

PRELIMINARIES for

Climate Summer Works: Roof replacements and energy efficiency upgrades at St. Joseph's Secondary School and the adjacent former Convent Building in Ballybunion, Co. Kerry. (Roll Number 61220I)

Project Reference Number: [26-002]

Prepared by DMA Architects,
Collis Sandes House, Killeen Road, Tralee, Co. Kerry.

Document Title:

PRELIMINARIES

Date	Revision	Status	Originator	Checked	Approved
26.08.17	R00	Tender	AMO	DMA	DMA
-	-	-	-	-	-

CONTENTS

A	PUBLIC WORKS CONTRACT FOR MINOR CIVIL ENGINEERING AND BUILDING WORKS DESIGNED BY THE EMPLOYER	4
A10	PROJECT PARTICULARS.....	4
A11	TENDER AND CONTRACT DOCUMENTS	4
A12	THE SITE/ EXISTING BUILDINGS.....	4
A13	DESCRIPTION OF THE WORK.....	4
A20	PUBLIC WORKS CONTRACT FOR MINOR CIVIL ENGINEERING AND BUILDING WORKS DESIGNED BY THE EMPLOYER	4
A30	TENDERING/ SUBLETTING/ SUPPLY.....	4
A31	PROVISION, CONTENT AND USE OF DOCUMENTS	5
	DEFINITIONS AND INTERPRETATIONS.....	5
	DOCUMENTS PROVIDED ON BEHALF OF EMPLOYER.....	7
	DOCUMENTS PROVIDED BY CONTRACTOR/ SUBCONTRACTORS/ SUPPLIERS	8
	DOCUMENT/ DATA INTERCHANGE	9
A32	MANAGEMENT OF THE WORKS.....	10
	GENERALLY	10
	PROGRAMME/ PROGRESS	10
A33	QUALITY STANDARDS/ CONTROL	11
	STANDARDS OF PRODUCTS AND EXECUTIONS	11
	SAMPLES/ APPROVALS	12
	NOTIFICATION OF SAMPLE PREPARATION FOR INSPECTION ,	12
	ACCURACY/ SETTING OUT GENERALLY	13
	SERVICES GENERALLY	13
	SUPERVISION/ INSPECTION/ DEFECTIVE WORK	14
	WORK AT OR AFTER COMPLETION	15
A34	SECURITY/ SAFETY/ PROTECTION	17
	SECURITY, HEALTH AND SAFETY.....	17
	PROTECT AGAINST THE FOLLOWING.....	18
	PROTECT THE FOLLOWING	19
A36	FACILITIES/ TEMPORARY WORK/ SERVICES	22
	GENERALLY	22
	ACCOMMODATION	22
	TEMPORARY WORKS	22
A37	OPERATION/ MAINTENANCE OF THE FINISHED WORKS	24
	GENERALLY	24
A38	IRISH WATER QUALITY ASSURANCE FOLDER	26
	WATER & WASTEWATER INFRASTRUCTURE	26

A40	CONTRACTOR'S GENERAL COST ITEMS: MANAGEMENT AND STAFF	30
A41	CONTRACTOR'S GENERAL COST ITEMS: SITE ACCOMMODATION	30
A42	CONTRACTOR'S GENERAL COST ITEMS: SERVICES AND FACILITIES.....	30
A43	CONTRACTOR'S GENERAL COST ITEMS: MECHANICAL PLANT.....	30
A44	CONTRACTOR'S GENERAL COST ITEMS TEMPORARY WORKS.....	30

**A PUBLIC WORKS CONTRACT FOR MINOR CIVIL ENGINEERING AND BUILDING
WORKS DESIGNED BY THE EMPLOYER**

(Refer QS Preliminaries)

A10 PROJECT PARTICULARS

(Refer QS Preliminaries)

A11 TENDER AND CONTRACT DOCUMENTS

(Refer to QS Preliminaries)

A12 THE SITE/ EXISTING BUILDINGS

A13 DESCRIPTION OF THE WORK

(Refer to QS Preliminaries)

**A20 PUBLIC WORKS CONTRACT FOR MINOR CIVIL ENGINEERING AND BUILDING
WORKS DESIGNED BY THE EMPLOYER**

(Refer to QS Preliminaries)

A30 TENDERING/ SUBLETTING/ SUPPLY

(Refer to QS Preliminaries)

A31 PROVISION, CONTENT AND USE OF DOCUMENTS

DEFINITIONS AND INTERPRETATIONS

110 DEFINITIONS

- Meaning: Terms, derived terms and synonyms used in the preliminaries/ general

120 COMMUNICATIONS

- Definition: Includes advice, inform, submit, give notice, instruct, agree, confirm, seek or obtain information, consent or instructions, or make arrangements.
- Format: In writing to the person named in clause A10/140 unless specified otherwise.
- Response: Do not proceed until response has been received.

130 PRODUCTS

- Definition: Materials, both manufactured and naturally occurring, and goods, including components, equipment and accessories, intended for the permanent incorporation in the Works.
- Includes: Goods, plant, materials, site materials and things for incorporation into the Works.

135 SITE EQUIPMENT

- Definition: All appliances or things of whatsoever nature required in or about the construction for completion of the Works but not materials or other things intended to form or forming part of the Permanent Works.
- Includes: Construction appliances, vehicles, consumables, tools, temporary works, scaffolding, cabins and other site facilities.

145 CONTRACTOR'S CHOICE

- Meaning: Selection delegated to the Contractor, but liability to remain with the specifier.

150 CONTRACTOR'S DESIGN

- Meaning: Design to be carried out or completed by the Contractor and supported by appropriate contractual arrangements, to correspond with specified requirements.

155 SUBMIT PROPOSALS

- Meaning: Submit information in response to specified requirements.

160 TERMS USED IN SPECIFICATION

- Remove: Disconnect, dismantle as necessary and take out the designated products or work and associated accessories, fixings, supports, linings and bedding materials. Dispose of unwanted materials. Excludes taking out and disposing of associated pipework, wiring, ductwork or other services.
- Fix: Receive, unload, handle, store, protect, place and fasten in position and disposal of waste and surplus packaging including all labour, materials and site equipment for that purpose.
- Supply and fix: As above but including supply of products to be fixed. All products need to be supplied and fixed unless stated otherwise.
- Keep for reuse: Do not damage designated products or work. Clean off bedding and joining materials. Stack neatly, adequately protect and store until required by the Employer/ Purchaser or for use in the Works as instructed.
- Make good: Execute local remedial work to designated work. Make secure, sound and neat. Excludes redecoration and/ or replacement.

- Replace: Supply and fix new products matching those removed. Execute work to match original new state of that removed.
- Repair: Execute remedial work to designated products. Make secure, sound and neat. Excludes redecoration and/ or replacement.
- Refix: Fix removed products.
- Ease: Adjust moving parts of designated products or work to achieve free movement and good fit in open and closed positions.
- Match existing: Provide products and work of the same appearance and features as the original, excluding ageing and weathering. Make joints between existing and new work as inconspicuous as possible.
- System: Equipment, accessories, controls, supports and ancillary items, including installation, necessary for that section of the work to function.

170 MANUFACTURER AND PRODUCT REFERENCE

- Definition: When used in this combination:
- Manufacturer: The firm under whose name the particular product is marketed.
- Product reference: The proprietary brand name and/ or reference by which the particular product is identified.
- Currency: References are to the particular product as specified in the manufacturer's technical literature current on the date of the invitation to tender.

200 SUBSTITUTION OF PRODUCTS

- Products: If an alternative product to that specified is proposed, obtain approval before ordering the product.
- Reasons: Submit reasons for the proposed substitution.
- Documentation: Submit relevant information, including:
 - manufacturer and product reference;
 - cost;
 - availability;
 - relevant standards;
 - performance;
 - function;
 - compatibility of accessories;
 - proposed revisions to drawings and specification;
 - compatibility with adjacent work;
 - appearance;
 - copy of warranty/ guarantee.
- Alterations to adjacent work: If needed, advise scope, nature and cost.
- Manufacturers' guarantees: If substitution is accepted, submit before ordering products.

210 CROSS REFERENCES

- Accuracy: Check remainder of the annotation or item description against the terminology used in the cited section or clause.
- Related terminology: Where a numerical cross-reference is not given the relevant sections and clauses of the specification will apply.
- Relevant clauses: Clauses in the cited specification section dealing with general matters, ancillary products and workmanship also apply.
- Discrepancy or ambiguity: Before proceeding obtain clarification or instructions.

220 REFERENCED DOCUMENTS

- Conflicts: Specification prevails over referenced documents.

240 SUBSTITUTION OF STANDARDS

- Specification to Irish or European Standard: Substitution may be proposed complying with a grade or category within a national standard of another Member State of the European Community or an international standard recognized in Ireland.
- Before ordering: Submit notification of all such substitutions.
- When requested: Submit for verification documentary evidence as detailed in clause A31/200. Any submitted foreign language documents must be accompanied by certified translations into English.

250 CURRENCY OF DOCUMENTS

- Currency: References to published documents are to the editions, including amendments and revisions, current on the date of the Invitation to Tender.

260 SIZES

- General dimensions: Products are specified by their coordinating sizes.
- Timber: Cross section dimensions shown on drawings are:
 - Target sizes as defined in IS EN 336 for structural softwood and hardwood sections.
 - Finished sizes for non-structural softwood and hardwood sawn and further processed sections.

DOCUMENTS PROVIDED ON BEHALF OF EMPLOYER

410 ADDITIONAL COPIES OF DRAWINGS/ DOCUMENTS

- Copies: Two of each contract drawing and contract document will be issued free of charge (not counting any certified copies).
- Additional copies: Issued on request and charged to the Contractor.

440 DIMENSIONS

- Scaled dimensions: Do not rely on.

450 MEASURED QUANTITIES

- Ordering products and constructing the Works: The accuracy and sufficiency of the measured quantities is not guaranteed.
- Precedence: The specification and drawings shall override the measured quantities.

460 THE SPECIFICATION

- Coordination: All sections must be read in conjunction with Main Contract Preliminaries/ General Conditions.

470 DIVERGENCE FROM THE STATUTORY REQUIREMENTS

- Divergence: Between the drawings or specification and the requirements of the Building Regulations, other Statutes, statutory undertakers and other regulatory authorities.
- Action: Inform immediately.

480 TECHNICAL DOCUMENTS

- Reference documents: Available for inspection by appointment during the normal office hours at the office of the Client.
 - Document titles: N/A.

DOCUMENTS PROVIDED BY CONTRACTOR/ SUBCONTRACTORS/ SUPPLIERS

555 SUBMISSION OF INFORMATION

- General: Provide the detailed design and/ or complete the design of products and executions in accordance with the specification.
- Provide:
 - Works proposals based on the drawings, specification and other tendering information.
 - Liaison to ensure coordination of the work with related building elements and services.
- Master programme: Make reasonable allowance for completing design/ production information, submission (including requirements under health and safety legislation), comment, inspection, amendment, resubmission and reinspection.
- Design/ production information: Submit two copies, one could be returned with comments.
If amendments are necessary ensure that these are done without delay and resubmit unless it is confirmed that it is not required.
- Changes to Works Requirements: Submit, supported by all relevant information, if proposals differ from the Works requirements or require changes at the interface with adjacent work.
- Information from Subcontractors/ Suppliers:
 - Obtain in time to meet the programme.
 - Check dimensions are correct, account is taken of all related work, and construction is practicable.
 - Note any comments on one copy of the design/ production information, then submit with the required number of additional unmarked copies. Such checking will not relieve the specialist or the subcontractors/ Suppliers of their respective responsibilities for design, Coordination and documentation.
- Submit: Two copies of final version of proposals. Distribute copies to all affected parties and keep one copy on site.

610 PRODUCTION INFORMATION

- Contractor/ Domestic subcontractor provide: Shop Dwgs for Kitchens, carpentry, signage and any other as appropriate or requested by the Dwgs and specification.
- Submit:
 - For comment and make any necessary amendments.
 - Sufficient copies of final version for distribution to all affected parties.

620 AS BUILT DRAWINGS AND INFORMATION

- Description of work: All as required under H&S Act for production of maintenance manual.
- Provide: Drawings/ information:
 - DWGs, manuals, certificates as required.
- Submit: Two weeks after request.

630 TECHNICAL LITERATURE

- Keep on site for reference by all supervisory personnel:
 - Manufacturers' current literature relating to all products to be used in the Works.
 - Relevant IS Standards and Codes of Practice.
- Copies: To be lodged in Building Manual.

640 MAINTENANCE INSTRUCTIONS AND GUARANTEES

- Components and equipment: Obtain or retain copies, register with manufacturer and hand over on or before Practical Completion.

- Emergency call-out services: Provide subcontractors' telephone numbers for use after completion.
- Copies: To be lodged in Building Manual.

DOCUMENT/ DATA INTERCHANGE

850 ELECTRONIC DATA INTERCHANGE

- Data: Types and classes of communication: email, cad, Microsoft word, excel.
- Parties: Between: Contractor & consultants, client, ER.
- Requirements: Software to be.

A32 MANAGEMENT OF THE WORKS

GENERALLY

110 SUPERVISION

- General: Accept responsibility for coordination, supervision and administration of the Works, including subcontracts.
- Coordination: Arrange and monitor a programme with each subcontractor, supplier, local authority and public service company/ authority. Obtain and supply information as necessary for coordination of the work.

130 INSURANCE CLAIMS

- Notice: If any event occurs which may give rise to any claim or proceeding in respect of loss or damage to the Works or injury or damage to persons or property arising out of the Works, immediately give notice to the Employer, the person administering the contract on behalf of the Employer, Project Supervisor Design stage and the Insurers.
- Failure to notify: Indemnify the Employer against any loss, which may be caused by failure to give such notice.
- Health and Safety: Advise the HSA of any notifiable occurrence.

140 CLIMATIC CONDITIONS

- Information: Record accurately and retain:
 - Daily maximum and minimum air temperatures (including overnight).
 - Delays due to adverse weather, including description of the weather, types of work affected and number of hours lost.

150 OWNERSHIP

- Alteration/ clearance work: Materials arising become the property of the Contractor except where otherwise stated. Remove from site as work proceeds.

PROGRAMME/ PROGRESS

240 COMMENCEMENT OF WORK

- Notice: Before the proposed date for commencement of work on site give minimum notice of one week.

250 MONITORING

- Progress: Record on a copy of the programme kept on site.
- Avoiding delays: If any circumstances arise which may affect the progress of the Works submit proposals or take other action as appropriate to minimize any delay and to recover any lost time.
- Key Performance Indicators:
 - Details: Economic, Environment, Quality, Program, Safety.
 - Record progress against each of the KPIs. If performance against KPI falls short of target, submit proposals for remediation.

A33 QUALITY STANDARDS/ CONTROL

STANDARDS OF PRODUCTS AND EXECUTIONS

110 INCOMPLETE DOCUMENTATION

- General: Where and to the extent that products or work are not fully documented, they are to be:
Of a kind and standard appropriate to the nature and character of that part of the Works where they will be used.
Suitable for the purposes stated or reasonably to be inferred from the project documents. Contract documents: Omissions or errors in description and/ or quantity shall not vitiate the Contract nor release the Contractor from any obligations or liabilities under the Contract.

120 WORKMANSHIP SKILLS

- Operatives: Appropriately skilled and experienced for the type and quality of work.
- Registration: With FAS Construction Skills Certification Scheme or equivalent program recognized by FAS.
- Evidence: When requested, operatives must produce a card containing the following details:
 - Name of the registering body.
 - Registration number.
 - Expiry date.
 - Contact details of issuing body.
 - Holder's name and photograph.

130 QUALITY OF PRODUCTS

- Generally: New. (Proposals for recycled products may be considered).
- Supply of each product: From the same source or manufacturer.
- Whole quantity of each product required to complete the Works: Consistent in kind, size, quality and overall appearance.
- Tolerances: Where critical, measure a sufficient quantity to determine compliance.
- Deterioration: Prevent. Order in suitable quantities to a program and use in appropriate sequence.

135 QUALITY OF EXECUTION

- Generally: Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.
- Colour batching: Do not use different colour batches where they can be seen together.
- Dimensions: Check on-site dimensions.
- Finished work: Not defective, e.g. not damaged, disfigured, dirty, faulty, or out of tolerance.
- Location and fixing of products: Adjust joints open to view so they are even and regular.

140 COMPLIANCE

- Compliance with proprietary specifications: Retain on site evidence that the proprietary product specified has been supplied.
- Compliance with performance specifications: Submit evidence of compliance, including test reports indicating:
 - Properties tested.
 - Pass/ fail criteria.
 - Test methods and procedures.

- Test results.
- Identity of testing agency.
- Test dates and times.
- Identities of witnesses. Analysis of results.

150 INSPECTIONS

- Products and executions: Inspection or any other action must not be taken as approval unless confirmed in writing referring to:
 - Date of inspection.
 - Part of the work inspected.
 - Respects or characteristics which are approved.
 - Extent and purpose of the approval.
 - Any associated conditions.

160 RELATED WORK

- Details: Provide all trades with necessary details of related types of work. Before starting each new type or section of work ensure previous related work is:
 - Appropriately complete.
 - In accordance with the project documents.
 - To a suitable standard.
 - In a suitable condition to receive the new work.
- Preparatory work: Ensure all necessary preparatory work has been carried out.

170 MANUFACTURER'S RECOMMENDATIONS/ INSTRUCTIONS

- General: Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to tender.
- Changes to recommendations or instructions: Submit details.
- Ancillary products and accessories: Use those supplied or recommended by main product manufacturer.

180 WATER FOR THE WORKS

- Mains supply: Clean and uncontaminated.
- Other: If proposed, provide evidence of suitability.

SAMPLES/ APPROVALS

210 SAMPLES

- Products or executions: Comply with all other specification requirements and in respect of the stated or implied characteristics either:

To an express approval.

To match a sample expressly approved as a standard for the purpose.

NOTIFICATION OF SAMPLE PREPARATION FOR INSPECTION ,

217 SAMPLE INSPECTIONS

- ER to be notified of sample preparation one week in advance, or shorter as agreed, to allow inspection and approval CL220: Sample provision to include for stone cladding, kitchen finishes, doors, windows, airtightness seals, flooring, tiling, render finishes, surface finishes, paving, paint, roofing tile, purpose made joinery, metalwork and any reasonable requests by Architect/ER in order to facilitate the Works programme and approvals. (Refer also to schedule of inspections CI 750).

220 APPROVAL OF PRODUCTS

- Submissions, samples, inspections and tests: Undertake or arrange to suit the Works programme.
- Approval: Relates to a sample of the product and not to the product as used in the Works. Do not confirm orders or use the product until approval of the sample has been obtained.
- Complying sample: Retain in good, clean condition on site. Remove when no longer required.

230 APPROVAL OF EXECUTION

- Submissions, samples, inspections and tests: Undertake or arrange to suit the Works programme.
- Approval: Relates to the stated characteristics of the sample. (If approval of the finished work as a whole is required this is specified separately). Do not conceal, or proceed with affected work until compliance with requirements is confirmed.
- Complying sample: Retain in good, clean condition on site. Remove when no longer required.

ACCURACY/ SETTING OUT GENERALLY

320 SETTING OUT

- General: Submit details of methods and equipment to be used in setting out the Works.
- Levels and dimensions: Check and record the results on a copy of drawings. Notify discrepancies and obtain instructions before proceeding.
- Inform: When complete and before commencing construction.

330 APPEARANCE AND FIT

- Tolerances and dimensions: If likely to be critical to execution or difficult to achieve, as early as possible either:
 - Submit proposals; or
 - Arrange for inspection of appearance of relevant aspects of partially finished work.

340 CRITICAL DIMENSIONS

- Critical dimensions: Set out and construct the Works to ensure compliance with the tolerances stated.
- Location: Detailed on drawings See Architects, engineers civil/structural dwgs and specification).

350 LEVELS OF STRUCTURAL FLOORS

- Maximum tolerances for designed levels to be:
 - Floors to be self-finished, and floors to receive sheet or tile finishes directly bedded in adhesive: +/- 10 mm.
 - Floors to receive dry board/ panel construction with little or no tolerance on thickness: +/- 10 mm.
 - Floors to receive mastic asphalt flooring/ underlays directly: +/- 10 mm.
 - Floors to receive mastic asphalt flooring/ underlays laid on mastic asphalt levelling coat (s): +/- 15 mm. Floors to receive fully bonded screeds/ toppings/ beds: +/- 15 mm. Floors to receive unbonded or floating screeds/ beds: +/- 20 mm.

SERVICES GENERALLY

410 SERVICES REGULATIONS

- New or existing services: Comply with the Byelaws or Regulations of the relevant Statutory Authority.

420 WATER REGULATIONS/ BYELAWS NOTIFICATION

- Requirements: Notify Local Authority responsible for the water supply of any work carried out to or which affects new or existing services and submit any required plans, diagrams and details.
- Consent: Allow adequate time to receive all necessary consent before starting work. Inform immediately if consent is withheld or is granted subject to significant conditions.

440 GAS INSTALLATION CERTIFICATE

- Before the completion date stated in the contract: Submit a certificate stating:
 - The address of the premises.
 - A brief description of the new installation and/ or work carried out to an existing installation.
 - Any special recommendations or instructions for the safe use and operation of gas appliances and flues.
 - The Contractor's name and address.
 - A declaration of conformity that the installation is in accordance with IS 813.
 - The name and signature of the competent person responsible for checking compliance, who must hold a current GID certificate recognised by FETAC.
 - The date on which the installation was checked. Copy: To be lodged in Building Manual.

450 MECHANICAL AND ELECTRICAL SERVICES

- Final tests and commissioning: Carry out so that services are in full working order at completion of the Works.
- Confirmation: All systems must be commissioned in accordance with approved procedures.
- Records: Copies to be lodged in Building maintenance manual.

SUPERVISION/ INSPECTION/ DEFECTIVE WORK

540 DEFECTS IN EXISTING WORK

- Undocumented defects: When discovered, immediately give notice. Do not proceed with affected related work until response has been received.
- Documented remedial work: Do not execute work which may:
 - Hinder access to defective products or work; or
 - Be rendered abortive by remedial work.

560 TESTS AND INSPECTIONS

- Timing: Agree and record dates and times of tests and inspections to enable all affected parties to be represented.
- Confirmation: One working day prior to each such test or inspection. If sample or test is not ready, agree a new date and time.
- Records: Submit a copy of test certificates and retain copies on site.

570 AIR PERMEABILITY

- Testing Organization: INAB Accredited.
 - Method: Pressure test to IS EN 13829:2000.
- Permeability:

Internal to external pressure difference (maximum): 50 Pascals. Air leakage rate (maximum): :2 m³/(h.m²).

Results: Submit no later than seven days following final test. Content: Include test results and all supporting data.

Format: paper and PDF See cl 750 Schedule of inspections Number of copies: 5 Include also in building manual.

595 BUILDING ENERGY RATING

- Assessment: Undertaken by a person registered with the National Register of BER Assessors. Submit registration details and evidence of qualifications when requested.
- Building Type: Day Service Facility for Young Adults with Disabilities.
- Certificate: To be lodged in building manual.
- Submit: Before the date for completion stated in the contract.

620 MEASURES TO ESTABLISH ACCEPTABILITY

- General: Wherever inspection or testing shows that the work, materials or goods are not in accordance with the contract and measures (e.g. testing, opening up, experimental making good) are taken to help in establishing whether or not the work is acceptable, such measures:
 - Will be at the expense of the Contractor.
 - Will not be considered as grounds for revision of the completion date.

WORK AT OR AFTER COMPLETION

710 WORK BEFORE COMPLETION

- General: Make good all damage consequent upon the work.
- Temporary markings, coverings and protective wrappings: Remove unless otherwise instructed.
- Cleaning: Clean the works thoroughly inside and out, including all accessible ducts and voids. Remove all splashes, deposits, efflorescence, rubbish and surplus materials.
- Cleaning materials and methods: As recommended by manufacturers of products being cleaned, and must not damage or disfigure other materials or construction.
- Minor faults: Touch up in newly painted work, carefully matching colour and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions.
- Moving parts of new work: Adjust, ease and lubricate as necessary to ensure easy and efficient operation, including doors, windows, drawers, ironmongery, appliances, valves and controls.

720 SECURITY AT COMPLETION

- General: Leave the Works secure with, where appropriate, all accesses closed and locked.
- Keys: Account for and adequately label all keys and hand over to Employer with itemized schedule, retaining duplicate schedule signed by Employer as a receipt.

730 MAKING GOOD DEFECTS

- Remedial work: When defect reported, arrange with Architect.
- Rectification: Give reasonable notice for access to the various parts of the Works.
- Completion: Notify when remedial works have been completed.

740 HIGHWAY/ SEWER ADOPTION

- Description: Roads, footpath, seeded verges, street lighting, foul and surface water sewers.
- Work for adoption must be:
 - Completed by the Contractor to the satisfaction of the Client before the certificate of Practical Completion is issued.

- Subject to a Defects Liability Period of twelve months (see Appendix to the Contract).
- Maintained during the Defects Liability Period including making good of damage due to reasonable wear and tear occurring during the Period and cleaning at the end of the Period, all to the satisfaction of the Client.

750 INSPECTION SCHEDULE

Particular inspections that must be scheduled in the Contractors Programme. Inspection: design team looking at the specific elements of work in relation to complying with the requirements of the Building Contract. General inspections regarding compliance with contract and quality & workmanship are not listed and will be generally accommodated during regular site visits and notices as included in the general specifications and dwgs.

General

Site setting out (Contractor to demonstrate)

Concrete works

All excavations prior to pouring of concrete;

All reinforcement;

Paperwork to match spec (check delivery doc);

Ensure cubes are taken;

Check slump;

Foundations/concrete (reinforcement, setting out, levels etc);

Excavations (identifying stable ground etc);

Inspection of steel fixing for foundations and retaining walls prior to pour;

Concrete tests/cube test are to be carried out by contractor during course of construction as per drawing specification.

Water Main

Pipe laid to match spec;

Trench depth;

Pipe surround;

Pressure test;

Trench reinstatement;

Surface and Foul Water Drainage

Pipe laid to match spec;

Trench depth;

Pipe surround;

Air test;

Inspection of existing sewer openings prior to tie in/connection;

Inspection of sewer sections prior to back fill.

Part L Airtightness

Airtightness inspection prior to plastering;

Airtightness testing (3 tests per dwelling, Contractor and all relevant subcontractors to be present)

M&E

First fix sign off before void closures;

Second fix sign off;

M&E Commissioning.

A34 SECURITY/ SAFETY/ PROTECTION

SECURITY, HEALTH AND SAFETY

120 EXECUTION HAZARDS

- Common hazards: Not listed. Control by good management and site practice.
- Significant hazards: The design of the project includes the following:
 - Hazard: See H&S Plan, Design Risk Assessments.
 - Precautions assumed: See above.
 - Specification reference: See above. Drawing reference: See above.

130 PRODUCT HAZARDS

- Hazardous substances: Site personnel levels must not exceed occupational exposure standards and maximum exposure limits stated in Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001.
- Common hazards: Not listed, controlled by good management and site practice.
- Significant hazards: Specified construction materials include the following:
 - Hazard: See H&S plan, Design Risk assessments.
 - Material: see above.
 - Specification reference: see above.

140 SAFETY AND HEALTH PLAN CONSTRUCTION PHASE

- Submission: Present to the Employer/ Client no later than 1 week before commencement on site.
- Confirmation: Do not start construction work until the Employer has confirmed in writing that the Safety and Health Plan for the construction stage includes the procedures and arrangements required by the Safety, Health and Welfare at Work (Construction) Regulations.
- Content: Develop the plan from and draw on the Outline Construction Phase Safety and Health Plan, clause A30/570, and the information communicated by the Project Supervisor Design process.

150 SECURITY

- Protection: Safeguard the site, the Works, products, materials, and any existing buildings affected by the Works from damage and theft.
- Access: Take all reasonable precautions to prevent unauthorized access to the site, the Works and adjoining property.
- Special requirements: Note: The existing retail unit at the level below is occupied and in active operation.

160 STABILITY

- Responsibility: Maintain the stability and structural integrity of the Works and adjacent structures during the Contract.
- Design loads: Obtain details, support as necessary and prevent overloading.

210 EMPLOYER'S REPRESENTATIVE SITE VISITS

- Safety: Submit details in advance, to the Employer or the person identified in clause A10/140, of safety provisions and procedures (including those relating to materials, which may be deleterious), which will require their compliance when visiting the site.
- Protective clothing and/ or equipment: Provide and maintain on site for the Employer and the person stated in clause A10/140 and other visitors to the site.

PROTECT AGAINST THE FOLLOWING

330 NOISE CONTROL

- Standard: Comply with the provisions of the Safety Health and Welfare at Work (General Application) Regulations during the execution of the Works.
- Pneumatic drills and other noisy appliances: Do not use without consent during the hours of 5pm and 8am) See planning permission and work hours restrictions.
- Radios or other audio equipment: Do not use or permit employees to use in ways or at times that may cause nuisance.

340 POLLUTION

- Prevention: Protect the site, the Works and the general environment including streams and waterways against pollution.
- Contamination: If pollution occurs inform immediately, including to the appropriate Authorities and provide relevant information.

350 PESTICIDES

- Suitability: Use only where specified or approved, and then only products regulated by the Pesticides Control Service of the Department of Agriculture and Food.
- Containers: Comply with manufacturer's disposal recommendations. Remove from site immediately empty or are no longer required.

370 ASBESTOS CONTAINING MATERIAL

- Duty: Report immediately any suspected materials discovered during execution of the works.
 - Do not disturb.
 - Agree methods for safe removal or encapsulation.
- Notification: To the HSA 28 days before any asbestos is removed.

371 DANGEROUS OR HAZARDOUS SUBSTANCES

- Duty: Report immediately suspected materials discovered during execution of the Works.
 - Do not disturb.
 - Agree methods for safe removal or remediation.

380 FIRE PREVENTION

- Duty: Prevent personal injury, death, and damage to the Works or other property from fire.
- Standard: Comply with Joint Code of Practice 'Fire Prevention on Construction Sites', published by the Construction Confederation and The Fire Protection Association (The "Joint Fire Code").

390 SMOKING ON SITE

- Smoking on site: Not permitted.

400 BURNING ON SITE

- Burning on site: Not permitted.

410 MOISTURE

- Wetness or dampness: Prevent, where this may cause damage to the Works.
- Drying out: Control humidity and the application of heat to prevent:
 - Blistering and failure of adhesion.
 - Damage due to trapped moisture. Excessive movement.

- 420 INFECTED TIMBER/ CONTAMINATED MATERIALS
- Removal: Where instructed to remove material affected by fungal/ insect attack from the building, minimize the risk of infecting other parts of the building.
 - Testing: carry out and keep records of appropriate tests to demonstrate that hazards presented by concentrations of airborne particles, toxins and other microorganisms are within acceptable levels.
- 430 WASTE
- Includes: Rubbish, debris, spoil, surplus material, containers and packaging.
 - General: Minimize production. Keep the site and works clean and tidy.
 - Handling: Collect and store in suitable containers. Remove frequently and dispose off site in a manner approved by the Local Authority by holders of:
A waste collection permit issued by the Waste Management Authority.
A license issued by the Environment Protection Agency for specified waste recovery and disposal activities.
A permit from a local authority or certificate of registration from the EPA/ local authority.
 - Recyclable material: Sort and dispose at a Materials Recycling Facility approved by the Waste Management Authority.
 - Voids and cavities in the construction: Remove rubbish, dirt and residues before closing in.
 - Waste transfer documentation: Retain on site.
- 440 ELECTROMAGNETIC INTERFERENCE
- Duty: Prevent excessive electromagnetic disturbance to apparatus outside the site.
- 460 POWER ACTUATED FIXING SYSTEMS
- Use: Not permitted.
- 470 INVASIVE SPECIES
- General: Prevent the spread of species (e.g. plants or animals) that may adversely affect the site or Works economically, environmentally or ecologically.
 - Special precautions: TBA as arising.
 - Duty: Report immediately any suspected invasive species discovered during execution of the Works.
 - Do not disturb.
 - Agree methods for safe eradication or removal.

PROTECT THE FOLLOWING

- 510 EXISTING SERVICES
- Confirmation: Notify all service providers, statutory authorities and/ or adjacent owners of proposed works not less than one week before commencing site operations.
 - Identification: Before starting work, check and mark positions of utilities/ services. Where positions are not shown on drawings obtain relevant details from service providers, statutory authorities or other owners.
 - Work adjacent to services:
 - Comply with service provider's/ statutory authority's recommendations.
 - Adequately protect, and prevent damage to services: Do not interfere with their operation without consent of service providers/ statutory authorities or other owners.
 - Identifying services:
 - Below ground: Use signboards, giving type and depth.
 - Overhead: Use headroom markers.

- Damage to services: If there are any results from execution of the Works:
 - Immediately give notice and notify appropriate service provider/ statutory authority.
 - Make arrangements for the work to be made good without delay to the satisfaction of service provider/ statutory authority or other owner as appropriate.
 - Any measures taken to deal with an emergency will not affect the extent of the Contractor's liability.
- Marker tapes or protective covers: Replace if disturbed during site operations to service provider's/ statutory authority's recommendations.

520 ROADS AND FOOTPATHS

- Duty: Maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris.
- Damage caused by site traffic or otherwise consequent upon the Works: Make good to the satisfaction of the Employer, Local Authority or other owner.

540 RETAINED TREES/ SHRUBS/ GRASSED AREAS

- Protection: Preserve and prevent damage, except those not required.
- Replacement: Mature trees and shrubs if uprooted, destroyed, or damaged beyond reasonable chance of survival in their original shape, as a consequence of the Contractor's negligence, must be replaced with those of a similar type and age at the Contractor's expense.

560 EXISTING FEATURES

- Protection: Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features, which are to remain in position during execution of the Works.
- Special requirements: SEE HLA external works for hedgerow protection.

570 EXISTING WORK

- Protection: Prevent damage to existing work, structures or other property during the course of the work.
- Removal: Minimum amount necessary.
- Replacement work: To match existing.

580 BUILDING INTERIORS

- Protection: Prevent damage from exposure to the environment, including weather, flora, fauna, and other causes of material degradation during the course of the work.

620 ADJOINING PROPERTY

- Permission: Obtain as necessary from owners if requiring to erect scaffolding on or otherwise use adjoining property.

630 EXISTING STRUCTURES

- Duty: Check proposed methods of work for effects on adjacent structures inside and outside the site boundary.
- Supports: During execution of the Works:
 - Provide and maintain all incidental shoring, strutting, needling and other supports as may be necessary to preserve stability of existing structures on the site or adjoining, that may be endangered or affected by the Works.
 - Do not remove until new work is strong enough to support existing structure.
 - Prevent overstressing of completed work when removing supports.
- Adjacent structures: Monitor and immediately report excessive movement.

640 MATERIALS FOR RECYCLING/ REUSE

- Duty: Sort and prevent damage to stated products or materials, clean off bedding and jointing materials and other contaminants.
- Storage: Stack neatly and protect until required by the Employer or for use in the Works as instructed.

A36 FACILITIES/ TEMPORARY WORK/ SERVICES

GENERALLY

REFER TO QS PRELIMINARIES SECTION FOR PRINCIPLE SPECIFICATION

110 SPOIL HEAPS, TEMPORARY WORKS AND SERVICES

- Location: Give notice and details of intended sitting.
- Maintenance: Alter, adapt and move as necessary. Remove when no longer required and make good.

ACCOMMODATION

210 ROOM FOR MEETINGS

- Facilities: Provide suitable temporary accommodation for site meetings, adequately heated and lit. The room may be part of the Contractor's own site offices.
- Furniture and Equipment: Provide table and chairs for 8 people.

260 SANITARY ACCOMMODATIONS

- Requirement: Provide sanitary accommodation for the Employer/ Purchaser, and other members of the consultant team, either separate or shared with the Contractor's supervisory staff. Maintain in clean condition and provide all consumables.

TEMPORARY WORKS

330 TEMPORARY FENCING TO EXISTING TREES/ VEGETATION

- Temporary protective fencing: Erect before starting work
- Protected area: Locate fencing at the greater distance defined by:
 - Outer limit of the branch spread.
 - A distance equal to half the height of the tree.
- Integrity of fencing: Maintain for the duration of the works.
- On the completion of the works: Remove fencing and make good disturbed area.

1. E-MAIL AND INTERNET FACILITY

- General: As soon as practicable after the start on site provide a suitable e-mail facility on site, with a separate dedicated telephone line, for the use of the Contractor, Subcontractors and those acting on behalf of the Employer.
- Use on behalf of Employer: Allow for the cost of a reasonable number of transmissions made by those acting on behalf of the Employer.
- Peripherals: N/A.

540 METER READINGS

- Charges for service supplies: Where to be apportioned ensure that:
 - Meter readings are taken by relevant authority at possession and/ or completion as appropriate.
 - Copies of readings are supplied to interested parties.

570 PERSONAL PROTECTIVE EQUIPMENT

- General: Provide for the sole use of those acting on behalf of the Employer, in sizes to be specified:
 - Safety helmets to IS EN 397, neither damaged nor time expired. Number required: 3. High visibility waistcoats to IS EN 471 Class 2. Number required: 3M.
 - Safety boots with steel insole and toecap to IS EN ISO 20345. Pairs required: NA.
 - Disposable respirators to IS EN 149.FFP1S.

- Eye protection to IS EN 166.
- Ear protection - muffs to IS EN 352-1, plugs to IS EN 352-2
- Hand protection - to IS EN 388, 407, 420 or 511 as appropriate.

A37 OPERATION/ MAINTENANCE OF THE FINISHED WORKS

GENERALLY

105 THE BUILDING MANUAL

- Responsibility: To be produced by The Contractor.
- General: Obtain and provide comprehensive information for owners and users of the completed Works including all buildings and their systems, to enable efficient and safe operation and maintenance.
- Content:
 - Building fabric: Design criteria for contractor designed elements, manufacturer's instructions for cleaning, repair and maintenance of products.
 - Building services: Description and operation of systems, diagrammatic drawings, record drawings, identification of services, product details, equipment settings, maintenance schedules, consumable items, spares and emergency procedures.
 - Documentation: Guarantees, warranties, maintenance agreements, test certificates and reports.
- Specific requirements: dwgs, manuals, certificates, test results.
- Format: paper and electronic.
- Number of copies: 4.
- Delivery to: Employer, 7 days after completion of works.

110 SAFETY FILE

- Purpose: To provide information about the structure or materials used, which might affect the health or safety of anyone if construction works, (including cleaning, maintenance, alterations, refurbishment and demolition) is carried out.
- Content: Obtain or prepare the following and submit to the Project Supervisor Design Process:
 - Construction drawings, specification and pricing documents used and produced throughout the construction process for all design work the Contractor is responsible for. Maintenance facilities, procedures and requirements for the structure.
 - The nature, location and markings of utilities and services, including emergency and fire fighting.
 - Manuals and certificates produced by specialist contractors and suppliers which outline operating and maintenance procedures and schedules for products and equipment installed as part of the structure (typically lifts, electrical and mechanical installations, pressure vessels, control and instrumentation systems, window cleaning facilities).
 - Manuals, certificates and instructions for dismantling and removal of products, equipment and systems.
 - Details of hazards associated with products and executions used in the construction. Access requirements/ restrictions.
 - Authorities and statutory undertakers plus copies of consents and approvals. Contractors, subcontractors, suppliers and manufacturers including name and number of individuals to be contacted in case of emergency.
 - The fire safety strategy for the buildings and site: Include drawings showing fire appliance routes, emergency escape routes, fire resisting doors, location of emergency and fire fighting systems, services shut-off valves, switches, etc.
- Submit: Within two weeks of request from Project Supervisor Design Process.

210 INFORMATION FOR COMMISSIONING OF SERVICES

- General: Submit relevant drawings and preliminary performance data to enable the building user's staff to familiarize themselves with the installation.
- Time of submission: At commencement of commissioning.

220 TRAINING

- Objective: Before completion, explain and demonstrate to the Employer's maintenance staff the purpose, function and operation of the installations including items and procedures listed in the Safety File.
- Level of training: Use and maintenance operations. For Client and/ or Clerk of Works. Operating time: Include a minimum of two days.

A38 IRISH WATER QUALITY ASSURANCE FOLDER

WATER & WASTEWATER INFRASTRUCTURE

The contractor is to allow in his price all associated costs and expenses for the provision of information required in the Irish Water Quality Assurance folder. The contractor is to provide for qualified engineers to fulfil the requirement as outline below. The Design Architect/Engineer will provide the available Cad drawings which the contractor will use to provide all the as built information to Irish Water requirements.

Testing and surveying of the infrastructure will be provided by the contractor as per Irish Water requirements.

All works in relation to Waste Water & Water infrastructure to be completed in compliance with current codes of practice & details. All testing & commissioning to be completed, witnessed & recorded by Contractors Construction Engineer.

All information to include as constructed drawings to be compiled & completed by contractor in accordance with Irish Water Quality Assurance Field Inspection Requirements manual.

All Water & Wastewater infrastructure to comply with current Irish Water Code of Practices in relation to the following:

- All Materials to meet min specification requirements;
- Min & maximum allowable cover requirements
- Min allowable bedding requirements
- Min separation distance from existing & proposed structures & services
- Testing & commissioning of services.

Outline of specific requirements below:

Water and Wastewater As-constructed Requirements
(Responsibility of Contractor)

Wastewater Contractor to provide:

1. All text and as-constructed information clear and legible at A3: Otherwise clear and legible A1 to be submitted. **Contractor to provide.**
2. Latest Layout Plans digital forwarded – Format to be DWG or DXF in ING co-ordinates. All Drawing content shall comply with Irish Water's "As Constructed CAD Standards". **Contractor to provide.**
3. Location sketches provided for all access chambers, inspection openings and inspection shafts. **Contractor to provide.**
4. All sewer gradients within acceptable tolerances. **Contractor to provide.**
5. All served properties have sewer junctions shown and where applicable denoted as 150mm per the COP Wastewater. **Contractor to provide.**
6. Submission has been signed by Developer's Construction Engineer and Surveyor.
7. Final Inspection date included on plan. **Contractor to provide.**
8. As-constructed information has been checked for completeness and correctness as per the statement below. **Contractor to provide.**
9. A copy of the final new Works inspection report. Contractor to provide
10. Total number of Access Chambers (to be itemized on drawing). **Contractor to provide.**
11. Total number of Properties Being Served (to be itemized on drawing). **Contractor to provide.**
12. Total number of Manholes (to be itemized on drawing)
13. Total Length of Sewers (listed by nominal diameter and to be itemized on drawing)

Water

1. All text and as-constructed information clear and legible at A3: Otherwise clear and legible A1 to be submitted.
2. Latest Layout Plans digital forwarded – Format to be DWG or DXF in ING co-ordinates. All Drawing content shall comply with Irish Water's "As Constructed CAD Standards".
3. All installed services shown on plan are spatially correct.
4. Submission has been signed by Developer's Construction Engineer and Surveyor.
5. Final take over date included on plan.
6. As-constructed information has been checked for completeness and correctness as per the statement below.
7. A copy of the final new Works inspection report.
8. Plan bundle number is clear and has been revised.
9. Total number of Hydrants and Air Valves (to be itemized on drawing)
10. Total number of Sluice Valves, PRVs and PSVs (to be itemized on drawing)
11. Total number of Properties Being Served (to be itemized on drawing)
12. Total Length of Mains (listed by nominal diameter and to be itemized on drawing)

QA folder content requirements (Responsibility of Contractor)

1. Copy of IW New Connection Agreement including associated drawings and specifications copies of all revisions to Works approved by IW & shall include all drawings & associated documents Contractor to provide
2. Copy of Granted Planning Permission including Planning Conditions, associated drawings, reports (environmental, G.I., etc.) Contractor to provide
3. Construction programme for development & agreed IW Inspection & Test Plan (agreed with IW at pre-start meeting). **Contractor to provide.**
4. Training Records for Site Personnel engaged in pipe installation, pipe welding & other site activities where specialist training or equipment is required: **Contractor to provide.**
 - WSTG Hygiene Training
 - Electro fusion Welding operators Certification
5. Copies of equipment Certification: **Contractor to provide.**
 - Electro fusion Welding equipment
 - Pressure testing equipment
6. Materials Records: (Contractor to provide all below).
 - Certification of compliance with Specifications;
 - Aggregates;
 - Concrete;
 - Pipes & jointing;
 - Valves;
 - Details of suppliers Precast MH rings, gaskets, biscuits, frames & covers, pumps, meters, etc;
 - Record of any material changes including IW approvals where appropriate.
7. As-constructed records of pipelines: **(Contractor to provide all below).**
 - Up-dated drawings of constructed works;
 - Pipeline record sheets;
 - Photographic records;
 - GPS surveys;
 - Manhole cards;
 - Crossing points/separation distance details & records (including photographic records);
 - CCTV surveys;
 - Record of Connection to existing IW infrastructure;
 - Ground conditions / ground water records;
 - Trench, pipe bedding, haunching, depth of cover, compaction & backfill records/photos;

- Record all electro fusion pipe welds/joints & GPS locations, include printouts;
 - Consumer connections & locations;
 - Thrust block locations & details;
 - Details of storm water network;
 - record of any revisions to original IW approves.
8. Testing & Commissioning: (Contractor to provide all below).
- Schedule of testing pipework – wastewater (to include all record sheets of air/water tests carried out, signed & witnessed).
 - Schedule of testing manholes – wastewater (to include all record sheets of water tests carried out, signed & witnessed).
 - Schedule of testing pipework – water (to include all record sheets of pressure tests carried out, signed & witnessed);
 - Schedule of testing chambers – water & wastewater (to include all record sheets of water tests carried out, signed & witnessed).
 - Schedule of testing pipework –consumer connections (to include all record sheets of air tests carried out, signed & witnessed).
 - Flushing/swabbing of pipelines.
 - Details of all PE pipe/weld tests including details of test laboratory, data loggers, copies of all printouts, details of witnessing.
 - Materials test records (aggregates, concrete cubes, etc).
 - Plant test results (pumps, etc).
 - Chlorination/disinfection/de- chlorination (to include all record sheets, signed & witnessed).
 - Water quality testing (to include all record sheets, signed & witnessed).
9. Wayleaves /Land acquisition. Contractor to provide drawings.
10. Correspondence. Contractor to provide.
- Minutes of Start-up meeting. **Contractor to provide.**
 - Non-compliance Notices. Contractor to follow up and rectify.
 - Miscellaneous. Contractor to follow up and resolve Irish Water requests.

Final Documents requirements

(Responsibility of Contractor to provide with final sign off by Design Engineer)

1. Confirmation by a Chartered Engineer that the water/wastewater infrastructure has been installed in accordance with the design submitted in the Connection Application
2. Confirmation by a Chartered Engineer that the water/wastewater infrastructure has been installed using appropriate material and workmanship.
3. Confirmation by a Chartered Engineer and test result certificates indicating that the water/wastewater infrastructure has undergone appropriate on-site testing, off-site testing and commissioning. The appropriate site tests for wastewater collection infrastructure would be as follows:
 - Water retaining tests completion results for manholes and pumping station structures associated with wastewater infrastructure
 - Air tests and water tests completion results for sewers
 - Testing completion results of pumping plant (if appropriate),
 - Pressure testing completion results of rising mains and for water mains
 - Visual inspection completion results of manholes
 - CCTV report of sewer pipework
 - Commissioning reports of wastewater infrastructure and for water infrastructure (cleansing, flushing, swabbing, disinfection, bacteriological testing, etc.)
4. Confirmation by a Chartered Engineer of compliance with the Building Regulations and the Building Control (Amendment) Regulations, in particular evidence of compliance with the Building Regulations to ensure plumbing systems compliance and no risk of contamination.

5. Provision of "As-Constructed" drawings and records of the constructed water and wastewater infrastructure. **Contractor to provide.**
6. "As Constructed" record of service pipe installation completion (including link to WPRN).
7. Provision of Safety File in accordance with the current Safety and Health Construction Regulations. **Contractor to provide.**
8. Provision of Operation and Maintenance Manuals for pumping plant (if appropriate). **Contractor to provide.**
9. Provision of wayleave and easement. **Contractor to provide.**
10. Provision of drawings to Irish Transverse Mercator coordinates (ITM) for wayleave/easement/land acquisition. **Contractor to provide.**
11. Proof of ownership of site (copy of Deeds/Solicitor letter). **Client to provide.**

Insurance / Liability Requirements

The Contractor's Engineer shall have the following minimum insurance cover in place throughout the term until (a) a Completion Certificate is issued & (b) the sixth anniversary of the date of the completion certificate:

Professional Indemnity insurance with a minimum indemnity limit of €2,600,000 in respect of any one claim & limited in the aggregate.

A40 CONTRACTOR'S GENERAL COST ITEMS: MANAGEMENT AND STAFF

(Refer to QS Preliminaries)

A41 CONTRACTOR'S GENERAL COST ITEMS: SITE ACCOMMODATION

(Refer to QS Preliminaries)

A42 CONTRACTOR'S GENERAL COST ITEMS: SERVICES AND FACILITIES

(Refer to QS Preliminaries)

A43 CONTRACTOR'S GENERAL COST ITEMS: MECHANICAL PLANT

(Refer to QS Preliminaries)

A44 CONTRACTOR'S GENERAL COST ITEMS TEMPORARY WORKS

(Refer to QS Preliminaries)