



Fisherman Cove and Story Hotel

Beau Vallon, Seychelles

DEMOLITION WORKS

DEMOLITION SPECIFICATION

May 2024



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011000 Summary (Demolition Scope)

Division 2 Site Work

024116 Structure Demolition

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SECTION 011000 - SUMMARY (DEMOLITION SCOPE)

1 GENERAL

1.1 Demolition Specification Format

- A. This section provides general requirements applicable to the work sections in the Demolition Specification. The work sections provide specific requirements for individual trades.
- B. This Demolition Specification is Prescriptive (P): All sections are detailed materials and workmanship sections reflecting the design solution. The Contractor may be required to provide some fabrication details but design responsibility remains with the Employer.
- C. No requirement of the Demolition Specification work sections are to impose a lesser standard of material or workmanship than defined in Divisions 01 to 02.
- D. This Demolition Specification is to be read in conjunction with the Contract, the full Division 01 General Requirements Specification and other Contract documentation provided.
- E. Performance criteria, where specified, is to be considered as minimum standards with which the Contractor is to comply.
- F. Unless stated otherwise, all requirements of this Demolition Specification (and any related documents) refer to work to be provided by, and obligations of, the Contractor and therefore all clauses are addressed to, and refer to, the Contractor.

1.2 Additional Information

- A. The Contractor must refer to the requirements of the schedules, drawings, reports and supplemental information provided by the Engineer and Employer, or as nominated in the Contract.

1.3 Definitions of Terms

- A. The following terminologies and definitions apply to this Demolition Specification. Refer to the Contract for further details.
 - 1. "Accepted, Acceptance or Acceptable": Materials, components, equipment and installations accepted by the Engineer to be based upon inspections (as defined below).
 - 2. "Contractor": The person or organization bound to carry out and complete the work under the Contract.
 - 3. "Design": Documents which reflect the design solution which include scope, layout, principal dimensions, arrangements of services and structure, technical, function and aesthetic requirements, prepared by the Engineer, represented by the Design Drawings and Demolition Specification .
 - 4. "Design Drawings": Drawings issued by the Engineer, representing the Design.
 - 5. "Design life": The period of time for which it is assumed, in the design, that an asset will be able to perform its intended purpose with only anticipated maintenance but no major repair or replacement being necessary.
 - 6. "Employer": Party to whom the Contractor is legally bound to undertake the Works. Such term is synonymous with owner, client or proprietor.
 - 7. "Engineer": The person appointed by the Employer under the contract.
 - 8. "Evaluation": Reviews carried out by the Engineer and Contractor between Tender return and Contract award to agree materials, typical details and critical interfaces.
 - 9. "Hold point": A point on the inspection and test plan beyond which the process may not continue until it has been accepted by the Engineer.
 - 10. "Inspection": Inspection carried out by the Engineer, consultants or authorities of any part of the Works.
 - 11. "If required": A conditional specification term for work which may be shown in the documents or is a legislative requirement.
 - 12. "Manufacturer's recommendations": Recommendations, requirements, specifications (and similar expressions) provided in written or other form by the manufacturer and/ or supplier relating to the suitability, use, installation, storage and/ or handling of a product.
 - 13. "Obsolescent": Relating to Standard(s) that has been withdrawn to be superseded in the future. However, a new Standard is not yet available. Comply with the assigned Standard, or propose an alternative Standard for the Engineer's review.
 - 14. "or acceptable equivalent": To match the nomination in terms of visual, quality, efficiency, durability and performance, as a minimum.

15. "Proprietary": Identifiable by naming manufacturer, supplier, installer, trade name, brand name, catalogue or reference number.
16. "Registered testing authority":
 - a) An organization registered by the National Association of Testing Authorities (NATA) to test in the relevant field; or
 - b) An organization outside the Country registered by an authority recognized by Statutory Authorities through a mutual recognition agreement; or
 - c) An organization recognized as being a Registered Testing Authority under legislation at the time the test was undertaken.
17. "Required": Means required by the documents, the local council or statutory authorities.
18. "Shop Drawings": Drawings to be provided by the Contractor, where required, which:
 - a) Demonstrate compliance with the Design Drawings and Demolition Specification.
 - b) Identify construction and assembly methods.
 - c) Demonstrate compliance with performance requirements, if any.
 - d) Indicate methods of Site installation.
 - e) Indicate relationships with other parts of the Works, including but not limited to, engineering services.
19. "Demolition Specification " This document comprising the trade sections as listed above.
20. "Statutory Authority": Any person or entity having jurisdiction over the Works or part thereof.
21. "Statutory Requirement": The requirements of a Statutory Authority.
22. "Subcontractor": A person or organization having a contract with the Contractor for the provision of part of the works.
23. "Taking-Over": As defined in the Contract.
24. "Tolerance": The difference between the permissible limits within which a size, position, mass, or other characteristic are permitted to occur.
25. "Withdrawn": Relating to Standard(s) that has been withdrawn with no available or planned replacement. Comply with the assigned Standard, or propose an alternative Standard for the Engineer's review.
26. "Witness point": A point on the inspection and test plan where the Contractor must give reasonable notice that a particular part of the process has been reached, although the process may continue without acceptance being notified by the Engineer.
27. "work" (with lowercase first letter): The scope of work covered by a work section.
28. "Work" (with uppercase first letter): The scope of work covered by the Demolition Specification.

1.4 Abbreviations

- A. AAMA: American Architectural Manufacturers Association.
- B. ASTM International: Formerly the American Society for Testing Materials.
- C. BS: British Standard.
- D. CSIRO: Commonwealth Scientific and Industrial Research Organization.
- E. EMC: Electromagnetic compatibility.
- F. FSC: Forest Stewardship Council.
- G. IBC: International Building Code.
- H. MSDS: Material safety data sheets.
- I. NATA: National Association of Testing Authorities.
- J. QA: Quality Assurance.
- K. QC: Quality Control.
- L. VOC: Volatile organic compound.
- M. WHS: Work Health and Safety.

1.5 Copyright, Patent Rights, Etc.

- A. The copyright in any designs or installation details developed for this project is to be vested in the Employer and may not be reproduced elsewhere without the Engineer's written permission. This will not apply to standard products and designs already in existence before the date of Tender.

1.6 Disclosure

- A. The nature of the design and construction work performed and any information belonging to the Employer, with which the Contractor may become familiar, is to be treated as confidential and may not be disclosed without the written consent of the Engineer. Do not publish any drawings, sketches or photographs of the project or its construction, without the prior written consent of the Engineer.

2 CONTRACTOR'S RESPONSIBILITIES

2.1 The Work

- A. The Contractor must achieve the requirements of the Demolition Specification.
- B. Provide everything which is necessary for the execution and completion of the Works, in accordance with the Design Drawings, the Demolition Specification and/ or instructions given by the Engineer and are to deliver the Works complete in every respect, to the satisfaction of the Engineer.
- C. Provide submittals outlined within each work section.
- D. Where necessary, provide Shop Drawings and technical information to demonstrate compliance with the Design Drawings and Demolition Specification, and comply with the approvals process specified.
- E. Obtain and submit all approvals, certificates and any other documents required by the Statutory Authorities to permit use and/ or occupation of the Work.
- F. Comply with any approval conditions imposed by Statutory Authorities to which the Work is subject.
- G. Coordinate with the work of others, including all interfacing, as required.

3 SUBMITTALS

3.1 Procedure

- A. No portion of work is to commence without the Engineer's review of the required submittals.
- B. Provide a schedule of submittals for agreement with the Engineer. Indicate the dates the Engineer will receive the required submittals. The schedule is to be coordinated/correlated with the Contractor's Program, allowing sufficient time for the review, resubmittal and further review, as necessary, for each submittal so as not to have an adverse effect on the critical path. Critical decision dates are to be indicated for selection of finishes and colors. The schedule of submittals is to be revised and resubmitted as necessary.
- C. Provide submittals outlined within each work section.
- D. Where necessary, provide method statement to demonstrate compliance with the Design Drawings and Specification, and comply with the approvals process specified.
- E. Obtain and submit approvals, certificates, and any other documents required by the Statutory Authorities to permit use and/or occupation of the Work.
- F. Obtain and submit approvals, certificates, and any other documents required by the Statutory Authorities to permit use and/or occupation of the Work.
- G. Comply with any approval conditions imposed by Statutory Authorities to which the Work is subject.
- H. Coordinate with the work of others, including interfaces, as required.
- I. The Contractor's submittals will be reviewed by the Engineer and any alteration and/ or agreements reached are to be incorporated into the Design Drawings and Demolition Specification.

3.2 Dilapidation Report

- A. Prepare a Dilapidation Report which records the location, nature and condition of the following and any other item or service (whether on Site or adjacent to the Site) which has the potential to be adversely affected by the works:
 - 1. All areas, adjacent or within the area of the Work that may be affected by such work including, but not limited to, trees, nature strips, kerbs and channels, street furniture, traffic/ parking signs and the like.

2. Buildings or any built works that are either near, adjacent to or within the area of the Work and which may be affected by work activities including, but not limited to, buildings, structures, landscaping, pavements, services, fences and the like.
 3. Services including but not limited to electricity, phone/ cable systems, water and gas supply, drainage and stormwater lines, services pits and the like.
- B. The Dilapidation Report is to comprise both photographs and written records.
- C. Submit two copies of the report to the Engineer and agree its contents prior to commencing work on Site.

3.3 Other Submittals

- A. Submit names and contact details of proposed suppliers and Subcontractors.
- B. QA/ QC Program: Provide a program to satisfy the requirements specified.

3.4 Review of Submittals

- A. The Engineer will review submittals for general and practical conformity to the requirements of the Contract. Submittals which meet these requirements will be stamped or marked in accordance with the procedure described herein. Submittals which are incomplete or erroneous, or which are not required, will be returned and a new submittal made as necessary.

4 QUALITY CONTROL

4.1 Quality Assurance and Quality Control (QA/QC)

- A. Unless otherwise indicated in the Project Division 01 General Requirements, submit a comprehensive Quality Control Manual to the Engineer for review, amendment (where appropriate) and acceptance within 30 days of taking possession of the site.
- B. Provide facilities in the event that the Engineer wishes to examine these proposals at the Site.
- C. Include details of any formal approvals held for the Contractor's or any Subcontractor's quality systems or any evaluations or assessments carried out by independent third parties.
- D. As a minimum, the Quality Control Manual is to include information and procedures for the following:
 1. Organisation and Management.
 2. Environmental Management.
 3. Waste Management.
 4. Receipts, Storage, Handling and Transportation.
 5. Record Keeping.
 6. Review of the Quality System.
- E. If the Contractor is certified to BS EN ISO 9000, the Work are to be monitored accordingly.
- F. The inspection and test plan is to contain sufficient space for the Engineer to indicate on it the activities he/ she wishes to inspect as either "hold" or "witness" points.
- G. The inspection and test plan is to provide the basis of inspection for the item of work and is to be accepted prior to commencement of the work.
- H. At all times during the Contract period, make available at the Site all necessary resources and facilities and implement any reviews and amendments of the Quality Control Manual deemed necessary or desirable by the Engineer.
- I. Means of auditing:
 1. The Engineer will review the Contractor's proposals and carry out such tasks as are necessary to ensure that:
 - a) The Contractor's methods of working are likely to produce acceptable work.
 - b) Completed works conform to the Demolition Specification.
 2. Nominate a senior member of the technical organisation as Quality Manager who is to be independent of the other functions and be held responsible for all matters relating to the production and implementation of the Quality Control Manual.
 3. If the Engineer detects any deficiencies either in the work or the Contractor's QA/ QC system, these matters are to be reported. Items affected by such deficiencies are to be considered as being of suspect quality and are to be physically quarantined in a separate holding area. No work may be carried out on these items until the Engineer instructs to either rework or repair the affected item, or declares it not to be in accordance with the Contract and is therefore rejected.
- J. Quality control methods:

1. The appointment of any Subcontractors, or the carrying out of any work at any place other than the Contractor's nominated principal workplace, is only to occur with the Engineer's acceptance. The work is to be carried out only under equivalent conditions of QA/QC to those at the nominated principal workplace. Demonstrate to the satisfaction of the Engineer the methods used to select, control, inspect and verify that the work carried out conforms to the requirements of the Contract.
2. The organisation and management of the Contractor's QA/ QC programme must be confirmed to be comprehensive and effective for the provision of work to the Contract requirements. All such details are to be fully described in a document, referred to as the Quality Control Manual, as accepted for use by the Engineer.
3. Personnel training and certification is to be subject to the Engineer's acceptance.
4. Documentation of processes are only to be considered adequate when they have been checked by the Engineer and are deemed by the Engineer to satisfy the Contract requirements in all respects.

4.2 Design Drawings and Demolition Specification

- A. The documents which constitute the Contract are mutually explanatory and anything contained in one but not in the other is to be equally binding as if contained in all.
- B. Any ambiguity, discrepancy or inconsistency found in the documents are to be notified to the Engineer.
- C. If the Contractor fails to notify the Engineer of any ambiguity, discrepancy or inconsistency, it is to be deemed that the Contractor has allowed in their Tender for the work constituting the greater expense.
- D. Where repetitive features are not fully drawn, they are to be similar to those which are fully drawn.
- E. The actual position and layout of existing services in relation to each other and to the surrounding work are to be verified on Site (VOS).
- F. All measurements necessary to achieve a neat functional layout are to be taken on the Site by the Contractor who will ensure that clearances for operation and maintenance are adequate and not in any case less than those indicated on the Design Drawings.
- G. Any doubt regarding the clear intention of the Design Drawings is to be brought to the attention of the Engineer before proceeding with that specific portion of the work involved.
- H. If either the Design Drawings or Demolition Specification omit particulars of minor work which nevertheless is clearly to be inferred or is necessary for the proper execution and completion of the Works, then such minor work is to be executed by the Contractor as part of the execution of the Works and at no extra cost or charge to the Employer.

4.3 Industry Standards

- A. American and British Standards are to be the governing standards, unless otherwise specified.
- B. Only where expressly stated in the Demolition Specification should other standards be applied.
- C. References to standards, regulations and requirements of statutory bodies are to mean the latest published editions at the time of Contract award. Where such standards, regulations and requirements are amended after Contract award and affect the Contractor's responsibilities, immediately inform the Engineer in writing.
- D. If unable to comply with the governing standards or regulations and proposing to substitute other standards, inform the Engineer within the summary of deviations from the Demolition Specification. Provide fully detailed reasons for being unable to comply, together with any design and/or technical implications. Failure to provide such notification prior to Contract award is deemed to be acceptance of the governing standards or regulations and later notification will be invalid.
- E. Submittals to authorities:
 1. Obtain any approvals required from the Statutory Authorities.
 2. When required by the Statutory Authorities, submit to them any component part of the Work for appraisal, testing, stamping or certifying.

5 GENERAL WORKMANSHIP REQUIREMENTS

5.1 General

- A. Except where otherwise specified, ensure that workmanship comply with the requirements of the Statutory Authorities.
- B. Method statement:

1. Provide a detailed method statement describing the sequence and methods to be employed in carrying out this work identifying proposed solutions regarding workmanship.
 2. Site cutting of materials:
 - a) All methods, principles, details, etc., for Site cutting of components are to be submitted as part of the Contractor's method statement to the Engineer for review. No manufacture is to commence until it can be demonstrated that all proposed techniques have been reviewed by the Engineer.
 - b) Cutting of metal products is to be straight and free from burrs and all joints are to be flush, without gaps or imperfections. If base metal is exposed, the surface is to be protected to the same level of protection as stated in the Demolition Specification.
- C. Compatibility:
1. Ensure that processes employed are compatible with each other.

5.2 Repairs to Existing

- A. Repair existing surfaces, substrates, structures, fixtures and the like as required and to the satisfaction of the Engineer.
- B. Where the Design Drawings or the schedules note a requirement for an existing building element, substrate, surface or finish to be repaired, do so to the acceptance of the Engineer.
- C. Should an existing building element be found to be defective and in need of repair and has not been described as such in the documents, alert the Engineer and await further instruction.
- D. In all instances of 'repairs to existing', agree the extent and level of quality that is required to be achieved with the Engineer prior to commencement.

5.3 Making Good

- A. Where existing building elements have been cut away, damaged or received any other detrimental effect as a result of undertaking work, these are to be made good to the acceptance of the Engineer.

END OF SECTION



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SECTION 024116 - STRUCTURE DEMOLITION

1 GENERAL

1.1 Summary

- A. Related documents:
1. Read this work section in conjunction with Section 011000 Summary (Demolition Scope), other related sections of this Demolition Specification and the Preliminaries.
- B. Demolition Specification section type:
1. This work section is Prescriptive as defined in Section 011000 Summary (Demolition Scope).
- C. Outline of work:
1. This work section, when read in conjunction with the Design Drawings, provides particular requirements with respect to the following:
 - a) Demolition.
 - b) Protection of retained work.
 - c) Alterations to existing work.
 - d) Temporary supports.
 - e) Termination and/or diversion of services on-site.
 - f) Obtaining licences and approvals.
 - g) Observance of statutory requirements.
 2. Be responsible for the protection of the retained works and temporary supports.
 3. Coordinate with Structural Engineer and Services Engineer's Design Documents for requirements on structural works and building services including termination, removal and/or diversion of services.

1.2 Submittals

- A. Provide submittals in accordance with the requirements specified in Section 011000 Summary (Demolition Scope).
- B. Approvals:
1. Prior to commencing the works, submit evidence that:
 - a) Measures for protecting individuals and property are submitted and approved by the relevant authorities.
 - b) Permits, licenses and approvals from the relevant authorities have been obtained.
 - c) Associated fees and costs have been paid.
- C. Work plan:
1. Submit work plan before starting demolition works. Include the following information:
 - a) Detailed sequence of demolition works including the starting and ending dates for each activity.
 - b) Approval conditions imposed by Statutory Authorities to which the works are subject.
 - c) Method of protection and support for the site and adjacent property including bracing, reinforcing, fixing, etc., as necessary to complete the works.
 - d) Temporary interruption of services, shutoff and capping or re-routing of services.
 - e) Certificate from a professional engineer for structural elements and elements requiring additional support during or after the works.
 - f) Anticipated loading and required works to accept traffic movements onto and through the site.
- D. Pre-demolition photographs or video:
1. Comply with Project Division 01 General Requirements for the requirements on photographic documentation.
 2. Submit pre-demolition photographs or video before works begin. Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations.
- E. Hazardous substances plan:

1. Prepare reports in accordance with ANSI/ASSE A10.6.
2. Comply with the governing Environmental Protection Agency (EPA) for the removal and/or management and control of asbestos and/or materials containing asbestos.

F. Statement of refrigerant recovery:

1. Submit statement of refrigerant recovery signed by the technician responsible for recovering refrigerant, stating that refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

G. Inventory:

1. Submit a list of items that have been removed and salvaged.

1.3 Quality Control

A. Provide quality control requirements in accordance with Section 011000 Summary (Demolition Scope).

B. Dilapidation report:

1. The Dilapidation Report, as referred to in Section 011000 Summary (Demolition Scope), is to be used to assess the responsibility for damage or making good, or both, arising out of demolition work. Be responsible for any damage arising during the demolition stage which cannot be demonstrated to be pre-existing.
2. Keep records of investigations on-site and available for inspection until Taking-Over.

C. Subcontractor's/manufacture's qualifications:

1. Ensure that Site staff responsible for supervision and control of the demolition are experienced in the assessment of the risks involved and in the methods of demolition to be used.
2. Demolition of structural elements must have a licensed supervisor present at all times.
3. Operatives are to be appropriately skilled and experienced for the type of work and hold the relevant certificates of competence.

D. Witness points:

1. Arrange to inspect the following with the Engineer (give a minimum of two days' notice):
 - a) Existing plant and equipment on and adjacent the site that are required to be operational (continuous and/or periodic) during the demolition works, and measures in place to ensure that this occurs.
 - b) Installation of hoardings, barriers and other such safety devices designed to protect people on and off-site including site personnel, visitors to the site, occupiers and visitors to adjacent areas of the site and the general public, prior to the commencement of demolition.
 - c) Installation of protective devices to trees and other landscaping elements that may otherwise be affected or damaged by work activities, prior to the commencement of demolition.
 - d) Contents of building before commencement of demolition.
 - e) Building spaces after stripping out or demolition above.
 - f) Services after reconnection or diversion.
 - g) Site after demolition and removal of wastes from site.
 - h) Remaining items and structures on and adjacent to site after completion of demolition.

2 PRODUCTS

- A. Not used.

3 EXECUTION

3.1 Preparation

- A. Note the extent of the alterations required as indicated on the Design Drawings.
- B. Take into account the site limitations and restrictions on the access and use of equipment and plant.
- C. Survey of existing conditions:

1. Record existing conditions by use of measured drawings and pre-construction photographs or video. Comply with the Project Division 01 General Requirements for photographic documentation requirements.
 2. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
 3. Before demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.
- D. Hazardous materials:
1. Prepare a Hazardous Materials Report.
 2. Examine the Site and items to be demolished/stripped out and determine the nature and extent of any hazardous materials required to be removed. Give notice immediately if hazardous materials or conditions are found or suspected.
 3. Prior to the commencement of demolition works, undertake any further audits to those provided as necessary to confirm the type and location of any hazardous materials. Obtain approvals as required for their safe removal in compliance with the requirements of the Statutory Authorities.
- E. Protection:
1. Provide hoarding, fencing, lighting, barricades, platforms, props, handrails, and other protection as required by the Statutory Authorities or the Engineer.
 2. Protect everything required to be retained as indicated on the Design Drawings.
 3. Provide protective fences for trees required to be retained and protected. No activity is to be permitted within such fences. Should the trees be damaged, treat the damaged part of the tree, or remove and replace the tree if can no longer be treated.
- F. Occupied areas within the site and adjacent occupation:
1. Take appropriate measures at all times to ensure that owners, occupiers, visitors, and the general public to areas within and adjacent the site are not unduly or unreasonably inconvenienced by the demolition works.
 2. Provide safe and convenient access, including required services, for the benefit of occupants. Maintain emergency provisions to be in compliance with the requirements of Statutory Authorities, whether temporary or permanent.
 3. Ensure that the processes intended for use during demolition do not result in problems for adjoining owners/occupiers. In the event of complaints arising, take immediate steps to eliminate the cause of the problem, rectify any damage done, and indemnify the Engineer from and against claims arising from such complaints.
 4. No claim will be considered if the Contractor is forced to modify the programme or alter the method of working as a result of complaints.
- G. Benchmarks:
1. Report any benchmarks and other survey information found on structures to be demolished or parts of the site which may be disturbed.
 2. Do not remove or destroy them unless instructed otherwise.
 3. Take necessary measures to preserve and protect benchmarks.
- H. Warning signs:
1. Immediately upon award of the Contract and prior to the wrecking of any structures, paint or stencil in English, French and Seychelles Creole (to be confirmed) the following sign, or acceptable equivalent, appropriately spaced and with stacked text.
 - a) BUILDING TO BE DEMOLISHED BY "---Insert name of Wrecking Company---".
 - b) BUILDING TO BE DEMOLISHED DURING "---Insert Dates---".
 2. Position the signs in a prominent location on the structure such that they can be seen and read easily, and at a sufficient height to prevent defacing.
- I. Utility services and mechanical and electrical systems:
1. Refer to the respective Service Engineer's Design Documents for specific requirements.
 2. Notify service authorities and adjacent owners/occupants of the proposed works before commencing Site operations.
 3. Arrange to shut off utilities with utility companies.

4. Before starting work, verify positions of existing services by means of checking on-site against service authorities' records. If documented services cannot be located or if unidentified services are found, inform the Engineer and wait for instructions.
 5. Observe service authorities' requirements and recommendations for work adjacent to existing services.
 6. If any damage to services results from the Works, notify the Engineer and appropriate service authority without delay. Make good to the satisfaction of the service authority or other owner as appropriate.
 7. Replace marker tapes or protective covers disturbed by Site operations.
 8. Locate and mark the positions of services affected by the Works.
 9. Locate and disconnect drain connections. Seal with cement mortar within the Site.
 10. Protect drains, manholes, gullies, vent pipes and fittings still in use and ensure they are kept free from debris at all times. Make good any damage arising from demolition work and leave clean and in working order at completion.
 11. Provide bypass connections as necessary to maintain continuity of services to occupied areas of the same and adjoining properties. Give a minimum of one week's notice to occupiers if shutdown is necessary during changeover.
 12. Clean components to be re-used and test for compliance with current International Standards before returning to service. Provide results of compliance tests.
 13. Refrigerants: Remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of Statutory Authorities.
- J. Temporary works:
1. Build temporary works as required to undertake and complete aspects of the works including, but not limited to, secured covered ways, safety barriers/rails, hoardings, temporary walls (fire or smoke separated as required), diverted fire escape routes for building occupants, and other similar works. In all cases, temporary works in the building are to be weathertight, and prevent dust and noise penetration from work areas.
 2. Temporary support:
 - a) Before starting work, carry out a geometric survey to locate the initial positions of structure to be kept in place. Establish a regular grid of survey points on surfaces of structure.
 - b) Provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - c) The support systems are to be regularly inspected and monitored. Any movement or deterioration of the fabric of the supported structure is to be reported to the Engineer.
 - d) At regular intervals throughout the Contract period, or until notified otherwise by the Engineer, carry out further geometric surveys of the supported structure and support systems to measure any movement.
 - e) Agree with the Engineer when location surveys are to take place, the number and position of survey points and the method of recording findings.
 - f) Strengthen or add new supports when required during the progress of demolition works.
 - g) Provide necessary temporary diversions/protection to existing and new services that may be affected by support systems.
 - h) Support systems are not to overload the foundations of the retained structure.
 - i) Support systems are to be kept in place, taking necessary precautions to prevent damage, taking due account of any movement of the structure which may occur before, during and after demolition.
 - j) Provide safe access in and around the support systems for inspection and maintenance.
 - k) Protect support systems from impact damage by vehicles, plant and site operations.
 - l) When permanent connections between the supported structure and new constructions have been completed, inform the Engineer and obtain permission to disconnect and dismantle the support systems.

- m) After disconnection of support systems, survey and record the state of structure kept in place.
- n) Defects caused by or due to support systems, including any connection holes, are to be made good to the acceptance of the Engineer.

3.2 Demolition

- A. Comply with ANSI/ASSE A10.6, NFPA 241, Environmental Protection Agency (EPA) and requirements of Statutory Authorities for the demolition works.
- B. Demolish all that is required to be removed to allow for and facilitate the carrying out of permanent works. Refer to the Design Drawings/Demolition Drawings for the extent of demolition works.
- C. Carry out demolition works carefully and systematically, removing unwanted materials progressively. Conduct demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- D. Demolish structures/elements shown on the Design Drawings using methods and equipment that will not damage or cause detrimental impact on the existing buildings that are required to be retained.
- E. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
- F. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
- G. Maintain adequate ventilation when using cutting torches.
- H. Demolition and removal of existing structures:
 - 1. Demolish structures to the areas/zones indicated on the Design Drawings/Demolition Drawings.
 - 2. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - 3. Remove foundations down to agreed levels. Levels are to generally be considered as being sufficiently low to not impact or hinder the execution of the permanent main works, including but not limited to ground works, infrastructure, new foundations, and building works.
 - 4. Unless included in the civil, infrastructure, or building works, fill the voids resulted from the demolition works to finish flush with adjacent ground levels.
 - 5. Where foundations are partially removed, termination points of remaining elements are to be finished neatly leaving no projecting elements such as reinforcement bars, sharp edges, voids or other characteristics/elements that may cause danger to future site operations.
 - 6. Alert the Engineer on any discovered small "out" buildings and structures and obtain acceptance prior to commencing demolition work.
- I. Removal of utilities/services/equipment:
 - 1. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed on the Design Drawings.
 - 2. Remove piping and ducts indicated to be removed and cap or plug remaining piping and ducts with same or compatible piping and ductwork material.
 - 3. Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - a) Assess for age, condition and future use components such as tanks, valves and pumps.
 - b) Provide findings to the Engineer and Employer for confirmation on the elements that need to be retained.
 - c) Retained items are to be carefully removed, packaged and moved to store.
- J. Vegetation clearing:

1. Carry out removal and clearing of vegetation, including trees, bushes, and extensive areas of shrubs or general planting that would cause hindrance to the execution of the Works. Include removal of roots, or treatment of, to prevent regrowth and/or damage to the permanent works.
 2. Identify with the Engineer any tree or plant species that is considered as protected and agree the action to be taken.
 3. Where partial removal of vegetation is instructed, ensure retained vegetation is protected during the removal works and that retained vegetation is clearly defined/identified to avoid accidental removal.
- K. Material process/handling:
1. Buildings to be retained:
 - a) Protect against damage and soiling existing buildings indicated on the Design Drawings to be retained and maintained for the duration of the Works.
 - b) Should any damage occur, they are to be restored to the condition they were in prior to the commencement of work and to the acceptance of the Engineer.
 - c) When permitted by the Engineer, items may be removed to a suitable, protected storage location during demolition and cleaned and reinstalled in their original locations after demolition operations are complete.
 2. Salvaged materials for reuse:
 - a) Carefully remove and salvage features/materials adopting techniques that cause minimal damage to the materials.
 - b) Clean salvaged items. Repair as required to functional condition adequate for intended reuse.
 - c) Pack or crate salvaged materials after cleaning and repairing. Identify contents of containers.
 - d) Carefully stack salvaged materials using suitable pallets/crates. Provide adequate protection so they can be safely transported and stored.
 3. Demolished materials for recycling:
 - a) Generally, recycle as much demolished material as practicable.
 - b) Comply with recycling requirements of the local municipality and relevant Statutory Authority.
 4. Demolished materials for removal:
 - a) Remove demolished materials from Site as work proceeds.
 - b) Remove rubbish, debris and surplus material and spoil regularly. Keep the Site and Works clean and tidy.
 - c) Remove rubbish, dirt and residues from voids and cavities before filling or closing in.
 - d) Remove waste hazardous materials and their containers regularly for disposal off-site in accordance with relevant regulations.
 5. In all cases, demolished materials and items are to be disposed of legally. Retain receipts and dockets for examination by the Engineer if requested. Do not allow demolished materials to accumulate on-site.
 6. Cover loads of demolished materials to prevent spillage in transit.
- L. Public areas/pavements/access areas:
1. Regularly clear all mud, debris, etc., deposited on the roads, landscaped areas and footpaths/pavements by vehicles and plant arriving at or departing from the Site, or resulting from the demolition work.
- M. Disposal of water and run-off:
1. Inform the appropriate Authorities and obtain necessary permits before disposing of water from the site.
 2. Dispose of water or other liquids from any source without causing interference or injury to the public or damage to private or public property and in accordance with Statutory Requirements.

3.3 Health and Safety

- A. Carry out demolition works and manage health and safety risks in accordance with the requirements of ANSI/ASSE A10.6 and the Statutory Authorities.

- B. Report immediately to the Engineer any suspected asbestos based materials discovered during demolition work. Avoid disturbing such materials. Work to the area and its immediate surroundings is to be halted until removal or remedial measures are implemented. Agree with the Engineer methods for safe removal.
- C. Handle and dispose hazardous materials in a safe manner.
- D. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
- E. Carry out removal and disposal in accordance with the requirements of the governing Environmental Protection Agency (EPA) and Statutory Authorities.
- F. Health hazards:
 - 1. Take adequate precautions to protect Site operatives, occupiers of adjacent areas and the general public from health hazards associated with dangerous fumes, dust or any other hazards.
 - 2. Take adequate precautions to prevent fire or explosion caused by gas or vapor.
 - 3. Control noise and dust to avoid inconvenience to users, occupants and visitors to adjacent areas/buildings.
 - 4. Record any voids, tanks, chemicals, etc., discovered during construction activities and agree with the Engineer methods for safe removal, filling, etc.
- G. Noise:
 - 1. Restrict noise levels to levels acceptable to Statutory Authorities.
 - 2. Fit compressors, percussion tools and vehicles with effective silencers of a type recommended in writing by the manufacturers of the compressors, tools or vehicles.
 - 3. Do not use or permit employees to use radios, public address systems or other audio equipment in ways or at times that may cause a nuisance.
- H. Fire:
 - 1. Take necessary precautions to prevent damage to the Works and/or adjoining properties from fire.
 - 2. Burning on-site of materials arising from the work is not permitted.
- I. Dangerous openings: Illuminate and protect as necessary.
- J. Explosives: Do not use explosives unless specifically instructed.

3.4 Completion

- A. Clear away debris and leave the Site in a tidy condition on completion.
- B. Make good and rectify damage arising out of demolition work, both on-site and adjoining properties and spaces. Provide written acceptance as to the suitability of rectification works from the relevant owner(s) of each adjoining property.
- C. Remove temporary works and as otherwise directed by the Engineer. Make good to all interfaces as required upon removal of temporary works to the satisfaction of the Engineer.
- D. Waste management:
 - 1. Minimize waste and reuse or recycle by-products wherever possible, thereby reducing the impact of construction waste going to landfill.
 - 2. Comply with the Project Division 01 General Requirements and Waste Management Report for waste management requirements. Provide, as required, evidence of the treatment and disposal of waste products from the site detailing the percentage of waste (by weight) that has been recycled with actual receipts.

SECTION END