

Strategic, Detailed & Contract Design - HSE Red, Amber and Green Lists

Red Lists: Hazardous procedures, products and processes that should be avoided where possible (i.e. sfarp). Due to “other factors” this is not always possible.

- Lack of adequate pre-construction information, eg asbestos surveys, geology, obstructions, services, ground contamination etc.
 - Hand scabbling and tooling methods of concrete ('stop ends', screed preparation, etc).
 - Demolition by hand-held breakers of the top sections of concrete piles (pile cropping techniques are available).
 - The specification of fragile rooflights and roofing assemblies without adequate fall protection.
 - Processes giving rise to large quantities of dust (dry cutting, blasting etc.) without suppression or vacuums.
 - On-site spraying of harmful substances without overspray and respiratory protection methods.
 - The specification of structural steelwork which is not purposely designed to accommodate safety nets eg. holes are drilled.
 - Designing roof mounted services requiring frequent access (for maintenance, etc), without provision for safe access (eg. barriers, plant enclosure etc).
 - Glazing that cannot be accessed Safely, All glazing should be anticipated as requiring cleaning and replacement, so a suitable safe system of access is essential.
 - Entrances, floors, ramps, stairs and escalators etc not specifically designed to avoid slips and trips during use and maintenance, including effect of rain water and spillages?
 - Design of environments involving adverse lighting, noise, vibration, temperature, wetness, humidity and draughts or chemical and/or biological conditions during use and maintenance operations.
 - Designs of structures that do not allow for appropriate fire containment during construction eg. Stair cores, flammable material stores, timber stores.
- Clients to be requested to provide and references made in PCI if not sometimes scabbling is essential for good screed or plaster board, safe methods must be adopted.
 - Offsite methods to be used if possible.
 - Offsite or tented areas to be used.
 - Per net fixings.
 - A combination of design for slip resistance, cleaning methods and reactive management measures in extreme conditions.
 - This relates to the work place regulations but also building regulations, and applies to the construction site also.

General comment: A proportionate decision has to be made whether to include or exclude this issues.

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Green Lists: Products, processes and procedures to be positively encouraged

- Adequate access for construction vehicles to minimise reversing requirements (one-way systems and turning radii) sfarp.
- Provision of adequate access and headroom for maintenance in plant rooms, and adequate provision for replacing heavy components.
- Thoughtful location of of mechanical / electrical equipment, light fittings, security devices etc. to facilitate access and away from crowded areas sfarp.
- The specification of concrete products with pre-cast fixings, by coordination, to avoid drilling.
- Specify half board sizes for plasterboard sheets to make handling easier unless mechanical handling.
- Early installation of permanent means of access, and prefabricated staircases with hand rails sfarp or provision of temporary staircases, edge protection or fixing sockets.
- The provision of edge protection methodology at permanent works floor and roof edges or holes where there is a foreseeable risk of falls during construction and after handover.
- Practicable and appropriate safe methods of window cleaning (eg. from the many safe options available).
- Appointment of a Temporary Work Coordinator (BS 5975), by client or contractor.
- Off-site timber treatment if PPA- and CCA-based preservatives are used (Boron or copper salts can be used for cut ends on site).
- Off site fabrication and prefabricated elements to minimize on site hazards sfarp.
- Encourage the use of engineering controls and mechanisation to minimize the use of manual techniques with Personal Protective Equipment.

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Amber Lists: Products, processes and procedures to be avoided or minimalised as far as possible and only specified/allowed if unavoidable. Including amber items would always lead to the provision of information to the Principal Contractor, e.g. CDM Analysis and/or safety highlighted drawings.

- Internal manholes / inspection chambers in circulation areas;
 - External manholes in heavy used vehicle access zones;
 - The specification of “lip” details (i.e. trip hazards) at the tops of pre-cast concrete staircases;
 - The specification of shallow steps (i.e. risers) in external paved areas without adequate visual contrast;
 - The specification of heavy building blocks i.e. those weighing > 20kgs; without suitable mechanisation;
 - Large and heavy glass panels unless appropriate mechanical handling methods proposed;
 - The chasing out of concrete / brick / blockwork walls or floors for the installation of services;
 - The specification of heavy lintels (the use of slim metal or hollow concrete lintels being alternatives);
 - The specification of solvent-based paints and thinners, or isocyanates, particularly for use in confined areas;
 - Specification of curtain wall or panel systems without provision for the tying (or raking) of scaffolds;
 - Specification of blockwork walls >3.5 metres high using retarded mortar mixes;
 - Site traffic routes that do not allow for ‘one way’ systems and/or vehicular traffic segregated from site personnel. Early strategic design proposals to be made for later contract stage discussions with contractor;
 - Site layout that does not allow for adequate room for delivery and/or storage of materials, including project specific or unusually large or difficult to handle components;
 - Heavy construction components which cannot be handled using mechanical lifting devices (because of access restrictions / floor loadings etc);
 - On-site welding, in particular for new structures unless in refurbishment or maintenance projects;
 - Need to use large piling rigs and cranes near ‘live’ railways and overhead electric power lines or where proximity to obstructions prevents guarding of rigs.
- Sometimes this cannot be avoided and suitable protection will be necessary.
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 - If required, for levelling of finishes a temporary timber infill or ramp to be provided.
 - “Perrons” are a common landscape steppery arrangement. Contrast is key.
 - Repetitive manual handling of heavy blocks is to be avoided.
 - A system of transportation from delivery vehicle to installation to be agreed in principle.
 - Including cableways in the design is preferable but not always possible. Tented enclosures to be considered where not.
 - A combination of quality points and ventilation methods may be the preferred solution.
 - Cladding system specialists need to be consulted to agree preferable methods of access and stability.