



BUILDING SAFE BUILDINGS

PETER GREEN – RM ASSOCIATES

WHAT ARE OUR AIMS?

- TO UNDERSTAND THE DESIGN AND HOW IT WORKS FOR THE END USER
- TO WORK WITH THOSE CARRYING OUT THE BUILD TO ENSURE IT WILL MEET THE INTENDED REQUIREMENTS
- TO PROVE THAT THE BUILDING IS SAFE ONCE COMPLETE





HOW IMPORTANT ARE STANDARDS?



WATER SAFETY GROUP



Key to Process of safe building



Works on behalf of all stakeholders



Milestones

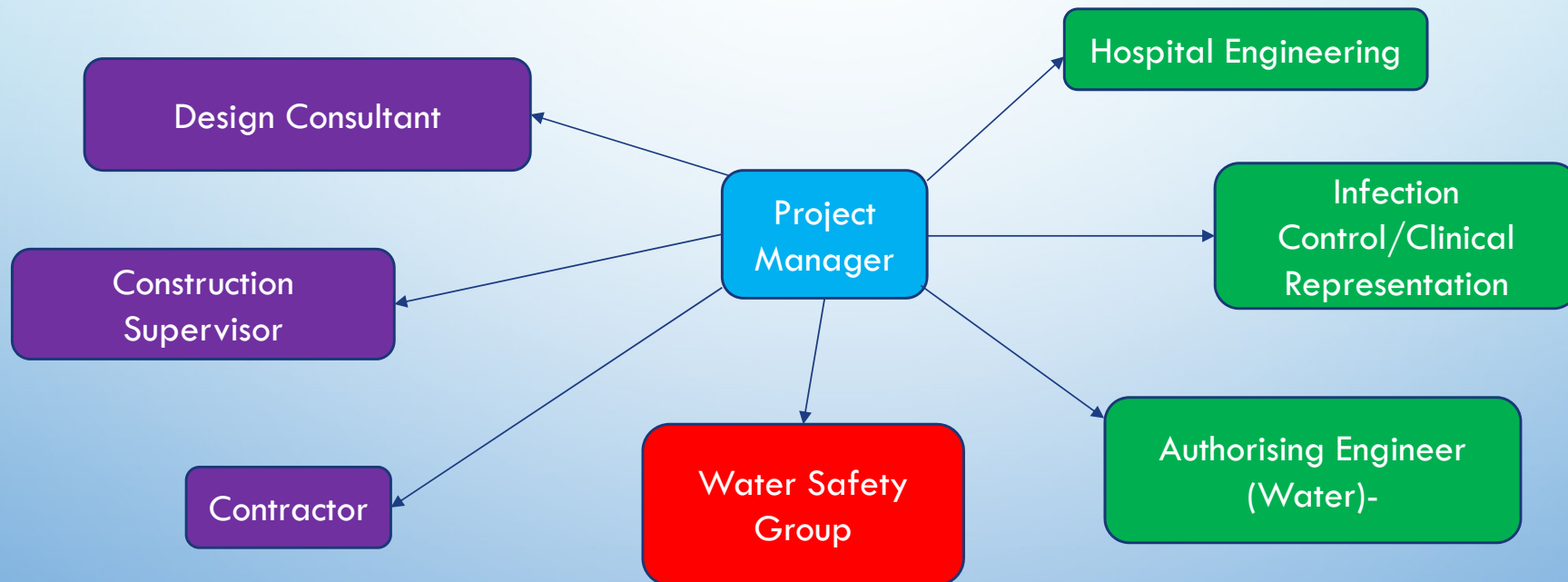
Design
Installation
Commissioning/handover



DESIGN

- CLEAR UNDERSTANDING OF WHAT WE ARE BUILDING
- KNOW WHAT FITTINGS ARE INTENDED TO BE USED
- AGREE HOW WE WILL COMMUNICATE

COMMUNICATION IS KEY





INSTALLATION

- OVER THE LIFE OF THE INSTALLATION WE SHOULD VISIT REGULARLY TO CHECK
- INSTALL STANDARDS
- FITTINGS

“NO SURPRISES”

INSTALLATION STANDARDS

- CLEANLINESS IS IMPORTANT
 - SAFE STORAGE OF MATERIALS
 - POTENTIAL FOR FACTORY CONTAMINATION
 - NEED FOR DISINFECTION OF FITTINGS – AUGMENTED CARE RISK



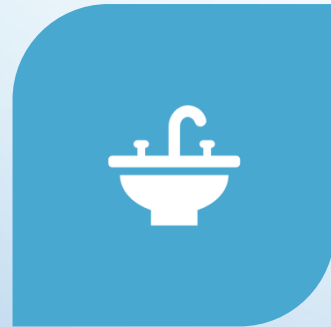


TO FILL OR NOT TO FILL?

- WATER IN SYSTEM CREATES RISK
- WHEN TO FILL?
- TESTING FOR LEAKS



EFFECTIVE HANDOVER



FILL WITH WATER AS CLOSE TO THE
INTENDED HANDOVER



FLUSH ALL OUTLETS AND TOILETS AND
ANY PIPEWORK NOT CONNECTED TO
AN APPLIANCE AT LEAST TWICE
WEEKLY

HANDOVER

Supply Temperatures

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graph TD; A[Supply Temperatures] --> B[Hot generation at least 60°C]; B --> C[Outlet supply – at least 55°C]; C --> D[Domestic Hot water secondary return – at least 55°C]; D --> E[Cold water <20°C and no more than 2°C spread across the site];
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Hot generation at least 60°C

Outlet supply – at least 55°C

Domestic Hot water secondary return – at least 55°C

Cold water <20°C and no more than 2°C spread across the site

SYSTEM DISINFECTION

NEW SYSTEMS

FLUSHED – TO REMOVE ANY DEBRIS

FILTERS/STRAINERS CLEANED

DISINFECTED – STANDARD TO BE USED?



INSTALLATION

- MICROBIOLOGICAL TESTING SHOULD BE CARRIED OUT TO PROVE THE SYSTEM DISINFECTION HAS BEEN EFFECTIVE





INSTALLATION

TESTING CARRIED OUT 2-7 DAYS AFTER DISINFECTION

REPRESENTATIVE

SOURCE/PARENT

SYSTEM SAMPLING SHOULD REFLECT SIZE OF
PROJECT

AUGMENTED CARE AREAS REQUIRE ADDITIONAL CARE

INSTALLATION

REQUIRED TESTS

TVC @22°C

TVC @37°C

TOTAL COLIFORM

E-COLI

LEGIONELLA

PSEUDOMONAS AERUGINOSA



TIME FOR ANALYSIS

TVC @37°C

2 DAY INCUBATION

TVC @22°C

3 DAY INCUBATION

- TOTAL COLIFORM
- E.COLI

2 DAY

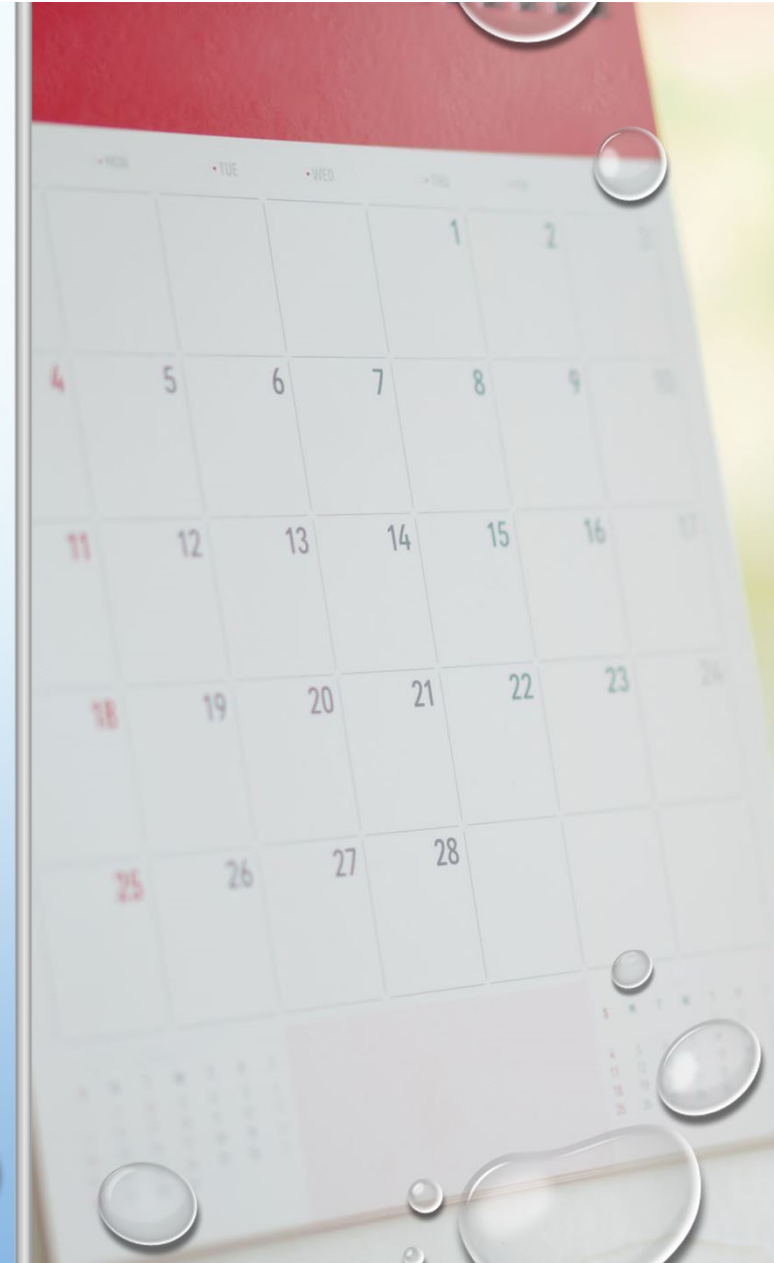
2 DAY

- LEGIONELLA BACTERIA

10 DAY

- PSEUDOMONAS AERUGINOSA 3 DAY

- DISINFECTION 14 DAYS PRIOR



ACCEPTABLE RESULTS

TVC – NO ABNORMAL CHANGE

- TOTAL COLIFORM – 0 CFU/100ML
- E.COLI – 0CFU/100ML
- LEGIONELLA BACTERIA - <100CFU/L
- PSEUDOMONAS AERUGINOSA - <1CFU/100ML





HANDOVER

- ACCEPTABLE RESULTS REQUIRED BEFORE HANDOVER
 - ROLE OF THE WATER SAFETY GROUP
 - SPECIALIST INPUT IN DECISION MAKING



HANDOVER

- ALL DOCUMENTATION
- CHLORINATION CERTIFICATE
- BACTERIAL RESULTS
- HOT WATER COMMISSIONING
- TMV COMMISSIONING
- PHOTOGRAPHIC RECORD
- CARRY OUT PRE-OCCUPATION RISK ASSESSMENT



Thank you

Any questions ?

Presented by: Peter Green