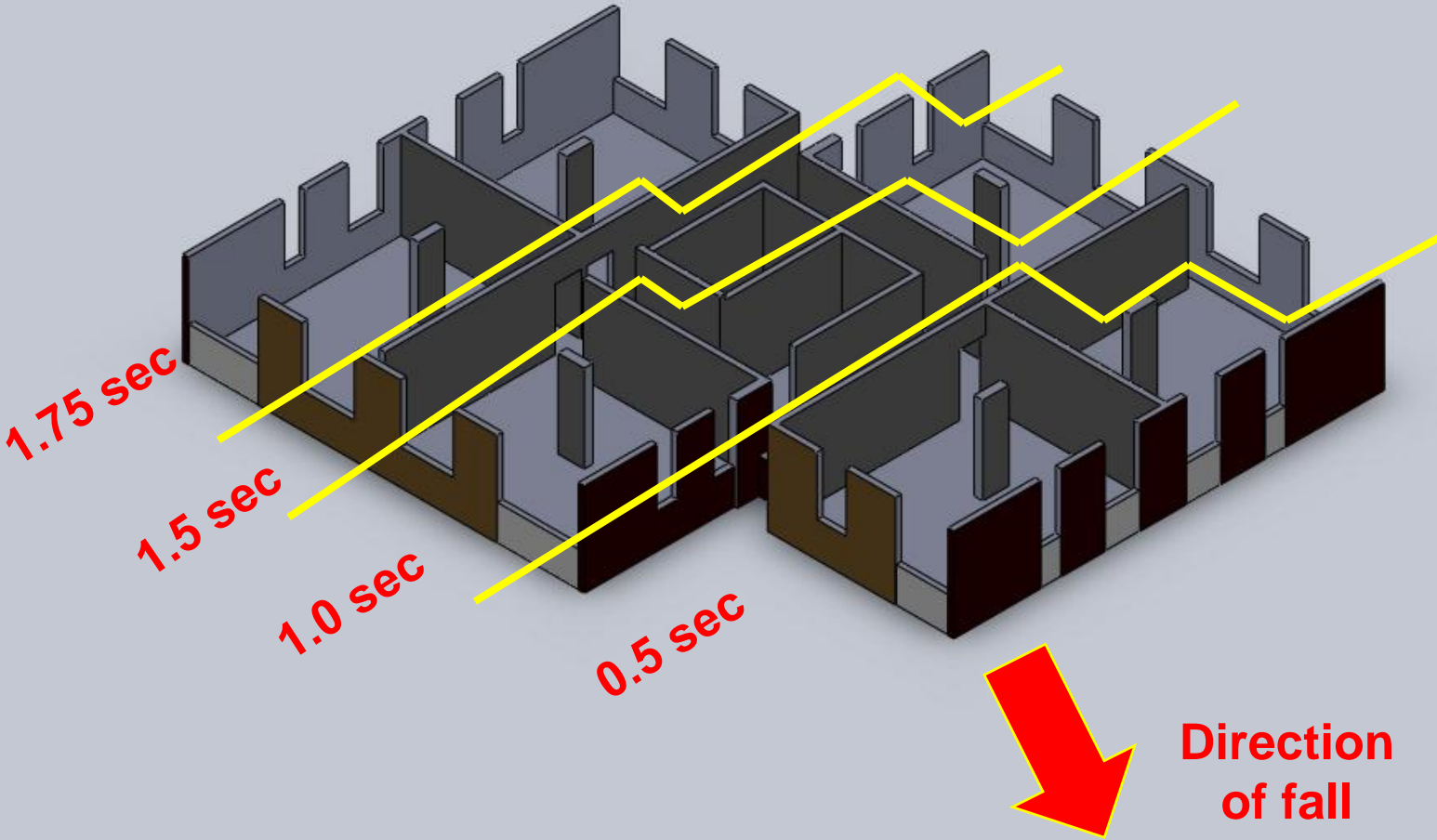


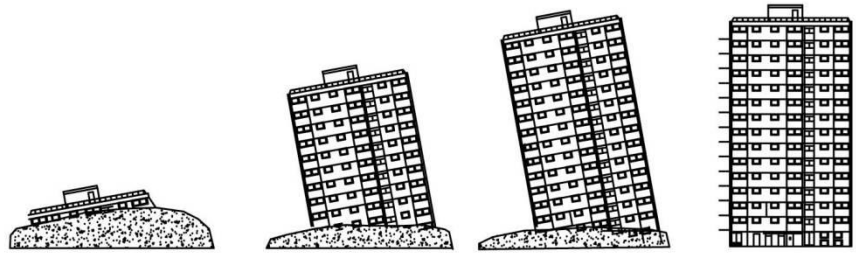


<b>SES</b> CONTRACTS LTD  <b>&amp;</b> <b>IndEx</b> Independent Explosives Engineers limited	
TITLE <b>BLAST FLOOR PLAN</b> Upper Floors 4th 8th 12th	
PROJECT <b>CHANTREY TOWER</b>	
CLIENT  DEMEX	
DWG NO DEMEX 4	REV R
DRAWN BY RIG	DATE 13th Jan 12
SCALE Not to scale	

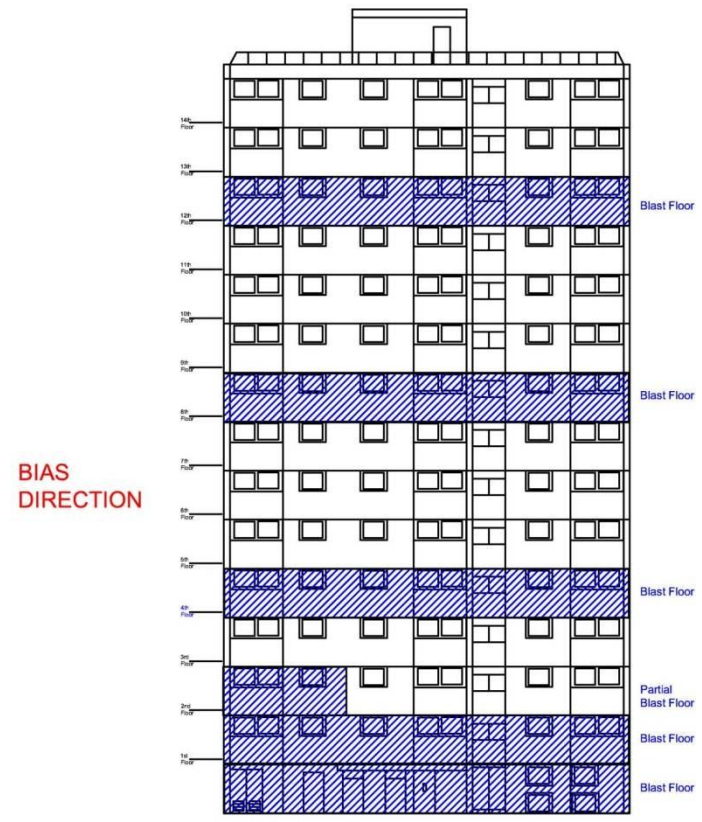
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# Upper Floor Plan





MODE OF COLLAPSE



SIDE ELEVATION

<h1>IndEx &amp; SES</h1> <p>CONTRACTS LTD</p>	
<p>TITLE ELEVATION (West Side)</p>	
<p>PROJECT CHANTREY TOWER</p>	
<p>CLIENT DEMEX</p>	
<p>DWG NO DEMEX 5</p>	<p>REV A</p>
<p>DRAWN BY RIG</p>	<p>DATE 17th Feb 12</p>
<p>SCALE Not to scale</p>	

# ***SEQUENCE OF OPERATIONS***

## **PHASE ONE**

SET UP SITE

SOFT STRIP/ ASBESTOS REMOVAL

# Soft Strip



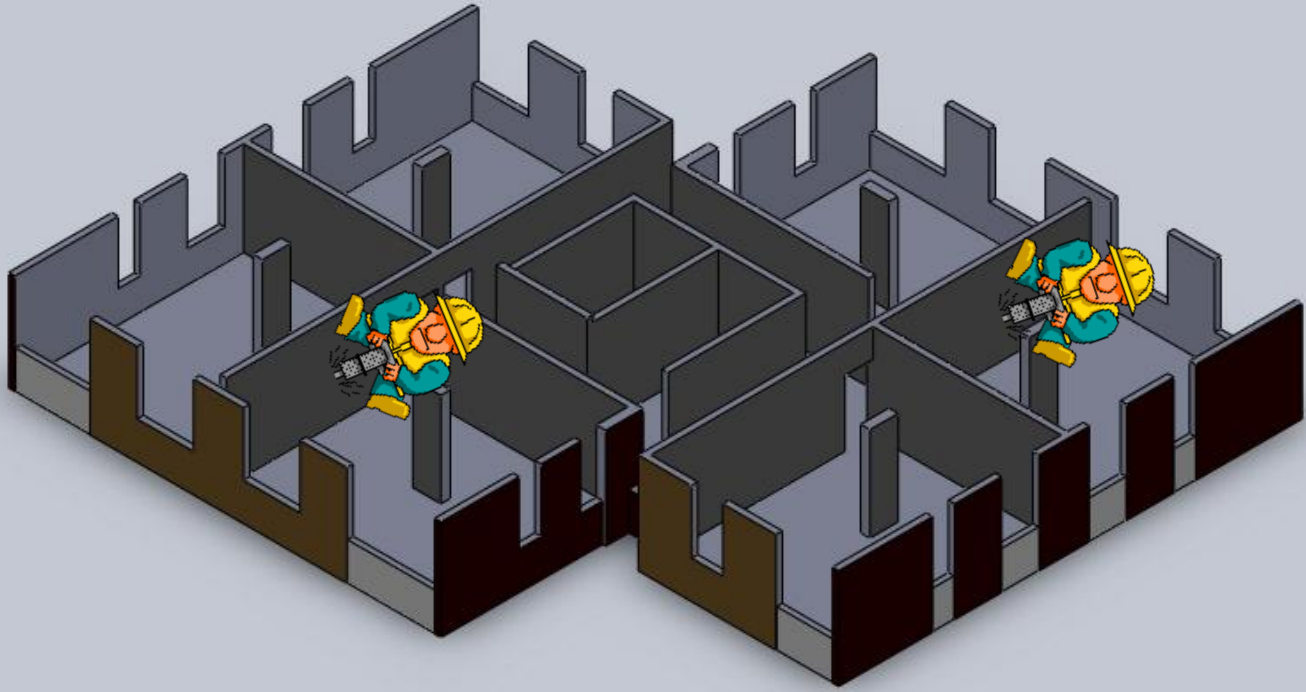
# *SEQUENCE OF OPERATIONS*

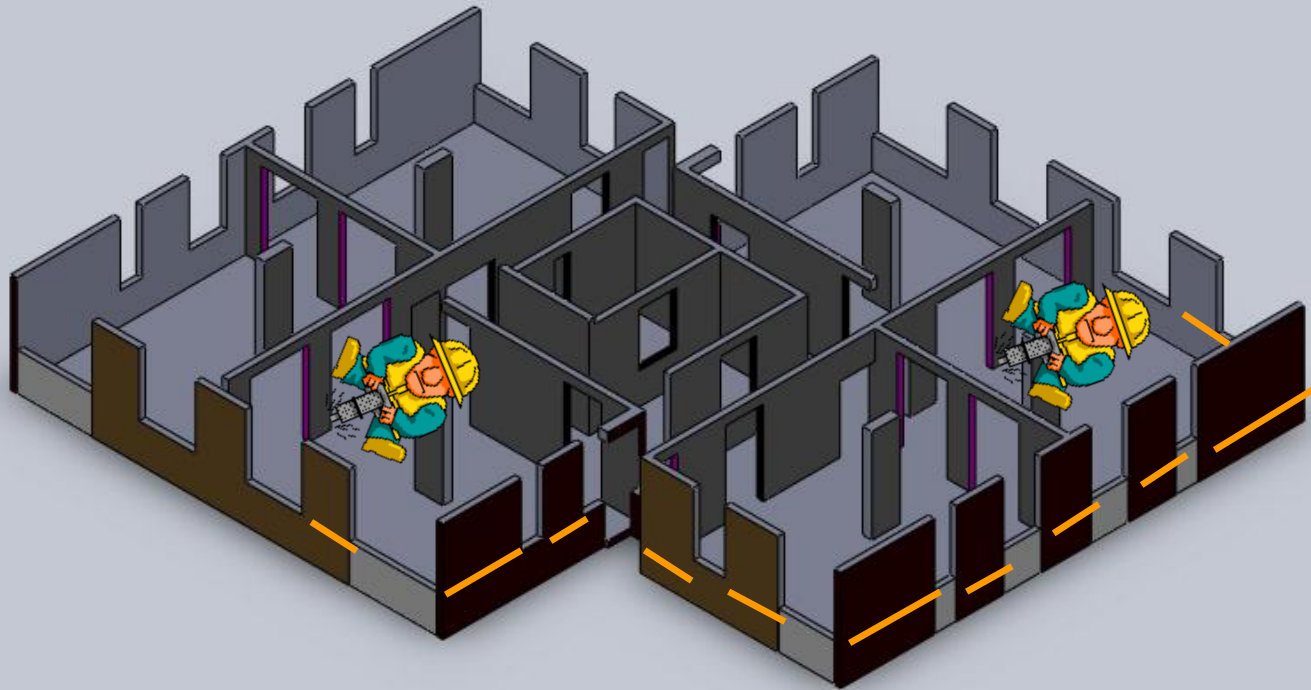
- PHASE TWO

PRE WEAKEN



# Pre Weakening









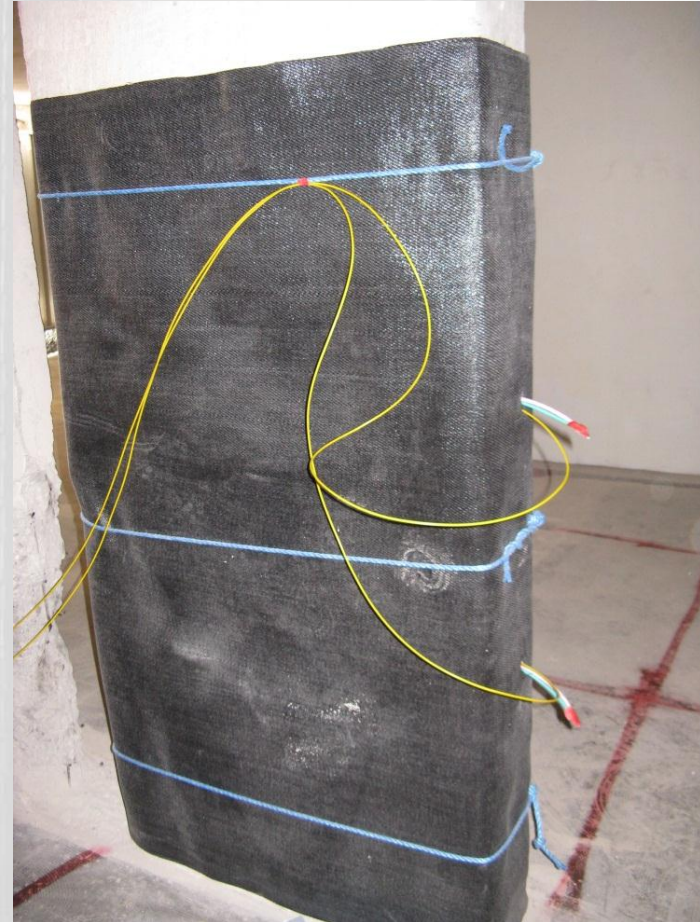


# TEST BLAST



To confirm charge weights and protection required

# Select and Prepare walls



# Erect Witness Boards





# Fire Test Blast



# Check Results

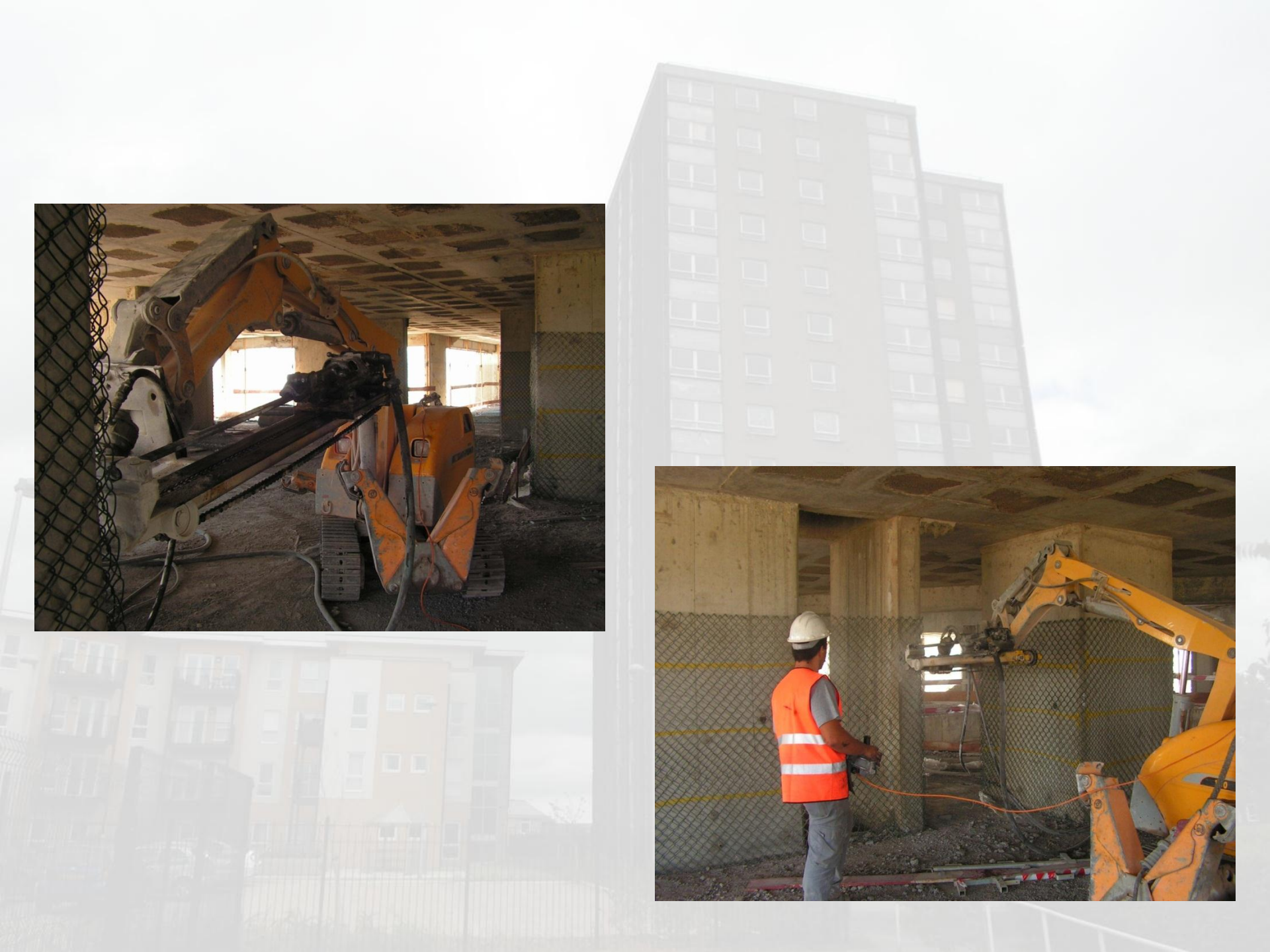


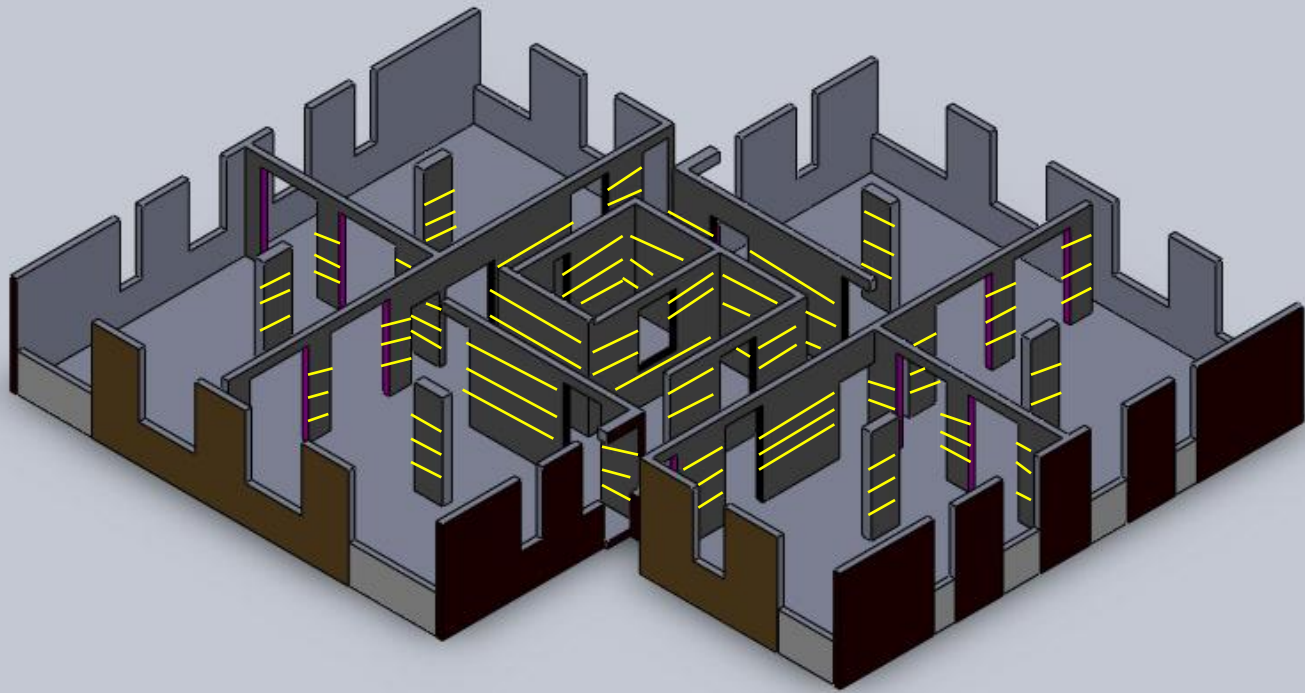
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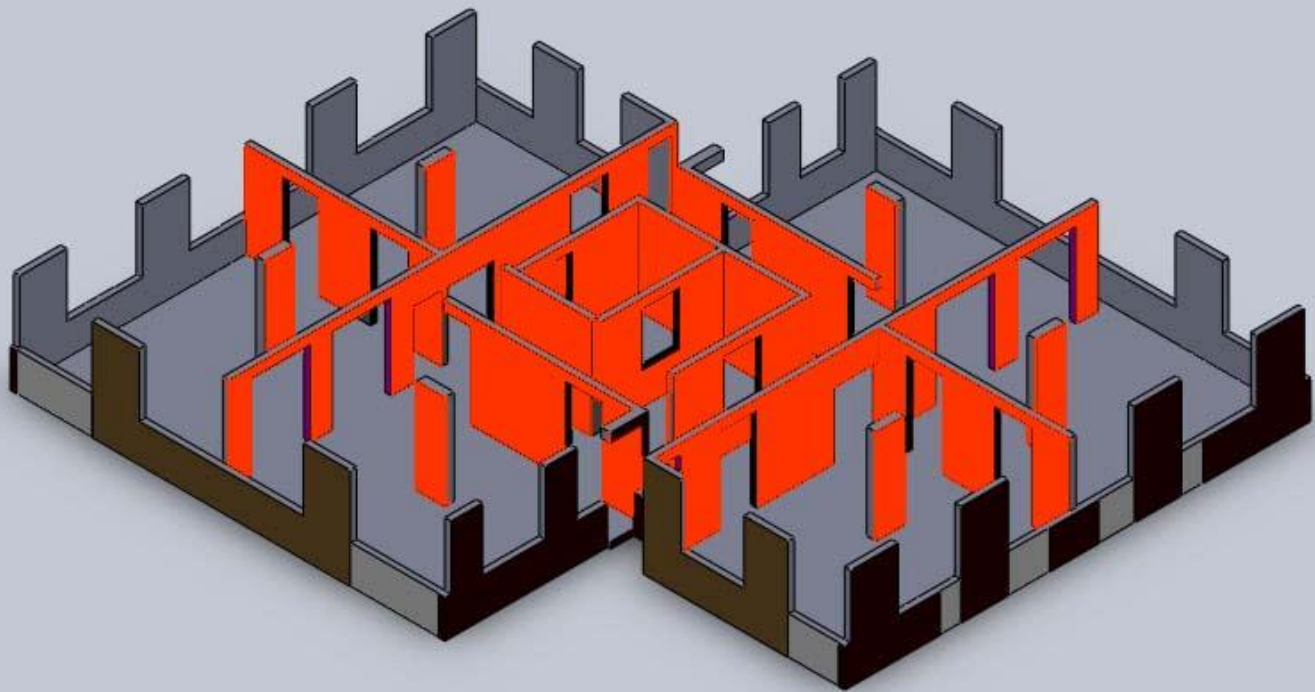
- PHASE TWO
- PHASE THREE

PRE WEAKEN  
DRILLING









# *SEQUENCE OF OPERATIONS*

- PHASE TWO PRE WEAKEN
- PHASE THREE DRILLING
- PHASE FOUR PROTECTION





Columns



Walls



External







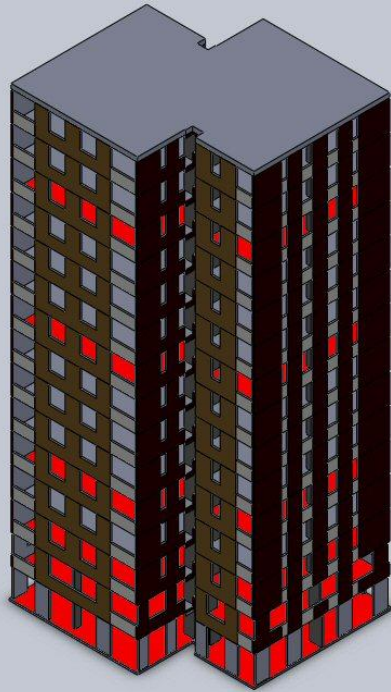
# Protection to nearby buildings and Services



# *SEQUENCE OF OPERATIONS*

- PHASE TWO PRE WEAKEN
- PHASE THREE DRILLING
- PHASE FOUR PROTECTION
- PHASE FIVE CHARGING

# CHARGING UP



5 main Blast Floors

1 secondary floor (2<sup>nd</sup>)

800 individual Charges and  
Detonators

30 kilos Explosives

2500m Detonating Cord

# *Nonel LP Detonators*

## **Delays available**



Zero	25ms	14	1400ms
1	100ms	16	1600ms
2	200ms	18	1800ms
3	300ms	20	2000ms
4	400ms	25	2500ms
5	500ms	30	3000ms
6	600ms	35	3500ms
7	700ms	40	4000ms
8	800ms	45	4500ms
9	900ms	50	5000ms
10	1000ms	55	5500ms
11	1100ms	60	6000ms
12	1235ms		

 **Neuronel**

TUNNEL

8-1000ms

6.0m

100

610006

26/08/2011

4D CS0264

5.776KG

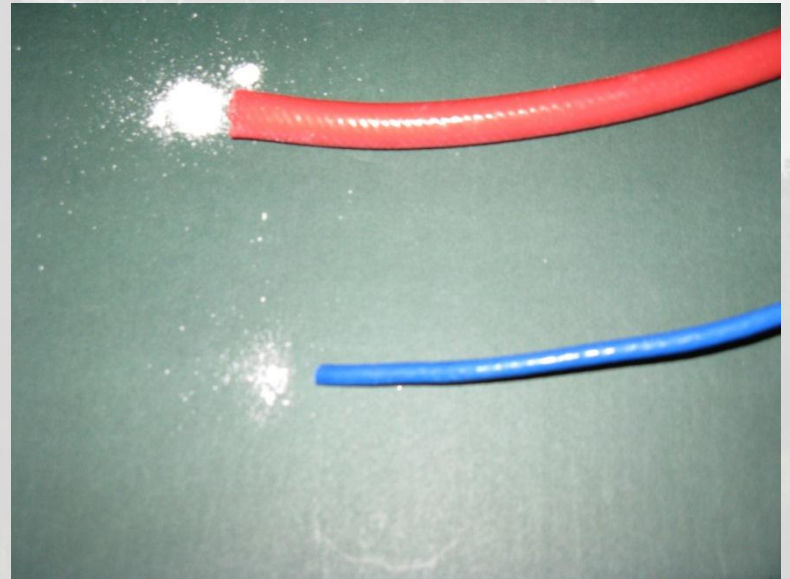
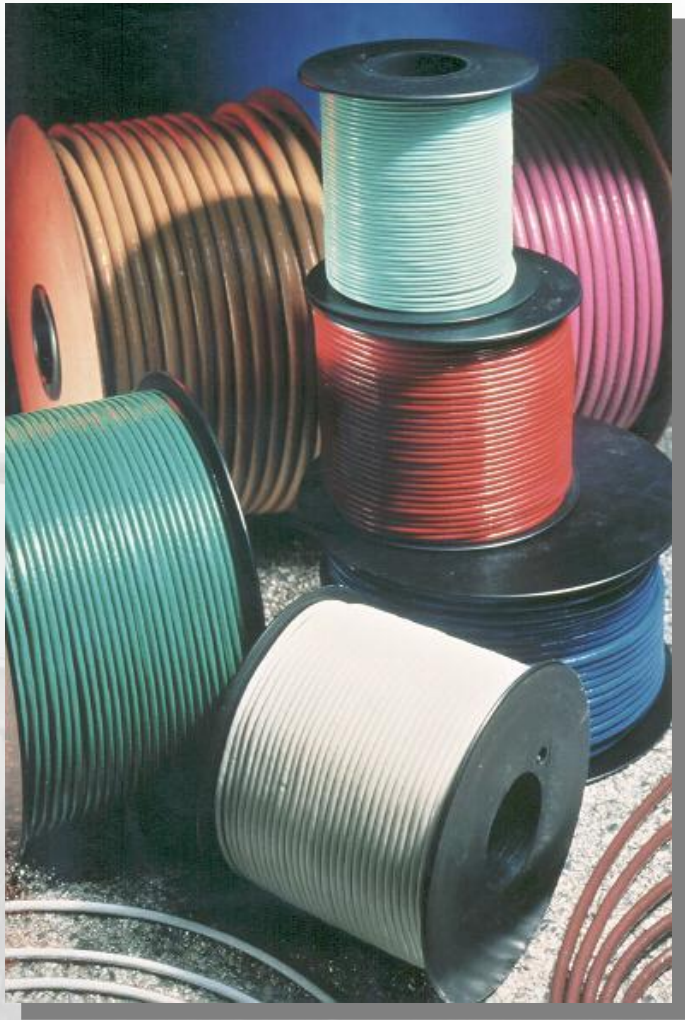
4.962KG

3.000KG



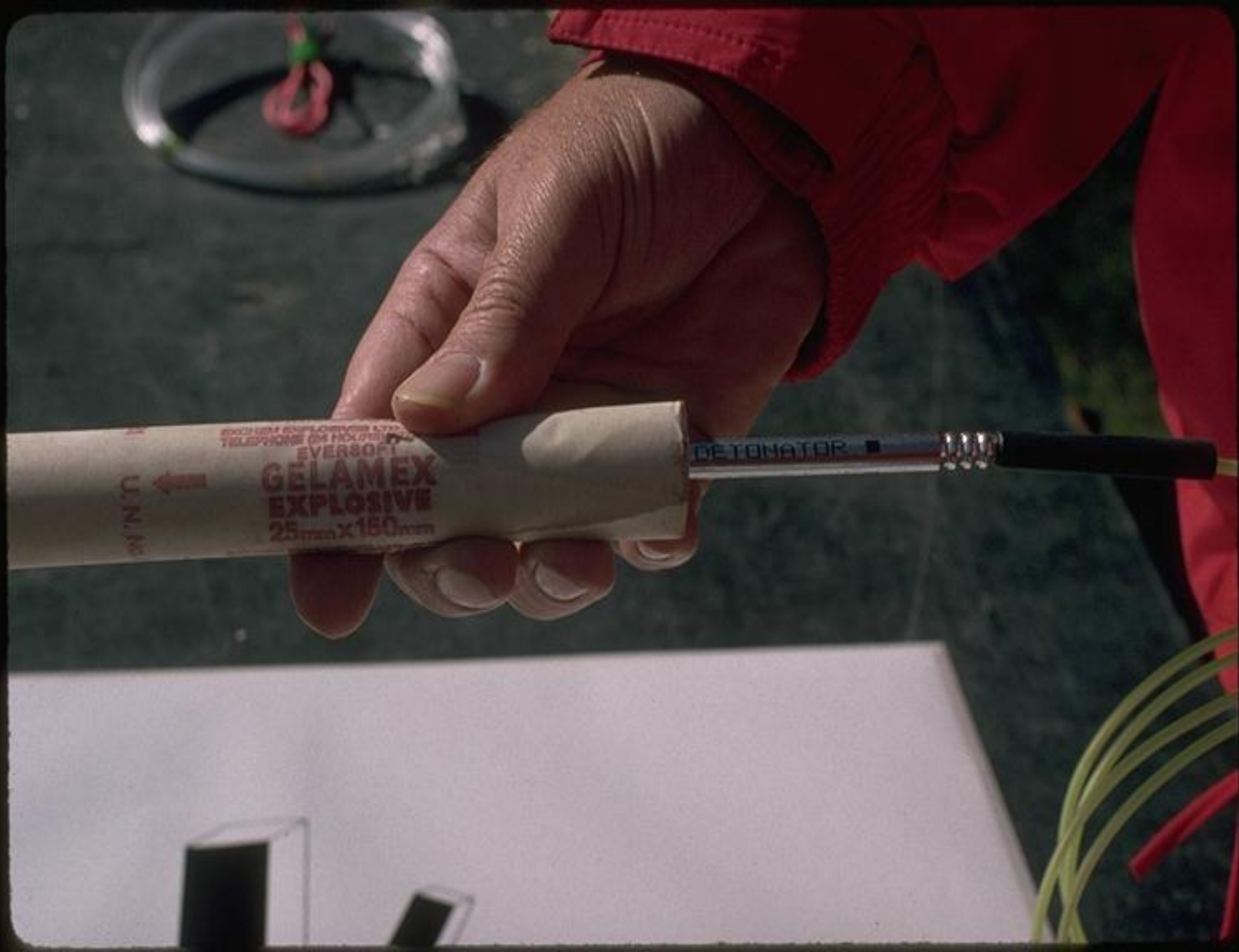
**minexplo** **EPC**  
GROUPE

ire Crescent      ton, Derbyshire, DE55 7RA  
-44 (0)1773      3 Fax: +44 (0)1773 520723  
w      ninexplo.eu









EVERSOFT  
GELAMEX  
EXPLOSIVE  
25mm X 150mm

U.N.C.



DETONATOR

# ***STEMMING***









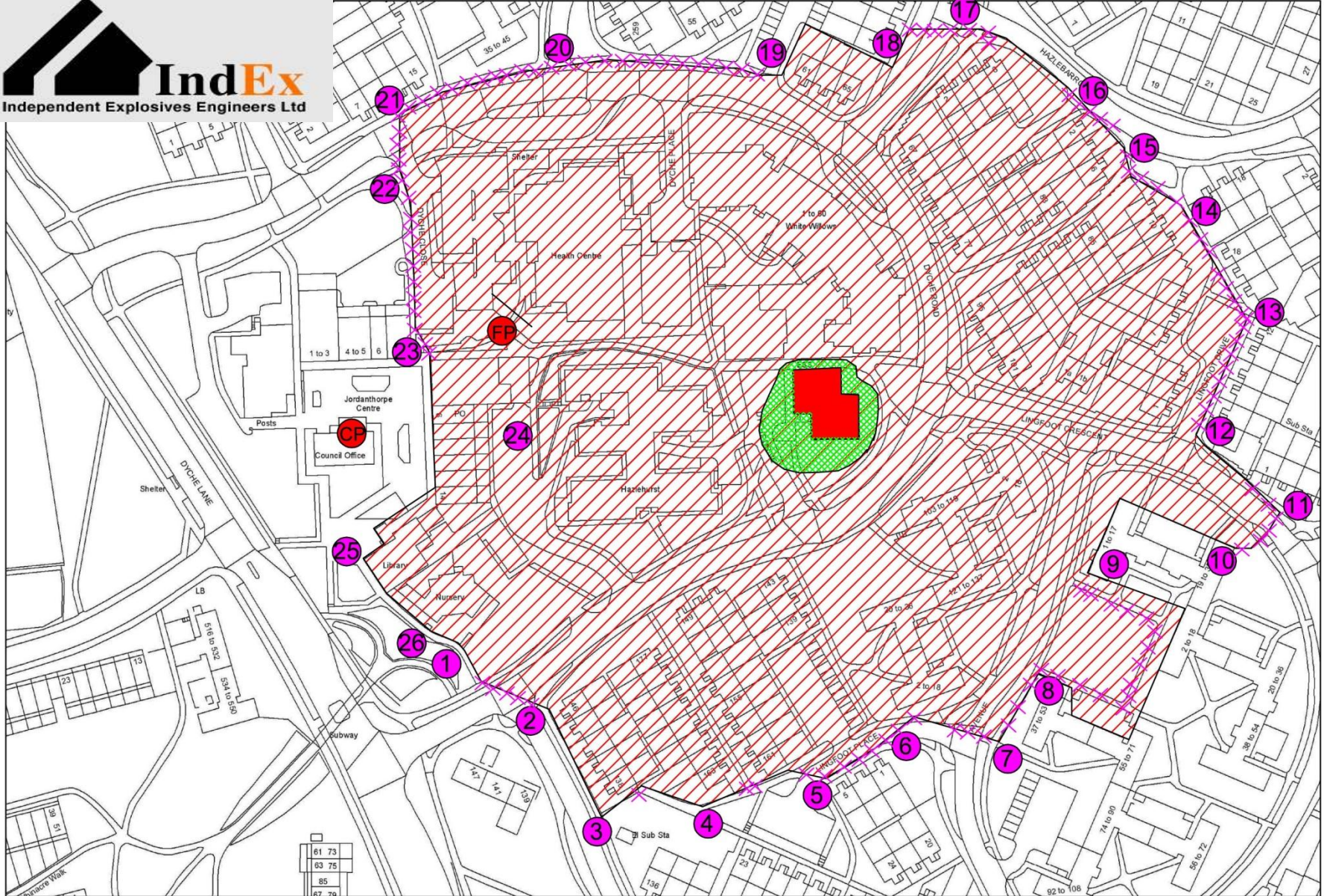
# *SEQUENCE OF OPERATIONS*

- PHASE TWO PRE WEAKEN
- PHASE THREE DRILLING
- PHASE FOUR PROTECTION
- PHASE FIVE CHARGING
- PHASE SIX BLOWDOWN







# *EXCLUSION ZONE*







**EXCLUSION ZONE, CHANTREY HOUSE, SHEFFIELD.**  
Feb 18th 2012

	EXCLUSION ZONE. (Buffer)		SENTRY POSITIONS		CROWD BARRIER LOCATIONS
	DROP ZONE AND PREDICTED DEBRIS SPREAD		FIRING POINT	SES DEMOLITION LTD	
			CONTROL POINT.		

# Police Involved to ensure professional standard of security maintained



# BLOWDOWN



Sheffield  
City Council

LINGFOOT DRIVE



Sheffield  
City Council

LINGFOOT DRIVE

LINGFOOT DR



ND12 1 KU

W882AH



Lifford Council

LINGFOOT DRIVE

W815 LKH

W815 LKH



LINGFOOT AVE

LINGFOOT DRIVE

15 LKH

1258 LKH



LINGFOOT DRIVE

W815 LKH

WY12 LCP

LINGFOOT AVE







LINGFOOT AVE

LINGFOOT DRIVE

POLICE

# DEMEX

[www.demex.co.uk](http://www.demex.co.uk)

**SES**

**IndEx**  
Engineering Demolition  
[www.indexdemolition.co.uk](http://www.indexdemolition.co.uk)

Sheffield  
City Council





# *SEQUENCE OF OPERATIONS*

- PHASE TWO PRE WEAKEN
- PHASE THREE DRILLING
- PHASE FOUR PROTECTION
- PHASE FIVE CHARGING
- PHASE SIX BLOWDOWN
- PHASE SEVEN CLEAN UP

# CLEAN UP



# *SEQUENCE OF OPERATIONS*

- PHASE TWO PRE WEAKEN
- PHASE THREE DRILLING
- PHASE FOUR PROTECTION
- PHASE FIVE CHARGING
- PHASE SIX BLOWDOWN
- PHASE SEVEN CLEAN UP
- PHASE EIGHT RUBBLE REMOVAL

# Rubble Removal



