

Managing Fire Safety To Ensure Legislative Compliance

**Facilities Management
Ireland**

RDS 2013

Presented By

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HSE Estate Manager

Fire Safety



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Presentation Objectives

- Background
- Inspecting Agencies
- HSE Approach
- Today's Seminar
- Implementation
- Benefits to the Organisation
- The Way Forward



Background

- The Past
 - 8/11 Health Boards
 - Independent
- The Present
 - 4 Regions
 - Common Approach
- The Future
 - ???????????? Health Thrusts
- **Common Approach is Key to Success**



Our Aim / Challenge

- **We want to create a place of safety that is both fit for purpose for its Patients / Service Users and meets the needs of our Staff to deliver such a service.**





Patient arrives in hospital, then requests the use of a commode, she lights a cigarette when on oxygen.



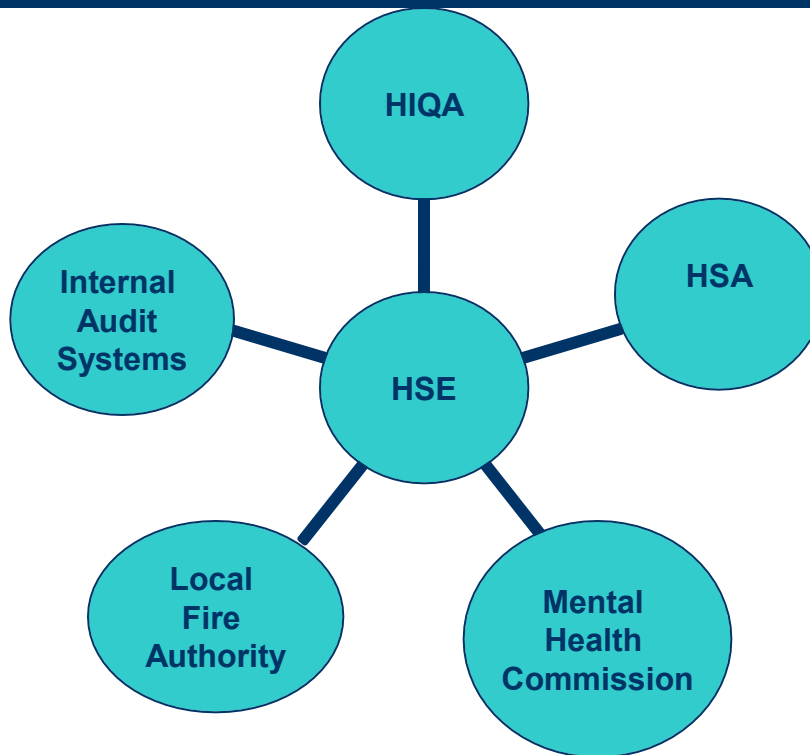
Media & PQ's

- **Fire Hazards at new schools raise safety concerns** Sunday Independent 15th April 2012
- **Parliamentary Question** P.Q. 19635-12

To ask the Minister for Health if he will provide details of the fire safety checks that take place on new buildings of his Department and Health Service Executive buildings including hospitals, health centers, nursing home by engineers from his Department who are independent from the contractors employed who carry out the work and if he will provide details of the person who signs off on the fire stopping; and if he will make a statement on the matter.



Inspecting Agencies



HSE Approach

- Best Practice
- Standardisation
- Demonstrate Compliance to External Agencies while implementing a Fire Safety Management System into the HSE.
- Meet our Obligations
- One System to suit All Agencies
- Ensure Buy In from All Stake Holders



Standardisation

- Fire Safety Register
 - Residential Unit
 - Acute Hospital Site
- Fire Safety Risk Assessment Process
 - Care of the Elderly, Children's Residential Units
 - Mental Health Hostels, Acute Hospitals
- Fire Training Syllabus
 - Specific Areas, E Learning
- Maintenance Contracts
 - Fire Alarm, Emergency Lighting & Fire Extinguishers



Standardisation

- Independent Auditing of Systems
 - Fire Alarm Installations
 - Documentation Development
- Pre Fire Planning
 - Drawings / Fire Action Notices
- Passive Fire Protection Course
 - Warrington – ASFP – HSE
- Specification / Scope of Works Development
 - Fire Consultant Engagement (Cradle to Grave)
 - Fire Alarm / Emergency Lighting Specifications



For Today's Seminar

- Fire Register
- Fire Safety Risk Assessment
 - Care of the Elderly, Children's Residential, Acute Hospitals
- Passive Fire Protection Course
- Maintenance Contracts
 - National Contract
- Independent Auditing of Systems
 - Third Party Auditing & Document Development



Fire Register



Fire Safety Register

- Establish working group
- Identify requirements
 - Acute Hospital
 - Children's Residential unit, etc.
- Review and Evaluate Existing Fire Registers
- Develop HSE Fire Register templates
- Implement for trial period
- Adapt and sign off by management



YEAR

FIRE SAFETY GUIDELINES AND REQUIREMENTS

FIRE SAFETY REGISTER CHILDREN'S RESIDENTIAL CENTRES

CENTRE NAME

FIRE SAFETY REGISTER

HEALTH SERVICE EXECUTIVE
ESTATES

1st JANUARY 2011

FIRE REGISTER REQUIREMENTS – ACTIONS / RESPONSIBILITIES OVERVIEW

FORM NO.	TITLE	ACTION REQUIRED	FREQUENCY	PERSON RESPONSIBLE
FSR	Centre Details Fire Register	Complete and Update	As Required	Centre Manager
FSR 1	Fire Duties Assigned to Named Staff Members	Complete and Update	As Required	Centre Manager
FSR 2	Fire and Evacuation Training	Complete and Update	Annually	Centre Manager
FSR 3A	Fire Fighting Equipment Annual Inventory	Complete and Update	Annually	Assigned Person
FSR 3B	Fire Fighting Equipment Location	Complete and Update	Annually	Assigned Person
FSR 3C	Fire Fighting Equipment Monthly Inspection	Conduct Inspection Complete Form	Monthly	Assigned Person
FSR 3D	Fire Fighting Equipment Annual Maintenance	Conduct Test Complete Form	Annually	Qualified Contractor
FSR 4A	Emergency Lighting Weekly Testing	Conduct Test Complete Form	Weekly	Assigned Person
FSR 4B	Emergency Lighting Quarterly Testing	Conduct test Complete Form	Quarterly	Qualified Contractor
FSR 4C	Emergency Lighting Annual Testing/Schedule	Conduct Test Complete Form	Annually	Qualified Contractor
FSR 5A	Fire Alarm System Event Log	Log Event / Complete Form	N / A	Staff on Duty at time event occurs
FSR 5B	Fire Alarm Certificate of Testing	Conduct Test Complete Form	Quarterly	Qualified Contractor
FSR 6	Upholstered Seating and Furniture	Inspect Items Complete Form	Weekly	Assigned Person
FSR 7	Weekly Manual Call Point Test	Conduct Test Complete Form	Weekly	Assigned Person
FSR 8	Daily Checklist	Complete Form	Daily	Staff on Duty



Fire Safety Risk **Assessment**



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Objectives

- Portfolio of Property
- Issues relating to building stock
- HIQA requirements (Health Act 2007)
- Risk Assessment Methodology
- Implementation
- Findings
- Solutions



Building Portfolio

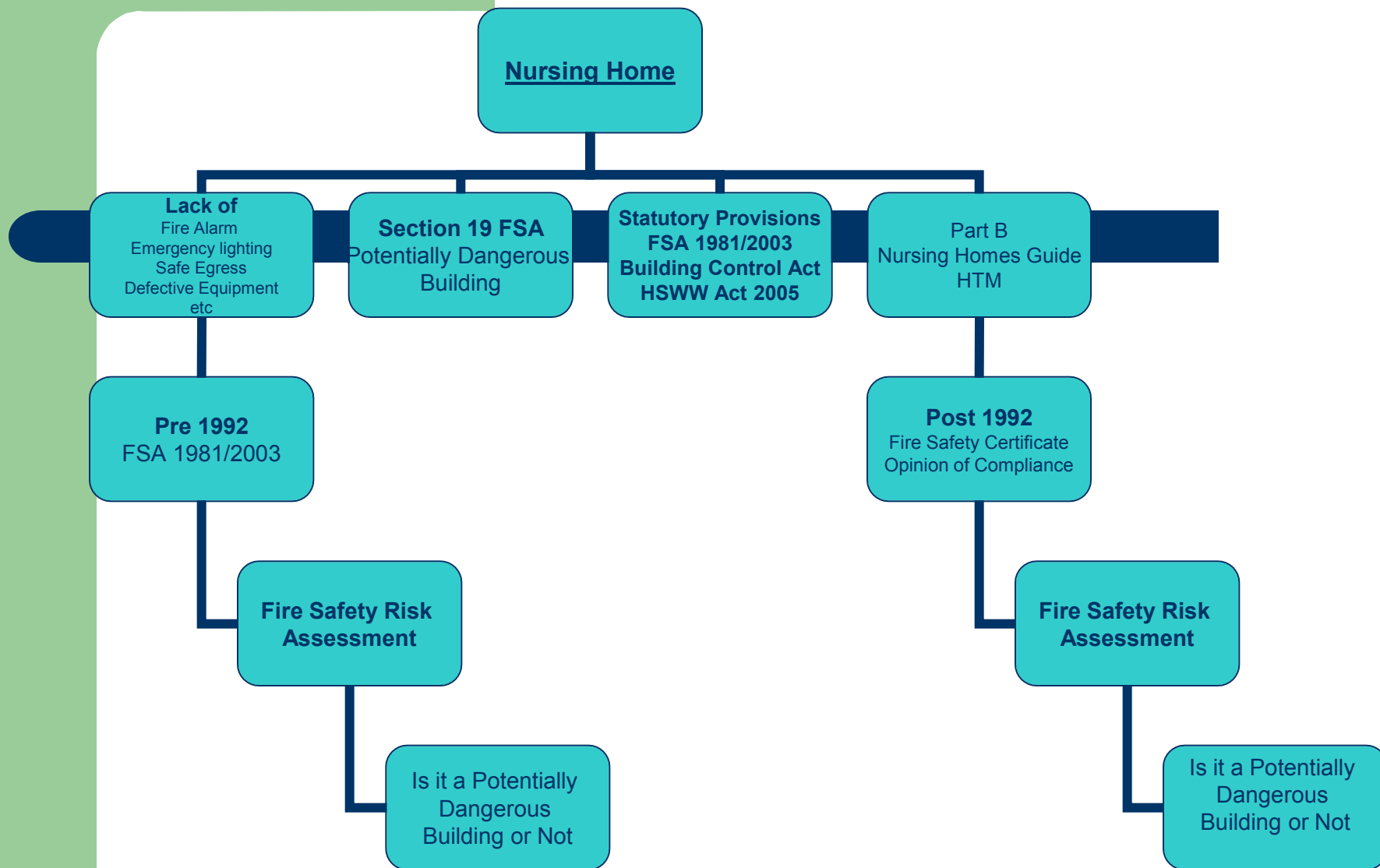
- Old Cottage Type Homes
 - Nightingale Ward Areas
 - Multi storey
- Old District Hospital Facility
 - Large Ward Areas
- 1960 Prefabricated Structure
 - Structural Integrity 40 years on
- Community Nursing Units
 - Design Build Program



Fire Safety Risk Assessment

- No standard approach
- Develop approach with Consultants & HSE
- Fire Risk Assessment forms the basis for the completion of the HIQA Compliance Form.
- Fire Risk Matrix consistent with Quality & Risk Matrix
 - Risk Register
- Fire Consultants Panel to be developed Nationally / Regional.





Audit Tool

- **Care of the Elderly**

- HTM 84

- **Children's Residential Units**

- Fire Precautions in Community Based Residence for Mentally Handicapped or Mentally Ill People (DOE)
- Fire Safety in Care Homes for Older People and Children. (BSI Publication 2003)

- **Acute Hospital**

- HTM 05-03



Risk Assessment Methodology



Risk Matrix	Negligible(1)	Minor (2)	Moderate (3)	Major(4)	Extreme(5)
Almost Certain (5)	5	10	15	20	25
Likely (4)	4	8	12	16	20
Possible (3)	3	6	9	12	15
Unlikely (2)	2	4	6	8	10
Rare/Remote (1)	1	2	3	4	5



Fire Safety Risk Assessment Report Presentation

Risk Item Number	Risk Item Description	Photo	Recommended Intervention	Impact Rating	Likelihood Rating	Overall Risk Rating	Intervention Priority
BUILDING XXXXXXXXXX							
FLOOR LEVEL X							
X.1	Description in words of the unacceptable Risk Item	Photograph illustrating the Risk Item (where appropriate)	Description of remedial action or actions required. In some instances there may be a short term and a longer term recommendation. In those cases the Consultant is to set out the basis for the 2 stage approach. Columns 5 to 8 are to be colour coded red, amber or green according to the Overall Risk rating and as per Table 2.3 above	X	Y	XY	A, B or C



Risk Item Number	Risk Item Description	Photo	Recommended Intervention	Impact Rating	Likelihood Rating	Overall Risk Rating	Intervention Priority
BUILDING: ST. COLUMCILLE'S HOSPITAL, LOUGHLINSTOWN							
GENERAL ITEMS							
1A	Several fire exit doors were blocked with equipment and/or furniture. In the event of a fire the escape route will be reduced or access may be restricted for egressing occupants. This may lead to extended evacuation times.		<u>Immediate</u> Necessary to provide a clear access route to final exits; therefore all items which restrict access to the door should be removed. <u>Solution</u> Staff should be informed of any housekeeping requirements with regards to fire safety. This should be enforced by the management of the building by carrying out routine inspections.	4	3	12	A
1B	Combustible material stored within several stair cores throughout the hospital. Combustible material should not accumulate in building escape routes as this may affect the means of escape by a fire in the stair preventing egress. Items in the staircase may also impede the means of escape of occupants in an evacuation by reducing the width available. Steps should also be checked to determine if they are compliant with Part K of the Building Regulations which provides requirements for stairways, ramps and guards.		<u>Immediate</u> All stair cores should remain sterile areas. All combustible materials should be removed from within these areas. <u>Solution</u> Staff should be informed of any housekeeping requirements with regards to fire safety. Designated storage areas should be identified. This should be enforced by the management of the building by carrying out routine inspections.	4	3	12	A



Issues Arising Infrastructure

- **Fire Stopping**
 - Services
 - Attic Spaces
- **Fire Dampers**
 - Ventilation
 - Door transfer Grills
- **Fire Doors**
 - Hinges, Closers
 - intumescent
- **Ward Size**
 - 8/10 Bed
- **Travel Distances**
 - Dead ends
- **Door Widths**
 - Bed Evacuation
 - Patient Movement
- **Fire Alarm /
Emergency Lighting**













Solutions

- Detailed survey
 - Services / compartment lines
 - Cavity Barriers
- Door schedule
 - Condition report
 - Upgrade program
 - Door replacement program
- Additional cross corridors
- Final Exit Doors, External Paths & Hard Stand Areas.
- Sub divide larger wards
- Suppression systems into wards
- Increase door openings
- Final Exit Door details developed / Access Control
- Fire Alarm upgrade
- Emergency lighting upgrade
- Suppression systems in kitchens



Passive Fire Protection Education

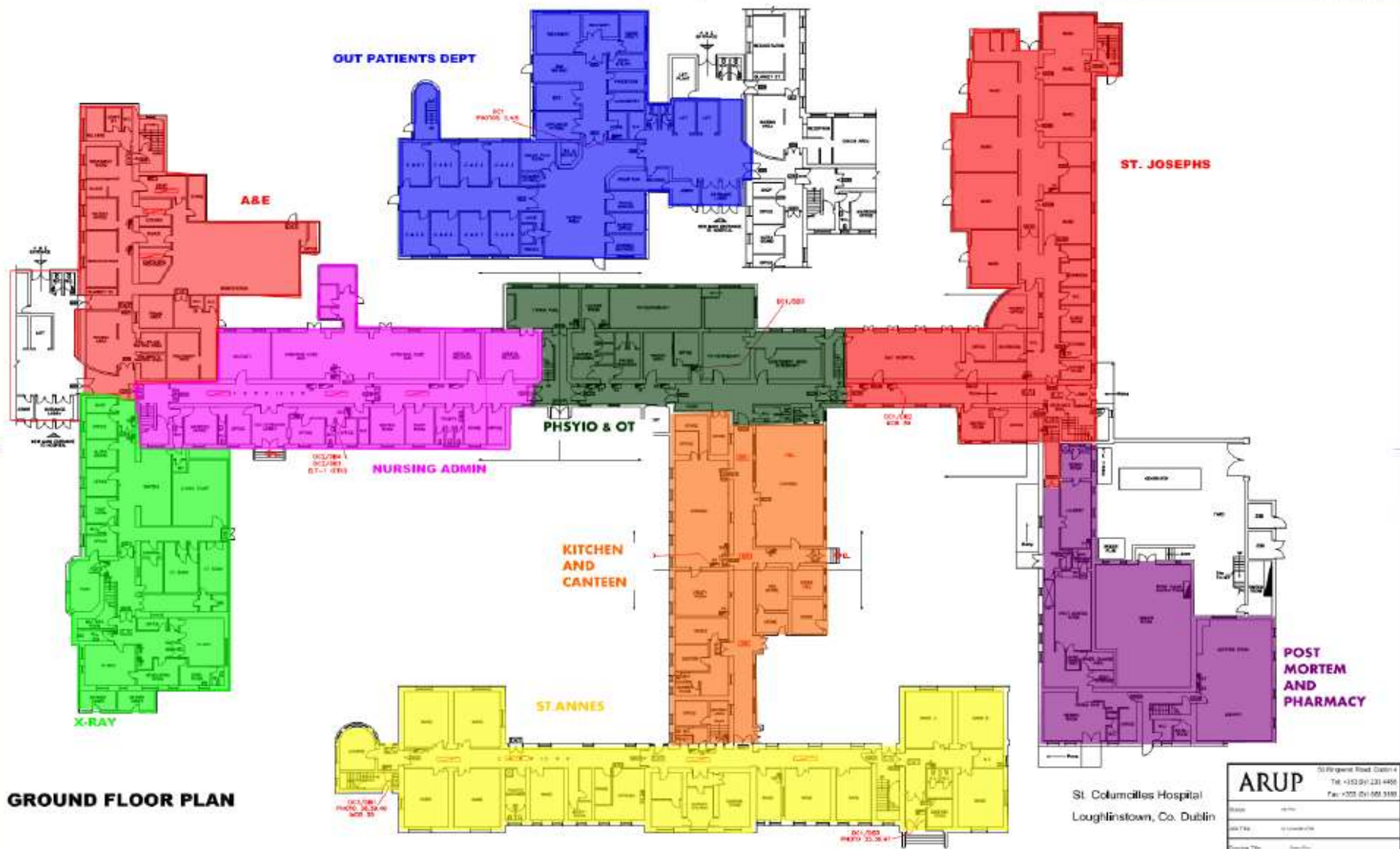
- ASFP & Exova Warrington
- 1 Day Introduction
 - Project Staff, Estates Staff
- 2 Day Installers
 - Project Managers, Trades, Clerk of Works
- Competent independently Certified Installers
- Framework developed in 2013





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GROUND FLOOR PLAN



GROUND FLOOR PLAN



ARUP		50 Fitzgerald Road, Dublin 4	
Tel: +353 (0)1 235 4400		Fax: +353 (0)1 680 3780	
Project Name: St. Columcille's Hospital			
Client: St. Columcille's Hospital			
Drawing Title: Ground Floor Plan			
Drawn by: [Name]	Checked by: [Name]	File Ref: [Ref]	Scale: [Scale]
Date: [Date]	Location: [Location]	Drawn by: [Name]	Checked by: [Name]
Drawn by: [Name]	Checked by: [Name]	File Ref: [Ref]	Scale: [Scale]

Program To Date

- Fire Safety Risk Assessments completed on 180 Care of the elderly premises.
- Intervention Rating 'A' & 'B' works completed and signed off. June 2012
- Funding to date
 - 2011 €9.2 Million
 - 2012 €7.3 Million
- Children's Residential Units & Mental Health Hostels on site
- Acute Hospital Sites identified



Code Of Practice Development

- Revision Part B.
- Purpose Group Classification
 - Children's Residential Home, Low / Medium Support Mental Health Hostel
- Working Group
 - HSE, CFOA, DOE, Service User, Fire Consultants
- Time Scale April to October



Maintenance Contracts



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Fire Alarm & Emergency Lighting Maintenance Contracts.

- Contract may include Small Install Works
- National Framework Developed
 - Companies Pre Qualified
 - Agreed Specification
- Country divided into lots.
 - 67 lots in total.
- Mini competitions run
 - Technically Evaluated Locally
 - Service Level Agreement set up
- Buying power of the HSE.
- Standard Approach



Fire Alarm / Emergency Lighting Maintenance Contracts

- All contracts awarded
- Cost saving of €3.2m over 4 Years
- Comprehensive Audit of **All Systems**
 - Fire Alarm Survey. System Category, Compliance IS 3218
 - Emergency Lighting Compliance IS 3217
- Savings being reinvested into
 - Fire Alarm Upgrade, (Autronica replacement)
 - Emergency Lighting Upgrade / New Install
 - LED Addressable Type Systems.
- Contracts being externally audited



System Auditing / Inspection



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Third Party Auditing / Evaluation

- **Fire Alarm installations**

- **Design**

- Category, Cause & Effect, Zoning, Variations,

- **Installation**

- Quality, Cable Type, Clipping, Device Spacing/Selection

- **Commissioning**

- Interfaces, Text Confirmation, Sound Levels, Battery Calculations, Certification

- **Hand Over**

- Zone Charts, As Installed Drawings, Device Listing & Text, User Instructions, User Training,

- **Maintenance**

- Access, Service Report, Device List.



Audit Compliance

- Compliance with relevant standards
- Correct Device **Location Text**
- Correct positioning of
 - devices,
 - detector position and coverage.
- Ensuring adequate fire cover
 - escape routes,
 - voids, light wells.
- Ensuring appropriate
 - Sound levels (staff alarm evacuation alarm)
 - Appropriate cause & Effect
 - Appropriate detection methods

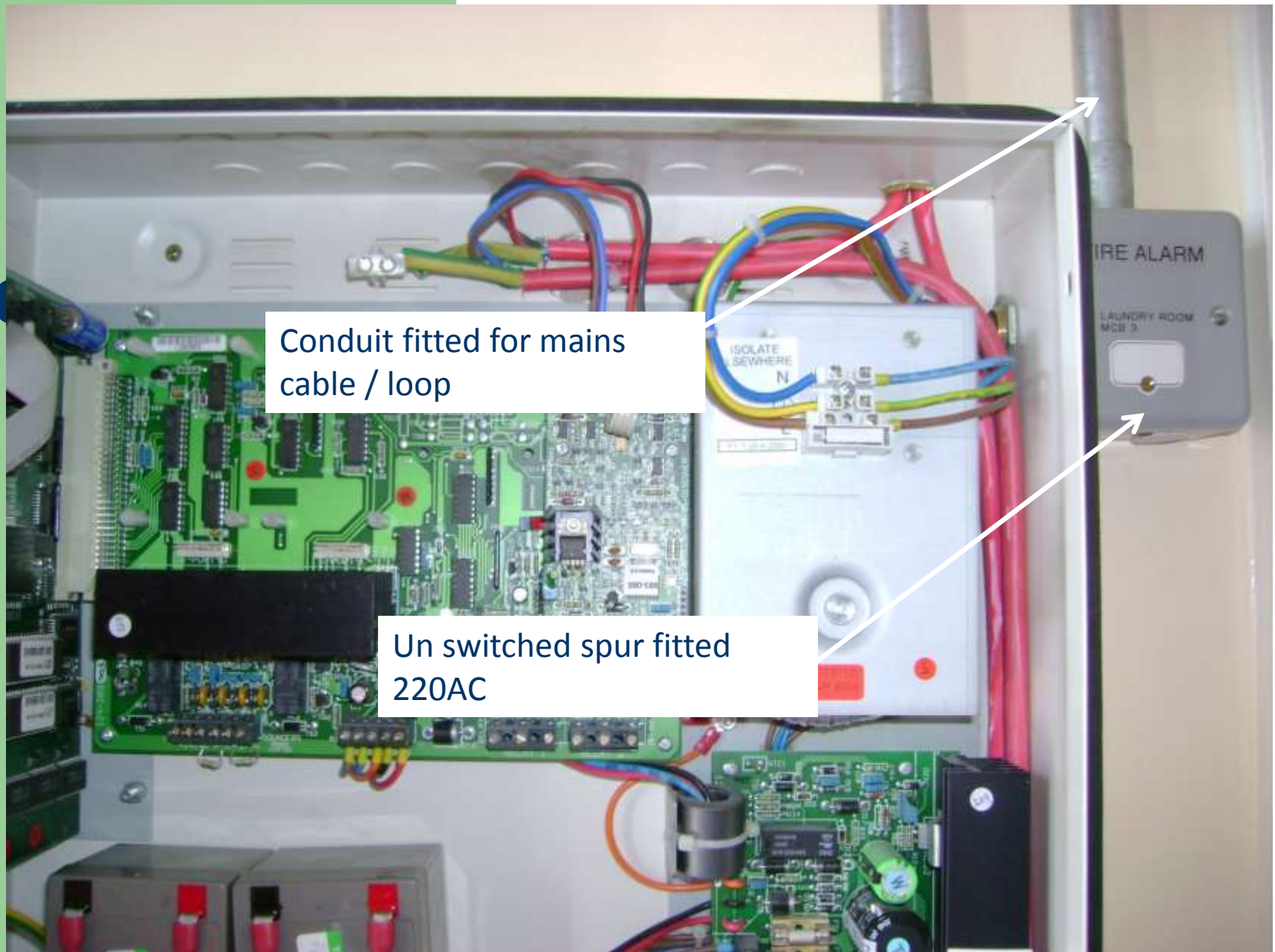


Void Over 800mm NO Cover



30mm Hole drilled through metal panel. No protection except a piece of tape.
Mains supply trapped between metal panel and wall.
Potential shock hazard. 220AC supply





Conduit fitted for mains
cable / loop

Un switched spur fitted
220AC

Fire Alarm Compliance Report Form

Ref	Clause I.S.3218	Comment	Requirement from I.S.3218	Action Required	NA	C	NC	A	F
4	5.12.3.4	Panels mounted to low	The height of the display and indications shall be a minimum of 1,4 m and a maximum of 1,8 m from finished floor level.	Relocate as appropriate			✗		



Documentation Development

- Certification I.S.3218(Design, Installation, Commissioning, Handover)
- Specification (fault tolerant network)
- Cause & Effect Strategy
 - Phased Evacuation
 - Selective display
 - Third Party Interface
- Zone Charts
- As Installed Drawings
- Device Text



Benefits to the Organisation

- Standardised National Approach
- Meet our Statutory obligations
- Professional Approach
 - Annual reports
 - National Statistics available
- Fire safety management system in place
 - Externally audited
 - Evaluated internally and externally



The Way Forward

- Proactive Approach
- Standard Risk Assess
- Identification & Development of PPPG's
- Consultation with Agencies
 - HIQA
 - Local Authority
 - Dep. Of Environment
- Competency
 - In house educational modules
 - IS3218 Fire Alarms,
 - IS3217 Emergency Lighting
 - Fire Code, Fire Doors, Fire Stopping.
- Top Down Bottom Up Approach
- Buy in from all Parties



**Thank You
For Your Attention**



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